

TEST REPORT

ACCORDING TO: FCC 47 CFR part 15 section 15.255;
RSS-210 issue 10 Annex J, RSS-Gen issue 5 with Am.1

FOR:

Siklu Communication Ltd.

**MultiHaul™ Terragraph Point-to-Multipoint wireless V-Band
system**

Model: MH-N880-CCP-PoE

FCC ID: 2ACYESK-MH60TG-A6

IC:12353A-MH60TGA6

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.
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1 Applicant information

Client name: Siklu Communication Ltd.
Address: 43 Hasivim street, Petach-Tikva 49517, Israel
Telephone: +972 3921 4015
Fax: +972 3921 4162
E-mail: baruch@siklu.com
Contact name: Mr. Baruch Schwarz

2 Equipment under test attributes

Product name: MultiHaul™ Terragraph Point-to-Multipoint wireless
V-Band system
Product type: Transceiver
Model(s): MH-N880-CCP-PoE
Serial number: SC02000001
Hardware version: A0
Software release: 1.1.5
Receipt date 14-Feb-22

3 Manufacturer information

Manufacturer name: Siklu Communication Ltd.
Address: 43 Hasivim street, Petach-Tikva 49517, Israel
Telephone: +972 3921 4015
Fax: +972 3921 4162
E-Mail: baruch@siklu.com
Contact name: Mr. Baruch Schwarz

4 Test details

Project ID: 46018
Location: Hermon Laboratories Ltd. P.O. Box 23, Binyamina 3055001, Israel
Test started: 16-Feb-22
Test completed: 16-Mar-22
Test specification(s): FCC 47CFR part 15 subpart C sec. 15.255;
RSS-210 issue 10 Annex J, RSS-Gen issue 5 with Am.1

5 Tests summary

| Test | Status |
|--|--------|
| Transmitter characteristics | |
| FCC section 15.255(c)(1)(i),(e) / RSS-210 section J.2.2(b), J.4, Transmitter power and power spectral density | Pass |
| FCC section 15.215(c)/ RSS-210 section J.4(c), RSS-Gen, Section 6.7, Occupied bandwidth | Pass |
| FCC section 15.255(d)(2)/ RSS-210 section J.3, Radiated spurious emissions below 40 GHz | Pass |
| FCC section 15.255(d)(3)/ RSS-210 section J.3, Radiated emissions outside assigned band and above 40 GHz up to 200 GHz | Pass |
| FCC section 15.255(f)/ RSS-210 section J.6, Frequency stability | Pass |






Revision history:

| Date | File No. | Change Description |
|------------------|-----------------------|--|
| October 17, 2023 | SIKRAD_FCC.46018_Rev1 | Title page: The model name was corrected |
| April 22, 2022 | SIKRAD_FCC.46018 | Original report |

This test report supersedes the previously issued test report identified by Doc ID: SIKRAD_FCC.46018

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 | 16-Feb-22 – 16-Mar-22 |  |
| Reviewed by: | Mrs. S. Peysahov Sheynin, test engineer, EMC & Radio | 01-Apr-22 |  |
| Approved by: | Mr. S. Samokha, technical manager, EMC & Radio | 10-Apr-22 |  |
| Test Report Correction | | | |
| Prepared by: | Mrs. S. Peysahov Sheynin, test engineer, EMC & Radio | 17-Oct-23 |  |
| Approved by: | Mr. M. Nikishin, group leader, EMC & Radio | 17-Oct-23 |  |

6 EUT description

Note: The following data in this clause is provided by the customer and represents his sole responsibility

6.1 General information

The EUT is the MultiHaul™ TG Node N880 60GHz 4 sectors system, model MH-N880-CCP-PoE. It consists of 4 sectors operating in the 57-66GHz regulated millimeter waves V-band, in a self-backhaul redundant mesh and connecting a suite of MultiHaul TG terminal units (TU).

6.2 Ports and lines

| Port type | Port description | Conn. from | Conn. to | Qty. | Cable type | Cable length, m |
|-----------|------------------|------------|----------------------|------|-------------|-----------------|
| Telecom | Ethernet 1-POE | EUT | POE | 1 | Shielded | 100 |
| Telecom | Ethernet 2-PSE | EUT | Laptop | 1 | Shielded | 100 |
| Telecom | Ethernet 3-SFP | EUT | Not connected | 1 | Fiber optic | 100 |
| Telecom | USB | EUT | For maintenance only | 1 | NA | NA |

6.3 Support and test equipment

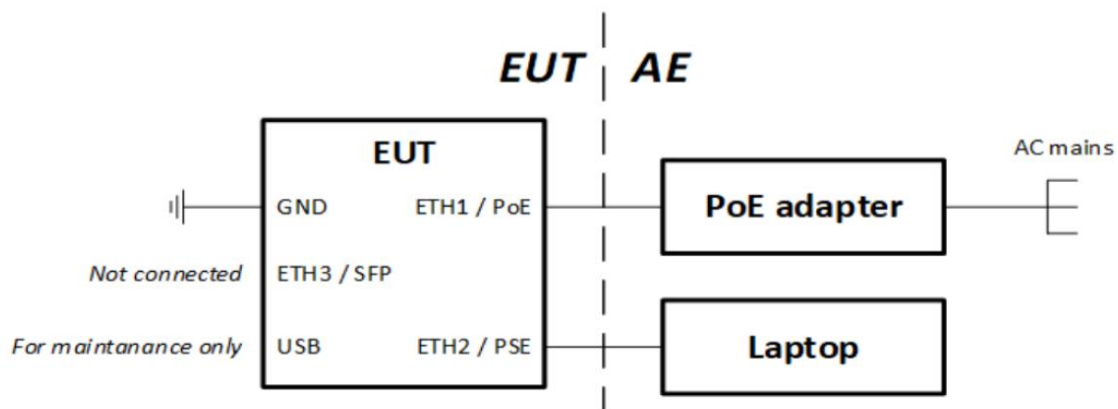
| Description | Manufacturer | Model number | Serial number |
|-------------|-----------------------|--------------|--------------------|
| Laptop | Lenovo | X220 | R9L080Z |
| PoE adapter | Power Dsine Microsemi | PD-9501GC/AC | C18466280000000058 |

6.4 Changes made in the EUT

No changes were performed in the EUT during testing.



6.5 Test configuration





6.6 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) | | |
| Intended use | | Condition of use | |
| V | fixed | Always at a distance more than 2 m from all people | |
| | mobile | Always at a distance more than 20 cm from all people | |
| | portable | May operate at a distance closer than 20 cm to human body | |
| Assigned frequency range | | 57.0 GHz – 66.0 GHz | |
| Operating frequency range | | 58320 -64800 MHz | |
| Test frequencies | | 58320 MHz, 62640 MHz, 64800 MHz | |
| Maximum rated output power | | EIRP | 40.69 dBm |
| Is transmitter output power variable? | | V | No |
| | | | continuous variable |
| | | | stepped variable with stepsize |
| | | | minimum RF power |
| | | | maximum RF power |
| Antenna connection | | | |
| unique coupling | standard connector | V | Integral |
| | | | with temporary RF connector |
| | | | without temporary RF connector |
| Antenna/s technical characteristics | | | |
| Type | Manufacturer | Model number | Gain |
| Patch antenna array | Siklu Ltd. | PCB240A | 22.5 dBi |
| Data Rate Configuration | Transmitter 99% power bandwidth, MHz | Transmitter aggregate data rate/s, Mbps | Type of modulation |
| MCS1 | 2126.9 | 385 | BPSK |
| MCS12 | 2109.4 | 4600 | 16QAM |
| Type of multiplexing | | TDD | |
| Transmitter power source | | | |
| | Nominal rated voltage | Battery type | |
| V | DC | Nominal rated voltage | 48 V via POE |
| | Voltage range | | |
| | AC mains | Nominal rated voltage | 120 V |
| | | Frequency | 60 Hz |
| Common power source for transmitter and receiver | | V | yes |
| | | | no |



| | | | |
|-----------------------|-------------------------|---|---------------|
| Test specification: | | FCC Section 15.255(c)(1)(i),(e), RSS-210 section J.2.2(b), J.4, Transmitter power | |
| Test procedure: | | 47 CFR, Section 2.1046; Section 15.255(b); ANSI C63.10, Sections 9.4, 9.5 | |
| Test mode: | | Verdict: PASS | |
| Date(s): | | | |
| 16-Feb-22 - 17-Feb-22 | | | |
| Temperature: 22 °C | Relative Humidity: 45 % | Air Pressure: 1016 hPa | Power: 48 VDC |
| Remarks: | | | |

7 Transmitter tests

7.1 Transmitter power test

7.1.1 General

This test was performed to measure the peak output power. Specification test limits are given in Table 7.1.1.

Table 7.1.1 Output power limits

| Assigned frequency range, MHz | Maximum output power | | | |
|----------------------------------|-----------------------------|------|-----------|---------|
| | Peak conducted output power | | EIRP, dBm | |
| | mW | dBm | Peak | Average |
| 57000 – 71000 | 500 | 27.0 | 43 | 40 |

7.1.2 Test procedure

- 7.1.2.1 The EUT was set up as shown in Figure 7.1.1, energized and its proper operation was checked.
- 7.1.2.2 The EUT was adjusted to produce maximum available for end user RF output power.
- 7.1.2.3 The average and peak voltage was measured at the low and high frequency channels with oscilloscope connected to RF detector and provided in the associated plots.
- 7.1.2.4 The unmodulated signal was applied to Zero-Biased Detector via variable attenuator as shown in Figure 7.1.2.
- 7.1.2.5 The variable attenuator was adjusted such that the oscilloscope indicated a voltage equal to the peak voltage recorded in the step 7.1.2.3.
- 7.1.2.6 The variable attenuator was disconnected from the Zero-Biased Detector.
- 7.1.2.7 Without changing any settings, the variable attenuator was connected to a power meter as shown in Figure 7.1.3.
- 7.1.2.8 The power was measured and result was recorded in Table 7.1.2 and Table 7.1.3.
- 7.1.2.9 The steps 7.1.2.4 through 7.1.2.8 were repeated for the average voltage recorded in the step 7.1.2.3 and 7.1.2.4.



| | | | |
|-----------------------|-------------------------|---|---------------|
| Test specification: | | FCC Section 15.255(c)(1)(i),(e), RSS-210 section J.2.2(b), J.4, Transmitter power | |
| Test procedure: | | 47 CFR, Section 2.1046; Section 15.255(b); ANSI C63.10, Sections 9.4, 9.5 | |
| Test mode: | | Verdict: PASS | |
| Date(s): | | | |
| 16-Feb-22 - 17-Feb-22 | | | |
| Temperature: 22 °C | Relative Humidity: 45 % | Air Pressure: 1016 hPa | Power: 48 VDC |
| Remarks: | | | |

Figure 7.1.1 Peak output power test setup

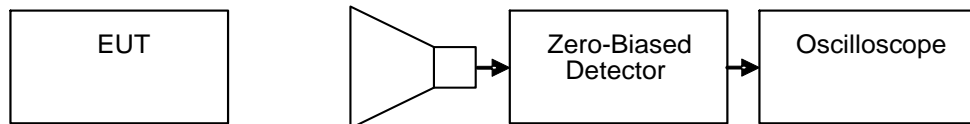


Figure 7.1.2 Peak output power test setup

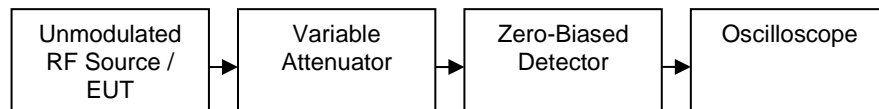
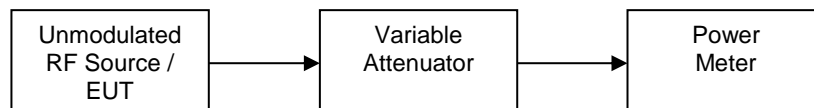


Figure 7.1.3 Peak output power test setup





| | | | |
|-----------------------|-------------------------|---|---------------|
| Test specification: | | FCC Section 15.255(c)(1)(i),(e), RSS-210 section J.2.2(b), J.4, Transmitter power | |
| Test procedure: | | 47 CFR, Section 2.1046; Section 15.255(b); ANSI C63.10, Sections 9.4, 9.5 | |
| Test mode: | | Verdict: PASS | |
| Date(s): | | | |
| 16-Feb-22 - 17-Feb-22 | | | |
| Temperature: 22 °C | Relative Humidity: 45 % | Air Pressure: 1016 hPa | Power: 48 VDC |
| Remarks: | | | |

Table 7.1.2 Peak output power test results

ASSIGNED FREQUENCY RANGE: 57.0 – 71.0 GHz
 DETECTOR USED: Peak
 MEASUREMENTS DISTANCE: 1 m
 TRANSMITTER OUTPUT POWER SETTINGS: Maximum
 EUT ANTENNA GAIN: 22.5 dBi
 ANTENNA GAIN: 24.0 dBi
 MODULATION: 16QAM
 ANTENNA # 1

| Frequency, MHz | λ^* , m | DSO, mV | Power measured, dBm | Antenna Gain, dBi | E_{meas}^{**} , dBuV/m | EIRP ^{***} , dBm | Limit, dBm | Margin ^{****} , dB | Verdict |
|----------------|-----------------|---------|---------------------|-------------------|---------------------------------|---------------------------|------------|-----------------------------|---------|
| 58320 | 0.005144 | 3.38 | -4.79 | 24.0 | 143.78 | 39.08 | 43.0 | -3.92 | Pass |
| 62640 | 0.004789 | 5.44 | -5.37 | 24.0 | 143.83 | 39.13 | 43.0 | -3.87 | Pass |
| 64800 | 0.004630 | 6.26 | -4.17 | 24.0 | 145.32 | 40.62 | 43.0 | -2.38 | Pass |

ANTENNA # 2

| Frequency, MHz | λ^* , m | DSO, mV | Power measured, dBm | Antenna Gain, dBi | E_{meas}^{**} , dBuV/m | EIRP ^{***} , dBm | Limit, dBm | Margin ^{****} , dB | Verdict |
|----------------|-----------------|---------|---------------------|-------------------|---------------------------------|---------------------------|------------|-----------------------------|---------|
| 58320 | 0.005144 | 3.36 | -4.82 | 24.0 | 143.75 | 39.05 | 43.0 | -3.95 | Pass |
| 62640 | 0.004789 | 5.34 | -5.33 | 24.0 | 143.87 | 39.17 | 43.0 | -3.83 | Pass |
| 64800 | 0.004630 | 6.32 | -4.13 | 24.0 | 145.36 | 40.66 | 43.0 | -2.34 | Pass |

ANTENNA # 3

| Frequency, MHz | λ^* , m | DSO, mV | Power measured, dBm | Antenna Gain, dBi | E_{meas}^{**} , dBuV/m | EIRP ^{***} , dBm | Limit, dBm | Margin ^{****} , dB | Verdict |
|----------------|-----------------|---------|---------------------|-------------------|---------------------------------|---------------------------|------------|-----------------------------|---------|
| 58320 | 0.005144 | 3.46 | -4.89 | 24.0 | 143.68 | 38.98 | 43.0 | -4.02 | Pass |
| 62640 | 0.004789 | 5.32 | -5.39 | 24.0 | 143.81 | 39.11 | 43.0 | -3.89 | Pass |
| 64800 | 0.004630 | 6.16 | -4.10 | 24.0 | 145.39 | 40.69 | 43.0 | -2.31 | Pass |

ANTENNA # 4

| Frequency, MHz | λ^* , m | DSO, mV | Power measured, dBm | Antenna Gain, dBi | E_{meas}^{**} , dBuV/m | EIRP ^{***} , dBm | Limit, dBm | Margin ^{****} , dB | Verdict |
|----------------|-----------------|---------|---------------------|-------------------|---------------------------------|---------------------------|------------|-----------------------------|---------|
| 58320 | 0.005144 | 3.50 | -4.83 | 24.0 | 143.74 | 39.04 | 43.0 | -3.96 | Pass |
| 62640 | 0.004789 | 5.28 | -5.36 | 24.0 | 143.84 | 39.14 | 43.0 | -3.86 | Pass |
| 64800 | 0.004630 | 6.24 | -4.16 | 24.0 | 145.33 | 40.63 | 43.0 | -2.37 | Pass |

Note: Max peak conducted power is 40.69 dBm – 22.5 dBi = 18.19 dBm

* - $\lambda = 300/\text{Frequency(MHz)}$

** - $E_{\text{meas}} = 126.8 - 20\log(\lambda) + \text{Power measured} - \text{Measurement Antenna Gain (24 dBi)}$

*** - $\text{EIRP} = E_{\text{meas}} + 20\log(\text{Measurements distance}) - 104.7$

**** - $\text{Margin} = \text{EIRP} - \text{Limit}$



| | | | |
|-----------------------|-------------------------|---|---------------|
| Test specification: | | FCC Section 15.255(c)(1)(i),(e), RSS-210 section J.2.2(b), J.4, Transmitter power | |
| Test procedure: | | 47 CFR, Section 2.1046; Section 15.255(b); ANSI C63.10, Sections 9.4, 9.5 | |
| Test mode: | | Verdict: PASS | |
| Date(s): | | | |
| 16-Feb-22 - 17-Feb-22 | | | |
| Temperature: 22 °C | Relative Humidity: 45 % | Air Pressure: 1016 hPa | Power: 48 VDC |
| Remarks: | | | |

Table 7.1.3 Average output power test results

ASSIGNED FREQUENCY RANGE: 57.0 – 71.0 GHz
 DETECTOR USED: Average
 MEASUREMENTS DISTANCE: 1 m
 TRANSMITTER OUTPUT POWER SETTINGS: Maximum
 EUT ANTENNA GAIN: 22.5 dBi
 ANTENNA GAIN: 24.0 dBi
 MODULATION: 16QAM
 ANTENNA # 1

| Frequency, MHz | λ^* , m | DSO, mV | Power measured, dBm | Antenna Gain, dBi | E_{meas}^{**} , dBuV/m | EIRP ^{***} , dBm | Limit, dBm | Margin ^{****} , dB | Verdict |
|----------------|-----------------|---------|---------------------|-------------------|---------------------------------|---------------------------|------------|-----------------------------|---------|
| 58320 | 0.005144 | 2.44 | -5.44 | 24.0 | 143.13 | 38.43 | 40.0 | -1.57 | Pass |
| 62640 | 0.004789 | 3.98 | -4.59 | 24.0 | 144.61 | 39.91 | 40.0 | -0.09 | Pass |
| 64800 | 0.004630 | 4.95 | -4.83 | 24.0 | 144.66 | 39.96 | 40.0 | -0.04 | Pass |

ANTENNA # 2

| Frequency, MHz | λ^* , m | DSO, mV | Power measured, dBm | Antenna Gain, dBi | E_{meas}^{**} , dBuV/m | EIRP ^{***} , dBm | Limit, dBm | Margin ^{****} , dB | Verdict |
|----------------|-----------------|---------|---------------------|-------------------|---------------------------------|---------------------------|------------|-----------------------------|---------|
| 58320 | 0.005144 | 2.51 | -5.38 | 24.0 | 143.19 | 38.49 | 40.0 | -1.51 | Pass |
| 62640 | 0.004789 | 3.96 | -4.61 | 24.0 | 144.59 | 39.89 | 40.0 | -0.11 | Pass |
| 64800 | 0.00463 | 5.05 | -4.82 | 24.0 | 144.67 | 39.97 | 40.0 | -0.03 | Pass |

ANTENNA # 3

| Frequency, MHz | λ^* , m | DSO, mV | Power measured, dBm | Antenna Gain, dBi | E_{meas}^{**} , dBuV/m | EIRP ^{***} , dBm | Limit, dBm | Margin ^{****} , dB | Verdict |
|----------------|-----------------|---------|---------------------|-------------------|---------------------------------|---------------------------|------------|-----------------------------|---------|
| 58320 | 0.005144 | 2.62 | -5.36 | 24.0 | 143.21 | 38.51 | 40.0 | -1.49 | Pass |
| 62640 | 0.004789 | 4.04 | -4.66 | 24.0 | 144.54 | 39.84 | 40.0 | -0.16 | Pass |
| 64800 | 0.00463 | 4.97 | -4.92 | 24.0 | 144.57 | 39.87 | 40.0 | -0.13 | Pass |

ANTENNA # 4

| Frequency, MHz | λ^* , m | DSO, mV | Power measured, dBm | Antenna Gain, dBi | E_{meas}^{**} , dBuV/m | EIRP ^{***} , dBm | Limit, dBm | Margin ^{****} , dB | Verdict |
|----------------|-----------------|---------|---------------------|-------------------|---------------------------------|---------------------------|------------|-----------------------------|---------|
| 58320 | 0.005144 | 2.71 | -5.31 | 24.0 | 143.26 | 38.56 | 40.0 | -1.44 | Pass |
| 62640 | 0.004789 | 4.01 | -4.55 | 24.0 | 144.65 | 39.95 | 40.0 | -0.05 | Pass |
| 64800 | 0.00463 | 5.04 | -4.86 | 24.0 | 144.63 | 39.93 | 40.0 | -0.07 | Pass |

* - $\lambda = 300/\text{Frequency(MHz)}$

** - $E_{\text{meas}} = 126.8 - 20\log(\lambda) + \text{Power measured} - \text{Measurement Antenna Gain (24 dBi)}$

*** - $\text{EIRP} = E_{\text{meas}} + 20\log(\text{Measurements distance}) - 104.7$

**** - $\text{Margin} = \text{EIRP} - \text{Limit}$

Reference numbers of test equipment used

| | | | | | | | |
|---------|---------|---------|---------|---------|---------|---------|---------|
| HL 5376 | HL 5377 | HL 5371 | HL 4856 | HL 3293 | HL 3901 | HL 5380 | HL 5377 |
| HL 0771 | | | | | | | |

Full description is given in Appendix A.



HERMON LABORATORIES

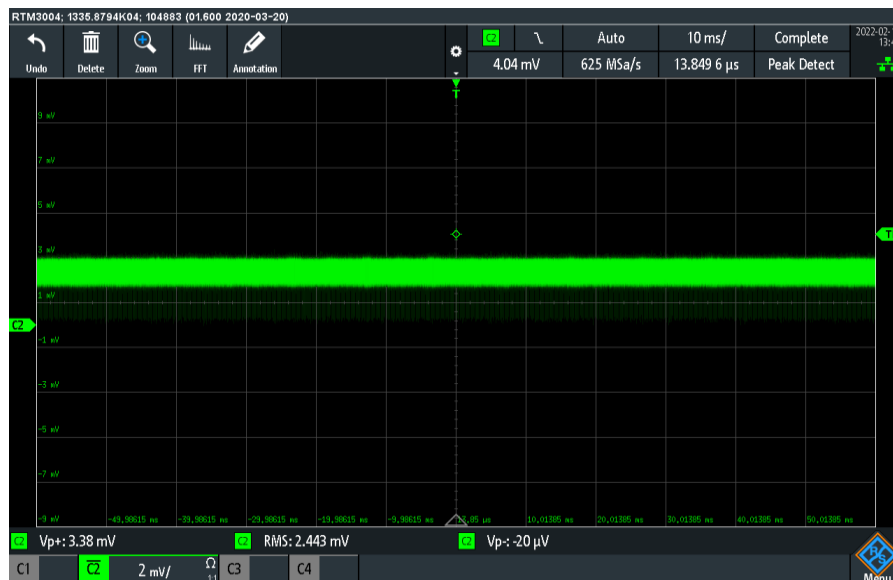
Report ID: SIKRAD_FCC.46018_Rev1.docx

Date of Issue: 17-Oct-23

| | | | |
|-----------------------|-------------------------|---|---------------|
| Test specification: | | FCC Section 15.255(c)(1)(i),(e), RSS-210 section J.2.2(b), J.4, Transmitter power | |
| Test procedure: | | 47 CFR, Section 2.1046; Section 15.255(b); ANSI C63.10, Sections 9.4, 9.5 | |
| Test mode: | | Verdict: PASS | |
| Date(s): | | | |
| 16-Feb-22 - 17-Feb-22 | | | |
| Temperature: 22 °C | Relative Humidity: 45 % | Air Pressure: 1016 hPa | Power: 48 VDC |
| Remarks: | | | |

Plot 7.1.1 Output power test result at the 58.32 GHz frequency

| | |
|-------------|--------------|
| DETECTOR: | Peak/Average |
| MODULATION: | 16QAM |
| ANTENNA # | 1 |



| | |
|-------------|--------------|
| DETECTOR: | Peak/Average |
| MODULATION: | 16QAM |
| ANTENNA # | 2 |





RTM3004: 1335.6794K04: 104083 (01.600 2020-03-20)

Undo Delete Zoom FFT Annotation

4.04 mV 625 M5a/s 10 ms/ 13.849 6 μs Complete Peak Detect

2022-02-14 3:14:33

5 mV 3 mV 1 mV 0 mV -1 mV -3 mV -5 mV -7 mV -9 mV

40.000 ns 20.000 ns 10.000 ns 5.000 ns 2.500 ns 1.250 ns 625 ns 312.5 ns 156.25 ns 78.125 ns 39.0625 ns 19.53125 ns 9.765625 ns 4.8828125 ns 2.44140625 ns 1.220703125 ns 610.3515625 ns 305.17578125 ns 152.587890625 ns 76.2939453125 ns 38.14697265625 ns 19.073486328125 ns 9.5367431640625 ns 4.76837158203125 ns 2.384185791015625 ns 1.1920928955078125 ns 0.5960464477539062 ns 0.2980232238769531 ns 0.14901161193847656 ns 0.07450580596923828 ns 0.03725290298461914 ns 0.01862645149230957 ns 0.009313225746154785 ns 0.004656612873077392 ns 0.002328306436538696 ns 0.001164153218269348 ns 0.000582076609134674 ns 0.000291038304567337 ns 0.0001455191522836685 ns 7.275957612636925e-05 ns 3.637978806318462e-05 ns 1.818989403159231e-05 ns 9.094947015796155e-06 ns 4.547473507898077e-06 ns 2.273736753949038e-06 ns 1.136868376974519e-06 ns 5.684341884872595e-07 ns 2.842170942436297e-07 ns 1.421085471218148e-07 ns 7.10542735609074e-08 ns 3.55271367804537e-08 ns 1.776356839022685e-08 ns 8.881784195113425e-09 ns 4.440892097556712e-09 ns 2.220446048778356e-09 ns 1.110223024389178e-09 ns 5.55111512194589e-10 ns 2.775557560972945e-10 ns 1.387778780486472e-10 ns 6.93889390243236e-11 ns 3.46944695121618e-11 ns 1.73472347560809e-11 ns 8.67361737804045e-12 ns 4.336808689020225e-12 ns 2.168404344510112e-12 ns 1.084202172255056e-12 ns 5.42101086127528e-13 ns 2.71050543063764e-13 ns 1.35525271531882e-13 ns 6.7762635765941e-14 ns 3.38813178829705e-14 ns 1.694065894148525e-14 ns 8.470329470742625e-15 ns 4.235164735371312e-15 ns 2.117582367685656e-15 ns 1.058791183842828e-15 ns 5.29395591921414e-16 ns 2.64697795960707e-16 ns 1.323488979803535e-16 ns 6.617444899017675e-17 ns 3.308722449508837e-17 ns 1.654361224754419e-17 ns 8.271806123772095e-18 ns 4.135903061886047e-18 ns 2.067951530943023e-18 ns 1.033975765471512e-18 ns 5.16987882735756e-19 ns 2.58493941367878e-19 ns 1.29246970683939e-19 ns 6.46234853419695e-20 ns 3.231174267098475e-20 ns 1.615587133549237e-20 ns 8.077935667746185e-21 ns 4.038967833873092e-21 ns 2.019483916936546e-21 ns 1.009741958468273e-21 ns 5.048709792341365e-22 ns 2.524354896170682e-22 ns 1.262177448085341e-22 ns 6.310887240426705e-23 ns 3.155443620213352e-23 ns 1.577721810106676e-23 ns 7.88860905053338e-24 ns 3.94430452526669e-24 ns 1.972152262633345e-24 ns 9.860761313166725e-25 ns 4.930380656583362e-25 ns 2.465190328291681e-25 ns 1.232595164145841e-25 ns 6.162975820729205e-26 ns 3.081487910364602e-26 ns 1.540743955182301e-26 ns 7.703719775911505e-27 ns 3.851859887955752e-27 ns 1.925929943977876e-27 ns 9.62964971988938e-28 ns 4.81482485994469e-28 ns 2.407412429972345e-28 ns 1.203706214986172e-28 ns 6.01853107493086e-29 ns 3.00926553746543e-29 ns 1.504632768732715e-29 ns 7.523163843663575e-30 ns 3.761581921831787e-30 ns 1.880790960915894e-30 ns 9.40395480457947e-31 ns 4.701977402289735e-31 ns 2.350988701144867e-31 ns 1.175494350572434e-31 ns 5.87747175286217e-32 ns 2.938735876431085e-32 ns 1.469367938215542e-32 ns 7.34683969107771e-33 ns 3.673419845538855e-33 ns 1.836709922769427e-33 ns 9.183549613847135e-34 ns 4.591774806923567e-34 ns 2.295887403461783e-34 ns 1.147943701730892e-34 ns 5.73971850865446e-35 ns 2.86985925432723e-35 ns 1.434929627163615e-35 ns 7.174648135818075e-36 ns 3.587324067909037e-36 ns 1.793662033954519e-36 ns 8.968310169772595e-37 ns 4.484155084886297e-37 ns 2.242077542443148e-37 ns 1.121038771221574e-37 ns 5.60519385610787e-38 ns 2.802596928053935e-38 ns 1.401298464026967e-38 ns 7.006492320134835e-39 ns 3.503246160067417e-39 ns 1.751623080033709e-39 ns 8.758115400168545e-40 ns 4.379057700084272e-40 ns 2.189528850042136e-40 ns 1.094764425021068e-40 ns 5.47382212510534e-41 ns 2.73691106255267e-41 ns 1.368455531276335e-41 ns 6.842277656381675e-42 ns 3.421138828190837e-42 ns 1.710569414095419e-42 ns 8.552847070477095e-43 ns 4.276423535238547e-43 ns 2.138211767619273e-43 ns 1.069105883809637e-43 ns 5.345529419048185e-44 ns 2.672764709524092e-44 ns 1.336382354762046e-44 ns 6.68191177381023e-45 ns 3.340955886905115e-45 ns 1.670477943452557e-45 ns 8.352389717262785e-46 ns 4.176194858631392e-46 ns 2.088097429315696e-46 ns 1.044048714657848e-46 ns 5.22024357328924e-47 ns 2.61012178664462e-47 ns 1.30506089332231e-47 ns 6

[illegible]





HERMON LABORATORIES

| | | | |
|-----------------------|-------------------------|---|---------------|
| Test specification: | | FCC Section 15.255(c)(1)(i),(e), RSS-210 section J.2.2(b), J.4, Transmitter power | |
| Test procedure: | | 47 CFR, Section 2.1046; Section 15.255(b); ANSI C63.10, Sections 9.4, 9.5 | |
| Test mode: | | Verdict: PASS | |
| Date(s): | | | |
| 16-Feb-22 - 17-Feb-22 | | | |
| Temperature: 22 °C | Relative Humidity: 45 % | Air Pressure: 1016 hPa | Power: 48 VDC |
| Remarks: | | | |

Plot 7.1.6 Output power test result at the 64.80 GHz frequency

| | |
|-------------|--------------|
| DETECTOR: | Peak/Average |
| MODULATION: | 16QAM |
| ANTENNA # | 3 |



| | |
|-------------|--------------|
| DETECTOR: | Peak/Average |
| MODULATION: | 16QAM |
| ANTENNA # | 4 |





| | | | |
|----------------------------|--------------------------------|--|----------------------|
| Test specification: | | FCC Section 15.215(c), RSS-210 section J.4(c), RSS-Gen section 6.7, Occupied bandwidth | |
| Test procedure: | | 47 CFR, Section 2.1049, ANSI C63.10, Section 9.3 | |
| Test mode: | | Verdict: PASS | |
| Date(s): | | | |
| 16-Feb-22 - 17-Feb-22 | | | |
| Temperature: 22 °C | Relative Humidity: 45 % | Air Pressure: 1016 hPa | Power: 48 VDC |
| Remarks: | | | |

7.2 Occupied bandwidth test

7.2.1 General

This test was performed to measure transmitter occupied bandwidth. Specification test limits are given in Table 7.2.1.

Table 7.2.1 Occupied bandwidth limits

| Assigned frequency range, MHz | Modulation envelope reference points | |
|-------------------------------|--------------------------------------|-----|
| | 6 dBc | 99% |
| 57000 - 71000 | | |

NOTE: Modulation envelope reference points provided in terms of attenuation below unmodulated 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 EUT was set to transmit modulated carrier as provided in Table 7.2.2.

7.2.2.3 The transmitter occupied bandwidth was measured with spectrum analyzer as frequency delta between reference points on modulation envelope. The test results are provided in Table 7.2.2 and the associated plots.

Figure 7.2.1 Occupied bandwidth test setup





| | | | |
|----------------------------|---|-------------------------------|----------------------|
| Test specification: | FCC Section 15.215(c), RSS-210 section J.4(c), RSS-Gen section 6.7, Occupied bandwidth | | |
| Test procedure: | 47 CFR, Section 2.1049, ANSI C63.10, Section 9.3 | | |
| Test mode: | Compliance | Verdict: | PASS |
| Date(s): | 16-Feb-22 - 17-Feb-22 | | |
| Temperature: 22 °C | Relative Humidity: 45 % | Air Pressure: 1016 hPa | Power: 48 VDC |
| Remarks: | | | |

Table 7.2.2 Occupied bandwidth test results

ASSIGNED FREQUENCY RANGE: 57000 –71000 MHz
DETECTOR USED: Peak
MODULATION: 16QAM

| Frequency, GHz | Antenna # | Occupied bandwidth 6 dBc, MHz | Occupied bandwidth 99%, MHz | Verdict |
|----------------|-----------|-------------------------------|-----------------------------|---------|
| 58.32 | 1 | 1492.0 | 1961.1 | Pass |
| | 2 | 1489.0 | 1971.0 | Pass |
| | 3 | 1492.0 | 1961.4 | Pass |
| | 4 | 1447.0 | 1955.4 | Pass |
| 62.64 | 1 | 1582.0 | 1948.6 | Pass |
| | 2 | 1671.0 | 2003.4 | Pass |
| | 3 | 1520.0 | 1974.9 | Pass |
| | 4 | 1671.0 | 1973.9 | Pass |
| 64.80 | 1 | 1965.0 | 1959.3 | Pass |
| | 2 | 1619.0 | 1946.8 | Pass |
| | 3 | 1506.0 | 1949.1 | Pass |
| | 4 | 1564.0 | 1919.0 | Pass |

Reference numbers of test equipment used

| | | | | | | | |
|---------|---------|---------|--|--|--|--|--|
| HL 0771 | HL 5376 | HL 5380 | | | | | |
|---------|---------|---------|--|--|--|--|--|

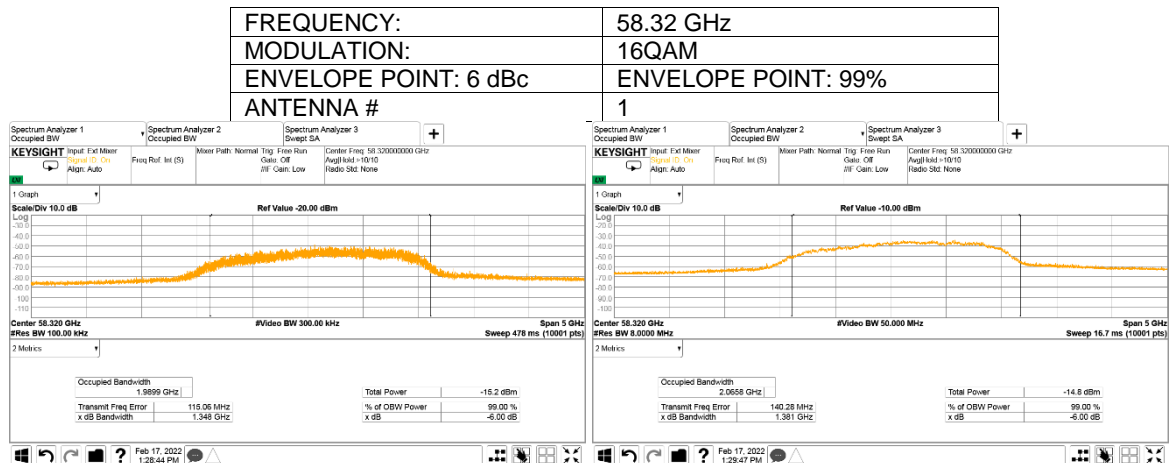
Full description is given in Appendix A.



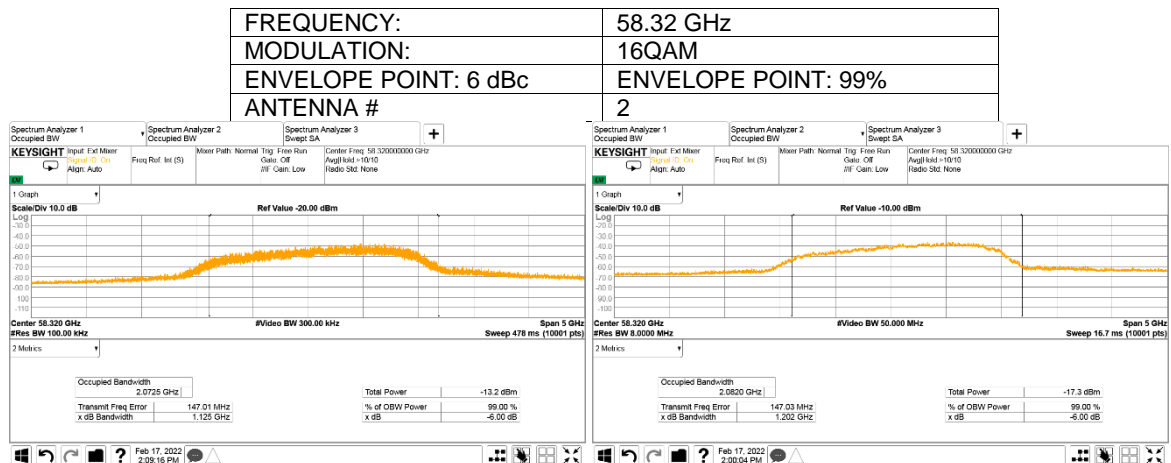
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| | | | |
|---------------------|-------------------------|--|---------------|
| Test specification: | | FCC Section 15.215(c), RSS-210 section J.4(c), RSS-Gen section 6.7, Occupied bandwidth | |
| Test procedure: | | 47 CFR, Section 2.1049, ANSI C63.10, Section 9.3 | |
| Test mode: | | Compliance | Verdict: PASS |
| Date(s): | | 16-Feb-22 - 17-Feb-22 | |
| Temperature: 22 °C | Relative Humidity: 45 % | Air Pressure: 1016 hPa | Power: 48 VDC |
| Remarks: | | | |

Plot 7.2.1 The 6dBc and 99% occupied bandwidth



Plot 7.2.2 The 6dBc and 99% occupied bandwidth

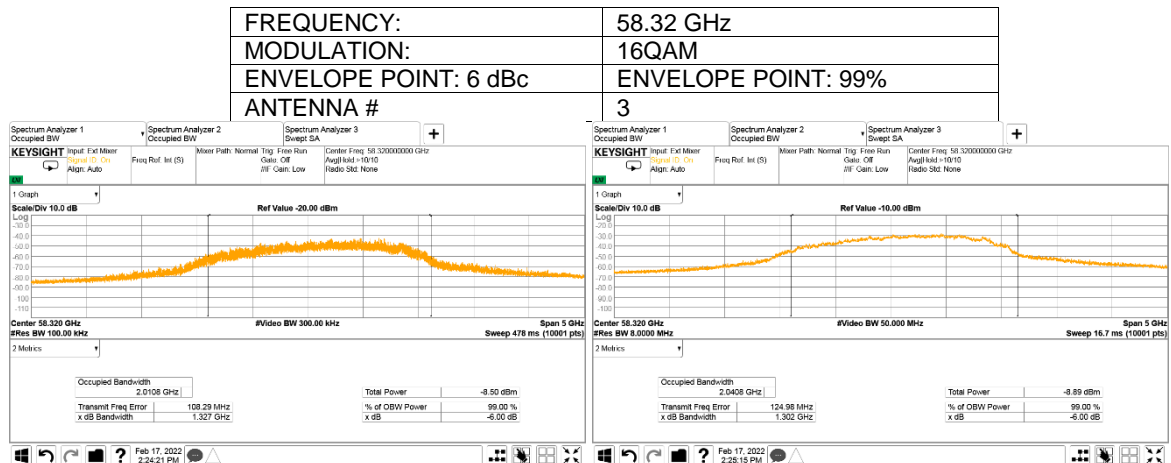




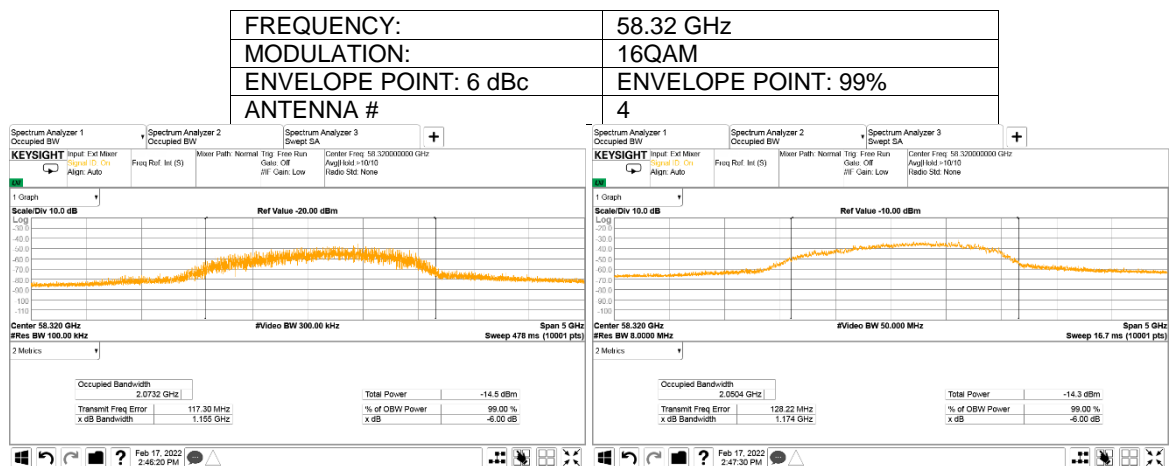
HERMON LABORATORIES

| | | | |
|---------------------|-------------------------|--|---------------|
| Test specification: | | FCC Section 15.215(c), RSS-210 section J.4(c), RSS-Gen section 6.7, Occupied bandwidth | |
| Test procedure: | | 47 CFR, Section 2.1049, ANSI C63.10, Section 9.3 | |
| Test mode: | | Compliance | Verdict: PASS |
| Date(s): | | 16-Feb-22 - 17-Feb-22 | |
| Temperature: 22 °C | Relative Humidity: 45 % | Air Pressure: 1016 hPa | Power: 48 VDC |
| Remarks: | | | |

Plot 7.2.3 The 6dBc and 99% occupied bandwidth



Plot 7.2.4 The 6dBc and 99% occupied bandwidth

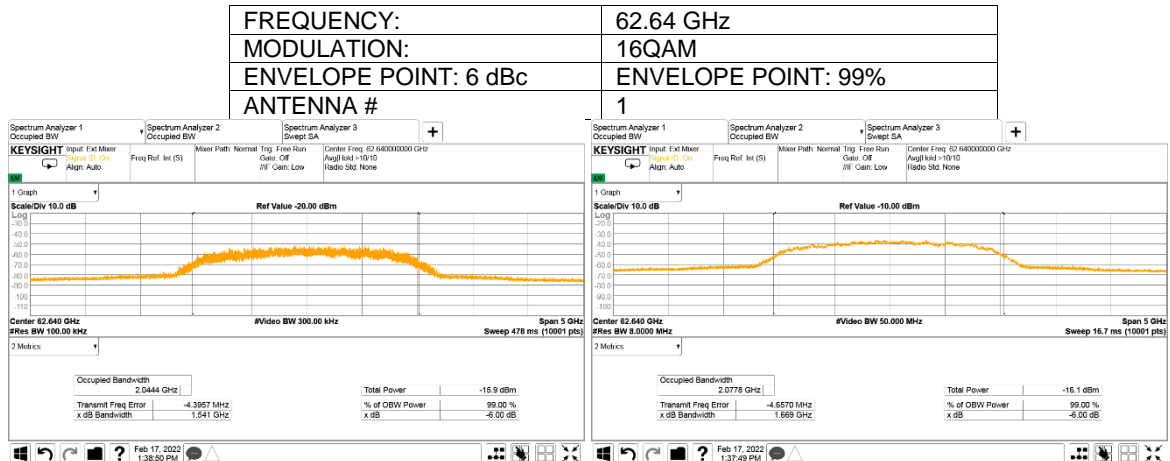




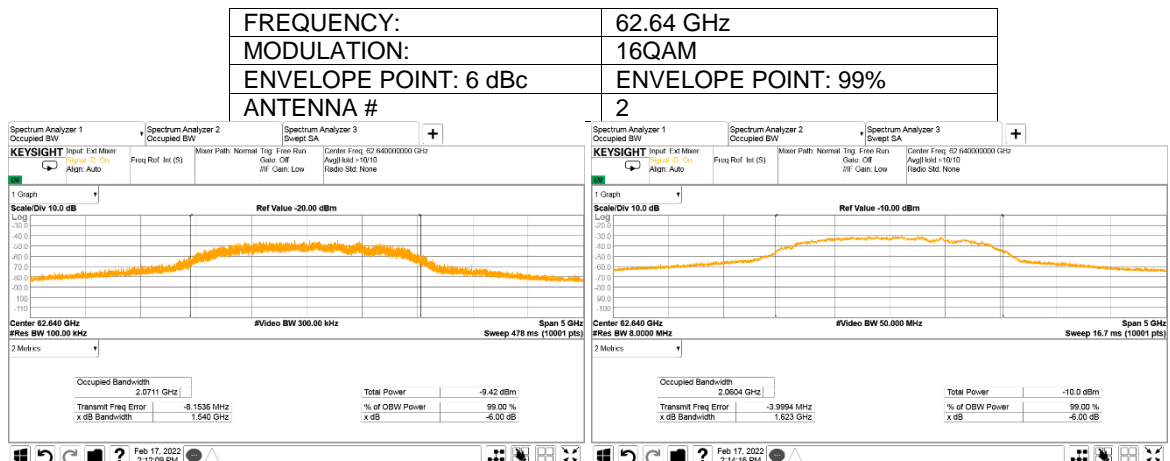
HERMON LABORATORIES

| | | | |
|---------------------|-------------------------|--|---------------|
| Test specification: | | FCC Section 15.215(c), RSS-210 section J.4(c), RSS-Gen section 6.7, Occupied bandwidth | |
| Test procedure: | | 47 CFR, Section 2.1049, ANSI C63.10, Section 9.3 | |
| Test mode: | | Compliance | Verdict: PASS |
| Date(s): | | 16-Feb-22 - 17-Feb-22 | |
| Temperature: 22 °C | Relative Humidity: 45 % | Air Pressure: 1016 hPa | Power: 48 VDC |
| Remarks: | | | |

Plot 7.2.5 The 6dBc and 99% occupied bandwidth



Plot 7.2.6 The 6dBc and 99% occupied bandwidth

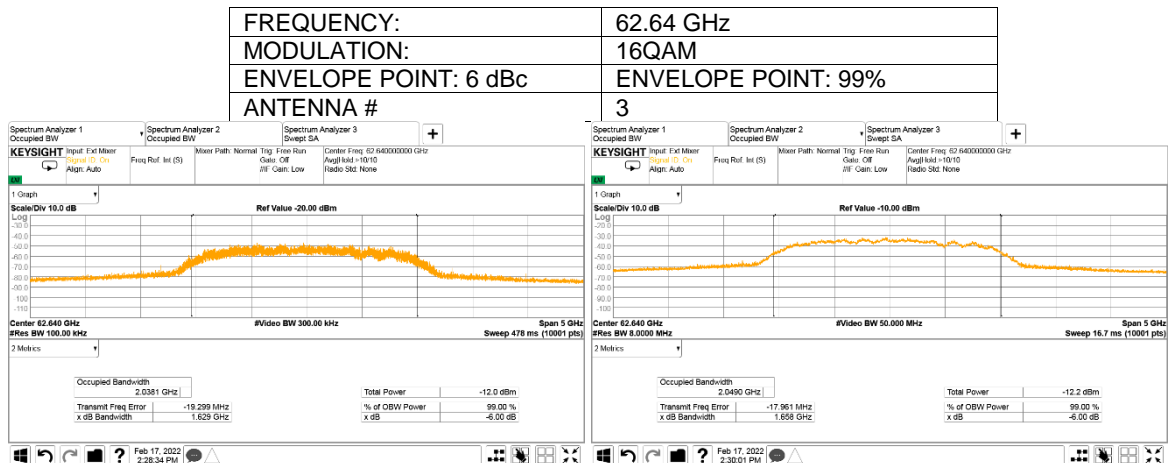




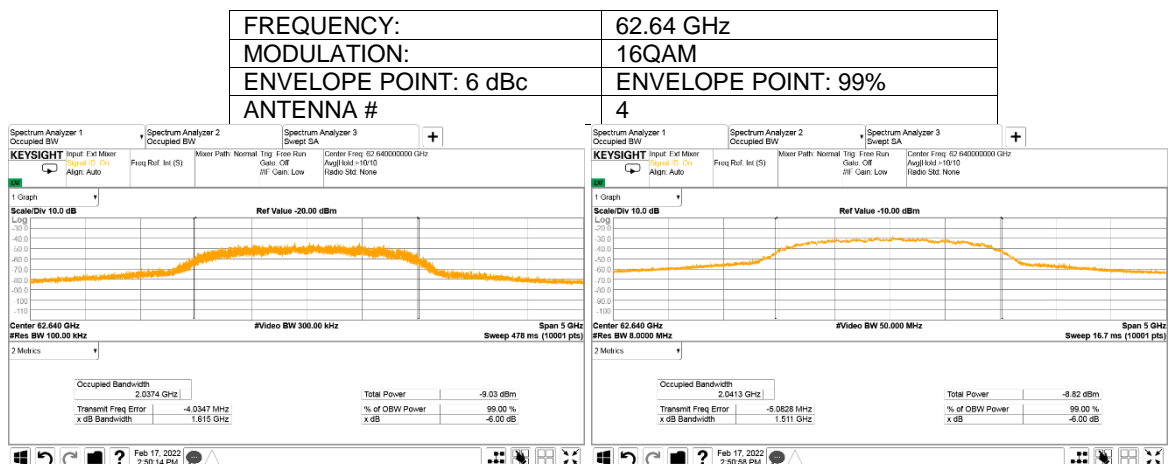
HERMON LABORATORIES

| | | | |
|---------------------|-------------------------|--|---------------|
| Test specification: | | FCC Section 15.215(c), RSS-210 section J.4(c), RSS-Gen section 6.7, Occupied bandwidth | |
| Test procedure: | | 47 CFR, Section 2.1049, ANSI C63.10, Section 9.3 | |
| Test mode: | | Compliance | Verdict: PASS |
| Date(s): | | 16-Feb-22 - 17-Feb-22 | |
| Temperature: 22 °C | Relative Humidity: 45 % | Air Pressure: 1016 hPa | Power: 48 VDC |
| Remarks: | | | |

Plot 7.2.7 The 6dBc and 99% occupied bandwidth



Plot 7.2.8 The 6dBc and 99% occupied bandwidth

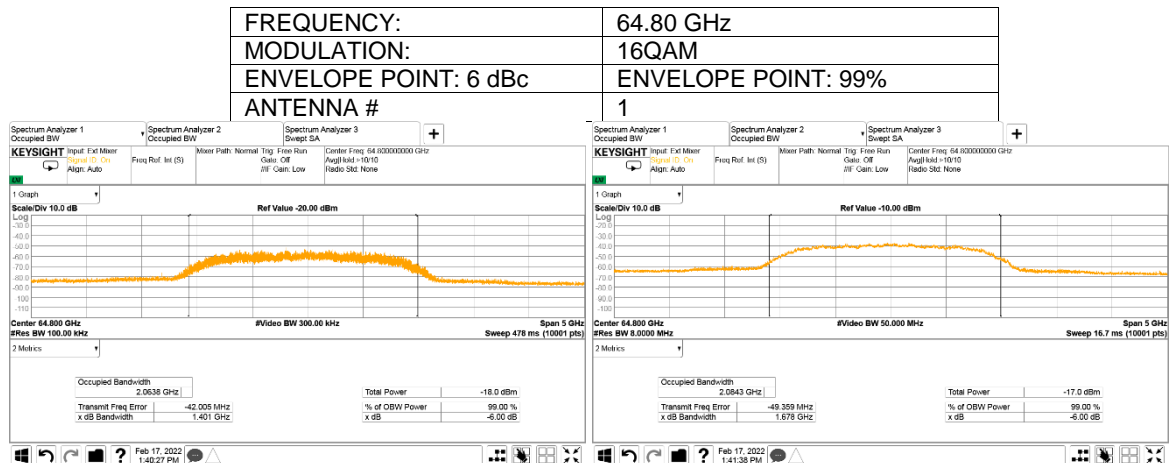




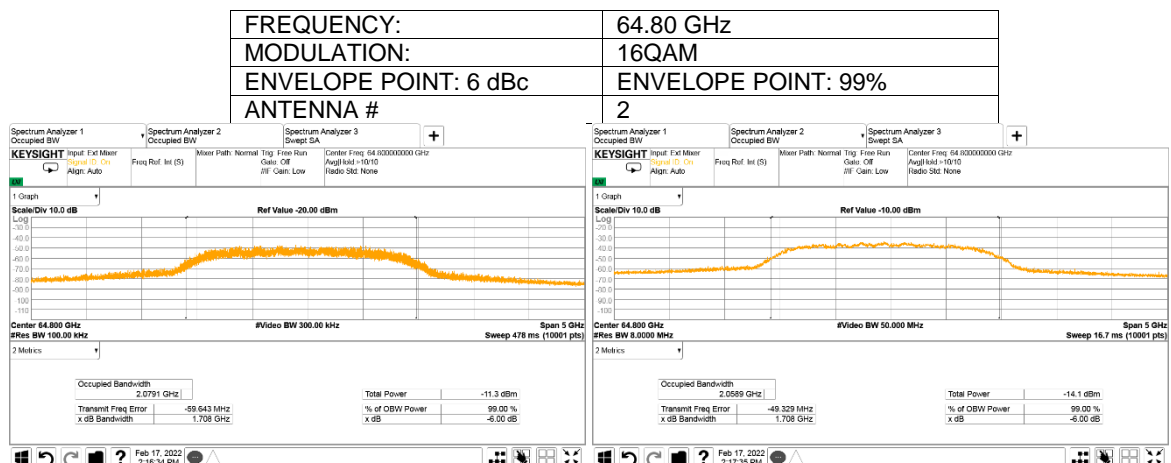
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| | | | |
|---------------------|-------------------------|--|---------------|
| Test specification: | | FCC Section 15.215(c), RSS-210 section J.4(c), RSS-Gen section 6.7, Occupied bandwidth | |
| Test procedure: | | 47 CFR, Section 2.1049, ANSI C63.10, Section 9.3 | |
| Test mode: | | Compliance | Verdict: PASS |
| Date(s): | | 16-Feb-22 - 17-Feb-22 | |
| Temperature: 22 °C | Relative Humidity: 45 % | Air Pressure: 1016 hPa | Power: 48 VDC |
| Remarks: | | | |

Plot 7.2.9 The 6dBc and 99% occupied bandwidth



Plot 7.2.10 The 6dBc and 99% occupied bandwidth

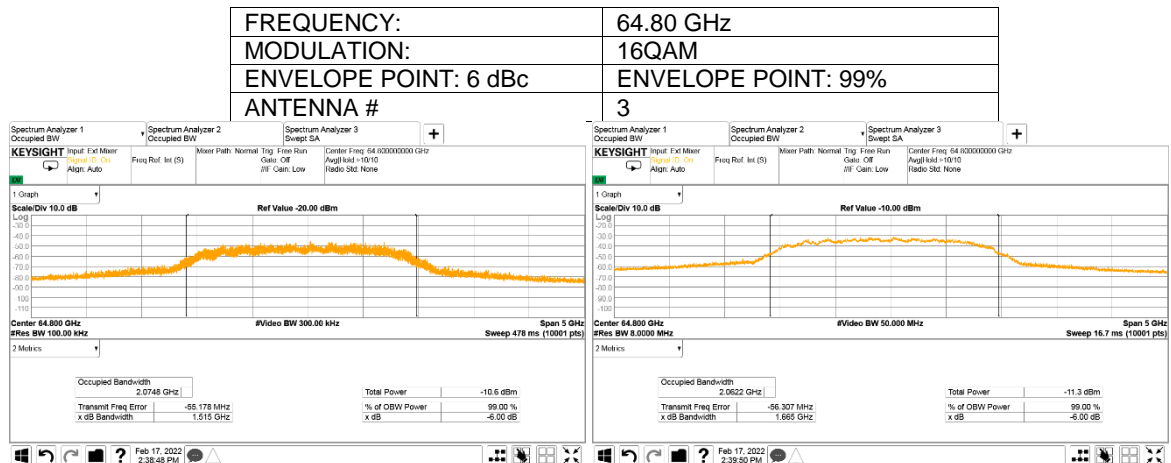




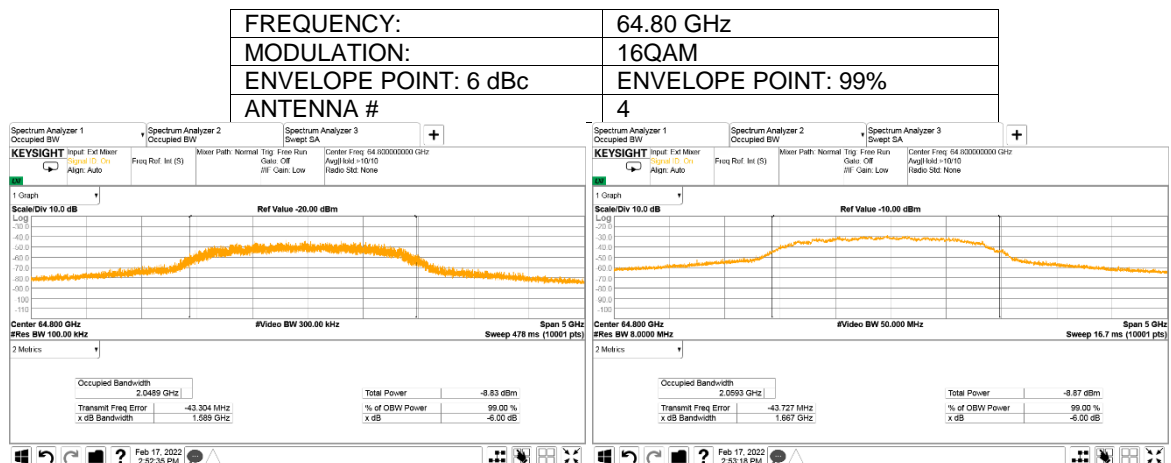
HERMON LABORATORIES

| | | | |
|---------------------|-------------------------|--|---------------|
| Test specification: | | FCC Section 15.215(c), RSS-210 section J.4(c), RSS-Gen section 6.7, Occupied bandwidth | |
| Test procedure: | | 47 CFR, Section 2.1049, ANSI C63.10, Section 9.3 | |
| Test mode: | | Compliance | Verdict: PASS |
| Date(s): | | 16-Feb-22 - 17-Feb-22 | |
| Temperature: 22 °C | Relative Humidity: 45 % | Air Pressure: 1016 hPa | Power: 48 VDC |
| Remarks: | | | |

Plot 7.2.11 The 6dBc and 99% occupied bandwidth



Plot 7.2.12 The 6dBc and 99% occupied bandwidth





| | | | |
|---|--------------------------------|-------------------------------|----------------------|
| Test specification: FCC Section 15.255(d)(2), RSS-210 section J.3, Out of band radiated emissions below 40 GHz | | | |
| Test procedure: 47 CFR, Section 2.1053; ANSI C63.10, Section 9.13 | | | |
| Test mode: Compliance | | Verdict: PASS | |
| Date(s): 25-Feb-22 | | | |
| Temperature: 23 °C | Relative Humidity: 54 % | Air Pressure: 1012 hPa | Power: 48 VDC |
| Remarks: | | | |

7.3 Field strength of emissions

7.3.1 General

This test was performed to measure field strength of fundamental and spurious emissions from the EUT. Specification test limits are given in Table 7.3.1.

Table 7.3.1 Radiated spurious emissions limits

| Frequency range, MHz | Field strength at 3 m, dB(μV/m)* | | |
|-------------------------|----------------------------------|-----------------|-----------------|
| | Within restricted bands | | |
| | Peak | Quasi Peak | Average |
| 0.009 – 0.090 | 148.5 – 128.5 | NA | 128.5 – 108.5** |
| 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 | |
| 1000 – 40000 | 74.0 | NA | 54.0 |

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

$$\text{Lims}_2 = \text{Lims}_1 + 40 \log (S_1/S_2),$$

where S_1 and S_2 – 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.

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

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 specified frequency range was investigated with antenna connected to spectrum analyzer/ EMI receiver. To find maximum radiation the turntable was rotated 3600 and the measuring antenna was rotated around its vertical axis.

7.3.2.3 The worst test results (the lowest margins) were recorded in Table 7.3.3 and shown in the associated plots.

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

7.3.3.1 The EUT was set up as shown in Figure 7.3.2, Figure 7.3.3, energized and the performance check was conducted.

7.3.3.2 The specified frequency range was investigated with antenna connected to spectrum analyzer/ EMI receiver. To find maximum radiation the turntable was rotated 3600, the measuring antenna height was changed from 1 to 4 m, its polarization was switched from vertical to horizontal.

7.3.3.3 The worst test results (the lowest margins) were recorded in Table 7.3.2 and shown in the associated plots.



| | | | |
|---------------------|-------------------------|--|---------------|
| Test specification: | | FCC Section 15.255(d)(2), RSS-210 section J.3, Out of band radiated emissions below 40 GHz | |
| Test procedure: | | 47 CFR, Section 2.1053; ANSI C63.10, Section 9.13 | |
| Test mode: | | Verdict: PASS | |
| Date(s): | | | |
| 25-Feb-22 | | | |
| Temperature: 23 °C | Relative Humidity: 54 % | Air Pressure: 1012 hPa | Power: 48 VDC |
| Remarks: | | | |

Figure 7.3.1 Setup for spurious emission field strength measurements below 30 MHz

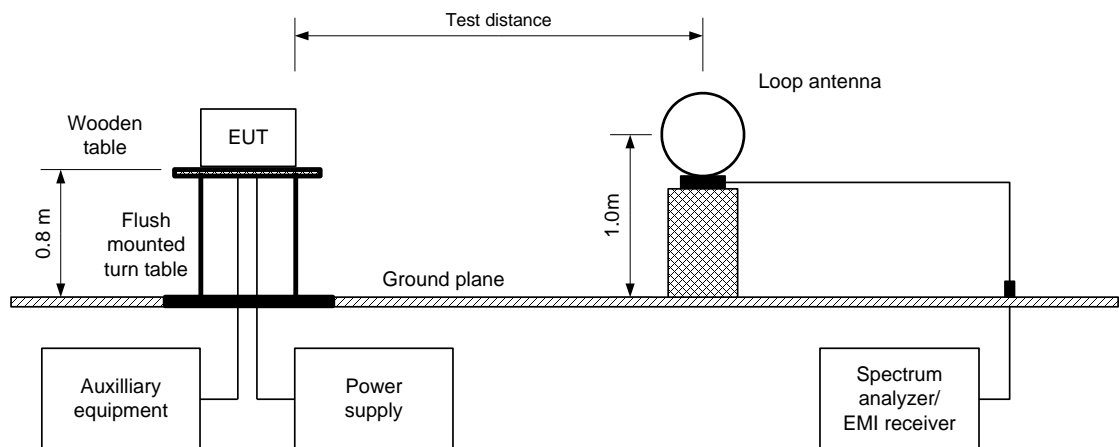
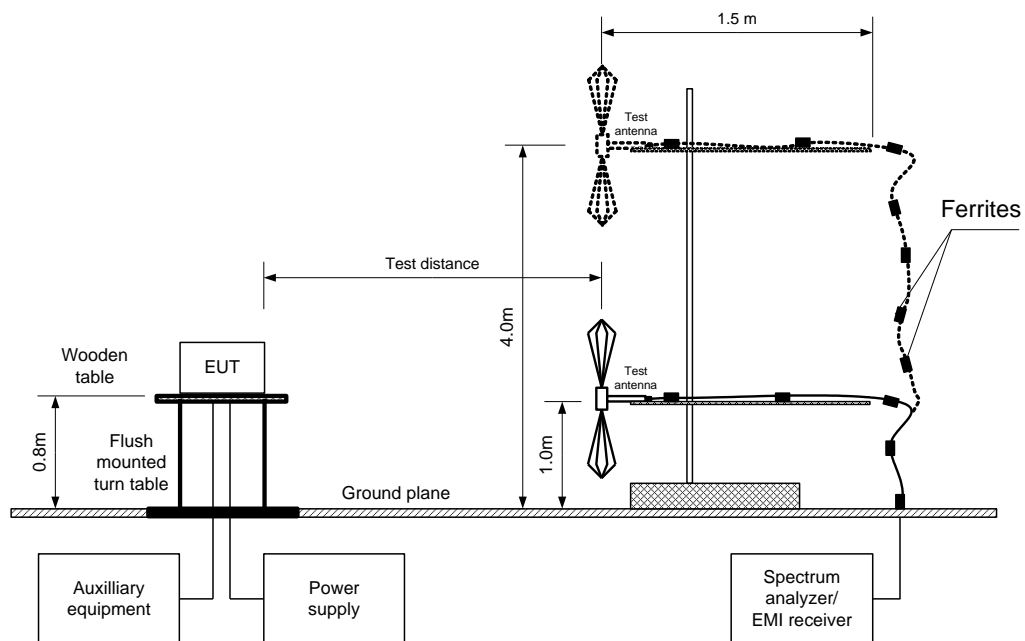


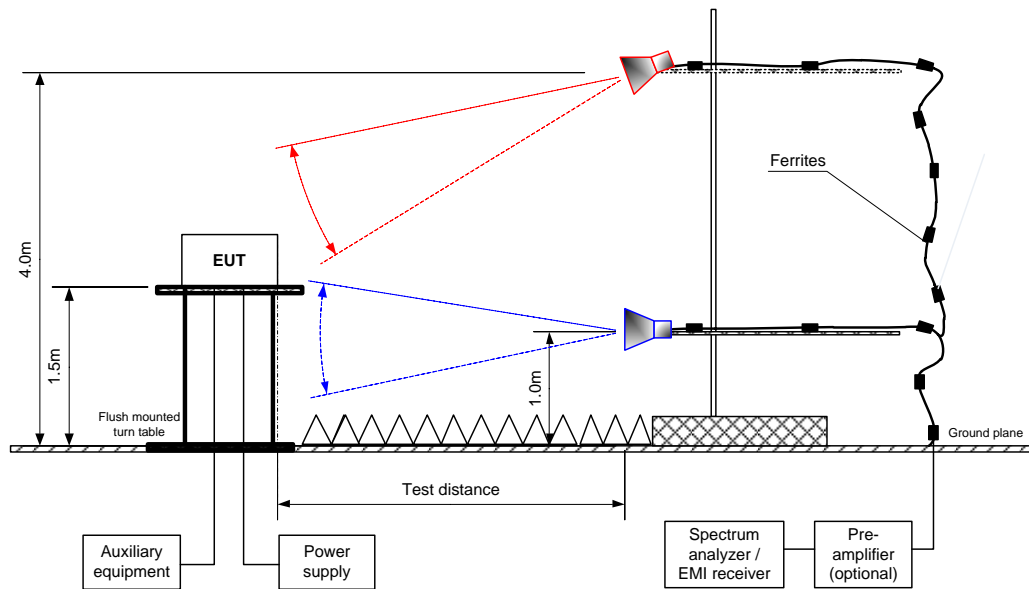
Figure 7.3.2 Setup for spurious emission field strength measurements in 30 – 1000 MHz





| | | | |
|---------------------|-------------------------|--|---------------|
| Test specification: | | FCC Section 15.255(d)(2), RSS-210 section J.3, Out of band radiated emissions below 40 GHz | |
| Test procedure: | | 47 CFR, Section 2.1053; ANSI C63.10, Section 9.13 | |
| Test mode: | | Verdict: PASS | |
| Date(s): | | | |
| 25-Feb-22 | | | |
| Temperature: 23 °C | Relative Humidity: 54 % | Air Pressure: 1012 hPa | Power: 48 VDC |
| Remarks: | | | |

Figure 7.3.3 Setup for spurious emission field strength measurements above 1000 MHz





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| | | | |
|---|--------------------------------|-------------------------------|----------------------|
| Test specification: FCC Section 15.255(d)(2), RSS-210 section J.3, Out of band radiated emissions below 40 GHz | | | |
| Test procedure: 47 CFR, Section 2.1053; ANSI C63.10, Section 9.13 | | | |
| Test mode: Compliance | | Verdict: PASS | |
| Date(s): 25-Feb-22 | | | |
| Temperature: 23 °C | Relative Humidity: 54 % | Air Pressure: 1012 hPa | Power: 48 VDC |
| Remarks: | | | |

Table 7.3.2 Field strength of spurious emissions at frequencies above 1 GHz

TEST DISTANCE: 3 m
EUT POSITION: Typical
MODULATION: 16QAM
TRANSMITTER OUTPUT POWER SETTINGS: Maximum
INVESTIGATED FREQUENCY RANGE: 0.009 - 40000 MHz
DETECTOR USED: Peak
RESOLUTION BANDWIDTH: 1.0 MHz
VIDEO BANDWIDTH: ≥ Resolution bandwidth
TEST ANTENNA TYPE: Double ridged guide (above 1000 MHz)

| EUT ANTENNA TYPE 1 | | | | | | | | | | | |
|--------------------------|---------|-----------|-------------------|---------------------|-----------------|--------------|----------------|------------------------|-----------------|--------------|---------|
| 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** | | Measured, dB(μV/m) | Limit, dB(μV/m) | Margin, dB** | |
| Low frequency 58320 MHz | | | | | | | | | | | |
| 2000.7 | V | 1.6 | 21 | 43.8 | 74 | -30.2 | NA | 32.6 | 54 | -21.4 | Pass |
| 8100.2 | V | 1.5 | 137 | 55.3 | 74 | -18.7 | NA | 49.7 | 54 | -4.3 | |
| 15443.8 | V | 1.5 | 67 | 57.8 | 74 | -16.2 | NA | 44.2 | 54 | -9.8 | |
| 16310.2 | H | 1.5 | 74 | 61.3 | 74 | -12.7 | NA | 46.4 | 54 | -7.6 | |
| 16736.3 | H | 1.5 | 74 | 60.3 | 74 | -13.7 | NA | 45.9 | 54 | -8.1 | |
| 38754.8 | V | 2.8 | 9 | 61.8 | 74 | -12.2 | NA | 48.1 | 54 | -5.9 | |
| Mid frequency 62640 MHz | | | | | | | | | | | |
| 1998.0 | V | 1.5 | 19 | 44.3 | 74.0 | -29.7 | NA | 33.4 | 54.0 | -20.6 | Pass |
| 7830.0 | V | 1.5 | 136 | 57.2 | 74.0 | -16.8 | NA | 49.9 | 54.0 | -5.1 | |
| 14793.8 | V | 1.6 | 65 | 58.1 | 74.0 | 15.9 | NA | 44.7 | 54.0 | -9.3 | |
| 15151.4 | V | 1.6 | 65 | 61.2 | 74.0 | -12.8 | NA | 46.7 | 54.0 | -7.3 | |
| 15288.6 | V | 1.6 | 65 | 60.3 | 74.0 | -13.7 | NA | 44.8 | 54.0 | -9.2 | |
| 38476.1 | V | 2.8 | 163 | 61.8 | 74.0 | -12.2 | NA | 47.7 | 54.0 | -6.3 | |
| High frequency 64800 MHz | | | | | | | | | | | |
| 2001.9 | V | 1.5 | 32 | 43.8 | 74.0 | -30.2 | NA | 32.4 | 54.0 | -21.6 | Pass |
| 7290.0 | V | 1.5 | -180 | 54.2 | 74.0 | -19.8 | NA | 47.7 | 54.0 | -6.3 | |
| 14511.0 | V | 1.6 | 74 | 61.5 | 74.0 | -12.5 | NA | 47.2 | 54.0 | -6.8 | |
| 14662.4 | V | 1.6 | 74 | 65.4 | 74.0 | -8.6 | NA | 48.3 | 54.0 | -5.7 | |
| 14813.7 | V | 1.6 | 74 | 63.3 | 74.0 | -10.7 | NA | 48.3 | 54.0 | -5.7 | |
| 38673.0 | V | 2.7 | 180 | 61.2 | 74.0 | -12.8 | NA | 47.9 | 54.0 | -6.1 | |

*- EUT front panel refers to 0 degrees position of turntable.

** - Margin = dB below (negative if above) specification limit.



| | | | |
|---|--------------------------------|-------------------------------|----------------------|
| Test specification: FCC Section 15.255(d)(2), RSS-210 section J.3, Out of band radiated emissions below 40 GHz | | | |
| Test procedure: 47 CFR, Section 2.1053; ANSI C63.10, Section 9.13 | | | |
| Test mode: Compliance | | Verdict: PASS | |
| Date(s): 25-Feb-22 | | | |
| Temperature: 23 °C | Relative Humidity: 54 % | Air Pressure: 1012 hPa | Power: 48 VDC |
| Remarks: | | | |

Table 7.3.3 Field strength of emissions below 1 GHz

TEST DISTANCE: 3 m
EUT POSITION: Typical
MODULATION: 16QAM
INVESTIGATED FREQUENCY RANGE: 0.009 – 1000 MHz
DETECTOR USED: Peak
RESOLUTION BANDWIDTH: 0.2 kHz (9 kHz – 150 kHz)
9.0 kHz (150 kHz – 30 MHz)
120 kHz (30 MHz – 1000 MHz)
VIDEO BANDWIDTH: ≥ Resolution bandwidth
TEST ANTENNA TYPE: Active loop (9 kHz – 30 MHz)
Biconilog (30 MHz – 1000 MHz)

| 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* | | | | |
| Low, mid, high frequencies | | | | | | | | |
| 30.7 | 36.0 | 31.2 | 40 | -8.8 | Vertical | 1.0 | 166 | Pass |
| 400.0 | 38.9 | 36.3 | 46 | -9.7 | Horizontal | 1.0 | 56 | |
| 630.4 | 41.4 | 35.2 | 46 | -10.8 | Vertical | 1.0 | -16 | |
| 730.4 | 46.3 | 39.2 | 46 | -6.8 | Horizontal | 1.0 | -180 | |
| 800.4 | 45.9 | 41.3 | 46 | -4.7 | Horizontal | 1.0 | 16 | |
| 849.0 | 42.6 | 36.1 | 46 | -9.9 | Horizontal | 1.0 | -131 | |

*- Margin = Measured emission - specification limit.

** - EUT front panel refer to 0 degrees position of turntable.

Reference numbers of test equipment used

| | | | | | | | |
|---------|---------|---------|---------|---------|---------|---------|---------|
| HL 0446 | HL 3903 | HL 4360 | HL 4933 | HL 4956 | HL 5902 | HL 5288 | HL 5112 |
|---------|---------|---------|---------|---------|---------|---------|---------|

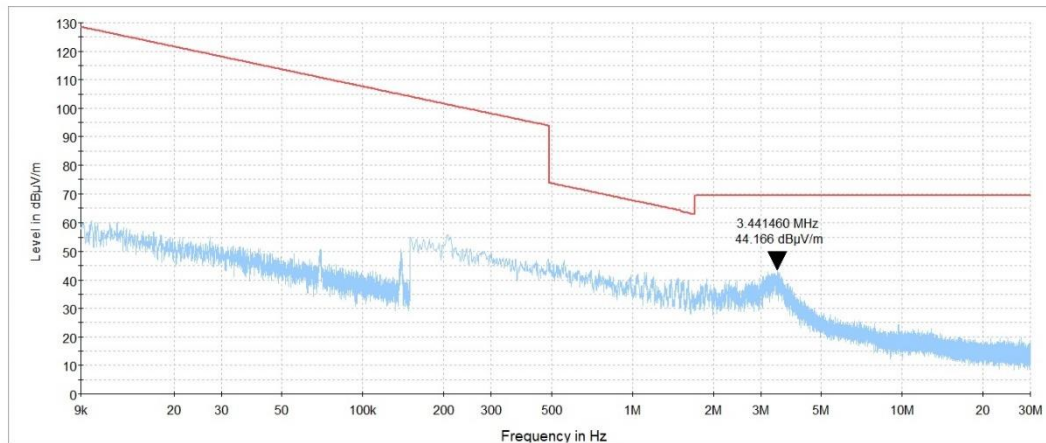
Full description is given in Appendix A.



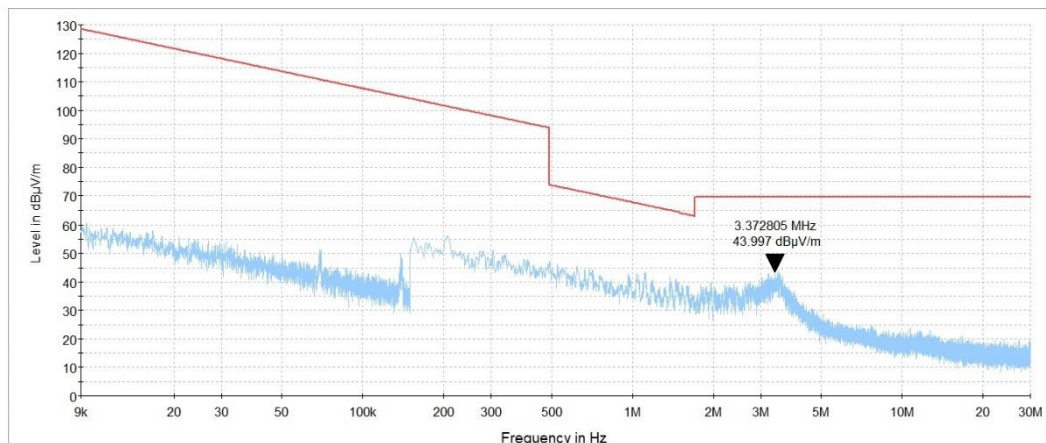
| | | | |
|---------------------|-------------------------|--|---------------|
| Test specification: | | FCC Section 15.255(d)(2), RSS-210 section J.3, Out of band radiated emissions below 40 GHz | |
| Test procedure: | | 47 CFR, Section 2.1053; ANSI C63.10, Section 9.13 | |
| Test mode: | | Verdict: PASS | |
| Date(s): | | | |
| 25-Feb-22 | | | |
| Temperature: 23 °C | Relative Humidity: 54 % | Air Pressure: 1012 hPa | Power: 48 VDC |
| Remarks: | | | |

Plot 7.3.1 Radiated emission measurements from 9 KHz to 30 MHz at low frequency

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
EUT POSITION: Typical

**Plot 7.3.2 Radiated emission measurements from 9 KHz to 30 MHz at mid frequency**

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
EUT POSITION: Typical



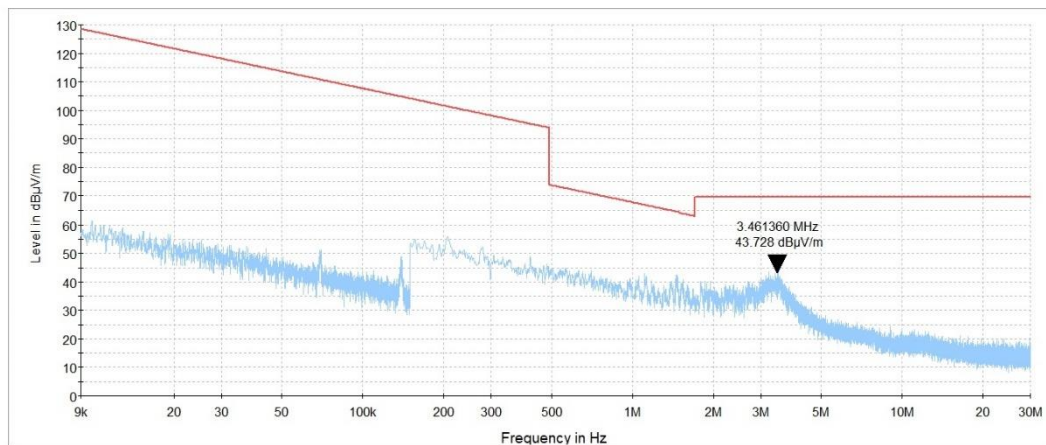


HERMON LABORATORIES

| | | | |
|----------------------------|--------------------------------|--|----------------------|
| Test specification: | | FCC Section 15.255(d)(2), RSS-210 section J.3, Out of band radiated emissions below 40 GHz | |
| Test procedure: | | 47 CFR, Section 2.1053; ANSI C63.10, Section 9.13 | |
| Test mode: | | Verdict: PASS | |
| Date(s): | | | |
| 25-Feb-22 | | | |
| Temperature: 23 °C | Relative Humidity: 54 % | Air Pressure: 1012 hPa | Power: 48 VDC |
| Remarks: | | | |

Plot 7.3.3 Radiated emission measurements from 9 KHz to 30 MHz at high frequency

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
EUT POSITION: Typical



Plot 7.3.4 Radiated emission measurements from 30 to 1000 MHz at low frequency

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

