# FCC Radio Test Report

## FCC ID: 2AXJ4RM100

**This report concerns: Original Grant**

| | | |
|---|---|---|
| **Project No.** | : | 2207C018 |
| **Equipment** | : | Tapo Robot Vacuum Wi-Fi Model |
| **Brand Name** | : | tp-link |
| **Test Model** | : | RM100 |
| **Series Model** | : | N/A |
| **Applicant** | : | TP-Link Corporation Limited |
| **Address** | : | Room 901, 9/F. , New East Ocean Centre, 9 Science Museum Road, Tsim Sha Tsui, Kowloon, Hong Kong |
| **Manufacturer** | : | TP-Link Corporation Limited |
| **Address** | : | Room 901, 9/F. , New East Ocean Centre, 9 Science Museum Road, Tsim Sha Tsui, Kowloon, Hong Kong |
| **Date of Receipt** | : | Jul. 06, 2022 |
| **Date of Test** | : | Jul. 08, 2022 ~ Aug. 08, 2022 |
| **Issued Date** | : | Sep. 01, 2022 |
| **Report Version** | : | R00 |
| **Test Sample** | : | Engineering Sample No.: DG20220706106 for radiated emissions above 30MHz, DG20220706105 for AC power line conducted emissions and radiated emissions below 30MHz, DG20220706104 for others. |
| **Standard(s)** | : | FCC CFR Title 47, Part 15, Subpart C<br>FCC KDB 558074 D01 15.247 Meas Guidance v05r02<br>ANSI C63.10-2013 |

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

**Prepared by :** Chella Zheng

**Approved by :** Chay Cai

TESTING CERT #5123.02

**BTL Inc.**

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**Declaration**

**BTL** represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

**BTL**'s reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

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**BTL**'s laboratory quality assurance procedures are in compliance with the **ISO/IEC 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

**BTL** is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

**Limitation**

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.
Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.

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## REPORT ISSUED HISTORY

| Report No. | Version | Description | Issued Date | Note |
|---|---|---|---|---|
| BTL-FCCP-1-2207C018 | R00 | Original Report. | Sep. 01, 2022 | Valid |

## 1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

| FCC CFR Title 47, Part 15, Subpart C | | | | |
|---|---|---|---|---|
| **Standard(s) Section** | **Test Item** | **Test Result** | **Judgment** | **Remark** |
| 15.207 | AC Power Line Conducted Emissions | APPENDIX A | PASS | ------ |
| 15.247(d)<br>15.205(a)<br>15.209(a) | Radiated Emissions | APPENDIX B<br>APPENDIX C<br>APPENDIX D | PASS | ------ |
| 15.247(a)(2) | Bandwidth | APPENDIX E | PASS | ------ |
| 15.247(b)(3) | Maximum Average Output Power | APPENDIX F | PASS | ------ |
| 15.247(d) | Conducted Spurious Emission | APPENDIX G | PASS | ------ |
| 15.247(e) | Power Spectral Density | APPENDIX H | PASS | ------ |
| 15.203 | Antenna Requirement | ------ | PASS | Note(2) |

Note:

(1) “N/A” denotes test is not applicable to this device.

(2) The device what use a permanently attached antenna were considered sufficient to comply with the provisions of 15.203.

## 1.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No. 3 Jinshagang 1st Rd. Shixia, Dalang Town Dongguan City, Guangdong 523792 People's Republic of China.
BTL's Registration Number for FCC: 357015
BTL's Designation Number for FCC: CN1240

## 1.2 MEASUREMENT UNCERTAINTY

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))
The BTL measurement uncertainty as below table:

A. AC power line conducted emissions Measurement:

| Test Site | Method | Measurement Frequency Range | U,(dB) |
|---|---|---|---|
| DG-C02 | CISPR | 150kHz ~ 30MHz | 2.60 |

B. Radiated emissions Measurement:

| Test Site | Method | Measurement Frequency Range | U,(dB) |
|---|---|---|---|
| DG-CB01 | CISPR | 9kHz ~ 30MHz | 2.36 |

| Test Site | Method | Measurement Frequency Range | Ant. H / V | U,(dB) |
|---|---|---|---|---|
| DG-CB03 (3m) | CISPR | 30MHz ~ 200MHz | V | 4.36 |
| | | 30MHz ~ 200MHz | H | 3.32 |
| | | 200MHz ~ 1,000MHz | V | 4.08 |
| | | 200MHz ~ 1,000MHz | H | 3.96 |

| Test Site | Method | Measurement Frequency Range | U,(dB) |
|---|---|---|---|
| DG-CB03 (3m) | CISPR | 1GHz ~ 6GHz | 3.80 |
| | | 6GHz ~ 18GHz | 4.82 |

| Test Site | Method | Measurement Frequency Range | U,(dB) |
|---|---|---|---|
| DG-CB03 (1m) | CISPR | 18 ~ 26.5 GHz | 3.62 |
| | | 26.5 ~ 40 GHz | 4.00 |

C. Other Measurement:

| Test Item | Uncertainty |
|---|---|
| Bandwidth | ±3.8 % |
| Maximum Output Power | ±0.95 dB |
| Conducted Spurious Emission | ±2.71 dB |
| Power Spectral Density | ±0.86 dB |
| Temperature | ±0.08 °C |
| Humidity | ±1.5% |

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

## 1.3 TEST ENVIRONMENT CONDITIONS

| Test Item | Temperature | Humidity | Test Voltage | Tested By |
|---|---|---|---|---|
| AC Power Line Conducted Emissions | 23°C | 54% | AC 120V/60Hz | Jeter Wang |
| Radiated Emissions-9 kHz to 30 MHz | 25°C | 55% | DC 3.3V | Farun Liang |
| Radiated Emissions-30 MHz to 1000 MHz | 25°C | 50% | DC 3.3V | Charles Xiang |
| Radiated Emissions-Above 1000 MHz | 24°C | 50% | DC 3.3V | Charles Xiang |
| Bandwidth | 24°C | 59% | DC 3.3V | Ansel Yang |
| Maximum Average Output Power | 24.2°C | 67.3% | DC 3.3V | Complex Qin |
| Conducted Spurious Emission | 24°C | 59% | DC 3.3V | Ansel Yang |
| Power Spectral Density | 24°C | 59% | DC 3.3V | Ansel Yang |

# 2. GENERAL INFORMATION

## 2.1 GENERAL DESCRIPTION OF EUT

| | |
|---|---|
| Equipment | Tapo Robot Vacuum Wi-Fi Model |
| Brand Name | tp-link |
| Test Model | RM100 |
| Series Model | N/A |
| Model Difference(s) | N/A |
| Power Source | DC Voltage supplied from External Power Supply. |
| Power Rating | DC 3.3V |
| Operation Frequency | 2402 MHz ~ 2480 MHz |
| Modulation Type | GFSK |
| Bit Rate of Transmitter | 1Mbps |
| Max. Average Output Power | 1Mbps: 6.74 dBm (0.0047 W) |

Note:

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

2. Channel List:

| Channel | Frequency (MHz) | Channel | Frequency (MHz) |
|---|---|---|---|
| 00 | 2402 | 20 | 2442 |
| 01 | 2404 | 21 | 2444 |
| 02 | 2406 | 22 | 2446 |
| 03 | 2408 | 23 | 2448 |
| 04 | 2410 | 24 | 2450 |
| 05 | 2412 | 25 | 2452 |
| 06 | 2414 | 26 | 2454 |
| 07 | 2416 | 27 | 2456 |
| 08 | 2418 | 28 | 2458 |
| 09 | 2420 | 29 | 2460 |
| 10 | 2422 | 30 | 2462 |
| 11 | 2424 | 31 | 2464 |
| 12 | 2426 | 32 | 2466 |
| 13 | 2428 | 33 | 2468 |
| 14 | 2430 | 34 | 2470 |
| 15 | 2432 | 35 | 2472 |
| 16 | 2434 | 36 | 2474 |
| 17 | 2436 | 37 | 2476 |
| 18 | 2438 | 38 | 2478 |
| 19 | 2440 | 39 | 2480 |

3. Table for Filed Antenna:

| Ant. | Brand | P/N | Antenna Type | Connector | Gain (dBi) |
|---|---|---|---|---|---|
| 1 | tp-link | 3101502753 | Dipole | I-PEX | 1.97 |

Note: The antenna gain is provided by the manufacturer.

## 2.2 DESCRIPTION OF TEST MODES

The test system was pre-tested based on the consideration of all possible combinations of EUT operation mode.

| Pretest Mode | Description |
|---|---|
| Mode 1 | TX Mode_1Mbps Channel 00/19/39 |
| Mode 2 | TX Mode_1Mbps Channel 19 |

Following mode(s) was (were) found to be the worst case(s) and selected for the final test.

| **AC power line conducted emissions test** | |
|---|---|
| Final Test Mode | Description |
| Mode 2 | TX Mode_1Mbps Channel 19 |

| **Radiated emissions test - Below 1GHz** | |
|---|---|
| Final Test Mode | Description |
| Mode 2 | TX Mode_1Mbps Channel 19 |

| **Radiated emissions test - Above 1GHz** | |
|---|---|
| Final Test Mode | Description |
| Mode 1 | TX Mode_1Mbps Channel 00/19/39 |

| **Conducted test** | |
|---|---|
| Final Test Mode | Description |
| Mode 1 | TX Mode_1Mbps Channel 00/19/39 |

Note:

(1) For radiated emission above 1 GHz test, the spurious points of 1GHz~26.5GHz have been pre-tested and in this report only recorded the worst case. The remaining spurious points are all below the limit value of 20dB.

(2) For AC power line conducted emissions and radiated emissions below 1 GHz test, the 1Mbps Channel 19 is found to be the worst case and recorded.

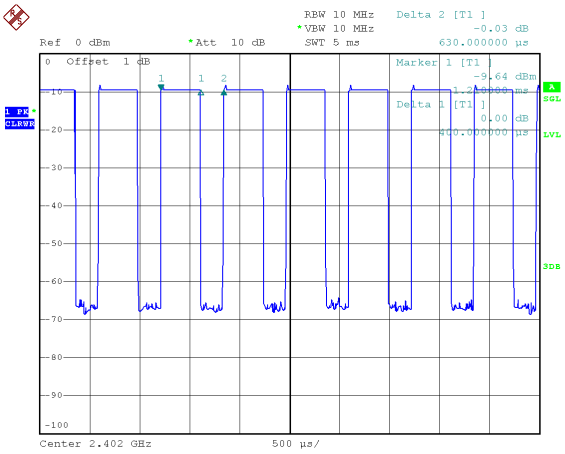
## 2.3 PARAMETERS OF TEST SOFTWARE

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level.

| Test Software Version | RTLBTAPP | | |
|---|---|---|---|
| Frequency (MHz) | 2402 | 2440 | 2480 |
| 1Mbps | 0x2f | 0x2f | 0x2f |

## 2.4 DUTY CYCLE

If duty cycle is ≥ 98 %, duty factor is not required.
If duty cycle is < 98 %, duty factor shall be considered.
The output power = measured power + duty factor.

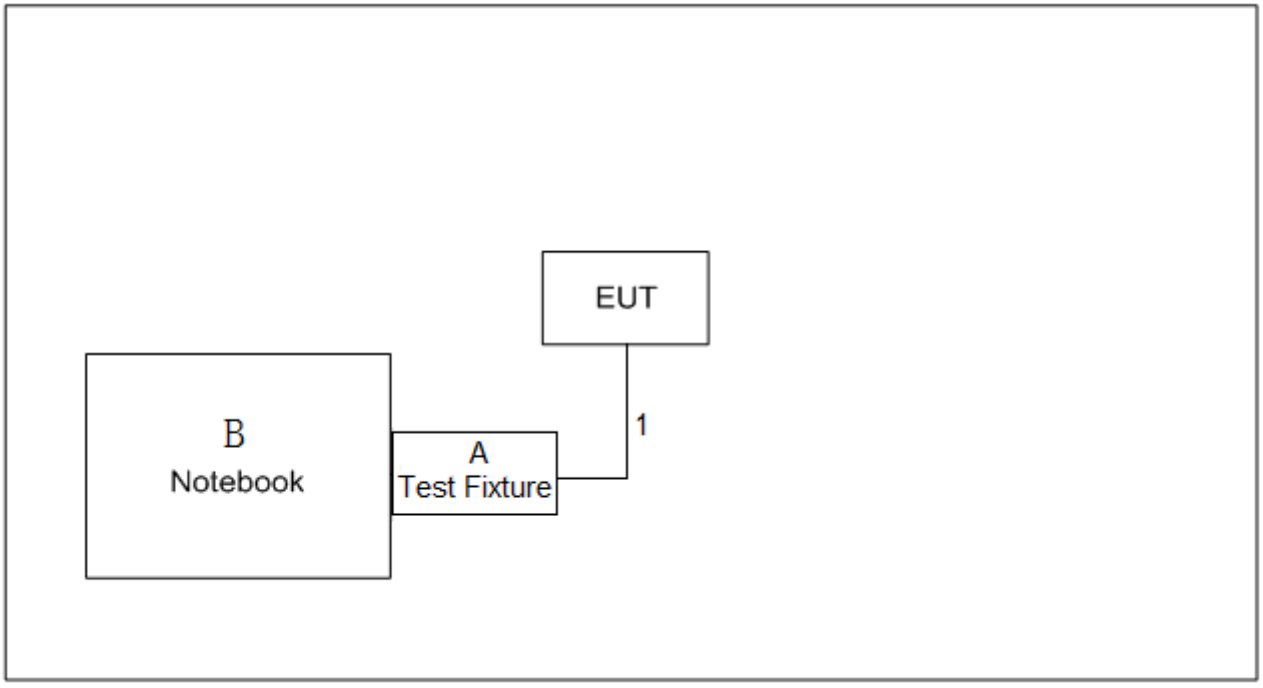



Duty cycle = 0.396 ms / 0.627 ms = 63.16%
Duty Factor = 10 log(1/Duty cycle) = 2.00

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 2525 Hz.

(Remark: The video bandwidth of the spectrum analyzer was set to 1kHz during the test.)

## 2.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED




## 2.6 SUPPORT UNITS

| Item | Equipment | Brand | Model No. | Series No. |
|---|---|---|---|---|
| A | Test Fixture | N/A | N/A | N/A |
| B | Notebook | Honor | Nbl-WAQ9HNRP | N/A |

| Item | Cable Type | Shielded Type | Ferrite Core | Length |
|---|---|---|---|---|
| 1 | Data Cable | NO | NO | 0.2m |

## 3. AC POWER LINE CONDUCTED EMISSIONS

### 3.1 LIMIT

| Frequency of Emission (MHz) | Limit (dBμV) | |
|---|---|---|
| | Quasi-peak | Average |
| 0.15 - 0.5 | 66 to 56* | 56 to 46* |
| 0.5 - 5.0 | 56 | 46 |
| 5.0 - 30.0 | 60 | 50 |

Note:

(1) The tighter limit applies at the band edges.
(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

### 3.2 TEST PROCEDURE

a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipment powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
d. LISN at least 80 cm from nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

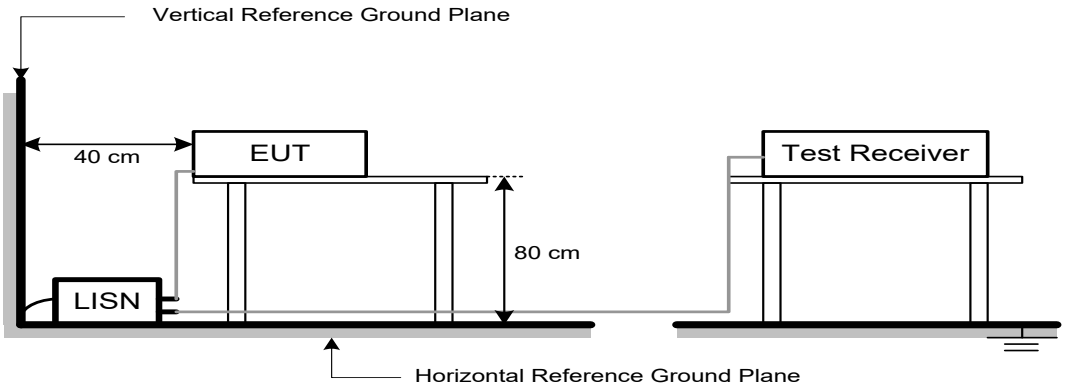
The following table is the setting of the receiver:

| Receiver Parameters | Setting |
|---|---|
| Start Frequency | 0.15 MHz |
| Stop Frequency | 30 MHz |
| IF Bandwidth | 9 kHz |

### 3.3 DEVIATION FROM TEST STANDARD

No deviation.

## 3.4 TEST SETUP




## 3.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

## 3.6 TEST RESULTS

Please refer to the APPENDIX A.

Remark:

(1) All readings are QP Mode value unless otherwise stated AVG in column of『Note』. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform.In this case, a " * " marked in AVG Mode column of Interference Voltage Measured.

(2) Measuring frequency range from 150 kHz to 30 MHz.

# 4. RADIATED EMISSIONS

## 4.1 LIMIT

In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

LIMITS OF RADIATED EMISSION MEASUREMENT (9 kHz-1000 MHz)

| Frequency (MHz) | Field Strength (microvolts/meter) | Measurement Distance (meters) |
|---|---|---|
| 0.009-0.490 | 2400/F(kHz) | 300 |
| 0.490-1.705 | 24000/F(kHz) | 30 |
| 1.705-30.0 | 30 | 30 |
| 30-88 | 100 | 3 |
| 88-216 | 150 | 3 |
| 216-960 | 200 | 3 |
| Above 960 | 500 | 3 |

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000 MHz)

| Frequency (MHz) | (dBuV/m at 3 m) | |
|---|---|---|
| | Peak | Average |
| Above 1000 | 74 | 54 |

Note:
(1) The limit for radiated test was performed according to FCC CFR Title 47, Part 15, Subpart C.
(2) The tighter limit applies at the band edges.
(3) Emission level (dBuV/m)=20log Emission level (uV/m).

## 4.2 TEST PROCEDURE

a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1 GHz)
b. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1 GHz)
c. The height of the equipment or of the substitution antenna shall be 0.8m or 1.5m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.
f. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
g. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn‘t perform. (below 1 GHz)
h. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn‘t perform. (above 1 GHz)
i. For the actual test configuration, please refer to the related Item –EUT Test Photos.

The following table is the setting of the receiver:

| Spectrum Parameters | Setting |
|---|---|
| Start ~ Stop Frequency | 9 kHz~150 kHz for RBW 200 Hz |
| Start ~ Stop Frequency | 0.15 MHz~30 MHz for RBW 9 kHz |
| Start ~ Stop Frequency | 30 MHz~1000 MHz for RBW 100 kHz |

| Spectrum Parameters | Setting |
|---|---|
| Start Frequency | 1000 MHz |
| Stop Frequency | 10th carrier harmonic |
| RBW / VBW<br>(Emission in restricted band) | 1 MHz / 3 MHz for PK value<br>1 MHz / 1/T Hz for AVG value |

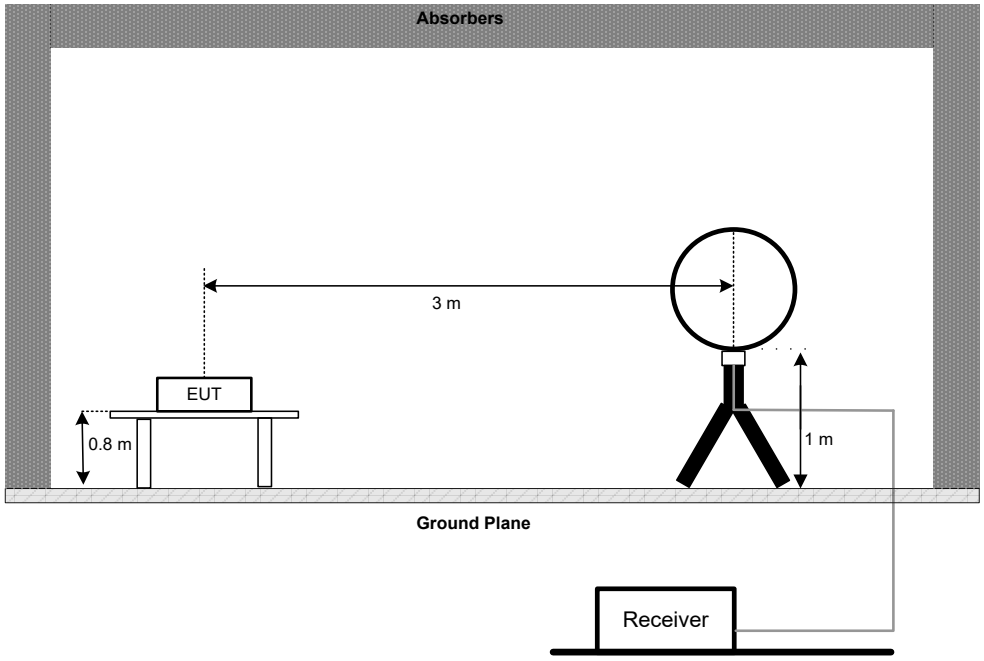
| Spectrum Parameters | Setting |
|---|---|
| Start ~ Stop Frequency | 9 kHz~90 kHz for PK/AVG detector |
| Start ~ Stop Frequency | 90 kHz~110 kHz for QP detector |
| Start ~ Stop Frequency | 110 kHz~490 kHz for PK/AVG detector |
| Start ~ Stop Frequency | 490 kHz~30 MHz for QP detector |
| Start ~ Stop Frequency | 30 MHz~1000 MHz for QP detector |
| Start ~ Stop Frequency | 1 GHz~26.5 GHz for PK/AVG detector |

## 4.3 DEVIATION FROM TEST STANDARD

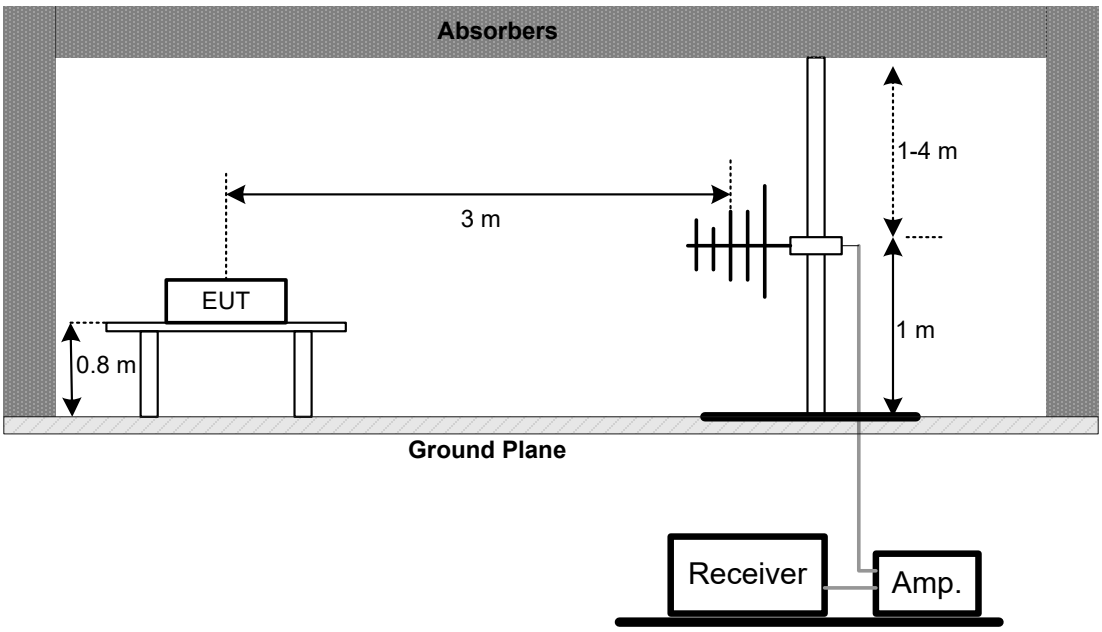
No deviation.

## 4.4 TEST SETUP

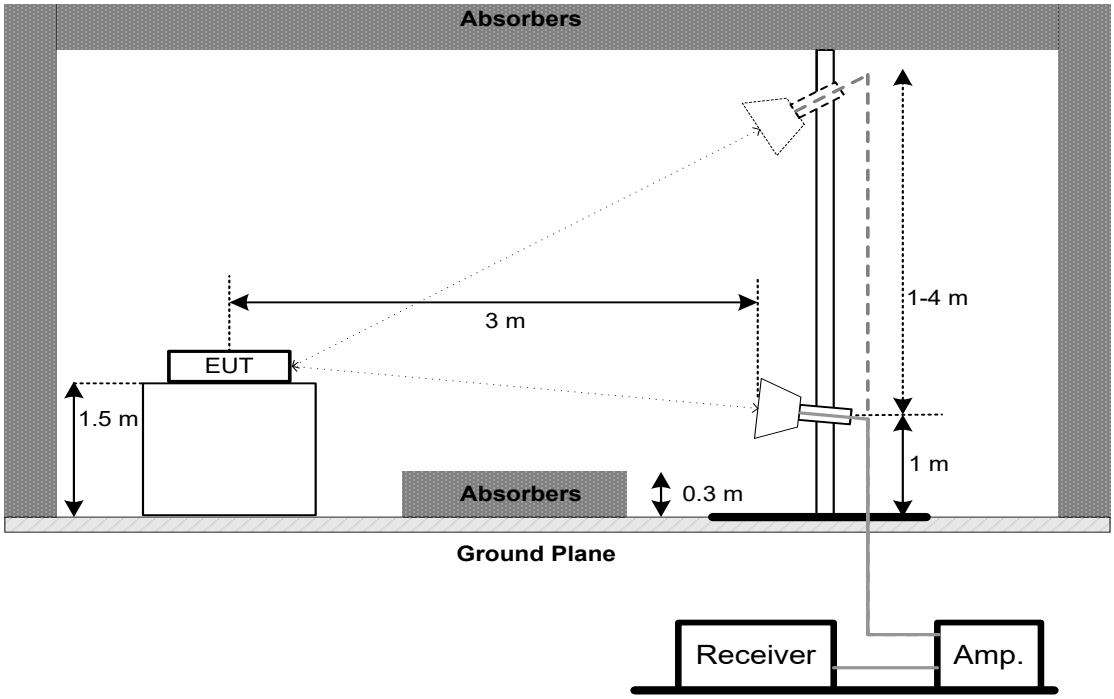
**9 kHz to 30 MHz**




**30 MHz to 1 GHz**



**Above 1 GHz**




## 4.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

## 4.6 TEST RESULT - 9 kHz TO 30 MHz

Please refer to the APPENDIX B.

Remark:

(1) Distance extrapolation factor = 40 log (specific distance / test distance) (dB).
(2) Limit line = specific limits (dBuV) + distance extrapolation factor.

## 4.7 TEST RESULT - 30 MHz TO 1000 MHz

Please refer to the APPENDIX C.

## 4.8 TEST RESULT - ABOVE 1000 MHz

Please refer to the APPENDIX D.

Remark:

(1) No limit: This is fundamental signal, the judgment is not applicable.
For fundamental signal judgment was referred to Peak output test.

# 5. BANDWIDTH

## 5.1 LIMIT

| Section | Test Item | Limit |
|---|---|---|
| FCC 15.247(a)(2) | 6 dB Bandwidth | >= 500 kHz |
| | 99% Emission Bandwidth | - |

## 5.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.

b. The following table is the setting of the spectrum analyzer:

For 6 dB Bandwidth:

| Spectrum Parameters | Setting |
|---|---|
| Span Frequency | > Measurement Bandwidth |
| RBW | 100 kHz |
| VBW | 300 kHz |
| Detector | Peak |
| Trace | Max Hold |
| Sweep Time | Auto |

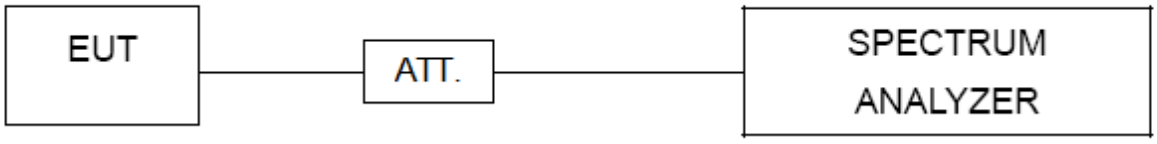
For 99% Emission Bandwidth:

| Spectrum Parameters | Setting |
|---|---|
| Span Frequency | Between 1.5 times and 5.0 times the OBW |
| RBW | 30 kHz |
| VBW | 100 kHz |
| Detector | Peak |
| Trace | Max Hold |
| Sweep Time | Auto |

## 5.3 DEVIATION FROM STANDARD

No deviation.

## 5.4 TEST SETUP




## 5.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

## 5.6 TEST RESULTS

Please refer to the APPENDIX E.

# 6. MAXIMUM AVERAGE OUTPUT POWER

## 6.1 LIMIT

| Section | Test Item | Limit |
|---|---|---|
| FCC 15.247(b)(3) | Maximum Average Output Power | 1.0000 watt or 30.00 dBm |

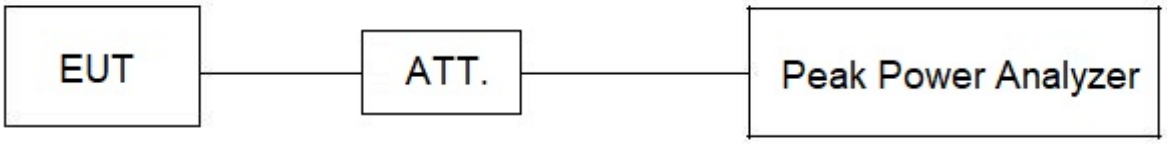
## 6.2 TEST PROCEDURE

a. The EUT was directly connected to the peak power analyzer and antenna output port as show in the block diagram below.
b. The maximum conducted output power was performed in accordance with method 11.9.2.3.1 of ANSI C63.10-2013.

## 6.3 DEVIATION FROM STANDARD

No deviation.

## 6.4 TEST SETUP




## 6.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

## 6.6 TEST RESULTS

Please refer to the APPENDIX F.

# 7. CONDUCTED SPURIOUS EMISSION

## 7.1 LIMIT

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak Output Power limits. If the transmitter complies with the Output Power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required.

## 7.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
b. The following table is the setting of the spectrum analyzer:

For Reference Level:

| Spectrum Parameters | Setting |
|---|---|
| Span Frequency | ≥ 1.5 times the bandwidth. |
| RBW | 100 kHz |
| VBW | 300 kHz |
| Detector | Peak |
| Trace | Max Hold |
| Sweep Time | Auto |

For Emission Level:

| Spectrum Parameters | Setting |
|---|---|
| Start Frequency | 30 MHz |
| Stop Frequency | 26.5 GHz |
| RBW | 100 kHz |
| VBW | 300 kHz |
| Detector | Peak |
| Trace | Max Hold |
| Sweep Time | Auto |

## 7.3 DEVIATION FROM STANDARD

No deviation.

## 7.4 TEST SETUP


## 7.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

## 7.6 TEST RESULTS

Please refer to the APPENDIX G.

## 8. POWER SPECTRAL DENSITY

### 8.1 LIMIT

| Section | Test Item | Limit |
|---|---|---|
| FCC 15.247(e) | Power Spectral Density | 8 dBm<br>(in any 3 kHz) |

### 8.2 TEST PROCEDURE

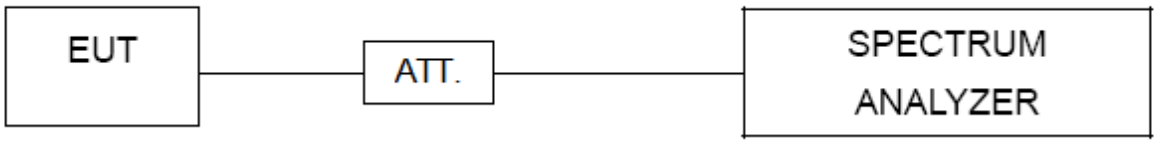
a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
b. The following table is the setting of the spectrum analyzer:

| Spectrum Parameters | Setting |
|---|---|
| Span Frequency | 1.5 times the DTS bandwidth |
| RBW | 3 kHz |
| VBW | 10 kHz |
| Detector | Peak |
| Trace | Max Hold |
| Sweep Time | Auto |

### 8.3 DEVIATION FROM STANDARD

No deviation.

### 8.4 TEST SETUP




### 8.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

### 8.6 TEST RESULTS

Please refer to the APPENDIX H.

## 9. MEASUREMENT INSTRUMENTS LIST

| AC Power Line Conducted Emissions | | | | | |
|---|---|---|---|---|---|
| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
| 1 | EMI Test Receiver | R&S | ESCI | 100382 | Jan. 22, 2023 |
| 2 | LISN | EMCO | 3816/2 | 52765 | Jan. 23, 2023 |
| 3 | TWO-LINE V-NETWORK | R&S | ENV216 | 101447 | Jan. 23, 2023 |
| 4 | 50Ω Terminator | SHX | TF5-3 | 15041304 | Jan. 22, 2023 |
| 5 | Measurement Software | Farad | EZ-EMC Ver.NB-03A1-01 | N/A | N/A |
| 6 | Cable | N/A | RG223 | 12m | Mar. 08, 2023 |
| 7 | 643 Shield Room | ETS | 6*4*3 | N/A | N/A |

| Radiated Emissions - 9 kHz to 30 MHz | | | | | |
|---|---|---|---|---|---|
| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
| 1 | MXE EMI Receiver | Keysight | N9038A | MY56400091 | Jan. 22, 2023 |
| 2* | Active Loop Antenna | R&S | HFH2-Z2 | 830749/020 | Aug. 23, 2024 |
| 3 | Cable | N/A | RG 213/U(9kHz~1GHz) | N/A | Jun. 17, 2023 |
| 4 | Measurement Software | Farad | EZ-EMC Ver.NB-03A1-01 | N/A | N/A |
| 5 | 966 Chamber Room | ETS | 9*6*6 | N/A | Jul. 14, 2022<br>Jul. 14, 2023 |

| Radiated Emissions - 30 MHz to 1 GHz | | | | | |
|---|---|---|---|---|---|
| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
| 1 | Antenna | Schwarzbeck | VULB9160 | 9160-3232 | Mar. 03, 2023 |
| 2 | Amplifier | HP | 8447D | 2944A08742 | Jan. 22, 2023 |
| 3 | Cable | emci | LMR-400 | N/A | Nov. 30, 2022 |
| 4 | Controller | CT | SC100 | N/A | N/A |
| 5 | Controller | MF | MF-7802 | MF780208416 | N/A |
| 6 | Receiver | Agilent | N9038A | MY52130039 | Jan. 22, 2023 |
| 7 | Measurement Software | Farad | EZ-EMC Ver.NB-03A1-01 | N/A | N/A |
| 8 | 966 Chamber Room | RM | 9*6*6 | N/A | Jul. 15, 2022<br>Jul. 15, 2023 |

| Radiated Emissions - Above 1 GHz | | | | | |
|---|---|---|---|---|---|
| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
| 1 | Double Ridged Horn Antenna | ARA | DRG-118A | 16554 | Apr. 18, 2023 |
| 2 | Broad-Band Horn Antenna | Schwarzbeck | BBHA 9170 | 9170319 | May 27, 2023 |
| 3 | Amplifier | Agilent | 8449B | 3008A02584 | Jul. 03, 2023 |
| 4 | Controller | CT | SC100 | N/A | N/A |
| 5 | Controller | MF | MF-7802 | MF780208416 | N/A |
| 6 | Receiver | Agilent | N9038A | MY52130039 | Jan. 22, 2023 |
| 7 | EXA Spectrum Analyzer | Keysight | N9010A | MY56480488 | Jan. 22, 2023 |
| 8* | Low Noise Amplifier | CONNPHY | CLN-18G40G-4330 -K | 619413 | Jul. 05, 2025 |
| 9 | Cable | Talent microwave | A81-SMAMSMAM-12.5M | N/A | Oct. 15, 2022 |
| 10 | Cable | Talent microwave | A40-2.92M2.92M-2.5M | N/A | Nov. 30, 2022 |
| 11 | Filter | STI | STI15-9912 | N/A | Jul. 03, 2023 |
| 12 | Measurement Software | Farad | EZ-EMC Ver.NB-03A1-01 | N/A | N/A |
| 13 | 966 Chamber Room | RM | 9*6*6 | N/A | Jul. 15, 2022<br>Jul. 15, 2023 |

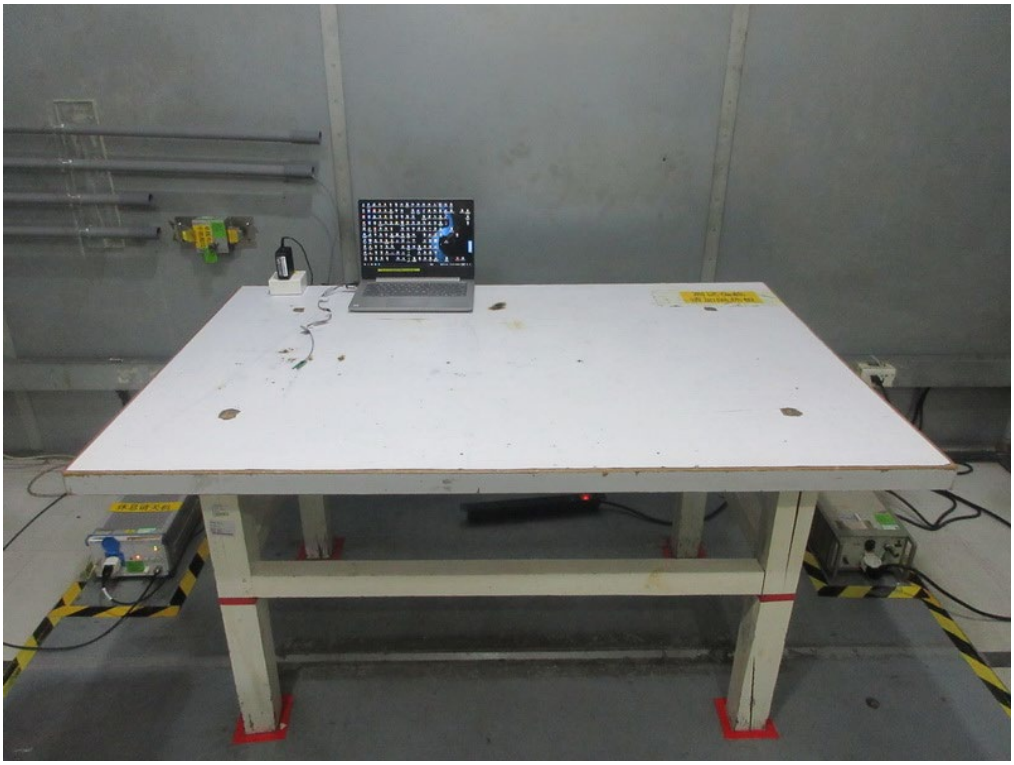
| Bandwidth &<br>Power Spectral Density &<br>Conducted Spurious Emission | | | | | |
|---|---|---|---|---|---|
| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
| 1 | Spectrum Analyzer | R&S | FSP40 | 100185 | Jul. 03, 2023 |
| 2 | Attenuator | WOKEN | 6SM3502 | VAS1214NL | N/A |
| 3 | RF Cable | Tongkaichuan | N/A | N/A | N/A |
| 4 | DC Block | Mini | N/A | N/A | N/A |

| Maximum Average Output Power | | | | | |
|---|---|---|---|---|---|
| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
| 1 | Peak Power Analyzer | Keysight | 8990B | MY51000506 | Jul. 03. 2023 |
| 2 | Wideband power sensor | Keysight | N1923A | MY58310004 | Jul. 03. 2023 |
| 3 | Attenuator | WOKEN | 6SM3502 | VAS1214NL | N/A |
| 4 | RF Cable | Tongkaichuan | N/A | N/A | N/A |

Remark: “N/A” denotes no model name, serial no. or calibration specified.
“*” calibration period of equipment list is three year.
Except * item, all calibration period of equipment list is one year.

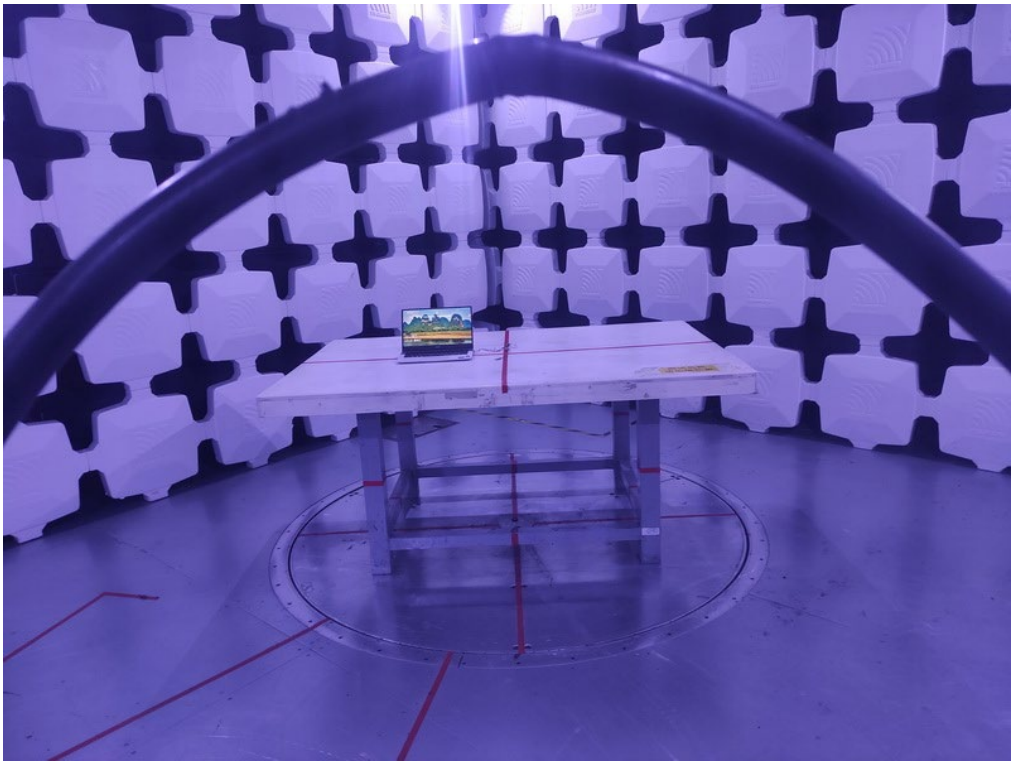
## 10. EUT TEST PHOTO

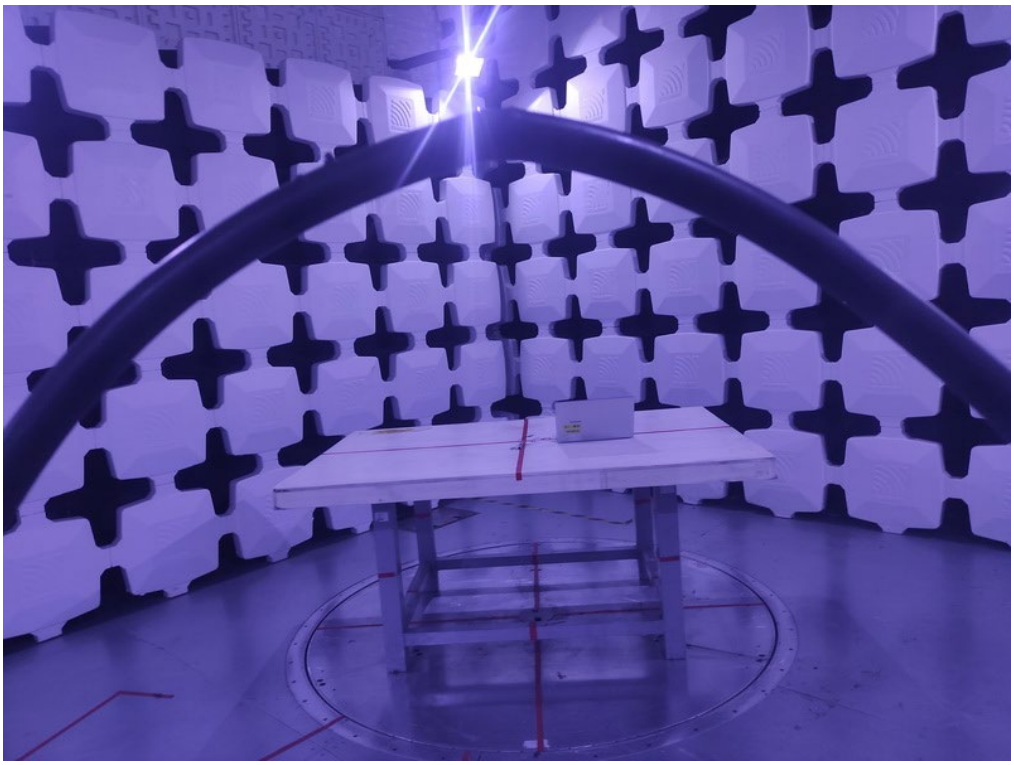
**AC Power Line Conducted Emissions Test Photos**



**Radiated Emissions Test Photos**

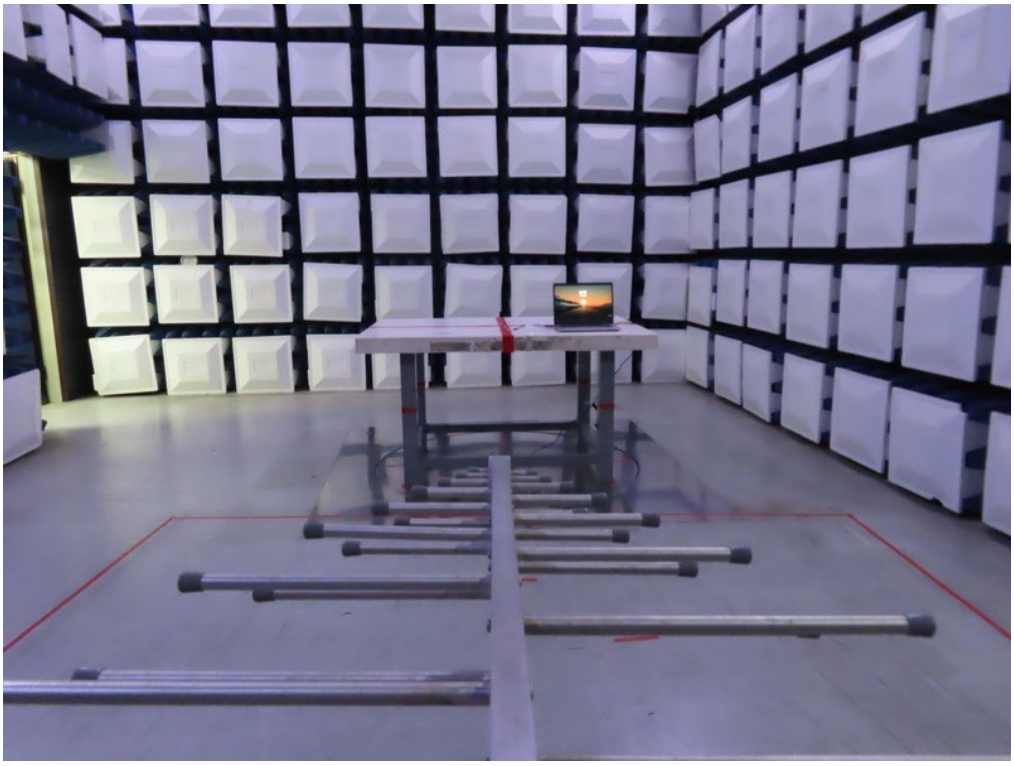
**9 kHz to 30 MHz**

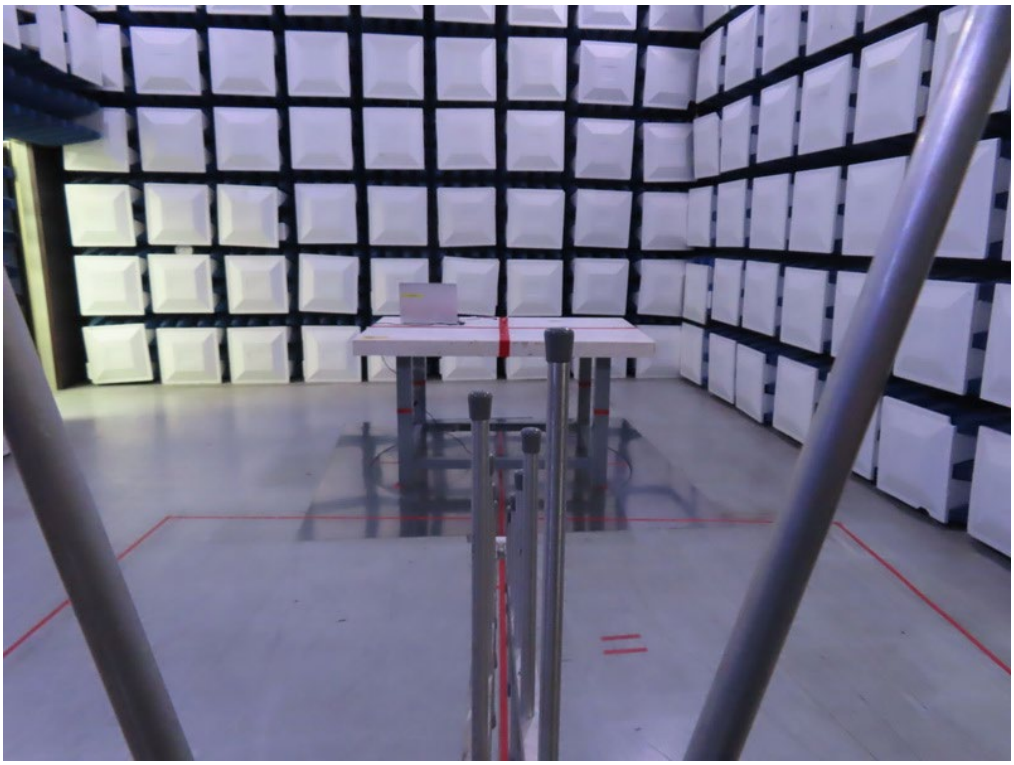




**Radiated Emissions Test Photos**

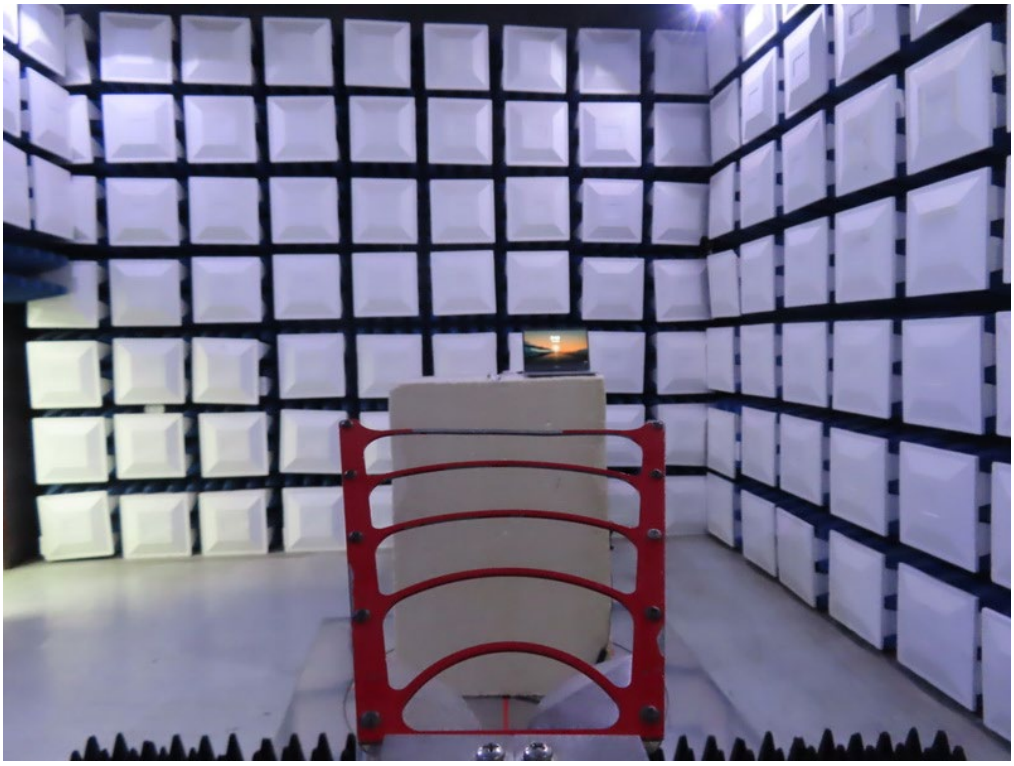
**30 MHz to 1000 MHz**

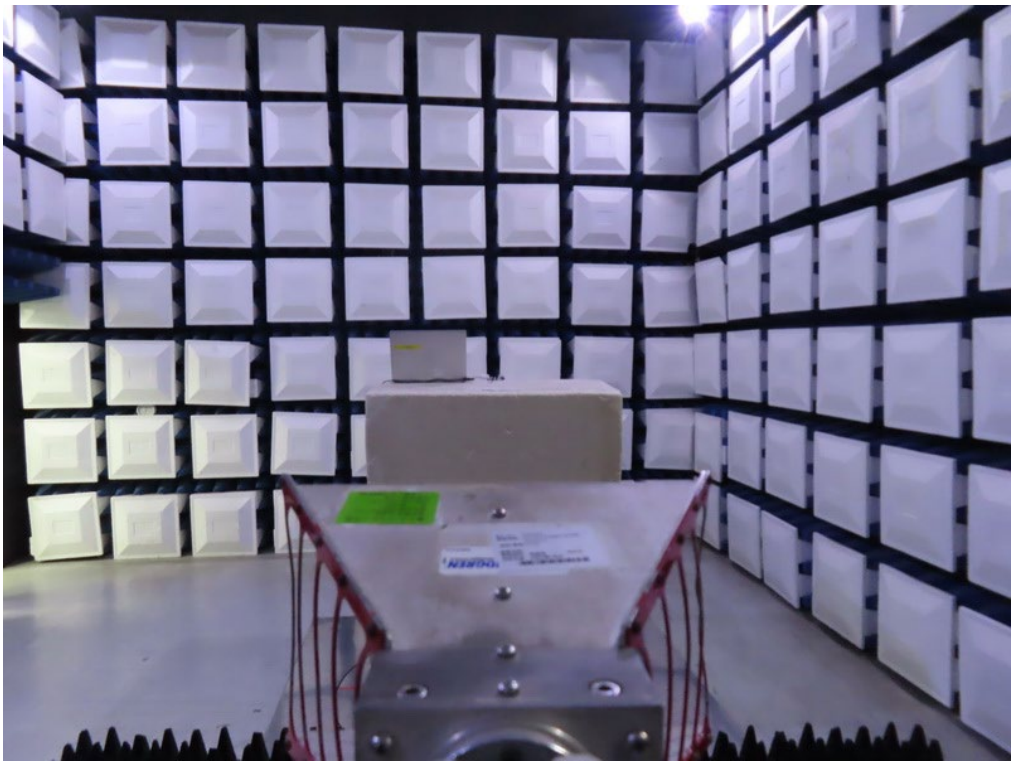




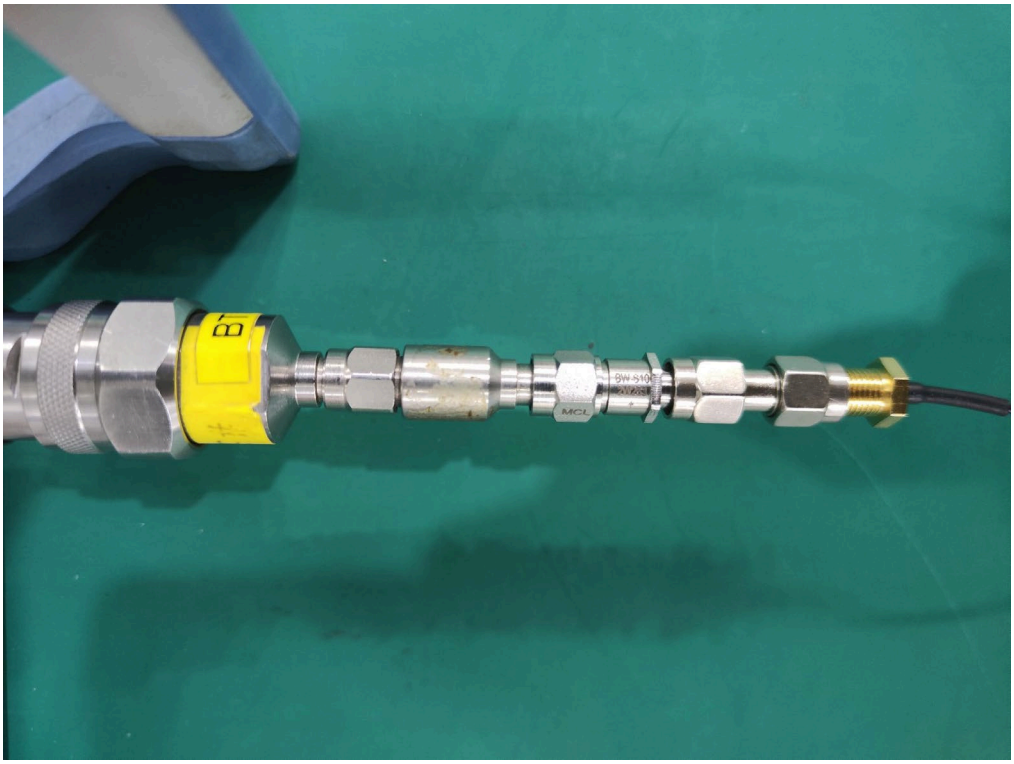
**Radiated Emissions Test Photos**

**Above 1 GHz**



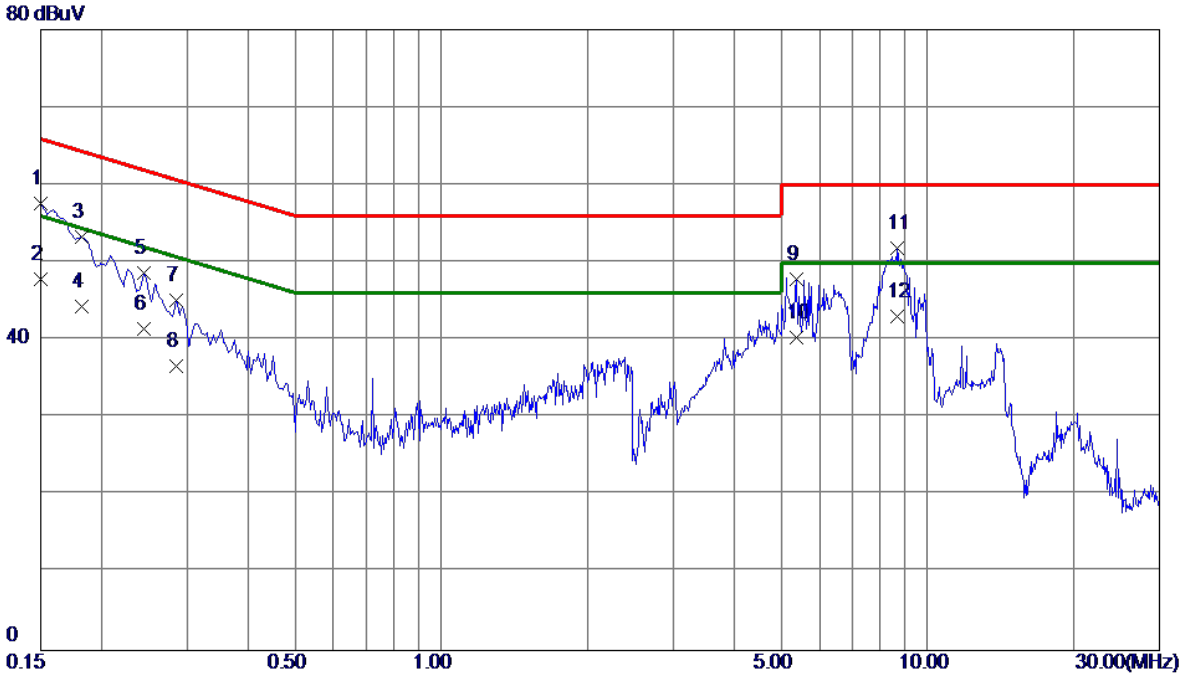


**Conducted Test Photos**

# APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS

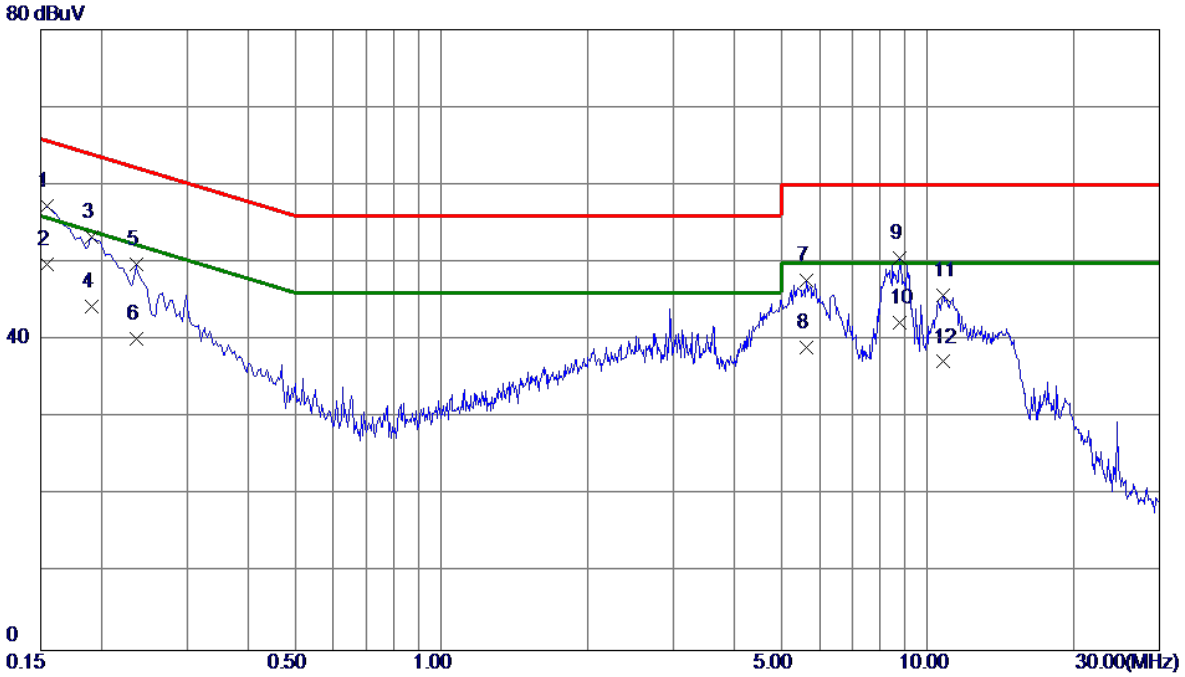
| Test Mode | TX Mode_1Mbps Channel 19 | Phase | Line |
|---|---|---|---|




| No. | Freq. | Reading Level | Correct Factor | Measure ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | 0.1500 | 47.92 | 9.65 | 57.57 | 66.00 | -8.43 | QP | |
| 2 | 0.1500 | 38.21 | 9.65 | 47.86 | 56.00 | -8.14 | AVG | |
| 3 | 0.1825 | 43.57 | 9.68 | 53.25 | 64.37 | -11.12 | QP | |
| 4 | 0.1825 | 34.59 | 9.68 | 44.27 | 54.37 | -10.10 | AVG | |
| 5 | 0.2445 | 38.94 | 9.70 | 48.64 | 61.94 | -13.30 | QP | |
| 6 | 0.2445 | 31.80 | 9.70 | 41.50 | 51.94 | -10.44 | AVG | |
| 7 | 0.2850 | 35.42 | 9.72 | 45.14 | 60.67 | -15.53 | QP | |
| 8 | 0.2850 | 26.90 | 9.72 | 36.62 | 50.67 | -14.05 | AVG | |
| 9 | 5.3700 | 37.67 | 10.15 | 47.82 | 60.00 | -12.18 | QP | |
| 10 | 5.3700 | 30.10 | 10.15 | 40.25 | 50.00 | -9.75 | AVG | |
| 11 | 8.6865 | 41.52 | 10.40 | 51.92 | 60.00 | -8.08 | QP | |
| 12 * | 8.6865 | 32.69 | 10.40 | 43.09 | 50.00 | -6.91 | AVG | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

| Test Mode | TX Mode_1Mbps Channel 19 | Phase | Neutral |
|---|---|---|---|

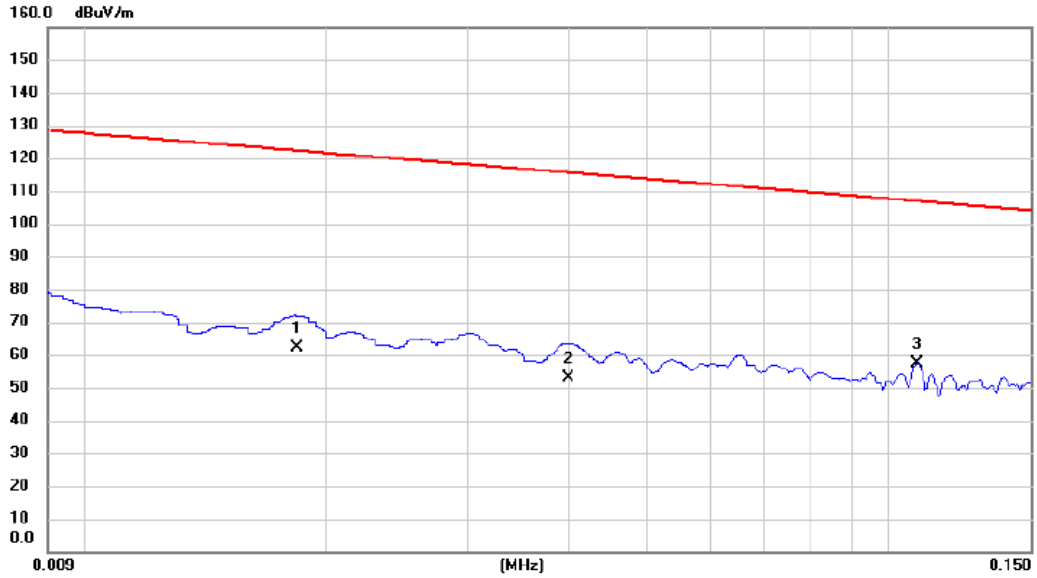



| No. | Freq. | Reading Level | Correct Factor | Measure ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | 0.1545 | 47.52 | 9.71 | 57.23 | 65.75 | -8.52 | QP | |
| 2 * | 0.1545 | 40.10 | 9.71 | 49.81 | 55.75 | -5.94 | AVG | |
| 3 | 0.1905 | 43.49 | 9.72 | 53.21 | 64.01 | -10.80 | QP | |
| 4 | 0.1905 | 34.61 | 9.72 | 44.33 | 54.01 | -9.68 | AVG | |
| 5 | 0.2355 | 39.99 | 9.74 | 49.73 | 62.25 | -12.52 | QP | |
| 6 | 0.2355 | 30.40 | 9.74 | 40.14 | 52.25 | -12.11 | AVG | |
| 7 | 5.6490 | 37.44 | 10.20 | 47.64 | 60.00 | -12.36 | QP | |
| 8 | 5.6490 | 28.90 | 10.20 | 39.10 | 50.00 | -10.90 | AVG | |
| 9 | 8.7855 | 40.22 | 10.41 | 50.63 | 60.00 | -9.37 | QP | |
| 10 | 8.7855 | 31.80 | 10.41 | 42.21 | 50.00 | -7.79 | AVG | |
| 11 | 10.7610 | 35.25 | 10.50 | 45.75 | 60.00 | -14.25 | QP | |
| 12 | 10.7610 | 26.70 | 10.50 | 37.20 | 50.00 | -12.80 | AVG | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

# APPENDIX B - RADIATED EMISSION - 9 KHZ TO 30 MHZ

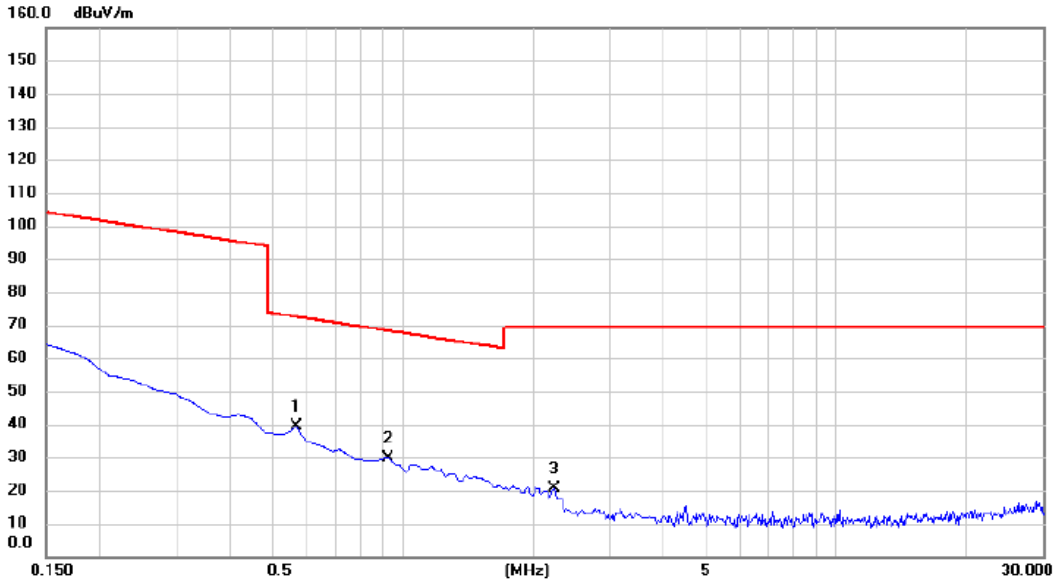
| Test Mode | TX Mode_1Mbps Channel 19 | Polarization | Ant 0° |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 0.0184 | 47.23 | 14.78 | 62.01 | 122.31 | -60.30 | AVG | |
| 2 | | 0.0400 | 39.24 | 13.73 | 52.97 | 115.56 | -62.59 | AVG | |
| 3 | * | 0.1086 | 43.88 | 13.44 | 57.32 | 106.89 | -49.57 | QP | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

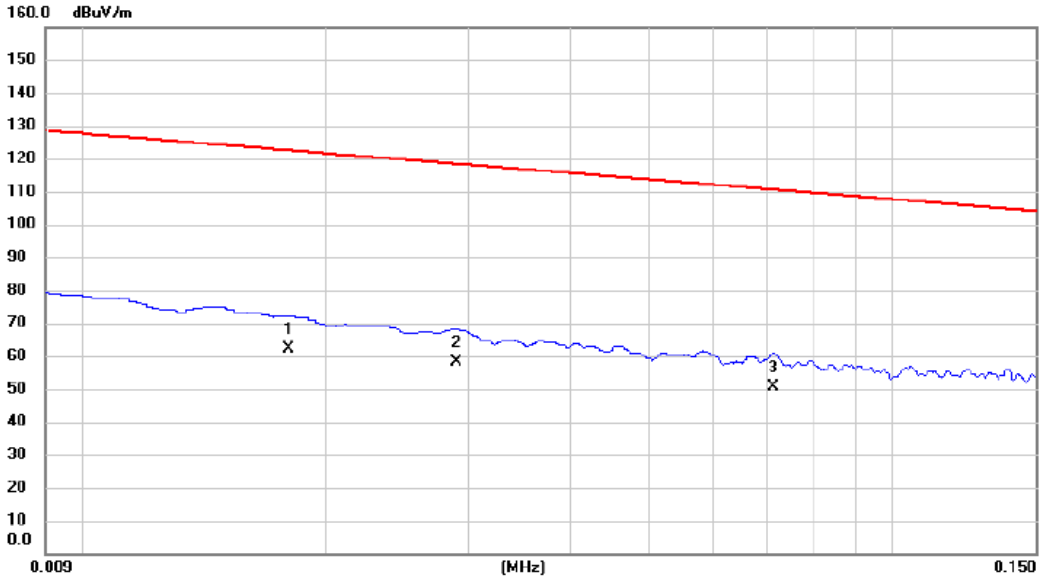
| Test Mode | TX Mode_1Mbps Channel 19 | Polarization | Ant 0° |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 0.5675 | 26.40 | 12.86 | 39.26 | 72.52 | -33.26 | QP | |
| 2 | | 0.9261 | 17.50 | 12.37 | 29.87 | 68.27 | -38.40 | QP | |
| 3 | | 2.2395 | 9.46 | 11.16 | 20.62 | 69.54 | -48.92 | QP | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

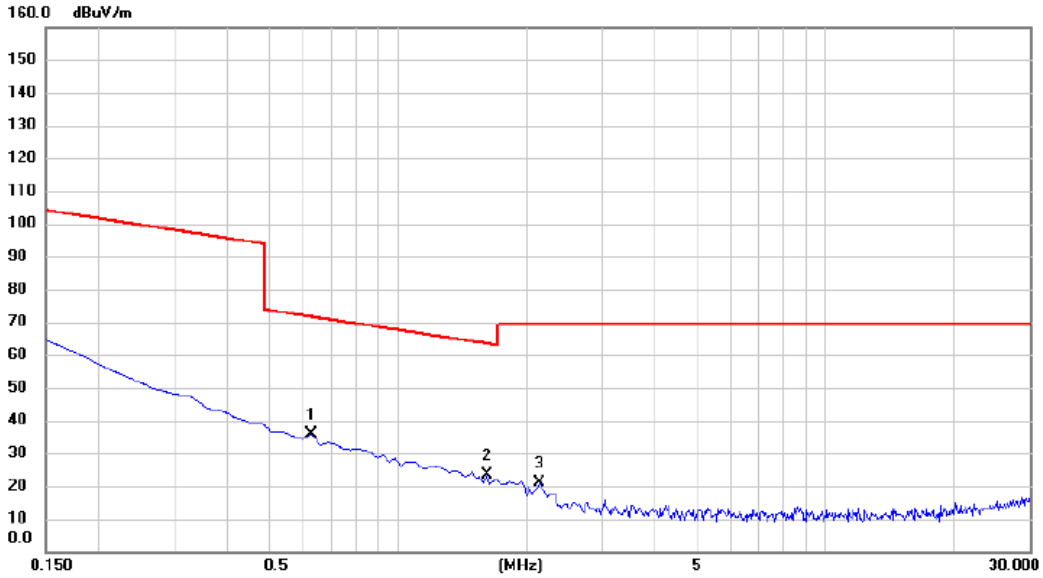
| Test Mode | TX Mode_1Mbps Channel 19 | Polarization | Ant 90° |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 0.0180 | 47.32 | 14.90 | 62.22 | 122.50 | -60.28 | AVG | |
| 2 | | 0.0290 | 44.02 | 14.05 | 58.07 | 118.36 | -60.29 | AVG | |
| 3 | * | 0.0713 | 37.23 | 13.39 | 50.62 | 110.54 | -59.92 | AVG | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

| Test Mode | TX Mode_1Mbps Channel 19 | Polarization | Ant 90° |
|---|---|---|---|

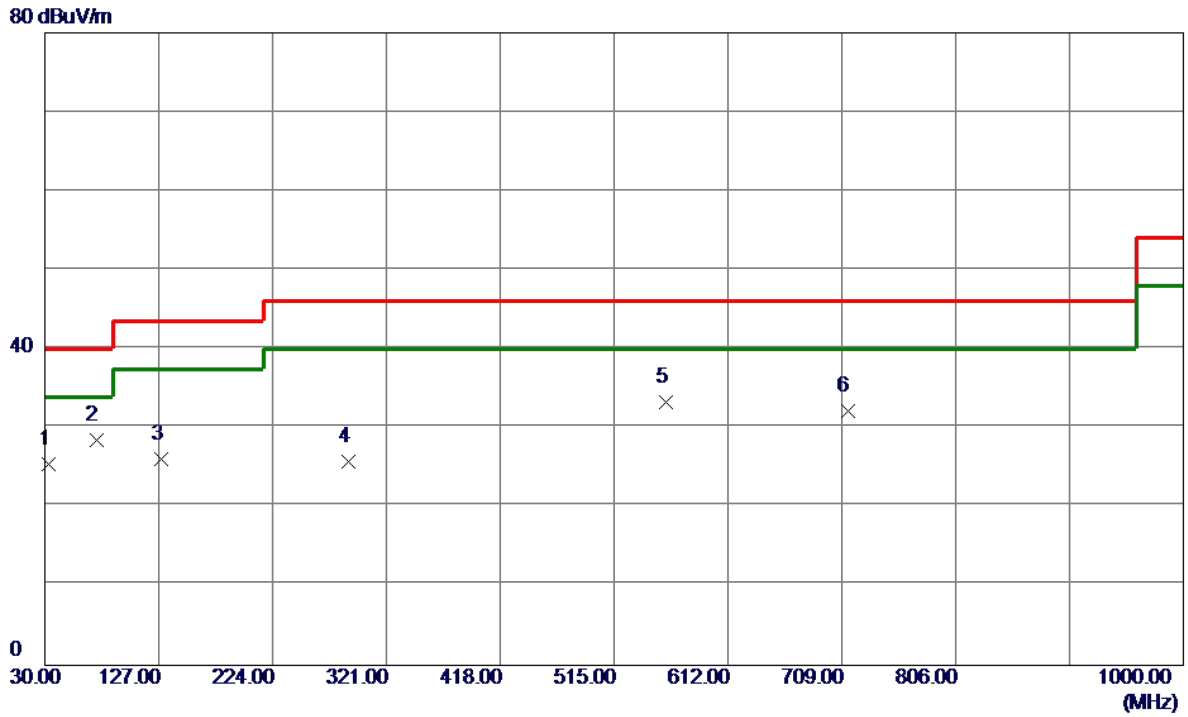



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 0.6276 | 23.13 | 12.77 | 35.90 | 71.65 | -35.75 | QP | |
| 2 | | 1.6126 | 11.70 | 11.75 | 23.45 | 63.45 | -40.00 | QP | |
| 3 | | 2.1500 | 9.59 | 11.25 | 20.84 | 69.54 | -48.70 | QP | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

# APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ

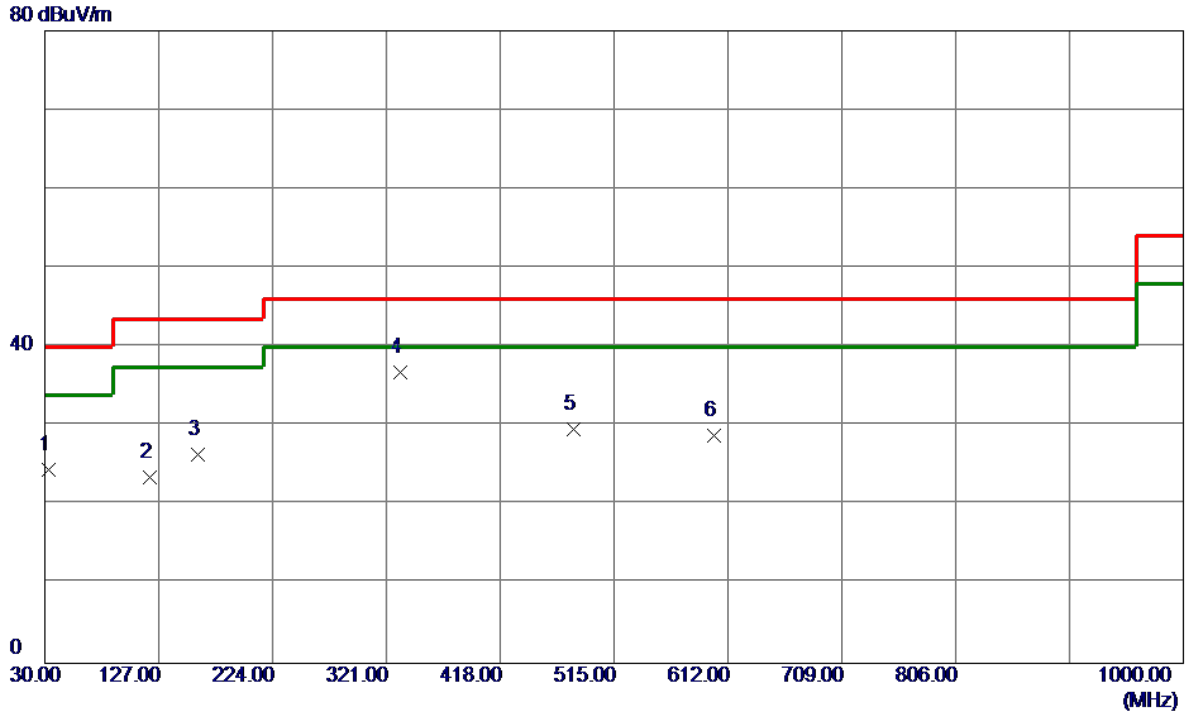
| Test Mode | TX Mode_1Mbps Channel 19 | Polarization | Vertical |
|---|---|---|---|




| No. | Freq. | Reading Level | Correct Factor | Measure ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | 32.9100 | 41.10 | -15.63 | 25.47 | 40.00 | -14.53 | Peak | |
| 2 * | 73.6500 | 45.54 | -17.11 | 28.43 | 40.00 | -11.57 | Peak | |
| 3 | 128.9400 | 39.95 | -13.82 | 26.13 | 43.50 | -17.37 | Peak | |
| 4 | 288.9900 | 37.30 | -11.49 | 25.81 | 46.00 | -20.19 | Peak | |
| 5 | 559.6200 | 38.75 | -5.43 | 33.32 | 46.00 | -12.68 | Peak | |
| 6 | 713.8500 | 34.85 | -2.63 | 32.22 | 46.00 | -13.78 | Peak | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

| Test Mode | TX Mode_1Mbps Channel 19 | Polarization | Horizontal |
|---|---|---|---|

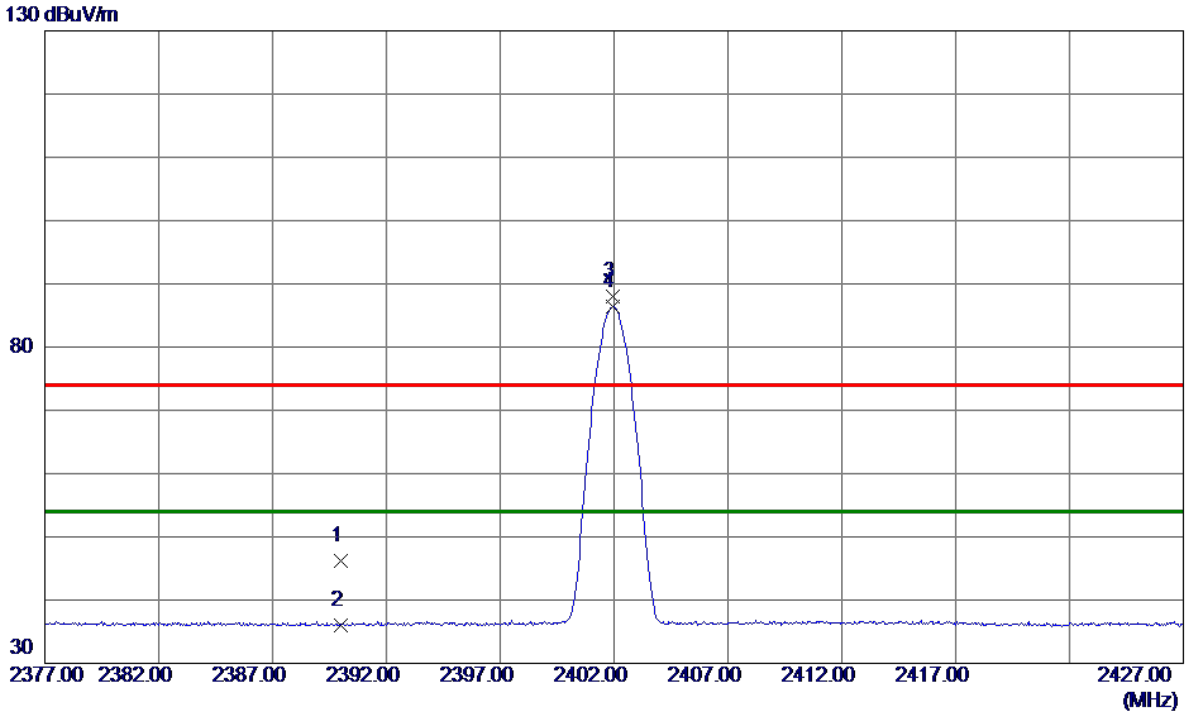



| No. | Freq. | Reading Level | Correct Factor | Measure ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | 32.9100 | 40.04 | -15.63 | 24.41 | 40.00 | -15.59 | Peak | |
| 2 | 119.2400 | 38.14 | -14.63 | 23.51 | 43.50 | -19.99 | Peak | |
| 3 | 159.9800 | 39.13 | -12.72 | 26.41 | 43.50 | -17.09 | Peak | |
| 4 * | 332.6400 | 47.44 | -10.58 | 36.86 | 46.00 | -9.14 | Peak | |
| 5 | 480.0800 | 36.69 | -7.12 | 29.57 | 46.00 | -16.43 | Peak | |
| 6 | 600.3600 | 33.65 | -4.78 | 28.87 | 46.00 | -17.13 | Peak | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

# APPENDIX D - RADIATED EMISSION - ABOVE 1000 MHZ

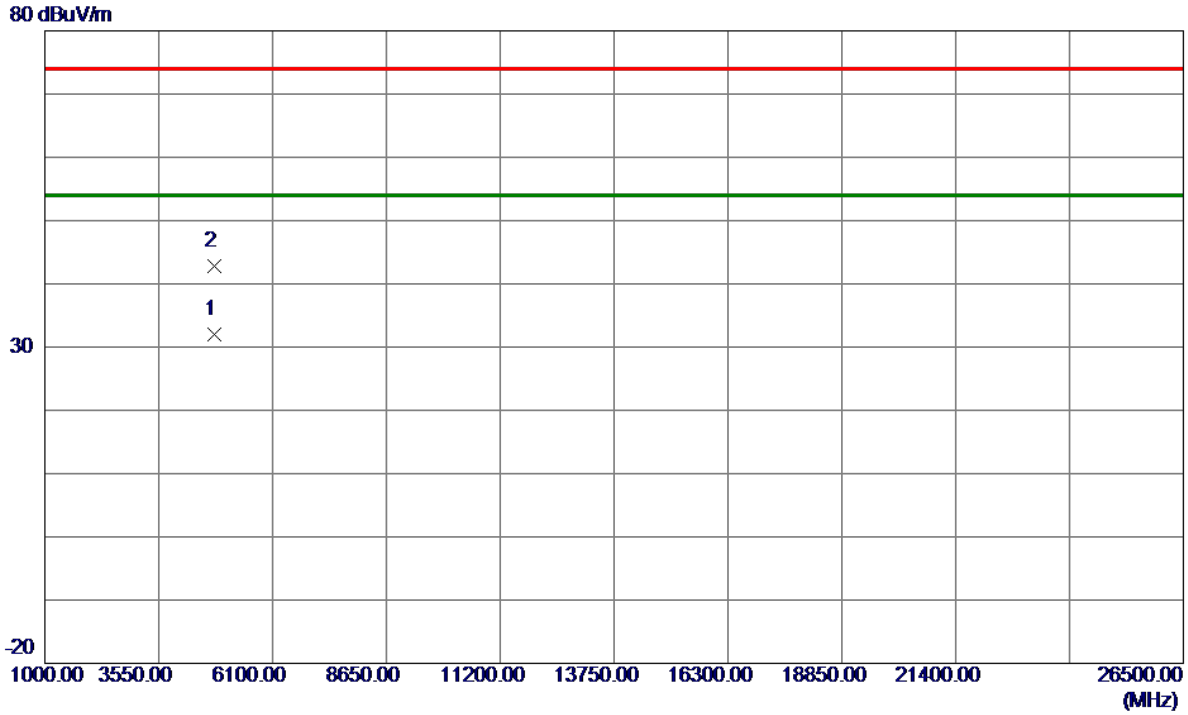
| Test Mode | TX 2402 MHz _CH00_1Mbps | Polarization | Vertical |
|---|---|---|---|




| No. | Freq. | Reading Level | Correct Factor | Measure ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | 2390.0000 | 38.50 | 7.75 | 46.25 | 74.00 | -27.75 | Peak | |
| 2 | 2390.0000 | 28.21 | 7.75 | 35.96 | 54.00 | -18.04 | AVG | |
| 3 | 2401.9500 | 80.20 | 7.81 | 88.01 | 74.00 | 14.01 | Peak | No Limit |
| 4 * | 2401.9500 | 78.60 | 7.81 | 86.41 | 54.00 | 32.41 | AVG | No Limit |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

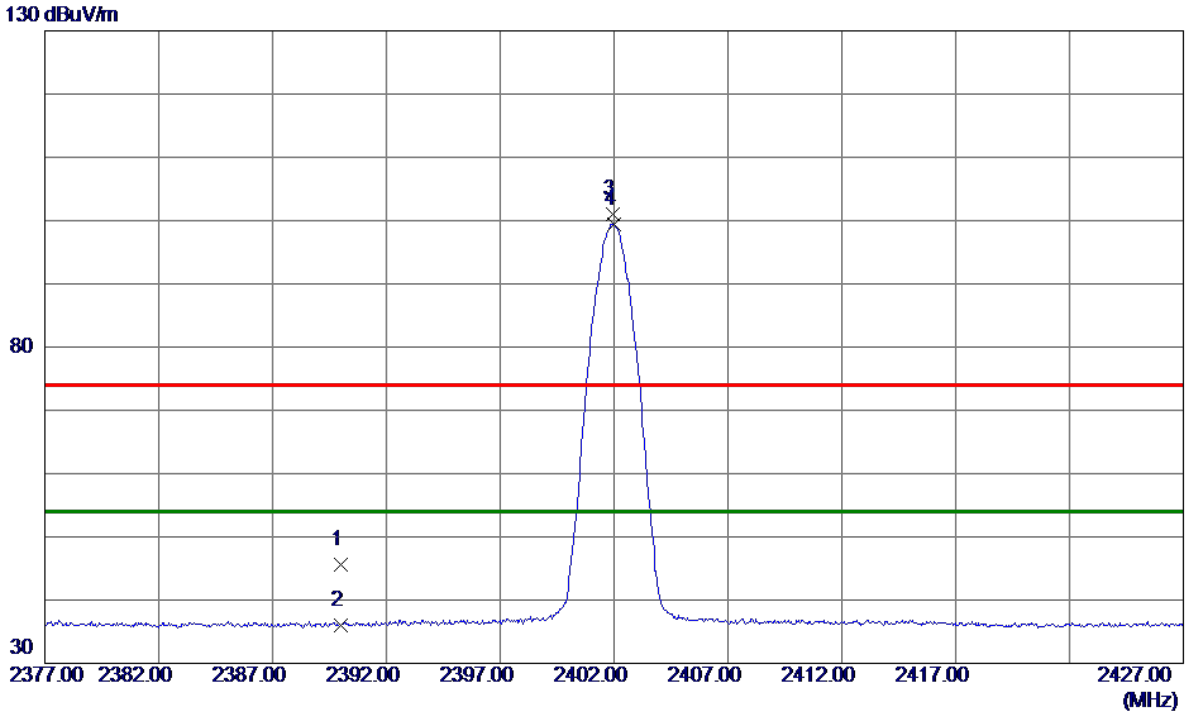
| Test Mode | TX 2402 MHz _CH00_1Mbps | Polarization | Vertical |
|---|---|---|---|




| No. | Freq. | Reading Level | Correct Factor | Measure ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 * | 4795.3600 | 27.80 | 4.25 | 32.05 | 54.00 | -21.95 | AVG | |
| 2 | 4797.7599 | 38.56 | 4.26 | 42.82 | 74.00 | -31.18 | Peak | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

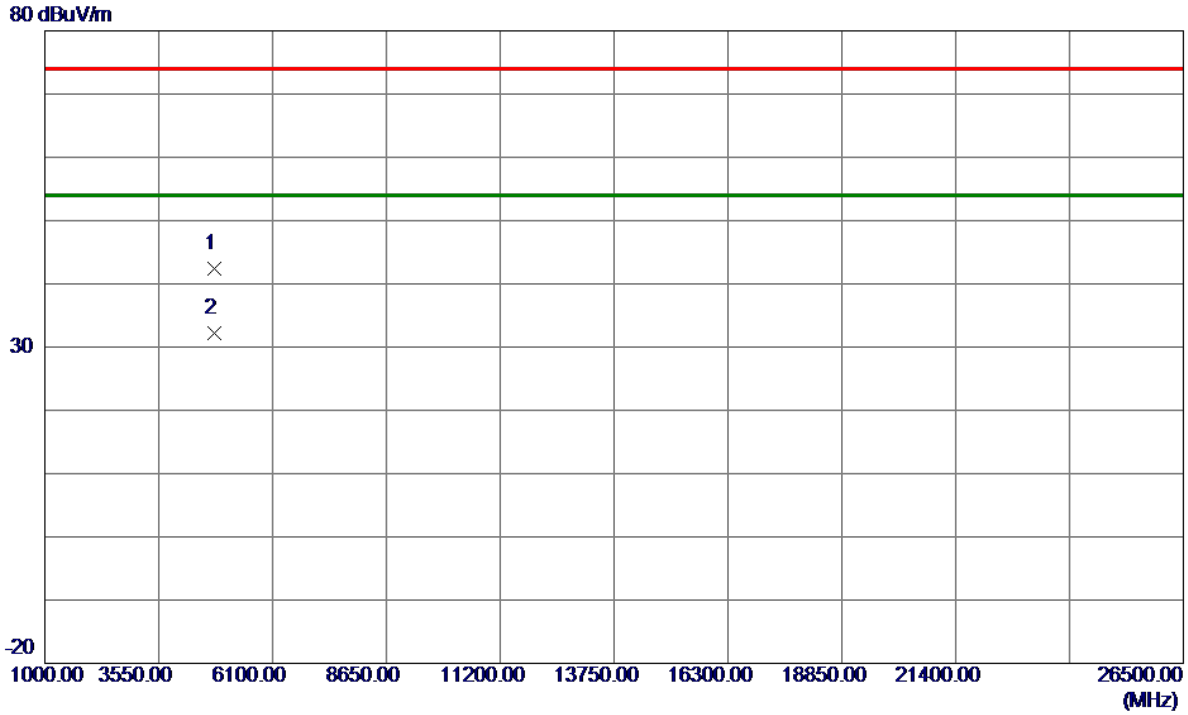
| Test Mode | TX 2402 MHz _CH00_1Mbps | Polarization | Horizontal |
|---|---|---|---|




| No. | Freq. | Reading Level | Correct Factor | Measure ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | 2390.0000 | 37.91 | 7.75 | 45.66 | 74.00 | -28.34 | Peak | |
| 2 | 2390.0000 | 28.30 | 7.75 | 36.05 | 54.00 | -17.95 | AVG | |
| 3 | 2401.9500 | 93.26 | 7.81 | 101.07 | 74.00 | 27.07 | Peak | No Limit |
| 4 * | 2401.9750 | 91.67 | 7.81 | 99.48 | 54.00 | 45.48 | AVG | No Limit |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

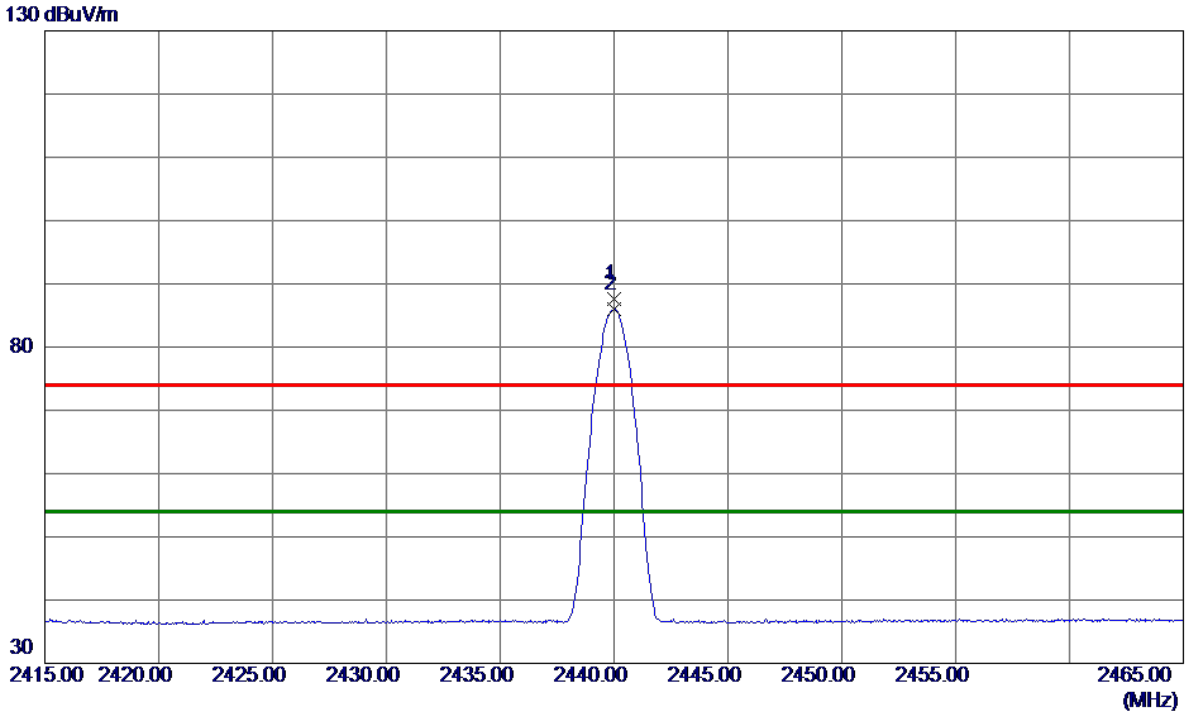
| Test Mode | TX 2402 MHz _CH00_1Mbps | Polarization | Horizontal |
|---|---|---|---|




| No. | Freq. | Reading Level | Correct Factor | Measure ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | 4794.5700 | 38.18 | 4.25 | 42.43 | 74.00 | -31.57 | Peak | |
| 2 * | 4794.8600 | 27.91 | 4.25 | 32.16 | 54.00 | -21.84 | AVG | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

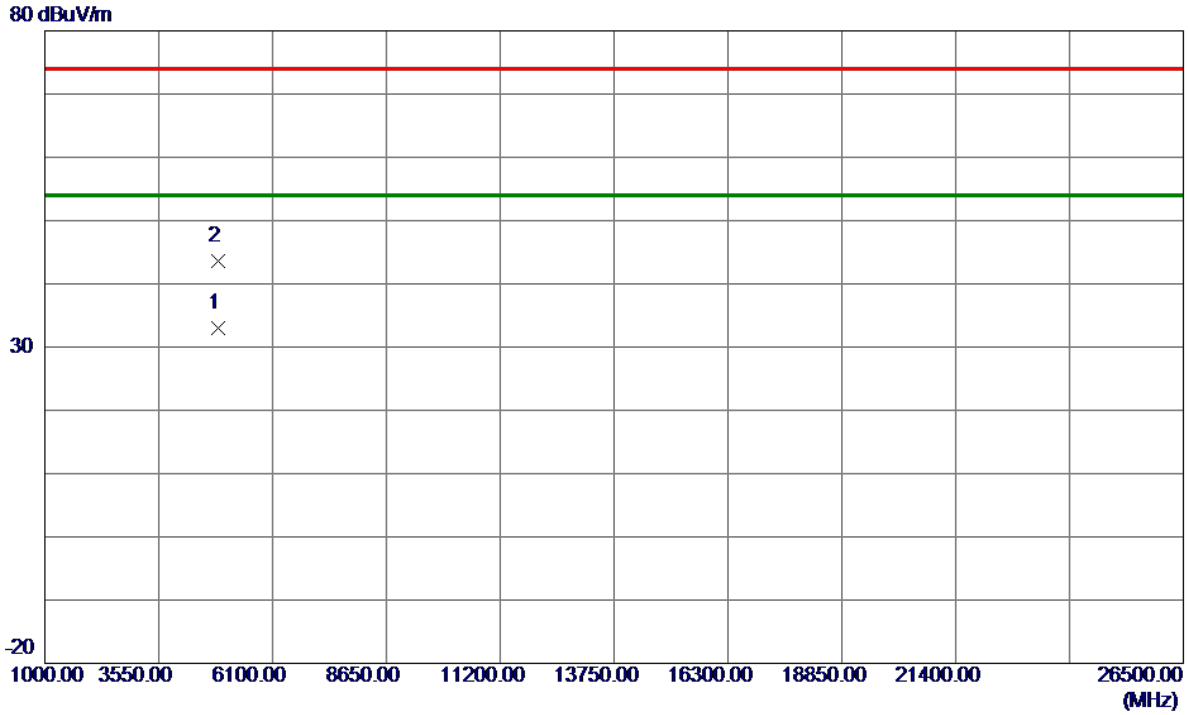
| Test Mode | TX 2440 MHz _CH19_1Mbps | Polarization | Vertical |
|---|---|---|---|




| No. | Freq. | Reading Level | Correct Factor | Measure ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | 2439.9750 | 79.58 | 8.02 | 87.60 | 74.00 | 13.60 | Peak | No Limit |
| 2 * | 2440.0000 | 77.99 | 8.02 | 86.01 | 54.00 | 32.01 | AVG | No Limit |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

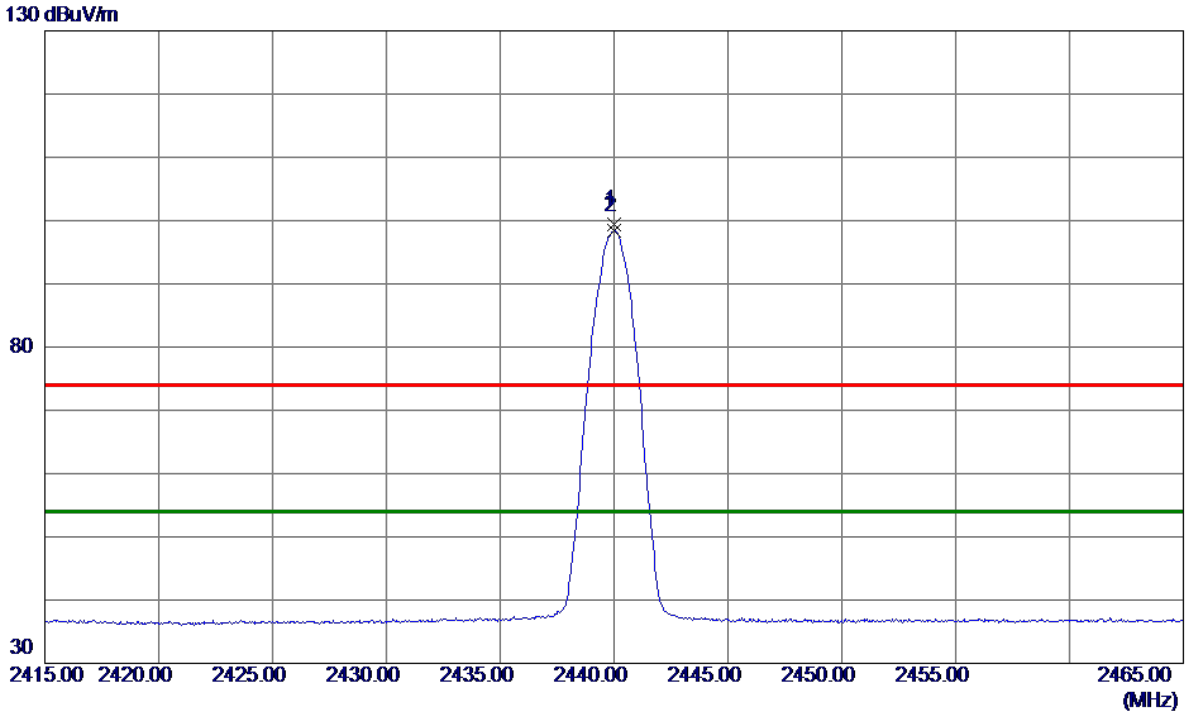
| Test Mode | TX 2440 MHz _CH19_1Mbps | Polarization | Vertical |
|---|---|---|---|




| No. | Freq. | Reading Level | Correct Factor | Measure ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 * | 4887.9300 | 28.48 | 4.43 | 32.91 | 54.00 | -21.09 | AVG | |
| 2 | 4889.1300 | 39.17 | 4.43 | 43.60 | 74.00 | -30.40 | Peak | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

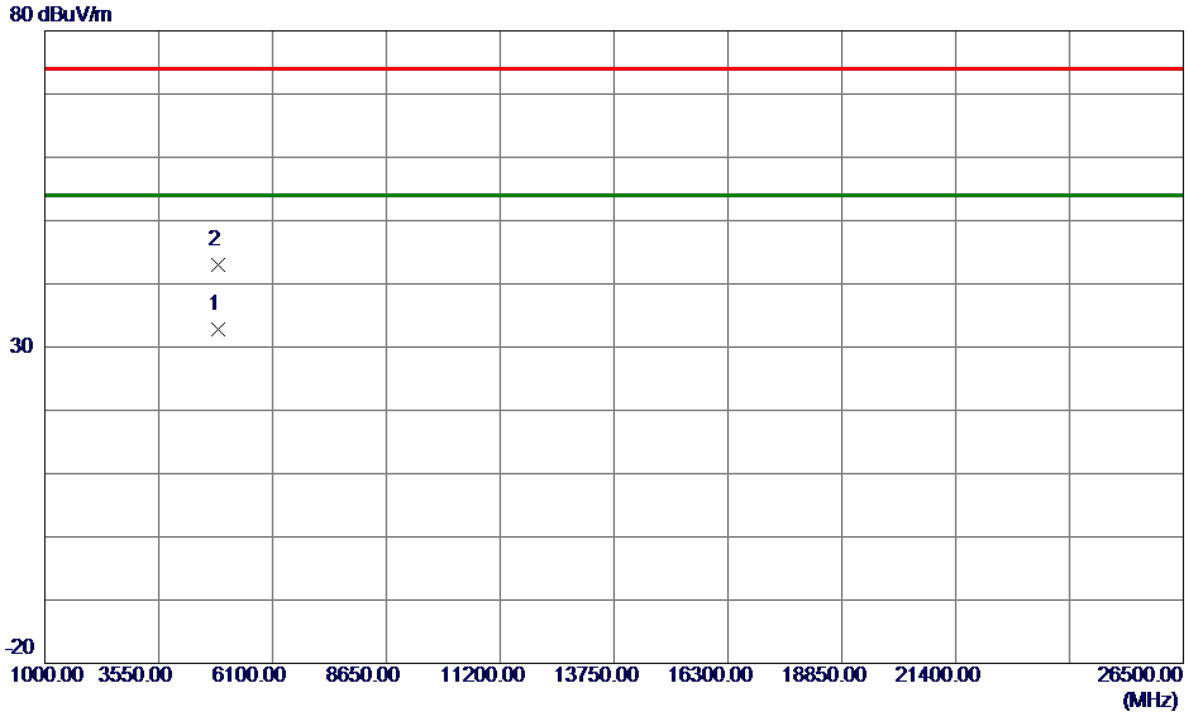
| Test Mode | TX 2440 MHz _CH19_1Mbps | Polarization | Horizontal |
|---|---|---|---|




| No. | Freq. | Reading Level | Correct Factor | Measure ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | 2439.9750 | 91.32 | 8.02 | 99.34 | 74.00 | 25.34 | Peak | No Limit |
| 2 * | 2439.9750 | 90.39 | 8.02 | 98.41 | 54.00 | 44.41 | AVG | No Limit |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

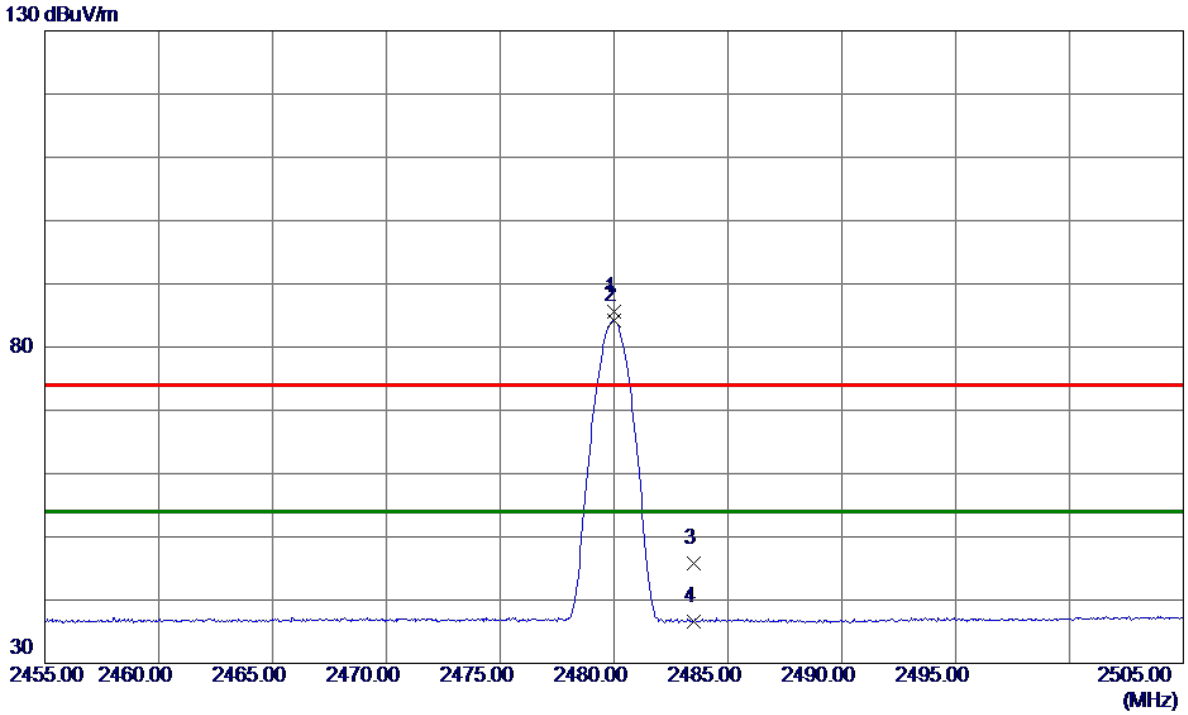
| Test Mode | TX 2440 MHz _CH19_1Mbps | Polarization | Horizontal |
|---|---|---|---|




| No. | Freq. | Reading Level | Correct Factor | Measure ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 * | 4879.7900 | 28.48 | 4.41 | 32.89 | 54.00 | -21.11 | AVG | |
| 2 | 4885.5600 | 38.53 | 4.42 | 42.95 | 74.00 | -31.05 | Peak | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

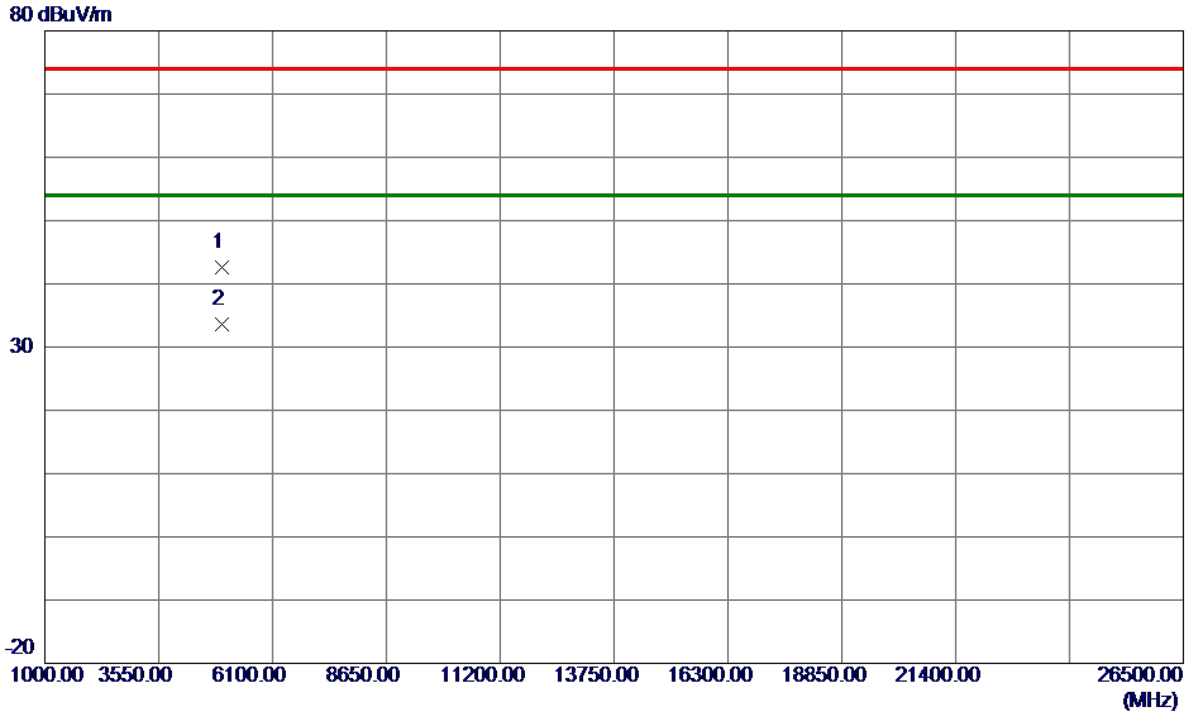
| Test Mode | TX 2480 MHz _CH39_1Mbps | Polarization | Vertical |
|---|---|---|---|




| No. | Freq. | Reading Level | Correct Factor | Measure ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | 2479.9750 | 77.42 | 8.24 | 85.66 | 74.00 | 11.66 | Peak | No Limit |
| 2 * | 2479.9750 | 75.90 | 8.24 | 84.14 | 54.00 | 30.14 | AVG | No Limit |
| 3 | 2483.5000 | 37.58 | 8.26 | 45.84 | 74.00 | -28.16 | Peak | |
| 4 | 2483.5000 | 28.40 | 8.26 | 36.66 | 54.00 | -17.34 | AVG | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

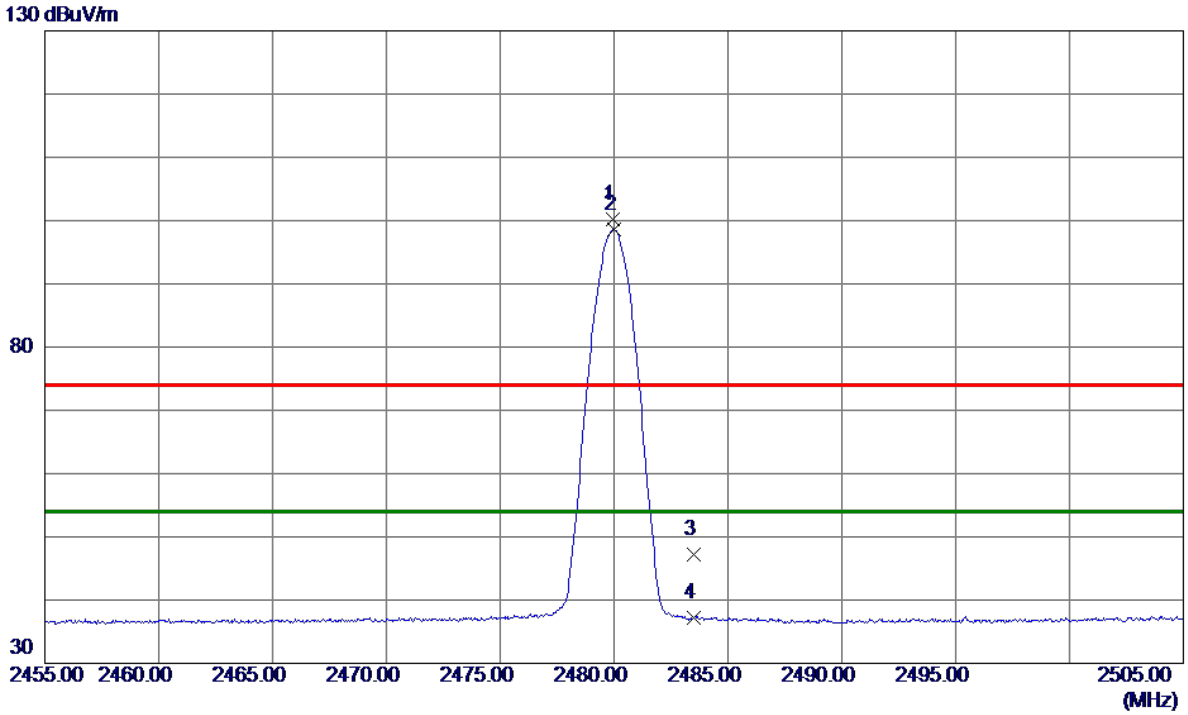
| Test Mode | TX 2480 MHz _CH39_1Mbps | Polarization | Vertical |
|---|---|---|---|




| No. | Freq. | Reading Level | Correct Factor | Measure ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | 4958.5600 | 37.95 | 4.56 | 42.51 | 74.00 | -31.49 | Peak | |
| 2 * | 4960.3500 | 28.99 | 4.56 | 33.55 | 54.00 | -20.45 | AVG | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

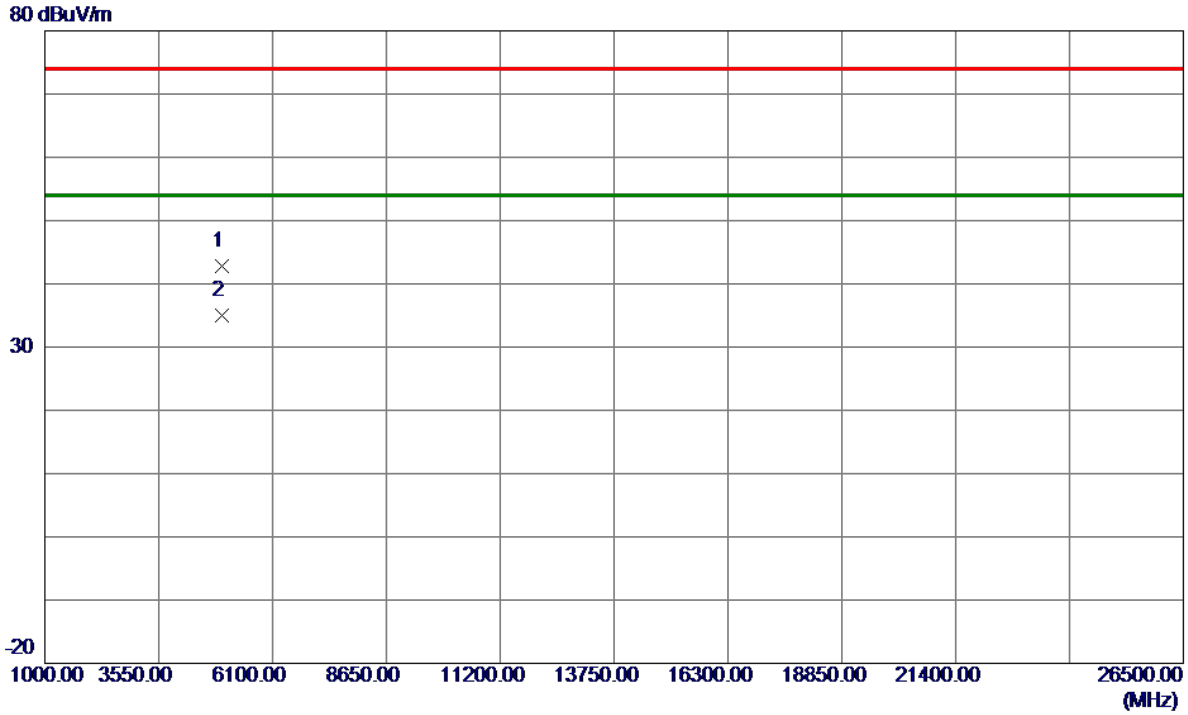
| Test Mode | TX 2480 MHz _CH39_1Mbps | Polarization | Horizontal |
|---|---|---|---|




| No. | Freq. | Reading Level | Correct Factor | Measure ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | 2479.9500 | 91.91 | 8.24 | 100.15 | 74.00 | 26.15 | Peak | No Limit |
| 2 * | 2479.9750 | 90.37 | 8.24 | 98.61 | 54.00 | 44.61 | AVG | No Limit |
| 3 | 2483.5000 | 38.88 | 8.26 | 47.14 | 74.00 | -26.86 | Peak | |
| 4 | 2483.5000 | 28.93 | 8.26 | 37.19 | 54.00 | -16.81 | AVG | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

| Test Mode | TX 2480 MHz _CH39_1Mbps | Polarization | Horizontal |
|---|---|---|---|




| No. | Freq. | Reading Level | Correct Factor | Measure ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | 4956.2300 | 38.16 | 4.56 | 42.72 | 74.00 | -31.28 | Peak | |
| 2 * | 4960.0600 | 30.50 | 4.56 | 35.06 | 54.00 | -18.94 | AVG | |

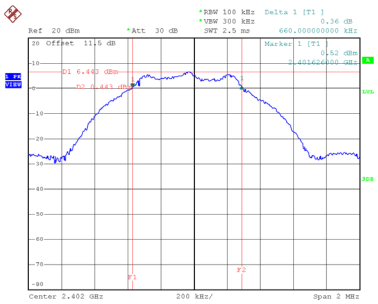
REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

# APPENDIX E - BANDWIDTH

| Test Mode | TX Mode _1Mbps |
|---|---|

| Channel | Frequency (MHz) | 6 dB Bandwidth (MHz) | 99 % Occupied Bandwidth (MHz) | 6 dB Bandwidth Min. Limit (MHz) | Test Result |
|---|---|---|---|---|---|
| 00 | 2402 | 0.660 | 1.028 | 0.5 | Pass |
| 19 | 2440 | 0.656 | 1.036 | 0.5 | Pass |
| 39 | 2480 | 0.654 | 1.036 | 0.5 | Pass |

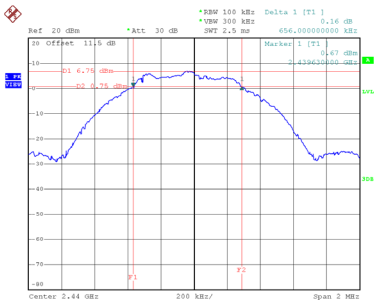
**CH00**



Date: 6.AUG.2022 12:44:46

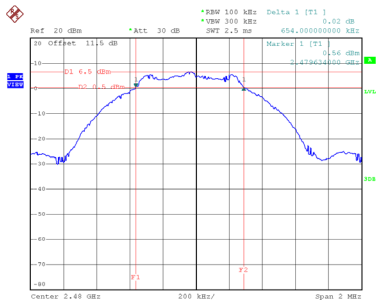
**CH19**

6 dB Bandwidth



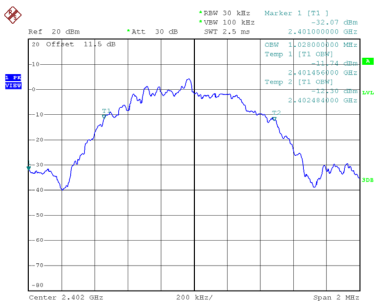
Date: 6.AUG.2022 12:46:00

**CH39**

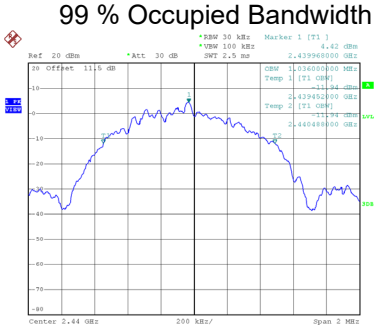


Date: 6.AUG.2022 12:47:22

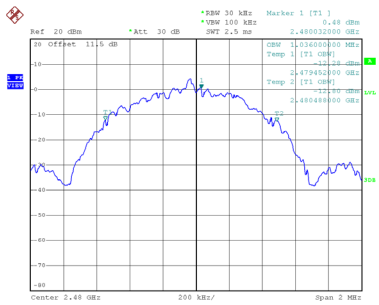
99 % Occupied Bandwidth



Date: 6.AUG.2022 12:43:55



Date: 6.AUG.2022 12:46:06



Date: 6.AUG.2022 12:47:28

# APPENDIX F - MAXIMUM AVERAGE OUTPUT POWER

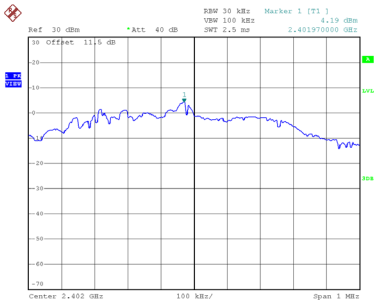
| Test Mode | TX Mode _1Mbps |
|---|---|

| Channel | Frequency (MHz) | Average Output Power (dBm) | Duty Factor | Average Output Power + Duty Factor (dBm) | Max. Limit (dBm) | Max. Limit (W) | Result |
|---|---|---|---|---|---|---|---|
| 00 | 2402 | 4.38 | 2.00 | 6.38 | 30.00 | 1.0000 | Complies |
| 19 | 2440 | 4.74 | 2.00 | 6.74 | 30.00 | 1.0000 | Complies |
| 39 | 2480 | 4.25 | 2.00 | 6.25 | 30.00 | 1.0000 | Complies |

# APPENDIX G - CONDUCTED SPURIOUS EMISSION

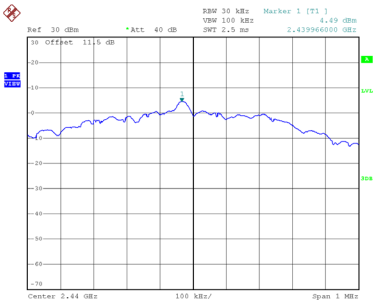
| Test Mode | TX Mode _1Mbps |
|---|---|

### Reference Level-CH00



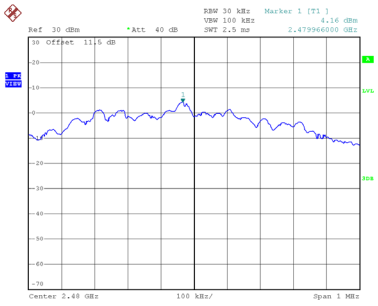
Date: 6.AUG.2022 14:36:59

### Reference Level-CH19



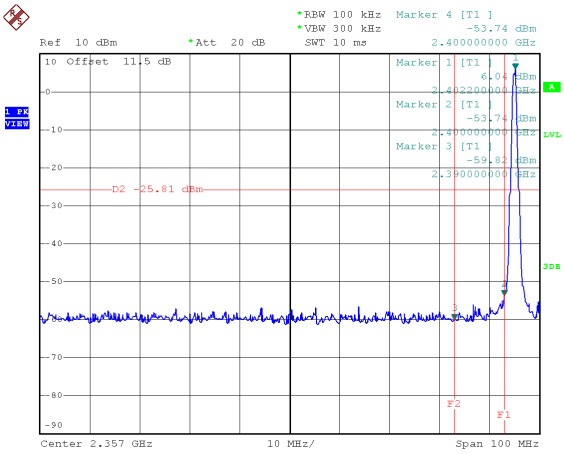
Date: 6.AUG.2022 14:37:55

### Reference Level-CH39



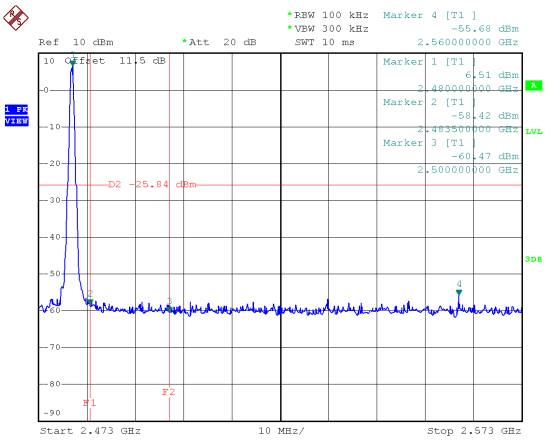
Date: 6.AUG.2022 14:38:37

### Bandedge CH00 (Lower)



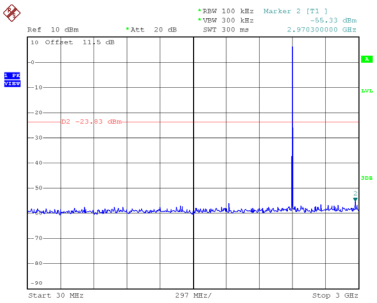

Date: 6.AUG.2022 14:40:44

### Bandedge CH39 (Upper)

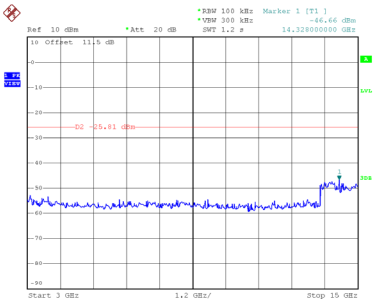



Date: 6.AUG.2022 14:52:40

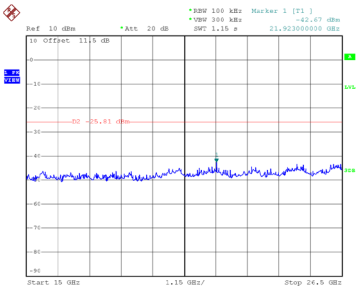
## CH00 – 10th Harmonic of the fundamental frequency



Date: 6.AUG.2022 13:01:49

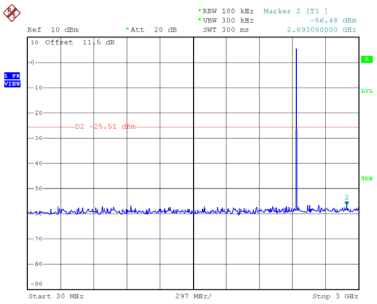


Date: 6.AUG.2022 14:42:47

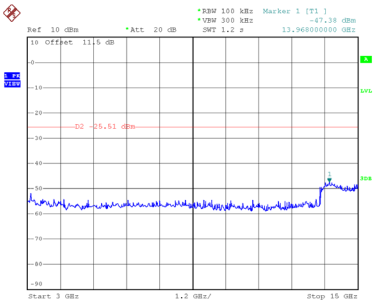


Date: 6.AUG.2022 14:43:21

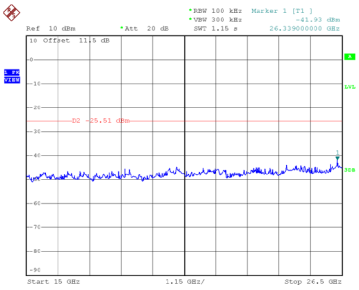
## CH19 – 10th Harmonic of the fundamental frequency



Date: 6.AUG.2022 14:49:37

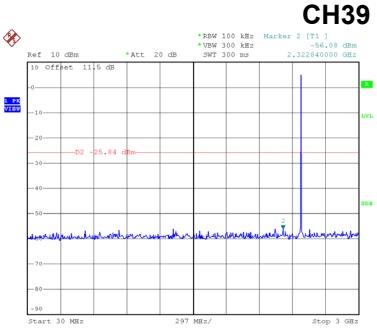


Date: 6.AUG.2022 14:50:13

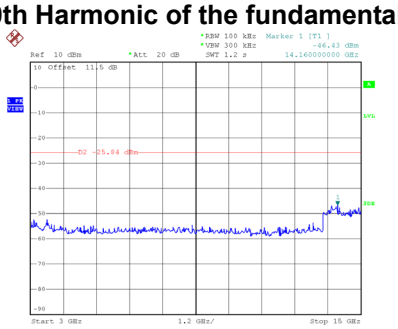


Date: 6.AUG.2022 14:51:00

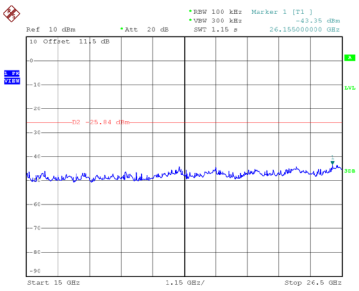
## CH39 – 10th Harmonic of the fundamental frequency



Date: 6.AUG.2022 14:53:37



Date: 6.AUG.2022 14:54:18



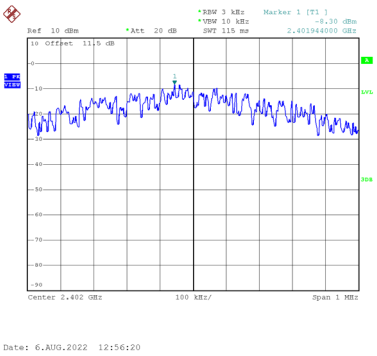
Date: 6.AUG.2022 14:54:57

# APPENDIX H - POWER SPECTRAL DENSITY

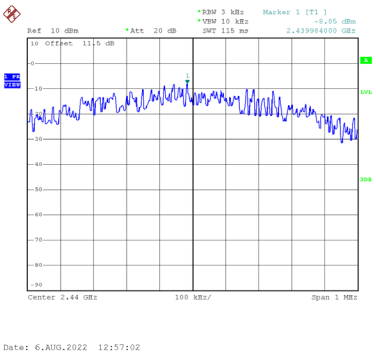
| Test Mode | TX Mode _1Mbps |
|---|---|

| Channel | Frequency (MHz) | Power Spectral Density (dBm/3 kHz) | Max. Limit (dBm/3 kHz) | Test Result |
|---|---|---|---|---|
| 00 | 2402 | -8.30 | 8.00 | Pass |
| 19 | 2440 | -8.05 | 8.00 | Pass |
| 39 | 2480 | -8.59 | 8.00 | Pass |

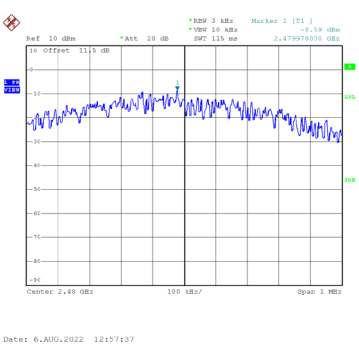
**CH00**



**CH19**



**CH39**



**End of Test Report**