ANNEX TO THE CERTIFICATE

2621/0067-5-E1-CER

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Document Historical Revision:

Document Version	Date	Resume
Revision 0	20/08/2021	First issuance
Revision 1	28/06/2022	The annex to certificate is modified as manufacture has updated the Dynamic Simulation Model to version 2 in order to separates simulation parameters in M file from old dynamic simulation model. Also, the updated version function module is encrypted compared with the old version. In addition, license holder has been updated. No additional test was requested.

This document is created based on requirements of FGW Technical Guidelines for Power Generating Units, Systems and Storage Systems as well as for their Components. Part 8 (TG8). Certification of the Electrical Characteristics of Power Generating Units, Systems and Storage Systems as well as their Components on the Grid.
Revision 09. Dated 01/02/2019.

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

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SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

1 OVERVIEW OF THE FGW TR8 EVALUATION REPORT

This point of this annex of the certificate no. 2621 / 0067 – 5 – E1 – CER contains the information of all items and documentation used for the evaluation of compliance of the certified product according to standards VDE-AR-N 4110: 2018-11, VDE-AR-N 4120:2018-11, FGW-Richlinie TR 3 Rev. 25 (including supplement 1, dated on 22/01/2019) and FGW-Richlinie TR 4 Rev. 9.

The information contained in this point is extracted from the SGS Evaluation Report Number: 2621 / 0067-5-E1, Rev 1. With date on 27/06/2022 according of FGW TR8 rev. 9.

The evaluation performed by SGS comprises the checking in compliance with following requirements:

Evaluation:	Remarks	Result		
Keys: P……...Pass. NC……Not Comply NA……Not Applicable				
Checking of the PGU tested	**See point 1.1 of this document**	☒ P	☐ NC	☐ NA
Checking of the variant models to be included in the certification process	**No variant models**	☒ P	☐ NC	☐ NA
Review Test Report according FGW TG3 per VDE-AR-N 4110: 2018 certification	**See point 1.2 of this document**	☒ P	☐ NC	☐ NA
Review Test Report according FGW TG3 per VDE-AR-N 4120: 2018 certification	**See point 1.2 of this document**	☒ P	☐ NC	☐ NA
Review Test Report according FGW TG4.	**See point 1.3 of this document**	☒ P	☐ NC	☐ NA
Quality system certificate according ISO 9001	**See point 1.4 of this document**	☒ P	☐ NC	☐ NA
Compromise letter of maintain ISO 9001 certified during the validity period of VDE certificate.	**See point 1.5 of this document**	☒ P	☐ NC	☐ NA
Compromise letter of product to certify is the same that the product tested, and transferability acceptance of non-tested PGU.	**See point 1.6 of this document**	☒ P	☐ NC	☐ NA

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

1.1 Information about the tested model.

Information appearing in the application form (CPR1FRM5):

- **Date of the application form:** 05/02/2021
- **License holder:** Shenzhen SOFARSOLAR Co., Ltd.
- **Factory:** Dongguan SOFAR SOLAR Co., Ltd.
- **Factory address:** 1F - 6F, Building E, No. 1 JinQi Road, Bihu Industrial Park, Wulian Village, Fenggang Town, Dongguan City,Guangdong Province,P.R. China.
- **Product:**
  - Type: PV inverter
  - Trademark: SOFAR SOLAR
  - Base model: SOFAR 110KTL
  - Input ratings: 180-1000 Vdc(1100Vdc max.); 10*26 Adc Max.
  - Output ratings: 3/N/PE, 230 V/400 V; 50 Hz; 159 Aac([1]) (175 A max.); 110 kW.
  - Software Version: V020010; DSPS V020010; DSPM V020010 (*)
  - Variant models: SOFAR 75KTL; SOFAR 80KTL; SOFAR 100KTL; SOFAR 100KTL-HV; SOFAR 125KTL-HV; SOFAR 136KTL-HV

(*) DSPM is the main controller, DSPS is the sub-controller and ARM is the communication control
([1]) The rated current is calculated by rated power and voltage (110000 W / 230 Vac / 3 = 159.42 A)

Information appearing in the test report according to FGW TG3:

- **Manufacturer:** Shenzhen SOFARSOLAR Co., Ltd.
- **Product:**
  - Type: Solar Grid-tied Inverter
  - Trademark: SOFAR SOLAR
  - Base model: SOFAR 110KTL
  - Input ratings: 180-1000 Vdc(1100 Vdc max.); 10*26 Adc Max.
  - Output ratings: 3/N/PE, 230 V/400 V; 50 Hz; 159 Aac([1]) (175 A max.); 110 kW.
  - Software Version: V020010; DSPS V020010; DSPM V020010 (*)
  - Serial number: SQ1EH1D6M1L005
  - Variant models: SOFAR 75KTL; SOFAR 80KTL; SOFAR 100KTL; SOFAR 100KTL-HV; SOFAR 125KTL-HV; SOFAR 136KTL-HV

(*) DSPM is the main controller, DSPS is the sub-controller and ARM is the communication control
([1]) The rated current is calculated by rated power and voltage (110000 W / 230 Vac / 3 = 159.42 A)

Revision 1 dated 27th June 2022.

A new application form is received on 27/04/2022 for the update of the certificate no. 2621/0067-5-CER.
The customer declare that the license holder has changed de address to show in the certificate an also provides an updated dynamic simulation model and declares that the updated dynamic simulation model separates simulation parameters in M file from old dynamic simulation model, therefore modify simulation parameters won't change the updated dynamic simulation model itself. Also, updated dynamic simulation model function module is encrypted compared with the old dynamic simulation model.

To verify that the updated Dynamic Simulation Model mentioned above has no impact on the TG4 report, few tests were repeated as it is shown in report no. 2221/0067-5/Amp-TG4:

- VRT simulation cases (50.5, 75.3, 110.3 and 80.2) and
- clauses 4.2.1.1, 4.2.2.2, 4.3.1.1, 4.3.2, 4.4 and 4.6.1

In addition, customer apply for the modification of the license holder to the new location.

Shenzhen SOFARSOLAR Co., Ltd
Address:11/F., Gaoxinqi Technology Building, No.67 Area, Xingdong Community,
Xin'an Sub-district, Bao'an District, Shenzhen City, Guangdong Province, P.R. China

Information appearing in the application form (CPR1FRM5):

- **Date of the application form:** 27/04/2022
- **Applicant:** Shenzhen SOFARSOLAR Co., Ltd
- **License holder:** Shenzhen SOFARSOLAR Co., Ltd.
- **Factory:** Dongguan SOFAR SOLAR Co., Ltd.
- **Factory address:** 1F - 6F, Building E, No. 1 JinQi Road, Bihu Industrial Park, Wulian Village, Fenggang Town, Dongguan City,Guangdong Province,P.R. China.
- **Product:**
  - Type: PV inverter
  - Trademark: SOFAR SOLAR
  - Base model: SOFAR 110KTL
  - Input ratings: 180-1000 Vdc(1100Vdc max.); 10*26 Adc Max.
  - Output ratings: 3/N/PE, 230V/400V; 50Hz; 159Aac; 110kW.
  - Software Version: ARM V020010; DSPS V020010; DSPM V020010 (*)
  - Variant models: SOFAR 75KTL; SOFAR 80KTL; SOFAR 100KTL; SOFAR 100KTL-HV; SOFAR 125KTL-HV; SOFAR 136KTL-HV

(*) DSPM is the main controller, DSPS is the sub-controller and ARM is the communication control

Information appearing in the test report according to FGW TG3:

- **Manufacturer:** Shenzhen SOFARSOLAR Co., Ltd.
- **Product:**
  - Type: Solar Grid-tied Inverter
  - Trademark: SOFAR SOLAR
  - Base model: SOFAR 110KTL
  - Input ratings: 180-1000 Vdc(1100 Vdc max.); 10*26 Adc Max.
  - Output ratings: 3/N/PE, 230 V/400 V; 50 Hz; 159 Aac([1]) (175 A max.); 110 kW.
  - Software Version: V020010; DSPS V020010; DSPM V020010 (*)
  - Serial number: SQ1EH1D6M1L005
  - Variant models: SOFAR 75KTL; SOFAR 80KTL; SOFAR 100KTL; SOFAR 100KTL-HV; SOFAR 125KTL-HV; SOFAR 136KTL-HV

(*) DSPM is the main controller, DSPS is the sub-controller and ARM is the communication control
([1]) The rated current is calculated by rated power and voltage (110000 W / 230 Vac / 3 = 159.42 A)

1.2 Summary of the evaluation of the test results

The following documentation is used for the evaluation:

Information of the test report:

- Test report number: 2221 / 0067 – 5
- Issuance date: 06/07/2021.
- Testing laboratory: SGS Tecnos, S.A. (Electrical Testing Laboratory).
- Accreditation number of the laboratory: Nº 5/LE011.

Information of the manufacturer declaration:

- Document reference name: Declartion for SOFAR 110KTL TR8 (*)
- Issuance date: 12/07/2021.
- Issued by Shenzhen SOFARSOLAR Co.,Ltd
  - Signed by Guozhong Jiang, Standard and Certification Engineer (On behalf of Shenzhen SOFARSOLAR Co.,Ltd.)

(*) The information declared by the manufacturer for the model SOFAR 110KTL is also declared as valid for models SOFAR 75KTL, SOFAR 80KTL, SOFAR 100KTL, SOFAR 100KTL-HV, SOFAR 125KTL-HV and SOFAR 136KTL-HV.

Revision 1 dated 27th June 2022.

The only modification made on the updated test report Nº 2221/0067-5-E1 is the change of the license holder to the new location. This modification does not affect the test results, so no additional tests were requested.

The following documentation is used for the evaluation:

Information of the test report:

- Test report number: 2221 / 0067 – 5 – E1
- Issuance date: 09/05/2022.
- Testing laboratory: SGS Tecnos, S.A. (Electrical Testing Laboratory).
- Accreditation number of the laboratory: Nº 5/LE011.

Information of the manufacturer declaration:

- Document reference name: 5. Sofar's declaration (TG8)
- Issuance date: 27/04/2022.
- Issued by Shenzhen SOFARSOLAR Co.,Ltd
  - Signed by Guozhong Jiang, Standard and Certification Engineer (On behalf of Shenzhen SOFARSOLAR Co.,Ltd.)

(*) The information declared by the manufacturer for the model SOFAR 110KTL is also declared as valid for models SOFAR 75KTL, SOFAR 80KTL, SOFAR 100KTL, SOFAR 100KTL-HV, SOFAR 125KTL-HV and SOFAR 136KTL-HV.

<table>
<tr><th>FGW TG8</th><th colspan="4">Title</th><th>Result</th></tr>
<tr><td>A.1.2.1
A.2.2.1</td><td colspan="4">Physical part</td><td>--</td></tr>
<tr><td>A.1.2.1.1</td><td colspan="4">Dimensioning of the equipment at the substation</td><td>--</td></tr>
<tr><td>A.2.2.1.1</td><td colspan="4">Not applicable to PGU</td><td>NA</td></tr>
<tr><td>A.1.2.2
A.2.2.2</td><td colspan="4">Operating range</td><td>P</td></tr>
<tr><td>A.1.2.2.1
A.2.2.2.1</td><td colspan="4">Quasi-steady-state operation</td><td>--</td></tr>
<tr><td>A.1.2.2.1.1
A.2.2.2.1.1</td><td>VDE 4110 Requirement Cl.</td><td>VDE 4110 Verification Cl.</td><td>Associated documents</td><td>Requirement needed</td><td rowspan="2">P</td></tr>
<tr><td>10.2.1.2</td><td>11.2.3.1
11.2.4
11.2.5.5</td><td>TG3</td><td>☒ Manufacturer’s declaration
☒ Test report</td></tr>
<tr><td>VDE 4120 Requirement Cl.</td><td>VDE 4120 Verification Cl.</td><td>Associated documents</td><td>Requirement needed</td><td rowspan="2"></td></tr>
<tr><td>10.2.1.2</td><td>11.2.3.1
11.2.4
11.2.5.4</td><td>TG3</td><td>☒ Manufacturer’s declaration
☒ Test report</td></tr>
<tr><td colspan="5">Evaluated documentation:

- Manufacturer declaration:
“5. Sofar's declaration (TG8)”. Dated on April 27th , 2022.
Compliance is evidenced by the information declared by the manufacturer in points 3.1.1 and 3.5.2 of this manufacturer declaration.

“For both VDE-AR-N 4110 and 4120, in the entire frequency range from 47.5Hz to 51.5Hz and voltages in the range of 85%Un to 115%Un at the 110KTL PV inverter AC connection terminal, while voltage gradient <5%Un/min and a frequency gradient of <0.5%fn/min, for quasi-stationary operation, 110KTL PV inverter is able to in parallel operation with grid according to the minimum duration time Figure 4.”

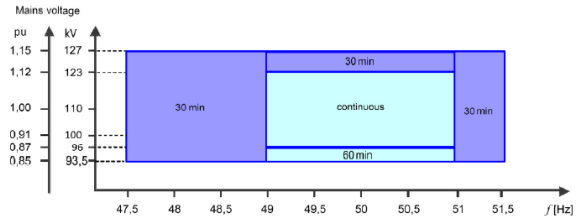
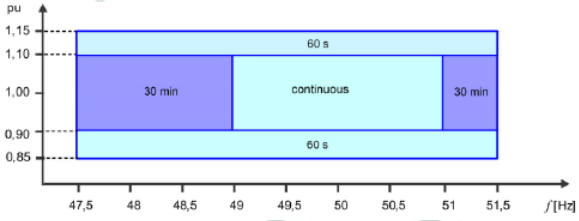
Figure 4 for VDE-AR-N 4120:2018-11
 

Figure 4 – Minimum requirements for the quasi-static operation of power generating plants

Figure for VDE-AR-N 4110:2018-11:
 

“When voltage changes at the inverter AC terminal in the amount of ΔU ≤ 10%Un with voltage gradients of ≥ 5%Un/min within the voltage band from 90%Un to 110%Un occur, inverter has no reduction for active and reactive power and keep connected to the grid.”

In addition, the clause 3.5.2 of this manufacturer declaration contains details of the capability of the PGU as a voltage-time characteristic curve.

- Test Report:
Test report no. 2221 / 0067 – 5 – E1. Dated on April 29th, 2022.
Compliance is evidenced by test results provided in points 4.2.1.5 and 4.6 of this test report.</td></tr>
</table>

FGW TG8	Title				Result
A.1.2.2 A.2.2.2	**Operating range**				**P**
A.1.2.2.2 A.2.2.2.2	**Polar wheel and/or grid oscillation**				--
A.1.2.2.2.1 A.2.2.2.2.1	**VDE 4110 Requirement Cl.**	**VDE 4110 Verification Cl.**	**Associated documents**	**Requirement needed**	**NA**
	10.2.1.3	11.2.3.2 11.2.3.3	--	☐ Manufacturer's declaration	
	VDE 4120 Requirement Cl.	**VDE 4120 Verification Cl.**	**Associated documents**	**Requirement needed**	
	10.2.1.3	11.2.3.2 11.2.3.3	--	☐ Manufacturer's declaration	
	Remarks: For Type 2 PGU no proof of polar wheel oscillations is required.				
A.1.2.3 A.2.2.3	**System perturbations**				**P**
A.1.2.3.1 A.2.2.3.1	**Rapid voltage variations**				--
A.1.2.3.1.1 A.2.2.3.1.1	**VDE 4110 Requirement Cl.**	**VDE 4110 Verification Cl.**	**Associated documents**	**Requirement needed**	**P**
	5.4.2	11.2.2.1	TG3	☒ Test report	
	VDE 4120 Requirement Cl.	**VDE 4120 Verification Cl.**	**Associated documents**	**Requirement needed**	
	5.4.2	11.2.2.1	TG3	☒ Test report	
	Evaluated documentation: - **Test Report:** Test report no. 2221 / 0067 – 5 – E1. Dated on April 29th, 2022. Compliance is evidenced by test results provided in the point 4.3.1 of this test report.				
A.1.2.3.2 A.2.2.3.2.	**Flicker**				--
A.1.2.3.2.1 A.2.2.3.2.1	**VDE 4110 Requirement Cl.**	**VDE 4110 Verification Cl.**	**Associated documents**	**Requirement needed**	**P**
	5.4.3	11.2.2.2	TG3	☒ Test report	
	VDE 4120 Requirement Cl.	**VDE 4120 Verification Cl.**	**Associated documents**	**Requirement needed**	
	5.4.3	11.2.2.2	TG3	☒ Test report	
	Evaluated documentation: - **Test Report:** Test report no. 2221 / 0067 – 5 – E1. Dated on April 29th, 2022. Compliance is evidenced by test results provided in the point 4.3.2 of this test report.				
A.1.2.3.3 A.2.2.3.3	**Harmonics and Interharmonics**				--
A.1.2.3.3.1 A.2.2.3.3.1	**VDE 4110 Requirement Cl.**	**VDE 4110 Verification Cl.**	**Associated documents**	**Requirement needed**	**P**
	5.4.4	11.2.2.3	TG3	☒ Test report	
	VDE 4120 Requirement Cl.	**VDE 4120 Verification Cl.**	**Associated documents**	**Requirement needed**	
	5.4.4	11.2.2.3	TG3	☒ Test report	
	Evaluated documentation: - **Test Report:** Test report no. 2221 / 0067 – 5 – E1. Dated on April 29th, 2022. Compliance is evidenced by test results provided in the points 4.3.3.1 to 4.3.3.4 of this test report.				

FGW TG8	Title				Result
A.1.2.3 **A.2.2.3**	**System perturbations**				**P**
A.1.2.3.4 **A.2.2.3.4**	**Commutation notches**				--
A.1.2.3.4.1 **A.2.2.3.4.1**	**VDE 4110 Requirement Cl.**	**VDE 4110 Verification Cl.**	**Associated documents**	**Requirement needed**	**NA**
	5.4.5	11.2.2.4	TG3	☐ Test report	
	VDE 4120 Requirement Cl.	**VDE 4120 Verification Cl.**	**Associated documents**	**Requirement needed**	
	5.4.5	11.2.2.4	TG3	☐ Test report	
	Remarks: Evidence only for converters with thyristors which use short-circuit current coming from the grid for commutation of the thyristors. The certified PV inverter doesn't have thyristors which use short-circuit current coming from the grid for commutation of the thyristors.				
A.1.2.3.5 **A.2.2.3.5**	**Asymmetries**				--
A.1.2.3.5.1 **A.2.2.3.5.1**	**VDE 4110 Requirement Cl.**	**VDE 4110 Verification Cl.**	**Associated documents**	**Requirement needed**	**P**
	5.4.6	11.2.2.5	TG3	☒ Test report	
	VDE 4120 Requirement Cl.	**VDE 4120 Verification Cl.**	**Associated documents**	**Requirement needed**	
	5.4.6	11.2.2.5	TG3	☒ Test report	
	Evaluated documentation: - **Test Report:** Test report no. 2221 / 0067 – 5 – E1. Dated on April 29th, 2022. Compliance is evidenced by test results provided in the point 4.3.4 of this test report.				
A.1.2.3.6	**Audio frequency ripple control**				--
A.2.2.3.6	Not applicable to PGU				NA
A.1.2.3.7	**Carrier frequency use of the customer grid**				--
A.2.2.3.7	Not applicable to PGU				NA

<table>
<tr><th>FGW TG8</th><th colspan="4">Title</th><th>Result</th></tr>
<tr><td>A.1.2.4
A.2.2.4</td><td colspan="4">Reactive power</td><td>P</td></tr>
<tr><td>A.1.2.4.1
A.2.2.4.1</td><td colspan="4">Reactive power provision</td><td>--</td></tr>
<tr><td rowspan="6">A.1.2.4.1.1
A.2.2.4.1.1</td><td>VDE 4110
Requirement Cl.</td><td>VDE 4110
Verification Cl.</td><td>Associated
documents</td><td colspan="2">Requirement needed</td><td rowspan="6">P</td></tr>
<tr><td>10.2.2.1 to
10.2.2.3</td><td>11.2.4</td><td>TG3</td><td colspan="2">☒ Manufacturer’s declaration
☒ Test report</td></tr>
<tr><td>VDE 4120
Requirement Cl.</td><td>VDE 4120
Verification Cl.</td><td>Associated
documents</td><td colspan="2">Requirement needed</td></tr>
<tr><td>10.2.2.1 to
10.2.2.3</td><td>11.2.4</td><td>TG3</td><td colspan="2">☒ Manufacturer’s declaration
☒ Test report</td></tr>
<tr><td colspan="5">Evaluated documentation:
- Manufacturer declaration:
“5. Sofar's declaration (TG8)”. Dated on April 27th , 2022.
Compliance is evidenced by the information declared by the manufacturer in point 3.2.2 of this manufacturer declaration. Among others, main points detailed by the manufacturer are:
“In the strategy of reactive power control, priority of active power and reactive power is optional.”
“In the case of lost communication, inverter will response to the latest reactive demand.”
For further details see the points 4.2 and 4.4 of this document.
- Test Report:
Test report no. 2221 / 0067 – 5 – E1. Dated on April 29th, 2022.
Compliance is evidenced by test results provided in points 4.2.1.1, 4.2.1.5, 4.2.2 and 4.2.4 of this test reports.</td></tr>
<tr><td>A.1.2.4.2
A.2.2.4.2</td><td colspan="4">Procedure for reactive power provision</td><td>--</td></tr>
<tr><td rowspan="6">A.1.2.4.2.1
A.2.2.4.2.1</td><td>VDE 4110
Requirement Cl.</td><td>VDE 4110
Verification Cl.</td><td>Associated
documents</td><td colspan="2">Requirement needed</td><td rowspan="6">P</td></tr>
<tr><td>10.2.2.4</td><td>--</td><td>TG3</td><td colspan="2">☒ Manufacturer’s declaration
☒ Test report</td></tr>
<tr><td>VDE 4120
Requirement Cl.</td><td>VDE 4120
Verification Cl.</td><td>Associated
documents</td><td colspan="2">Requirement needed</td></tr>
<tr><td>10.2.2.4</td><td>--</td><td>TG3</td><td colspan="2">☒ Manufacturer’s declaration
☒ Test report</td></tr>
<tr><td colspan="5">Evaluated documentation:
- Manufacturer declaration:
“5. Sofar's declaration (TG8)”. Dated on April 27th , 2022.
Compliance is evidenced by the information declared by the manufacturer in point 3.2.2 of this manufacturer declaration. Among others, main points detailed by the manufacturer are:
The following reactive power control mode functions are implemented on the PGU level:
- Fixed Reactive Power
- Fixed Power Factor
- Q(P) Curve
- Q(U) Curve
For further details see the points 4.2 and 4.4 of this document.
- Test Report:
Test report no. 2221 / 0067 – 5 – E1. Dated on April 29th, 2022.</td></tr>
</table>

FGW TG8	Title				Result
A.1.2.5 **A.2.2.5**	**Active power**				**P**
A.1.2.5.1 **A.2.2.5.1**	**General information and grid safety management**				**--**
A.1.2.5.1.1 **A.2.2.5.1.1**	**VDE 4110 Requirement Cl.**	**VDE 4110 Verification Cl.**	**Associated documents**	**Requirement needed**	
	10.2.4.1 and 10.2.4.2	11.2.7	TG3	☒ Manufacturer's declaration ☒ Test report	
	VDE 4120 Requirement Cl.	**VDE 4120 Verification Cl.**	**Associated documents**	**Requirement needed**	
	10.2.4.1 and 10.2.4.2	11.2.7	TG3	☒ Manufacturer's declaration ☒ Test report	
	Evaluated documentation: - **Manufacturer declaration:** "5. Sofar's declaration (TG8)". Dated on April 27th , 2022. Compliance is evidenced by the information declared by the manufacturer in point 3.3.2 of this manufacturer declaration. For further details of control modes and interfaces see the points 4.2 and 4.4 of this document. - **Test Report:** Test report no. 2221 / 0067 – 5 – E1. Dated on April 29th, 2022. Compliance is evidenced by test results provided in points 4.1.1 and 4.1.2.1 of this test report.				**P**
A.1.2.5.2 **A.2.2.5.2**	**Active power output as a function of grid frequency**				--
A.1.2.5.2.1 **A.2.2.5.2.1**	**VDE 4110 Requirement Cl.**	**VDE 4110 Verification Cl.**	**Associated documents**	**Requirement needed**	
	10.2.4.3	11.2.8	TG3	☒ Manufacturer's declaration ☒ Test report	
	VDE 4120 Requirement Cl.	**VDE 4120 Verification Cl.**	**Associated documents**	**Requirement needed**	
	10.2.4.3	11.2.8	TG3	☒ Manufacturer's declaration ☒ Test report	
	Evaluated documentation: - **Manufacturer declaration:** "5. Sofar's declaration (TG8)". Dated on April 27th , 2022. Compliance is evidenced by the information declared by the manufacturer in point 3.3.2 of this manufacturer declaration. Among others, main points detailed by the manufacturer are: *"When doing for TR3 test, due to the requirement by FGW TR3, inverter take higher priority for active power rising during frequency drop from 49.8Hz to 47.5Hz temporary than dispatching command by grid operator set point only for test purpose, but the final inverter will take higher priority for dispatching command set point."* *"P(f)-diagram: Pref is the active power freeze at that moment when the frequency to 49.8Hz/50.2Hz. The default gradient for over-frequency and under-frequency is 40%Pref/Hz, while it can be adjustable from 1%Pref/Hz to 100%Pref/Hz. Normal active power gradients: 0.33%Pn/s~0.66%Pn/s for stationary connection and reconnection after grid fault trip. When frequency returned to rated value (50Hz±0.2Hz), for the first 10mins, the PGU didn't connect the grid, after 10mins quit from abnormal frequency, the active power gradients will back to normal active power gradients: 0.15%Pn/s."* *"In the case of mains frequencies f > 51.5 Hz, inverter can operate continuous if not conflict with other grid protection settings."* *"The ability of RoCoF is more than 2.5Hz/s if not conflict with other grid protection settings."* - **Test Report:** Test report no. 2221 / 0067 – 5 – E1. Dated on April 29th, 2022. Compliance is evidenced by test results provided in the point 4.1.3 of this test report.				**P**

FGW TG8	Title				Result
A.1.2.6 **A.2.2.6**	**Connection**				**--**
A.1.2.6.1 **A.2.2.6.1**	**Black start capability** Not applicable to PGU				**--** NA
A.1.2.6.2 **A.2.2.6.2**	**Switching-in conditions**				--
A.1.2.6.2.1 **A.2.2.6.2.1**	**VDE 4110 Requirement Cl.**	**VDE 4110 Verification Cl.**	**Associated documents**	**Requirement needed**	**P**
	10.4	11.2.11	TG 3	☒ Manufacturer's declaration ☒ Test report	
	VDE 4120 Requirement Cl.	**VDE 4120 Verification Cl.**	**Associated documents**	**Requirement needed**	
	10.4	11.2.11	TG 3	☒ Manufacturer's declaration ☒ Test report	
	Evaluated documentation: - **Manufacturer declaration:** "5. Sofar's declaration (TG8)". Dated on April 27th , 2022. Compliance is evidenced by the information declared by the manufacturer in point 3.4.1 of this manufacturer declaration. Among others, main points detailed by the manufacturer are: *"We verify that connection of 110KTL is possible at 47,5-50.2 Hz (± 0.1 Hz), 90% -110%Un (± 2%Un) for VDE-AR-N 4110. The same for VDE-AR-N 4120 but the threshold for over frequency connection is set to 51 Hz (± 0.1 Hz), 9"* *"Normal active power gradients: 0.33%Pn/s~0.66%Pn/s for stationary connection and reconnection after grid fault trip.".* *"After the inverter trip for protection, when the voltage recovers to at least 95%Un and frequency is between 49.9~50.1Hz, until the stated stabilization time has passed, 110KTL has the setting of the delay time of recovery for both VDE-AR-N 4110 and 4120, the setting range is from 0 to 60 mins, default setting is 10 mins."* For further details of control modes and interfaces see the point 4.2 of this document. - **Test Report:** Test report no. 2221 / 0067 – 5 – E1. Dated on April 29th, 2022. Compliance is evidenced by test results provided in points 4.1.4, 4.5.1 and 4.5.2 of this test report.				
A.1.2.7 **A.2.2.7**	**FRT**				**P**
A.1.2.7.1 **A.2.2.7.1**	**Loss of static stability**				**--**
A.1.2.7.1.1 **A.2.2.7.1.1**	**VDE 4110 Requirement Cl.**	**VDE 4110 Verification Cl.**	**Associated documents**	**Requirement needed**	**NA**
	10.2.1.3 10.5.2	11.2.12	--	--	
	VDE 4120 Requirement Cl.	**VDE 4120 Verification Cl.**	**Associated documents**	**Requirement needed**	
	10.2.1.3 10.5.2	11.2.12	--	--	
	Remarks: No evidence necessary.				

<table>
<tr><th>FGW TG8</th><th colspan="4">Title</th><th>Result</th></tr>
<tr><td>A.1.2.7
A.2.2.7</td><td colspan="4">FRT</td><td>P</td></tr>
<tr><td>A.1.2.7.2
A.2.2.7.2</td><td colspan="4">Island and partial grid operation capability</td><td>--</td></tr>
<tr><td rowspan="6">A.1.2.7.2.1
A.2.2.7.2.1</td><td>VDE 4110
Requirement Cl.</td><td>VDE 4110
Verification Cl.</td><td>Associated documents</td><td colspan="2">Requirement needed</td><td rowspan="6">P</td></tr>
<tr><td>10.2.1.4</td><td>--</td><td>--</td><td colspan="2">☒ Manufacturer’s declaration</td></tr>
<tr><td>VDE 4120
Requirement Cl.</td><td>VDE 4120
Verification Cl.</td><td>Associated documents</td><td colspan="2">Requirement needed</td></tr>
<tr><td>10.2.1.4</td><td>--</td><td>--</td><td colspan="2">☒ Manufacturer’s declaration</td></tr>
<tr><td colspan="5">Remarks:
No requirements for island operation have been defined.

Partial grid operation capability does not constitute a minimum requirement. The distribution grid operator may however require partial grid operation capability and the controller stability in individual cases. Only in this case do the following requirements apply. Here only optional characteristics of the PGU are shown, however not a declaration of conformity.

Evaluated documentation:
- Manufacturer declaration:
“5. Sofar's declaration (TG8)”. Dated on April 27th, 2022.
Compliance is evidenced by the information declared by the manufacturer in point 3.5.1 of this manufacturer declaration.
“SOFAR SOLAR: 110KTL detects island by reactive power disturbance. Once island detected, PGU disconnect from the grid.”</td></tr>
<tr><td>A.1.2.7.3
A.2.2.7.3</td><td colspan="4">Dynamic grid support</td><td>--</td></tr>
<tr><td rowspan="6">A.1.2.7.3.1
A.2.2.7.3.1</td><td>VDE 4110
Requirement Cl.</td><td>VDE 4110
Verification Cl.</td><td>Associated documents</td><td colspan="2">Requirement needed</td><td rowspan="6">P</td></tr>
<tr><td>10.2.1.2
10.2.3</td><td>11.2.5</td><td>TG 3</td><td colspan="2">☒ Manufacturer’s declaration
☒ Test report</td></tr>
<tr><td>VDE 4120
Requirement Cl.</td><td>VDE 4120
Verification Cl.</td><td>Associated documents</td><td colspan="2">Requirement needed</td></tr>
<tr><td>10.2.1.2
10.2.3</td><td>11.2.5</td><td>TG 3</td><td colspan="2">☒ Manufacturer’s declaration
☒ Test report</td></tr>
<tr><td colspan="5">Evaluated documentation:

- Manufacturer declaration:
“5. Sofar's declaration (TG8)”. Dated on April 27th, 2022.
Compliance is evidenced by the information declared by the manufacturer in point 3.5.2 of this manufacturer declaration.

For further details of control modes and interfaces see the point 4.2 of this document.

- Test Report:
Test report no. 2221 / 0067 – 5 – E1. Dated on April 29th, 2022.
Compliance is evidenced by test results provided in points 4.6 and 4.7 of this test report. The point 4.6 of the test report refers to the attachment I of the report: 2221 / 0067 - 5 - ATTACHMENT I which includes calculations of short-circuit AC currents.</td></tr>
</table>

<table>
<tr><th>FGW TG8</th><th colspan="4">Title</th><th>Result</th></tr>
<tr><td>A.1.2.7
A.2.2.7</td><td colspan="4">FRT</td><td>P</td></tr>
<tr><td>A.1.2.7.4
A.2.2.7.4</td><td colspan="4">Contribution to short-circuit current</td><td>--</td></tr>
<tr><td rowspan="5">A.1.2.7.4.1
A.2.2.7.4.1</td><td>VDE 4110
Requirement Cl.</td><td>VDE 4110
Verification Cl.</td><td>Associated documents</td><td colspan="2">Requirement needed</td></tr>
<tr><td>10.2.5.2</td><td>11.2.9</td><td>TG 3</td><td colspan="2">☒ Manufacturer’s declaration
☒ Test report</td></tr>
<tr><td>VDE 4120
Requirement Cl.</td><td>VDE 4120
Verification Cl.</td><td>Associated documents</td><td colspan="2">Requirement needed</td></tr>
<tr><td>10.2.5.2</td><td>11.2.9</td><td>TG 3</td><td colspan="2">☒ Manufacturer’s declaration
☒ Test report</td></tr>
<tr><td colspan="5">Evaluated documentation:
- Manufacturer declaration:
“5. Sofar's declaration (TG8)”. Dated on April 27th, 2022.
Compliance is evidenced by the information declared by the manufacturer in point 3.5.3 of this manufacturer declaration.
Declared short-circuit currents for certified models are stated below:
• For Sofar 75KTL:
- Short-circuit surge current iP (A): 186.6 A.
- Initial symmetrical short-circuit current Ik“ (A): 128.4 A
- Uninterrupted short-circuit current Ik (A): 120 A.
- Maximal current Imax (A): 132 A.
- R.m.s. value of the source current for three-phase fault, IskPF (First 1-2 cycles of the Fault) = 132 A
- R.m.s. value of the source current for two-phase fault, I(1)sk2PF (First 1-2 cycles of the Fault) = 123 A
- R.m.s. value of the source current for single-phase fault, I(1)sk1PF (First 1-2 cycles of the Fault)= 123 A.
• For Sofar 80KTL:
- Short-circuit surge current iP (A): 189.7 A.
- Initial symmetrical short-circuit current Ik“ (A): 130.6 A
- Uninterrupted short-circuit current Ik (A): 122 A.
- Maximal current Imax (A): 134.2 A.
- R.m.s. value of the source current for three-phase fault, IskPF (First 1-2 cycles of the Fault) = 134.2 A
- R.m.s. value of the source current for two-phase fault, I(1)sk2PF (First 1-2 cycles of the Fault) = 125.3 A
- R.m.s. value of the source current for single-phase fault, I(1)sk1PF (First 1-2 cycles of the Fault)= 125.3 A.
• For Sofar 100KTL:
- Short-circuit surge current iP (A): 236.4 A.
- Initial symmetrical short-circuit current Ik“ (A): 166.8 A
- Uninterrupted short-circuit current Ik (A): 152 A.
- Maximal current Imax (A): 167.2 A.
- R.m.s. value of the source current for three-phase fault, IskPF (First 1-2 cycles of the Fault) = 167.2 A
- R.m.s. value of the source current for two-phase fault, I(1)sk2PF (First 1-2 cycles of the Fault) = 156.8 A
- R.m.s. value of the source current for single-phase fault, I(1)sk1PF (First 1-2 cycles of the Fault)= 156.8 A.</td><td>P</td></tr>
</table>

FGW TG8	Title	Result
	• For Sofar 100KTL-HV: - Short-circuit surge current iP (A): 180.4 A. - Initial symmetrical short-circuit current Ik" (A): 124.3 A - Uninterrupted short-circuit current Ik (A): 116 A. - Maximal current Imax (A): 127.6 A. - R.m.s. value of the source current for three-phase fault, IskPF (First 1-2 cycles of the Fault) = 127.6 A - R.m.s. value of the source current for two-phase fault, I(1)sk2PF (First 1-2 cycles of the Fault) = 120.5 A - R.m.s. value of the source current for single-phase fault, I(1)sk1PF (First 1-2 cycles of the Fault)= 120.5 A. • For Sofar 110KTL: - Short-circuit surge current iP (A): 260.1. - Initial symmetrical short-circuit current Ik" (A): 179.7 A - Uninterrupted short-circuit current Ik (A): 167.2 A. - Maximal current Imax (A): 184 A. - R.m.s. value of the source current for three-phase fault, IskPF (First 1-2 cycles of the Fault) = 184 A - R.m.s. value of the source current for two-phase fault, I(1)sk2PF (First 1-2 cycles of the Fault) = 172.4 A - R.m.s. value of the source current for single-phase fault, I(1)sk1PF (First 1-2 cycles of the Fault)= 172.4 A. • For Sofar 125KTL-HV: - Short-circuit surge current iP (A): 225.6 A. - Initial symmetrical short-circuit current Ik" (A): 154.2 A - Uninterrupted short-circuit current Ik (A): 145 A. - Maximal current Imax (A): 159.5 A. - R.m.s. value of the source current for three-phase fault, IskPF (First 1-2 cycles of the Fault) = 159.5 A - R.m.s. value of the source current for two-phase fault, I(1)sk2PF (First 1-2 cycles of the Fault) = 150.9 A - R.m.s. value of the source current for single-phase fault, I(1)sk1PF (First 1-2 cycles of the Fault)= 150.9 A. • For Sofar 136KTL-HV - Short-circuit surge current iP (A): 225.6 A. - Initial symmetrical short-circuit current Ik" (A): 154.2 A - Uninterrupted short-circuit current Ik (A): 145 A. - Maximal current Imax (A): 159.5 A. - R.m.s. value of the source current for three-phase fault, IskPF (First 1-2 cycles of the Fault) = 159.5 A - R.m.s. value of the source current for two-phase fault, I(1)sk2PF (First 1-2 cycles of the Fault) = 150.9 A - R.m.s. value of the source current for single-phase fault, I(1)sk1PF (First 1-2 cycles of the Fault)= 150.9 A. - **Test Report:** Test report no. 2221 / 0067 – 5 – E1. Dated on April 29th, 2022. Compliance is evidenced by test results provided in the point 4.6 of this test report. The point 4.6 of the test report refers to the attachment I of the report: 2221 / 0067 - 5 – ATTACHMENT Rev1 I which includes calculations of short-circuit AC currents.	

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

FGW TG8	Title				Result
A.1.2.8 **A.2.2.8**	**Protection**				**P**
A.1.2.8.1	**Reserve protection concept**				**--**
A.2.2.8.1	Not applicable to PGU				**NA**
A.1.2.8.2 **A.2.2.8.2**	**Readability of protection settings**				**--**
A.1.2.8.2.1 **A.2.2.8.2.1**	**VDE 4110 Requirement Cl.**	**VDE 4110 Verification Cl.**	**Associated documents**	**Requirement needed**	**P**
	6.3.3	11.2.10	--	☒ Manufacturer's declaration ☐ Or component certificate	
	VDE 4120 Requirement Cl.	**VDE 4120 Verification Cl.**	**Associated documents**	**Requirement needed**	
	6.3.3	11.2.10 11.4.17	--	☒ Manufacturer's declaration ☐ Or component certificate	
	Evaluated documentation: - **Manufacturer declaration:** "5. Sofar's declaration (TG8)". Dated on April 27th, 2022. Compliance is evidenced by the information declared by the manufacturer in point 3.6.1 of this manufacturer declaration. *"SOFAR SOLAR: 110KTL's protection settings can be easily read and set by PC monitor."*				

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

FGW TG8	Title				Result
A.1.2.8 **A.2.2.8**	**Protection**				**P**
A.1.2.8.3 **A.2.2.8.3**	**Test terminal**				**--**
A.1.2.8.3.1 **A.2.2.8.3.1**	**VDE 4110 Requirement Cl.**	**VDE 4110 Verification Cl.**	**Associated documents**	**Requirement needed**	**P**
	6.3.4.5	11.2.10	--	☒ Manufacturer's declaration	
	VDE 4120 Requirement Cl.	**VDE 4120 Verification Cl.**	**Associated documents**	**Requirement needed**	
	6.3.3.5	11.2.10	--	☒ Manufacturer's declaration	
	Evaluated documentation: - **Manufacturer declaration:** "5. Sofar's declaration (TG8)". Dated on April 27th, 2022. Compliance is evidenced by the information declared by the manufacturer in point 3.6.2 of this manufacturer declaration. *"SOFAR SOLAR: 110KTL didn't provide testing terminal for protection test without disconnect the wires."* The following deviation is stated in the main certificate, as informative: *"The certified product does not provide test terminal. A connecting terminal plate has to be installed separately, if necessary"*				
A.1.2.8.4 **A.2.2.8.4**	**Operating range**				**--**
A.1.2.8.4.1 **A.2.2.8.4.1**	**VDE 4110 Requirement Cl.**	**VDE 4110 Verification Cl.**	**Associated documents**	**Requirement needed**	**P**
	10.3.4.2.2	11.2.10	TG 3	☒ Manufacturer's declaration ☒ Test report	
	VDE 4120 Requirement Cl.	**VDE 4120 Verification Cl.**	**Associated documents**	**Requirement needed**	
	10.3.4.7	11.2.10	TG 3	☒ Manufacturer's declaration ☒ Test report	
	Evaluated documentation: - **Manufacturer declaration:** "5. Sofar's declaration (TG8)". Dated on April 27th, 2022. Compliance is evidenced by the information declared by the manufacturer in point 3.6.3 of this manufacturer declaration. *"SOFAR SOLAR: There is no additional protection equipment present in 110KTL.".* - **Test Report:** Test report no. 2221 / 0067 – 5 – E1. Dated on April 29th, 2022. Compliance is evidenced by test results provided in the point 4.4 of this test report.				
A.1.2.8.5 **A.2.2.8.5**	**Voltage protection device and Q(U) protection** Not applicable to PGU				**--** **NA**
A.1.2.8.6 **A.2.2.8.6**	**Accuracy**				**--**
A.1.2.8.6.1 **A.2.2.8.6.1**	**VDE 4110 Requirement Cl.**	**VDE 4110 Verification Cl.**	**Associated documents**	**Requirement needed**	**P**
	10.3.3.2	11.2.10	TG 3	☒ Test report	
	VDE 4120 Requirement Cl.	**VDE 4120 Verification Cl.**	**Associated documents**	**Requirement needed**	
	10.2.4.3 10.3.4.2	11.2.10	TG 3	☒ Test report	
	Evaluated documentation: - **Test Report:** Test report no. 2221 / 0067 – 5 – E1. Dated on April 29th, 2022. Compliance is evidenced by test results provided in the point 4.4 of this test report. For further details of control modes and interfaces see the point 4.2 of this document.				

FGW TG8	Title				Result
A.1.2.8 **A.2.2.8**	**Protection**				**P**
A.1.2.8.7 **A.2.2.8.7**	**Independence of the protection functions**				**--**
A.1.2.8.7.1 **A.2.2.8.7.1**	**VDE 4110 Requirement Cl.**	**VDE 4110 Verification Cl.**	**Associated documents**	**Requirement needed**	
	10.3.3.1	11.2.10	--	☒ Manufacturer's declaration	
	VDE 4120 Requirement Cl.	**VDE 4120 Verification Cl.**	**Associated documents**	**Requirement needed**	
	10.3.3.1	11.2.10	--	☒ Manufacturer's declaration	
	Evaluated documentation: - **Manufacturer declaration:** "5. Sofar's declaration (TG8)". Dated on April 27th, 2022. Compliance is evidenced by the information declared by the manufacturer in point 3.6.4 of this manufacturer declaration. *"SOFAR SOLAR:110KTL inverter integrated self-protection function is independent of any control functions".* For further details of control modes and interfaces see the point 4.3 of this document.				**P**
A.1.2.8.8	**Protection monitoring**				**--**
A.2.2.8.8	Not applicable to PGU				**NA**
A.1.2.8.9 **A.2.2.8.9**	**Own and auxiliary power supply**				**--**
A.1.2.8.9.1 **A.2.2.8.9.1**	**VDE 4110 Requirement Cl.**	**VDE 4110 Verification Cl.**	**Associated documents**	**Requirement needed**	
	10.3.3.6	11.2.10	TG 3	☒ Manufacturer's declaration ☐ Component certificate	
	VDE 4120 Requirement Cl.	**VDE 4120 Verification Cl.**	**Associated documents**	**Requirement needed**	
	10.3.1	11.2.10	TG 3	☒ Manufacturer's declaration ☐ Component certificate	
	Evaluated documentation: - **Manufacturer declaration:** "5. Sofar's declaration (TG8)". Dated on April 27th, 2022. Compliance is evidenced by the information declared by the manufacturer in point 3.6.5 of this manufacturer declaration. *"SOFAR SOLAR: 110KTL protection system is power supplied by DC side, it's Network-independent auxiliary power supply to the protection equipment for at least 5 seconds. Failure of the auxiliary power supply of the protection equipment or the equipment control, respectively, causes the power generation to be switched off without delay and triggering of the PGU's main switch. The protection equipment provided for meets the requirements for accuracy and setting ranges. (Voltage and current accuracy are ±1%, frequency accuracy is 0.01Hz) Operability of the protection functions shall be provided before the power generating units start feeding in power. Functionality of protection function in the normal frequency operating ranges(Figure 4) is starting from 45Hz up to 55Hz.".*				**P**
A.1.2.8.9.4	**Fault logger**				**--**
A.2.2.8.9.10	Not applicable to PGU				**NA**

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

FGW TG8	Title				Result
A.1.2.8 **A.2.2.8**	**Protection**				**P**
A.1.2.8.10 **A.2.2.8.11**	**Coupling switch**				**--**
A.1.2.8.9.1 **A.2.2.8.9.1**	**VDE 4110 Requirement Cl.**	**VDE 4110 Verification Cl.**	**Associated documents**	**Requirement needed**	**P**
	10.3 10.4.5	--	--	☒ Manufacturer's declaration	
	VDE 4120 Requirement Cl.	**VDE 4120 Verification Cl.**	**Associated documents**	**Requirement needed**	
	10.3 10.4.5	--	--	☒ Manufacturer's declaration	
	Evaluated documentation: - **Manufacturer declaration:** "5. Sofar's declaration (TG8)". Dated on April 27th, 2022. Compliance is evidenced by the information declared by the manufacturer in point 3.6.6 of this manufacturer declaration.				

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

1.3 Summary of the evaluation of the validation results

The following documentation is used for the evaluation:

Information of the test report:

- Validation report number: 2221/0067-5-TG4
- Issuance date: 17/08/2021
- Issued by: SGS Tecnos, S.A. (Electrical Testing Laboratory)
- Simulation model name: Sofar110kW_PGU.xls
- Version of the simulation model: V01.12
- MD5 Checksum: C8C4FBEDB431BE899CF6F809C900DDD9
- Simulation platform: Matlab Simulink
- Simulation platform version: 10.3 Version(R2021a)

Information of the user manual documentation of the dynamic simulation model:

- Document reference name: User Manual and Model Description of Matlab Model of Sofar PV Inverter 110KTL (*).
- Version: V1
- Issuance date: 06/08/2021

(*) The information given in the user manual for the model SOFAR 110KTL is also the same for models SOFAR 75KTL, SOFAR 80KTL, SOFAR 100KTL, SOFAR 100KTL-HV, SOFAR 125KTL-HV and SOFAR 136KTL-HV. The user manual provides indications to adapt the simulation model to operate with characteristics of different variant models above listed.

Revision 1 dated 27th June 2022

- Validation report number: 2221/0067-5/Amp-TG4
- Issuance date: 24/06/2022
- Issued by: SGS Tecnos, S.A. (Electrical Testing Laboratory)
- Simulation model name: PGU_110kW.slx
- Version of the simulation model: V2
- MD5 Checksum: E622F40E18F8E5090D437D0937091BEA
- Simulation platform: Matlab Simulink
- Simulation platform version: 9.1 Version(R2018a)

The customer provides an updated dynamic simulation model and declares that the updated dynamic simulation model separates simulation parameters in M file from old dynamic simulation model, therefore modify simulation parameters won't change the updated dynamic simulation model itself. Also, updated dynamic simulation model function module is encrypted compared with the old dynamic simulation model.

To verify that the updated Dynamic Simulation Model mentioned above has no impact on the TG4 report, few tests were repeated as it is shown in report no. 2221/0067-5/Amp-TG4:

- VRT simulation cases (50.5, 75.3, 110.3 and 80.2) and
- clauses 4.2.1.1, 4.2.2.2, 4.3.1.1, 4.3.2, 4.4 and 4.6.1

Information of the user manual documentation of the dynamic simulation model:

- Document reference name: User Manual and Model Description of Matlab Model of Sofar PV Inverter 110KTL (*).
- Version: V2
- Issuance date: 2022-04-21

(*) The information given in the user manual for the model SOFAR 110KTL is also the same for models SOFAR 75KTL, SOFAR 80KTL, SOFAR 100KTL, SOFAR 100KTL-HV, SOFAR 125KTL-HV and SOFAR 136KTL-HV. The user manual provides indications to adapt the simulation model to operate with characteristics of different variant models above listed.

FGW TG8	Title				Result
A.1.2.9 **A.2.2.9**	**Simulation models**				**P**
A.1.2.9.1 **A.2.2.9.1**	**Requirements for simulation models**				--
A.1.2.9.1.1 **A.2.2.9.1.1**	**VDE 4110 Requirement Cl.**	**VDE 4110 Verification Cl.**	**Associated documents**	**Requirement needed**	
	10.6	11.2.6	TG4	☒ Validated model ☒ Validation report ☒ Model documentation	
	VDE 4120 Requirement Cl.	**VDE 4120 Verification Cl.**	**Associated documents**	**Requirement needed**	
	10.6	11.2.6	TG4	☒ Validated model ☒ Validation report ☒ Model documentation	
	Evaluated documentation: - **Model Documentation:** "User Manual and Model Description of Matlab Model of Sofar PV Inverter 110KTL" V2 dated on April 04th, 2022. - **Validation Report:** Test report no. 2221/0067-5-TG4. Dated on August 17th, 2021 and Test report no. 2221/0067-5/Amp-TG4. Dated on June 24th, 2022				**P**

Information about the transferability of validation results to derived models:

The validation process according to FGW TG4 (rev. 9) has been completed over the dynamic simulation model for the PV inverter model SOFAR 110KTL. However, evaluation requirements detailed in the point 5.8.2 of FGW TG4 (Rev. 9), *"Transfer to other PGUs"*, and the chapter 2.12.2 of FGW TG8 (rev. 9) have been considered for the transferability of this validation process to derived models, SOFAR 75KTL, SOFAR 80KTL, SOFAR 100KTL, SOFAR 100KTL-HV, SOFAR 125KTL-HV and SOFAR 136KTL-HV..

As detailed in the validation report no. 2221 / 0067 – 5 – TG4, validation results obtained on the simulation model for SOFAR 110KTL are essentially valid for derived models, SOFAR 75KTL, SOFAR 80KTL, SOFAR 100KTL, SOFAR 100KTL-HV, SOFAR 125KTL-HV and SOFAR 136KTL-HV. This is ensured since all these referred PV models are based on the same architecture and use the same control strategy. The different model types are achieved by modification of the nominal data in the simulation model.

As a basis for this evaluation, they have also been considered simulations of plausibility tests performed according to FGW TG4 (rev. 9) over the validated simulation model with repetitions of tests at reduced power levels which includes rated power levels of derived models. This includes the verification of following simulation cases over the dynamic simulation model of SOFAR 110KTL adapted to operate with generation capabilities of derived models SOFAR 75KTL, SOFAR 80KTL, SOFAR 100KTL, SOFAR 100KTL-HV, SOFAR 125KTL-HV and SOFAR 136KTL-HV..

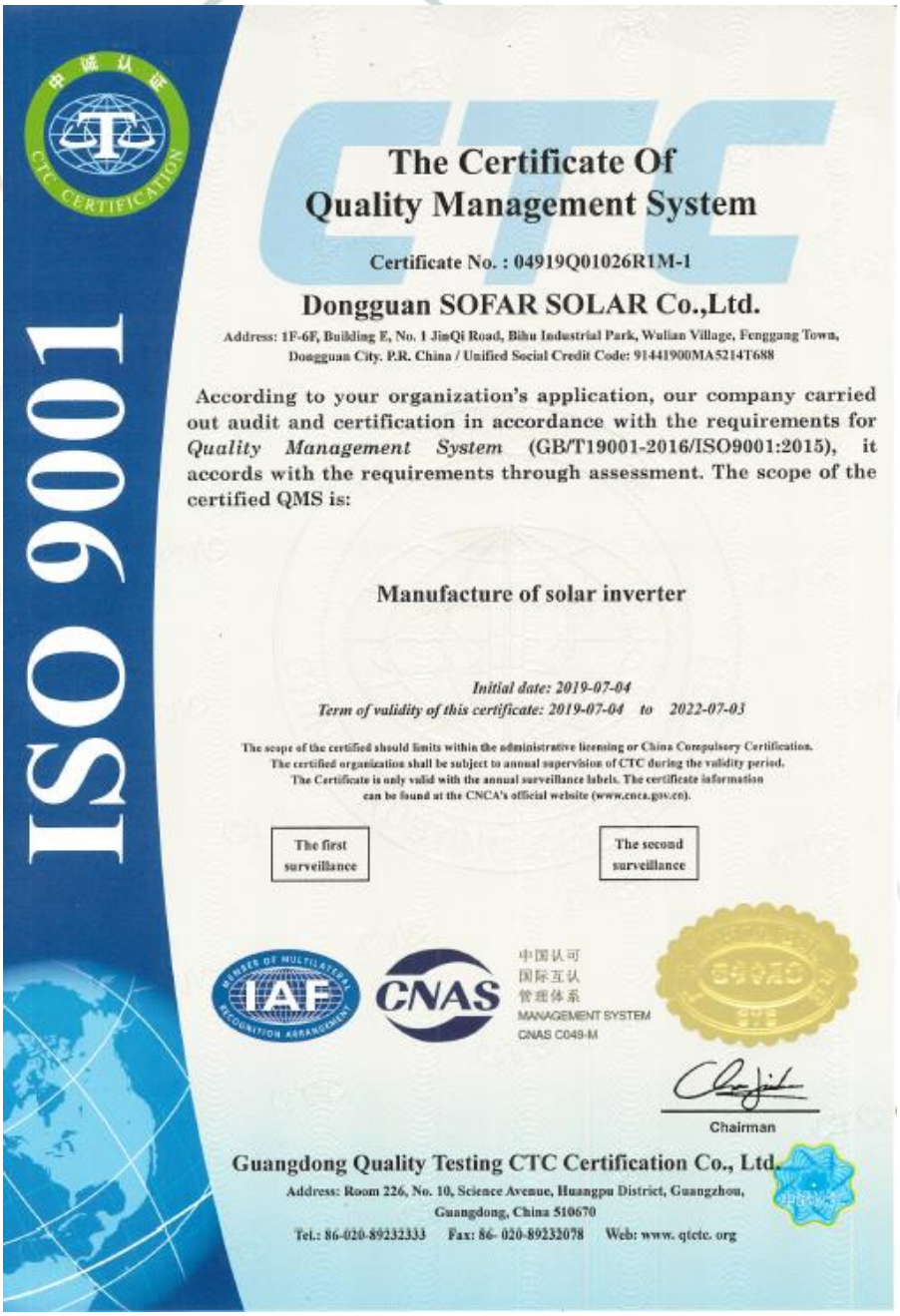
- Verification of Voltage-Dependent PQ diagrams.

1.4 Evaluation of the ISO 9001 Quality Management System Certificate of manufacturers

It is one manufacturer with the following factory address where it is produced the certified PV Inverter:

Factory address: 1F-6F, Building E, No. 1 JinQi Road, Bihu Industrial Park, Wulian Village, Fenggang Town, Dongguan City. P.R. China / Unified Social Credit Code: 91441900MA5214T688.

Evidence: Certificate No. 04919Q01026R2M. Issued by CTC CERTIFICATION (CNAS accredited). Valid until 3rd July 2022.



ISO 9001

The Certificate Of Quality Management System

Certificate No. : 04919Q01026R1M-1

Dongguan SOFAR SOLAR Co.,Ltd.

Address: 1F-6F, Building E, No. 1 JinQi Road, Bihu Industrial Park, Wulian Village, Fenggang Town, Dongguan City. P.R. China / Unified Social Credit Code: 91441900MA5214T688

According to your organization's application, our company carried out audit and certification in accordance with the requirements for *Quality Management System* (GB/T19001-2016/ISO9001:2015), it accords with the requirements through assessment. The scope of the certified QMS is:

Manufacture of solar inverter

Initial date: 2019-07-04

Term of validity of this certificate: 2019-07-04 to 2022-07-03

The scope of the certified should limits within the administrative licensing or China Compulsory Certification.
The certified organization shall be subject to annual supervision of CTC during the validity period.
The Certificate is only valid with the annual surveillance labels. The certificate information can be found at the CNCA's official website (www.cnca.gov.cn).

The first surveillance	The second surveillance

IAF CNAS 中国认可 国际互认 管理体系 MANAGEMENT SYSTEM CNAS C049-M

Chairman

Guangdong Quality Testing CTC Certification Co., Ltd.

Address: Room 226, No. 10, Science Avenue, Huangpu District, Guangzhou, Guangdong, China 510670

Tel.: 86-020-89232333 Fax: 86- 020-89232078 Web: www. qtctc. org

1.5 Compromise letter to maintain ISO 9001 during the validity period of certificate

Compromise letter

We **Shenzhen SOFARSOLAR Co., Ltd.**

Declare the maintenance of the quality system certified by a certification accreditedcompany, according to the requirements of ISO 9001:2015, during the validityperiod of the certificate, at least 5 years.

We are also committed to require our assemblers to comply with the samestandards of quality during that period.

Brand:SofarSolar

Model:SOFAR 75KTL; SOFAR 80KTL; SOFAR 100KTL; SOFAR 100KTL;
SOFAR 100KTL-HV; SOFAR 125KTL-HV; SOFAR 136KTL-HV

Date: 15th February, 2021

Name:Wang Hui
Charge:Standard and Certification
EngineerSignature:

1.6 Compromise letter of the certified product.

Product declaration

We **Shenzhen SOFARSOLAR Co., Ltd.**

Declare that the product,

- SOFAR 110KTL

tested by the SGS Tecnos E&E Laboratory Testing, according to the standards,

- VDE-AR-N 4110:2018 andVDE-AR-N 4120:2018
- FGW TG3 (rev.25) according to test report2221 / 0067 - 5
- FGW TG4 (rev 9) according to test report2221 / 0067 - 5-TG4
- FGW TG8 (rev 9)

as the same to the model to certify according to above-mentioned standards.

The variant models,

- SOFAR 75KTL;
- SOFAR 80KTL;
- SOFAR 100KTL;
- SOFAR 100KTL-HV;
- SOFAR 125KTL-HV;
- SOFAR 136KTL-HV

can be added under scoped of the certification having the same hardware topology and firmware of the tested model.

Date：20th August.2021

Name：Wanghui

Charge：Standard and Certification Engineer

Signature：

2 OVERVIEW OF RESULTS OF THE FGW TR3 TEST REPORT

Test Report Number: 2221 / 0067 - 5 – E1 with date 09/05/2022 according of FGW TR3 rev. 25

2.1 Nenndaten / Rated data:

For the model SOFAR 75KTL:

Nennscheinleistung Sn	75 kVA	**Nennstrom In**	109 A (1)
Nennfrequenz f_n rated frequency f_n	50 Hz	**Nennspannung Un rated Voltage Un**	230 / 400V

([1]) The rated current is calculated by rated power and voltage (75000 W / 230 Vac / 3 = 109 A)

For the model SOFAR 80KTL:

Nennscheinleistung Sn	80 kVA	**Nennstrom In**	116 A (2)
Nennfrequenz f_n rated frequency f_n	50 Hz	**Nennspannung Un rated Voltage Un**	230 / 400V

(2) The rated current is calculated by rated power and voltage (80000 W / 230 Vac / 3 = 116 A).

For the model SOFAR 100KTL:

Nennscheinleistung Sn	100 kVA	**Nennstrom In**	145 A (3)
Nennfrequenz f_n rated frequency f_n	50 Hz	**Nennspannung Un rated Voltage Un**	230 / 400V

(3) The rated current is calculated by rated power and voltage (100000 W / 230 Vac / 3 = 145 A).

For the model SOFAR 100KTL-HV:

Nennscheinleistung Sn	100 kVA	**Nennstrom In**	115 A (4)
Nennfrequenz f_n rated frequency f_n	50 Hz	**Nennspannung Un rated Voltage Un**	500 V

(4) The rated current is calculated by rated power and voltage (100000 W / 289 Vac / 3 = 115 A).

For the model SOFAR 110KTL:

Nennscheinleistung Sn	110 kVA	**Nennstrom In**	159 A (5)
Nennfrequenz f_n rated frequency f_n	50 Hz	**Nennspannung Un rated Voltage Un**	230 / 400V

(5) The rated current is calculated by rated power and voltage (110000 W / 230 Vac / 3 = 159 A).

For the model SOFAR 125KTL-HV:

Nennscheinleistung Sn	125 kVA	**Nennstrom In**	144 A ([1])
Nennfrequenz f_n rated frequency f_n	50 Hz	**Nennspannung Un rated Voltage Un**	500 V

([1]) The rated current is calculated by rated power and voltage (125000 W / 289 Vac / 3 = 144 A).

For the model SOFAR 136KTL-HV:

Nennscheinleistung Sn	136 kVA	**Nennstrom In**	145 A (2)
Nennfrequenz f_n rated frequency f_n	50 Hz	**Nennspannung Un rated Voltage Un**	540 V

(2) The rated current is calculated by rated power and voltage (136000 W / 312 Vac / 3 = 145 A).

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

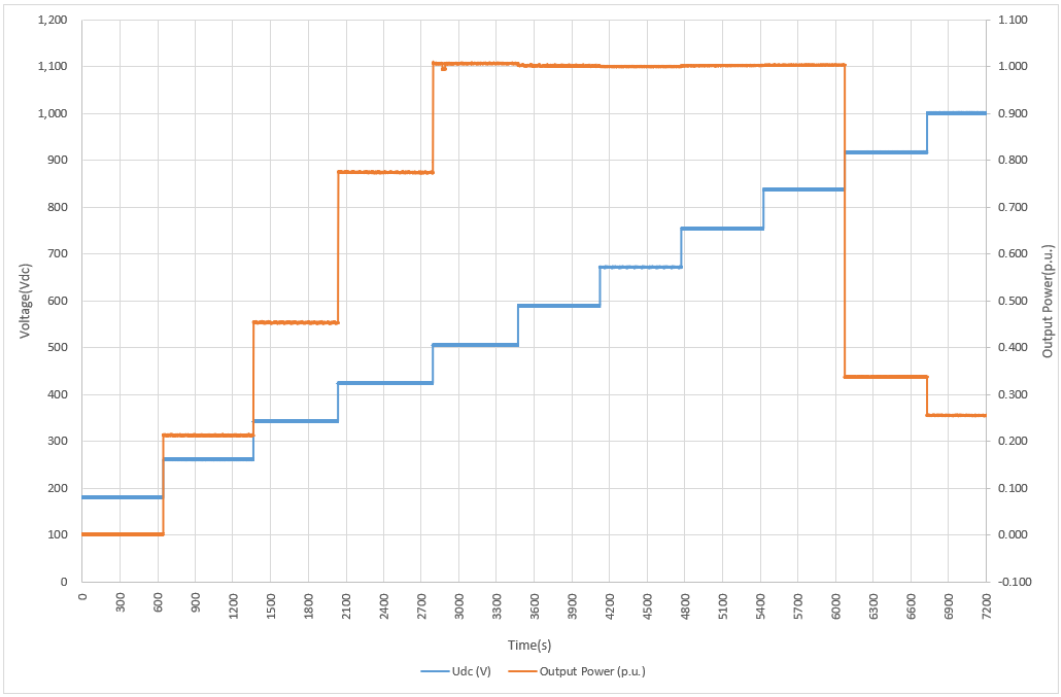
2.2 Power quality

2.2.1 Wirkleistungsspitzen / Power Peaks

DC Voltage (V)	Wirkleistungsspitzen in kW / Power peaks in kW		Wirkleistungsspitzen in p.u. / Power peaks in p.u.		Anzahl 10-Minuten Datensätze in / Number of 10-minute data set
180	$p_{600} = P_{600}/P_n$	0.247	$p_{60} = P_{60}/P_n$	0.002	11
262	$p_{600} = P_{600}/P_n$	23.463	$p_{60} = P_{60}/P_n$	0.214	11
344	$p_{600} = P_{600}/P_n$	49.884	$p_{60} = P_{60}/P_n$	0.454	11
426	$p_{600} = P_{600}/P_n$	85.144	$p_{60} = P_{60}/P_n$	0.775	11
508	$p_{600} = P_{600}/P_n$	110.628	$p_{60} = P_{60}/P_n$	1.007	11
590	$p_{600} = P_{600}/P_n$	110.205	$p_{60} = P_{60}/P_n$	1.003	11
672	$p_{600} = P_{600}/P_n$	110.043	$p_{60} = P_{60}/P_n$	1.001	11
754	$p_{600} = P_{600}/P_n$	110.247	$p_{60} = P_{60}/P_n$	1.003	11
836	$p_{600} = P_{600}/P_n$	110.420	$p_{60} = P_{60}/P_n$	1.004	11
918	$p_{600} = P_{600}/P_n$	37.159	$p_{60} = P_{60}/P_n$	0.338	11
1000	$p_{600} = P_{600}/P_n$	28.126	$p_{60} = P_{60}/P_n$	0.256	11

Note 1: The MPPT range is 180V to 1000V. Full power MPPT voltage range is 500V to 850V.

Active Power Peaks



Note 2: Results given are obtained after test results performed on the model SOFAR 110KTL. These test results for the model SOFAR 110KTL are essentially valid for the derived models SOFAR 75KTL, SOFAR 80KTL, SOFAR 100KTL, SOFAR 100KTL-HV, SOFAR 125KTL-HV and SOFAR 136KTL-HV, considering the evaluation offered in the point 1.2 of this document.

2.2.2 Schalthandlungen / Switching Operation

- Test 1: Switch-on at P<10%Pn.

Schalthandlungen / Case of switching operation	**Einschalten bei $P_{verfügbar}$ <10 % P_n (Einschaltwindgeschw.) / Start-up at $P_{available}$ < 10% P_n (cut-in wind speed)**				
Max Anz. Schalthandlungen / Max, number of switching operations, N_{10}	20				
Max Anz. Schalthandlungen / Max, number of switching operations, N_{120}	240				
Netzimpedanzwinkel / Grid impedance angle		30º	50º	70º	85º
Flickerformfaktor / Flicker step factor, k_f (Ψ_k)	Phase A	0.008	0.008	0.008	0.007
	Phase B	0.007	0.007	0.007	0.006
	Phase C	0.008	0.007	0.007	0.007
Spannungsänderungsfaktor / Voltage change factor, k_U (Ψ_k)	Phase A	0.226	0.226	0.226	0.226
	Phase B	0.113	0.113	0.113	0.113
	Phase C	0.137	0.137	0.137	0.137

- Test 2: Switch-on at P=100%Pn.

Schalthandlungen / Case of switching operation	**Einschalten bei $P_{verfügbar}$ - P_n (Nennwindgeschwindigkeit) Start-up at $P_{available}$ = P_n (rated wind speed)**				
Max Anz. Schalthandlungen / Max, number of switching operations, N_{10}	20				
Max Anz. Schalthandlungen / Max, number of switching operations, N_{120}	240				
Netzimpedanzwinkel / Grid impedance angle		30º	50º	70º	85º
Flickerformfaktor / Flicker step factor, k_f (Ψ_k)	Phase A	0.012	0.015	0.017	0.018
	Phase B	0.010	0.012	0.013	0.013
	Phase C	0.011	0.014	0.016	0.016
Spannungsänderungsfaktor / Voltage change factor, k_U (Ψ_k)	Phase A	0.316	0.316	0.316	0.316
	Phase B	0.220	0.220	0.220	0.220
	Phase C	0.225	0.225	0.225	0.225

- Test 3: Service shutdown P=100%Pn.

Schalthandlungen / Case of switching operation	**Seviceabschaltung bei Nennleistung / Cut off at rated power**				
Max Anz. Schalthandlungen / Max, number of switching operations, N_{10}	20				
Max Anz. Schalthandlungen / Max, number of switching operations, N_{120}	240				
Netzimpedanzwinkel / Grid impedance angle		30º	50º	70º	85º
Flickerformfaktor / Flicker step factor, k_f (Ψ_k)	Phase A	0.114	0.084	0.046	0.022
	Phase B	0.117	0.087	0.048	0.021
	Phase C	0.117	0.089	0.055	0.034
Spannungsänderungsfaktor / Voltage change factor, k_U (Ψ_k)	Phase A	0.331	0.331	0.331	0.331
	Phase B	0.242	0.242	0.242	0.242
	Phase C	0.322	0.322	0.322	0.322

Note: Results given are obtained after test results performed on the model SOFAR 110KTL. These test results for the model SOFAR 110KTL are essentially valid for the derived models SOFAR 75KTL, SOFAR 80KTL, SOFAR 100KTL, SOFAR 100KTL-HV, SOFAR 125KTL-HV and SOFAR 136KTL-HV, considering the evaluation offered in the point 1.2 of this document.

2.2.3 Unsymmetrie / Unbalances

Model: SOFAR 75KTL						
Pn (%Sn)	**V1+ (V)**	**V1- (V)**	**I1+ (A)**	**I1- (A)**	**Ui (%)**	**Number of records**
110	230.6	0.1	119.3	0.2	0.156	>6000
100	230.6	0.1	109.1	0.2	0.156	>6000
90	230.5	0.1	98.2	0.2	0.155	>6000
80	230.4	0.1	87.4	0.1	0.152	>6000
70	230.4	0.1	76.6	0.1	0.150	>6000
60	230.3	0.1	65.7	0.1	0.185	>6000
50	230.2	0.1	54.8	0.1	0.238	>6000
40	230.2	0.1	43.9	0.1	0.305	>6000
30	230.1	0.1	32.9	0.2	0.551	>6000
20	230.1	0.1	21.9	0.2	1.071	>6000
10	230.0	0.1	10.9	0.1	0.543	>6000

Model: SOFAR 80KTL						
Pn (%Sn)	**V1+ (V)**	**V1- (V)**	**I1+ (A)**	**I1- (A)**	**Ui (%)**	**Number of records**
110	230.6	0.1	127.2	0.2	0.156	>6000
100	230.6	0.1	116.3	0.2	0.154	>6000
90	230.5	0.1	104.8	0.2	0.157	>6000
80	230.5	0.1	93.3	0.1	0.155	>6000
70	230.4	0.1	81.7	0.1	0.152	>6000
60	230.3	0.1	70.1	0.1	0.168	>6000
50	230.3	0.1	58.5	0.1	0.221	>6000
40	230.2	0.1	46.8	0.1	0.301	>6000
30	230.1	0.1	35.1	0.1	0.418	>6000
20	230.1	0.1	23.4	0.3	1.140	>6000
10	230.0	0.1	11.7	0.1	0.624	>6000

Model: SOFAR 100KTL						
Pn (%Sn)	**V1+ (V)**	**V1- (V)**	**I1+ (A)**	**I1- (A)**	**Ui (%)**	**Number of records**
110	230.8	0.1	158.8	0.2	0.151	>6000
100	230.7	0.1	145.0	0.2	0.159	>6000
90	230.7	0.1	130.7	0.2	0.160	>6000
80	230.6	0.1	116.3	0.2	0.156	>6000
70	230.5	0.1	101.9	0.2	0.158	>6000
60	230.4	0.1	87.5	0.1	0.156	>6000
50	230.3	0.1	73.0	0.1	0.165	>6000
40	230.3	0.1	58.4	0.1	0.220	>6000
30	230.2	0.1	43.9	0.1	0.315	>6000
20	230.1	0.1	29.3	0.2	0.804	>6000
10	230.0	0.1	14.6	0.1	0.549	>6000

According to VDE-AR-N 4110: 2018-11 and VDE-AR-N 4120: 2018-11, from the 10%Pn, the generating unit shall not exceed a maximum limit defined at 1.5%, for VDE-AR-N 4110: 2018-11 and a maximum limit defined at 2.5%, for VDE-AR-N 4120: 2018-11.

Model: SOFAR 100KTL-HV						
Pn (%Sn)	**V1+ (V)**	**V1- (V)**	**I1+ (A)**	**I1- (A)**	**Ui (%)**	**Number of records**
110	288.7	0.1	127.4	0.2	0.140	>6000
100	288.6	0.1	115.7	0.2	0.136	>6000
90	288.5	0.1	104.2	0.1	0.135	>6000
80	288.4	0.1	92.7	0.1	0.140	>6000
70	288.4	0.1	81.2	0.1	0.167	>6000
60	288.3	0.1	69.7	0.1	0.192	>6000
50	288.2	0.1	58.1	0.1	0.207	>6000
40	288.2	0.1	46.6	0.1	0.211	>6000
30	288.1	0.1	34.9	0.2	0.537	>6000
20	288.0	0.1	23.2	0.2	1.052	>6000
10	288.0	0.1	11.6	0.2	1.445	>6000

Model: SOFAR 110KTL						
Pn (%Sn)	**V1+ (V)**	**V1- (V)**	**I1+ (A)**	**I1- (A)**	**Ui (%)**	**Number of records**
110	230.5	0.1	175.4	0.6	0.325	>6000
100	230.7	0.1	159.2	0.4	0.259	>6000
90	230.7	0.1	143.1	0.4	0.293	>6000
80	230.6	0.1	127.5	0.4	0.320	>6000
70	230.5	0.1	111.5	0.4	0.346	>6000
60	230.4	0.1	95.7	0.4	0.384	>6000
50	230.3	0.1	79.8	0.3	0.416	>6000
40	230.3	0.1	63.9	0.3	0.458	>6000
30	230.2	0.1	48.0	0.3	0.552	>6000
20	230.1	0.1	32.0	0.2	0.765	>6000
10	230.0	0.1	15.9	0.1	0.793	>6000

Model: SOFAR 125KTL-HV						
Pn (%Sn)	**V1+ (V)**	**V1- (V)**	**I1+ (A)**	**I1- (A)**	**Ui (%)**	**Number of records**
110	288.8	0.1	158.6	0.2	0.141	>6000
100	288.8	0.1	144.4	0.2	0.137	>6000
90	288.7	0.1	130.1	0.2	0.134	>6000
80	288.6	0.1	115.8	0.1	0.124	>6000
70	288.5	0.1	101.4	0.1	0.126	>6000
60	288.4	0.1	87.0	0.1	0.144	>6000
50	288.4	0.1	72.6	0.1	0.175	>6000
40	288.3	0.1	58.2	0.1	0.218	>6000
30	288.2	0.1	43.7	0.1	0.234	>6000
20	288.1	0.1	29.1	0.3	0.881	>6000
10	288.0	0.1	14.5	0.1	0.534	>6000

According to VDE-AR-N 4110: 2018-11 and VDE-AR-N 4120: 2018-11, from the 10%Pn, the generating unit shall not exceed a maximum limit defined at 1.5%, for VDE-AR-N 4110: 2018-11 and a maximum limit defined at 2.5%, for VDE-AR-N 4120: 2018-11.

Model: SOFAR 136KTL-HV						
Pn (%Sn)	**V1+ (V)**	**V1- (V)**	**I1+ (A)**	**I1- (A)**	**Ui (%)**	**Number of records**
110	311.9	0.1	159.6	0.2	0.140	>6000
100	311.8	0.1	145.5	0.2	0.139	>6000
90	311.7	0.1	131.1	0.2	0.137	>6000
80	311.6	0.1	116.6	0.1	0.121	>6000
70	311.5	0.1	102.2	0.1	0.130	>6000
60	311.4	0.1	87.7	0.1	0.150	>6000
50	311.3	0.1	73.2	0.2	0.211	>6000
40	311.2	0.1	58.6	0.1	0.215	>6000
30	311.1	0.1	44.0	0.1	0.291	>6000
20	311.1	0.1	29.3	0.3	0.880	>6000
10	311.0	0.1	14.6	0.1	0.688	>6000

According to VDE-AR-N 4110: 2018-11 and VDE-AR-N 4120: 2018-11, from the 10%Pn, the generating unit shall not exceed a maximum limit defined at 1.5%, for VDE-AR-N 4110: 2018-11 and a maximum limit defined at 2.5%, for VDE-AR-N 4120: 2018-11.

2.2.4 Flicker

Model: SOFAR 75KTL					
Netzimpedanzwinkel / Network impedance phase angle, Ψk	Phase	30º	50º	70º	85º
P (%Pn)		Flickerkoeffizient / Flicker coefficient, C (Ψk, Pa)			
0	A	0.366	0.366	0.366	0.366
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
10	A	0.366	0.365	0.365	0.365
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
20	A	0.365	0.365	0.365	0.365
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
30	A	0.366	0.366	0.366	0.366
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
40	A	0.366	0.366	0.366	0.366
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
50	A	0.366	0.366	0.366	0.366
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
60	A	0.366	0.366	0.366	0.366
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
70	A	0.366	0.366	0.366	0.366
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
80	A	0.366	0.366	0.366	0.366
	B	0.365	0.365	0.366	0.365
	C	0.365	0.365	0.365	0.365
90	A	0.366	0.366	0.366	0.366
	B	0.365	0.366	0.366	0.366
	C	0.365	0.365	0.365	0.365
100	A	0.366	0.366	0.366	0.366
	B	0.366	0.366	0.366	0.366
	C	0.366	0.366	0.366	0.366
110	A	0.366	0.366	0.366	0.366
	B	0.365	0.365	0.366	0.366
	C	0.365	0.365	0.365	0.365
Max	--	0.366	0.366	0.366	0.366

Model: SOFAR 80KTL					
Netzimpedanzwinkel / Network impedance phase angle, Ψk	Phase	30º	50º	70º	85º
P (%Pn)		Flickerkoeffizient / Flicker coefficient, C (Ψk, Pa)			
0	A	0.366	0.366	0.366	0.365
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
10	A	0.365	0.365	0.365	0.365
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
20	A	0.365	0.365	0.365	0.365
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
30	A	0.365	0.365	0.365	0.365
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
40	A	0.366	0.366	0.366	0.365
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
50	A	0.365	0.365	0.365	0.365
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
60	A	0.365	0.366	0.366	0.366
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
70	A	0.366	0.366	0.366	0.366
	B	0.365	0.366	0.366	0.366
	C	0.365	0.365	0.365	0.365
80	A	0.366	0.366	0.366	0.366
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
90	A	0.366	0.366	0.366	0.366
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
100	A	0.366	0.366	0.366	0.366
	B	0.365	0.366	0.366	0.366
	C	0.365	0.365	0.365	0.365
110	A	0.366	0.366	0.366	0.366
	B	0.365	0.366	0.366	0.366
	C	0.365	0.365	0.365	0.365
Max	--	0.366	0.366	0.366	0.366

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Model: SOFAR 100KTL					
Netzimpedanzwinkel / Network impedance phase angle, Ψk	Phase	30º	50º	70º	85º
P (%Pn)		Flickerkoeffizient / Flicker coefficient, C (Ψk, Pa)			
0	A	0.366	0.366	0.366	0.366
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
10	A	0.365	0.365	0.365	0.365
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
20	A	0.366	0.365	0.365	0.365
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
30	A	0.366	0.366	0.365	0.365
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
40	A	0.366	0.366	0.366	0.366
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
50	A	0.366	0.366	0.366	0.366
	B	0.365	0.366	0.366	0.366
	C	0.365	0.365	0.365	0.365
60	A	0.366	0.366	0.366	0.366
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
70	A	0.366	0.366	0.366	0.366
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
80	A	0.366	0.366	0.366	0.366
	B	0.365	0.365	0.366	0.366
	C	0.365	0.365	0.365	0.365
90	A	0.366	0.366	0.366	0.366
	B	0.365	0.366	0.366	0.366
	C	0.365	0.366	0.366	0.366
100	A	0.366	0.366	0.366	0.366
	B	0.366	0.366	0.366	0.366
	C	0.365	0.365	0.366	0.366
110	A	0.366	0.366	0.366	0.366
	B	0.366	0.366	0.366	0.366
	C	0.365	0.366	0.366	0.366
Max	--	0.366	0.366	0.366	0.366

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Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Model: SOFAR 100KTL-HV					
Netzimpedanzwinkel / Network impedance phase angle, Ψk	Phase	30º	50º	70º	85º
P (%Pn)		Flickerkoeffizient / Flicker coefficient, C (Ψk, Pa)			
0	A	0.366	0.366	0.366	0.365
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
10	A	0.366	0.366	0.366	0.366
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
20	A	0.366	0.366	0.366	0.366
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
30	A	0.365	0.365	0.365	0.365
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
40	A	0.366	0.366	0.366	0.366
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
50	A	0.366	0.366	0.366	0.366
	B	0.366	0.366	0.366	0.366
	C	0.365	0.365	0.365	0.365
60	A	0.366	0.366	0.366	0.366
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
70	A	0.366	0.366	0.366	0.366
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
80	A	0.366	0.366	0.366	0.366
	B	0.365	0.365	0.366	0.366
	C	0.365	0.365	0.365	0.365
90	A	0.366	0.366	0.366	0.366
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
100	A	0.366	0.366	0.366	0.366
	B	0.365	0.366	0.366	0.366
	C	0.365	0.365	0.365	0.365
110	A	0.366	0.366	0.366	0.366
	B	0.366	0.366	0.366	0.366
	C	0.365	0.365	0.366	0.366
Max	--	0.366	0.366	0.366	0.366

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Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Model: SOFAR 110KTL					
Netzimpedanzwinkel / Network impedance phase angle, Ψk	Phase	30º	50º	70º	85º
P (%Pn)		Flickerkoeffizient / Flicker coefficient, C (Ψk, Pa)			
0	A	0.356	0.363	0.350	0.334
	B	0.352	0.352	0.356	0.360
	C	0.402	0.402	0.404	0.406
10	A	0.287	0.271	0.260	0.274
	B	0.299	0.286	0.273	0.267
	C	0.287	0.276	0.267	0.265
20	A	0.295	0.299	0.304	0.306
	B	0.311	0.304	0.298	0.295
	C	0.249	0.228	0.207	0.199
30	A	0.262	0.274	0.283	0.285
	B	0.207	0.203	0.199	0.197
	C	0.298	0.318	0.332	0.337
40	A	0.297	0.332	0.359	0.368
	B	0.289	0.306	0.323	0.328
	C	0.297	0.325	0.346	0.350
50	A	0.333	0.375	0.400	0.405
	B	0.330	0.357	0.379	0.384
	C	0.278	0.279	0.280	0.281
60	A	0.371	0.449	0.507	0.525
	B	0.288	0.273	0.273	0.273
	C	0.310	0.332	0.352	0.356
70	A	0.376	0.465	0.531	0.549
	B	0.351	0.403	0.439	0.448
	C	0.341	0.393	0.431	0.443
80	A	0.379	0.471	0.536	0.555
	B	0.403	0.474	0.518	0.522
	C	0.352	0.413	0.454	0.464
90	A	0.449	0.585	0.676	0.701
	B	0.367	0.444	0.496	0.510
	C	0.389	0.447	0.492	0.507
100 (test 1)	A	0.485	0.646	0.754	0.783
	B	0.406	0.509	0.579	0.598
	C	0.437	0.541	0.612	0.629
100 (test 2)	A	0.508	0.562	0.643	0.676
	B	0.595	0.549	0.497	0.580
	C	0.570	0.553	0.612	0.629
100 (test 3)	A	0.519	0.596	0.623	0.708
	B	0.494	0.493	0.557	0.524
	C	0.497	0.595	0.642	0.614
110	A	0.289	0.369	0.280	0.396
	B	0.373	0.376	0.376	0.378
	C	0.278	0.279	0.280	0.281
Max	--	0.595	0.646	0.754	0.783

Model: SOFAR 125KTL-HV					
Netzimpedanzwinkel / Network impedance phase angle, Ψk	Phase	30º	50º	70º	85º
P (%Pn)		Flickerkoeffizient / Flicker coefficient, C (Ψk, Pa)			
0	A	0.365	0.365	0.365	0.365
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
10	A	0.365	0.365	0.365	0.365
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
20	A	0.366	0.366	0.366	0.366
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
30	A	0.366	0.366	0.366	0.366
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
40	A	0.366	0.366	0.366	0.366
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
50	A	0.366	0.366	0.366	0.366
	B	0.365	0.366	0.366	0.366
	C	0.365	0.365	0.365	0.365
60	A	0.366	0.366	0.366	0.366
	B	0.365	0.366	0.366	0.366
	C	0.365	0.365	0.365	0.365
70	A	0.366	0.366	0.366	0.366
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
80	A	0.366	0.366	0.366	0.366
	B	0.365	0.366	0.366	0.366
	C	0.365	0.365	0.365	0.365
90	A	0.366	0.366	0.366	0.366
	B	0.366	0.366	0.366	0.366
	C	0.365	0.365	0.366	0.366
100	A	0.366	0.366	0.366	0.366
	B	0.366	0.366	0.366	0.366
	C	0.365	0.366	0.366	0.366
110	A	0.366	0.366	0.366	0.366
	B	0.366	0.366	0.366	0.366
	C	0.365	0.366	0.366	0.366
Max	--	0.366	0.366	0.366	0.366

Model: SOFAR 136KTL-HV					
Netzimpedanzwinkel / Network impedance phase angle, Ψk	Phase	30º	50º	70º	85º
P (%Pn)		Flickerkoeffizient / Flicker coefficient, C (Ψk, Pa)			
0	A	0.366	0.365	0.365	0.365
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
10	A	0.366	0.365	0.365	0.365
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
20	A	0.366	0.366	0.365	0.365
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
30	A	0.366	0.366	0.365	0.365
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
40	A	0.365	0.365	0.365	0.365
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
50	A	0.366	0.366	0.366	0.366
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
60	A	0.366	0.366	0.366	0.366
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
70	A	0.366	0.366	0.366	0.366
	B	0.365	0.365	0.365	0.365
	C	0.365	0.365	0.365	0.365
80	A	0.366	0.366	0.366	0.366
	B	0.365	0.366	0.366	0.366
	C	0.365	0.365	0.365	0.365
90	A	0.366	0.366	0.366	0.366
	B	0.365	0.366	0.366	0.366
	C	0.365	0.365	0.366	0.366
100	A	0.366	0.366	0.366	0.366
	B	0.366	0.366	0.366	0.366
	C	0.365	0.366	0.366	0.366
110	A	0.366	0.366	0.366	0.366
	B	0.366	0.366	0.366	0.366
	C	0.365	0.366	0.366	0.366
Max	--	0.366	0.366	0.366	0.366

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

2.2.5 Oberschwingungsmessungen / Harmonics

Model: SOFAR 75KTL													
Phase A													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	Max (%)
Nr./ Order	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2	0.136	0.136	0.078	0.060	0.063	0.060	0.060	0.058	0.065	0.063	0.071	0.074	0.136
3	0.248	0.133	0.125	0.118	0.132	0.098	0.098	0.060	0.052	0.058	0.072	0.091	0.248
4	0.091	0.062	0.073	0.053	0.035	0.031	0.031	0.028	0.030	0.029	0.035	0.039	0.091
5	1.727	0.151	1.092	0.081	0.109	0.071	0.071	0.047	0.038	0.037	0.051	0.065	1.727
6	0.142	0.061	0.101	0.102	0.054	0.040	0.040	0.024	0.031	0.027	0.029	0.031	0.142
7	0.856	0.587	1.007	0.079	0.137	0.104	0.104	0.079	0.055	0.043	0.039	0.043	1.007
8	0.077	0.049	0.047	0.055	0.030	0.029	0.029	0.025	0.028	0.027	0.030	0.033	0.077
9	0.093	0.090	0.074	0.049	0.093	0.065	0.065	0.040	0.033	0.039	0.050	0.059	0.093
10	0.081	0.080	0.034	0.045	0.030	0.027	0.027	0.026	0.029	0.028	0.033	0.036	0.081
11	0.696	0.103	0.697	0.101	0.066	0.084	0.084	0.122	0.124	0.130	0.132	0.146	0.697
12	0.128	0.077	0.062	0.077	0.056	0.046	0.046	0.024	0.028	0.027	0.027	0.028	0.128
13	0.849	0.435	0.514	0.151	0.078	0.044	0.044	0.098	0.114	0.126	0.139	0.156	0.849
14	0.115	0.096	0.048	0.028	0.026	0.025	0.025	0.022	0.023	0.024	0.026	0.026	0.115
15	0.105	0.036	0.054	0.081	0.067	0.043	0.043	0.038	0.038	0.051	0.060	0.069	0.105
16	0.088	0.080	0.029	0.021	0.026	0.023	0.023	0.022	0.026	0.029	0.031	0.033	0.088
17	0.374	0.378	0.298	0.305	0.111	0.069	0.069	0.061	0.082	0.105	0.129	0.150	0.378
18	0.091	0.042	0.066	0.027	0.037	0.037	0.037	0.020	0.020	0.021	0.023	0.023	0.091
19	0.285	0.350	0.383	0.202	0.114	0.097	0.097	0.049	0.085	0.110	0.135	0.150	0.383
20	0.051	0.036	0.067	0.033	0.018	0.019	0.019	0.018	0.018	0.021	0.022	0.021	0.067
21	0.042	0.052	0.065	0.030	0.058	0.031	0.031	0.041	0.039	0.044	0.045	0.049	0.065
22	0.084	0.058	0.038	0.026	0.025	0.018	0.018	0.015	0.020	0.025	0.028	0.029	0.084
23	0.391	0.462	0.340	0.159	0.037	0.088	0.088	0.064	0.044	0.069	0.092	0.108	0.462
24	0.056	0.043	0.033	0.023	0.016	0.022	0.022	0.019	0.019	0.015	0.014	0.015	0.056
25	0.295	0.362	0.379	0.182	0.051	0.061	0.061	0.077	0.036	0.056	0.083	0.107	0.379
26	0.030	0.036	0.043	0.021	0.018	0.015	0.015	0.014	0.015	0.014	0.014	0.016	0.043
27	0.028	0.034	0.039	0.027	0.052	0.031	0.031	0.027	0.034	0.035	0.034	0.036	0.052
28	0.031	0.035	0.031	0.023	0.018	0.014	0.014	0.012	0.015	0.017	0.019	0.021	0.035
29	0.089	0.264	0.262	0.187	0.123	0.032	0.032	0.098	0.073	0.050	0.052	0.057	0.264
30	0.033	0.025	0.030	0.024	0.015	0.011	0.011	0.012	0.017	0.015	0.014	0.014	0.033
31	0.226	0.225	0.116	0.119	0.106	0.043	0.043	0.074	0.065	0.043	0.042	0.060	0.226
32	0.023	0.031	0.034	0.021	0.015	0.014	0.014	0.011	0.013	0.010	0.010	0.011	0.034
33	0.027	0.038	0.024	0.032	0.043	0.025	0.025	0.017	0.024	0.028	0.027	0.027	0.043
34	0.020	0.029	0.018	0.024	0.015	0.011	0.011	0.009	0.012	0.010	0.011	0.013	0.029
35	0.056	0.065	0.226	0.183	0.093	0.089	0.089	0.070	0.070	0.050	0.035	0.039	0.226
36	0.023	0.021	0.025	0.024	0.011	0.009	0.009	0.009	0.013	0.012	0.014	0.014	0.025
37	0.083	0.075	0.264	0.187	0.067	0.078	0.078	0.048	0.064	0.060	0.048	0.031	0.264
38	0.022	0.027	0.022	0.015	0.012	0.009	0.009	0.009	0.011	0.009	0.009	0.010	0.027
39	0.019	0.022	0.025	0.024	0.032	0.016	0.016	0.016	0.018	0.021	0.022	0.022	0.032
40	0.015	0.022	0.010	0.020	0.011	0.009	0.009	0.008	0.009	0.007	0.009	0.011	0.022
41	0.050	0.077	0.124	0.133	0.075	0.078	0.078	0.035	0.055	0.048	0.040	0.032	0.133
42	0.016	0.016	0.011	0.019	0.009	0.008	0.008	0.008	0.009	0.008	0.011	0.011	0.019
43	0.048	0.132	0.084	0.099	0.088	0.060	0.060	0.032	0.050	0.050	0.043	0.037	0.132
44	0.019	0.016	0.012	0.012	0.009	0.007	0.007	0.008	0.010	0.008	0.010	0.011	0.019
45	0.011	0.021	0.022	0.022	0.024	0.015	0.015	0.016	0.015	0.017	0.019	0.019	0.024
46	0.025	0.029	0.021	0.021	0.018	0.018	0.018	0.019	0.019	0.018	0.019	0.020	0.029
47	0.055	0.122	0.104	0.081	0.083	0.052	0.052	0.034	0.038	0.044	0.034	0.022	0.122
48	0.020	0.022	0.020	0.021	0.017	0.016	0.016	0.016	0.017	0.017	0.019	0.018	0.022
49	0.041	0.159	0.088	0.086	0.076	0.049	0.049	0.037	0.027	0.040	0.037	0.031	0.159
50	0.013	0.014	0.011	0.009	0.007	0.008	0.008	0.007	0.007	0.006	0.008	0.008	0.014
TDC(%)	2.381	1.215	1.944	0.679	0.442	0.341	0.341	0.310	0.315	0.333	0.370	0.415	2.381

Model: SOFAR 75KTL													
Phase B													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	Max (%)
Nr./ Order	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2	0.104	0.079	0.230	0.173	0.114	0.088	0.073	0.065	0.076	0.074	0.087	0.092	0.230
3	0.284	0.055	0.147	0.105	0.084	0.058	0.053	0.064	0.071	0.082	0.099	0.114	0.284
4	0.075	0.074	0.194	0.159	0.082	0.057	0.037	0.027	0.034	0.038	0.045	0.047	0.194
5	1.554	0.130	1.170	0.168	0.073	0.053	0.048	0.065	0.059	0.059	0.067	0.078	1.554
6	0.164	0.076	0.196	0.177	0.076	0.050	0.036	0.025	0.033	0.036	0.038	0.037	0.196
7	1.028	0.599	1.134	0.146	0.090	0.077	0.076	0.099	0.071	0.049	0.053	0.061	1.134
8	0.096	0.050	0.128	0.143	0.077	0.050	0.037	0.028	0.033	0.037	0.042	0.045	0.143
9	0.122	0.064	0.104	0.100	0.092	0.070	0.045	0.041	0.037	0.043	0.048	0.048	0.122
10	0.090	0.065	0.109	0.080	0.069	0.053	0.037	0.026	0.029	0.033	0.036	0.037	0.109
11	0.793	0.122	0.657	0.142	0.055	0.073	0.094	0.130	0.139	0.160	0.176	0.194	0.793
12	0.150	0.092	0.103	0.070	0.064	0.044	0.031	0.023	0.030	0.033	0.035	0.032	0.150
13	0.793	0.375	0.556	0.220	0.084	0.052	0.066	0.108	0.127	0.144	0.166	0.183	0.793
14	0.086	0.072	0.094	0.070	0.068	0.049	0.034	0.024	0.029	0.036	0.038	0.039	0.094
15	0.160	0.072	0.067	0.041	0.078	0.059	0.040	0.040	0.041	0.051	0.056	0.060	0.160
16	0.094	0.064	0.057	0.054	0.048	0.043	0.031	0.021	0.025	0.028	0.032	0.031	0.094
17	0.351	0.380	0.248	0.268	0.134	0.095	0.054	0.074	0.100	0.137	0.166	0.194	0.380
18	0.092	0.047	0.074	0.055	0.047	0.038	0.024	0.018	0.029	0.035	0.037	0.033	0.092
19	0.285	0.375	0.386	0.219	0.142	0.120	0.053	0.059	0.095	0.129	0.161	0.178	0.386
20	0.061	0.051	0.061	0.033	0.045	0.039	0.029	0.019	0.021	0.030	0.034	0.034	0.061
21	0.120	0.043	0.059	0.043	0.092	0.086	0.061	0.058	0.073	0.083	0.084	0.092	0.120
22	0.047	0.041	0.049	0.034	0.036	0.033	0.024	0.017	0.024	0.027	0.031	0.031	0.049
23	0.428	0.445	0.301	0.137	0.057	0.108	0.114	0.050	0.038	0.075	0.098	0.125	0.445
24	0.072	0.040	0.044	0.034	0.033	0.033	0.021	0.014	0.021	0.026	0.027	0.026	0.072
25	0.272	0.383	0.392	0.210	0.047	0.095	0.113	0.068	0.028	0.065	0.097	0.121	0.392
26	0.053	0.053	0.053	0.025	0.027	0.026	0.024	0.017	0.014	0.016	0.020	0.022	0.053
27	0.046	0.035	0.056	0.045	0.052	0.037	0.030	0.026	0.024	0.031	0.034	0.037	0.056
28	0.035	0.047	0.030	0.023	0.024	0.024	0.020	0.012	0.017	0.018	0.019	0.022	0.047
29	0.122	0.256	0.293	0.181	0.104	0.031	0.082	0.084	0.059	0.035	0.040	0.054	0.293
30	0.058	0.032	0.030	0.033	0.019	0.023	0.023	0.012	0.014	0.014	0.015	0.016	0.058
31	0.197	0.243	0.142	0.126	0.109	0.031	0.068	0.073	0.049	0.030	0.041	0.061	0.243
32	0.026	0.036	0.044	0.037	0.019	0.015	0.018	0.011	0.011	0.010	0.012	0.012	0.044
33	0.028	0.029	0.021	0.030	0.047	0.029	0.022	0.020	0.021	0.021	0.022	0.024	0.047
34	0.020	0.031	0.019	0.018	0.019	0.015	0.016	0.010	0.012	0.010	0.011	0.013	0.031
35	0.052	0.069	0.197	0.162	0.095	0.075	0.043	0.063	0.059	0.047	0.033	0.035	0.197
36	0.039	0.022	0.023	0.018	0.019	0.010	0.017	0.012	0.012	0.009	0.010	0.010	0.039
37	0.075	0.070	0.250	0.186	0.066	0.075	0.032	0.052	0.053	0.044	0.033	0.027	0.250
38	0.017	0.023	0.014	0.017	0.014	0.009	0.012	0.009	0.010	0.008	0.010	0.011	0.023
39	0.026	0.022	0.016	0.022	0.036	0.025	0.026	0.017	0.020	0.022	0.022	0.024	0.036
40	0.014	0.019	0.012	0.017	0.014	0.009	0.014	0.009	0.011	0.009	0.010	0.011	0.019
41	0.064	0.057	0.132	0.142	0.072	0.071	0.053	0.037	0.044	0.044	0.041	0.035	0.142
42	0.030	0.016	0.017	0.016	0.012	0.009	0.012	0.012	0.010	0.008	0.010	0.011	0.030
43	0.046	0.125	0.080	0.089	0.078	0.065	0.055	0.030	0.043	0.038	0.030	0.029	0.125
44	0.016	0.015	0.019	0.015	0.011	0.009	0.009	0.008	0.008	0.007	0.010	0.012	0.019
45	0.023	0.016	0.016	0.021	0.025	0.019	0.024	0.018	0.016	0.018	0.019	0.022	0.025
46	0.019	0.029	0.021	0.022	0.018	0.018	0.019	0.019	0.018	0.018	0.019	0.020	0.029
47	0.063	0.110	0.090	0.081	0.081	0.050	0.058	0.036	0.029	0.037	0.033	0.022	0.110
48	0.029	0.027	0.022	0.023	0.017	0.018	0.017	0.018	0.017	0.017	0.017	0.018	0.029
49	0.031	0.159	0.087	0.081	0.077	0.046	0.057	0.033	0.027	0.033	0.027	0.020	0.159
50	0.012	0.014	0.010	0.013	0.008	0.008	0.007	0.007	0.007	0.006	0.007	0.009	0.014
TDC(%)	2.353	1.196	2.084	0.787	0.471	0.379	0.334	0.326	0.339	0.385	0.444	0.498	2.353

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Model: SOFAR 75KTL													
Phase C													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	Max (%)
Nr./ Order	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2	0.116	0.127	0.219	0.160	0.100	0.089	0.081	0.078	0.089	0.087	0.102	0.110	0.219
3	0.141	0.160	0.099	0.042	0.127	0.115	0.116	0.112	0.111	0.102	0.101	0.097	0.160
4	0.106	0.061	0.142	0.123	0.066	0.048	0.035	0.028	0.032	0.028	0.035	0.040	0.142
5	1.630	0.125	1.055	0.130	0.077	0.055	0.062	0.071	0.058	0.055	0.064	0.073	1.630
6	0.081	0.040	0.113	0.083	0.036	0.030	0.030	0.027	0.036	0.029	0.032	0.032	0.113
7	0.911	0.543	1.041	0.092	0.124	0.102	0.074	0.076	0.062	0.053	0.052	0.056	1.041
8	0.123	0.073	0.129	0.103	0.060	0.043	0.034	0.027	0.031	0.030	0.034	0.039	0.129
9	0.161	0.051	0.065	0.065	0.067	0.043	0.040	0.048	0.047	0.048	0.050	0.055	0.161
10	0.077	0.062	0.114	0.096	0.061	0.050	0.038	0.027	0.030	0.029	0.031	0.034	0.114
11	0.722	0.156	0.708	0.195	0.072	0.050	0.089	0.120	0.122	0.132	0.148	0.176	0.722
12	0.068	0.061	0.067	0.028	0.029	0.027	0.029	0.025	0.029	0.026	0.029	0.028	0.068
13	0.855	0.362	0.511	0.130	0.061	0.070	0.074	0.094	0.108	0.129	0.151	0.175	0.855
14	0.059	0.045	0.081	0.069	0.057	0.044	0.033	0.025	0.026	0.028	0.029	0.033	0.081
15	0.075	0.059	0.083	0.086	0.070	0.046	0.037	0.034	0.035	0.040	0.047	0.056	0.086
16	0.074	0.050	0.054	0.050	0.040	0.043	0.034	0.025	0.023	0.022	0.022	0.026	0.074
17	0.290	0.364	0.303	0.276	0.140	0.089	0.045	0.070	0.099	0.131	0.159	0.186	0.364
18	0.066	0.046	0.031	0.041	0.026	0.021	0.022	0.022	0.026	0.028	0.028	0.027	0.066
19	0.304	0.355	0.383	0.208	0.106	0.082	0.036	0.047	0.070	0.101	0.132	0.151	0.383
20	0.047	0.051	0.034	0.026	0.041	0.035	0.026	0.019	0.018	0.021	0.023	0.026	0.051
21	0.114	0.077	0.067	0.057	0.087	0.087	0.087	0.081	0.078	0.082	0.079	0.087	0.114
22	0.071	0.037	0.026	0.028	0.022	0.026	0.024	0.019	0.019	0.016	0.017	0.018	0.071
23	0.332	0.439	0.236	0.154	0.051	0.097	0.107	0.061	0.054	0.091	0.114	0.135	0.439
24	0.058	0.044	0.028	0.028	0.030	0.019	0.015	0.021	0.025	0.026	0.026	0.024	0.058
25	0.290	0.367	0.412	0.170	0.057	0.072	0.102	0.071	0.026	0.039	0.072	0.093	0.412
26	0.050	0.037	0.037	0.024	0.019	0.021	0.020	0.016	0.015	0.015	0.017	0.018	0.050
27	0.048	0.034	0.050	0.054	0.048	0.029	0.032	0.030	0.031	0.031	0.030	0.033	0.054
28	0.042	0.025	0.019	0.022	0.016	0.017	0.017	0.013	0.015	0.013	0.013	0.013	0.042
29	0.097	0.249	0.242	0.146	0.108	0.021	0.076	0.093	0.066	0.043	0.047	0.058	0.249
30	0.046	0.035	0.031	0.043	0.018	0.022	0.018	0.011	0.016	0.018	0.020	0.022	0.046
31	0.229	0.236	0.125	0.133	0.104	0.052	0.061	0.073	0.055	0.028	0.027	0.041	0.236
32	0.032	0.033	0.033	0.031	0.014	0.011	0.012	0.011	0.012	0.010	0.011	0.011	0.033
33	0.030	0.036	0.023	0.028	0.043	0.022	0.016	0.017	0.019	0.022	0.026	0.027	0.043
34	0.021	0.021	0.012	0.024	0.013	0.013	0.014	0.010	0.013	0.009	0.011	0.012	0.024
35	0.035	0.064	0.201	0.164	0.087	0.081	0.033	0.069	0.065	0.047	0.030	0.034	0.201
36	0.032	0.021	0.017	0.021	0.020	0.011	0.017	0.012	0.012	0.010	0.013	0.015	0.032
37	0.082	0.067	0.264	0.168	0.077	0.082	0.050	0.054	0.057	0.049	0.036	0.019	0.264
38	0.023	0.019	0.023	0.017	0.011	0.009	0.010	0.009	0.010	0.009	0.010	0.010	0.023
39	0.017	0.022	0.015	0.024	0.029	0.023	0.017	0.017	0.016	0.019	0.025	0.027	0.029
40	0.017	0.019	0.013	0.021	0.011	0.009	0.012	0.009	0.011	0.008	0.010	0.011	0.021
41	0.043	0.076	0.123	0.132	0.071	0.074	0.051	0.038	0.053	0.049	0.041	0.035	0.132
42	0.021	0.016	0.017	0.023	0.012	0.010	0.011	0.013	0.012	0.008	0.012	0.013	0.023
43	0.058	0.138	0.085	0.107	0.086	0.069	0.065	0.037	0.047	0.043	0.033	0.025	0.138
44	0.013	0.018	0.016	0.014	0.010	0.009	0.009	0.009	0.010	0.008	0.009	0.009	0.018
45	0.020	0.019	0.017	0.018	0.025	0.018	0.016	0.014	0.015	0.016	0.020	0.022	0.025
46	0.024	0.021	0.020	0.022	0.018	0.017	0.018	0.018	0.020	0.018	0.019	0.020	0.024
47	0.049	0.113	0.092	0.084	0.083	0.049	0.061	0.032	0.039	0.043	0.035	0.024	0.113
48	0.023	0.026	0.026	0.023	0.017	0.018	0.017	0.018	0.018	0.017	0.019	0.019	0.026
49	0.048	0.162	0.101	0.084	0.079	0.056	0.062	0.039	0.028	0.036	0.032	0.023	0.162
50	0.014	0.017	0.011	0.011	0.007	0.007	0.008	0.007	0.007	0.007	0.009	0.008	0.017
TDC(%)	2.313	1.157	1.952	0.706	0.450	0.367	0.347	0.341	0.341	0.363	0.409	0.464	2.313

Model: SOFAR 80KTL													
Phase A													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	Max (%)
Nr./ Order	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2	0.128	0.136	0.089	0.063	0.067	0.067	0.067	0.066	0.071	0.068	0.081	0.078	0.136
3	0.255	0.146	0.147	0.104	0.115	0.087	0.087	0.055	0.050	0.061	0.076	0.094	0.255
4	0.078	0.068	0.071	0.053	0.051	0.036	0.036	0.039	0.039	0.035	0.039	0.040	0.078
5	1.652	0.155	0.796	0.060	0.086	0.059	0.059	0.036	0.037	0.045	0.060	0.076	1.652
6	0.127	0.049	0.130	0.085	0.066	0.033	0.033	0.033	0.039	0.031	0.033	0.028	0.130
7	0.874	0.517	0.820	0.062	0.112	0.082	0.082	0.062	0.048	0.040	0.038	0.045	0.874
8	0.082	0.060	0.097	0.039	0.041	0.033	0.033	0.035	0.034	0.033	0.034	0.033	0.097
9	0.082	0.106	0.095	0.055	0.074	0.056	0.056	0.037	0.035	0.044	0.054	0.061	0.106
10	0.064	0.068	0.041	0.038	0.044	0.030	0.030	0.034	0.038	0.035	0.037	0.037	0.068
11	0.553	0.117	0.619	0.086	0.057	0.100	0.100	0.115	0.118	0.123	0.133	0.150	0.619
12	0.101	0.055	0.074	0.066	0.067	0.037	0.037	0.032	0.033	0.033	0.029	0.027	0.101
13	0.749	0.396	0.588	0.134	0.056	0.050	0.050	0.102	0.116	0.130	0.151	0.161	0.749
14	0.112	0.086	0.052	0.032	0.034	0.024	0.024	0.033	0.030	0.029	0.030	0.029	0.112
15	0.098	0.036	0.070	0.062	0.045	0.037	0.037	0.039	0.047	0.059	0.078	0.082	0.098
16	0.084	0.075	0.025	0.022	0.040	0.029	0.029	0.036	0.039	0.040	0.035	0.032	0.084
17	0.421	0.445	0.233	0.208	0.095	0.059	0.059	0.066	0.086	0.111	0.130	0.154	0.445
18	0.078	0.043	0.039	0.029	0.051	0.031	0.031	0.024	0.025	0.029	0.024	0.023	0.078
19	0.181	0.349	0.267	0.160	0.102	0.073	0.073	0.063	0.093	0.121	0.142	0.159	0.349
20	0.050	0.044	0.030	0.027	0.025	0.019	0.019	0.027	0.024	0.025	0.021	0.024	0.050
21	0.039	0.051	0.071	0.024	0.037	0.027	0.027	0.036	0.043	0.047	0.046	0.050	0.071
22	0.074	0.033	0.032	0.030	0.030	0.018	0.018	0.020	0.027	0.028	0.029	0.029	0.074
23	0.341	0.471	0.271	0.088	0.035	0.095	0.095	0.039	0.054	0.078	0.095	0.112	0.471
24	0.048	0.027	0.023	0.021	0.028	0.023	0.023	0.021	0.023	0.023	0.017	0.015	0.048
25	0.334	0.417	0.208	0.132	0.021	0.071	0.071	0.051	0.040	0.070	0.098	0.112	0.417
26	0.029	0.031	0.023	0.021	0.023	0.016	0.016	0.018	0.020	0.018	0.015	0.017	0.031
27	0.031	0.048	0.067	0.027	0.031	0.028	0.028	0.028	0.034	0.035	0.033	0.034	0.067
28	0.028	0.039	0.020	0.026	0.026	0.015	0.015	0.014	0.022	0.021	0.022	0.022	0.039
29	0.054	0.244	0.274	0.182	0.103	0.033	0.033	0.085	0.054	0.046	0.050	0.063	0.274
30	0.029	0.020	0.026	0.020	0.026	0.012	0.012	0.013	0.021	0.017	0.015	0.014	0.029
31	0.202	0.242	0.219	0.115	0.091	0.018	0.018	0.070	0.055	0.041	0.054	0.068	0.242
32	0.023	0.028	0.018	0.023	0.017	0.014	0.014	0.014	0.020	0.013	0.013	0.012	0.028
33	0.029	0.048	0.040	0.033	0.015	0.027	0.027	0.017	0.025	0.027	0.026	0.028	0.048
34	0.020	0.023	0.015	0.021	0.021	0.010	0.010	0.011	0.014	0.013	0.014	0.014	0.023
35	0.070	0.075	0.192	0.127	0.102	0.064	0.064	0.072	0.057	0.038	0.034	0.048	0.192
36	0.021	0.016	0.017	0.022	0.021	0.008	0.008	0.009	0.018	0.013	0.014	0.013	0.022
37	0.068	0.040	0.185	0.143	0.060	0.068	0.068	0.056	0.063	0.056	0.035	0.033	0.185
38	0.023	0.019	0.012	0.018	0.015	0.010	0.010	0.012	0.019	0.012	0.014	0.010	0.023
39	0.021	0.017	0.019	0.022	0.018	0.017	0.017	0.014	0.019	0.022	0.021	0.022	0.022
40	0.018	0.017	0.014	0.017	0.013	0.008	0.008	0.009	0.010	0.011	0.012	0.011	0.018
41	0.056	0.041	0.136	0.113	0.054	0.079	0.079	0.048	0.052	0.042	0.033	0.028	0.136
42	0.013	0.012	0.015	0.015	0.013	0.008	0.008	0.010	0.013	0.010	0.012	0.010	0.015
43	0.049	0.094	0.091	0.087	0.061	0.066	0.066	0.038	0.051	0.048	0.040	0.031	0.094
44	0.019	0.012	0.010	0.017	0.015	0.008	0.008	0.010	0.013	0.012	0.013	0.011	0.019
45	0.012	0.020	0.021	0.024	0.015	0.012	0.012	0.015	0.015	0.019	0.018	0.020	0.024
46	0.024	0.022	0.023	0.020	0.020	0.017	0.017	0.017	0.017	0.019	0.019	0.020	0.024
47	0.058	0.086	0.090	0.056	0.077	0.054	0.054	0.028	0.044	0.039	0.023	0.020	0.090
48	0.017	0.017	0.022	0.019	0.019	0.016	0.016	0.018	0.019	0.017	0.019	0.017	0.022
49	0.048	0.127	0.090	0.065	0.076	0.039	0.039	0.023	0.036	0.041	0.033	0.026	0.127
50	0.012	0.011	0.010	0.010	0.009	0.007	0.007	0.010	0.008	0.011	0.012	0.010	0.012
TDC(%)	2.247	1.200	1.618	0.538	0.392	0.319	0.319	0.304	0.322	0.349	0.390	0.434	2.247

Model: SOFAR 80KTL													
Phase B													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	Max (%)
Nr./ Order	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2	0.109	0.114	0.241	0.163	0.123	0.107	0.096	0.093	0.110	0.125	0.125	0.131	0.241
3	0.300	0.037	0.218	0.082	0.069	0.055	0.045	0.053	0.063	0.084	0.089	0.098	0.300
4	0.070	0.084	0.190	0.124	0.080	0.047	0.031	0.035	0.043	0.044	0.040	0.040	0.190
5	1.464	0.148	0.937	0.086	0.062	0.048	0.048	0.055	0.054	0.062	0.064	0.066	1.464
6	0.185	0.063	0.244	0.131	0.087	0.044	0.032	0.043	0.049	0.041	0.039	0.037	0.244
7	1.034	0.518	0.953	0.043	0.054	0.065	0.074	0.078	0.054	0.053	0.057	0.072	1.034
8	0.084	0.042	0.169	0.119	0.077	0.044	0.033	0.043	0.042	0.049	0.045	0.044	0.169
9	0.104	0.079	0.136	0.082	0.080	0.070	0.034	0.036	0.038	0.047	0.047	0.048	0.136
10	0.084	0.048	0.091	0.088	0.079	0.048	0.034	0.038	0.043	0.042	0.040	0.037	0.091
11	0.645	0.163	0.565	0.116	0.057	0.085	0.101	0.126	0.140	0.172	0.178	0.191	0.645
12	0.119	0.086	0.120	0.076	0.078	0.038	0.027	0.043	0.043	0.042	0.033	0.032	0.120
13	0.731	0.330	0.604	0.185	0.066	0.050	0.075	0.111	0.127	0.157	0.165	0.184	0.731
14	0.090	0.075	0.081	0.066	0.069	0.040	0.028	0.039	0.039	0.048	0.043	0.038	0.090
15	0.120	0.047	0.081	0.061	0.079	0.059	0.037	0.045	0.057	0.066	0.081	0.067	0.120
16	0.077	0.057	0.042	0.043	0.060	0.044	0.031	0.038	0.044	0.046	0.033	0.032	0.077
17	0.409	0.444	0.182	0.199	0.131	0.084	0.043	0.078	0.109	0.157	0.177	0.195	0.444
18	0.087	0.035	0.031	0.044	0.060	0.034	0.022	0.030	0.036	0.039	0.030	0.029	0.087
19	0.192	0.396	0.268	0.181	0.138	0.091	0.029	0.076	0.110	0.153	0.161	0.182	0.396
20	0.053	0.053	0.034	0.038	0.050	0.032	0.022	0.026	0.033	0.040	0.031	0.035	0.053
21	0.136	0.103	0.087	0.063	0.112	0.109	0.079	0.080	0.089	0.106	0.105	0.096	0.136
22	0.039	0.038	0.042	0.027	0.042	0.029	0.021	0.024	0.029	0.030	0.030	0.033	0.042
23	0.400	0.461	0.271	0.063	0.065	0.113	0.081	0.030	0.058	0.093	0.112	0.126	0.461
24	0.068	0.022	0.050	0.025	0.048	0.033	0.026	0.029	0.038	0.037	0.025	0.024	0.068
25	0.300	0.433	0.237	0.144	0.041	0.104	0.090	0.034	0.045	0.087	0.107	0.126	0.433
26	0.036	0.045	0.034	0.024	0.033	0.024	0.020	0.017	0.025	0.025	0.020	0.022	0.045
27	0.057	0.033	0.072	0.040	0.030	0.037	0.024	0.021	0.026	0.036	0.038	0.038	0.072
28	0.031	0.049	0.029	0.025	0.038	0.022	0.015	0.017	0.022	0.022	0.021	0.023	0.049
29	0.076	0.241	0.272	0.181	0.076	0.046	0.079	0.069	0.045	0.040	0.049	0.061	0.272
30	0.053	0.018	0.026	0.034	0.032	0.024	0.018	0.014	0.027	0.020	0.018	0.017	0.053
31	0.174	0.244	0.227	0.114	0.087	0.032	0.069	0.057	0.036	0.037	0.052	0.068	0.244
32	0.019	0.031	0.034	0.029	0.022	0.017	0.016	0.013	0.021	0.015	0.013	0.014	0.034
33	0.036	0.023	0.042	0.026	0.020	0.022	0.018	0.021	0.025	0.027	0.025	0.024	0.042
34	0.017	0.026	0.020	0.020	0.027	0.015	0.013	0.014	0.016	0.016	0.015	0.014	0.027
35	0.069	0.082	0.174	0.111	0.096	0.050	0.049	0.062	0.054	0.042	0.033	0.044	0.174
36	0.033	0.021	0.023	0.020	0.026	0.012	0.014	0.012	0.020	0.014	0.013	0.011	0.033
37	0.065	0.032	0.183	0.127	0.073	0.057	0.036	0.053	0.048	0.040	0.025	0.034	0.183
38	0.021	0.013	0.018	0.017	0.020	0.009	0.011	0.013	0.018	0.012	0.013	0.012	0.021
39	0.029	0.016	0.023	0.021	0.028	0.026	0.021	0.018	0.025	0.029	0.027	0.024	0.029
40	0.013	0.016	0.014	0.018	0.018	0.010	0.012	0.012	0.013	0.015	0.012	0.011	0.018
41	0.071	0.031	0.144	0.126	0.052	0.065	0.037	0.043	0.046	0.047	0.037	0.029	0.144
42	0.024	0.010	0.013	0.015	0.021	0.009	0.010	0.013	0.013	0.014	0.014	0.011	0.024
43	0.041	0.092	0.088	0.086	0.050	0.065	0.034	0.036	0.041	0.036	0.029	0.028	0.092
44	0.014	0.017	0.015	0.014	0.015	0.009	0.008	0.012	0.011	0.012	0.013	0.012	0.017
45	0.022	0.016	0.023	0.017	0.021	0.019	0.026	0.017	0.017	0.023	0.023	0.022	0.026
46	0.018	0.024	0.021	0.021	0.023	0.017	0.018	0.018	0.020	0.022	0.020	0.019	0.024
47	0.068	0.086	0.065	0.060	0.069	0.049	0.047	0.027	0.037	0.039	0.024	0.020	0.086
48	0.023	0.023	0.021	0.020	0.020	0.016	0.016	0.018	0.017	0.021	0.019	0.017	0.023
49	0.035	0.129	0.086	0.061	0.073	0.044	0.044	0.020	0.032	0.033	0.021	0.018	0.129
50	0.011	0.011	0.010	0.012	0.010	0.008	0.007	0.010	0.007	0.014	0.012	0.010	0.014
TDC(%)	2.221	1.192	1.802	0.622	0.454	0.368	0.309	0.331	0.373	0.452	0.471	0.509	2.221

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Model: SOFAR 80KTL													
Phase C													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	Max (%)
Nr./ Order	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2	0.141	0.158	0.242	0.149	0.121	0.116	0.112	0.107	0.112	0.119	0.126	0.127	0.242
3	0.159	0.149	0.141	0.078	0.111	0.111	0.107	0.106	0.099	0.102	0.091	0.091	0.159
4	0.102	0.074	0.150	0.094	0.067	0.043	0.036	0.037	0.043	0.041	0.041	0.041	0.150
5	1.523	0.146	0.826	0.068	0.060	0.069	0.063	0.059	0.054	0.061	0.066	0.081	1.523
6	0.092	0.037	0.121	0.059	0.049	0.035	0.030	0.041	0.048	0.038	0.037	0.032	0.121
7	0.906	0.465	0.880	0.060	0.108	0.088	0.068	0.062	0.054	0.056	0.057	0.075	0.906
8	0.126	0.076	0.142	0.092	0.068	0.041	0.034	0.037	0.039	0.045	0.041	0.038	0.142
9	0.134	0.055	0.073	0.046	0.040	0.049	0.040	0.045	0.045	0.051	0.056	0.065	0.134
10	0.079	0.074	0.114	0.095	0.070	0.047	0.036	0.038	0.045	0.041	0.037	0.037	0.114
11	0.572	0.177	0.672	0.153	0.059	0.069	0.100	0.114	0.124	0.150	0.170	0.198	0.672
12	0.064	0.060	0.058	0.029	0.052	0.029	0.027	0.041	0.046	0.042	0.032	0.031	0.064
13	0.770	0.320	0.565	0.110	0.046	0.070	0.077	0.094	0.114	0.146	0.166	0.191	0.770
14	0.057	0.046	0.047	0.061	0.061	0.036	0.029	0.035	0.034	0.039	0.036	0.034	0.061
15	0.088	0.041	0.080	0.056	0.056	0.056	0.039	0.042	0.048	0.056	0.078	0.079	0.088
16	0.072	0.042	0.040	0.045	0.051	0.044	0.035	0.036	0.038	0.041	0.029	0.029	0.072
17	0.325	0.424	0.204	0.213	0.135	0.070	0.041	0.074	0.110	0.153	0.174	0.197	0.424
18	0.050	0.032	0.033	0.028	0.045	0.022	0.021	0.031	0.037	0.038	0.029	0.026	0.050
19	0.208	0.379	0.274	0.146	0.095	0.061	0.023	0.052	0.083	0.124	0.138	0.164	0.379
20	0.043	0.042	0.026	0.028	0.044	0.027	0.022	0.022	0.025	0.031	0.026	0.028	0.044
21	0.123	0.106	0.083	0.063	0.090	0.106	0.098	0.092	0.091	0.101	0.103	0.097	0.123
22	0.072	0.027	0.026	0.023	0.034	0.026	0.023	0.023	0.022	0.022	0.021	0.023	0.072
23	0.301	0.431	0.219	0.075	0.058	0.102	0.082	0.045	0.070	0.108	0.123	0.134	0.431
24	0.052	0.027	0.042	0.030	0.036	0.030	0.032	0.039	0.045	0.045	0.027	0.023	0.052
25	0.320	0.416	0.244	0.109	0.036	0.081	0.087	0.043	0.023	0.056	0.080	0.098	0.416
26	0.040	0.032	0.027	0.023	0.024	0.019	0.019	0.016	0.023	0.022	0.016	0.018	0.040
27	0.054	0.054	0.069	0.056	0.026	0.029	0.026	0.028	0.029	0.032	0.033	0.033	0.069
28	0.043	0.024	0.021	0.023	0.028	0.017	0.015	0.014	0.017	0.017	0.016	0.016	0.043
29	0.070	0.222	0.233	0.145	0.091	0.030	0.080	0.080	0.052	0.046	0.051	0.061	0.233
30	0.045	0.018	0.016	0.038	0.030	0.023	0.015	0.017	0.029	0.027	0.024	0.023	0.045
31	0.196	0.240	0.223	0.119	0.093	0.039	0.060	0.065	0.040	0.023	0.032	0.049	0.240
32	0.026	0.029	0.030	0.023	0.019	0.012	0.014	0.013	0.022	0.016	0.012	0.013	0.030
33	0.026	0.041	0.032	0.028	0.016	0.020	0.017	0.020	0.026	0.030	0.029	0.028	0.041
34	0.022	0.020	0.022	0.019	0.021	0.012	0.012	0.012	0.013	0.014	0.013	0.013	0.022
35	0.046	0.066	0.169	0.102	0.099	0.051	0.048	0.067	0.059	0.041	0.030	0.043	0.169
36	0.027	0.014	0.021	0.022	0.022	0.013	0.014	0.012	0.022	0.017	0.018	0.017	0.027
37	0.074	0.024	0.186	0.121	0.077	0.071	0.038	0.058	0.055	0.046	0.020	0.021	0.186
38	0.021	0.018	0.019	0.019	0.015	0.009	0.010	0.012	0.018	0.013	0.011	0.011	0.021
39	0.016	0.015	0.020	0.022	0.021	0.018	0.013	0.016	0.020	0.028	0.030	0.030	0.030
40	0.016	0.013	0.015	0.017	0.015	0.009	0.010	0.011	0.011	0.012	0.011	0.011	0.017
41	0.047	0.045	0.140	0.121	0.048	0.072	0.029	0.047	0.055	0.051	0.039	0.027	0.140
42	0.019	0.011	0.014	0.019	0.019	0.009	0.010	0.014	0.016	0.014	0.016	0.014	0.019
43	0.057	0.098	0.094	0.101	0.065	0.068	0.048	0.042	0.046	0.040	0.024	0.019	0.101
44	0.013	0.015	0.013	0.014	0.011	0.009	0.008	0.012	0.013	0.010	0.011	0.010	0.015
45	0.017	0.022	0.015	0.018	0.014	0.019	0.013	0.015	0.016	0.020	0.022	0.023	0.022
46	0.022	0.019	0.022	0.020	0.020	0.017	0.017	0.018	0.018	0.020	0.019	0.019	0.022
47	0.053	0.076	0.081	0.059	0.072	0.055	0.044	0.028	0.045	0.045	0.028	0.020	0.081
48	0.020	0.023	0.020	0.019	0.022	0.017	0.016	0.019	0.020	0.021	0.021	0.018	0.023
49	0.047	0.125	0.092	0.070	0.076	0.048	0.055	0.028	0.036	0.039	0.025	0.017	0.125
50	0.016	0.010	0.011	0.009	0.009	0.007	0.008	0.009	0.008	0.011	0.011	0.009	0.016
TDC(%)	2.152	1.140	1.689	0.556	0.426	0.366	0.337	0.343	0.369	0.428	0.453	0.503	2.152

Model: SOFAR 100KTL													
Phase A													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	Max (%)
Nr./ Order	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2	0.126	0.079	0.067	0.051	0.051	0.063	0.063	0.054	0.055	0.064	0.070	0.114	0.126
3	0.181	0.106	0.101	0.089	0.066	0.061	0.061	0.048	0.061	0.079	0.102	0.136	0.181
4	0.059	0.050	0.060	0.029	0.028	0.028	0.028	0.024	0.029	0.033	0.038	0.070	0.059
5	1.399	0.473	0.230	0.076	0.045	0.037	0.037	0.032	0.050	0.059	0.060	0.045	1.399
6	0.086	0.030	0.085	0.042	0.027	0.024	0.024	0.022	0.022	0.022	0.028	0.039	0.086
7	0.900	0.064	0.217	0.091	0.065	0.069	0.069	0.031	0.035	0.035	0.046	0.064	0.900
8	0.069	0.082	0.061	0.022	0.028	0.032	0.032	0.023	0.023	0.026	0.034	0.067	0.069
9	0.079	0.074	0.045	0.054	0.041	0.037	0.037	0.032	0.042	0.047	0.045	0.066	0.079
10	0.080	0.053	0.049	0.024	0.027	0.025	0.025	0.025	0.027	0.029	0.035	0.050	0.080
11	0.262	0.241	0.158	0.039	0.078	0.106	0.106	0.098	0.107	0.118	0.128	0.140	0.262
12	0.081	0.027	0.055	0.043	0.031	0.023	0.023	0.021	0.021	0.020	0.024	0.037	0.081
13	0.425	0.425	0.196	0.051	0.038	0.080	0.080	0.100	0.119	0.130	0.141	0.176	0.425
14	0.102	0.035	0.038	0.020	0.022	0.020	0.020	0.020	0.019	0.023	0.027	0.043	0.102
15	0.088	0.069	0.053	0.031	0.027	0.031	0.031	0.043	0.051	0.070	0.057	0.056	0.088
16	0.075	0.046	0.039	0.021	0.026	0.025	0.025	0.034	0.025	0.026	0.028	0.036	0.075
17	0.491	0.559	0.258	0.080	0.047	0.044	0.044	0.085	0.106	0.126	0.140	0.139	0.491
18	0.053	0.047	0.021	0.028	0.025	0.020	0.020	0.017	0.016	0.018	0.021	0.032	0.053
19	0.228	0.454	0.167	0.078	0.057	0.029	0.029	0.090	0.112	0.128	0.130	0.133	0.228
20	0.038	0.015	0.039	0.014	0.017	0.016	0.016	0.016	0.015	0.018	0.023	0.031	0.038
21	0.028	0.040	0.025	0.028	0.020	0.034	0.034	0.036	0.037	0.038	0.038	0.041	0.028
22	0.033	0.017	0.036	0.018	0.015	0.015	0.015	0.020	0.023	0.024	0.025	0.032	0.033
23	0.167	0.382	0.201	0.018	0.078	0.074	0.074	0.059	0.079	0.091	0.106	0.122	0.167
24	0.039	0.021	0.022	0.012	0.019	0.019	0.019	0.014	0.011	0.012	0.015	0.022	0.039
25	0.313	0.386	0.170	0.021	0.058	0.082	0.082	0.049	0.077	0.089	0.095	0.093	0.313
26	0.030	0.021	0.038	0.014	0.015	0.015	0.015	0.011	0.012	0.013	0.016	0.020	0.030
27	0.035	0.050	0.020	0.026	0.021	0.021	0.021	0.027	0.026	0.027	0.026	0.029	0.035
28	0.023	0.017	0.034	0.013	0.013	0.012	0.012	0.015	0.017	0.017	0.018	0.022	0.023
29	0.105	0.248	0.108	0.093	0.027	0.088	0.088	0.036	0.042	0.052	0.064	0.064	0.105
30	0.030	0.020	0.020	0.010	0.009	0.012	0.012	0.011	0.011	0.011	0.012	0.017	0.030
31	0.080	0.227	0.107	0.076	0.014	0.064	0.064	0.031	0.042	0.056	0.062	0.062	0.080
32	0.021	0.013	0.033	0.012	0.012	0.010	0.010	0.008	0.009	0.009	0.011	0.014	0.021
33	0.021	0.030	0.021	0.017	0.022	0.016	0.016	0.022	0.020	0.022	0.020	0.018	0.021
34	0.021	0.010	0.029	0.010	0.010	0.009	0.009	0.008	0.010	0.012	0.013	0.016	0.021
35	0.093	0.123	0.191	0.072	0.050	0.054	0.054	0.033	0.028	0.043	0.059	0.069	0.093
36	0.017	0.018	0.014	0.008	0.007	0.008	0.008	0.009	0.010	0.010	0.010	0.013	0.017
37	0.080	0.078	0.151	0.042	0.054	0.031	0.031	0.045	0.027	0.027	0.037	0.045	0.080
38	0.019	0.011	0.023	0.009	0.009	0.008	0.008	0.007	0.008	0.008	0.009	0.012	0.019
39	0.011	0.024	0.018	0.016	0.014	0.017	0.017	0.017	0.017	0.017	0.016	0.018	0.011
40	0.016	0.014	0.016	0.008	0.007	0.008	0.008	0.006	0.008	0.009	0.010	0.013	0.016
41	0.054	0.054	0.082	0.052	0.063	0.030	0.030	0.035	0.026	0.022	0.032	0.040	0.054
42	0.013	0.009	0.013	0.007	0.007	0.007	0.007	0.006	0.008	0.009	0.009	0.011	0.013
43	0.053	0.031	0.087	0.064	0.054	0.034	0.034	0.039	0.031	0.024	0.026	0.030	0.053
44	0.011	0.011	0.015	0.006	0.007	0.007	0.007	0.007	0.008	0.008	0.008	0.010	0.011
45	0.013	0.028	0.013	0.010	0.010	0.017	0.017	0.014	0.015	0.016	0.017	0.016	0.013
46	0.017	0.014	0.020	0.013	0.013	0.017	0.017	0.014	0.015	0.016	0.016	0.017	0.017
47	0.027	0.014	0.081	0.065	0.044	0.045	0.045	0.033	0.018	0.017	0.025	0.033	0.027
48	0.015	0.016	0.016	0.013	0.013	0.016	0.016	0.013	0.013	0.014	0.014	0.016	0.015
49	0.033	0.023	0.070	0.059	0.032	0.046	0.046	0.032	0.026	0.021	0.021	0.020	0.033
50	0.012	0.010	0.010	0.005	0.007	0.007	0.007	0.006	0.007	0.007	0.008	0.009	0.012
TDC(%)	1.897	1.215	0.700	0.305	0.253	0.283	0.283	0.266	0.306	0.350	0.385	0.450	1.897

Model: SOFAR 100KTL													
Phase B													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	Max (%)
Nr./ Order	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2	0.117	0.113	0.150	0.099	0.080	0.089	0.078	0.082	0.079	0.090	0.103	0.197	0.150
3	0.250	0.072	0.122	0.052	0.039	0.047	0.047	0.057	0.070	0.080	0.095	0.092	0.250
4	0.069	0.086	0.135	0.060	0.038	0.028	0.022	0.027	0.028	0.031	0.036	0.091	0.135
5	1.214	0.477	0.312	0.047	0.034	0.049	0.043	0.042	0.055	0.050	0.056	0.116	1.214
6	0.159	0.023	0.152	0.058	0.034	0.029	0.025	0.026	0.026	0.028	0.034	0.051	0.159
7	0.997	0.090	0.307	0.047	0.053	0.079	0.055	0.035	0.049	0.060	0.055	0.058	0.997
8	0.091	0.036	0.122	0.057	0.039	0.028	0.025	0.031	0.032	0.034	0.038	0.086	0.122
9	0.062	0.088	0.093	0.057	0.047	0.035	0.030	0.032	0.037	0.039	0.040	0.057	0.093
10	0.111	0.072	0.059	0.052	0.042	0.029	0.024	0.030	0.029	0.028	0.034	0.065	0.111
11	0.318	0.241	0.145	0.035	0.065	0.106	0.103	0.126	0.143	0.156	0.156	0.178	0.318
12	0.117	0.052	0.043	0.048	0.032	0.023	0.021	0.026	0.024	0.024	0.028	0.037	0.117
13	0.439	0.409	0.214	0.057	0.036	0.084	0.094	0.114	0.132	0.153	0.165	0.200	0.439
14	0.085	0.071	0.054	0.050	0.035	0.023	0.022	0.030	0.029	0.027	0.030	0.051	0.085
15	0.142	0.040	0.044	0.052	0.039	0.036	0.039	0.044	0.048	0.060	0.047	0.053	0.142
16	0.064	0.062	0.054	0.034	0.038	0.028	0.027	0.039	0.023	0.027	0.028	0.059	0.064
17	0.491	0.538	0.243	0.104	0.064	0.046	0.073	0.111	0.140	0.156	0.158	0.159	0.538
18	0.091	0.068	0.029	0.033	0.028	0.018	0.018	0.024	0.025	0.025	0.027	0.039	0.091
19	0.206	0.512	0.169	0.107	0.068	0.035	0.073	0.106	0.128	0.150	0.161	0.163	0.512
20	0.046	0.019	0.035	0.033	0.028	0.019	0.014	0.024	0.025	0.027	0.029	0.040	0.046
21	0.124	0.088	0.055	0.075	0.076	0.071	0.066	0.074	0.079	0.072	0.070	0.066	0.124
22	0.047	0.024	0.042	0.025	0.024	0.017	0.016	0.021	0.024	0.026	0.030	0.043	0.047
23	0.223	0.371	0.193	0.040	0.090	0.062	0.030	0.064	0.089	0.101	0.106	0.092	0.371
24	0.057	0.025	0.032	0.026	0.027	0.014	0.016	0.023	0.020	0.020	0.021	0.023	0.057
25	0.271	0.376	0.212	0.019	0.082	0.075	0.022	0.059	0.086	0.102	0.113	0.122	0.376
26	0.031	0.027	0.039	0.020	0.021	0.018	0.011	0.014	0.016	0.018	0.021	0.025	0.039
27	0.037	0.030	0.037	0.023	0.030	0.024	0.019	0.026	0.030	0.030	0.026	0.025	0.037
28	0.023	0.017	0.036	0.016	0.019	0.012	0.011	0.014	0.017	0.018	0.020	0.024	0.036
29	0.099	0.237	0.106	0.077	0.037	0.076	0.045	0.028	0.038	0.050	0.058	0.059	0.237
30	0.047	0.028	0.023	0.014	0.019	0.013	0.009	0.010	0.012	0.014	0.016	0.018	0.047
31	0.064	0.222	0.097	0.079	0.026	0.067	0.039	0.025	0.042	0.056	0.066	0.071	0.222
32	0.015	0.029	0.037	0.013	0.015	0.012	0.008	0.008	0.009	0.011	0.013	0.017	0.037
33	0.020	0.037	0.019	0.019	0.018	0.020	0.019	0.018	0.019	0.018	0.016	0.017	0.037
34	0.020	0.011	0.031	0.014	0.013	0.010	0.008	0.008	0.010	0.010	0.012	0.016	0.031
35	0.092	0.125	0.180	0.075	0.040	0.052	0.047	0.033	0.026	0.038	0.051	0.059	0.180
36	0.028	0.019	0.014	0.014	0.010	0.012	0.008	0.007	0.007	0.009	0.010	0.013	0.028
37	0.057	0.066	0.163	0.047	0.045	0.041	0.042	0.031	0.021	0.029	0.044	0.057	0.163
38	0.021	0.019	0.020	0.010	0.009	0.009	0.007	0.007	0.008	0.009	0.010	0.014	0.021
39	0.016	0.021	0.016	0.022	0.021	0.017	0.017	0.020	0.020	0.018	0.017	0.015	0.022
40	0.014	0.016	0.018	0.010	0.009	0.010	0.008	0.007	0.008	0.008	0.008	0.012	0.018
41	0.062	0.055	0.088	0.048	0.052	0.034	0.036	0.035	0.030	0.023	0.027	0.031	0.088
42	0.012	0.009	0.016	0.010	0.007	0.010	0.008	0.006	0.008	0.008	0.009	0.012	0.016
43	0.038	0.030	0.073	0.056	0.052	0.029	0.034	0.028	0.024	0.024	0.032	0.040	0.073
44	0.011	0.016	0.020	0.009	0.007	0.008	0.006	0.006	0.008	0.010	0.010	0.013	0.020
45	0.012	0.021	0.014	0.012	0.016	0.022	0.013	0.016	0.017	0.017	0.016	0.014	0.022
46	0.018	0.017	0.020	0.013	0.014	0.018	0.014	0.014	0.015	0.015	0.015	0.017	0.020
47	0.032	0.015	0.079	0.065	0.040	0.043	0.025	0.029	0.020	0.017	0.020	0.025	0.079
48	0.017	0.018	0.016	0.013	0.013	0.016	0.013	0.013	0.013	0.013	0.014	0.015	0.018
49	0.034	0.022	0.073	0.062	0.036	0.040	0.021	0.025	0.018	0.015	0.022	0.027	0.073
50	0.013	0.011	0.014	0.006	0.008	0.006	0.005	0.005	0.006	0.008	0.009	0.011	0.014
TDC(%)	1.849	1.223	0.816	0.341	0.285	0.296	0.264	0.316	0.364	0.409	0.437	0.530	1.849

Model: SOFAR 100KTL													
Phase C													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	Max (%)
Nr./ Order	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2	0.145	0.126	0.140	0.085	0.080	0.097	0.083	0.080	0.086	0.101	0.117	0.207	0.145
3	0.150	0.047	0.058	0.088	0.087	0.105	0.084	0.076	0.074	0.072	0.085	0.090	0.150
4	0.083	0.051	0.114	0.049	0.035	0.030	0.025	0.026	0.030	0.033	0.042	0.116	0.114
5	1.308	0.436	0.253	0.047	0.051	0.060	0.045	0.043	0.057	0.065	0.080	0.114	1.308
6	0.111	0.033	0.075	0.028	0.026	0.029	0.022	0.024	0.023	0.025	0.033	0.057	0.111
7	0.888	0.063	0.246	0.084	0.068	0.066	0.047	0.040	0.047	0.058	0.070	0.104	0.888
8	0.108	0.065	0.091	0.047	0.034	0.039	0.032	0.030	0.028	0.030	0.037	0.094	0.108
9	0.080	0.066	0.060	0.030	0.035	0.043	0.037	0.037	0.045	0.050	0.054	0.071	0.080
10	0.067	0.083	0.084	0.047	0.038	0.030	0.024	0.026	0.027	0.029	0.036	0.059	0.084
11	0.260	0.250	0.216	0.047	0.053	0.102	0.094	0.106	0.134	0.159	0.162	0.181	0.260
12	0.074	0.042	0.026	0.022	0.022	0.025	0.020	0.023	0.021	0.023	0.029	0.046	0.074
13	0.461	0.414	0.132	0.027	0.052	0.078	0.081	0.105	0.132	0.153	0.159	0.178	0.461
14	0.050	0.050	0.054	0.044	0.030	0.026	0.021	0.025	0.024	0.026	0.029	0.066	0.054
15	0.082	0.057	0.077	0.038	0.038	0.037	0.032	0.038	0.047	0.067	0.059	0.060	0.082
16	0.055	0.028	0.045	0.031	0.035	0.030	0.025	0.033	0.019	0.023	0.026	0.055	0.055
17	0.397	0.512	0.217	0.106	0.053	0.047	0.074	0.107	0.139	0.157	0.171	0.164	0.512
18	0.057	0.029	0.027	0.021	0.017	0.021	0.017	0.020	0.020	0.021	0.024	0.035	0.057
19	0.214	0.468	0.187	0.074	0.046	0.025	0.053	0.085	0.112	0.132	0.145	0.129	0.468
20	0.047	0.019	0.039	0.030	0.023	0.020	0.014	0.018	0.019	0.022	0.026	0.045	0.047
21	0.123	0.118	0.075	0.067	0.082	0.094	0.072	0.073	0.077	0.072	0.062	0.044	0.123
22	0.046	0.022	0.043	0.017	0.021	0.020	0.014	0.013	0.014	0.017	0.022	0.034	0.046
23	0.155	0.366	0.186	0.035	0.082	0.069	0.041	0.075	0.099	0.107	0.123	0.130	0.366
24	0.037	0.022	0.020	0.025	0.025	0.021	0.019	0.028	0.019	0.018	0.019	0.023	0.037
25	0.297	0.350	0.187	0.030	0.065	0.076	0.019	0.036	0.066	0.080	0.097	0.112	0.350
26	0.024	0.025	0.038	0.015	0.017	0.018	0.013	0.013	0.013	0.014	0.017	0.026	0.038
27	0.027	0.049	0.033	0.023	0.025	0.028	0.025	0.024	0.027	0.027	0.026	0.037	0.049
28	0.021	0.016	0.032	0.012	0.015	0.012	0.010	0.010	0.012	0.012	0.014	0.024	0.032
29	0.070	0.190	0.075	0.081	0.026	0.084	0.052	0.032	0.042	0.050	0.064	0.083	0.190
30	0.038	0.014	0.035	0.015	0.017	0.011	0.010	0.014	0.017	0.018	0.020	0.023	0.038
31	0.065	0.222	0.106	0.078	0.031	0.062	0.043	0.018	0.027	0.042	0.058	0.068	0.222
32	0.020	0.022	0.036	0.010	0.012	0.011	0.010	0.009	0.009	0.010	0.012	0.020	0.036
33	0.014	0.026	0.021	0.014	0.015	0.016	0.017	0.020	0.022	0.022	0.020	0.023	0.026
34	0.018	0.012	0.034	0.010	0.011	0.009	0.008	0.007	0.009	0.010	0.012	0.019	0.034
35	0.072	0.120	0.180	0.067	0.040	0.057	0.051	0.033	0.025	0.038	0.056	0.071	0.180
36	0.024	0.011	0.016	0.015	0.010	0.012	0.007	0.009	0.011	0.013	0.014	0.018	0.024
37	0.071	0.082	0.156	0.056	0.057	0.040	0.045	0.036	0.016	0.020	0.037	0.053	0.156
38	0.015	0.014	0.022	0.008	0.008	0.008	0.009	0.007	0.008	0.009	0.010	0.015	0.022
39	0.013	0.024	0.016	0.015	0.014	0.015	0.013	0.018	0.023	0.023	0.022	0.023	0.024
40	0.012	0.014	0.018	0.008	0.008	0.008	0.008	0.006	0.007	0.009	0.010	0.015	0.018
41	0.046	0.074	0.079	0.048	0.058	0.029	0.042	0.038	0.029	0.020	0.029	0.037	0.079
42	0.013	0.009	0.015	0.010	0.007	0.011	0.009	0.007	0.011	0.011	0.012	0.016	0.015
43	0.050	0.035	0.078	0.063	0.055	0.040	0.036	0.031	0.020	0.017	0.027	0.035	0.078
44	0.015	0.017	0.019	0.007	0.007	0.007	0.008	0.007	0.007	0.008	0.009	0.013	0.019
45	0.009	0.021	0.014	0.010	0.015	0.013	0.012	0.014	0.017	0.020	0.019	0.021	0.021
46	0.016	0.016	0.019	0.013	0.014	0.017	0.014	0.014	0.014	0.015	0.016	0.018	0.019
47	0.027	0.018	0.088	0.067	0.045	0.038	0.030	0.034	0.021	0.016	0.022	0.034	0.088
48	0.016	0.016	0.017	0.012	0.013	0.017	0.014	0.013	0.014	0.015	0.015	0.017	0.017
49	0.036	0.023	0.071	0.063	0.038	0.048	0.023	0.029	0.020	0.013	0.014	0.023	0.071
50	0.011	0.006	0.011	0.005	0.006	0.006	0.006	0.006	0.006	0.007	0.008	0.011	0.011
TDC(%)	1.804	1.161	0.729	0.322	0.283	0.322	0.270	0.299	0.353	0.402	0.444	0.545	1.804

Model: SOFAR 100KTL-HV													
Phase A													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	Max (%)
Nr./ Order	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2	0.203	0.107	0.132	0.079	0.082	0.085	0.085	0.082	0.079	0.083	0.076	0.096	0.203
3	0.115	0.106	0.132	0.087	0.102	0.090	0.090	0.085	0.074	0.079	0.068	0.088	0.132
4	0.163	0.091	0.107	0.065	0.057	0.054	0.054	0.054	0.053	0.059	0.058	0.075	0.163
5	0.534	1.041	1.091	0.282	0.049	0.053	0.053	0.055	0.073	0.088	0.089	0.097	1.091
6	0.048	0.038	0.047	0.096	0.071	0.059	0.059	0.045	0.042	0.046	0.056	0.062	0.096
7	0.303	0.624	0.655	0.199	0.096	0.111	0.111	0.091	0.078	0.074	0.065	0.099	0.655
8	0.207	0.117	0.126	0.056	0.049	0.057	0.057	0.055	0.050	0.048	0.049	0.062	0.207
9	0.077	0.082	0.090	0.033	0.060	0.072	0.072	0.058	0.055	0.056	0.063	0.082	0.090
10	0.184	0.058	0.066	0.052	0.045	0.047	0.047	0.052	0.052	0.051	0.054	0.066	0.184
11	0.280	0.690	0.886	0.064	0.053	0.049	0.049	0.112	0.123	0.128	0.147	0.206	0.886
12	0.048	0.038	0.037	0.077	0.066	0.061	0.061	0.041	0.038	0.038	0.043	0.050	0.077
13	0.254	0.464	0.558	0.124	0.077	0.043	0.043	0.086	0.105	0.119	0.144	0.204	0.558
14	0.084	0.053	0.079	0.040	0.041	0.045	0.045	0.037	0.036	0.033	0.040	0.047	0.084
15	0.035	0.106	0.102	0.067	0.049	0.060	0.060	0.050	0.045	0.052	0.062	0.072	0.106
16	0.070	0.058	0.067	0.027	0.036	0.039	0.039	0.034	0.032	0.036	0.038	0.044	0.070
17	0.280	0.857	0.860	0.386	0.132	0.089	0.089	0.054	0.075	0.099	0.134	0.193	0.860
18	0.035	0.057	0.057	0.034	0.045	0.043	0.043	0.031	0.027	0.027	0.034	0.041	0.057
19	0.186	0.990	1.118	0.332	0.142	0.130	0.130	0.034	0.035	0.043	0.083	0.132	1.118
20	0.082	0.046	0.043	0.030	0.027	0.029	0.029	0.026	0.024	0.023	0.027	0.033	0.082
21	0.035	0.095	0.096	0.031	0.035	0.033	0.033	0.035	0.038	0.044	0.049	0.050	0.096
22	0.062	0.025	0.031	0.030	0.027	0.030	0.030	0.022	0.020	0.025	0.029	0.033	0.062
23	0.277	0.356	0.337	0.196	0.031	0.069	0.069	0.084	0.070	0.066	0.068	0.075	0.356
24	0.048	0.029	0.034	0.024	0.022	0.023	0.023	0.026	0.022	0.018	0.019	0.024	0.048
25	0.081	0.372	0.324	0.232	0.025	0.054	0.054	0.095	0.072	0.041	0.033	0.044	0.372
26	0.085	0.025	0.034	0.026	0.022	0.021	0.021	0.020	0.018	0.018	0.019	0.022	0.085
27	0.053	0.055	0.057	0.033	0.024	0.028	0.028	0.026	0.031	0.028	0.037	0.039	0.057
28	0.037	0.018	0.026	0.024	0.024	0.020	0.020	0.018	0.015	0.017	0.018	0.021	0.037
29	0.215	0.260	0.295	0.287	0.144	0.061	0.061	0.103	0.123	0.103	0.071	0.048	0.295
30	0.033	0.019	0.019	0.019	0.019	0.015	0.015	0.017	0.018	0.020	0.019	0.022	0.033
31	0.043	0.149	0.209	0.180	0.121	0.060	0.060	0.047	0.073	0.068	0.059	0.040	0.209
32	0.077	0.016	0.018	0.017	0.017	0.014	0.014	0.014	0.014	0.015	0.015	0.017	0.077
33	0.023	0.036	0.045	0.032	0.029	0.027	0.027	0.025	0.025	0.024	0.027	0.025	0.045
34	0.044	0.020	0.020	0.020	0.019	0.013	0.013	0.014	0.012	0.013	0.013	0.016	0.044
35	0.145	0.108	0.073	0.185	0.129	0.114	0.114	0.041	0.081	0.091	0.076	0.051	0.185
36	0.030	0.017	0.019	0.026	0.016	0.013	0.013	0.011	0.013	0.015	0.018	0.019	0.030
37	0.039	0.114	0.102	0.182	0.065	0.077	0.077	0.026	0.053	0.071	0.082	0.067	0.182
38	0.067	0.020	0.022	0.015	0.017	0.011	0.011	0.011	0.011	0.012	0.013	0.013	0.067
39	0.028	0.039	0.024	0.025	0.022	0.016	0.016	0.023	0.017	0.019	0.021	0.020	0.039
40	0.046	0.011	0.020	0.014	0.015	0.011	0.011	0.012	0.011	0.011	0.012	0.015	0.046
41	0.082	0.053	0.086	0.157	0.084	0.090	0.090	0.052	0.046	0.072	0.083	0.071	0.157
42	0.035	0.014	0.012	0.015	0.014	0.011	0.011	0.010	0.010	0.010	0.013	0.014	0.035
43	0.048	0.081	0.129	0.112	0.094	0.053	0.053	0.049	0.030	0.046	0.065	0.061	0.129
44	0.032	0.018	0.020	0.014	0.012	0.010	0.010	0.010	0.010	0.009	0.010	0.012	0.032
45	0.025	0.033	0.023	0.015	0.015	0.015	0.015	0.016	0.016	0.018	0.018	0.018	0.033
46	0.050	0.021	0.027	0.024	0.023	0.021	0.021	0.022	0.022	0.022	0.022	0.022	0.050
47	0.038	0.125	0.123	0.064	0.098	0.059	0.059	0.063	0.029	0.044	0.058	0.054	0.125
48	0.032	0.021	0.024	0.023	0.021	0.020	0.020	0.020	0.020	0.020	0.020	0.021	0.032
49	0.037	0.129	0.132	0.063	0.080	0.057	0.057	0.059	0.036	0.034	0.051	0.052	0.132
50	0.017	0.010	0.015	0.009	0.011	0.009	0.009	0.009	0.009	0.008	0.009	0.010	0.017
TDC(%)	1.015	2.098	2.293	0.882	0.450	0.386	0.386	0.351	0.358	0.378	0.412	0.508	2.293

Model: SOFAR 100KTL-HV													
Phase B													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	Max (%)
Nr./ Order	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2	0.132	0.235	0.262	0.192	0.148	0.133	0.117	0.117	0.113	0.122	0.127	0.151	0.262
3	0.060	0.205	0.241	0.119	0.047	0.055	0.054	0.068	0.082	0.106	0.109	0.132	0.241
4	0.140	0.159	0.186	0.158	0.091	0.078	0.063	0.061	0.051	0.058	0.061	0.083	0.186
5	0.575	1.085	1.192	0.381	0.055	0.059	0.071	0.079	0.085	0.090	0.081	0.088	1.192
6	0.048	0.038	0.055	0.157	0.078	0.062	0.059	0.053	0.047	0.053	0.057	0.064	0.157
7	0.380	0.733	0.737	0.309	0.076	0.089	0.088	0.090	0.096	0.116	0.112	0.161	0.737
8	0.229	0.078	0.092	0.127	0.086	0.078	0.065	0.054	0.045	0.046	0.049	0.065	0.229
9	0.085	0.108	0.150	0.133	0.048	0.060	0.059	0.065	0.076	0.099	0.118	0.133	0.150
10	0.111	0.122	0.142	0.078	0.073	0.067	0.059	0.057	0.049	0.051	0.053	0.064	0.142
11	0.274	0.668	0.866	0.189	0.051	0.070	0.094	0.112	0.134	0.161	0.199	0.279	0.866
12	0.076	0.039	0.042	0.051	0.054	0.053	0.052	0.044	0.038	0.046	0.045	0.054	0.076
13	0.227	0.539	0.648	0.223	0.088	0.051	0.066	0.086	0.112	0.143	0.181	0.246	0.648
14	0.087	0.069	0.066	0.064	0.070	0.072	0.061	0.045	0.039	0.043	0.050	0.060	0.087
15	0.043	0.129	0.132	0.092	0.064	0.087	0.077	0.075	0.076	0.072	0.080	0.081	0.132
16	0.136	0.076	0.090	0.059	0.048	0.048	0.044	0.038	0.031	0.038	0.043	0.052	0.136
17	0.211	0.773	0.792	0.385	0.129	0.098	0.069	0.057	0.075	0.108	0.155	0.216	0.792
18	0.075	0.088	0.069	0.047	0.038	0.047	0.043	0.035	0.027	0.034	0.040	0.046	0.088
19	0.172	1.008	1.133	0.351	0.155	0.121	0.077	0.040	0.043	0.044	0.078	0.114	1.133
20	0.140	0.050	0.038	0.029	0.038	0.048	0.041	0.034	0.029	0.032	0.039	0.047	0.140
21	0.079	0.116	0.114	0.074	0.089	0.103	0.097	0.091	0.100	0.103	0.113	0.119	0.116
22	0.099	0.025	0.034	0.032	0.033	0.033	0.031	0.028	0.022	0.029	0.039	0.041	0.099
23	0.215	0.432	0.437	0.165	0.034	0.094	0.113	0.088	0.066	0.053	0.061	0.072	0.437
24	0.086	0.065	0.081	0.022	0.028	0.029	0.027	0.026	0.021	0.021	0.022	0.024	0.086
25	0.130	0.376	0.319	0.243	0.037	0.076	0.120	0.109	0.083	0.055	0.043	0.041	0.376
26	0.116	0.046	0.058	0.028	0.025	0.030	0.031	0.029	0.025	0.022	0.020	0.023	0.116
27	0.082	0.090	0.116	0.086	0.074	0.072	0.075	0.073	0.075	0.079	0.091	0.101	0.116
28	0.055	0.020	0.028	0.023	0.022	0.024	0.023	0.022	0.017	0.018	0.018	0.020	0.055
29	0.199	0.261	0.259	0.317	0.141	0.054	0.068	0.103	0.108	0.087	0.056	0.034	0.317
30	0.026	0.018	0.020	0.023	0.020	0.024	0.027	0.025	0.018	0.018	0.016	0.018	0.027
31	0.082	0.171	0.229	0.221	0.125	0.050	0.040	0.071	0.080	0.070	0.056	0.034	0.229
32	0.095	0.038	0.030	0.026	0.019	0.016	0.019	0.021	0.019	0.022	0.018	0.018	0.095
33	0.033	0.047	0.052	0.042	0.022	0.020	0.019	0.025	0.026	0.030	0.032	0.026	0.052
34	0.025	0.031	0.030	0.019	0.021	0.015	0.016	0.017	0.013	0.016	0.016	0.016	0.031
35	0.162	0.068	0.052	0.174	0.133	0.115	0.058	0.047	0.074	0.078	0.070	0.046	0.174
36	0.019	0.013	0.013	0.025	0.021	0.013	0.016	0.018	0.016	0.019	0.016	0.017	0.025
37	0.044	0.110	0.082	0.179	0.063	0.081	0.051	0.031	0.054	0.068	0.067	0.049	0.179
38	0.074	0.023	0.025	0.023	0.019	0.011	0.012	0.015	0.014	0.016	0.015	0.016	0.074
39	0.023	0.046	0.037	0.034	0.020	0.016	0.015	0.018	0.018	0.024	0.025	0.024	0.046
40	0.034	0.016	0.026	0.016	0.015	0.011	0.012	0.012	0.011	0.012	0.013	0.014	0.034
41	0.100	0.065	0.084	0.172	0.076	0.085	0.084	0.048	0.045	0.062	0.076	0.069	0.172
42	0.019	0.015	0.013	0.014	0.014	0.012	0.011	0.013	0.013	0.013	0.012	0.014	0.019
43	0.035	0.086	0.135	0.109	0.074	0.056	0.069	0.040	0.034	0.051	0.061	0.052	0.135
44	0.039	0.020	0.017	0.019	0.013	0.011	0.010	0.011	0.012	0.012	0.012	0.014	0.039
45	0.014	0.043	0.044	0.020	0.017	0.018	0.016	0.016	0.017	0.018	0.018	0.018	0.044
46	0.049	0.021	0.027	0.024	0.023	0.021	0.021	0.021	0.021	0.022	0.022	0.023	0.049
47	0.051	0.120	0.136	0.047	0.095	0.058	0.065	0.056	0.033	0.041	0.055	0.052	0.136
48	0.027	0.024	0.029	0.024	0.021	0.020	0.020	0.020	0.021	0.020	0.020	0.021	0.029
49	0.033	0.143	0.136	0.041	0.079	0.047	0.058	0.058	0.036	0.043	0.058	0.052	0.143
50	0.011	0.011	0.020	0.010	0.011	0.009	0.009	0.009	0.011	0.010	0.011	0.012	0.020
TDC(%)	1.036	2.189	2.415	1.061	0.488	0.435	0.413	0.397	0.406	0.451	0.507	0.623	2.415

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Model: SOFAR 100KTL-HV													
Phase C													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	Max (%)
Nr./ Order	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2	0.179	0.172	0.182	0.191	0.154	0.143	0.133	0.134	0.133	0.137	0.135	0.152	0.191
3	0.111	0.112	0.140	0.073	0.125	0.115	0.121	0.131	0.139	0.154	0.153	0.168	0.154
4	0.151	0.097	0.128	0.140	0.098	0.085	0.075	0.071	0.063	0.066	0.068	0.089	0.151
5	0.536	0.952	1.014	0.271	0.050	0.058	0.070	0.068	0.073	0.074	0.074	0.101	1.014
6	0.079	0.052	0.069	0.073	0.048	0.053	0.051	0.049	0.045	0.049	0.049	0.059	0.079
7	0.345	0.528	0.529	0.249	0.083	0.101	0.093	0.087	0.089	0.100	0.101	0.111	0.529
8	0.205	0.076	0.073	0.096	0.078	0.077	0.065	0.055	0.047	0.047	0.048	0.063	0.205
9	0.081	0.151	0.195	0.134	0.075	0.087	0.079	0.070	0.091	0.100	0.110	0.117	0.195
10	0.092	0.080	0.103	0.099	0.078	0.068	0.057	0.052	0.046	0.047	0.049	0.062	0.103
11	0.264	0.676	0.861	0.142	0.060	0.063	0.088	0.102	0.113	0.120	0.148	0.221	0.861
12	0.069	0.032	0.038	0.046	0.043	0.051	0.043	0.041	0.039	0.040	0.042	0.049	0.069
13	0.293	0.546	0.667	0.143	0.062	0.055	0.070	0.088	0.107	0.121	0.153	0.214	0.667
14	0.108	0.066	0.068	0.078	0.069	0.071	0.057	0.045	0.038	0.037	0.042	0.054	0.108
15	0.049	0.081	0.063	0.154	0.069	0.091	0.088	0.082	0.085	0.085	0.087	0.084	0.154
16	0.138	0.034	0.053	0.061	0.052	0.046	0.044	0.039	0.033	0.031	0.036	0.041	0.138
17	0.281	0.750	0.766	0.301	0.137	0.115	0.066	0.046	0.062	0.086	0.122	0.173	0.766
18	0.057	0.046	0.038	0.040	0.033	0.041	0.033	0.028	0.029	0.029	0.033	0.037	0.057
19	0.191	1.011	1.141	0.365	0.123	0.099	0.056	0.034	0.036	0.042	0.072	0.118	1.141
20	0.156	0.026	0.035	0.027	0.043	0.047	0.037	0.032	0.027	0.028	0.033	0.041	0.156
21	0.057	0.090	0.067	0.065	0.071	0.099	0.099	0.095	0.096	0.092	0.097	0.108	0.099
22	0.076	0.030	0.034	0.025	0.031	0.028	0.028	0.027	0.023	0.028	0.042	0.036	0.076
23	0.275	0.378	0.399	0.218	0.033	0.081	0.095	0.074	0.054	0.052	0.069	0.081	0.399
24	0.053	0.047	0.058	0.025	0.025	0.026	0.021	0.021	0.021	0.022	0.022	0.024	0.058
25	0.117	0.332	0.275	0.206	0.033	0.049	0.090	0.096	0.077	0.057	0.041	0.031	0.332
26	0.121	0.036	0.040	0.023	0.023	0.026	0.025	0.025	0.022	0.021	0.020	0.024	0.121
27	0.045	0.080	0.076	0.083	0.075	0.061	0.064	0.066	0.075	0.072	0.076	0.081	0.083
28	0.080	0.021	0.025	0.024	0.020	0.021	0.018	0.018	0.018	0.018	0.021	0.021	0.080
29	0.222	0.253	0.276	0.256	0.129	0.049	0.051	0.093	0.097	0.075	0.051	0.032	0.276
30	0.039	0.022	0.023	0.028	0.023	0.026	0.023	0.020	0.015	0.016	0.017	0.022	0.039
31	0.079	0.182	0.222	0.216	0.114	0.065	0.042	0.065	0.084	0.078	0.069	0.047	0.222
32	0.093	0.033	0.026	0.023	0.017	0.015	0.016	0.019	0.017	0.018	0.015	0.018	0.093
33	0.022	0.064	0.078	0.028	0.031	0.024	0.025	0.022	0.022	0.027	0.029	0.026	0.078
34	0.039	0.033	0.032	0.021	0.017	0.014	0.014	0.013	0.014	0.014	0.016	0.017	0.039
35	0.160	0.127	0.081	0.176	0.114	0.106	0.044	0.041	0.071	0.077	0.065	0.041	0.176
36	0.031	0.020	0.020	0.027	0.024	0.014	0.017	0.017	0.014	0.013	0.013	0.017	0.031
37	0.025	0.098	0.080	0.163	0.076	0.082	0.058	0.040	0.060	0.074	0.077	0.059	0.163
38	0.075	0.016	0.017	0.021	0.015	0.011	0.012	0.013	0.014	0.016	0.013	0.015	0.075
39	0.021	0.029	0.035	0.024	0.018	0.016	0.021	0.019	0.016	0.020	0.021	0.022	0.035
40	0.039	0.013	0.023	0.017	0.014	0.011	0.011	0.011	0.012	0.012	0.013	0.014	0.039
41	0.092	0.094	0.120	0.177	0.080	0.082	0.083	0.043	0.048	0.073	0.084	0.072	0.177
42	0.021	0.012	0.013	0.018	0.014	0.013	0.011	0.014	0.014	0.012	0.012	0.015	0.021
43	0.034	0.087	0.135	0.106	0.085	0.069	0.070	0.051	0.035	0.050	0.064	0.055	0.135
44	0.044	0.011	0.016	0.016	0.012	0.010	0.010	0.010	0.011	0.012	0.012	0.013	0.044
45	0.020	0.024	0.024	0.018	0.015	0.016	0.019	0.015	0.018	0.019	0.017	0.016	0.024
46	0.044	0.020	0.026	0.025	0.022	0.021	0.021	0.021	0.022	0.023	0.022	0.023	0.044
47	0.046	0.105	0.107	0.056	0.104	0.058	0.067	0.055	0.027	0.046	0.062	0.055	0.107
48	0.025	0.021	0.023	0.023	0.021	0.021	0.020	0.021	0.021	0.021	0.021	0.022	0.025
49	0.031	0.127	0.126	0.051	0.082	0.058	0.060	0.060	0.041	0.044	0.060	0.057	0.127
50	0.020	0.010	0.017	0.010	0.010	0.009	0.009	0.009	0.009	0.009	0.010	0.012	0.020
TDC(%)	1.058	2.020	2.234	0.933	0.486	0.447	0.415	0.402	0.414	0.437	0.476	0.564	2.234

Model: SOFAR 110KTL													
Phase A													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	Max (%)
Nr./ Order	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2	0.071	0.027	0.031	0.032	0.032	0.032	0.029	0.031	0.034	0.036	0.083	0.188	0.188
3	0.154	0.031	0.155	0.037	0.025	0.025	0.046	0.064	0.082	0.102	0.124	0.143	0.155
4	0.037	0.016	0.031	0.024	0.019	0.018	0.017	0.017	0.021	0.022	0.041	0.109	0.109
5	1.040	0.304	0.148	0.207	0.154	0.121	0.104	0.084	0.069	0.058	0.050	0.087	1.040
6	0.054	0.016	0.030	0.024	0.017	0.016	0.015	0.017	0.019	0.023	0.034	0.050	0.054
7	0.739	0.217	0.078	0.178	0.128	0.104	0.096	0.082	0.067	0.066	0.059	0.083	0.739
8	0.039	0.012	0.029	0.026	0.020	0.017	0.015	0.019	0.021	0.029	0.041	0.040	0.041
9	0.049	0.037	0.055	0.030	0.021	0.021	0.021	0.020	0.021	0.022	0.036	0.083	0.083
10	0.043	0.012	0.021	0.024	0.018	0.016	0.015	0.015	0.022	0.034	0.031	0.071	0.071
11	0.349	0.143	0.290	0.108	0.108	0.105	0.107	0.098	0.094	0.089	0.090	0.187	0.349
12	0.031	0.032	0.028	0.023	0.018	0.015	0.014	0.014	0.016	0.017	0.045	0.041	0.045
13	0.170	0.124	0.179	0.081	0.071	0.076	0.082	0.083	0.087	0.085	0.084	0.205	0.205
14	0.046	0.015	0.025	0.021	0.018	0.015	0.013	0.014	0.019	0.035	0.046	0.054	0.054
15	0.075	0.029	0.057	0.022	0.025	0.034	0.028	0.027	0.029	0.034	0.032	0.061	0.075
16	0.039	0.010	0.021	0.018	0.015	0.014	0.013	0.013	0.016	0.022	0.025	0.033	0.039
17	0.435	0.165	0.052	0.054	0.026	0.032	0.062	0.072	0.072	0.070	0.056	0.099	0.435
18	0.033	0.027	0.028	0.016	0.018	0.013	0.011	0.011	0.012	0.017	0.022	0.042	0.042
19	0.426	0.170	0.059	0.041	0.030	0.025	0.046	0.066	0.066	0.064	0.051	0.163	0.426
20	0.036	0.017	0.031	0.014	0.014	0.010	0.010	0.010	0.013	0.021	0.021	0.030	0.036
21	0.100	0.031	0.046	0.021	0.024	0.039	0.031	0.026	0.024	0.019	0.018	0.035	0.100
22	0.029	0.018	0.022	0.016	0.011	0.011	0.010	0.010	0.012	0.015	0.018	0.033	0.033
23	0.145	0.186	0.100	0.024	0.038	0.029	0.024	0.044	0.064	0.067	0.082	0.079	0.186
24	0.019	0.013	0.016	0.012	0.012	0.012	0.011	0.011	0.011	0.012	0.014	0.021	0.021
25	0.094	0.193	0.095	0.029	0.032	0.041	0.027	0.031	0.052	0.062	0.075	0.109	0.193
26	0.024	0.015	0.021	0.011	0.010	0.009	0.009	0.008	0.010	0.015	0.012	0.015	0.024
27	0.032	0.022	0.042	0.016	0.015	0.035	0.030	0.024	0.018	0.016	0.014	0.017	0.042
28	0.019	0.024	0.017	0.010	0.009	0.009	0.009	0.009	0.011	0.012	0.011	0.019	0.024
29	0.185	0.177	0.126	0.058	0.031	0.053	0.034	0.032	0.031	0.040	0.045	0.048	0.185
30	0.017	0.008	0.016	0.010	0.008	0.007	0.008	0.010	0.011	0.010	0.010	0.013	0.017
31	0.179	0.168	0.100	0.045	0.027	0.039	0.034	0.032	0.035	0.041	0.051	0.063	0.179
32	0.019	0.010	0.012	0.009	0.007	0.006	0.006	0.007	0.008	0.011	0.009	0.011	0.019
33	0.019	0.018	0.028	0.015	0.015	0.024	0.031	0.026	0.020	0.016	0.014	0.012	0.031
34	0.018	0.018	0.012	0.008	0.007	0.006	0.007	0.007	0.010	0.011	0.009	0.014	0.018
35	0.032	0.138	0.075	0.059	0.044	0.043	0.038	0.021	0.025	0.031	0.045	0.054	0.138
36	0.013	0.011	0.013	0.008	0.006	0.005	0.006	0.009	0.011	0.011	0.008	0.010	0.013
37	0.099	0.116	0.076	0.058	0.043	0.031	0.037	0.027	0.023	0.025	0.038	0.057	0.116
38	0.016	0.007	0.011	0.007	0.006	0.005	0.006	0.006	0.008	0.011	0.007	0.009	0.016
39	0.018	0.016	0.018	0.012	0.014	0.013	0.023	0.022	0.017	0.014	0.013	0.015	0.023
40	0.017	0.009	0.008	0.006	0.007	0.005	0.006	0.006	0.008	0.011	0.008	0.012	0.017
41	0.094	0.077	0.100	0.056	0.044	0.033	0.034	0.025	0.021	0.024	0.031	0.029	0.100
42	0.012	0.008	0.007	0.007	0.006	0.005	0.005	0.006	0.009	0.015	0.011	0.008	0.015
43	0.065	0.067	0.078	0.058	0.038	0.032	0.026	0.024	0.020	0.025	0.032	0.038	0.078
44	0.016	0.006	0.007	0.006	0.005	0.005	0.005	0.006	0.007	0.007	0.007	0.006	0.016
45	0.016	0.014	0.014	0.012	0.012	0.013	0.017	0.019	0.015	0.015	0.013	0.011	0.019
46	0.019	0.013	0.013	0.011	0.011	0.011	0.011	0.012	0.014	0.017	0.014	0.011	0.019
47	0.046	0.032	0.069	0.058	0.044	0.037	0.031	0.024	0.014	0.015	0.030	0.025	0.069
48	0.014	0.011	0.012	0.010	0.010	0.010	0.010	0.011	0.013	0.013	0.012	0.008	0.014
49	0.079	0.024	0.069	0.055	0.038	0.037	0.022	0.022	0.016	0.015	0.026	0.028	0.079
50	0.014	0.005	0.005	0.005	0.004	0.005	0.004	0.004	0.006	0.006	0.005	0.005	0.014
TDC(%)	1.531	0.647	0.527	0.366	0.285	0.261	0.254	0.245	0.249	0.264	0.299	0.513	1.531

Model: SOFAR 110KTL													
Phase B													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	Max (%)
Nr./ Order	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2	0.119	0.032	0.078	0.037	0.035	0.032	0.033	0.037	0.043	0.048	0.123	0.335	0.123
3	0.275	0.096	0.081	0.051	0.049	0.059	0.072	0.091	0.114	0.130	0.125	0.145	0.275
4	0.087	0.029	0.038	0.027	0.021	0.017	0.019	0.019	0.023	0.026	0.059	0.067	0.087
5	1.076	0.265	0.095	0.179	0.109	0.082	0.067	0.055	0.047	0.041	0.052	0.042	1.076
6	0.083	0.016	0.039	0.031	0.023	0.019	0.017	0.017	0.025	0.032	0.036	0.014	0.083
7	0.879	0.215	0.037	0.168	0.120	0.101	0.080	0.062	0.046	0.042	0.050	0.055	0.879
8	0.041	0.020	0.042	0.030	0.024	0.019	0.017	0.017	0.022	0.023	0.045	0.075	0.045
9	0.194	0.022	0.105	0.031	0.026	0.021	0.022	0.022	0.022	0.021	0.034	0.010	0.194
10	0.036	0.028	0.019	0.027	0.025	0.018	0.017	0.017	0.021	0.037	0.040	0.100	0.040
11	0.385	0.112	0.154	0.098	0.098	0.101	0.095	0.085	0.082	0.075	0.080	0.219	0.385
12	0.066	0.030	0.025	0.027	0.021	0.017	0.016	0.016	0.023	0.030	0.056	0.034	0.066
13	0.249	0.142	0.186	0.073	0.074	0.091	0.085	0.079	0.075	0.072	0.072	0.183	0.249
14	0.060	0.042	0.025	0.026	0.022	0.017	0.016	0.017	0.020	0.036	0.053	0.019	0.060
15	0.148	0.038	0.053	0.039	0.030	0.050	0.045	0.040	0.037	0.043	0.044	0.083	0.148
16	0.049	0.030	0.020	0.023	0.021	0.015	0.014	0.015	0.014	0.021	0.028	0.006	0.049
17	0.478	0.164	0.085	0.054	0.023	0.045	0.070	0.080	0.075	0.068	0.050	0.159	0.478
18	0.034	0.027	0.022	0.024	0.017	0.013	0.013	0.014	0.017	0.023	0.025	0.035	0.034
19	0.379	0.190	0.100	0.054	0.022	0.047	0.064	0.077	0.069	0.064	0.049	0.138	0.379
20	0.032	0.028	0.022	0.021	0.017	0.013	0.012	0.012	0.014	0.019	0.025	0.039	0.032
21	0.063	0.039	0.037	0.031	0.021	0.031	0.036	0.038	0.040	0.043	0.050	0.091	0.063
22	0.028	0.026	0.033	0.018	0.015	0.011	0.010	0.010	0.010	0.016	0.016	0.008	0.033
23	0.180	0.191	0.074	0.020	0.030	0.014	0.035	0.057	0.076	0.073	0.069	0.084	0.191
24	0.025	0.021	0.040	0.019	0.016	0.011	0.009	0.010	0.012	0.015	0.016	0.022	0.040
25	0.041	0.207	0.075	0.025	0.034	0.019	0.031	0.042	0.057	0.060	0.071	0.111	0.207
26	0.024	0.017	0.023	0.014	0.013	0.010	0.009	0.009	0.010	0.013	0.016	0.015	0.024
27	0.029	0.027	0.023	0.023	0.017	0.033	0.030	0.023	0.016	0.016	0.016	0.047	0.033
28	0.022	0.025	0.017	0.013	0.012	0.009	0.009	0.008	0.009	0.011	0.012	0.005	0.025
29	0.203	0.167	0.119	0.053	0.026	0.026	0.018	0.029	0.032	0.040	0.043	0.058	0.203
30	0.025	0.012	0.014	0.011	0.013	0.009	0.007	0.008	0.009	0.012	0.013	0.015	0.025
31	0.167	0.175	0.101	0.047	0.023	0.023	0.024	0.035	0.038	0.041	0.044	0.053	0.175
32	0.021	0.021	0.014	0.010	0.010	0.007	0.007	0.007	0.008	0.012	0.012	0.019	0.021
33	0.038	0.014	0.028	0.021	0.019	0.026	0.030	0.024	0.018	0.014	0.013	0.024	0.038
34	0.021	0.017	0.011	0.010	0.009	0.006	0.006	0.006	0.007	0.011	0.009	0.005	0.021
35	0.056	0.126	0.070	0.051	0.034	0.020	0.018	0.013	0.025	0.031	0.042	0.056	0.126
36	0.017	0.009	0.016	0.009	0.008	0.006	0.006	0.006	0.007	0.007	0.009	0.009	0.017
37	0.080	0.122	0.079	0.049	0.036	0.022	0.020	0.021	0.025	0.027	0.043	0.048	0.122
38	0.016	0.011	0.011	0.009	0.007	0.006	0.005	0.006	0.007	0.011	0.010	0.010	0.016
39	0.012	0.021	0.014	0.015	0.017	0.018	0.021	0.018	0.013	0.011	0.011	0.025	0.021
40	0.017	0.010	0.008	0.008	0.008	0.006	0.005	0.006	0.006	0.007	0.008	0.003	0.017
41	0.114	0.080	0.098	0.057	0.032	0.019	0.016	0.013	0.014	0.019	0.021	0.028	0.114
42	0.015	0.009	0.009	0.007	0.008	0.006	0.007	0.006	0.008	0.015	0.011	0.007	0.015
43	0.066	0.070	0.077	0.052	0.031	0.018	0.014	0.016	0.023	0.027	0.031	0.035	0.077
44	0.017	0.006	0.007	0.007	0.006	0.006	0.005	0.006	0.006	0.009	0.009	0.006	0.017
45	0.019	0.019	0.014	0.013	0.016	0.018	0.019	0.018	0.014	0.014	0.010	0.008	0.019
46	0.020	0.013	0.014	0.012	0.012	0.011	0.011	0.011	0.012	0.017	0.014	0.003	0.020
47	0.052	0.042	0.060	0.052	0.032	0.026	0.016	0.013	0.008	0.013	0.026	0.020	0.060
48	0.014	0.012	0.015	0.011	0.010	0.010	0.011	0.011	0.011	0.012	0.012	0.005	0.015
49	0.074	0.024	0.072	0.049	0.033	0.022	0.012	0.012	0.012	0.016	0.030	0.026	0.074
50	0.014	0.006	0.005	0.006	0.005	0.005	0.005	0.004	0.005	0.005	0.007	0.004	0.014
TDC(%)	1.687	0.649	0.447	0.346	0.255	0.242	0.238	0.244	0.255	0.268	0.312	0.586	1.687

Model: SOFAR 110KTL													
Phase C													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	Max (%)
Nr./ Order	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2	0.127	0.048	0.075	0.033	0.033	0.039	0.039	0.044	0.046	0.052	0.126	0.207	0.127
3	0.393	0.119	0.198	0.074	0.057	0.053	0.053	0.057	0.070	0.076	0.072	0.110	0.393
4	0.063	0.021	0.029	0.032	0.024	0.020	0.019	0.017	0.020	0.025	0.071	0.064	0.071
5	0.883	0.260	0.062	0.169	0.129	0.113	0.093	0.083	0.079	0.070	0.064	0.075	0.883
6	0.064	0.017	0.037	0.031	0.022	0.020	0.017	0.017	0.024	0.031	0.041	0.066	0.064
7	0.768	0.199	0.080	0.165	0.117	0.085	0.072	0.056	0.041	0.040	0.051	0.164	0.768
8	0.046	0.021	0.032	0.031	0.022	0.019	0.017	0.020	0.023	0.029	0.052	0.075	0.052
9	0.160	0.031	0.110	0.035	0.027	0.023	0.023	0.021	0.023	0.023	0.037	0.073	0.160
10	0.041	0.026	0.024	0.030	0.025	0.020	0.019	0.019	0.025	0.044	0.044	0.068	0.044
11	0.248	0.128	0.225	0.085	0.088	0.096	0.087	0.080	0.079	0.072	0.085	0.266	0.248
12	0.048	0.012	0.019	0.027	0.020	0.019	0.017	0.017	0.025	0.032	0.053	0.017	0.053
13	0.150	0.136	0.211	0.073	0.077	0.081	0.082	0.078	0.076	0.075	0.081	0.206	0.211
14	0.053	0.031	0.025	0.023	0.019	0.017	0.017	0.017	0.022	0.037	0.060	0.042	0.060
15	0.110	0.023	0.079	0.044	0.038	0.044	0.047	0.047	0.043	0.048	0.042	0.111	0.110
16	0.049	0.026	0.024	0.020	0.021	0.016	0.015	0.015	0.016	0.020	0.034	0.033	0.049
17	0.486	0.166	0.042	0.051	0.020	0.041	0.060	0.067	0.062	0.058	0.045	0.174	0.486
18	0.037	0.012	0.026	0.020	0.014	0.017	0.014	0.015	0.018	0.026	0.031	0.039	0.037
19	0.388	0.198	0.067	0.036	0.030	0.032	0.049	0.065	0.065	0.061	0.046	0.102	0.388
20	0.037	0.022	0.025	0.018	0.014	0.012	0.012	0.011	0.014	0.018	0.028	0.053	0.037
21	0.053	0.024	0.055	0.032	0.038	0.043	0.042	0.046	0.053	0.054	0.055	0.056	0.055
22	0.035	0.017	0.023	0.015	0.016	0.012	0.011	0.011	0.012	0.017	0.021	0.024	0.035
23	0.143	0.185	0.084	0.024	0.032	0.030	0.038	0.054	0.072	0.070	0.076	0.118	0.185
24	0.023	0.014	0.039	0.022	0.012	0.016	0.014	0.016	0.016	0.020	0.019	0.021	0.039
25	0.063	0.219	0.086	0.033	0.034	0.031	0.015	0.025	0.048	0.053	0.061	0.083	0.219
26	0.024	0.009	0.025	0.014	0.011	0.009	0.009	0.009	0.010	0.014	0.017	0.018	0.025
27	0.049	0.021	0.042	0.018	0.015	0.017	0.019	0.016	0.014	0.015	0.019	0.036	0.049
28	0.022	0.008	0.023	0.012	0.012	0.010	0.010	0.009	0.011	0.012	0.013	0.009	0.023
29	0.178	0.165	0.116	0.053	0.031	0.046	0.037	0.038	0.037	0.046	0.058	0.073	0.178
30	0.021	0.012	0.017	0.012	0.012	0.009	0.010	0.013	0.014	0.017	0.016	0.016	0.021
31	0.158	0.176	0.122	0.051	0.029	0.030	0.017	0.015	0.028	0.038	0.048	0.047	0.176
32	0.021	0.014	0.012	0.010	0.008	0.007	0.007	0.007	0.008	0.011	0.013	0.015	0.021
33	0.040	0.016	0.027	0.016	0.014	0.015	0.016	0.015	0.013	0.012	0.014	0.017	0.040
34	0.020	0.008	0.013	0.009	0.008	0.007	0.007	0.006	0.008	0.011	0.010	0.004	0.020
35	0.040	0.121	0.070	0.056	0.039	0.035	0.032	0.024	0.032	0.038	0.050	0.061	0.121
36	0.015	0.007	0.015	0.010	0.009	0.007	0.006	0.009	0.010	0.012	0.011	0.011	0.015
37	0.090	0.116	0.076	0.055	0.042	0.029	0.025	0.012	0.014	0.021	0.032	0.031	0.116
38	0.015	0.009	0.011	0.009	0.007	0.006	0.006	0.006	0.007	0.009	0.010	0.004	0.015
39	0.021	0.018	0.023	0.014	0.012	0.013	0.014	0.015	0.013	0.012	0.012	0.003	0.023
40	0.015	0.008	0.008	0.008	0.007	0.006	0.006	0.007	0.007	0.009	0.010	0.001	0.015
41	0.097	0.069	0.098	0.059	0.035	0.031	0.027	0.024	0.022	0.028	0.031	0.031	0.098
42	0.013	0.006	0.009	0.007	0.008	0.008	0.009	0.007	0.010	0.021	0.013	0.009	0.021
43	0.056	0.063	0.087	0.057	0.037	0.031	0.021	0.012	0.012	0.019	0.027	0.024	0.087
44	0.017	0.007	0.008	0.007	0.006	0.005	0.006	0.006	0.007	0.008	0.010	0.002	0.017
45	0.022	0.014	0.011	0.013	0.012	0.013	0.014	0.012	0.010	0.011	0.012	0.013	0.022
46	0.019	0.012	0.013	0.012	0.011	0.011	0.012	0.012	0.013	0.018	0.015	0.001	0.019
47	0.052	0.039	0.064	0.052	0.038	0.032	0.021	0.016	0.013	0.018	0.036	0.032	0.064
48	0.014	0.012	0.012	0.011	0.010	0.011	0.011	0.011	0.012	0.013	0.013	0.004	0.014
49	0.071	0.020	0.071	0.054	0.036	0.034	0.019	0.014	0.008	0.009	0.023	0.010	0.071
50	0.014	0.007	0.005	0.005	0.005	0.004	0.005	0.005	0.005	0.005	0.007	0.008	0.014
TDC(%)	1.482	0.643	0.522	0.343	0.268	0.251	0.233	0.230	0.241	0.255	0.313	0.573	1.482

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Model: SOFAR 125KTL-HV													
Phase A													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	Max (%)
Nr./ Order	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2	0.097	0.086	0.118	0.067	0.059	0.060	0.060	0.051	0.055	0.058	0.063	0.065	0.118
3	0.187	0.085	0.058	0.051	0.057	0.059	0.059	0.043	0.038	0.038	0.053	0.082	0.187
4	0.046	0.073	0.083	0.046	0.040	0.040	0.040	0.028	0.036	0.034	0.038	0.045	0.083
5	1.002	0.833	1.234	0.609	0.066	0.046	0.046	0.043	0.042	0.039	0.036	0.037	1.234
6	0.118	0.030	0.091	0.101	0.030	0.029	0.029	0.023	0.041	0.024	0.026	0.035	0.118
7	0.409	0.499	1.162	0.540	0.139	0.104	0.104	0.064	0.052	0.049	0.053	0.055	1.162
8	0.065	0.094	0.065	0.060	0.034	0.030	0.030	0.035	0.038	0.033	0.028	0.032	0.094
9	0.059	0.066	0.113	0.048	0.062	0.044	0.044	0.037	0.033	0.040	0.035	0.041	0.113
10	0.052	0.046	0.049	0.044	0.026	0.030	0.030	0.025	0.030	0.027	0.030	0.035	0.052
11	0.641	0.552	0.706	0.213	0.056	0.095	0.095	0.089	0.092	0.105	0.123	0.141	0.706
12	0.084	0.030	0.062	0.077	0.026	0.021	0.021	0.023	0.037	0.023	0.023	0.027	0.084
13	0.617	0.371	0.708	0.269	0.047	0.069	0.069	0.087	0.089	0.108	0.133	0.159	0.708
14	0.066	0.043	0.060	0.042	0.027	0.022	0.022	0.020	0.034	0.025	0.024	0.030	0.066
15	0.036	0.085	0.068	0.061	0.044	0.035	0.035	0.022	0.029	0.037	0.038	0.041	0.085
16	0.059	0.047	0.066	0.036	0.024	0.018	0.018	0.022	0.037	0.025	0.030	0.028	0.066
17	0.099	0.685	0.472	0.366	0.056	0.020	0.020	0.049	0.063	0.083	0.095	0.114	0.685
18	0.054	0.045	0.040	0.039	0.019	0.016	0.016	0.018	0.031	0.022	0.023	0.029	0.054
19	0.341	0.792	0.448	0.248	0.084	0.033	0.033	0.041	0.058	0.096	0.117	0.137	0.792
20	0.043	0.037	0.034	0.038	0.018	0.018	0.018	0.014	0.024	0.019	0.021	0.024	0.043
21	0.025	0.076	0.048	0.047	0.022	0.017	0.017	0.022	0.028	0.029	0.028	0.032	0.076
22	0.039	0.020	0.037	0.021	0.016	0.014	0.014	0.014	0.026	0.020	0.022	0.026	0.039
23	0.261	0.285	0.445	0.265	0.030	0.052	0.052	0.030	0.033	0.046	0.067	0.079	0.445
24	0.035	0.023	0.024	0.046	0.014	0.013	0.013	0.012	0.025	0.014	0.014	0.022	0.046
25	0.073	0.298	0.396	0.240	0.032	0.063	0.063	0.035	0.022	0.033	0.050	0.072	0.396
26	0.044	0.020	0.023	0.035	0.015	0.014	0.014	0.013	0.017	0.012	0.014	0.017	0.044
27	0.026	0.044	0.041	0.035	0.015	0.014	0.014	0.022	0.024	0.023	0.022	0.026	0.044
28	0.033	0.015	0.029	0.020	0.013	0.013	0.013	0.010	0.022	0.013	0.015	0.019	0.033
29	0.208	0.208	0.266	0.135	0.050	0.039	0.039	0.074	0.048	0.037	0.030	0.028	0.266
30	0.036	0.015	0.020	0.033	0.010	0.008	0.008	0.012	0.020	0.009	0.012	0.014	0.036
31	0.102	0.119	0.292	0.133	0.065	0.017	0.017	0.058	0.045	0.030	0.029	0.031	0.292
32	0.026	0.013	0.018	0.024	0.011	0.010	0.010	0.012	0.014	0.009	0.011	0.013	0.026
33	0.022	0.029	0.023	0.023	0.018	0.016	0.016	0.018	0.018	0.018	0.017	0.021	0.029
34	0.022	0.016	0.017	0.017	0.009	0.010	0.010	0.007	0.016	0.008	0.010	0.013	0.022
35	0.099	0.087	0.283	0.211	0.081	0.036	0.036	0.067	0.054	0.031	0.023	0.022	0.283
36	0.027	0.014	0.016	0.023	0.008	0.008	0.008	0.010	0.016	0.011	0.011	0.010	0.027
37	0.104	0.091	0.182	0.180	0.068	0.043	0.043	0.058	0.057	0.043	0.031	0.026	0.182
38	0.024	0.016	0.018	0.015	0.008	0.007	0.007	0.009	0.012	0.008	0.010	0.010	0.024
39	0.012	0.031	0.019	0.019	0.010	0.015	0.015	0.013	0.015	0.016	0.014	0.015	0.031
40	0.021	0.009	0.023	0.012	0.007	0.009	0.009	0.006	0.012	0.008	0.009	0.010	0.023
41	0.041	0.043	0.112	0.090	0.064	0.064	0.064	0.057	0.058	0.043	0.028	0.022	0.112
42	0.018	0.011	0.010	0.015	0.007	0.006	0.006	0.006	0.011	0.008	0.009	0.009	0.018
43	0.072	0.065	0.125	0.073	0.045	0.057	0.057	0.041	0.048	0.044	0.032	0.024	0.125
44	0.022	0.014	0.012	0.014	0.007	0.006	0.006	0.006	0.011	0.007	0.010	0.008	0.022
45	0.010	0.026	0.018	0.014	0.011	0.011	0.011	0.010	0.011	0.013	0.014	0.015	0.026
46	0.024	0.017	0.022	0.016	0.014	0.013	0.013	0.014	0.015	0.015	0.016	0.016	0.024
47	0.036	0.100	0.087	0.088	0.048	0.056	0.056	0.033	0.045	0.039	0.029	0.019	0.100
48	0.022	0.017	0.020	0.017	0.013	0.012	0.012	0.013	0.014	0.014	0.015	0.015	0.022
49	0.052	0.103	0.040	0.081	0.053	0.047	0.047	0.028	0.039	0.043	0.034	0.026	0.103
50	0.017	0.008	0.009	0.009	0.006	0.005	0.005	0.005	0.008	0.006	0.008	0.007	0.017
TDC(%)	1.534	1.679	2.245	1.140	0.305	0.267	0.267	0.256	0.270	0.276	0.307	0.356	2.245

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Model: SOFAR 125KTL-HV													
Phase B													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	Max (%)
Nr./ Order	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2	0.092	0.188	0.294	0.183	0.070	0.069	0.066	0.065	0.078	0.084	0.092	0.102	0.294
3	0.219	0.164	0.251	0.155	0.033	0.039	0.052	0.071	0.083	0.100	0.121	0.133	0.251
4	0.058	0.127	0.169	0.144	0.040	0.041	0.033	0.032	0.046	0.043	0.049	0.055	0.169
5	0.888	0.868	1.485	0.737	0.059	0.050	0.052	0.057	0.052	0.050	0.046	0.039	1.485
6	0.146	0.030	0.154	0.166	0.042	0.040	0.032	0.031	0.053	0.029	0.034	0.035	0.166
7	0.508	0.587	1.421	0.684	0.102	0.089	0.080	0.084	0.076	0.077	0.086	0.075	1.421
8	0.054	0.062	0.125	0.113	0.037	0.034	0.027	0.026	0.039	0.029	0.033	0.044	0.125
9	0.122	0.086	0.185	0.127	0.035	0.035	0.037	0.054	0.059	0.071	0.076	0.079	0.185
10	0.051	0.098	0.084	0.058	0.036	0.032	0.026	0.028	0.038	0.025	0.028	0.033	0.098
11	0.653	0.534	0.844	0.297	0.075	0.105	0.099	0.108	0.117	0.140	0.159	0.173	0.844
12	0.091	0.031	0.101	0.074	0.033	0.026	0.026	0.028	0.050	0.027	0.026	0.031	0.101
13	0.579	0.431	0.841	0.318	0.048	0.060	0.083	0.092	0.105	0.128	0.156	0.176	0.841
14	0.080	0.055	0.087	0.070	0.034	0.023	0.021	0.026	0.041	0.029	0.033	0.037	0.087
15	0.059	0.103	0.197	0.102	0.045	0.047	0.041	0.038	0.036	0.040	0.038	0.042	0.197
16	0.060	0.061	0.071	0.058	0.031	0.020	0.018	0.027	0.051	0.034	0.033	0.038	0.071
17	0.100	0.619	0.338	0.329	0.055	0.037	0.032	0.057	0.080	0.116	0.132	0.148	0.619
18	0.067	0.070	0.040	0.046	0.031	0.020	0.017	0.025	0.048	0.034	0.036	0.035	0.070
19	0.323	0.807	0.402	0.241	0.069	0.034	0.020	0.039	0.059	0.090	0.108	0.125	0.807
20	0.044	0.040	0.042	0.039	0.025	0.021	0.016	0.019	0.032	0.029	0.032	0.037	0.044
21	0.039	0.093	0.113	0.067	0.065	0.053	0.049	0.052	0.054	0.057	0.059	0.061	0.113
22	0.034	0.020	0.032	0.028	0.022	0.019	0.014	0.015	0.033	0.026	0.030	0.035	0.034
23	0.272	0.346	0.503	0.286	0.054	0.067	0.037	0.022	0.031	0.055	0.078	0.092	0.503
24	0.058	0.052	0.029	0.049	0.020	0.017	0.013	0.014	0.038	0.020	0.025	0.020	0.058
25	0.067	0.301	0.448	0.288	0.036	0.072	0.058	0.035	0.020	0.024	0.037	0.060	0.448
26	0.039	0.037	0.023	0.040	0.016	0.021	0.016	0.015	0.018	0.015	0.017	0.023	0.040
27	0.027	0.072	0.086	0.055	0.034	0.044	0.035	0.040	0.043	0.049	0.047	0.048	0.086
28	0.026	0.016	0.026	0.027	0.017	0.020	0.014	0.011	0.023	0.012	0.016	0.018	0.027
29	0.216	0.209	0.281	0.159	0.043	0.045	0.062	0.063	0.039	0.028	0.024	0.027	0.281
30	0.044	0.014	0.033	0.032	0.015	0.018	0.015	0.012	0.024	0.009	0.015	0.015	0.044
31	0.090	0.137	0.277	0.134	0.048	0.033	0.056	0.054	0.041	0.024	0.025	0.027	0.277
32	0.026	0.030	0.028	0.033	0.011	0.014	0.013	0.015	0.016	0.011	0.011	0.014	0.033
33	0.024	0.038	0.028	0.023	0.016	0.012	0.012	0.016	0.015	0.017	0.018	0.021	0.038
34	0.021	0.025	0.019	0.019	0.010	0.014	0.010	0.011	0.017	0.008	0.011	0.013	0.025
35	0.100	0.055	0.286	0.223	0.084	0.039	0.040	0.057	0.046	0.029	0.022	0.020	0.286
36	0.031	0.010	0.015	0.022	0.009	0.013	0.013	0.013	0.019	0.008	0.010	0.010	0.031
37	0.096	0.088	0.189	0.184	0.073	0.038	0.036	0.051	0.051	0.034	0.028	0.024	0.189
38	0.018	0.018	0.025	0.016	0.008	0.009	0.010	0.010	0.013	0.011	0.010	0.011	0.025
39	0.014	0.037	0.022	0.012	0.012	0.013	0.011	0.013	0.014	0.015	0.015	0.016	0.037
40	0.016	0.013	0.016	0.012	0.007	0.009	0.007	0.008	0.012	0.007	0.008	0.010	0.016
41	0.047	0.052	0.093	0.091	0.059	0.060	0.034	0.047	0.051	0.041	0.031	0.023	0.093
42	0.024	0.012	0.012	0.017	0.009	0.008	0.009	0.009	0.014	0.007	0.009	0.010	0.024
43	0.068	0.069	0.123	0.064	0.052	0.053	0.026	0.037	0.045	0.036	0.029	0.023	0.123
44	0.014	0.016	0.014	0.019	0.007	0.007	0.008	0.006	0.011	0.010	0.011	0.012	0.019
45	0.011	0.035	0.014	0.020	0.016	0.015	0.017	0.011	0.011	0.012	0.013	0.016	0.035
46	0.020	0.017	0.026	0.017	0.014	0.013	0.014	0.014	0.015	0.014	0.016	0.017	0.026
47	0.038	0.096	0.092	0.078	0.048	0.051	0.038	0.031	0.040	0.037	0.029	0.020	0.096
48	0.027	0.019	0.022	0.017	0.013	0.012	0.013	0.013	0.015	0.014	0.015	0.015	0.027
49	0.053	0.114	0.039	0.080	0.045	0.049	0.039	0.030	0.040	0.038	0.031	0.023	0.114
50	0.013	0.009	0.013	0.011	0.006	0.005	0.006	0.005	0.008	0.008	0.009	0.009	0.013
TDC(%)	1.493	1.751	2.653	1.367	0.299	0.284	0.262	0.287	0.328	0.347	0.391	0.428	2.653

Model: SOFAR 125KTL-HV													
Phase C													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	Max (%)
Nr./ Order	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2	0.052	0.138	0.256	0.181	0.077	0.074	0.076	0.075	0.082	0.088	0.093	0.110	0.256
3	0.099	0.090	0.235	0.147	0.075	0.089	0.101	0.101	0.104	0.109	0.113	0.113	0.235
4	0.052	0.078	0.162	0.140	0.044	0.055	0.040	0.036	0.044	0.040	0.046	0.060	0.162
5	0.930	0.762	1.179	0.564	0.085	0.063	0.055	0.044	0.043	0.037	0.038	0.040	1.179
6	0.046	0.042	0.080	0.072	0.041	0.039	0.033	0.029	0.038	0.027	0.029	0.034	0.080
7	0.453	0.423	1.296	0.620	0.113	0.094	0.076	0.081	0.078	0.087	0.091	0.079	1.296
8	0.068	0.061	0.101	0.094	0.043	0.033	0.033	0.040	0.040	0.036	0.029	0.042	0.101
9	0.075	0.121	0.254	0.145	0.071	0.054	0.055	0.063	0.066	0.063	0.067	0.069	0.254
10	0.056	0.064	0.113	0.095	0.031	0.029	0.029	0.030	0.039	0.030	0.031	0.038	0.113
11	0.599	0.541	0.766	0.319	0.053	0.085	0.087	0.083	0.085	0.106	0.119	0.138	0.766
12	0.039	0.026	0.070	0.046	0.030	0.024	0.028	0.024	0.037	0.025	0.025	0.031	0.070
13	0.589	0.436	0.791	0.225	0.042	0.065	0.083	0.090	0.090	0.110	0.129	0.148	0.791
14	0.053	0.053	0.051	0.056	0.030	0.022	0.025	0.026	0.035	0.025	0.029	0.033	0.056
15	0.045	0.065	0.162	0.148	0.064	0.052	0.046	0.042	0.043	0.037	0.040	0.041	0.162
16	0.036	0.027	0.044	0.040	0.025	0.021	0.022	0.024	0.044	0.026	0.024	0.032	0.044
17	0.115	0.600	0.370	0.254	0.078	0.038	0.026	0.046	0.068	0.100	0.111	0.127	0.600
18	0.034	0.037	0.031	0.037	0.027	0.017	0.019	0.019	0.034	0.022	0.025	0.026	0.037
19	0.354	0.808	0.427	0.301	0.065	0.028	0.022	0.041	0.053	0.086	0.105	0.114	0.808
20	0.040	0.021	0.029	0.040	0.020	0.015	0.017	0.018	0.027	0.021	0.022	0.030	0.040
21	0.045	0.072	0.114	0.102	0.079	0.059	0.061	0.063	0.061	0.068	0.066	0.067	0.114
22	0.031	0.024	0.030	0.028	0.017	0.017	0.015	0.014	0.028	0.018	0.019	0.030	0.031
23	0.234	0.302	0.479	0.278	0.046	0.064	0.039	0.028	0.040	0.059	0.081	0.099	0.479
24	0.034	0.038	0.026	0.036	0.020	0.013	0.013	0.017	0.037	0.017	0.021	0.020	0.038
25	0.082	0.266	0.398	0.259	0.017	0.057	0.056	0.042	0.023	0.028	0.045	0.061	0.398
26	0.027	0.029	0.024	0.035	0.014	0.014	0.012	0.012	0.018	0.015	0.016	0.024	0.035
27	0.043	0.064	0.065	0.042	0.032	0.049	0.048	0.055	0.054	0.055	0.053	0.056	0.065
28	0.030	0.016	0.023	0.020	0.016	0.014	0.013	0.013	0.023	0.012	0.015	0.021	0.030
29	0.197	0.203	0.246	0.114	0.053	0.037	0.064	0.057	0.041	0.030	0.028	0.037	0.246
30	0.020	0.018	0.032	0.038	0.018	0.018	0.013	0.010	0.022	0.012	0.020	0.018	0.038
31	0.100	0.146	0.265	0.134	0.066	0.030	0.053	0.061	0.045	0.034	0.033	0.031	0.265
32	0.026	0.026	0.034	0.035	0.010	0.010	0.009	0.009	0.013	0.009	0.011	0.017	0.035
33	0.022	0.051	0.039	0.033	0.018	0.013	0.013	0.017	0.016	0.016	0.018	0.023	0.051
34	0.028	0.026	0.018	0.016	0.009	0.010	0.008	0.012	0.017	0.010	0.012	0.016	0.028
35	0.100	0.101	0.294	0.211	0.081	0.034	0.044	0.056	0.049	0.028	0.021	0.022	0.294
36	0.015	0.016	0.019	0.021	0.010	0.015	0.015	0.009	0.015	0.009	0.013	0.013	0.021
37	0.104	0.079	0.191	0.177	0.065	0.049	0.035	0.057	0.053	0.039	0.030	0.024	0.191
38	0.025	0.013	0.018	0.020	0.008	0.007	0.008	0.008	0.011	0.008	0.009	0.011	0.025
39	0.014	0.023	0.019	0.014	0.013	0.013	0.013	0.013	0.013	0.015	0.016	0.017	0.023
40	0.020	0.011	0.017	0.015	0.007	0.008	0.007	0.008	0.013	0.009	0.009	0.011	0.020
41	0.041	0.076	0.096	0.093	0.058	0.057	0.031	0.052	0.057	0.044	0.032	0.024	0.096
42	0.013	0.009	0.011	0.020	0.010	0.009	0.012	0.009	0.012	0.008	0.011	0.011	0.020
43	0.070	0.069	0.111	0.076	0.056	0.058	0.034	0.038	0.043	0.036	0.027	0.021	0.111
44	0.021	0.009	0.016	0.016	0.006	0.006	0.007	0.007	0.011	0.007	0.008	0.010	0.021
45	0.009	0.019	0.021	0.012	0.015	0.012	0.011	0.012	0.012	0.012	0.015	0.016	0.021
46	0.021	0.016	0.025	0.017	0.014	0.013	0.014	0.015	0.016	0.015	0.016	0.017	0.025
47	0.031	0.084	0.100	0.088	0.049	0.051	0.031	0.034	0.043	0.038	0.028	0.018	0.100
48	0.018	0.017	0.022	0.017	0.014	0.012	0.014	0.014	0.015	0.014	0.015	0.015	0.022
49	0.054	0.102	0.039	0.077	0.054	0.050	0.046	0.031	0.038	0.038	0.031	0.023	0.102
50	0.014	0.008	0.011	0.008	0.005	0.005	0.005	0.005	0.007	0.006	0.006	0.007	0.014
TDC(%)	1.452	1.616	2.362	1.209	0.329	0.295	0.285	0.296	0.315	0.327	0.354	0.392	2.362

Model: SOFAR 136KTL-HV													
Phase A													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	Max (%)
Nr./ Order	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2	0.116	0.105	0.071	0.055	0.057	0.066	0.066	0.055	0.056	0.058	0.058	0.098	0.116
3	0.107	0.105	0.040	0.077	0.068	0.057	0.057	0.050	0.040	0.043	0.063	0.081	0.107
4	0.095	0.085	0.049	0.045	0.047	0.052	0.052	0.036	0.042	0.045	0.048	0.077	0.095
5	0.542	0.867	0.766	0.050	0.061	0.056	0.056	0.048	0.049	0.044	0.041	0.050	0.867
6	0.060	0.037	0.087	0.070	0.038	0.048	0.048	0.027	0.040	0.036	0.037	0.051	0.087
7	0.275	0.520	0.692	0.066	0.137	0.128	0.128	0.070	0.060	0.057	0.060	0.072	0.692
8	0.202	0.100	0.055	0.035	0.040	0.046	0.046	0.032	0.039	0.035	0.044	0.049	0.202
9	0.053	0.071	0.071	0.035	0.068	0.066	0.066	0.037	0.031	0.040	0.050	0.054	0.071
10	0.037	0.053	0.042	0.035	0.032	0.036	0.036	0.034	0.038	0.038	0.039	0.047	0.053
11	0.424	0.703	0.335	0.058	0.058	0.066	0.066	0.094	0.095	0.110	0.141	0.145	0.703
12	0.026	0.029	0.055	0.062	0.039	0.032	0.032	0.028	0.034	0.034	0.032	0.041	0.062
13	0.318	0.443	0.374	0.098	0.041	0.059	0.059	0.090	0.093	0.120	0.150	0.175	0.443
14	0.153	0.063	0.038	0.029	0.032	0.030	0.030	0.027	0.036	0.032	0.033	0.046	0.153
15	0.027	0.081	0.047	0.048	0.049	0.056	0.056	0.038	0.034	0.040	0.042	0.047	0.081
16	0.099	0.053	0.039	0.025	0.028	0.025	0.025	0.026	0.029	0.032	0.029	0.041	0.099
17	0.296	0.683	0.352	0.171	0.053	0.038	0.038	0.049	0.065	0.085	0.108	0.100	0.683
18	0.016	0.045	0.025	0.032	0.026	0.023	0.023	0.020	0.026	0.029	0.029	0.039	0.045
19	0.280	0.888	0.258	0.168	0.093	0.068	0.068	0.033	0.044	0.089	0.115	0.134	0.888
20	0.143	0.034	0.022	0.024	0.025	0.024	0.024	0.018	0.023	0.022	0.024	0.034	0.143
21	0.018	0.076	0.049	0.032	0.028	0.024	0.024	0.024	0.024	0.031	0.037	0.033	0.076
22	0.050	0.024	0.021	0.027	0.021	0.018	0.018	0.016	0.021	0.025	0.022	0.030	0.050
23	0.124	0.268	0.322	0.051	0.025	0.044	0.044	0.038	0.041	0.046	0.062	0.072	0.322
24	0.042	0.027	0.021	0.025	0.016	0.018	0.018	0.014	0.019	0.017	0.019	0.028	0.042
25	0.152	0.257	0.282	0.097	0.028	0.068	0.068	0.054	0.035	0.025	0.031	0.066	0.282
26	0.127	0.027	0.019	0.021	0.018	0.017	0.017	0.016	0.018	0.017	0.017	0.022	0.127
27	0.019	0.045	0.041	0.022	0.023	0.016	0.016	0.022	0.020	0.023	0.028	0.029	0.045
28	0.031	0.021	0.015	0.025	0.015	0.014	0.014	0.012	0.016	0.017	0.016	0.020	0.031
29	0.023	0.234	0.144	0.194	0.072	0.040	0.040	0.081	0.070	0.053	0.039	0.030	0.234
30	0.023	0.015	0.021	0.019	0.013	0.011	0.011	0.012	0.020	0.014	0.012	0.017	0.023
31	0.095	0.166	0.156	0.152	0.075	0.018	0.018	0.064	0.063	0.040	0.032	0.035	0.166
32	0.103	0.015	0.014	0.019	0.012	0.010	0.010	0.012	0.018	0.014	0.013	0.017	0.103
33	0.022	0.035	0.023	0.028	0.020	0.021	0.021	0.016	0.016	0.018	0.020	0.023	0.035
34	0.033	0.016	0.013	0.022	0.011	0.011	0.011	0.008	0.013	0.011	0.011	0.016	0.033
35	0.031	0.058	0.245	0.128	0.098	0.057	0.057	0.070	0.074	0.051	0.033	0.021	0.245
36	0.016	0.015	0.015	0.016	0.011	0.009	0.009	0.010	0.019	0.013	0.013	0.017	0.019
37	0.061	0.081	0.191	0.098	0.064	0.060	0.060	0.051	0.066	0.055	0.044	0.033	0.191
38	0.059	0.018	0.011	0.013	0.010	0.008	0.008	0.009	0.016	0.011	0.011	0.015	0.059
39	0.017	0.019	0.021	0.018	0.015	0.014	0.014	0.012	0.012	0.016	0.016	0.019	0.021
40	0.032	0.016	0.014	0.016	0.009	0.009	0.009	0.008	0.010	0.010	0.009	0.014	0.032
41	0.032	0.068	0.091	0.106	0.069	0.079	0.079	0.048	0.067	0.058	0.042	0.026	0.106
42	0.010	0.009	0.011	0.012	0.009	0.008	0.008	0.008	0.016	0.009	0.010	0.015	0.016
43	0.043	0.102	0.073	0.090	0.048	0.056	0.056	0.030	0.049	0.048	0.044	0.032	0.102
44	0.021	0.016	0.011	0.012	0.008	0.008	0.008	0.007	0.012	0.010	0.010	0.012	0.021
45	0.016	0.018	0.017	0.017	0.014	0.011	0.011	0.011	0.011	0.013	0.014	0.015	0.018
46	0.034	0.021	0.016	0.020	0.016	0.014	0.014	0.016	0.017	0.016	0.017	0.020	0.034
47	0.026	0.098	0.096	0.062	0.061	0.062	0.062	0.030	0.047	0.048	0.042	0.024	0.098
48	0.022	0.019	0.016	0.016	0.015	0.013	0.013	0.014	0.017	0.015	0.016	0.018	0.022
49	0.032	0.105	0.080	0.036	0.063	0.042	0.042	0.032	0.035	0.041	0.043	0.028	0.105
50	0.017	0.012	0.009	0.010	0.007	0.006	0.006	0.006	0.008	0.008	0.008	0.010	0.017
TDC(%)	1.027	1.821	1.381	0.487	0.332	0.307	0.307	0.273	0.291	0.306	0.345	0.393	1.821

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Model: SOFAR 136KTL-HV													
Phase B													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	Max (%)
Nr./ Order	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2	0.067	0.208	0.184	0.127	0.078	0.078	0.068	0.072	0.079	0.090	0.093	0.179	0.208
3	0.070	0.192	0.165	0.037	0.044	0.043	0.056	0.072	0.092	0.107	0.124	0.131	0.192
4	0.113	0.147	0.141	0.096	0.049	0.063	0.044	0.041	0.049	0.050	0.053	0.109	0.147
5	0.511	0.946	0.915	0.063	0.052	0.052	0.059	0.065	0.059	0.057	0.049	0.059	0.946
6	0.034	0.044	0.152	0.095	0.050	0.056	0.041	0.035	0.040	0.039	0.038	0.081	0.152
7	0.345	0.585	0.865	0.035	0.104	0.088	0.089	0.089	0.091	0.093	0.100	0.078	0.865
8	0.180	0.073	0.107	0.086	0.047	0.056	0.039	0.035	0.043	0.041	0.043	0.076	0.180
9	0.031	0.119	0.129	0.040	0.044	0.047	0.047	0.052	0.065	0.077	0.081	0.087	0.129
10	0.088	0.112	0.058	0.073	0.044	0.048	0.035	0.034	0.042	0.035	0.038	0.049	0.112
11	0.423	0.688	0.429	0.085	0.066	0.092	0.102	0.106	0.124	0.153	0.174	0.182	0.688
12	0.039	0.033	0.061	0.058	0.041	0.038	0.033	0.031	0.035	0.036	0.035	0.044	0.061
13	0.339	0.515	0.442	0.126	0.044	0.048	0.091	0.093	0.110	0.141	0.174	0.191	0.515
14	0.180	0.052	0.062	0.053	0.043	0.037	0.031	0.031	0.041	0.037	0.036	0.055	0.180
15	0.025	0.105	0.127	0.033	0.055	0.061	0.057	0.058	0.049	0.043	0.043	0.048	0.127
16	0.097	0.072	0.057	0.039	0.034	0.030	0.025	0.026	0.037	0.036	0.035	0.056	0.097
17	0.298	0.629	0.303	0.158	0.065	0.055	0.031	0.053	0.081	0.126	0.145	0.143	0.629
18	0.040	0.055	0.030	0.036	0.038	0.032	0.023	0.022	0.030	0.034	0.037	0.047	0.055
19	0.290	0.900	0.238	0.179	0.080	0.055	0.024	0.032	0.043	0.074	0.104	0.116	0.900
20	0.168	0.030	0.025	0.032	0.032	0.028	0.022	0.021	0.030	0.034	0.034	0.047	0.168
21	0.047	0.091	0.071	0.052	0.075	0.074	0.056	0.060	0.062	0.068	0.067	0.074	0.091
22	0.067	0.027	0.022	0.024	0.025	0.027	0.019	0.017	0.025	0.027	0.027	0.041	0.067
23	0.115	0.347	0.353	0.032	0.045	0.079	0.049	0.032	0.036	0.053	0.072	0.088	0.353
24	0.042	0.064	0.023	0.023	0.023	0.024	0.018	0.016	0.019	0.020	0.020	0.027	0.064
25	0.192	0.254	0.349	0.100	0.034	0.081	0.065	0.057	0.046	0.031	0.026	0.048	0.349
26	0.131	0.046	0.022	0.023	0.018	0.022	0.018	0.019	0.022	0.018	0.020	0.023	0.131
27	0.029	0.092	0.065	0.062	0.041	0.056	0.046	0.044	0.054	0.057	0.057	0.053	0.092
28	0.038	0.022	0.020	0.022	0.019	0.021	0.016	0.014	0.018	0.014	0.016	0.020	0.038
29	0.030	0.206	0.173	0.202	0.068	0.038	0.061	0.074	0.063	0.043	0.027	0.026	0.206
30	0.024	0.016	0.024	0.029	0.017	0.020	0.018	0.013	0.019	0.013	0.014	0.019	0.029
31	0.105	0.182	0.153	0.163	0.063	0.024	0.051	0.063	0.062	0.039	0.032	0.029	0.182
32	0.095	0.024	0.028	0.025	0.013	0.014	0.014	0.016	0.023	0.014	0.014	0.017	0.095
33	0.015	0.041	0.017	0.029	0.017	0.016	0.014	0.018	0.017	0.018	0.020	0.020	0.041
34	0.027	0.024	0.016	0.019	0.012	0.014	0.012	0.011	0.015	0.011	0.012	0.014	0.027
35	0.022	0.042	0.253	0.122	0.101	0.060	0.040	0.064	0.067	0.047	0.029	0.024	0.253
36	0.012	0.010	0.011	0.015	0.011	0.012	0.013	0.013	0.020	0.012	0.012	0.016	0.020
37	0.052	0.065	0.197	0.077	0.074	0.050	0.024	0.049	0.063	0.042	0.036	0.026	0.197
38	0.048	0.020	0.014	0.014	0.010	0.010	0.010	0.011	0.019	0.010	0.011	0.015	0.048
39	0.011	0.029	0.012	0.020	0.016	0.012	0.012	0.013	0.015	0.016	0.016	0.017	0.029
40	0.019	0.020	0.010	0.014	0.010	0.010	0.009	0.008	0.012	0.010	0.010	0.012	0.020
41	0.033	0.067	0.086	0.111	0.063	0.075	0.047	0.048	0.060	0.052	0.045	0.031	0.111
42	0.011	0.010	0.014	0.014	0.010	0.008	0.009	0.009	0.016	0.009	0.012	0.015	0.016
43	0.030	0.107	0.067	0.083	0.044	0.058	0.035	0.029	0.047	0.039	0.038	0.030	0.107
44	0.027	0.013	0.011	0.014	0.008	0.008	0.008	0.009	0.014	0.009	0.010	0.014	0.027
45	0.012	0.035	0.015	0.015	0.015	0.013	0.013	0.012	0.010	0.013	0.013	0.015	0.035
46	0.023	0.021	0.016	0.019	0.016	0.014	0.015	0.015	0.018	0.016	0.017	0.019	0.023
47	0.040	0.108	0.091	0.063	0.063	0.057	0.053	0.036	0.045	0.044	0.041	0.026	0.108
48	0.019	0.023	0.018	0.016	0.015	0.013	0.014	0.014	0.016	0.015	0.016	0.018	0.023
49	0.020	0.108	0.078	0.037	0.054	0.046	0.049	0.029	0.040	0.039	0.039	0.025	0.108
50	0.033	0.016	0.011	0.008	0.008	0.006	0.007	0.008	0.008	0.007	0.008	0.011	0.033
TDC(%)	1.048	1.918	1.650	0.533	0.334	0.328	0.296	0.309	0.352	0.384	0.424	0.493	1.918

Model: SOFAR 136KTL-HV													
Phase C													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	Max (%)
Nr./ Order	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2	0.098	0.144	0.172	0.121	0.083	0.077	0.080	0.083	0.087	0.093	0.097	0.189	0.172
3	0.103	0.111	0.156	0.082	0.085	0.081	0.106	0.108	0.109	0.113	0.119	0.113	0.156
4	0.062	0.102	0.133	0.083	0.055	0.076	0.058	0.050	0.051	0.055	0.057	0.130	0.133
5	0.497	0.805	0.716	0.037	0.076	0.077	0.065	0.055	0.044	0.044	0.045	0.060	0.805
6	0.045	0.055	0.070	0.041	0.050	0.062	0.045	0.038	0.041	0.038	0.039	0.083	0.070
7	0.310	0.420	0.784	0.065	0.113	0.110	0.085	0.082	0.093	0.102	0.099	0.099	0.784
8	0.171	0.058	0.086	0.073	0.053	0.049	0.039	0.037	0.037	0.041	0.049	0.074	0.171
9	0.037	0.155	0.171	0.049	0.076	0.075	0.062	0.068	0.072	0.066	0.077	0.063	0.171
10	0.060	0.082	0.087	0.080	0.044	0.042	0.038	0.036	0.042	0.038	0.040	0.053	0.087
11	0.383	0.684	0.409	0.088	0.045	0.074	0.090	0.084	0.092	0.120	0.136	0.158	0.684
12	0.027	0.031	0.044	0.029	0.040	0.036	0.037	0.034	0.035	0.037	0.034	0.046	0.044
13	0.302	0.529	0.373	0.077	0.039	0.047	0.089	0.092	0.100	0.125	0.145	0.179	0.529
14	0.165	0.054	0.042	0.051	0.040	0.032	0.032	0.032	0.035	0.033	0.034	0.058	0.165
15	0.047	0.050	0.147	0.064	0.070	0.077	0.059	0.060	0.054	0.042	0.044	0.055	0.147
16	0.103	0.042	0.035	0.046	0.029	0.028	0.027	0.026	0.030	0.030	0.031	0.050	0.103
17	0.302	0.608	0.224	0.151	0.083	0.074	0.027	0.046	0.067	0.108	0.126	0.128	0.608
18	0.043	0.030	0.027	0.027	0.034	0.028	0.023	0.023	0.025	0.026	0.028	0.042	0.043
19	0.279	0.906	0.289	0.140	0.068	0.050	0.025	0.038	0.047	0.080	0.099	0.112	0.906
20	0.149	0.028	0.023	0.029	0.030	0.022	0.020	0.021	0.024	0.029	0.027	0.043	0.149
21	0.036	0.053	0.104	0.035	0.080	0.080	0.059	0.072	0.069	0.079	0.075	0.084	0.104
22	0.079	0.027	0.024	0.023	0.020	0.023	0.019	0.017	0.020	0.022	0.024	0.034	0.079
23	0.158	0.316	0.328	0.049	0.034	0.064	0.047	0.031	0.044	0.064	0.079	0.092	0.328
24	0.018	0.046	0.022	0.028	0.025	0.020	0.016	0.019	0.021	0.018	0.020	0.032	0.046
25	0.183	0.218	0.308	0.072	0.020	0.042	0.058	0.054	0.043	0.039	0.028	0.050	0.308
26	0.138	0.032	0.019	0.025	0.017	0.018	0.015	0.015	0.019	0.020	0.021	0.025	0.138
27	0.041	0.060	0.040	0.070	0.039	0.051	0.048	0.062	0.061	0.058	0.064	0.059	0.070
28	0.035	0.020	0.018	0.024	0.017	0.017	0.015	0.014	0.017	0.017	0.018	0.022	0.035
29	0.037	0.219	0.131	0.170	0.069	0.026	0.059	0.063	0.058	0.041	0.036	0.037	0.219
30	0.019	0.018	0.035	0.034	0.019	0.020	0.016	0.012	0.020	0.014	0.015	0.024	0.035
31	0.089	0.177	0.149	0.148	0.073	0.037	0.045	0.064	0.066	0.048	0.038	0.037	0.177
32	0.093	0.020	0.026	0.024	0.013	0.013	0.011	0.012	0.017	0.013	0.013	0.019	0.093
33	0.031	0.062	0.032	0.030	0.021	0.020	0.017	0.015	0.015	0.018	0.020	0.024	0.062
34	0.012	0.025	0.012	0.019	0.012	0.011	0.011	0.011	0.014	0.014	0.013	0.018	0.025
35	0.026	0.064	0.251	0.102	0.094	0.054	0.038	0.062	0.065	0.043	0.032	0.023	0.251
36	0.016	0.016	0.014	0.019	0.013	0.014	0.015	0.011	0.019	0.011	0.012	0.020	0.019
37	0.042	0.063	0.193	0.088	0.068	0.059	0.031	0.052	0.064	0.051	0.039	0.028	0.193
38	0.059	0.014	0.017	0.013	0.010	0.010	0.009	0.010	0.015	0.011	0.011	0.016	0.059
39	0.021	0.027	0.017	0.024	0.015	0.018	0.015	0.014	0.012	0.016	0.018	0.021	0.027
40	0.017	0.019	0.011	0.015	0.010	0.010	0.010	0.009	0.013	0.011	0.011	0.015	0.019
41	0.038	0.095	0.089	0.114	0.063	0.071	0.040	0.049	0.065	0.053	0.046	0.031	0.114
42	0.011	0.011	0.018	0.013	0.012	0.009	0.013	0.011	0.018	0.009	0.011	0.017	0.018
43	0.026	0.107	0.071	0.084	0.058	0.058	0.043	0.032	0.046	0.041	0.036	0.026	0.107
44	0.037	0.012	0.009	0.014	0.008	0.008	0.008	0.009	0.012	0.009	0.010	0.013	0.037
45	0.010	0.019	0.016	0.015	0.014	0.015	0.012	0.012	0.011	0.012	0.015	0.018	0.019
46	0.023	0.020	0.017	0.019	0.015	0.015	0.016	0.016	0.017	0.018	0.017	0.020	0.023
47	0.038	0.085	0.095	0.066	0.062	0.056	0.048	0.031	0.047	0.046	0.042	0.025	0.095
48	0.018	0.019	0.018	0.016	0.015	0.014	0.015	0.015	0.018	0.015	0.016	0.019	0.019
49	0.025	0.100	0.075	0.047	0.059	0.049	0.051	0.034	0.039	0.038	0.038	0.026	0.100
50	0.033	0.014	0.008	0.010	0.007	0.006	0.007	0.006	0.007	0.008	0.008	0.010	0.033
TDC(%)	0.999	1.774	1.451	0.483	0.356	0.343	0.312	0.320	0.344	0.369	0.394	0.485	1.774

2.2.6 Zwischenharmonische / Interharmonics

Model: SOFAR 75KTL													
Phase A													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX
F [Hz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	(%)
75	0.101	0.040	0.050	0.049	0.045	0.064	0.064	0.047	0.048	0.051	0.050	0.060	0.101
125	0.097	0.032	0.048	0.070	0.046	0.057	0.057	0.048	0.048	0.052	0.053	0.057	0.097
175	0.103	0.030	0.045	0.063	0.045	0.065	0.065	0.050	0.051	0.047	0.048	0.051	0.103
225	0.144	0.038	0.042	0.048	0.043	0.058	0.058	0.058	0.075	0.053	0.060	0.060	0.144
275	0.139	0.041	0.038	0.092	0.047	0.049	0.049	0.058	0.061	0.059	0.058	0.059	0.139
325	0.146	0.039	0.044	0.089	0.049	0.053	0.053	0.056	0.070	0.058	0.065	0.068	0.146
375	0.137	0.041	0.040	0.043	0.044	0.067	0.067	0.065	0.066	0.067	0.058	0.069	0.137
425	0.093	0.032	0.052	0.071	0.049	0.065	0.065	0.060	0.056	0.058	0.055	0.071	0.093
475	0.091	0.032	0.047	0.069	0.046	0.077	0.077	0.055	0.049	0.046	0.046	0.047	0.091
525	0.120	0.037	0.039	0.040	0.040	0.059	0.059	0.050	0.062	0.053	0.056	0.054	0.120
575	0.102	0.036	0.051	0.065	0.043	0.047	0.047	0.046	0.050	0.053	0.050	0.047	0.102
625	0.102	0.034	0.065	0.058	0.044	0.046	0.046	0.043	0.051	0.053	0.054	0.049	0.102
675	0.099	0.033	0.045	0.036	0.039	0.055	0.055	0.048	0.045	0.048	0.044	0.044	0.099
725	0.066	0.025	0.072	0.058	0.042	0.052	0.052	0.042	0.037	0.042	0.038	0.043	0.072
775	0.064	0.024	0.052	0.050	0.038	0.057	0.057	0.041	0.033	0.034	0.034	0.056	0.064
825	0.089	0.028	0.038	0.037	0.033	0.045	0.045	0.039	0.037	0.046	0.048	0.037	0.089
875	0.091	0.033	0.051	0.056	0.035	0.036	0.036	0.033	0.039	0.041	0.037	0.037	0.091
925	0.076	0.024	0.074	0.092	0.039	0.033	0.033	0.033	0.037	0.046	0.040	0.036	0.092
975	0.079	0.027	0.040	0.039	0.033	0.049	0.049	0.038	0.032	0.031	0.029	0.032	0.079
1025	0.055	0.021	0.071	0.074	0.034	0.035	0.035	0.028	0.028	0.029	0.026	0.027	0.074
1075	0.050	0.021	0.044	0.058	0.031	0.042	0.042	0.030	0.022	0.025	0.023	0.024	0.058
1125	0.060	0.024	0.034	0.037	0.027	0.028	0.028	0.029	0.023	0.031	0.024	0.025	0.060
1175	0.062	0.029	0.040	0.058	0.028	0.024	0.024	0.028	0.029	0.026	0.027	0.027	0.062
1225	0.057	0.022	0.065	0.071	0.031	0.023	0.023	0.026	0.026	0.033	0.025	0.026	0.071
1275	0.055	0.025	0.030	0.035	0.027	0.032	0.032	0.031	0.029	0.025	0.023	0.022	0.055
1325	0.040	0.019	0.057	0.066	0.028	0.029	0.029	0.020	0.023	0.022	0.021	0.021	0.066
1375	0.040	0.018	0.033	0.052	0.026	0.027	0.027	0.020	0.018	0.019	0.017	0.018	0.052
1425	0.043	0.020	0.025	0.036	0.023	0.025	0.025	0.022	0.023	0.026	0.019	0.023	0.043
1475	0.042	0.023	0.026	0.052	0.024	0.021	0.021	0.024	0.023	0.019	0.022	0.020	0.052
1525	0.038	0.018	0.045	0.087	0.026	0.018	0.018	0.018	0.026	0.025	0.019	0.025	0.087
1575	0.037	0.020	0.021	0.034	0.022	0.024	0.024	0.021	0.022	0.017	0.018	0.017	0.037
1625	0.025	0.016	0.043	0.064	0.024	0.024	0.024	0.015	0.018	0.016	0.016	0.016	0.064
1675	0.027	0.015	0.022	0.043	0.021	0.022	0.022	0.014	0.016	0.015	0.014	0.015	0.043
1725	0.029	0.017	0.019	0.030	0.019	0.021	0.021	0.015	0.022	0.019	0.015	0.021	0.030
1775	0.028	0.016	0.019	0.037	0.019	0.018	0.018	0.017	0.018	0.016	0.017	0.017	0.037
1825	0.026	0.015	0.024	0.052	0.020	0.014	0.014	0.012	0.025	0.018	0.018	0.023	0.052
1875	0.027	0.015	0.016	0.025	0.017	0.023	0.023	0.016	0.017	0.014	0.015	0.015	0.027
1925	0.018	0.013	0.025	0.050	0.018	0.017	0.017	0.013	0.014	0.013	0.013	0.014	0.050
1975	0.019	0.012	0.017	0.027	0.017	0.020	0.020	0.012	0.013	0.012	0.012	0.013	0.027

Model: SOFAR 75KTL													
Phase B													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX
F [Hz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	(%)
75	0.093	0.040	0.049	0.050	0.046	0.066	0.055	0.048	0.052	0.055	0.054	0.063	0.093
125	0.106	0.033	0.043	0.081	0.049	0.067	0.062	0.050	0.049	0.050	0.054	0.059	0.106
175	0.111	0.030	0.041	0.072	0.049	0.075	0.064	0.049	0.049	0.048	0.050	0.052	0.111
225	0.141	0.041	0.040	0.053	0.047	0.066	0.059	0.070	0.080	0.063	0.068	0.060	0.141
275	0.123	0.041	0.038	0.089	0.052	0.052	0.063	0.062	0.079	0.066	0.059	0.062	0.123
325	0.131	0.041	0.053	0.090	0.053	0.058	0.065	0.070	0.084	0.070	0.076	0.078	0.131
375	0.162	0.040	0.041	0.048	0.049	0.077	0.064	0.075	0.078	0.068	0.063	0.058	0.162
425	0.103	0.033	0.048	0.075	0.053	0.075	0.074	0.059	0.052	0.049	0.049	0.068	0.103
475	0.091	0.034	0.042	0.075	0.053	0.094	0.072	0.055	0.051	0.048	0.050	0.053	0.094
525	0.123	0.037	0.036	0.045	0.048	0.060	0.060	0.062	0.064	0.067	0.065	0.051	0.123
575	0.108	0.038	0.044	0.070	0.049	0.053	0.055	0.055	0.060	0.060	0.050	0.052	0.108
625	0.093	0.035	0.074	0.054	0.048	0.049	0.056	0.052	0.054	0.062	0.057	0.049	0.093
675	0.102	0.032	0.047	0.042	0.043	0.070	0.052	0.058	0.051	0.051	0.045	0.044	0.102
725	0.068	0.026	0.067	0.066	0.046	0.059	0.054	0.044	0.037	0.041	0.040	0.043	0.068
775	0.067	0.026	0.046	0.055	0.042	0.074	0.054	0.042	0.033	0.036	0.035	0.069	0.074
825	0.096	0.029	0.035	0.042	0.038	0.049	0.056	0.044	0.036	0.060	0.057	0.041	0.096
875	0.087	0.033	0.044	0.060	0.038	0.040	0.040	0.041	0.038	0.041	0.037	0.035	0.087
925	0.075	0.025	0.080	0.086	0.041	0.036	0.041	0.036	0.037	0.052	0.039	0.037	0.086
975	0.084	0.026	0.042	0.043	0.037	0.059	0.036	0.045	0.034	0.036	0.030	0.030	0.084
1025	0.059	0.023	0.065	0.080	0.040	0.041	0.038	0.030	0.027	0.029	0.028	0.029	0.080
1075	0.055	0.022	0.042	0.063	0.035	0.050	0.037	0.029	0.023	0.025	0.024	0.026	0.063
1125	0.068	0.025	0.032	0.041	0.031	0.034	0.027	0.031	0.028	0.038	0.026	0.029	0.068
1175	0.061	0.028	0.037	0.063	0.032	0.027	0.027	0.034	0.028	0.027	0.026	0.031	0.063
1225	0.055	0.022	0.076	0.065	0.032	0.026	0.030	0.029	0.030	0.036	0.024	0.027	0.076
1275	0.060	0.025	0.035	0.040	0.031	0.037	0.025	0.039	0.035	0.034	0.025	0.023	0.060
1325	0.042	0.021	0.054	0.073	0.033	0.034	0.026	0.022	0.022	0.022	0.023	0.023	0.073
1375	0.040	0.019	0.033	0.055	0.028	0.034	0.024	0.021	0.018	0.019	0.019	0.020	0.055
1425	0.047	0.021	0.025	0.038	0.027	0.028	0.020	0.023	0.031	0.029	0.022	0.029	0.047
1475	0.043	0.022	0.028	0.053	0.027	0.022	0.019	0.027	0.023	0.019	0.021	0.019	0.053
1525	0.038	0.018	0.055	0.083	0.028	0.020	0.019	0.020	0.029	0.026	0.019	0.025	0.083
1575	0.038	0.021	0.026	0.036	0.025	0.029	0.018	0.023	0.023	0.019	0.019	0.018	0.038
1625	0.026	0.018	0.037	0.065	0.027	0.027	0.020	0.016	0.016	0.016	0.017	0.018	0.065
1675	0.028	0.016	0.025	0.046	0.022	0.029	0.020	0.016	0.016	0.015	0.016	0.016	0.046
1725	0.032	0.017	0.018	0.033	0.020	0.022	0.016	0.018	0.026	0.019	0.019	0.026	0.033
1775	0.029	0.016	0.022	0.038	0.020	0.018	0.016	0.017	0.020	0.016	0.018	0.016	0.038
1825	0.025	0.015	0.031	0.047	0.020	0.016	0.017	0.015	0.027	0.019	0.019	0.026	0.047
1875	0.025	0.015	0.020	0.027	0.018	0.027	0.016	0.017	0.019	0.016	0.017	0.016	0.027
1925	0.019	0.015	0.022	0.053	0.019	0.019	0.019	0.013	0.013	0.013	0.015	0.015	0.053
1975	0.020	0.013	0.020	0.030	0.019	0.023	0.018	0.012	0.013	0.012	0.014	0.015	0.030

Model: SOFAR 75KTL													
Phase C													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX
F [Hz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	(%)
75	0.074	0.041	0.048	0.047	0.043	0.064	0.052	0.045	0.049	0.055	0.054	0.067	0.074
125	0.079	0.035	0.045	0.079	0.044	0.058	0.055	0.047	0.052	0.054	0.055	0.060	0.079
175	0.095	0.032	0.041	0.071	0.043	0.060	0.054	0.045	0.048	0.046	0.047	0.050	0.095
225	0.150	0.039	0.041	0.048	0.044	0.068	0.060	0.063	0.077	0.064	0.069	0.067	0.150
275	0.173	0.039	0.038	0.085	0.051	0.059	0.065	0.063	0.072	0.064	0.061	0.063	0.173
325	0.179	0.038	0.046	0.085	0.052	0.056	0.064	0.066	0.076	0.062	0.062	0.074	0.179
375	0.165	0.043	0.039	0.049	0.046	0.073	0.063	0.061	0.078	0.074	0.069	0.076	0.165
425	0.095	0.035	0.060	0.077	0.052	0.064	0.070	0.060	0.063	0.061	0.059	0.065	0.095
475	0.081	0.034	0.047	0.078	0.050	0.070	0.061	0.050	0.047	0.049	0.047	0.050	0.081
525	0.111	0.039	0.039	0.046	0.045	0.065	0.062	0.057	0.068	0.069	0.070	0.061	0.111
575	0.115	0.038	0.046	0.070	0.050	0.056	0.060	0.060	0.058	0.060	0.054	0.054	0.115
625	0.112	0.035	0.063	0.063	0.049	0.050	0.056	0.054	0.052	0.058	0.052	0.052	0.112
675	0.096	0.034	0.045	0.042	0.042	0.066	0.050	0.053	0.056	0.057	0.051	0.046	0.096
725	0.063	0.026	0.080	0.075	0.046	0.051	0.048	0.039	0.039	0.041	0.038	0.044	0.080
775	0.065	0.026	0.051	0.057	0.043	0.061	0.047	0.035	0.034	0.038	0.036	0.064	0.065
825	0.091	0.029	0.036	0.040	0.037	0.048	0.052	0.039	0.043	0.060	0.058	0.045	0.091
875	0.085	0.033	0.045	0.055	0.040	0.038	0.041	0.043	0.038	0.042	0.037	0.039	0.085
925	0.079	0.025	0.063	0.080	0.040	0.037	0.040	0.037	0.032	0.045	0.036	0.035	0.080
975	0.079	0.026	0.038	0.042	0.035	0.054	0.036	0.041	0.037	0.038	0.033	0.033	0.079
1025	0.053	0.022	0.075	0.081	0.038	0.035	0.034	0.027	0.028	0.029	0.029	0.030	0.081
1075	0.050	0.022	0.044	0.062	0.034	0.043	0.032	0.026	0.024	0.026	0.024	0.025	0.062
1125	0.064	0.025	0.031	0.038	0.028	0.033	0.027	0.029	0.033	0.040	0.030	0.031	0.064
1175	0.062	0.029	0.038	0.056	0.032	0.027	0.026	0.035	0.028	0.026	0.026	0.036	0.062
1225	0.063	0.023	0.057	0.066	0.033	0.026	0.035	0.030	0.029	0.034	0.025	0.025	0.066
1275	0.057	0.024	0.031	0.041	0.031	0.039	0.027	0.044	0.043	0.044	0.029	0.026	0.057
1325	0.041	0.022	0.059	0.077	0.030	0.030	0.025	0.021	0.024	0.023	0.025	0.024	0.077
1375	0.037	0.019	0.031	0.053	0.026	0.027	0.021	0.018	0.020	0.019	0.019	0.019	0.053
1425	0.042	0.020	0.025	0.038	0.023	0.028	0.021	0.022	0.033	0.032	0.024	0.029	0.042
1475	0.040	0.022	0.026	0.049	0.026	0.022	0.019	0.027	0.023	0.018	0.020	0.020	0.049
1525	0.041	0.019	0.042	0.076	0.025	0.020	0.020	0.021	0.029	0.026	0.019	0.023	0.076
1575	0.037	0.019	0.022	0.036	0.021	0.027	0.019	0.022	0.024	0.021	0.021	0.019	0.037
1625	0.025	0.017	0.040	0.070	0.024	0.023	0.018	0.015	0.018	0.016	0.017	0.018	0.070
1675	0.025	0.015	0.022	0.043	0.021	0.028	0.018	0.014	0.016	0.016	0.017	0.016	0.043
1725	0.028	0.016	0.020	0.033	0.018	0.021	0.017	0.016	0.027	0.021	0.019	0.026	0.033
1775	0.026	0.016	0.020	0.037	0.019	0.017	0.016	0.018	0.020	0.015	0.017	0.017	0.037
1825	0.027	0.015	0.027	0.051	0.019	0.016	0.017	0.015	0.027	0.019	0.017	0.024	0.051
1875	0.026	0.015	0.017	0.026	0.016	0.024	0.016	0.016	0.019	0.017	0.018	0.018	0.026
1925	0.018	0.014	0.025	0.059	0.018	0.015	0.017	0.013	0.014	0.013	0.014	0.015	0.059
1975	0.019	0.012	0.017	0.028	0.019	0.023	0.018	0.012	0.014	0.012	0.014	0.014	0.028

Model: SOFAR 80KTL													
Phase A													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX
F [Hz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	(%)
75	0.077	0.033	0.040	0.042	0.038	0.050	0.050	0.047	0.052	0.050	0.056	0.064	0.077
125	0.086	0.034	0.043	0.059	0.040	0.054	0.054	0.046	0.047	0.045	0.052	0.061	0.086
175	0.092	0.041	0.043	0.070	0.042	0.058	0.058	0.044	0.044	0.041	0.043	0.050	0.092
225	0.123	0.044	0.045	0.046	0.047	0.063	0.063	0.049	0.044	0.042	0.048	0.054	0.123
275	0.135	0.032	0.039	0.083	0.050	0.053	0.053	0.049	0.045	0.043	0.046	0.049	0.135
325	0.140	0.035	0.034	0.064	0.050	0.048	0.048	0.051	0.043	0.042	0.057	0.057	0.140
375	0.136	0.047	0.030	0.045	0.050	0.065	0.065	0.052	0.044	0.045	0.063	0.063	0.136
425	0.103	0.040	0.039	0.064	0.047	0.063	0.063	0.053	0.042	0.040	0.070	0.070	0.103
475	0.082	0.043	0.037	0.064	0.049	0.072	0.072	0.050	0.041	0.040	0.043	0.045	0.082
525	0.119	0.044	0.043	0.041	0.050	0.060	0.060	0.048	0.040	0.040	0.048	0.055	0.119
575	0.097	0.031	0.040	0.061	0.049	0.045	0.045	0.047	0.040	0.041	0.040	0.043	0.097
625	0.089	0.030	0.035	0.049	0.046	0.044	0.044	0.049	0.037	0.037	0.041	0.046	0.089
675	0.087	0.047	0.035	0.035	0.042	0.060	0.060	0.044	0.037	0.038	0.037	0.040	0.087
725	0.082	0.041	0.047	0.050	0.037	0.047	0.047	0.043	0.033	0.032	0.037	0.043	0.082
775	0.057	0.030	0.039	0.060	0.039	0.053	0.053	0.039	0.031	0.030	0.032	0.035	0.060
825	0.088	0.030	0.046	0.032	0.037	0.042	0.042	0.035	0.029	0.030	0.034	0.038	0.088
875	0.077	0.025	0.039	0.055	0.036	0.034	0.034	0.033	0.028	0.028	0.031	0.036	0.077
925	0.074	0.024	0.033	0.053	0.034	0.031	0.031	0.034	0.027	0.026	0.027	0.032	0.074
975	0.071	0.040	0.033	0.035	0.031	0.039	0.039	0.029	0.025	0.024	0.029	0.035	0.071
1025	0.059	0.037	0.044	0.048	0.029	0.033	0.033	0.032	0.024	0.023	0.024	0.028	0.059
1075	0.047	0.026	0.036	0.063	0.028	0.035	0.035	0.025	0.023	0.021	0.022	0.027	0.063
1125	0.059	0.026	0.041	0.033	0.027	0.030	0.030	0.023	0.022	0.021	0.025	0.028	0.059
1175	0.051	0.021	0.034	0.055	0.028	0.028	0.028	0.022	0.021	0.022	0.020	0.024	0.055
1225	0.059	0.020	0.028	0.047	0.026	0.022	0.022	0.023	0.020	0.018	0.020	0.022	0.059
1275	0.049	0.032	0.027	0.034	0.025	0.027	0.027	0.020	0.020	0.018	0.020	0.023	0.049
1325	0.042	0.030	0.038	0.046	0.024	0.028	0.028	0.020	0.020	0.017	0.018	0.022	0.046
1375	0.035	0.023	0.031	0.069	0.023	0.027	0.027	0.018	0.018	0.017	0.018	0.019	0.069
1425	0.039	0.023	0.035	0.031	0.023	0.024	0.024	0.017	0.019	0.016	0.018	0.020	0.039
1475	0.036	0.018	0.028	0.067	0.022	0.020	0.020	0.017	0.017	0.015	0.016	0.020	0.067
1525	0.041	0.017	0.023	0.044	0.021	0.017	0.017	0.016	0.017	0.015	0.016	0.018	0.044
1575	0.033	0.023	0.021	0.030	0.019	0.026	0.026	0.015	0.016	0.014	0.016	0.022	0.033
1625	0.031	0.021	0.028	0.039	0.017	0.021	0.021	0.015	0.015	0.013	0.014	0.017	0.039
1675	0.025	0.019	0.022	0.057	0.017	0.021	0.021	0.014	0.015	0.013	0.014	0.017	0.057
1725	0.025	0.019	0.024	0.028	0.016	0.018	0.018	0.014	0.015	0.013	0.015	0.016	0.028
1775	0.025	0.014	0.019	0.046	0.016	0.014	0.014	0.014	0.013	0.012	0.014	0.018	0.046
1825	0.031	0.013	0.016	0.030	0.015	0.014	0.014	0.013	0.013	0.012	0.014	0.015	0.031
1875	0.023	0.017	0.015	0.025	0.015	0.018	0.018	0.014	0.013	0.011	0.015	0.019	0.025
1925	0.021	0.016	0.016	0.029	0.014	0.015	0.015	0.014	0.012	0.011	0.012	0.015	0.029
1975	0.019	0.014	0.014	0.047	0.014	0.015	0.015	0.012	0.011	0.011	0.012	0.014	0.047

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Model: SOFAR 80KTL													
Phase B													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX
F [Hz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	(%)
75	0.073	0.038	0.041	0.044	0.042	0.053	0.047	0.048	0.055	0.058	0.059	0.071	0.073
125	0.085	0.037	0.046	0.063	0.048	0.063	0.065	0.057	0.050	0.053	0.055	0.063	0.085
175	0.083	0.042	0.045	0.081	0.046	0.068	0.059	0.055	0.044	0.046	0.046	0.054	0.083
225	0.118	0.047	0.043	0.053	0.052	0.065	0.053	0.050	0.046	0.048	0.051	0.056	0.118
275	0.138	0.034	0.040	0.086	0.056	0.059	0.061	0.055	0.046	0.050	0.052	0.054	0.138
325	0.149	0.039	0.035	0.075	0.056	0.058	0.073	0.059	0.047	0.049	0.069	0.070	0.149
375	0.121	0.051	0.033	0.047	0.056	0.078	0.059	0.054	0.046	0.048	0.049	0.052	0.121
425	0.093	0.045	0.043	0.067	0.055	0.076	0.080	0.064	0.044	0.047	0.066	0.065	0.093
475	0.072	0.047	0.039	0.071	0.057	0.087	0.065	0.054	0.042	0.046	0.044	0.049	0.087
525	0.106	0.050	0.040	0.047	0.056	0.065	0.053	0.052	0.043	0.045	0.045	0.053	0.106
575	0.105	0.036	0.039	0.065	0.053	0.056	0.055	0.050	0.041	0.043	0.042	0.048	0.105
625	0.104	0.035	0.035	0.057	0.049	0.049	0.061	0.054	0.038	0.039	0.042	0.047	0.104
675	0.084	0.052	0.038	0.038	0.046	0.068	0.043	0.042	0.038	0.039	0.039	0.043	0.084
725	0.076	0.044	0.051	0.057	0.042	0.055	0.052	0.049	0.036	0.037	0.039	0.045	0.076
775	0.064	0.035	0.043	0.062	0.042	0.060	0.051	0.042	0.032	0.035	0.034	0.037	0.064
825	0.086	0.035	0.042	0.042	0.041	0.044	0.035	0.036	0.031	0.032	0.031	0.040	0.086
875	0.087	0.028	0.040	0.065	0.040	0.038	0.041	0.033	0.030	0.031	0.029	0.036	0.087
925	0.082	0.026	0.035	0.054	0.036	0.034	0.035	0.034	0.027	0.027	0.028	0.033	0.082
975	0.075	0.041	0.034	0.036	0.034	0.041	0.030	0.028	0.026	0.026	0.027	0.035	0.075
1025	0.058	0.037	0.048	0.059	0.033	0.036	0.035	0.033	0.025	0.025	0.025	0.030	0.059
1075	0.049	0.028	0.040	0.056	0.032	0.039	0.036	0.028	0.024	0.024	0.024	0.028	0.056
1125	0.061	0.029	0.039	0.039	0.030	0.031	0.025	0.022	0.023	0.022	0.031	0.035	0.061
1175	0.060	0.023	0.035	0.068	0.033	0.033	0.030	0.025	0.023	0.026	0.021	0.026	0.068
1225	0.062	0.022	0.030	0.052	0.029	0.025	0.024	0.023	0.020	0.020	0.020	0.024	0.062
1275	0.051	0.032	0.030	0.035	0.028	0.033	0.024	0.020	0.020	0.020	0.020	0.025	0.051
1325	0.043	0.029	0.042	0.050	0.027	0.029	0.027	0.021	0.020	0.019	0.019	0.023	0.050
1375	0.037	0.026	0.035	0.069	0.027	0.034	0.026	0.021	0.018	0.018	0.018	0.022	0.069
1425	0.039	0.025	0.035	0.039	0.026	0.026	0.021	0.017	0.018	0.018	0.019	0.021	0.039
1475	0.041	0.018	0.030	0.070	0.024	0.022	0.020	0.019	0.018	0.017	0.019	0.021	0.070
1525	0.044	0.018	0.025	0.046	0.022	0.020	0.026	0.017	0.017	0.017	0.017	0.019	0.046
1575	0.033	0.023	0.025	0.032	0.021	0.031	0.019	0.016	0.016	0.016	0.017	0.023	0.033
1625	0.029	0.021	0.032	0.041	0.019	0.023	0.025	0.016	0.016	0.015	0.016	0.019	0.041
1675	0.025	0.022	0.027	0.052	0.019	0.025	0.020	0.017	0.014	0.015	0.015	0.018	0.052
1725	0.025	0.022	0.023	0.030	0.018	0.019	0.016	0.014	0.014	0.014	0.016	0.017	0.030
1775	0.027	0.015	0.020	0.048	0.018	0.015	0.016	0.014	0.013	0.014	0.016	0.019	0.048
1825	0.033	0.014	0.018	0.034	0.017	0.015	0.023	0.014	0.013	0.014	0.014	0.016	0.034
1875	0.024	0.016	0.017	0.025	0.017	0.019	0.014	0.014	0.012	0.013	0.016	0.020	0.025
1925	0.020	0.016	0.020	0.028	0.016	0.017	0.020	0.016	0.012	0.013	0.013	0.015	0.028
1975	0.019	0.017	0.017	0.049	0.016	0.016	0.015	0.014	0.012	0.013	0.014	0.015	0.049

Model: SOFAR 80KTL													
Phase C													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX
F [Hz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	(%)
75	0.086	0.041	0.043	0.045	0.043	0.055	0.049	0.051	0.055	0.057	0.059	0.067	0.086
125	0.092	0.040	0.043	0.066	0.049	0.059	0.056	0.051	0.051	0.054	0.056	0.065	0.092
175	0.102	0.040	0.040	0.078	0.046	0.059	0.053	0.051	0.044	0.046	0.047	0.052	0.102
225	0.149	0.044	0.046	0.050	0.052	0.068	0.055	0.052	0.050	0.050	0.054	0.060	0.149
275	0.149	0.035	0.041	0.075	0.056	0.064	0.068	0.056	0.050	0.051	0.055	0.053	0.149
325	0.163	0.040	0.036	0.069	0.054	0.057	0.063	0.055	0.049	0.049	0.070	0.068	0.163
375	0.161	0.047	0.034	0.049	0.054	0.071	0.055	0.053	0.051	0.053	0.067	0.067	0.161
425	0.110	0.041	0.041	0.072	0.054	0.070	0.064	0.057	0.046	0.048	0.062	0.066	0.110
475	0.081	0.043	0.038	0.081	0.055	0.071	0.056	0.056	0.044	0.045	0.047	0.047	0.081
525	0.117	0.047	0.048	0.045	0.053	0.064	0.053	0.053	0.046	0.048	0.050	0.057	0.117
575	0.106	0.037	0.042	0.065	0.052	0.058	0.058	0.053	0.048	0.049	0.048	0.049	0.106
625	0.098	0.036	0.038	0.055	0.048	0.048	0.057	0.051	0.042	0.042	0.047	0.050	0.098
675	0.094	0.048	0.040	0.041	0.046	0.062	0.043	0.043	0.043	0.044	0.042	0.042	0.094
725	0.076	0.042	0.049	0.062	0.042	0.052	0.046	0.045	0.038	0.038	0.039	0.044	0.076
775	0.068	0.034	0.041	0.068	0.042	0.050	0.050	0.044	0.034	0.035	0.036	0.038	0.068
825	0.088	0.033	0.049	0.042	0.040	0.045	0.036	0.036	0.033	0.035	0.036	0.041	0.088
875	0.082	0.028	0.040	0.063	0.040	0.039	0.039	0.035	0.033	0.034	0.035	0.038	0.082
925	0.078	0.026	0.035	0.050	0.035	0.033	0.037	0.035	0.030	0.030	0.031	0.034	0.078
975	0.077	0.040	0.035	0.036	0.033	0.042	0.029	0.028	0.028	0.029	0.030	0.035	0.077
1025	0.056	0.037	0.044	0.056	0.032	0.032	0.030	0.030	0.027	0.026	0.026	0.030	0.056
1075	0.046	0.028	0.037	0.063	0.031	0.032	0.033	0.030	0.025	0.025	0.025	0.027	0.063
1125	0.061	0.028	0.045	0.037	0.029	0.031	0.025	0.023	0.025	0.025	0.038	0.041	0.061
1175	0.058	0.023	0.035	0.057	0.035	0.036	0.032	0.025	0.026	0.032	0.023	0.027	0.058
1225	0.061	0.024	0.029	0.046	0.027	0.025	0.027	0.026	0.023	0.022	0.022	0.025	0.061
1275	0.054	0.031	0.029	0.034	0.026	0.032	0.022	0.021	0.023	0.023	0.022	0.023	0.054
1325	0.041	0.029	0.037	0.049	0.025	0.027	0.024	0.020	0.021	0.020	0.019	0.023	0.049
1375	0.034	0.025	0.030	0.068	0.025	0.029	0.021	0.021	0.020	0.020	0.020	0.021	0.068
1425	0.037	0.025	0.037	0.037	0.023	0.024	0.020	0.019	0.020	0.019	0.019	0.021	0.037
1475	0.039	0.019	0.028	0.066	0.024	0.021	0.022	0.020	0.021	0.019	0.021	0.024	0.066
1525	0.041	0.019	0.024	0.042	0.022	0.021	0.026	0.021	0.019	0.019	0.019	0.021	0.042
1575	0.035	0.021	0.023	0.032	0.020	0.027	0.019	0.016	0.018	0.018	0.017	0.020	0.035
1625	0.029	0.020	0.027	0.040	0.018	0.022	0.024	0.015	0.016	0.015	0.016	0.019	0.040
1675	0.024	0.020	0.023	0.053	0.017	0.023	0.017	0.017	0.015	0.015	0.016	0.017	0.053
1725	0.024	0.020	0.024	0.029	0.017	0.019	0.015	0.014	0.015	0.015	0.016	0.018	0.029
1775	0.025	0.014	0.019	0.045	0.017	0.015	0.017	0.015	0.015	0.014	0.017	0.022	0.045
1825	0.031	0.014	0.018	0.032	0.016	0.014	0.020	0.015	0.014	0.014	0.016	0.017	0.032
1875	0.024	0.015	0.016	0.025	0.016	0.017	0.013	0.013	0.014	0.014	0.016	0.018	0.025
1925	0.021	0.015	0.017	0.029	0.015	0.014	0.020	0.015	0.013	0.013	0.014	0.016	0.029
1975	0.018	0.015	0.016	0.045	0.015	0.015	0.014	0.015	0.012	0.013	0.014	0.016	0.045

Model: SOFAR 100KTL													
Phase A													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX
F [Hz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	(%)
75	0.082	0.037	0.042	0.052	0.040	0.057	0.057	0.046	0.046	0.052	0.061	0.069	0.082
125	0.079	0.034	0.038	0.056	0.041	0.052	0.052	0.042	0.043	0.050	0.062	0.072	0.079
175	0.089	0.030	0.040	0.051	0.043	0.050	0.050	0.038	0.037	0.043	0.051	0.062	0.089
225	0.120	0.034	0.037	0.066	0.045	0.057	0.057	0.038	0.042	0.043	0.051	0.058	0.120
275	0.138	0.027	0.033	0.039	0.043	0.064	0.064	0.039	0.040	0.040	0.047	0.055	0.138
325	0.148	0.028	0.030	0.038	0.042	0.054	0.054	0.040	0.046	0.046	0.050	0.057	0.148
375	0.138	0.032	0.040	0.048	0.046	0.071	0.071	0.041	0.052	0.052	0.057	0.065	0.138
425	0.091	0.041	0.030	0.063	0.051	0.056	0.056	0.037	0.055	0.057	0.067	0.076	0.091
475	0.076	0.035	0.041	0.054	0.051	0.046	0.046	0.035	0.036	0.038	0.047	0.053	0.076
525	0.103	0.041	0.032	0.064	0.043	0.055	0.055	0.038	0.039	0.044	0.057	0.068	0.103
575	0.092	0.031	0.026	0.035	0.038	0.048	0.048	0.039	0.034	0.036	0.041	0.051	0.092
625	0.089	0.027	0.027	0.035	0.037	0.046	0.046	0.035	0.032	0.038	0.042	0.052	0.089
675	0.083	0.027	0.044	0.039	0.041	0.051	0.051	0.038	0.030	0.034	0.039	0.049	0.083
725	0.053	0.036	0.033	0.051	0.037	0.041	0.041	0.030	0.032	0.036	0.041	0.053	0.053
775	0.049	0.030	0.040	0.038	0.038	0.038	0.038	0.027	0.042	0.033	0.035	0.045	0.049
825	0.079	0.032	0.032	0.045	0.031	0.051	0.051	0.032	0.029	0.030	0.034	0.049	0.079
875	0.066	0.025	0.027	0.030	0.027	0.032	0.032	0.028	0.024	0.031	0.037	0.049	0.066
925	0.068	0.023	0.027	0.029	0.026	0.038	0.038	0.025	0.021	0.028	0.030	0.039	0.068
975	0.065	0.025	0.041	0.036	0.027	0.036	0.036	0.029	0.024	0.028	0.033	0.044	0.065
1025	0.043	0.031	0.031	0.051	0.027	0.030	0.030	0.021	0.019	0.023	0.027	0.033	0.051
1075	0.040	0.026	0.041	0.031	0.025	0.031	0.031	0.020	0.018	0.020	0.024	0.029	0.041
1125	0.052	0.026	0.030	0.040	0.022	0.031	0.031	0.021	0.019	0.023	0.025	0.031	0.052
1175	0.048	0.021	0.025	0.023	0.021	0.024	0.024	0.021	0.015	0.019	0.021	0.027	0.048
1225	0.053	0.020	0.025	0.023	0.019	0.031	0.031	0.019	0.016	0.022	0.021	0.025	0.053
1275	0.044	0.023	0.042	0.031	0.020	0.026	0.026	0.019	0.016	0.018	0.020	0.024	0.044
1325	0.031	0.023	0.029	0.038	0.022	0.025	0.025	0.016	0.014	0.018	0.020	0.023	0.038
1375	0.029	0.024	0.036	0.027	0.021	0.022	0.022	0.015	0.014	0.016	0.018	0.021	0.036
1425	0.036	0.020	0.026	0.028	0.018	0.022	0.022	0.016	0.016	0.020	0.019	0.021	0.036
1475	0.030	0.016	0.022	0.020	0.016	0.024	0.024	0.016	0.013	0.016	0.017	0.020	0.030
1525	0.033	0.016	0.023	0.022	0.016	0.019	0.019	0.013	0.013	0.019	0.017	0.019	0.033
1575	0.030	0.020	0.035	0.025	0.017	0.023	0.023	0.014	0.015	0.014	0.015	0.019	0.035
1625	0.021	0.017	0.025	0.033	0.017	0.018	0.018	0.011	0.011	0.014	0.016	0.018	0.033
1675	0.021	0.020	0.034	0.023	0.016	0.015	0.015	0.012	0.011	0.013	0.014	0.017	0.034
1725	0.026	0.014	0.021	0.027	0.013	0.016	0.016	0.012	0.013	0.016	0.014	0.016	0.027
1775	0.022	0.012	0.019	0.015	0.012	0.021	0.021	0.012	0.012	0.013	0.013	0.015	0.022
1825	0.025	0.012	0.018	0.016	0.012	0.014	0.014	0.010	0.012	0.016	0.012	0.015	0.025
1875	0.022	0.016	0.026	0.019	0.012	0.020	0.020	0.010	0.014	0.012	0.012	0.014	0.026
1925	0.016	0.012	0.018	0.021	0.012	0.012	0.012	0.009	0.010	0.011	0.012	0.014	0.021
1975	0.017	0.017	0.019	0.018	0.012	0.011	0.011	0.009	0.010	0.011	0.011	0.013	0.019

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Model: SOFAR 100KTL													
Phase B													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX
F [Hz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	(%)
75	0.084	0.037	0.041	0.054	0.044	0.062	0.053	0.049	0.046	0.051	0.063	0.078	0.084
125	0.091	0.031	0.038	0.064	0.048	0.055	0.045	0.044	0.043	0.051	0.062	0.084	0.091
175	0.104	0.026	0.043	0.055	0.051	0.050	0.041	0.040	0.037	0.044	0.056	0.066	0.104
225	0.140	0.033	0.041	0.065	0.047	0.072	0.055	0.043	0.043	0.045	0.056	0.064	0.140
275	0.140	0.026	0.035	0.042	0.047	0.077	0.057	0.047	0.043	0.043	0.052	0.060	0.140
325	0.132	0.029	0.034	0.045	0.049	0.073	0.057	0.044	0.056	0.056	0.058	0.057	0.132
375	0.139	0.036	0.042	0.057	0.054	0.080	0.058	0.049	0.044	0.043	0.049	0.058	0.139
425	0.086	0.034	0.034	0.069	0.059	0.063	0.042	0.038	0.054	0.053	0.054	0.068	0.086
475	0.070	0.034	0.040	0.056	0.059	0.053	0.039	0.036	0.038	0.041	0.044	0.051	0.070
525	0.094	0.040	0.035	0.068	0.048	0.069	0.044	0.041	0.037	0.042	0.049	0.074	0.094
575	0.087	0.032	0.029	0.040	0.044	0.056	0.044	0.046	0.036	0.038	0.044	0.052	0.087
625	0.083	0.028	0.030	0.042	0.041	0.050	0.038	0.037	0.034	0.040	0.046	0.052	0.083
675	0.089	0.034	0.046	0.043	0.044	0.055	0.038	0.043	0.032	0.035	0.041	0.051	0.089
725	0.058	0.033	0.035	0.055	0.043	0.043	0.030	0.030	0.033	0.035	0.041	0.051	0.058
775	0.054	0.032	0.042	0.044	0.043	0.042	0.028	0.029	0.051	0.038	0.037	0.044	0.054
825	0.080	0.033	0.036	0.052	0.034	0.056	0.038	0.033	0.028	0.032	0.035	0.046	0.080
875	0.069	0.026	0.028	0.033	0.031	0.034	0.024	0.031	0.024	0.029	0.034	0.047	0.069
925	0.067	0.024	0.029	0.033	0.028	0.037	0.027	0.026	0.022	0.030	0.031	0.041	0.067
975	0.067	0.031	0.041	0.040	0.028	0.040	0.025	0.032	0.023	0.026	0.031	0.044	0.067
1025	0.044	0.029	0.033	0.052	0.029	0.030	0.020	0.021	0.020	0.025	0.027	0.033	0.052
1075	0.043	0.027	0.043	0.038	0.028	0.030	0.021	0.020	0.020	0.022	0.024	0.030	0.043
1125	0.055	0.028	0.034	0.045	0.024	0.033	0.023	0.021	0.019	0.030	0.031	0.037	0.055
1175	0.050	0.021	0.026	0.027	0.023	0.032	0.020	0.021	0.018	0.020	0.021	0.027	0.050
1225	0.053	0.021	0.028	0.027	0.022	0.037	0.029	0.023	0.016	0.023	0.021	0.026	0.053
1275	0.044	0.028	0.041	0.032	0.023	0.032	0.020	0.022	0.016	0.019	0.020	0.024	0.044
1325	0.032	0.022	0.031	0.043	0.025	0.025	0.017	0.017	0.016	0.020	0.020	0.023	0.043
1375	0.030	0.023	0.037	0.033	0.023	0.023	0.017	0.016	0.015	0.017	0.018	0.022	0.037
1425	0.035	0.021	0.030	0.039	0.020	0.026	0.019	0.016	0.016	0.021	0.019	0.022	0.039
1475	0.032	0.016	0.023	0.025	0.017	0.032	0.020	0.015	0.016	0.016	0.017	0.020	0.032
1525	0.031	0.016	0.024	0.025	0.018	0.021	0.018	0.014	0.013	0.019	0.017	0.020	0.031
1575	0.030	0.023	0.035	0.028	0.020	0.028	0.019	0.014	0.015	0.015	0.016	0.020	0.035
1625	0.020	0.016	0.028	0.038	0.018	0.018	0.013	0.012	0.012	0.015	0.016	0.019	0.038
1675	0.021	0.019	0.035	0.026	0.018	0.017	0.013	0.012	0.013	0.014	0.014	0.018	0.035
1725	0.025	0.015	0.024	0.029	0.015	0.020	0.015	0.013	0.014	0.017	0.014	0.017	0.029
1775	0.023	0.012	0.020	0.017	0.013	0.025	0.017	0.011	0.015	0.013	0.014	0.016	0.025
1825	0.023	0.013	0.019	0.018	0.012	0.015	0.014	0.011	0.012	0.017	0.013	0.015	0.023
1875	0.022	0.018	0.024	0.021	0.013	0.021	0.019	0.011	0.015	0.012	0.013	0.015	0.024
1925	0.015	0.012	0.020	0.025	0.013	0.014	0.011	0.010	0.011	0.012	0.013	0.015	0.025
1975	0.016	0.016	0.021	0.019	0.013	0.012	0.010	0.011	0.011	0.011	0.012	0.014	0.021

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Model: SOFAR 100KTL													
Phase C													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX
F [Hz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	(%)
75	0.070	0.039	0.041	0.051	0.044	0.057	0.049	0.049	0.050	0.053	0.064	0.079	0.070
125	0.075	0.035	0.040	0.059	0.044	0.052	0.046	0.043	0.045	0.053	0.067	0.087	0.075
175	0.096	0.029	0.041	0.054	0.044	0.052	0.044	0.041	0.039	0.042	0.057	0.076	0.096
225	0.146	0.032	0.040	0.061	0.047	0.061	0.055	0.045	0.046	0.047	0.059	0.072	0.146
275	0.163	0.026	0.034	0.038	0.049	0.069	0.054	0.047	0.045	0.046	0.056	0.067	0.163
325	0.159	0.030	0.032	0.041	0.048	0.074	0.054	0.048	0.057	0.054	0.061	0.066	0.159
375	0.148	0.035	0.042	0.051	0.050	0.067	0.053	0.047	0.053	0.058	0.063	0.073	0.148
425	0.095	0.039	0.032	0.071	0.053	0.055	0.043	0.039	0.050	0.051	0.063	0.080	0.095
475	0.075	0.034	0.045	0.059	0.052	0.053	0.039	0.038	0.038	0.040	0.051	0.060	0.075
525	0.101	0.040	0.035	0.062	0.046	0.054	0.044	0.044	0.041	0.048	0.062	0.078	0.101
575	0.090	0.031	0.030	0.038	0.045	0.060	0.050	0.050	0.040	0.039	0.046	0.059	0.090
625	0.086	0.029	0.030	0.038	0.040	0.059	0.043	0.042	0.037	0.040	0.047	0.060	0.086
675	0.078	0.031	0.046	0.048	0.042	0.047	0.037	0.041	0.034	0.038	0.042	0.057	0.078
725	0.051	0.037	0.037	0.056	0.039	0.040	0.031	0.032	0.034	0.036	0.043	0.059	0.056
775	0.046	0.030	0.042	0.047	0.038	0.039	0.027	0.029	0.048	0.036	0.038	0.052	0.048
825	0.076	0.030	0.036	0.057	0.033	0.053	0.037	0.035	0.030	0.034	0.039	0.053	0.076
875	0.061	0.025	0.029	0.029	0.032	0.041	0.029	0.035	0.028	0.032	0.039	0.054	0.061
925	0.066	0.025	0.029	0.030	0.029	0.041	0.030	0.030	0.023	0.027	0.033	0.044	0.066
975	0.061	0.026	0.042	0.039	0.028	0.031	0.023	0.029	0.024	0.030	0.037	0.045	0.061
1025	0.039	0.032	0.033	0.049	0.025	0.029	0.021	0.022	0.021	0.025	0.031	0.039	0.049
1075	0.037	0.026	0.045	0.037	0.024	0.028	0.020	0.021	0.020	0.022	0.027	0.034	0.045
1125	0.049	0.025	0.033	0.043	0.023	0.034	0.024	0.023	0.020	0.034	0.038	0.045	0.049
1175	0.046	0.020	0.026	0.023	0.025	0.032	0.022	0.026	0.018	0.020	0.023	0.031	0.046
1225	0.055	0.022	0.028	0.025	0.022	0.045	0.036	0.029	0.018	0.021	0.023	0.029	0.055
1275	0.041	0.023	0.040	0.031	0.022	0.029	0.019	0.023	0.016	0.020	0.022	0.027	0.041
1325	0.030	0.025	0.031	0.038	0.023	0.025	0.019	0.018	0.016	0.020	0.023	0.027	0.038
1375	0.025	0.024	0.037	0.030	0.022	0.021	0.018	0.017	0.016	0.018	0.019	0.025	0.037
1425	0.033	0.019	0.029	0.034	0.018	0.024	0.020	0.016	0.018	0.024	0.023	0.025	0.034
1475	0.029	0.015	0.023	0.019	0.016	0.029	0.020	0.020	0.017	0.017	0.020	0.024	0.029
1525	0.030	0.016	0.024	0.019	0.017	0.021	0.018	0.017	0.015	0.018	0.019	0.024	0.030
1575	0.027	0.020	0.037	0.026	0.018	0.027	0.019	0.016	0.014	0.016	0.018	0.025	0.037
1625	0.019	0.018	0.027	0.030	0.017	0.017	0.015	0.013	0.013	0.015	0.019	0.024	0.030
1675	0.017	0.021	0.037	0.023	0.017	0.014	0.013	0.012	0.012	0.015	0.016	0.022	0.037
1725	0.022	0.014	0.024	0.029	0.014	0.016	0.016	0.012	0.014	0.019	0.017	0.021	0.029
1775	0.021	0.011	0.020	0.014	0.012	0.021	0.017	0.013	0.015	0.014	0.015	0.019	0.021
1825	0.023	0.012	0.019	0.016	0.012	0.016	0.014	0.013	0.013	0.016	0.014	0.018	0.023
1875	0.020	0.017	0.026	0.019	0.012	0.019	0.018	0.012	0.013	0.014	0.014	0.018	0.026
1925	0.015	0.013	0.020	0.022	0.012	0.012	0.012	0.010	0.011	0.012	0.013	0.017	0.022
1975	0.014	0.020	0.020	0.017	0.012	0.012	0.010	0.010	0.011	0.013	0.013	0.016	0.020

Model: SOFAR 100KTL-HV													
Phase A													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX
F [Hz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	(%)
75	0.033	0.042	0.048	0.060	0.054	0.057	0.057	0.061	0.060	0.070	0.066	0.099	0.070
125	0.032	0.043	0.053	0.065	0.074	0.076	0.076	0.082	0.075	0.086	0.076	0.104	0.086
175	0.034	0.043	0.055	0.066	0.073	0.080	0.080	0.085	0.078	0.087	0.079	0.106	0.087
225	0.041	0.042	0.059	0.069	0.081	0.080	0.080	0.081	0.079	0.088	0.083	0.109	0.088
275	0.037	0.040	0.055	0.048	0.071	0.085	0.085	0.077	0.077	0.085	0.081	0.107	0.085
325	0.037	0.037	0.056	0.048	0.073	0.082	0.082	0.085	0.083	0.087	0.085	0.109	0.087
375	0.039	0.040	0.056	0.066	0.082	0.095	0.095	0.096	0.090	0.094	0.090	0.115	0.096
425	0.032	0.050	0.053	0.052	0.079	0.097	0.097	0.102	0.097	0.096	0.094	0.112	0.102
475	0.032	0.050	0.063	0.077	0.082	0.086	0.086	0.084	0.079	0.076	0.077	0.100	0.086
525	0.039	0.048	0.064	0.060	0.077	0.077	0.077	0.074	0.074	0.071	0.073	0.092	0.077
575	0.035	0.046	0.057	0.046	0.063	0.073	0.073	0.066	0.067	0.064	0.066	0.083	0.073
625	0.034	0.038	0.054	0.044	0.061	0.071	0.071	0.066	0.066	0.061	0.064	0.076	0.071
675	0.038	0.039	0.056	0.085	0.072	0.069	0.069	0.062	0.060	0.054	0.058	0.072	0.085
725	0.029	0.049	0.050	0.054	0.055	0.071	0.071	0.071	0.070	0.065	0.067	0.076	0.071
775	0.029	0.047	0.057	0.072	0.065	0.062	0.062	0.056	0.052	0.047	0.050	0.061	0.072
825	0.032	0.042	0.055	0.047	0.052	0.053	0.053	0.048	0.046	0.042	0.047	0.059	0.055
875	0.030	0.041	0.047	0.042	0.045	0.047	0.047	0.043	0.042	0.038	0.042	0.050	0.047
925	0.029	0.036	0.042	0.038	0.042	0.045	0.045	0.042	0.041	0.039	0.042	0.047	0.045
975	0.030	0.035	0.047	0.064	0.047	0.045	0.045	0.040	0.037	0.035	0.037	0.045	0.064
1025	0.024	0.043	0.040	0.049	0.044	0.043	0.043	0.039	0.036	0.035	0.036	0.043	0.049
1075	0.024	0.040	0.043	0.058	0.043	0.041	0.041	0.042	0.036	0.035	0.034	0.040	0.058
1125	0.025	0.035	0.041	0.044	0.042	0.036	0.036	0.036	0.030	0.030	0.032	0.042	0.044
1175	0.024	0.034	0.033	0.040	0.035	0.032	0.032	0.030	0.027	0.028	0.028	0.034	0.040
1225	0.023	0.030	0.026	0.037	0.034	0.030	0.030	0.030	0.028	0.029	0.031	0.033	0.037
1275	0.023	0.029	0.037	0.074	0.040	0.031	0.031	0.028	0.025	0.026	0.026	0.032	0.074
1325	0.021	0.034	0.029	0.045	0.037	0.032	0.032	0.029	0.026	0.026	0.028	0.029	0.045
1375	0.018	0.030	0.030	0.065	0.041	0.029	0.029	0.026	0.022	0.024	0.024	0.030	0.065
1425	0.020	0.027	0.028	0.038	0.034	0.026	0.026	0.025	0.023	0.025	0.024	0.027	0.038
1475	0.020	0.027	0.024	0.032	0.029	0.024	0.024	0.022	0.021	0.023	0.022	0.027	0.032
1525	0.019	0.026	0.023	0.031	0.028	0.023	0.023	0.021	0.021	0.024	0.024	0.025	0.031
1575	0.018	0.025	0.032	0.040	0.030	0.022	0.022	0.020	0.020	0.021	0.020	0.025	0.040
1625	0.018	0.028	0.024	0.033	0.027	0.022	0.022	0.020	0.019	0.020	0.021	0.023	0.033
1675	0.016	0.028	0.029	0.043	0.029	0.023	0.023	0.019	0.018	0.019	0.018	0.023	0.043
1725	0.017	0.022	0.022	0.029	0.026	0.019	0.019	0.017	0.018	0.019	0.018	0.022	0.029
1775	0.017	0.021	0.019	0.028	0.023	0.018	0.018	0.016	0.017	0.017	0.017	0.021	0.028
1825	0.017	0.023	0.021	0.025	0.024	0.017	0.017	0.015	0.017	0.018	0.017	0.020	0.025
1875	0.014	0.024	0.028	0.042	0.025	0.019	0.019	0.015	0.016	0.016	0.016	0.019	0.042
1925	0.016	0.023	0.019	0.024	0.026	0.016	0.016	0.016	0.016	0.016	0.016	0.018	0.026
1975	0.014	0.023	0.028	0.033	0.024	0.017	0.017	0.015	0.015	0.016	0.015	0.018	0.033

Model: SOFAR 100KTL-HV													
Phase B													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX
F [Hz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	(%)
75	0.026	0.042	0.047	0.062	0.056	0.064	0.064	0.063	0.059	0.069	0.065	0.090	0.069
125	0.030	0.046	0.059	0.063	0.080	0.086	0.083	0.082	0.071	0.079	0.071	0.094	0.086
175	0.031	0.042	0.061	0.060	0.078	0.089	0.087	0.085	0.073	0.081	0.072	0.099	0.089
225	0.037	0.046	0.062	0.074	0.082	0.092	0.088	0.083	0.074	0.081	0.079	0.105	0.092
275	0.033	0.044	0.055	0.052	0.079	0.091	0.091	0.082	0.073	0.079	0.077	0.103	0.091
325	0.034	0.041	0.057	0.050	0.080	0.093	0.102	0.093	0.084	0.090	0.087	0.108	0.102
375	0.038	0.044	0.058	0.076	0.081	0.100	0.094	0.086	0.077	0.081	0.077	0.108	0.100
425	0.033	0.052	0.058	0.054	0.085	0.105	0.109	0.103	0.087	0.092	0.087	0.115	0.109
475	0.031	0.052	0.068	0.076	0.092	0.096	0.094	0.088	0.073	0.075	0.072	0.097	0.096
525	0.036	0.057	0.073	0.069	0.078	0.088	0.084	0.076	0.067	0.069	0.068	0.089	0.088
575	0.032	0.054	0.057	0.050	0.065	0.078	0.078	0.070	0.064	0.063	0.064	0.082	0.078
625	0.034	0.042	0.055	0.045	0.061	0.075	0.080	0.070	0.062	0.061	0.060	0.075	0.080
675	0.037	0.043	0.059	0.085	0.065	0.075	0.072	0.064	0.059	0.054	0.055	0.070	0.085
725	0.030	0.054	0.056	0.047	0.058	0.074	0.082	0.078	0.072	0.068	0.069	0.079	0.082
775	0.030	0.050	0.066	0.063	0.070	0.067	0.066	0.060	0.050	0.049	0.050	0.060	0.070
825	0.032	0.048	0.062	0.051	0.055	0.059	0.055	0.050	0.045	0.042	0.047	0.058	0.062
875	0.029	0.046	0.047	0.040	0.046	0.053	0.050	0.045	0.040	0.039	0.043	0.050	0.053
925	0.030	0.037	0.042	0.037	0.044	0.050	0.050	0.044	0.040	0.040	0.042	0.047	0.050
975	0.029	0.039	0.049	0.064	0.045	0.048	0.044	0.042	0.038	0.036	0.038	0.047	0.064
1025	0.025	0.046	0.040	0.044	0.045	0.043	0.041	0.041	0.037	0.036	0.038	0.042	0.046
1075	0.024	0.042	0.047	0.060	0.047	0.040	0.050	0.052	0.048	0.044	0.036	0.039	0.060
1125	0.024	0.041	0.046	0.052	0.051	0.045	0.036	0.036	0.032	0.031	0.033	0.049	0.052
1175	0.024	0.038	0.037	0.040	0.037	0.036	0.032	0.032	0.028	0.028	0.029	0.033	0.040
1225	0.024	0.033	0.028	0.037	0.037	0.036	0.032	0.032	0.028	0.029	0.031	0.032	0.037
1275	0.023	0.033	0.036	0.083	0.040	0.034	0.028	0.030	0.026	0.026	0.027	0.035	0.083
1325	0.020	0.037	0.029	0.044	0.040	0.033	0.028	0.031	0.028	0.030	0.031	0.030	0.044
1375	0.018	0.034	0.034	0.065	0.044	0.030	0.024	0.027	0.024	0.025	0.024	0.029	0.065
1425	0.019	0.031	0.033	0.042	0.035	0.029	0.024	0.026	0.024	0.025	0.025	0.028	0.042
1475	0.019	0.029	0.026	0.034	0.032	0.028	0.023	0.023	0.022	0.023	0.022	0.026	0.034
1525	0.020	0.029	0.024	0.032	0.030	0.028	0.025	0.023	0.022	0.024	0.024	0.024	0.032
1575	0.019	0.030	0.035	0.048	0.031	0.025	0.023	0.022	0.021	0.022	0.020	0.025	0.048
1625	0.017	0.030	0.025	0.035	0.028	0.023	0.021	0.022	0.020	0.021	0.021	0.022	0.035
1675	0.015	0.030	0.027	0.054	0.028	0.023	0.020	0.020	0.019	0.020	0.019	0.022	0.054
1725	0.016	0.026	0.027	0.033	0.027	0.021	0.020	0.019	0.019	0.020	0.018	0.022	0.033
1775	0.016	0.024	0.021	0.029	0.025	0.021	0.019	0.017	0.017	0.018	0.017	0.020	0.029
1825	0.016	0.025	0.021	0.028	0.026	0.019	0.019	0.017	0.018	0.019	0.018	0.019	0.028
1875	0.016	0.026	0.034	0.046	0.026	0.019	0.018	0.016	0.017	0.017	0.016	0.019	0.046
1925	0.014	0.028	0.022	0.029	0.028	0.017	0.017	0.016	0.017	0.018	0.017	0.020	0.029
1975	0.014	0.030	0.030	0.037	0.025	0.018	0.017	0.017	0.017	0.017	0.016	0.018	0.037

Model: SOFAR 100KTL-HV													
Phase C													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX
F [Hz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	(%)
75	0.029	0.044	0.047	0.060	0.057	0.065	0.067	0.066	0.064	0.071	0.067	0.098	0.071
125	0.035	0.045	0.056	0.070	0.081	0.085	0.086	0.084	0.077	0.084	0.076	0.100	0.086
175	0.037	0.043	0.059	0.064	0.076	0.088	0.086	0.082	0.076	0.082	0.074	0.098	0.088
225	0.040	0.042	0.056	0.071	0.081	0.096	0.088	0.082	0.075	0.080	0.076	0.101	0.096
275	0.041	0.039	0.054	0.058	0.082	0.097	0.088	0.084	0.075	0.077	0.075	0.097	0.097
325	0.042	0.038	0.055	0.057	0.082	0.098	0.105	0.097	0.087	0.089	0.088	0.108	0.105
375	0.041	0.043	0.054	0.081	0.089	0.112	0.106	0.101	0.090	0.091	0.086	0.110	0.112
425	0.037	0.052	0.056	0.058	0.085	0.104	0.109	0.097	0.087	0.083	0.085	0.111	0.109
475	0.035	0.053	0.071	0.090	0.090	0.095	0.096	0.082	0.074	0.074	0.073	0.095	0.096
525	0.037	0.050	0.069	0.068	0.082	0.093	0.087	0.075	0.071	0.068	0.069	0.089	0.093
575	0.039	0.047	0.059	0.054	0.071	0.085	0.080	0.073	0.066	0.062	0.064	0.079	0.085
625	0.036	0.041	0.052	0.050	0.067	0.080	0.084	0.074	0.067	0.062	0.064	0.076	0.084
675	0.036	0.043	0.052	0.086	0.070	0.080	0.076	0.067	0.060	0.054	0.059	0.071	0.086
725	0.032	0.053	0.052	0.053	0.061	0.073	0.084	0.075	0.071	0.066	0.070	0.077	0.084
775	0.031	0.050	0.068	0.070	0.065	0.064	0.066	0.059	0.053	0.049	0.051	0.060	0.070
825	0.033	0.044	0.060	0.052	0.055	0.060	0.056	0.051	0.047	0.044	0.049	0.060	0.060
875	0.032	0.041	0.047	0.044	0.050	0.055	0.050	0.046	0.043	0.040	0.043	0.049	0.055
925	0.030	0.037	0.041	0.042	0.044	0.051	0.049	0.044	0.041	0.040	0.042	0.047	0.051
975	0.030	0.038	0.045	0.060	0.046	0.049	0.045	0.042	0.038	0.035	0.037	0.044	0.060
1025	0.026	0.046	0.041	0.047	0.046	0.043	0.042	0.041	0.036	0.035	0.037	0.041	0.047
1075	0.025	0.042	0.051	0.065	0.041	0.042	0.058	0.063	0.060	0.053	0.040	0.039	0.065
1125	0.025	0.037	0.045	0.058	0.057	0.054	0.036	0.037	0.034	0.034	0.034	0.059	0.058
1175	0.024	0.034	0.041	0.041	0.039	0.035	0.030	0.032	0.028	0.029	0.028	0.034	0.041
1225	0.024	0.032	0.027	0.040	0.036	0.034	0.031	0.032	0.029	0.031	0.032	0.032	0.040
1275	0.023	0.032	0.039	0.070	0.040	0.032	0.027	0.030	0.027	0.026	0.027	0.035	0.070
1325	0.021	0.039	0.029	0.046	0.036	0.031	0.031	0.031	0.028	0.029	0.031	0.030	0.046
1375	0.019	0.036	0.040	0.074	0.038	0.029	0.024	0.026	0.025	0.025	0.025	0.029	0.074
1425	0.021	0.030	0.034	0.043	0.031	0.028	0.023	0.026	0.027	0.026	0.026	0.029	0.043
1475	0.019	0.028	0.026	0.035	0.030	0.027	0.022	0.024	0.024	0.025	0.023	0.027	0.035
1525	0.021	0.028	0.024	0.036	0.030	0.028	0.024	0.023	0.023	0.024	0.024	0.024	0.036
1575	0.019	0.028	0.034	0.042	0.027	0.023	0.021	0.021	0.021	0.022	0.020	0.026	0.042
1625	0.017	0.034	0.023	0.035	0.026	0.022	0.022	0.020	0.020	0.021	0.021	0.022	0.035
1675	0.016	0.033	0.035	0.055	0.025	0.022	0.020	0.019	0.019	0.020	0.019	0.024	0.055
1725	0.017	0.023	0.026	0.032	0.025	0.020	0.019	0.018	0.020	0.020	0.018	0.022	0.032
1775	0.018	0.022	0.019	0.028	0.023	0.019	0.018	0.017	0.018	0.018	0.017	0.020	0.028
1825	0.017	0.023	0.021	0.027	0.024	0.018	0.018	0.017	0.018	0.018	0.018	0.020	0.027
1875	0.017	0.024	0.030	0.039	0.024	0.018	0.017	0.016	0.017	0.017	0.016	0.020	0.039
1925	0.015	0.030	0.022	0.029	0.025	0.016	0.017	0.016	0.018	0.018	0.018	0.020	0.030
1975	0.014	0.032	0.037	0.037	0.022	0.020	0.018	0.017	0.018	0.018	0.018	0.019	0.037

Model: SOFAR 110KTL													
Phase A													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX
F [Hz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	(%)
75	0.017	0.015	0.028	0.033	0.027	0.025	0.029	0.031	0.038	0.038	0.209	0.456	0.456
125	0.019	0.014	0.029	0.040	0.030	0.030	0.028	0.033	0.046	0.041	0.099	0.163	0.163
175	0.021	0.015	0.030	0.044	0.032	0.032	0.028	0.029	0.038	0.031	0.073	0.115	0.115
225	0.021	0.018	0.034	0.052	0.036	0.029	0.035	0.033	0.035	0.032	0.070	0.167	0.167
275	0.022	0.020	0.034	0.054	0.037	0.035	0.031	0.029	0.027	0.028	0.075	0.084	0.084
325	0.023	0.021	0.035	0.053	0.037	0.043	0.032	0.029	0.029	0.029	0.066	0.160	0.160
375	0.025	0.020	0.032	0.055	0.039	0.035	0.036	0.035	0.043	0.043	0.084	0.068	0.084
425	0.025	0.016	0.029	0.049	0.040	0.047	0.037	0.033	0.045	0.044	0.056	0.069	0.069
475	0.025	0.017	0.031	0.047	0.037	0.033	0.030	0.030	0.032	0.031	0.050	0.063	0.063
525	0.026	0.018	0.036	0.048	0.036	0.030	0.034	0.033	0.039	0.039	0.043	0.061	0.061
575	0.026	0.020	0.037	0.047	0.035	0.035	0.031	0.029	0.027	0.027	0.059	0.067	0.067
625	0.026	0.023	0.041	0.040	0.032	0.036	0.027	0.025	0.027	0.027	0.047	0.057	0.057
675	0.026	0.018	0.038	0.039	0.033	0.028	0.031	0.029	0.028	0.028	0.055	0.065	0.065
725	0.025	0.016	0.035	0.032	0.029	0.035	0.028	0.024	0.032	0.032	0.045	0.046	0.046
775	0.023	0.017	0.036	0.030	0.028	0.029	0.023	0.023	0.040	0.040	0.038	0.038	0.040
825	0.024	0.016	0.039	0.030	0.031	0.030	0.034	0.034	0.027	0.024	0.034	0.038	0.039
875	0.022	0.018	0.039	0.031	0.024	0.023	0.022	0.020	0.025	0.025	0.033	0.052	0.052
925	0.022	0.021	0.043	0.028	0.022	0.025	0.020	0.019	0.020	0.020	0.034	0.032	0.043
975	0.022	0.014	0.037	0.027	0.022	0.018	0.021	0.020	0.023	0.023	0.030	0.042	0.042
1025	0.021	0.013	0.034	0.025	0.020	0.020	0.019	0.018	0.022	0.020	0.031	0.028	0.034
1075	0.020	0.015	0.033	0.023	0.018	0.020	0.017	0.015	0.016	0.016	0.024	0.024	0.033
1125	0.020	0.013	0.036	0.023	0.018	0.017	0.017	0.017	0.016	0.016	0.021	0.024	0.036
1175	0.019	0.016	0.035	0.023	0.017	0.016	0.015	0.013	0.015	0.015	0.021	0.025	0.035
1225	0.018	0.018	0.036	0.020	0.017	0.018	0.018	0.017	0.014	0.014	0.022	0.022	0.036
1275	0.017	0.012	0.031	0.020	0.015	0.012	0.014	0.014	0.014	0.013	0.019	0.026	0.031
1325	0.016	0.012	0.028	0.019	0.014	0.016	0.015	0.013	0.016	0.015	0.021	0.020	0.028
1375	0.015	0.012	0.026	0.018	0.014	0.014	0.012	0.011	0.012	0.012	0.017	0.016	0.026
1425	0.016	0.010	0.027	0.018	0.013	0.012	0.013	0.014	0.014	0.011	0.015	0.018	0.027
1475	0.015	0.014	0.025	0.017	0.013	0.011	0.011	0.011	0.012	0.012	0.016	0.019	0.025
1525	0.015	0.014	0.026	0.015	0.012	0.012	0.011	0.010	0.011	0.011	0.014	0.018	0.026
1575	0.014	0.009	0.021	0.015	0.012	0.009	0.010	0.010	0.011	0.010	0.014	0.020	0.021
1625	0.014	0.010	0.019	0.014	0.011	0.012	0.010	0.010	0.012	0.011	0.015	0.015	0.019
1675	0.014	0.009	0.017	0.013	0.011	0.010	0.009	0.009	0.010	0.010	0.013	0.013	0.017
1725	0.014	0.009	0.017	0.014	0.011	0.008	0.009	0.010	0.010	0.008	0.012	0.016	0.017
1775	0.013	0.011	0.017	0.014	0.010	0.009	0.008	0.008	0.009	0.008	0.011	0.016	0.017
1825	0.012	0.011	0.018	0.012	0.009	0.011	0.009	0.008	0.008	0.009	0.011	0.014	0.018
1875	0.012	0.008	0.013	0.011	0.010	0.008	0.008	0.009	0.009	0.008	0.011	0.017	0.017
1925	0.012	0.008	0.013	0.010	0.010	0.010	0.008	0.008	0.010	0.009	0.011	0.012	0.013
1975	0.012	0.008	0.012	0.010	0.009	0.008	0.007	0.007	0.009	0.008	0.010	0.011	0.012

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Model: SOFAR 110KTL													
Phase B													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX
F [Hz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	(%)
75	0.018	0.017	0.031	0.035	0.030	0.028	0.029	0.034	0.040	0.040	0.187	0.398	0.398
125	0.020	0.015	0.035	0.048	0.036	0.037	0.036	0.034	0.045	0.040	0.090	0.142	0.142
175	0.021	0.015	0.037	0.053	0.040	0.037	0.037	0.031	0.038	0.033	0.067	0.093	0.093
225	0.022	0.020	0.039	0.057	0.043	0.035	0.037	0.034	0.041	0.036	0.072	0.134	0.134
275	0.022	0.017	0.035	0.063	0.041	0.042	0.037	0.038	0.042	0.038	0.078	0.078	0.078
325	0.023	0.017	0.035	0.060	0.043	0.048	0.038	0.043	0.049	0.042	0.062	0.116	0.116
375	0.024	0.023	0.034	0.061	0.048	0.039	0.038	0.037	0.038	0.036	0.069	0.068	0.069
425	0.026	0.017	0.035	0.055	0.047	0.049	0.041	0.038	0.040	0.036	0.053	0.077	0.077
475	0.027	0.016	0.037	0.050	0.045	0.040	0.036	0.031	0.035	0.030	0.050	0.069	0.069
525	0.027	0.021	0.037	0.048	0.044	0.037	0.037	0.034	0.038	0.038	0.054	0.088	0.088
575	0.026	0.016	0.036	0.047	0.038	0.036	0.033	0.034	0.036	0.034	0.074	0.076	0.076
625	0.027	0.019	0.037	0.043	0.036	0.038	0.032	0.037	0.040	0.036	0.062	0.060	0.062
675	0.026	0.023	0.040	0.041	0.037	0.032	0.032	0.031	0.032	0.031	0.064	0.060	0.064
725	0.026	0.016	0.039	0.037	0.036	0.043	0.032	0.030	0.032	0.028	0.049	0.047	0.049
775	0.026	0.017	0.041	0.034	0.034	0.033	0.028	0.024	0.052	0.050	0.039	0.048	0.052
825	0.024	0.018	0.042	0.033	0.040	0.038	0.041	0.042	0.027	0.025	0.040	0.044	0.044
875	0.023	0.014	0.039	0.033	0.027	0.026	0.023	0.023	0.026	0.026	0.038	0.048	0.048
925	0.022	0.018	0.037	0.031	0.025	0.027	0.022	0.026	0.027	0.025	0.038	0.035	0.038
975	0.022	0.017	0.039	0.032	0.025	0.020	0.021	0.020	0.024	0.025	0.032	0.040	0.040
1025	0.022	0.014	0.037	0.031	0.024	0.027	0.022	0.021	0.021	0.019	0.032	0.029	0.037
1075	0.023	0.015	0.038	0.029	0.023	0.021	0.019	0.016	0.016	0.016	0.026	0.026	0.038
1125	0.020	0.014	0.034	0.027	0.023	0.019	0.018	0.016	0.016	0.020	0.024	0.026	0.034
1175	0.018	0.013	0.033	0.027	0.019	0.019	0.016	0.016	0.016	0.015	0.023	0.024	0.033
1225	0.018	0.016	0.030	0.024	0.020	0.025	0.022	0.025	0.018	0.016	0.026	0.024	0.030
1275	0.018	0.016	0.034	0.025	0.018	0.014	0.015	0.013	0.015	0.014	0.023	0.023	0.034
1325	0.017	0.011	0.030	0.024	0.018	0.017	0.016	0.015	0.014	0.014	0.025	0.019	0.030
1375	0.017	0.011	0.030	0.022	0.017	0.015	0.014	0.012	0.012	0.012	0.019	0.018	0.030
1425	0.016	0.012	0.028	0.021	0.017	0.014	0.014	0.014	0.013	0.013	0.018	0.019	0.028
1475	0.015	0.011	0.027	0.020	0.014	0.014	0.012	0.013	0.013	0.012	0.017	0.019	0.027
1525	0.015	0.014	0.022	0.019	0.014	0.015	0.012	0.014	0.014	0.013	0.019	0.019	0.022
1575	0.015	0.011	0.023	0.018	0.014	0.011	0.011	0.010	0.012	0.011	0.017	0.017	0.023
1625	0.015	0.009	0.021	0.018	0.014	0.013	0.011	0.011	0.011	0.011	0.018	0.015	0.021
1675	0.015	0.010	0.021	0.017	0.013	0.011	0.010	0.009	0.010	0.009	0.015	0.014	0.021
1725	0.014	0.011	0.018	0.016	0.012	0.010	0.011	0.010	0.009	0.009	0.013	0.015	0.018
1775	0.013	0.009	0.017	0.016	0.011	0.010	0.009	0.010	0.009	0.008	0.012	0.016	0.017
1825	0.013	0.011	0.015	0.014	0.011	0.011	0.009	0.011	0.011	0.009	0.014	0.015	0.015
1875	0.012	0.009	0.016	0.013	0.012	0.009	0.009	0.009	0.010	0.009	0.013	0.013	0.016
1925	0.012	0.008	0.015	0.013	0.011	0.010	0.008	0.009	0.009	0.008	0.013	0.011	0.015
1975	0.012	0.008	0.015	0.012	0.010	0.009	0.008	0.007	0.007	0.007	0.011	0.011	0.015

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Model: SOFAR 110KTL													
Phase C													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX
F [Hz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	(%)
75	0.017	0.018	0.030	0.035	0.028	0.028	0.031	0.033	0.037	0.038	0.189	0.406	0.406
125	0.019	0.016	0.033	0.047	0.035	0.035	0.033	0.037	0.041	0.040	0.090	0.140	0.140
175	0.020	0.015	0.035	0.055	0.038	0.039	0.033	0.033	0.035	0.035	0.071	0.096	0.096
225	0.021	0.018	0.037	0.057	0.040	0.036	0.038	0.040	0.041	0.040	0.074	0.169	0.169
275	0.021	0.017	0.034	0.060	0.043	0.043	0.038	0.038	0.044	0.042	0.091	0.097	0.097
325	0.022	0.017	0.037	0.061	0.043	0.049	0.042	0.040	0.049	0.042	0.076	0.154	0.154
375	0.024	0.022	0.034	0.063	0.048	0.042	0.038	0.041	0.049	0.049	0.077	0.071	0.077
425	0.025	0.016	0.035	0.060	0.051	0.051	0.040	0.042	0.046	0.044	0.061	0.080	0.080
475	0.025	0.016	0.035	0.056	0.046	0.041	0.036	0.035	0.036	0.035	0.054	0.068	0.068
525	0.026	0.021	0.039	0.050	0.045	0.039	0.039	0.039	0.045	0.046	0.056	0.081	0.081
575	0.026	0.017	0.036	0.046	0.039	0.041	0.039	0.039	0.040	0.040	0.073	0.087	0.087
625	0.025	0.018	0.039	0.043	0.036	0.041	0.036	0.037	0.045	0.037	0.064	0.061	0.064
675	0.025	0.022	0.042	0.041	0.036	0.034	0.032	0.035	0.033	0.034	0.068	0.060	0.068
725	0.025	0.015	0.042	0.036	0.033	0.036	0.028	0.032	0.035	0.032	0.052	0.053	0.053
775	0.026	0.017	0.042	0.033	0.032	0.031	0.027	0.027	0.050	0.050	0.043	0.045	0.050
825	0.023	0.020	0.046	0.029	0.036	0.036	0.038	0.040	0.030	0.028	0.044	0.050	0.050
875	0.022	0.015	0.040	0.028	0.025	0.028	0.027	0.026	0.031	0.032	0.046	0.055	0.055
925	0.021	0.018	0.044	0.028	0.024	0.030	0.026	0.027	0.030	0.027	0.047	0.038	0.047
975	0.021	0.017	0.040	0.029	0.023	0.022	0.021	0.022	0.025	0.026	0.038	0.044	0.044
1025	0.021	0.012	0.040	0.028	0.021	0.025	0.019	0.022	0.022	0.020	0.034	0.032	0.040
1075	0.024	0.016	0.040	0.027	0.021	0.022	0.018	0.018	0.017	0.017	0.030	0.028	0.040
1125	0.019	0.015	0.042	0.023	0.020	0.018	0.018	0.018	0.019	0.025	0.027	0.031	0.042
1175	0.018	0.013	0.035	0.022	0.017	0.020	0.018	0.016	0.019	0.019	0.026	0.028	0.035
1225	0.017	0.017	0.036	0.021	0.022	0.031	0.030	0.031	0.020	0.017	0.029	0.025	0.036
1275	0.017	0.018	0.037	0.023	0.017	0.015	0.015	0.015	0.015	0.015	0.023	0.025	0.037
1325	0.017	0.011	0.034	0.022	0.017	0.020	0.015	0.017	0.016	0.015	0.026	0.022	0.034
1375	0.016	0.012	0.030	0.021	0.017	0.017	0.015	0.013	0.013	0.014	0.021	0.018	0.030
1425	0.015	0.012	0.033	0.017	0.017	0.015	0.015	0.015	0.016	0.015	0.020	0.023	0.033
1475	0.014	0.011	0.025	0.016	0.013	0.015	0.014	0.014	0.015	0.017	0.021	0.022	0.025
1525	0.014	0.014	0.027	0.016	0.012	0.013	0.014	0.014	0.016	0.014	0.021	0.020	0.027
1575	0.014	0.012	0.023	0.016	0.013	0.011	0.011	0.011	0.012	0.012	0.019	0.021	0.023
1625	0.014	0.009	0.022	0.016	0.012	0.014	0.011	0.013	0.012	0.012	0.019	0.017	0.022
1675	0.015	0.011	0.020	0.016	0.012	0.011	0.010	0.010	0.010	0.011	0.017	0.015	0.020
1725	0.013	0.010	0.021	0.014	0.011	0.010	0.010	0.010	0.010	0.010	0.015	0.019	0.021
1775	0.012	0.009	0.015	0.013	0.010	0.011	0.010	0.010	0.010	0.010	0.013	0.017	0.017
1825	0.011	0.011	0.018	0.013	0.010	0.011	0.011	0.011	0.012	0.010	0.014	0.015	0.018
1875	0.011	0.010	0.015	0.012	0.010	0.009	0.009	0.009	0.009	0.009	0.013	0.016	0.016
1925	0.012	0.008	0.015	0.012	0.010	0.011	0.008	0.010	0.010	0.009	0.014	0.013	0.015
1975	0.012	0.009	0.014	0.012	0.009	0.009	0.008	0.008	0.008	0.008	0.012	0.012	0.014

Model: SOFAR 125KTL-HV													
Phase A													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX
F [Hz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	(%)
75	0.042	0.033	0.052	0.033	0.047	0.040	0.040	0.041	0.039	0.045	0.053	0.072	0.053
125	0.032	0.035	0.075	0.030	0.050	0.047	0.047	0.048	0.040	0.049	0.063	0.079	0.075
175	0.031	0.034	0.086	0.030	0.047	0.050	0.050	0.047	0.033	0.061	0.053	0.063	0.086
225	0.060	0.034	0.057	0.036	0.061	0.072	0.072	0.061	0.036	0.046	0.046	0.057	0.072
275	0.067	0.032	0.054	0.040	0.061	0.066	0.066	0.048	0.033	0.055	0.046	0.051	0.067
325	0.065	0.029	0.049	0.031	0.047	0.070	0.070	0.059	0.034	0.050	0.047	0.054	0.070
375	0.065	0.032	0.074	0.038	0.067	0.074	0.074	0.054	0.036	0.047	0.052	0.064	0.074
425	0.037	0.040	0.068	0.030	0.051	0.060	0.060	0.048	0.035	0.048	0.059	0.060	0.068
475	0.036	0.040	0.097	0.030	0.050	0.046	0.046	0.045	0.034	0.060	0.057	0.063	0.097
525	0.066	0.038	0.057	0.029	0.060	0.048	0.048	0.054	0.035	0.046	0.043	0.052	0.066
575	0.060	0.037	0.061	0.049	0.060	0.046	0.046	0.042	0.033	0.057	0.041	0.047	0.061
625	0.052	0.030	0.054	0.034	0.053	0.044	0.044	0.055	0.031	0.041	0.040	0.045	0.055
675	0.053	0.031	0.072	0.047	0.065	0.046	0.046	0.041	0.032	0.039	0.039	0.047	0.072
725	0.037	0.040	0.064	0.031	0.043	0.038	0.038	0.033	0.029	0.034	0.037	0.044	0.064
775	0.032	0.037	0.090	0.029	0.036	0.042	0.042	0.043	0.028	0.043	0.033	0.041	0.090
825	0.057	0.033	0.056	0.037	0.051	0.037	0.037	0.037	0.027	0.048	0.044	0.043	0.057
875	0.047	0.033	0.051	0.048	0.051	0.034	0.034	0.030	0.024	0.039	0.028	0.034	0.051
925	0.038	0.029	0.044	0.032	0.036	0.034	0.034	0.035	0.023	0.029	0.027	0.032	0.044
975	0.042	0.028	0.076	0.044	0.046	0.031	0.031	0.028	0.022	0.026	0.025	0.030	0.076
1025	0.030	0.034	0.048	0.030	0.027	0.023	0.023	0.023	0.020	0.024	0.025	0.029	0.048
1075	0.025	0.032	0.072	0.029	0.023	0.022	0.022	0.021	0.019	0.030	0.022	0.028	0.072
1125	0.042	0.028	0.041	0.030	0.026	0.032	0.032	0.024	0.018	0.021	0.019	0.026	0.042
1175	0.033	0.027	0.036	0.051	0.027	0.029	0.029	0.024	0.017	0.023	0.019	0.026	0.051
1225	0.027	0.024	0.034	0.029	0.023	0.028	0.028	0.020	0.017	0.023	0.020	0.023	0.034
1275	0.032	0.023	0.059	0.041	0.024	0.022	0.022	0.020	0.017	0.019	0.018	0.025	0.059
1325	0.024	0.028	0.034	0.024	0.020	0.016	0.016	0.019	0.015	0.018	0.019	0.022	0.034
1375	0.020	0.024	0.050	0.023	0.019	0.015	0.015	0.016	0.015	0.020	0.018	0.022	0.050
1425	0.032	0.022	0.031	0.024	0.023	0.021	0.021	0.017	0.014	0.015	0.015	0.020	0.032
1475	0.025	0.021	0.028	0.036	0.018	0.017	0.017	0.016	0.013	0.016	0.017	0.022	0.036
1525	0.021	0.021	0.028	0.022	0.019	0.018	0.018	0.016	0.013	0.014	0.016	0.018	0.028
1575	0.024	0.020	0.042	0.031	0.019	0.016	0.016	0.016	0.012	0.014	0.014	0.018	0.042
1625	0.020	0.022	0.027	0.020	0.016	0.014	0.014	0.015	0.011	0.014	0.016	0.019	0.027
1675	0.016	0.022	0.040	0.019	0.014	0.012	0.012	0.012	0.011	0.012	0.017	0.020	0.040
1725	0.024	0.017	0.022	0.021	0.019	0.012	0.012	0.015	0.010	0.012	0.013	0.017	0.024
1775	0.019	0.017	0.020	0.025	0.019	0.013	0.013	0.013	0.009	0.011	0.015	0.018	0.025
1825	0.017	0.019	0.021	0.017	0.014	0.011	0.011	0.014	0.009	0.010	0.013	0.015	0.021
1875	0.018	0.019	0.032	0.018	0.017	0.013	0.013	0.013	0.009	0.011	0.012	0.013	0.032
1925	0.017	0.019	0.023	0.016	0.012	0.011	0.011	0.012	0.008	0.011	0.013	0.014	0.023
1975	0.013	0.019	0.031	0.015	0.011	0.010	0.010	0.010	0.008	0.011	0.016	0.015	0.031

Model: SOFAR 125KTL-HV													
Phase B													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX
F [Hz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	(%)
75	0.049	0.033	0.052	0.032	0.047	0.043	0.042	0.046	0.039	0.046	0.058	0.076	0.058
125	0.042	0.036	0.068	0.035	0.049	0.055	0.050	0.049	0.040	0.052	0.059	0.074	0.068
175	0.043	0.034	0.084	0.035	0.047	0.056	0.051	0.050	0.036	0.055	0.053	0.061	0.084
225	0.066	0.037	0.055	0.039	0.071	0.076	0.065	0.067	0.037	0.047	0.052	0.060	0.076
275	0.064	0.035	0.055	0.045	0.066	0.087	0.069	0.069	0.038	0.066	0.052	0.054	0.087
325	0.060	0.033	0.055	0.036	0.058	0.087	0.078	0.078	0.040	0.052	0.053	0.055	0.087
375	0.070	0.036	0.068	0.036	0.072	0.080	0.059	0.056	0.038	0.048	0.057	0.062	0.080
425	0.046	0.042	0.062	0.032	0.054	0.066	0.056	0.054	0.036	0.051	0.049	0.055	0.066
475	0.043	0.041	0.095	0.031	0.052	0.056	0.053	0.049	0.036	0.056	0.050	0.056	0.095
525	0.070	0.046	0.055	0.031	0.068	0.055	0.048	0.058	0.037	0.048	0.048	0.052	0.070
575	0.057	0.043	0.059	0.050	0.066	0.061	0.057	0.056	0.036	0.057	0.044	0.048	0.066
625	0.049	0.033	0.058	0.035	0.062	0.054	0.056	0.060	0.035	0.040	0.043	0.049	0.062
675	0.056	0.034	0.068	0.046	0.077	0.047	0.042	0.040	0.031	0.037	0.042	0.049	0.077
725	0.042	0.043	0.057	0.033	0.047	0.042	0.041	0.039	0.029	0.038	0.036	0.043	0.057
775	0.033	0.040	0.098	0.031	0.043	0.049	0.053	0.051	0.028	0.039	0.033	0.039	0.098
825	0.059	0.039	0.052	0.036	0.061	0.043	0.033	0.036	0.028	0.055	0.055	0.045	0.061
875	0.046	0.037	0.047	0.049	0.056	0.040	0.041	0.038	0.026	0.039	0.029	0.035	0.056
925	0.036	0.030	0.049	0.035	0.043	0.040	0.039	0.037	0.025	0.030	0.029	0.034	0.049
975	0.042	0.031	0.080	0.047	0.052	0.030	0.029	0.028	0.022	0.025	0.026	0.031	0.080
1025	0.034	0.037	0.045	0.032	0.029	0.023	0.026	0.025	0.020	0.026	0.025	0.030	0.045
1075	0.025	0.034	0.077	0.029	0.026	0.025	0.025	0.024	0.019	0.026	0.021	0.026	0.077
1125	0.041	0.033	0.041	0.030	0.032	0.036	0.031	0.024	0.019	0.021	0.022	0.028	0.041
1175	0.033	0.030	0.036	0.051	0.029	0.034	0.037	0.034	0.019	0.024	0.021	0.028	0.051
1225	0.027	0.026	0.039	0.033	0.030	0.029	0.030	0.026	0.019	0.030	0.025	0.024	0.039
1275	0.031	0.026	0.066	0.040	0.028	0.023	0.021	0.020	0.016	0.019	0.019	0.031	0.066
1325	0.027	0.029	0.034	0.025	0.022	0.018	0.018	0.019	0.016	0.018	0.019	0.024	0.034
1375	0.021	0.027	0.057	0.024	0.019	0.016	0.018	0.018	0.016	0.018	0.018	0.022	0.057
1425	0.030	0.025	0.030	0.025	0.024	0.022	0.026	0.019	0.015	0.016	0.016	0.020	0.030
1475	0.024	0.024	0.027	0.039	0.022	0.021	0.021	0.020	0.015	0.017	0.020	0.022	0.039
1525	0.021	0.023	0.031	0.025	0.020	0.019	0.021	0.023	0.013	0.015	0.017	0.019	0.031
1575	0.023	0.024	0.049	0.034	0.023	0.018	0.016	0.016	0.013	0.014	0.015	0.018	0.049
1625	0.022	0.024	0.027	0.023	0.017	0.015	0.012	0.013	0.011	0.013	0.015	0.019	0.027
1675	0.017	0.024	0.039	0.020	0.016	0.013	0.012	0.013	0.011	0.013	0.017	0.019	0.039
1725	0.023	0.021	0.024	0.023	0.019	0.014	0.014	0.017	0.011	0.011	0.013	0.016	0.024
1775	0.018	0.019	0.020	0.027	0.020	0.017	0.016	0.016	0.011	0.012	0.018	0.018	0.027
1825	0.017	0.020	0.022	0.019	0.016	0.016	0.013	0.020	0.010	0.012	0.014	0.015	0.022
1875	0.018	0.021	0.036	0.020	0.020	0.014	0.012	0.013	0.009	0.011	0.013	0.014	0.036
1925	0.018	0.023	0.021	0.016	0.012	0.013	0.009	0.011	0.008	0.011	0.013	0.015	0.023
1975	0.014	0.024	0.030	0.014	0.011	0.012	0.010	0.011	0.008	0.012	0.015	0.014	0.030

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Model: SOFAR 125KTL-HV													
Phase C													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX
F [Hz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	(%)
75	0.044	0.035	0.053	0.032	0.044	0.042	0.042	0.046	0.042	0.051	0.056	0.079	0.056
125	0.041	0.036	0.078	0.033	0.049	0.054	0.049	0.049	0.042	0.056	0.061	0.080	0.078
175	0.041	0.034	0.083	0.033	0.048	0.054	0.047	0.048	0.036	0.063	0.052	0.062	0.083
225	0.064	0.034	0.056	0.040	0.057	0.075	0.061	0.063	0.038	0.049	0.051	0.066	0.075
275	0.057	0.031	0.060	0.038	0.078	0.068	0.057	0.057	0.038	0.056	0.050	0.057	0.078
325	0.055	0.030	0.056	0.034	0.061	0.069	0.060	0.066	0.039	0.051	0.052	0.059	0.069
375	0.066	0.035	0.071	0.045	0.062	0.076	0.062	0.056	0.039	0.054	0.061	0.069	0.076
425	0.047	0.042	0.065	0.032	0.051	0.062	0.056	0.054	0.038	0.055	0.061	0.067	0.065
475	0.042	0.042	0.093	0.031	0.049	0.052	0.050	0.051	0.037	0.055	0.053	0.063	0.093
525	0.066	0.040	0.057	0.032	0.057	0.055	0.050	0.057	0.038	0.049	0.051	0.058	0.066
575	0.056	0.038	0.064	0.045	0.072	0.052	0.049	0.051	0.037	0.050	0.044	0.052	0.072
625	0.046	0.033	0.059	0.035	0.068	0.048	0.042	0.049	0.035	0.042	0.046	0.053	0.068
675	0.050	0.034	0.063	0.050	0.065	0.046	0.045	0.042	0.034	0.043	0.044	0.054	0.065
725	0.040	0.042	0.063	0.034	0.042	0.037	0.041	0.042	0.032	0.039	0.038	0.049	0.063
775	0.033	0.040	0.096	0.032	0.037	0.044	0.051	0.049	0.031	0.044	0.037	0.045	0.096
825	0.055	0.035	0.054	0.039	0.052	0.038	0.036	0.040	0.029	0.050	0.054	0.047	0.055
875	0.047	0.033	0.051	0.044	0.053	0.032	0.031	0.034	0.027	0.038	0.031	0.036	0.053
925	0.039	0.030	0.047	0.035	0.043	0.038	0.031	0.028	0.024	0.030	0.031	0.036	0.047
975	0.037	0.030	0.071	0.054	0.044	0.032	0.032	0.030	0.023	0.027	0.027	0.035	0.071
1025	0.030	0.037	0.043	0.031	0.025	0.022	0.024	0.025	0.022	0.028	0.027	0.033	0.043
1075	0.024	0.033	0.077	0.029	0.022	0.022	0.025	0.026	0.021	0.030	0.024	0.031	0.077
1125	0.040	0.030	0.049	0.031	0.027	0.032	0.030	0.028	0.020	0.022	0.023	0.029	0.049
1175	0.033	0.028	0.040	0.046	0.032	0.035	0.038	0.039	0.020	0.023	0.024	0.029	0.046
1225	0.030	0.026	0.035	0.037	0.036	0.028	0.028	0.021	0.020	0.037	0.030	0.028	0.037
1275	0.028	0.025	0.058	0.045	0.023	0.023	0.023	0.021	0.018	0.022	0.022	0.041	0.058
1325	0.024	0.031	0.033	0.026	0.020	0.018	0.018	0.020	0.018	0.023	0.022	0.028	0.033
1375	0.018	0.029	0.059	0.025	0.018	0.015	0.017	0.020	0.019	0.021	0.020	0.025	0.059
1425	0.031	0.024	0.030	0.027	0.022	0.024	0.026	0.021	0.016	0.017	0.018	0.023	0.031
1475	0.025	0.022	0.029	0.034	0.023	0.020	0.018	0.019	0.016	0.018	0.022	0.024	0.034
1525	0.022	0.022	0.031	0.025	0.022	0.016	0.020	0.019	0.014	0.015	0.018	0.022	0.031
1575	0.021	0.022	0.049	0.039	0.020	0.017	0.017	0.017	0.013	0.015	0.017	0.022	0.049
1625	0.020	0.027	0.024	0.022	0.016	0.015	0.013	0.015	0.012	0.016	0.018	0.023	0.027
1675	0.015	0.026	0.039	0.019	0.014	0.013	0.012	0.015	0.012	0.014	0.018	0.023	0.039
1725	0.022	0.018	0.025	0.022	0.017	0.013	0.014	0.017	0.011	0.013	0.015	0.020	0.025
1775	0.019	0.018	0.020	0.026	0.020	0.014	0.012	0.014	0.011	0.012	0.019	0.018	0.026
1825	0.017	0.019	0.021	0.019	0.017	0.015	0.010	0.018	0.010	0.012	0.015	0.017	0.021
1875	0.017	0.019	0.035	0.018	0.018	0.013	0.013	0.014	0.009	0.011	0.014	0.016	0.035
1925	0.017	0.024	0.021	0.016	0.011	0.011	0.010	0.012	0.009	0.012	0.014	0.016	0.024
1975	0.012	0.026	0.035	0.014	0.010	0.011	0.010	0.011	0.009	0.013	0.017	0.016	0.035

Model: SOFAR 136KTL-HV													
Phase A													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX
F [Hz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	(%)
75	0.018	0.038	0.044	0.046	0.042	0.050	0.050	0.045	0.045	0.056	0.060	0.068	0.060
125	0.018	0.042	0.035	0.051	0.057	0.069	0.069	0.057	0.051	0.064	0.067	0.066	0.069
175	0.019	0.044	0.036	0.059	0.060	0.072	0.072	0.056	0.048	0.059	0.069	0.061	0.072
225	0.023	0.047	0.041	0.063	0.056	0.078	0.078	0.057	0.050	0.062	0.069	0.063	0.078
275	0.025	0.044	0.034	0.047	0.056	0.077	0.077	0.053	0.047	0.060	0.069	0.100	0.077
325	0.025	0.044	0.034	0.048	0.056	0.084	0.084	0.058	0.049	0.061	0.065	0.071	0.084
375	0.025	0.044	0.057	0.070	0.059	0.090	0.090	0.067	0.056	0.070	0.075	0.135	0.090
425	0.021	0.042	0.038	0.053	0.063	0.087	0.087	0.066	0.055	0.066	0.068	0.068	0.087
475	0.019	0.050	0.041	0.058	0.062	0.070	0.070	0.063	0.046	0.059	0.066	0.063	0.070
525	0.024	0.051	0.040	0.057	0.055	0.062	0.062	0.058	0.047	0.059	0.064	0.061	0.064
575	0.027	0.046	0.037	0.042	0.054	0.052	0.052	0.052	0.043	0.057	0.056	0.059	0.057
625	0.025	0.043	0.039	0.040	0.055	0.048	0.048	0.054	0.042	0.052	0.052	0.069	0.055
675	0.024	0.044	0.069	0.049	0.054	0.045	0.045	0.049	0.040	0.048	0.059	0.065	0.069
725	0.021	0.040	0.039	0.042	0.055	0.047	0.047	0.047	0.038	0.045	0.047	0.058	0.055
775	0.018	0.046	0.051	0.048	0.056	0.043	0.043	0.045	0.047	0.053	0.053	0.047	0.056
825	0.021	0.044	0.035	0.044	0.044	0.039	0.039	0.038	0.034	0.042	0.042	0.043	0.044
875	0.023	0.037	0.034	0.037	0.040	0.035	0.035	0.034	0.030	0.037	0.036	0.038	0.040
925	0.022	0.033	0.033	0.038	0.039	0.034	0.034	0.033	0.028	0.033	0.033	0.041	0.039
975	0.020	0.037	0.065	0.057	0.038	0.032	0.032	0.030	0.027	0.033	0.035	0.038	0.065
1025	0.019	0.032	0.030	0.045	0.037	0.031	0.031	0.033	0.024	0.029	0.030	0.039	0.045
1075	0.015	0.034	0.049	0.053	0.036	0.028	0.028	0.028	0.023	0.026	0.027	0.031	0.053
1125	0.018	0.032	0.030	0.047	0.028	0.027	0.027	0.027	0.024	0.025	0.026	0.030	0.047
1175	0.020	0.026	0.030	0.037	0.027	0.023	0.023	0.022	0.022	0.025	0.029	0.029	0.037
1225	0.019	0.021	0.028	0.034	0.025	0.025	0.025	0.022	0.020	0.022	0.024	0.030	0.034
1275	0.016	0.030	0.057	0.049	0.023	0.022	0.022	0.020	0.020	0.026	0.026	0.029	0.057
1325	0.018	0.023	0.024	0.040	0.025	0.026	0.026	0.025	0.018	0.019	0.021	0.032	0.040
1375	0.012	0.023	0.038	0.041	0.025	0.020	0.020	0.019	0.020	0.021	0.023	0.026	0.041
1425	0.014	0.022	0.022	0.038	0.021	0.020	0.020	0.017	0.017	0.018	0.021	0.023	0.038
1475	0.016	0.019	0.022	0.031	0.020	0.018	0.018	0.016	0.016	0.018	0.018	0.023	0.031
1525	0.016	0.018	0.022	0.031	0.019	0.019	0.019	0.017	0.015	0.017	0.019	0.025	0.031
1575	0.014	0.025	0.039	0.044	0.018	0.016	0.016	0.015	0.015	0.020	0.020	0.024	0.044
1625	0.016	0.019	0.020	0.034	0.019	0.018	0.018	0.018	0.014	0.015	0.017	0.027	0.034
1675	0.010	0.023	0.034	0.041	0.019	0.015	0.015	0.016	0.013	0.015	0.018	0.025	0.041
1725	0.011	0.017	0.019	0.030	0.016	0.015	0.015	0.013	0.012	0.014	0.016	0.021	0.030
1775	0.013	0.015	0.017	0.023	0.015	0.014	0.014	0.013	0.012	0.014	0.015	0.021	0.023
1825	0.014	0.017	0.016	0.021	0.015	0.013	0.013	0.013	0.011	0.013	0.014	0.022	0.021
1875	0.012	0.022	0.023	0.026	0.014	0.013	0.013	0.013	0.011	0.014	0.015	0.021	0.026
1925	0.013	0.015	0.014	0.021	0.015	0.013	0.013	0.013	0.011	0.012	0.013	0.023	0.021
1975	0.009	0.022	0.018	0.022	0.015	0.013	0.013	0.013	0.011	0.012	0.013	0.020	0.022

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Model: SOFAR 136KTL-HV													
Phase B													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX
F [Hz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	(%)
75	0.018	0.037	0.048	0.046	0.046	0.056	0.050	0.050	0.046	0.062	0.062	0.072	0.062
125	0.019	0.047	0.037	0.058	0.062	0.077	0.063	0.059	0.051	0.060	0.063	0.074	0.077
175	0.021	0.048	0.037	0.066	0.065	0.087	0.068	0.060	0.048	0.059	0.068	0.068	0.087
225	0.023	0.049	0.045	0.060	0.062	0.090	0.074	0.061	0.051	0.064	0.070	0.067	0.090
275	0.026	0.044	0.041	0.052	0.065	0.088	0.074	0.062	0.049	0.059	0.067	0.109	0.088
325	0.027	0.045	0.037	0.050	0.064	0.093	0.075	0.064	0.055	0.065	0.062	0.071	0.093
375	0.023	0.046	0.061	0.064	0.062	0.092	0.072	0.063	0.051	0.071	0.069	0.119	0.092
425	0.024	0.046	0.042	0.058	0.067	0.095	0.078	0.070	0.055	0.066	0.067	0.074	0.095
475	0.021	0.054	0.038	0.063	0.067	0.082	0.069	0.062	0.047	0.061	0.065	0.064	0.082
525	0.023	0.058	0.044	0.059	0.063	0.070	0.067	0.060	0.045	0.058	0.062	0.062	0.070
575	0.026	0.045	0.040	0.042	0.061	0.058	0.060	0.056	0.042	0.054	0.057	0.067	0.061
625	0.027	0.044	0.040	0.040	0.060	0.053	0.060	0.053	0.042	0.052	0.053	0.079	0.060
675	0.022	0.047	0.080	0.043	0.059	0.049	0.053	0.049	0.040	0.048	0.056	0.064	0.080
725	0.024	0.045	0.038	0.046	0.062	0.051	0.051	0.048	0.038	0.044	0.048	0.057	0.062
775	0.020	0.052	0.046	0.055	0.060	0.048	0.047	0.045	0.052	0.060	0.059	0.047	0.060
825	0.020	0.049	0.038	0.043	0.051	0.044	0.044	0.042	0.033	0.040	0.042	0.045	0.051
875	0.023	0.037	0.037	0.038	0.049	0.038	0.039	0.035	0.029	0.035	0.037	0.040	0.049
925	0.023	0.033	0.037	0.039	0.046	0.036	0.039	0.034	0.027	0.032	0.034	0.053	0.046
975	0.018	0.039	0.073	0.052	0.043	0.035	0.034	0.032	0.026	0.032	0.036	0.038	0.073
1025	0.021	0.032	0.035	0.050	0.041	0.033	0.033	0.032	0.025	0.029	0.030	0.037	0.050
1075	0.017	0.037	0.046	0.055	0.037	0.030	0.031	0.029	0.024	0.029	0.029	0.030	0.055
1125	0.017	0.037	0.034	0.044	0.031	0.036	0.041	0.039	0.030	0.026	0.028	0.032	0.044
1175	0.019	0.029	0.035	0.039	0.035	0.025	0.027	0.023	0.022	0.026	0.037	0.029	0.039
1225	0.019	0.022	0.030	0.034	0.027	0.027	0.027	0.026	0.020	0.023	0.025	0.032	0.034
1275	0.015	0.028	0.067	0.041	0.026	0.024	0.026	0.022	0.020	0.025	0.026	0.030	0.067
1325	0.018	0.023	0.027	0.043	0.026	0.026	0.025	0.023	0.019	0.022	0.023	0.031	0.043
1375	0.014	0.027	0.038	0.044	0.025	0.022	0.022	0.021	0.021	0.023	0.024	0.025	0.044
1425	0.014	0.026	0.026	0.037	0.024	0.022	0.023	0.020	0.018	0.019	0.023	0.024	0.037
1475	0.015	0.021	0.026	0.032	0.024	0.020	0.019	0.018	0.017	0.019	0.021	0.024	0.032
1525	0.016	0.019	0.023	0.031	0.022	0.020	0.019	0.019	0.017	0.019	0.020	0.027	0.031
1575	0.012	0.028	0.049	0.039	0.020	0.017	0.019	0.017	0.015	0.019	0.020	0.025	0.049
1625	0.015	0.020	0.023	0.036	0.021	0.017	0.019	0.017	0.015	0.016	0.018	0.024	0.036
1675	0.012	0.021	0.033	0.043	0.020	0.017	0.017	0.017	0.014	0.016	0.017	0.021	0.043
1725	0.012	0.021	0.022	0.029	0.018	0.017	0.016	0.016	0.013	0.014	0.017	0.021	0.029
1775	0.013	0.016	0.017	0.024	0.017	0.015	0.014	0.015	0.013	0.014	0.017	0.022	0.024
1825	0.013	0.017	0.017	0.022	0.016	0.015	0.016	0.014	0.012	0.014	0.016	0.023	0.022
1875	0.011	0.027	0.026	0.022	0.016	0.015	0.013	0.014	0.012	0.014	0.016	0.021	0.027
1925	0.012	0.018	0.016	0.023	0.015	0.014	0.014	0.014	0.011	0.013	0.014	0.020	0.023
1975	0.010	0.024	0.016	0.024	0.016	0.014	0.013	0.013	0.011	0.012	0.014	0.017	0.024

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Model: SOFAR 136KTL-HV													
Phase C													
P_n (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX
F [Hz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	(%)
75	0.020	0.038	0.042	0.047	0.046	0.054	0.049	0.052	0.049	0.063	0.063	0.076	0.063
125	0.020	0.045	0.034	0.058	0.061	0.073	0.065	0.064	0.055	0.068	0.067	0.080	0.073
175	0.021	0.047	0.036	0.064	0.062	0.083	0.072	0.063	0.052	0.064	0.069	0.071	0.083
225	0.023	0.044	0.041	0.059	0.062	0.092	0.071	0.064	0.055	0.067	0.073	0.074	0.092
275	0.024	0.043	0.040	0.053	0.070	0.095	0.076	0.066	0.051	0.065	0.069	0.126	0.095
325	0.025	0.044	0.038	0.054	0.068	0.103	0.080	0.069	0.057	0.068	0.069	0.084	0.103
375	0.025	0.043	0.056	0.066	0.067	0.104	0.084	0.076	0.061	0.080	0.071	0.123	0.104
425	0.024	0.045	0.038	0.059	0.067	0.089	0.076	0.072	0.054	0.069	0.069	0.078	0.089
475	0.021	0.057	0.044	0.063	0.065	0.077	0.070	0.063	0.050	0.064	0.070	0.072	0.077
525	0.024	0.055	0.041	0.056	0.062	0.070	0.067	0.061	0.048	0.061	0.063	0.065	0.070
575	0.025	0.047	0.043	0.047	0.066	0.060	0.064	0.059	0.045	0.064	0.057	0.076	0.066
625	0.026	0.042	0.042	0.043	0.065	0.056	0.062	0.057	0.046	0.057	0.056	0.071	0.065
675	0.024	0.041	0.066	0.048	0.061	0.051	0.055	0.053	0.044	0.055	0.056	0.070	0.066
725	0.023	0.041	0.036	0.049	0.060	0.051	0.057	0.049	0.040	0.050	0.051	0.062	0.060
775	0.020	0.054	0.048	0.056	0.059	0.046	0.048	0.045	0.052	0.060	0.058	0.052	0.060
825	0.021	0.047	0.038	0.044	0.051	0.044	0.045	0.042	0.034	0.042	0.045	0.047	0.051
875	0.023	0.038	0.039	0.040	0.050	0.039	0.039	0.036	0.031	0.039	0.040	0.044	0.050
925	0.023	0.033	0.037	0.040	0.045	0.037	0.037	0.035	0.030	0.036	0.036	0.065	0.045
975	0.020	0.036	0.060	0.050	0.041	0.036	0.035	0.032	0.028	0.034	0.038	0.041	0.060
1025	0.020	0.032	0.032	0.048	0.039	0.033	0.038	0.032	0.025	0.032	0.033	0.043	0.048
1075	0.016	0.040	0.055	0.053	0.036	0.030	0.032	0.029	0.025	0.031	0.032	0.035	0.055
1125	0.018	0.036	0.032	0.042	0.031	0.042	0.048	0.048	0.037	0.028	0.030	0.037	0.048
1175	0.020	0.032	0.042	0.044	0.041	0.026	0.027	0.025	0.025	0.030	0.047	0.033	0.047
1225	0.021	0.021	0.033	0.035	0.028	0.027	0.027	0.027	0.022	0.025	0.026	0.034	0.035
1275	0.016	0.031	0.059	0.042	0.025	0.025	0.025	0.023	0.023	0.029	0.029	0.033	0.059
1325	0.018	0.023	0.027	0.042	0.027	0.027	0.027	0.024	0.020	0.024	0.025	0.037	0.042
1375	0.013	0.032	0.037	0.042	0.025	0.021	0.021	0.021	0.025	0.027	0.030	0.030	0.042
1425	0.014	0.027	0.026	0.037	0.023	0.022	0.022	0.022	0.020	0.020	0.024	0.027	0.037
1475	0.016	0.020	0.025	0.033	0.023	0.020	0.020	0.020	0.019	0.021	0.023	0.026	0.033
1525	0.016	0.019	0.025	0.031	0.021	0.019	0.019	0.020	0.018	0.021	0.022	0.027	0.031
1575	0.014	0.027	0.041	0.039	0.020	0.018	0.018	0.018	0.016	0.022	0.023	0.026	0.041
1625	0.015	0.018	0.023	0.034	0.020	0.019	0.017	0.019	0.015	0.018	0.020	0.029	0.034
1675	0.011	0.028	0.035	0.042	0.020	0.016	0.016	0.017	0.016	0.017	0.020	0.025	0.042
1725	0.012	0.021	0.019	0.029	0.018	0.016	0.016	0.016	0.014	0.015	0.018	0.022	0.029
1775	0.013	0.015	0.019	0.025	0.017	0.015	0.015	0.015	0.014	0.016	0.018	0.022	0.025
1825	0.013	0.017	0.018	0.023	0.015	0.014	0.016	0.015	0.013	0.015	0.018	0.024	0.023
1875	0.012	0.024	0.028	0.024	0.015	0.014	0.013	0.015	0.013	0.015	0.016	0.022	0.028
1925	0.013	0.017	0.018	0.024	0.015	0.014	0.014	0.015	0.012	0.014	0.015	0.024	0.024
1975	0.010	0.029	0.016	0.023	0.016	0.014	0.013	0.014	0.013	0.014	0.015	0.021	0.029

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

2.2.7 Höhere Frequenzen / Higher Frequencies components

Model: SOFAR 75KTL													
Phase A													
P_{bin} (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX (%)
F [kHz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2.1	0.087	0.157	0.155	0.178	0.121	0.103	0.103	0.055	0.083	0.075	0.069	0.064	0.178
2.3	0.073	0.132	0.114	0.095	0.093	0.064	0.064	0.050	0.053	0.057	0.054	0.049	0.132
2.5	0.059	0.164	0.098	0.101	0.083	0.059	0.059	0.050	0.042	0.052	0.054	0.050	0.164
2.7	0.083	0.177	0.058	0.091	0.095	0.086	0.086	0.068	0.038	0.054	0.058	0.053	0.177
2.9	0.047	0.089	0.038	0.060	0.068	0.063	0.063	0.054	0.034	0.041	0.044	0.040	0.089
3.1	0.052	0.085	0.037	0.062	0.063	0.056	0.056	0.045	0.035	0.037	0.041	0.040	0.085
3.3	0.046	0.067	0.033	0.066	0.072	0.065	0.065	0.054	0.047	0.041	0.045	0.044	0.072
3.5	0.052	0.034	0.034	0.038	0.046	0.047	0.047	0.043	0.042	0.035	0.035	0.035	0.052
3.7	0.037	0.029	0.030	0.039	0.044	0.043	0.043	0.039	0.040	0.033	0.032	0.034	0.044
3.9	0.046	0.039	0.028	0.036	0.040	0.050	0.050	0.053	0.050	0.040	0.037	0.036	0.053
4.1	0.022	0.025	0.021	0.023	0.033	0.037	0.037	0.037	0.036	0.031	0.029	0.028	0.037
4.3	0.018	0.020	0.018	0.019	0.029	0.030	0.030	0.028	0.026	0.026	0.026	0.027	0.030
4.5	0.016	0.018	0.014	0.015	0.020	0.022	0.022	0.022	0.024	0.026	0.026	0.025	0.026
4.7	0.016	0.015	0.015	0.016	0.018	0.019	0.019	0.025	0.028	0.031	0.034	0.033	0.034
4.9	0.013	0.012	0.012	0.015	0.014	0.017	0.017	0.029	0.034	0.040	0.046	0.044	0.046
5.1	0.016	0.014	0.015	0.023	0.017	0.021	0.021	0.028	0.033	0.041	0.047	0.049	0.047
5.3	0.016	0.018	0.019	0.021	0.027	0.026	0.026	0.032	0.040	0.049	0.062	0.077	0.062
5.5	0.013	0.015	0.018	0.013	0.019	0.017	0.017	0.015	0.015	0.015	0.016	0.019	0.019
5.7	0.015	0.021	0.011	0.012	0.012	0.014	0.014	0.016	0.016	0.016	0.016	0.017	0.021
5.9	0.014	0.015	0.010	0.013	0.010	0.011	0.011	0.013	0.015	0.014	0.014	0.014	0.015
6.1	0.013	0.017	0.011	0.013	0.011	0.011	0.011	0.013	0.015	0.015	0.015	0.015	0.017
6.3	0.012	0.021	0.011	0.012	0.012	0.012	0.012	0.013	0.016	0.017	0.017	0.017	0.021
6.5	0.014	0.015	0.012	0.012	0.013	0.010	0.010	0.012	0.013	0.014	0.015	0.014	0.015
6.7	0.017	0.017	0.015	0.019	0.015	0.015	0.015	0.015	0.015	0.017	0.019	0.018	0.019
6.9	0.014	0.013	0.017	0.013	0.011	0.012	0.012	0.014	0.013	0.014	0.016	0.016	0.017
7.1	0.012	0.013	0.017	0.013	0.012	0.011	0.011	0.012	0.012	0.013	0.014	0.014	0.017
7.3	0.011	0.012	0.017	0.016	0.014	0.009	0.009	0.012	0.011	0.011	0.013	0.013	0.017
7.5	0.012	0.016	0.016	0.012	0.010	0.009	0.009	0.012	0.012	0.013	0.014	0.015	0.016
7.7	0.011	0.017	0.014	0.012	0.010	0.010	0.010	0.011	0.011	0.011	0.011	0.013	0.017
7.9	0.009	0.014	0.014	0.015	0.012	0.011	0.011	0.011	0.011	0.011	0.011	0.012	0.015
8.1	0.009	0.017	0.013	0.013	0.013	0.011	0.011	0.012	0.013	0.013	0.012	0.013	0.017
8.3	0.010	0.013	0.013	0.013	0.011	0.009	0.009	0.011	0.011	0.012	0.011	0.012	0.013
8.5	0.010	0.012	0.013	0.015	0.011	0.009	0.009	0.010	0.011	0.012	0.011	0.012	0.015
8.7	0.009	0.010	0.011	0.015	0.012	0.010	0.010	0.011	0.012	0.013	0.012	0.013	0.015
8.9	0.009	0.011	0.011	0.015	0.012	0.011	0.011	0.010	0.010	0.012	0.012	0.012	0.015

Model: SOFAR 75KTL													
Phase B													
P_{bin} (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX (%)
F [kHz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2.1	0.098	0.143	0.161	0.179	0.113	0.102	0.083	0.058	0.074	0.066	0.065	0.065	0.179
2.3	0.084	0.120	0.100	0.097	0.092	0.064	0.072	0.053	0.048	0.053	0.056	0.053	0.120
2.5	0.052	0.164	0.097	0.098	0.084	0.058	0.066	0.048	0.042	0.047	0.049	0.047	0.164
2.7	0.086	0.182	0.062	0.097	0.090	0.081	0.069	0.064	0.037	0.049	0.054	0.049	0.182
2.9	0.049	0.097	0.042	0.060	0.066	0.060	0.048	0.049	0.035	0.037	0.041	0.038	0.097
3.1	0.057	0.088	0.040	0.060	0.061	0.056	0.048	0.045	0.035	0.039	0.041	0.038	0.088
3.3	0.052	0.067	0.033	0.067	0.067	0.060	0.058	0.048	0.046	0.043	0.043	0.041	0.067
3.5	0.053	0.031	0.034	0.037	0.044	0.045	0.047	0.038	0.041	0.035	0.033	0.034	0.053
3.7	0.036	0.026	0.032	0.038	0.043	0.047	0.046	0.040	0.040	0.035	0.034	0.034	0.047
3.9	0.045	0.035	0.027	0.035	0.037	0.047	0.051	0.052	0.047	0.041	0.037	0.035	0.052
4.1	0.022	0.024	0.020	0.023	0.032	0.034	0.034	0.036	0.032	0.030	0.028	0.027	0.036
4.3	0.018	0.019	0.017	0.019	0.027	0.026	0.029	0.028	0.027	0.025	0.025	0.026	0.029
4.5	0.015	0.017	0.012	0.013	0.017	0.018	0.020	0.019	0.021	0.022	0.025	0.023	0.025
4.7	0.015	0.014	0.014	0.015	0.017	0.017	0.018	0.021	0.025	0.028	0.032	0.031	0.032
4.9	0.013	0.013	0.011	0.016	0.014	0.018	0.019	0.029	0.034	0.038	0.044	0.043	0.044
5.1	0.019	0.014	0.016	0.022	0.018	0.023	0.027	0.028	0.033	0.041	0.047	0.050	0.047
5.3	0.018	0.022	0.021	0.024	0.031	0.026	0.025	0.033	0.040	0.050	0.065	0.081	0.065
5.5	0.014	0.015	0.020	0.014	0.018	0.018	0.016	0.015	0.015	0.015	0.016	0.020	0.020
5.7	0.016	0.020	0.012	0.013	0.011	0.013	0.014	0.018	0.018	0.018	0.017	0.018	0.020
5.9	0.015	0.015	0.010	0.013	0.011	0.013	0.013	0.014	0.015	0.015	0.014	0.014	0.015
6.1	0.013	0.017	0.011	0.014	0.013	0.011	0.013	0.014	0.016	0.017	0.016	0.015	0.017
6.3	0.013	0.021	0.013	0.013	0.011	0.012	0.012	0.015	0.018	0.020	0.018	0.017	0.021
6.5	0.016	0.015	0.013	0.012	0.014	0.011	0.011	0.012	0.014	0.016	0.015	0.015	0.016
6.7	0.016	0.017	0.015	0.019	0.016	0.015	0.014	0.014	0.016	0.018	0.019	0.018	0.019
6.9	0.014	0.014	0.017	0.015	0.011	0.012	0.012	0.013	0.014	0.016	0.017	0.017	0.017
7.1	0.013	0.014	0.017	0.013	0.013	0.013	0.013	0.012	0.012	0.013	0.015	0.015	0.017
7.3	0.011	0.012	0.017	0.017	0.015	0.010	0.013	0.012	0.011	0.012	0.014	0.014	0.017
7.5	0.012	0.016	0.018	0.013	0.011	0.009	0.011	0.014	0.012	0.013	0.015	0.016	0.018
7.7	0.011	0.016	0.014	0.012	0.010	0.011	0.010	0.012	0.011	0.011	0.012	0.013	0.016
7.9	0.010	0.016	0.016	0.015	0.013	0.013	0.010	0.012	0.011	0.011	0.011	0.013	0.016
8.1	0.010	0.017	0.015	0.014	0.013	0.011	0.010	0.013	0.013	0.013	0.012	0.014	0.017
8.3	0.010	0.013	0.013	0.013	0.012	0.010	0.010	0.011	0.012	0.012	0.011	0.013	0.013
8.5	0.010	0.012	0.014	0.015	0.011	0.010	0.011	0.010	0.012	0.012	0.011	0.012	0.015
8.7	0.010	0.011	0.012	0.016	0.012	0.010	0.010	0.011	0.013	0.013	0.012	0.013	0.016
8.9	0.009	0.012	0.012	0.016	0.012	0.011	0.011	0.010	0.011	0.012	0.012	0.013	0.016

Model: SOFAR 75KTL													
Phase C													
P_{bin} (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX (%)
F [kHz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2.1	0.091	0.162	0.155	0.182	0.117	0.107	0.089	0.062	0.082	0.073	0.066	0.064	0.182
2.3	0.071	0.122	0.103	0.098	0.093	0.062	0.071	0.048	0.055	0.056	0.057	0.055	0.122
2.5	0.065	0.167	0.108	0.100	0.086	0.066	0.070	0.052	0.043	0.049	0.051	0.048	0.167
2.7	0.083	0.178	0.053	0.101	0.094	0.084	0.075	0.065	0.043	0.054	0.058	0.053	0.178
2.9	0.047	0.096	0.040	0.058	0.066	0.059	0.051	0.046	0.036	0.041	0.045	0.042	0.096
3.1	0.057	0.087	0.040	0.059	0.062	0.058	0.049	0.047	0.038	0.039	0.042	0.040	0.087
3.3	0.047	0.065	0.034	0.070	0.067	0.063	0.058	0.052	0.048	0.045	0.046	0.045	0.070
3.5	0.048	0.032	0.036	0.039	0.047	0.047	0.044	0.040	0.039	0.037	0.036	0.036	0.048
3.7	0.036	0.026	0.029	0.039	0.045	0.047	0.047	0.039	0.040	0.035	0.033	0.033	0.047
3.9	0.045	0.037	0.030	0.035	0.041	0.049	0.053	0.051	0.048	0.042	0.038	0.038	0.053
4.1	0.021	0.024	0.021	0.023	0.031	0.033	0.035	0.034	0.033	0.029	0.029	0.030	0.035
4.3	0.019	0.018	0.017	0.018	0.025	0.027	0.027	0.027	0.026	0.026	0.025	0.025	0.027
4.5	0.014	0.017	0.012	0.013	0.017	0.019	0.021	0.020	0.022	0.023	0.025	0.023	0.025
4.7	0.015	0.014	0.014	0.014	0.017	0.017	0.019	0.022	0.026	0.029	0.032	0.032	0.032
4.9	0.012	0.012	0.012	0.014	0.012	0.015	0.018	0.027	0.031	0.037	0.043	0.042	0.043
5.1	0.016	0.013	0.014	0.020	0.014	0.019	0.024	0.026	0.030	0.037	0.042	0.044	0.042
5.3	0.016	0.017	0.017	0.021	0.026	0.024	0.023	0.028	0.035	0.044	0.059	0.074	0.059
5.5	0.014	0.016	0.019	0.013	0.017	0.017	0.015	0.016	0.016	0.016	0.017	0.020	0.019
5.7	0.016	0.021	0.011	0.012	0.011	0.013	0.013	0.017	0.017	0.017	0.016	0.017	0.021
5.9	0.014	0.015	0.010	0.012	0.010	0.011	0.011	0.013	0.015	0.016	0.016	0.015	0.016
6.1	0.013	0.018	0.010	0.013	0.012	0.010	0.012	0.013	0.015	0.016	0.015	0.015	0.018
6.3	0.012	0.020	0.011	0.012	0.012	0.011	0.011	0.014	0.017	0.019	0.018	0.017	0.020
6.5	0.014	0.014	0.013	0.012	0.013	0.011	0.011	0.011	0.013	0.015	0.016	0.015	0.016
6.7	0.017	0.017	0.014	0.019	0.015	0.015	0.013	0.014	0.015	0.017	0.018	0.018	0.019
6.9	0.014	0.014	0.016	0.014	0.011	0.011	0.011	0.012	0.013	0.015	0.017	0.017	0.017
7.1	0.013	0.013	0.016	0.013	0.012	0.012	0.012	0.012	0.011	0.012	0.015	0.015	0.016
7.3	0.010	0.012	0.016	0.016	0.014	0.010	0.012	0.011	0.011	0.011	0.013	0.013	0.016
7.5	0.011	0.016	0.016	0.013	0.011	0.009	0.010	0.014	0.012	0.012	0.014	0.015	0.016
7.7	0.011	0.016	0.014	0.012	0.010	0.010	0.009	0.012	0.011	0.010	0.011	0.013	0.016
7.9	0.009	0.015	0.014	0.015	0.012	0.012	0.009	0.011	0.011	0.011	0.011	0.012	0.015
8.1	0.009	0.017	0.013	0.014	0.013	0.010	0.009	0.012	0.013	0.012	0.012	0.014	0.017
8.3	0.009	0.013	0.012	0.013	0.012	0.010	0.010	0.010	0.012	0.012	0.011	0.012	0.013
8.5	0.009	0.011	0.013	0.015	0.011	0.009	0.011	0.010	0.012	0.012	0.011	0.012	0.015
8.7	0.009	0.010	0.012	0.016	0.012	0.010	0.010	0.010	0.012	0.013	0.012	0.013	0.016
8.9	0.009	0.011	0.011	0.015	0.012	0.011	0.010	0.010	0.010	0.012	0.011	0.012	0.015

Model: SOFAR 80KTL													
Phase A													
P_{bin} (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX (%)
F [kHz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2.1	0.091	0.107	0.167	0.155	0.088	0.107	0.107	0.068	0.079	0.070	0.062	0.055	0.167
2.3	0.075	0.096	0.100	0.078	0.086	0.064	0.064	0.044	0.055	0.054	0.045	0.046	0.100
2.5	0.066	0.133	0.097	0.078	0.081	0.051	0.051	0.042	0.047	0.054	0.049	0.046	0.133
2.7	0.071	0.152	0.059	0.102	0.086	0.065	0.065	0.047	0.044	0.057	0.051	0.043	0.152
2.9	0.042	0.097	0.039	0.060	0.055	0.057	0.057	0.042	0.035	0.043	0.039	0.033	0.097
3.1	0.044	0.085	0.041	0.049	0.053	0.052	0.052	0.040	0.032	0.039	0.038	0.033	0.085
3.3	0.054	0.083	0.031	0.066	0.069	0.062	0.062	0.051	0.038	0.040	0.042	0.037	0.083
3.5	0.043	0.040	0.028	0.043	0.044	0.043	0.043	0.042	0.034	0.032	0.033	0.032	0.044
3.7	0.041	0.027	0.029	0.035	0.039	0.039	0.039	0.037	0.033	0.029	0.032	0.031	0.041
3.9	0.031	0.026	0.020	0.031	0.045	0.051	0.051	0.048	0.042	0.034	0.035	0.035	0.051
4.1	0.023	0.021	0.016	0.026	0.032	0.036	0.036	0.033	0.031	0.026	0.027	0.029	0.036
4.3	0.015	0.016	0.014	0.019	0.022	0.026	0.026	0.027	0.025	0.024	0.024	0.024	0.027
4.5	0.016	0.014	0.012	0.016	0.017	0.020	0.020	0.023	0.025	0.024	0.022	0.021	0.025
4.7	0.014	0.015	0.014	0.015	0.015	0.018	0.018	0.025	0.029	0.032	0.034	0.028	0.034
4.9	0.013	0.012	0.013	0.014	0.013	0.018	0.018	0.025	0.036	0.043	0.042	0.049	0.043
5.1	0.012	0.013	0.015	0.020	0.015	0.022	0.022	0.035	0.039	0.045	0.040	0.051	0.045
5.3	0.018	0.014	0.013	0.017	0.018	0.023	0.023	0.029	0.038	0.050	0.065	0.067	0.065
5.5	0.013	0.019	0.017	0.015	0.018	0.015	0.015	0.015	0.015	0.016	0.018	0.025	0.019
5.7	0.014	0.016	0.014	0.010	0.011	0.013	0.013	0.015	0.014	0.014	0.015	0.017	0.016
5.9	0.014	0.016	0.010	0.012	0.009	0.010	0.010	0.013	0.013	0.013	0.013	0.014	0.016
6.1	0.012	0.014	0.012	0.010	0.009	0.010	0.010	0.013	0.014	0.013	0.013	0.014	0.014
6.3	0.012	0.019	0.011	0.013	0.010	0.010	0.010	0.013	0.014	0.015	0.015	0.015	0.019
6.5	0.013	0.016	0.013	0.012	0.011	0.010	0.010	0.011	0.013	0.013	0.013	0.014	0.016
6.7	0.015	0.017	0.013	0.016	0.013	0.013	0.013	0.013	0.015	0.017	0.016	0.019	0.017
6.9	0.013	0.017	0.012	0.015	0.010	0.010	0.010	0.011	0.013	0.014	0.015	0.015	0.017
7.1	0.012	0.013	0.015	0.012	0.010	0.010	0.010	0.011	0.012	0.012	0.013	0.014	0.015
7.3	0.010	0.012	0.013	0.013	0.010	0.009	0.009	0.010	0.010	0.011	0.012	0.013	0.013
7.5	0.012	0.013	0.015	0.013	0.010	0.009	0.009	0.012	0.012	0.012	0.013	0.014	0.015
7.7	0.010	0.013	0.014	0.011	0.010	0.009	0.009	0.011	0.010	0.010	0.011	0.013	0.014
7.9	0.009	0.012	0.013	0.011	0.009	0.009	0.009	0.011	0.011	0.010	0.011	0.012	0.013
8.1	0.009	0.014	0.014	0.012	0.011	0.009	0.009	0.011	0.012	0.011	0.012	0.013	0.014
8.3	0.009	0.013	0.012	0.012	0.011	0.009	0.009	0.010	0.011	0.011	0.011	0.012	0.013
8.5	0.009	0.012	0.011	0.012	0.010	0.009	0.009	0.010	0.011	0.010	0.011	0.011	0.012
8.7	0.009	0.011	0.010	0.013	0.011	0.008	0.008	0.010	0.011	0.012	0.012	0.012	0.013
8.9	0.009	0.011	0.012	0.013	0.010	0.009	0.009	0.009	0.011	0.011	0.011	0.012	0.013

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Model: SOFAR 80KTL													
Phase B													
P_{bin} (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX (%)
F [kHz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2.1	0.098	0.103	0.173	0.164	0.083	0.097	0.059	0.065	0.068	0.068	0.061	0.055	0.173
2.3	0.085	0.097	0.079	0.078	0.082	0.063	0.062	0.047	0.052	0.060	0.052	0.049	0.097
2.5	0.056	0.135	0.094	0.075	0.080	0.057	0.056	0.041	0.044	0.052	0.045	0.043	0.135
2.7	0.078	0.162	0.068	0.104	0.085	0.064	0.064	0.042	0.040	0.056	0.047	0.040	0.162
2.9	0.046	0.101	0.036	0.060	0.054	0.054	0.044	0.040	0.033	0.044	0.038	0.034	0.101
3.1	0.047	0.091	0.044	0.049	0.051	0.051	0.044	0.037	0.033	0.043	0.038	0.032	0.091
3.3	0.057	0.084	0.034	0.063	0.065	0.055	0.048	0.046	0.038	0.043	0.040	0.034	0.084
3.5	0.043	0.041	0.028	0.044	0.042	0.042	0.040	0.039	0.035	0.034	0.032	0.031	0.044
3.7	0.041	0.028	0.028	0.036	0.041	0.044	0.041	0.038	0.034	0.034	0.033	0.031	0.044
3.9	0.033	0.023	0.022	0.030	0.044	0.049	0.049	0.044	0.041	0.038	0.034	0.033	0.049
4.1	0.023	0.021	0.016	0.027	0.031	0.034	0.034	0.032	0.029	0.029	0.024	0.028	0.034
4.3	0.014	0.015	0.013	0.020	0.022	0.025	0.027	0.027	0.025	0.026	0.024	0.025	0.027
4.5	0.015	0.013	0.012	0.014	0.015	0.018	0.020	0.020	0.022	0.025	0.021	0.020	0.025
4.7	0.013	0.015	0.013	0.014	0.014	0.017	0.019	0.022	0.026	0.033	0.031	0.027	0.033
4.9	0.012	0.012	0.013	0.015	0.014	0.020	0.022	0.025	0.034	0.043	0.043	0.045	0.043
5.1	0.012	0.013	0.015	0.021	0.016	0.024	0.029	0.035	0.039	0.046	0.042	0.050	0.046
5.3	0.021	0.016	0.013	0.017	0.019	0.023	0.024	0.029	0.038	0.053	0.070	0.069	0.070
5.5	0.014	0.020	0.019	0.016	0.016	0.015	0.015	0.016	0.015	0.017	0.019	0.025	0.020
5.7	0.015	0.015	0.013	0.011	0.012	0.013	0.014	0.015	0.016	0.016	0.015	0.018	0.016
5.9	0.015	0.015	0.010	0.012	0.009	0.012	0.013	0.014	0.015	0.014	0.013	0.015	0.015
6.1	0.012	0.014	0.012	0.011	0.009	0.011	0.013	0.015	0.015	0.015	0.014	0.015	0.015
6.3	0.013	0.018	0.011	0.013	0.011	0.011	0.012	0.014	0.017	0.017	0.015	0.016	0.018
6.5	0.014	0.016	0.013	0.012	0.011	0.010	0.011	0.012	0.014	0.016	0.013	0.015	0.016
6.7	0.015	0.017	0.014	0.015	0.013	0.013	0.013	0.013	0.015	0.018	0.016	0.018	0.018
6.9	0.013	0.018	0.012	0.016	0.010	0.011	0.012	0.011	0.013	0.016	0.015	0.016	0.018
7.1	0.013	0.014	0.015	0.013	0.010	0.012	0.012	0.011	0.012	0.014	0.013	0.015	0.015
7.3	0.010	0.013	0.014	0.012	0.011	0.011	0.013	0.010	0.010	0.013	0.013	0.014	0.014
7.5	0.011	0.012	0.016	0.014	0.011	0.009	0.012	0.012	0.012	0.014	0.014	0.015	0.016
7.7	0.010	0.013	0.015	0.012	0.011	0.009	0.011	0.011	0.010	0.012	0.012	0.013	0.015
7.9	0.009	0.013	0.015	0.011	0.009	0.010	0.010	0.012	0.010	0.011	0.012	0.013	0.015
8.1	0.009	0.014	0.015	0.013	0.011	0.010	0.010	0.012	0.012	0.012	0.013	0.014	0.015
8.3	0.009	0.013	0.013	0.013	0.012	0.010	0.009	0.011	0.011	0.011	0.012	0.013	0.013
8.5	0.009	0.012	0.012	0.013	0.011	0.010	0.010	0.011	0.011	0.011	0.011	0.012	0.013
8.7	0.009	0.012	0.012	0.015	0.011	0.008	0.010	0.010	0.012	0.012	0.012	0.013	0.015
8.9	0.009	0.011	0.013	0.014	0.010	0.009	0.010	0.009	0.011	0.012	0.011	0.012	0.014

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Model: SOFAR 80KTL													
Phase C													
P_{bin} (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX (%)
F [kHz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2.1	0.090	0.113	0.173	0.169	0.089	0.104	0.064	0.071	0.079	0.073	0.061	0.052	0.173
2.3	0.072	0.088	0.091	0.079	0.082	0.067	0.055	0.046	0.057	0.061	0.053	0.051	0.091
2.5	0.066	0.131	0.099	0.081	0.082	0.060	0.063	0.043	0.047	0.054	0.045	0.043	0.131
2.7	0.076	0.158	0.055	0.109	0.090	0.069	0.070	0.047	0.047	0.063	0.053	0.044	0.158
2.9	0.043	0.105	0.040	0.060	0.053	0.051	0.048	0.037	0.036	0.047	0.042	0.037	0.105
3.1	0.047	0.093	0.039	0.049	0.055	0.056	0.043	0.042	0.035	0.043	0.038	0.035	0.093
3.3	0.051	0.083	0.034	0.064	0.067	0.059	0.050	0.049	0.041	0.047	0.044	0.038	0.083
3.5	0.041	0.033	0.029	0.044	0.043	0.043	0.039	0.038	0.035	0.037	0.035	0.033	0.044
3.7	0.039	0.025	0.026	0.036	0.041	0.042	0.043	0.039	0.034	0.034	0.032	0.031	0.043
3.9	0.032	0.022	0.022	0.030	0.046	0.052	0.050	0.044	0.041	0.039	0.036	0.036	0.052
4.1	0.023	0.019	0.015	0.025	0.027	0.031	0.030	0.032	0.030	0.029	0.027	0.029	0.032
4.3	0.015	0.015	0.012	0.018	0.022	0.026	0.025	0.026	0.024	0.025	0.023	0.023	0.026
4.5	0.014	0.013	0.011	0.013	0.015	0.017	0.019	0.021	0.022	0.024	0.022	0.021	0.024
4.7	0.013	0.014	0.013	0.013	0.014	0.017	0.020	0.022	0.027	0.032	0.031	0.026	0.032
4.9	0.013	0.012	0.011	0.013	0.013	0.016	0.020	0.023	0.032	0.044	0.040	0.046	0.044
5.1	0.013	0.013	0.015	0.020	0.015	0.022	0.027	0.032	0.036	0.043	0.036	0.047	0.043
5.3	0.017	0.013	0.014	0.016	0.019	0.022	0.024	0.026	0.034	0.049	0.061	0.065	0.061
5.5	0.014	0.019	0.015	0.014	0.017	0.015	0.015	0.015	0.016	0.018	0.018	0.024	0.019
5.7	0.015	0.016	0.014	0.010	0.011	0.012	0.013	0.015	0.015	0.016	0.015	0.018	0.016
5.9	0.015	0.016	0.009	0.011	0.009	0.011	0.012	0.013	0.014	0.015	0.014	0.016	0.016
6.1	0.013	0.014	0.011	0.011	0.009	0.010	0.012	0.014	0.014	0.015	0.013	0.014	0.015
6.3	0.012	0.018	0.011	0.012	0.010	0.010	0.011	0.013	0.015	0.017	0.015	0.016	0.018
6.5	0.013	0.016	0.012	0.012	0.011	0.010	0.010	0.011	0.013	0.015	0.014	0.015	0.016
6.7	0.015	0.018	0.013	0.015	0.013	0.013	0.014	0.013	0.015	0.018	0.016	0.018	0.018
6.9	0.013	0.017	0.012	0.014	0.010	0.011	0.011	0.010	0.013	0.016	0.015	0.016	0.017
7.1	0.012	0.013	0.016	0.012	0.010	0.011	0.012	0.010	0.011	0.014	0.014	0.014	0.016
7.3	0.010	0.012	0.013	0.012	0.010	0.010	0.011	0.010	0.010	0.012	0.012	0.013	0.013
7.5	0.011	0.011	0.015	0.012	0.011	0.008	0.011	0.011	0.012	0.013	0.014	0.014	0.015
7.7	0.010	0.013	0.013	0.011	0.010	0.009	0.009	0.011	0.010	0.011	0.012	0.013	0.013
7.9	0.009	0.012	0.013	0.011	0.009	0.010	0.009	0.012	0.011	0.011	0.011	0.012	0.013
8.1	0.009	0.015	0.014	0.012	0.011	0.010	0.008	0.011	0.012	0.011	0.012	0.013	0.015
8.3	0.009	0.013	0.012	0.012	0.011	0.010	0.009	0.010	0.011	0.011	0.011	0.012	0.013
8.5	0.009	0.012	0.011	0.012	0.010	0.009	0.009	0.010	0.011	0.011	0.011	0.012	0.012
8.7	0.009	0.011	0.011	0.013	0.011	0.008	0.009	0.009	0.012	0.012	0.011	0.012	0.013
8.9	0.009	0.011	0.011	0.012	0.010	0.009	0.010	0.008	0.011	0.012	0.011	0.012	0.012

Model: SOFAR 100KTL													
Phase A													
P_{bin} (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX (%)
F [kHz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2.1	0.087	0.068	0.125	0.088	0.086	0.054	0.054	0.057	0.049	0.044	0.049	0.060	0.125
2.3	0.047	0.042	0.089	0.072	0.051	0.057	0.057	0.043	0.036	0.037	0.042	0.049	0.089
2.5	0.049	0.040	0.077	0.066	0.042	0.056	0.056	0.042	0.039	0.036	0.036	0.039	0.077
2.7	0.057	0.073	0.058	0.069	0.052	0.072	0.072	0.045	0.041	0.034	0.034	0.038	0.073
2.9	0.050	0.074	0.053	0.049	0.046	0.051	0.051	0.033	0.031	0.026	0.025	0.030	0.074
3.1	0.043	0.063	0.048	0.048	0.042	0.040	0.040	0.030	0.031	0.026	0.025	0.028	0.063
3.3	0.036	0.071	0.035	0.055	0.049	0.046	0.046	0.032	0.033	0.028	0.024	0.027	0.071
3.5	0.036	0.040	0.031	0.035	0.034	0.039	0.039	0.026	0.026	0.025	0.023	0.027	0.040
3.7	0.023	0.034	0.028	0.030	0.032	0.037	0.037	0.024	0.025	0.025	0.023	0.026	0.037
3.9	0.037	0.031	0.020	0.031	0.041	0.051	0.051	0.029	0.028	0.027	0.025	0.026	0.051
4.1	0.015	0.015	0.014	0.026	0.028	0.035	0.035	0.022	0.021	0.023	0.022	0.025	0.035
4.3	0.014	0.014	0.013	0.019	0.021	0.026	0.026	0.019	0.019	0.019	0.019	0.022	0.026
4.5	0.013	0.010	0.010	0.013	0.016	0.021	0.021	0.020	0.018	0.017	0.017	0.019	0.021
4.7	0.012	0.011	0.012	0.012	0.015	0.023	0.023	0.025	0.026	0.022	0.021	0.021	0.026
4.9	0.011	0.010	0.010	0.011	0.015	0.025	0.025	0.032	0.035	0.038	0.040	0.041	0.040
5.1	0.012	0.012	0.016	0.012	0.017	0.027	0.027	0.033	0.034	0.041	0.044	0.048	0.044
5.3	0.015	0.013	0.014	0.014	0.018	0.027	0.027	0.036	0.053	0.057	0.038	0.029	0.057
5.5	0.010	0.014	0.011	0.017	0.012	0.014	0.014	0.012	0.013	0.020	0.020	0.018	0.020
5.7	0.012	0.014	0.009	0.009	0.010	0.014	0.014	0.012	0.012	0.014	0.015	0.015	0.015
5.9	0.012	0.013	0.009	0.008	0.008	0.012	0.012	0.011	0.010	0.012	0.012	0.013	0.013
6.1	0.010	0.011	0.010	0.008	0.008	0.011	0.011	0.011	0.011	0.011	0.011	0.012	0.011
6.3	0.011	0.010	0.009	0.008	0.008	0.012	0.012	0.013	0.012	0.012	0.012	0.013	0.013
6.5	0.012	0.009	0.009	0.010	0.008	0.011	0.011	0.011	0.010	0.011	0.011	0.013	0.012
6.7	0.013	0.013	0.013	0.011	0.010	0.014	0.014	0.013	0.013	0.015	0.016	0.024	0.016
6.9	0.011	0.012	0.010	0.008	0.008	0.012	0.012	0.011	0.012	0.012	0.012	0.013	0.012
7.1	0.011	0.013	0.011	0.009	0.008	0.012	0.012	0.010	0.010	0.011	0.011	0.012	0.013
7.3	0.009	0.012	0.010	0.009	0.007	0.011	0.011	0.008	0.010	0.011	0.011	0.011	0.012
7.5	0.010	0.013	0.010	0.008	0.007	0.011	0.011	0.009	0.011	0.011	0.012	0.012	0.013
7.7	0.008	0.011	0.010	0.008	0.007	0.010	0.010	0.008	0.009	0.010	0.010	0.011	0.011
7.9	0.007	0.010	0.010	0.008	0.007	0.009	0.009	0.008	0.009	0.010	0.010	0.010	0.010
8.1	0.008	0.011	0.011	0.010	0.007	0.010	0.010	0.009	0.010	0.010	0.011	0.011	0.011
8.3	0.007	0.010	0.011	0.009	0.007	0.009	0.009	0.009	0.009	0.010	0.010	0.010	0.011
8.5	0.007	0.011	0.010	0.008	0.007	0.009	0.009	0.008	0.009	0.009	0.010	0.011	0.011
8.7	0.007	0.010	0.012	0.009	0.007	0.009	0.009	0.010	0.009	0.010	0.010	0.011	0.012
8.9	0.007	0.009	0.012	0.009	0.007	0.010	0.010	0.009	0.009	0.009	0.010	0.010	0.012

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Model: SOFAR 100KTL													
Phase B													
P_{bin} (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX (%)
F [kHz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2.1	0.084	0.071	0.122	0.083	0.078	0.056	0.057	0.050	0.049	0.045	0.051	0.061	0.122
2.3	0.052	0.041	0.088	0.074	0.051	0.058	0.038	0.043	0.040	0.038	0.038	0.044	0.088
2.5	0.049	0.042	0.080	0.068	0.046	0.053	0.032	0.038	0.035	0.035	0.037	0.043	0.080
2.7	0.059	0.080	0.055	0.067	0.052	0.065	0.029	0.040	0.038	0.033	0.034	0.038	0.080
2.9	0.052	0.062	0.050	0.048	0.044	0.045	0.027	0.031	0.030	0.026	0.026	0.029	0.062
3.1	0.042	0.069	0.051	0.048	0.041	0.042	0.026	0.031	0.030	0.024	0.024	0.030	0.069
3.3	0.040	0.072	0.037	0.053	0.045	0.044	0.034	0.032	0.032	0.026	0.025	0.029	0.072
3.5	0.038	0.042	0.028	0.033	0.034	0.038	0.030	0.025	0.026	0.025	0.024	0.027	0.042
3.7	0.023	0.035	0.029	0.029	0.036	0.039	0.029	0.025	0.027	0.024	0.024	0.027	0.039
3.9	0.036	0.031	0.022	0.030	0.040	0.050	0.035	0.029	0.028	0.026	0.025	0.028	0.050
4.1	0.015	0.015	0.013	0.025	0.027	0.034	0.023	0.021	0.020	0.022	0.023	0.026	0.034
4.3	0.013	0.014	0.013	0.018	0.019	0.027	0.020	0.019	0.019	0.020	0.020	0.024	0.027
4.5	0.012	0.011	0.009	0.012	0.014	0.018	0.016	0.018	0.017	0.016	0.017	0.021	0.018
4.7	0.011	0.010	0.012	0.011	0.013	0.020	0.018	0.023	0.024	0.021	0.020	0.022	0.024
4.9	0.010	0.011	0.011	0.012	0.015	0.026	0.025	0.032	0.034	0.036	0.039	0.038	0.039
5.1	0.012	0.012	0.016	0.012	0.019	0.028	0.028	0.033	0.035	0.041	0.045	0.044	0.045
5.3	0.017	0.016	0.016	0.016	0.018	0.027	0.027	0.038	0.056	0.059	0.043	0.034	0.059
5.5	0.011	0.016	0.011	0.017	0.013	0.014	0.012	0.012	0.014	0.020	0.020	0.020	0.020
5.7	0.012	0.014	0.009	0.009	0.010	0.016	0.013	0.013	0.012	0.014	0.015	0.016	0.016
5.9	0.012	0.013	0.008	0.008	0.010	0.013	0.011	0.011	0.010	0.012	0.012	0.013	0.013
6.1	0.010	0.011	0.011	0.008	0.009	0.013	0.012	0.012	0.011	0.012	0.012	0.012	0.013
6.3	0.011	0.010	0.009	0.009	0.009	0.013	0.013	0.014	0.012	0.013	0.012	0.013	0.014
6.5	0.012	0.010	0.010	0.010	0.008	0.011	0.011	0.012	0.011	0.012	0.011	0.013	0.012
6.7	0.012	0.013	0.013	0.011	0.011	0.013	0.012	0.014	0.013	0.015	0.017	0.024	0.017
6.9	0.011	0.012	0.010	0.009	0.009	0.013	0.011	0.013	0.012	0.013	0.012	0.013	0.013
7.1	0.011	0.013	0.012	0.009	0.010	0.012	0.009	0.011	0.011	0.012	0.012	0.012	0.013
7.3	0.009	0.013	0.011	0.009	0.009	0.012	0.008	0.009	0.010	0.011	0.011	0.011	0.013
7.5	0.010	0.013	0.011	0.009	0.007	0.013	0.009	0.010	0.011	0.012	0.012	0.012	0.013
7.7	0.009	0.011	0.011	0.008	0.007	0.011	0.008	0.008	0.010	0.011	0.011	0.011	0.011
7.9	0.007	0.012	0.011	0.008	0.008	0.011	0.009	0.008	0.009	0.010	0.011	0.011	0.012
8.1	0.008	0.011	0.011	0.010	0.008	0.011	0.010	0.009	0.010	0.011	0.011	0.011	0.011
8.3	0.008	0.010	0.011	0.010	0.008	0.009	0.009	0.008	0.009	0.010	0.010	0.010	0.011
8.5	0.008	0.011	0.011	0.008	0.008	0.009	0.009	0.009	0.009	0.010	0.010	0.011	0.011
8.7	0.008	0.010	0.012	0.009	0.007	0.010	0.009	0.009	0.009	0.010	0.011	0.011	0.012
8.9	0.007	0.010	0.012	0.009	0.007	0.010	0.008	0.009	0.009	0.010	0.010	0.011	0.012

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Model: SOFAR 100KTL													
Phase C													
P_{bin} (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX (%)
F [kHz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2.1	0.080	0.088	0.119	0.085	0.083	0.058	0.063	0.055	0.048	0.042	0.051	0.065	0.119
2.3	0.046	0.042	0.095	0.075	0.054	0.050	0.042	0.045	0.041	0.041	0.043	0.055	0.095
2.5	0.050	0.039	0.078	0.069	0.048	0.057	0.034	0.040	0.037	0.035	0.036	0.044	0.078
2.7	0.055	0.083	0.058	0.069	0.055	0.068	0.033	0.045	0.041	0.034	0.032	0.040	0.083
2.9	0.047	0.069	0.051	0.049	0.041	0.046	0.027	0.034	0.033	0.028	0.028	0.034	0.069
3.1	0.043	0.067	0.047	0.046	0.045	0.042	0.029	0.032	0.030	0.027	0.025	0.031	0.067
3.3	0.038	0.067	0.039	0.054	0.047	0.048	0.036	0.034	0.034	0.028	0.026	0.030	0.067
3.5	0.034	0.041	0.030	0.033	0.035	0.038	0.029	0.028	0.028	0.025	0.025	0.029	0.041
3.7	0.023	0.034	0.027	0.031	0.033	0.040	0.030	0.026	0.025	0.024	0.024	0.028	0.040
3.9	0.035	0.030	0.022	0.033	0.042	0.051	0.035	0.030	0.028	0.028	0.025	0.028	0.051
4.1	0.015	0.014	0.012	0.022	0.025	0.030	0.024	0.022	0.022	0.023	0.022	0.026	0.030
4.3	0.014	0.012	0.012	0.017	0.021	0.024	0.019	0.019	0.018	0.019	0.019	0.021	0.024
4.5	0.011	0.010	0.009	0.012	0.014	0.018	0.017	0.018	0.018	0.017	0.017	0.019	0.018
4.7	0.011	0.010	0.011	0.011	0.014	0.021	0.020	0.023	0.025	0.022	0.020	0.021	0.025
4.9	0.010	0.011	0.010	0.010	0.013	0.024	0.023	0.030	0.033	0.035	0.038	0.040	0.038
5.1	0.012	0.011	0.015	0.011	0.017	0.027	0.025	0.030	0.029	0.037	0.041	0.044	0.041
5.3	0.014	0.012	0.013	0.015	0.017	0.024	0.023	0.033	0.050	0.054	0.038	0.027	0.054
5.5	0.011	0.016	0.010	0.015	0.012	0.015	0.012	0.012	0.014	0.019	0.019	0.017	0.019
5.7	0.012	0.014	0.009	0.009	0.010	0.015	0.012	0.012	0.012	0.015	0.015	0.014	0.015
5.9	0.011	0.012	0.008	0.007	0.009	0.012	0.011	0.012	0.011	0.012	0.012	0.012	0.012
6.1	0.010	0.011	0.010	0.008	0.008	0.012	0.011	0.011	0.011	0.012	0.012	0.012	0.012
6.3	0.011	0.010	0.009	0.008	0.008	0.012	0.012	0.013	0.012	0.013	0.012	0.012	0.013
6.5	0.011	0.009	0.009	0.010	0.008	0.011	0.010	0.012	0.011	0.012	0.011	0.012	0.012
6.7	0.012	0.012	0.013	0.010	0.010	0.014	0.011	0.013	0.013	0.015	0.016	0.022	0.016
6.9	0.010	0.012	0.010	0.008	0.008	0.012	0.010	0.012	0.012	0.013	0.012	0.013	0.013
7.1	0.010	0.013	0.011	0.009	0.009	0.012	0.009	0.010	0.011	0.012	0.012	0.012	0.013
7.3	0.009	0.012	0.011	0.009	0.008	0.011	0.008	0.009	0.009	0.011	0.011	0.011	0.012
7.5	0.009	0.013	0.011	0.009	0.007	0.012	0.009	0.009	0.011	0.012	0.012	0.012	0.013
7.7	0.008	0.011	0.010	0.008	0.007	0.010	0.008	0.008	0.009	0.010	0.011	0.011	0.011
7.9	0.007	0.010	0.011	0.008	0.008	0.010	0.009	0.008	0.009	0.010	0.010	0.011	0.011
8.1	0.008	0.010	0.011	0.009	0.008	0.010	0.010	0.009	0.010	0.011	0.011	0.011	0.011
8.3	0.007	0.010	0.010	0.009	0.008	0.009	0.009	0.008	0.009	0.010	0.010	0.011	0.010
8.5	0.007	0.010	0.010	0.008	0.007	0.009	0.009	0.009	0.009	0.009	0.010	0.011	0.010
8.7	0.007	0.009	0.011	0.009	0.007	0.009	0.009	0.009	0.009	0.010	0.010	0.011	0.011
8.9	0.007	0.010	0.011	0.009	0.007	0.010	0.008	0.009	0.009	0.009	0.010	0.011	0.011

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Model: SOFAR 100KTL-HV													
Phase A													
P_{bin} (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX (%)
F [kHz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2.1	0.112	0.110	0.163	0.198	0.135	0.110	0.110	0.079	0.064	0.091	0.111	0.101	0.198
2.3	0.078	0.139	0.139	0.079	0.109	0.072	0.072	0.075	0.049	0.060	0.071	0.070	0.139
2.5	0.065	0.143	0.146	0.076	0.092	0.068	0.068	0.070	0.052	0.050	0.063	0.066	0.146
2.7	0.046	0.163	0.165	0.111	0.096	0.094	0.094	0.080	0.067	0.049	0.063	0.071	0.165
2.9	0.048	0.099	0.094	0.059	0.070	0.070	0.070	0.057	0.058	0.044	0.044	0.053	0.099
3.1	0.038	0.084	0.078	0.042	0.065	0.055	0.055	0.045	0.055	0.044	0.038	0.047	0.084
3.3	0.035	0.073	0.046	0.045	0.075	0.072	0.072	0.060	0.068	0.056	0.039	0.048	0.075
3.5	0.031	0.029	0.027	0.046	0.049	0.055	0.055	0.055	0.053	0.047	0.037	0.044	0.055
3.7	0.026	0.028	0.036	0.035	0.045	0.045	0.045	0.043	0.042	0.040	0.037	0.044	0.045
3.9	0.026	0.033	0.050	0.036	0.047	0.054	0.054	0.052	0.048	0.048	0.046	0.049	0.054
4.1	0.018	0.038	0.048	0.034	0.041	0.045	0.045	0.041	0.037	0.037	0.036	0.044	0.048
4.3	0.014	0.035	0.039	0.019	0.024	0.027	0.027	0.031	0.032	0.032	0.032	0.035	0.039
4.5	0.012	0.039	0.042	0.018	0.019	0.022	0.022	0.027	0.029	0.028	0.028	0.025	0.042
4.7	0.014	0.031	0.049	0.020	0.020	0.023	0.023	0.029	0.031	0.035	0.036	0.040	0.049
4.9	0.010	0.040	0.035	0.021	0.023	0.029	0.029	0.030	0.032	0.034	0.034	0.037	0.040
5.1	0.011	0.043	0.046	0.023	0.027	0.031	0.031	0.043	0.049	0.054	0.053	0.059	0.054
5.3	0.017	0.033	0.043	0.019	0.018	0.018	0.018	0.024	0.033	0.042	0.049	0.049	0.049
5.5	0.020	0.035	0.038	0.012	0.012	0.013	0.013	0.016	0.017	0.019	0.020	0.023	0.038
5.7	0.014	0.021	0.034	0.013	0.012	0.011	0.011	0.014	0.016	0.017	0.018	0.020	0.034
5.9	0.016	0.025	0.028	0.014	0.011	0.010	0.010	0.012	0.013	0.014	0.014	0.015	0.028
6.1	0.013	0.025	0.028	0.013	0.013	0.012	0.012	0.012	0.012	0.013	0.014	0.014	0.028
6.3	0.013	0.024	0.024	0.015	0.014	0.012	0.012	0.013	0.013	0.014	0.015	0.016	0.024
6.5	0.012	0.017	0.013	0.012	0.014	0.011	0.011	0.011	0.011	0.013	0.013	0.014	0.017
6.7	0.014	0.020	0.017	0.017	0.015	0.012	0.012	0.013	0.013	0.014	0.014	0.016	0.020
6.9	0.012	0.014	0.015	0.012	0.015	0.011	0.011	0.012	0.014	0.014	0.015	0.015	0.015
7.1	0.011	0.012	0.017	0.012	0.015	0.011	0.011	0.012	0.013	0.013	0.013	0.014	0.017
7.3	0.010	0.014	0.017	0.016	0.012	0.012	0.012	0.011	0.012	0.012	0.012	0.012	0.017
7.5	0.010	0.017	0.021	0.012	0.012	0.011	0.011	0.010	0.012	0.012	0.014	0.014	0.021
7.7	0.009	0.015	0.016	0.013	0.012	0.010	0.010	0.009	0.011	0.011	0.012	0.012	0.016
7.9	0.010	0.018	0.015	0.014	0.012	0.011	0.011	0.009	0.010	0.012	0.012	0.012	0.018
8.1	0.010	0.017	0.014	0.013	0.013	0.012	0.012	0.010	0.011	0.012	0.013	0.014	0.017
8.3	0.010	0.014	0.014	0.013	0.013	0.012	0.012	0.011	0.011	0.012	0.012	0.012	0.014
8.5	0.010	0.015	0.017	0.014	0.013	0.011	0.011	0.012	0.011	0.011	0.012	0.012	0.017
8.7	0.010	0.011	0.018	0.014	0.014	0.012	0.012	0.010	0.011	0.012	0.013	0.013	0.018
8.9	0.010	0.012	0.016	0.013	0.013	0.012	0.012	0.010	0.011	0.010	0.012	0.012	0.016

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Model: SOFAR 100KTL-HV													
Phase B													
P_{bin} (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX (%)
F [kHz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2.1	0.120	0.121	0.168	0.211	0.116	0.108	0.114	0.072	0.067	0.088	0.103	0.095	0.211
2.3	0.080	0.138	0.154	0.070	0.106	0.072	0.075	0.069	0.054	0.058	0.068	0.069	0.154
2.5	0.067	0.155	0.149	0.062	0.091	0.060	0.068	0.069	0.053	0.057	0.069	0.068	0.155
2.7	0.047	0.155	0.156	0.104	0.089	0.089	0.067	0.074	0.062	0.049	0.064	0.068	0.156
2.9	0.045	0.105	0.091	0.067	0.062	0.066	0.057	0.051	0.051	0.041	0.041	0.047	0.105
3.1	0.041	0.087	0.079	0.043	0.062	0.054	0.055	0.052	0.056	0.043	0.044	0.054	0.087
3.3	0.036	0.073	0.048	0.042	0.071	0.067	0.062	0.058	0.063	0.051	0.041	0.050	0.073
3.5	0.028	0.030	0.029	0.045	0.050	0.056	0.051	0.050	0.048	0.045	0.037	0.043	0.056
3.7	0.032	0.025	0.031	0.037	0.048	0.045	0.044	0.044	0.047	0.044	0.039	0.049	0.048
3.9	0.025	0.035	0.051	0.037	0.045	0.050	0.055	0.049	0.049	0.048	0.045	0.050	0.055
4.1	0.016	0.035	0.044	0.035	0.036	0.041	0.044	0.036	0.036	0.035	0.033	0.040	0.044
4.3	0.016	0.037	0.040	0.017	0.022	0.026	0.030	0.027	0.030	0.034	0.036	0.038	0.040
4.5	0.012	0.040	0.044	0.016	0.018	0.020	0.020	0.022	0.024	0.025	0.024	0.025	0.044
4.7	0.014	0.032	0.047	0.018	0.019	0.021	0.022	0.024	0.027	0.031	0.031	0.036	0.047
4.9	0.011	0.040	0.037	0.022	0.023	0.030	0.031	0.030	0.030	0.034	0.032	0.035	0.040
5.1	0.012	0.043	0.050	0.023	0.028	0.032	0.038	0.042	0.045	0.050	0.052	0.056	0.052
5.3	0.017	0.033	0.044	0.020	0.018	0.017	0.019	0.023	0.032	0.042	0.051	0.050	0.051
5.5	0.022	0.042	0.044	0.012	0.012	0.013	0.014	0.017	0.020	0.021	0.022	0.025	0.044
5.7	0.015	0.021	0.033	0.013	0.012	0.011	0.012	0.014	0.017	0.018	0.019	0.021	0.033
5.9	0.016	0.025	0.026	0.014	0.011	0.011	0.011	0.012	0.014	0.014	0.015	0.016	0.026
6.1	0.015	0.025	0.028	0.013	0.014	0.013	0.012	0.013	0.013	0.014	0.014	0.015	0.028
6.3	0.013	0.024	0.024	0.015	0.014	0.012	0.013	0.013	0.013	0.015	0.015	0.016	0.024
6.5	0.013	0.017	0.014	0.012	0.013	0.011	0.012	0.012	0.012	0.013	0.013	0.014	0.017
6.7	0.015	0.021	0.017	0.018	0.015	0.011	0.013	0.014	0.012	0.014	0.014	0.016	0.021
6.9	0.014	0.015	0.017	0.013	0.014	0.011	0.010	0.013	0.013	0.015	0.015	0.016	0.017
7.1	0.012	0.013	0.018	0.013	0.014	0.012	0.011	0.014	0.013	0.013	0.013	0.014	0.018
7.3	0.012	0.014	0.018	0.017	0.012	0.012	0.010	0.012	0.013	0.012	0.012	0.013	0.018
7.5	0.011	0.018	0.021	0.014	0.012	0.011	0.011	0.011	0.013	0.013	0.015	0.015	0.021
7.7	0.010	0.015	0.016	0.012	0.012	0.011	0.011	0.010	0.012	0.012	0.012	0.012	0.016
7.9	0.011	0.017	0.015	0.015	0.013	0.010	0.013	0.010	0.012	0.012	0.012	0.012	0.017
8.1	0.011	0.018	0.016	0.014	0.013	0.013	0.011	0.011	0.011	0.013	0.014	0.014	0.018
8.3	0.010	0.015	0.016	0.013	0.013	0.012	0.011	0.012	0.011	0.013	0.013	0.013	0.016
8.5	0.011	0.014	0.017	0.014	0.014	0.012	0.010	0.012	0.011	0.012	0.013	0.013	0.017
8.7	0.011	0.014	0.019	0.014	0.014	0.012	0.011	0.011	0.011	0.013	0.013	0.014	0.019
8.9	0.010	0.013	0.019	0.013	0.013	0.012	0.012	0.011	0.011	0.011	0.013	0.013	0.019

Model: SOFAR 100KTL-HV													
Phase C													
P_{bin} (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX (%)
F [kHz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2.1	0.115	0.137	0.188	0.213	0.125	0.113	0.114	0.075	0.070	0.095	0.111	0.099	0.213
2.3	0.076	0.121	0.124	0.078	0.114	0.072	0.079	0.068	0.050	0.063	0.074	0.071	0.124
2.5	0.060	0.139	0.139	0.068	0.092	0.069	0.071	0.070	0.056	0.057	0.071	0.071	0.139
2.7	0.045	0.160	0.173	0.111	0.096	0.092	0.074	0.077	0.064	0.055	0.069	0.073	0.173
2.9	0.042	0.113	0.096	0.059	0.065	0.067	0.056	0.055	0.052	0.043	0.045	0.052	0.113
3.1	0.034	0.084	0.073	0.047	0.063	0.059	0.057	0.052	0.056	0.049	0.046	0.052	0.084
3.3	0.034	0.067	0.042	0.046	0.072	0.069	0.063	0.063	0.066	0.056	0.044	0.050	0.072
3.5	0.030	0.031	0.029	0.048	0.050	0.053	0.052	0.051	0.051	0.045	0.038	0.041	0.053
3.7	0.029	0.027	0.033	0.037	0.046	0.045	0.045	0.046	0.045	0.044	0.042	0.046	0.046
3.9	0.025	0.034	0.054	0.034	0.044	0.051	0.057	0.051	0.050	0.048	0.049	0.050	0.057
4.1	0.015	0.037	0.043	0.032	0.035	0.040	0.039	0.039	0.037	0.037	0.035	0.041	0.043
4.3	0.015	0.035	0.039	0.016	0.022	0.027	0.029	0.029	0.032	0.032	0.034	0.035	0.039
4.5	0.012	0.038	0.041	0.016	0.018	0.021	0.023	0.024	0.025	0.026	0.027	0.025	0.041
4.7	0.013	0.032	0.047	0.018	0.019	0.021	0.022	0.024	0.027	0.032	0.032	0.037	0.047
4.9	0.011	0.036	0.033	0.020	0.021	0.027	0.027	0.028	0.031	0.035	0.034	0.037	0.036
5.1	0.011	0.039	0.042	0.023	0.027	0.029	0.036	0.042	0.045	0.052	0.052	0.058	0.052
5.3	0.016	0.032	0.042	0.017	0.018	0.017	0.019	0.024	0.033	0.041	0.047	0.047	0.047
5.5	0.018	0.039	0.041	0.012	0.012	0.012	0.014	0.015	0.018	0.020	0.021	0.024	0.041
5.7	0.016	0.020	0.032	0.014	0.012	0.011	0.011	0.013	0.016	0.017	0.019	0.021	0.032
5.9	0.015	0.025	0.027	0.013	0.011	0.011	0.011	0.011	0.013	0.013	0.014	0.016	0.027
6.1	0.014	0.024	0.029	0.013	0.013	0.012	0.012	0.012	0.012	0.013	0.014	0.014	0.029
6.3	0.013	0.022	0.023	0.015	0.013	0.012	0.013	0.013	0.012	0.014	0.015	0.017	0.023
6.5	0.012	0.016	0.013	0.011	0.013	0.011	0.012	0.012	0.011	0.013	0.013	0.014	0.016
6.7	0.014	0.019	0.017	0.018	0.014	0.011	0.013	0.013	0.012	0.013	0.014	0.016	0.019
6.9	0.013	0.014	0.016	0.012	0.014	0.011	0.010	0.012	0.013	0.014	0.014	0.015	0.016
7.1	0.011	0.012	0.019	0.013	0.013	0.012	0.011	0.013	0.013	0.013	0.013	0.014	0.019
7.3	0.010	0.014	0.018	0.016	0.011	0.012	0.009	0.011	0.012	0.012	0.012	0.012	0.018
7.5	0.010	0.015	0.021	0.013	0.012	0.011	0.010	0.010	0.012	0.013	0.014	0.014	0.021
7.7	0.010	0.016	0.016	0.013	0.011	0.010	0.011	0.009	0.011	0.011	0.012	0.012	0.016
7.9	0.010	0.017	0.016	0.013	0.012	0.010	0.012	0.009	0.011	0.012	0.012	0.012	0.017
8.1	0.010	0.017	0.014	0.013	0.012	0.012	0.011	0.010	0.010	0.012	0.013	0.014	0.017
8.3	0.010	0.014	0.015	0.012	0.012	0.011	0.010	0.011	0.010	0.012	0.012	0.012	0.015
8.5	0.010	0.015	0.018	0.013	0.013	0.011	0.010	0.011	0.010	0.012	0.013	0.012	0.018
8.7	0.010	0.012	0.018	0.013	0.013	0.011	0.010	0.011	0.010	0.011	0.013	0.013	0.018
8.9	0.010	0.012	0.018	0.012	0.012	0.012	0.011	0.010	0.010	0.011	0.012	0.012	0.018

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Model: SOFAR 110KTL													
Phase A													
P_{bin} (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX (%)
F [kHz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2.1	0.119	0.104	0.129	0.084	0.062	0.049	0.046	0.040	0.035	0.042	0.051	0.055	0.129
2.3	0.058	0.041	0.075	0.063	0.050	0.044	0.040	0.037	0.031	0.033	0.041	0.040	0.075
2.5	0.087	0.034	0.073	0.059	0.043	0.043	0.031	0.034	0.029	0.027	0.035	0.040	0.087
2.7	0.061	0.046	0.082	0.071	0.054	0.051	0.034	0.031	0.025	0.023	0.034	0.041	0.082
2.9	0.054	0.057	0.054	0.045	0.037	0.037	0.028	0.028	0.022	0.020	0.026	0.030	0.057
3.1	0.060	0.035	0.046	0.042	0.033	0.031	0.027	0.023	0.022	0.021	0.024	0.030	0.060
3.3	0.037	0.069	0.047	0.056	0.045	0.039	0.035	0.027	0.023	0.022	0.028	0.032	0.069
3.5	0.042	0.052	0.032	0.033	0.033	0.030	0.026	0.022	0.021	0.021	0.022	0.027	0.052
3.7	0.040	0.036	0.027	0.031	0.030	0.027	0.026	0.021	0.019	0.020	0.023	0.026	0.040
3.9	0.032	0.049	0.029	0.040	0.038	0.038	0.032	0.026	0.022	0.021	0.021	0.026	0.049
4.1	0.032	0.029	0.021	0.034	0.034	0.031	0.026	0.023	0.022	0.022	0.021	0.021	0.034
4.3	0.031	0.023	0.019	0.032	0.030	0.026	0.024	0.022	0.021	0.019	0.022	0.019	0.032
4.5	0.026	0.024	0.020	0.030	0.035	0.032	0.029	0.026	0.023	0.021	0.023	0.020	0.035
4.7	0.026	0.017	0.020	0.030	0.032	0.030	0.029	0.030	0.028	0.027	0.036	0.027	0.036
4.9	0.028	0.013	0.030	0.039	0.038	0.036	0.038	0.040	0.058	0.083	0.091	0.073	0.091
5.1	0.025	0.012	0.028	0.043	0.042	0.039	0.045	0.051	0.060	0.073	0.084	0.075	0.084
5.3	0.026	0.012	0.028	0.029	0.037	0.037	0.029	0.021	0.016	0.019	0.029	0.026	0.037
5.5	0.022	0.014	0.018	0.027	0.023	0.017	0.017	0.016	0.016	0.012	0.016	0.015	0.027
5.7	0.017	0.027	0.016	0.015	0.016	0.018	0.019	0.017	0.014	0.011	0.011	0.010	0.027
5.9	0.015	0.025	0.015	0.012	0.013	0.015	0.014	0.013	0.012	0.010	0.009	0.008	0.025
6.1	0.013	0.018	0.013	0.011	0.012	0.012	0.012	0.012	0.012	0.010	0.009	0.008	0.018
6.3	0.011	0.016	0.014	0.010	0.012	0.013	0.013	0.013	0.012	0.010	0.009	0.008	0.016
6.5	0.009	0.013	0.012	0.010	0.010	0.011	0.011	0.011	0.011	0.010	0.010	0.008	0.013
6.7	0.010	0.011	0.014	0.010	0.011	0.011	0.011	0.012	0.013	0.013	0.016	0.013	0.016
6.9	0.011	0.012	0.015	0.009	0.009	0.010	0.010	0.011	0.011	0.010	0.009	0.008	0.015
7.1	0.008	0.009	0.012	0.009	0.009	0.009	0.009	0.010	0.010	0.009	0.008	0.008	0.012
7.3	0.008	0.009	0.010	0.008	0.008	0.008	0.007	0.008	0.009	0.008	0.008	0.007	0.010
7.5	0.010	0.009	0.010	0.008	0.008	0.008	0.008	0.008	0.009	0.009	0.007	0.007	0.010
7.7	0.008	0.009	0.009	0.008	0.008	0.007	0.008	0.008	0.008	0.008	0.007	0.007	0.009
7.9	0.008	0.011	0.009	0.008	0.007	0.007	0.007	0.007	0.007	0.008	0.007	0.007	0.011
8.1	0.008	0.013	0.010	0.008	0.007	0.008	0.008	0.008	0.008	0.008	0.007	0.007	0.013
8.3	0.008	0.011	0.010	0.008	0.007	0.007	0.008	0.008	0.008	0.008	0.007	0.007	0.011
8.5	0.008	0.012	0.010	0.008	0.008	0.008	0.007	0.007	0.007	0.008	0.008	0.007	0.012
8.7	0.008	0.011	0.010	0.008	0.008	0.008	0.008	0.008	0.007	0.007	0.008	0.007	0.011
8.9	0.008	0.009	0.010	0.008	0.008	0.007	0.008	0.008	0.007	0.007	0.008	0.007	0.010

Model: SOFAR 110KTL													
Phase B													
P_{bin} (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX (%)
F [kHz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2.1	0.137	0.109	0.127	0.081	0.050	0.034	0.029	0.029	0.034	0.041	0.047	0.051	0.137
2.3	0.065	0.053	0.068	0.059	0.043	0.039	0.033	0.030	0.026	0.031	0.038	0.042	0.068
2.5	0.082	0.038	0.076	0.054	0.040	0.034	0.028	0.026	0.024	0.026	0.039	0.037	0.082
2.7	0.070	0.045	0.081	0.065	0.049	0.036	0.021	0.019	0.019	0.022	0.034	0.035	0.081
2.9	0.058	0.052	0.047	0.044	0.034	0.030	0.024	0.021	0.018	0.017	0.026	0.029	0.058
3.1	0.060	0.036	0.050	0.039	0.031	0.026	0.022	0.018	0.018	0.020	0.030	0.028	0.060
3.3	0.039	0.063	0.046	0.049	0.036	0.028	0.023	0.017	0.021	0.024	0.029	0.030	0.063
3.5	0.046	0.046	0.030	0.032	0.028	0.024	0.023	0.019	0.020	0.022	0.025	0.027	0.046
3.7	0.040	0.038	0.031	0.030	0.030	0.026	0.021	0.019	0.020	0.021	0.025	0.025	0.040
3.9	0.031	0.047	0.028	0.034	0.034	0.029	0.023	0.021	0.020	0.022	0.023	0.023	0.047
4.1	0.036	0.026	0.021	0.030	0.030	0.028	0.023	0.021	0.020	0.018	0.022	0.020	0.036
4.3	0.029	0.023	0.021	0.031	0.029	0.026	0.023	0.022	0.022	0.020	0.027	0.020	0.031
4.5	0.023	0.022	0.019	0.028	0.029	0.026	0.024	0.025	0.023	0.025	0.032	0.020	0.032
4.7	0.023	0.016	0.019	0.028	0.028	0.023	0.026	0.026	0.030	0.034	0.041	0.026	0.041
4.9	0.018	0.013	0.020	0.034	0.034	0.028	0.031	0.036	0.050	0.068	0.079	0.038	0.079
5.1	0.019	0.013	0.023	0.032	0.033	0.029	0.032	0.037	0.049	0.059	0.071	0.047	0.071
5.3	0.024	0.014	0.021	0.028	0.027	0.028	0.027	0.024	0.024	0.028	0.036	0.030	0.036
5.5	0.019	0.014	0.020	0.022	0.024	0.022	0.019	0.017	0.017	0.018	0.018	0.020	0.024
5.7	0.017	0.032	0.018	0.015	0.018	0.018	0.017	0.016	0.015	0.014	0.012	0.014	0.032
5.9	0.016	0.028	0.019	0.013	0.016	0.017	0.016	0.012	0.011	0.009	0.010	0.010	0.028
6.1	0.012	0.018	0.016	0.012	0.013	0.016	0.016	0.015	0.014	0.012	0.010	0.009	0.018
6.3	0.012	0.018	0.018	0.011	0.012	0.014	0.014	0.014	0.013	0.012	0.010	0.009	0.018
6.5	0.010	0.014	0.015	0.012	0.011	0.012	0.013	0.012	0.011	0.009	0.010	0.009	0.015
6.7	0.009	0.012	0.015	0.011	0.012	0.012	0.013	0.014	0.014	0.014	0.018	0.014	0.018
6.9	0.012	0.014	0.016	0.010	0.011	0.010	0.010	0.011	0.012	0.011	0.010	0.010	0.016
7.1	0.009	0.010	0.014	0.011	0.011	0.009	0.010	0.010	0.010	0.009	0.008	0.008	0.014
7.3	0.008	0.009	0.011	0.009	0.009	0.009	0.008	0.009	0.010	0.010	0.008	0.008	0.011
7.5	0.011	0.009	0.011	0.009	0.008	0.009	0.008	0.009	0.010	0.010	0.008	0.008	0.011
7.7	0.009	0.008	0.010	0.009	0.008	0.009	0.008	0.008	0.009	0.008	0.008	0.007	0.010
7.9	0.008	0.010	0.010	0.008	0.008	0.009	0.008	0.008	0.009	0.009	0.008	0.007	0.010
8.1	0.010	0.013	0.011	0.009	0.009	0.009	0.008	0.007	0.008	0.009	0.008	0.008	0.013
8.3	0.009	0.013	0.010	0.009	0.009	0.009	0.008	0.008	0.008	0.008	0.008	0.007	0.013
8.5	0.008	0.013	0.010	0.008	0.008	0.009	0.009	0.008	0.008	0.009	0.009	0.008	0.013
8.7	0.009	0.012	0.011	0.009	0.008	0.008	0.008	0.007	0.007	0.008	0.008	0.007	0.012
8.9	0.009	0.010	0.010	0.009	0.009	0.008	0.009	0.007	0.007	0.007	0.008	0.007	0.010

Model: SOFAR 110KTL													
Phase C													
P_{bin} (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX (%)
F [kHz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2.1	0.116	0.095	0.134	0.085	0.055	0.049	0.040	0.035	0.035	0.045	0.052	0.058	0.134
2.3	0.065	0.048	0.070	0.058	0.045	0.040	0.032	0.030	0.028	0.034	0.047	0.045	0.070
2.5	0.080	0.034	0.075	0.059	0.041	0.041	0.028	0.027	0.023	0.023	0.034	0.035	0.080
2.7	0.058	0.053	0.084	0.072	0.053	0.045	0.031	0.025	0.021	0.021	0.035	0.038	0.084
2.9	0.056	0.060	0.052	0.043	0.034	0.028	0.025	0.021	0.018	0.019	0.029	0.030	0.060
3.1	0.055	0.041	0.048	0.042	0.035	0.030	0.026	0.020	0.018	0.018	0.027	0.027	0.055
3.3	0.038	0.071	0.045	0.054	0.039	0.034	0.032	0.022	0.021	0.024	0.027	0.031	0.071
3.5	0.043	0.051	0.032	0.033	0.030	0.025	0.023	0.019	0.020	0.023	0.028	0.027	0.051
3.7	0.036	0.039	0.030	0.032	0.032	0.028	0.025	0.019	0.018	0.019	0.025	0.025	0.039
3.9	0.034	0.049	0.026	0.038	0.039	0.035	0.028	0.023	0.020	0.022	0.025	0.024	0.049
4.1	0.035	0.027	0.021	0.031	0.027	0.026	0.020	0.019	0.019	0.018	0.020	0.018	0.035
4.3	0.026	0.023	0.019	0.030	0.031	0.028	0.024	0.021	0.019	0.017	0.023	0.017	0.031
4.5	0.025	0.022	0.017	0.030	0.030	0.027	0.024	0.023	0.022	0.021	0.026	0.019	0.030
4.7	0.023	0.015	0.019	0.033	0.029	0.023	0.024	0.026	0.029	0.029	0.035	0.027	0.035
4.9	0.019	0.012	0.022	0.038	0.038	0.035	0.038	0.044	0.061	0.081	0.094	0.077	0.094
5.1	0.021	0.011	0.027	0.037	0.037	0.030	0.032	0.037	0.050	0.069	0.082	0.065	0.082
5.3	0.023	0.013	0.024	0.027	0.028	0.034	0.029	0.023	0.023	0.022	0.031	0.023	0.034
5.5	0.019	0.014	0.020	0.020	0.022	0.020	0.021	0.019	0.014	0.013	0.013	0.011	0.022
5.7	0.015	0.031	0.015	0.015	0.017	0.018	0.018	0.016	0.014	0.013	0.010	0.010	0.031
5.9	0.015	0.027	0.014	0.013	0.014	0.015	0.015	0.014	0.012	0.011	0.009	0.009	0.027
6.1	0.012	0.020	0.014	0.011	0.012	0.015	0.016	0.015	0.013	0.011	0.010	0.009	0.020
6.3	0.012	0.017	0.015	0.010	0.011	0.012	0.014	0.014	0.013	0.012	0.010	0.009	0.017
6.5	0.009	0.012	0.013	0.010	0.010	0.010	0.011	0.012	0.011	0.011	0.010	0.009	0.013
6.7	0.009	0.012	0.014	0.010	0.011	0.011	0.013	0.014	0.014	0.014	0.017	0.013	0.017
6.9	0.011	0.012	0.015	0.009	0.010	0.009	0.010	0.011	0.012	0.011	0.010	0.009	0.015
7.1	0.008	0.009	0.013	0.009	0.010	0.009	0.008	0.009	0.010	0.010	0.009	0.008	0.013
7.3	0.008	0.009	0.010	0.008	0.008	0.008	0.008	0.009	0.010	0.009	0.008	0.008	0.010
7.5	0.010	0.009	0.010	0.008	0.008	0.009	0.008	0.008	0.009	0.010	0.008	0.008	0.010
7.7	0.008	0.009	0.010	0.009	0.008	0.008	0.008	0.007	0.008	0.009	0.008	0.007	0.010
7.9	0.008	0.009	0.009	0.008	0.008	0.009	0.008	0.008	0.009	0.009	0.008	0.007	0.009
8.1	0.009	0.012	0.011	0.008	0.008	0.008	0.008	0.008	0.008	0.009	0.008	0.007	0.012
8.3	0.009	0.011	0.010	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.007	0.011
8.5	0.008	0.012	0.010	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.007	0.012
8.7	0.008	0.011	0.011	0.008	0.008	0.007	0.008	0.008	0.007	0.008	0.008	0.007	0.011
8.9	0.009	0.010	0.010	0.008	0.008	0.008	0.007	0.007	0.007	0.007	0.008	0.007	0.010

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Model: SOFAR 125KTL-HV													
Phase A													
P_{bin} (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX (%)
F [kHz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2.1	0.096	0.088	0.173	0.122	0.083	0.090	0.090	0.075	0.079	0.066	0.051	0.044	0.173
2.3	0.057	0.111	0.104	0.096	0.056	0.062	0.062	0.044	0.052	0.050	0.045	0.040	0.111
2.5	0.064	0.114	0.064	0.087	0.058	0.053	0.053	0.037	0.046	0.051	0.045	0.039	0.114
2.7	0.056	0.131	0.044	0.053	0.079	0.060	0.060	0.040	0.047	0.055	0.048	0.040	0.131
2.9	0.044	0.079	0.040	0.038	0.052	0.047	0.047	0.035	0.036	0.042	0.038	0.033	0.079
3.1	0.031	0.067	0.050	0.037	0.044	0.043	0.043	0.036	0.031	0.036	0.034	0.032	0.067
3.3	0.049	0.058	0.068	0.032	0.054	0.052	0.052	0.048	0.038	0.039	0.038	0.038	0.068
3.5	0.036	0.023	0.051	0.023	0.039	0.036	0.036	0.038	0.032	0.031	0.032	0.033	0.051
3.7	0.034	0.023	0.049	0.021	0.035	0.034	0.034	0.035	0.030	0.027	0.028	0.031	0.049
3.9	0.034	0.026	0.059	0.030	0.042	0.045	0.045	0.044	0.039	0.033	0.032	0.035	0.059
4.1	0.023	0.031	0.035	0.022	0.036	0.039	0.039	0.035	0.030	0.028	0.029	0.033	0.039
4.3	0.025	0.028	0.023	0.019	0.032	0.033	0.033	0.032	0.028	0.025	0.027	0.030	0.033
4.5	0.026	0.031	0.022	0.031	0.032	0.033	0.033	0.037	0.037	0.035	0.034	0.035	0.037
4.7	0.028	0.025	0.024	0.024	0.029	0.031	0.031	0.040	0.044	0.047	0.051	0.055	0.051
4.9	0.022	0.032	0.018	0.034	0.035	0.037	0.037	0.050	0.061	0.068	0.086	0.093	0.086
5.1	0.022	0.035	0.020	0.047	0.049	0.045	0.045	0.054	0.072	0.088	0.101	0.102	0.101
5.3	0.028	0.027	0.019	0.034	0.036	0.039	0.039	0.048	0.037	0.035	0.044	0.052	0.048
5.5	0.024	0.028	0.015	0.024	0.019	0.022	0.022	0.023	0.021	0.021	0.025	0.028	0.028
5.7	0.019	0.017	0.011	0.020	0.017	0.019	0.019	0.022	0.021	0.019	0.019	0.019	0.022
5.9	0.017	0.020	0.011	0.017	0.012	0.013	0.013	0.018	0.018	0.018	0.019	0.017	0.020
6.1	0.012	0.020	0.016	0.015	0.011	0.011	0.011	0.016	0.016	0.015	0.016	0.015	0.020
6.3	0.012	0.019	0.017	0.014	0.012	0.012	0.012	0.016	0.016	0.017	0.016	0.016	0.019
6.5	0.011	0.014	0.018	0.012	0.012	0.012	0.012	0.012	0.012	0.014	0.015	0.014	0.018
6.7	0.011	0.016	0.021	0.014	0.011	0.012	0.012	0.011	0.012	0.014	0.014	0.015	0.021
6.9	0.009	0.011	0.021	0.016	0.010	0.011	0.011	0.010	0.011	0.013	0.014	0.013	0.021
7.1	0.010	0.010	0.018	0.019	0.011	0.011	0.011	0.010	0.010	0.011	0.012	0.012	0.019
7.3	0.008	0.011	0.014	0.016	0.010	0.008	0.008	0.009	0.009	0.009	0.010	0.010	0.016
7.5	0.008	0.013	0.013	0.018	0.012	0.009	0.009	0.011	0.010	0.010	0.011	0.011	0.018
7.7	0.008	0.012	0.012	0.015	0.009	0.009	0.009	0.011	0.010	0.008	0.009	0.010	0.015
7.9	0.008	0.014	0.012	0.014	0.009	0.010	0.010	0.010	0.010	0.008	0.008	0.009	0.014
8.1	0.008	0.014	0.014	0.015	0.009	0.010	0.010	0.011	0.011	0.008	0.009	0.010	0.015
8.3	0.008	0.011	0.015	0.014	0.010	0.010	0.010	0.010	0.011	0.009	0.008	0.009	0.015
8.5	0.009	0.012	0.015	0.013	0.010	0.009	0.009	0.009	0.011	0.009	0.008	0.009	0.015
8.7	0.009	0.009	0.015	0.013	0.011	0.009	0.009	0.009	0.011	0.009	0.009	0.009	0.015
8.9	0.009	0.009	0.011	0.012	0.010	0.009	0.009	0.008	0.010	0.010	0.009	0.009	0.012

Model: SOFAR 125KTL-HV													
Phase B													
P_{bin} (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX (%)
F [kHz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2.1	0.094	0.097	0.161	0.120	0.083	0.086	0.051	0.068	0.072	0.061	0.053	0.046	0.161
2.3	0.059	0.111	0.103	0.088	0.057	0.059	0.049	0.043	0.048	0.050	0.046	0.041	0.111
2.5	0.064	0.124	0.060	0.086	0.053	0.055	0.048	0.039	0.047	0.048	0.043	0.038	0.124
2.7	0.057	0.124	0.047	0.056	0.075	0.058	0.059	0.040	0.046	0.053	0.048	0.040	0.124
2.9	0.047	0.084	0.034	0.036	0.049	0.046	0.041	0.035	0.035	0.039	0.036	0.033	0.084
3.1	0.030	0.070	0.046	0.037	0.045	0.043	0.040	0.034	0.033	0.037	0.035	0.033	0.070
3.3	0.051	0.059	0.065	0.034	0.053	0.049	0.043	0.045	0.038	0.040	0.038	0.038	0.065
3.5	0.035	0.024	0.042	0.023	0.040	0.035	0.033	0.036	0.033	0.030	0.030	0.033	0.042
3.7	0.034	0.020	0.046	0.021	0.037	0.035	0.035	0.034	0.030	0.030	0.029	0.033	0.046
3.9	0.034	0.028	0.054	0.031	0.040	0.044	0.043	0.042	0.037	0.033	0.031	0.035	0.054
4.1	0.026	0.028	0.029	0.022	0.032	0.037	0.038	0.033	0.032	0.029	0.029	0.030	0.038
4.3	0.024	0.030	0.022	0.018	0.034	0.035	0.033	0.033	0.029	0.027	0.028	0.030	0.035
4.5	0.027	0.032	0.019	0.029	0.031	0.031	0.030	0.034	0.032	0.032	0.033	0.036	0.034
4.7	0.027	0.025	0.020	0.028	0.029	0.030	0.033	0.037	0.042	0.043	0.052	0.058	0.052
4.9	0.021	0.032	0.018	0.031	0.036	0.039	0.045	0.053	0.063	0.068	0.093	0.104	0.093
5.1	0.021	0.034	0.018	0.051	0.048	0.043	0.044	0.049	0.069	0.085	0.096	0.100	0.096
5.3	0.030	0.026	0.019	0.035	0.034	0.033	0.035	0.042	0.037	0.035	0.040	0.046	0.042
5.5	0.025	0.034	0.014	0.023	0.020	0.024	0.025	0.026	0.023	0.021	0.024	0.027	0.034
5.7	0.021	0.017	0.011	0.022	0.015	0.021	0.023	0.025	0.022	0.019	0.020	0.019	0.025
5.9	0.019	0.020	0.011	0.018	0.013	0.014	0.016	0.018	0.019	0.020	0.020	0.018	0.020
6.1	0.012	0.020	0.015	0.016	0.013	0.012	0.015	0.019	0.017	0.015	0.017	0.016	0.020
6.3	0.012	0.019	0.016	0.013	0.014	0.013	0.013	0.018	0.017	0.018	0.018	0.016	0.019
6.5	0.010	0.013	0.016	0.013	0.013	0.013	0.011	0.012	0.014	0.016	0.016	0.015	0.016
6.7	0.010	0.017	0.020	0.015	0.012	0.014	0.012	0.012	0.012	0.014	0.015	0.015	0.020
6.9	0.009	0.012	0.020	0.015	0.010	0.014	0.013	0.011	0.012	0.015	0.015	0.014	0.020
7.1	0.010	0.011	0.017	0.018	0.011	0.012	0.013	0.010	0.010	0.013	0.014	0.013	0.018
7.3	0.008	0.011	0.014	0.017	0.011	0.010	0.013	0.010	0.009	0.010	0.011	0.011	0.017
7.5	0.009	0.014	0.013	0.019	0.013	0.009	0.013	0.012	0.010	0.011	0.012	0.012	0.019
7.7	0.009	0.012	0.011	0.017	0.010	0.010	0.011	0.011	0.010	0.009	0.011	0.011	0.017
7.9	0.009	0.014	0.012	0.015	0.009	0.011	0.009	0.012	0.009	0.008	0.009	0.009	0.015
8.1	0.009	0.014	0.013	0.015	0.010	0.012	0.009	0.013	0.011	0.009	0.010	0.010	0.015
8.3	0.009	0.012	0.014	0.014	0.011	0.011	0.008	0.011	0.011	0.009	0.009	0.010	0.014
8.5	0.009	0.011	0.015	0.014	0.011	0.010	0.009	0.011	0.010	0.008	0.008	0.009	0.015
8.7	0.009	0.011	0.014	0.015	0.011	0.009	0.010	0.010	0.012	0.010	0.010	0.009	0.015
8.9	0.010	0.010	0.012	0.015	0.010	0.009	0.010	0.008	0.011	0.011	0.010	0.009	0.015

Model: SOFAR 125KTL-HV													
Phase C													
P_{bin} (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX (%)
F [kHz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2.1	0.092	0.109	0.153	0.127	0.085	0.087	0.053	0.072	0.075	0.062	0.053	0.046	0.153
2.3	0.050	0.097	0.111	0.095	0.057	0.058	0.042	0.045	0.051	0.050	0.046	0.040	0.111
2.5	0.065	0.112	0.058	0.084	0.060	0.057	0.054	0.040	0.046	0.048	0.043	0.038	0.112
2.7	0.055	0.128	0.044	0.056	0.077	0.062	0.060	0.042	0.048	0.053	0.047	0.038	0.128
2.9	0.044	0.091	0.041	0.038	0.050	0.045	0.043	0.032	0.036	0.042	0.037	0.033	0.091
3.1	0.030	0.067	0.044	0.037	0.046	0.048	0.038	0.038	0.034	0.036	0.033	0.031	0.067
3.3	0.048	0.054	0.068	0.035	0.057	0.051	0.044	0.045	0.039	0.039	0.036	0.036	0.068
3.5	0.034	0.024	0.044	0.023	0.037	0.033	0.034	0.033	0.031	0.031	0.031	0.033	0.044
3.7	0.034	0.021	0.047	0.020	0.035	0.033	0.036	0.036	0.031	0.030	0.028	0.031	0.047
3.9	0.032	0.027	0.056	0.030	0.040	0.044	0.045	0.040	0.037	0.033	0.030	0.033	0.056
4.1	0.023	0.030	0.028	0.023	0.032	0.034	0.032	0.032	0.031	0.027	0.030	0.032	0.034
4.3	0.021	0.028	0.021	0.018	0.033	0.034	0.033	0.031	0.029	0.028	0.028	0.030	0.034
4.5	0.024	0.031	0.019	0.028	0.032	0.032	0.031	0.035	0.031	0.032	0.033	0.035	0.035
4.7	0.024	0.026	0.021	0.024	0.027	0.029	0.032	0.036	0.038	0.042	0.048	0.054	0.048
4.9	0.019	0.029	0.017	0.028	0.032	0.032	0.035	0.043	0.051	0.055	0.080	0.085	0.080
5.1	0.020	0.031	0.017	0.048	0.043	0.037	0.037	0.040	0.058	0.075	0.092	0.094	0.092
5.3	0.026	0.026	0.017	0.032	0.029	0.029	0.032	0.036	0.036	0.034	0.043	0.052	0.043
5.5	0.021	0.031	0.014	0.023	0.021	0.024	0.026	0.026	0.023	0.022	0.025	0.029	0.031
5.7	0.020	0.016	0.010	0.019	0.016	0.018	0.021	0.022	0.022	0.018	0.020	0.019	0.022
5.9	0.018	0.020	0.011	0.015	0.011	0.011	0.015	0.017	0.020	0.019	0.020	0.018	0.020
6.1	0.012	0.019	0.015	0.015	0.012	0.012	0.014	0.017	0.017	0.017	0.017	0.016	0.019
6.3	0.012	0.017	0.016	0.012	0.013	0.011	0.012	0.016	0.017	0.017	0.018	0.016	0.018
6.5	0.010	0.013	0.016	0.012	0.012	0.012	0.011	0.012	0.014	0.016	0.016	0.014	0.016
6.7	0.010	0.015	0.020	0.014	0.012	0.014	0.011	0.011	0.012	0.015	0.015	0.016	0.020
6.9	0.009	0.011	0.019	0.015	0.010	0.013	0.012	0.011	0.011	0.014	0.014	0.013	0.019
7.1	0.009	0.010	0.017	0.017	0.011	0.011	0.012	0.010	0.010	0.013	0.013	0.013	0.017
7.3	0.008	0.011	0.013	0.017	0.010	0.010	0.012	0.010	0.008	0.010	0.011	0.011	0.017
7.5	0.008	0.012	0.012	0.017	0.012	0.009	0.012	0.011	0.010	0.010	0.011	0.011	0.017
7.7	0.008	0.013	0.010	0.015	0.010	0.009	0.010	0.011	0.010	0.008	0.010	0.010	0.015
7.9	0.008	0.013	0.011	0.014	0.009	0.010	0.009	0.011	0.010	0.008	0.008	0.009	0.014
8.1	0.008	0.013	0.013	0.015	0.010	0.011	0.008	0.012	0.011	0.008	0.009	0.009	0.015
8.3	0.008	0.011	0.014	0.013	0.010	0.010	0.008	0.010	0.012	0.009	0.009	0.009	0.014
8.5	0.008	0.012	0.013	0.013	0.010	0.009	0.009	0.010	0.011	0.009	0.009	0.008	0.013
8.7	0.008	0.010	0.013	0.013	0.010	0.009	0.009	0.009	0.011	0.009	0.010	0.009	0.013
8.9	0.009	0.010	0.011	0.013	0.010	0.009	0.009	0.008	0.011	0.010	0.010	0.009	0.013

Model: SOFAR 136KTL-HV													
Phase A													
P_{bin} (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX (%)
F [kHz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2.1	0.063	0.130	0.121	0.146	0.089	0.101	0.101	0.063	0.087	0.080	0.068	0.058	0.146
2.3	0.053	0.110	0.103	0.076	0.069	0.068	0.068	0.042	0.056	0.057	0.054	0.048	0.110
2.5	0.054	0.116	0.087	0.049	0.069	0.051	0.051	0.042	0.043	0.050	0.053	0.045	0.116
2.7	0.041	0.131	0.032	0.079	0.086	0.066	0.066	0.055	0.044	0.057	0.060	0.047	0.131
2.9	0.044	0.074	0.032	0.061	0.056	0.053	0.053	0.048	0.035	0.042	0.046	0.036	0.074
3.1	0.035	0.062	0.033	0.048	0.046	0.046	0.046	0.044	0.031	0.033	0.039	0.034	0.062
3.3	0.034	0.037	0.042	0.052	0.058	0.055	0.055	0.055	0.043	0.038	0.045	0.038	0.058
3.5	0.034	0.021	0.029	0.038	0.042	0.044	0.044	0.040	0.036	0.030	0.034	0.034	0.044
3.7	0.026	0.029	0.027	0.033	0.040	0.038	0.038	0.035	0.033	0.026	0.029	0.032	0.040
3.9	0.030	0.040	0.041	0.037	0.047	0.050	0.050	0.044	0.044	0.035	0.034	0.035	0.050
4.1	0.018	0.038	0.029	0.035	0.038	0.040	0.040	0.036	0.035	0.033	0.032	0.036	0.040
4.3	0.024	0.031	0.025	0.027	0.032	0.032	0.032	0.034	0.033	0.035	0.034	0.043	0.035
4.5	0.023	0.033	0.033	0.029	0.035	0.037	0.037	0.041	0.043	0.046	0.045	0.047	0.046
4.7	0.025	0.039	0.033	0.028	0.039	0.043	0.043	0.050	0.047	0.051	0.055	0.062	0.055
4.9	0.024	0.028	0.048	0.053	0.056	0.056	0.056	0.058	0.055	0.085	0.083	0.124	0.085
5.1	0.029	0.036	0.042	0.044	0.050	0.054	0.054	0.074	0.060	0.072	0.080	0.114	0.080
5.3	0.037	0.034	0.034	0.031	0.030	0.031	0.031	0.036	0.050	0.051	0.054	0.038	0.054
5.5	0.045	0.030	0.028	0.020	0.021	0.024	0.024	0.027	0.024	0.031	0.030	0.029	0.045
5.7	0.021	0.027	0.018	0.017	0.016	0.017	0.017	0.023	0.021	0.025	0.024	0.023	0.027
5.9	0.025	0.022	0.014	0.017	0.014	0.014	0.014	0.017	0.016	0.019	0.018	0.022	0.025
6.1	0.018	0.022	0.017	0.018	0.014	0.014	0.014	0.015	0.016	0.017	0.018	0.021	0.022
6.3	0.014	0.019	0.015	0.017	0.012	0.014	0.014	0.013	0.015	0.017	0.018	0.018	0.019
6.5	0.014	0.010	0.016	0.015	0.012	0.013	0.013	0.011	0.013	0.014	0.014	0.016	0.016
6.7	0.013	0.013	0.017	0.019	0.012	0.013	0.013	0.011	0.012	0.013	0.014	0.018	0.019
6.9	0.012	0.012	0.018	0.018	0.011	0.011	0.011	0.012	0.012	0.012	0.014	0.015	0.018
7.1	0.011	0.013	0.020	0.014	0.012	0.011	0.011	0.012	0.011	0.010	0.012	0.014	0.020
7.3	0.010	0.014	0.017	0.015	0.012	0.010	0.010	0.012	0.009	0.009	0.010	0.012	0.017
7.5	0.011	0.017	0.018	0.015	0.010	0.011	0.011	0.012	0.010	0.010	0.011	0.012	0.018
7.7	0.010	0.013	0.016	0.013	0.009	0.011	0.011	0.010	0.010	0.009	0.009	0.010	0.016
7.9	0.010	0.012	0.014	0.012	0.011	0.011	0.011	0.010	0.010	0.010	0.009	0.009	0.014
8.1	0.010	0.011	0.013	0.013	0.012	0.010	0.010	0.009	0.011	0.011	0.010	0.010	0.013
8.3	0.010	0.011	0.013	0.013	0.011	0.009	0.009	0.009	0.011	0.011	0.009	0.010	0.013
8.5	0.010	0.013	0.012	0.012	0.010	0.010	0.010	0.009	0.011	0.011	0.010	0.010	0.013
8.7	0.010	0.014	0.011	0.012	0.011	0.011	0.011	0.009	0.010	0.011	0.011	0.010	0.014
8.9	0.010	0.013	0.013	0.012	0.011	0.012	0.012	0.010	0.009	0.011	0.011	0.011	0.013

Model: SOFAR 136KTL-HV													
Phase B													
P_{bin} (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX (%)
F [kHz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2.1	0.058	0.133	0.114	0.147	0.082	0.099	0.065	0.063	0.082	0.071	0.068	0.061	0.147
2.3	0.053	0.123	0.099	0.076	0.071	0.065	0.061	0.047	0.054	0.054	0.054	0.049	0.123
2.5	0.051	0.118	0.085	0.051	0.062	0.054	0.057	0.042	0.047	0.049	0.050	0.044	0.118
2.7	0.047	0.124	0.036	0.069	0.084	0.061	0.066	0.052	0.044	0.052	0.058	0.047	0.124
2.9	0.046	0.073	0.031	0.059	0.052	0.052	0.045	0.044	0.034	0.037	0.042	0.035	0.073
3.1	0.031	0.063	0.032	0.052	0.046	0.045	0.043	0.040	0.030	0.036	0.041	0.036	0.063
3.3	0.038	0.038	0.039	0.048	0.055	0.054	0.050	0.049	0.040	0.039	0.045	0.040	0.055
3.5	0.031	0.023	0.032	0.036	0.044	0.041	0.040	0.036	0.035	0.030	0.033	0.035	0.044
3.7	0.030	0.024	0.026	0.035	0.041	0.039	0.038	0.036	0.033	0.029	0.033	0.034	0.041
3.9	0.030	0.040	0.038	0.036	0.045	0.048	0.044	0.043	0.041	0.035	0.035	0.035	0.048
4.1	0.019	0.035	0.029	0.032	0.037	0.041	0.038	0.037	0.030	0.028	0.029	0.035	0.041
4.3	0.026	0.032	0.025	0.028	0.034	0.036	0.036	0.034	0.033	0.034	0.035	0.040	0.036
4.5	0.022	0.035	0.036	0.032	0.037	0.039	0.039	0.037	0.037	0.042	0.043	0.048	0.043
4.7	0.025	0.037	0.034	0.029	0.040	0.043	0.045	0.045	0.038	0.045	0.056	0.066	0.056
4.9	0.023	0.029	0.049	0.054	0.056	0.056	0.056	0.060	0.056	0.075	0.084	0.115	0.084
5.1	0.030	0.039	0.042	0.041	0.046	0.046	0.050	0.061	0.057	0.061	0.075	0.100	0.075
5.3	0.039	0.035	0.037	0.031	0.029	0.030	0.032	0.035	0.051	0.051	0.051	0.043	0.051
5.5	0.046	0.035	0.026	0.020	0.020	0.023	0.026	0.030	0.028	0.034	0.031	0.032	0.046
5.7	0.023	0.026	0.021	0.017	0.017	0.019	0.019	0.024	0.022	0.027	0.024	0.024	0.027
5.9	0.026	0.021	0.015	0.016	0.014	0.016	0.016	0.019	0.017	0.022	0.019	0.022	0.026
6.1	0.019	0.022	0.018	0.019	0.015	0.017	0.015	0.017	0.017	0.019	0.018	0.023	0.022
6.3	0.014	0.019	0.014	0.017	0.013	0.015	0.015	0.015	0.015	0.019	0.018	0.019	0.019
6.5	0.013	0.011	0.014	0.015	0.013	0.015	0.014	0.012	0.012	0.014	0.014	0.016	0.015
6.7	0.013	0.013	0.018	0.020	0.012	0.015	0.015	0.012	0.012	0.014	0.015	0.019	0.020
6.9	0.012	0.013	0.018	0.018	0.012	0.012	0.013	0.012	0.013	0.013	0.015	0.016	0.018
7.1	0.012	0.015	0.019	0.015	0.013	0.011	0.014	0.013	0.011	0.011	0.013	0.014	0.019
7.3	0.011	0.014	0.020	0.015	0.012	0.011	0.012	0.013	0.010	0.009	0.011	0.013	0.020
7.5	0.011	0.017	0.018	0.015	0.011	0.011	0.009	0.012	0.012	0.011	0.012	0.012	0.018
7.7	0.011	0.013	0.016	0.014	0.009	0.012	0.009	0.012	0.011	0.010	0.010	0.011	0.016
7.9	0.011	0.012	0.015	0.012	0.011	0.013	0.009	0.011	0.011	0.010	0.009	0.010	0.015
8.1	0.011	0.012	0.014	0.014	0.012	0.011	0.010	0.010	0.012	0.012	0.010	0.011	0.014
8.3	0.010	0.013	0.014	0.013	0.011	0.010	0.012	0.010	0.012	0.012	0.010	0.010	0.014
8.5	0.012	0.014	0.013	0.013	0.010	0.010	0.012	0.009	0.012	0.011	0.010	0.010	0.014
8.7	0.011	0.015	0.013	0.014	0.011	0.011	0.010	0.009	0.011	0.012	0.011	0.011	0.015
8.9	0.010	0.015	0.014	0.013	0.011	0.012	0.010	0.009	0.010	0.011	0.012	0.010	0.015

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Model: SOFAR 136KTL-HV													
Phase C													
P_{bin} (%)	0	10	20	30	40	50	60	70	80	90	100	110	MAX (%)
F [kHz]	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	I_h(%)	
2.1	0.064	0.149	0.120	0.149	0.091	0.096	0.066	0.066	0.086	0.074	0.068	0.061	0.149
2.3	0.051	0.099	0.104	0.079	0.070	0.065	0.058	0.044	0.056	0.056	0.055	0.050	0.104
2.5	0.050	0.110	0.082	0.059	0.066	0.057	0.059	0.045	0.046	0.049	0.050	0.046	0.110
2.7	0.045	0.137	0.035	0.076	0.085	0.068	0.067	0.051	0.047	0.054	0.058	0.046	0.137
2.9	0.037	0.076	0.033	0.060	0.054	0.051	0.047	0.040	0.034	0.040	0.045	0.036	0.076
3.1	0.028	0.058	0.030	0.050	0.050	0.048	0.043	0.043	0.034	0.034	0.038	0.033	0.058
3.3	0.035	0.033	0.044	0.048	0.057	0.053	0.053	0.048	0.042	0.040	0.043	0.039	0.057
3.5	0.033	0.023	0.032	0.038	0.041	0.041	0.041	0.037	0.035	0.031	0.034	0.035	0.041
3.7	0.028	0.026	0.027	0.035	0.039	0.038	0.038	0.034	0.033	0.030	0.032	0.032	0.039
3.9	0.029	0.043	0.041	0.037	0.045	0.049	0.044	0.042	0.041	0.037	0.036	0.035	0.049
4.1	0.017	0.034	0.027	0.030	0.037	0.038	0.037	0.036	0.034	0.033	0.032	0.035	0.038
4.3	0.025	0.031	0.026	0.027	0.033	0.035	0.037	0.035	0.032	0.039	0.036	0.039	0.039
4.5	0.022	0.032	0.030	0.027	0.034	0.037	0.042	0.038	0.037	0.043	0.043	0.045	0.043
4.7	0.021	0.037	0.032	0.024	0.038	0.040	0.041	0.040	0.039	0.046	0.052	0.062	0.052
4.9	0.022	0.026	0.047	0.050	0.052	0.047	0.049	0.053	0.049	0.074	0.081	0.123	0.081
5.1	0.031	0.034	0.039	0.041	0.041	0.045	0.053	0.061	0.052	0.065	0.073	0.102	0.073
5.3	0.040	0.033	0.036	0.027	0.026	0.027	0.029	0.034	0.046	0.048	0.052	0.038	0.052
5.5	0.044	0.032	0.026	0.018	0.019	0.022	0.024	0.027	0.025	0.029	0.029	0.029	0.044
5.7	0.025	0.026	0.019	0.016	0.016	0.016	0.019	0.022	0.021	0.025	0.023	0.022	0.026
5.9	0.025	0.022	0.014	0.015	0.015	0.016	0.015	0.017	0.016	0.020	0.020	0.022	0.025
6.1	0.018	0.023	0.016	0.018	0.015	0.016	0.014	0.015	0.015	0.017	0.018	0.022	0.023
6.3	0.015	0.018	0.013	0.017	0.013	0.015	0.014	0.015	0.015	0.018	0.019	0.018	0.019
6.5	0.012	0.010	0.015	0.014	0.012	0.014	0.014	0.012	0.013	0.014	0.015	0.016	0.015
6.7	0.013	0.013	0.016	0.020	0.011	0.014	0.014	0.012	0.012	0.013	0.015	0.019	0.020
6.9	0.012	0.012	0.018	0.017	0.012	0.011	0.013	0.012	0.013	0.012	0.015	0.015	0.018
7.1	0.011	0.015	0.019	0.014	0.013	0.011	0.013	0.013	0.011	0.010	0.012	0.014	0.019
7.3	0.010	0.015	0.018	0.015	0.011	0.010	0.011	0.013	0.010	0.009	0.010	0.012	0.018
7.5	0.011	0.017	0.018	0.014	0.010	0.011	0.009	0.013	0.011	0.010	0.011	0.011	0.018
7.7	0.011	0.013	0.015	0.012	0.010	0.012	0.008	0.012	0.010	0.010	0.009	0.010	0.015
7.9	0.009	0.012	0.015	0.012	0.011	0.012	0.009	0.011	0.011	0.010	0.009	0.009	0.015
8.1	0.011	0.011	0.013	0.013	0.011	0.010	0.009	0.009	0.011	0.012	0.010	0.010	0.013
8.3	0.010	0.012	0.012	0.013	0.010	0.009	0.011	0.009	0.011	0.012	0.010	0.010	0.013
8.5	0.010	0.015	0.012	0.012	0.009	0.010	0.011	0.009	0.011	0.011	0.010	0.010	0.015
8.7	0.010	0.015	0.012	0.013	0.011	0.011	0.010	0.008	0.011	0.011	0.011	0.011	0.015
8.9	0.009	0.014	0.012	0.012	0.011	0.011	0.010	0.009	0.010	0.011	0.011	0.011	0.014

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

2.3 Grid Control Capability

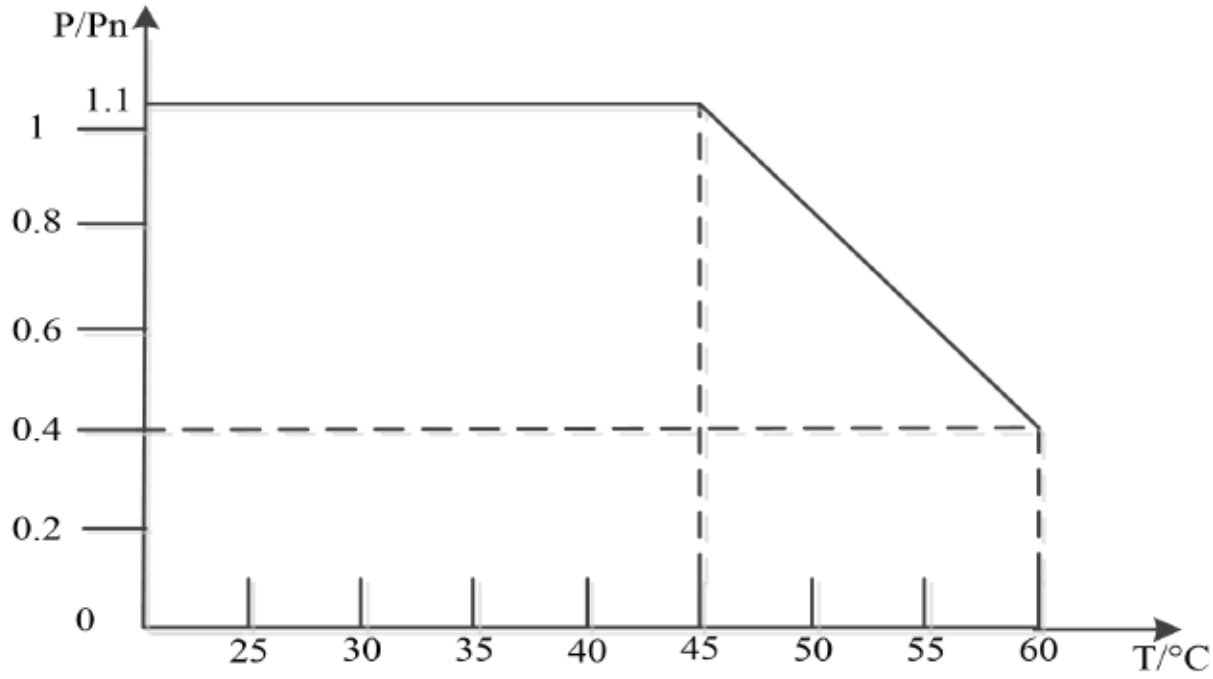
2.3.1 Wirkleistungs einspeisung in Abhängigkeit der Netfrequenz / Active power vs frequency

Überfrequenz / overfrequency	**Mittlerer Gradient der Wirkleistung sum Zeitpunkt der Frequenzüberhöhung / Mean power gradient at overfrequency**	mittl. Gradient / mean gradient 39.7 % P_M/Hz	
	Max. Einschwingzeit / Max. Settling time	1.0 s	
	Gradient der Wirkleistung nach Rückkehr aus Überfrequenz / Power gradient after recovery of over frequency	mittl. Gradient / mean gradient 8.0 %Pn/Hz max. Gradient / max. gradient 8.1 %Pn/Hz	
Unterfrequenz / underfrequency	**Mittlerer Gradient der Wirkleistung sum Zeitpunkt der Frequenzunterschreitung / Mean power gradient at underfrequency**	mittl. Gradient / mean gradient 40.3 % P_M/Hz	
	Max. Einschwingzeit / Max. Settling time	4.2 s	
	Gradient der Wirkleistung nach Rückkehr aus Unterfrequenz / Power gradient after recovery of under frequency	mittl. Gradient / mean gradient 8.0 %Pn/Hz max. Gradient / max. gradient 8.1 %Pn/Hz	
Die EZE kann mit reduzierter Leistung betrieben werden. / The unit is able to run at reduced power		☒ Ja / Yes	☐ Nein / No
Maximale Sollwertabweichung der Wirkleistung Max. deviation of power setting		Überschreitung / Exceeding 0.197 kW	Unterschreitung / Undercut 0.288 kW
Trennung vom Nets bei Wirkleistungssollwertvorgabe von: Disconnection from the grid at external active power setpoints at:		-- % Pn No disconnection is recorded. Operation at 0%Pn is evidenced.	
Einschwingzeit der Leistung für einen Sollwertsprung mit minimalem Gradienten / Response time of the power output after a change in setpoint with minimal gradient		P0 -> Pmin	Zeit / time : 46 s Gradient: 0.33 % Pn / s
		Pmin -> P0	Zeit / time : 44.8 s Gradient: 0.33 % Pn / s
Einschwingzeit der Leistung für einen Sollwertsprung mit maximalem Gradienten / Response time of the power output after a change in setpoint with maximum gradient		P0 -> Pmin	Zeit / time : 113 s Gradient: 0.66 % Pn / s
		Pmin -> P0	Zeit / time : 111.6 s Gradient: 0.66 % Pn / s

Note 1: Results given are obtained after test results performed on the model SOFAR 110KTL. These test results for the model SOFAR 110KTL are essentially valid for the derived models SOFAR 75KTL, SOFAR 80KTL, SOFAR 100KTL, SOFAR 100KTL-HV, SOFAR 125KTL-HV and SOFAR 136KTL-HV, considering the evaluation offered in the point 1.2 of this document.

As stated in the Manufacturer Declaration for SOFAR 110KTL TR8 (12th July of 2021):

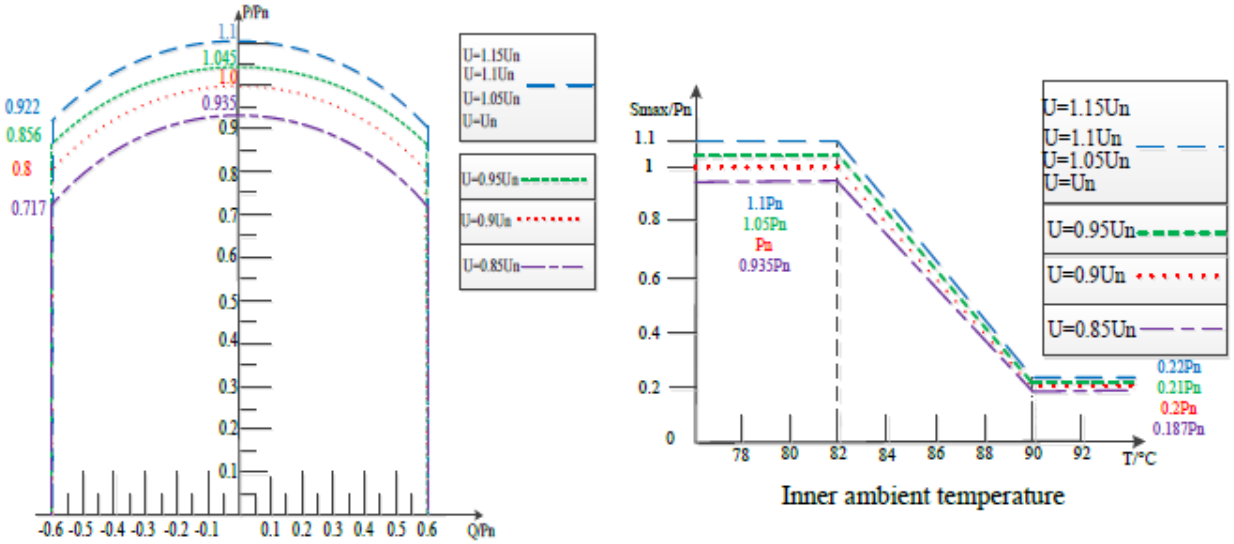
"Active power output is dependent on the temperature according to the following curve."



2.3.2 Procedure for reactive power provision

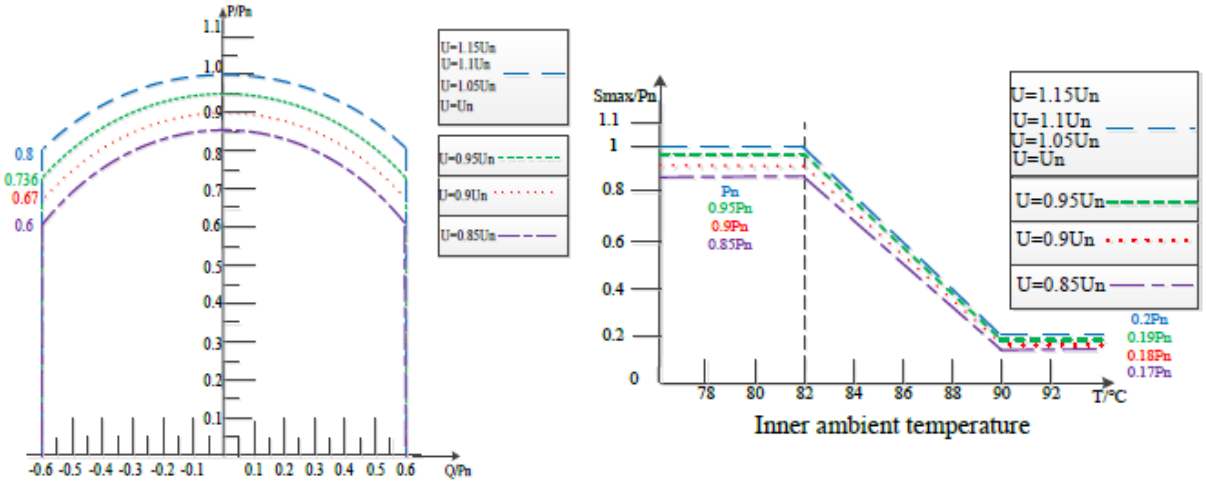
The certified PV inverter fulfils the following P-Q diagram at different voltage levels, as stated in the Manufacturer Declaration for SOFAR 110KTL TR8 (issued the 27th April of 2022):

For both VDE-AR-N 4110 and 4120, the voltage-dependent PQ diagram reactive power capability of 110KTL,80KTL,100KTL,100KTL-HV,125KTL-HV and 136KTL-HV PV inverter is shown below.



Voltage-dependent PQ diagram of 110KTL
(Inner ambient temperature up to 82)

For both VDE-AR-N 4110 and 4120, the voltage-dependent PQ diagram reactive power capability of 75KTL PV inverter is shown below.



Voltage-dependent PQ diagram of 75KTL
(Inner ambient temperature up to 82)

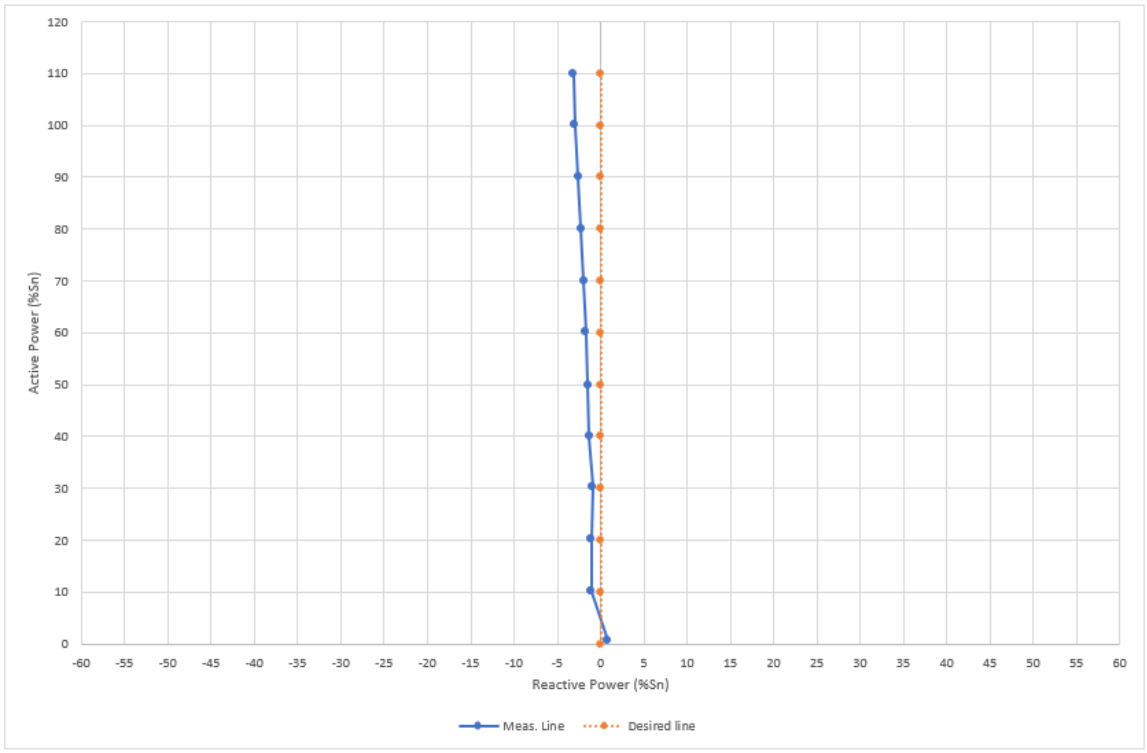
2.3.3 Blindleistungbereitstellung / Provision of reactive power

Blindleistungsregelung im Normalbetrieb und maximaler Blindleistungstellbreich / Control of reactive power in normal operation and maximum reactive power range	P/Pn	Qind	Q0	Qkap	P/Pn	Qind	Q0	Qkap
	0%	66.905	0.930	-66.106	60%	65.732	-1.850	-66.585
	10%	66.636	-1.156	-66.484	70%	65.556	-2.144	-66.707
	20%	66.278	-1.205	-66.352	80%	65.200	-2.502	-66.761
	30%	65.917	-0.979	-66.364	90%	64.859	-2.844	-66.827
	40%	65.519	-1.426	-66.434	100%	50.773	-3.302	-50.661
	50%	66.004	-1.611	-66.412	110%	-3.481	-3.432	-3.579
	Q in kVAr.							
Arbitspunkte des spannungsanhängigen P-Q Diagramms / Working points of the voltage dependent P-Q diagram	AP / WP		U/Un in %		P/Pn in %		Q in kVAr	
	See measured points and results in the following pages of this annex							
Blindleistungsregelung durch Sollwertvorgabe / Control of reactive power through set point signal	□Verschiebungsfaktor / power factor				☒Blindleistung / reactive power			
	Pbin bei / at Qmax				Q range at 50 %Pn is ± 60 %Pn			
Längste Einsschwingzeit / Longest response time	Parameter				Einsschwingzeit / settling time			
	T < 6 s				3.4 s			
	Standardzeit / standard time				--			
	T < 60 s				43.7 s			
Einstellgenauigkeit des Verschiebungsfaktors bzw. Blindleistung / Positioning accuracy of power factor or reactive power	Sollwert / setpoint				Istwert / measured value			
	33.000 kVAr				33.053 kVAr			
	0 kVA				-2.249 kVAr			
	-33.000 kVA				-33.081 kVAr			
Anmerkung / remark	Soweit Q(U) und Q(P)- Regelung wurde, sind diese im Prüfbericht hinterlegt / See Q(U) and Q(P) in test report							

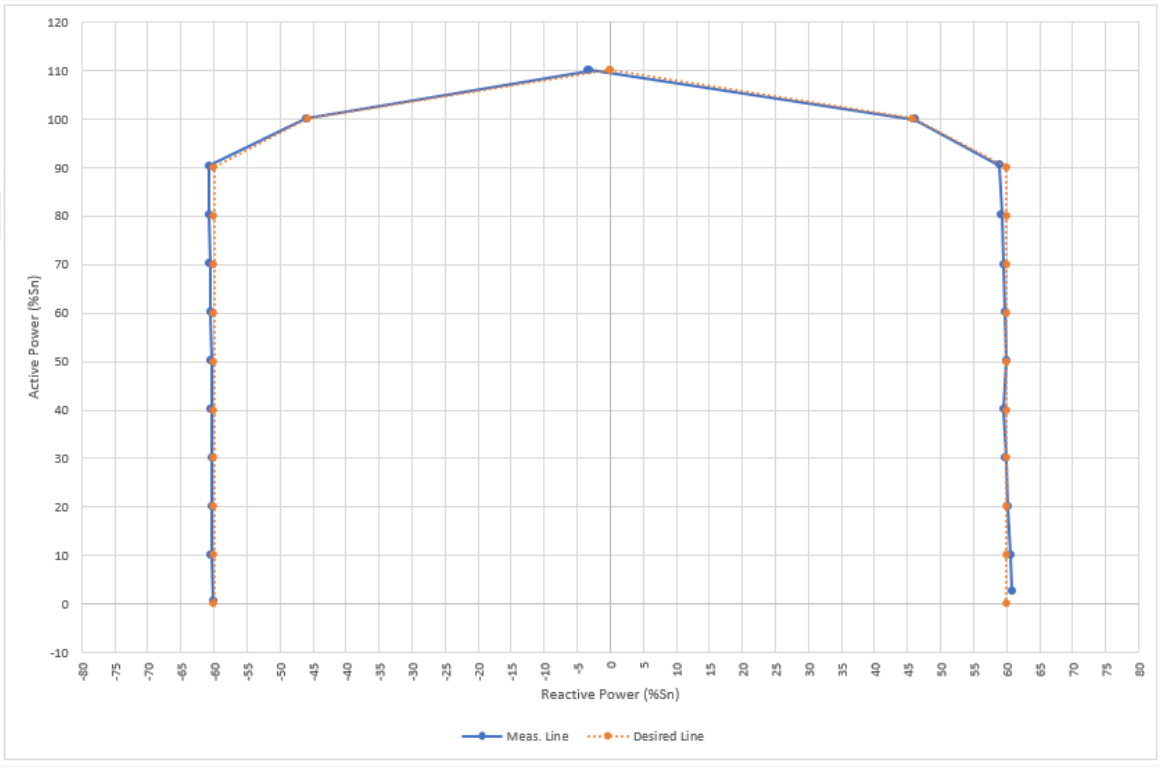
Note: Results given are obtained after test results performed on the model SOFAR 110KTL. These test results for the model SOFAR 110KTL are essentially valid for the derived models SOFAR 75KTL, SOFAR 80KTL, SOFAR 100KTL, SOFAR 100KTL-HV, SOFAR 125KTL-HV and SOFAR 136KTL-HV, considering the evaluation offered in the point 1.2 of this document.

In following charts, they are offered main results after performed tests included in the FGW TG3 test report.

Q = 0 kVAr: Active Power over Reactive Power

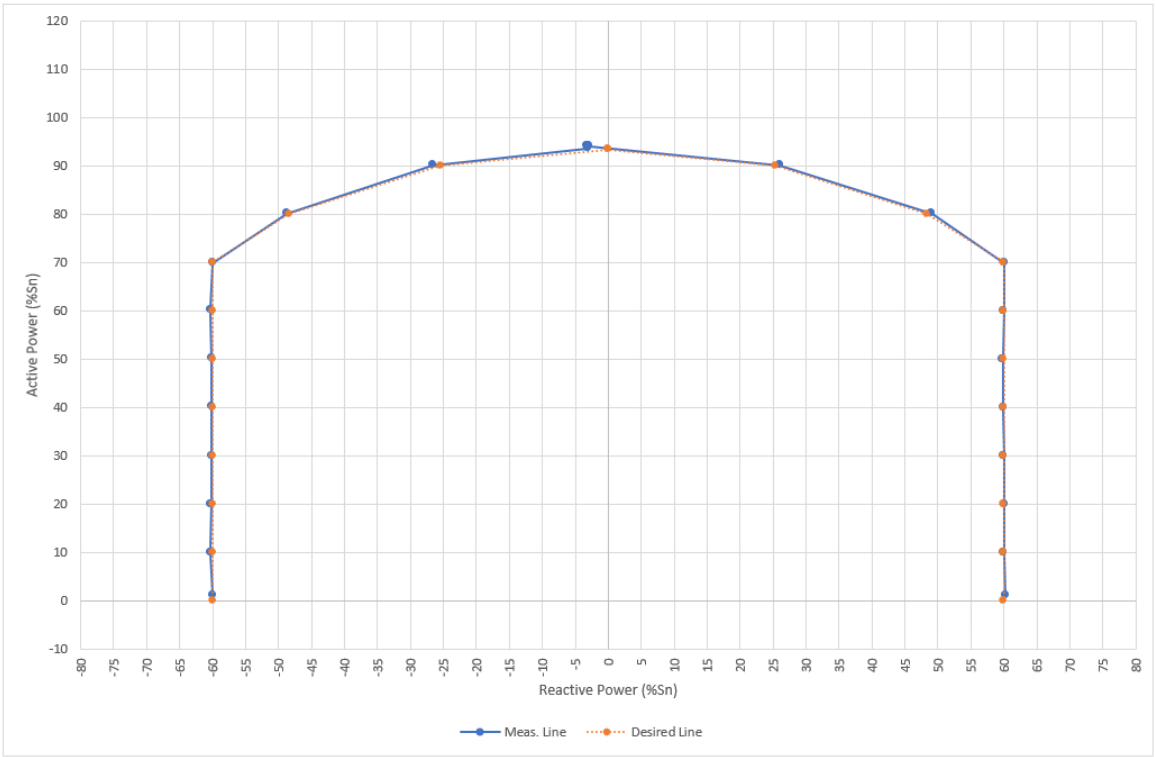


Semicircular Curve (100%Un): Active Power over Reactive Power

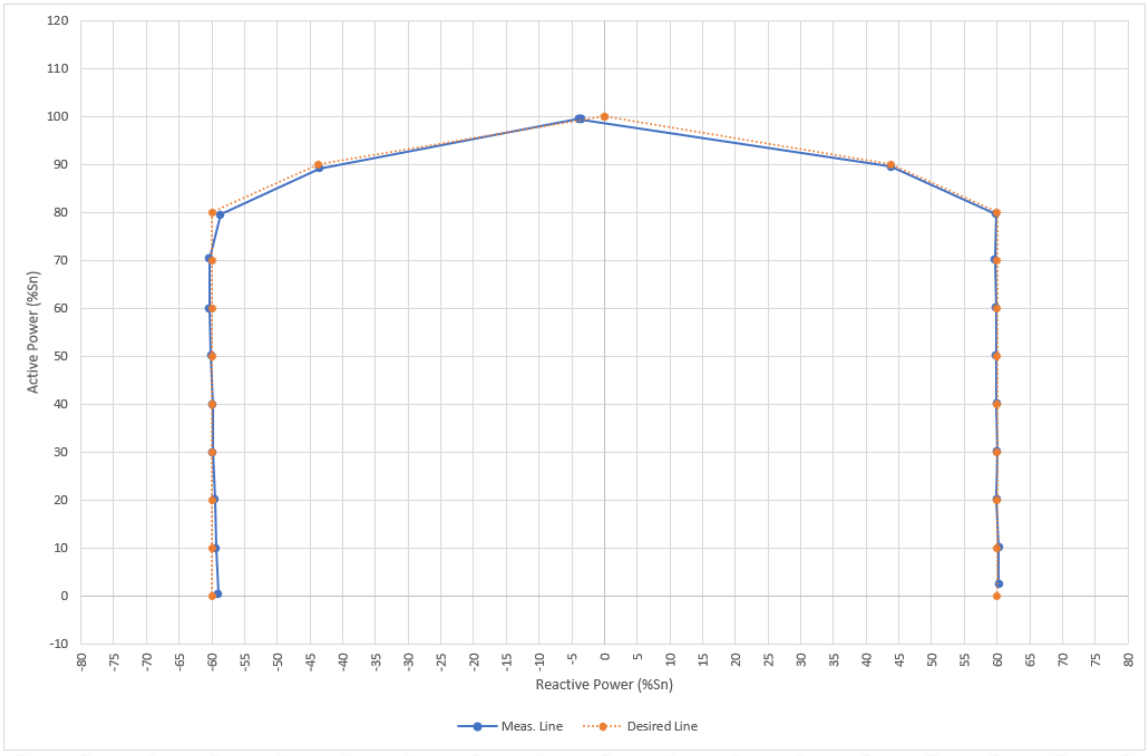


SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Semicircular Curve (85%Un): Active Power over Reactive Power

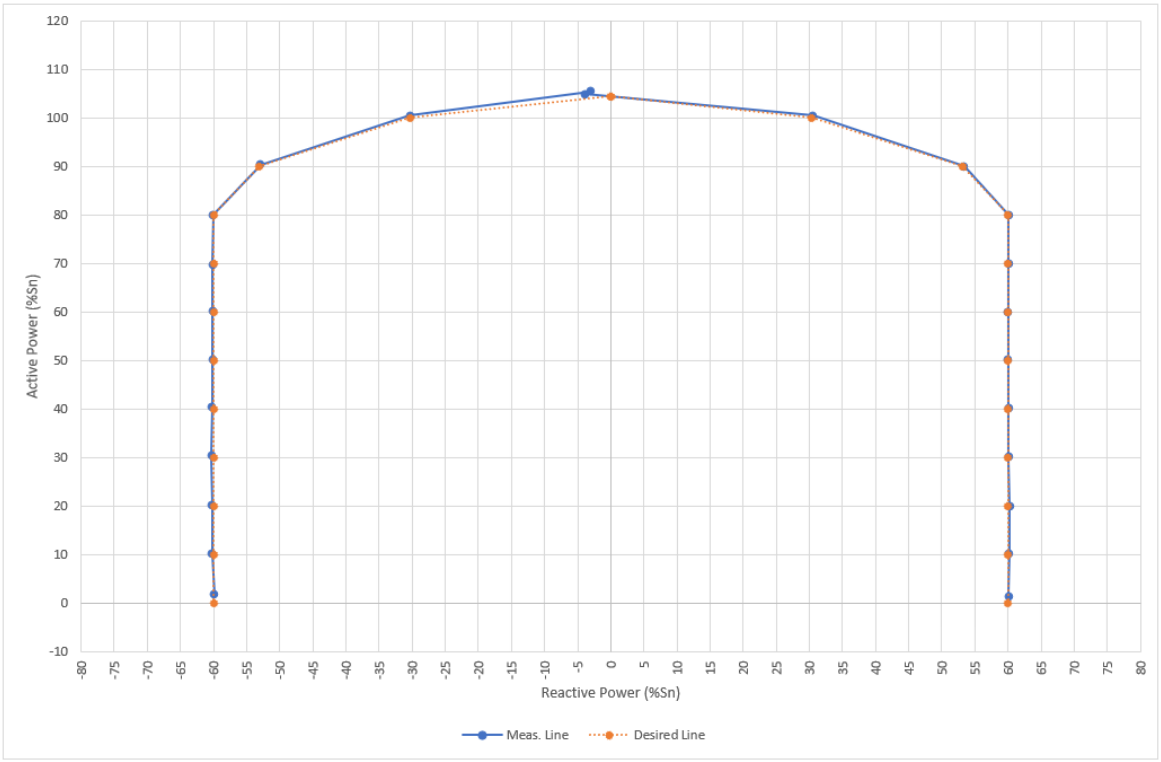


Semicircular Curve (90%Un): Active Power over Reactive Power

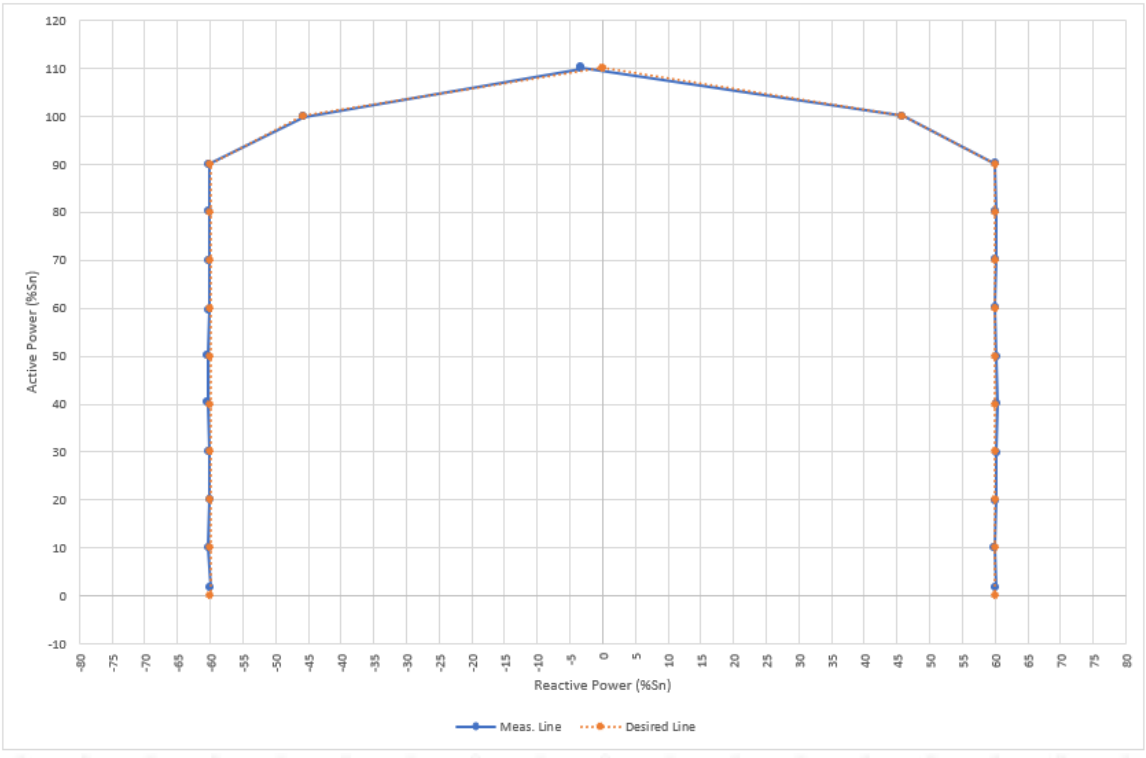


SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Semicircular Curve (95%Un): Active Power over Reactive Power

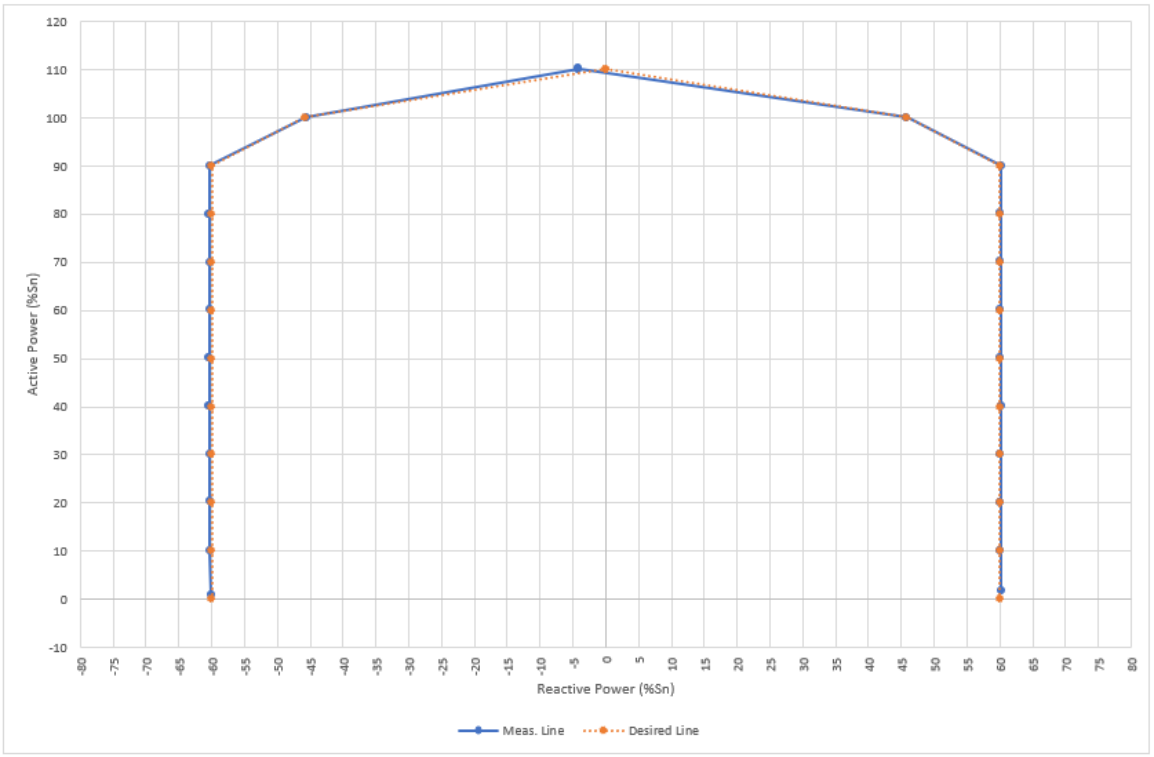


Semicircular Curve (105%Un): Active Power over Reactive Power

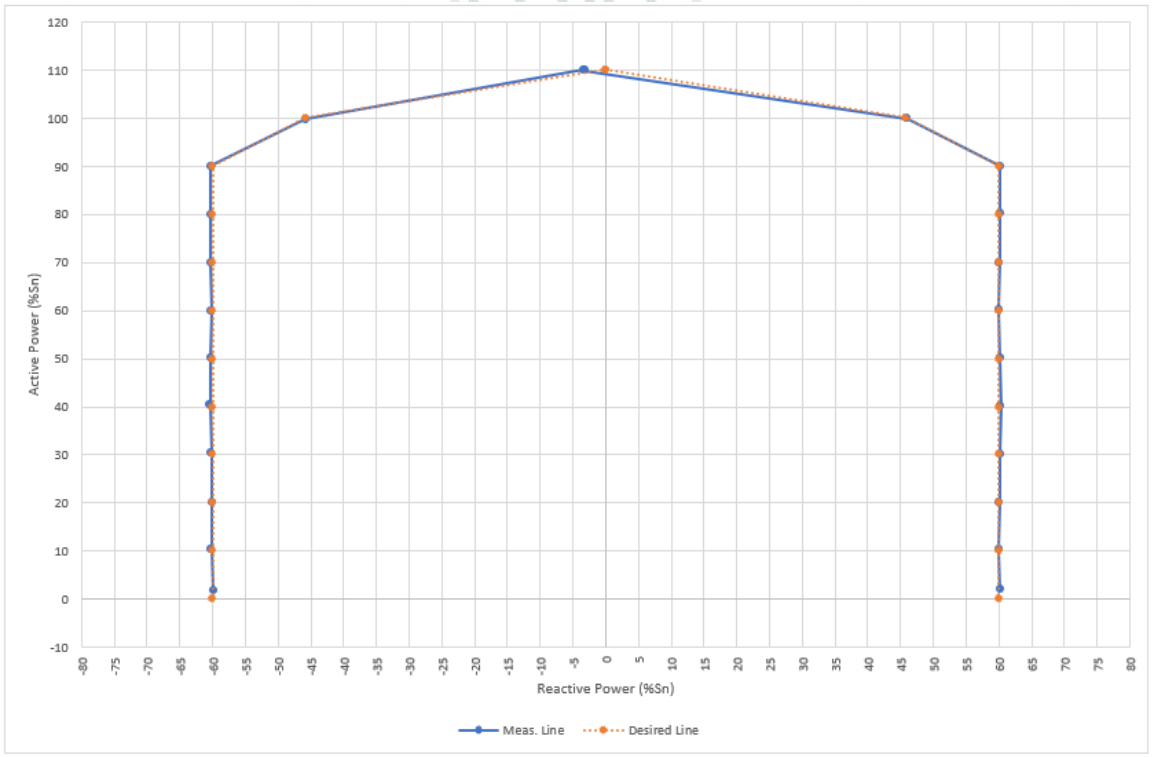


SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Semicircular Curve (110%Un): Active Power over Reactive Power



Semicircular Curve (115%Un): Active Power over Reactive Power



SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Tables below show measured values for each power step tested, at both the inductive and the capacitive sides:

Semicircular Curve (U = 100% Un) – Inductive							
P Desired (%Pn)	**P measured (kW)**	**Q measured (kVAr)**	**S measured (kVA)**	**S deviation (kVA)**	**Power Factor (cos φ)**	**V_{AC} + (V)**	**Number of records**
0	2.997	66.905	66.973	+0.973	0.045	230.1	>900
10	11.186	66.636	67.569	+0.815	0.166	230.2	>900
20	22.219	66.278	69.903	+0.940	0.318	230.3	>900
30	33.128	65.917	73.774	+1.275	0.449	230.4	>900
40	44.134	65.519	78.997	+1.822	0.559	230.5	>900
50	55.213	66.004	86.052	+3.251	0.642	230.6	>900
60	66.252	65.732	93.328	+4.131	0.710	230.6	>900
70	77.008	65.556	101.133	+4.925	0.761	230.7	>900
80	88.250	65.200	109.723	+6.012	0.804	230.8	>900
90	99.460	64.859	118.740	+7.133	0.838	230.9	>900
100	109.912	50.773	121.073	+1.256	0.908	230.9	>900
110	121.009	-3.481	121.092	+0.092	0.999	230.9	>900

Semicircular Curve (U = 100% Un) – Capacitive							
P Desired (%Pn)	**P measured (kW)**	**Q measured (kVAr)**	**S measured (kVA)**	**S deviation (kVA)**	**Power Factor (cos φ)**	**V_{AC} + (V)**	**Number of records**
0	0.733	-66.106	66.111	+0.111	0.011	230.0	>900
10	11.072	-66.484	67.400	+0.647	0.164	230.0	>900
20	22.182	-66.352	69.961	+0.998	0.317	230.1	>900
30	33.110	-66.364	74.165	+1.667	0.446	230.2	>900
40	44.122	-66.434	79.751	+2.576	0.553	230.3	>900
50	55.084	-66.412	86.283	+3.482	0.638	230.4	>900
60	66.093	-66.585	93.818	+4.622	0.704	230.5	>900
70	77.089	-66.707	101.944	+5.736	0.756	230.6	>900
80	88.357	-66.761	110.743	+7.032	0.798	230.7	>900
90	99.393	-66.827	119.770	+8.164	0.830	230.7	>900
100	110.028	-50.661	121.132	+1.315	0.908	230.9	>900
110	120.851	-3.579	120.938	-0.062	0.999	231.0	>900

Note: Test performed in active power priority mode. Maximum apparent power that can be reached corresponds to 110%Pn, approximately. Deviations are calculated in relation to this expected semicircular value.

Semicircular Curve (U = 85% Un) – Inductive							
P Desired (%Pn)	**P measured (kW)**	**Q measured (kVAr)**	**S measured (kVA) (*)**	**S deviation (kVA)**	**Power Factor (cos φ)**	**V_{AC+} (V)**	**Number of records**
0	1.277	66.319	66.333	+0.333	0.019	195.1	>1800
10	11.049	66.011	66.930	+0.177	0.165	195.1	>1800
20	22.088	66.103	69.697	+0.734	0.317	195.2	>1800
30	33.106	66.010	73.847	+1.349	0.448	195.3	>1800
40	44.067	65.906	79.283	+2.108	0.556	195.4	>1800
50	54.969	65.805	85.745	+2.944	0.641	195.5	>1800
60	65.919	66.023	93.299	+4.102	0.707	195.6	>1800
70	76.960	66.070	101.432	-1.418	0.759	195.7	>1800
80([1])	88.173	53.989	103.391	+0.541	0.853	195.8	>1800
90([1])	99.113	28.675	103.180	+0.330	0.961	195.8	>1800
100([1])	103.531	-3.246	103.603	+0.753	0.999	195.9	>1800
110([1])	103.534	-3.455	103.614	+0.764	0.999	195.9	>1800

Semicircular Curve (U = 85% Un) – Capacitive							
P Desired (%Pn)	**P measured (kW)**	**Q measured (kVAr)**	**S measured (kVA) (*)**	**S deviation (kVA)**	**Power Factor (cos φ)**	**V_{AC+} (V)**	**Number of records**
0	1.324	-65.997	66.011	+0.011	0.020	194.8	>1800
10	11.069	-66.380	67.298	+0.544	0.164	194.9	>1800
20	22.062	-66.252	69.829	+0.866	0.316	195.0	>1800
30	33.106	-66.141	73.965	+1.467	0.448	195.1	>1800
40	44.235	-66.126	79.559	+2.384	0.556	195.3	>1800
50	55.166	-66.154	86.138	+3.337	0.640	195.4	>1800
60	66.139	-66.327	93.669	+4.473	0.706	195.5	>1800
70	76.980	-65.977	101.386	-1.464	0.759	195.6	>1800
80([1])	88.156	-53.574	103.160	+0.310	0.855	195.8	>1800
90([1])	99.149	-29.223	103.367	+0.517	0.959	195.9	>1800
100([1])	102.981	-3.374	103.059	+0.209	0.999	195.9	>1800
110([1])	102.989	-3.352	103.066	+0.216	0.999	195.9	>1800

Note: Test performed in active power priority mode. Maximum apparent power that can be reached corresponds to 93.5%Pn, approximately. Deviations are calculated in relation to this expected semicircular value.

([1])The maximum apparent power was not reached below upper power levels due to maximum limitation in the Q capability.

Semicircular Curve (U = 90% Un) – Inductive							
P Desired (%Pn)	**P measured (kW)**	**Q measured (kVAr)**	**S measured (kVA) (*)**	**S deviation (kVA)**	**Power Factor (cos φ)**	**V_{AC+} (V)**	**Number of records**
0	2.848	66.255	66.316	+0.316	0.043	207.1	>1800
10	11.357	66.294	67.260	+0.507	0.169	207.2	>1800
20	22.380	65.925	69.620	+0.657	0.321	207.3	>1800
30	33.176	65.993	73.863	+1.364	0.449	207.4	>1800
40	44.112	65.902	79.303	+2.128	0.556	207.5	>1800
50	55.177	65.813	85.883	+3.082	0.642	207.6	>1800
60	66.431	65.840	93.531	+4.334	0.710	207.7	>1800
70	77.255	65.735	101.437	+5.229	0.762	207.8	>1800
80	87.730	65.805	109.667	+5.956	0.800	207.9	>1800
90([1])	98.570	48.066	109.665	-0.335	0.899	207.9	>1800
100([1])	109.443	-4.272	109.527	-0.473	0.999	207.9	>1800
110([1])	109.428	-4.271	109.512	-0.488	0.999	207.9	>1800

Semicircular Curve (U = 90% Un) – Capacitive							
P Desired (%Pn)	**P measured (kW)**	**Q measured (kVAr)**	**S measured (kVA) (*)**	**S deviation (kVA)**	**Power Factor (cos φ)**	**V_{AC+} (V)**	**Number of records**
0	0.708	-64.961	64.965	-1.035	0.011	207.0	>1800
10	11.240	-65.336	66.296	-0.457	0.170	207.1	>1800
20	22.302	-65.533	69.224	+0.261	0.322	207.2	>1800
30	33.009	-65.873	73.680	+1.182	0.448	207.3	>1800
40	43.965	-65.879	79.202	+2.027	0.555	207.4	>1800
50	55.267	-66.136	86.188	+3.387	0.641	207.4	>1800
60	66.078	-66.354	93.644	+4.447	0.706	207.6	>1800
70	77.499	-66.428	102.073	+5.865	0.759	207.6	>1800
80	87.672	-64.598	108.901	+5.190	0.805	207.7	>1800
90([1])	98.073	-47.920	109.155	-0.845	0.898	207.9	>1800
100([1])	109.595	-3.928	109.666	-0.334	0.999	208.0	>1800
110([1])	109.600	-3.913	109.671	-0.329	0.999	208.0	>1800

Note: Test performed in active power priority mode. Maximum apparent power that can be reached corresponds to 100%Pn, approximately. Deviations are calculated in relation to this expected semicircular value.

([1])The maximum apparent power was not reached below upper power levels due to maximum limitation in the Q capability.

Semicircular Curve (U = 95% Un) – Inductive							
P Desired (%Pn)	**P measured (kW)**	**Q measured (kVAr)**	**S measured (kVA) (*)**	**S deviation (kVA)**	**Power Factor (cos φ)**	**V_{AC+} (V)**	**Number of records**
0	1.469	66.096	66.113	+0.113	0.022	218.3	>1800
10	11.367	66.186	67.155	+0.402	0.169	218.4	>1800
20	22.174	66.224	69.838	+0.874	0.318	218.4	>1800
30	33.209	66.148	74.017	+1.519	0.449	218.5	>1800
40	44.199	66.061	79.483	+2.308	0.556	218.6	>1800
50	55.102	65.988	85.969	+3.168	0.641	218.6	>1800
60	66.037	66.036	93.390	+4.194	0.707	218.5	>1800
70	77.007	66.152	101.520	+5.312	0.759	218.6	>1800
80	88.074	66.085	110.111	+6.400	0.800	218.7	>1800
90([1])	99.052	58.774	115.178	+3.571	0.860	218.7	>1800
100([1])	110.515	33.645	115.523	+0.573	0.957	218.8	>1800
110([1])	115.489	-4.332	115.571	+0.621	0.999	218.8	>1800

Semicircular Curve (U = 95% Un) – Capacitive							
P Desired (%Pn)	**P measured (kW)**	**Q measured (kVAr)**	**S measured (kVA) (*)**	**S deviation (kVA)**	**Power Factor (cos φ)**	**V_{AC+} (V)**	**Number of records**
0	2.014	-65.873	65.904	-0.096	0.031	218.0	>1800
10	11.277	-66.206	67.160	+0.407	0.168	218.1	>1800
20	22.383	-66.231	69.912	+0.948	0.320	218.2	>1800
30	33.422	-66.294	74.242	+1.744	0.450	218.3	>1800
40	44.395	-66.187	79.697	+2.522	0.557	218.4	>1800
50	55.171	-66.116	86.111	+3.310	0.641	218.5	>1800
60	66.297	-66.112	93.627	+4.431	0.708	218.6	>1800
70	76.879	-66.109	101.395	+5.187	0.758	218.7	>1800
80	88.048	-66.049	110.068	+6.357	0.800	218.7	>1800
90([1])	99.309	-58.198	115.105	+3.499	0.863	218.9	>1800
100([1])	110.588	-33.387	115.518	+0.568	0.957	219.0	>1800
110([1])	115.947	-3.330	116.021	+1.071	0.999	219.1	>1800

Note: Test performed in active power priority mode. Maximum apparent power that can be reached corresponds to 104.5%Pn, approximately. Deviations are calculated in relation to this expected semicircular value.

([1])The maximum apparent power was not reached below upper power levels due to maximum limitation in the Q capability.

Semicircular Curve (U = 105% Un) – Inductive							
P Desired (%Pn)	**P measured (kW)**	**Q measured (kVAr)**	**S measured (kVA) (*)**	**S deviation (kVA)**	**Power Factor (cos φ)**	**V_{AC+} (V)**	**Number of records**
0	1.938	66.170	66.199	+0.199	0.029	241.1	>1800
10	11.146	65.919	66.855	+0.102	0.167	241.1	>1800
20	21.901	66.060	69.597	+0.633	0.315	241.2	>1800
30	32.977	66.193	73.953	+1.455	0.446	241.3	>1800
40	44.018	66.321	79.600	+2.425	0.553	241.4	>1800
50	54.996	66.217	86.078	+3.277	0.639	241.4	>1800
60	66.214	66.041	93.520	+4.323	0.708	241.5	>1800
70	77.138	66.071	101.568	+5.359	0.759	241.6	>1800
80	88.287	66.087	110.283	+6.572	0.801	241.6	>1800
90	99.153	66.010	119.117	+7.510	0.832	241.7	>1800
100	110.065	50.415	121.063	+1.247	0.909	241.7	>1800
110	121.213	-3.704	121.313	+0.313	0.999	241.8	>1800

Semicircular Curve (U = 105% Un) – Capacitive							
P Desired (%Pn)	**P measured (kW)**	**Q measured (kVAr)**	**S measured (kVA) (*)**	**S deviation (kVA)**	**Power Factor (cos φ)**	**V_{AC+} (V)**	**Number of records**
0	1.965	-65.919	65.948	-0.052	0.030	240.9	>1800
10	11.225	-66.291	67.235	+0.481	0.167	240.9	>1800
20	22.094	-66.119	69.713	+0.749	0.317	241.0	>1800
30	33.263	-66.225	74.109	+1.611	0.449	241.1	>1800
40	44.355	-66.413	79.863	+2.688	0.555	241.2	>1800
50	55.084	-66.397	86.272	+3.471	0.638	241.3	>1800
60	65.671	-66.251	93.285	+4.088	0.704	241.4	>1800
70	77.048	-66.218	101.594	+5.386	0.758	241.5	>1800
80	88.122	-66.153	110.190	+6.479	0.800	241.5	>1800
90	99.065	-66.238	119.170	+7.564	0.831	241.6	>1800
100	109.904	-50.263	120.853	+1.037	0.909	241.7	>1800
110	120.859	-3.676	120.958	-0.042	0.999	241.9	>1800

Note: Test performed in active power priority mode. Maximum apparent power that can be reached corresponds to 110%Pn, approximately. Deviations are calculated in relation to this expected semicircular value. The maximum apparent power was not reached below upper power levels due to maximum limitation in the Q capability.

Semicircular Curve (U = 110% Un) – Inductive							
P Desired (%Pn)	**P measured (kW)**	**Q measured (kVAr)**	**S measured (kVA) (*)**	**S deviation (kVA)**	**Power Factor (cos φ)**	**V_{AC+} (V)**	**Number of records**
0	2.036	66.285	66.317	+0.317	0.031	252.7	>1800
10	10.970	66.072	66.976	+0.223	0.164	252.7	>1800
20	22.025	66.117	69.689	+0.725	0.316	252.9	>1800
30	33.063	66.166	73.967	+1.469	0.447	252.8	>1800
40	44.117	66.218	79.569	+2.393	0.554	252.9	>1800
50	55.151	66.154	86.128	+3.327	0.640	253.0	>1800
60	66.115	66.108	93.496	+4.300	0.707	253.1	>1800
70	77.116	66.163	101.610	+5.402	0.759	253.1	>1800
80	88.191	66.098	110.212	+6.501	0.800	253.2	>1800
90	99.094	66.233	119.191	+7.585	0.831	253.3	>1800
100	110.054	50.438	121.061	+1.245	0.909	253.3	>1800
110	121.132	-4.512	121.216	+0.216	0.999	253.4	>1800

Semicircular Curve (U = 110% Un) – Capacitive							
P Desired (%Pn)	**P measured (kW)**	**Q measured (kVAr)**	**S measured (kVA) (*)**	**S deviation (kVA)**	**Power Factor (cos φ)**	**V_{AC+} (V)**	**Number of records**
0	1.176	-66.073	66.083	+0.083	0.018	252.4	>1800
10	11.203	-66.335	67.274	+0.521	0.167	252.5	>1800
20	22.327	-66.371	70.026	+1.062	0.319	252.6	>1800
30	33.221	-66.334	74.188	+1.690	0.448	252.7	>1800
40	44.113	-66.458	79.766	+2.591	0.553	252.8	>1800
50	55.042	-66.407	86.253	+3.452	0.638	252.9	>1800
60	66.069	-66.309	93.606	+4.409	0.706	253.0	>1800
70	76.897	-66.320	101.546	+5.338	0.757	253.1	>1800
80	87.765	-66.389	110.046	+6.335	0.798	253.2	>1800
90	99.001	-66.329	119.167	+7.561	0.831	253.2	>1800
100	110.108	-50.153	120.992	+1.176	0.910	253.3	>1800
110	121.098	-4.587	121.185	+0.185	0.999	253.4	>1800

Note: Test performed in active power priority mode. Maximum apparent power that can be reached corresponds to 110%Pn, approximately. Deviations are calculated in relation to this expected semicircular value. The maximum apparent power was not reached below upper power levels due to maximum limitation in the Q capability.

Semicircular Curve (U = 115% Un) – Inductive							
P Desired (%Pn)	**P measured (kW)**	**Q measured (kVAr)**	**S measured (kVA) (*)**	**S deviation (kVA)**	**Power Factor (cos φ)**	**V_{AC+} (V)**	**Number of records**
0	2.295	66.211	66.252	+0.252	0.035	264.1	>1800
10	11.292	65.962	66.923	+0.170	0.169	264.1	>1800
20	22.030	66.088	69.664	+0.700	0.316	264.2	>1800
30	33.086	66.208	74.016	+1.518	0.447	264.3	>1800
40	44.107	66.323	79.652	+2.477	0.554	264.3	>1800
50	55.046	66.215	86.109	+3.308	0.639	264.4	>1800
60	66.239	66.013	93.518	+4.322	0.708	264.4	>1800
70	76.996	66.165	101.520	+5.312	0.758	264.5	>1800
80	88.118	66.228	110.231	+6.520	0.799	264.6	>1800
90	99.003	66.175	119.083	+7.477	0.831	264.7	>1800
100	109.881	50.588	120.967	+1.151	0.908	264.7	>1800
110	120.958	-3.792	121.046	+0.046	0.999	264.7	>1800

Semicircular Curve (U = 115% Un) – Capacitive							
P Desired (%Pn)	**P measured (kW)**	**Q measured (kVAr)**	**S measured (kVA) (*)**	**S deviation (kVA)**	**Power Factor (cos φ)**	**V_{AC+} (V)**	**Number of records**
0	2.000	-65.876	65.907	-0.093	0.030	263.9	>1800
10	11.398	-66.259	67.233	+0.479	0.170	263.9	>1800
20	22.155	-66.108	69.722	+0.758	0.318	264.0	>1800
30	33.345	-66.226	74.148	+1.650	0.450	264.1	>1800
40	44.459	-66.461	79.961	+2.786	0.556	264.2	>1800
50	55.094	-66.363	86.253	+3.452	0.639	264.3	>1800
60	65.926	-66.206	93.433	+4.236	0.706	264.3	>1800
70	76.922	-66.296	101.550	+5.342	0.757	264.4	>1800
80	88.026	-66.262	110.180	+6.469	0.799	264.5	>1800
90	98.965	-66.367	119.160	+7.553	0.831	264.6	>1800
100	109.777	-50.383	120.788	+0.972	0.909	264.7	>1800
110	121.003	-3.496	121.099	+0.099	0.999	264.8	>1800

Note: Test performed in active power priority mode. Maximum apparent power that can be reached corresponds to 110%Pn, approximately. Deviations are calculated in relation to this expected semicircular value. The maximum apparent power was not reached below upper power levels due to maximum limitation in the Q capability.

2.4 Protection system

2.4.1 Trennung der EZE vom Netz / Cut-off from grid

⊠ Die Überprüfung der Gesamtwirkungskette führte zu einer erfolgreichen Abschaltung.
The test of the whole trip circuit led to a successful shut down

	Einstellwert Setting In pu oder/or [Hz]		Auslösewert / Release value In pu oder/or [Hz]		Abschaltzeit / Disconnection time [ms]		Rückfallverhältnis Disengaging ratio
	Schwelle / value	Zeit / time	Min.	Max.	Min.	Max.	
Spannungssteigerungsschutz/ Overvoltage protection: U>	1.000	180.00 s	1.004	1.004	180.040 s	180.020 s	⊠≥0.98 □<0.98
	1.300	0.100 s	1.302	1.307	0.115 s	0.132 s	
Spannungssteigerungsschutz/ Overvoltage protection: U>>	1.000	0.100 s	1.002	1.002	0.117 s	0.130 s	---
	1.300	0.000 s	1.304	1.307	0.033 s	0.040 s	
Spannungsrückgangsschutz/ Undervoltage protection: U<	0.100	0.000 s	0.096	0.097	0.022 s	0.043 s	⊠≤1.02 □>1.02
	1.000	2.500 s	0.997	0.998	2.432 s	2.440 s	
Spannungsrückgangsschutz/ Undervoltage protection: U<<	0.100	0.000 s	0.096	0.100	0.026 s	0.034 s	⊠≤1.02 □>1.02
	1.000	0.800 s	0.997	1.002	0.840 s	0.840 s	
Frequenzsteigerungsschutz/ Overfrequency protection: F>	50.00	5.000 s	50.00		5.400 s		---
	55.00	0.000 s	55.00		0.026 s		
Frequenzsteigerungsschutz/ Overfrequency protection: F>>	50.00	0.100 s	50.00		0.112 s		---
	55.00	0.000 s	55.00		0.035 s		
Frequenzrückgangsschutz/ Underfrequency protection: F<	45.00	0.000 s	45.00		0.033 s		---
	49.50	0.100 s	49.95		0.118 s		

Eigenzeit der Abschalteinheit / Operating time of a circuit breaker:	⊠ **aus Messung** by measurement	⊠ **aus Prüfzertifikat** by test certificate
	According to the point 4.4.1 of the test report no. 2221/0067-5-E1, the measured circuit breaker operating time is 22 ms The PGU can either be assembled with following alternatives of the circuit breaker: - Alternative 1: Solar Relay HF167F-200 with: – Declared operate time given by the supplier: 30 ms as maximum. – Declared release time given by the supplier: 10 ms as maximum. See next pages.	

Note: Results given are obtained after test results performed on the model SOFAR 110KTL. These test results for the model SOFAR 110KTL are essentially valid for the derived models SOFAR 75KTL, SOFAR 80KTL, SOFAR 100KTL, SOFAR 100KTL-HV, SOFAR 125KTL-HV and SOFAR 136KTL-HV, considering the evaluation offered in the point 1.2 of this document.

HF167F-200 SOLAR RELAY

c UL us
File No.: E133481

File No.: R 50374273

Features

- 200A switching capability
- Applicable to solar photovoltaic inverter
- 4 mm contact gap
- Low coil holding voltage contributes to saving energy of equipment
- UL insulation system: Class F

RoHS compliant

CONTACT DATA

Contact arrangement	1A
Contact resistance(Initial)	1mΩ max.(6VDC 20A)
Contact material	AgNi
Contact rating (Res. load)	Making 55A carrying 200A breaking 55A 800VAC
Max. switching voltage	830VAC
Max. switching current	200A
Max. switching power	45650VA
Mechanical endurance	1 x 10^6OPS
Electrical endurance	3 x 10^4OPS Making 55A, carrying 200A, breaking 55A, 800VAC, Resistive load, at 85°C, 1s on 9s off)

Notes: 1)The data shown above are initial values.

CHARACTERISTICS

Insulation resistance		1000MΩ (at 500VDC)
Dielectric strength	Between open contacts	2000VAC 1min
	Between coil & contacts	5000VAC 1min
Surge Voltage		10kV (1.2/50μs)
Operate time (at rated. volt.)		30ms max.
Release time (at rated. volt.)		10ms max.
Temperature rise		70K max. (Contact load current 200A, 50% to 60% rated voltage excitation, at 85°C)
Shock resistance	Functional	98m/s²
	Destructive	980m/s²
Vibration resistance*		10Hz to 55Hz 1.0mm DA
Humidity		5% to 85% RH
Ambient temperature		-40°C to 85°C (Apply holding voltage to coil)
Termination[2)]		PCB
Unit weight		Approx. 215g
Construction		Flux proofed

Notes: 1)The data shown above are initial values.

COIL

Coil power	Approx. 3W
Holding voltage	40% to 100% U_N (at 25°C) 50% to 60%U_N (at 85°C)

Notes: 1)The coil holding voltage is the voltage applied to coil 100ms after the rated voltage.
2)To avoid overheating and burning, the coil can not be consistently applied to with voltage larger than maximum holding voltage.

COIL DATA at 23°C

Nominal Voltage VDC	Pick-up Voltage VDC max.[1)]	Drop-out Voltage VDC min.[1)]	Max. Voltage VDC[2)]	Coil Resistance Ω
6	4.2	0.6	7.2	12x (1±10%)
9	6.3	0.9	10.8	27x (1±10%)
12	8.4	1.2	14.4	48x (1±10%)
24	16.8	2.4	28.8	192 x (1±10%)

Notes: 1)The data shown above are initial values.
2)Maximun voltage refers to the maximun voltage which relay coil could endure in a short period of time.

SAFETY APPROVAL RATINGS

UL/CUL	Making 55A, carrying 200A,breaking 55A, 830VAC,85°C,3 x 10^4OPS, Resistive
TÜV	Making 55A, carrying 200A,breaking 55A, 830VAC,85°C,3 x 10^4OPS, Resistive

Notes: 1) All values unspecified are at room temperature.
2) Only typical loads are listed above. Other load specifications can be available upon request.

HONGFA RELAY
ISO9001, ISO/TS16949 , ISO14001, OHSAS18001, IECQ QC 080000 CERTIFIED 2019 Rev. 1.00

ORDERING INFORMATION

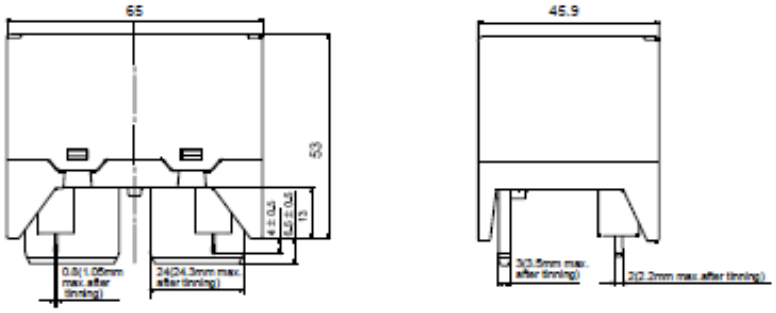
	HF167F-200/	12	-H	3	F	(XXX)
Type						
Coil voltage	6, 9, 12, 24VDC					
Contact arrangement	H:1 Form A					
Contact material	3: AgNi					
Insulation standard	F: Class F					
Special code 1)	XXX: Customer special requirement			Nil: Standard		

Notes: 1) Flux-proofed relays can not be used inthe environment with pollutants like H_2S, SO_2, NO_2, dust, etc.
2) Water clearing or surface process is not suggested after the flux-proofed relays are assembled on PCB.
3) The customer special requirement express as special code after evaluating by Hongfa.

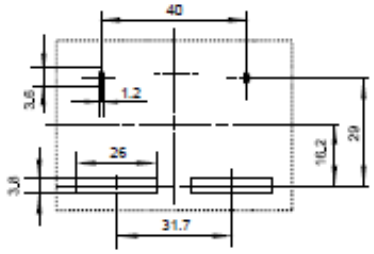
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

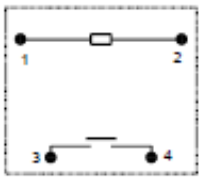
Outline Dimensions



PCB Layout
(Bottom view)



Wiring Diagram
(Bottom view)



Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.
2) The tolerance without indicating for PCB layout is always ±0.1mm.

Disclaimer

The specification is for reference only. See to "Terminology and Guidelines" for more information. Specifications subject to change without notice. We could not evaluate all the performance and all the parameters for every possible application. Thus the user should be in a right position to choose the suitable product for their own application. If there is any query, please contact Hongfa for the technical service. However, it is the user's responsibility to determine which product should be used only.

2.4.2 Zuschaltbedingungen / Cut-in conditions

- For VDE-AR-N 4110: 2018-11

	Bereich / range In pu order/ or [Hz]	Zuschaltung erfolgte im angegebenen Bereich / cut in occurred within the given range	
Zpannung / Voltage:	0.90 – 1.10	☐ nein / no	☒ ja / yes
Frequenz / Frequency:	47.5 – 50.2	☐ nein / no	☒ ja / yes

- For VDE-AR-N 4120: 2018-11

	Bereich / range In pu order/ or [Hz]	Zuschaltung erfolgte im angegebenen Bereich / cut in occurred within the given range	
Zpannung / Voltage:	0.90 – 1.10	☐ nein / no	☒ ja / yes
Frequenz / Frequency:	47.5 – 51.0	☐ nein / no	☒ ja / yes

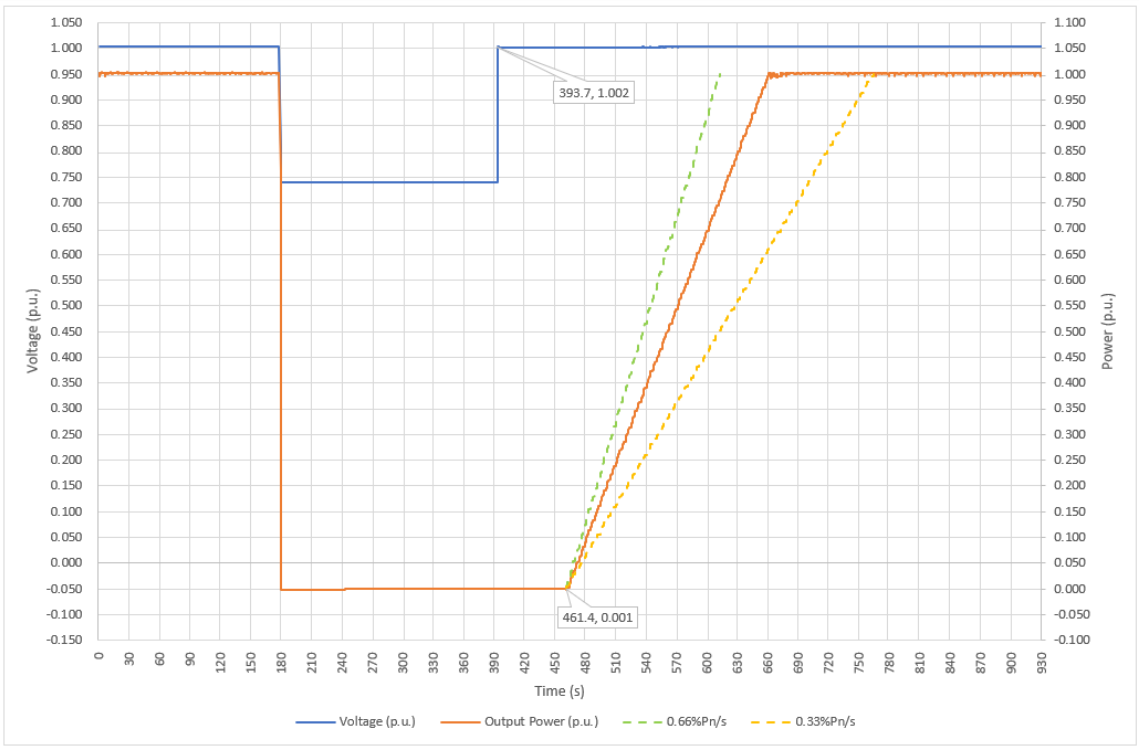
Note: Results given are obtained after test results performed on the model SOFAR 110KTL. These test results for the model SOFAR 110KTL are essentially valid for the derived models SOFAR 75KTL, SOFAR 80KTL, SOFAR 100KTL, SOFAR 100KTL-HV, SOFAR 125KTL-HV and SOFAR 136KTL-HV, considering the evaluation offered in the point 1.2 of this document.

2.4.3 Zuschaltbedingungen nach Auslösung des Entkupplungsschutzes / Cut-in conditions after tripping of protection

	Bereich / range In pu order/ or [Hz]	Zuschaltung erfolgte im angegebenen Bereich cut in occurred within the given range	
Unterspannung / Undervoltage:	> 0.95	☐ nein / no	☒ ja / yes
Unterfrequenz / Underfrequency:	≥ 49.9	☐ nein / no	☒ ja / yes
Überfrequenz / Overfrequency:	≤ 50.1	☐ nein / no	☒ ja / yes

As evidenced in the FGW TG3 test report, the certified unit follows a ramp gradient inside of the range 33%Pn/s – 66%Pn/s after the reconnection occurs.

Graphical representation of the test over time



Note: Results given are obtained after test results performed on the model SOFAR 110KTL. These test results for the model SOFAR 110KTL are essentially valid for the derived models SOFAR 75KTL, SOFAR 80KTL, SOFAR 100KTL, SOFAR 100KTL-HV, SOFAR 125KTL-HV and SOFAR 136KTL-HV, considering the evaluation offered in the point 1.2 of this document.

2.5 Response during grid faults

The compliance with these requirements including all calculations defined in the FGW TR3 standard is stated in the attachement to the test report:

- **2221 / 0067 – 5 -E1 (Revision 0) ATTACHMENT I : FGW-TG3: Grid Fault Tests Results**

Note: Results given are obtained after test results performed on the model SOFAR 110KTL. These test results for the model SOFAR 110KTL are essentially valid for the derived models SOFAR 75KTL, SOFAR 80KTL, SOFAR 100KTL, SOFAR 100KTL-HV, SOFAR 125KTL-HV and SOFAR 136KTL-HV, considering the evaluation offered in the point 1.2 of this document.

The instantaneous values of AC currents and voltages are recorded synchronously with 50kHz (20µs). Positives sequence component are based on measurement of instantaneous voltages and currents are calculated according to IEC 61400-21 (2008).

The following table shows the declared short-circuit values for certified models and can be applied to Annex E.5 of the VDE norm.

- For Sofar 75KTL:
  - Short-circuit surge current iP (A): 186 A.
  - Initial symmetrical short-circuit current Ik'' (A): 128.4 A
  - Uninterrupted short-circuit current Ik (A): 120 A.
  - Maximal current Imax (A): 132 A.
  - R.m.s. value of the source current for three-phase fault, IskPF (First 1-2 cycles of the Fault) = 132 A
  - R.m.s. value of the source current for two-phase fault, I(1)sk2PF (First 1-2 cycles of the Fault) = 123 A
  - R.m.s. value of the source current for single-phase fault, I(1)sk1PF (First 1-2 cycles of the Fault)= 123 A.

- For For Sofar 80KTL:
  - Short-circuit surge current iP (A): 189.7 A.
  - Initial symmetrical short-circuit current Ik'' (A): 130.6 A
  - Uninterrupted short-circuit current Ik (A): 122 A.
  - Maximal current Imax (A): 134.2 A.
  - R.m.s. value of the source current for three-phase fault, IskPF (First 1-2 cycles of the Fault) = 134.2 A
  - R.m.s. value of the source current for two-phase fault, I(1)sk2PF (First 1-2 cycles of the Fault) = 125.3 A
  - R.m.s. value of the source current for single-phase fault, I(1)sk1PF (First 1-2 cycles of the Fault)= 125.3 A.

- For For Sofar 100KTL:
  - Short-circuit surge current iP (A): 236.4 A.
  - Initial symmetrical short-circuit current Ik'' (A): 166.8 A
  - Uninterrupted short-circuit current Ik (A): 152 A.
  - Maximal current Imax (A): 167.2 A.
  - R.m.s. value of the source current for three-phase fault, IskPF (First 1-2 cycles of the Fault) = 167.2 A
  - R.m.s. value of the source current for two-phase fault, I(1)sk2PF (First 1-2 cycles of the Fault) = 156.8 A
  - R.m.s. value of the source current for single-phase fault, I(1)sk1PF (First 1-2 cycles of the Fault)= 156.8 A.

- For For Sofar 100KTL-HV:
  - Short-circuit surge current iP (A): 180.4 A.
  - Initial symmetrical short-circuit current Ik'' (A): 124.3 A
  - Uninterrupted short-circuit current Ik (A): 116 A.
  - Maximal current Imax (A): 127.6 A.
  - R.m.s. value of the source current for three-phase fault, IskPF (First 1-2 cycles of the Fault) = 127.6 A
  - R.m.s. value of the source current for two-phase fault, I(1)sk2PF (First 1-2 cycles of the Fault) = 120.5 A
  - R.m.s. value of the source current for single-phase fault, I(1)sk1PF (First 1-2 cycles of the Fault)= 120.5 A.

- For For Sofar 110KTL:
  - Short-circuit surge current iP (A): 260.1.
  - Initial symmetrical short-circuit current Ik'' (A): 179.7 A
  - Uninterrupted short-circuit current Ik (A): 167.2 A.
  - Maximal current Imax (A): 184 A.
  - R.m.s. value of the source current for three-phase fault, IskPF (First 1-2 cycles of the Fault) = 184 A
  - R.m.s. value of the source current for two-phase fault, I(1)sk2PF (First 1-2 cycles of the Fault) = 172.4 A
  - R.m.s. value of the source current for single-phase fault, I(1)sk1PF (First 1-2 cycles of the Fault)= 172.4 A.

- For For Sofar 125KTL-HV:
  - Short-circuit surge current iP (A): 225.6 A.
  - Initial symmetrical short-circuit current Ik'' (A): 154.2 A
  - Uninterrupted short-circuit current Ik (A): 145 A.
  - Maximal current Imax (A): 159.5 A.
  - R.m.s. value of the source current for three-phase fault, IskPF (First 1-2 cycles of the Fault) = 159.5 A
  - R.m.s. value of the source current for two-phase fault, I(1)sk2PF (First 1-2 cycles of the Fault) = 150.9 A
  - R.m.s. value of the source current for single-phase fault, I(1)sk1PF (First 1-2 cycles of the Fault)= 150.9 A.

- For For Sofar 136KTL-HV
  - Short-circuit surge current iP (A): 225.6 A.
  - Initial symmetrical short-circuit current Ik'' (A): 154.2 A
  - Uninterrupted short-circuit current Ik (A): 145 A.
  - Maximal current Imax (A): 159.5 A.
  - R.m.s. value of the source current for three-phase fault, IskPF (First 1-2 cycles of the Fault) = 159.5 A
  - R.m.s. value of the source current for two-phase fault, I(1)sk2PF (First 1-2 cycles of the Fault) = 150.9 A
  - R.m.s. value of the source current for single-phase fault, I(1)sk1PF (First 1-2 cycles of the Fault)= 150.9 A.

Negative sequence short circuit impedance for all integer K factors is 1.618~9999 p.u.@stable status.

3 OVERVIEW OF RESULTS OF THE FGW TR4 VALIDATION REPORT

Report Number: 2221 / 0067 – 5 - TG4 with date 17/08/2021 according FGW TR4 rev. 9.

Software Characteristics

- Software type: Simulator for Grid Connected Power Conversion System
- Simulation platform: Matlab Simulink
- Used version of the simulation platform: 10.3 Version (R2021 a)
- Simulation Software File identification: Sofar110kW_PGU.xls
- Dynamic Simulation Model version: V01.12
- MD5 Checksum: C8C4FBEDB431BE899CF6F809C900DDD9

Revision 1 dated 27th June 2022

Report Number: 2221/0067-5/Amp-TG4 demostrates that the updated Dynamic Simulation Model (Version 2.0) does not show any critical change copared to the previous version used in the original report number 2221/0067-5-TG4. For more details see clause 3.1.3 of this Annex to Certificate

Software Characteristics used on Report 2221/0067-5/Amp-TG4

- Software type: Simulator for Grid Connected Power Conversion System
- Simulation platform: Matlab Simulink
- Used version of the simulation platform: 9.1 Version(R2018a)
- Simulation Software File identification: PGU_110kW.slx
- Dynamic Simulation Model version: V2
- MD5 Checksum: E622F40E18F8E5090D437D0937091BEA

The model is in accordance with the requirements of the clause 5 of FGW TR4 rev.9. The validation of the dynamic simulation model has been performed in order to be compliant with evaluations required in the point 2.3.3 of the standard FGW TR8, rev9.
Requirements of the clause 11.2.6.3 of standards VDE-AR-N 4110: 2018 and VDE-AR-N 4120: 2018 have been considered for the evaluation process.
Deviations evaluated for MXE, ME and MAE calculations are in accordance with the chapter 5.3 of FGW TR4 rev.9.

The validation plan is according with the chapter 5.1 of FGW TR4 rev.9. where following tests have been used for validation:

- Validation requirements for voltage ride through:
  This involves the validation of symmetrical and asymmetrical test cases defined in the table 4-69 of the chapter 4.6.3 of FGW TR3 rev.25 for Type 2 PGUs.
- Validation of P and Q setpoint control functions
  This involves the validation of the dynamic response of the simulation model in front of P and Q changes commanded by set point. Test requirements offered in the chapter 4.2.4 of FGW TR3 rev.25 are considered.
- Validation requirements for reactive power control processes:
  This involves the validation of accuracy requirements defined in chapters 4.2.5 (Q vs U) and 4.2.6 (Q vs P) of FGW TR3 rev.25.
- Verification of requirements for protective settings:
  This involves the verification of the parameters for protection devices and settings declared by default for the certified product.

The validation overview for VRT cases is compliant with the Annex A.1.1, included in the report and compared with the validation overview in accordance with the table A-1. See FRT validation results in the point 2.1 of this document.

The main validation process detailed in the above referred report has been performed over the dynamic simulation model for SOFAR 110KTL. In addition, for this model, it has been performed the full list additional plausibility tests in accordance with the chapter 5.5 of FGW TR4 rev.9.

Apart of this, in order to verify the transferability of validation results to derived models, they have also been completed following simulation cases over the dynamic simulation model of SOFAR 110KTL adapted to operate with generation capabilities of derived models: SOFAR 75KTL, SOFAR 80KTL, SOFAR 100KTL, SOFAR 100KTL-HV, SOFAR 125KTL-HV and SOFAR 136KTL-HV. See the information given in the point 1.4 of this document for further information.

- Verification of Voltage-Dependent PQ diagrams.

See further information of the dynamic simulation model and the software used in the point 4 of this annex.

3.1 Validation results

3.1.1 Validation overview

The following table shows the FRT validation results in terms of deviations as defined by the standard for the positive and negative sequences of currents and powers in symmetrical and asymmetrical fault conditions at nominal and partial power.

All deviations are in accordance to the regular maximum tolerances given by the standard.

Test designation compliant with TR3, Chapter 4.6 Response during grid faults. Table 4-67			Three phase voltage drops in Positive phase sequence system											
			P			Q			Ia			Iq		
			MXE	ME	MAE	MXE	ME	MAE	MXE	ME	MAE	MXE	ME	MAE
Ures ≤ 0.05	In accordance with IEC	Pre	0.0021	-0.0016	0.0016	0.0362	-0.0356	0.0356	0.0011	0.0006	0.0006	0.0008	-0.0001	0.0002
0.1		Fault	0.0041	-0.0378	0.0038	0.0005	0.0005	0.0003	0.1465	-0.1667	0.1415	0.0146	0.0642	0.0121
3ph/100%/2		Post	0.0080	0.0074	0.0115	0.0363	-0.0360	0.0362	0.0061	0.0113	0.0130	0.0009	-0.0032	0.0033
Ures ≤ 0.05	In accordance with IEC	Pre	0.0060	-0.0010	0.0010	0.0081	-0.0074	0.0074	0.0421	-0.0010	0.0011	0.0010	-0.0003	0.0003
0.2		Fault	0.0036	-0.0114	0.0034	0.0003	0.0037	0.0002	0.1357	-0.1317	0.1319	0.0123	0.0816	0.0104
3ph/20%/2		Post	0.0098	0.0010	0.0034	0.0080	-0.0074	0.0077	0.0097	0.0011	0.0039	0.0011	-0.0026	0.0029
0.20≤Ures≤0.30	In accordance with IEC	Pre	0.0032	-0.0017	0.0017	0.0359	-0.0352	0.0352	0.0327	0.0006	0.0006	0.0014	0.0003	0.0003
25.1		Fault	0.0008	-0.0121	0.0003	0.0009	0.0037	0.0006	0.0409	-0.0498	0.0351	0.0023	0.0224	0.0015
3ph/100%/2		Post	0.0066	0.0072	0.0122	0.0359	-0.0356	0.0358	0.0042	0.0114	0.0130	0.0012	-0.0027	0.0032
0.20≤Ures≤0.30	In accordance with IEC	Pre	0.0050	-0.0005	0.0005	0.0077	-0.0071	0.0071	0.0322	-0.0006	0.0007	0.0013	0.0001	0.0002
25.2		Fault	0.0007	-0.0017	0.0003	0.0011	0.0017	0.0007	0.0415	-0.0345	0.0355	0.0027	0.0170	0.0017
3ph/20%/2		Post	0.0066	0.0030	0.0033	0.0078	-0.0071	0.0073	0.0065	0.0032	0.0037	0.0015	-0.0023	0.0030
0.45≤Ures≤0.60	In accordance with IEC	Pre	0.0038	-0.0014	0.0016	0.0358	-0.0352	0.0352	0.0062	0.0011	0.0014	0.0009	0.0002	0.0002
50.1		Fault	0.0011	-0.0058	0.0005	0.0134	-0.0092	0.0125	0.0358	-0.0423	0.0346	0.0236	-0.0109	0.0219
3ph/100%/2		Post	0.0069	0.0083	0.0114	0.0363	-0.0360	0.0361	0.0055	0.0125	0.0129	0.0009	-0.0031	0.0034
0.45≤Ures≤0.60	In accordance with IEC	Pre	0.0047	0.0000	0.0004	0.0078	-0.0072	0.0072	0.0048	-0.0001	0.0003	0.0006	-0.0000	0.0001
50.2		Fault	0.0015	-0.0021	0.0012	0.0016	0.0020	0.0010	0.0376	-0.0374	0.0369	0.0019	0.0109	0.0007
3ph/20%/2		Post	0.0129	0.0025	0.0029	0.0080	-0.0075	0.0076	0.0128	0.0027	0.0032	0.0012	-0.0025	0.0029
0.45≤Ures≤0.60	In accordance with IEC	Pre	0.0028	-0.0012	0.0013	0.0365	-0.0358	0.0358	0.0236	0.0011	0.0011	0.0010	-0.0003	0.0003
50.5		Fault	0.0028	-0.0014	0.0026	0.0006	-0.0005	0.0004	0.0056	-0.0007	0.0052	0.0012	-0.0009	0.0008
3ph/20%/2L		Post	0.0062	0.0100	0.0123	0.0368	-0.0361	0.0361	0.0063	0.0143	0.0144	0.0013	-0.0009	0.0010
0.70≤Ures≤0.80	In accordance with IEC	Pre	0.0024	-0.0018	0.0018	0.0359	-0.0352	0.0352	0.0013	0.0007	0.0007	0.0008	0.0003	0.0003
75.1		Fault	0.0038	-0.0034	0.0033	0.0240	-0.0232	0.0232	0.0310	-0.0224	0.0204	0.0309	-0.0280	0.0298
3ph/100%/2		Post	0.0070	0.0111	0.0139	0.0361	-0.0363	0.0363	0.0074	0.0154	0.0155	0.0010	-0.0022	0.0027
0.70≤Ures≤0.80	In accordance with IEC	Pre	0.0044	0.0004	0.0007	0.0078	-0.0073	0.0073	0.0113	0.0004	0.0007	0.0006	-0.0001	0.0002
75.2		Fault	0.0040	-0.0038	0.0038	0.0054	-0.0046	0.0047	0.0326	-0.0222	0.0219	0.0064	-0.0036	0.0055
3ph/20%/2		Post	0.0063	0.0033	0.0034	0.0080	-0.0078	0.0078	0.0063	0.0036	0.0038	0.0013	-0.0018	0.0022
0.70≤Ures≤0.80	In accordance with IEC	Pre	0.0027	-0.0025	0.0025	0.0075	-0.0070	0.0070	0.0104	-0.0005	0.0005	0.0008	0.0002	0.0003
75.3		Fault	0.0050	-0.0045	0.0047	0.0019	0.0008	0.0012	0.0216	-0.0212	0.0212	0.0037	0.0037	0.0026
3ph/20%/2		Post	0.0074	0.0000	0.0046	0.0133	-0.0086	0.0086	0.0056	0.0023	0.0034	0.0061	-0.0025	0.0028
0.70≤Ures≤0.80	In accordance with IEC	Pre	0.0031	0.0016	0.0018	0.0080	-0.0073	0.0073	0.0054	-0.0007	0.0007	0.0009	-0.0001	0.0002
75.4		Fault	0.0048	-0.0043	0.0045	0.0056	0.0044	0.0048	0.0256	-0.0252	0.0253	0.0088	0.0090	0.0078
3ph/20%/2		Post	0.0081	0.0048	0.0049	0.0078	-0.0076	0.0076	0.0058	0.0027	0.0033	0.0040	-0.0017	0.0021
0.70≤Ures≤0.80	In accordance with IEC	Pre	0.0045	-0.0003	0.0006	0.0076	-0.0070	0.0070	0.0044	-0.0004	0.0007	0.0006	0.0001	0.0002
75.5		Fault	0.0041	-0.0033	0.0035	0.0055	-0.0039	0.0035	0.0383	-0.0374	0.0376	0.0054	-0.0002	0.0028
3ph/≥10%/4		Post	0.0054	0.0022	0.0029	0.0076	-0.0081	0.0081	0.0055	0.0023	0.0034	0.0015	-0.0032	0.0039

Test designation compliant with TR3, Chapter 4.6 Response during grid faults. Table 4-67			Three phase voltage drops in Positive phase sequence system											
			P			Q			Ia			Iq		
			MXE	ME	MAE	MXE	ME	MAE	MXE	ME	MAE	MXE	ME	MAE
0.75≤Ures≤0.85	In accordance with IEC	Pre	0.0078	-0.0016	0.0017	0.0361	-0.0355	0.0355	0.0056	0.0005	0.0012	0.0007	-0.0000	0.0002
80.1		Fault	0.0042	-0.0033	0.0037	0.0126	-0.0117	0.0116	0.0179	-0.0193	0.0173	0.0148	-0.0122	0.0135
3ph/100%/2L		Post	0.0069	0.0116	0.0147	0.0366	-0.0367	0.0367	0.0052	0.0157	0.0160	0.0012	-0.0024	0.0024
0,85≤Ures≤0,90	In accordance with IEC	Pre	0.0023	-0.0016	0.0016	0.0366	-0.0359	0.0359	0.0013	0.0008	0.0008	0.0011	-0.0004	0.0005
85.1		Fault	0.0047	-0.0040	0.0041	0.0235	-0.0221	0.0221	0.0126	-0.0120	0.0120	0.0261	-0.0245	0.0245
3ph/100%/2		Post	0.0069	0.0139	0.0167	0.0368	-0.0372	0.0372	0.0069	0.0181	0.0183	0.0013	-0.0023	0.0023
Ures≥1.15	In accordance with IEC	Pre	0.0062	-0.0020	0.0020	0.0368	-0.0353	0.0353	0.0048	0.0003	0.0006	0.0014	0.0002	0.0003
115.1		Fault	0.0087	-0.0071	0.0078	0.0168	-0.0154	0.0152	0.0061	0.0040	0.0056	0.0153	-0.0145	0.0139
3ph/100%/2		Post	0.0114	0.0177	0.0185	0.0364	-0.0349	0.0364	0.0136	0.0219	0.0220	0.0009	0.0009	0.0019
Ures≥1.15	In accordance with IEC	Pre	0.0019	-0.0006	0.0007	0.0080	-0.0070	0.0070	0.0018	-0.0006	0.0007	0.0009	0.0001	0.0002
115.2		Fault	0.0077	-0.0068	0.0073	0.0118	0.0108	0.0104	0.0057	0.0051	0.0052	0.0094	0.0080	0.0082
3ph/20%/2		Post	0.0059	0.0020	0.0032	0.0079	-0.0060	0.0079	0.0058	0.0024	0.0037	0.0016	0.0017	0.0020
Ures≥1.10	In accordance with IEC	Pre	0.0024	0.0001	0.0002	0.0079	-0.0072	0.0072	0.0023	0.0000	0.0002	0.0007	0.0000	0.0001
110.3		Fault	0.0085	-0.0080	0.0080	0.0069	0.0051	0.0051	0.0014	0.0010	0.0010	0.0057	0.0042	0.0042
3ph/≥10%/2		Post	0.0095	0.0029	0.0033	0.0078	-0.0064	0.0078	0.0094	0.0032	0.0037	0.0014	0.0011	0.0015

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Test designation compliant with TR3, Chapter 4.6 Response during grid faults. Table 4-67			Two phase voltage drops in Positive phase sequence system											
			P			Q			Ia			Iq		
			MXE	ME	MAE	MXE	ME	MAE	MXE	ME	MAE	MXE	ME	MAE
Ures ≤ 0.05	In accordance with IEC	Pre	0.0056	-0.0005	0.0011	0.0171	-0.0159	0.0159	0.0095	0.0009	0.0011	0.0127	-0.0001	0.0002
0.3		Fault	0.0093	-0.0251	0.0089	0.0165	-0.0138	0.0163	0.0688	-0.0464	0.0247	0.0063	0.0092	0.0054
2ph/100%/2		Post	0.0112	0.0115	0.0122	0.0168	-0.0166	0.0166	0.0123	0.0145	0.0149	0.0010	-0.0019	0.0020
Ures ≤ 0.05	In accordance with IEC	Pre	0.0006	0.0000	0.0001	0.0038	-0.0031	0.0031	0.0043	-0.0002	0.0002	0.0133	0.0000	0.0002
0.4		Fault	0.0092	-0.0115	0.0088	0.0170	-0.0143	0.0166	0.0255	-0.0268	0.0245	0.0069	0.0083	0.0061
2ph/20%/2		Post	0.0069	0.0022	0.0026	0.0040	-0.0032	0.0032	0.0066	0.0021	0.0031	0.0014	-0.0010	0.0017
0.20≤Ures≤0.30	In accordance with IEC	Pre	0.0022	-0.0010	0.0010	0.0173	-0.0159	0.0159	0.0057	0.0003	0.0004	0.0099	-0.0002	0.0002
25.4		Fault	0.0109	-0.0156	0.0105	0.0104	-0.0085	0.0099	0.0253	-0.0326	0.0245	0.0080	-0.0011	0.0069
2ph/100%/2		Post	0.0057	0.0104	0.0117	0.0167	-0.0164	0.0164	0.0051	0.0133	0.0137	0.0009	-0.0017	0.0018
0.20≤Ures≤0.30	In accordance with IEC	Pre	0.0050	-0.0001	0.0003	0.0037	-0.0030	0.0030	0.0230	-0.0004	0.0005	0.0156	0.0001	0.0002
25.5		Fault	0.0113	-0.0117	0.0105	0.0109	-0.0082	0.0103	0.0256	-0.0261	0.0245	0.0088	-0.0007	0.0074
2ph/20%/2		Post	0.0111	0.0027	0.0032	0.0041	-0.0033	0.0034	0.0107	0.0026	0.0034	0.0015	-0.0011	0.0017
0.45≤Ures≤0.60	In accordance with IEC	Pre	0.0037	-0.0001	0.0012	0.0179	-0.0159	0.0159	0.0168	0.0012	0.0013	0.0105	-0.0002	0.0002
50.3		Fault	0.0135	-0.0154	0.0127	0.0148	-0.0125	0.0140	0.0439	-0.0293	0.0241	0.0187	-0.0083	0.0121
2ph/100%/2		Post	0.0072	0.0125	0.0132	0.0170	-0.0167	0.0167	0.0083	0.0156	0.0159	0.0012	-0.0020	0.0020
0.45≤Ures≤0.60	In accordance with IEC	Pre	0.0047	-0.0002	0.0005	0.0039	-0.0032	0.0032	0.0200	-0.0005	0.0008	0.0071	0.0000	0.0002
50.4		Fault	0.0141	-0.0143	0.0136	0.0067	0.0075	0.0056	0.0280	-0.0268	0.0257	0.0156	0.0183	0.0140
2ph/20%/2		Post	0.0055	0.0021	0.0030	0.0038	-0.0033	0.0034	0.0058	0.0021	0.0035	0.0014	-0.0011	0.0018
0.45≤Ures≤0.60	In accordance with IEC	Pre	0.0042	-0.0003	0.0009	0.0335	-0.0178	0.0178	0.0056	0.0011	0.0012	0.0178	-0.0021	0.0081
50.6		Fault	0.0022	-0.0024	0.0019	0.0009	-0.0005	0.0006	0.0030	-0.0048	0.0026	0.0012	-0.0006	0.0008
2ph/100%/2L		Post	0.0060	0.0123	0.0135	0.0336	-0.0182	0.0182	0.0056	0.0156	0.0158	0.0179	-0.0026	0.0082
0.75≤Ures≤0.85	In accordance with IEC	Pre	0.0054	-0.0008	0.0008	0.0180	-0.0159	0.0159	0.0098	0.0007	0.0009	0.0052	-0.0002	0.0003
75.6		Fault	0.0090	-0.0066	0.0084	0.0210	-0.0201	0.0199	0.0137	-0.0137	0.0131	0.0226	-0.0207	0.0213
3ph/100%/2		Post	0.0137	0.0155	0.0161	0.0167	-0.0169	0.0169	0.0148	0.0187	0.0190	0.0009	-0.0018	0.0018
0.75≤Ures≤0.85	In accordance with IEC	Pre	0.0050	0.0002	0.0004	0.0039	-0.0031	0.0031	0.0049	-0.0001	0.0005	0.0061	0.0000	0.0002
75.7		Fault	0.0086	-0.0077	0.0081	0.0022	0.0012	0.0015	0.0136	-0.0131	0.0131	0.0040	0.0036	0.0031
2ph/20%/2		Post	0.0063	0.0029	0.0032	0.0037	-0.0035	0.0035	0.0060	0.0030	0.0037	0.0014	-0.0009	0.0016
0.75≤Ures≤0.85	In accordance with IEC	Pre	0.0022	0.0002	0.0004	0.0042	-0.0032	0.0032	0.0053	-0.0001	0.0002	0.0053	0.0000	0.0001
75.8		Fault	0.0157	-0.0145	0.0150	0.0288	0.0259	0.0266	0.0261	-0.0247	0.0247	0.0380	0.0362	0.0354
2ph/≥10%/4		Post	0.0046	0.0025	0.0030	0.0038	-0.0038	0.0038	0.0043	0.0027	0.0032	0.0014	-0.0016	0.0022
0.85≤Ures≤0.90	In accordance with IEC	Pre	0.0030	-0.0016	0.0017	0.0188	-0.0161	0.0161	0.0096	-0.0002	0.0008	0.0031	-0.0004	0.0004
80.2		Fault	0.0041	0.0059	0.0036	0.1518	0.1498	0.1515	0.0019	0.0012	0.0014	0.1688	0.1672	0.1683
2ph/100%/0L		Post	0.0064	0.0128	0.0149	0.0168	-0.0161	0.0169	0.0051	0.0159	0.0166	0.0011	-0.0008	0.0012
Ures≥1.10	In accordance with IEC	Pre	0.0064	-0.0017	0.0017	0.0384	-0.0357	0.0357	0.0047	0.0008	0.0009	0.0030	-0.0002	0.0003
110.1		Fault	0.0015	-0.0019	0.0010	0.0358	0.0340	0.0346	0.0055	0.0009	0.0037	0.0299	0.0278	0.0282
2ph/100%/2		Post	0.0039	0.0140	0.0170	0.0365	-0.0355	0.0362	0.0056	0.0184	0.0187	0.0011	-0.0000	0.0012
Ures≥1.10	In accordance with IEC	Pre	0.0054	0.0002	0.0003	0.0080	-0.0071	0.0071	0.0053	0.0002	0.0003	0.0009	0.0001	0.0002
110.2		Fault	0.0021	-0.0019	0.0017	0.0603	0.0584	0.0589	0.0034	0.0015	0.0021	0.0534	0.0509	0.0516
2ph/20%/2		Post	0.0063	0.0031	0.0034	0.0079	-0.0065	0.0075	0.0062	0.0035	0.0038	0.0017	0.0008	0.0012

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

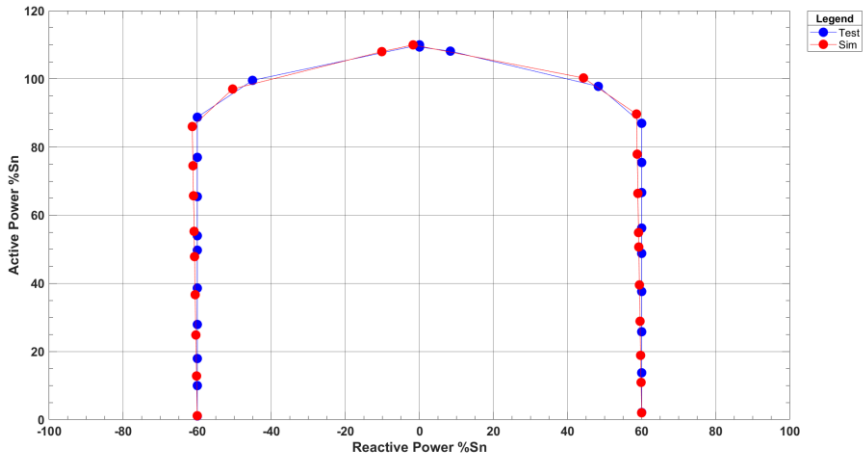
Test designation compliant with TR3, Chapter 4.6 Response during grid faults. Table 4-67			Two phase voltage drops in Negative phase sequence system											
			P			Q			Ia			Iq		
			MXE	ME	MAE	MXE	ME	MAE	MXE	ME	MAE	MXE	ME	MAE
Ures ≤ 0.05	In accordance with IEC	Pre	0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0042	-0.0020	0.0024	0.0040	-0.0015	0.0016
0.3		Fault	0.0111	0.0075	0.0108	0.0177	-0.0114	0.0174	0.0757	0.0241	0.0314	0.0086	-0.0098	0.0079
2ph/100%/2		Post	0.0000	0.0000	0.0001	0.0000	0.0000	0.0001	0.0056	-0.0015	0.0032	0.0045	0.0007	0.0028
Ures ≤ 0.05	In accordance with IEC	Pre	0.0000	0.0000	0.0000	0.0000	-0.0000	0.0000	0.0018	0.0004	0.0007	0.0020	-0.0011	0.0012
0.4		Fault	0.0113	0.0075	0.0108	0.0184	-0.0144	0.0177	0.0323	0.0244	0.0314	0.0098	-0.0134	0.0086
2ph/20%/2		Post	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000	0.0023	-0.0007	0.0015	0.0022	0.0002	0.0017
0.20≤Ures≤0.30	In accordance with IEC	Pre	0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0042	-0.0026	0.0026	0.0041	-0.0015	0.0016
25.4		Fault	0.0083	0.0071	0.0080	0.0088	-0.0074	0.0084	0.0315	0.0278	0.0304	0.0083	-0.0093	0.0070
2ph/100%/2		Post	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000	0.0052	-0.0020	0.0029	0.0053	0.0001	0.0031
0.20≤Ures≤0.30	In accordance with IEC	Pre	0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0018	-0.0002	0.0008	0.0019	-0.0008	0.0009
25.5		Fault	0.0083	0.0072	0.0080	0.0089	-0.0084	0.0086	0.0312	0.0279	0.0304	0.0086	-0.0107	0.0077
2ph/20%/2		Post	0.0000	-0.0000	0.0001	0.0000	-0.0000	0.0001	0.0031	-0.0007	0.0013	0.0027	0.0005	0.0018
0.45≤Ures≤0.60	In accordance with IEC	Pre	0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0044	-0.0016	0.0028	0.0039	0.0007	0.0011
50.3		Fault	0.0044	0.0039	0.0042	0.0139	-0.0133	0.0137	0.0463	0.0245	0.0259	0.0354	-0.0354	0.0344
2ph/100%/2		Post	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000	0.0049	-0.0008	0.0030	0.0045	0.0006	0.0030
0.45≤Ures≤0.60	In accordance with IEC	Pre	0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	-0.0010	0.0012	0.0017	-0.0001	0.0006
50.4		Fault	0.0044	0.0039	0.0042	0.0146	-0.0143	0.0143	0.0287	0.0247	0.0258	0.0379	-0.0386	0.0367
2ph/20%/2		Post	0.0000	-0.0000	0.0001	0.0000	0.0000	0.0000	0.0021	-0.0006	0.0012	0.0027	0.0000	0.0019
0.45≤Ures≤0.60	In accordance with IEC	Pre	0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0074	-0.0036	0.0037	0.0075	0.0028	0.0029
50.6		Fault	0.0001	0.0000	0.0000	0.0013	-0.0012	0.0012	0.0007	-0.0003	0.0001	0.0052	-0.0054	0.0048
2ph/100%/2L		Post	0.0000	0.0000	0.0000	0.0000	-0.0000	0.0000	0.0097	-0.0012	0.0038	0.0094	0.0015	0.0037
0.75≤Ures≤0.85	In accordance with IEC	Pre	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0039	0.0019	0.0019	0.0042	0.0023	0.0023
75.6		Fault	0.0012	0.0010	0.0010	0.0043	-0.0040	0.0042	0.0141	0.0123	0.0128	0.0244	-0.0230	0.0234
3ph/100%/2		Post	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0041	0.0007	0.0024	0.0048	0.0020	0.0031
0.75≤Ures≤0.85	In accordance with IEC	Pre	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0015	-0.0000	0.0006	0.0021	0.0012	0.0012
75.7		Fault	0.0012	0.0011	0.0011	0.0043	-0.0041	0.0042	0.0147	0.0130	0.0134	0.0244	-0.0237	0.0236
2ph/20%/2		Post	0.0000	0.0000	0.0000	0.0000	0.0001	0.0001	0.0023	0.0001	0.0010	0.0022	0.0011	0.0019
0.75≤Ures≤0.85	In accordance with IEC	Pre	0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0020	-0.0000	0.0010	0.0019	-0.0007	0.0008
75.8		Fault	0.0026	0.0022	0.0023	0.0126	-0.0119	0.0123	0.0313	0.0275	0.0286	0.0662	-0.0620	0.0632
2ph/≥10%/4		Post	0.0000	0.0000	0.0000	0.0000	0.0001	0.0001	0.0020	0.0001	0.0012	0.0019	0.0010	0.0021
0.85≤Ures≤0.90	In accordance with IEC	Pre	0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0033	-0.0005	0.0010	0.0043	0.0031	0.0031
80.2		Fault	0.0005	-0.0004	0.0004	0.0205	-0.0201	0.0205	0.0014	-0.0013	0.0010	0.2051	-0.2022	0.2046
2ph/100%/0L		Post	0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0044	-0.0006	0.0020	0.0043	0.0020	0.0030
Ures≥1.10	In accordance with IEC	Pre	0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0039	-0.0018	0.0020	0.0043	0.0013	0.0023
110.1		Fault	0.0004	0.0003	0.0003	0.0134	0.0131	0.0132	0.0050	0.0038	0.0040	0.1656	0.1630	0.1641
2ph/100%/2		Post	0.0000	-0.0000	0.0000	0.0000	0.0001	0.0001	0.0043	-0.0027	0.0029	0.0039	-0.0002	0.0024
Ures≥1.10	In accordance with IEC	Pre	0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0022	-0.0003	0.0013	0.0019	-0.0001	0.0004
110.2		Fault	0.0004	0.0004	0.0004	0.0133	0.0131	0.0132	0.0056	0.0045	0.0046	0.1654	0.1631	0.1644
2ph/20%/2		Post	0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0023	-0.0003	0.0009	0.0023	0.0008	0.0017

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

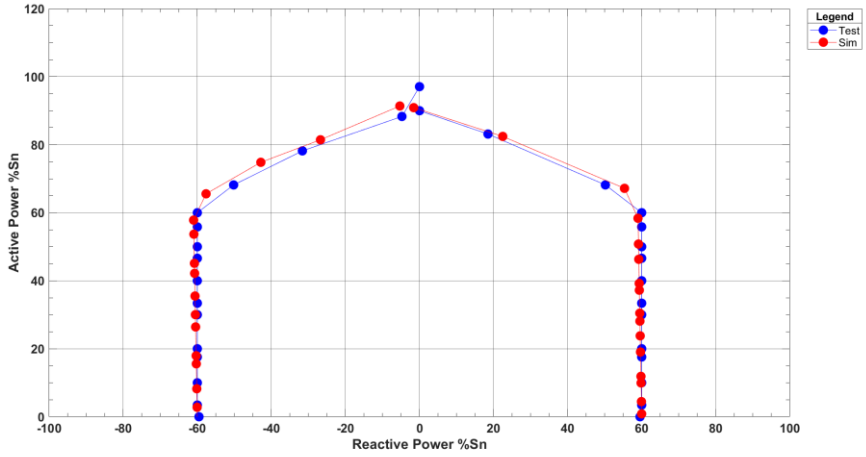
3.1.2 Simulation results of Voltage-Dependent PQ diagrams of certified models

SOFAR 75KTL

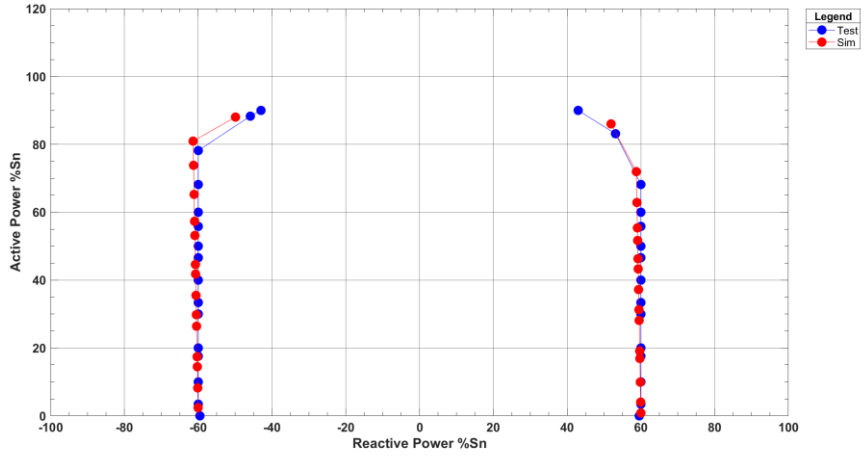
Semi-circular Curve (100%Un): Active Power over Reactive Power

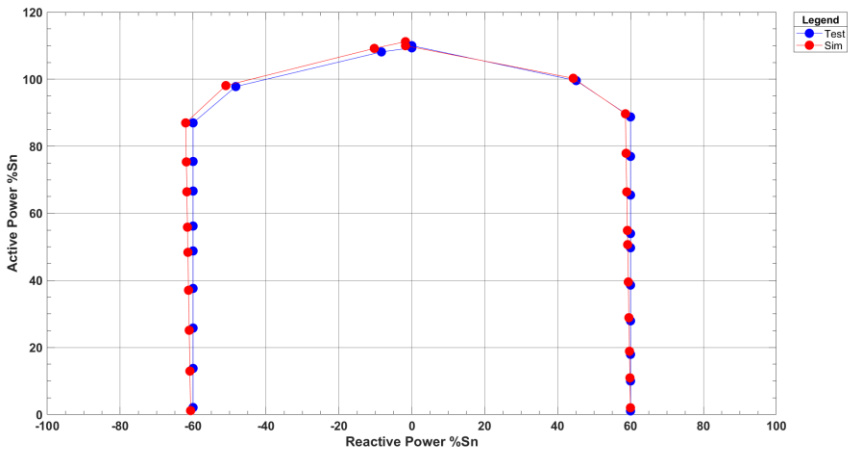
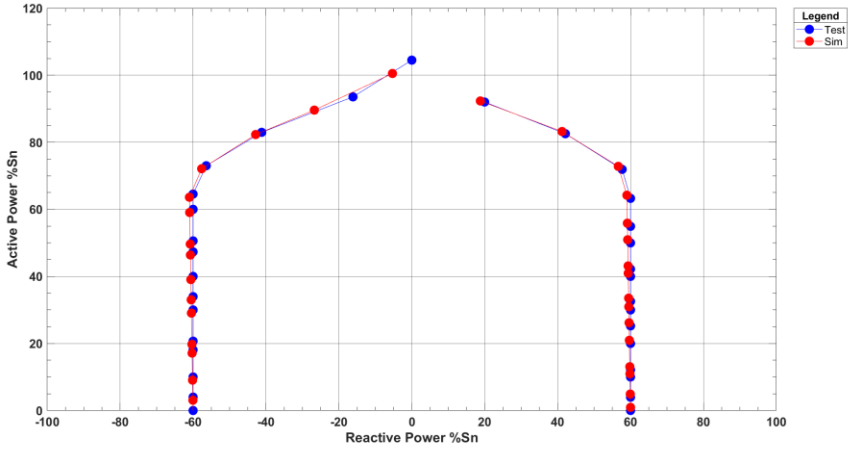
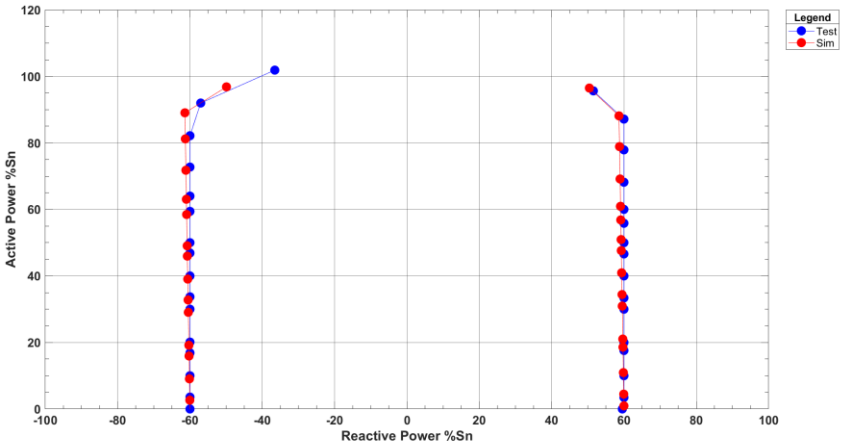


Semi-circular Curve (85%Un): Active Power over Reactive Power



Semi-circular Curve (115%Un): Active Power over Reactive Power



SOFAR 80KTL
Semi-circular Curve (100%Un): Active Power over Reactive Power

Semi-circular Curve (85%Un): Active Power over Reactive Power

Semi-circular Curve (115%Un): Active Power over Reactive Power


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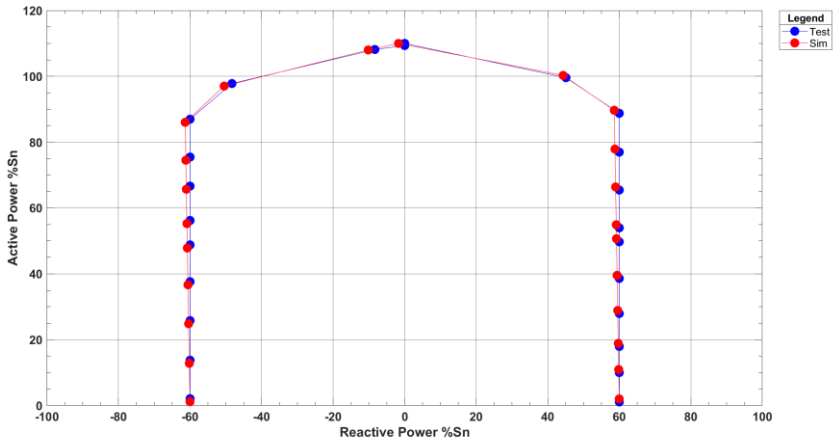
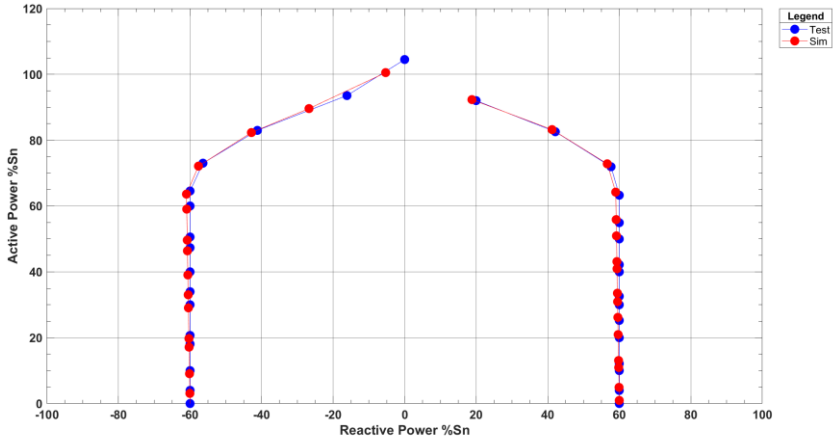
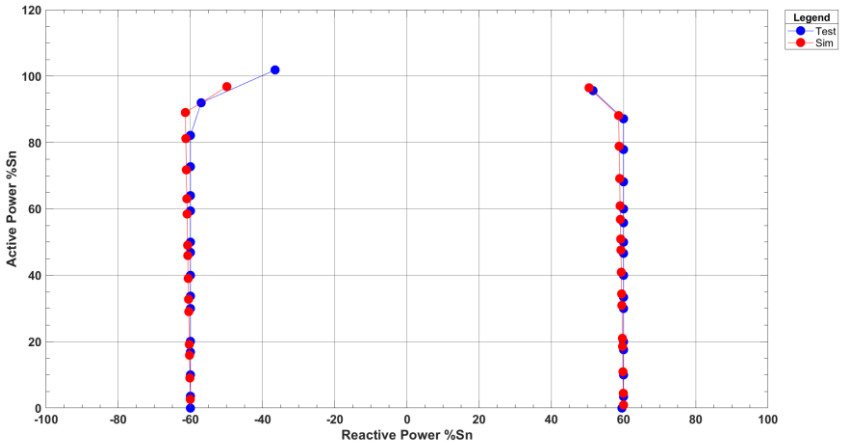
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

SOFAR 100KTL
Semi-circular Curve (100%Un): Active Power over Reactive Power

Semi-circular Curve (85%Un): Active Power over Reactive Power

Semi-circular Curve (115%Un): Active Power over Reactive Power


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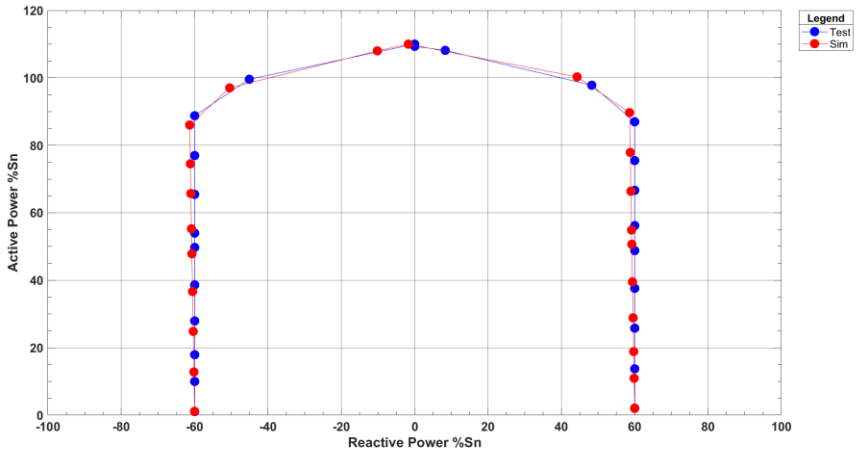
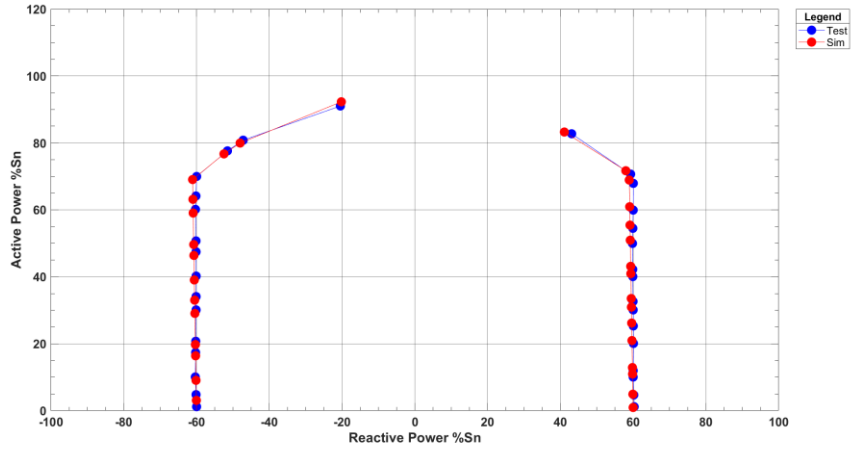
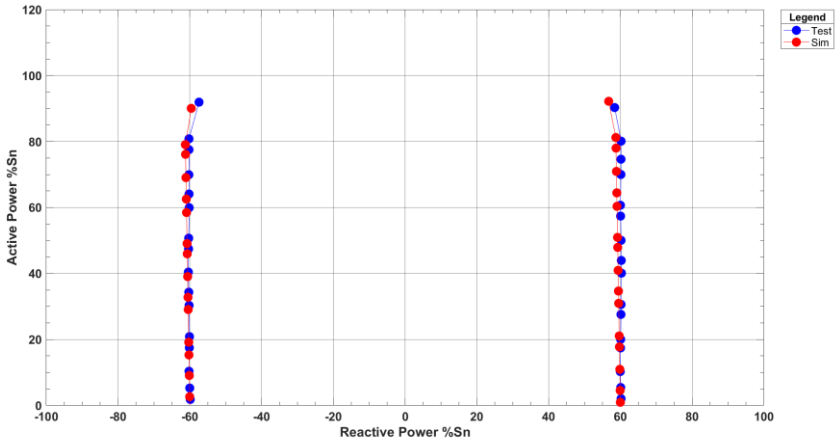
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

SOFAR 110KTL
Semi-circular Curve (100%Un): Active Power over Reactive Power

Semi-circular Curve (85%Un): Active Power over Reactive Power

Semi-circular Curve (115%Un): Active Power over Reactive Power


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Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
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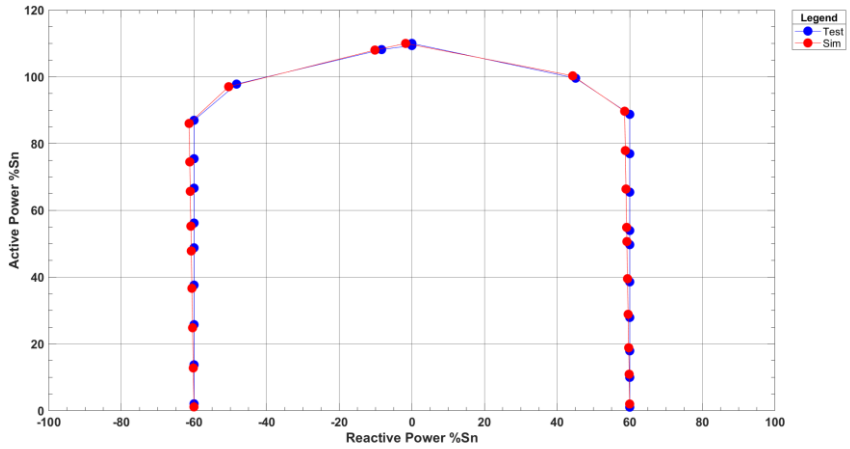
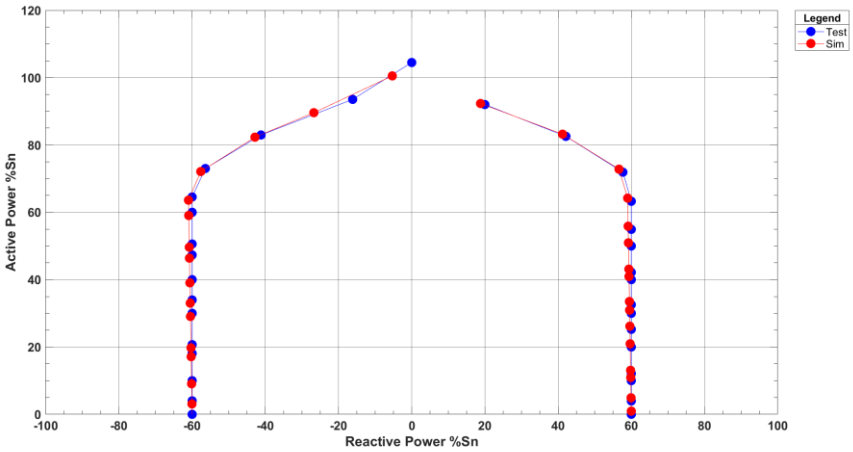
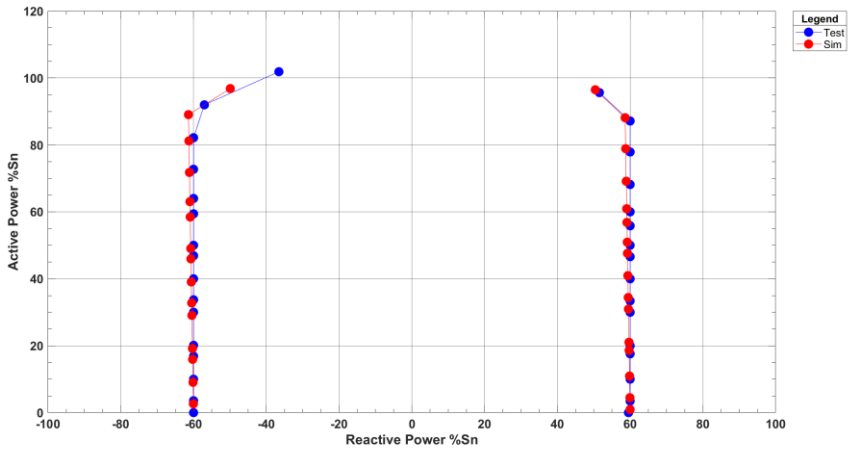
Fax +32 2 556 00 36

SOFAR 125KTL-HV
Semi-circular Curve (100%Un): Active Power over Reactive Power

Semi-circular Curve (85%Un): Active Power over Reactive Power

Semi-circular Curve (115%Un): Active Power over Reactive Power


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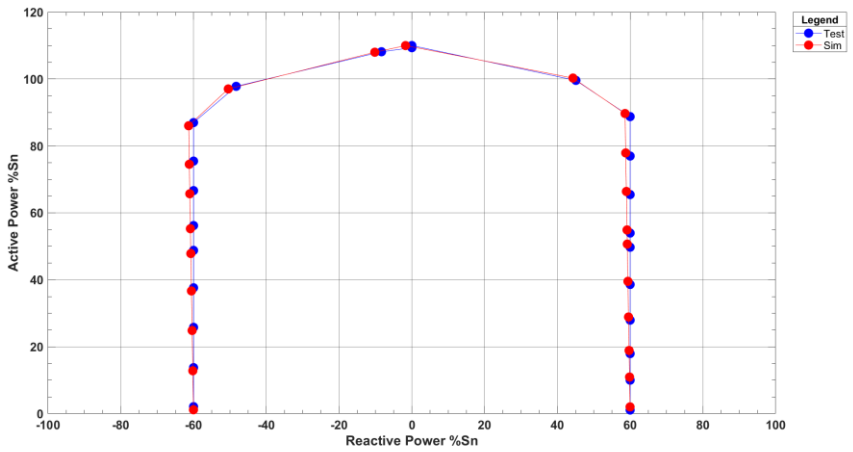
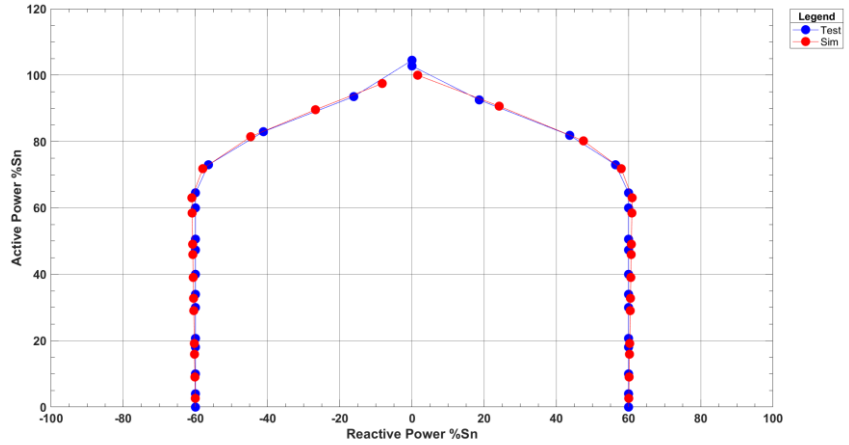
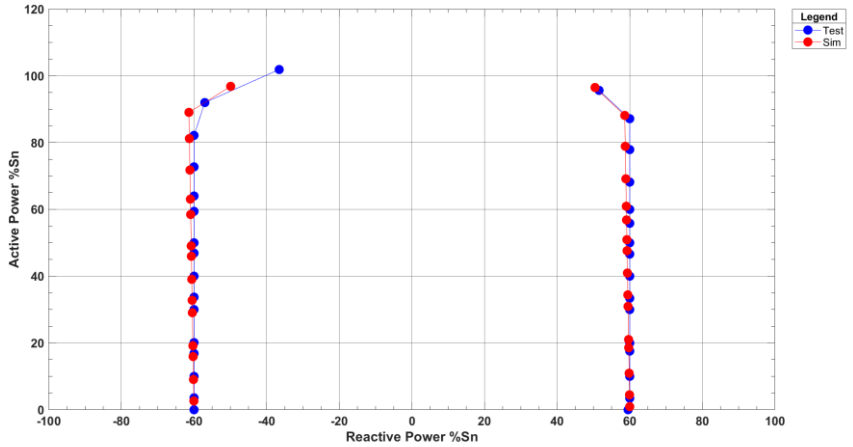
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

SOFAR 136KTL-HV
Semi-circular Curve (100%Un): Active Power over Reactive Power

Semi-circular Curve (85%Un): Active Power over Reactive Power

Semi-circular Curve (115%Un): Active Power over Reactive Power


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Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

3.1.3 Additional test

The following tests were performed to demonstrates that the updated Dynamic Simulation Model (version 2.0) does not show any critical change compared to the previous version used in the original report number 2622/0067-5-TG4

- VRT simulation cases (50.5, 75.3, 110.3 and 80.2) and
- clauses 4.2.1.1, 4.2.2.2, 4.3.1.1, 4.3.2, 4.4 and 4.6.1

The results are shown in detail in the report No. 2221/0067-5/Amp-TG4

In addition, the manufacture provides a statement that the update Dynamic Simulation Model (version 2.0) does not result in any critical change to previous version model

Compromise letter

We Shenzhen SOFARSOLAR Co., Ltd. declare that:

The updated dynamic simulation model,

- PGU_110kW.slx
  MD5 CheckSum: E622F40E18F8E5090D437D0937091BEA

and old dynamic simulation model,

Sofar110kW_PGU.slx

- MD5 CheckSum: C8C4FBEDB431BE899CF6F809C900DDD9

are exactly the same except, the updated dynamic simulation model separates simulation parameters in M file from old dynamic simulation model, so modified simulation parameters won't change the updated dynamic simulation model itself. Also, updated dynamic simulation model function module is encrypted compared with the old dynamic simulation model.

05/05/2022
Wanghui
Charge: Certification Manager
Signature:

3.2 Validation conclusion

Once evaluated the entire tests required to carry out the comparison between simulation and real tests, it is demonstrated that the behaviours of the electronic equipment and its dynamic simulation model **FULLY COMPLIES** with validation requirements according to the specifications of the standard:

- FGW Technical Guidelines for Power Generating Units. Part 4 - Revision 9, dated on 01/02/2019 (FGW TG4 Rev.9): Demands on Modelling and Validating Simulation Models of the Electrical Characteristics of Power Generating Units and Systems, Storage Systems as well as their Components.

Using as reference following standards:

- VDE-AR-N 4110: 2018-11. Technical requirements for the connection and operation of customer installations to the medium voltage network (TAR medium voltage).
- VDE-AR-N 4120: 2018-11. Technical requirements for the connection and operation of customer installations to the high voltage network (TAR high voltage).

The Dynamic Simulation Model can be considered as validated to simulate with the required accuracy test cases over PV inverter models SOFAR 75KTL, SOFAR 80KTL, SOFAR 100KTL, SOFAR 100KTL-HV, SOFAR 110KTL, SOFAR 125KTL-HV and SOFAR 136KTL-HV.

4 TECHNICAL DATA

4.1 Technical data

Model	SOFAR 75KTL	SOFAR 80KTL	SOFAR 100KTL	SOFAR 110KTL	SOFAR 100KTL -HV	SOFAR 125KTL -HV	SOFAR 136KTL -HV
DC Input							
Max. DC voltage	1100 V						
Start-up operating voltage	200 V						
MPPT voltage range	180 V~1000 V						
Full power MPPT voltage range	500 V-850 V				550 V-850 V		
Max. input current	8*26 A	8*26 A	10*26 A	10*26 A	10*26 A	10*26 A	12*26 A
Max. input short circuit current	8*40 A	8*40 A	10*40 A	10*40 A	10*40 A	10*40 A	12*40 A
AC Output							
Rated AC Output power	75 kW	80 kW	100 kW	110 kW	100 kW	125 kW	136 kW
Max. AC Output power	75 kVA	88 kVA	110 kVA	121 kVA	110 kVA	137 kVA	150 kVA
Rated current ([1])	109 A	116 A	145 A	159 A	115 A	144 A	145 A
Max. output current	113 A	128 A	160 A	175 A	128 A	160 A	160 A
Nominal grid voltage	3/N/PE, 230 / 400 Vac				3/PE, 500 Vac		3/PE, 540 Vac
Nominal output frequency	50 Hz						
Output power factor	1 default (adjustable +/-0.8)						
Operating temperature range	-30ºC ~60ºC						
Ingress protection	IP66						
Protective class	Class I						

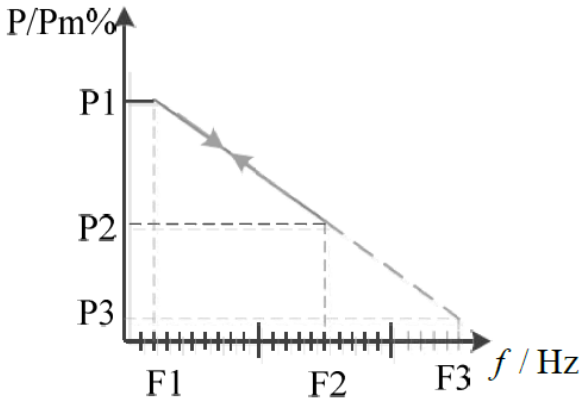
SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

4.2 Overview of important parameters of the generation unit

The settings may be specific for each project and needed to be checked.

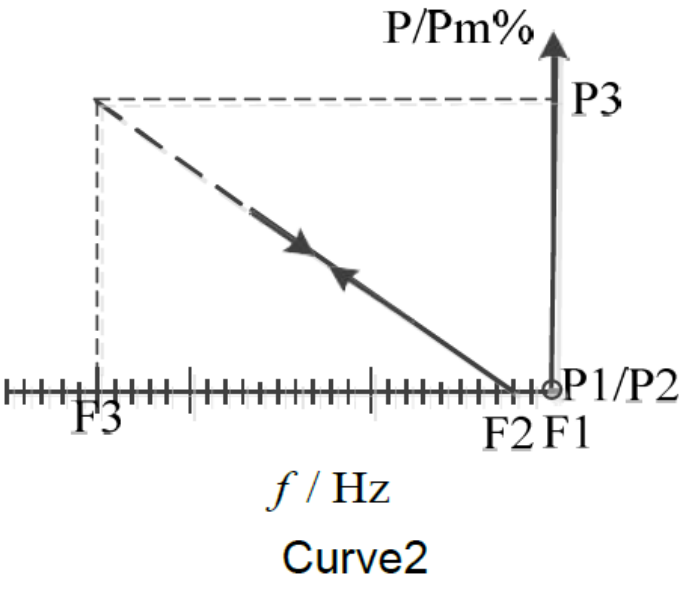
Parameter description	Unit	Default Value	Min.	Max.	Step- wide	Note
Behaviour in the event of disturbances in the network						
LVRT Protection Level		2	1	5		
LVRT Voltage 1	Un%	0	0	130	1	
LVRT Time 1	ms	500	0	65535	1	
LVRT Voltage 2	Un%	20	0	130	1	
LVRT Time 2	ms	1500	0	65535	1	
LVRT Voltage 3	Un%	40	0	130	1	
LVRT Time 3	ms	3000	0	65535	1	
LVRT Voltage 4	Un%	85	0	130	1	
LVRT Time 4	ms	61000	0	65535	1	
LVRT Exit	Un%	91	0	500	0.1	
LVRT Exit Time	ms	20	0	65535	1	
LVRT K Factor		2.0	0	6	0.1	
HVRT Protection Level		2	1	5		
HVRT Voltage 1	Un%	125	0	130	1	
HVRT Time 1	ms	100	0	65535	1	
HVRT Voltage 2	Un%	120	0	130	1	
HVRT Time 2	ms	5000	0	65535	1	
HVRT Voltage 3	Un%	115	0	130	1	
HVRT Time 3	ms	61000	0	65535	1	
Zero Power mode	Un%	70	0	130	1	
HVRT Exit	Un%	109	0	500	1	
HVRT Exit Time	ms	20	0	65535	1	
HVRT K Factor		2.0	0	6	0.1	
Gradient for active power increase after fault recovery	%Pn/s	200	0	500	1	
Others						
Islanding judge criteria (When select 'Frequency change protection')	On/Off	On (Size and direction of frequency change)				
Frequency change	Hz/s	2.5				
Protection time	S	0.5				
Active speed control (When select 'Active power adjustment')	On/Off	On				
Active Power Decline Speed	Pn%/min	30	0	3000	1	
Active Power Rising Speed	Pn%/min	30	0	3000	1	
Limited power switch	On/Off	On				
Pac limit	Pn%	0	0	100	1	

Parameter description	Unit	Default Value	Min.	Max.	Step- wide	Note
Active power by setpoint						
Power Limitingswitch	On/Off	Off				
Pac Limit	%Pn	100	0	100	1	
Active speed control	On/Off	Off				
Active Power Decline Speed	%Pn/min	30	0	3000	1	
Active Power Rising Speed	%Pn/min	30	0	3000	1	
Description of interfaces		RS485				
Behaviour at P=0		No active power output				
Active power reduction at overfrequency						
Over frequency derating	On/Off	On				
Gradient	%Pm/△f	40	0	100	1	
F1	Hz	50.2	50.0	55.0	0.1	
P1	%Pm	100	0	100	1	
F2	Hz	51.5	50.0	55.0	0.1	
P2	%Pm	48	0	100	1	
F3	Hz	52.5	50.0	55.0	0.1	
P3	%Pm	8	0	100	1	
Active power drop rate in overfrequency drop	s	<1				
Active power restoration rate after overfrequency drop	%Pn/min	9	0	3000	1	
Overfrequency drop curve		Curve1				



Curve1

Parameter description	Unit	Default Value	Min.	Max.	Step- wide	Note
Active power injection at underfrequency						
Underfrequency increment	On/Off	On				
Gradient	%Pm/△f	40	0	100	1	
F1	Hz	50.0	45.0	50.0	0.1	
P1	%Pm	0	0	100	1	
F2	Hz	49.8	45.0	50.0	0.1	
P2	%Pm	0	0	100	1	
F3	Hz	47.5	45.0	50.0	0.1	
P3	%Pm	92	0	100	1	
Active power rise rate in underfrequency drop	s	<1				
Active power restoration rate after underfrequency drop	%Pn/min	9	0	3000	1	
Underfrequency drop curve		Curve2				



Curve2

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Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Parameter description	Unit	Default Value	Min.	Max.	Step- wide	Note
Reactive power supply (PF)						
Activate fixed power factor control	--	0	0	1	--	1=ON; 0=OFF
Reactive power supply. Mode PF: The reactive power can be regulated by the parameter PF (Power Factor).						
PF (when select Pf).		1.00	0.8(leadingor lagging)	1	0.01	
Reactive power supply (QT）						
Activation of normalized reactive power limitation	--	0	0	1	--	1=ON; 0=OFF
Reactive power supply. Mode Qt: The reactive power can be regulated by the parameter 'Reactive power limit' (in %).						
Reactive power limit (when select Qt).	%Pn	0.00	0.00	60	0.01	

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Bld. Internationalelaan, 55 Build. K
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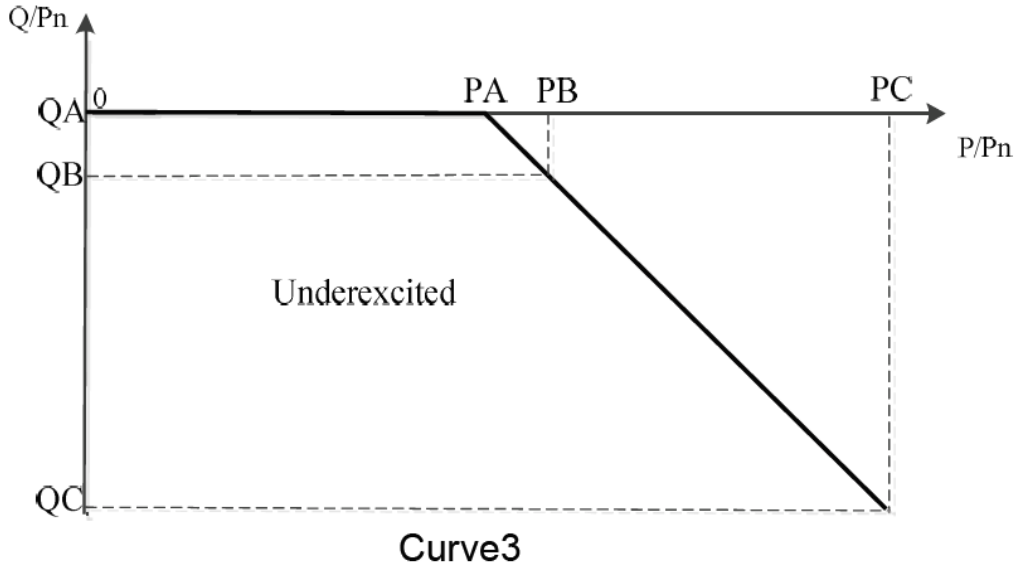
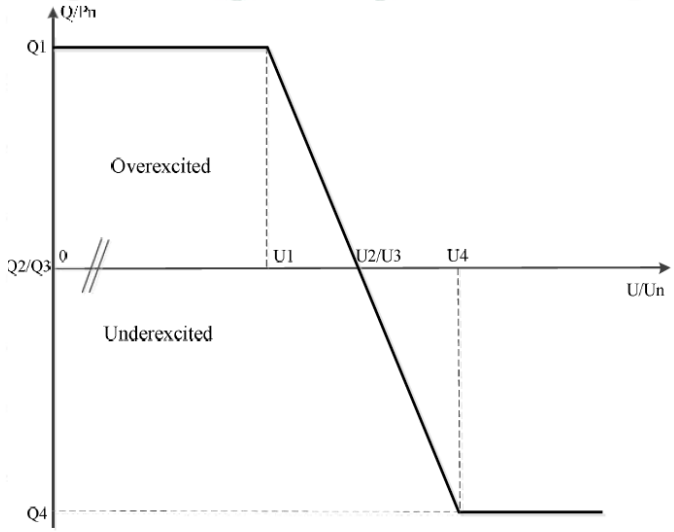
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Parameter description	Unit	Default Value	Min.	Max.	Step- wide	Note
Reactive power supply. Mode Q(P): The reactive ratio or power factor changes with the output power of the inverter.						
Q(P) Curve (when select Q(P))		Curve3				
Active power ratio PA	%Pn	50	0	100	1	
Active power ratioPB	%Pn	60	0	100	1	
Active power ratioPC	%Pn	100	0	100	1	
Corresponding reactive ratio or power factor of active power ratioPA point	%Pn	0	0	1	1	
Corresponding reactive ratio or power factor of active power ratioPB point	%Pn	-5	0	-60	1	
Corresponding reactive ratio or power factor of active power ratioPC point	%Pn	-60	0	60	1	



Curve3

Parameter description	Unit	Default Value	Min.	Max.	Step- wide	Note
Reactive power supply. Mode Q(U): The reactive power changes with the grid voltage.						
Q(U) curve		Curve4				
Hysteretic proportion	%Un	0	0	5	1	
Voltage proportionU1	%Un	96	90	110	1	
Voltage proportionU2	%Un	100	90	110	1	
Voltage proportionU3	%Un	100	90	110	1	
Voltage proportionU4	%Un	104	90	110	1	
Corresponding reactive ratio of voltage proportionU1	%Pn	60	0	60	1	
Corresponding reactive ratio of voltage proportionU2	%Pn	0	0	60	1	
Corresponding reactive ratio of voltage proportionU3	%Pn	0	-60	0	1	
Corresponding reactive ratio of voltage proportionU4	%Pn	-60	-60	0	1	
Reactive response	On/Off	On				
Reactive response time	s	10	0	60	1	



Curve4

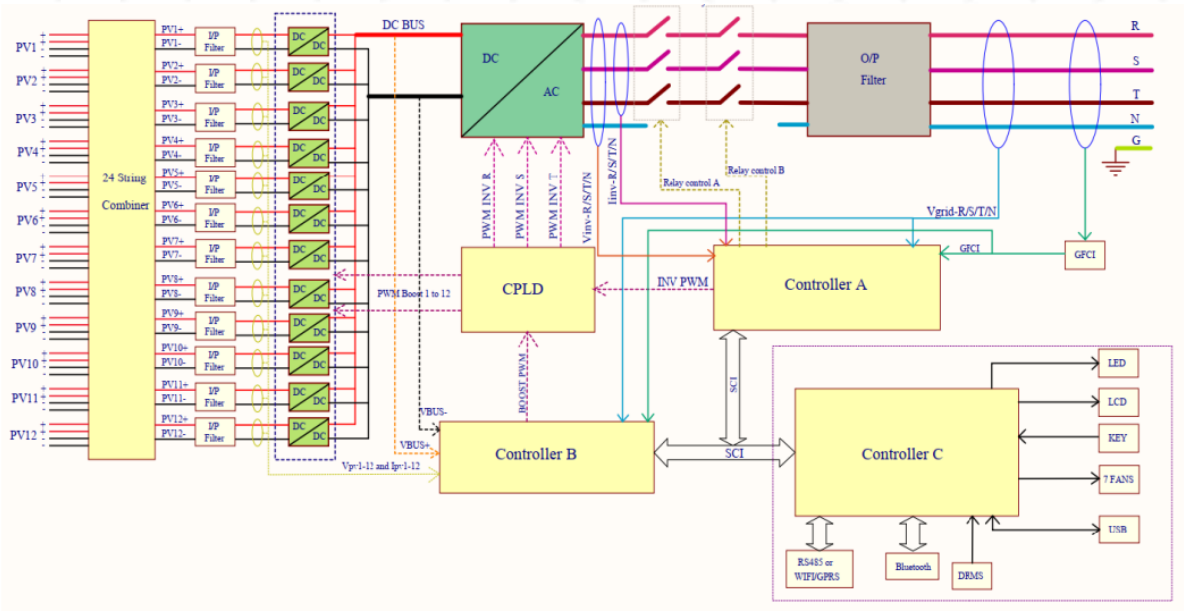
SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

Parameter description	Unit	Default Value	Min.	Max.	Step- wide	Note
Limits for re-energizing (reconnection after fault event)						
Undervoltage Protection Recovery Value	V	218.5	23.0	230.0	0.1	
Overvoltage Protection Recovery Value	V	253.0	230.0	299.0	0.1	
Underfrequency Protection Recovery Value	Hz	49.9	45.0	50.0	0.01	
Overfrequency Protection Recovery Value	Hz	50.1	50.0	55.0	0.01	
Fault Recovery Time	ms	5000	0	200000	20	
Fault Recovery ActiveSoft Start	On/Off	On				
Fault Recovery ActiveSoft Start Time	s	300	0	6000	1	
Limits for connection (without previous trip)						
Grid Connection Condition		Grid normal range				
Grid Connection Voltage Minimum	V	207.0	23.0	230.0	0.1	
Max. Grid-connected Voltage	V	253.0	230.0	299.0	0.1	
Grid Connection Frequency Minimum	Hz	47.5	45.0	50.0	0.01	
Max. Grid-connected Frequency	Hz	50.2	50.0	55.0	0.01	
Grid Connection Detection Time	s	60	0	600	1	
Grid-connected Active Power Rising Rate	Pn%/min	30	20	40	1	

Parameter description	Unit	Default Value	Min.	Max.	Step- wide	Note
Protective functions						
AC Over-voltage Level 1 Protection Value	V	287.5	230.0	299.0	0.1	
AC Over-voltage Level 1 Protection time	ms	100	100	180000	1	
AC Over-voltage Level 2 Protection Value	V	287.5	230.0	299.0	0.1	
AC Over-voltage Level 2 Protection time	ms	100	0	100	1	
AC Under-voltage Level 1 ProtectionValue	V	184	23.0	230.0	0.1	
AC Under-voltage Level 1 ProtectionTime	ms	1000(4110) 2000(4120)	0	2500	1	
AC Under-voltage Level 2 Protection Value	V	103.5(4110) 69.0(4120)	23.0	230.0	0.1	
AC Under-voltage Level 2 Protection Time	ms	300(4110) 800(4120)	0	800	1	
Grid Overfrequency Level 1 ProtectionValue	Hz	51.5	50.0	55.0	0.01	
Grid OverfrequencyLevel 1 Protection Time	ms	200	0	5000	1	
Grid Overfrequency Level 2 ProtectionValue	Hz	52.5	50.0	55.0	0.01	
Grid OverfrequencyLevel 2 Protection Time	ms	100	0	100	1	
AC Under-frequency Level 1 ProtectionValue	Hz	47.5	45.0	49.5	0.01	
AC Under-frequency Level 1 ProtectionTime	ms	100	0	100	1	
Evaluation of conductor-conductor or conductor-earth voltage		Conductor - earth voltage				
Logical AND or OR link		OR				
Self-protection overvoltage (transient)	V	430				Protection time 250us

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

4.3 Electric scheme

Equipment under testing


4.4 Interfaces

Following interfaces for setting parameters (include the active power or reactive power) configurations are provided on the PGU level:

- Interface for external active power command: RS485.

4.5 Manufacturer's certificates for certified PGUs according to FGW TG3

Manufacturer Certificate according to FGW TG3

SOFAR 75KTL

Herstellerbescheinigung zu spezifischen Daten eines Photovoltaik-Wechselrichters vom Type SOFAR 75KTL

Manufacturer's certificate on specific data of a Photovoltaic Converter of the type VDE-AR-N 4110:2018-11 and VDE-AR-N 4120:2018-11

Datum / Date: 13/7/2021 **Seite/Page 1/1**

1.	**Allgemeines und Ausgangsgrößen**			**General and Output values**
1	Hersteller	Shenzhen SOFAR SOLAR Co.Ltd		Manufacturer
2	Typenbezeichnung	SOFAR 75KTL		type name
3	Einspeisung (einphasig/dreiphasig)	three-phase		no. of phases (single-phase/three-phase)
4	Nennscheinleistung	75	kVA	rated apparent power
5	Nennwirkleistung	75	kW	rated active power
6	AC-Nennspannung	230	V	rated AC-voltage
7	AC-Nennfrequenz	50	Hz	rated frequency
8	Beitrag zum Stoßkurzschlussstrom	0.132	kA	contribution to short circuit current
2	**DC Eingangsgrößen**			**DC Input**
1	Min. MPP-Spannung	180	V	min. MPP voltage
2	Max. MPP-Spannung	1000	V	max. MPP voltage
3	Max. PV-Eingangsspannung	1100	V	max. DC input voltage
4	Max. PV-Eingangsstrom	26*8	A	max. DC input current
5	Max. Modulleistung	104	kW_p	max. peak power
3	**Wechselrichter-Leistungsteil**			**Converter-Power section**
1	Hersteller	Shenzhen SOFAR SOLAR Co. Ltd		manufacturer
2	Typenbezeichnung	SOFAR110KTL		type name
3	Nennscheinleistung	75	kVA	rated apparent power
4	Art (HF/NF-Trafo, trafolos)	Without		generic type (HV/LV of Trans., without)
5	Taktfrequenz	20	kHz	pulse rate of inverter
6	Art der Leistungsregelung (MPP-Tracking)	Perturbation& Observation		generic type of power control (MPP-Tracking)
7	Software-Version	V030008		software version
4	**Sonstige elektrische Komponenten**			**Other electric installations**
1	Art der Netzkopplung	breaker		generic type of interconnection
2	- Hersteller	HONGFA Group		- manufacturer
3	- Typenbezeichnung	HF 167F-200		- type
4	Netzschutz integriert (Ja/Nein)	yes		integrated grid protection (yes/no)
5	Netzschutzhersteller	HONGFA Group		grid protection manufacturer
6	- Typenbezeichnung	HF 167F-200		- type
7	- Einstellbereiche	Shown in appendix		- adjustment ranges
8	Spannungssteigerungsschutz	287.5	V	overvoltage protection
9	Spannungsrückgangschutz	184	V	undervoltage protection
10	Frequenzsteigerungsschutz	51.5	Hz	overfrequency protection
11	Frequenzrückgangschutz	47.5	Hz	underfrequency protection
12	Typenbezeichnung der Abschalteinheit	Air switch		circuit breaker type
13	Oberschwingungsfilter (ja/nein)	No		harmonic filter (yes / no)
5	**Typenprüfung**			**Type test**
1	Prüfbehörde	Societe Generale de Surveillance S.A.		testing authority
2	Aktenzeichen	VDE-AR-N 4110:2018-11 VDE-AR-N 4120:2018-11		reference
3	Seriennummer des Wechselrichters	SO1ES1A0LCP415		serial number of converter

Anschrift des Herstellers
Address of manufacturer

Stempel, Unterschrift
stamp, signature

Der Hersteller des PV-Wechselrichters bestätigt, dass der PV-Wechselrichter, dessen elektrischen Eigenschaften in den Prüfberichten abgebildet sind, hinsichtlich seiner technischen Daten mit den o.g. Positionen identisch ist.

The manufacturer of the PV-Converter confirms that the PV-Converter whose power quality is measured and depicted in the test reports, is identical with the above entries with regard to its technical data

Manufacturer Certificate according to FGW TG3

SOFAR 80KTL

Herstellerbescheinigung zu spezifischen Daten eines Photovoltaik-Wechselrichters vom Type SOFAR 80KTL

Manufacturer's certificate on specific data of a Photovoltaic Converter of the type VDE-AR-N 4110:2018-11 and VDE-AR-N 4120:2018-11

Datum / Date: 13/7/2021 Seite/Page 1/1

1. Allgemeines und Ausgangsgrößen — General and Output values

1	Hersteller	Shenzhen SOFAR SOLAR Co.Ltd		Manufacturer
2	Typenbezeichnung	SOFAR 80KTL		type name
3	Einspeisung (einphasig/dreiphasig)	three-phase		no. of phases (single-phase/three-phase)
4	Nennscheinleistung	88	kVA	rated apparent power
5	Nennwirkleistung	80	kW	rated active power
6	AC-Nennspannung	230	V	rated AC-voltage
7	AC-Nennfrequenz	50	Hz	rated frequency
8	Beitrag zum Stoßkurzschlussstrom	0.132	kA	contribution to short circuit current

2 DC Eingangsgrößen — DC Input

1	Min. MPP-Spannung	180	V	min. MPP voltage
2	Max. MPP-Spannung	1000	V	max. MPP voltage
3	Max. PV-Eingangsspannung	1100	V	max. DC input voltage
4	Max. PV-Eingangsstrom	26*8	A	max. DC input current
5	Max. Modulleistung	104	kW_p	max. peak power

3 Wechselrichter-Leistungsteil — Converter-Power section

1	Hersteller	Shenzhen SOFAR SOLAR Co. Ltd		manufacturer
2	Typenbezeichnung	SOFAR 80KTL		type name
3	Nennscheinleistung	88	kVA	rated apparent power
4	Art (HF/NF-Trafo, trafolos)	Without		generic type (HV/LV of Trans., without)
5	Taktfrequenz	20	kHz	pulse rate of inverter
6	Art der Leistungsregelung (MPP-Tracking)	Perturbation& Observation		generic type of power control (MPP-Tracking)
7	Software-Version	V030008		software version

4 Sonstige elektrische Komponenten — Other electric installations

1	Art der Netzkopplung	breaker		generic type of interconnection
2	- Hersteller	HONGFA Group		- manufacturer
3	- Typenbezeichnung	HF 167F-200		- type
4	Netzschutz integriert (Ja/Nein)	yes		integrated grid protection (yes/no)
5	Netzschutzhersteller	HONGFA Group		grid protection manufacturer
6	- Typenbezeichnung	HF 167F-200		- type
7	- Einstellbereiche	Shown in appendix		- adjustment ranges
8	Spannungssteigerungsschutz	287.5	V	overvoltage protection
9	Spannungsrückgangschutz	184	V	undervoltage protection
10	Frequenzsteigerungsschutz	51.5	Hz	overfrequency protection
11	Frequenzrückgangschutz	47.5	Hz	underfrequency protection
12	Typenbezeichnung der Abschalteinheit	Air switch		circuit breaker type
13	Oberschwingungsfilter (ja/nein)	No		harmonic filter (yes / no)

5 Typenprüfung — Type test

1	Prüfbehörde	Société Générale de Surveillance S.A.	testing authority
2	Aktenzeichen	VDE-AR-N 4110:2018-11 VDE-AR-N 4120:2018-11	reference
3	Seriennummer des Wechselrichters	SQ1ES1A0LCP415	serial number of converter

Anschrift des Herstellers
Address of manufacturer

Stempel, Unterschrift
stamp, signature

Der Hersteller des PV-Wechselrichters bestätigt, dass der PV-Wechselrichter, dessen elektrischen Eigenschaften in den Prüfberichten abgebildet sind, hinsichtlich seiner technischen Daten mit den o.g. Positionen identisch ist.

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Manufacturer Certificate according to FGW TG3

SOFAR 100KTL

Herstellerbescheinigung zu spezifischen Daten eines Photovoltaik-Wechselrichters vom Type SOFAR 100KTL

Manufacturer's certificate on specific data of a Photovoltaic Converter of the type VDE-AR-N 4110:2018-11 and VDE-AR-N 4120:2018-11

Datum / Date: 13/7/2021 Seite/Page 1/1

1. Allgemeines und Ausgangsgrößen — General and Output values

1	Hersteller	Shenzhen SOFAR SOLAR Co.Ltd		Manufacturer
2	Typenbezeichnung	SOFAR 100KTL		type name
3	Einspeisung (einphasig/dreiphasig)	three-phase		no. of phases (single-phase/three-phase)
4	Nennscheinleistung	110	kVA	rated apparent power
5	Nennwirkleistung	100	kW	rated active power
6	AC-Nennspannung	230	V	rated AC-voltage
7	AC-Nennfrequenz	50	Hz	rated frequency
8	Beitrag zum Stoßkurzschlussstrom	0.165	kA	contribution to short circuit current

2 DC Eingangsgrößen — DC Input

1	Min. MPP-Spannung	180	V	min. MPP voltage
2	Max. MPP-Spannung	1000	V	max. MPP voltage
3	Max. PV-Eingangsspannung	1100	V	max. DC input voltage
4	Max. PV-Eingangsstrom	26*10	A	max. DC input current
5	Max. Modulleistung	130	kW_p	max. peak power

3 Wechselrichter-Leistungsteil — Converter-Power section

1	Hersteller	Shenzhen SOFAR SOLAR Co. Ltd		manufacturer
2	Typenbezeichnung	SOFAR100KTL		type name
3	Nennscheinleistung	110	kVA	rated apparent power
4	Art (HF/NF-Trafo, trafolos)	Without		generic type (HV/LV of Trans., without)
5	Taktfrequenz	20	kHz	pulse rate of inverter
6	Art der Leistungsregelung (MPP-Tracking)	Perturbation& Observation		generic type of power control (MPP-Tracking)
7	Software-Version	V030008		software version

4 Sonstige elektrische Komponenten — Other electric installations

1	Art der Netzkopplung	breaker		generic type of interconnection
2	- Hersteller	HONGFA Group		- manufacturer
3	- Typenbezeichnung	HF 167F-200		- type
4	Netzschutz integriert (Ja/Nein)	yes		integrated grid protection (yes/no)
5	Netzschutzhersteller	HONGFA Group		grid protection manufacturer
6	- Typenbezeichnung	HF 167F-200		- type
7	- Einstellbereiche	Shown in appendix		- adjustment ranges
8	Spannungssteigerungsschutz	287.5	V	overvoltage protection
9	Spannungsrückgangschutz	184	V	undervoltage protection
10	Frequenzsteigerungsschutz	51.5	Hz	overfrequency protection
11	Frequenzrückgangschutz	47.5	Hz	underfrequency protection
12	Typenbezeichnung der Abschalteinheit	Air switch		circuit breaker type
13	Oberschwingungsfilter (ja/nein)	No		harmonic filter (yes / no)

5 Typenprüfung — Type test

1	Prüfbehörde	Société Générale de Surveillance S.A.	testing authority
2	Aktenzeichen	VDE-AR-N 4110:2018-11 VDE-AR-N 4120:2018-11	reference
3	Seriennummer des Wechselrichters	SQ1ES1A0LCP415	serial number of converter

Anschrift des Herstellers
Address of manufacturer

Stempel, Unterschrift
stamp, signature

Der Hersteller des PV-Wechselrichters bestätigt, dass der PV-Wechselrichter, dessen elektrischen Eigenschaften in den Prüfberichten abgebildet sind, hinsichtlich seiner technischen Daten mit den o.g. Positionen identisch ist.

The manufacturer of the PV-Converter confirms that the PV-Converter whose power quality is measured and depicted in the test reports, is identical with the above entries with regard to its technical data

Manufacturer Certificate according to FGW TG3

SOFAR 100KTL-HV

Herstellerbescheinigung zu spezifischen Daten eines Photovoltaik-Wechselrichters vom Type SOFAR 100KTL-HV

Manufacturer's certificate on specific data of a Photovoltaic Converter of the type VDE-AR-N 4110:2018-11 and VDE-AR-N 4120:2018-11

Datum / Date: 13/7/2021 **Seite/Page 1/1**

1. Allgemeines und Ausgangsgrößen — General and Output values

1	Hersteller	Shenzhen SOFAR SOLAR Co.Ltd		Manufacturer
2	Typenbezeichnung	SOFAR 100KTL-HV		type name
3	Einspeisung (einphasig/dreiphasig)	three-phase		no. of phases (single-phase/three-phase)
4	Nennscheinleistung	110	kVA	rated apparent power
5	Nennwirkleistung	100	kW	rated active power
6	AC-Nennspannung	288	V	rated AC-voltage
7	AC-Nennfrequenz	50	Hz	rated frequency
8	Beitrag zum Stoßkurzschlussstrom	0.127	kA	contribution to short circuit current

2 DC Eingangsgrößen — DC Input

1	Min. MPP-Spannung	180	V	min. MPP voltage
2	Max. MPP-Spannung	1000	V	max. MPP voltage
3	Max. PV-Eingangsspannung	1100	V	max. DC input voltage
4	Max. PV-Eingangsstrom	26*10	A	max. DC input current
5	Max. Modulleistung	143	kW_p	max. peak power

3 Wechselrichter-Leistungsteil — Converter-Power section

1	Hersteller	Shenzhen SOFAR SOLAR Co. Ltd		manufacturer
2	Typenbezeichnung	SOFAR100KTL-HV		type name
3	Nennscheinleistung	110	kVA	rated apparent power
4	Art (HF/NF-Trafo, trafolos)	Without		generic type (HV/LV of Trans., without)
5	Taktfrequenz	20	kHz	pulse rate of inverter
6	Art der Leistungsregelung (MPP-Tracking)	Perturbation& Observation		generic type of power control (MPP-Tracking)
7	Software-Version	V030008		software version

4 Sonstige elektrische Komponenten — Other electric installations

1	Art der Netzkopplung	breaker		generic type of interconnection
2	- Hersteller	HONGFA Group		- manufacturer
3	- Typenbezeichnung	HF 167F-200		- type
4	Netzschutz integriert (Ja/Nein)	yes		integrated grid protection (yes/no)
5	Netzschutzhersteller	HONGFA Group		grid protection manufacturer
6	- Typenbezeichnung	HF 167F-200		- type
7	- Einstellbereiche	Shown in appendix		- adjustment ranges
8	Spannungssteigerungsschutz	360	V	overvoltage protection
9	Spannungsrückgangschutz	230.4	V	undervoltage protection
10	Frequenzsteigerungsschutz	51.5	Hz	overfrequency protection
11	Frequenzrückgangschutz	47.5	Hz	underfrequency protection
12	Typenbezeichnung der Abschalteinheit	Air switch		circuit breaker type
13	Oberschwingungsfilter (ja/nein)	No		harmonic filter (yes / no)

5 Typenprüfung — Type test

1	Prüfbehörde	Société Générale de Surveillance S.A.	testing authority
2	Aktenzeichen	VDE-AR-N 4110:2018-11 VDE-AR-N 4120:2018-11	reference
3	Seriennummer des Wechselrichters	SQ1ES1A0LCP415	serial number of converter

Anschrift des Herstellers
Address of manufacturer

Stempel, Unterschrift
stamp, signature

Der Hersteller des PV-Wechselrichters bestätigt, dass der PV-Wechselrichter, dessen elektrischen Eigenschaften in den Prüfberichten abgebildet sind, hinsichtlich seiner technischen Daten mit den o.g. Positionen identisch ist.

The manufacturer of the PV-Converter confirms that the PV-Converter whose power quality is measured and depicted in the test reports, is identical with the above entries with regard to its technical data

Manufacturer Certificate according to FGW TG3

SOFAR 110KTL

Herstellerbescheinigung zu spezifischen Daten eines Photovoltaik-Wechselrichters vom Type SOFAR 110KTL

Manufacturer's certificate on specific data of a Photovoltaic Converter of the type VDE-AR-N 4110:2018-11 and VDE-AR-N 4120:2018-11

Datum / Date: 13/7/2021 Seite/Page 1/1

1. Allgemeines und Ausgangsgrößen — General and Output values

1	Hersteller	Shenzhen SOFAR SOLAR Co.Ltd		Manufacturer
2	Typenbezeichnung	SOFAR 110KTL		type name
3	Einspeisung (einphasig/dreiphasig)	three-phase		no. of phases (single-phase/three-phase)
4	Nennscheinleistung	121	kVA	rated apparent power
5	Nennwirkleistung	110	kW	rated active power
6	AC-Nennspannung	230	V	rated AC-voltage
7	AC-Nennfrequenz	50	Hz	rated frequency
8	Beitrag zum Stoßkurzschlussstrom	0.184	kA	contribution to short circuit current

2 DC Eingangsgrößen — DC Input

1	Min. MPP-Spannung	180	V	min. MPP voltage
2	Max. MPP-Spannung	1000	V	max. MPP voltage
3	Max. PV-Eingangsspannung	1100	V	max. DC input voltage
4	Max. PV-Eingangsstrom	26*10	A	max. DC input current
5	Max. Modulleistung	130	kW_p	max. peak power

3 Wechselrichter-Leistungsteil — Converter-Power section

1	Hersteller	Shenzhen SOFAR SOLAR Co. Ltd		manufacturer
2	Typenbezeichnung	SOFAR110KTL		type name
3	Nennscheinleistung	121	kVA	rated apparent power
4	Art (HF/NF-Trafo, trafolos)	Without		generic type (HV/LV of Trans., without)
5	Taktfrequenz	20	kHz	pulse rate of inverter
6	Art der Leistungsregelung (MPP-Tracking)	Perturbation& Observation		generic type of power control (MPP-Tracking)
7	Software-Version	V030008		software version

4 Sonstige elektrische Komponenten — Other electric installations

1	Art der Netzkopplung	breaker		generic type of interconnection
2	- Hersteller	HONGFA Group		- manufacturer
3	- Typenbezeichnung	HF 167F-200		- type
4	Netzschutz integriert (Ja/Nein)	yes		integrated grid protection (yes/no)
5	Netzschutzhersteller	HONGFA Group		grid protection manufacturer
6	- Typenbezeichnung	HF 167F-200		- type
7	- Einstellbereiche	Shown in appendix		- adjustment ranges
8	Spannungssteigerungsschutz	287.5	V	overvoltage protection
9	Spannungsrückgangschutz	184	V	undervoltage protection
10	Frequenzsteigerungsschutz	51.5	Hz	overfrequency protection
11	Frequenzrückgangschutz	47.5	Hz	underfrequency protection
12	Typenbezeichnung der Abschalteinheit	Air switch		circuit breaker type
13	Oberschwingungsfilter (ja/nein)	No		harmonic filter (yes / no)

5 Typenprüfung — Type test

1	Prüfbehörde	Société Générale de Surveillance S.A.	testing authority
2	Aktenzeichen	VDE-AR-N 4110:2018-11 VDE-AR-N 4120:2018-11	reference
3	Seriennummer des Wechselrichters	SQ1ES1A0LCP415	serial number of converter

Anschrift des Herstellers
Address of manufacturer

Stempel, Unterschrift
stamp, signature

Der Hersteller des PV-Wechselrichters bestätigt, dass der PV-Wechselrichter, dessen elektrischen Eigenschaften in den Prüfberichten abgebildet sind, hinsichtlich seiner technischen Daten mit den o.g. Positionen identisch ist.

The manufacturer of the PV-Converter confirms that the PV-Converter whose power quality is measured and depicted in the test reports, is identical with the above entries with regard to its technical data

Manufacturer Certificate according to FGW TG3

SOFAR 125KTL-HV

Herstellerbescheinigung zu spezifischen Daten eines Photovoltaik-Wechselrichters vom Type SOFAR 125KTL-HV

Manufacturer's certificate on specific data of a Photovoltaic Converter of the type VDE-AR-N 4110:2018-11 and VDE-AR-N 4120:2018-11

Datum / Date: 13/7/2021 Seite/Page 1/1

1. Allgemeines und Ausgangsgrößen — General and Output values

1	Hersteller	Shenzhen SOFAR SOLAR Co.Ltd		Manufacturer
2	Typenbezeichnung	SOFAR 125KTL-HV		type name
3	Einspeisung (einphasig/dreiphasig)	three-phase		no. of phases (single-phase/three-phase)
4	Nennscheinleistung	137.5	kVA	rated apparent power
5	Nennwirkleistung	125	kW	rated active power
6	AC-Nennspannung	288	V	rated AC-voltage
7	AC-Nennfrequenz	50	Hz	rated frequency
8	Beitrag zum Stoßkurzschlussstrom	0.16	kA	contribution to short circuit current

2 DC Eingangsgrößen — DC Input

1	Min. MPP-Spannung	180	V	min. MPP voltage
2	Max. MPP-Spannung	1000	V	max. MPP voltage
3	Max. PV-Eingangsspannung	1100	V	max. DC input voltage
4	Max. PV-Eingangsstrom	26*10	A	max. DC input current
5	Max. Modulleistung	143	kW_p	max. peak power

3 Wechselrichter-Leistungsteil — Converter-Power section

1	Hersteller	Shenzhen SOFAR SOLAR Co. Ltd		manufacturer
2	Typenbezeichnung	SOFAR125KTL-HV		type name
3	Nennscheinleistung	137.5	kVA	rated apparent power
4	Art (HF/NF-Trafo, trafolos)	Without		generic type (HV/LV of Trans., without)
5	Taktfrequenz	20	kHz	pulse rate of inverter
6	Art der Leistungsregelung (MPP-Tracking)	Perturbation& Observation		generic type of power control (MPP-Tracking)
7	Software-Version	V030008		software version

4 Sonstige elektrische Komponenten — Other electric installations

1	Art der Netzkopplung	breaker		generic type of interconnection
2	- Hersteller	HONGFA Group		- manufacturer
3	- Typenbezeichnung	HF 167F-200		- type
4	Netzschutz integriert (Ja/Nein)	yes		integrated grid protection (yes/no)
5	Netzschutzhersteller	HONGFA Group		grid protection manufacturer
6	- Typenbezeichnung	HF 167F-200		- type
7	- Einstellbereiche	Shown in appendix		- adjustment ranges
8	Spannungssteigerungsschutz	360	V	overvoltage protection
9	Spannungsrückgangschutz	230.4	V	undervoltage protection
10	Frequenzsteigerungsschutz	51.5	Hz	overfrequency protection
11	Frequenzrückgangschutz	47.5	Hz	underfrequency protection
12	Typenbezeichnung der Abschalteinheit	Air switch		circuit breaker type
13	Oberschwingungsfilter (ja/nein)	No		harmonic filter (yes / no)

5 Typenprüfung — Type test

1	Prüfbehörde	Société Générale de Surveillance S.A.	testing authority
2	Aktenzeichen	VDE-AR-N 4110:2018-11 VDE-AR-N 4120:2018-11	reference
3	Seriennummer des Wechselrichters	SQ1ES1A0LCP415	serial number of converter

Anschrift des Herstellers
Address of manufacturer

Stempel, Unterschrift
stamp, signature

Der Hersteller des PV-Wechselrichters bestätigt, dass der PV-Wechselrichter, dessen elektrischen Eigenschaften in den Prüfberichten abgebildet sind, hinsichtlich seiner technischen Daten mit den o.g. Positionen identisch ist.

The manufacturer of the PV-Converter confirms that the PV-Converter whose power quality is measured and depicted in the test reports, is identical with the above entries with regard to its technical data

Manufacturer Certificate according to FGW TG3

SOFAR 136KTL-HV

Herstellerbescheinigung zu spezifischen Daten eines Photovoltaik-Wechselrichters vom Type SOFAR 136KTL-HV

Manufacturer's certificate on specific data of a Photovoltaic Converter of the type VDE-AR-N 4110:2018-11 and VDE-AR-N 4120:2018-11

Datum / Date: 13/7/2021 Seite/Page 1/1

1. Allgemeines und Ausgangsgrößen / General and Output values

1	Hersteller	Shenzhen SOFAR SOLAR Co.Ltd		Manufacturer
2	Typenbezeichnung	SOFAR 136KTL-HV		type name
3	Einspeisung (einphasig/dreiphasig)	three-phase		no. of phases (single-phase/three-phase)
4	Nennscheinleistung	149.6	kVA	rated apparent power
5	Nennwirkleistung	136	kW	rated active power
6	AC-Nennspannung	288	V	rated AC-voltage
7	AC-Nennfrequenz	50	Hz	rated frequency
8	Beitrag zum Stoßkurzschlussstrom	0.16	kA	contribution to short circuit current

2 DC Eingangsgrößen / DC Input

1	Min. MPP-Spannung	180	V	min. MPP voltage
2	Max. MPP-Spannung	1000	V	max. MPP voltage
3	Max. PV-Eingangsspannung	1100	V	max. DC input voltage
4	Max. PV-Eingangsstrom	26*12	A	max. DC input current
5	Max. Modulleistung	171	kW_p	max. peak power

3 Wechselrichter-Leistungsteil / Converter-Power section

1	Hersteller	Shenzhen SOFAR SOLAR Co. Ltd		manufacturer
2	Typenbezeichnung	SOFAR136KTL-HV		type name
3	Nennscheinleistung	149.6	kVA	rated apparent power
4	Art (HF/NF-Trafo, trafolos)	Without		generic type (HV/LV of Trans., without)
5	Taktfrequenz	20	kHz	pulse rate of inverter
6	Art der Leistungsregelung (MPP-Tracking)	Perturbation& Observation		generic type of power control (MPP-Tracking)
7	Software-Version	V030008		software version

4 Sonstige elektrische Komponenten / Other electric installations

1	Art der Netzkopplung	breaker		generic type of interconnection
2	- Hersteller	HONGFA Group		- manufacturer
3	- Typenbezeichnung	HF 167F-200		- type
4	Netzschutz integriert (Ja/Nein)	yes		integrated grid protection (yes/no)
5	Netzschutzhersteller	HONGFA Group		grid protection manufacturer
6	- Typenbezeichnung	HF 167F-200		- type
7	- Einstellbereiche	Shown in appendix		- adjustment ranges
8	Spannungssteigerungsschutz	360	V	overvoltage protection
9	Spannungsrückgangschutz	230.4	V	undervoltage protection
10	Frequenzsteigerungsschutz	51.5	Hz	overfrequency protection
11	Frequenzrückgangschutz	47.5	Hz	underfrequency protection
12	Typenbezeichnung der Abschalteinheit	Air switch		circuit breaker type
13	Oberschwingungsfilter (ja/nein)	No		harmonic filter (yes / no)

5 Typenprüfung / Type test

1	Prüfbehörde	Societe Generale de Surveillance S.A.	testing authority
2	Aktenzeichen	VDE-AR-N 4110:2018-11 VDE-AR-N 4120:2018-11	reference
3	Seriennummer des Wechselrichters	SQ1ES1A0LCP415	serial number of converte

Anschrift des Herstellers
Address of manufacturer

Stempel, Unterschrift
stamp, signature

Der Hersteller des PV-Wechselrichters bestätigt, dass der PV-Wechselrichter, dessen elektrischen Eigenschaften in den Prüfberichten abgebildet sind, hinsichtlich seiner technischen Daten mit den o.g. Positionen identisch ist.

The manufacturer of the PV-Converter confirms that the PV-Converter whose power quality is measured and depicted in the test reports, is identical with the above entries with regard to its technical data

5 DYNAMIC SIMUALTION MODEL INFORMATION

5.1 Software Characteristics

- Software type: Simulator for Grid Connected Power Conversion System
- Simulation platform: Matlab Simulink
- Used version of the simulation platform: 10.3 Version (R2021 a)
- Simulation Software File identification: Sofar110kW_PGU.xls
- Dynamic Simulation Model version: V01.12
- MD5 Checksum: C8C4FBEDB431BE899CF6F809C900DDD9

Revision 1 dated 27th June 2022

Report Number: 2221/0067-5/Amp-TG4 demonstrates that the updated Dynamic Simulation Model (Version 2.0) does not show any critical change compared to the previous version used in the original report number 2221/0067-5-TG4. For more details see clause 3.1.3 of this Annex to Certificate

Software Characteristics used on Report 2221/0067-5/Amp-TG4

- Software type: Simulator for Grid Connected Power Conversion System
- Simulation platform: Matlab Simulink
- Used version of the simulation platform: 9.1 Version(R2018a)
- Simulation Software File identification: PGU_110kW.slx
- Dynamic Simulation Model version: V2
- MD5 Checksum: E622F40E18F8E5090D437D0937091BEA

5.2 Software Information and Comments

As evidenced in the manufacturer's documentation and the validation report, the dynamic model could be completely able to represent the dynamic behaviours at the PV inverter terminal, and also be suitable for power grid studies. The dynamic model covered by the validation report is valid for fundamental frequency positive and negative sequence response. The dynamic model is developed with the following specifications in mind:

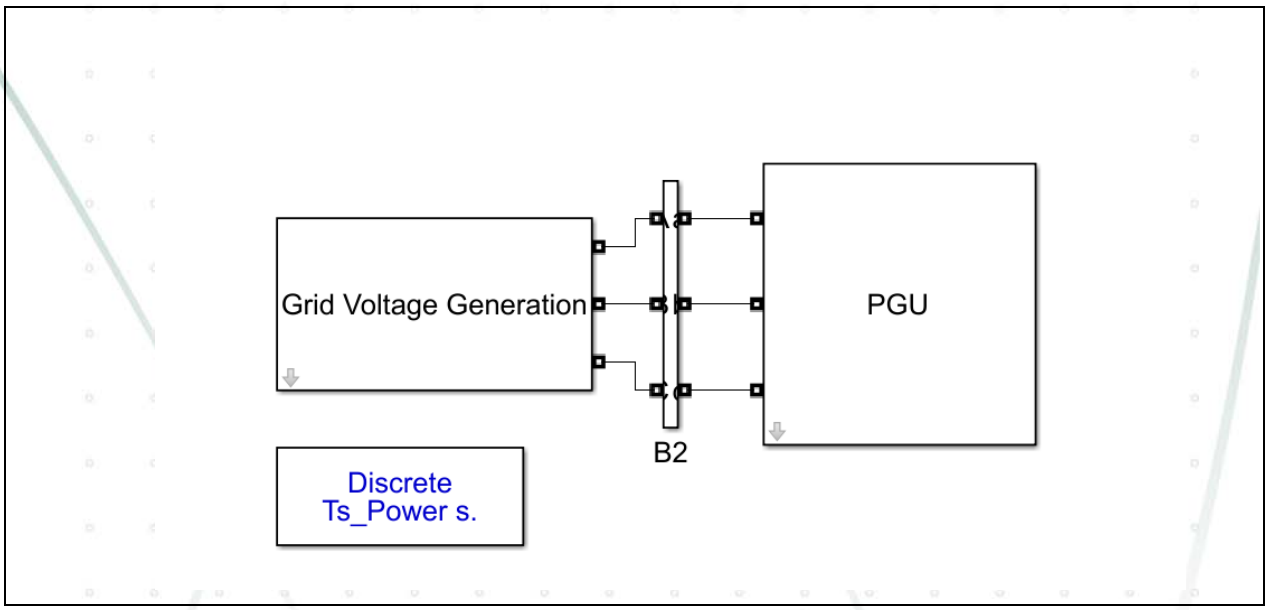
- The model is to be used primarily for power system stability studies and thus should represent all positive and negative sequence dynamics affected and relevant during:
  - Balanced and unbalanced short-circuits on the transmission grid (including voltage recovery)
  - Grid frequency disturbances
  - Reference value changes
- The model is for fundamental frequency positive and negative sequence response.
- The model is valid for typical power system frequency deviations.
- The model is able to handle numerically the simulation of phase jumps.
- The model is valid for steady state voltage deviations within the range from 0.9 p.u. to 1.1 p.u.
- The model could work with integration time step range from 0.001s to 0.01s.
- The model could be initialized to a steady state from load flow solutions at full or partial nominal power.
- External conditions like solar radiation are considered through the available PV array conversion power.

- Over/under frequency and over/under voltage protections are modelled in the control model in order to allow a realistic representation of PV inverter disconnection following grid disturbances. This may be separate modules that connect to the main PV inverter model.
- The model includes the reactive power capability of the PV inverter.

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36

5.3 Description of the model

The model has the following design:

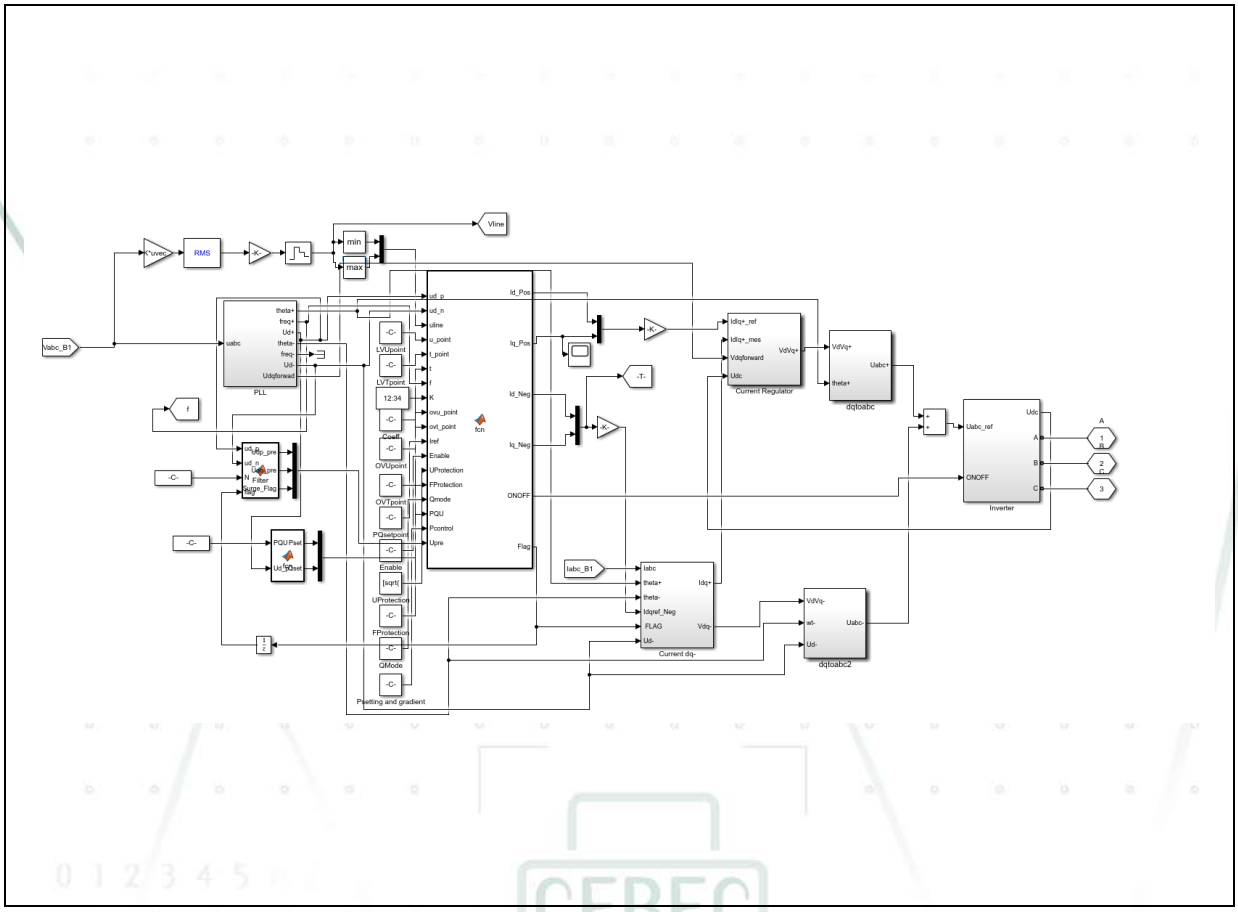


The grid information of Sofar 110KTL Inverter Simulink project is as follows:

	Data recording rate	Sampling resolution of simulation results
Validation requirements for Voltage Ride Through (LVRT and HVRT, except 75.3 and 75.4)	100 Hz (Step size is 10 ms)	25 kHz (Step size is 0.25 ms)
Validation of changes commanded by set point (Active Power)	10 Hz (Step size is 100 ms)	25 kHz (Step size is 0.25 ms
Validation of changes commanded by set point (Reactive Power)	10 Hz (Step size is 100 ms)	25 kHz (Step size is 0.25 ms
Verification of requirements for Protective Settings (Under/Over voltage cases)	50 Hz (Step size is 20 ms)	25 kHz (Step size is 0.25 ms
Plausibility check. Tests for Type 2 PGUS.	10 Hz (Step size is 100 ms)	25 kHz (Step size is 0.25 ms
U-P-Q capability curves	10 Hz (Step size is 100 ms)	25 kHz (Step size is 0.25 ms
Plausibility Tests for typical PGS configurations. One-off voltage drops	100 Hz (Step size is 10 ms)	25 kHz (Step size is 0.25 ms

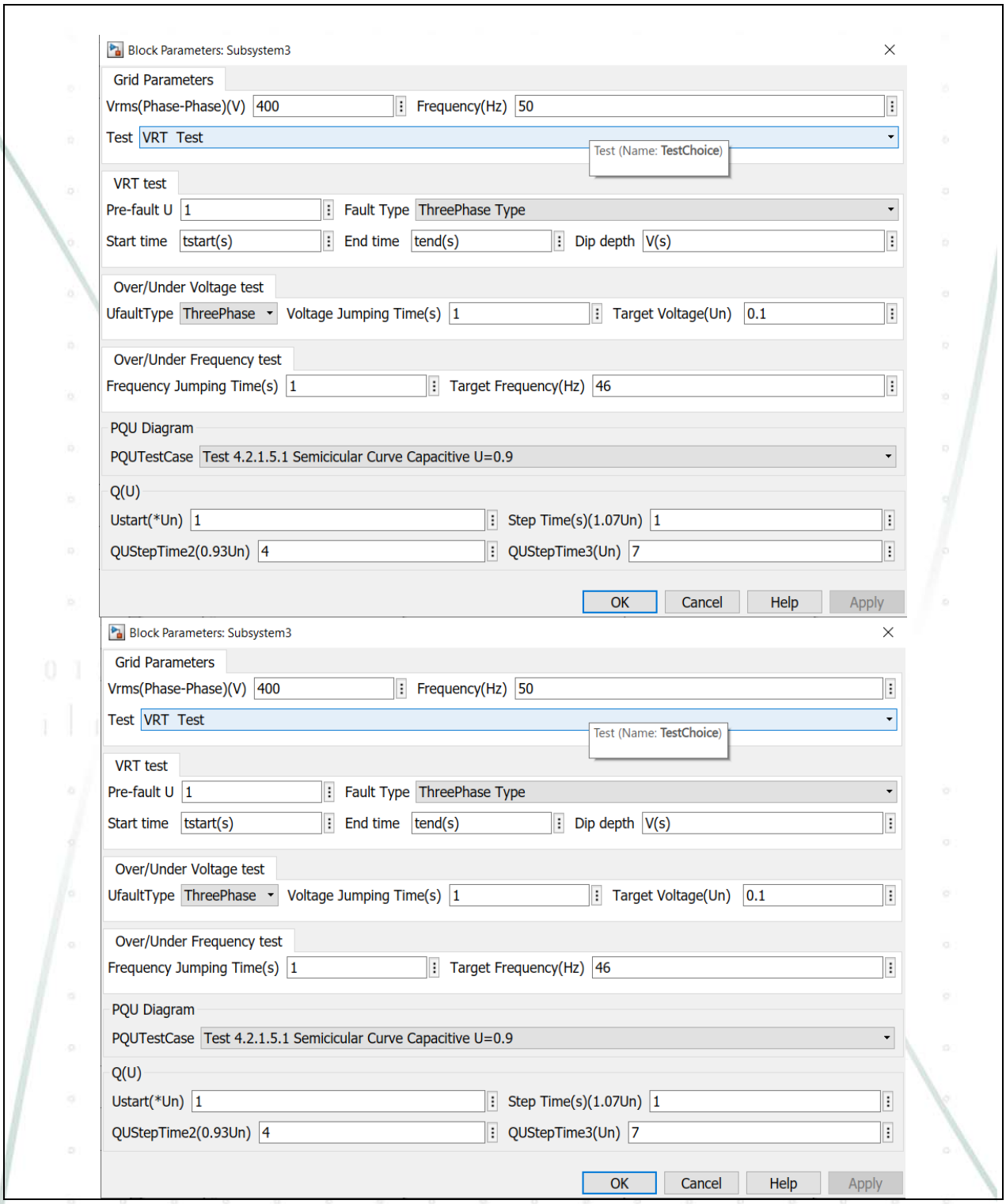
For further information, see the “Sofar Model description” (version 1, issued on 6th, August 2021). Below is showed the converter model:

The model can be adjusted to simulate models SOFAR 75KTL, SOFAR 80KTL, SOFAR 100KTL, SOFAR 110KTL, SOFAR 100KTL-HV, SOFAR 125KTL-HV and SOFAR 136KTL-HV as it is detailed following instructions given in the points 4 of the user manual of the simulation model.



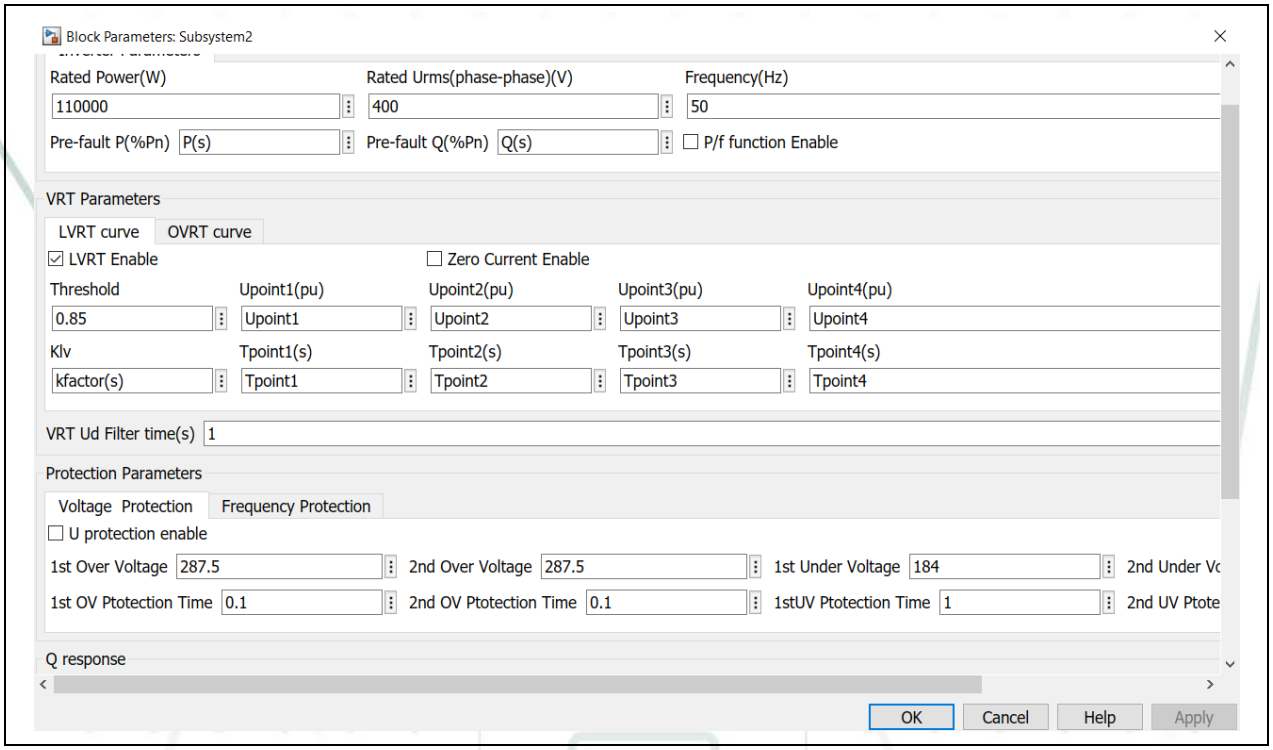
The following pictures shows parameters adjusted by default for the simulations LVRT/HVRT tests offered in this report (*).

(*) *The test parameters in subsystem3 have been modified during the different simulations, VRT test is shown due to the parameter cannot be either unselected or hidden.*



The PGU subsystem has been configurating different depending of the simulation executed. Configuration of both LVRT and OVRT parameters are shown below.

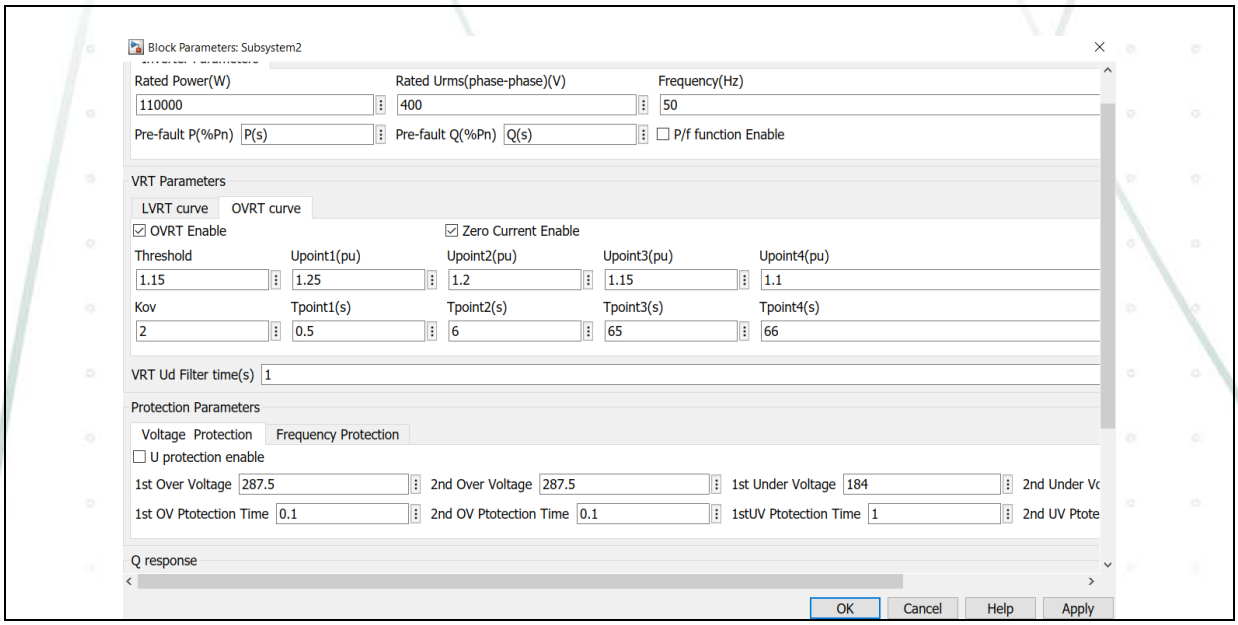
The configuration for LVRT is the following:



Where some parameters have been with a Matlab script as following:

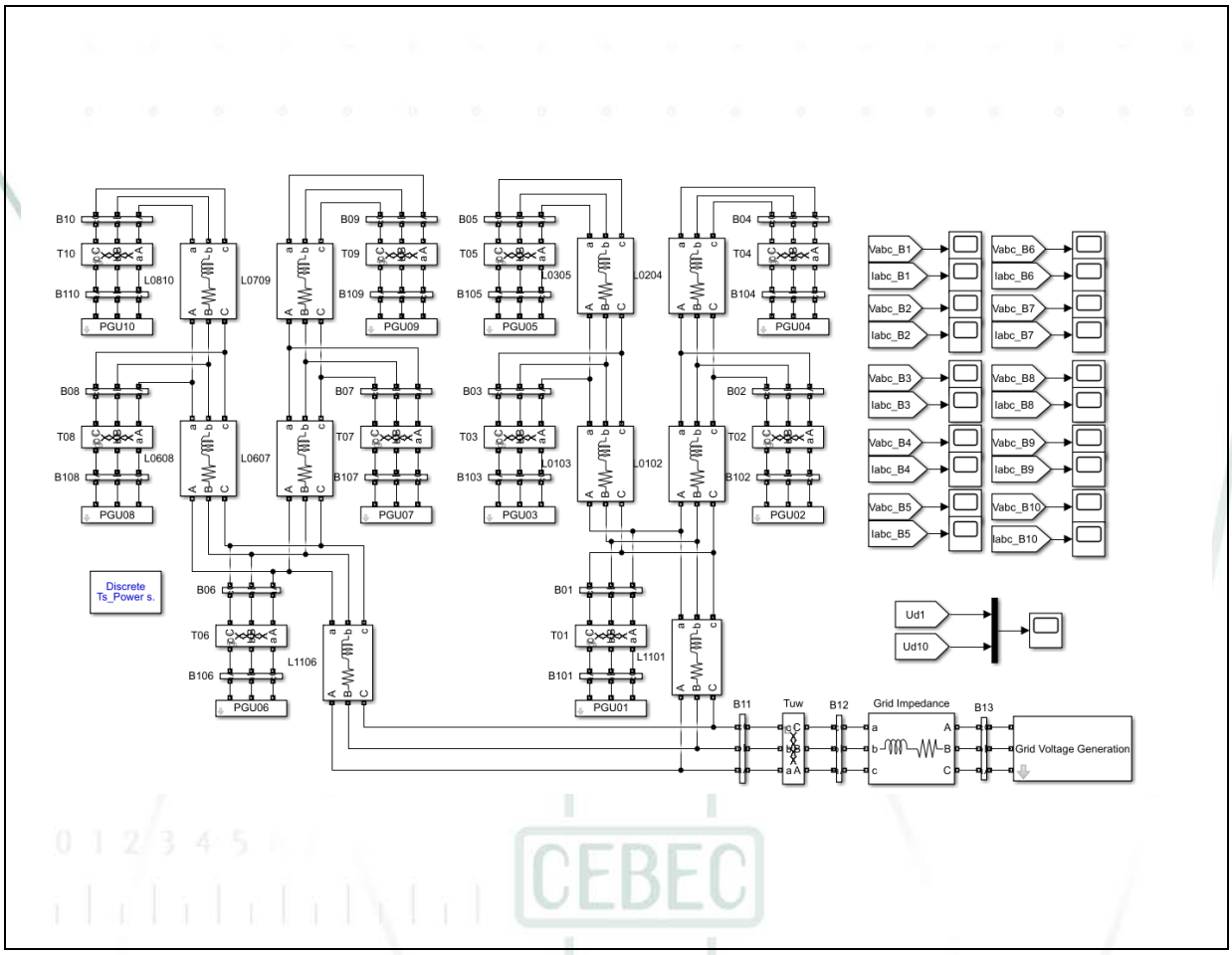
- Upoint values contains the limit FRT curve, being Upoint1 = 0, and 0,85 for the rest of the variables.
- Tpoint contains the time when the Upoint event occurs, which values are the following values added to the dip start time:
  Tpoint1 = 0.22; Tpoint2 = 3; Tpoint3 = 5; Tpoint4 = 6.
- Kfactor is a vector containing the K factor values for each test

The configuration for OVRT is the following:



The zero current enable only has been set for Test 50.5, 80.1, 50.6, 80.2

The model for determinate the suitability in PGS simulations has the following design:



The PGU1 has been selected as the nearest PGU, and PGU9 has been selected as the farthest PGU.

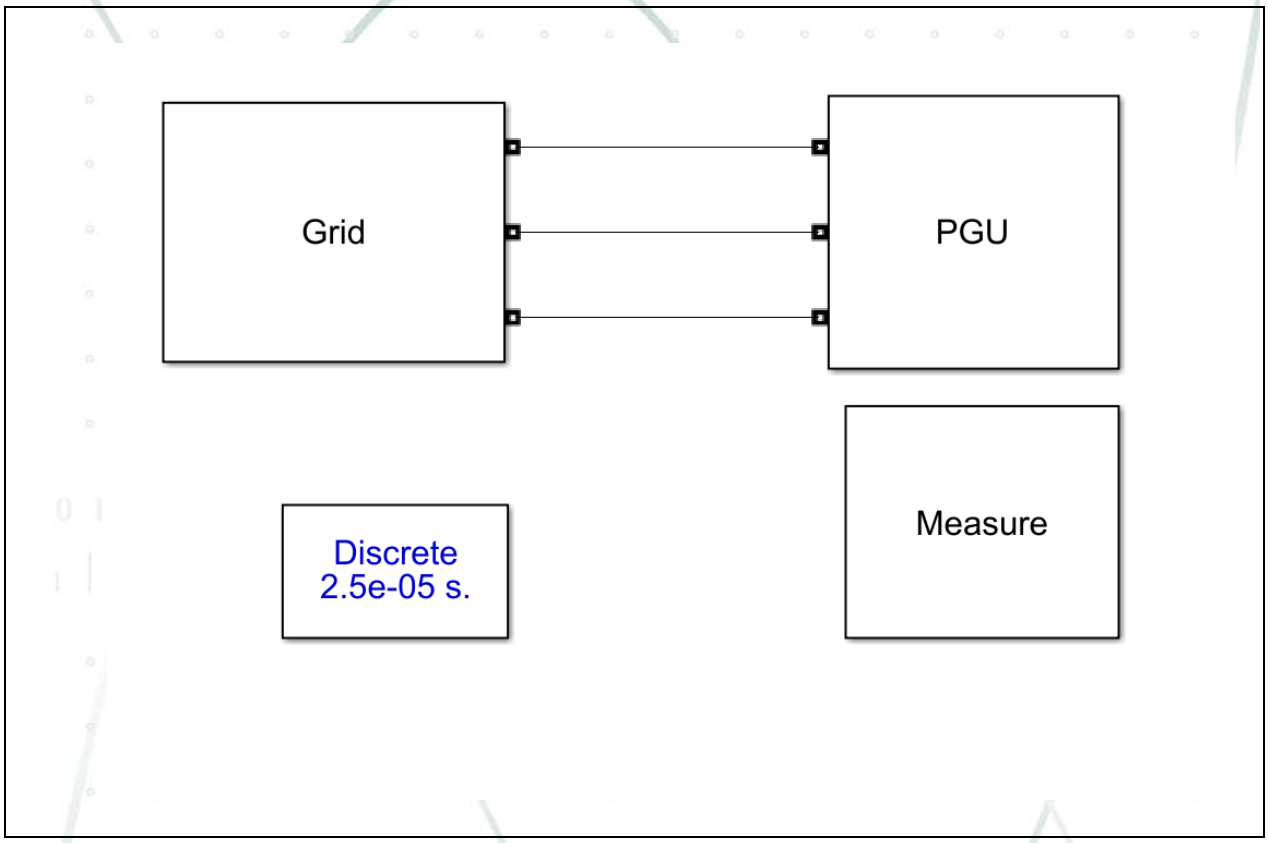
Resistance and reactance values have been modelled by adding R-L block with the corresponding values. For this report only the values associated with PGU9 and PGU1 are relevant, and those values has been set as following:

- PGU1: Resistance = 2,4 Ω; Reactance = 0,002 L.
- PGU9: Resistance = 2,8 Ω; Reactance = 0,004 L.

Revision 1 dated 27th June 2022

The customer provides an updated dynamic simulation model and declares that the updated dynamic simulation model separates simulation parameters in M file from old dynamic simulation model, therefore modify simulation parameters won't change the updated dynamic simulation model itself. Also, updated dynamic simulation model function module is encrypted compared with the old dynamic simulation model.
Due to the encrypted formart of the module, this clause will be updated as following:

The model has the following design:



The grid information of Sofar 110KTL Inverter Simulink project is as follows:

	Data recording rate	Sampling resolution of simulation results
Validation requirements for Voltage Ride Through	100 Hz (Step size is 10 ms)	25 kHz (Step size is 0.25 ms)
Validation of changes commanded by set point (Active Power)	10 Hz (Step size is 100 ms)	25 kHz (Step size is 0.25 ms
Validation of changes commanded by set point (Reactive Power)	10 Hz (Step size is 100 ms)	25 kHz (Step size is 0.25 ms
Verification of requirements for Protective Settings (Under/Over voltage cases)	50 Hz (Step size is 20 ms)	25 kHz (Step size is 0.25 ms
Plausibility check. Tests for Type 2 PGUS.	10 Hz (Step size is 100 ms)	25 kHz (Step size is 0.25 ms
U-P-Q capability curves	10 Hz (Step size is 100 ms)	25 kHz (Step size is 0.25 ms

Plausibility Tests for typical PGS configurations. One-off voltage drops	100 Hz (Step size is 10 ms)	25 kHz (Step size is 0.25 ms

For further information, see the “Model description(1)” (version 2, issued on 21st, April 2022). Below is showed the converter model:

The model can be adjousted to simulate models SOFAR 75KTL, SOFAR 80KTL, SOFAR 100KTL, SOFAR 110KTL, SOFAR 100KTL-HV, SOFAR 125KTL-HV and SOFAR 136KTL-HV as it is detailed following instructions given in the points 4 of the user manual of the simulation model.

The following pictures shows parameters adjusted by default for the simulations LVRT/HVRT tests offered in this report

ACSourceParameters.m

```
%====================  AC source module parameters


%============ Rated Voltage and Frequency
Un=400;      % Vrms(Phase-Phase)(V)
Fn=50;       % Frequency(Hz)
InitalAngle=0; % Init Angle of Phase A
%==========   Rated Voltage and Frequency


%============== Test Type % 0=Disable 1=Enable
VRTEnable=1;
UprotectionEnable=0;
FprotectionEnable=0;
PQUTestEnable =0;
QUEnableSource=0;
PlausibilityEnable=0;
%=============== Test Type

  %============  VRT Parameters START
  ZCM=0;          %Zero Current Enable
  U0=0.9;         %ThresholdLVRT
  U1=0;           %Upoint1(pu)
  U2=0.25;        %Upoint2(pu)
  U3=0.5;         %Upoint3(pu)
  U4=0.85;        %Upoint4(pu)
  T0=2;           %K factor of LVRT
  T1=100;           %Tpoint1(s)
  T2=200;           %Tpoint2(s)
  T3=300;           %Tpoint3(s)
  T4=400;          %Tpoint4(s)

  ZCM1=0;         %Zero Current Enable
  U00=1.12;        %ThresholdOVRT
  U11=1.25;       %Upoint1(pu)
  U22=1.2;        %Upoint2(pu)
  U33=1.15;       %Upoint3(pu)
  U44=1.1;        %Upoint4(pu)
  T00=2;          %K factor of OVRT
  T11=100;        %Tpoint1(s)
  T22=200;          %Tpoint2(s)
  T33=300;         %Tpoint3(s)
  T44=600;         %Tpoint4(s)
  VRTFilter=1;    %VRT Ud Filter time(s)
  %============  VRT Parameters END
```

The PGU subsystem has been configurating different depeding of the simulation executed. Configuration of both LVRT and OVRT parameters are shown below.

The configuration for LVRT is the following:

PGUparameters.m

```
%============ PGU module parameters  START
Pnom=110000;  %Rated Power(W)
Unom=400;     %Rated Urms(phase-phase)(V)
Fnom=50;      %Frequency(Hz)
Smax=110;     %Max Apparent Power(%Pn)
PercentP=20;  %Pre-fault P(%Pn)
PercentQ=0;   %Pre-fault Q(%Pn)
PFEnable=0;   %P/f function Enable,Not used
%============ PGU module parameters END

%===========  Function Enable part START
LVRTEnable=1;     %LVRT Enable
OVRTEnable=0;     %OVRT Enable
UPEnable=0;       %U protection enable
FPEnable=0;       %f protection enable
QUEnable=0;       %QUEnable
QPEnable=0;       %QPEnable
PQUTestEnable2=0;  %PQU Enable
QsettingEnable=0; %Q setting Enable
PsettingEnable=0; %P setting Enable
%============  Function Enable part END
```

The configuration for OVRT is the following:

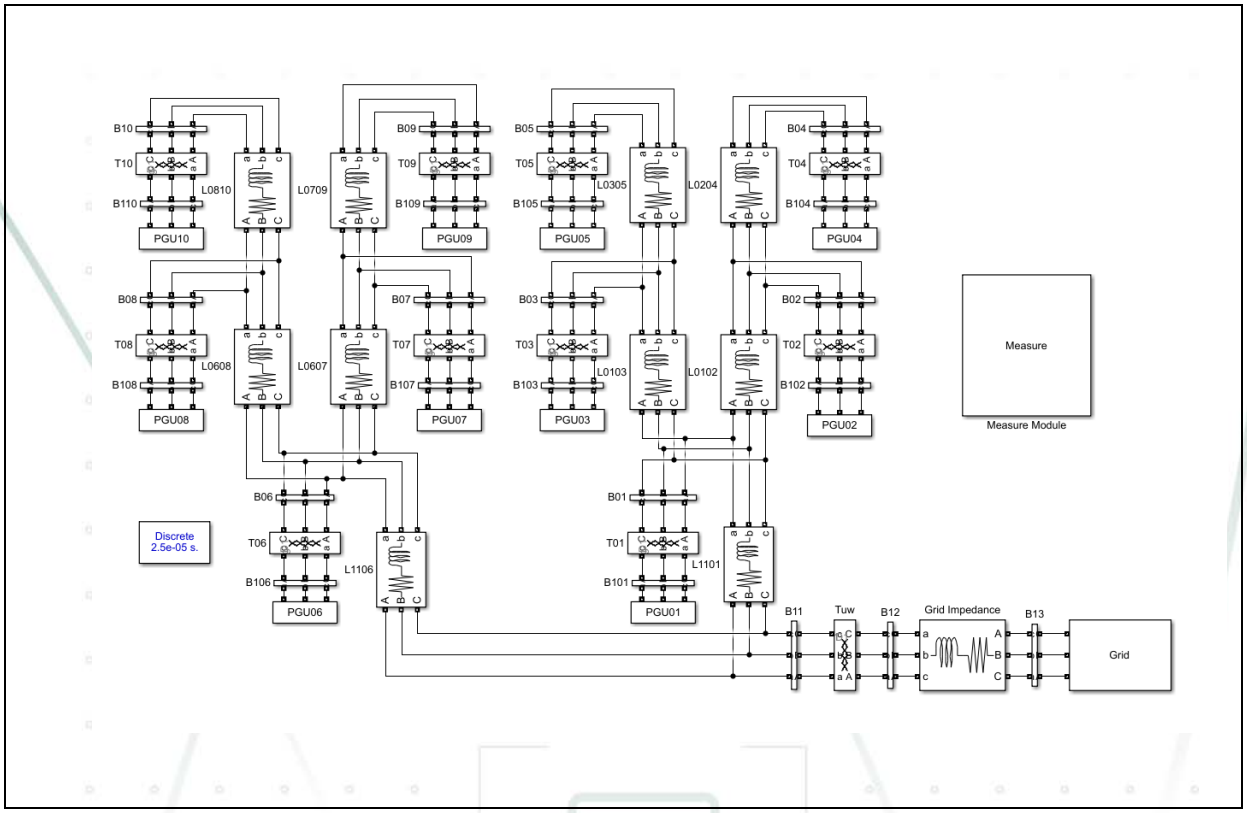
PGUparameters.m

```
%============ PGU module parameters  START
Pnom=110000;  %Rated Power(W)
Unom=400;     %Rated Urms(phase-phase)(V)
Fnom=50;      %Frequency(Hz)
Smax=110;     %Max Apparent Power(%Pn)
PercentP=20;  %Pre-fault P(%Pn)
PercentQ=0;   %Pre-fault Q(%Pn)
PFEnable=0;   %P/f function Enable,Not used
%============ PGU module parameters END

%===========  Function Enable part START
LVRTEnable=0;     %LVRT Enable
OVRTEnable=1;     %OVRT Enable
UPEnable=0;       %U protection enable
FPEnable=0;       %f protection enable
QUEnable=0;       %QUEnable
QPEnable=0;       %QPEnable
PQUTestEnable2=0;  %PQU Enable
QsettingEnable=0; %Q setting Enable
PsettingEnable=0; %P setting Enable
%============  Function Enable part END
```

The zero current enable only has been set for Test 50.5, 80.1, 50.6, 80.2
The model for determinate the suitability in PGS simulations has the following design:

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36



The PGU1 has been selected as the nearest PGU, and PGU9 has been selected as the farthest PGU.

Resistance and reactace values have been modelled by adding R-L block with the corresponding values. For this report only the values associated with PGU9 and PGU1 are relevant, and those values has been set as following:

- PGU1: Resistance = 2,4 Ω; Reactance = 0,002 L.
- PGU9: Resistance = 2,8 Ω; Reactance = 0,004 L.

--- END OF THE ANNEX TO CERTIFICATE ---

SGS Belgium NV – Division SGS CEBEC
Riverside Business Park
Bld. Internationalelaan, 55 Build. K
BE-1070 Brussels
Tel. +32 2 556 00 20
Fax +32 2 556 00 36