



Konformitätsnachweis für Erzeugungseinheiten

Proof of conformity for Power Generating Units

Hersteller
Manufacturer FRONIUS International GmbH
Günter Fronius Straße 1
4600 Thalheim bei Wels
Austria

Produkt
Product Netzgekoppelter PV-Wechselrichter mit selbsttätiger Freischaltstelle
Grid connected PV-converter with automatic disconnection device

| Typ Erzeugungseinheit <i>Type of power generating unit</i> | Nennscheinleistung <i>Nominal apparent power</i> | Max. Eingangsspannung <i>Max. Input Voltage</i> | Bemessungsspannung <i>Rated voltage</i> |
|---|---|--|--|
| Fronius Eco 25.0-3-S | 25000 VA | 1000 V DC | 3/N/PE AC 400/230 V, 50 Hz |
| Fronius Eco 27.0-3-S | 27000 VA | | |

Firmwareversion
Version of firmware SW1: V 0.16.8.3 ; SW2: V 0.5.10.4

Prüfgrundlage
Test basis E DIN VDE V 0124-100 (VDE V 0124-100):2013-10
Netzintegration von Erzeugungsanlagen - Niederspannung -
Prüfanforderungen an Erzeugungseinheiten vorgesehen zum Anschluss
und Parallelbetrieb am Niederspannungsnetz
*Grid integration of generator plants - Low-voltage - Test requirements for
generator units to be connected to and operated in parallel with low-
voltage distribution networks*

Mitgeltende Unterlage
Applicable document Netzanschlussregel / Grid code VDE-AR-N 4105: 2011-08 ¹⁾

¹⁾: Aktuell: VDE-AR-N 4105:2018-11. Die oben erwähnte Netzanschlussregel ist noch gültig bis 26.04.2019.

¹⁾: Latest: VDE-AR-N 4105:2018-11. The above mentioned grid code is still valid till 26.04.2019.

Auf Basis einer einmaligen Untersuchung eines oder mehrerer Produktmuster wird die Übereinstimmung mit den Anforderungen der oben aufgeführten Prüfgrundlage bestätigt.²⁾ Detaillierte Ergebnisse sind dem Prüfbericht zu entnehmen. Der folgende Anhang ist Bestandteil dieses Konformitätsnachweises.

Based upon a single test of one or several product samples, compliance with the requirements of the above mentioned test basis is confirmed.²⁾ Detailed results are provided in the test report. The following appendix is part of this proof of conformity.

Prüfbericht / Test report 261343-TL4-1 vom / dated 2019-04-17²⁾

²⁾: Die in der Prüfgrundlage aufgeführten Prüfungen zum Netz- und Anlagenschutz werden in einem eigenen Prüfbericht und Konformitätsnachweis festgehalten

²⁾: The tests according to the test basis concerning the network and system protection are summarized in an extra test report and proof of conformity.

ID Nummer /ID number 40042191, Revision 2

Weitere Informationen
Further information Neue Revision: Keine Gültigkeitsbeschränkung mehr
New revision: No more validity limitation

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Zertifizierungsstelle

2019-04-17

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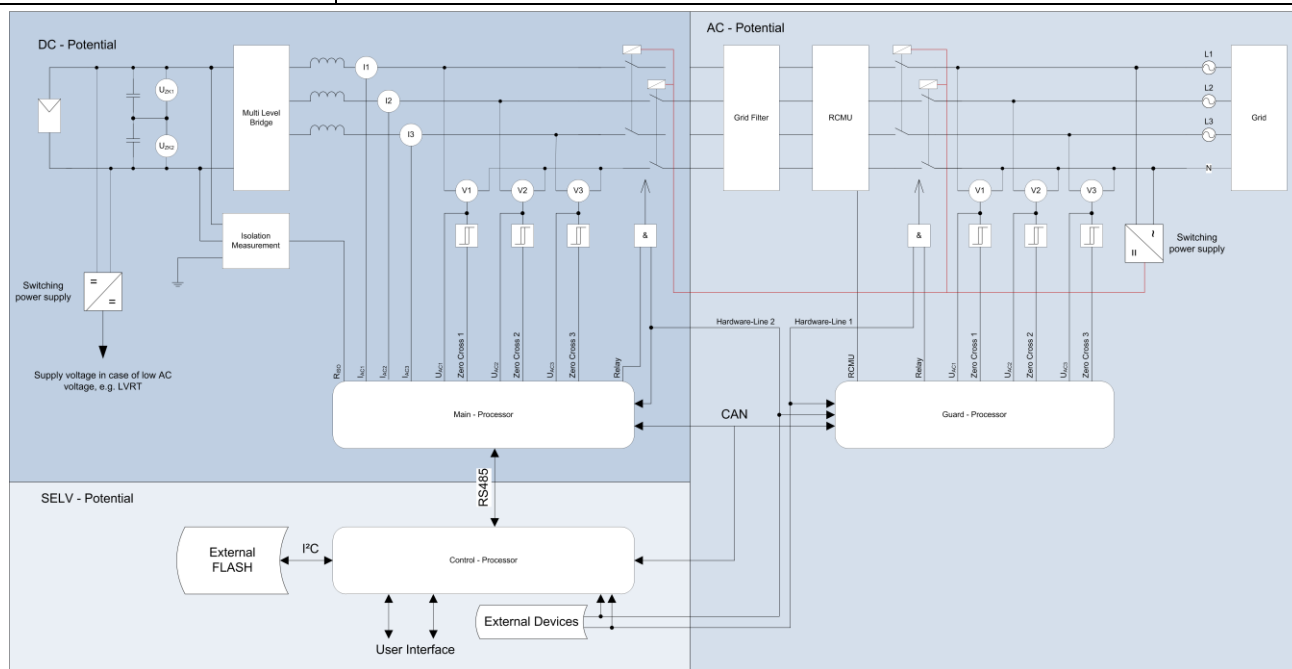
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Anhang / Appendix

| Beschreibung der Erzeugungseinheit / Description of the Power generating unit | | |
|--|--|-----------------------------|
| Hersteller <i>Manufacturer</i> | FRONIUS International GmbH Güter Fronius Straße 1 4600 Thalheim bei Wels, Austria | |
| Typ Erzeugungseinheit <i>Type of power generating unit</i> | Netzgekoppelter Photovoltaikwechselrichter | |
| Bemessungswerte <i>Rated values</i> | Fronius Eco 25.0-3-S | Fronius Eco 27.0-3-S |
| Nennwirkleistung <i>Nominal power</i> | 25000 W | 27000 W |
| Nennscheinleistung <i>Nominal apparent power</i> | 25000 VA | 27000 VA |
| Bemessungsspannung <i>Rated voltage</i> | 3/N/PE AC 400/230 V, 50 Hz | |
| Firmware Version <i>Firmware version</i> | SW1: V 0.16.8.3 ; SW2: V 0.5.10.4 | |
| Messzeitraum <i>Measuring period</i> | 30.03.2015 bis 22.04.2015; 30.04.2015 | |



Schematischer Aufbau der Erzeugungseinheit (EZE)

Die Modelle **Fronius Eco 25.0-3-S** und **Fronius Eco 27.0-3-S** sind bezüglich des Erzeugungs- und Einspeiseverhaltens identisch aufgebaut. Sie unterscheiden sich nur in der Softwarebegrenzung der maximalen Wirkleistung.

Die Prüfungen wurden am Typ **Fronius Eco 27.0-3-S** durchgeführt und sind stellvertretend für die Geräte **Fronius Eco 25.0-3-S** und **Fronius Eco 27.0-3-S** gültig.

Wirkleistung gemäß Kapitel^{a)} 5.3.2.1

Active power according to chapter^{a)} 5.3.2.1

| | |
|---|------------|
| Max. Wirkleistung <i>Max. active power</i> | -27,454 kW |
| Max. Scheinleistung <i>Max. apparent power</i> | 27,454 kVA |

Blindleistungsbezug gemäß Kapitel^{a)} 5.3.2.1

Reactive power reference according to chapter^{a)} 5.3.2.1

| Wirkleistung P / P _n [%] <i>Active Power</i> | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------|
| Max. möglicher cos φ _{untererregt} <i>Max: possible cos φ_{underexcited}</i> | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | -0,901 |
| Max. möglicher cos φ _{übererregt} <i>Max: possible cos φ_{overexcited}</i> | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | -0,898 |

Einhaltung eines vorgegebenen Verschiebungsfaktors cos φ gemäß Kapitel^{a)} 5.3.6.1

Compliance of required displacement factor cos φ according to chapter^{a)} 5.3.6.1

| | | | | | |
|---|---------------------|---------------------|-------|---------------------|---------------------|
| Vorgabe in der Anlagesteuerung <i>Default in system control</i> | 0.900 _{üb} | 0.950 _{üb} | 1.000 | 0.950 _{un} | 0.900 _{un} |
| Messwert an den Klemmen der EZE <i>Measured value at PGU terminals</i> | -0,904 | N/A | N/A | N/A | -0,898 |

Blindleistungsübergangsfunktion – Standard-cos φ (P)-Kennlinie gemäß Kapitel^{a)} 5.3.6.4

Reactive power transfer function - Standard-cos φ (P)-characteristic according to chapter^{a)} 5.3.6.4

| Wirkleistung P / P _n [%] | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | S _E max |
|-------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------------------|
| cos φ | -1,000 | -1,000 | -1,000 | -1,000 | -1,000 | -0,978 | -0,958 | -0,937 | -0,917 | -0,916 |

Die Standard-cos φ (P)-Kennlinie wird eingehalten.

Conform to Standard cos φ (P)-characteristic.

Schalthandlungen; Schnelle Spannungsänderungen gemäß Kapitel^{a)} 5.1.2

Switching actions according to chapter^{a)} 5.1.2

| | | |
|---|-------------------|------|
| Einschalten ohne Vorgabe (zum Primärenergieträger) <i>Making operation without default (of primary energy carrier)</i> | k _i | 0,90 |
| Ungünstigster Fall <i>Worst case</i> | k _i | 1,06 |
| Einschalten bei Nennbedingungen (des Primärenergieträgers) <i>Making operation at nominal conditions (of the primary energy carrier)</i> | k _i | 0,97 |
| Ausschalten bei Nennleistung <i>Breaking operation at nominal power</i> | k _i | 0,97 |
| Schlechtester Wert aller Schaltvorgänge <i>Worst-case value of all switching operations</i> | k _{imax} | 1,06 |

Flicker gemäß Kapitel^{a)} 5.1.3

Flicker according to chapter^{a)} 5.1.3

| | | |
|-------------------------|--|------|
| Flicker (worst case) | Netzimpedanzwinkel ψk: | 32° |
| | Anlagenflickerbeiwert c _ψ : | 8,05 |

^{a)} Kapitel aus der DIN VDE V 0124-100:2012-07

Chapter of the DIN VDE V 0124-100:2012-07

Oberschwingungsmessung nach EN 61000-3-2 und VDE-AR-N 4105:2011-08 Anhang F.3 (Phase L1)
Harmonics according to EN 61000-3-2 and VDE-AR-N 4105:2011-08 appendix F.3 (phase L1)

| Harmonic Order | I_H_mean | I_H_max | I_H_mean | (Average/Ref Fund) ² | n*(Average/Ref Fund) ² | I_H_max | Stage 1 Limit (EN 61000-3-12) | PASS/FAIL |
|----------------|----------|---------|----------|---------------------------------|-----------------------------------|---------|-------------------------------|-----------|
| | (A) | (A) | (%H01) | | | (%H01) | | |
| 1 | 39.1985 | 39.2645 | 100.00% | | | 100.00% | Inf% | N/A |
| 2 | 0.1119 | 0.1833 | 0.29% | 9.79E-06 | | 0.47% | 8.00% | PASS |
| 3 | 0.1545 | 0.1766 | 0.39% | 1.56E-05 | | 0.45% | 21.60% | PASS |
| 4 | 0.0468 | 0.0797 | 0.12% | 1.62E-06 | | 0.20% | 4.00% | PASS |
| 5 | 0.2794 | 0.3024 | 0.71% | 5.09E-05 | | 0.77% | 10.70% | PASS |
| 6 | 0.0258 | 0.0501 | 0.07% | 5.23E-07 | | 0.13% | 2.67% | PASS |
| 7 | 0.0597 | 0.0773 | 0.15% | 2.38E-06 | | 0.20% | 7.20% | PASS |
| 8 | 0.018 | 0.0342 | 0.05% | 2.52E-07 | | 0.09% | 2.00% | PASS |
| 9 | 0.0645 | 0.0799 | 0.17% | 2.73E-06 | | 0.20% | 3.80% | PASS |
| 10 | 0.0164 | 0.0305 | 0.04% | 2.06E-07 | | 0.08% | 1.60% | PASS |
| 11 | 0.0298 | 0.048 | 0.08% | 6.36E-07 | | 0.12% | 3.10% | PASS |
| 12 | 0.0124 | 0.0239 | 0.03% | 1.17E-07 | | 0.06% | 1.33% | PASS |
| 13 | 0.09 | 0.1083 | 0.23% | 5.29E-06 | | 0.28% | 2.00% | PASS |
| 14 | 0.0102 | 0.0196 | 0.03% | 7.85E-08 | 1.10E-06 | 0.05% | Inf% | N/A |
| 15 | 0.018 | 0.0233 | 0.05% | 2.12E-07 | 3.18E-06 | 0.06% | Inf% | N/A |
| 16 | 0.0092 | 0.0174 | 0.02% | 6.37E-08 | 1.02E-06 | 0.04% | Inf% | N/A |
| 17 | 0.0605 | 0.0773 | 0.15% | 2.41E-06 | 4.09E-05 | 0.20% | Inf% | N/A |
| 18 | 0.0083 | 0.0153 | 0.02% | 5.04E-08 | 9.07E-07 | 0.04% | Inf% | N/A |
| 19 | 0.0384 | 0.0543 | 0.10% | 9.74E-07 | 1.85E-05 | 0.14% | Inf% | N/A |
| 20 | 0.0076 | 0.0141 | 0.02% | 4.24E-08 | 8.49E-07 | 0.04% | Inf% | N/A |
| 21 | 0.0231 | 0.0356 | 0.06% | 3.56E-07 | 7.48E-06 | 0.09% | Inf% | N/A |
| 22 | 0.0067 | 0.0119 | 0.02% | 3.19E-08 | 7.02E-07 | 0.03% | Inf% | N/A |
| 23 | 0.0398 | 0.0525 | 0.10% | 1.04E-06 | 2.39E-05 | 0.13% | Inf% | N/A |
| 24 | 0.0066 | 0.0121 | 0.02% | 3.11E-08 | 7.46E-07 | 0.03% | Inf% | N/A |
| 25 | 0.0333 | 0.0473 | 0.09% | 7.35E-07 | 1.84E-05 | 0.12% | Inf% | N/A |
| 26 | 0.0066 | 0.0126 | 0.02% | 3.15E-08 | 8.20E-07 | 0.03% | Inf% | N/A |
| 27 | 0.025 | 0.0378 | 0.06% | 4.15E-07 | 1.12E-05 | 0.10% | Inf% | N/A |
| 28 | 0.0052 | 0.0105 | 0.01% | 1.97E-08 | 5.52E-07 | 0.03% | Inf% | N/A |
| 29 | 0.0288 | 0.0387 | 0.07% | 5.48E-07 | 1.59E-05 | 0.10% | Inf% | N/A |
| 30 | 0.0059 | 0.0096 | 0.02% | 2.42E-08 | 7.27E-07 | 0.02% | Inf% | N/A |
| 31 | 0.0345 | 0.0463 | 0.09% | 7.86E-07 | 2.44E-05 | 0.12% | Inf% | N/A |
| 32 | 0.0057 | 0.0108 | 0.02% | 2.38E-08 | 7.60E-07 | 0.03% | Inf% | N/A |
| 33 | 0.0176 | 0.0311 | 0.05% | 2.08E-07 | 6.86E-06 | 0.08% | Inf% | N/A |
| 34 | 0.0048 | 0.0092 | 0.01% | 1.61E-08 | 5.46E-07 | 0.02% | Inf% | N/A |
| 35 | 0.0303 | 0.0418 | 0.08% | 6.06E-07 | 2.12E-05 | 0.11% | Inf% | N/A |
| 36 | 0.0052 | 0.0105 | 0.01% | 1.92E-08 | 6.90E-07 | 0.03% | Inf% | N/A |
| 37 | 0.0253 | 0.0351 | 0.07% | 4.24E-07 | 1.57E-05 | 0.09% | Inf% | N/A |
| 38 | 0.0051 | 0.009 | 0.01% | 1.85E-08 | 7.02E-07 | 0.02% | Inf% | N/A |
| 39 | 0.0196 | 0.0323 | 0.05% | 2.55E-07 | 9.95E-06 | 0.08% | Inf% | N/A |
| 40 | 0.0044 | 0.0088 | 0.01% | 1.39E-08 | 5.54E-07 | 0.02% | Inf% | N/A |
| THD(%) | | | | 1.00% | | | 23.00% | PASS |
| PWHD(%) | | | | | 1.50% | | 23.00% | PASS |

| Oberschwingungsmessungen nach EN 61000-3-12 und VDE-AR-N 4105:2011-08 Anhang F.3 (Phase L2); Harmonics according to EN 61000-3-2 and VDE-AR-N 4105:2011-08 appendix F.3 (phase L2) | | | | | | | |
|---|----------|---------|----------|---------------------------------|-----------------------------------|---------|-------------------------------|
| Harmonic Order | I_H_mean | I_H_max | I_H_mean | (Average/Ref Fund) ² | n*(Average/Ref Fund) ² | I_H_max | Stage 1 Limit (EN 61000-3-12) |
| | (A) | (A) | (%H01) | | | (%H01) | |
| 1 | 39.6142 | 39.6835 | 100.00% | | | 100.00% | Inf% |
| 2 | 0.0879 | 0.1565 | 0.22% | 5.68E-06 | | 0.40% | 8.00% |
| 3 | 0.0968 | 0.1447 | 0.24% | 6.34E-06 | | 0.37% | 21.60% |
| 4 | 0.0343 | 0.0607 | 0.09% | 7.93E-07 | | 0.15% | 4.00% |
| 5 | 0.2181 | 0.2459 | 0.55% | 3.04E-05 | | 0.62% | 10.70% |
| 6 | 0.0188 | 0.0388 | 0.05% | 2.57E-07 | | 0.10% | 2.67% |
| 7 | 0.1084 | 0.1245 | 0.27% | 7.50E-06 | | 0.31% | 7.20% |
| 8 | 0.0135 | 0.0275 | 0.03% | 1.33E-07 | | 0.07% | 2.00% |
| 9 | 0.0236 | 0.0362 | 0.06% | 3.67E-07 | | 0.09% | 3.80% |
| 10 | 0.0116 | 0.023 | 0.03% | 9.63E-08 | | 0.06% | 1.60% |
| 11 | 0.0486 | 0.0595 | 0.12% | 1.51E-06 | | 0.15% | 3.10% |
| 12 | 0.008 | 0.0173 | 0.02% | 4.55E-08 | | 0.04% | 1.33% |
| 13 | 0.0489 | 0.0579 | 0.12% | 1.53E-06 | | 0.15% | 2.00% |
| 14 | 0.0081 | 0.0164 | 0.02% | 4.71E-08 | 6.59E-07 | 0.04% | Inf% |
| 15 | 0.0157 | 0.0243 | 0.04% | 1.62E-07 | 2.43E-06 | 0.06% | Inf% |
| 16 | 0.0071 | 0.0149 | 0.02% | 3.63E-08 | 5.81E-07 | 0.04% | Inf% |
| 17 | 0.031 | 0.0429 | 0.08% | 6.25E-07 | 1.06E-05 | 0.11% | Inf% |
| 18 | 0.0052 | 0.0095 | 0.01% | 1.88E-08 | 3.39E-07 | 0.02% | Inf% |
| 19 | 0.031 | 0.0384 | 0.08% | 6.14E-07 | 1.17E-05 | 0.10% | Inf% |
| 20 | 0.0061 | 0.0113 | 0.02% | 2.63E-08 | 5.27E-07 | 0.03% | Inf% |
| 21 | 0.0142 | 0.0233 | 0.04% | 1.33E-07 | 2.78E-06 | 0.06% | Inf% |
| 22 | 0.0054 | 0.0102 | 0.01% | 2.04E-08 | 4.48E-07 | 0.03% | Inf% |
| 23 | 0.0254 | 0.035 | 0.06% | 4.19E-07 | 9.64E-06 | 0.09% | Inf% |
| 24 | 0.0043 | 0.0088 | 0.01% | 1.29E-08 | 3.11E-07 | 0.02% | Inf% |
| 25 | 0.0224 | 0.0297 | 0.06% | 3.22E-07 | 8.05E-06 | 0.08% | Inf% |
| 26 | 0.005 | 0.0102 | 0.01% | 1.76E-08 | 4.59E-07 | 0.03% | Inf% |
| 27 | 0.0119 | 0.0209 | 0.03% | 9.47E-08 | 2.56E-06 | 0.05% | Inf% |
| 28 | 0.0045 | 0.0093 | 0.01% | 1.42E-08 | 3.98E-07 | 0.02% | Inf% |
| 29 | 0.0234 | 0.0322 | 0.06% | 3.56E-07 | 1.03E-05 | 0.08% | Inf% |
| 30 | 0.0042 | 0.0088 | 0.01% | 1.21E-08 | 3.62E-07 | 0.02% | Inf% |
| 31 | 0.0156 | 0.0229 | 0.04% | 1.59E-07 | 4.92E-06 | 0.06% | Inf% |
| 32 | 0.0041 | 0.009 | 0.01% | 1.21E-08 | 3.87E-07 | 0.02% | Inf% |
| 33 | 0.0109 | 0.0179 | 0.03% | 7.93E-08 | 2.62E-06 | 0.05% | Inf% |
| 34 | 0.0037 | 0.0073 | 0.01% | 9.73E-09 | 3.31E-07 | 0.02% | Inf% |
| 35 | 0.0206 | 0.0278 | 0.05% | 2.74E-07 | 9.60E-06 | 0.07% | Inf% |
| 36 | 0.0039 | 0.0077 | 0.01% | 1.05E-08 | 3.78E-07 | 0.02% | Inf% |
| 37 | 0.012 | 0.0169 | 0.03% | 9.38E-08 | 3.47E-06 | 0.04% | Inf% |
| 38 | 0.0035 | 0.0082 | 0.01% | 8.70E-09 | 3.31E-07 | 0.02% | Inf% |
| 39 | 0.0113 | 0.0183 | 0.03% | 8.36E-08 | 3.26E-06 | 0.05% | Inf% |
| 40 | 0.0034 | 0.0074 | 0.01% | 7.91E-09 | 3.17E-07 | 0.02% | Inf% |
| THD(%) | | | | 0.80% | | | 23.00% |
| PWHD(%) | | | | | 0.90% | | 23.00% |

| Oberschwingungsmessungen nach EN 61000-3-12 und VDE-AR-N 4105:2011-08 Anhang F.3 (Phase L3); Harmonics according to EN 61000-3-2 and VDE-AR-N 4105:2011-08 appendix F.3 (phase L3) | | | | | | | | |
|---|---------------------|--------------------|---------------------|---------------------------------|-----------------------------------|--------------------|-------------------------------|-----------|
| Harmonic Order | I _{H_mean} | I _{H_max} | I _{H_mean} | (Average/Ref Fund) ² | n*(Average/Ref Fund) ² | I _{H_max} | Stage 1 Limit (EN 61000-3-12) | PASS/FAIL |
| | (A) | (A) | (%H01) | | | (%H01) | ∞ | ∞ |
| 1 | 39.61 | 39.6801 | 100.00% | | | 100.00% | Inf% | N/A |
| 2 | 0.0959 | 0.1464 | 0.24% | 6.19E-06 | | 0.37% | 8.00% | PASS |
| 3 | 0.0953 | 0.1285 | 0.24% | 5.96E-06 | | 0.33% | 21.60% | PASS |
| 4 | 0.0357 | 0.068 | 0.09% | 8.95E-07 | | 0.17% | 4.00% | PASS |
| 5 | 0.2301 | 0.2516 | 0.58% | 3.38E-05 | | 0.64% | 10.70% | PASS |
| 6 | 0.0209 | 0.0404 | 0.05% | 3.12E-07 | | 0.10% | 2.67% | PASS |
| 7 | 0.0812 | 0.0968 | 0.21% | 4.22E-06 | | 0.24% | 7.20% | PASS |
| 8 | 0.0126 | 0.0248 | 0.03% | 1.14E-07 | | 0.06% | 2.00% | PASS |
| 9 | 0.0169 | 0.029 | 0.04% | 1.91E-07 | | 0.07% | 3.80% | PASS |
| 10 | 0.0118 | 0.0231 | 0.03% | 9.94E-08 | | 0.06% | 1.60% | PASS |
| 11 | 0.0587 | 0.0721 | 0.15% | 2.20E-06 | | 0.18% | 3.10% | PASS |
| 12 | 0.0106 | 0.0201 | 0.03% | 8.09E-08 | | 0.05% | 1.33% | PASS |
| 13 | 0.0414 | 0.0565 | 0.10% | 1.12E-06 | | 0.14% | 2.00% | PASS |
| 14 | 0.007 | 0.0146 | 0.02% | 3.48E-08 | 4.88E-07 | 0.04% | Inf% | N/A |
| 15 | 0.0094 | 0.0161 | 0.02% | 5.98E-08 | 8.96E-07 | 0.04% | Inf% | N/A |
| 16 | 0.0064 | 0.013 | 0.02% | 2.95E-08 | 4.72E-07 | 0.03% | Inf% | N/A |
| 17 | 0.0378 | 0.0464 | 0.10% | 9.16E-07 | 1.56E-05 | 0.12% | Inf% | N/A |
| 18 | 0.0073 | 0.0147 | 0.02% | 3.84E-08 | 6.90E-07 | 0.04% | Inf% | N/A |
| 19 | 0.0335 | 0.046 | 0.09% | 7.33E-07 | 1.39E-05 | 0.12% | Inf% | N/A |
| 20 | 0.0054 | 0.0109 | 0.01% | 2.03E-08 | 4.06E-07 | 0.03% | Inf% | N/A |
| 21 | 0.0084 | 0.0153 | 0.02% | 4.80E-08 | 1.01E-06 | 0.04% | Inf% | N/A |
| 22 | 0.0048 | 0.0096 | 0.01% | 1.65E-08 | 3.62E-07 | 0.02% | Inf% | N/A |
| 23 | 0.0257 | 0.0323 | 0.07% | 4.26E-07 | 9.80E-06 | 0.08% | Inf% | N/A |
| 24 | 0.0057 | 0.0112 | 0.01% | 2.27E-08 | 5.45E-07 | 0.03% | Inf% | N/A |
| 25 | 0.0277 | 0.038 | 0.07% | 4.98E-07 | 1.25E-05 | 0.10% | Inf% | N/A |
| 26 | 0.005 | 0.0096 | 0.01% | 1.73E-08 | 4.49E-07 | 0.02% | Inf% | N/A |
| 27 | 0.0092 | 0.0162 | 0.02% | 5.66E-08 | 1.53E-06 | 0.04% | Inf% | N/A |
| 28 | 0.0044 | 0.0087 | 0.01% | 1.35E-08 | 3.79E-07 | 0.02% | Inf% | N/A |
| 29 | 0.0187 | 0.0251 | 0.05% | 2.27E-07 | 6.58E-06 | 0.06% | Inf% | N/A |
| 30 | 0.0048 | 0.0093 | 0.01% | 1.63E-08 | 4.90E-07 | 0.02% | Inf% | N/A |
| 31 | 0.0231 | 0.0307 | 0.06% | 3.45E-07 | 1.07E-05 | 0.08% | Inf% | N/A |
| 32 | 0.0045 | 0.0092 | 0.01% | 1.43E-08 | 4.59E-07 | 0.02% | Inf% | N/A |
| 33 | 0.01 | 0.017 | 0.03% | 6.53E-08 | 2.16E-06 | 0.04% | Inf% | N/A |
| 34 | 0.0039 | 0.0079 | 0.01% | 1.08E-08 | 3.67E-07 | 0.02% | Inf% | N/A |
| 35 | 0.0124 | 0.0189 | 0.03% | 1.01E-07 | 3.54E-06 | 0.05% | Inf% | N/A |
| 36 | 0.0039 | 0.0078 | 0.01% | 1.08E-08 | 3.90E-07 | 0.02% | Inf% | N/A |
| 37 | 0.0188 | 0.026 | 0.05% | 2.29E-07 | 8.47E-06 | 0.07% | Inf% | N/A |
| 38 | 0.0042 | 0.0084 | 0.01% | 1.23E-08 | 4.68E-07 | 0.02% | Inf% | N/A |
| 39 | 0.0107 | 0.0162 | 0.03% | 7.40E-08 | 2.88E-06 | 0.04% | Inf% | N/A |
| 40 | 0.0038 | 0.0077 | 0.01% | 1.01E-08 | 4.02E-07 | 0.02% | Inf% | N/A |
| THD(%) | | | | 0.80% | | | 23.00% | PASS |
| PWHD(%) | | | | | 1.00% | | 23.00% | PASS |