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TEST REPORT

ACCORDING TO: FCC 47 CFR PART 15 subpart C, section 15.249 and subpart B

FOR:

Laser-Ammo Ltd.

Interactive Multi Target Training System

Model: i-MTTS

FCC ID:2AHUUIMTTS1

This report is in conformity with ISO/ IEC 17025. The "A2LA Accredited" symbol endorsement applies only to the tests and calibrations that are listed in the scope of Hermon Laboratories accreditation. The test results relate only to the items tested. This test report shall not be reproduced in any form except in full with the written approval of Hermon Laboratories Ltd.

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1 Applicant information

Client name: Laser-Ammo Ltd.
Address: 7 Barshevski street, Rishon Le-Zion 7536374, Israel
Telephone: +972 3958 5525
E-mail: amitay@laser-ammo.com
Contact name: Mr. Amitay Kligman

2 Equipment under test attributes

Product name: Interactive Multi Target Training System (i-MTTS)
Product type: Transceiver
Model(s): i-MTTS
Serial number: 1-7
Hardware version: MPT03
Software release: Hermon_Test_Tx_0dBm_xxxxGHz, Hermon_Test_Rx_Only
Receipt date: 13-Mar-16

3 Manufacturer information

Manufacturer name: Laser-Ammo Ltd.
Address: 7 Barshevski street, Rishon Le-Zion 7536374, Israel
Telephone: +972 3958 5525
E-Mail: amitay@laser-ammo.com
Contact name: Mr. Amitay Kligman

4 Test details

Project ID: 28141
Location: Hermon Laboratories Ltd. Harakevet Industrial Zone, Binyamina 30500, Israel
Test started: 13-Mar-16
Test completed: 24-Mar-16
Test specification(s): FCC 47 CFR Part 15, subpart C, §15.249; subpart B §15.109

5 Tests summary

| Test | Status |
|---|--------------|
| Transmitter characteristics | |
| Section 15.249(a)(d), Field strength of emissions | Pass |
| Section 15.249(d), Band edge emissions | Pass |
| Section 15.207(a), Conducted emission | Not required |
| Section 15.203, Antenna requirement | Pass |
| Section 15.215(c), Occupied bandwidth | Pass |
| Unintentional emissions | |
| Section 15.107, Conducted emission at AC power port | Not required |
| Section 15.109, Radiated emission | Pass |

Testing was completed against all relevant requirements of the test standard. The results obtained indicate that the product under test complies in full with the requirements tested.
The test results relate only to the items tested. Pass/ fail decision was based on nominal values.

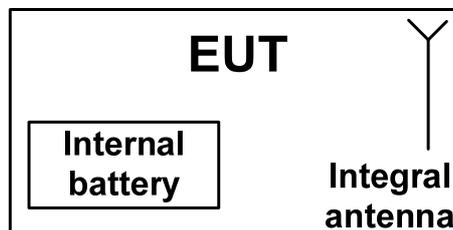
| | Name and Title | Date | Signature |
|---------------------|--|----------------|---|
| Tested by: | Mrs.E. Pitt, test engineer | March 24, 2016 |  |
| Reviewed by: | Mrs. M. Cherniavsky, certification engineer | April 3, 2016 |  |
| Approved by: | Mr. M. Nikishin, EMC and Radio group manager | April 13, 2016 |  |

6 EUT description

6.1 General information

The EUT, i-MTTS, is an electronic targeting system for firearms training using the Laser Ammo SureStrike™ cartridge. The i-MTTS may be used as a stand-alone target or up to five i-MTTS targets may be used in tandem to create a multi-target training system. The i-MTTS is useful in tactical / combat training for home defense and law enforcement, as well as developing target recognition speed, firing accuracy, and "shoot/no-shoot" skills, and transitional drills among others.

6.2 Test configuration



6.3 Changes made in EUT

No changes were performed in the EUT.



6.4 Transmitter characteristics

| | | | | |
|--|--|---------------------------------|--------------|--------------------------------|
| Type of equipment | | | | |
| V | Stand-alone (Equipment with or without its own control provisions) | | | |
| | Combined equipment (Equipment where the radio part is fully integrated within another type of equipment) | | | |
| | Plug-in card (Equipment intended for a variety of host systems) | | | |
| Assigned frequency range | | 2400 – 2483.5 MHz | | |
| Operating frequency range | | 2410, 2442, 2473 MHz | | |
| RF channel spacing | | 1-2 MHz | | |
| Maximum field strength of carrier at 3 m distance | | dBµV/m (peak), dBµV/m (average) | | |
| Is transmitter output power variable? | V | No | | |
| | | continuous variable | | |
| | | stepped variable with stepsize | | |
| | | | dB | |
| | | | dBm | |
| | Yes | minimum RF power | | dBm |
| | | maximum RF power | | dBm |
| Antenna connection | | | | |
| unique coupling | standard connector | V | Integral | with temporary RF connector |
| | | V | | without temporary RF connector |
| Antenna/s technical characteristics | | | | |
| Type | Manufacturer | Model number | Gain | |
| Integral | Laser-Ammo | Printed | 2 dBi | |
| Transmitter aggregate data rate/s | | 1 Mbps | | |
| Type of modulation | | GFSK | | |
| Modulating test signal (baseband) | | PRBS | | |
| Transmitter power source | | | | |
| V | Battery | Nominal rated voltage | Battery type | 3 x Battery 1.5V |
| | DC | Nominal rated voltage | | |
| | AC mains | Nominal rated voltage | Frequency | Hz |



| | | | |
|----------------------------|--|--|--|
| Test specification: | | Section 15.249(a)(d), Field strength of emissions | |
| Test procedure: | | ANSI C63.4, Section 13.1.4 | |
| Test mode: | | Compliance | |
| Date(s): | | 13-Mar-16 - 20-Mar-16 | |
| Temperature: 22 °C | | Air Pressure: 1011 hPa | |
| Remarks: | | Verdict: PASS | |
| | | Relative Humidity: 54 % | |
| | | Power Supply: Battery | |

7 Transmitter tests according to 47CFR part 15 subpart C requirements

7.1 Field strength of emissions

7.1.1 General

This test was performed to measure field strength of fundamental and spurious emissions from the EUT. Specification test limits are given in Table 7.1.1, Table 7.1.2 and Table 7.1.3.

Table 7.1.1 Radiated fundamental emission limits

| Fundamental frequency, MHz | Field strength at 3 m, dB(μV/m) | | |
|----------------------------|---------------------------------|---------|------------|
| | Peak | Average | Quasi-Peak |
| 2400 – 2483.5 | 114.0 | 94.0 | NA |

Table 7.1.2 Harmonics limits

| Fundamental frequency, MHz | Field strength at 3 m, dB(μV/m) | |
|----------------------------|---------------------------------|---------|
| | Peak | Average |
| 2400 – 2483.5 | 74.0 | 54.0 |

Table 7.1.3 Radiated spurious emissions limits (other than harmonics)

| Frequency, MHz | Field strength at 3 m, dB(μV/m)* | | | Attenuation below carrier |
|----------------|----------------------------------|-----------------|-----------------|--|
| | Peak | Quasi Peak | Average | |
| 0.009 – 0.090 | 148.5 – 128.5 | NA | 128.5 – 108.5** | 50 dBc (whichever is the less stringent) |
| 0.090 – 0.110 | NA | 108.5 – 106.8** | NA | |
| 0.110 – 0.490 | 126.8 – 113.8 | NA | 106.8 – 93.8** | |
| 0.490 – 1.705 | NA | 73.8 – 63.0** | NA | |
| 1.705 – 30.0* | | 69.5 | | |
| 30 – 88 | | 40.0 | | |
| 88 – 216 | | 43.5 | | |
| 216 – 960 | | 46.0 | | |
| 960 - 1000 | | 54.0 | | |
| Above 1000 | 74.0 | NA | 54.0 | |

*- The limit for 3 m test distance was calculated using the inverse square distance extrapolation factor as follows:

$$\text{Lim}_{S_2} = \text{Lim}_{S_1} + 40 \log (S_1/S_2),$$

where S₁ and S₂ – standard defined and test distance respectively in meters.

**- The limit decreases linearly with the logarithm of frequency.

Note: The above field strength limits applied from the lowest radio frequency generated in the device, without going below 9 kHz up to the tenth harmonic of the highest fundamental frequency but not exceeding 40 GHz for intentional radiators operated below 10 GHz and up to the fifth harmonic of the highest fundamental frequency but not exceeding 100 GHz for intentional radiators operated above 10 GHz.



| | | | |
|----------------------------|--|--|--|
| Test specification: | | Section 15.249(a)(d), Field strength of emissions | |
| Test procedure: | | ANSI C63.4, Section 13.1.4 | |
| Test mode: | | Compliance | |
| Date(s): | | 13-Mar-16 - 20-Mar-16 | |
| Temperature: 22 °C | | Air Pressure: 1011 hPa | |
| | | Relative Humidity: 54 % | |
| | | Power Supply: Battery | |
| Remarks: | | | |

7.1.2 Test procedure for spurious emission field strength measurements in 9 kHz to 30 MHz band

7.1.2.1 The EUT was set up as shown in Figure 7.1.1, energized and the performance check was conducted.

7.1.2.2 The specified frequency range was investigated with antenna connected to spectrum analyzer/ EMI receiver. To find maximum radiation the turntable was rotated 360° and the measuring antenna was rotated around its vertical axis.

7.1.2.3 The worst test results (the lowest margins) were recorded in the associated tables and shown in the associated plots.

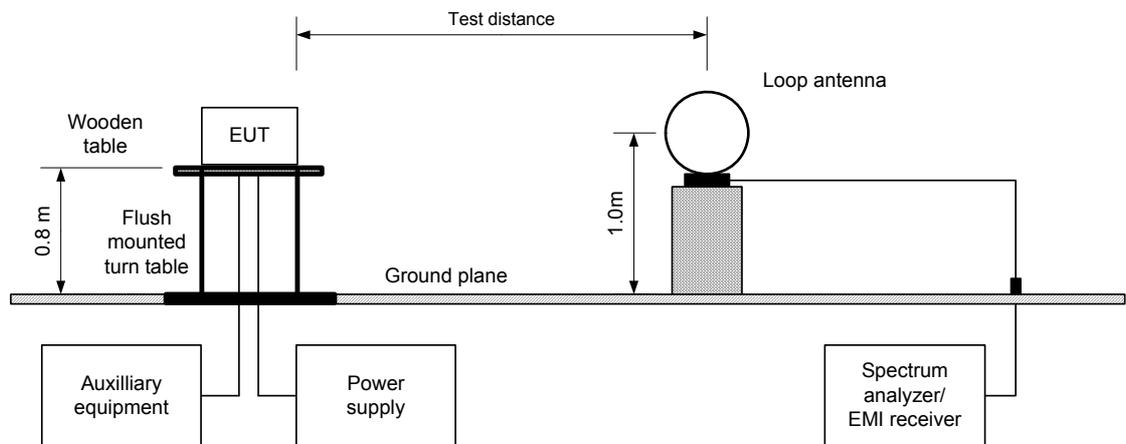
7.1.3 Test procedure for spurious emission field strength measurements above 30 MHz

7.1.3.1 The EUT was set up as shown in Figure 7.1.2, energized and the performance check was conducted.

7.1.3.2 The specified frequency range was investigated with antenna connected to spectrum analyzer/ EMI receiver. To find maximum radiation the turntable was rotated 360°, the measuring antenna height was changed from 1 to 4 m, its polarization was switched from vertical to horizontal.

7.1.3.3 The worst test results (the lowest margins) were recorded in the associated tables and shown in the associated plots

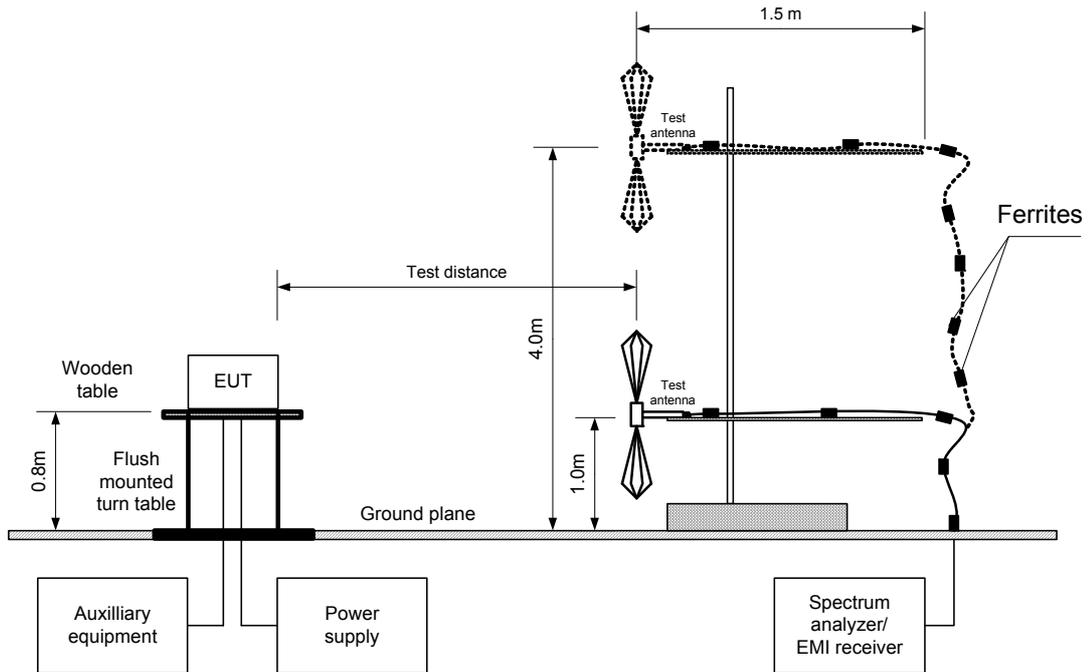
Figure 7.1.1 Setup for spurious emission field strength measurements below 30 MHz





| | | | |
|----------------------------|--|--------------------------------|------------------------------|
| Test specification: | Section 15.249(a)(d), Field strength of emissions | | |
| Test procedure: | ANSI C63.4, Section 13.1.4 | | |
| Test mode: | Compliance | Verdict: | PASS |
| Date(s): | 13-Mar-16 - 20-Mar-16 | | |
| Temperature: 22 °C | Air Pressure: 1011 hPa | Relative Humidity: 54 % | Power Supply: Battery |
| Remarks: | | | |

Figure 7.1.2 Setup for spurious emission field strength measurements above 30 MHz





| | | | |
|----------------------------|-------------------------------|--|------------------------------|
| Test specification: | | Section 15.249(a)(d), Field strength of emissions | |
| Test procedure: | | ANSI C63.4, Section 13.1.4 | |
| Test mode: | | Compliance | Verdict: PASS |
| Date(s): | | 13-Mar-16 - 20-Mar-16 | |
| Temperature: 22 °C | Air Pressure: 1011 hPa | Relative Humidity: 54 % | Power Supply: Battery |
| Remarks: | | | |

Table 7.1.4 Field strength of fundamental emission and spurious emissions

TEST DISTANCE: 3 m
 EUT POSITION: Typical (Horizontal)
 MODULATION: GFSK
 TRANSMITTER OUTPUT POWER SETTINGS: Maximum
 INVESTIGATED FREQUENCY RANGE: 0.009 – 25000 MHz
 DETECTOR USED: Peak
 RESOLUTION BANDWIDTH: 1.0 kHz (9 kHz – 150 kHz)
 9.0 kHz (150 kHz – 30 MHz)
 120 kHz (30 MHz – 1000 MHz)
 1.0 MHz (above 1000 MHz)
 VIDEO BANDWIDTH: ≥ Resolution bandwidth
 TEST ANTENNA TYPE: Active loop (9 kHz – 30 MHz)
 Biconilog (30 MHz – 1000 MHz)
 Double ridged guide (above 1000 MHz)

| F, MHz | Antenna | | Azimuth, degrees* | Peak field strength | | | Avr factor, dB | Average field strength | | | Verdict |
|--------------------------------|---------|-----------|-------------------|---------------------|-----------------|--------------|----------------|------------------------|-----------------|--------------|---------|
| | Pol. | Height, m | | Measured, dB(μV/m) | Limit, dB(μV/m) | Margin, dB** | | Calculated dB(μV/m) | Limit, dB(μV/m) | Margin, dB** | |
| Fundamental emission*** | | | | | | | | | | | |
| 2410 | H | 1.5 | 60 | 96.43 | 114 | -17.57 | -23 | 73.43 | 94 | -20.57 | Pass |
| 2442 | H | 1.5 | 30 | 94.18 | 114 | -19.82 | -23 | 71.18 | 94 | -22.82 | |
| 2473 | H | 1.4 | 30 | 93.61 | 114 | -20.39 | -23 | 70.61 | 94 | -23.39 | |
| Spurious emissions | | | | | | | | | | | |
| 1204.9 | H | 1.5 | 0 | 59.15 | 74 | -14.85 | -23 | 36.15 | 54 | -17.85 | Pass |
| 1220.9 | H | 1.4 | 2 | 59.80 | 74 | -14.20 | -23 | 36.80 | 54 | -17.20 | |
| 1236.5 | H | 1.5 | 25 | 58.91 | 74 | -15.09 | -23 | 35.91 | 54 | -18.09 | |
| 4820.0 | H | 1.5 | 163 | 64.12 | 74 | -9.88 | -23 | 41.12 | 54 | -12.88 | |
| 4884.0 | H | 1.5 | 160 | 64.63 | 74 | -9.37 | -23 | 41.63 | 54 | -12.37 | |
| 4946.0 | H | 1.5 | 150 | 63.17 | 74 | -10.83 | -23 | 40.17 | 54 | -13.83 | |
| 7230.0 | H | 1.4 | 205 | 62.32 | 74 | -11.68 | -23 | 39.32 | 54 | -14.68 | |
| 7326.0 | H | 1.5 | 210 | 59.41 | 74 | -14.59 | -23 | 36.41 | 54 | -17.59 | |
| 7419.0 | H | 1.5 | 216 | 59.52 | 74 | -14.48 | -23 | 36.52 | 54 | -17.48 | |
| 9640.0 | H | 1.5 | 220 | 60.21 | 74 | -13.79 | -23 | 37.21 | 54 | -16.79 | |
| 9768.0 | H | 1.5 | 236 | 62.07 | 74 | -11.93 | -23 | 39.07 | 54 | -14.93 | |
| 9892.0 | H | 1.5 | 240 | 61.01 | 74 | -12.99 | -23 | 38.01 | 54 | -15.99 | |

*- EUT front panel refers to 0 degrees position of turntable.
 **- Margin, dB = Measured (calculated) value, dB(μV/m) - Limit, dB(μV/m).
 *** Max value was obtained in typical EUT position



| | | | |
|----------------------------|--|--|--|
| Test specification: | | Section 15.249(a)(d), Field strength of emissions | |
| Test procedure: | | ANSI C63.4, Section 13.1.4 | |
| Test mode: | | Compliance | |
| Date(s): | | 13-Mar-16 - 20-Mar-16 | |
| Temperature: 22 °C | | Air Pressure: 1011 hPa | |
| | | Relative Humidity: 54 % | |
| | | Power Supply: Battery | |
| Remarks: | | | |

Table 7.1.5 Average factor calculation

| Transmission pulse | | Transmission burst | | Transmission train duration, ms | Average factor, dB |
|--------------------|------------------|--------------------|------------|---------------------------------|--------------------|
| Duration, ms | Pulse period, ms | Duration, ms | Period, ms | | |
| 0.115 | 1.5 | NA | NA | NA | -23 |

*- Average factor was calculated as follows

for pulse train shorter than 100 ms:

$$Average\ factor = 20 \times \log_{10} \left(\frac{Pulse\ duration}{Pulse\ period} \times \frac{Burst\ duration}{Train\ duration} \times Number\ of\ bursts\ within\ pulse\ train \right)$$

for pulse train longer than 100 ms:

$$Average\ factor = 20 \times \log_{10} \left(\frac{Pulse\ duration}{Pulse\ period} \times \frac{Burst\ duration}{100\ ms} \times Number\ of\ bursts\ within\ 100\ ms \right)$$

Reference numbers of test equipment used

| | | | | | | | |
|---------|---------|---------|---------|---------|---------|---------|---------|
| HL 0415 | HL 0446 | HL 0604 | HL 1984 | HL 3347 | HL 3818 | HL 3901 | HL 4294 |
| HL 4778 | HL 4933 | HL 4956 | | | | | |

Full description is given in Appendix A.

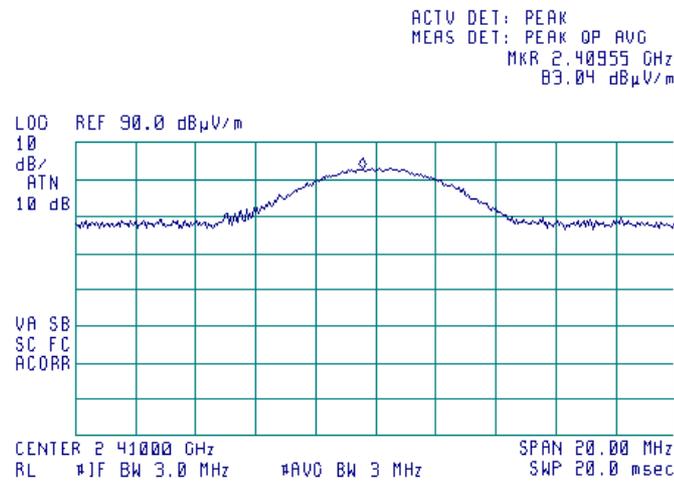


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| | | | |
|----------------------------|--|--|--|
| Test specification: | | Section 15.249(a)(d), Field strength of emissions | |
| Test procedure: | | ANSI C63.4, Section 13.1.4 | |
| Test mode: | | Compliance | |
| Date(s): | | 13-Mar-16 - 20-Mar-16 | |
| Temperature: 22 °C | | Air Pressure: 1011 hPa | |
| Remarks: | | Verdict: PASS | |
| | | Relative Humidity: 54 % | |
| | | Power Supply: Battery | |

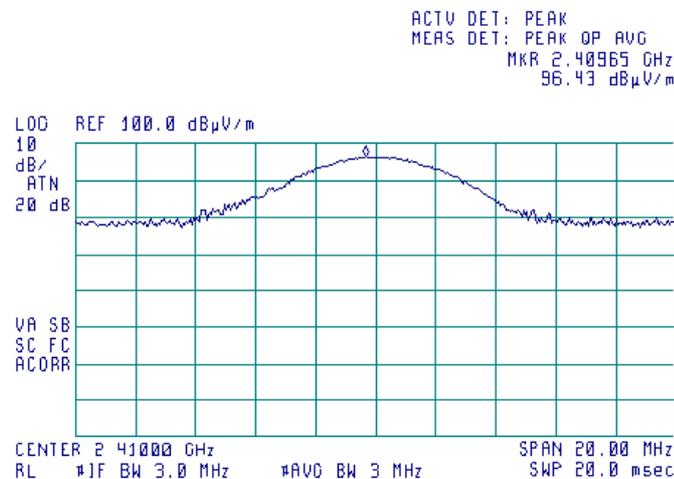
Plot 7.1.1 Radiated emission measurements at low the fundamental frequency

TEST SITE: OATS
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical
EUT POSITION: Typical (Horizontal)



Plot 7.1.2 Radiated emission measurements at the low fundamental frequency

TEST SITE: OATS
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Horizontal
EUT POSITION: Typical (Horizontal)



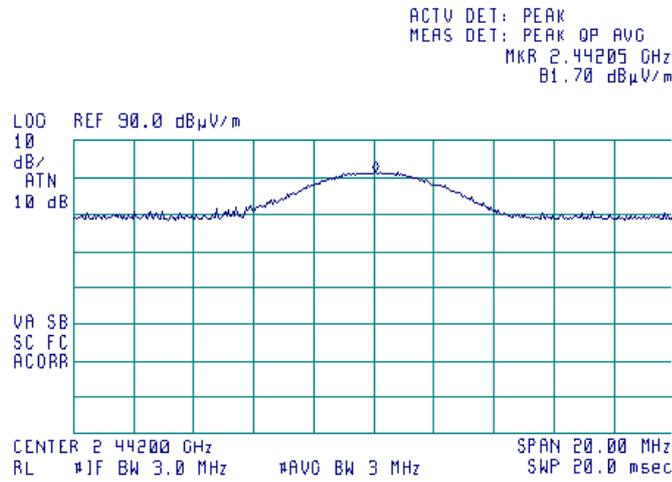


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| | | | |
|----------------------------|--|--|--|
| Test specification: | | Section 15.249(a)(d), Field strength of emissions | |
| Test procedure: | | ANSI C63.4, Section 13.1.4 | |
| Test mode: | | Compliance | |
| Date(s): | | 13-Mar-16 - 20-Mar-16 | |
| Temperature: 22 °C | | Air Pressure: 1011 hPa | |
| Remarks: | | Verdict: PASS | |
| | | Relative Humidity: 54 % | |
| | | Power Supply: Battery | |

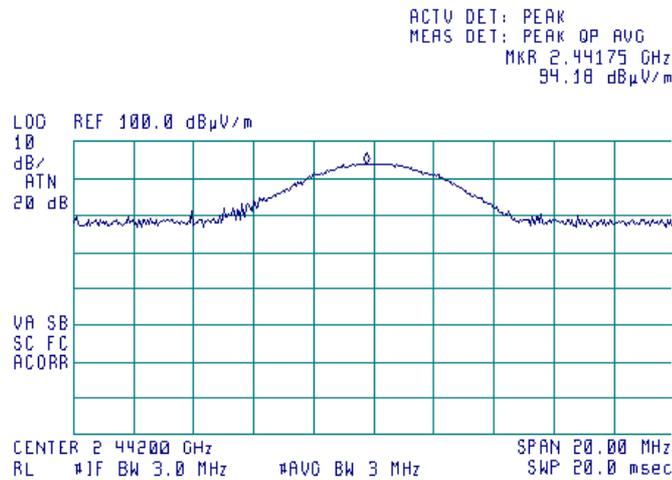
Plot 7.1.3 Radiated emission measurements at the mid fundamental frequency

TEST SITE: OATS
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical
 EUT POSITION: Typical (Horizontal)



Plot 7.1.4 Radiated emission measurements at the mid fundamental frequency

TEST SITE: OATS
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Horizontal
 EUT POSITION: Typical (Horizontal)



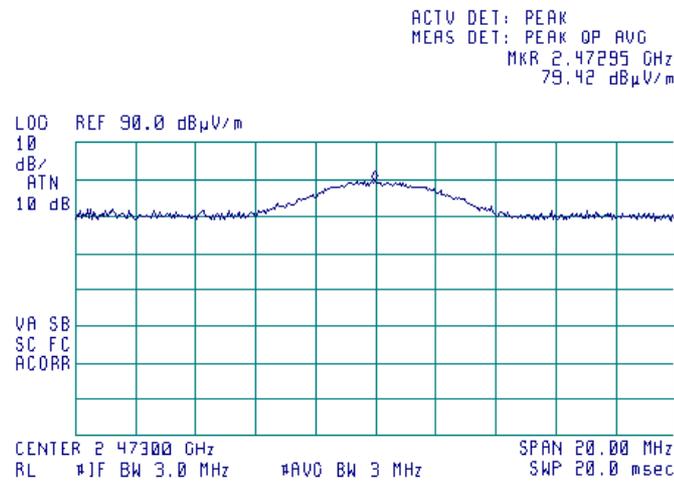


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| | | | |
|----------------------------|--|--|--|
| Test specification: | | Section 15.249(a)(d), Field strength of emissions | |
| Test procedure: | | ANSI C63.4, Section 13.1.4 | |
| Test mode: | | Compliance | |
| Date(s): | | 13-Mar-16 - 20-Mar-16 | |
| Temperature: 22 °C | | Air Pressure: 1011 hPa | |
| Remarks: | | Verdict: PASS | |
| | | Relative Humidity: 54 % | |
| | | Power Supply: Battery | |

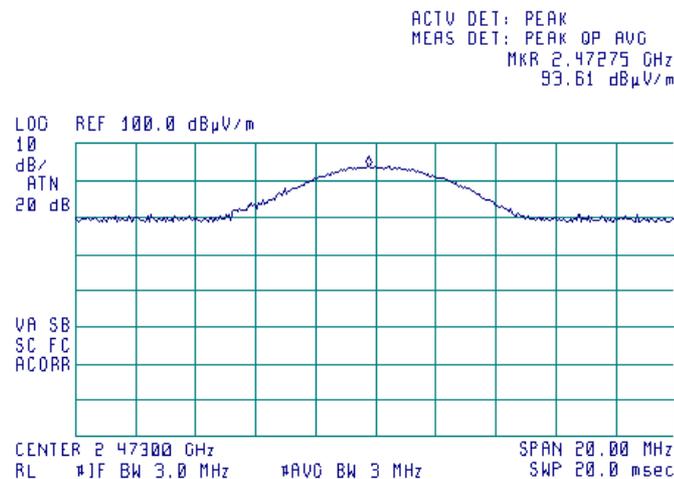
Plot 7.1.5 Radiated emission measurements at the high fundamental frequency

TEST SITE: OATS
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical
 EUT POSITION: Typical (Horizontal)



Plot 7.1.6 Radiated emission measurements at the high fundamental frequency

TEST SITE: OATS
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Horizontal
 EUT POSITION: Typical (Horizontal)

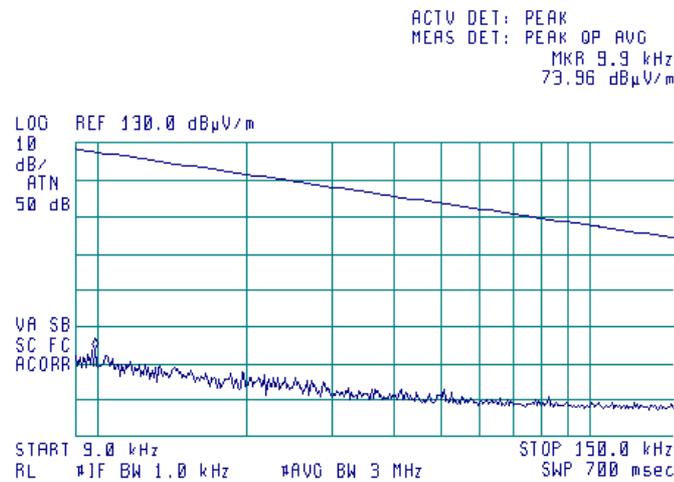




| | | | |
|----------------------------|--|--------------------------------|------------------------------|
| Test specification: | Section 15.249(a)(d), Field strength of emissions | | |
| Test procedure: | ANSI C63.4, Section 13.1.4 | | |
| Test mode: | Compliance | Verdict: | PASS |
| Date(s): | 13-Mar-16 - 20-Mar-16 | | |
| Temperature: 22 °C | Air Pressure: 1011 hPa | Relative Humidity: 54 % | Power Supply: Battery |
| Remarks: | | | |

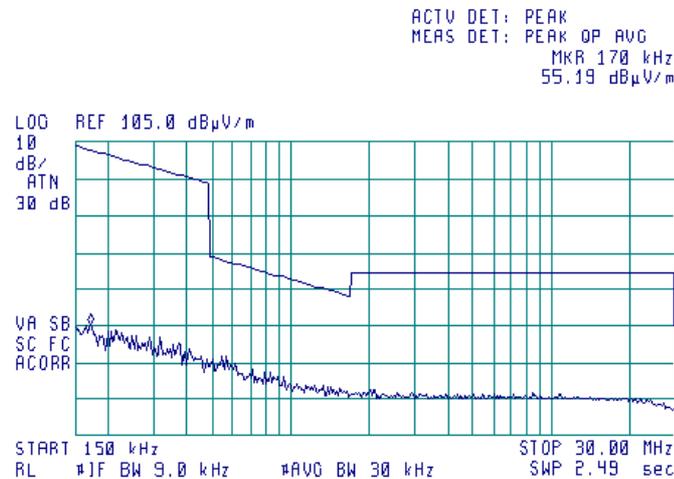
Plot 7.1.7 Radiated emission measurements from 9 to 150 kHz at low, mid, high frequency

TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical
 EUT POSITION: Typical (Horizontal)



Plot 7.1.8 Radiated emission measurements from 0.15 to 30 MHz at low, mid, high frequency

TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical
 EUT POSITION: Typical (Horizontal)





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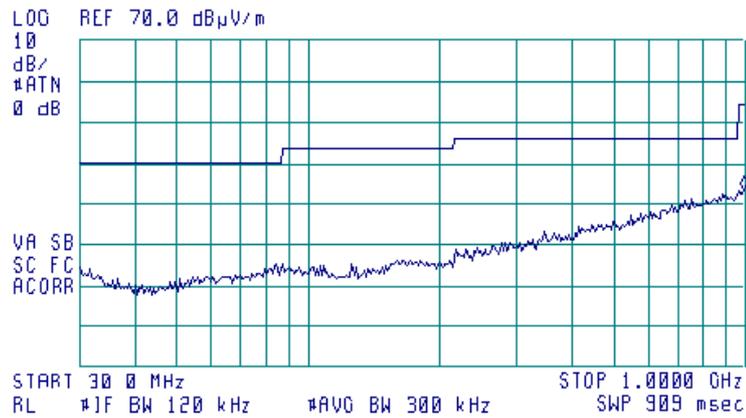
| | | | |
|----------------------------|--|--------------------------------|------------------------------|
| Test specification: | Section 15.249(a)(d), Field strength of emissions | | |
| Test procedure: | ANSI C63.4, Section 13.1.4 | | |
| Test mode: | Compliance | Verdict: | PASS |
| Date(s): | 13-Mar-16 - 20-Mar-16 | | |
| Temperature: 22 °C | Air Pressure: 1011 hPa | Relative Humidity: 54 % | Power Supply: Battery |
| Remarks: | | | |

Plot 7.1.9 Radiated emission measurements from 30 to 1000 MHz at low, mid, high frequency

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal
EUT POSITION: Typical (Horizontal)



ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 990.5 MHz
33.73 dBµV/m



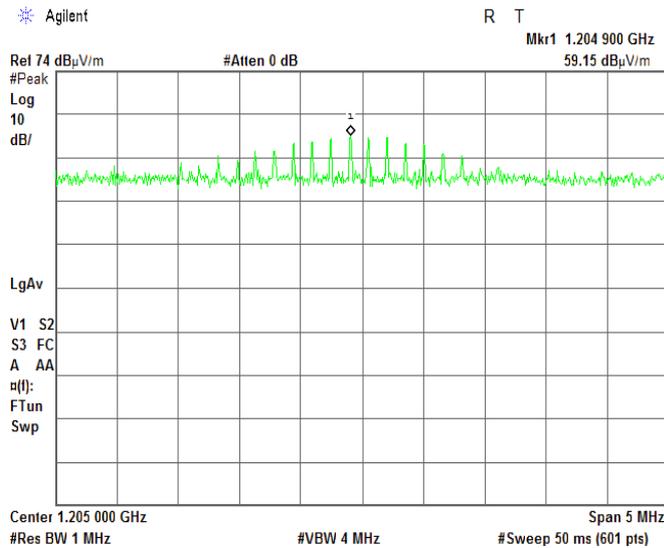
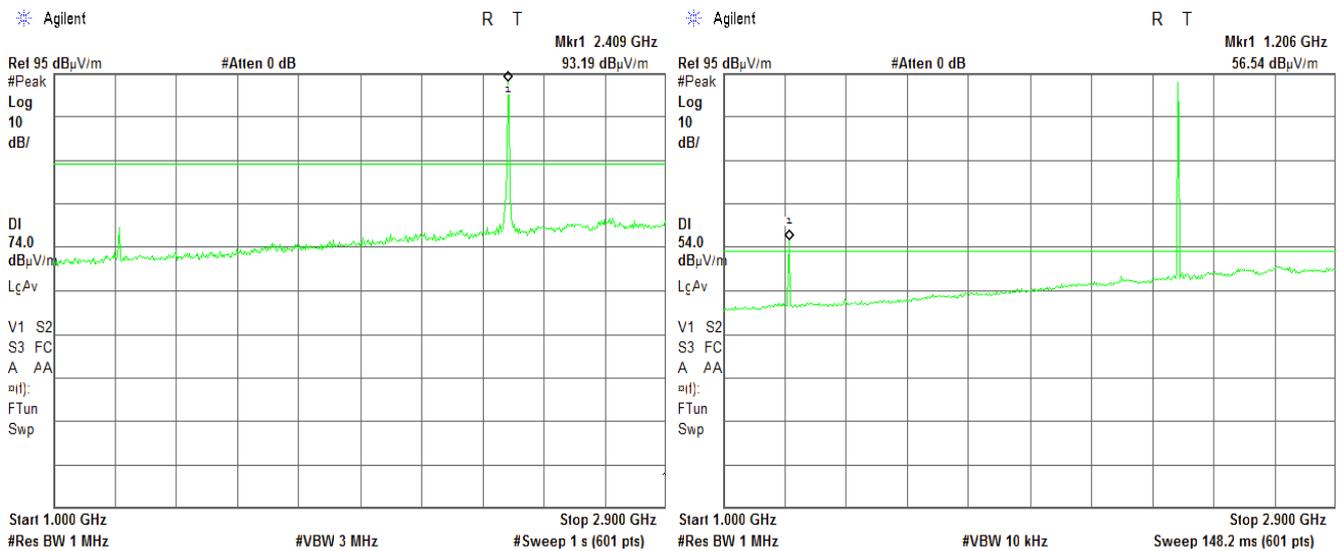


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| | | | |
|--------------------------------|--|--|--|
| Test specification: | | Section 15.249(a)(d), Field strength of emissions | |
| Test procedure: | | ANSI C63.4, Section 13.1.4 | |
| Test mode: | | Compliance | |
| Date(s): | | 13-Mar-16 - 20-Mar-16 | |
| Temperature: 22 °C | | Air Pressure: 1011 hPa | |
| Relative Humidity: 54 % | | Power Supply: Battery | |
| Remarks: | | | |
| | | Verdict: PASS | |

Plot 7.1.10 Radiated emission measurements from 1.0 to 2.9 MHz at low frequency

TEST SITE: Anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical and Horizontal
 EUT POSITION: Typical (Horizontal)



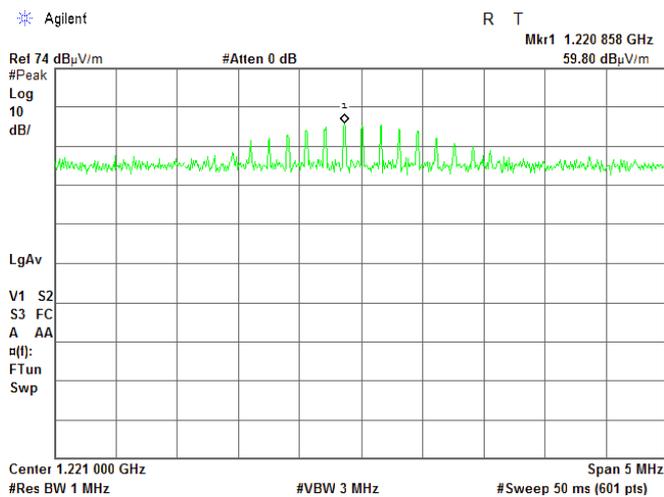
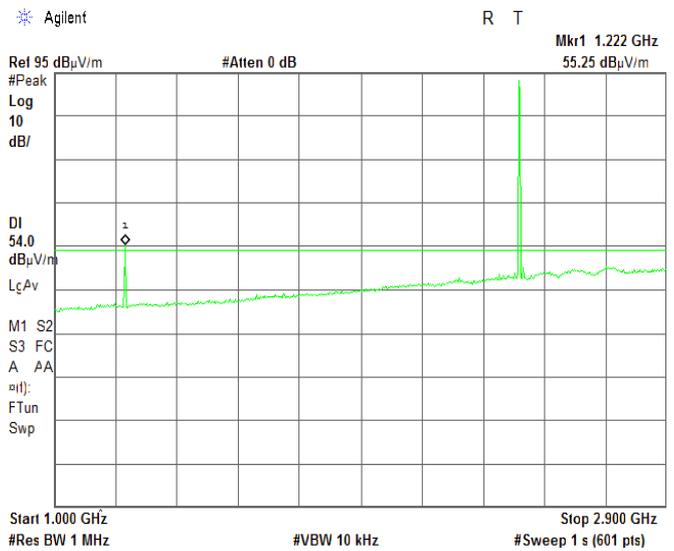
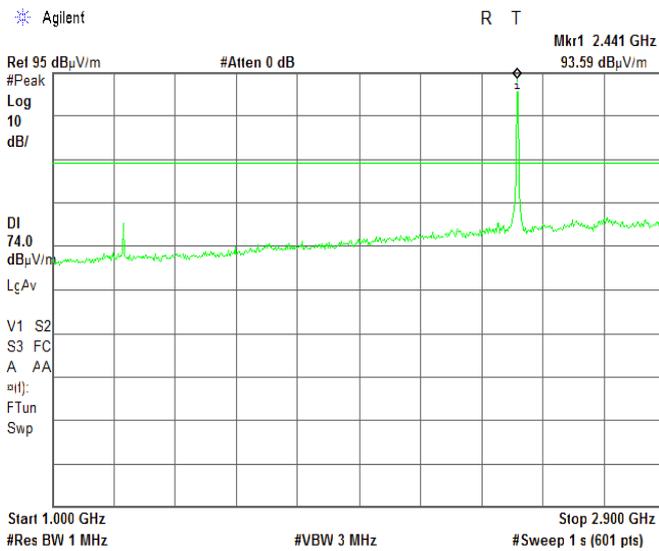


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| | | | |
|--------------------------------|--|--|--|
| Test specification: | | Section 15.249(a)(d), Field strength of emissions | |
| Test procedure: | | ANSI C63.4, Section 13.1.4 | |
| Test mode: | | Compliance | |
| Date(s): | | 13-Mar-16 - 20-Mar-16 | |
| Temperature: 22 °C | | Air Pressure: 1011 hPa | |
| Relative Humidity: 54 % | | Power Supply: Battery | |
| Remarks: | | | |
| Verdict: | | PASS | |

Plot 7.1.11 Radiated emission measurements from 1.0 to 2.9 MHz at mid frequency

TEST SITE: Anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal
EUT POSITION: Typical (Horizontal)



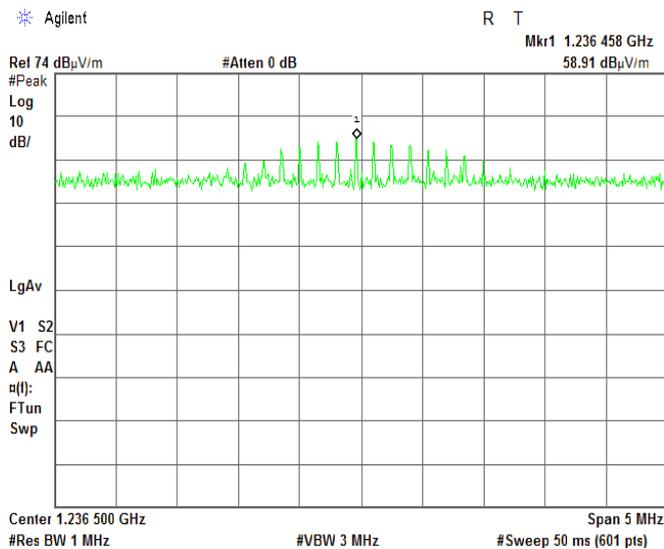
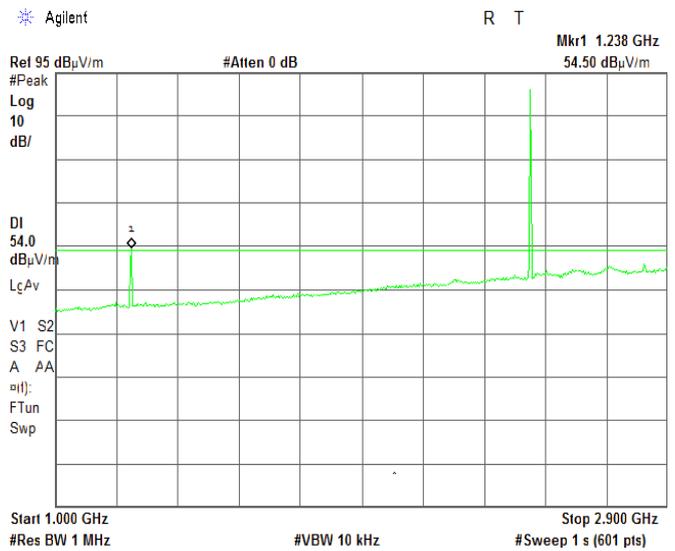
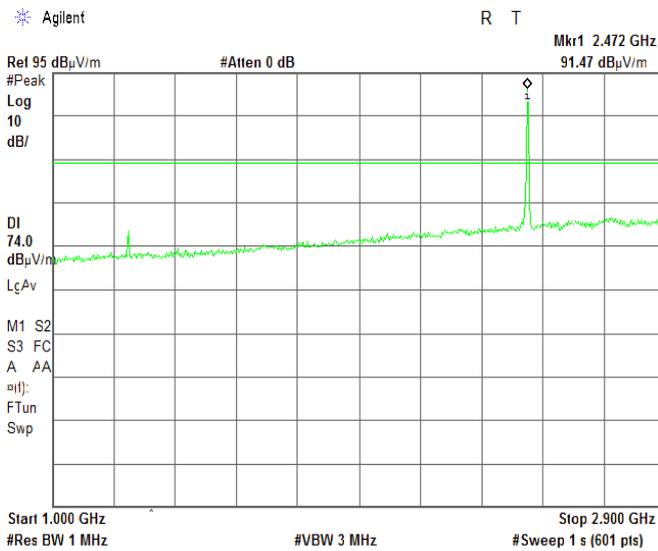


HERMON LABORATORIES

| | | | |
|----------------------------|--|--|--|
| Test specification: | | Section 15.249(a)(d), Field strength of emissions | |
| Test procedure: | | ANSI C63.4, Section 13.1.4 | |
| Test mode: | | Compliance | |
| Date(s): | | 13-Mar-16 - 20-Mar-16 | |
| Temperature: 22 °C | | Air Pressure: 1011 hPa | |
| | | Relative Humidity: 54 % | |
| | | Power Supply: Battery | |
| Remarks: | | | |

Plot 7.1.12 Radiated emission measurements from 1.0 to 2.9 MHz at high frequency

TEST SITE: Anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical and Horizontal
 EUT POSITION: Typical (Horizontal)

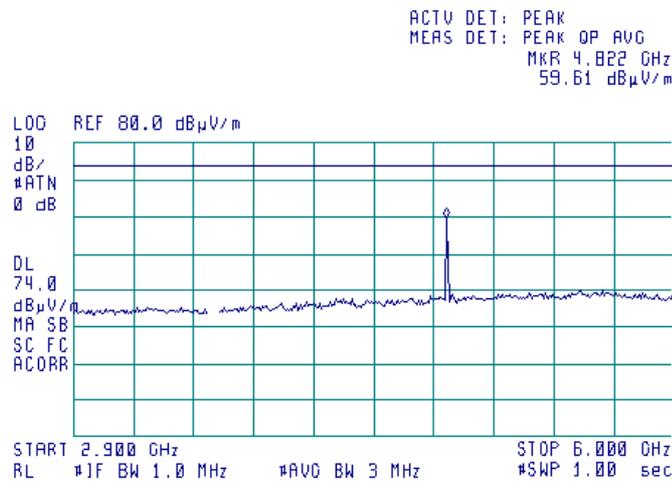




| | | | |
|----------------------------|--|--------------------------------|------------------------------|
| Test specification: | Section 15.249(a)(d), Field strength of emissions | | |
| Test procedure: | ANSI C63.4, Section 13.1.4 | | |
| Test mode: | Compliance | Verdict: | PASS |
| Date(s): | 13-Mar-16 - 20-Mar-16 | | |
| Temperature: 22 °C | Air Pressure: 1011 hPa | Relative Humidity: 54 % | Power Supply: Battery |
| Remarks: | | | |

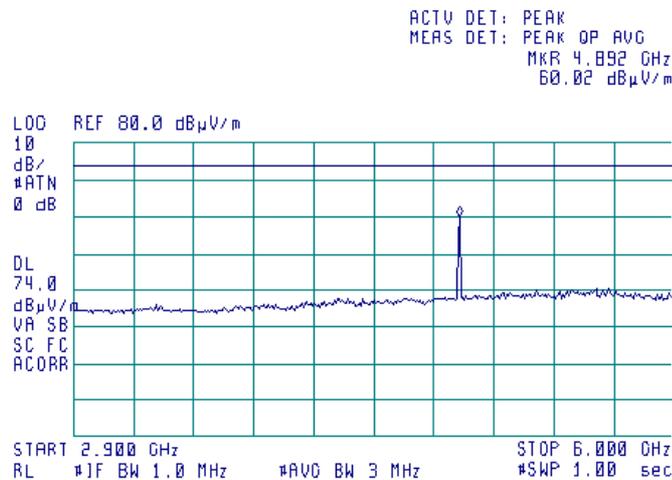
Plot 7.1.13 Radiated emission measurements from 2.9 to 6.0 MHz at low frequency

TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical and Horizontal
 EUT POSITION: Typical (Horizontal)



Plot 7.1.14 Radiated emission measurements from 2.9 to 6.0 MHz at mid frequency

TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical and Horizontal
 EUT POSITION: Typical (Horizontal)

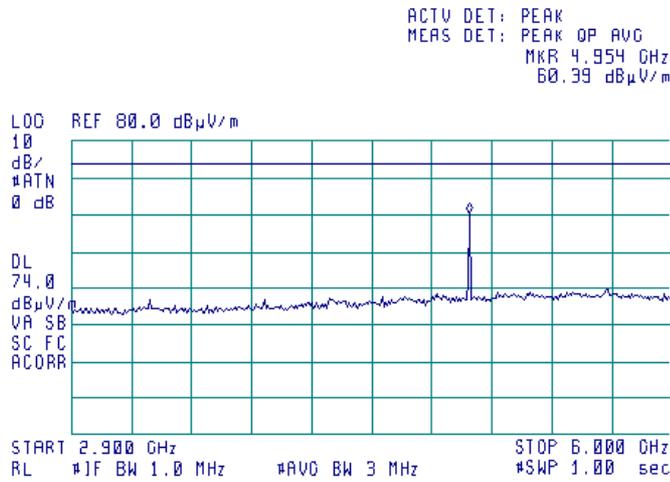




| | | | |
|--------------------------------|--|--|--|
| Test specification: | | Section 15.249(a)(d), Field strength of emissions | |
| Test procedure: | | ANSI C63.4, Section 13.1.4 | |
| Test mode: | | Compliance | |
| Date(s): | | 13-Mar-16 - 20-Mar-16 | |
| Temperature: 22 °C | | Air Pressure: 1011 hPa | |
| Relative Humidity: 54 % | | Power Supply: Battery | |
| Remarks: | | | |
| | | Verdict: PASS | |

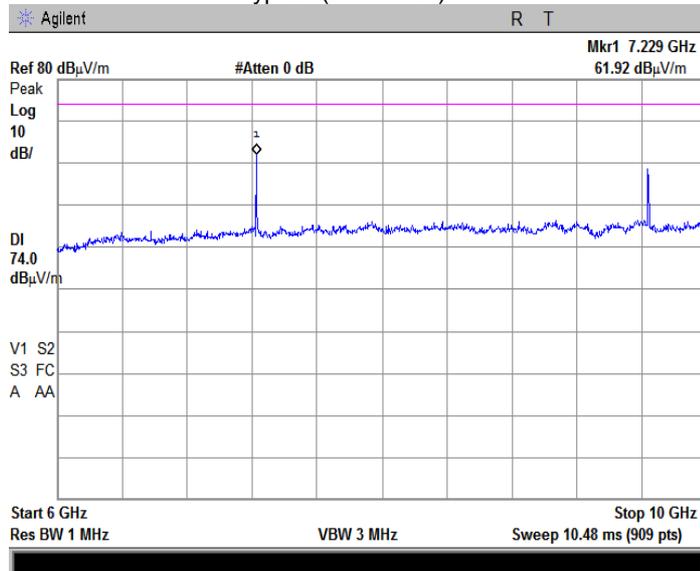
Plot 7.1.15 Radiated emission measurements from 2.9 to 6.0 MHz at high frequency

TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical and Horizontal
 EUT POSITION: Typical (Horizontal)



Plot 7.1.16 Radiated emission measurements from 6.0 to 10.0 GHz at low frequency

TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical and Horizontal
 EUT POSITION: Typical (Horizontal)

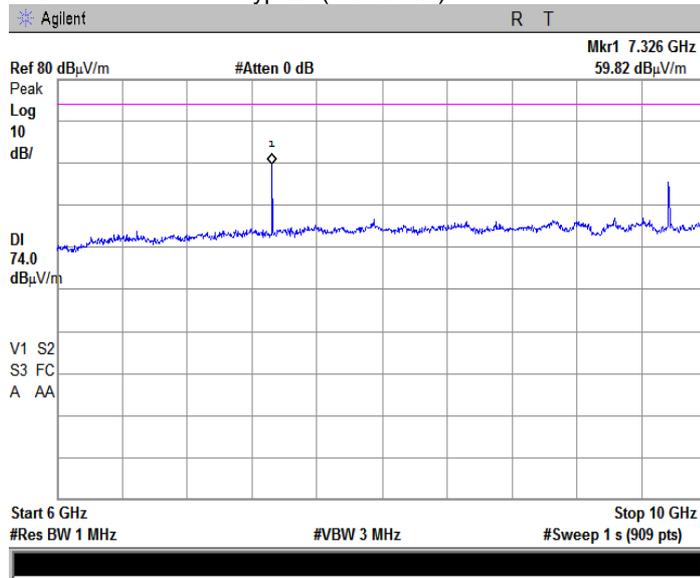




| | | | |
|----------------------------|--|--------------------------------|------------------------------|
| Test specification: | Section 15.249(a)(d), Field strength of emissions | | |
| Test procedure: | ANSI C63.4, Section 13.1.4 | | |
| Test mode: | Compliance | Verdict: | PASS |
| Date(s): | 13-Mar-16 - 20-Mar-16 | | |
| Temperature: 22 °C | Air Pressure: 1011 hPa | Relative Humidity: 54 % | Power Supply: Battery |
| Remarks: | | | |

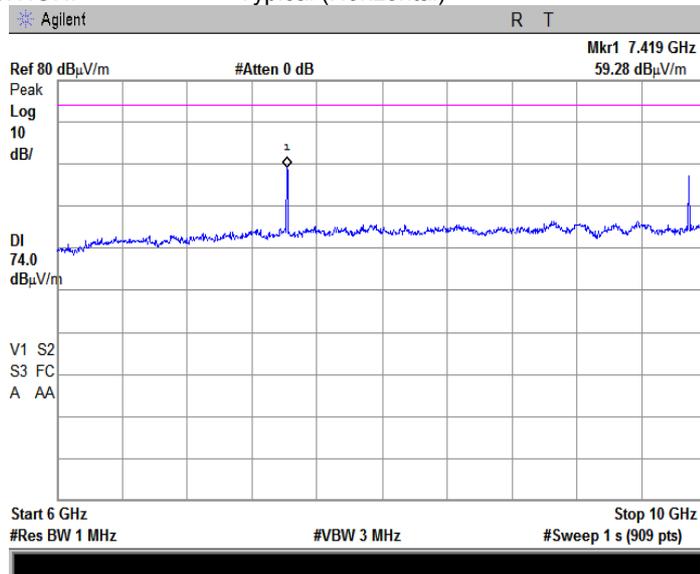
Plot 7.1.17 Radiated emission measurements from 6.0 to 10.0 GHz at mid frequency

TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical and Horizontal
 EUT POSITION: Typical (Horizontal)



Plot 7.1.18 Radiated emission measurements from 6.0 to 10.0 GHz at high frequency

TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical and Horizontal
 EUT POSITION: Typical (Horizontal)



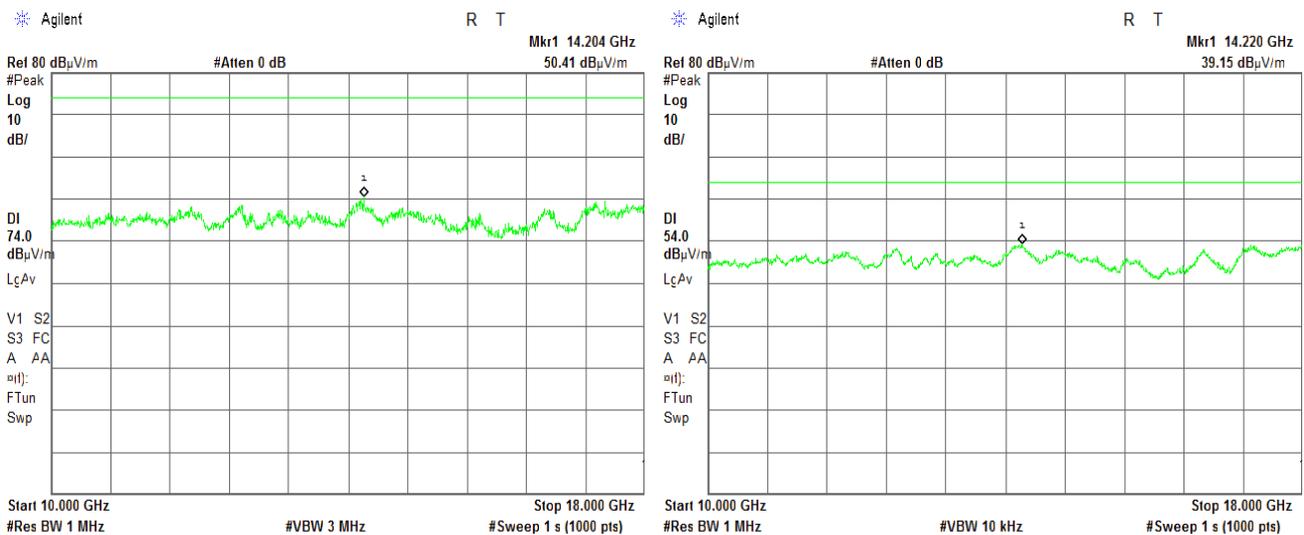


HERMON LABORATORIES

| | | | |
|--|-------------------------------|--------------------------------|------------------------------|
| Test specification: Section 15.249(a)(d), Field strength of emissions | | | |
| Test procedure: ANSI C63.4, Section 13.1.4 | | | |
| Test mode: Compliance | Verdict: PASS | | |
| Date(s): 13-Mar-16 - 20-Mar-16 | | | |
| Temperature: 22 °C | Air Pressure: 1011 hPa | Relative Humidity: 54 % | Power Supply: Battery |
| Remarks: | | | |

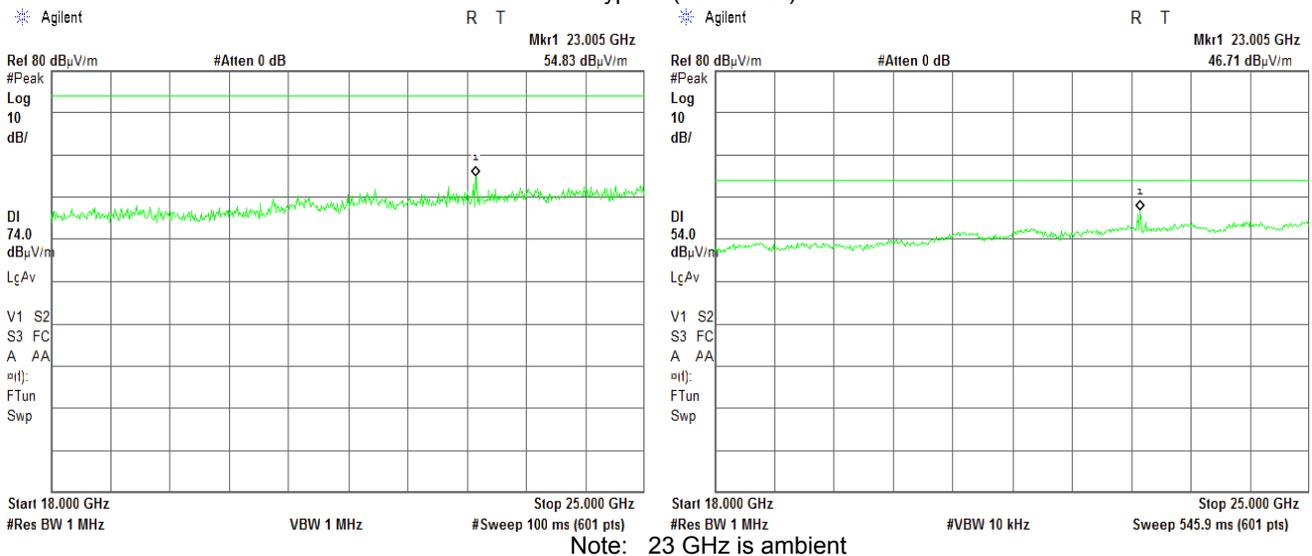
Plot 7.1.19 Radiated emission measurements from 10.0 to 18.0 GHz at low, mid, high frequency

TEST SITE: OATS
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical and Horizontal
 EUT POSITION: Typical (Horizontal)



Plot 7.1.20 Radiated emission measurements from 18.0 to 25 GHz at low, mid, high frequency

TEST SITE: OATS
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical and Horizontal
 EUT POSITION: Typical (Horizontal)

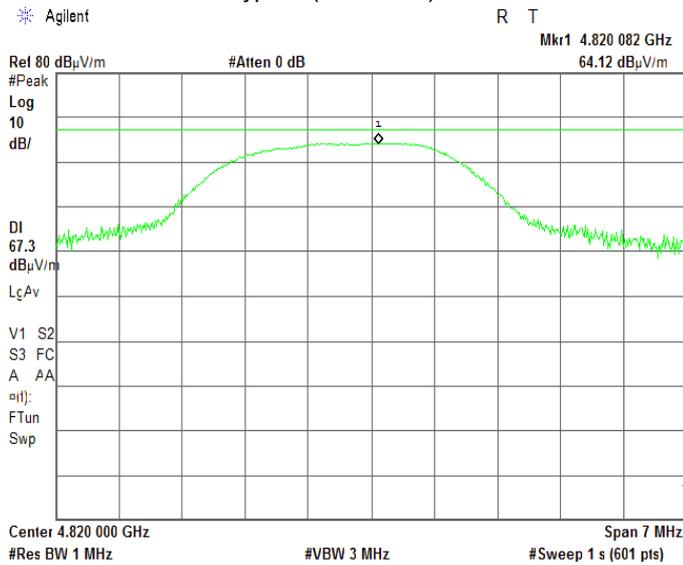




| | | | |
|--|-------------------------------|--------------------------------|------------------------------|
| Test specification: Section 15.249(a)(d), Field strength of emissions | | | |
| Test procedure: ANSI C63.4, Section 13.1.4 | | | |
| Test mode: Compliance | Verdict: PASS | | |
| Date(s): 13-Mar-16 - 20-Mar-16 | | | |
| Temperature: 22 °C | Air Pressure: 1011 hPa | Relative Humidity: 54 % | Power Supply: Battery |
| Remarks: | | | |

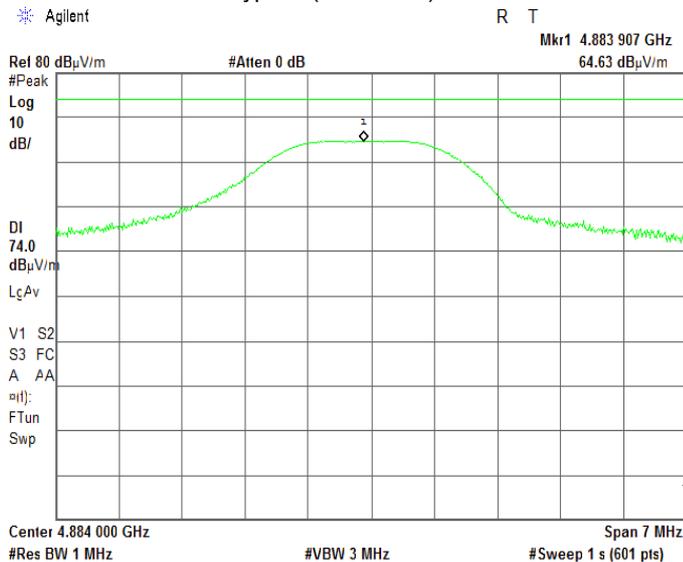
Plot 7.1.21 Radiated emission measurements at the second harmonic frequency at low frequency

TEST SITE: OATS
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical & Horizontal
 EUT POSITION: Typical (Horizontal)



Plot 7.1.22 Radiated emission measurements at the second harmonic frequency at mid frequency

TEST SITE: OATS
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical & Horizontal
 EUT POSITION: Typical (Horizontal)

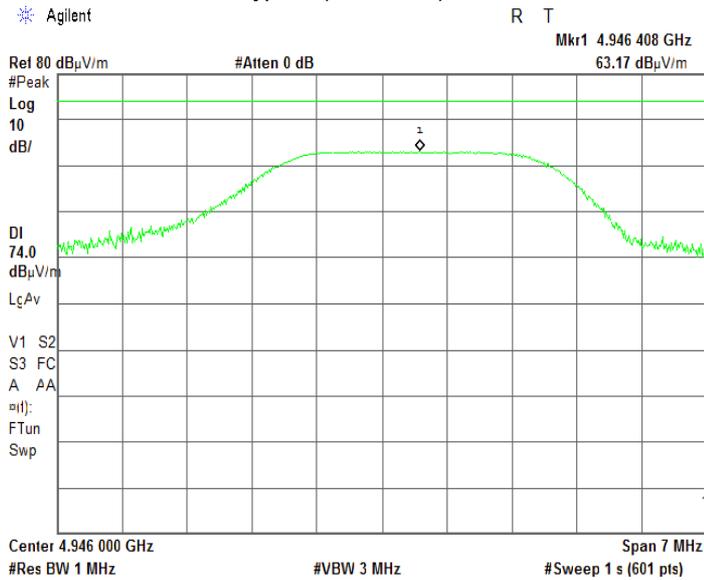




| | | | |
|--------------------------------|--|--|--|
| Test specification: | | Section 15.249(a)(d), Field strength of emissions | |
| Test procedure: | | ANSI C63.4, Section 13.1.4 | |
| Test mode: | | Compliance | |
| Date(s): | | 13-Mar-16 - 20-Mar-16 | |
| Temperature: 22 °C | | Air Pressure: 1011 hPa | |
| Relative Humidity: 54 % | | Power Supply: Battery | |
| Remarks: | | | |
| | | Verdict: PASS | |

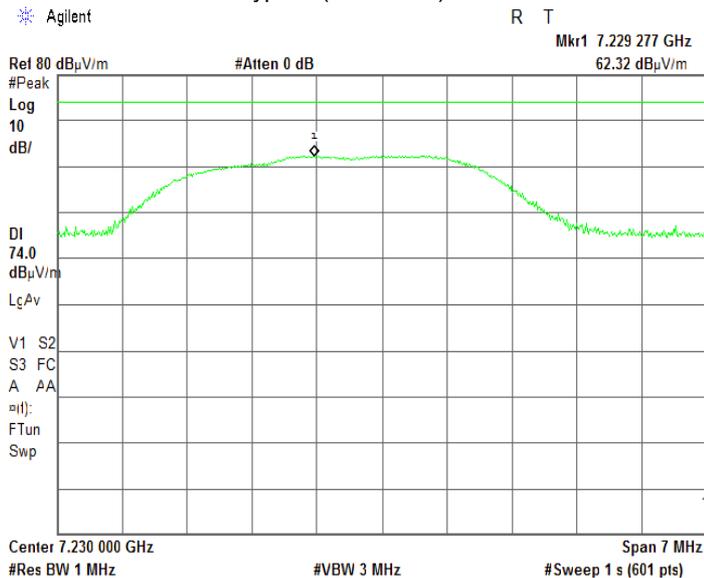
Plot 7.1.23 Radiated emission measurements at the second harmonic frequency at high frequency

TEST SITE: OATS
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical & Horizontal
 EUT POSITION: Typical (Horizontal)



Plot 7.1.24 Radiated emission measurements at the third harmonic frequency at low frequency

TEST SITE: OATS
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical & Horizontal
 EUT POSITION: Typical (Horizontal)



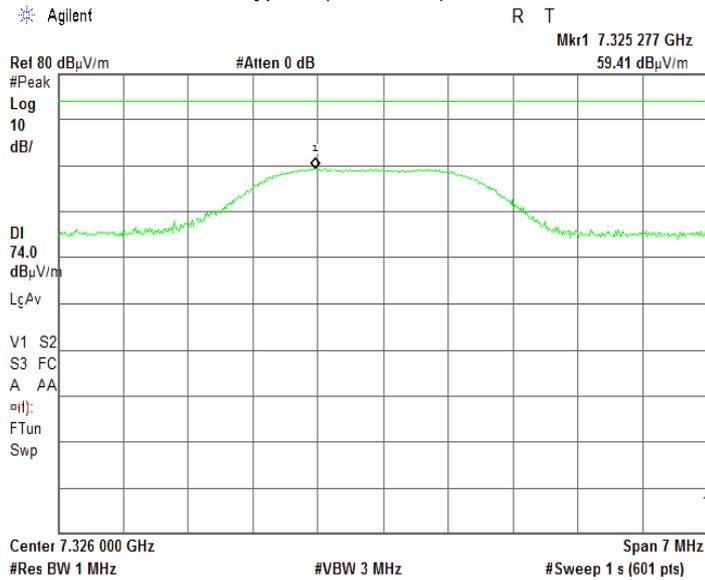


HERMON LABORATORIES

| | | | |
|----------------------------|--|--|--|
| Test specification: | | Section 15.249(a)(d), Field strength of emissions | |
| Test procedure: | | ANSI C63.4, Section 13.1.4 | |
| Test mode: | | Compliance | |
| Date(s): | | 13-Mar-16 - 20-Mar-16 | |
| Temperature: 22 °C | | Air Pressure: 1011 hPa | |
| | | Relative Humidity: 54 % | |
| | | Power Supply: Battery | |
| Remarks: | | | |
| | | Verdict: PASS | |

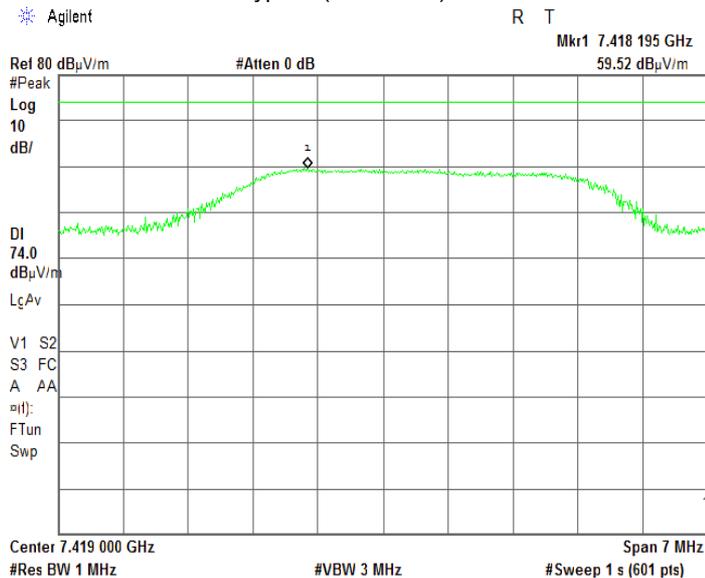
Plot 7.1.25 Radiated emission measurements at the third harmonic frequency at mid frequency

TEST SITE: OATS
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical & Horizontal
 EUT POSITION: Typical (Horizontal)



Plot 7.1.26 Radiated emission measurements at the third harmonic frequency at high frequency

TEST SITE: OATS
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical & Horizontal
 EUT POSITION: Typical (Horizontal)

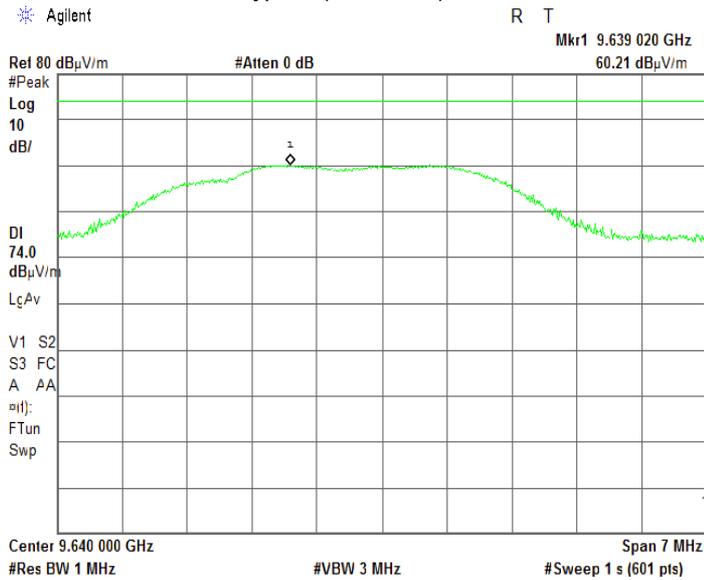




| | | | |
|----------------------------|--|--|--|
| Test specification: | | Section 15.249(a)(d), Field strength of emissions | |
| Test procedure: | | ANSI C63.4, Section 13.1.4 | |
| Test mode: | | Compliance | |
| Date(s): | | 13-Mar-16 - 20-Mar-16 | |
| Temperature: 22 °C | | Air Pressure: 1011 hPa | |
| | | Relative Humidity: 54 % | |
| | | Power Supply: Battery | |
| Remarks: | | | |
| | | Verdict: PASS | |

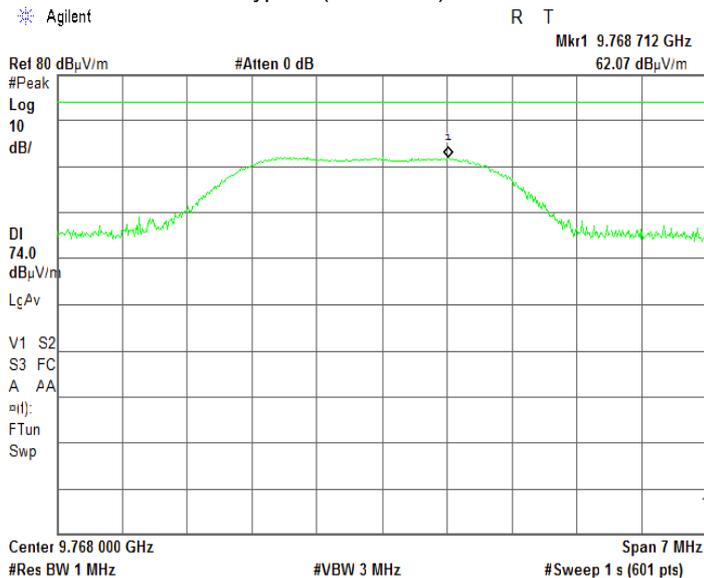
Plot 7.1.27 Radiated emission measurements at the fourth harmonic frequency at low frequency

TEST SITE: OATS
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical & Horizontal
 EUT POSITION: Typical (Horizontal)



Plot 7.1.28 Radiated emission measurements at the fourth harmonic frequency at mid frequency

TEST SITE: OATS
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical & Horizontal
 EUT POSITION: Typical (Horizontal)





HERMON LABORATORIES

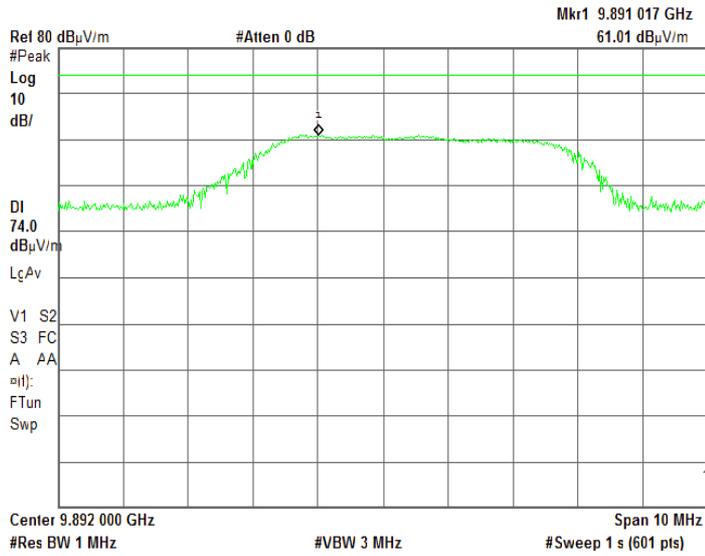
| | | | |
|----------------------------|--|--|--|
| Test specification: | | Section 15.249(a)(d), Field strength of emissions | |
| Test procedure: | | ANSI C63.4, Section 13.1.4 | |
| Test mode: | | Compliance | |
| Date(s): | | 13-Mar-16 - 20-Mar-16 | |
| Temperature: 22 °C | | Air Pressure: 1011 hPa | |
| | | Relative Humidity: 54 % | |
| | | Power Supply: Battery | |
| Remarks: | | | |

Plot 7.1.29 Radiated emission measurements at the fourth harmonic frequency at high frequency

TEST SITE: OATS
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical & Horizontal
 EUT POSITION: Typical (Horizontal)

* Agilent

R T

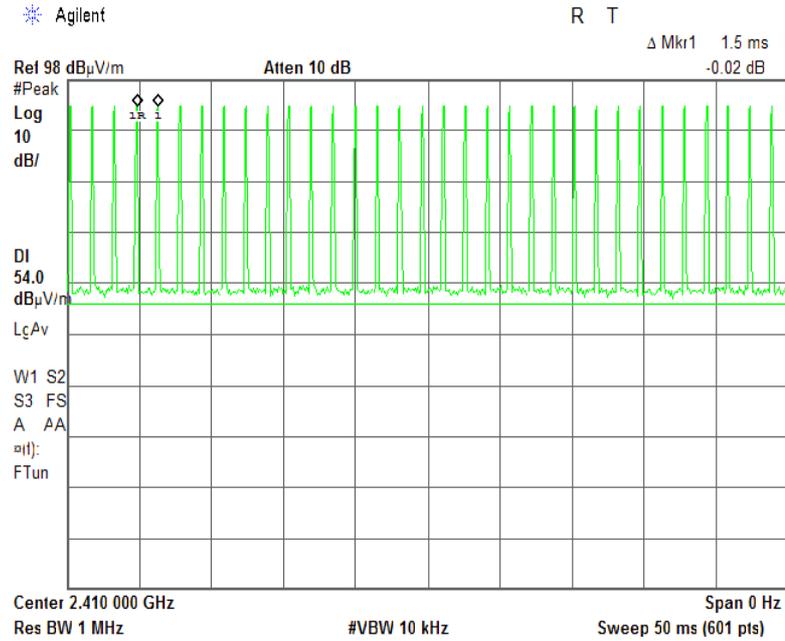




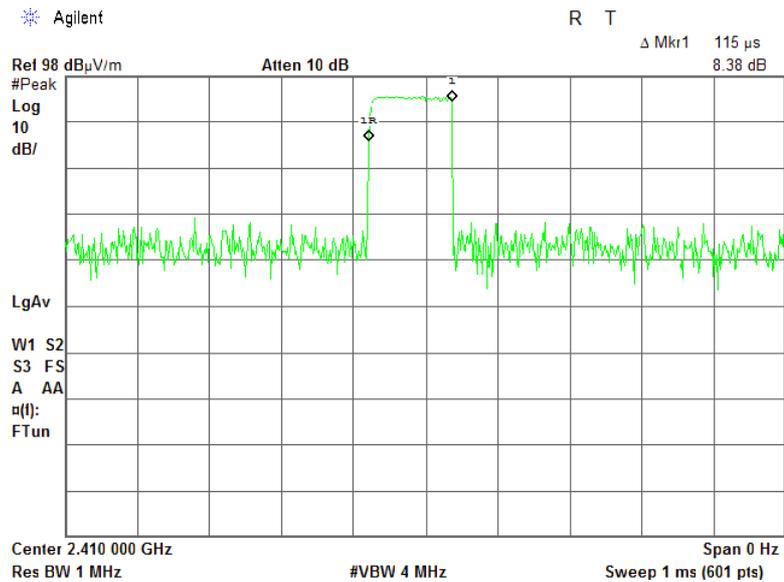
HERMON LABORATORIES

| | | | |
|----------------------------|--|--------------------------------|------------------------------|
| Test specification: | Section 15.249(a)(d), Field strength of emissions | | |
| Test procedure: | ANSI C63.4, Section 13.1.4 | | |
| Test mode: | Compliance | Verdict: | PASS |
| Date(s): | 13-Mar-16 - 20-Mar-16 | | |
| Temperature: 22 °C | Air Pressure: 1011 hPa | Relative Humidity: 54 % | Power Supply: Battery |
| Remarks: | | | |

Plot 7.1.30 Transmission pulse period



Plot 7.1.31 Transmission pulse duration





| | |
|--|-------------------------------|
| Test specification: Section 15.215(c), Occupied bandwidth | |
| Test procedure: | ANSI C63.4, Section 13.1.7 |
| Test mode: | Compliance |
| Date(s): | 14-Mar-16 |
| Temperature: 23 °C | Air Pressure: 1008 hPa |
| Relative Humidity: 54 % | Power Supply: Battery |
| Remarks: | |

7.2 Occupied bandwidth test

7.2.1 General

This test was performed to verify that the 20 dB bandwidth of the emissions was contained within the standard specified frequency band according to FCC §15.215 requirements. Specification test limits are given in Table 7.2.1.

Table 7.2.1 Occupied bandwidth limits

| Assigned frequency, MHz | Modulation envelope reference points*, dBc |
|-------------------------|--|
| 902 - 928 | 20.0 |
| 2400 – 2483.5 | |
| 5725 – 5875 | |
| 24000 – 24250 | |

*- Modulation envelope reference points provided in terms of attenuation below modulated carrier.

7.2.2 Test procedure

- 7.2.2.1 The EUT was set up as shown in Figure 7.2.1, energized and its proper operation was checked.
- 7.2.2.2 The spectrum analyzer sweep time and bandwidth were set to capture all major modulation sidebands of emission and sweep time was set sufficiently slow to ensure peak measurements. Spectrum analyzer was set in peak hold mode and time sufficient for trace stabilization was allowed.
- 7.2.2.3 The peak of emission was measured. The transmitter occupied bandwidth was measured with spectrum analyzer as frequency delta between reference points on modulation envelope and provided in Table 7.2.2 and associated plot.
- 7.2.2.4 Modulation bandwidth was calculated by adding of the negative frequency drift to the lower measured frequency and the positive frequency drift to the higher measured frequency. The obtained modulation bandwidth was verified to be within the allowed frequency range.

Figure 7.2.1 Occupied bandwidth test setup





| | | | |
|----------------------------|--|--|--|
| Test specification: | | Section 15.215(c), Occupied bandwidth | |
| Test procedure: | | ANSI C63.4, Section 13.1.7 | |
| Test mode: | | Compliance | |
| Date(s): | | 14-Mar-16 | |
| Temperature: 23 °C | | Air Pressure: 1008 hPa | |
| | | Relative Humidity: 54 % | |
| | | Power Supply: Battery | |
| Remarks: | | | |

Table 7.2.2 Occupied bandwidth test results

ASSIGNED FREQUENCY BAND: 2400-2483.5 MHz
DETECTOR USED: Peak hold
RESOLUTION BANDWIDTH: 100 kHz
VIDEO BANDWIDTH: 300 kHz
MODULATION ENVELOPE REFERENCE POINTS: 20 dBc
MODULATION:

| Band edge | Cross point frequency, MHz | Frequency drift, kHz | | Modulation band edge, MHz | Assigned band edge, MHz | Verdict |
|-----------|----------------------------|----------------------|----------|---------------------------|-------------------------|---------|
| | | Negative | Positive | | | |
| Low | 2409.1975 | NA | NA | 2409.1975 | 2400.0 | Pass |
| High | 2473.8100 | NA | NA | 2473.8100 | 2483.5 | Pass |

Reference numbers of test equipment used

| | | | | | | | |
|---------|--|--|--|--|--|--|--|
| HL 2909 | | | | | | | |
|---------|--|--|--|--|--|--|--|

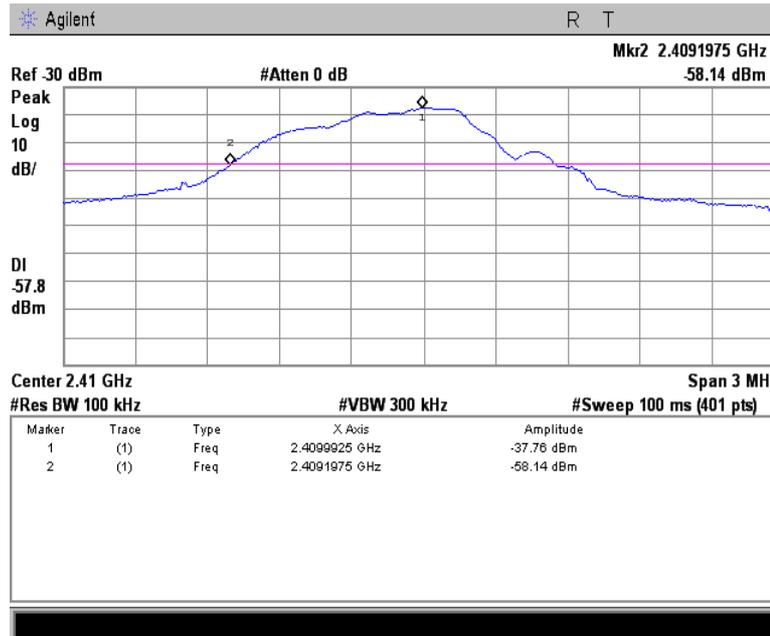
Full description is given in Appendix A.



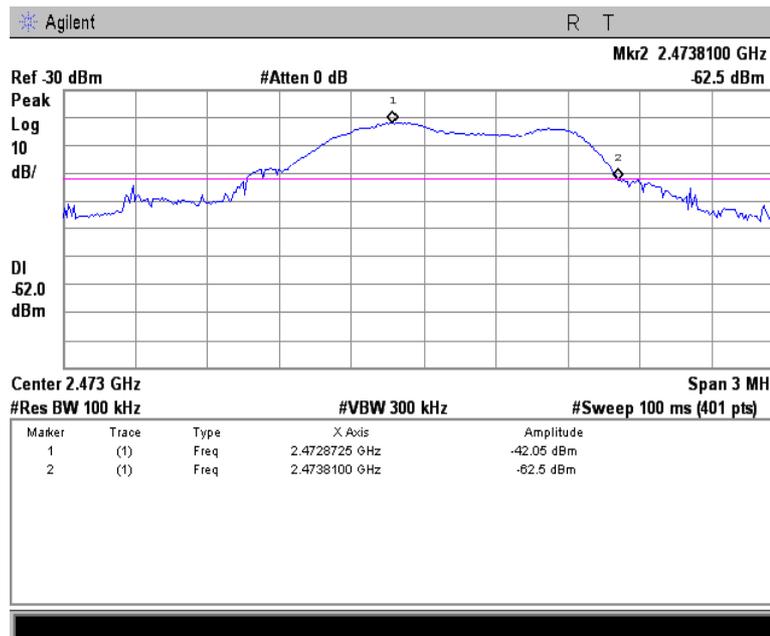
HERMON LABORATORIES

| | | | |
|----------------------------|--|--|--|
| Test specification: | | Section 15.215(c), Occupied bandwidth | |
| Test procedure: | | ANSI C63.4, Section 13.1.7 | |
| Test mode: | | Compliance | |
| Date(s): | | 14-Mar-16 | |
| Temperature: 23 °C | | Air Pressure: 1008 hPa | |
| | | Relative Humidity: 54 % | |
| Remarks: | | Power Supply: Battery | |
| | | Verdict: PASS | |

Plot 7.2.1 Cross point frequency, low band edge



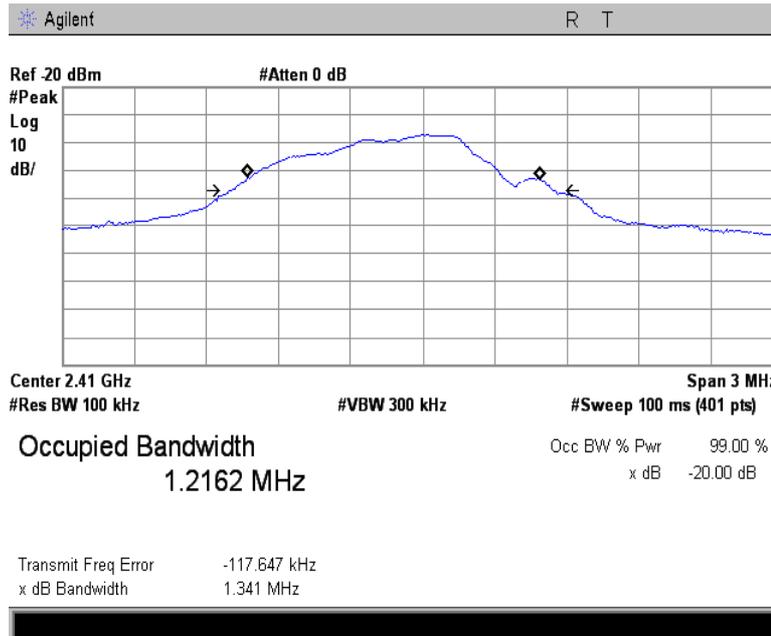
Plot 7.2.2 Cross point frequency, high band edge



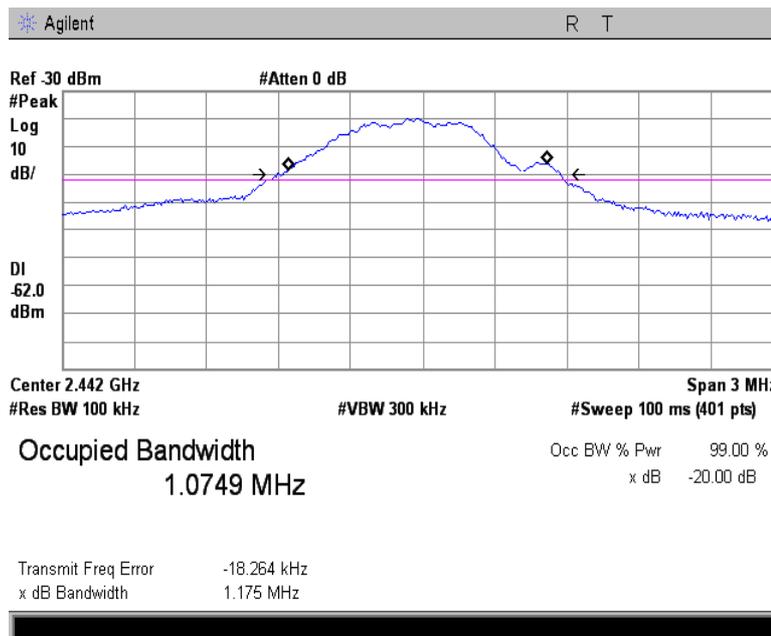


| | | | |
|----------------------------|--|--|--|
| Test specification: | | Section 15.215(c), Occupied bandwidth | |
| Test procedure: | | ANSI C63.4, Section 13.1.7 | |
| Test mode: | | Compliance | |
| Date(s): | | 14-Mar-16 | |
| Temperature: 23 °C | | Air Pressure: 1008 hPa | |
| Remarks: | | Verdict: PASS | |
| | | Relative Humidity: 54 % | |
| | | Power Supply: Battery | |

Plot 7.2.3 Occupied bandwidth test result at low frequency



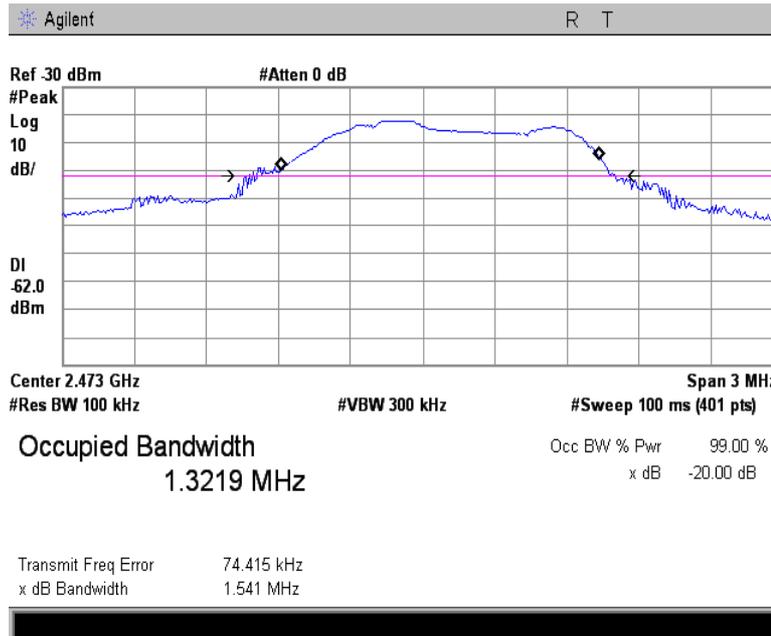
Plot 7.2.4 Occupied bandwidth test result at mid frequency





| | | | |
|----------------------------|--|--|--|
| Test specification: | | Section 15.215(c), Occupied bandwidth | |
| Test procedure: | | ANSI C63.4, Section 13.1.7 | |
| Test mode: | | Compliance | |
| Date(s): | | 14-Mar-16 | |
| Temperature: 23 °C | | Air Pressure: 1008 hPa | |
| | | Relative Humidity: 54 % | |
| | | Power Supply: Battery | |
| Remarks: | | | |
| | | Verdict: PASS | |

Plot 7.2.5 Occupied bandwidth test result at high frequency





| | | | |
|----------------------------|--|---|--|
| Test specification: | | Section 15.249(d), Band edge emissions | |
| Test procedure: | | ANSI C63.4, Section 13.1.4 | |
| Test mode: | | Compliance | |
| Date(s): | | 13-Mar-16 - 20-Mar-16 | |
| Temperature: 22 °C | | Air Pressure: 1011 hPa | |
| Remarks: | | Verdict: PASS | |
| | | Relative Humidity: 54 % | |
| | | Power Supply: Battery | |

7.3 Band edge emission

7.3.1 General

This test was performed to verify the EUT band edge emission including all associated side bands was attenuated at least 50 dB below the unmodulated carrier level or below the general spurious emission limit. Specification test limits are given in Table 7.3.1.

Table 7.3.1 Band edge emission limits

| Frequency band, MHz | Field strength limit at 3 m, dBµV/m | | Attenuation below carrier, dBc |
|---------------------|-------------------------------------|---------|--------------------------------|
| | Peak | Average | |
| 2400-2483.5 | 74.0 | 54.0 | 50 |

7.3.2 Test procedure

7.3.2.1 The EUT was set up as shown in Figure 7.3.1, energized and the performance check was conducted.

7.3.2.2 The spectrum analyzer frequency span was set to capture all major modulation sidebands of emission and sweep time was set sufficiently slow to ensure peak measurements. Spectrum analyzer was set in peak hold mode and time sufficient for trace stabilization was allowed.

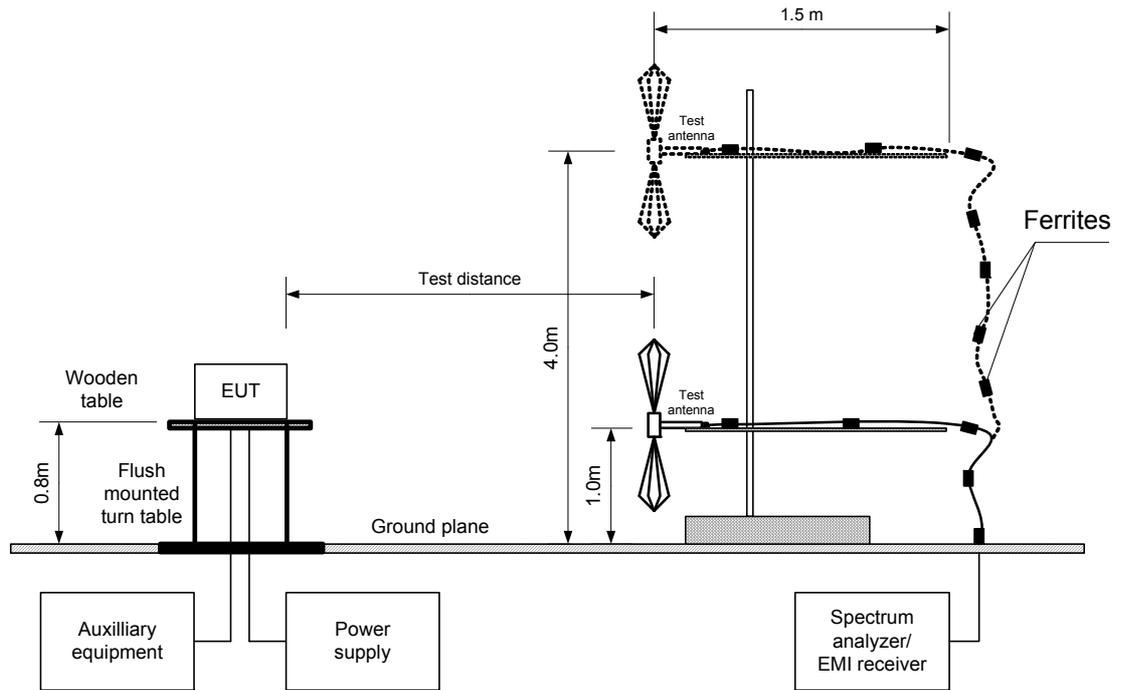
7.3.2.3 The frequency of modulation envelope points beyond which power level drops below the band edge emission limit was measured.

7.3.2.4 The test results were recorded in Table 7.3.2 and shown in the associated plots.



| | | | |
|----------------------------|---|--------------------------------|------------------------------|
| Test specification: | Section 15.249(d), Band edge emissions | | |
| Test procedure: | ANSI C63.4, Section 13.1.4 | | |
| Test mode: | Compliance | Verdict: | PASS |
| Date(s): | 13-Mar-16 - 20-Mar-16 | | |
| Temperature: 22 °C | Air Pressure: 1011 hPa | Relative Humidity: 54 % | Power Supply: Battery |
| Remarks: | | | |

Figure 7.3.1 Band edge emission measurement set up





| | | | |
|----------------------------|--|---|--|
| Test specification: | | Section 15.249(d), Band edge emissions | |
| Test procedure: | | ANSI C63.4, Section 13.1.4 | |
| Test mode: | | Compliance | |
| Date(s): | | 13-Mar-16 - 20-Mar-16 | |
| Temperature: 22 °C | | Air Pressure: 1011 hPa | |
| | | Relative Humidity: 54 % | |
| | | Power Supply: Battery | |
| Remarks: | | | |

Table 7.3.2 Band edge emission test results

OPERATING FREQUENCY RANGE: 2400-2483.5 MHz
DETECTOR USED: Peak hold
MODULATION: GFSK
BIT RATE: 1 Mbps
TRANSMITTER OUTPUT POWER SETTINGS: Maximum

| Modulation envelope | | Measured peak emission, dBµV/m | Peak limit, dBµV/m | Measured average emission, dBµV/m | Average limit, dBµV/m | Margin, dB * | Verdict |
|---------------------|----------------|--------------------------------|--------------------|-----------------------------------|-----------------------|--------------|---------|
| Edge | Frequency, MHz | | | | | | |
| Low | 2400.0 | 62.85 | 74 | 47.45 | 54 | -6.55 | Pass |
| High | 2483.5 | 61.94 | 74 | 47.58 | 54 | -6.42 | Pass |

* - Margin = measured value- limit

Reference numbers of test equipment used

| | | | | | | | |
|---------|---------|---------|---------|--|--|--|--|
| HL 2432 | HL 3818 | HL 4277 | HL 4293 | | | | |
|---------|---------|---------|---------|--|--|--|--|

Full description is given in Appendix A.

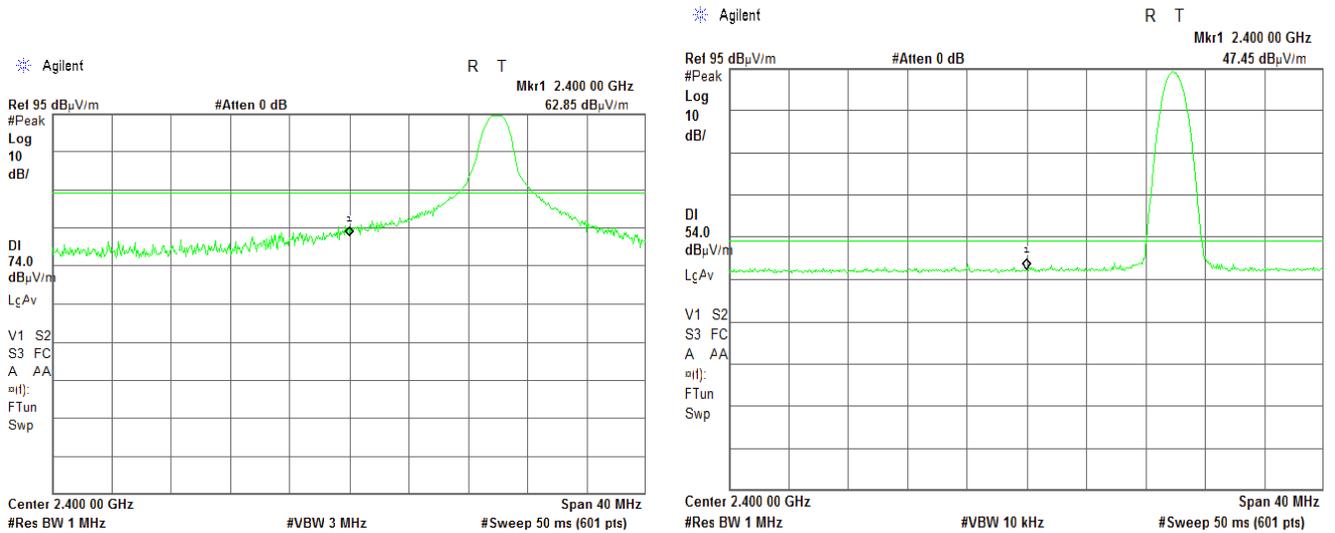


HERMON LABORATORIES

| | | | |
|---|-------------------------------|--------------------------------|------------------------------|
| Test specification: Section 15.249(d), Band edge emissions | | | |
| Test procedure: ANSI C63.4, Section 13.1.4 | | | |
| Test mode: Compliance | Verdict: PASS | | |
| Date(s): 13-Mar-16 - 20-Mar-16 | | | |
| Temperature: 22 °C | Air Pressure: 1011 hPa | Relative Humidity: 54 % | Power Supply: Battery |
| Remarks: | | | |

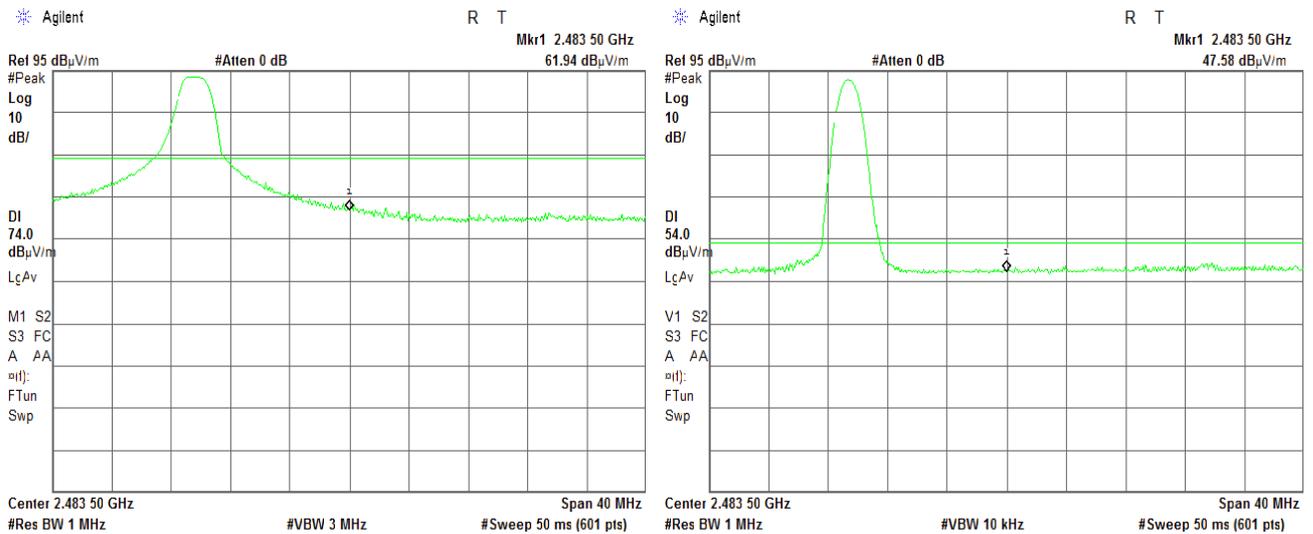
Plot 7.3.1 Low band edge emission test result

TEST SITE: OATS
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal
EUT POSITION: Horizontal



Plot 7.3.2 High band edge emission test result

TEST SITE: OATS
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal
EUT POSITION: Horizontal





| | | | |
|----------------------------|--|--------------------------------|------------------------------|
| Test specification: | Section 15.203, Antenna requirement | | |
| Test procedure: | Visual inspection / supplier declaration | | |
| Test mode: | Compliance | Verdict: | PASS |
| Date(s): | 24-Mar-16 | | |
| Temperature: 22 °C | Air Pressure: 1017 hPa | Relative Humidity: 45 % | Power Supply: Battery |
| Remarks: | | | |

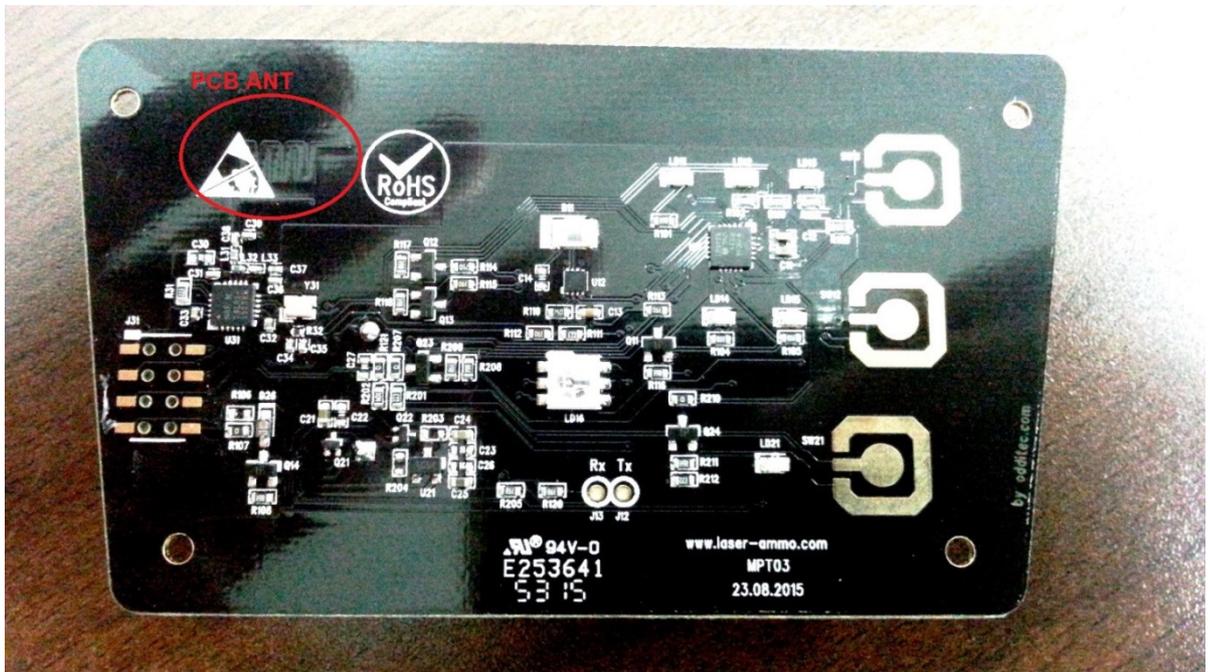
7.4 Antenna requirements

The EUT was verified for compliance with antenna requirements. A transmitter shall be designed to ensure that no antenna other than that furnished by the responsible party will be used with the device. It may be either permanently attached or employs a unique antenna connector for every antenna proposed for use with the EUT. This requirement does not apply to professionally installed transmitters. The rationale for compliance with the above requirements was either visual inspection results or supplier declaration. The summary of results is provided in Table 7.4.1.

Table 7.4.1 Antenna requirements

| Requirement | Rationale | Verdict |
|--|-------------------|---------|
| The transmitter antenna is permanently attached | Visual inspection | Comply |
| The transmitter employs a unique antenna connector | NA | |
| The transmitter requires professional installation | NA | |

Photograph 7.4.1 Antenna assembly





| | | | |
|----------------------------|-------------------------------|--|------------------------------|
| Test specification: | | Section 15.109, Radiated emission | |
| Test procedure: | | ANSI C63.4, Sections 11.6 and 12.1.4 | |
| Test mode: | | Verdict: PASS | |
| Date(s): | | | |
| Temperature: 22 °C | Air Pressure: 1011 hPa | Relative Humidity: 54 % | Power Supply: Battery |
| Remarks: | | | |

8 Emission tests according to 47CFR part 15 subpart B requirements

8.1 Radiated emission measurements

8.1.1 General

This test was performed to measure radiated emissions from the EUT enclosure. Specification test limits are given in Table 8.1.1.

Table 8.1.1 Radiated emission test limits according to FCC Part 15, Section 109 and ICES-003, Section 6.2

| Frequency, MHz | Class B limit, dB(μ V/m) | | Class A limit, dB(μ V/m) | |
|----------------|-------------------------------|--------------|-------------------------------|--------------|
| | 10 m distance | 3 m distance | 10 m distance | 3 m distance |
| 30 - 88 | 29.5* | 40.0 | 39.0 | 49.5* |
| 88 - 216 | 33.0* | 43.5 | 43.5 | 54.0* |
| 216 - 960 | 35.5* | 46.0 | 46.4 | 56.9* |
| Above 960 | 43.5* | 54.0 | 49.5 | 60.0* |

* The limit for test distance other than specified was calculated using the inverse linear distance extrapolation factor as follows: $Lim_{S_2} = Lim_{S_1} + 20 \log(S_1/S_2)$, where S_1 and S_2 – standard defined and test distance respectively in meters.

8.1.2 Test procedure

8.1.2.1 The EUT was set up as shown in Figure 8.1.1 and associated photograph/s, energized and the performance check was conducted.

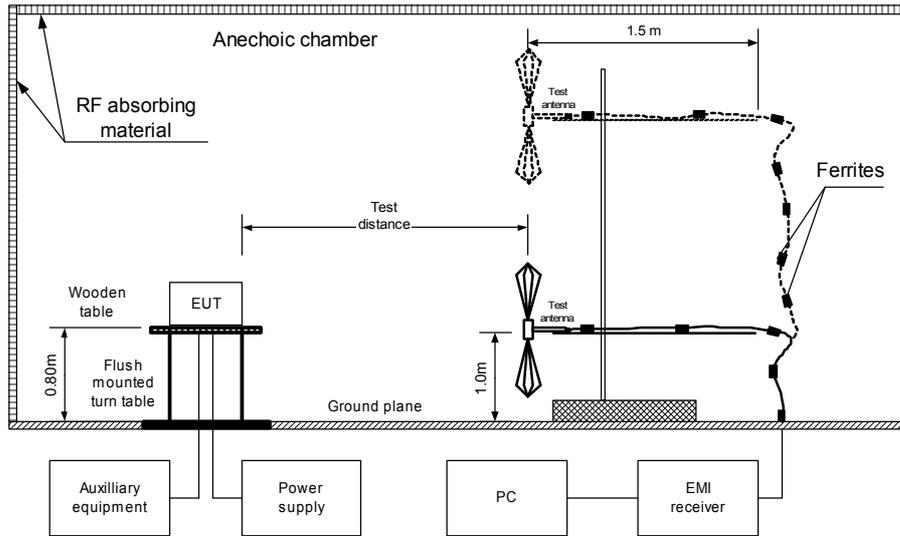
8.1.2.2 The specified frequency range was investigated with biconilog antenna connected to EMI receiver. To find maximum radiation the turntable was rotated 360°, the measuring antenna height was changed from 1 to 4 m, its polarization was switched from vertical to horizontal and the EUT cables position was varied.

8.1.2.3 The worst test results (the lowest margins) were recorded in Table 8.1.2 and shown in the associated plots.



| | | | |
|----------------------------|--|--------------------------------|------------------------------|
| Test specification: | Section 15.109, Radiated emission | | |
| Test procedure: | ANSI C63.4, Sections 11.6 and 12.1.4 | | |
| Test mode: | Compliance | Verdict: | PASS |
| Date(s): | 20-Mar-16 | | |
| Temperature: 22 °C | Air Pressure: 1011 hPa | Relative Humidity: 54 % | Power Supply: Battery |
| Remarks: | | | |

Figure 8.1.1 Setup for radiated emission measurements in anechoic chamber, table-top equipment



Photograph 8.1.1 Setup for radiated emission measurements





| | | | |
|----------------------------|--|--|--|
| Test specification: | | Section 15.109, Radiated emission | |
| Test procedure: | | ANSI C63.4, Sections 11.6 and 12.1.4 | |
| Test mode: | | Compliance | |
| Date(s): | | 20-Mar-16 | |
| Temperature: 22 °C | | Air Pressure: 1011 hPa | |
| | | Relative Humidity: 54 % | |
| | | Power Supply: Battery | |
| Remarks: | | | |
| Verdict: PASS | | | |

Table 8.1.2 Radiated emission test results

EUT SET UP: TABLE-TOP
LIMIT: Class B
EUT OPERATING MODE: Receive / Stand-by
TEST SITE: SEMI ANECHOIC CHAMBER
TEST DISTANCE: 3 m
DETECTORS USED: PEAK / QUASI-PEAK
FREQUENCY RANGE: 30 MHz – 1000 MHz
RESOLUTION BANDWIDTH: 120 kHz

| Frequency, MHz | Peak emission, dB(µV/m) | Quasi-peak | | | Antenna polarization | Antenna height, m | Turn-table position**, degrees | Verdict |
|-----------------------|-------------------------|-----------------------------|-----------------|-------------|----------------------|-------------------|--------------------------------|---------|
| | | Measured emission, dB(µV/m) | Limit, dB(µV/m) | Margin, dB* | | | | |
| No signals were found | | | | | | | | Pass |

TEST SITE: SEMI ANECHOIC CHAMBER
TEST DISTANCE: 3 m
DETECTORS USED: PEAK / AVERAGE
FREQUENCY RANGE: 1000 MHz – 13000 MHz
RESOLUTION BANDWIDTH: 1000 kHz

| Frequency, MHz | Peak | | | Average | | | Antenna polarization | Antenna height, m | Turn-table position**, degrees | Verdict |
|----------------|-----------------------------|-----------------|-------------|-----------------------------|-----------------|-------------|----------------------|-------------------|--------------------------------|---------|
| | Measured emission, dB(µV/m) | Limit, dB(µV/m) | Margin, dB* | Measured emission, dB(µV/m) | Limit, dB(µV/m) | Margin, dB* | | | | |
| 1378.3 | 43.49 | 74 | -30.51 | 38.16 | 54 | -15.84 | Horizontal | 1.2 | 0 | Pass |
| 2756.6 | 49.56 | 74 | -24.44 | 42.86 | 54 | -11.14 | Horizontal | 1.2 | 30 | |
| 5513.2 | 45.70 | 74 | -28.30 | 39.90 | 54 | -14.10 | Horizontal | 1.1 | 160 | |

*- Margin = Measured emission - specification limit.
**- EUT front panel refer to 0 degrees position of turntable.

Reference numbers of test equipment used

| | | | | | | | |
|---------|---------|---------|---------|---------|---------|--|--|
| HL 0604 | HL 1984 | HL 3818 | HL 4278 | HL 4353 | HL 4933 | | |
|---------|---------|---------|---------|---------|---------|--|--|

Full description is given in Appendix A.

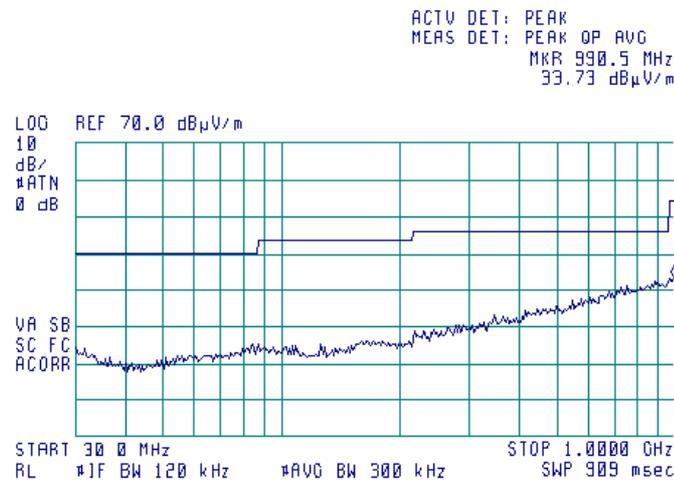


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| | | | |
|----------------------------|--|--|--|
| Test specification: | | Section 15.109, Radiated emission | |
| Test procedure: | | ANSI C63.4, Sections 11.6 and 12.1.4 | |
| Test mode: | | Compliance | |
| Date(s): | | 20-Mar-16 | |
| Temperature: 22 °C | | Air Pressure: 1011 hPa | |
| Remarks: | | Verdict: PASS | |
| | | Relative Humidity: 54 % | |
| | | Power Supply: Battery | |

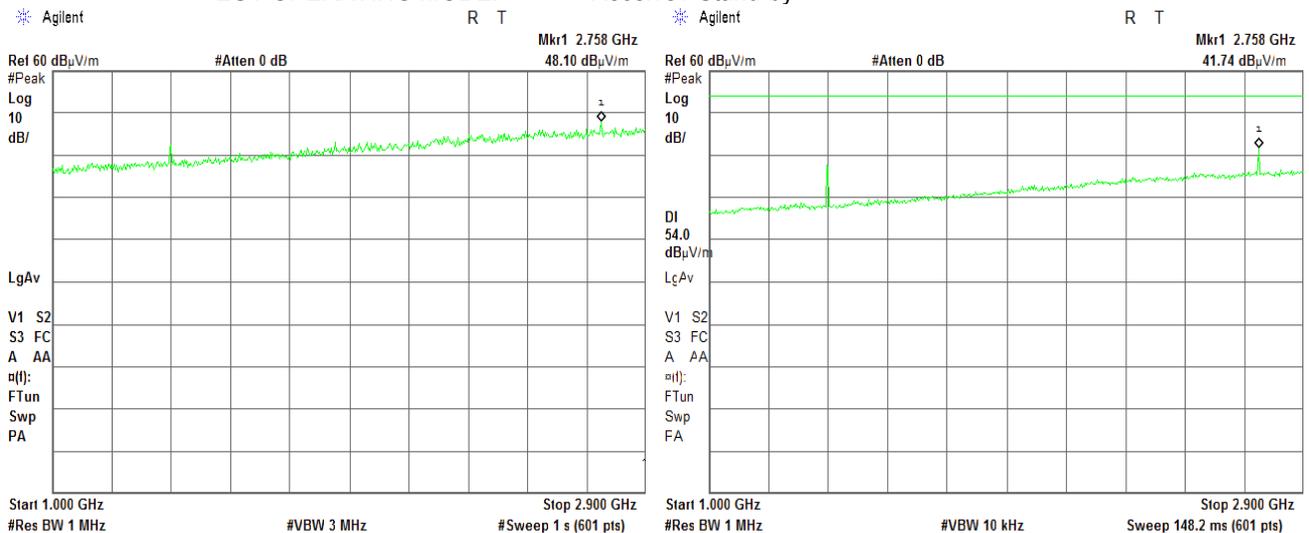
Plot 8.1.1 Radiated emission measurements in 30 - 1000 MHz range, vertical & horizontal antenna polarization

TEST SITE: Semi anechoic chamber
LIMIT: Class B
TEST DISTANCE: 3 m
EUT OPERATING MODE: Receive / Stand-by



Plot 8.1.2 Radiated emission measurements in 1-2.9 GHz range, vertical & horizontal antenna polarization

TEST SITE: Semi anechoic chamber
LIMIT: Class B
TEST DISTANCE: 3 m
EUT OPERATING MODE: Receive / Stand-by



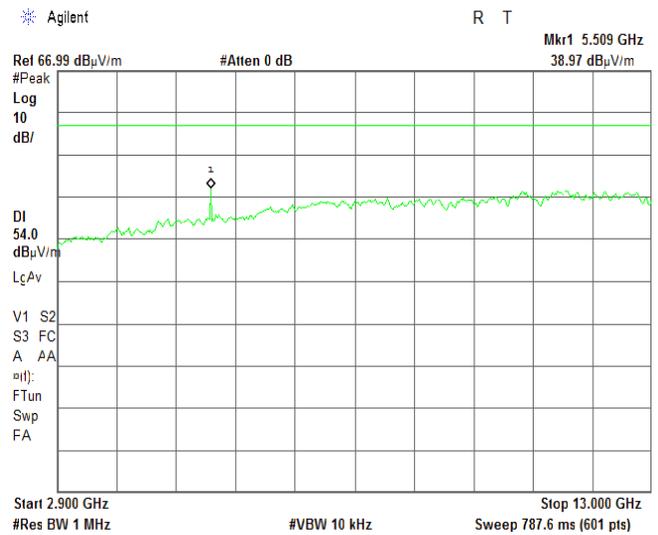
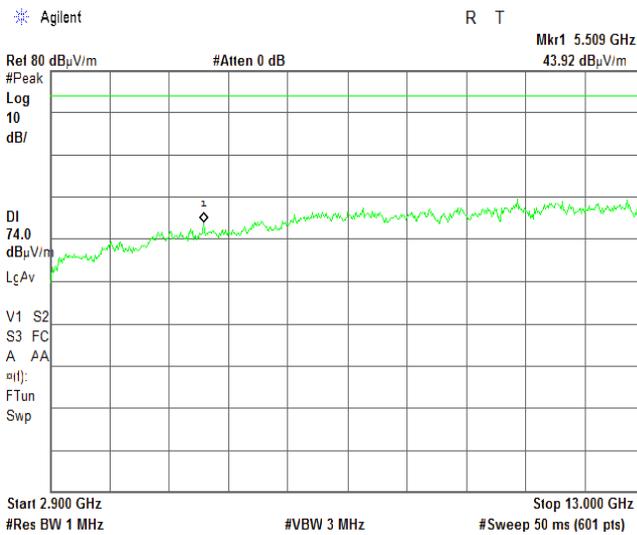


HERMON LABORATORIES

| | | | |
|----------------------------|--|--|--|
| Test specification: | | Section 15.109, Radiated emission | |
| Test procedure: | | ANSI C63.4, Sections 11.6 and 12.1.4 | |
| Test mode: | | Compliance | |
| Date(s): | | 20-Mar-16 | |
| Temperature: 22 °C | | Air Pressure: 1011 hPa | |
| | | Relative Humidity: 54 % | |
| | | Power Supply: Battery | |
| Remarks: | | | |

Plot 8.1.3 Radiated emission measurements in 2.9-13 GHz range, vertical & horizontal antenna polarization

TEST SITE: Semi anechoic chamber
LIMIT: Class B
TEST DISTANCE: 3 m
EUT OPERATING MODE: Receive / Stand-by





9 APPENDIX A Test equipment and ancillaries used for tests

| HL No | Description | Manufacturer | Model | Ser. No. | Last Cal./ Check | Due Cal./ Check |
|-------|--|-----------------------|----------------|-------------------------|------------------|-----------------|
| 0415 | Cable, Coax, RF, RG-214, 12.3 m | Hermon Laboratories | CC-3 | 056 | 07-Dec-15 | 07-Dec-16 |
| 0446 | Antenna, Loop, Active, 10 kHz - 30 MHz | EMCO | 6502 | 2857 | 18-Jan-16 | 18-Jan-17 |
| 0604 | Antenna BiconiLog Log-Periodic/T Bow-TIE, 26 - 2000 MHz | EMCO | 3141 | 9611-1011 | 15-May-15 | 15-May-16 |
| 1984 | Antenna, Double-Ridged Waveguide Horn, 1 to 18 GHz, 300 W | EMC Test Systems | 3115 | 9911-5964 | 28-Mar-16 | 28-Mar-17 |
| 2432 | Antenna, Double-Ridged Waveguide Horn 1 to 18 GHz | EMC Test Systems | 3115 | 00027177 | 28-Mar-16 | 28-Mar-17 |
| 2909 | Spectrum analyzer, ESA-E, 100 Hz to 26.5 GHz | Agilent Technologies | E4407B | MY41444762 | 21-Feb-16 | 21-Feb-17 |
| 3347 | High Pass Filter, 50 Ohm, 6000 to 11500 MHz | Mini-Circuits | VHF-5500+ | NA | 01-Oct-15 | 01-Oct-17 |
| 3818 | PSA Series Spectrum Analyzer, 3 Hz- 44 GHz | Agilent Technologies | E4446A | MY48250288 | 29-Apr-15 | 29-Apr-16 |
| 3901 | Microwave Cable Assembly, 40.0 GHz, 3.5 m, SMA/SMA | Huber-Suhner | SUCOFL EX 102A | 1225/2A | 15-Feb-16 | 15-Feb-17 |
| 4277 | Test Cable , DC-18 GHz, 3.05 m, N/M - N/M | Mini-Circuits | APC-10FT-NMNM+ | 0748A | 22-Nov-15 | 22-Nov-16 |
| 4278 | Test Cable , DC-18 GHz, 4.6 m, N/M - N/M | Mini-Circuits | APC-15FT-NMNM+ | 0755A | 22-Nov-15 | 22-Nov-16 |
| 4293 | Microwave Cable Assembly, 18.0 GHz, 3.4 m, SMA/SMA | Huber-Suhner | Sucoflex P103 | NA | 01-Feb-16 | 01-Feb-17 |
| 4294 | Microwave Cable Assembly, 18.0 GHz, 3.4 m, SMA/SMA | Huber-Suhner | Sucoflex P103 | NA | 07-Dec-15 | 07-Dec-16 |
| 4353 | Low Loss Armored Test Cable, DC - 18 GHz, 6.2 m, N type-M/N type-M | MegaPhase | NC29-N1N1-244 | 12025101003 | 15-Mar-16 | 15-Mar-17 |
| 4778 | EMI Receiver, 9 kHz - 2.9 GHz, System: HL1431, HL4777 | Hewlett Packard | 8542E | 30807A00262, 3427A00123 | 05-Nov-15 | 05-Nov-16 |
| 4933 | Active Horn Antenna, 1 GHz to 18 GHz | Com-Power Corporation | AHA-118 | 701046 | 04-Sep-15 | 04-Sep-16 |
| 4956 | Active horn antenna, 18 to 40 GHz | Com-Power Corporation | AHA-840 | 105004 | 09-Nov-15 | 09-Nov-16 |

10 APPENDIX B Measurement uncertainties

Expanded uncertainty at 95% confidence in Hermon Labs EMC measurements

| Test description | Expanded uncertainty |
|---|--|
| Conducted emissions with LISN | 9 kHz to 150 kHz: ± 3.9 dB 150 kHz to 30 MHz: ± 3.8 dB |
| Radiated emissions at 10 m measuring distance Horizontal polarization Vertical polarization | Biconilog antenna: ± 5.0 dB Biconical antenna: ± 5.0 dB Log periodic antenna: ± 5.1 dB Double ridged horn antenna: ± 5.3 dB Biconilog antenna: ± 5.5 dB Biconical antenna: ± 5.5 dB Log periodic antenna: ± 5.6 dB Double ridged horn antenna: ± 5.8 dB |
| Radiated emissions at 3 m measuring distance Horizontal polarization Vertical polarization | Biconilog antenna: ± 5.3 dB Biconical antenna: ± 5.0 dB Log periodic antenna: ± 5.3 dB Double ridged horn antenna: ± 5.3 dB Biconilog antenna: ± 6.0 dB Biconical antenna: ± 5.7 dB Log periodic antenna: ± 6.0 dB Double ridged horn antenna: ± 6.0 dB |
| Conducted emissions at RF antenna connector | 9 kHz to 2.9 GHz: ± 2.6 dB 2.9 GHz to 6.46 GHz: ± 3.5 dB 6.46 GHz to 13.2 GHz: ± 4.3 dB 13.2 GHz to 22.0 GHz: ± 5.0 dB 22.0 GHz to 26.8 GHz: ± 5.5 dB 26.8 GHz to 40.0 GHz: ± 4.8 dB |
| Duty cycle, timing (Tx ON / OFF) and average factor measurements | ± 1.0 % |
| Occupied bandwidth | ± 8.0 % |

Hermon Laboratories is accredited by A2LA for calibration according to present requirements of ISO/IEC 17025 and NCSL Z540-1. The accreditation is granted to perform calibration of parameters that are listed in the Scope of Hermon Laboratories Accreditation.

Hermon Laboratories calibrates its reference and transfer standards by calibration laboratories accredited to ISO/IEC 17025 by a mutually recognized Accreditation Body or by a recognized national metrology institute. All reference and transfer standards used in the calibration system are traceable to national or international standards.

In-house calibration of all test and measurement equipment is performed on a regular basis according to Hermon Laboratories calibration procedures, manufacturer calibration/verification procedures or procedures defined in the relevant standards. The Hermon Laboratories test and measurement equipment is calibrated within the tolerances specified by the manufacturers and/or by the relevant standards.



11 APPENDIX C Test laboratory description

Tests were performed at Hermon Laboratories Ltd., which is a fully independent, private, EMC, safety, environmental and telecommunication testing facility.

Hermon Laboratories is listed by the Federal Communications Commission (USA) for all parts of Code of Federal Regulations 47 (CFR 47), Registration Numbers 90624 for OATS and 90623 for the anechoic chamber; by Industry Canada for electromagnetic emissions (file numbers IC 2186A-1 for OATS), certified by VCCI, Japan (the registration numbers are R-808 for OATS, R-1082 for anechoic chamber, C-845 for conducted emissions site). The laboratory is accredited by American Association for Laboratory Accreditation (USA) according to ISO/IEC 17025 for electromagnetic compatibility, product safety, telecommunications testing and environmental simulation (for exact scope please refer to Certificate No. 839.01). The FCC Designation Number is IL1001.

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Person for contact: Mr. Alex Usoskin, CEO.

12 APPENDIX D Specification references

| | |
|-------------------------|---|
| FCC 47CFR part 15: 2015 | Radio Frequency Devices |
| ANSI C63.2: 1996 | American National Standard for Instrumentation-Electromagnetic Noise and Field Strength, 10 kHz to 40 GHz-Specifications |
| ANSI C63.4: 2009 | American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz |



13 APPENDIX E Test equipment correction factors

Antenna factor
Active loop antenna
Model 6502, S/N 2857, HL 0446

| Frequency, MHz | Magnetic antenna factor, dB | Electric antenna factor, dB |
|----------------|-----------------------------|-----------------------------|
| 0.009 | -32.8 | 18.7 |
| 0.010 | -33.8 | 17.7 |
| 0.020 | -38.3 | 13.2 |
| 0.050 | -41.1 | 10.4 |
| 0.075 | -41.3 | 10.2 |
| 0.100 | -41.6 | 9.9 |
| 0.150 | -41.7 | 9.8 |
| 0.250 | -41.6 | 9.9 |
| 0.500 | -41.8 | 9.8 |
| 0.750 | -41.9 | 9.7 |
| 1.000 | -41.4 | 10.1 |
| 2.000 | -41.5 | 10.0 |
| 3.000 | -41.4 | 10.2 |
| 4.000 | -41.4 | 10.1 |
| 5.000 | -41.5 | 10.1 |
| 10.000 | -41.9 | 9.6 |
| 15.000 | -41.9 | 9.6 |
| 20.000 | -42.2 | 9.3 |
| 25.000 | -42.8 | 8.7 |
| 30.000 | -44.0 | 7.5 |

Antenna factor in dB(1/m) is to be added to receiver meter reading in dB(μ V) to convert it into field intensity in dB(μ V/m).



Antenna factor
Biconilog antenna EMCO Model 3141
Ser.No.1011, HL 0604

| Frequency, MHz | Antenna factor, dB(1/m) | Frequency, MHz | Antenna factor, dB(1/m) | Frequency, MHz | Antenna factor, dB(1/m) |
|----------------|-------------------------|----------------|-------------------------|----------------|-------------------------|
| 26 | 7.8 | 580 | 20.6 | 1320 | 27.8 |
| 28 | 7.8 | 600 | 21.3 | 1340 | 28.3 |
| 30 | 7.8 | 620 | 21.5 | 1360 | 28.2 |
| 40 | 7.2 | 640 | 21.2 | 1380 | 27.9 |
| 60 | 7.1 | 660 | 21.4 | 1400 | 27.9 |
| 70 | 8.5 | 680 | 21.9 | 1420 | 27.9 |
| 80 | 9.4 | 700 | 22.2 | 1440 | 27.8 |
| 90 | 9.8 | 720 | 22.2 | 1460 | 27.8 |
| 100 | 9.7 | 740 | 22.1 | 1480 | 28.0 |
| 110 | 9.3 | 760 | 22.3 | 1500 | 28.5 |
| 120 | 8.8 | 780 | 22.6 | 1520 | 28.9 |
| 130 | 8.7 | 800 | 22.7 | 1540 | 29.6 |
| 140 | 9.2 | 820 | 22.9 | 1560 | 29.8 |
| 150 | 9.8 | 840 | 23.1 | 1580 | 29.6 |
| 160 | 10.2 | 860 | 23.4 | 1600 | 29.5 |
| 170 | 10.4 | 880 | 23.8 | 1620 | 29.3 |
| 180 | 10.4 | 900 | 24.1 | 1640 | 29.2 |
| 190 | 10.3 | 920 | 24.1 | 1660 | 29.4 |
| 200 | 10.6 | 940 | 24.0 | 1680 | 29.6 |
| 220 | 11.6 | 960 | 24.1 | 1700 | 29.8 |
| 240 | 12.4 | 980 | 24.5 | 1720 | 30.3 |
| 260 | 12.8 | 1000 | 24.9 | 1740 | 30.8 |
| 280 | 13.7 | 1020 | 25.0 | 1760 | 31.1 |
| 300 | 14.7 | 1040 | 25.2 | 1780 | 31.0 |
| 320 | 15.2 | 1060 | 25.4 | 1800 | 30.9 |
| 340 | 15.4 | 1080 | 25.6 | 1820 | 30.7 |
| 360 | 16.1 | 1100 | 25.7 | 1840 | 30.6 |
| 380 | 16.4 | 1120 | 26.0 | 1860 | 30.6 |
| 400 | 16.6 | 1140 | 26.4 | 1880 | 30.6 |
| 420 | 16.7 | 1160 | 27.0 | 1900 | 30.6 |
| 440 | 17.0 | 1180 | 27.0 | 1920 | 30.7 |
| 460 | 17.7 | 1200 | 26.7 | 1940 | 30.9 |
| 480 | 18.1 | 1220 | 26.5 | 1960 | 31.2 |
| 500 | 18.5 | 1240 | 26.5 | 1980 | 31.6 |
| 520 | 19.1 | 1260 | 26.5 | 2000 | 32.0 |
| 540 | 19.5 | 1280 | 26.6 | | |
| 560 | 19.8 | 1300 | 27.0 | | |

Antenna factor in dB(1/m) is to be added to receiver meter reading in dB(μV) to convert it into field strength in dB(μV/m).



Antenna factor
Double-ridged wave guide horn antenna
Model 3115, S/N 9911-5964, HL1984

| Frequency, MHz | Antenna factor, dB(1/m) |
|---------------------------|------------------------------------|
| 1000.0 | 24.7 |
| 1500.0 | 25.7 |
| 2000.0 | 27.6 |
| 2500.0 | 28.9 |
| 3000.0 | 31.2 |
| 3500.0 | 32.0 |
| 4000.0 | 32.5 |
| 4500.0 | 32.7 |
| 5000.0 | 33.6 |
| 5500.0 | 35.1 |
| 6000.0 | 35.4 |
| 6500.0 | 34.9 |
| 7000.0 | 36.1 |
| 7500.0 | 37.8 |
| 8000.0 | 38.0 |
| 8500.0 | 38.1 |
| 9000.0 | 39.1 |
| 9500.0 | 38.3 |
| 10000.0 | 38.6 |
| 10500.0 | 38.2 |
| 11000.0 | 38.7 |
| 11500.0 | 39.5 |
| 12000.0 | 40.0 |
| 12500.0 | 40.4 |
| 13000.0 | 40.5 |
| 13500.0 | 41.1 |
| 14000.0 | 41.6 |
| 14500.0 | 41.7 |
| 15000.0 | 38.7 |
| 15500.0 | 38.2 |
| 16000.0 | 38.8 |
| 16500.0 | 40.5 |
| 17000.0 | 42.5 |
| 17500.0 | 45.9 |
| 18000.0 | 49.4 |

Antenna factor in dB(1/m) is to be added to receiver meter reading in dB(μ V) to convert it into field strength in dB(μ V/m).



Antenna factor
Double-ridged guide horn antenna
Model 3115, serial number: 00027177, HL 2432

| Frequency, MHz | Antenna factor. dB(1/m) |
|---------------------------|------------------------------------|
| 1000.0 | 24.7 |
| 1500.0 | 25.7 |
| 2000.0 | 27.8 |
| 2500.0 | 28.9 |
| 3000.0 | 30.7 |
| 3500.0 | 31.8 |
| 4000.0 | 33.0 |
| 4500.0 | 32.8 |
| 5000.0 | 34.2 |
| 5500.0 | 34.9 |
| 6000.0 | 35.2 |
| 6500.0 | 35.4 |
| 7000.0 | 36.3 |
| 7500.0 | 37.3 |
| 8000.0 | 37.5 |
| 8500.0 | 38.0 |
| 9000.0 | 38.3 |
| 9500.0 | 38.3 |
| 10000.0 | 38.7 |
| 10500.0 | 38.7 |
| 11000.0 | 38.9 |
| 11500.0 | 39.5 |
| 12000.0 | 39.5 |
| 12500.0 | 39.4 |
| 13000.0 | 40.5 |
| 13500.0 | 40.8 |
| 14000.0 | 41.5 |
| 14500.0 | 41.3 |
| 15000.0 | 40.2 |
| 15500.0 | 38.7 |
| 16000.0 | 38.5 |
| 16500.0 | 39.8 |
| 17000.0 | 41.9 |
| 17500.0 | 45.8 |
| 18000.0 | 49.1 |

Antenna factor in dB(1/m) is to be added to receiver meter reading in dB(μ V) to convert it into field strength in dB(μ V/m).



Antenna factor, HL 4933



Active Horn Antenna Calibration

1 GHz to 18 GHz

| | |
|------------------------------|----------------------------|
| Equipment: | ACTIVE HORN ANTENNA |
| Model: | AHA-118 |
| Serial Number: | 701046 |
| Calibration Distance: | 3 Meter |
| Polarization: | Horizontal |
| Calibration Date: | 11/12/2014 |

| Frequency (GHz) | Preamplifier Gain (dB) | Antenna Factor with pre-amp (dB/m) | Frequency (GHz) | Preamplifier Gain (dB) | Antenna Factor with pre-amp (dB/m) |
|-----------------|------------------------|------------------------------------|-----------------|------------------------|------------------------------------|
| 1 | 40.96 | -16.47 | 10 | 40.94 | -1.97 |
| 1.5 | 41.21 | -14.53 | 10.5 | 40.63 | -1.06 |
| 2 | 41.44 | -13.30 | 11 | 40.74 | -1.50 |
| 2.5 | 41.71 | -12.87 | 11.5 | 40.65 | -0.52 |
| 3 | 41.96 | -12.26 | 12 | 40.76 | -0.15 |
| 3.5 | 42.14 | -11.77 | 12.5 | 41.03 | -0.85 |
| 4 | 42.13 | -10.91 | 13 | 41.37 | -0.81 |
| 4.5 | 41.79 | -9.41 | 13.5 | 41.18 | 0.05 |
| 5 | 41.44 | -7.54 | 14 | 40.98 | 0.36 |
| 5.5 | 40.91 | -6.47 | 14.5 | 40.81 | 1.26 |
| 6 | 40.69 | -5.48 | 15 | 40.65 | 0.25 |
| 6.5 | 40.64 | -5.53 | 15.5 | 40.93 | -1.05 |
| 7 | 40.76 | -4.12 | 16 | 41.31 | -1.44 |
| 7.5 | 40.94 | -3.12 | 16.5 | 40.96 | -0.80 |
| 8 | 40.68 | -1.69 | 17 | 40.64 | -0.02 |
| 8.5 | 40.08 | -1.71 | 17.5 | 40.57 | 1.81 |
| 9 | 40.41 | -1.86 | 18 | 40.08 | 3.63 |
| 9.5 | 41.21 | -2.73 | | | |

Calibration according to ARP 958

Antenna Factor to be added to receiver reading:

Meter Reading (dBuV) + Antenna Factor (dB/m) = Corrected Reading (dBuV/m)



Antenna factor, HL 4956



Active Horn Antenna Factor Calibration

18 GHz to 40 GHz

| Equipment: | | | ACTIVE HORN ANTENNA | | |
|--|------------------------|------------------------------------|----------------------------|------------------------|------------------------------------|
| Model: | | | AHA-840 | | |
| Serial Number: | | | 105004 | | |
| Calibration Distance: | | | 3 meter | | |
| Polarization: | | | Horizontal | | |
| Calibration Date: | | | 1/26/2015 | | |
| Frequency (GHz) | Preamplifier Gain (dB) | Antenna Factor with pre-amp (dB/m) | Frequency (GHz) | Preamplifier Gain (dB) | Antenna Factor with pre-amp (dB/m) |
| 18 | 38.83 | -1.06 | 29.5 | 42.47 | -5.33 |
| 18.5 | 39.34 | -2.65 | 30 | 41.91 | -4.86 |
| 19 | 39.71 | -3.88 | 30.5 | 41.60 | -4.64 |
| 19.5 | 39.87 | -4.35 | 31 | 41.52 | -4.60 |
| 20 | 39.98 | -3.97 | 31.5 | 41.56 | -4.79 |
| 20.5 | 40.42 | -3.68 | 32 | 41.80 | -5.21 |
| 21 | 41.12 | -4.06 | 32.5 | 42.29 | -5.54 |
| 21.5 | 41.74 | -5.46 | 33 | 42.79 | -5.63 |
| 22 | 42.14 | -6.22 | 33.5 | 42.88 | -5.38 |
| 22.5 | 42.35 | -6.42 | 34 | 42.62 | -4.76 |
| 23 | 42.50 | -6.59 | 34.5 | 42.63 | -4.84 |
| 23.5 | 42.65 | -6.82 | 35 | 43.15 | -5.13 |
| 24 | 42.81 | -7.01 | 35.5 | 43.91 | -5.83 |
| 24.5 | 42.86 | -7.37 | 36 | 44.59 | -6.39 |
| 25 | 42.73 | -7.53 | 36.5 | 45.04 | -6.64 |
| 25.5 | 42.77 | -7.45 | 37 | 45.08 | -6.40 |
| 26 | 42.85 | -7.21 | 37.5 | 44.82 | -5.75 |
| 26.5 | 42.98 | -7.17 | 38 | 44.16 | -4.58 |
| 27 | 43.14 | -7.22 | 38.5 | 42.90 | -2.66 |
| 27.5 | 43.18 | -7.32 | 39 | 42.39 | -1.71 |
| 28 | 43.04 | -7.10 | 39.5 | 43.76 | -2.49 |
| 28.5 | 43.01 | -6.73 | 40 | 45.98 | -5.21 |
| <p>Calibration per ANSI C63.5: 2006 Standard Site Method, Equations 1-6 (3-antenna)</p> <p>Corrected Reading (dBμV/m) = Meter Reading (dBμV) + AFE(dB/m)</p> | | | | | |



Cable loss
Cable coax, RG-214, 12.3 m, s/n 056, HL 0415

| No. | Frequency, MHz | Cable loss, dB | Measured uncertainty, dB |
|-----|----------------|----------------|--------------------------|
| 1 | 10 | 0.23 | ±0.12 |
| 2 | 30 | 0.44 | ±0.12 |
| 3 | 50 | 0.60 | ±0.12 |
| 4 | 100 | 0.89 | ±0.12 |
| 5 | 150 | 1.11 | ±0.13 |
| 6 | 200 | 1.30 | ±0.13 |
| 7 | 250 | 1.45 | ±0.13 |
| 8 | 300 | 1.61 | ±0.13 |
| 9 | 400 | 1.94 | ±0.13 |
| 10 | 500 | 2.18 | ±0.13 |
| 11 | 600 | 2.45 | ±0.14 |
| 12 | 700 | 2.67 | ±0.14 |
| 13 | 800 | 2.94 | ±0.14 |
| 14 | 900 | 3.16 | ±0.14 |
| 15 | 1000 | 3.38 | ±0.14 |



Cable loss
Microwave Cable Assembly, Huber-Suhner, 40 GHz, 3.5 m, SMA-SMA, S/N 1225/2A
HL 3901

| Frequency, MHz | Cable loss, dB | Frequency, MHz | Cable loss, dB | Frequency, MHz | Cable loss, dB |
|----------------|----------------|----------------|----------------|----------------|----------------|
| 10 | 0.09 | 9500 | 4.29 | 21000 | 6.67 |
| 100 | 0.41 | 10000 | 4.40 | 22000 | 6.92 |
| 500 | 0.93 | 10500 | 4.52 | 23000 | 7.00 |
| 1000 | 1.33 | 11000 | 4.64 | 24000 | 7.18 |
| 1500 | 1.63 | 11500 | 4.76 | 25000 | 7.29 |
| 2000 | 1.90 | 12000 | 4.87 | 26000 | 7.55 |
| 2500 | 2.12 | 12500 | 4.99 | 27000 | 7.70 |
| 3000 | 2.33 | 13000 | 5.11 | 28000 | 7.88 |
| 3500 | 2.50 | 13500 | 5.20 | 29000 | 8.02 |
| 4000 | 2.67 | 14000 | 5.31 | 30000 | 8.15 |
| 4500 | 2.82 | 14500 | 5.42 | 31000 | 8.35 |
| 5000 | 2.99 | 15000 | 5.51 | 32000 | 8.40 |
| 5500 | 3.16 | 15500 | 5.58 | 33000 | 8.62 |
| 6000 | 3.32 | 16000 | 5.68 | 34000 | 8.73 |
| 6500 | 3.51 | 16500 | 5.78 | 35000 | 8.78 |
| 7000 | 3.65 | 17000 | 5.91 | 36000 | 8.94 |
| 7500 | 3.79 | 17500 | 5.99 | 37000 | 9.21 |
| 8000 | 3.92 | 18000 | 6.07 | 38000 | 9.37 |
| 8500 | 4.04 | 19000 | 6.36 | 39000 | 9.45 |
| 9000 | 4.18 | 20000 | 6.49 | 40000 | 9.52 |



Cable loss
Test cable, Mini-Circuits, S/N 0748A, 18 GHz, 3.05 m, N/M - N/M
APC-10FT-NMNM+, HL 4277

| Frequency, MHz | Cable loss, dB |
|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 10 | 0.12 | 4400 | 3.19 | 9000 | 4.82 | 13600 | 5.97 |
| 30 | 0.21 | 4500 | 3.24 | 9100 | 4.87 | 13700 | 6.01 |
| 50 | 0.28 | 4600 | 3.29 | 9200 | 4.90 | 13800 | 6.04 |
| 100 | 0.40 | 4700 | 3.34 | 9300 | 4.96 | 13900 | 6.09 |
| 200 | 0.59 | 4800 | 3.37 | 9400 | 4.99 | 14000 | 6.12 |
| 300 | 0.73 | 4900 | 3.41 | 9500 | 5.03 | 14100 | 6.16 |
| 400 | 0.86 | 5000 | 3.45 | 9600 | 5.07 | 14200 | 6.20 |
| 500 | 0.97 | 5100 | 3.48 | 9700 | 5.11 | 14300 | 6.22 |
| 600 | 1.07 | 5200 | 3.52 | 9800 | 5.13 | 14400 | 6.26 |
| 700 | 1.15 | 5300 | 3.56 | 9900 | 5.15 | 14500 | 6.29 |
| 800 | 1.23 | 5400 | 3.58 | 10000 | 5.17 | 14600 | 6.33 |
| 900 | 1.31 | 5500 | 3.62 | 10100 | 5.19 | 14700 | 6.33 |
| 1000 | 1.39 | 5600 | 3.65 | 10200 | 5.19 | 14800 | 6.35 |
| 1100 | 1.46 | 5700 | 3.69 | 10300 | 5.21 | 14900 | 6.38 |
| 1200 | 1.54 | 5800 | 3.72 | 10400 | 5.22 | 15000 | 6.38 |
| 1300 | 1.60 | 5900 | 3.76 | 10500 | 5.22 | 15100 | 6.40 |
| 1400 | 1.67 | 6000 | 3.80 | 10600 | 5.22 | 15200 | 6.42 |
| 1500 | 1.74 | 6100 | 3.84 | 10700 | 5.25 | 15300 | 6.46 |
| 1600 | 1.79 | 6200 | 3.89 | 10800 | 5.25 | 15400 | 6.51 |
| 1700 | 1.86 | 6300 | 3.92 | 10900 | 5.26 | 15500 | 6.55 |
| 1800 | 1.92 | 6400 | 3.96 | 11000 | 5.29 | 15600 | 6.56 |
| 1900 | 1.98 | 6500 | 4.00 | 11100 | 5.30 | 15700 | 6.59 |
| 2000 | 2.04 | 6600 | 4.04 | 11200 | 5.31 | 15800 | 6.60 |
| 2100 | 2.09 | 6700 | 4.07 | 11300 | 5.35 | 15900 | 6.64 |
| 2200 | 2.14 | 6800 | 4.11 | 11400 | 5.36 | 16000 | 6.65 |
| 2300 | 2.20 | 6900 | 4.14 | 11500 | 5.39 | 16100 | 6.65 |
| 2400 | 2.25 | 7000 | 4.17 | 11600 | 5.41 | 16200 | 6.67 |
| 2500 | 2.31 | 7100 | 4.21 | 11700 | 5.45 | 16300 | 6.69 |
| 2600 | 2.36 | 7200 | 4.23 | 11800 | 5.48 | 16400 | 6.71 |
| 2700 | 2.42 | 7300 | 4.27 | 11900 | 5.51 | 16500 | 6.72 |
| 2800 | 2.46 | 7400 | 4.30 | 12000 | 5.53 | 16600 | 6.73 |
| 2900 | 2.51 | 7500 | 4.34 | 12100 | 5.56 | 16700 | 6.75 |
| 3000 | 2.56 | 7600 | 4.37 | 12200 | 5.59 | 16800 | 6.80 |
| 3100 | 2.60 | 7700 | 4.40 | 12300 | 5.61 | 16900 | 6.82 |
| 3200 | 2.65 | 7800 | 4.44 | 12400 | 5.62 | 17000 | 6.85 |
| 3300 | 2.70 | 7900 | 4.47 | 12500 | 5.65 | 17100 | 6.90 |
| 3400 | 2.75 | 8000 | 4.49 | 12600 | 5.68 | 17200 | 6.96 |
| 3500 | 2.80 | 8100 | 4.53 | 12700 | 5.71 | 17300 | 7.02 |
| 3600 | 2.85 | 8200 | 4.57 | 12800 | 5.73 | 17400 | 7.07 |
| 3700 | 2.90 | 8300 | 4.60 | 12900 | 5.76 | 17500 | 7.06 |
| 3800 | 2.95 | 8400 | 4.63 | 13000 | 5.80 | 17600 | 7.06 |
| 3900 | 2.98 | 8500 | 4.67 | 13100 | 5.83 | 17700 | 7.08 |
| 4000 | 3.02 | 8600 | 4.69 | 13200 | 5.86 | 17800 | 7.09 |
| 4100 | 3.07 | 8700 | 4.73 | 13300 | 5.88 | 17900 | 7.07 |
| 4200 | 3.10 | 8800 | 4.76 | 13400 | 5.91 | 18000 | 7.08 |
| 4300 | 3.14 | 8900 | 4.79 | 13500 | 5.94 | | |



Cable loss
Test cable, Mini-Circuits, S/N 0755A, 18 GHz, 4.6 m, N/M - N/M
APC-15FT-NMNM+, HL 4278

| Frequency, MHz | Cable loss, dB |
|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 10 | 0.24 | 4900 | 4.19 | 10000 | 6.47 | 15100 | 8.33 |
| 30 | 0.26 | 5000 | 4.25 | 10100 | 6.50 | 15200 | 8.35 |
| 50 | 0.34 | 5100 | 4.29 | 10200 | 6.52 | 15300 | 8.37 |
| 100 | 0.50 | 5200 | 4.32 | 10300 | 6.57 | 15400 | 8.40 |
| 200 | 0.72 | 5300 | 4.38 | 10400 | 6.59 | 15500 | 8.42 |
| 300 | 0.90 | 5400 | 4.41 | 10500 | 6.61 | 15600 | 8.46 |
| 400 | 1.06 | 5500 | 4.46 | 10600 | 6.64 | 15700 | 8.50 |
| 500 | 1.20 | 5600 | 4.51 | 10700 | 6.64 | 15800 | 8.52 |
| 600 | 1.32 | 5700 | 4.56 | 10800 | 6.65 | 15900 | 8.56 |
| 700 | 1.44 | 5800 | 4.59 | 10900 | 6.68 | 16000 | 8.61 |
| 800 | 1.54 | 5900 | 4.64 | 11000 | 6.68 | 16100 | 8.64 |
| 900 | 1.64 | 6000 | 4.69 | 11100 | 6.69 | 16200 | 8.66 |
| 1000 | 1.74 | 6100 | 4.72 | 11200 | 6.70 | 16300 | 8.70 |
| 1100 | 1.83 | 6200 | 4.77 | 11300 | 6.74 | 16400 | 8.73 |
| 1200 | 1.92 | 6300 | 4.80 | 11400 | 6.78 | 16500 | 8.74 |
| 1300 | 2.01 | 6400 | 4.83 | 11500 | 6.81 | 16600 | 8.75 |
| 1400 | 2.09 | 6500 | 4.89 | 11600 | 6.84 | 16700 | 8.78 |
| 1500 | 2.18 | 6600 | 4.90 | 11700 | 6.87 | 16800 | 8.79 |
| 1600 | 2.25 | 6700 | 4.95 | 11800 | 6.92 | 16900 | 8.81 |
| 1700 | 2.33 | 6800 | 5.01 | 11900 | 6.98 | 17000 | 8.85 |
| 1800 | 2.39 | 6900 | 4.99 | 12000 | 7.02 | 17100 | 8.90 |
| 1900 | 2.47 | 7000 | 5.04 | 12100 | 7.08 | 17200 | 8.95 |
| 2000 | 2.53 | 7100 | 5.11 | 12200 | 7.15 | 17300 | 8.99 |
| 2100 | 2.60 | 7200 | 5.14 | 12300 | 7.20 | 17400 | 9.03 |
| 2200 | 2.67 | 7300 | 5.21 | 12400 | 7.26 | 17500 | 9.07 |
| 2300 | 2.73 | 7400 | 5.29 | 12500 | 7.31 | 17600 | 9.11 |
| 2400 | 2.80 | 7500 | 5.33 | 12600 | 7.36 | 17700 | 9.15 |
| 2500 | 2.87 | 7600 | 5.38 | 12700 | 7.41 | 17800 | 9.19 |
| 2600 | 2.93 | 7700 | 5.46 | 12800 | 7.46 | 17900 | 9.24 |
| 2700 | 3.00 | 7800 | 5.52 | 12900 | 7.51 | 18000 | 9.28 |
| 2800 | 3.06 | 7900 | 5.58 | 13000 | 7.55 | | |
| 2900 | 3.12 | 8000 | 5.64 | 13100 | 7.59 | | |
| 3000 | 3.18 | 8100 | 5.69 | 13200 | 7.65 | | |
| 3100 | 3.24 | 8200 | 5.75 | 13300 | 7.69 | | |
| 3200 | 3.30 | 8300 | 5.80 | 13400 | 7.72 | | |
| 3300 | 3.35 | 8400 | 5.84 | 13500 | 7.78 | | |
| 3400 | 3.42 | 8500 | 5.90 | 13600 | 7.82 | | |
| 3500 | 3.46 | 8600 | 5.97 | 13700 | 7.86 | | |
| 3600 | 3.52 | 8700 | 5.99 | 13800 | 7.91 | | |
| 3700 | 3.57 | 8800 | 6.04 | 13900 | 7.96 | | |
| 3800 | 3.61 | 8900 | 6.10 | 14000 | 8.01 | | |
| 3900 | 3.67 | 9000 | 6.13 | 14100 | 8.06 | | |
| 4000 | 3.71 | 9100 | 6.17 | 14200 | 8.10 | | |
| 4100 | 3.77 | 9200 | 6.23 | 14300 | 8.13 | | |
| 4200 | 3.83 | 9300 | 6.27 | 14400 | 8.16 | | |
| 4300 | 3.89 | 9400 | 6.30 | 14500 | 8.19 | | |
| 4400 | 3.94 | 9500 | 6.35 | 14600 | 8.21 | | |
| 4500 | 4.00 | 9600 | 6.37 | 14700 | 8.23 | | |
| 4600 | 4.05 | 9700 | 6.40 | 14800 | 8.26 | | |
| 4700 | 4.10 | 9800 | 6.44 | 14900 | 8.28 | | |
| 4800 | 4.16 | 9900 | 6.45 | 15000 | 8.30 | | |



Cable loss
Microwave Cable Assembly, 18.0 GHz, 3.4 m, SMA/SMA, Huber-Suhner,
Sucoflex P103, HL 4293

| Frequency, MHz | Cable loss, dB |
|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 50 | 0.20 | 4900 | 2.01 | 9800 | 2.94 | 14700 | 3.85 |
| 100 | 0.28 | 5000 | 2.03 | 9900 | 2.95 | 14800 | 3.87 |
| 200 | 0.39 | 5100 | 2.06 | 10000 | 2.98 | 14900 | 3.89 |
| 300 | 0.48 | 5200 | 2.08 | 10100 | 3.01 | 15000 | 3.94 |
| 400 | 0.55 | 5300 | 2.07 | 10200 | 3.04 | 15100 | 3.94 |
| 500 | 0.61 | 5400 | 2.12 | 10300 | 3.04 | 15200 | 3.91 |
| 600 | 0.68 | 5500 | 2.12 | 10400 | 3.04 | 15300 | 3.93 |
| 700 | 0.73 | 5600 | 2.16 | 10500 | 3.07 | 15400 | 3.94 |
| 800 | 0.78 | 5700 | 2.16 | 10600 | 3.10 | 15500 | 3.96 |
| 900 | 0.83 | 5800 | 2.22 | 10700 | 3.11 | 15600 | 3.96 |
| 1000 | 0.88 | 5900 | 2.24 | 10800 | 3.12 | 15700 | 3.97 |
| 1100 | 0.92 | 6000 | 2.28 | 10900 | 3.15 | 15800 | 4.00 |
| 1200 | 0.96 | 6100 | 2.31 | 11000 | 3.22 | 15900 | 4.01 |
| 1300 | 1.00 | 6200 | 2.32 | 11100 | 3.20 | 16000 | 4.03 |
| 1400 | 1.04 | 6300 | 2.34 | 11200 | 3.19 | 16100 | 4.02 |
| 1500 | 1.07 | 6400 | 2.37 | 11300 | 3.21 | 16200 | 4.05 |
| 1600 | 1.11 | 6500 | 2.38 | 11400 | 3.26 | 16300 | 4.06 |
| 1700 | 1.15 | 6600 | 2.38 | 11500 | 3.27 | 16400 | 4.08 |
| 1800 | 1.19 | 6700 | 2.40 | 11600 | 3.27 | 16500 | 4.07 |
| 1900 | 1.22 | 6800 | 2.42 | 11700 | 3.28 | 16600 | 4.10 |
| 2000 | 1.25 | 6900 | 2.43 | 11800 | 3.32 | 16700 | 4.14 |
| 2100 | 1.28 | 7000 | 2.44 | 11900 | 3.34 | 16800 | 4.12 |
| 2200 | 1.34 | 7100 | 2.48 | 12000 | 3.34 | 16900 | 4.13 |
| 2300 | 1.35 | 7200 | 2.46 | 12100 | 3.35 | 17000 | 4.13 |
| 2400 | 1.39 | 7300 | 2.51 | 12200 | 3.39 | 17100 | 4.19 |
| 2500 | 1.40 | 7400 | 2.53 | 12300 | 3.44 | 17200 | 4.22 |
| 2600 | 1.44 | 7500 | 2.50 | 12400 | 3.44 | 17300 | 4.20 |
| 2700 | 1.47 | 7600 | 2.53 | 12500 | 3.43 | 17400 | 4.21 |
| 2800 | 1.50 | 7700 | 2.63 | 12600 | 3.45 | 17500 | 4.19 |
| 2900 | 1.54 | 7800 | 2.62 | 12700 | 3.47 | 17600 | 4.22 |
| 3000 | 1.56 | 7900 | 2.58 | 12800 | 3.51 | 17700 | 4.24 |
| 3100 | 1.59 | 8000 | 2.64 | 12900 | 3.51 | 17800 | 4.23 |
| 3200 | 1.62 | 8100 | 2.66 | 13000 | 3.52 | 17900 | 4.26 |
| 3300 | 1.64 | 8200 | 2.67 | 13100 | 3.56 | 18000 | 4.27 |
| 3400 | 1.67 | 8300 | 2.63 | 13200 | 3.57 | | |
| 3500 | 1.69 | 8400 | 2.64 | 13300 | 3.58 | | |
| 3600 | 1.72 | 8500 | 2.65 | 13400 | 3.60 | | |
| 3700 | 1.74 | 8600 | 2.68 | 13500 | 3.61 | | |
| 3800 | 1.78 | 8700 | 2.72 | 13600 | 3.66 | | |
| 3900 | 1.80 | 8800 | 2.73 | 13700 | 3.68 | | |
| 4000 | 1.83 | 8900 | 2.74 | 13800 | 3.67 | | |
| 4100 | 1.84 | 9000 | 2.77 | 13900 | 3.68 | | |
| 4200 | 1.86 | 9100 | 2.79 | 14000 | 3.73 | | |
| 4300 | 1.89 | 9200 | 2.82 | 14100 | 3.74 | | |
| 4400 | 1.92 | 9300 | 2.81 | 14200 | 3.74 | | |
| 4500 | 1.94 | 9400 | 2.85 | 14300 | 3.76 | | |
| 4600 | 1.97 | 9500 | 2.89 | 14400 | 3.78 | | |
| 4700 | 1.97 | 9600 | 2.90 | 14500 | 3.81 | | |
| 4800 | 2.01 | 9700 | 2.92 | 14600 | 3.83 | | |



Cable loss
Microwave Cable Assembly, 18.0 GHz, 3.4 m, SMA/SMA, Huber-Suhner,
Sucoflex P103, HL 4294

| Frequency, MHz | Cable loss, dB |
|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 10 | 0.11 | 4900 | 2.09 | 10000 | 2.90 | 15100 | 3.61 |
| 30 | 0.17 | 5000 | 2.10 | 10100 | 2.92 | 15200 | 3.67 |
| 50 | 0.22 | 5100 | 2.14 | 10200 | 2.95 | 15300 | 3.63 |
| 100 | 0.30 | 5200 | 2.16 | 10300 | 2.96 | 15400 | 3.64 |
| 200 | 0.42 | 5300 | 2.17 | 10400 | 2.99 | 15500 | 3.68 |
| 300 | 0.51 | 5400 | 2.19 | 10500 | 2.99 | 15600 | 3.71 |
| 400 | 0.59 | 5500 | 2.19 | 10600 | 3.03 | 15700 | 3.74 |
| 500 | 0.66 | 5600 | 2.22 | 10700 | 3.03 | 15800 | 3.71 |
| 600 | 0.72 | 5700 | 2.24 | 10800 | 3.04 | 15900 | 3.74 |
| 700 | 0.77 | 5800 | 2.23 | 10900 | 3.05 | 16000 | 3.71 |
| 800 | 0.82 | 5900 | 2.26 | 11000 | 3.09 | 16100 | 3.73 |
| 900 | 0.88 | 6000 | 2.27 | 11100 | 3.07 | 16200 | 3.76 |
| 1000 | 0.93 | 6100 | 2.26 | 11200 | 3.08 | 16300 | 3.82 |
| 1100 | 0.98 | 6200 | 2.29 | 11300 | 3.11 | 16400 | 3.90 |
| 1200 | 1.02 | 6300 | 2.30 | 11400 | 3.12 | 16500 | 3.81 |
| 1300 | 1.06 | 6400 | 2.34 | 11500 | 3.11 | 16600 | 3.88 |
| 1400 | 1.10 | 6500 | 2.34 | 11600 | 3.15 | 16700 | 3.87 |
| 1500 | 1.14 | 6600 | 2.36 | 11700 | 3.16 | 16800 | 3.89 |
| 1600 | 1.19 | 6700 | 2.36 | 11800 | 3.18 | 16900 | 3.95 |
| 1700 | 1.23 | 6800 | 2.39 | 11900 | 3.19 | 17000 | 4.02 |
| 1800 | 1.27 | 6900 | 2.39 | 12000 | 3.23 | 17100 | 4.04 |
| 1900 | 1.30 | 7000 | 2.44 | 12100 | 3.25 | 17200 | 3.99 |
| 2000 | 1.35 | 7100 | 2.46 | 12200 | 3.22 | 17300 | 4.03 |
| 2100 | 1.38 | 7200 | 2.44 | 12300 | 3.25 | 17400 | 4.03 |
| 2200 | 1.42 | 7300 | 2.48 | 12400 | 3.25 | 17500 | 4.06 |
| 2300 | 1.45 | 7400 | 2.47 | 12500 | 3.28 | 17600 | 4.05 |
| 2400 | 1.48 | 7500 | 2.48 | 12600 | 3.27 | 17700 | 4.12 |
| 2500 | 1.51 | 7600 | 2.50 | 12700 | 3.27 | 17800 | 4.14 |
| 2600 | 1.55 | 7700 | 2.53 | 12800 | 3.30 | 17900 | 4.18 |
| 2700 | 1.59 | 7800 | 2.56 | 12900 | 3.30 | 18000 | 4.14 |
| 2800 | 1.62 | 7900 | 2.55 | 13000 | 3.27 | | |
| 2900 | 1.65 | 8000 | 2.56 | 13100 | 3.32 | | |
| 3000 | 1.66 | 8100 | 2.56 | 13200 | 3.32 | | |
| 3100 | 1.69 | 8200 | 2.57 | 13300 | 3.32 | | |
| 3200 | 1.71 | 8300 | 2.59 | 13400 | 3.35 | | |
| 3300 | 1.74 | 8400 | 2.62 | 13500 | 3.38 | | |
| 3400 | 1.76 | 8500 | 2.67 | 13600 | 3.39 | | |
| 3500 | 1.78 | 8600 | 2.65 | 13700 | 3.42 | | |
| 3600 | 1.80 | 8700 | 2.68 | 13800 | 3.47 | | |
| 3700 | 1.85 | 8800 | 2.68 | 13900 | 3.45 | | |
| 3800 | 1.88 | 8900 | 2.68 | 14000 | 3.49 | | |
| 3900 | 1.90 | 9000 | 2.74 | 14100 | 3.50 | | |
| 4000 | 1.91 | 9100 | 2.74 | 14200 | 3.55 | | |
| 4100 | 1.93 | 9200 | 2.76 | 14300 | 3.59 | | |
| 4200 | 1.96 | 9300 | 2.78 | 14400 | 3.58 | | |
| 4300 | 1.97 | 9400 | 2.79 | 14500 | 3.56 | | |
| 4400 | 1.99 | 9500 | 2.80 | 14600 | 3.57 | | |
| 4500 | 2.02 | 9600 | 2.83 | 14700 | 3.57 | | |
| 4600 | 2.02 | 9700 | 2.84 | 14800 | 3.57 | | |
| 4700 | 2.04 | 9800 | 2.86 | 14900 | 3.64 | | |
| 4800 | 2.05 | 9900 | 2.92 | 15000 | 3.64 | | |



Cable loss
Low Loss Armored Test Cable, MegaPhase, 18 GHz, 6.2 m, N type-M/N type-M,
NC29-N1N1-244S/N 12025101 003,
HL 4353

| Frequency, MHz | Cable loss, dB | Frequency, MHz | Cable loss, dB |
|---------------------------|---------------------------|---------------------------|---------------------------|
| 50 | 0.20 | 9000 | 2.71 |
| 100 | 0.27 | 9500 | 2.81 |
| 300 | 0.47 | 10000 | 2.90 |
| 500 | 0.61 | 10500 | 2.97 |
| 1000 | 0.87 | 11000 | 3.06 |
| 1500 | 1.07 | 11500 | 3.13 |
| 2000 | 1.24 | 12000 | 3.20 |
| 2500 | 1.39 | 12500 | 3.26 |
| 3000 | 1.53 | 13000 | 3.34 |
| 3500 | 1.65 | 13500 | 3.39 |
| 4000 | 1.77 | 14000 | 3.47 |
| 4500 | 1.89 | 14500 | 3.54 |
| 5000 | 1.99 | 15000 | 3.62 |
| 5500 | 2.07 | 15500 | 3.69 |
| 6000 | 2.20 | 16000 | 3.76 |
| 6500 | 2.30 | 16500 | 3.83 |
| 7000 | 2.39 | 17000 | 3.86 |
| 7500 | 2.51 | 17500 | 3.94 |
| 8000 | 2.58 | 18000 | 4.02 |
| 8500 | 2.65 | | |



14 APPENDIX F Abbreviations and acronyms

| | |
|----------------|---|
| A | ampere |
| AC | alternating current |
| A/m | ampere per meter |
| AVRG | average (detector) |
| cm | centimeter |
| dB | decibel |
| dBm | decibel referred to one milliwatt |
| dB(μ V) | decibel referred to one microvolt |
| dB(μ V/m) | decibel referred to one microvolt per meter |
| dB(μ A) | decibel referred to one microampere |
| DC | direct current |
| EIRP | equivalent isotropically radiated power |
| ERP | effective radiated power |
| EUT | equipment under test |
| F | frequency |
| GHz | gigahertz |
| GND | ground |
| H | height |
| HL | Hermon laboratories |
| Hz | hertz |
| k | kilo |
| kHz | kilohertz |
| LO | local oscillator |
| m | meter |
| MHz | megahertz |
| min | minute |
| mm | millimeter |
| ms | millisecond |
| μ s | microsecond |
| NA | not applicable |
| OATS | open area test site |
| Ω | Ohm |
| PS | power supply |
| ppm | part per million (10^{-6}) |
| QP | quasi-peak |
| RE | radiated emission |
| RF | radio frequency |
| rms | root mean square |
| Rx | receive |
| s | second |
| T | temperature |
| Tx | transmit |
| V | volt |

END OF DOCUMENT