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# Test Report

**Prepared for:** **Inovonics**

**Address:** **397 S. Taylor Ave.**
**Louisville, CO 80027**

**Product:** **EN 22XX**

**Test Report No:** **R20200701-21-E1B DTS**

**Approved by:**

**Nic S. Johnson, NCE**
**Technical Manager**
**iNARTE Certified EMC Engineer #EMC-003337-NE**

**DATE:** **2 June 2021**

**Total Pages:** **37**

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## REVISION PAGE

| Rev. No. | Date | Description |
|---|---|---|
| 0 | 10 September 2020 | Original – NJohnson<br>Prepared by KVepuri |
| A | 26 April 2021 | Bandwidth and unrestricted band edge measurements were updated -KV |
| B | 2 June 2021 | Updated table on pg 9 and note #3 on pg 18. |

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## 1.0 SUMMARY OF TEST RESULTS

The worst-case measurements were reported in this report. Summary of test results presented in this report correspond to the following section (Please see the checked box below for the rule part used):

**FCC Part 15.247 ☒**

The EUT has been tested according to the following specifications:

(1) US Code of Federal Regulations, Title 47, Part 15
(2) ISED RSS-Gen, Issue 5
(3) ISED RSS-247, Issue 2

| APPLIED STANDARDS AND REGULATIONS | | |
|---|---|---|
| **Standard Section** | **Test Type** | **Result** |
| FCC Part 15.35<br>RSS Gen, Issue 5, Section 6.10 | Duty Cycle | NA |
| FCC Part 15.247(a)(1)<br>RSS-247 Issue 2 Section 5.2 | Peak output power | Pass |
| FCC Part 15.247(a)(1)<br>RSS-247 Issue 2 Section 5.2 | Bandwidth | Pass |
| FCC Part 15.209<br>RSS-Gen Issue 4, Section 7.1 | Receiver Radiated Emissions | Pass |
| FCC Part 15.209 (restricted bands), 15.247 (unrestricted)<br>RSS-247 Issue 2 Section 5.5, RSS-Gen Issue 4, Section 8.9 | Transmitter Radiated Emissions | Pass |
| FCC Part 15.247(a)(1)<br>RSS-247 Issue 2 Section 5.2 | Power Spectral Density | Pass |
| FCC Part 15.209, 15.247(d)<br>RSS-247 Issue 2 Section 11.13 | Band Edge Measurement | Pass |
| FCC Part 15.207<br>RSS-Gen Issue 4, Section 7.1 | Conducted Emissions | NA- Battery powered device |

See Section 4 for details on the test methods used for each test.

# 2.0 EUT DESCRIPTION

## 2.1 EQUIPMENT UNDER TEST

**Summary and Operating Condition:**

| | |
|---|---|
| EUT | EN 22XX |
| EUT Received | 29 July 2020 |
| EUT Tested | 29 July 2020- 9 September 2020<br>23 April 2021 (occupied bandwidth) |
| Serial No. | 0223300 (Used for power and all CW measurements);<br>0223340 (Used for all other measurements); |
| Operating Band | 2400 – 2483.5 MHz |
| Device Type | BLE |
| Power Supply / Voltage | 3 VDC (CR 2) |

NOTE: For more detailed features description, please refer to the manufacturer's specifications or user's manual.

## 2.2 DESCRIPTION OF TEST MODES

The operating range of the EUT is dependent on the device type found in section 2.1:

For Bluetooth Transmissions:

| Channel | Frequency |
|---|---|
| Low | 2402 MHz |
| Mid | 2426 MHz |
| High | 2480 MHz |

These are the only representative channels tested in the frequency range according to FCC Part 15.31 and RSS-Gen Table A1. See the operational description for a list of all channel frequency and designations.

## 2.3 DESCRIPTION OF SUPPORT UNITS

None

# 3.0 LABORATORY AND GENERAL TEST DESCRIPTION

## 3.1 LABORATORY DESCRIPTION

All testing was performed at the following Facility:

The Nebraska Center for Excellence in Electronics (NCEE Labs)
4740 Discovery Drive
Lincoln, NE 68521

A2LA Certificate Number: 1953.01
FCC Accredited Test Site Designation No: US1060
Industry Canada Test Site Registration No: 4294A-1
NCC CAB Identification No: US0177

Environmental conditions varied slightly throughout the tests:
Relative humidity of 35 ± 4%
Temperature of 22 ± 3° Celsius

## 3.2 TEST PERSONNEL

| No. | PERSONNEL | TITLE | ROLE |
|---|---|---|---|
| 1 | Nic Johnson | Technical Manager | Review/editing |
| 2 | Karthik Vepuri | Test Engineer | Testing and report |
| 3 | Fox Lane | Test Engineer | Testing and report |

**Notes:**
All personnel are permanent staff members of NCEE Labs. No testing or review was sub-contracted or performed by sub-contracted personnel.

## 3.3 TEST EQUIPMENT

| DESCRIPTION AND MANUFACTURER | MODEL NO. | SERIAL NO. | LAST CALIBRATION DATE | CALIBRATION DUE DATE |
|---|---|---|---|---|
| Keysight MXE Signal Analyzer (44GHz) | N9038A | MY59050109 | April 23, 2019 | April 23, 2021 |
| SunAR RF Motion | JB1 | A091418 | March 6, 2020 | March 6, 2022 |
| EMCO Horn Antenna | 3115 | 6415 | March 16, 2020 | March 16, 2022 |
| EMCO Horn Antenna | 3116 | 2576 | March 9, 2020 | March 9, 2022 |
| Rohde & Schwarz LISN** | ESH3-Z5 | 836679/010 | July 25, 2019 | July 25, 2021 |
| Rohde & Schwarz Preamplifier** | TS-PR18 | 3545700803 | April 14, 2020 | April 14, 2022 |
| Trilithic High Pass Filter* | 6HC330 | 23042 | April 14, 2020 | April 14, 2022 |
| RF Cable (preamplifier to antenna)* | MFR-57500 | 01-07-002 | April 14, 2020 | April 14, 2022 |
| RF Cable (antenna to 10m chamber bulkhead)* | FSCM 64639 | 01E3872 | April 14, 2020 | April 14, 2022 |
| RF Cable (10m chamber bulkhead to control room bulkhead)* | FSCM 64639 | 01E3874 | April 14, 2020 | April 14, 2022 |
| RF Cable (control room bulkhead to test receiver)* | FSCM 64639 | 01F1206 | April 14, 2020 | April 14, 2022 |
| N connector bulkhead (10m chamber)* | PE9128 | NCEEBH1 | April 14, 2020 | April 14, 2022 |
| N connector bulkhead (control room)* | PE9128 | NCEEBH2 | April 14, 2020 | April 14, 2022 |
| TDK Emissions Lab Software | V11.25 | 700307 | NA | NA |

*Internal Characterization
**2 year calibration cycle

**Notes**:
All equipment is owned by NCEE Labs and stored permanently at NCEE Labs facilities.

## 3.4 GENERAL TEST PROCEDURE AND SETUP FOR RADIO MEASUREMNTS

Measurement type presented in this report (Please see the checked box below):

**Conducted ☐**

The conducted measurements were performed by connecting the output of the transmitter directly into a spectrum analyzer using an impedance matched cable and connector soldered to the EUT in place of the antenna. The information regarding resolution bandwidth, video bandwidth, span and the detector used can be found in the graphs provided in the Appendix C. All the radio measurements were performed using the sections from ANSI C63.10, details about the section used can be found in the spectrum analyzer titles on the graph.

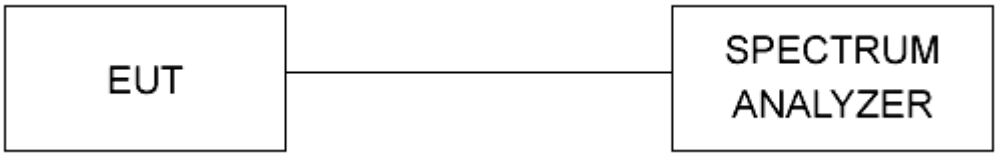



**Figure 1 - Bandwidth Measurements Test Setup**

**Radiated ☒**

All the radiated measurements were taken at a distance of 3m from the EUT. The information regarding resolution bandwidth, video bandwidth, span and the detector used can be found in the graphs provided in the Appendix C. All the radio measurements were performed using the sections from ANSI C63.10, details about the section used can be found in the spectrum analyzer titles on the graph.

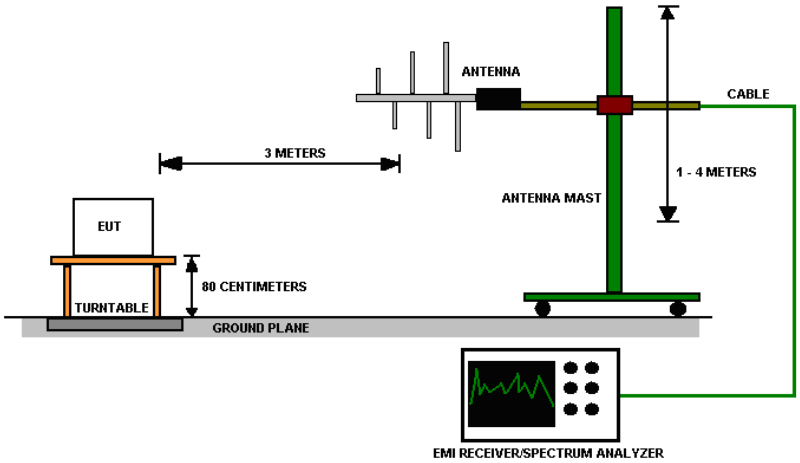



**Figure 2 - Radiated Emissions Test Setup**

## 4.0 RESULTS

| DTS Radio Measurements | | | | | | | |
|---|---|---|---|---|---|---|---|
| CHANNEL | Transmitter | Occupied Bandwidth (kHz) | 6 dB Bandwidth (kHz) | PEAK OUTPUT POWER** (dBm) | PEAK OUTPUT POWER (mW) | PSD (dBm) | RESULT |
| Low | BLE | 1050.10 | 569.1 | 8.861 | 7.693 | -24.271 | PASS |
| Mid | BLE | 1052.90 | 609.0 | 8.546 | 7.155 | -24.872 | PASS |
| High | BLE | 1031.30 | 601.9 | 7.342 | 5.423 | -27.332 | PASS |
| Occupied Bandwidth = N/A; 6 dB Bandwidth Limit = 500 kHz | | | | Peak Output Power Limit = 30 dBm; PSD Limit = 8 dBm | | | |

| Unrestricted Band-Edge | | | | | | | |
|---|---|---|---|---|---|---|---|
| CHANNEL | Mode | Band edge /Measurement Frequency (MHz) | Relative Highest out of band level (dBm) | Relative Fundamental (dBm) | Delta (dB) | Min Delta (dB) | Result |
| Low | BLE | 2400.00 | -65.48 | -8.375 | 58.173 | 20.00 | PASS |
| High | BLE | 2483.50 | -66.873 | -15.518 | 51.355 | 20.00 | PASS |

| Restricted Band-Edge | | | | | | | |
|---|---|---|---|---|---|---|---|
| CHANNEL | Mode | Band edge /Measurement Frequency (MHz) | Highest out of band level (dBuV/m @ 3m)** | Measurement Type | Limit (dBuV/m @ 3m) | Margin | Result |
| Low | BLE | 2390.00 | 39.35 | Average | 53.98 | 14.64 | PASS |
| High | BLE | 2483.50 | 39.17 | Average | 53.98 | 14.81 | PASS |
| Low | BLE | 2390.00 | 51.63 | Peak | 73.98 | 22.35 | PASS |
| High | BLE | 2483.50 | 51.22 | Peak | 73.98 | 22.76 | PASS |

*Limit shown is the peak limit taken from FCC Part 15.209; ** Corrections can be found under the graphs in Appendix C; All the power measurements are EIRP measurements.

## 4.1 OUTPUT POWER

**Test Method**: All the radio measurements were performed using the sections from ANSI C63.10, Section 11.9.1.1.

**Limits of power measurements:**
**For FCC Part 15.247 Device:**
The maximum allowed peak output power is 30 dBm.

**Test procedures:**
Details can be found in section 3.4 of this report.

**Deviations from test standard:**
No deviation.

**Test setup:**
Details can be found in section 3.4 of this report.

**EUT operating conditions:**
Details can be found in section 2.1 of this report.

**Test results:**
**Pass**
Comments:

1. All the output power plots can be found in the Appendix C.
2. All the data is presented in the table under the results, section 4.0.
3. All the measurements were found to be compliant.
4. All the measurements were don on a unit without any modulation. As the manufacturer was not able to program the unit to transmit continuously with modulation on these frequencies.

## 4.2 BANDWIDTH

**Test Method**: All the radio measurements were performed using the sections from ANSI C63.10, Section 11.8.1.

**Limits of bandwidth measurements:**

**For FCC Part 15.247 Device:**
The 99% occupied bandwidth is for informational purpose only. The 6dB bandwidth of the signal must be greater than 500 kHz.

**Test procedures:**
Details can be found in section 3.4 of this report.

**Deviations from test standard:**
No deviation.

**Test setup:**
Test setup details can be found in section 3.4 of this report.

**EUT operating conditions:**
Details can be found in section 2.1 of this report.

**Test results:**
**Pass**
Comments:
1. All the bandwidth plots can be found in the Appendix C.
2. All the data is presented in the table under the results, section 4.0.
3. All the measurements were found to be compliant.
4. Note that the measurements were done, while the EUT was hopping on low, mid and high channels. As the manufacturer was not able to program the unit to transmit continuously with modulation on these frequencies.

## 4.3 DUTY CYCLE

**Test Method**: NA

## 4.4 RADIATED EMISSIONS

**Test Method**: ANSI C63.10-2013, Section 6.5, 6.6

**Limits for radiated emissions measurements:**

Emissions radiated outside of the specified bands shall be applied to the limits in 15.209 as followed:

| FREQUENCIES (MHz) | FIELD STRENGTH (µV/m) | MEASUREMENT DISTANCE (m) |
|---|---|---|
| 0.009-0.490 | 2400/F(kHz) | 300 |
| 0.490-1.705 | 24000/F(kHz) | 30 |
| 1.705-30.0 | 30 | 3 |
| 30-88 | 100 | 3 |
| 88-216 | 150 | 3 |
| 216-960 | 200 | 3 |
| Above 960 | 500 | 3 |

**NOTE:**
1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 * log * Emission level (µV/m).
3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits by more than 20dB under any condition of modulation.
4. The EUT was tested for spurious emissions while running off of battery power and external USB power. The worse-case emissions were produced while running off of USB power, so results from this mode are presented.

**Test procedures:**

a. The EUT was placed on the top of a rotating table above the ground plane in a 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. The table was 0.8m high for measurements from 30MHz-1Ghz and 1.5m for measurements from 1GHz and higher.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna was a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are used to make the measurement.

d. For each suspected emission, the EUT was arranged to maximize its emissions and then the antenna height was varied from 1 meter to 4 meters and the rotating table was turned from 0 degrees to 360 degrees to find the maximum emission reading.

e. The test-receiver system was set to use a peak detector with a specified resolution bandwidth. For spectrum analyzer measurements, the composite maximum of several analyzer sweeps was used for final measurements.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10 dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

g. The EUT was maximized in all 3 orthogonal positions. The results are presented for the axis that had the highest emissions.

**Test setup:**

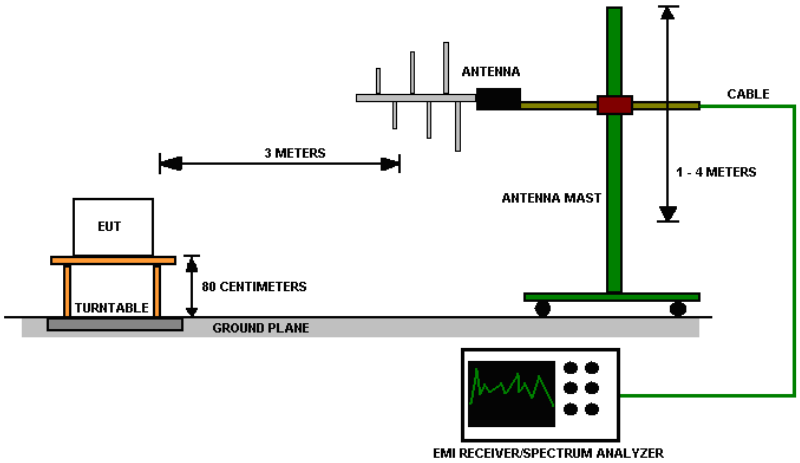



**Figure 3 - Radiated Emissions Test Setup**

**NOTE:**
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequencies below 1GHz.

2. The resolution bandwidth 1 MHz for all measurements and at frequencies above 1GHz, A peak detector was used for all measurements above 1GHz. Measurements were made with an EMI Receiver.

**Deviations from test standard:**

No deviation.

**EUT operating conditions**
Details can be found in section 2.1 of this report.

## Test results:

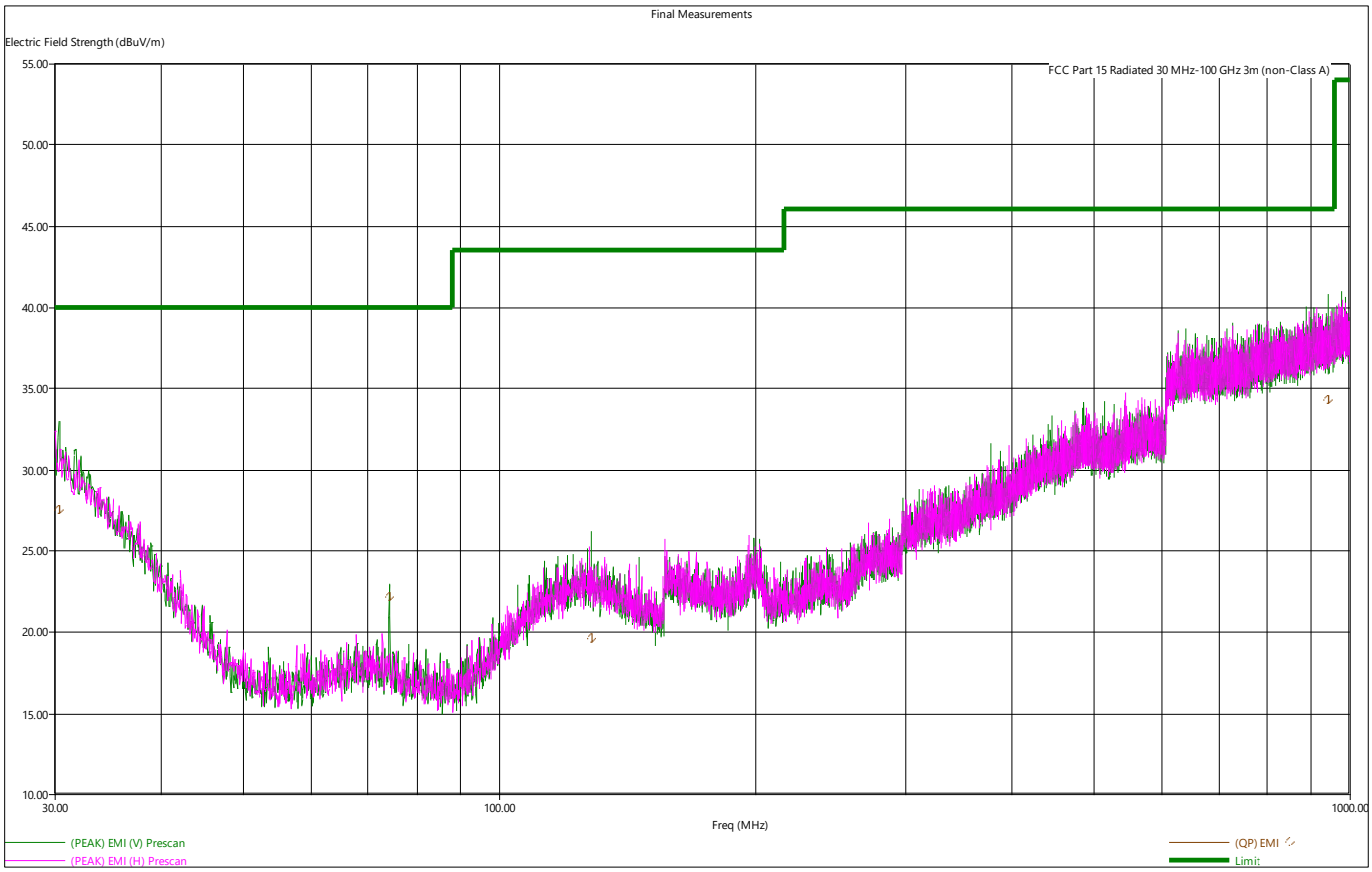



**Figure 4 - Radiated Emissions Plot, Receive**

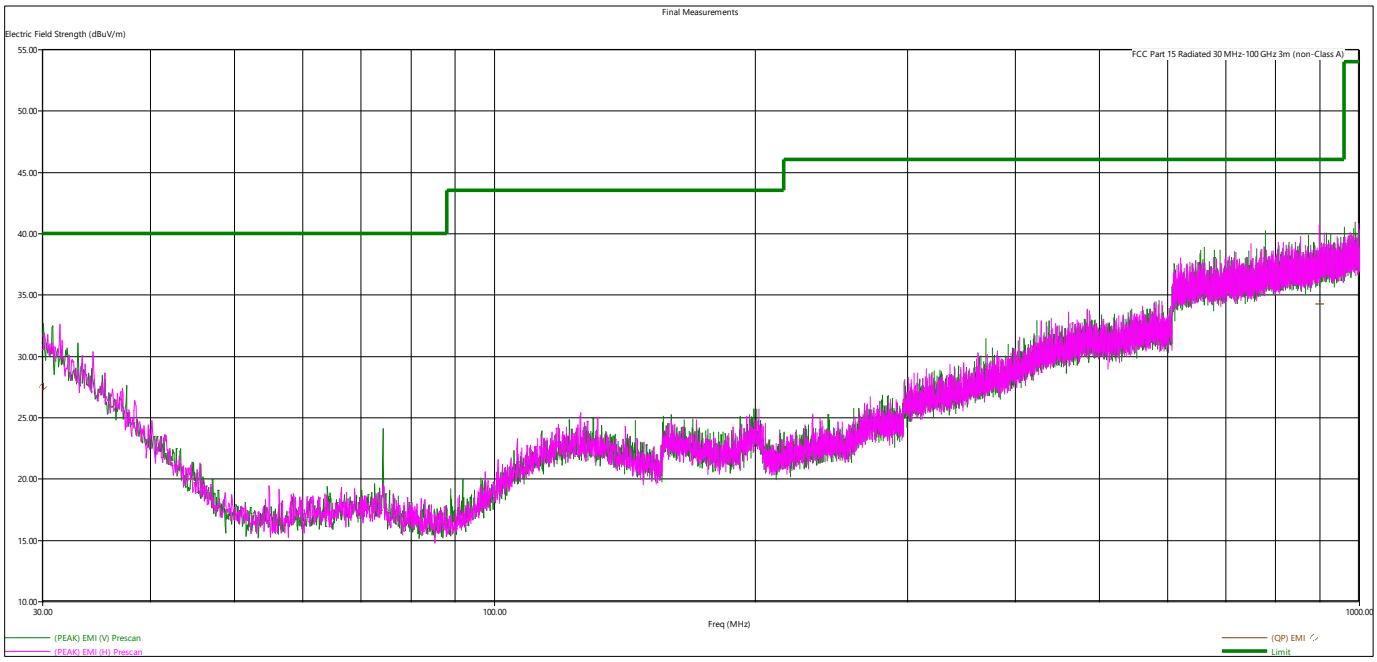



**Figure 5 - Radiated Emissions Plot, Low Channel**

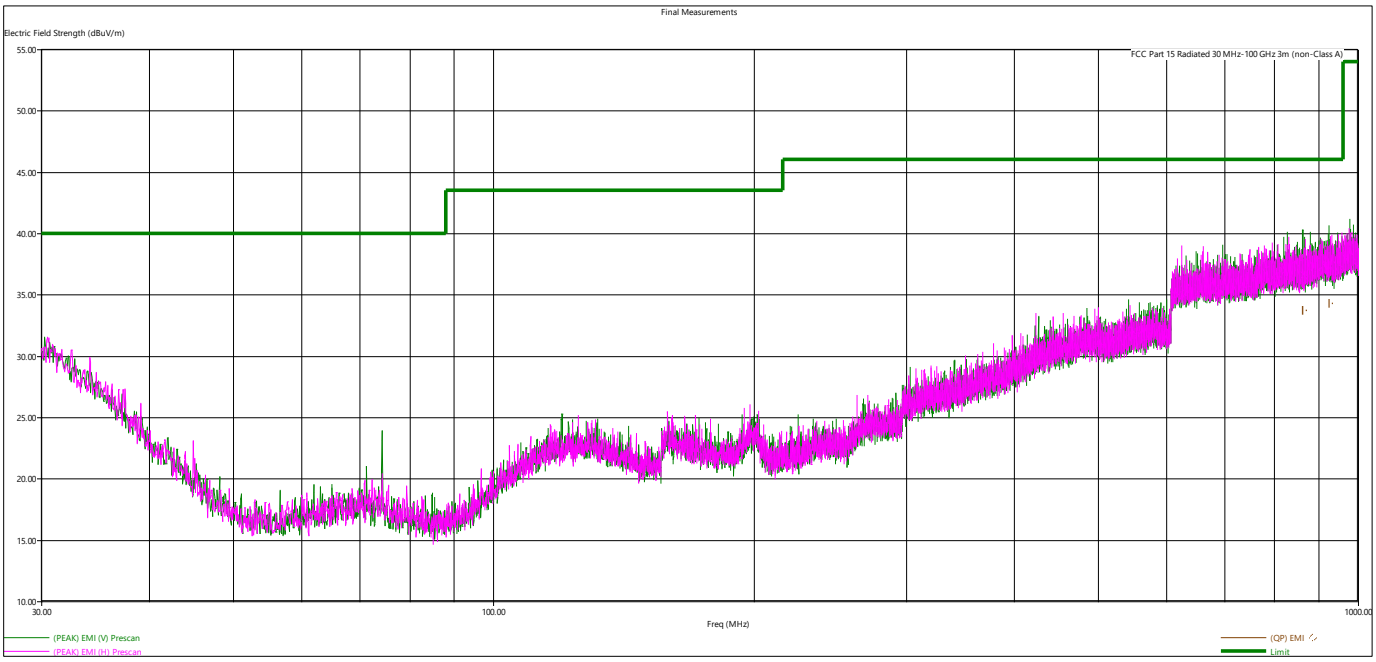



**Figure 6 - Radiated Emissions Plot, Mid Channel**

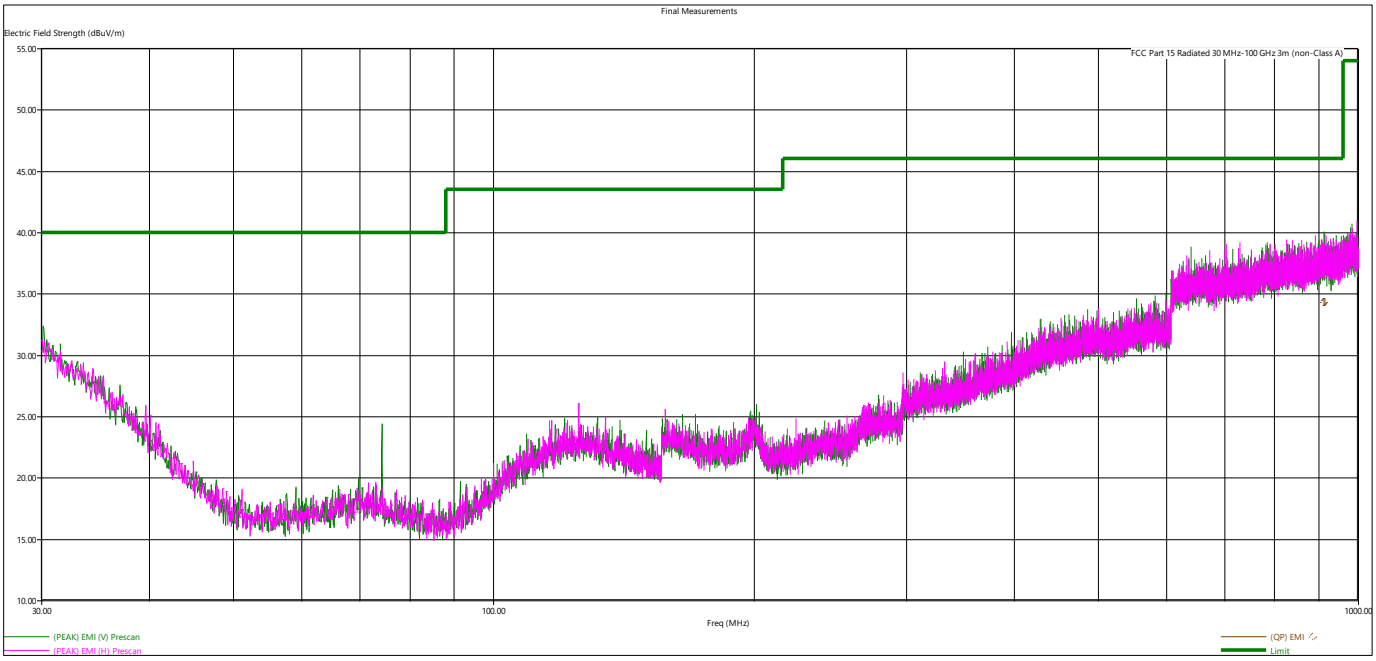



**Figure 7 - Radiated Emissions Plot, High Channel**

**REMARKS**:
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB)
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels had at least 20 dB of margin
4. Margin value = Emission level – Limit value

| Quasi-Peak Measurements | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Frequency | Level | Limit | Margin | Height | Angle | Pol | Channel | Modulation |
| MHz | dBµV/m | dBµV/m | dB | cm. | deg. | | | |
| 898.966080 | 34.18 | 46.02 | 11.84 | 226 | 107 | H | Low | CW |
| 30.041492 | 27.51 | 40.00 | 12.49 | 368 | 103 | V | Low | CW |
| 862.269600 | 33.69 | 46.02 | 12.33 | 301 | 360 | V | Mid | CW |
| 923.931840 | 34.26 | 46.02 | 11.76 | 108 | 347 | V | Mid | CW |
| 912.874320 | 34.31 | 46.02 | 11.71 | 140 | 218 | V | High | CW |
| 914.624880 | 34.33 | 46.02 | 11.69 | 262 | 324 | V | High | CW |
| 30.184320 | 27.52 | 40.00 | 12.48 | 201 | 353 | V | Receive | |
| 74.262960 | 22.11 | 40.00 | 17.89 | 164 | 184 | V | Receive | |
| 128.153760 | 19.63 | 43.52 | 23.89 | 370 | 0 | V | Receive | |
| 942.070320 | 34.23 | 46.02 | 11.79 | 393 | 239 | V | Receive | |

| Peak Measurements | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Frequency | Level | Limit | Margin | Height | Angle | Pol | Channel | Modulation |
| MHz | dBµV/m | dBµV/m | dB | cm. | deg. | | | |
| 2480.014000 | 102.26 | NA | NA | 158 | 168 | H | High | CW |
| 2425.992000 | 103.96 | NA | NA | 142 | 349 | H | Mid | CW |
| 2401.982000 | 103.82 | NA | NA | 142 | 355 | H | Low | CW |

| Average Measurements | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Frequency | Level | Limit | Margin | Height | Angle | Pol | Channel | Modulation |
| MHz | dBµV/m | dBµV/m | dB | cm. | deg. | | | |
| 2480.014000 | 102.08 | NA | NA | 158 | 168 | H | High | CW |
| 2425.992000 | 103.77 | NA | NA | 142 | 349 | H | Mid | CW |
| 2401.982000 | 103.61 | NA | NA | 142 | 355 | H | Low | CW |

The EUT was maximized in all 3 orthogonal axis. The worst-case is shown in the plots and tables above. If the measurements were found to be 10 dB below the limit, they were not reported.

## 4.5 BAND EDGES

**Test Method**: All the radio measurements were performed using the sections from ANSI C63.10, Section's -6.10.5, 11.13.2.

**Limits of band-edge measurements:**

**For FCC Part 15.247 Device:**
For emissions outside of the allowed band of operation (2400.0MHz – 2480.0MHz), the emission level needs to be 20dB under the maximum fundamental field strength. However, if the emissions fall within one of the restricted bands from 15.205 the field strength levels need to be under that of the limits in 15.209.

**Test procedures:**

The highest emissions level beyond the band-edge was measured and recorded. All band edge measurements were evaluated to the general limits in Part 15.209. More details can be found in section 3.4 of this report.

**Deviations from test standard:**
No deviation.

**Test setup:**
Test setup details can be found in section 3.4 of this report.

**EUT operating conditions:**
Details can be found in section 2.1 of this report.

**Test results:**
**Pass**

Comments:
1. All the band edge plots can be found in the Appendix C.
2. All the data is presented in the table under the results, section 4.0.
3. If the device falls under FCC Part 15.247 (Details can be found in summary of test results), compliance is shown in the unrestricted band edges by showing minimum delta of 20 dB between peak and the band edge.
4. The restricted band edge compliance is shown by comparing to the general limit defined in Part 15.209. The limit shown in the graph accounts for the antenna gain of the device.
5. Note that the measurements were done, while the EUT was hopping on low, mid and high channels. As the manufacturer was not able to program the unit to transmit continuously with modulation on these frequencies.

## 4.6 POWER SPECTRAL DENSITY

**Test Method**: All the radio measurements were performed using the sections from ANSI C63.10, Section 11.10.2.

**Limits of power measurements:**

**For FCC Part 15.247 Device:**
The maximum PSD allowed is 8 dBm.

**Test procedures:**
Details can be found in section 3.4 of this report.

**Deviations from test standard:**
No deviation.

**Test setup:**
Details can be found in section 3.4 of this report.

**EUT operating conditions:**
Details can be found in section 2.1 of this report.

**Test results:**
**Pass**
Comments:

1. All the Power Spectral Density (PSD) plots can be found in the Appendix C.
2. All the data is presented in the table under the results, section 4.0.
3. All the measurements were found to be compliant.
4. The measurements are reported on the graph.
5. Note that the measurements were done, while the EUT was hopping on low, mid and high channels. As the manufacturer was not able to program the unit to transmit continuously with modulation on these frequencies.

## APPENDIX A: SAMPLE CALCULATION

**Field Strength Calculation**

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF – (-CF + AG) + AV

where FS = Field Strength

RA = Receiver Amplitude

AF = Antenna Factor

CF = Cable Attenuation Factor

AG = Amplifier Gain

AV = Averaging Factor (if applicable)

Assume a receiver reading of 55 dBμV is obtained. The Antenna Factor of 12 and a Cable Factor of 1.1 is added. The Amplifier Gain of 20 dB is subtracted, giving a field strength of 48.1 dBμV/m.

FS = 55 + 12 – (-1.1 + 20) + 0 = 48.1 dBμV/m

The 48.1 dBμV/m value can be mathematically converted to its corresponding level in μV/m.

Level in μV/m = Common Antilogarithm [(48.1 dBμV/m)/20]= 254.1 μV/m

AV is calculated by the taking the 20*log($T_{on}$/100) where $T_{on}$ is the maximum transmission time in any 100ms window.

**EIRP Calculations**

In cases where direct antenna port measurement is not possible or would be inaccurate, output power is measured in EIRP. The maximum field strength is measured at a specified distance and the EIRP is calculated using the following equation;

*EIRP (Watts) = [Field Strength (V/m) x antenna distance (m)]$^2$ / 30*
*Power (watts) = 10^[Power (dBm)/10] / 1000*
*Voltage (dBµV) = Power (dBm) + 107 (for 50Ω measurement systems)*
*Field Strength (V/m) = 10^[Field Strength (dBµV/m) / 20] / 10^6*
*Gain = 1 (numeric gain for isotropic radiator)*
*Conversion from 3m field strength to EIRP (d=3):*

*EIRP = [FS(V/m) x d^2]/30 = FS [0.3]  for d = 3*

*EIRP(dBm) = FS(dBµV/m) – 10(log 10^9)+ 10log[0.3] = FS(dBµV/m) - 95.23*

*10log( 10^9) is the conversion from micro to milli*

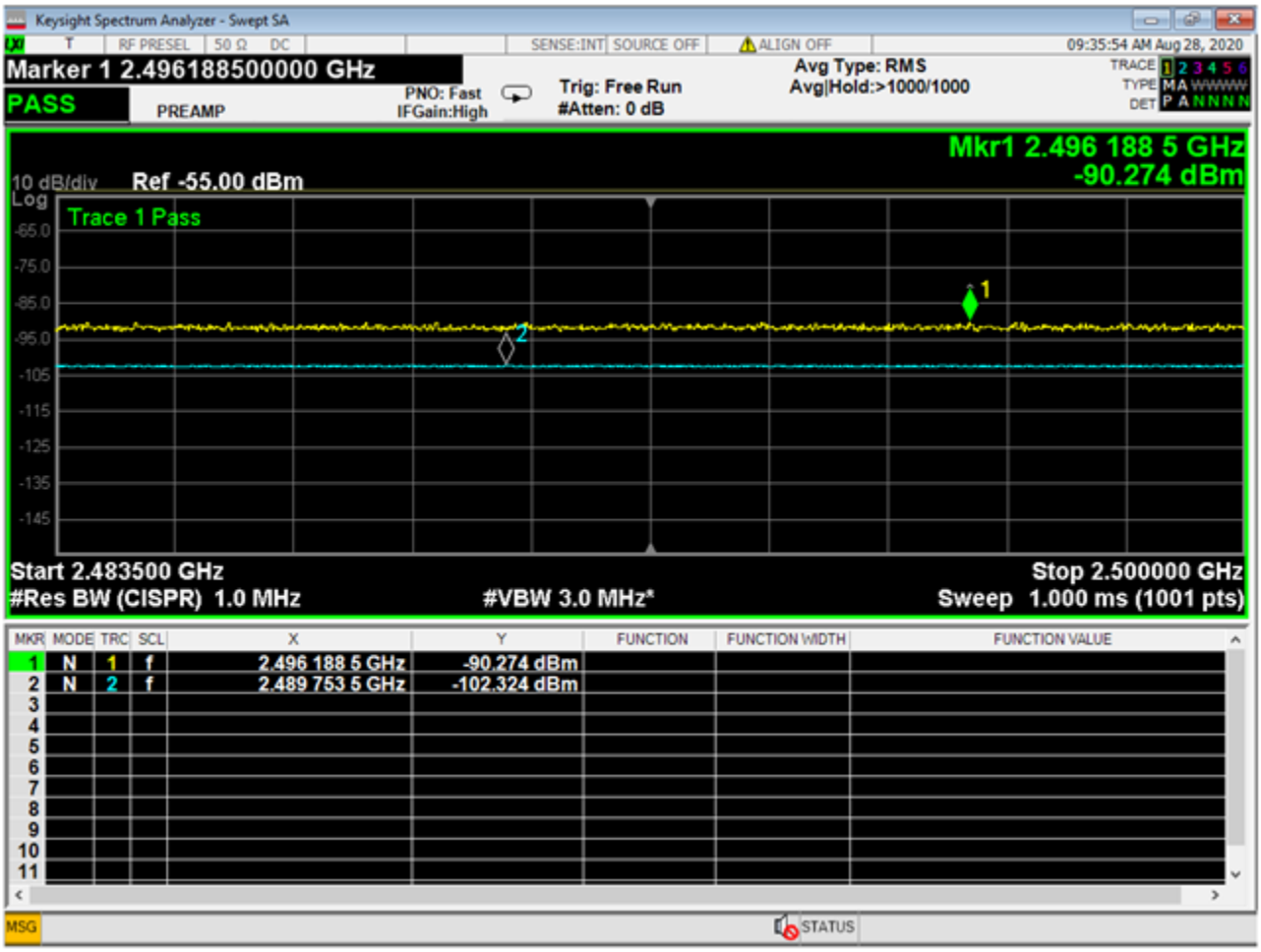
## APPENDIX B – MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been for tests performed in this test report:

| Test | Frequency Range | Uncertainty Value (dB) |
|---|---|---|
| Radiated Emissions, 3m | 30MHz - 1GHz | 3.82 |
| Radiated Emissions, 3m | 1GHz - 18GHz | 4.44 |
| Emissions limits, conducted | 30MHz – 18GHz | ±3.30 dB |

Expanded uncertainty values are calculated to a confidence level of 95%.

## APPENDIX C – GRAPHS AND TABLES




Higher Band Edge_Restricted Hopping

* Corrected measurement at 3m = -102.324 (dBuV)+28.45 (Antenna Factor in dB) +6.04 (Cable Loss in dB) + 107 (conversion from dBm to dBuV)=39.166 (dBuV/m) AV

= -90.274 (dBuV)+28.45 (Antenna Factor in dB) +6.04 (Cable Loss in dB) + 107 (conversion from dBm to dBuV)=51.216 (dBuV/m) PK

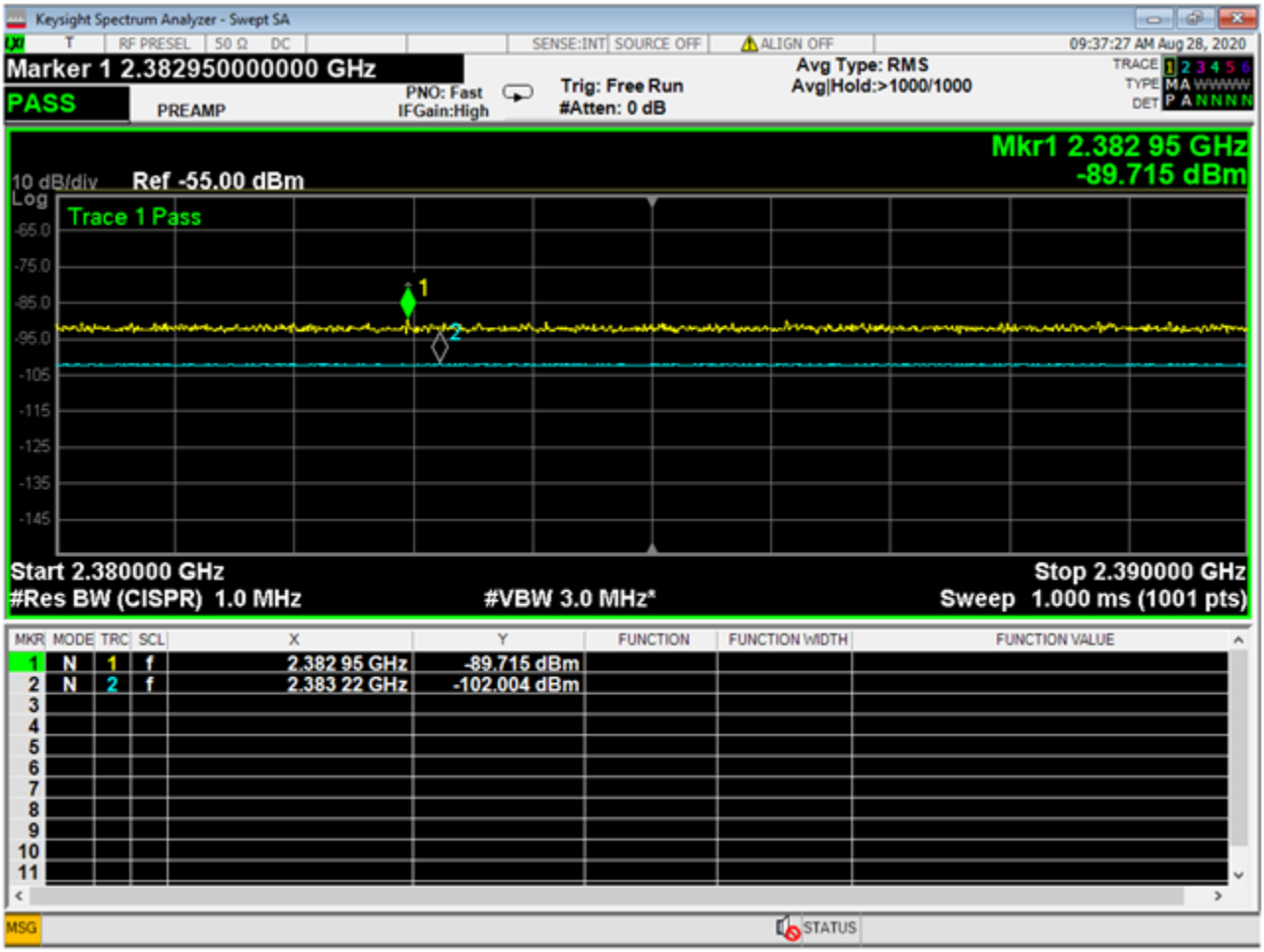
Higher Band Edge_Unrestricted Hopping

*Note that the plot shows the measurement in dBuV and the table in section 4 shows the values in dBm so they were coverted by the following equation:

dBm=dBuV-107;

-15.518 dBm= 91.482 dBuV

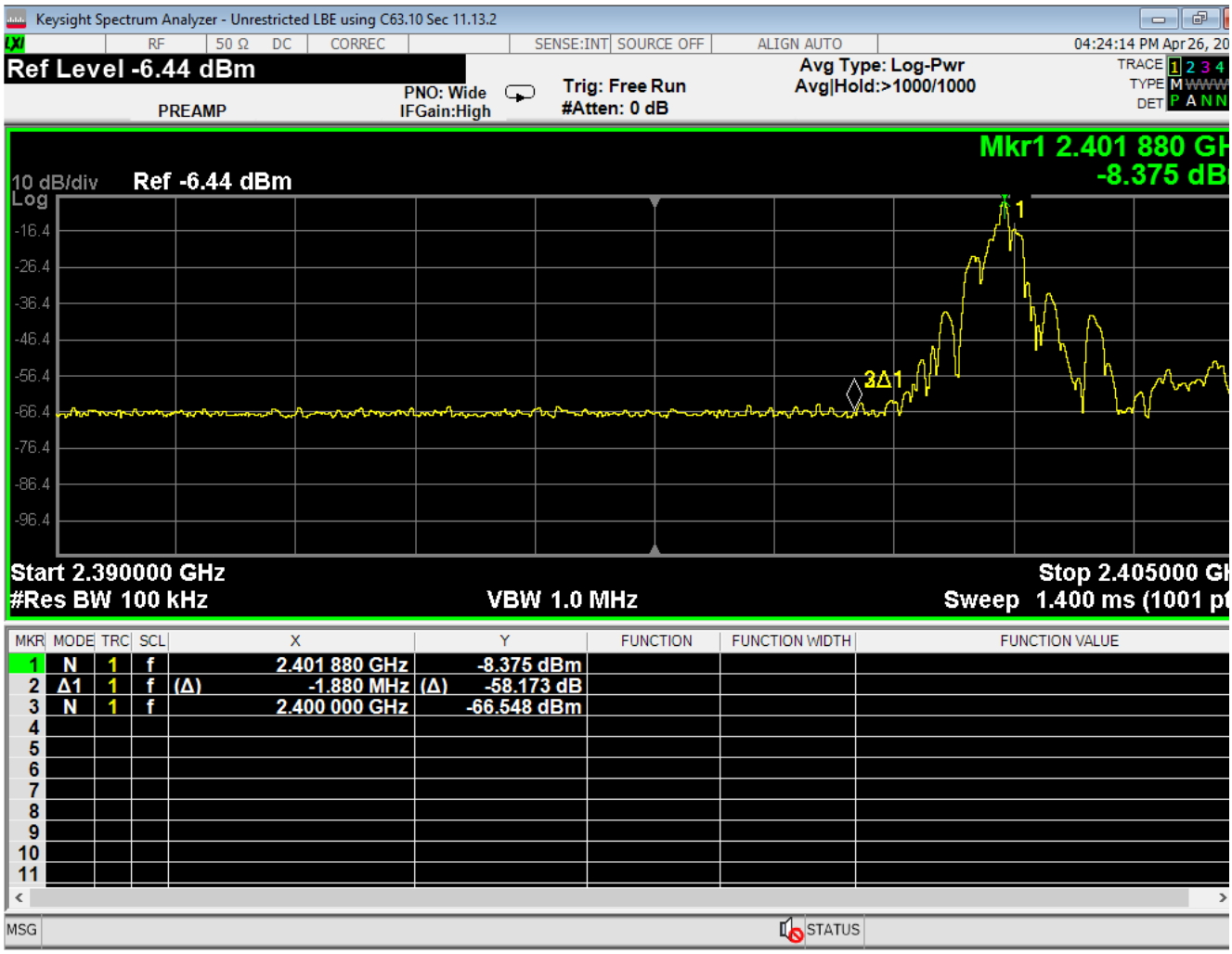
-66.873 dBm = 40.127 dBuV



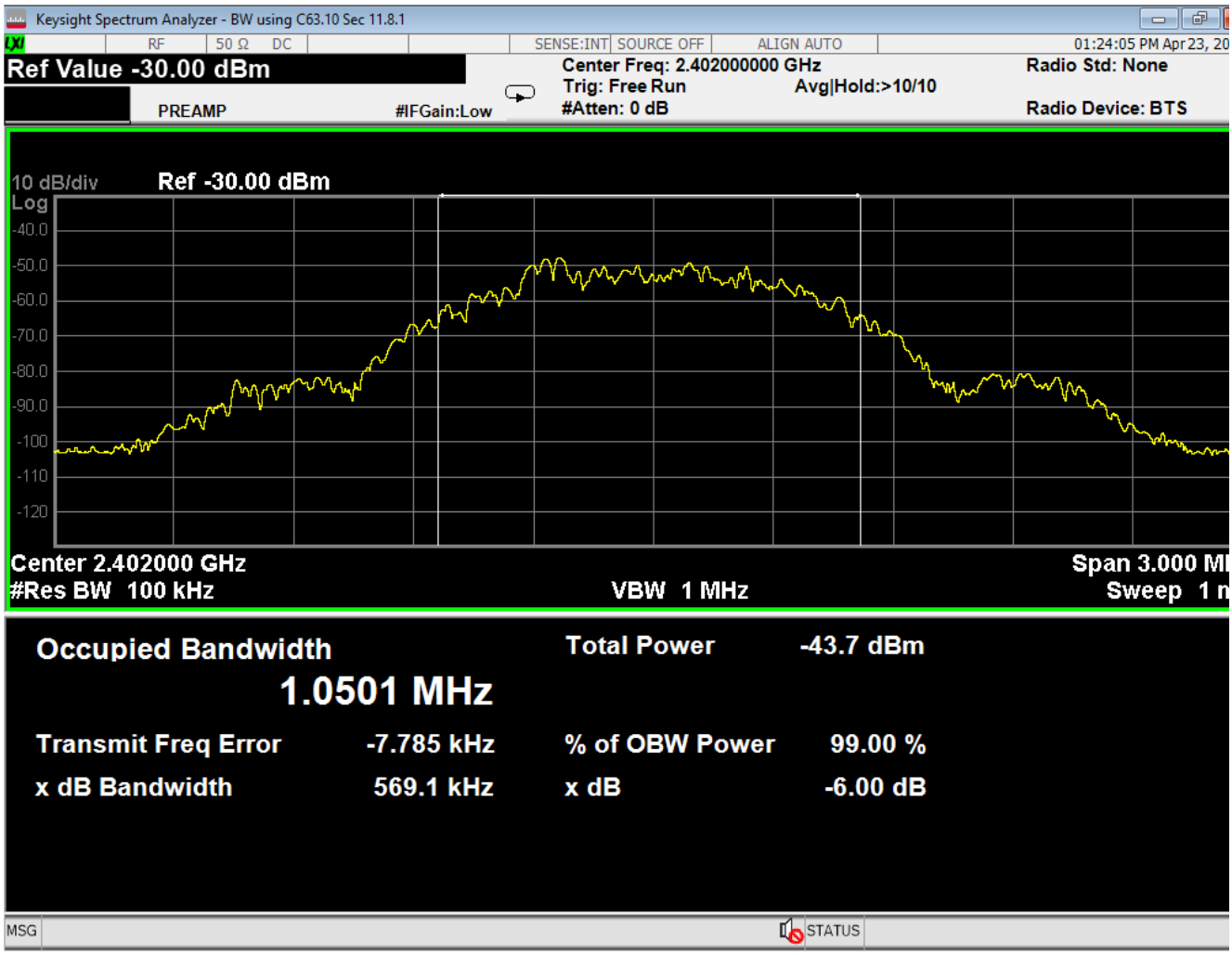

Lower Band Edge_Restricted Hopping

* Corrected measurement at 3m = -102.004 (dBuV)+28.45 (Antenna Factor in dB) +6.04 (Cable loss in dB) +107 (conversion from dBm to dBuV)=39.345 (dBuV/m) AV

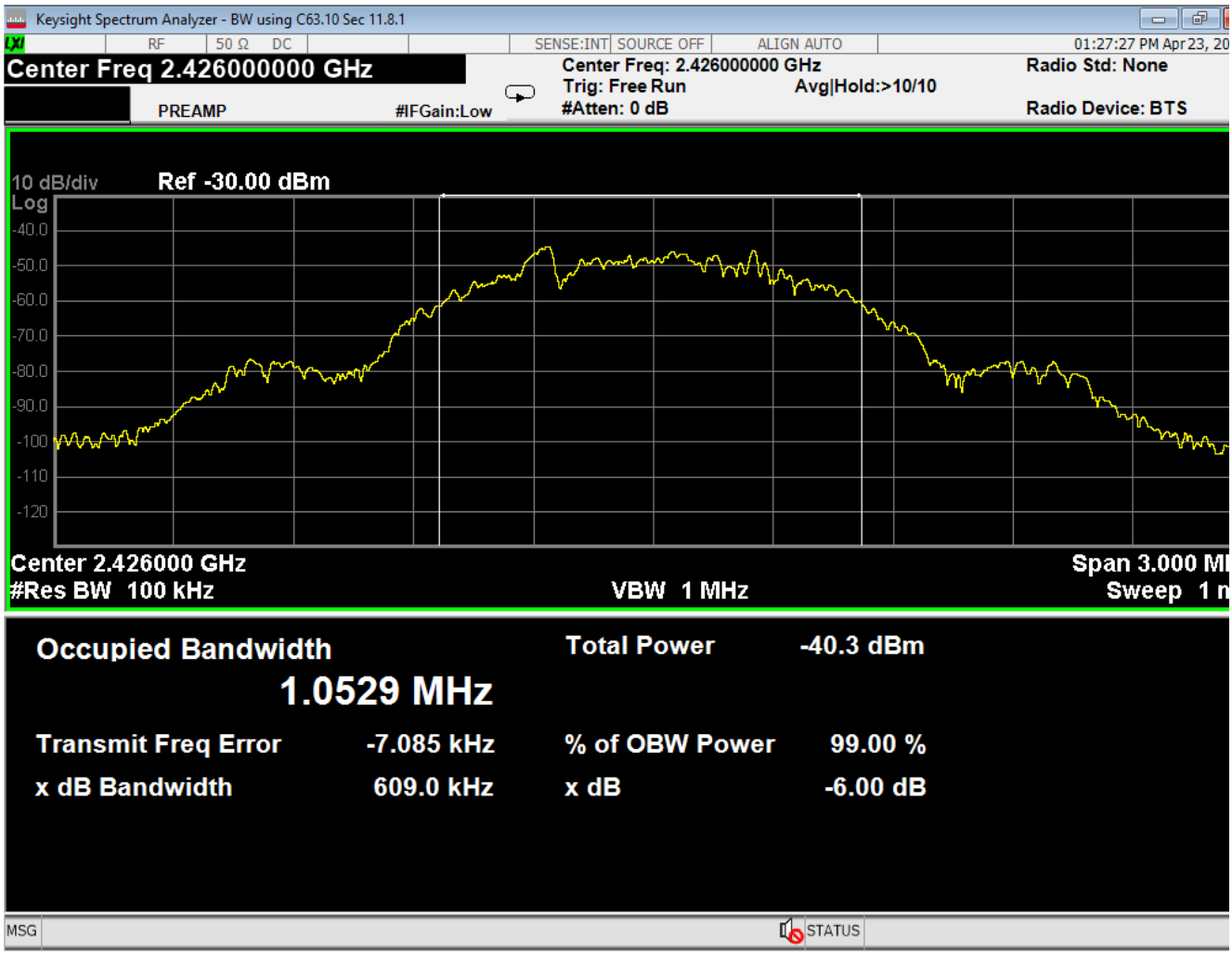
* Corrected measurement at 3m = -89.715 (dBuV)+28.45 (Antenna Factor in dB) +6.04 (Cable loss in dB) +107 (conversion from dBm to dBuV)=51.634 (dBuV/m) PK



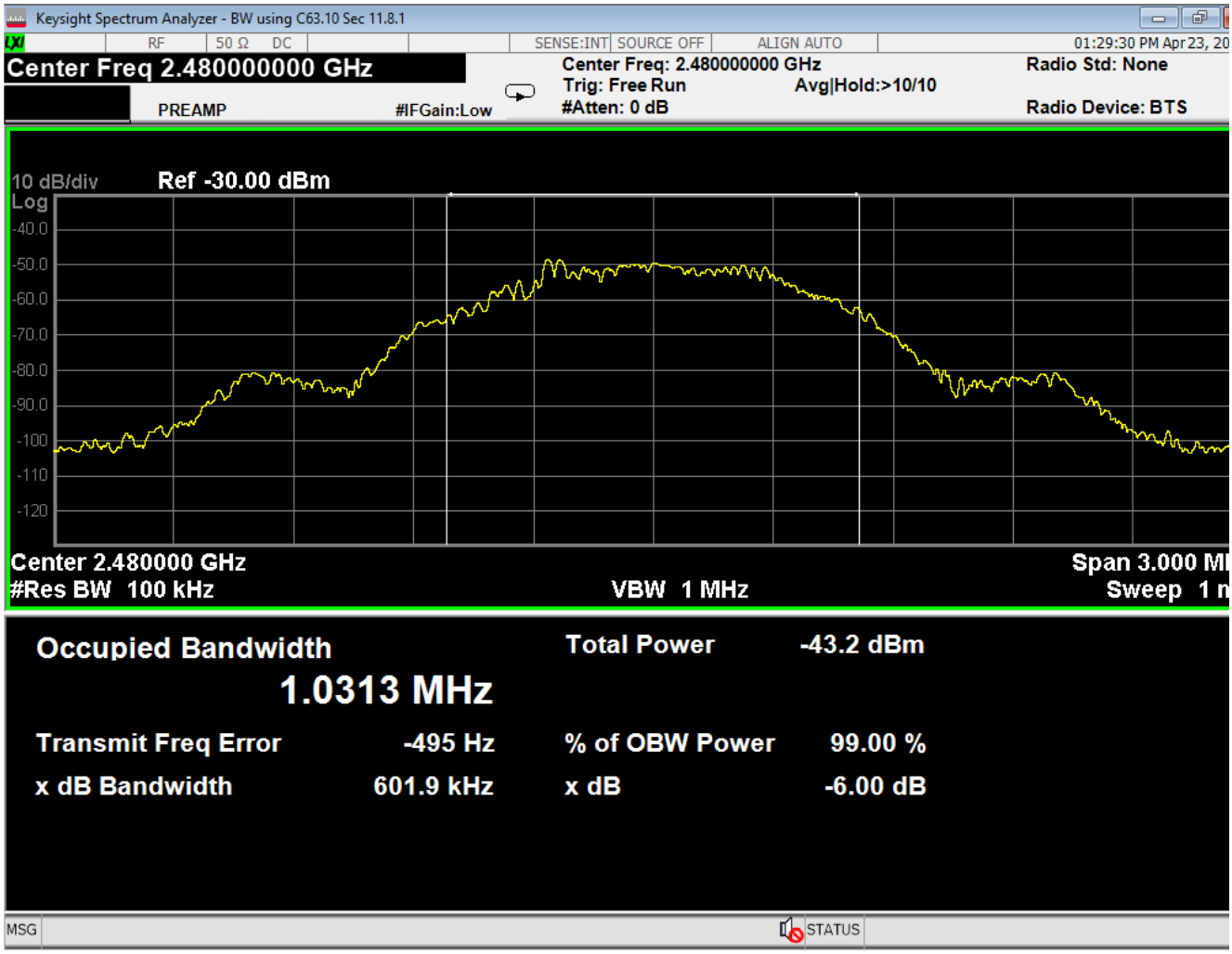

Lower Band Edge_Unrestricted Hopping



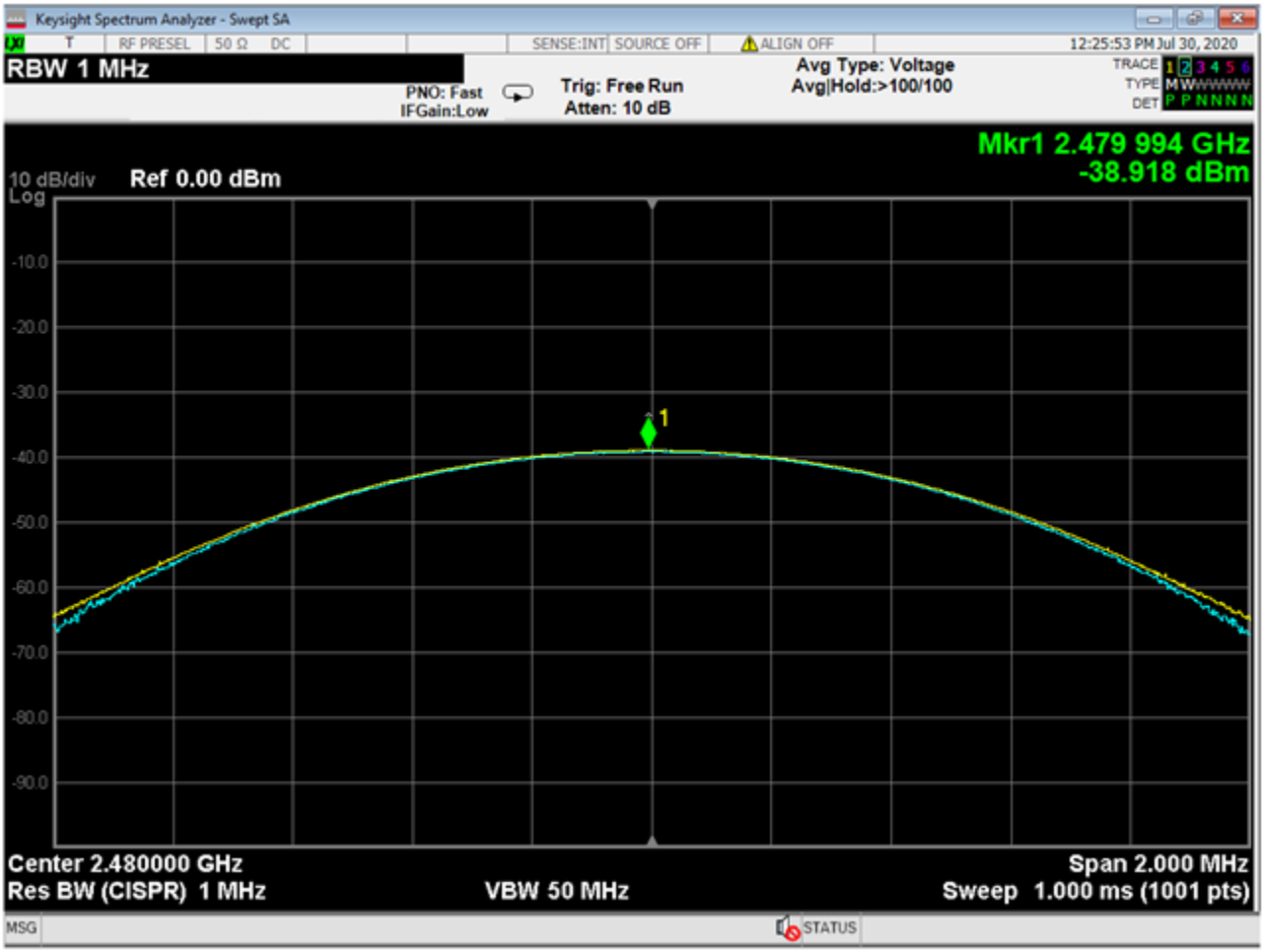

Occupied Bandwidth Low Channel




Occupied Bandwidth Mid Channel

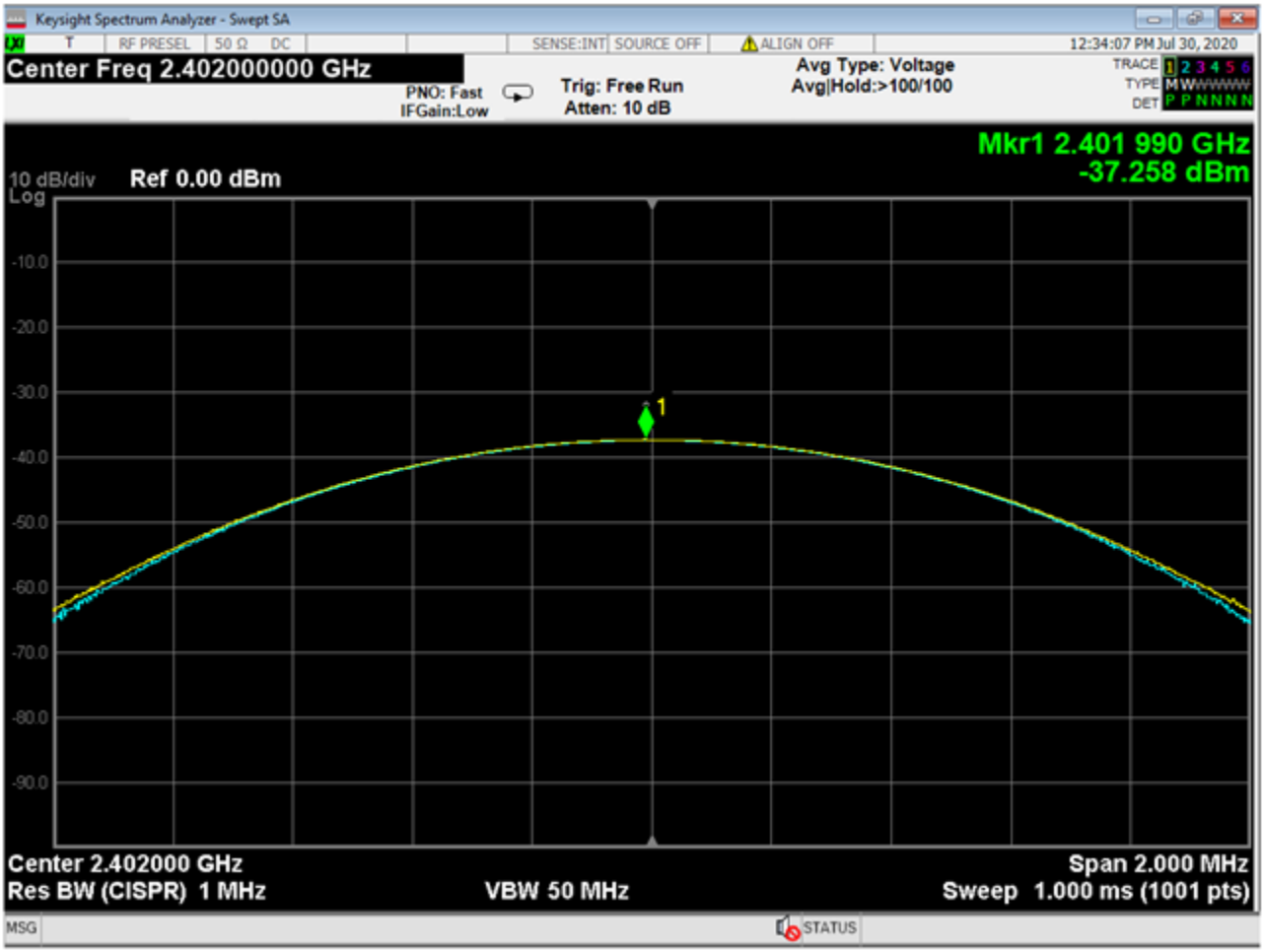



Occupied Bandwidth High Channel



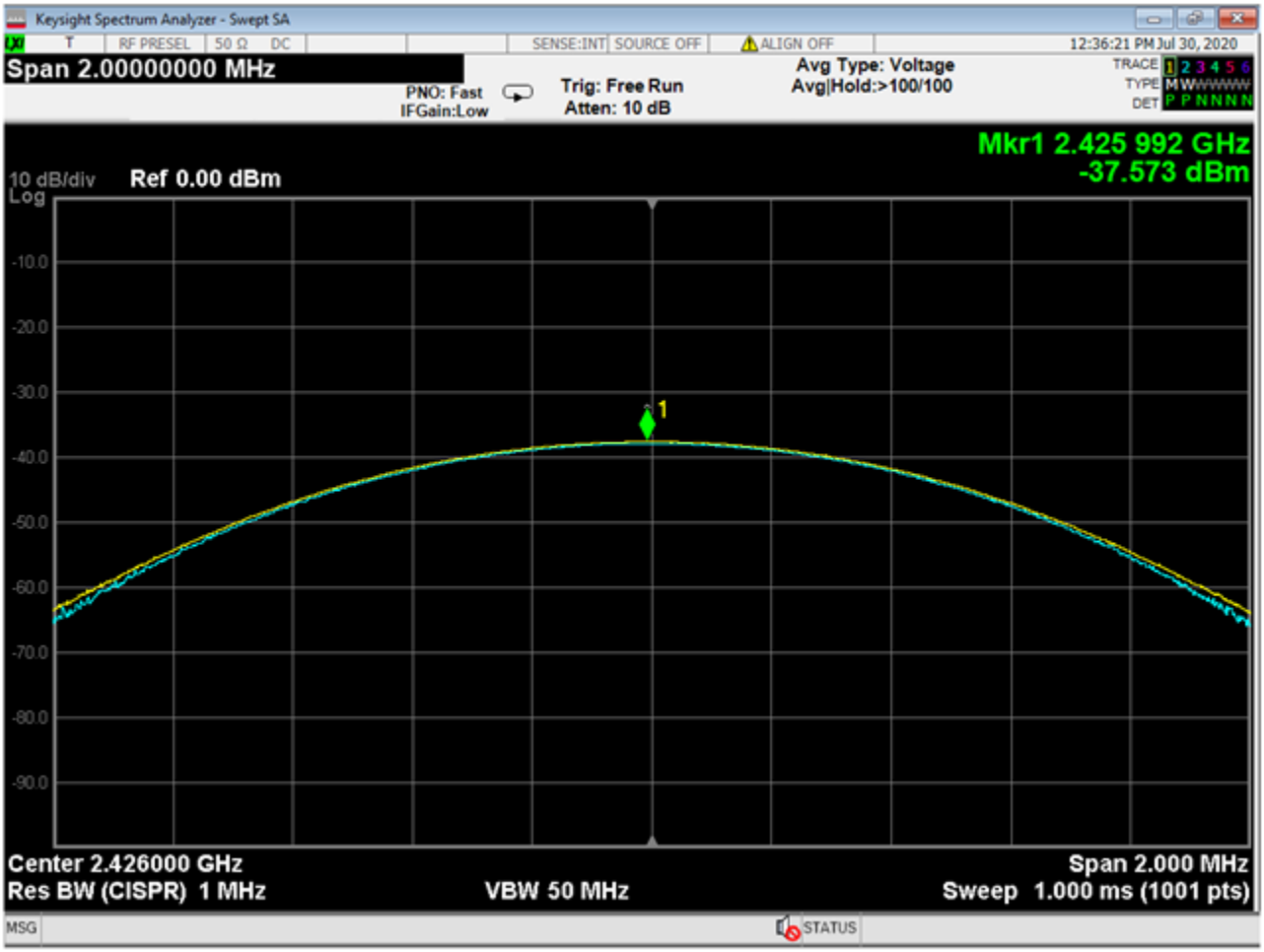

Output Power _High Channel

* Corrected EIRP Measurement = -38.918 (dBuV)+28.45 (Transducer in dB) +6.04 (Cable loss in dB) +107 (conversion from dBm to dBuV) -95.23 (EIRP conversion from 3m) = 7.342 dBm



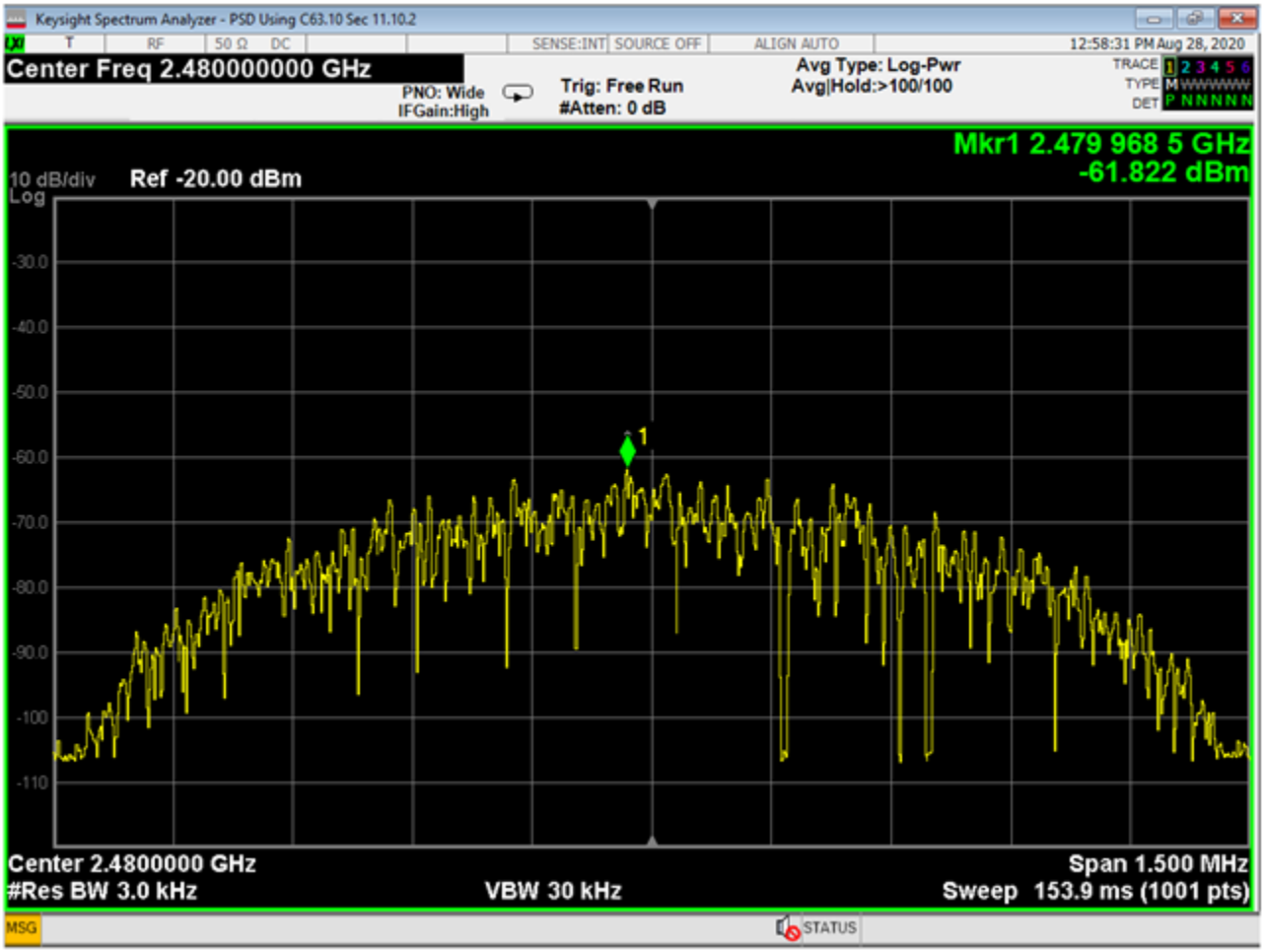

Output Power _Low Channel

* Corrected EIRP = -37.258 (dBuV)+28.389 (Transducer in dB) +5.96 (Cable loss in dB) +107 (conversion from dBm to dBuV) -95.23 (EIRP conversion from 3m) = 8.861 dBm



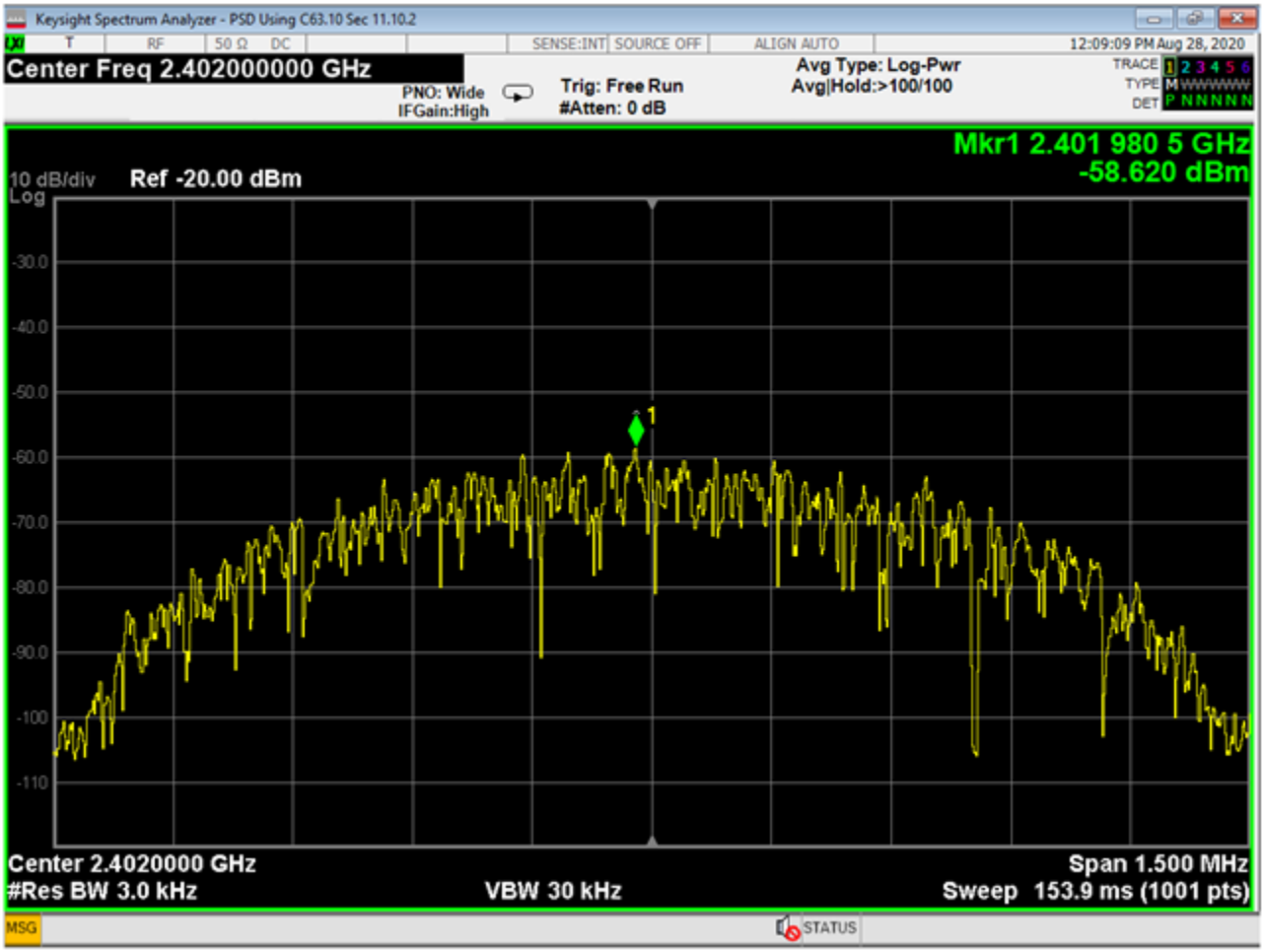

Output Power _Mid Channel

* Corrected EIRP = -37.573 (dBuV)+28.389 (Transducer in dB) +5.96 (Cable loss in dB) +107 (conversion from dBm to dBuV) -95.23 (EIRP conversion from 3m) = 8.546 dBm




PSD _High Channel

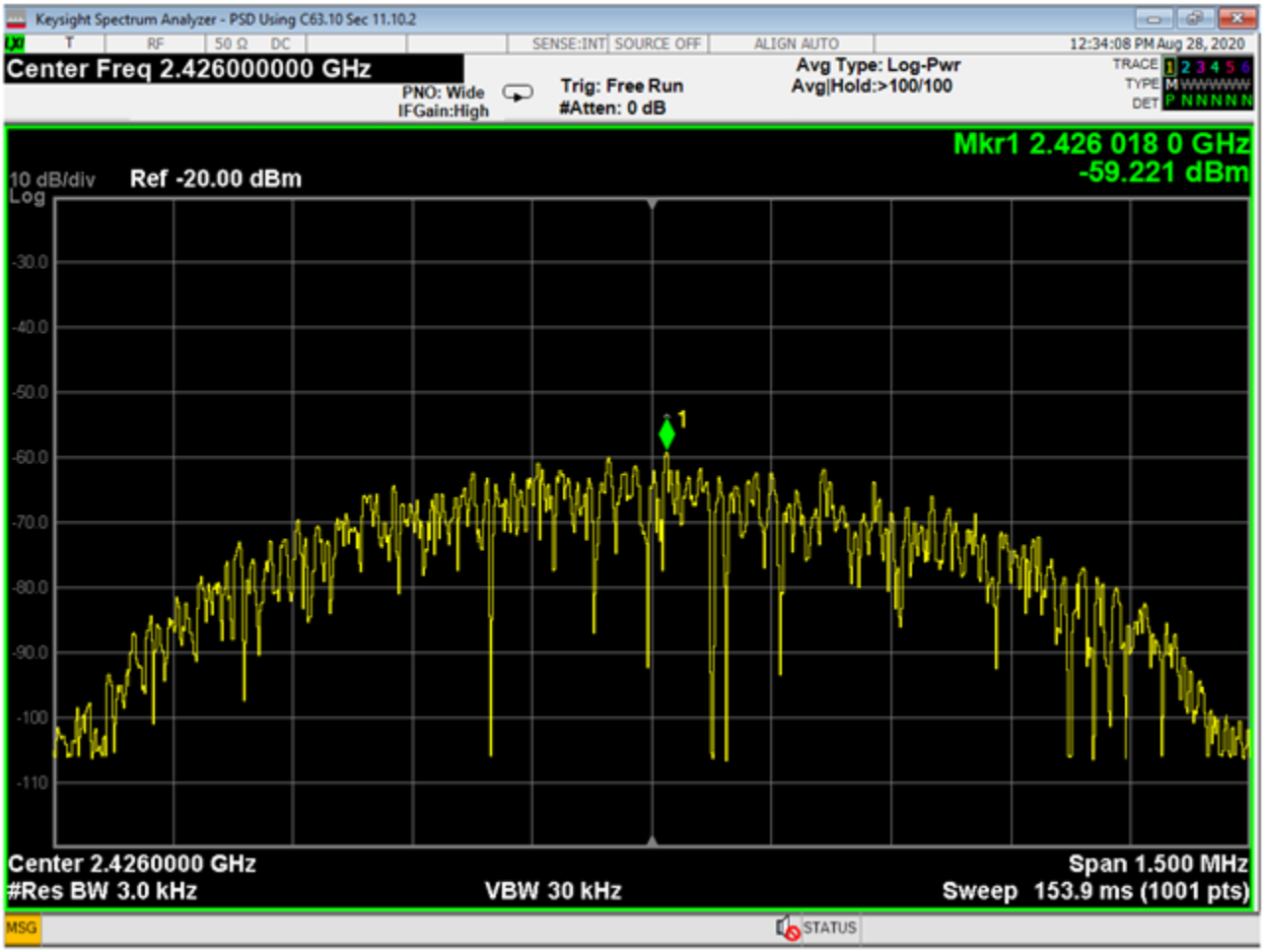
* Corrected EIRP = -61.822 (dBuV)+28.45 (Transducer in dB) +6.04 (Cable loss in dB) +107 (conversion from dBm to dBuV) -95.23 (EIRP conversion from 3m) = -27.332 dBm




PSD _Low Channel

* Corrected EIRP = -58.980 (dBuV)+28.389 (Transducer in dB) +5.96 (Cable loss in dB) +107 (conversion from dBm to dBuV) -95.23 (EIRP conversion from 3m) = -24.271 dBm

**Note that, measurement was made while the EUT was hopping in low, mid and High channels.
The analyzer was placed in max hold mode till the spectrum filled up.




PSD _Mid Channel

* Corrected EIRP = -59.221 (dBuV)+28.389 (Transducer in dB) +5.96 (Cable loss in dB) +107 (conversion from dBm to dBuV) -95.23 (EIRP conversion from 3m) = -24.872 dBm

**Note that, measurement was made while the EUT was hopping in low, mid and High channels.
The analyzer was placed in max hold mode till the spectrum filled up.

REPORT END