

FCC Radio Test Report

FCC ID: TE7KP200V2

This report concerns: Original Grant

Project No. : 1908C106
Equipment : Smart Wi-Fi Outlet
Brand Name : tp-link
Test Model : KP200
Series Model : N/A
Applicant : TP-Link Technologies Co., Ltd.
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Manufacturer : TP-Link Technologies Co., Ltd.
Address : Building 24(floors1,3,4,5) and 28(floors1-4) Central Science and Technology Park, Shennan Rd, Nanshan, Shenzhen, China
Date of Receipt : Aug. 14, 2019
Date of Test : Aug. 15, 2019 ~ Sep. 02, 2019
Issued Date : Oct. 29, 2019
Report Version : R01
Test Sample : Engineering Sample No.: DG19081430 for conducted, DG19081431 for radiated
Standard(s) : FCC Part15, Subpart C (15.247)
 ANSI C63.10-2013
 KDB 558074 D01 15.247 Meas Guidance v05r02

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

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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 Version | Description | Issued Date |
|----------------|---|---------------|
| R00 | Original Issue. | Oct. 14, 2019 |
| R01 | 1. Only updated the System test diagram and radiated emissions test photos. 2. Added the Description of page 11. | Oct. 29, 2019 |

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

| FCC Part15, Subpart C (15.247) | | | | |
|-------------------------------------|-----------------------------------|--|----------|-------------|
| Standard(s) Section | Test Item | Test Result | Judgment | Remark |
| 15.207 | AC Power Line Conducted Emissions | Appendix A | PASS | ----- |
| 15.247(d) 15.205(a) 15.209(a) | Radiated Emissions | Appendix B Appendix C Appendix D | PASS | ----- |
| 15.247(a)(2) | Bandwidth | Appendix E | PASS | ----- |
| 15.247(b)(3) | Maximum Peak Output Power | Appendix F | PASS | ----- |
| 15.247(d) | Conducted Spurious Emissions | Appendix G | PASS | ----- |
| 15.247I | Power Spectral Density | Appendix H | PASS | ----- |
| 15.203 | Antenna Requirement | ----- | PASS | Note (2) |

Note:

- (1) "N/A" denotes test is not applicable in this test report.
- (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 Road, Shixia, Dalang Town, Dongguan, Guangdong, China.

BTL's Test Firm 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 test:

| Test Site | Method | Measurement Frequency Range | U, (dB) |
|-----------|--------|-----------------------------|---------|
| DG-C02 | CISPR | 150 kHz ~ 30 MHz | 2.32 |

B. Radiated emissions test:

| Test Site | Method | Measurement Frequency Range | Ant. H / V | U, (dB) |
|-----------|--------|-----------------------------|------------|---------|
| DG-CB03 | CISPR | 9kHz ~ 30MHz | V | 3.79 |
| | | 9kHz ~ 30MHz | H | 3.57 |
| | | 30MHz ~ 200MHz | V | 4.88 |
| | | 30MHz ~ 200MHz | H | 4.14 |
| | | 200MHz ~ 1,000MHz | V | 4.62 |
| | | 200MHz ~ 1,000MHz | H | 4.80 |
| | | 1GHz ~ 6GHz | - | 4.58 |
| | | 6GHz ~ 18GHz | - | 5.18 |
| | | 18GHz ~ 26.5GHz | - | 3.80 |
| | | 26.5GHz ~ 40GHz | - | 4.30 |

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 | 25°C | 53% | AC 120V/60Hz | Damon Deng |
| Radiated Emissions-9K-30MHz | 25°C | 60% | DC 5V | Damon Deng |
| Radiated Emissions-30 MHz to 1GHz | 24°C | 68% | DC 5V | Kwok Guo |
| Radiated Emissions-Above 1000 MHz | 26°C | 65% | DC 5V | Bert Xu |
| Bandwidth | 24.8°C | 62.5% | DC 5V | Jonas Chen |
| Maximum peak output power | 24.8°C | 62.5% | DC 5V | Jonas Chen |
| Conducted Spurious Emissions | 24.8°C | 62.5% | DC 5V | Jonas Chen |
| Power Spectral Density | 24.8°C | 62.5% | DC 5V | Jonas Chen |

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

| | |
|---------------------------|---|
| Equipment | Smart Wi-Fi Outlet |
| Brand Name | tp-link |
| Test Model | KP200 |
| Series Model | N/A |
| Model Difference(s) | N/A |
| Power Source | AC Mains |
| Power Rating | AC 100-240V |
| Operation Frequency | 2412 MHz ~ 2462 MHz |
| Modulation Type | IEEE 802.11b: DSSS IEEE 802.11g: OFDM IEEE 802.11n: OFDM |
| Bit Rate of Transmitter | IEEE 802.11b: 11/5.5/2/1 Mbps IEEE 802.11g: 54/48/36/24/18/12/9/6 Mbps IEEE 802.11n: up to 72.2 Mbps |
| Maximum Peak Output Power | IEEE 802.11b: 22.64 dBm (0.1837 W) IEEE 802.11g: 26.58 dBm (0.4550 W) IEEE 802.11n (HT20): 26.73 dBm (0.4710 W) |


Note:

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

2. Channel List:

| CH01 – CH11 for IEEE 802.11b, IEEE 802.11g, IEEE 802.11n (HT20) | | | | | | | |
|---|-----------------|---------|-----------------|---------|-----------------|---------|-----------------|
| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| 01 | 2412 | 04 | 2427 | 07 | 2442 | 10 | 2457 |
| 02 | 2417 | 05 | 2432 | 08 | 2447 | 11 | 2462 |
| 03 | 2422 | 06 | 2437 | 09 | 2452 | | |

3. Antenna Specification:

| Ant. | Brand | P/N | Antenna Type | Connector | Gain (dBi) |
|------|---|------------|--------------|-----------|------------|
| 1 |  | 3101502179 | Internal | I-PEX | 2.81 |

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 B MODE CHANNEL 01/06/11 |
| Mode 2 | TX G MODE CHANNEL 01/06/11 |
| Mode 3 | TX N-20 MHz MODE CHANNEL 01/06/11 |
| Mode 4 | TX B MODE CHANNEL 01/02/06/10/11 |
| Mode 5 | TX G MODE CHANNEL 01/02/06/10/11 |
| Mode 6 | TX N-20 MHz MODE CHANNEL 01/02/06/10/11 |
| Mode 7 | TX N-20 MODE CHANNEL 06 |

Following mode(s) as (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 7 | TX N-20 MODE CHANNEL 06 |

| Radiated emissions test – Below 1GHz | |
|--------------------------------------|-------------------------|
| Final Test Mode: | Description |
| Mode 7 | TX N-20 MODE CHANNEL 06 |

| Radiated emissions test- Above 1GHz | |
|-------------------------------------|---|
| Final Test Mode: | Description |
| Mode 1 | TX B MODE CHANNEL 01/06/11 |
| Mode 2 | TX G MODE CHANNEL 01/06/11 |
| Mode 3 | TX N-20 MHz MODE CHANNEL 01/06/11 |
| Mode 4 | TX B MODE CHANNEL 01/02/06/10/11 |
| Mode 5 | TX G MODE CHANNEL 01/02/06/10/11 |
| Mode 6 | TX N-20 MHz MODE CHANNEL 01/02/06/10/11 |

| Conducted test | |
|------------------|-----------------------------------|
| Final Test Mode: | Description |
| Mode 1 | TX B MODE CHANNEL 01/06/11 |
| Mode 2 | TX G MODE CHANNEL 01/06/11 |
| Mode 3 | TX N-20 MHz MODE CHANNEL 01/06/11 |

NOTE:

- (1) The measurements are performed at the high, middle, low available channels.
- (2) All the bit rate of transmitter have been tested and found the lowest rate is found to be the worst case and recorded.
- (3) For radiated emission below 1 GHz test, the IEEE 802.11n20 channel 06 is found to be the worst case and recorded.
- (4) For radiated emission above 1 GHz test, 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.
- (5) For AC power line conducted emissions test, with load and No-load have been tested and No-load is found to be the worst case and recorded.

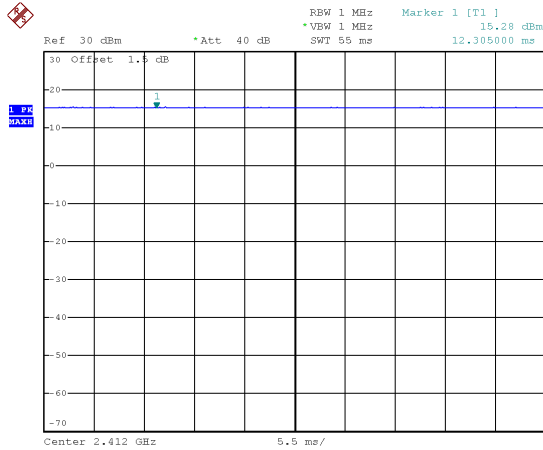
2.3 PARAMETERS OF TEST SOFTWARE

| Test Software | WiFi_QA_Tool_v3.2.0 | | |
|---------------------|---------------------|------|------|
| Frequency (MHz) | 2412 | 2437 | 2462 |
| IEEE 802.11b | 21 | 22 | 26 |
| IEEE 802.11g | 24 | 26 | 26 |
| IEEE 802.11n (HT20) | 26 | 29 | 2A |

2.4 DUTY CYCLE

If duty cycle is $\geq 98\%$, duty factor is not required.
If duty cycle is $< 98\%$, duty factor shall be considered.

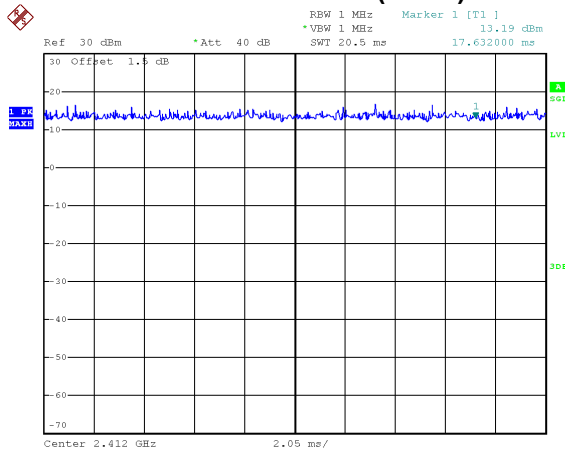
IEEE 802.11b



Date: 17.AUG.2019 11:23:28

Duty cycle = 55.000 ms / 55.000 ms = 100%
Duty Factor = $10 \log(1/\text{Duty cycle}) = 0.00$

IEEE 802.11n (HT20)



Date: 17.AUG.2019 11:11:48

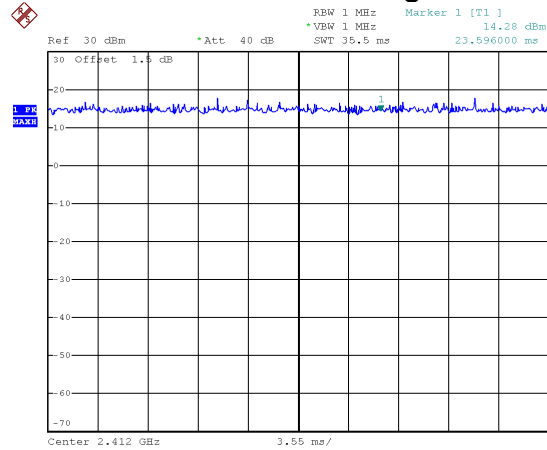
Duty cycle = 20.500 ms / 20.500 ms = 100%
Duty Factor = $10 \log(1/\text{Duty cycle}) = 0.00$,

NOTE:

For IEEE 802.11g and IEEE 802.11n (HT20):

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 1 kHz (Duty cycle $< 98\%$).

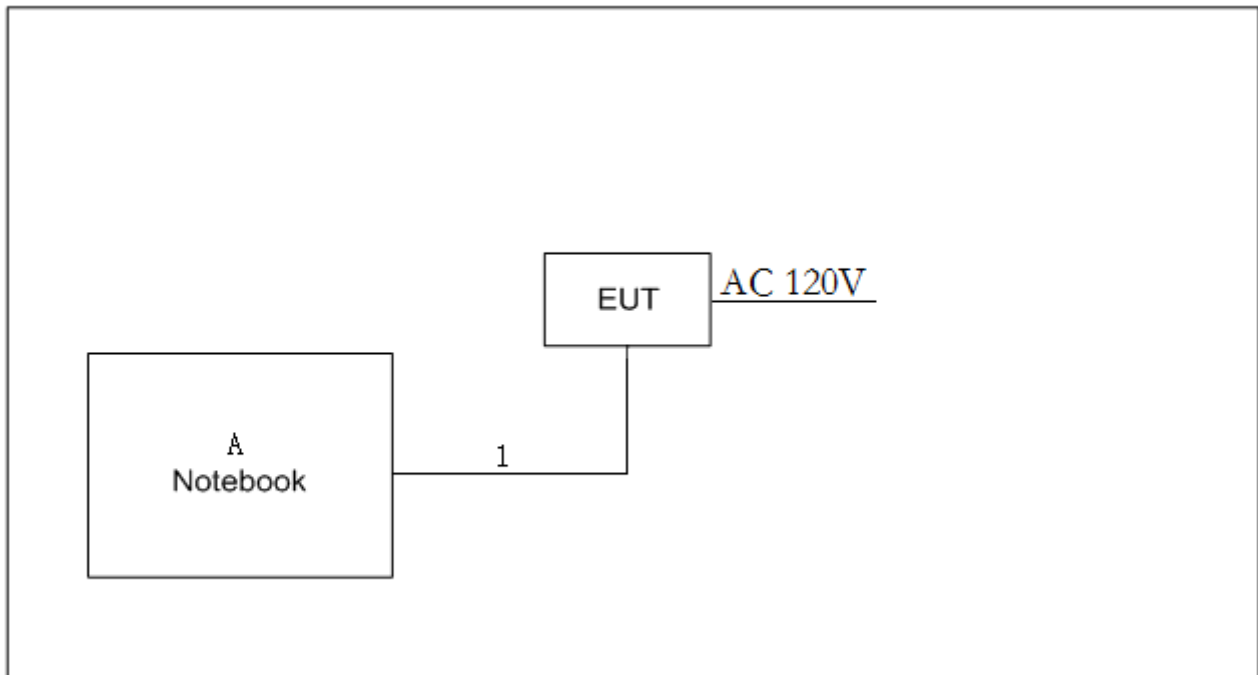
IEEE 802.11g



Date: 17.AUG.2019 11:11:06

Duty cycle = 35.500 ms / 35.500 ms = 100%
Duty Factor = $10 \log(1/\text{Duty cycle}) = 0.00$

2.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



2.6 SUPPORT UNITS

| Item | Equipment | Brand | Model No. | Series No. |
|------|-----------|-------|------------------|------------|
| A | Notebook | Dell | Inspiron 15-7559 | N/A |

| Item | Cable Type | Shielded Type | Ferrite Core | Length |
|------|------------|---------------|--------------|--------|
| 1 | USB Cable | NO | NO | 0.8m |

3. AC POWER LINE CONDUCTED EMISSIONS TEST

3.1 LIMIT

| Frequency of Emission (MHz) | Limit (dB μ V) | |
|-----------------------------|--------------------|-----------|
| | Quasi-peak | Average |
| 0.15 - 0.50 | 66 to 56* | 56 to 46* |
| 0.50 - 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.

The following table is the setting of the receiver

| Receiver Parameters | Setting |
|---------------------|----------|
| Attenuation | 10 dB |
| Start Frequency | 0.15 MHz |
| Stop Frequency | 30 MHz |
| IF Bandwidth | 9 kHz |

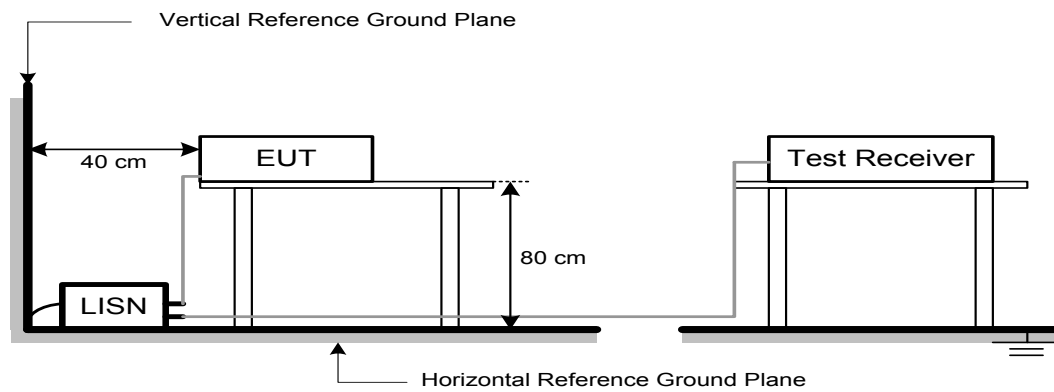
3.2 TEST PROCEDURE

- 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.

3.3 DEVIATION FROM TEST STANDARD

No deviation

3.4 TEST SETUP



3.5 EUT OPERATION CONDITIONS

EUT was programmed to be in continuously transmitting mode.

3.6 TEST RESULTS

Please refer to the APPENDIX A.

4. RADIATED EMISSIONS TEST

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 PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

| Spectrum Parameter | Setting |
|--|--|
| Attenuation | Auto |
| Start Frequency | 1000 MHz |
| Stop Frequency | 10th carrier harmonic |
| RBW / VBW (Emission in restricted band) | 1 MHz / 3 MHz for Peak, 1 MHz / 1/T for Average |

| Receiver Parameter | Setting |
|------------------------|-------------------------------------|
| Attenuation | Auto |
| 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 |

4.2 TEST PROCEDURE

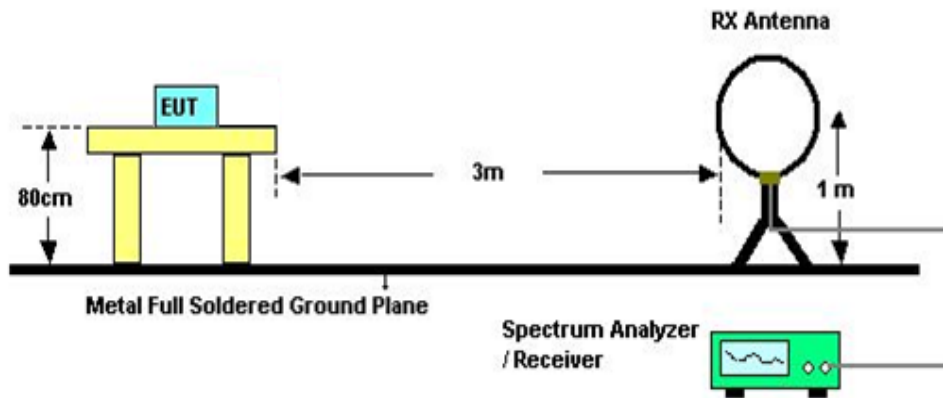
- The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1 GHz)
- The measuring distance 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)
- 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.
- 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).
- 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.
- 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.
- 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)
- 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)
- For the actual test configuration, please refer to the related Item -EUT Test Photos.

4.3 DEVIATION FROM TEST STANDARD

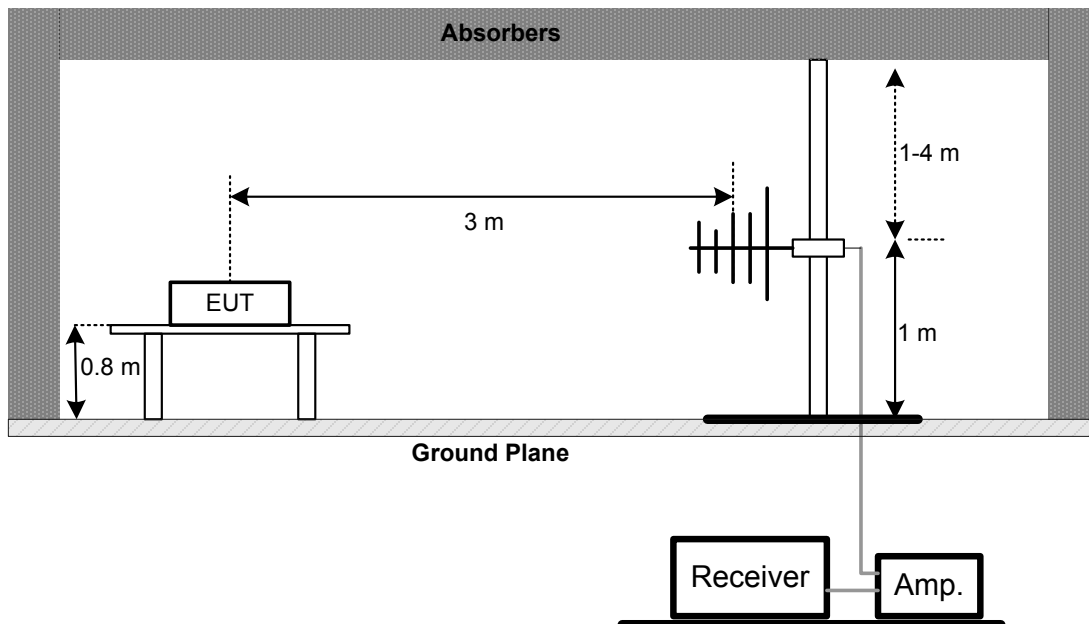
No deviation

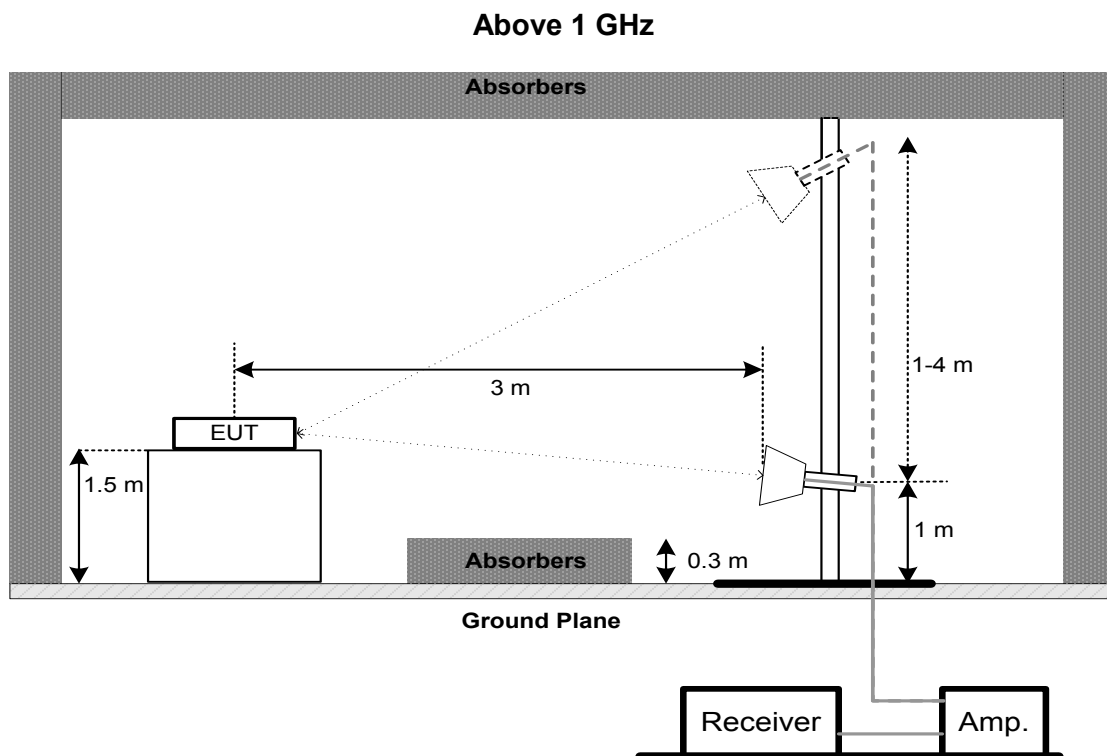
4.4 TEST SETUP

9 kHz-30 MHz



30 MHz to 1 GHz





4.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

4.6 TEST RESULTS - 9 KHZ TO 30 MHZ

Please refer to the APPENDIX B

Remark:

- (1) Distance extrapolation factor = $40 \log (\text{specific distance} / \text{test distance})$ (dB).
- (2) Limit line = specific limits (dBuV) + distance extrapolation factor.

4.7 TEST RESULTS - 30 MHZ TO 1000 MHZ

Please refer to the APPENDIX C.

4.8 TEST RESULTS - 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 TEST

5.1 LIMIT

| FCC Part15, Subpart C (15.247) | | |
|--------------------------------|------------------------|-----------------|
| Section | Test Item | Limit |
| 15.247(a)(2) | 6 dB Bandwidth | Minimum 500 kHz |
| | 99% Emission Bandwidth | - |

5.2 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- Spectrum Setting: RBW= 100 kHz, VBW=300 kHz, Sweep time = 2.5 ms.
- The bandwidth was performed in accordance with method 11.8.1 of ANSI C63.10-2013.

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 PEAK OUTPUT POWER TEST

6.1 LIMIT

| FCC Part15, Subpart C (15.247) | | |
|--------------------------------|----------------------|-----------------|
| Section | Test Item | Limit |
| 15.247(b)(3) | Maximum Output Power | 1 Watt or 30dBm |

6.2 TEST PROCEDURE

- The EUT was directly connected to the power meter and antenna output port as show in the block diagram below.
- The maximum conducted output power was performed in accordance with method 11.9.1.3 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 EMISSIONS

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

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- Spectrum Setting: RBW= 100 kHz, VBW=300 kHz, 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 TEST

8.1 LIMIT

| FCC Part15, Subpart C (15.247) | | |
|--------------------------------|------------------------|-------------------------|
| Section | Test Item | Limit |
| 15.247(e) | Power Spectral Density | 8 dBm (in any 3 kHz) |

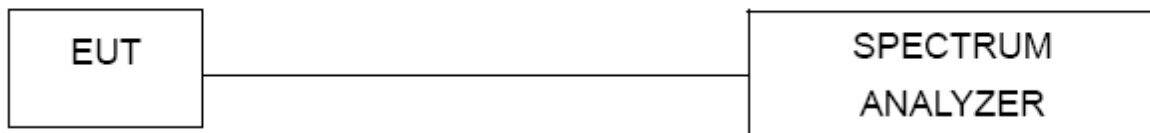
8.2 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- Spectrum Setting: RBW=3 kHz, VBW=10 kHz, Sweep time = Auto.
- The Power Spectral Density was performed in accordance with method 11.10.2 of ANSI C63.10-2013.

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 | Mar. 10, 2020 |
| 2 | LISN | EMCO | 3816/2 | 52765 | Mar. 10, 2020 |
| 3 | 50ohm Terminator | SHX | TF5-3 | 15041305 | Mar. 10, 2020 |
| 4 | Artificial-Mains Network | Schwarzbeck | NSLK 8127 | 8127685 | Mar. 10, 2020 |
| 5 | TRANSIENT LIMITER | EM | EM-7600 | 772 | Mar. 10, 2020 |
| 6 | Measurement Software | Farad | EZ-EMC Ver.NB-03A1-01 | N/A | N/A |
| 7 | Cable | N/A | RG223 | 12m | Mar. 12, 2020 |

| Radiated Emissions - 9 kHz to 30 MHz | | | | | |
|--------------------------------------|----------------------|--------------|--------------------------|------------|------------------|
| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
| 1 | Loop Antenna | EM | EM-6876-1 | 230 | Jan. 15, 2020 |
| 2 | Cable | N/A | RG 213/U | C-102 | May 31, 2020 |
| 3 | EMI Test Receiver | R&S | ESCI | 100895 | Mar. 10, 2020 |
| 4 | Measurement Software | Farad | EZ-EMC Ver.NB-03A1-01 | N/A | N/A |

| 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. 09, 2020 |
| 2* | Amplifier* | HP | 8447D | 2944A09673 | Aug. 11, 2021 |
| 3 | Receiver | Agilent | N9038A | MY52130039 | Aug. 03, 2020 |
| 4 | Cable | emci | LMR-400(30MHz-1GHz)(8m+5m) | N/A | May 24, 2020 |
| 5 | Controller | CT | SC100 | N/A | N/A |
| 6 | Controller | MF | MF-7802 | MF780208416 | N/A |
| 7 | Measurement Software | Farad | EZ-EMC Ver.NB-03A1-01 | N/A | N/A |

| Radiated Emissions - Above 1 GHz | | | | | |
|----------------------------------|-------------------------------------|----------------|--------------------------|---------------|------------------|
| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
| 1 | Double Ridged Guide Antenna | ETS | 3115 | 75789 | Mar. 09, 2020 |
| 2 | Broad-Band Horn Antenna | Schwarzbeck | BBHA 9170 | 9170319 | Jun. 23, 2020 |
| 3 | Amplifier | Agilent | 8449B | 3008A02333 | Mar. 10, 2020 |
| 4 | Microwave Preamplifier With Adaptor | EMC INSTRUMENT | EMC2654045 | 980039 & HA01 | Mar. 10, 2020 |
| 5 | Receiver | Agilent | N9038A | MY52130039 | Aug. 03, 2020 |
| 6 | Controller | CT | SC100 | N/A | N/A |
| 7 | Controller | MF | MF-7802 | MF780208416 | N/A |
| 8 | Cable | mitron | B10-01-01-12M | 18072744 | Jun. 29, 2020 |
| 9 | Measurement Software | Farad | EZ-EMC Ver.NB-03A1-01 | N/A | N/A |

**Bandwidth &
Antenna Conducted Spurious Emissions &
Power Spectral Density**

| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
|------|-------------------|--------------|----------|------------|------------------|
| 1 | Spectrum Analyzer | R&S | FSP40 | 100185 | Aug. 03, 2020 |

Maximum Peak Output Power

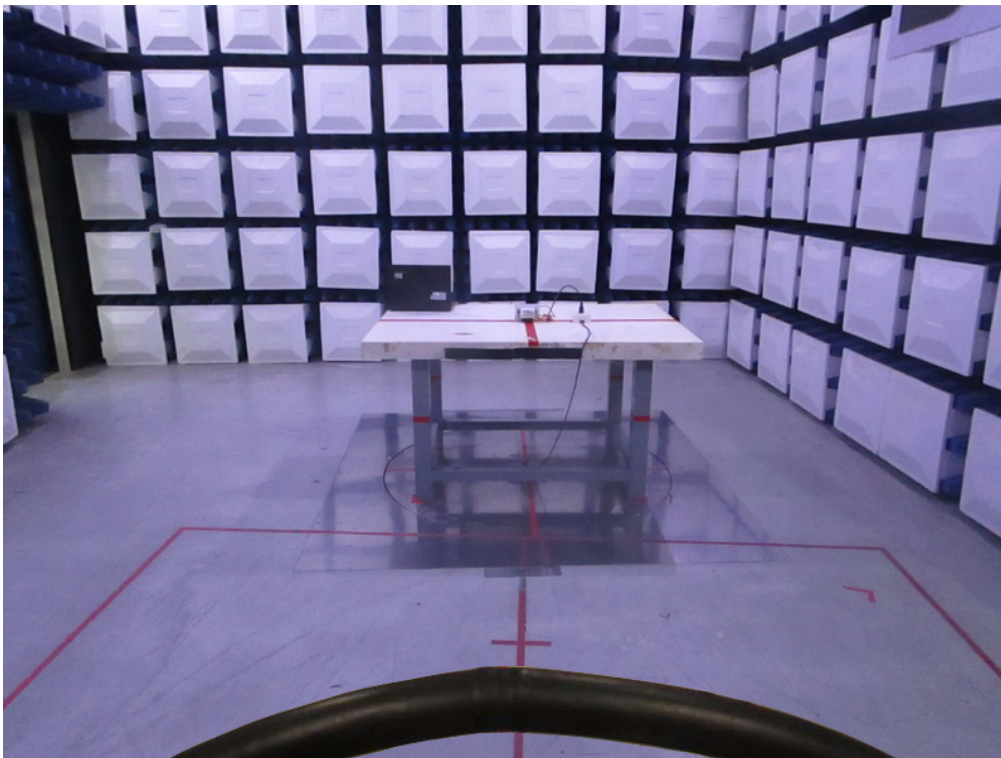
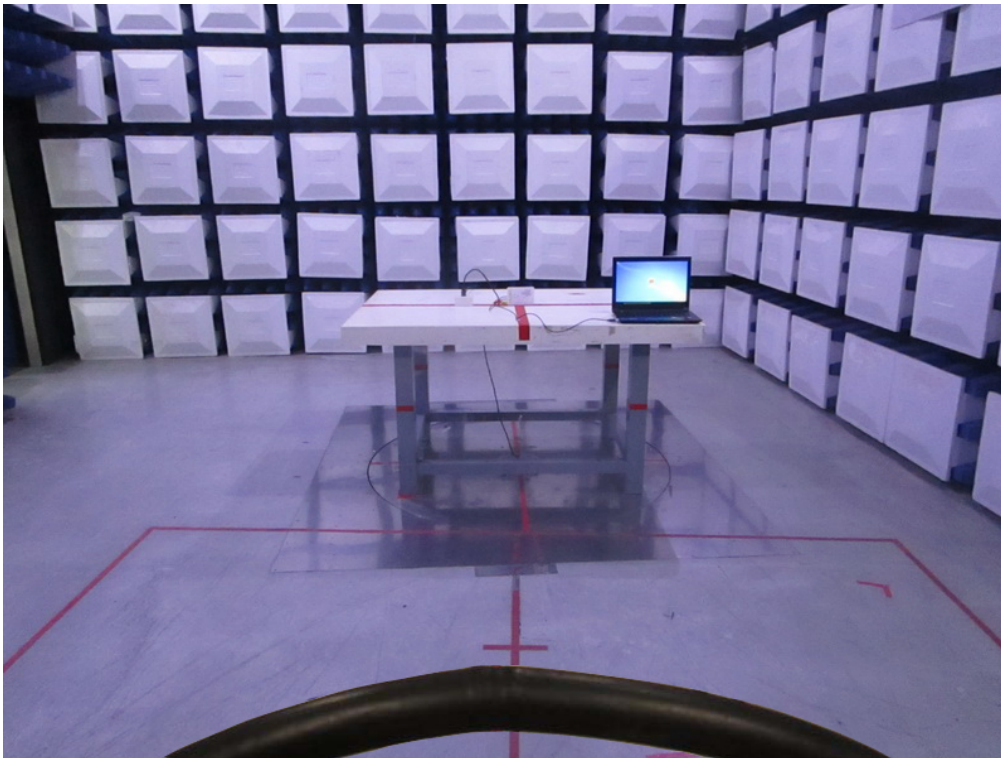
| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
|------|-----------------------|--------------|----------|------------|------------------|
| 1 | Peak Power Analyzer | Keysight | 8990B | MY51000506 | Aug. 03, 2020 |
| 2 | Wideband power sensor | Keysight | N1923A | MY58310004 | Aug. 03, 2020 |

Remark: "N/A" denotes no model name, serial no. or calibration specified.

"*" calibration period of equipment list is three year.

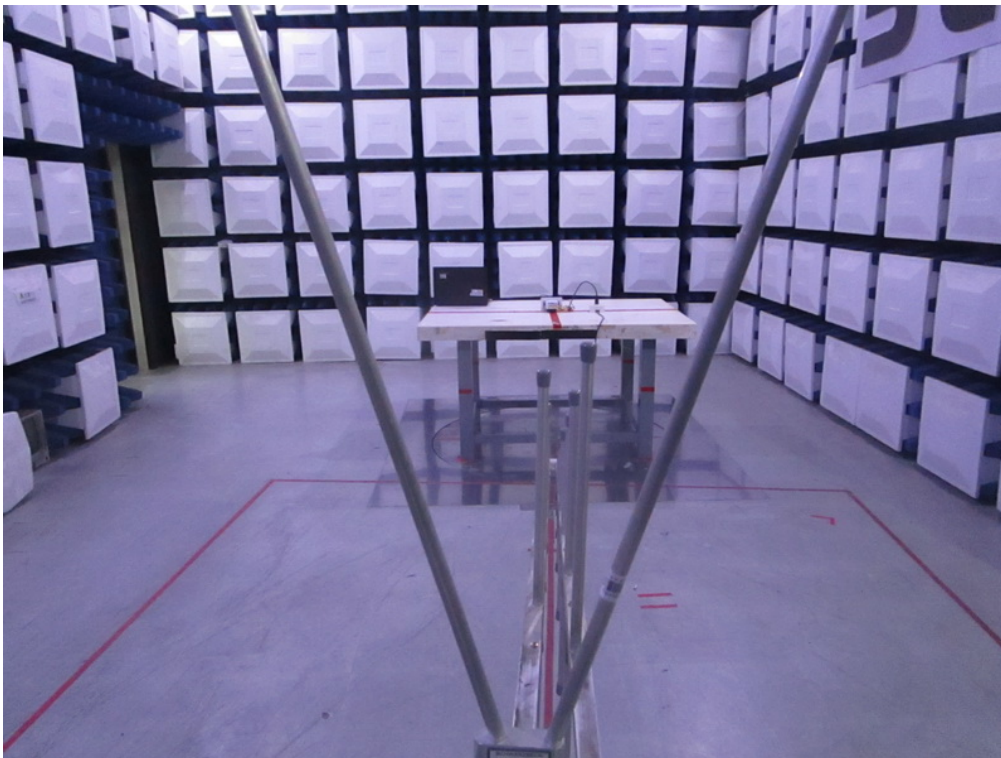
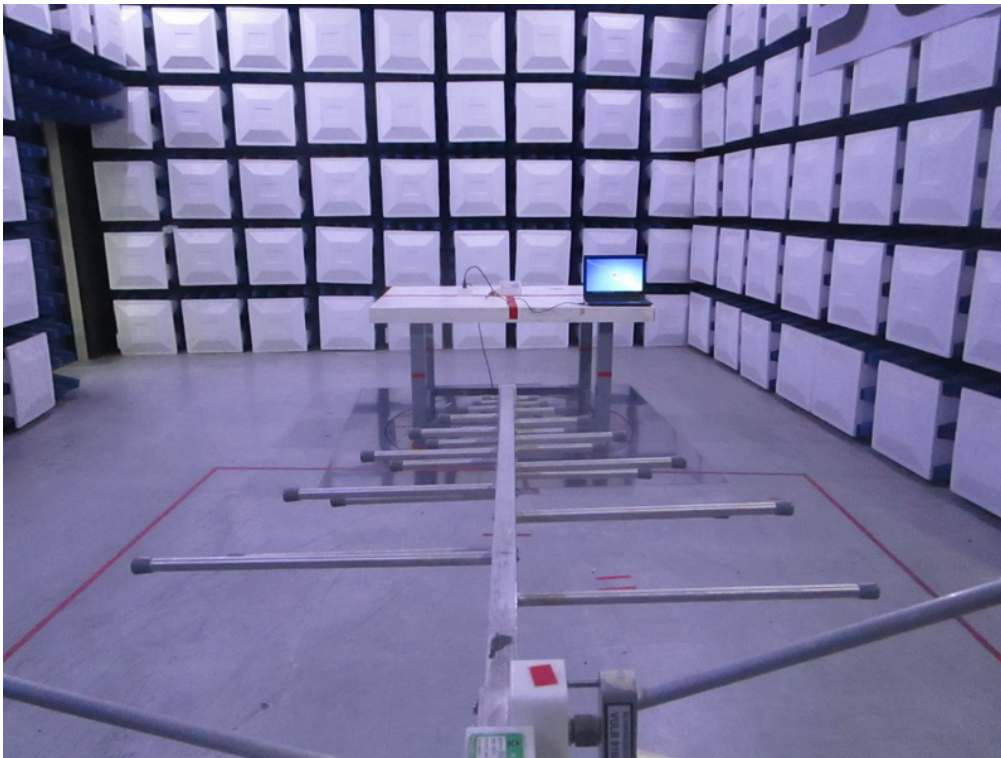
Except * item, all calibration period of equipment list is one year.

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 1 GHz



Radiated Emissions Test Photos

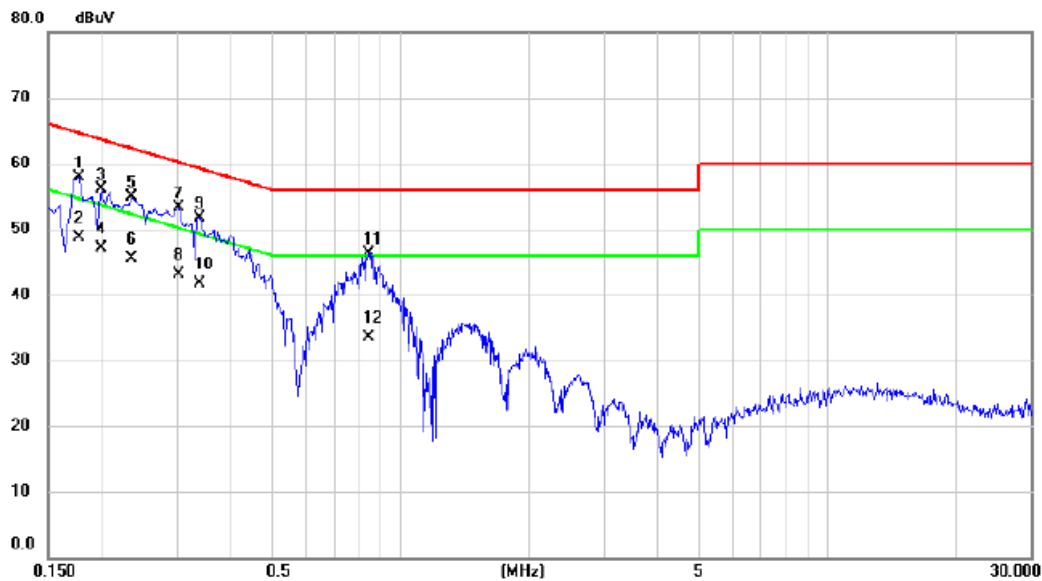
Above 1 GHz



APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS

Test Mode: TX N-20 MODE CHANNEL 06

Line



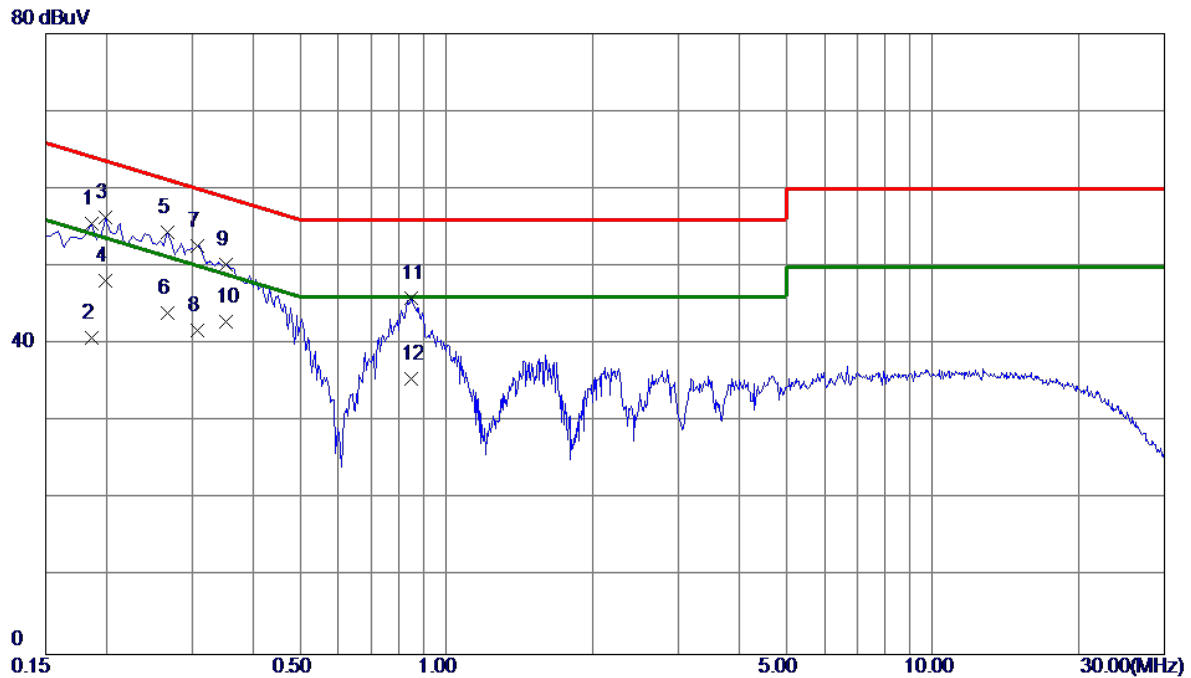
| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV | Limit dBuV | Margin dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|--------------------------|---------------|--------------|----------|---------|
| 1 | | 0.1770 | 48.17 | 9.82 | 57.99 | 64.63 | -6.64 | peak | |
| 2 | * | 0.1770 | 38.80 | 9.82 | 48.62 | 54.63 | -6.01 | AVG | |
| 3 | | 0.1995 | 46.37 | 9.81 | 56.18 | 63.63 | -7.45 | peak | |
| 4 | | 0.1995 | 37.30 | 9.81 | 47.11 | 53.63 | -6.52 | AVG | |
| 5 | | 0.2355 | 45.14 | 9.82 | 54.96 | 62.25 | -7.29 | peak | |
| 6 | | 0.2355 | 35.60 | 9.82 | 45.42 | 52.25 | -6.83 | AVG | |
| 7 | | 0.3030 | 43.53 | 9.84 | 53.37 | 60.16 | -6.79 | peak | |
| 8 | | 0.3030 | 33.20 | 9.84 | 43.04 | 50.16 | -7.12 | AVG | |
| 9 | | 0.3390 | 41.88 | 9.85 | 51.73 | 59.23 | -7.50 | peak | |
| 10 | | 0.3390 | 31.80 | 9.85 | 41.65 | 49.23 | -7.58 | AVG | |
| 11 | | 0.8430 | 36.34 | 9.91 | 46.25 | 56.00 | -9.75 | peak | |
| 12 | | 0.8430 | 23.50 | 9.91 | 33.41 | 46.00 | -12.59 | AVG | |

REMARKS:

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

Test Mode: TX N-20 MODE CHANNEL 06

Neutral



| No. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure ment dBuV | Limit dBuV | Margin dB | Detector | Comment |
|-----|--------------|--------------------------|-------------------------|-------------------------|---------------|--------------|----------|---------|
| 1 | 0.1860 | 45.57 | 9.90 | 55.47 | 64.21 | -8.74 | Peak | |
| 2 | 0.1860 | 30.90 | 9.90 | 40.80 | 54.21 | -13.41 | AVG | |
| 3 | 0.1995 | 46.36 | 9.90 | 56.26 | 63.63 | -7.37 | Peak | |
| 4 * | 0.1995 | 38.20 | 9.90 | 48.10 | 53.63 | -5.53 | AVG | |
| 5 | 0.2670 | 44.47 | 9.94 | 54.41 | 61.21 | -6.80 | Peak | |
| 6 | 0.2670 | 34.10 | 9.94 | 44.04 | 51.21 | -7.17 | AVG | |
| 7 | 0.3075 | 42.73 | 9.96 | 52.69 | 60.04 | -7.35 | Peak | |
| 8 | 0.3075 | 31.79 | 9.96 | 41.75 | 50.04 | -8.29 | AVG | |
| 9 | 0.3525 | 40.31 | 9.99 | 50.30 | 58.90 | -8.60 | Peak | |
| 10 | 0.3525 | 32.90 | 9.99 | 42.89 | 48.90 | -6.01 | AVG | |
| 11 | 0.8475 | 35.89 | 10.09 | 45.98 | 56.00 | -10.02 | Peak | |
| 12 | 0.8475 | 25.40 | 10.09 | 35.49 | 46.00 | -10.51 | AVG | |

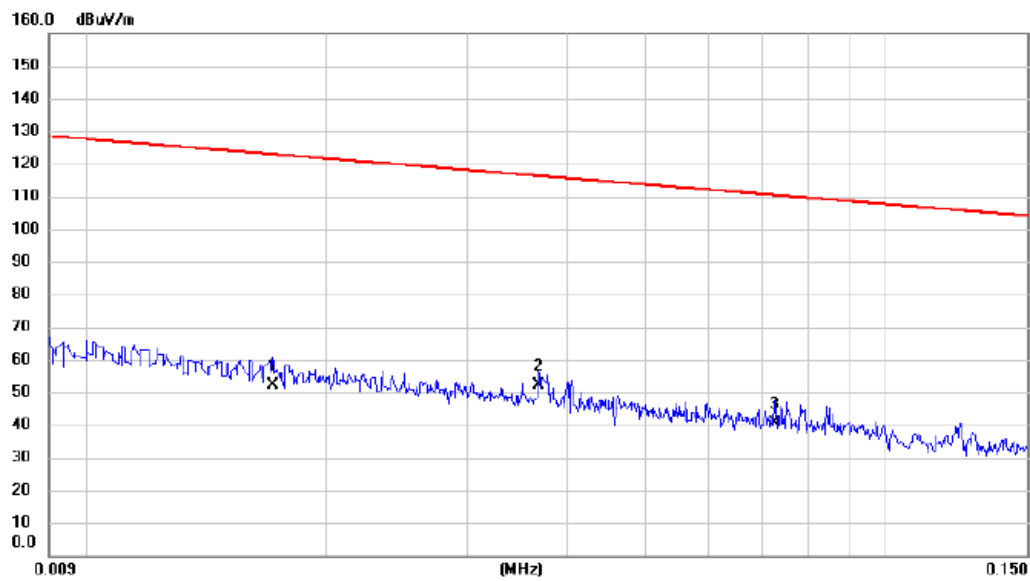
REMARKS:

- (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 N-20 MODE CHANNEL 06

Ant 0°



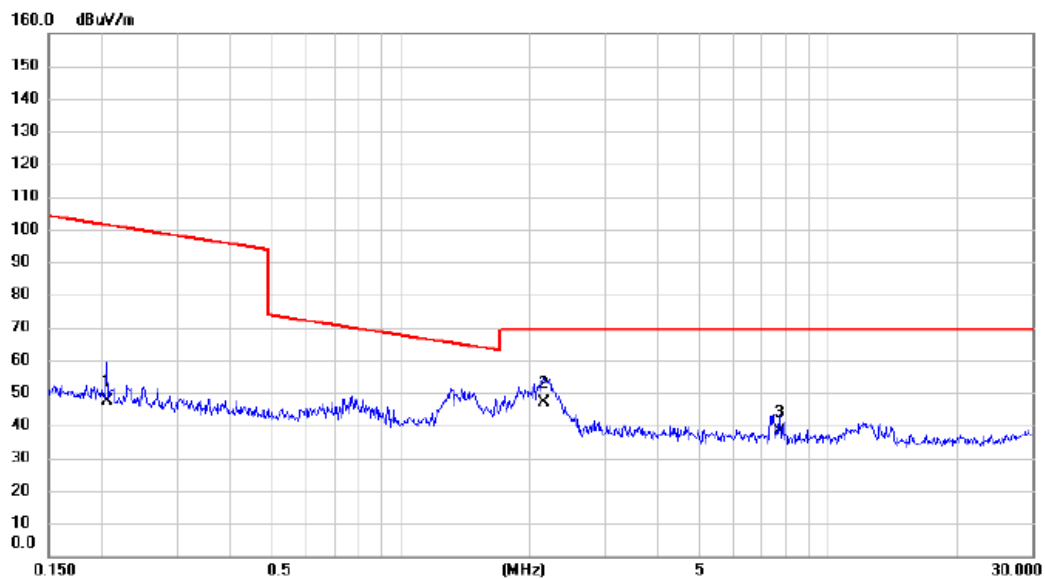
| No. | Mk. | Freq. | Reading | Correct | Measure- | Limit | Margin | | |
|-----|-----|--------|---------|---------|----------|--------|--------|----------|---------|
| | | MHz | Level | Factor | ment | | | Detector | Comment |
| | | | dBuV | dB | dBuV/m | dBuV/m | dB | | |
| 1 | | 0.0171 | 37.50 | 14.69 | 52.19 | 122.94 | -70.75 | AVG | |
| 2 | * | 0.0368 | 38.20 | 13.89 | 52.09 | 116.29 | -64.20 | AVG | |
| 3 | | 0.0727 | 27.10 | 13.57 | 40.67 | 110.37 | -69.70 | AVG | |

REMARKS:

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

Test Mode: TX N-20 MODE CHANNEL 06

Ant 0°



| No. | Mk. | Freq. | Reading | Correct | Measure- | Limit | Margin | | |
|-----|-----|--------|---------|---------|----------|--------|--------|----------|---------|
| | | MHz | Level | Factor | ment | | | | |
| | | | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 0.2050 | 33.80 | 13.61 | 47.41 | 101.37 | -53.96 | AVG | |
| 2 | * | 2.1667 | 35.40 | 11.72 | 47.12 | 69.54 | -22.42 | QP | |
| 3 | | 7.6870 | 26.90 | 11.28 | 38.18 | 69.54 | -31.36 | QP | |

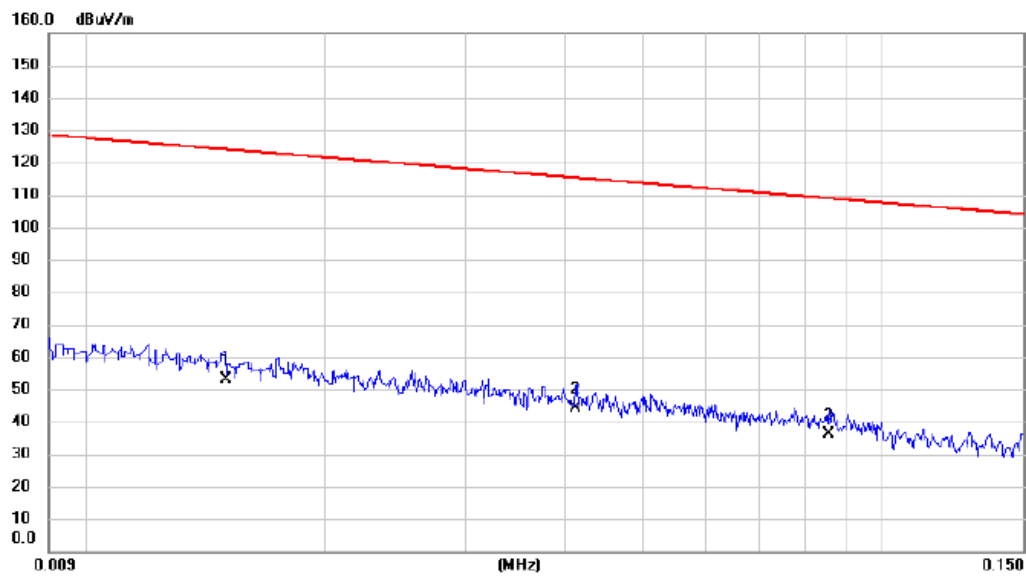
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX N-20 MODE CHANNEL 06

Ant 90°



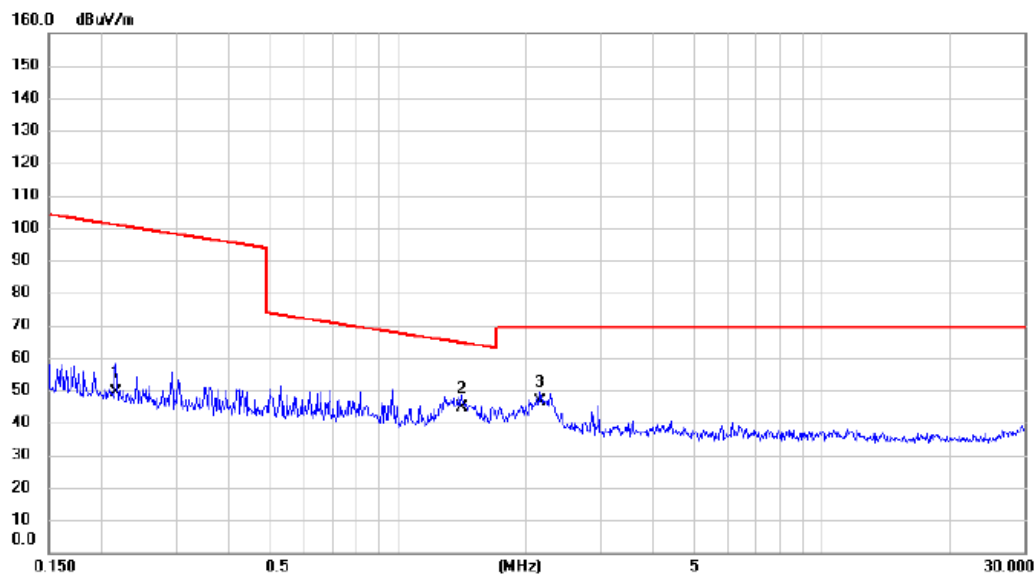
| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|-----|-----|--------|---------------|----------------|--------------|--------|--------|----------|---------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 0.0150 | 37.50 | 15.32 | 52.82 | 124.08 | -71.26 | AVG | |
| 2 | * | 0.0412 | 30.30 | 13.90 | 44.20 | 115.31 | -71.11 | AVG | |
| 3 | | 0.0856 | 22.80 | 13.54 | 36.34 | 108.96 | -72.62 | AVG | |

REMARKS:

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

Test Mode: TX N-20 MODE CHANNEL 06

Ant 90°



| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|--------------|----------|---------|
| 1 | | 0.2162 | 35.70 | 13.63 | 49.33 | 100.91 | -51.58 | AVG | |
| 2 | * | 1.4106 | 32.20 | 12.22 | 44.42 | 64.62 | -20.20 | QP | |
| 3 | | 2.1667 | 34.80 | 11.72 | 46.52 | 69.54 | -23.02 | QP | |

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

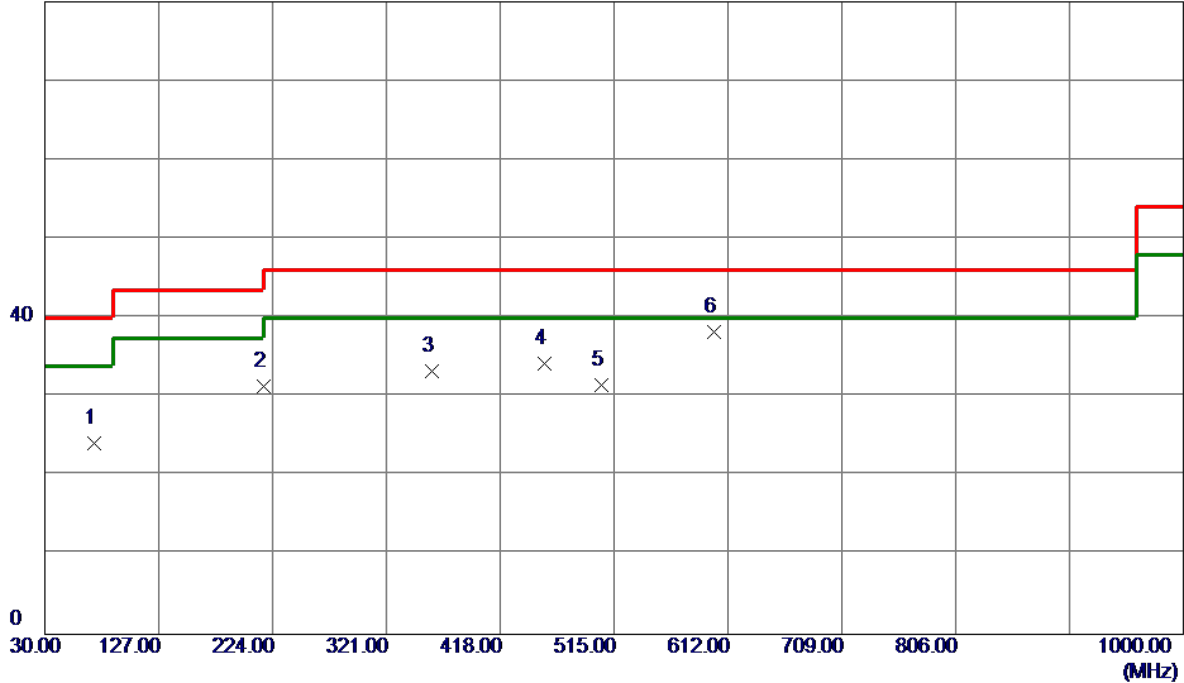
(2) Margin Level = Measurement Value - Limit Value.

APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ

Test Mode: TX N-20 MODE CHANNEL 06

Vertical

80 dBuV/m



| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|---------|
| 1 | 72.1950 | 40.86 | -16.63 | 24.23 | 40.00 | -15.77 | Peak | |
| 2 | 216.2400 | 46.32 | -15.00 | 31.32 | 46.00 | -14.68 | Peak | |
| 3 | 359.8000 | 43.66 | -10.42 | 33.24 | 46.00 | -12.76 | Peak | |
| 4 | 455.8300 | 42.24 | -8.03 | 34.21 | 46.00 | -11.79 | Peak | |
| 5 | 503.8450 | 39.20 | -7.65 | 31.55 | 46.00 | -14.45 | Peak | |
| 6 * | 599.8750 | 43.96 | -5.74 | 38.22 | 46.00 | -7.78 | Peak | |

REMARKS:

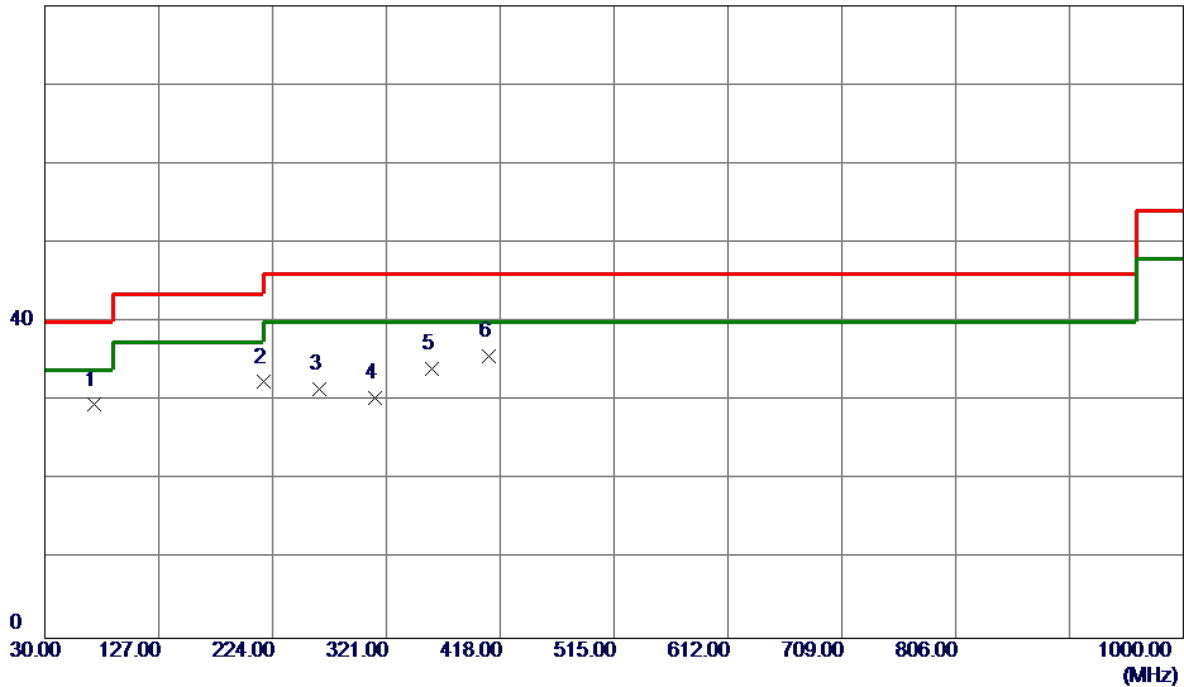
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX N-20 MODE CHANNEL 06

Horizontal

80 dBuV/m



| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|---------|
| 1 | 72.1950 | 46.15 | -16.63 | 29.52 | 40.00 | -10.48 | Peak | |
| 2 | 216.2400 | 47.40 | -15.00 | 32.40 | 46.00 | -13.60 | Peak | |
| 3 | 263.7700 | 44.36 | -12.81 | 31.55 | 46.00 | -14.45 | Peak | |
| 4 | 311.7850 | 41.63 | -11.29 | 30.34 | 46.00 | -15.66 | Peak | |
| 5 | 359.8000 | 44.52 | -10.42 | 34.10 | 46.00 | -11.90 | Peak | |
| 6 * | 407.8150 | 44.87 | -9.25 | 35.62 | 46.00 | -10.38 | Peak | |

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

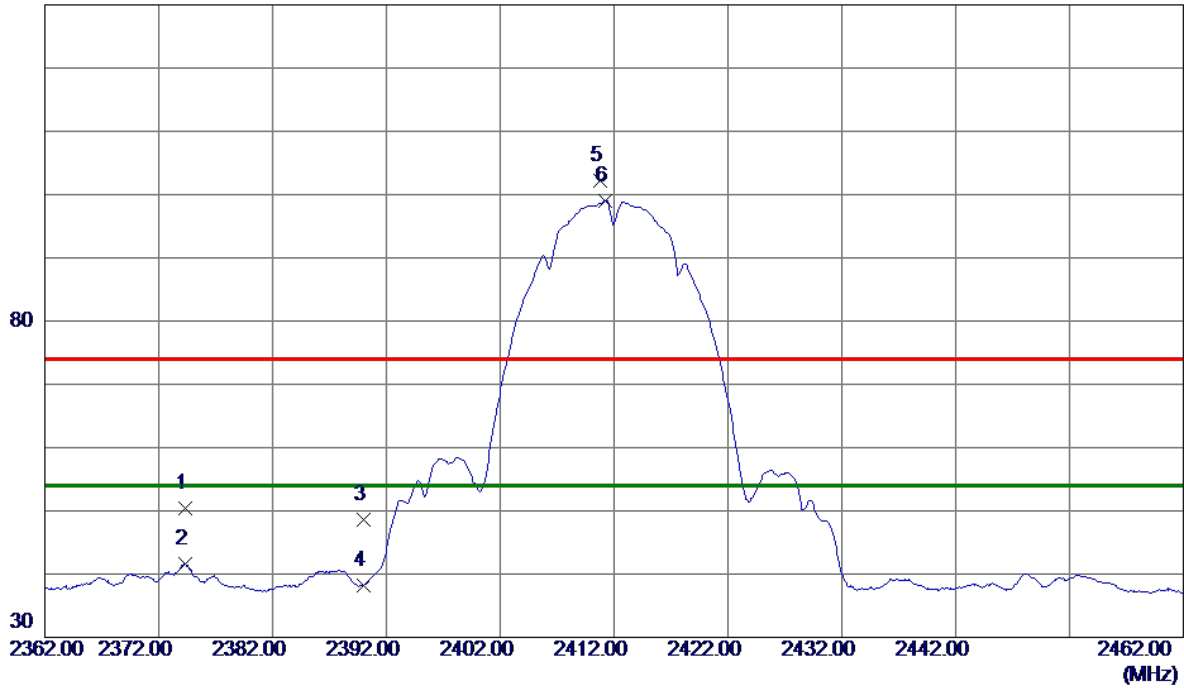
(2) Margin Level = Measurement Value - Limit Value.

APPENDIX D - RADIATED EMISSION- ABOVE 1000 MHZ

Test Mode: TX B Mode 2412 MHz

Vertical

130 dBuV/m



| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|----------|
| 1 | 2374.3000 | 42.88 | 7.51 | 50.39 | 74.00 | -23.61 | Peak | |
| 2 | 2374.3000 | 34.08 | 7.51 | 41.59 | 54.00 | -12.41 | AVG | |
| 3 | 2390.0000 | 40.95 | 7.56 | 48.51 | 74.00 | -25.49 | Peak | |
| 4 | 2390.0000 | 30.69 | 7.56 | 38.25 | 54.00 | -15.75 | AVG | |
| 5 | 2410.8000 | 94.56 | 7.63 | 102.19 | 74.00 | 28.19 | Peak | No Limit |
| 6 * | 2411.2500 | 91.46 | 7.64 | 99.10 | 54.00 | 45.10 | AVG | No Limit |

REMARKS:

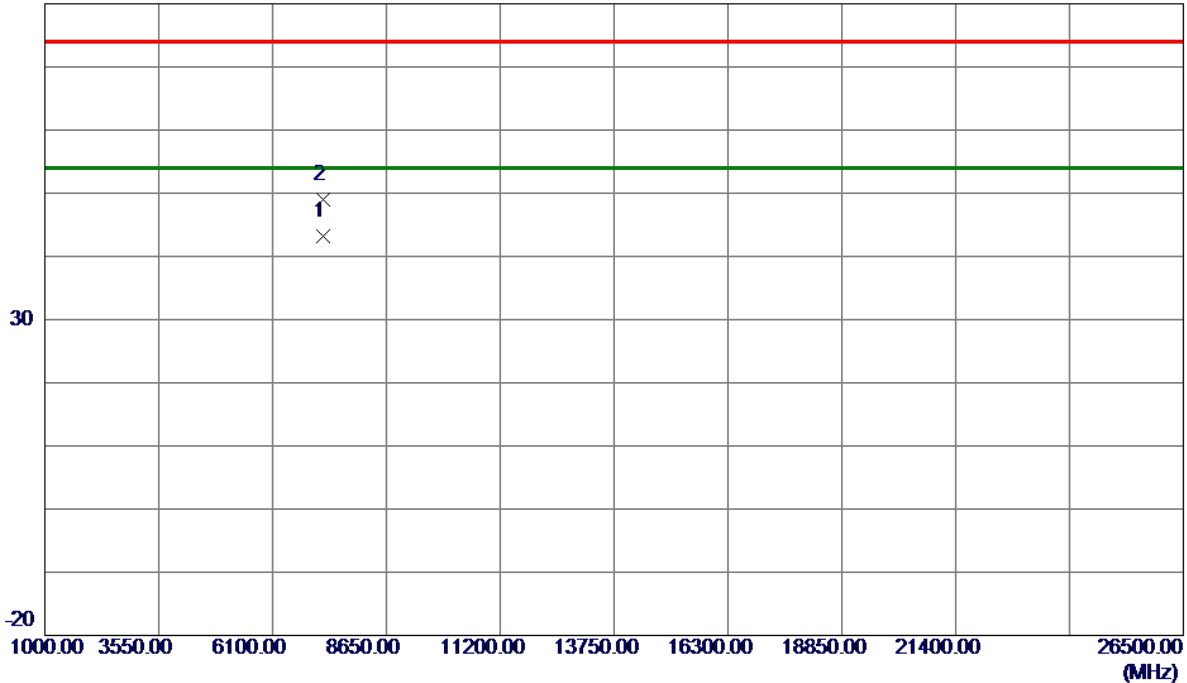
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX B Mode 2412 MHz

Vertical

80 dBuV/m



| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|---------|
| 1 * | 7236.7800 | 35.36 | 7.81 | 43.17 | 54.00 | -10.83 | AVG | |
| 2 | 7237.5400 | 41.15 | 7.81 | 48.96 | 74.00 | -25.04 | Peak | |

REMARKS:

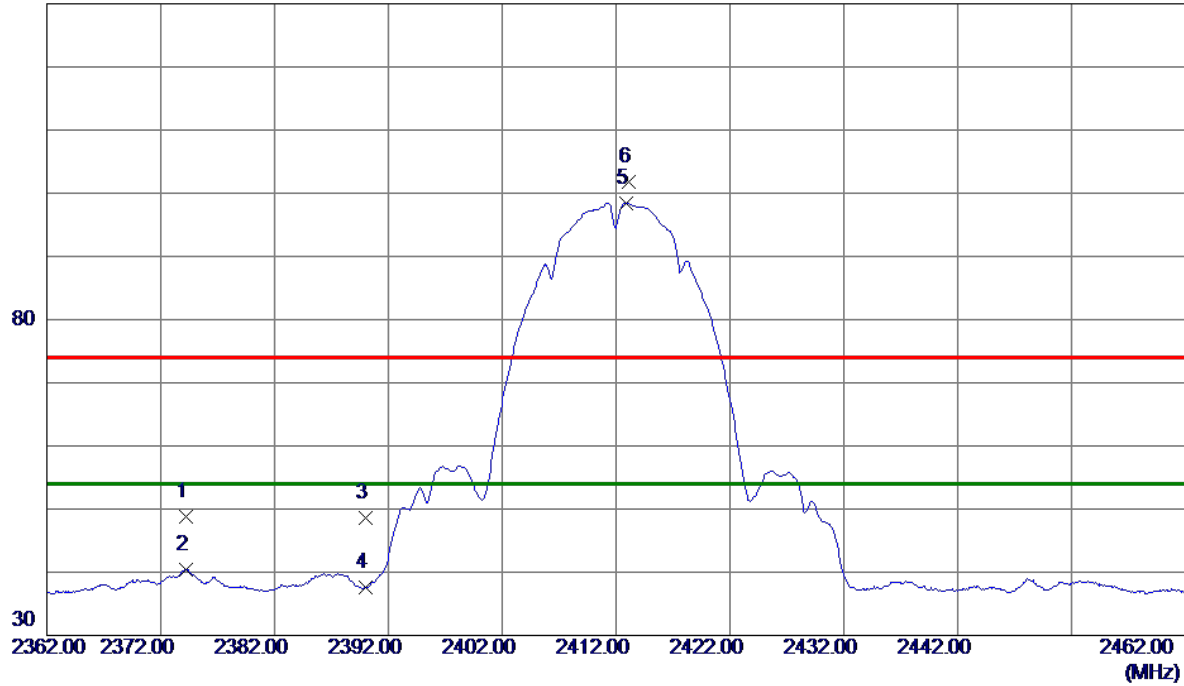
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX B Mode 2412 MHz

Horizontal

130 dBuV/m



| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|----------|
| 1 | 2374.2500 | 41.34 | 7.51 | 48.85 | 74.00 | -25.15 | Peak | |
| 2 | 2374.2500 | 32.97 | 7.51 | 40.48 | 54.00 | -13.52 | AVG | |
| 3 | 2390.0000 | 40.99 | 7.56 | 48.55 | 74.00 | -25.45 | Peak | |
| 4 | 2390.0000 | 30.12 | 7.56 | 37.68 | 54.00 | -16.32 | AVG | |
| 5 * | 2412.8500 | 90.83 | 7.64 | 98.47 | 54.00 | 44.47 | AVG | No Limit |
| 6 | 2413.1500 | 94.18 | 7.64 | 101.82 | 74.00 | 27.82 | Peak | No Limit |

REMARKS:

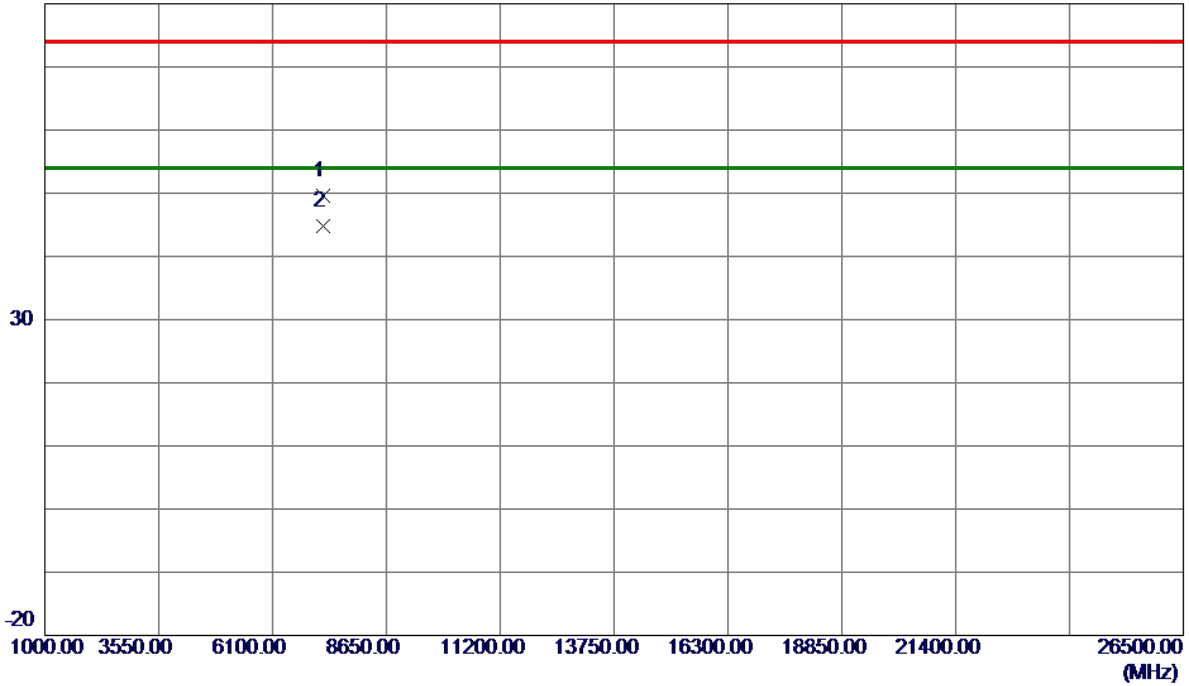
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX B Mode 2412 MHz

Horizontal

80 dBuV/m



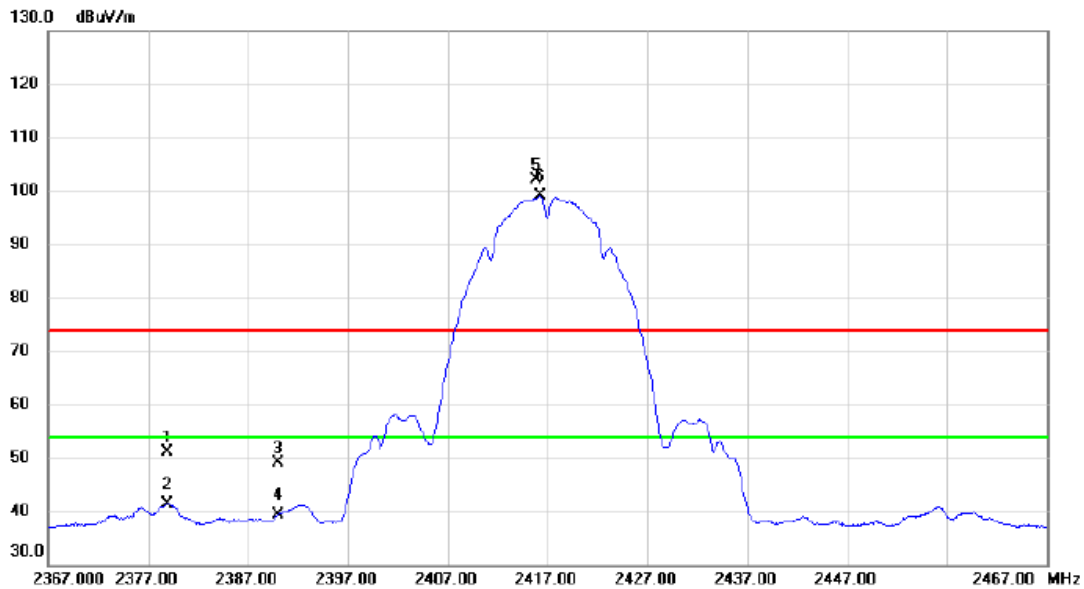
| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|---------|
| 1 | 7234.7250 | 41.81 | 7.81 | 49.62 | 74.00 | -24.38 | Peak | |
| 2 * | 7235.2250 | 36.97 | 7.81 | 44.78 | 54.00 | -9.22 | AVG | |

REMARKS:

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

Test Mode: TX B Mode 2417 MHz

Vertical



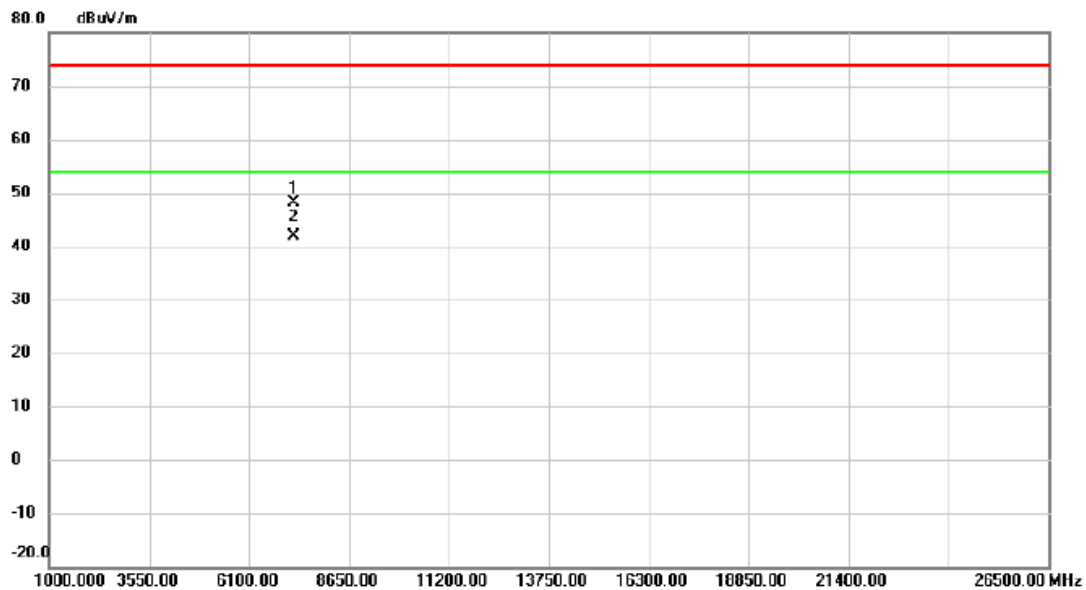
| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|--------------|----------|----------|
| 1 | | 2378.950 | 43.66 | 7.52 | 51.18 | 74.00 | -22.82 | peak | |
| 2 | | 2378.950 | 33.95 | 7.52 | 41.47 | 54.00 | -12.53 | AVG | |
| 3 | | 2390.000 | 41.45 | 7.57 | 49.02 | 74.00 | -24.98 | peak | |
| 4 | | 2390.000 | 31.85 | 7.57 | 39.42 | 54.00 | -14.58 | AVG | |
| 5 | X | 2415.850 | 94.37 | 7.65 | 102.02 | 74.00 | 28.02 | peak | No Limit |
| 6 | * | 2416.250 | 91.49 | 7.66 | 99.15 | 54.00 | 45.15 | AVG | No Limit |

REMARKS:

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

Test Mode: TX B Mode 2417 MHz

Vertical



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measurement | Limit | Margin | | |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|---------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 7249.830 | 40.18 | 7.83 | 48.01 | 74.00 | -25.99 | peak | |
| 2 | * | 7250.230 | 34.17 | 7.82 | 41.99 | 54.00 | -12.01 | AVG | |

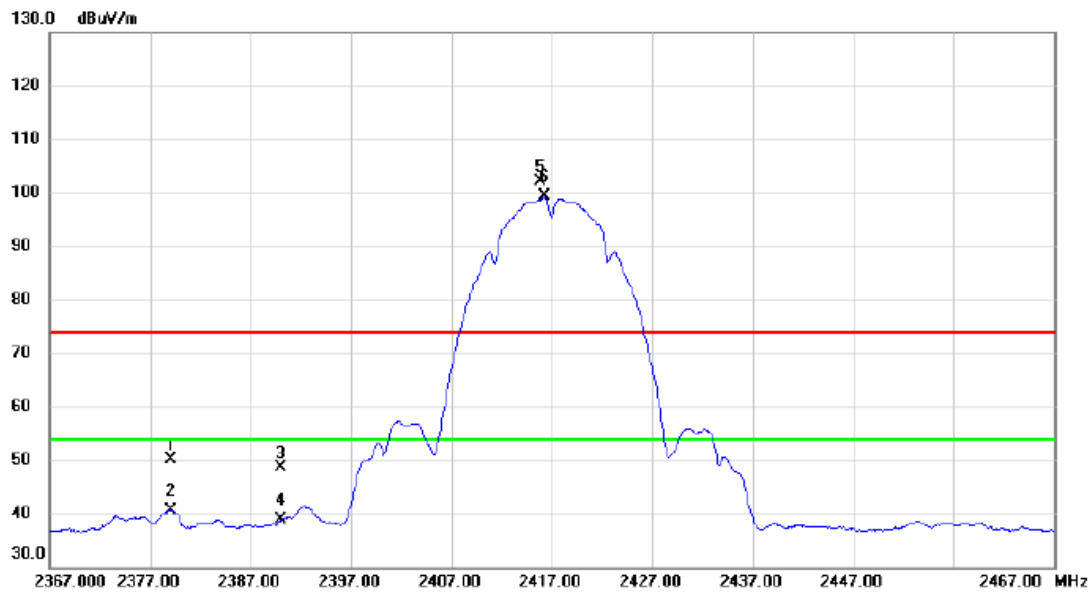
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX B Mode 2417 MHz

Horizontal



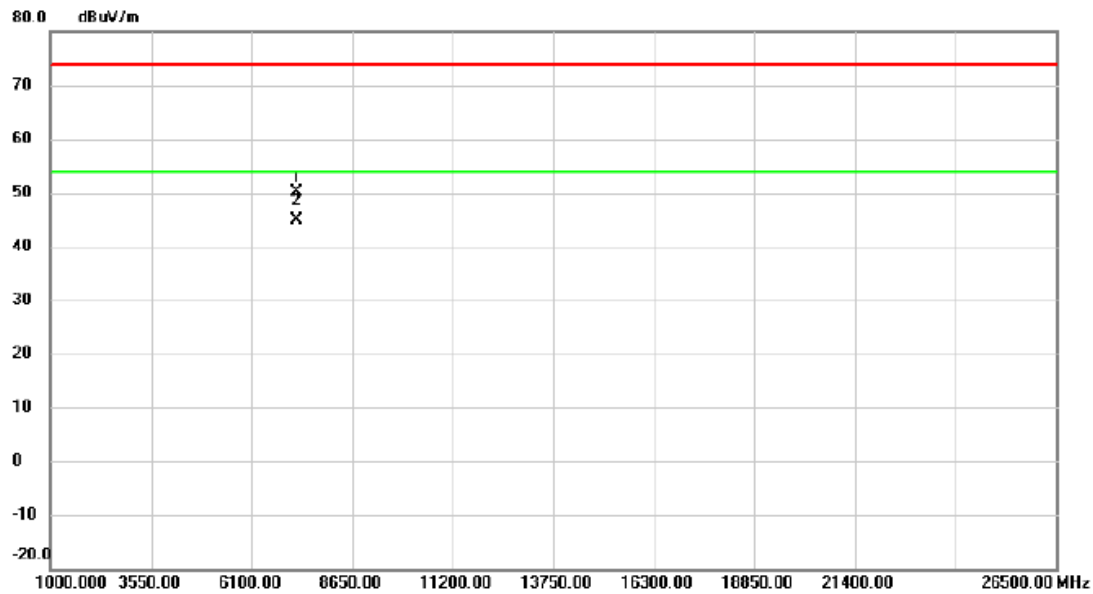
| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|--------------|----------|----------|
| 1 | | 2379.050 | 42.73 | 7.52 | 50.25 | 74.00 | -23.75 | peak | |
| 2 | | 2379.050 | 33.23 | 7.52 | 40.75 | 54.00 | -13.25 | AVG | |
| 3 | | 2390.000 | 41.08 | 7.57 | 48.65 | 74.00 | -25.35 | peak | |
| 4 | | 2390.000 | 31.21 | 7.57 | 38.78 | 54.00 | -15.22 | AVG | |
| 5 | X | 2415.850 | 94.56 | 7.65 | 102.21 | 74.00 | 28.21 | peak | No Limit |
| 6 | * | 2416.250 | 91.63 | 7.66 | 99.29 | 54.00 | 45.29 | AVG | No Limit |

REMARKS:

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

Test Mode: TX B Mode 2417 MHz

Horizontal



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|-----|-----|----------|---------------|----------------|--------------|--------|--------|----------|---------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 7249.965 | 42.42 | 7.83 | 50.25 | 74.00 | -23.75 | peak | |
| 2 | * | 7250.320 | 37.09 | 7.82 | 44.91 | 54.00 | -9.09 | AVG | |

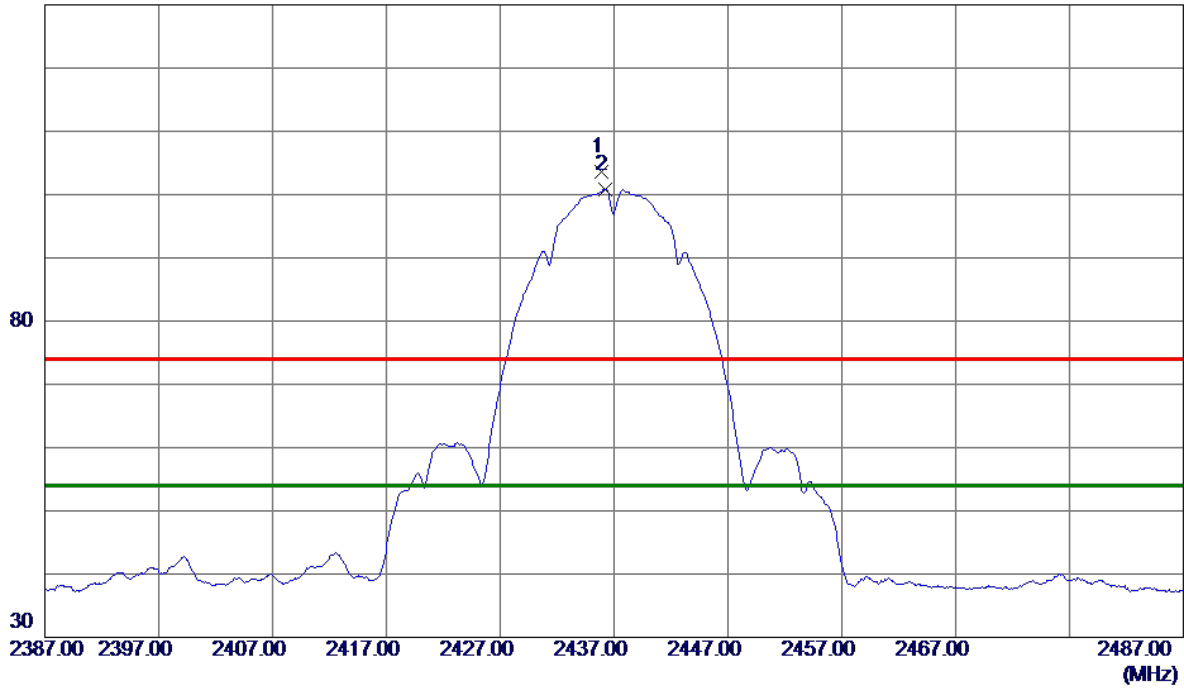
REMARKS:

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

Test Mode: TX B Mode 2437 MHz

Vertical

130 dBuV/m



| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|----------|
| 1 | 2435.8500 | 95.95 | 7.72 | 103.67 | 74.00 | 29.67 | Peak | No Limit |
| 2 * | 2436.2000 | 93.14 | 7.72 | 100.86 | 54.00 | 46.86 | AVG | No Limit |

REMARKS:

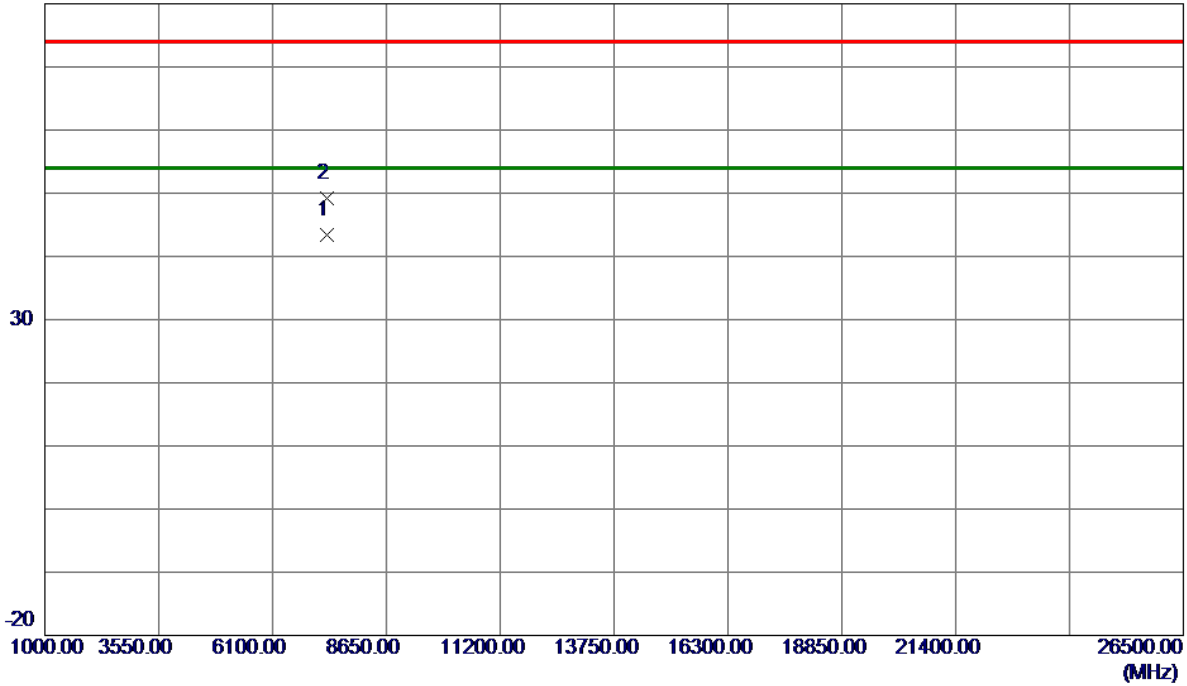
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX B Mode 2437 MHz

Vertical

80 dBuV/m



| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|---------|
| 1 * | 7310.1450 | 35.48 | 7.90 | 43.38 | 54.00 | -10.62 | AVG | |
| 2 | 7310.8900 | 41.27 | 7.90 | 49.17 | 74.00 | -24.83 | Peak | |

REMARKS:

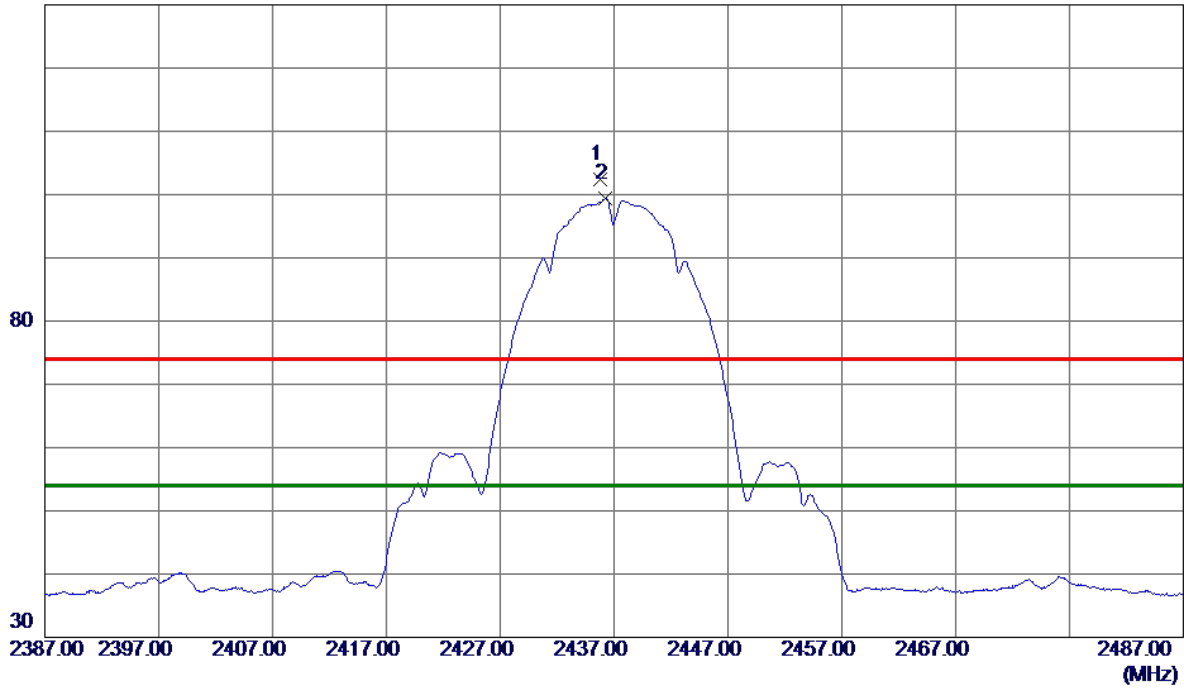
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX B Mode 2437 MHz

Horizontal

130 dBuV/m



| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|----------|
| 1 | 2435.8000 | 94.70 | 7.72 | 102.42 | 74.00 | 28.42 | Peak | No Limit |
| 2 * | 2436.2500 | 91.61 | 7.72 | 99.33 | 54.00 | 45.33 | AVG | No Limit |

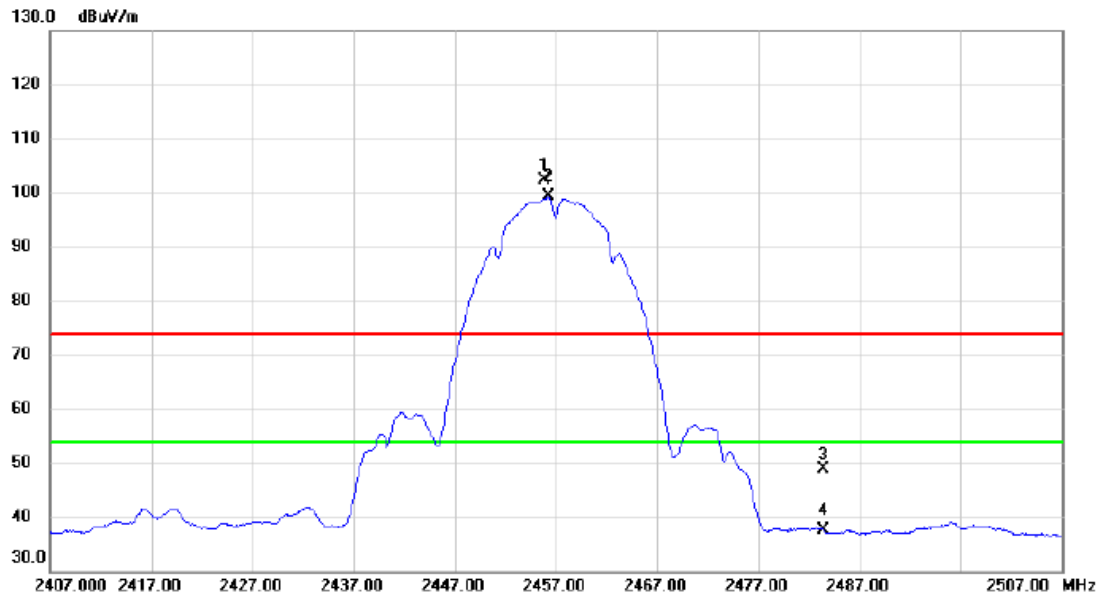
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX B Mode 2457 MHz

Vertical



| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|--------------|----------|----------|
| 1 | X | 2455.800 | 94.57 | 7.78 | 102.35 | 74.00 | 28.35 | peak | No Limit |
| 2 | * | 2456.250 | 91.51 | 7.78 | 99.29 | 54.00 | 45.29 | AVG | No Limit |
| 3 | | 2483.500 | 41.11 | 7.87 | 48.98 | 74.00 | -25.02 | peak | |
| 4 | | 2483.500 | 29.72 | 7.87 | 37.59 | 54.00 | -16.41 | AVG | |

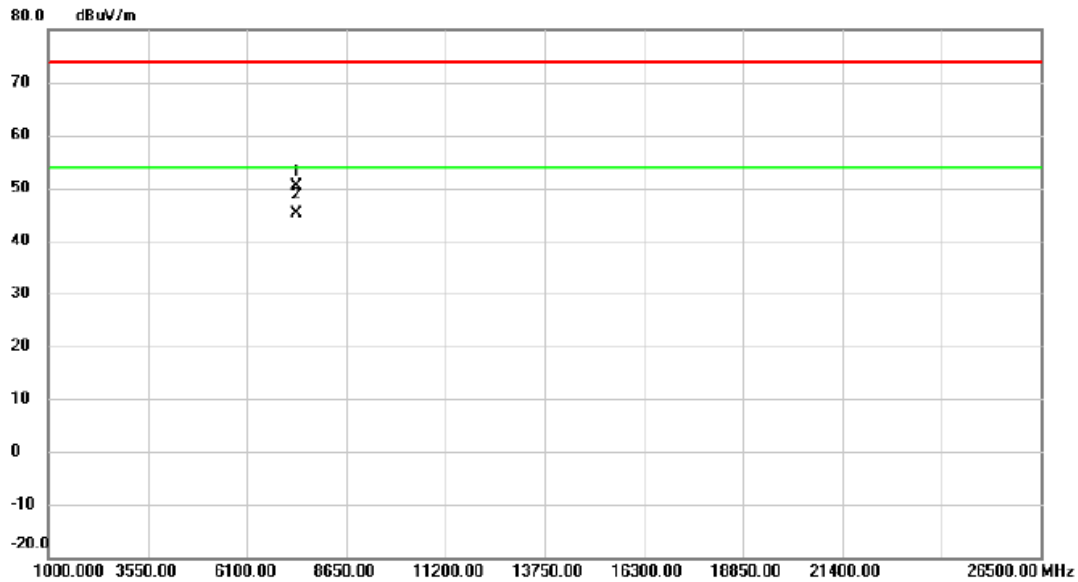
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX B Mode 2457 MHz

Vertical



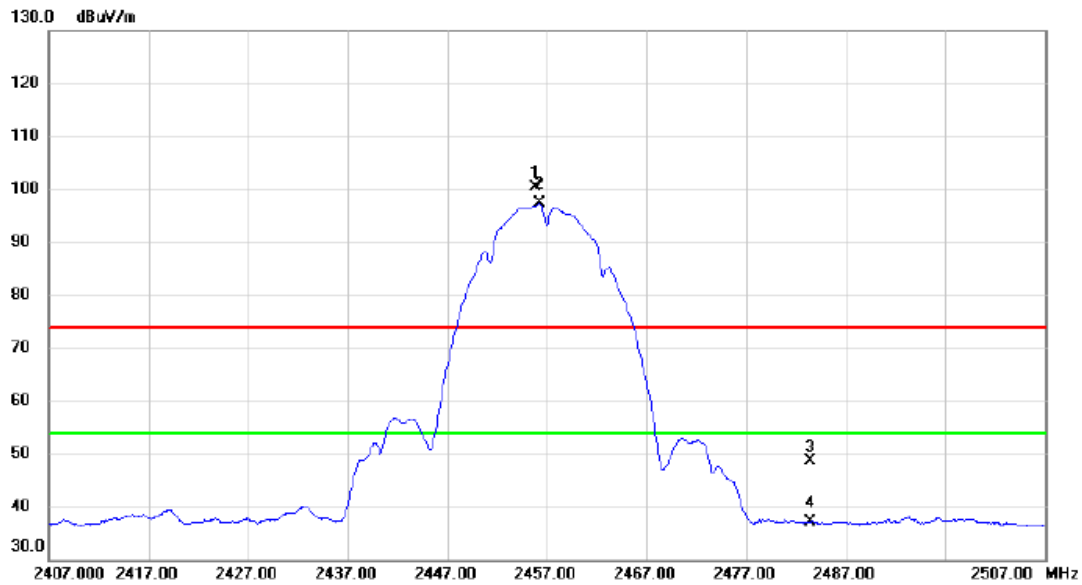
| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|--------------|----------|---------|
| 1 | | 7368.965 | 42.52 | 7.98 | 50.50 | 74.00 | -23.50 | peak | |
| 2 | * | 7370.160 | 37.20 | 7.98 | 45.18 | 54.00 | -8.82 | AVG | |

REMARKS:

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

Test Mode: TX B Mode 2457 MHz

Horizontal



| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|--------------|----------|----------|
| 1 | X | 2455.900 | 92.69 | 7.78 | 100.47 | 74.00 | 26.47 | peak | No Limit |
| 2 | * | 2456.250 | 89.54 | 7.78 | 97.32 | 54.00 | 43.32 | AVG | No Limit |
| 3 | | 2483.500 | 40.73 | 7.87 | 48.60 | 74.00 | -25.40 | peak | |
| 4 | | 2483.500 | 29.17 | 7.87 | 37.04 | 54.00 | -16.96 | AVG | |

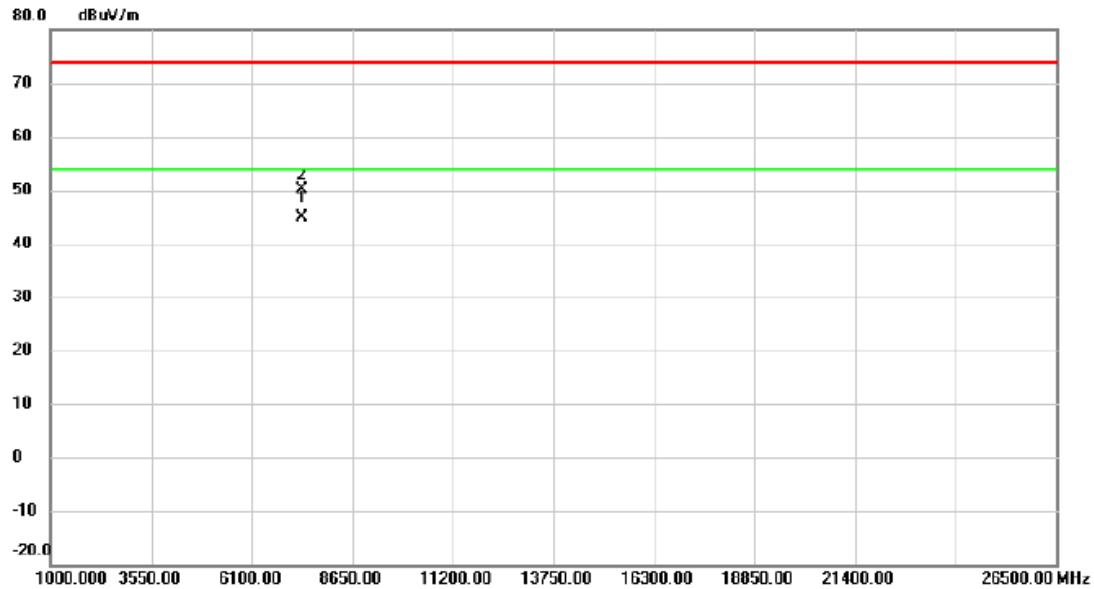
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX B Mode 2457 MHz

Horizontal



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measurement | Limit | Margin | | |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|---------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 7370.150 | 37.02 | 7.98 | 45.00 | 54.00 | -9.00 | AVG | |
| 2 | | 7371.775 | 42.04 | 7.98 | 50.02 | 74.00 | -23.98 | peak | |

REMARKS:

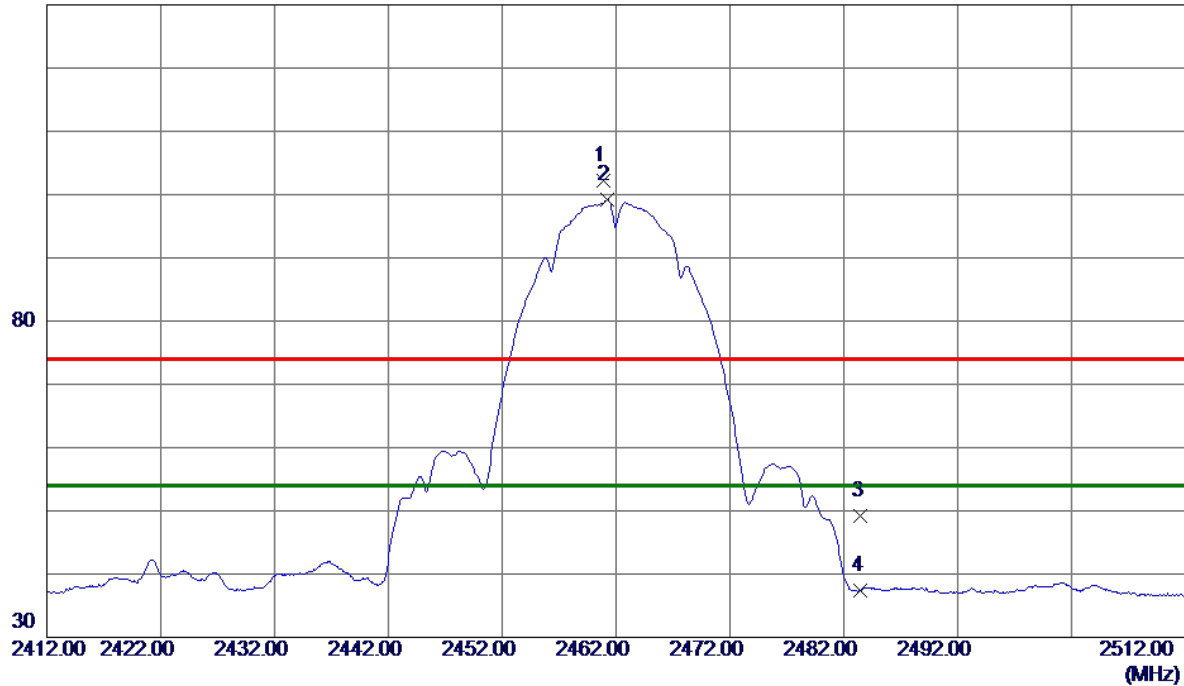
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX B Mode 2462 MHz

Vertical

130 dBuV/m



| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|----------|
| 1 | 2460.8500 | 94.44 | 7.80 | 102.24 | 74.00 | 28.24 | Peak | No Limit |
| 2 * | 2461.2500 | 91.37 | 7.80 | 99.17 | 54.00 | 45.17 | AVG | No Limit |
| 3 | 2483.5000 | 41.32 | 7.88 | 49.20 | 74.00 | -24.80 | Peak | |
| 4 | 2483.5000 | 29.57 | 7.88 | 37.45 | 54.00 | -16.55 | AVG | |

REMARKS:

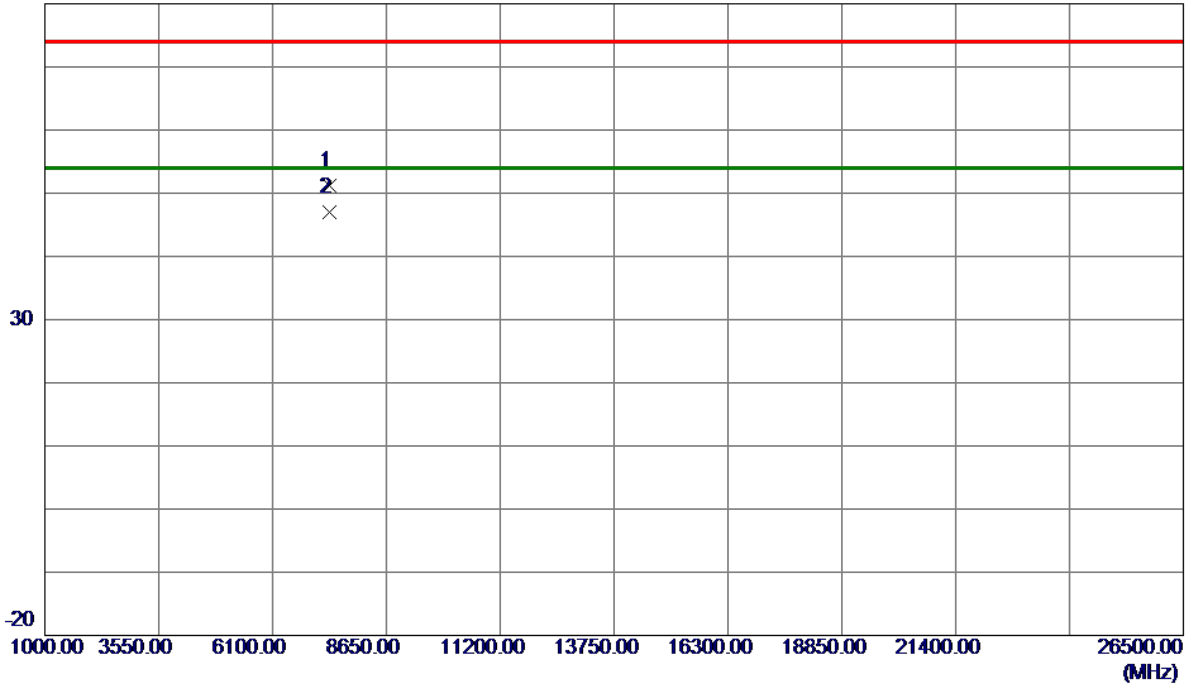
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

| | |
|------------|--------------------|
| Test Mode: | TX B Mode 2462 MHz |
|------------|--------------------|

Vertical

80 dBuV/m



| No. | Freq. | Reading Level | Correct Factor | Measurement | Limit | Margin | Detector | Comment |
|-----|-----------|---------------|----------------|-------------|--------|--------|----------|---------|
| | MHz | dBuV/m | dB | dBuV/m | dBuV/m | dB | | |
| 1 | 7384.7950 | 43.13 | 7.99 | 51.12 | 74.00 | -22.88 | Peak | |
| 2 * | 7385.1550 | 38.94 | 8.00 | 46.94 | 54.00 | -7.06 | AVG | |

REMARKS:

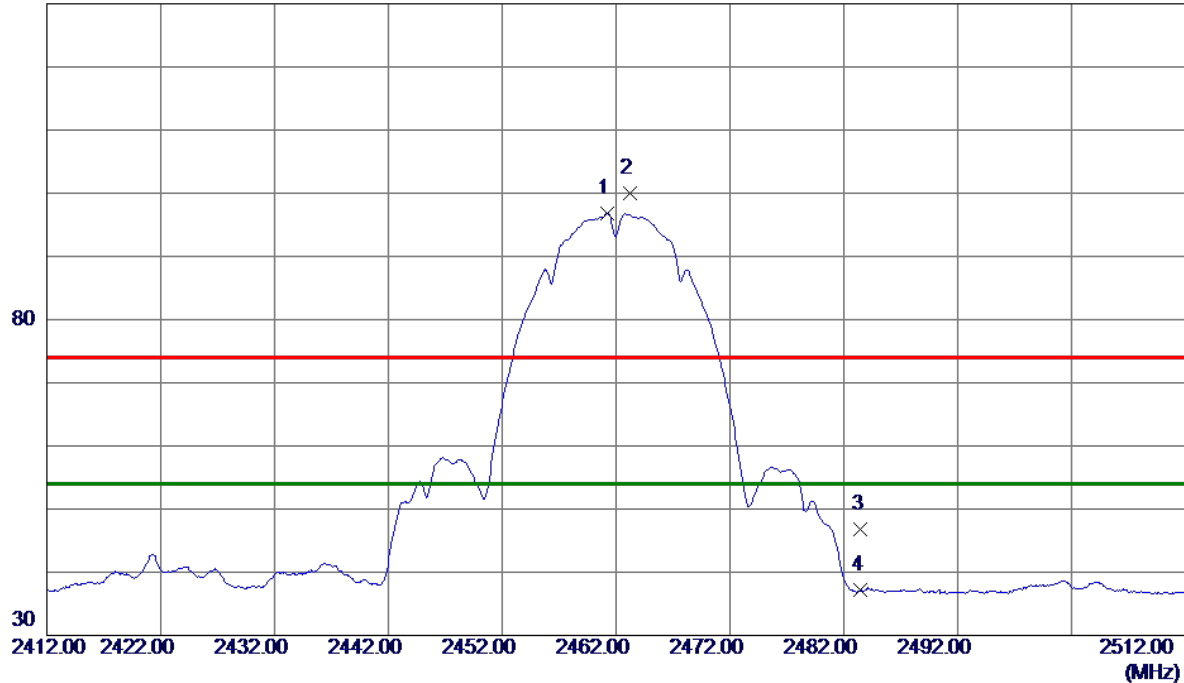
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX B Mode 2462 MHz

Horizontal

130 dBuV/m



| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|----------|
| 1 * | 2461.2000 | 89.05 | 7.80 | 96.85 | 54.00 | 42.85 | AVG | No Limit |
| 2 | 2463.2000 | 92.21 | 7.81 | 100.02 | 74.00 | 26.02 | Peak | No Limit |
| 3 | 2483.5000 | 38.97 | 7.88 | 46.85 | 74.00 | -27.15 | Peak | |
| 4 | 2483.5000 | 29.29 | 7.88 | 37.17 | 54.00 | -16.83 | AVG | |

REMARKS:

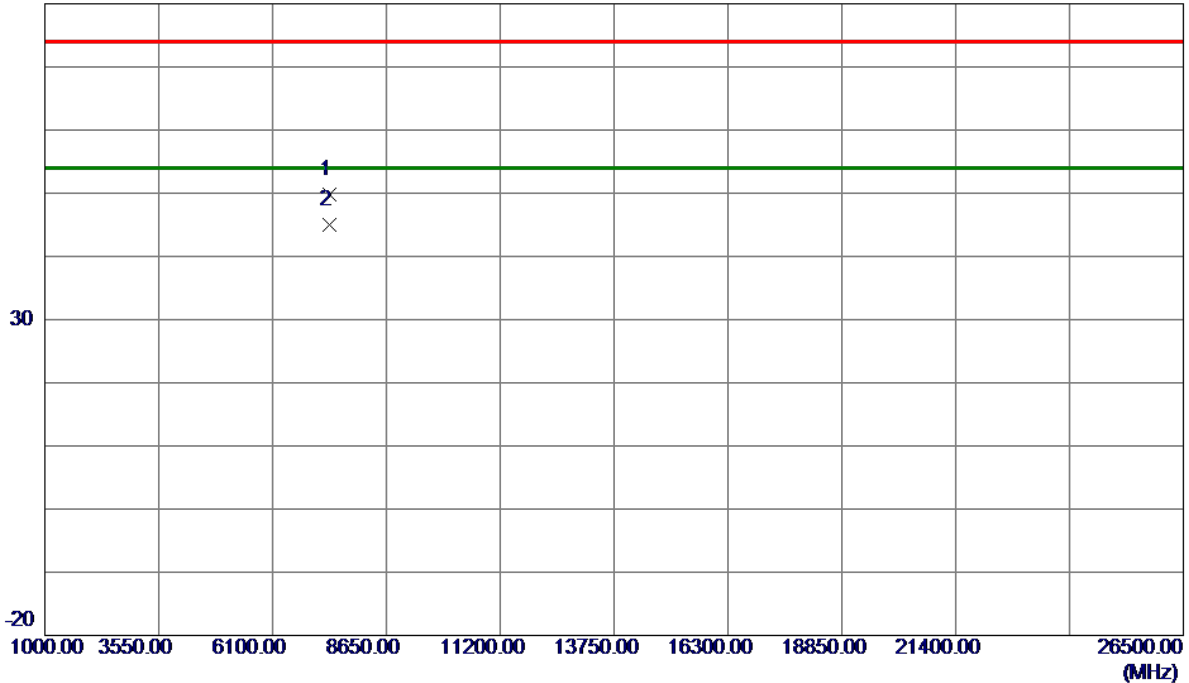
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX B Mode 2462 MHz

Horizontal

80 dBuV/m



| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|---------|
| 1 | 7384.5500 | 41.75 | 7.99 | 49.74 | 74.00 | -24.26 | Peak | |
| 2 * | 7385.2000 | 37.08 | 8.00 | 45.08 | 54.00 | -8.92 | AVG | |

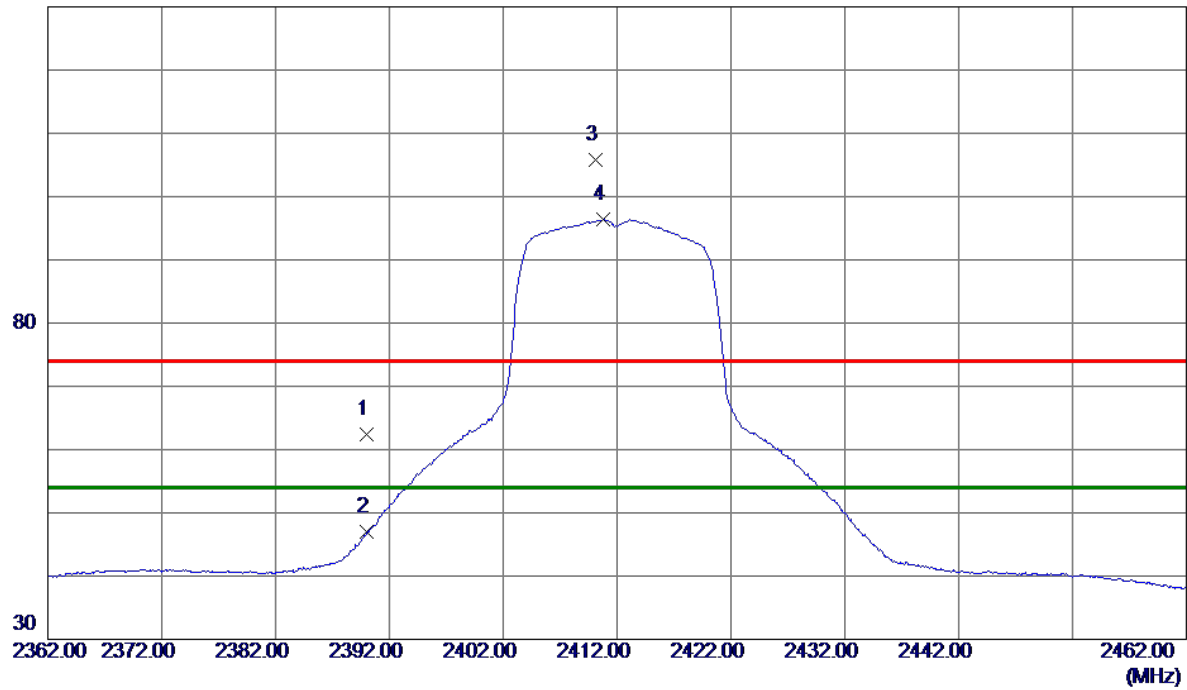
REMARKS:

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

Test Mode: TX G Mode 2412 MHz

Vertical

130 dBuV/m



| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|----------|
| 1 | 2390.0000 | 54.88 | 7.56 | 62.44 | 74.00 | -11.56 | Peak | |
| 2 | 2390.0000 | 39.48 | 7.56 | 47.04 | 54.00 | -6.96 | AVG | |
| 3 | 2410.1000 | 98.09 | 7.63 | 105.72 | 74.00 | 31.72 | Peak | No Limit |
| 4 * | 2410.7500 | 88.81 | 7.63 | 96.44 | 54.00 | 42.44 | AVG | No Limit |

REMARKS:

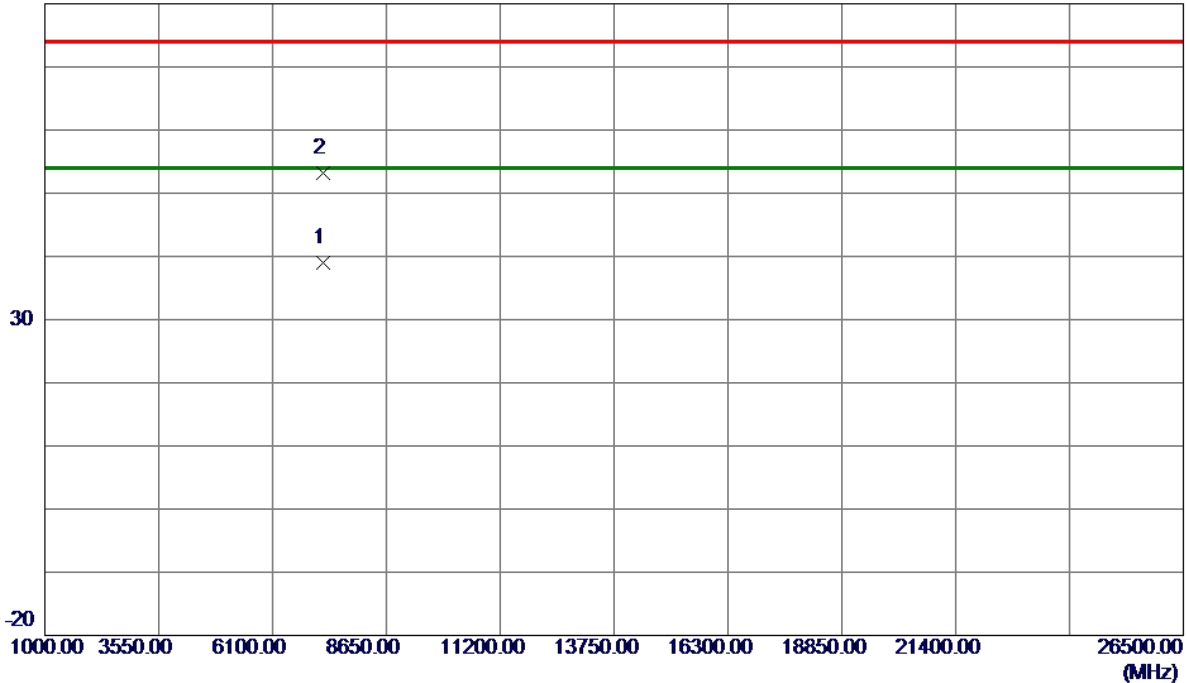
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

| | |
|------------|--------------------|
| Test Mode: | TX G Mode 2412 MHz |
|------------|--------------------|

Vertical

80 dBuV/m



| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|---------|
| 1 * | 7235.9750 | 31.13 | 7.81 | 38.94 | 54.00 | -15.06 | AVG | |
| 2 | 7237.2000 | 45.33 | 7.81 | 53.14 | 74.00 | -20.86 | Peak | |

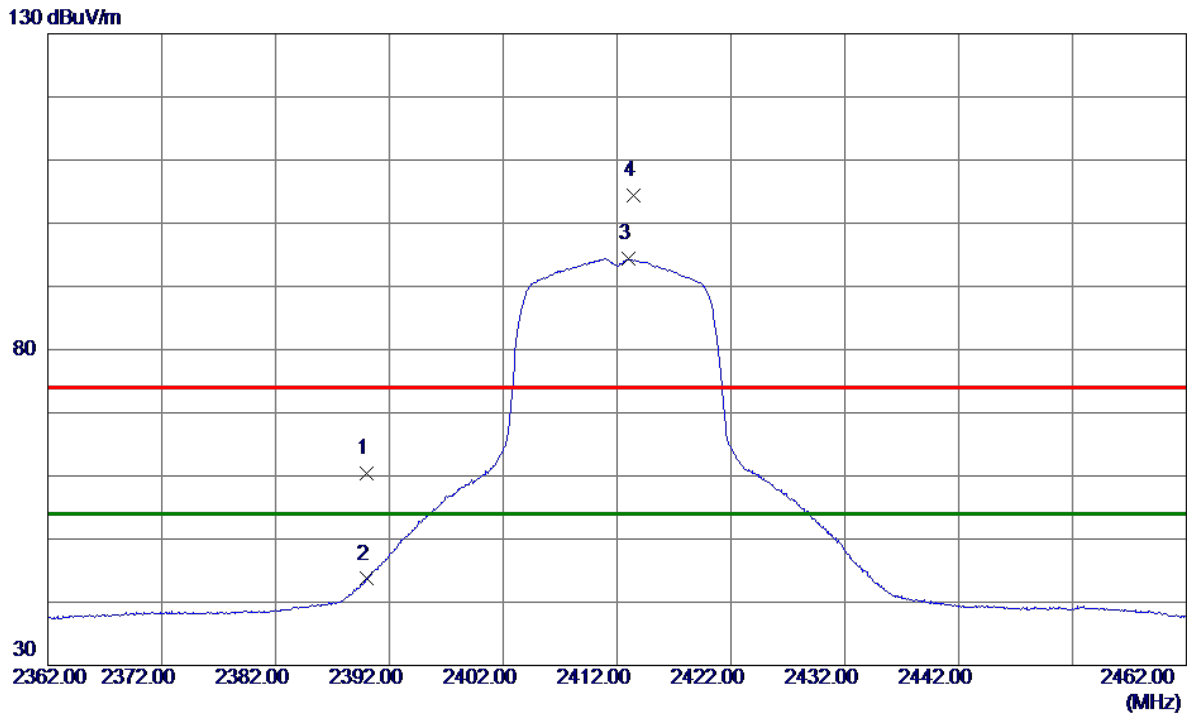
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX G Mode 2412 MHz

Horizontal



| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|----------|
| 1 | 2390.0000 | 52.88 | 7.56 | 60.44 | 74.00 | -13.56 | Peak | |
| 2 | 2390.0000 | 36.14 | 7.56 | 43.70 | 54.00 | -10.30 | AVG | |
| 3 * | 2413.0000 | 86.74 | 7.64 | 94.38 | 54.00 | 40.38 | AVG | No Limit |
| 4 | 2413.4500 | 96.82 | 7.64 | 104.46 | 74.00 | 30.46 | Peak | No Limit |

REMARKS:

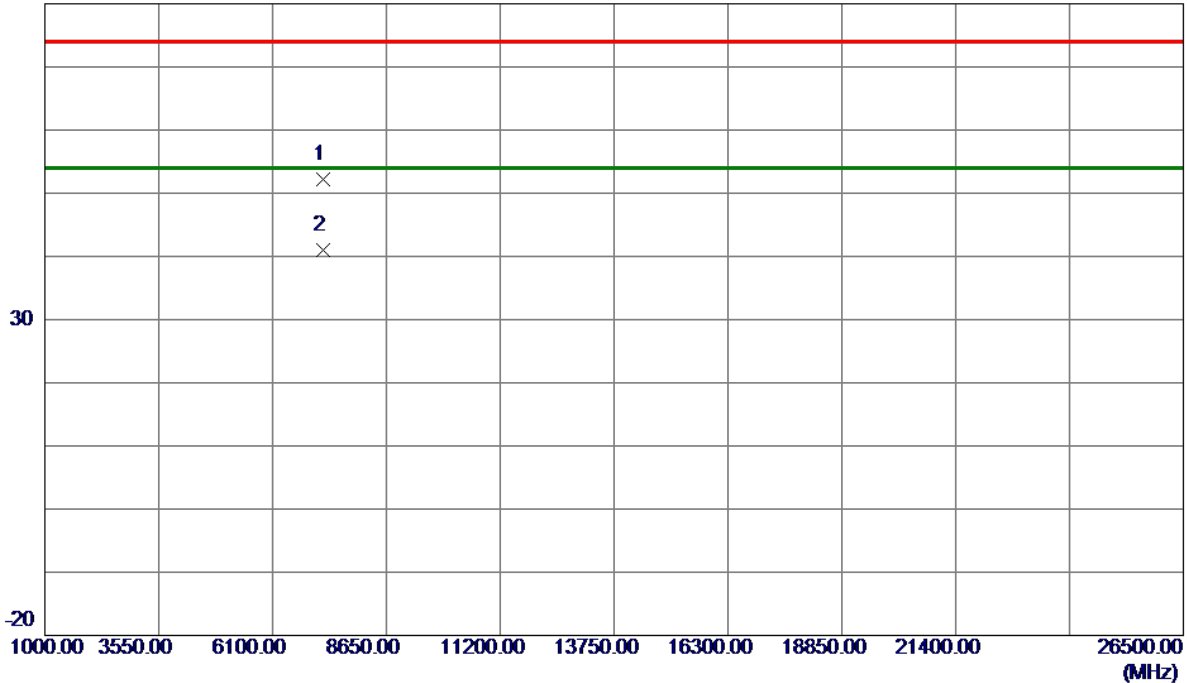
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX G Mode 2412 MHz

Horizontal

80 dBuV/m



| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|---------|
| 1 | 7231.8500 | 44.46 | 7.80 | 52.26 | 74.00 | -21.74 | Peak | |
| 2 * | 7234.5500 | 33.17 | 7.81 | 40.98 | 54.00 | -13.02 | AVG | |

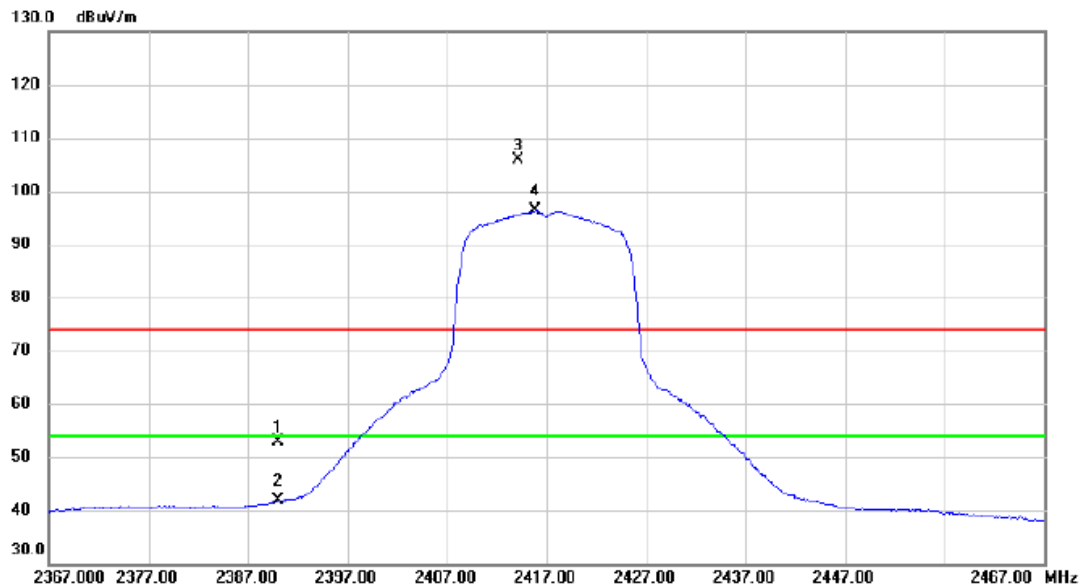
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX G Mode 2417 MHz

Vertical



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measurement | Limit | Margin | | |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|----------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 2390.000 | 45.29 | 7.57 | 52.86 | 74.00 | -21.14 | peak | |
| 2 | | 2390.000 | 34.26 | 7.57 | 41.83 | 54.00 | -12.17 | AVG | |
| 3 | X | 2414.150 | 98.33 | 7.65 | 105.98 | 74.00 | 31.98 | peak | No Limit |
| 4 | * | 2415.850 | 88.67 | 7.65 | 96.32 | 54.00 | 42.32 | AVG | No Limit |

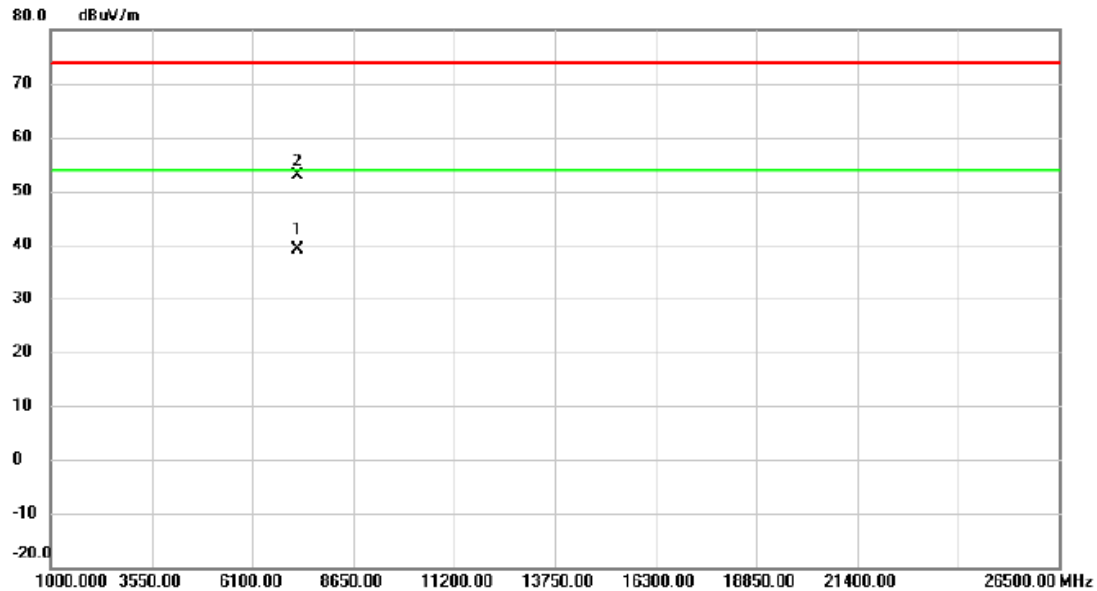
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX G Mode 2417 MHz

Vertical



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measurement | Limit | Margin | | |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|---------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 7247.900 | 31.41 | 7.83 | 39.24 | 54.00 | -14.76 | AVG | |
| 2 | | 7249.025 | 45.07 | 7.83 | 52.90 | 74.00 | -21.10 | peak | |

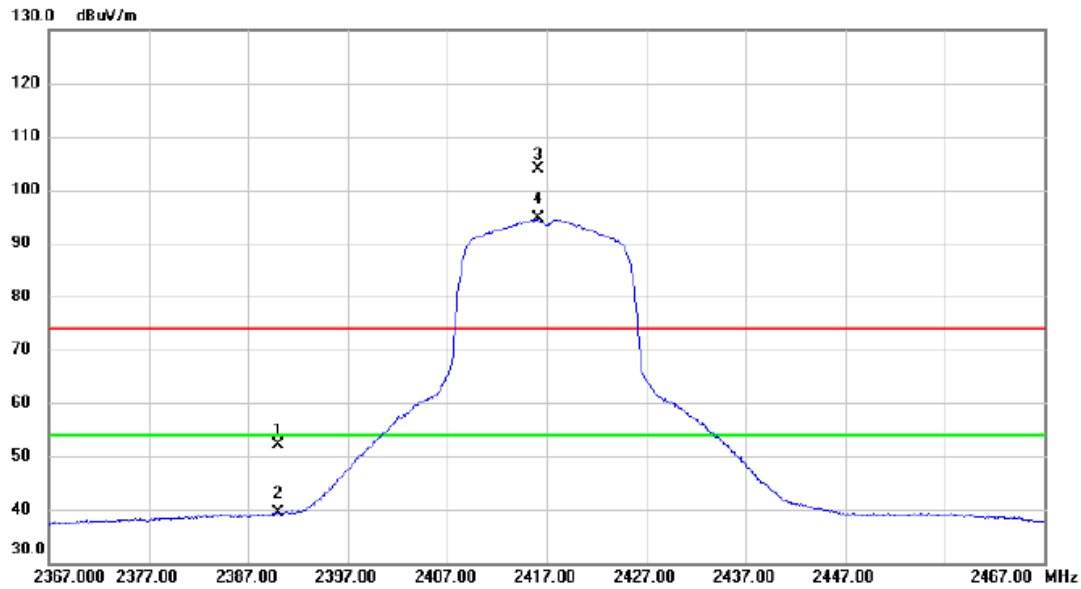
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX G Mode 2417 MHz

Horizontal



| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|--------------|----------|----------|
| 1 | | 2390.000 | 44.68 | 7.57 | 52.25 | 74.00 | -21.75 | peak | |
| 2 | | 2390.000 | 31.82 | 7.57 | 39.39 | 54.00 | -14.61 | AVG | |
| 3 | X | 2416.150 | 96.25 | 7.66 | 103.91 | 74.00 | 29.91 | peak | No Limit |
| 4 | * | 2416.150 | 86.86 | 7.66 | 94.52 | 54.00 | 40.52 | AVG | No Limit |

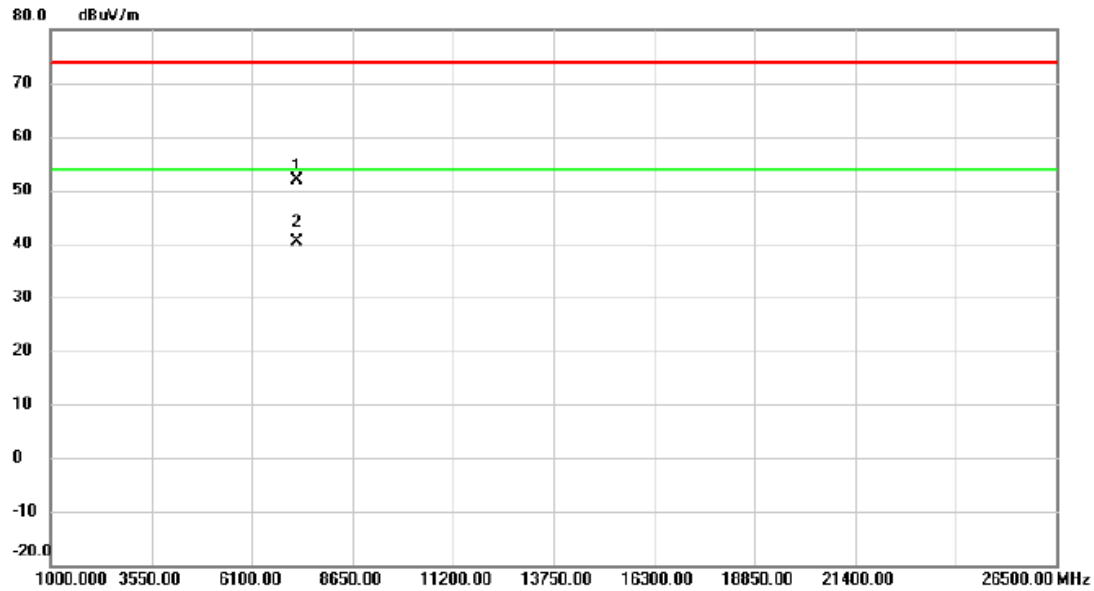
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX G Mode 2417 MHz

Horizontal



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measurement | Limit | Margin | | |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|---------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 7248.850 | 44.09 | 7.83 | 51.92 | 74.00 | -22.08 | peak | |
| 2 | * | 7250.950 | 32.48 | 7.82 | 40.30 | 54.00 | -13.70 | AVG | |

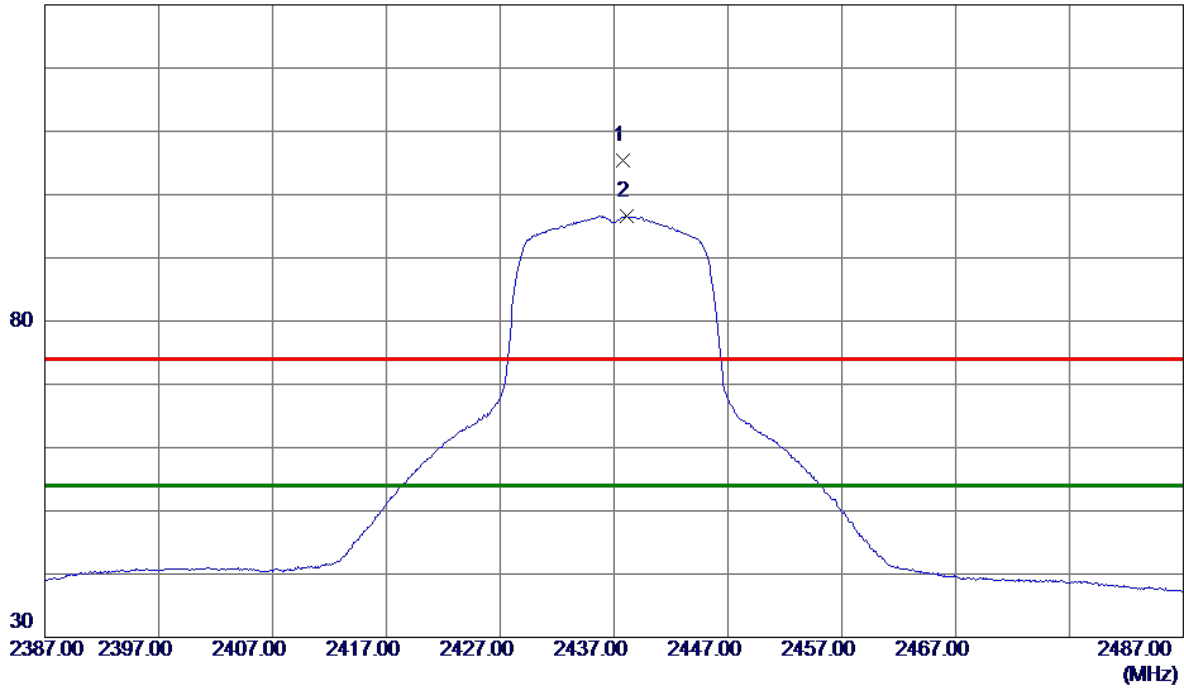
REMARKS:

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

Test Mode: TX G Mode 2437 MHz

Vertical

130 dBuV/m



| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|----------|
| 1 | 2437.8000 | 97.68 | 7.72 | 105.40 | 74.00 | 31.40 | Peak | No Limit |
| 2 * | 2438.1500 | 88.97 | 7.72 | 96.69 | 54.00 | 42.69 | AVG | No Limit |

REMARKS:

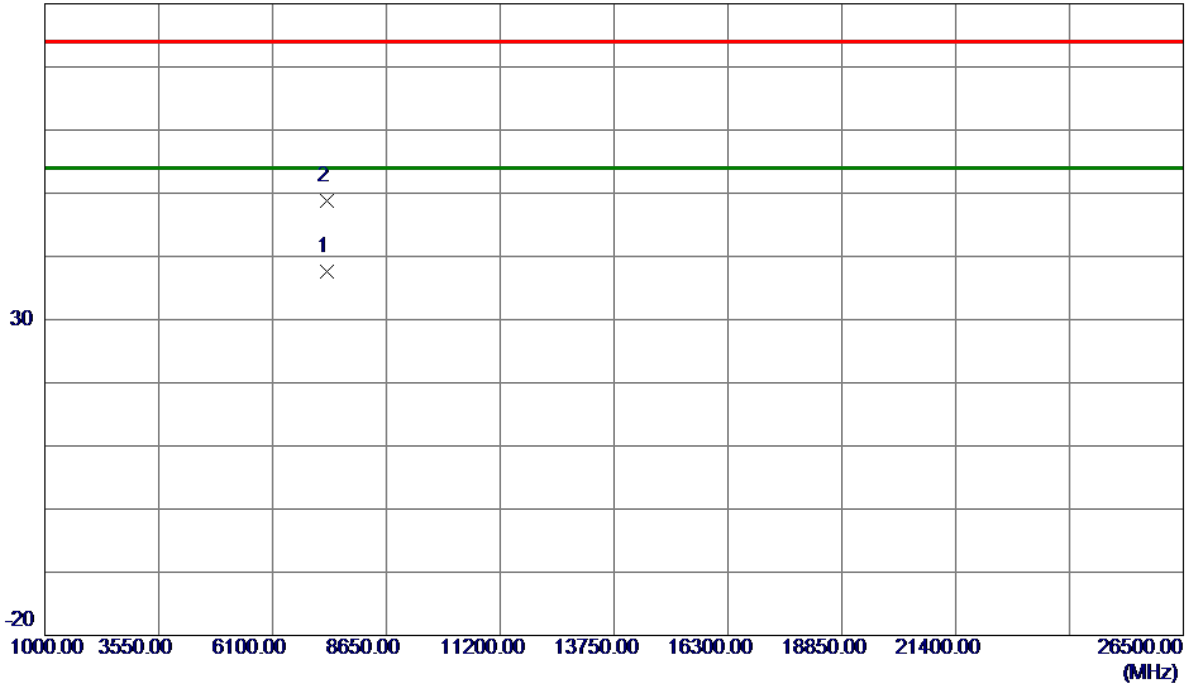
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX G Mode 2437 MHz

Vertical

80 dBuV/m



| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|---------|
| 1 * | 7315.3750 | 29.63 | 7.91 | 37.54 | 54.00 | -16.46 | AVG | |
| 2 | 7316.9500 | 40.88 | 7.91 | 48.79 | 74.00 | -25.21 | Peak | |

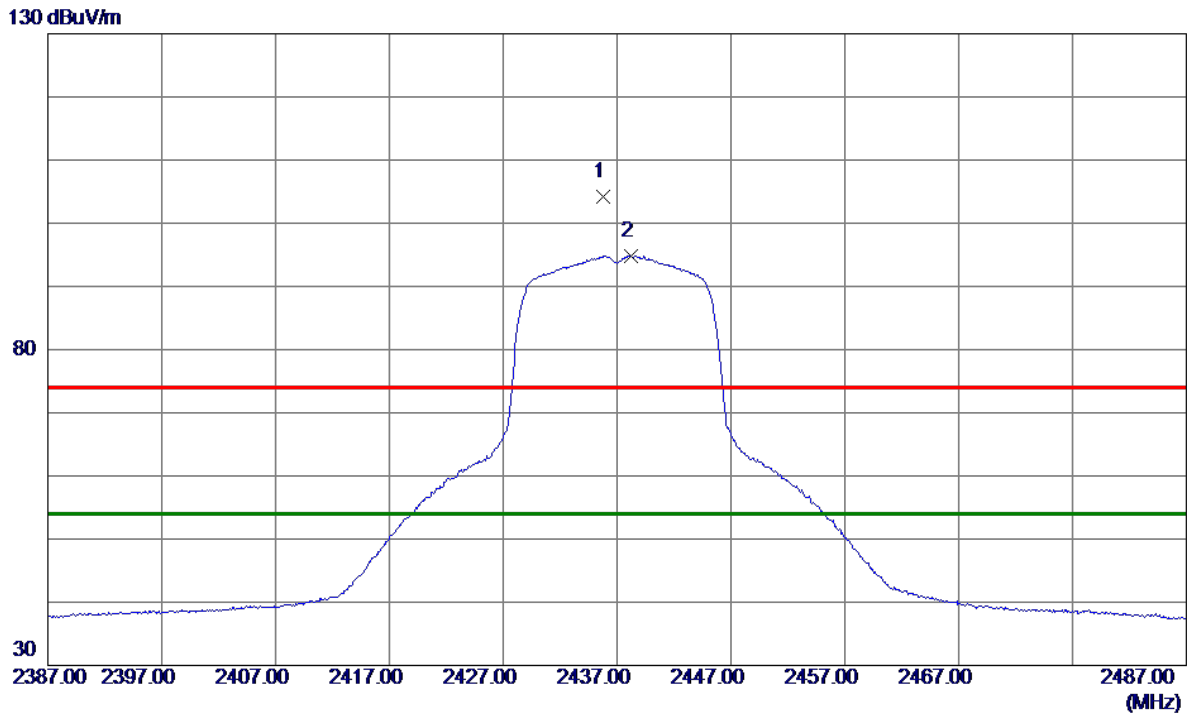
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX G Mode 2437 MHz

Horizontal



| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|----------|
| 1 | 2435.8000 | 96.57 | 7.72 | 104.29 | 74.00 | 30.29 | Peak | No Limit |
| 2 * | 2438.2000 | 87.15 | 7.72 | 94.87 | 54.00 | 40.87 | AVG | No Limit |

REMARKS:

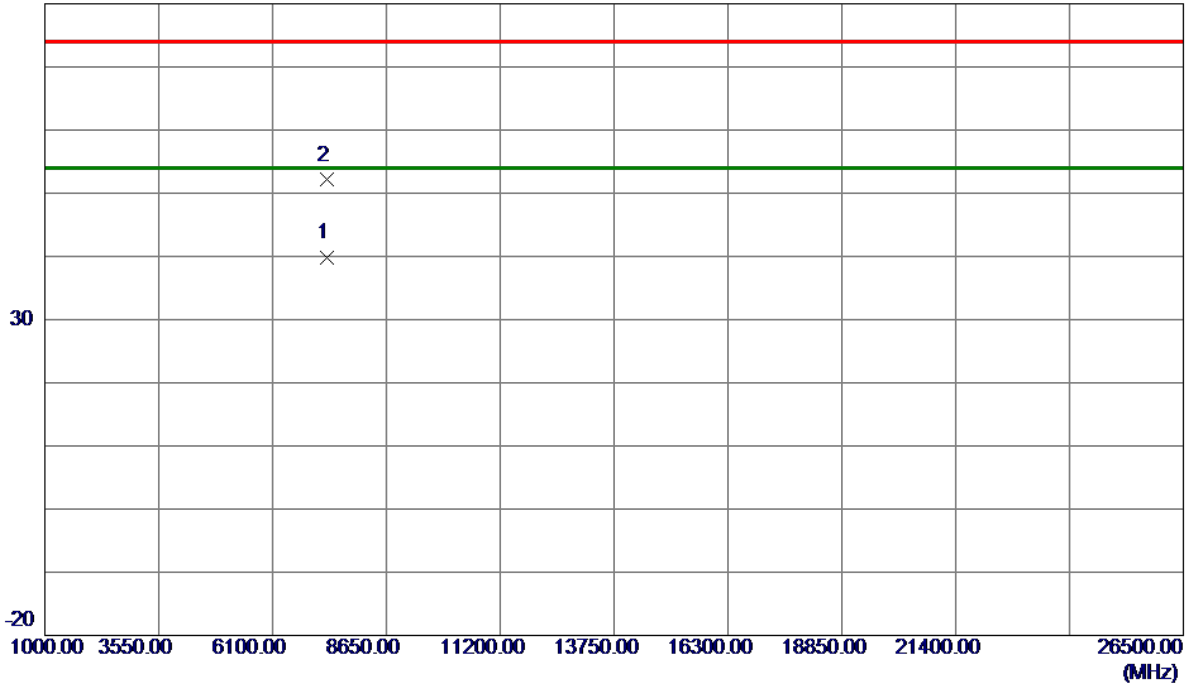
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX G Mode 2437 MHz

Horizontal

80 dBuV/m



| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|---------|
| 1 * | 7309.2000 | 31.91 | 7.90 | 39.81 | 54.00 | -14.19 | AVG | |
| 2 | 7307.8000 | 44.20 | 7.90 | 52.10 | 74.00 | -21.90 | Peak | |

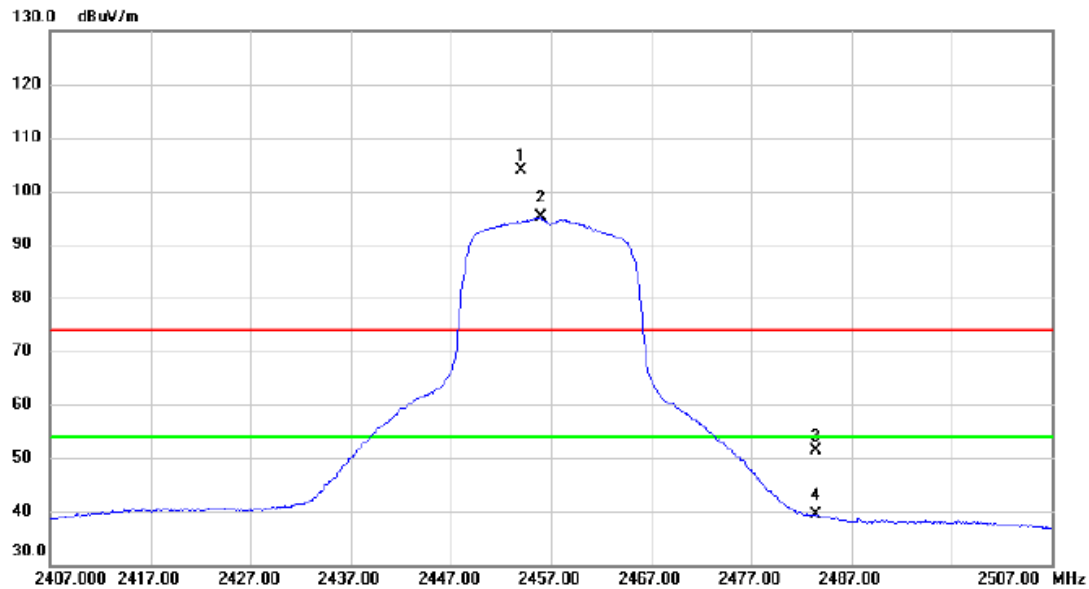
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX G Mode 2457 MHz

Vertical



| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|--------------|----------|----------|
| 1 | X | 2454.050 | 96.11 | 7.78 | 103.89 | 74.00 | 29.89 | peak | No Limit |
| 2 | * | 2456.050 | 87.24 | 7.78 | 95.02 | 54.00 | 41.02 | AVG | No Limit |
| 3 | | 2483.500 | 43.59 | 7.87 | 51.46 | 74.00 | -22.54 | peak | |
| 4 | | 2483.500 | 31.41 | 7.87 | 39.28 | 54.00 | -14.72 | AVG | |

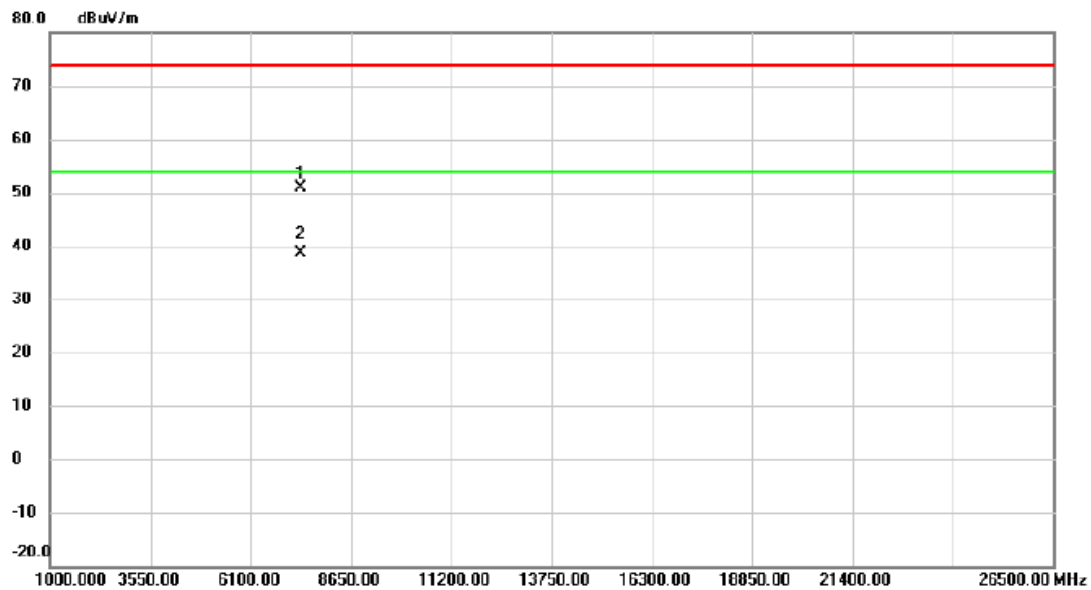
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX G Mode 2457 MHz

Vertical



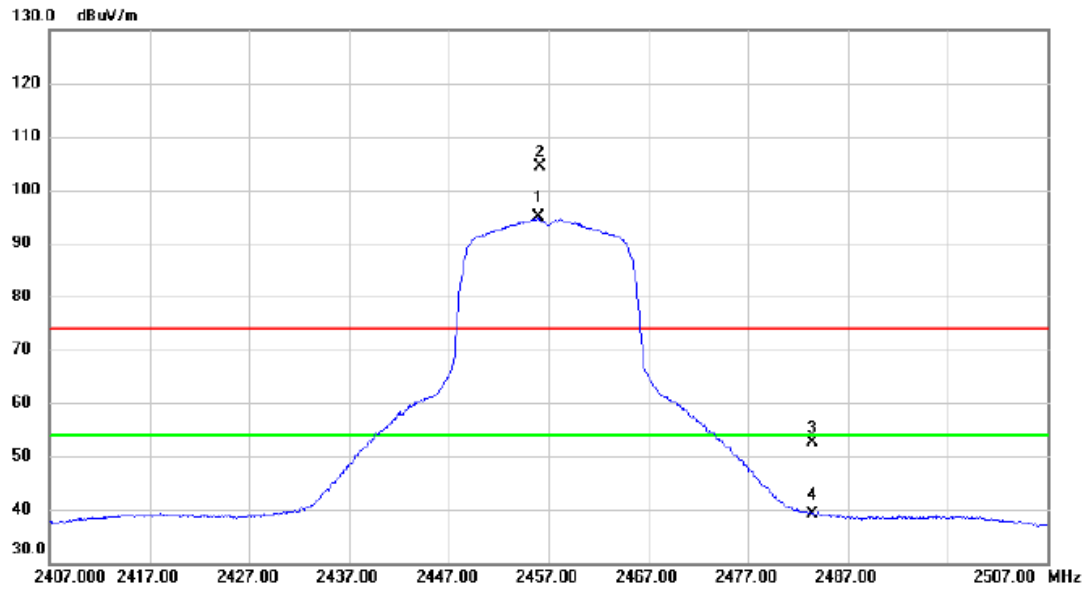
| No. | Mk. | Freq. | Reading Level | Correct Factor | Measurement | Limit | Margin | | |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|---------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 7367.375 | 42.83 | 7.98 | 50.81 | 74.00 | -23.19 | peak | |
| 2 | * | 7368.900 | 30.76 | 7.98 | 38.74 | 54.00 | -15.26 | AVG | |

REMARKS:

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

Test Mode: TX G Mode 2457 MHz

Horizontal



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measurement | Limit | Margin | | |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|----------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 2455.950 | 86.99 | 7.78 | 94.77 | 54.00 | 40.77 | AVG | No Limit |
| 2 | X | 2456.200 | 96.64 | 7.78 | 104.42 | 74.00 | 30.42 | peak | No Limit |
| 3 | | 2483.500 | 44.80 | 7.87 | 52.67 | 74.00 | -21.33 | peak | |
| 4 | | 2483.500 | 31.31 | 7.87 | 39.18 | 54.00 | -14.82 | AVG | |

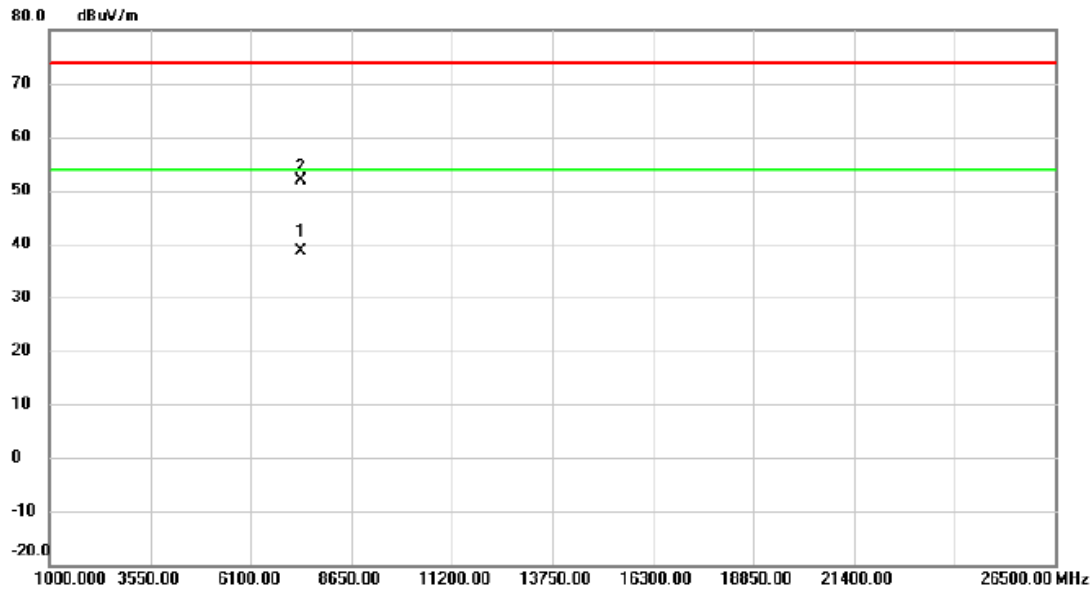
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX G Mode 2457 MHz

Horizontal



| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|--------------|----------|---------|
| 1 | * | 7372.700 | 30.63 | 7.98 | 38.61 | 54.00 | -15.39 | AVG | |
| 2 | | 7373.850 | 43.80 | 7.98 | 51.78 | 74.00 | -22.22 | peak | |

REMARKS:

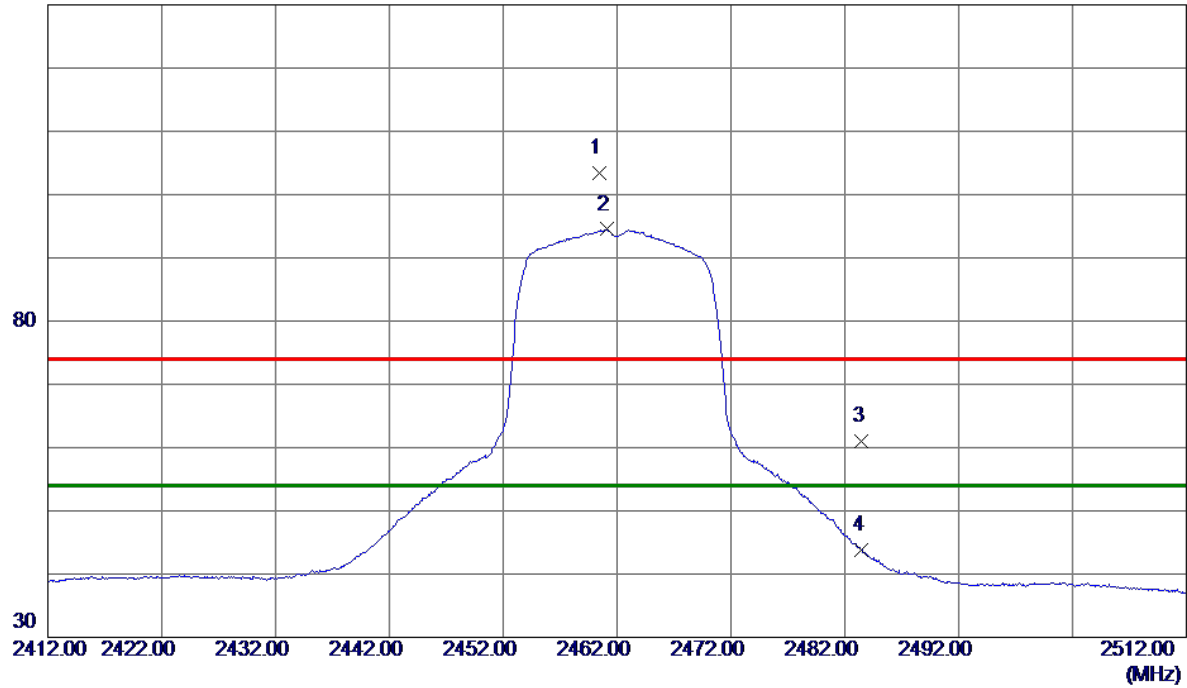
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX G Mode 2462 MHz

Vertical

130 dBuV/m



| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|----------|
| 1 | 2460.4500 | 95.55 | 7.80 | 103.35 | 74.00 | 29.35 | Peak | No Limit |
| 2 * | 2461.1000 | 86.70 | 7.80 | 94.50 | 54.00 | 40.50 | AVG | No Limit |
| 3 | 2483.5000 | 53.09 | 7.88 | 60.97 | 74.00 | -13.03 | Peak | |
| 4 | 2483.5000 | 35.94 | 7.88 | 43.82 | 54.00 | -10.18 | AVG | |

REMARKS:

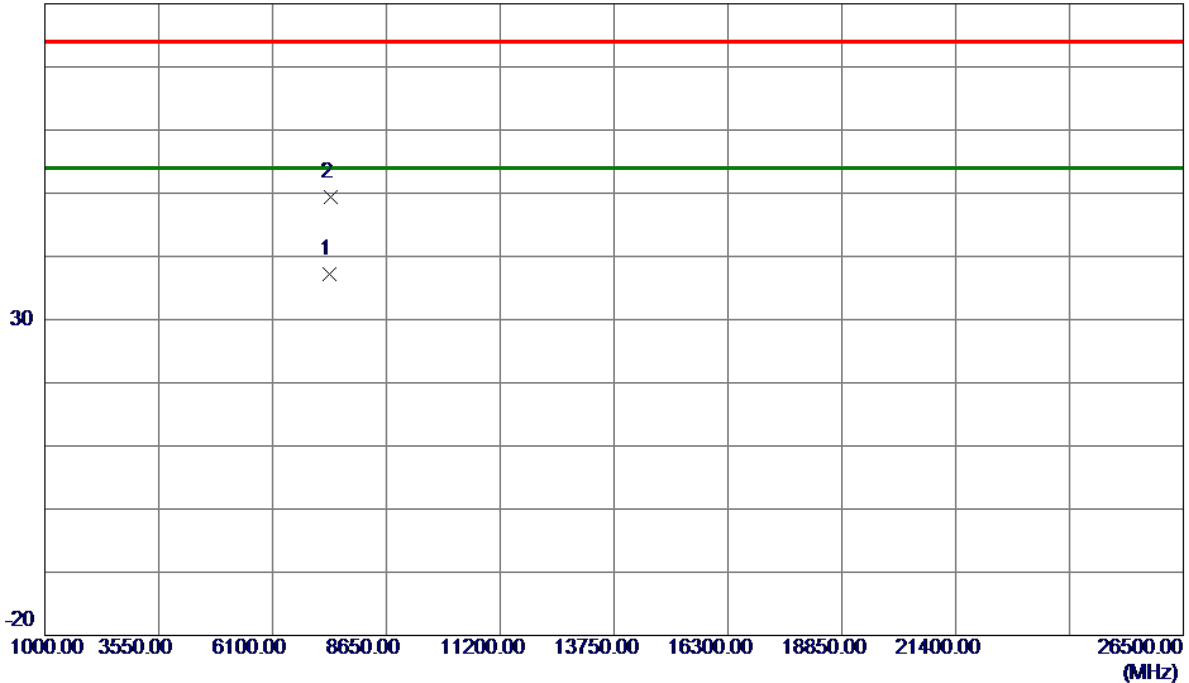
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX G Mode 2462 MHz

Vertical

80 dBuV/m



| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|---------|
| 1 * | 7382.9750 | 29.26 | 7.99 | 37.25 | 54.00 | -16.75 | AVG | |
| 2 | 7389.7750 | 41.45 | 8.00 | 49.45 | 74.00 | -24.55 | Peak | |

REMARKS:

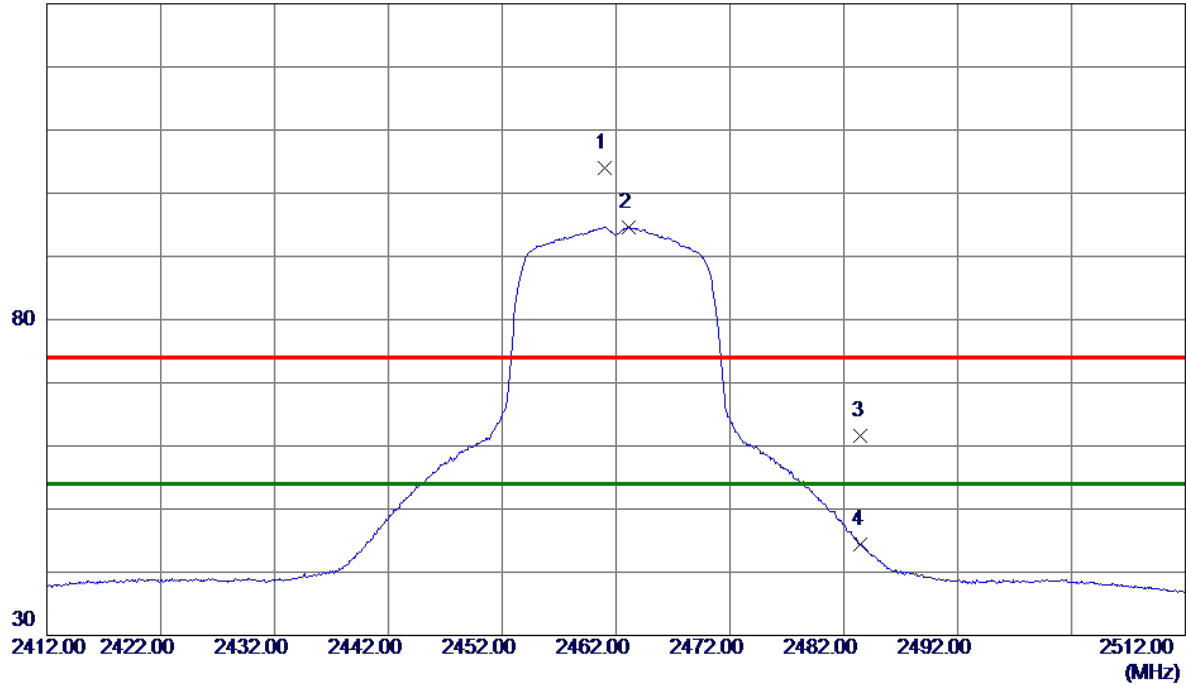
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX G Mode 2462 MHz

Horizontal

130 dBuV/m



| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|----------|
| 1 | 2460.9500 | 96.15 | 7.80 | 103.95 | 74.00 | 29.95 | Peak | No Limit |
| 2 * | 2463.1500 | 86.87 | 7.81 | 94.68 | 54.00 | 40.68 | AVG | No Limit |
| 3 | 2483.5000 | 53.75 | 7.88 | 61.63 | 74.00 | -12.37 | Peak | |
| 4 | 2483.5000 | 36.57 | 7.88 | 44.45 | 54.00 | -9.55 | AVG | |

REMARKS:

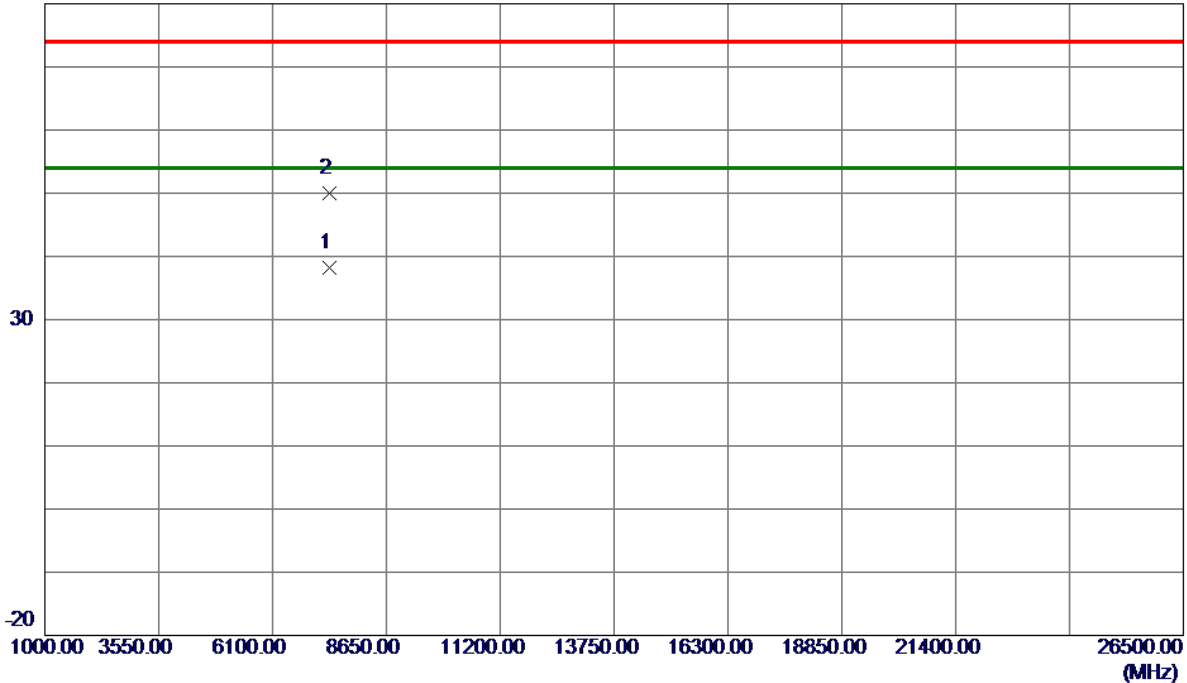
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

| | |
|------------|--------------------|
| Test Mode: | TX G Mode 2462 MHz |
|------------|--------------------|

Horizontal

80 dBuV/m



| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|---------|
| 1 * | 7384.7000 | 30.28 | 7.99 | 38.27 | 54.00 | -15.73 | AVG | |
| 2 | 7385.0500 | 42.08 | 8.00 | 50.08 | 74.00 | -23.92 | Peak | |

REMARKS:

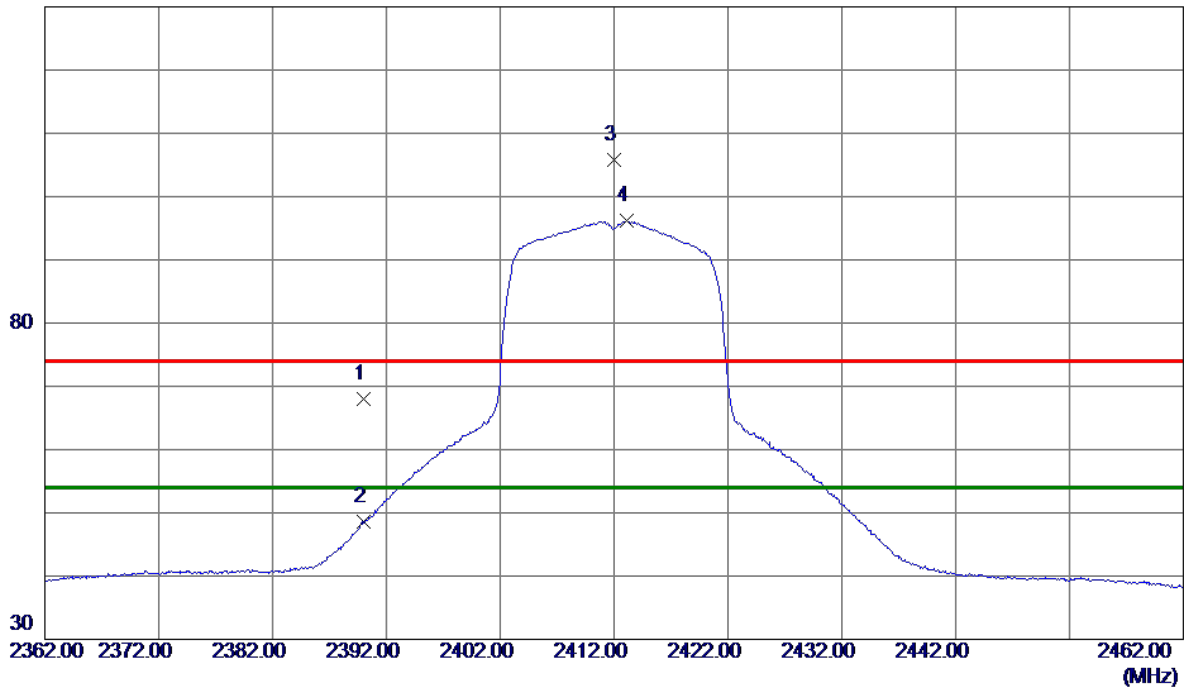
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX N-20M Mode 2412 MHz

Vertical

130 dBuV/m



| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|----------|
| 1 | 2390.0000 | 60.35 | 7.56 | 67.91 | 74.00 | -6.09 | Peak | |
| 2 | 2390.0000 | 41.02 | 7.56 | 48.58 | 54.00 | -5.42 | AVG | |
| 3 | 2411.9500 | 98.07 | 7.64 | 105.71 | 74.00 | 31.71 | Peak | No Limit |
| 4 * | 2413.1000 | 88.53 | 7.64 | 96.17 | 54.00 | 42.17 | AVG | No Limit |

REMARKS:

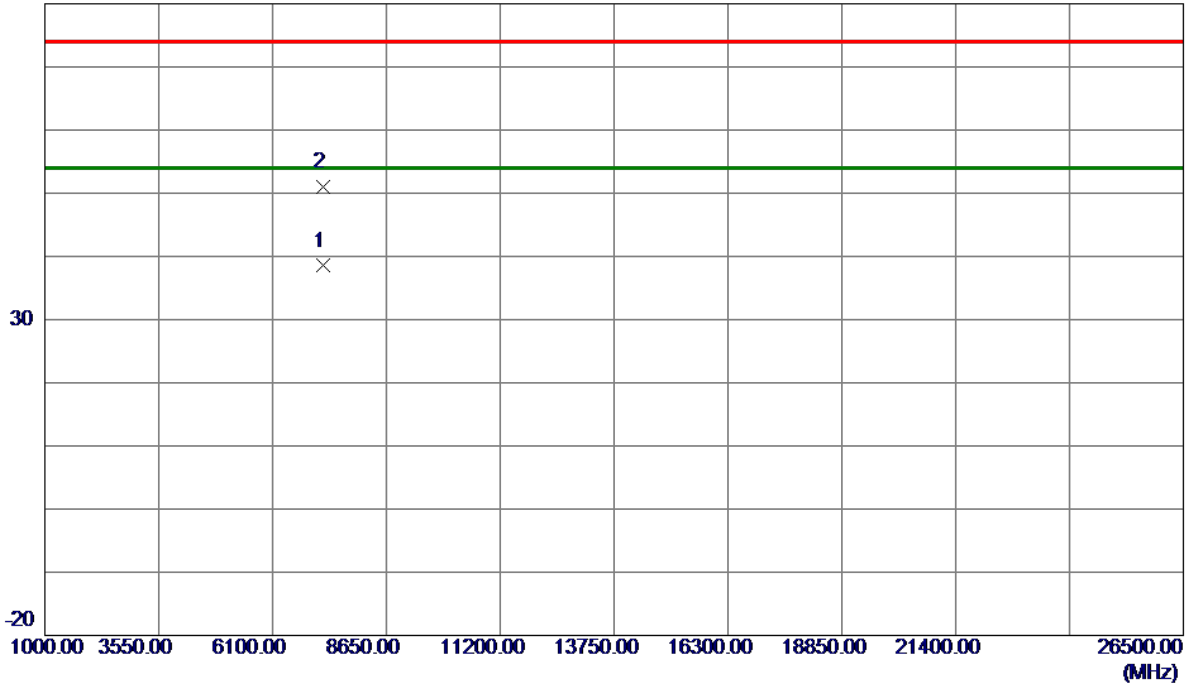
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

| | |
|------------|------------------------|
| Test Mode: | TX N-20M Mode 2412 MHz |
|------------|------------------------|

Vertical

80 dBuV/m



| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|---------|
| 1 * | 7235.9000 | 30.69 | 7.81 | 38.50 | 54.00 | -15.50 | AVG | |
| 2 | 7242.5000 | 43.19 | 7.82 | 51.01 | 74.00 | -22.99 | Peak | |

REMARKS:

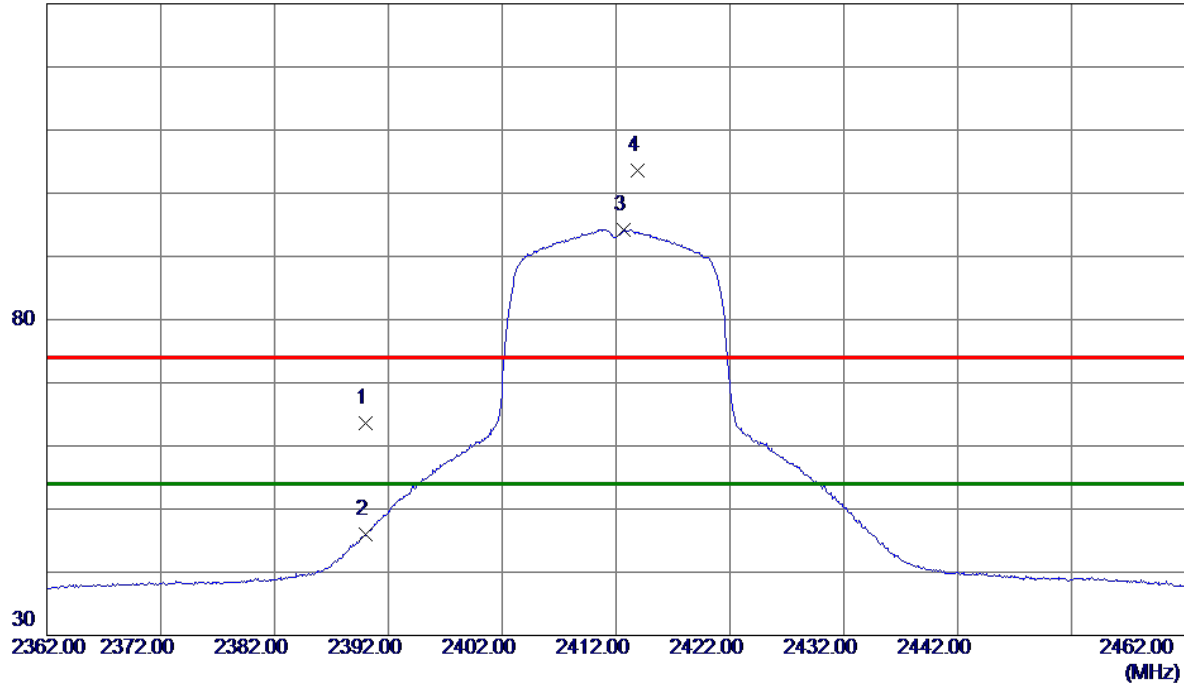
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX N-20M Mode 2412 MHz

Horizontal

130 dBuV/m



| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|----------|
| 1 | 2390.0000 | 56.03 | 7.56 | 63.59 | 74.00 | -10.41 | Peak | |
| 2 | 2390.0000 | 38.49 | 7.56 | 46.05 | 54.00 | -7.95 | AVG | |
| 3 * | 2412.7000 | 86.57 | 7.64 | 94.21 | 54.00 | 40.21 | AVG | No Limit |
| 4 | 2413.8500 | 96.01 | 7.64 | 103.65 | 74.00 | 29.65 | Peak | No Limit |

REMARKS:

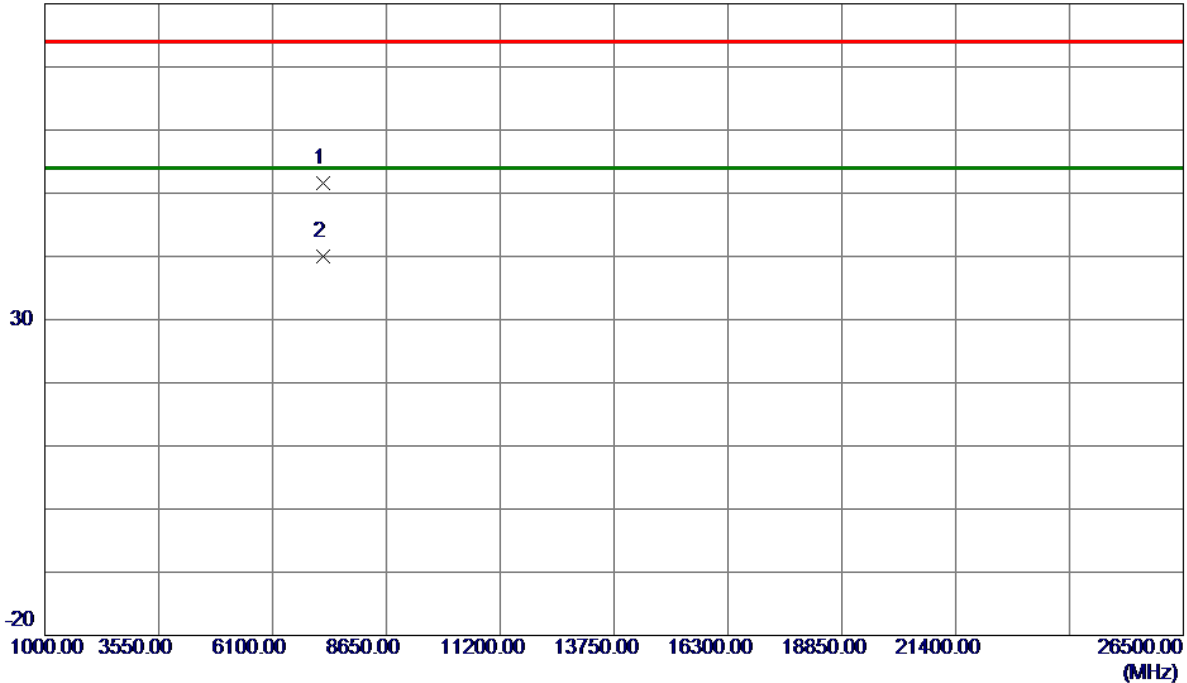
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

| | |
|------------|------------------------|
| Test Mode: | TX N-20M Mode 2412 MHz |
|------------|------------------------|

Horizontal

80 dBuV/m



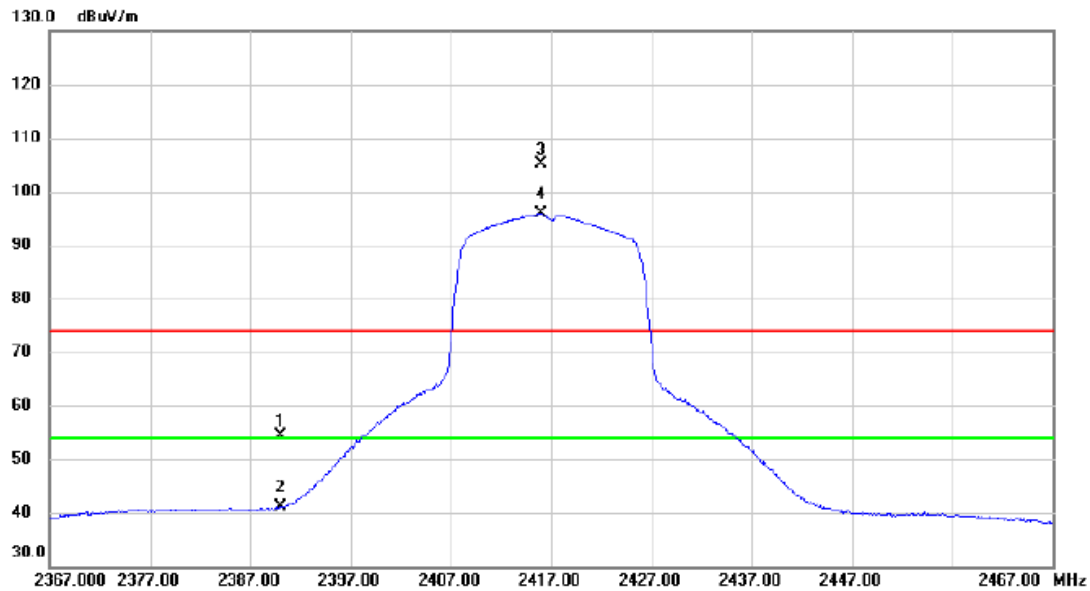
| No. | Freq. | Reading Level | Correct Factor | Measurement | Limit | Margin | | |
|-----|-----------|---------------|----------------|-------------|--------|--------|----------|---------|
| | MHz | dBuV/m | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | 7230.8000 | 43.81 | 7.80 | 51.61 | 74.00 | -22.39 | Peak | |
| 2 * | 7232.1500 | 32.16 | 7.80 | 39.96 | 54.00 | -14.04 | AVG | |

REMARKS:

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

Test Mode: TX N-20M Mode 2417 MHz

Vertical



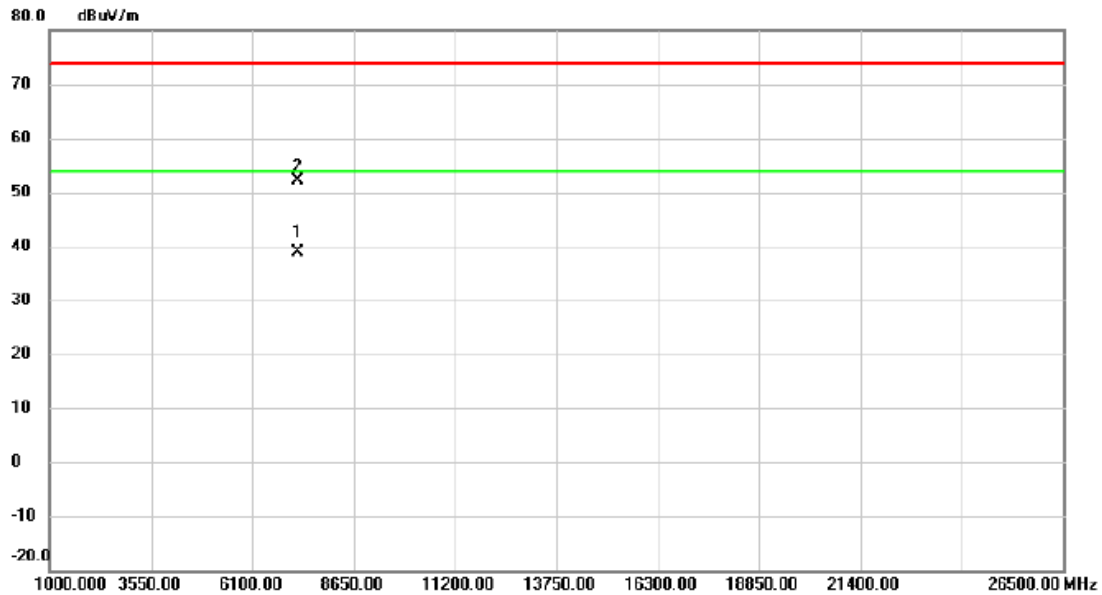
| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|--------------|----------|----------|
| 1 | | 2390.000 | 46.78 | 7.57 | 54.35 | 74.00 | -19.65 | peak | |
| 2 | | 2390.000 | 33.54 | 7.57 | 41.11 | 54.00 | -12.89 | AVG | |
| 3 | X | 2415.950 | 97.47 | 7.66 | 105.13 | 74.00 | 31.13 | peak | No Limit |
| 4 | * | 2415.950 | 88.25 | 7.66 | 95.91 | 54.00 | 41.91 | AVG | No Limit |

REMARKS:

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

Test Mode: TX N-20M Mode 2417 MHz

Vertical



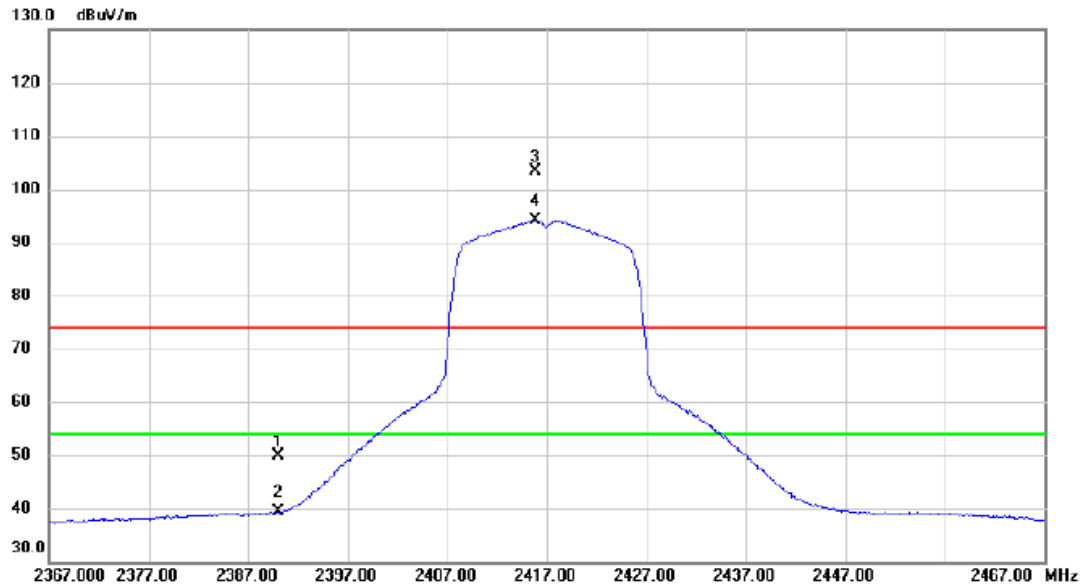
| No. Mk. | Freq. | Reading Level | Correct Factor | Measurement | Limit | Margin | | |
|---------|----------|---------------|----------------|-------------|--------|--------|----------|---------|
| | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 * | 7248.450 | 31.00 | 7.83 | 38.83 | 54.00 | -15.17 | AVG | |
| 2 | 7250.550 | 44.32 | 7.82 | 52.14 | 74.00 | -21.86 | peak | |

REMARKS:

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

Test Mode: TX N-20M Mode 2417 MHz

Horizontal



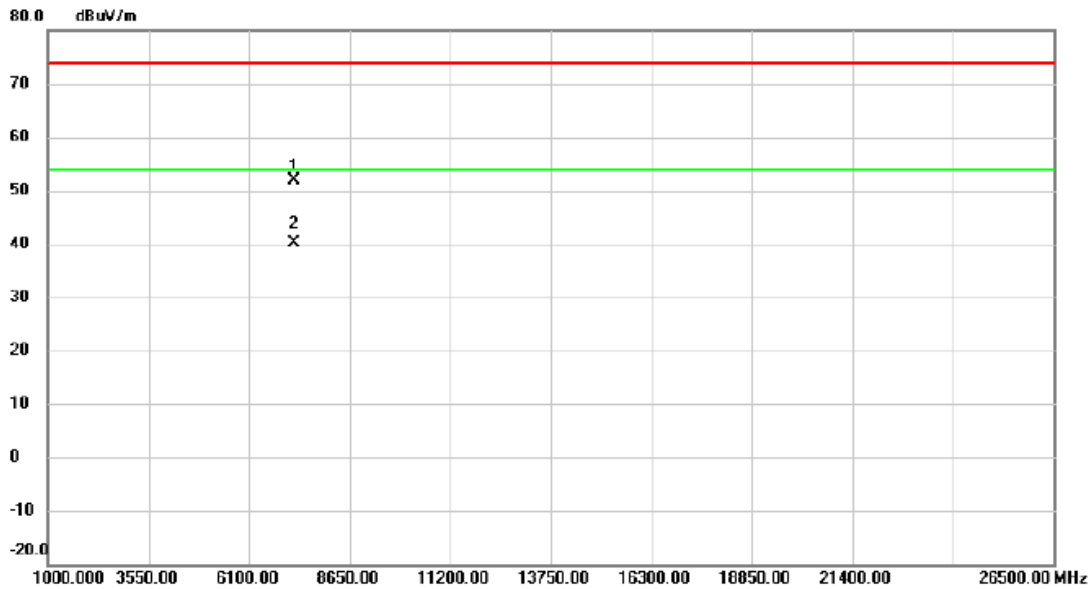
| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|--------------|----------|----------|
| 1 | | 2390.000 | 42.35 | 7.57 | 49.92 | 74.00 | -24.08 | peak | |
| 2 | | 2390.000 | 31.87 | 7.57 | 39.44 | 54.00 | -14.56 | AVG | |
| 3 | X | 2415.800 | 95.79 | 7.65 | 103.44 | 74.00 | 29.44 | peak | No Limit |
| 4 | * | 2415.800 | 86.52 | 7.65 | 94.17 | 54.00 | 40.17 | AVG | No Limit |

REMARKS:

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

Test Mode: TX N-20M Mode 2417 MHz

Horizontal



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|-----|-----|----------|---------------|----------------|--------------|--------|--------|----------|---------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 7249.525 | 43.95 | 7.83 | 51.78 | 74.00 | -22.22 | peak | |
| 2 | * | 7252.000 | 32.20 | 7.82 | 40.02 | 54.00 | -13.98 | AVG | |

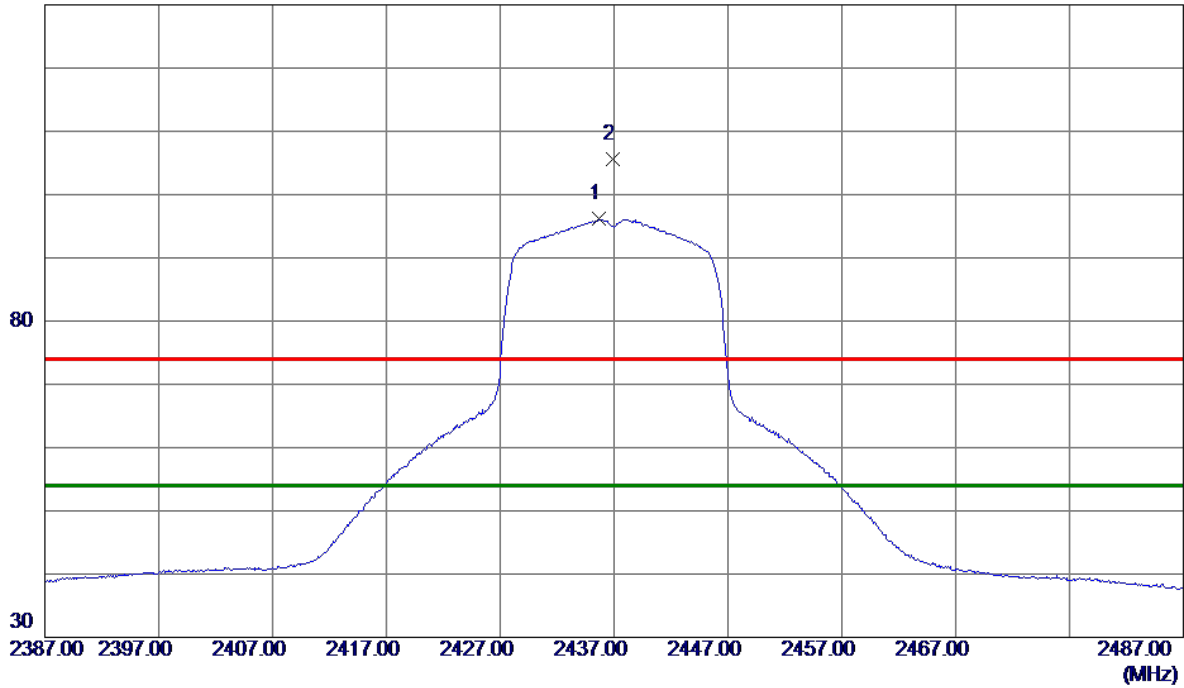
REMARKS:

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

Test Mode: TX N-20M Mode 2437 MHz

Vertical

130 dBuV/m



| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|----------|
| 1 * | 2435.7000 | 88.47 | 7.72 | 96.19 | 54.00 | 42.19 | AVG | No Limit |
| 2 | 2436.9000 | 97.96 | 7.72 | 105.68 | 74.00 | 31.68 | Peak | No Limit |

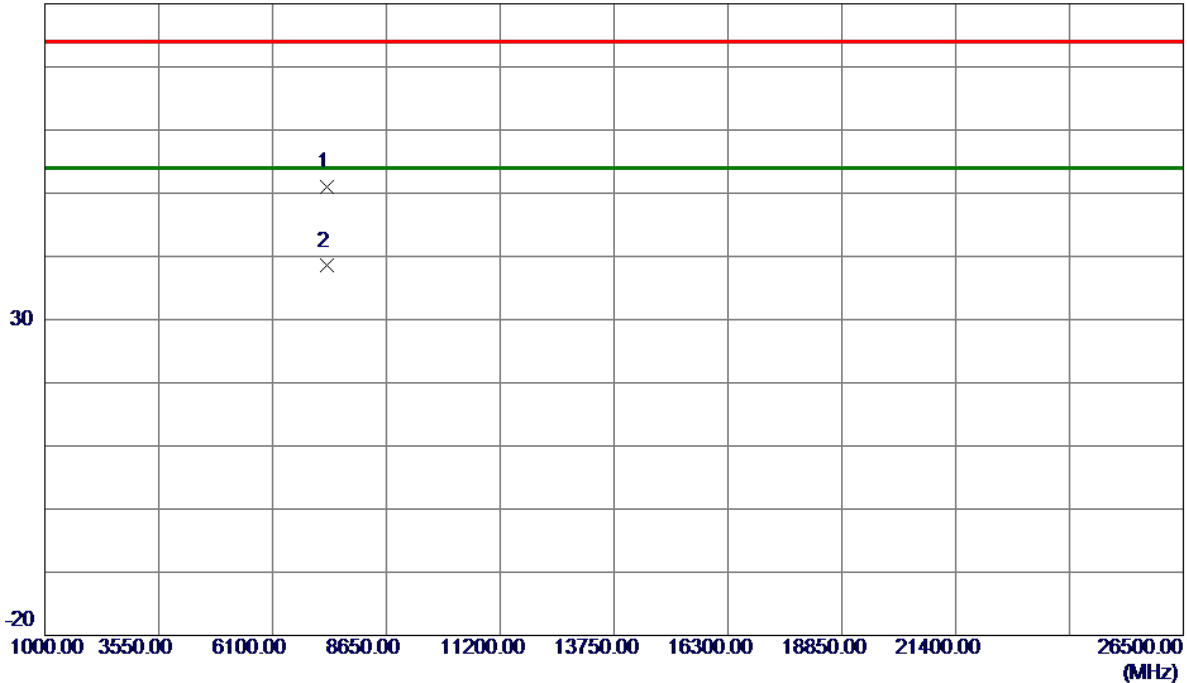
REMARKS:

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

| | |
|------------|------------------------|
| Test Mode: | TX N-20M Mode 2437 MHz |
|------------|------------------------|

Vertical

80 dBuV/m



| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|---------|
| 1 | 7313.2250 | 43.11 | 7.90 | 51.01 | 74.00 | -22.99 | Peak | |
| 2 * | 7314.1250 | 30.59 | 7.91 | 38.50 | 54.00 | -15.50 | AVG | |

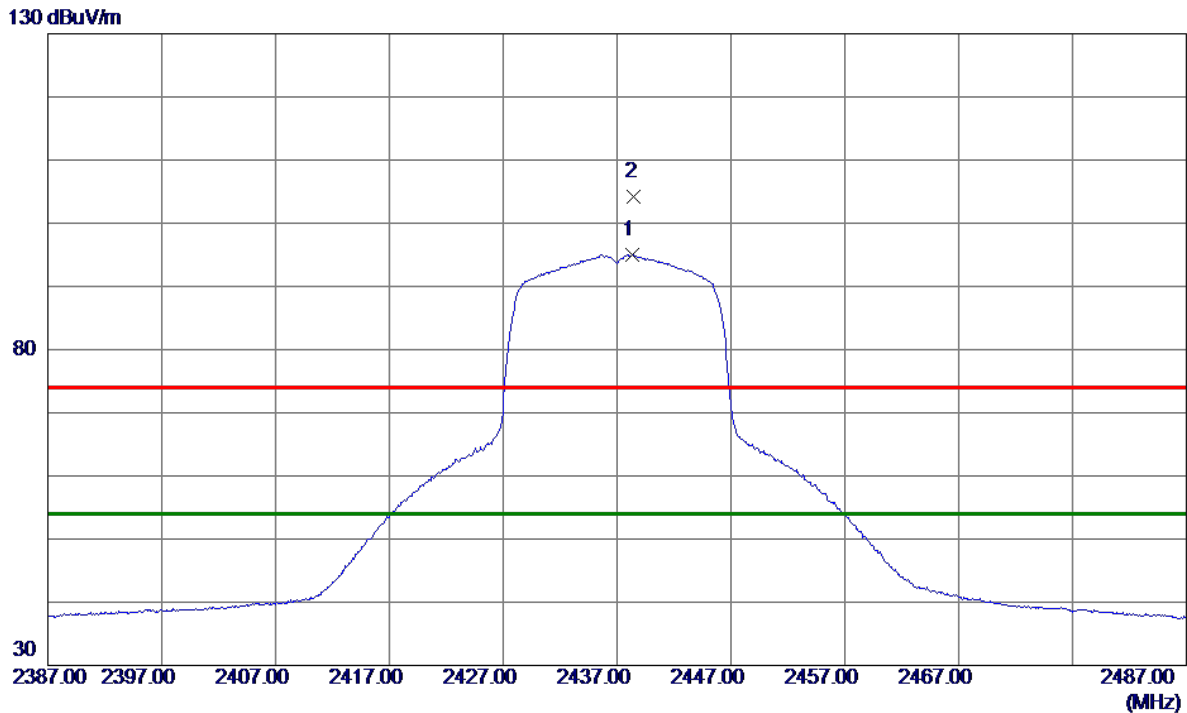
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX N-20M Mode 2437 MHz

Horizontal



| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|----------|
| 1 * | 2438.3500 | 87.30 | 7.73 | 95.03 | 54.00 | 41.03 | AVG | No Limit |
| 2 | 2438.5000 | 96.50 | 7.73 | 104.23 | 74.00 | 30.23 | Peak | No Limit |

REMARKS:

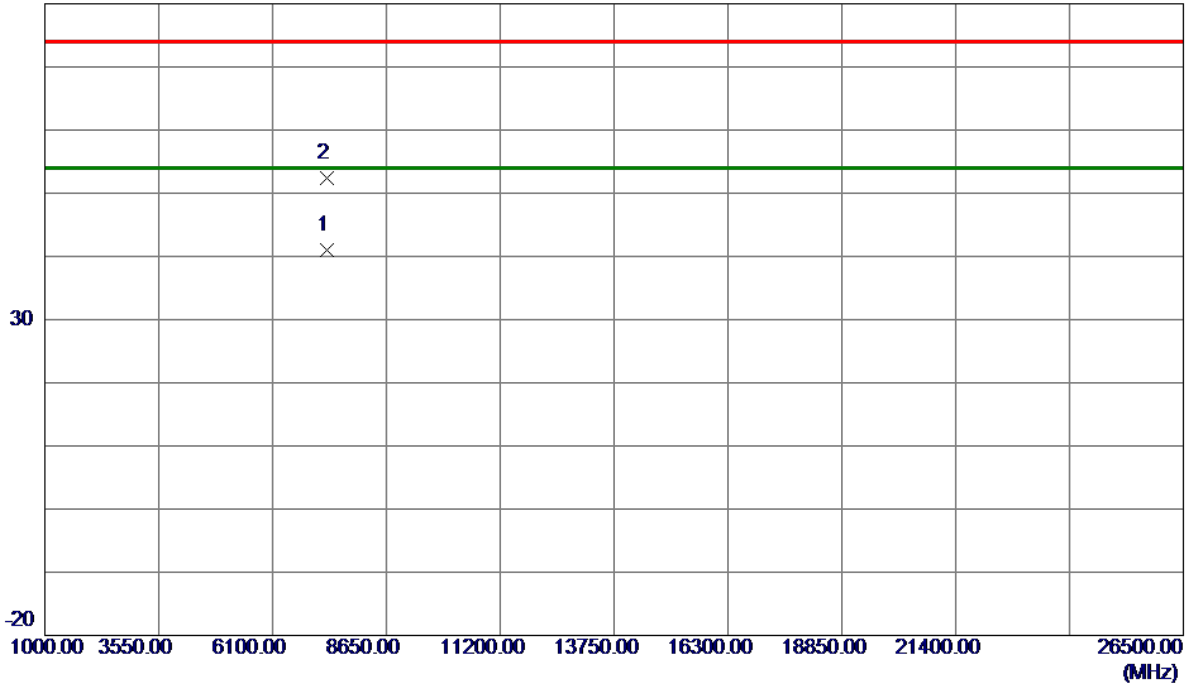
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

| | |
|------------|------------------------|
| Test Mode: | TX N-20M Mode 2437 MHz |
|------------|------------------------|

Horizontal

80 dBuV/m



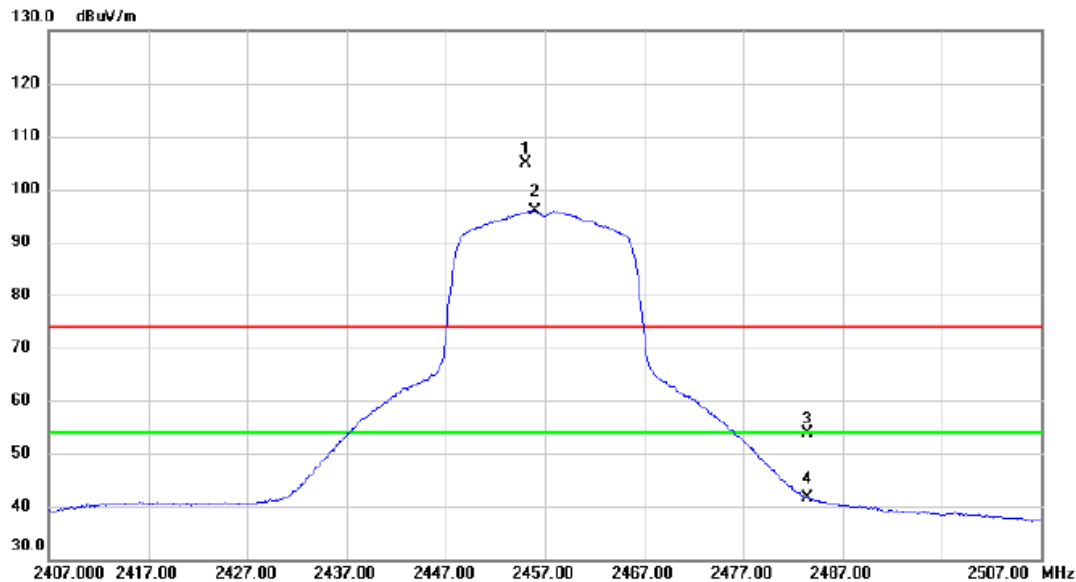
| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|---------|
| 1 * | 7309.0500 | 33.02 | 7.90 | 40.92 | 54.00 | -13.08 | AVG | |
| 2 | 7312.0000 | 44.53 | 7.90 | 52.43 | 74.00 | -21.57 | Peak | |

REMARKS:

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

Test Mode: TX N-20M Mode 2457 MHz

Vertical



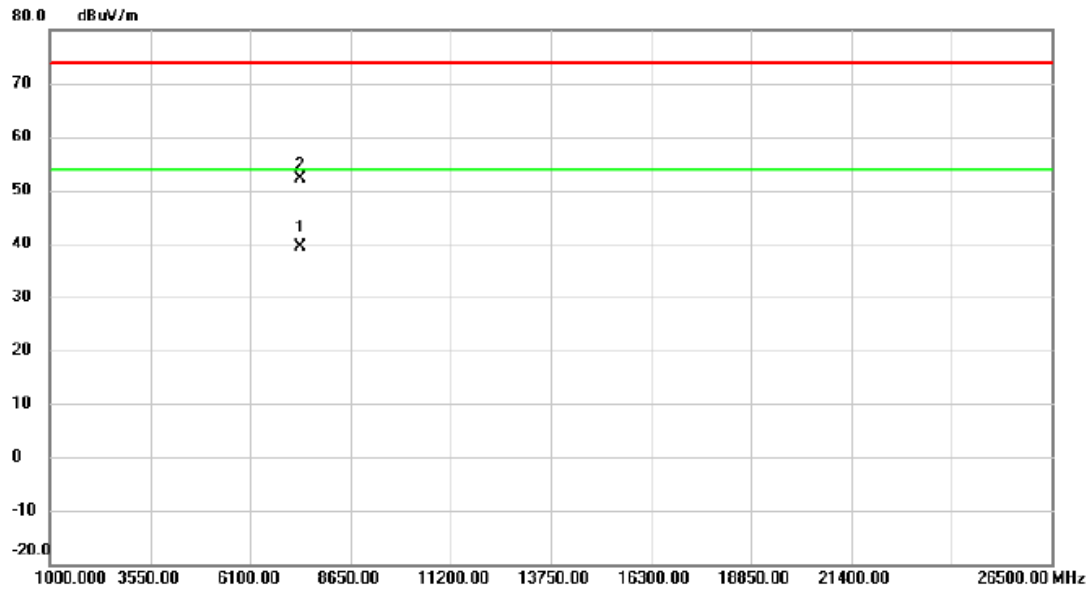
| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|--------------|----------|----------|
| 1 | X | 2455.000 | 97.06 | 7.78 | 104.84 | 74.00 | 30.84 | peak | No Limit |
| 2 | * | 2456.050 | 88.17 | 7.78 | 95.95 | 54.00 | 41.95 | AVG | No Limit |
| 3 | | 2483.500 | 45.93 | 7.87 | 53.80 | 74.00 | -20.20 | peak | |
| 4 | | 2483.500 | 33.68 | 7.87 | 41.55 | 54.00 | -12.45 | AVG | |

REMARKS:

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

Test Mode: TX N-20M Mode 2457 MHz

Vertical



| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|--------------|----------|---------|
| 1 | * | 7369.675 | 31.44 | 7.98 | 39.42 | 54.00 | -14.58 | AVG | |
| 2 | | 7369.800 | 44.07 | 7.98 | 52.05 | 74.00 | -21.95 | peak | |

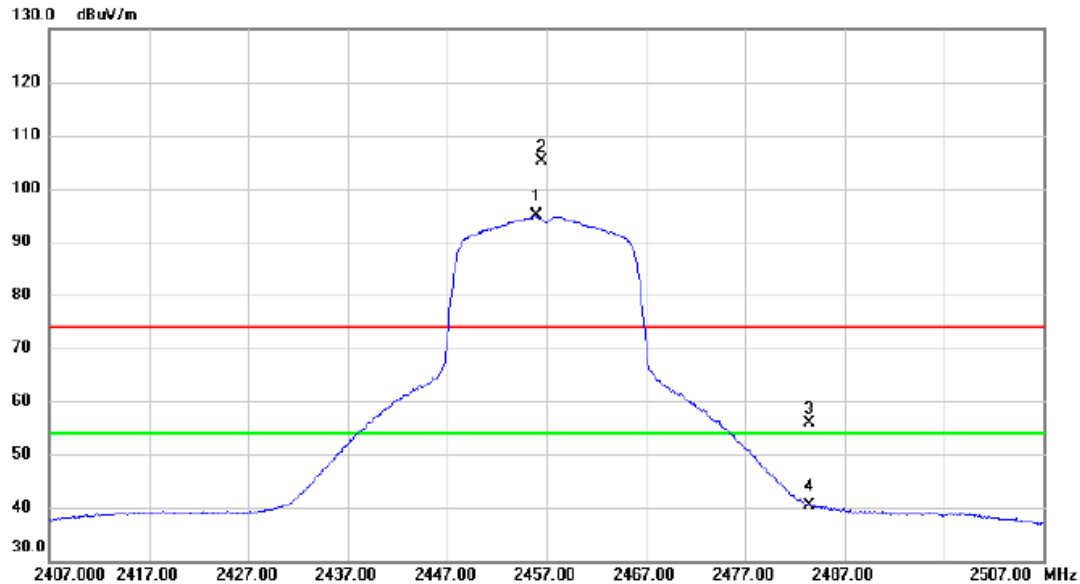
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX N-20M Mode 2457 MHz

Horizontal



| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|--------------|----------|----------|
| 1 | * | 2456.050 | 87.18 | 7.78 | 94.96 | 54.00 | 40.96 | AVG | No Limit |
| 2 | X | 2456.500 | 97.24 | 7.78 | 105.02 | 74.00 | 31.02 | peak | No Limit |
| 3 | | 2483.500 | 47.93 | 7.87 | 55.80 | 74.00 | -18.20 | peak | |
| 4 | | 2483.500 | 32.56 | 7.87 | 40.43 | 54.00 | -13.57 | AVG | |

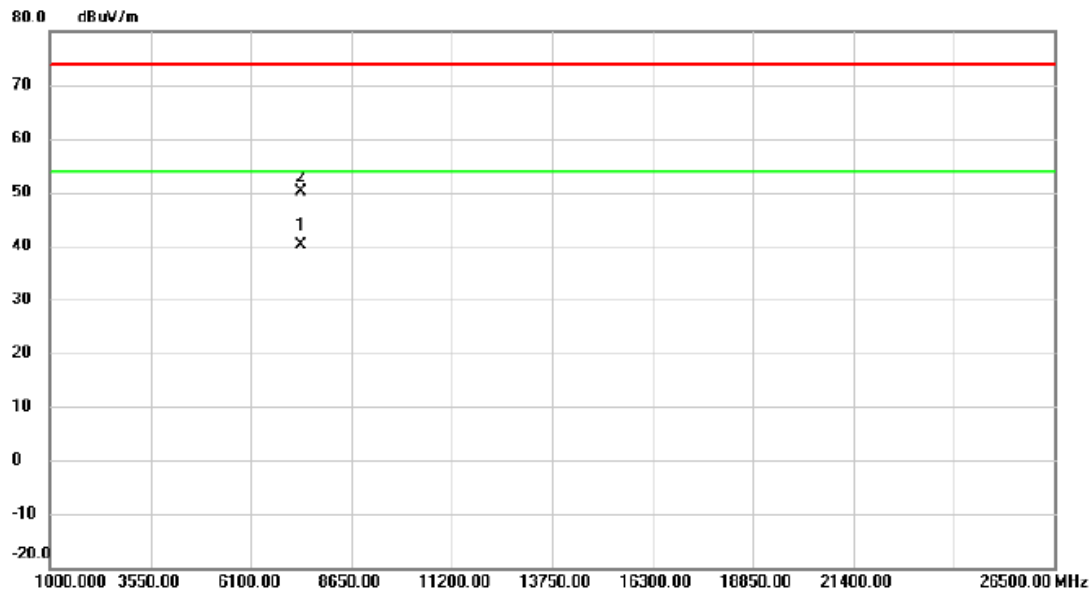
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX N-20M Mode 2457 MHz

Horizontal



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measurement | Limit | Margin | | |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|---------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 7371.050 | 32.14 | 7.98 | 40.12 | 54.00 | -13.88 | AVG | |
| 2 | | 7372.550 | 42.09 | 7.98 | 50.07 | 74.00 | -23.93 | peak | |

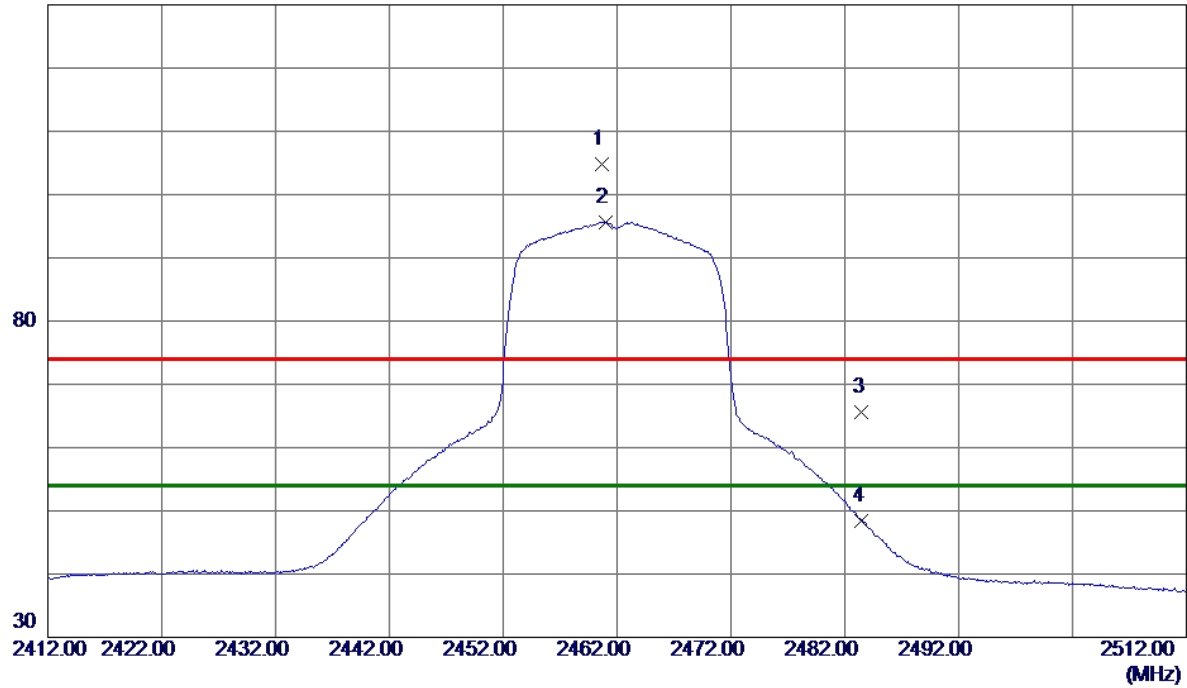
REMARKS:

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

Test Mode: TX N-20M Mode 2462 MHz

Vertical

130 dBuV/m



| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|----------|
| 1 | 2460.6500 | 97.00 | 7.80 | 104.80 | 74.00 | 30.80 | Peak | No Limit |
| 2 * | 2461.0500 | 87.85 | 7.80 | 95.65 | 54.00 | 41.65 | AVG | No Limit |
| 3 | 2483.5000 | 57.64 | 7.88 | 65.52 | 74.00 | -8.48 | Peak | |
| 4 | 2483.5000 | 40.43 | 7.88 | 48.31 | 54.00 | -5.69 | AVG | |

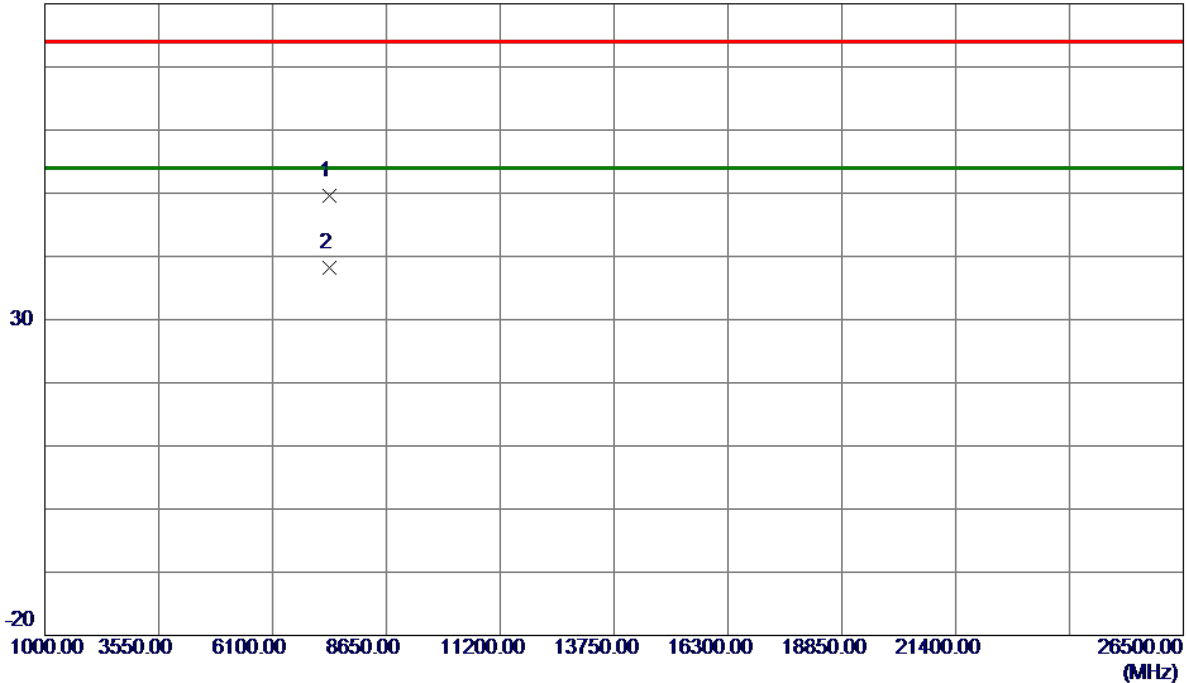
REMARKS:

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

| | |
|------------|------------------------|
| Test Mode: | TX N-20M Mode 2462 MHz |
|------------|------------------------|

Vertical

80 dBuV/m



| No. | Freq. | Reading Level | Correct Factor | Measurement | Limit | Margin | Detector | Comment |
|-----|-----------|---------------|----------------|-------------|--------|--------|----------|---------|
| | MHz | dBuV/m | dB | dBuV/m | dBuV/m | dB | | |
| 1 | 7382.3500 | 41.68 | 7.99 | 49.67 | 74.00 | -24.33 | Peak | |
| 2 * | 7384.0500 | 30.12 | 7.99 | 38.11 | 54.00 | -15.89 | AVG | |

REMARKS:

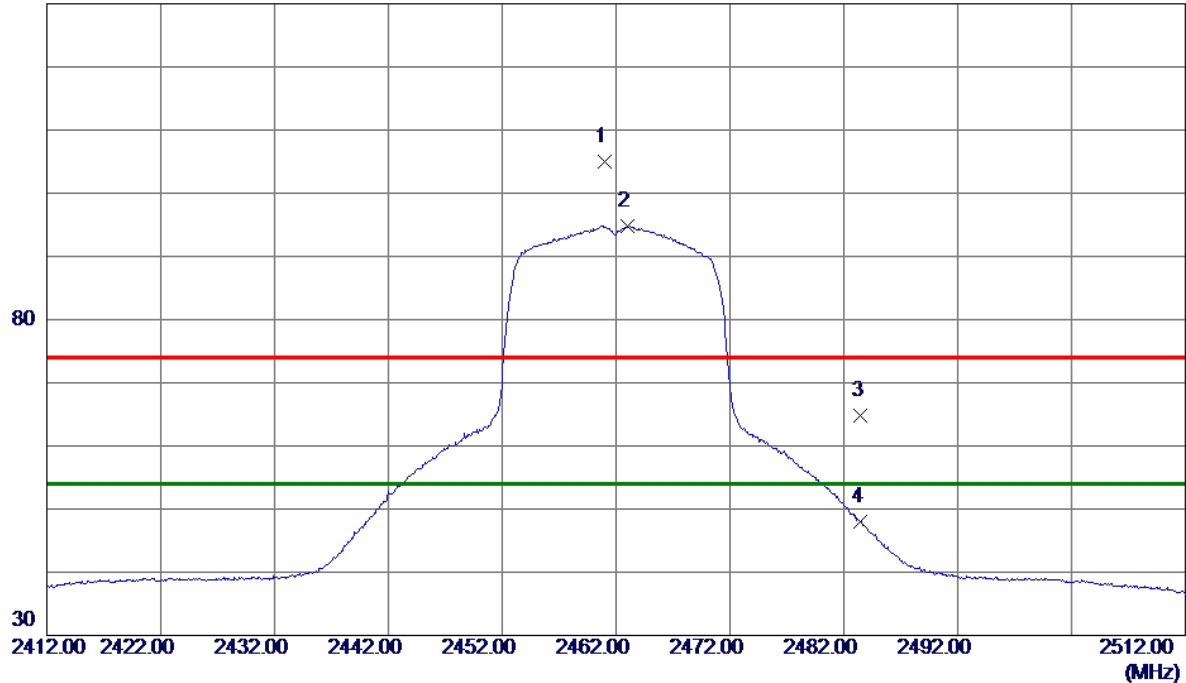
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX N-20M Mode 2462 MHz

Horizontal

130 dBuV/m



| No. | Freq. MHz | Reading Level dBuV/m | Correct Factor dB | Measure ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|--------------|----------------------------|-------------------------|---------------------------|-----------------|--------------|----------|----------|
| 1 | 2461.0000 | 97.10 | 7.80 | 104.90 | 74.00 | 30.90 | Peak | No Limit |
| 2 * | 2463.0000 | 86.99 | 7.81 | 94.80 | 54.00 | 40.80 | AVG | No Limit |
| 3 | 2483.5000 | 56.91 | 7.88 | 64.79 | 74.00 | -9.21 | Peak | |
| 4 | 2483.5000 | 40.16 | 7.88 | 48.04 | 54.00 | -5.96 | AVG | |

REMARKS:

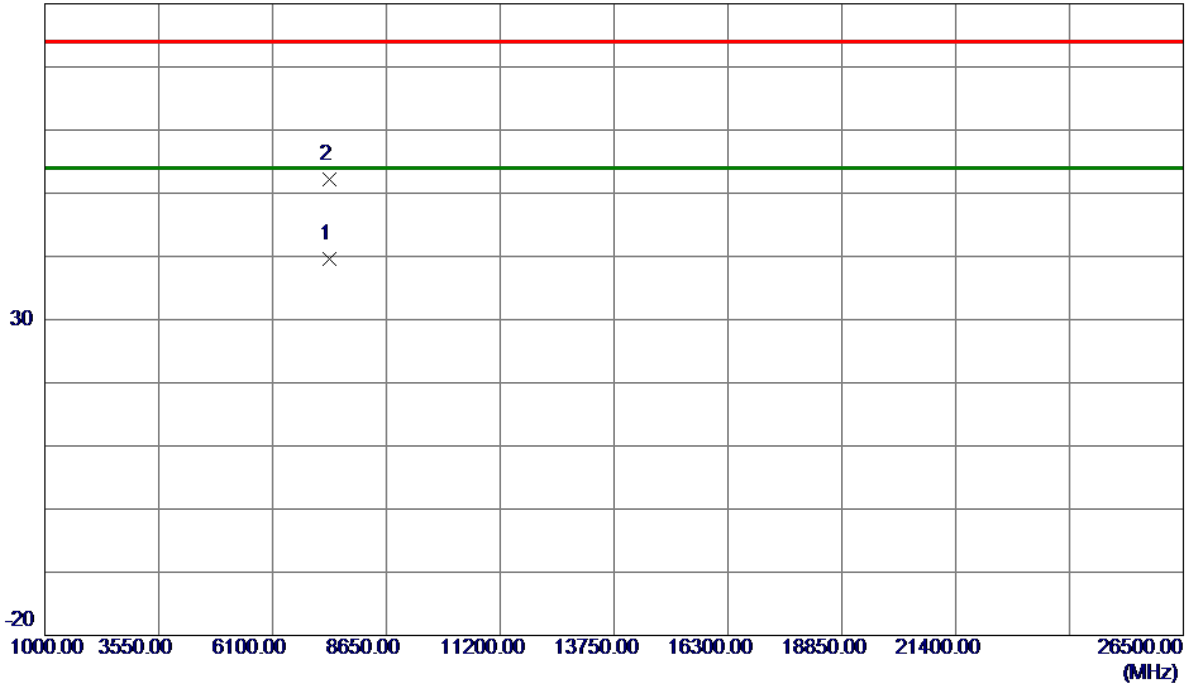
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

| | |
|------------|------------------------|
| Test Mode: | TX N-20M Mode 2462 MHz |
|------------|------------------------|

Horizontal

80 dBuV/m



| No. | Freq. | Reading Level | Correct Factor | Measure ment | Limit | Margin | Detector | Comment |
|-----|-----------|---------------|----------------|--------------|--------|--------|----------|---------|
| | MHz | dBuV/m | dB | dBuV/m | dBuV/m | dB | | |
| 1 * | 7383.0500 | 31.56 | 7.99 | 39.55 | 54.00 | -14.45 | AVG | |
| 2 | 7384.2500 | 44.12 | 7.99 | 52.11 | 74.00 | -21.89 | Peak | |

REMARKS:

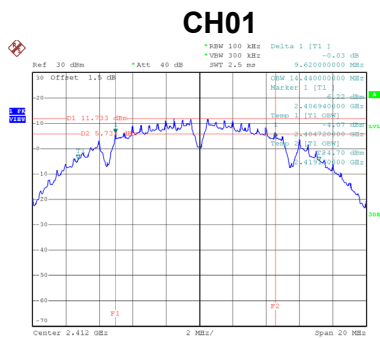
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

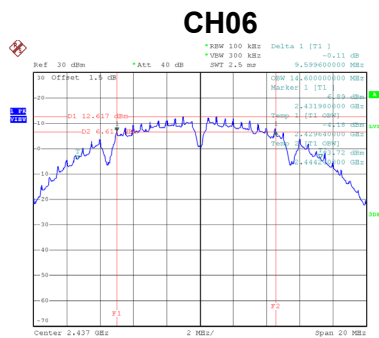
APPENDIX E - BANDWIDTH

| | |
|-----------|-----------|
| Test Mode | TX B Mode |
|-----------|-----------|

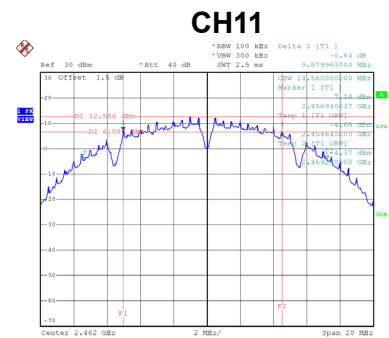
| Channel | Frequency (MHz) | 6 dB Bandwidth (MHz) | 6 dB Bandwidth Min. Limit (kHz) | Result |
|---------|-----------------|----------------------|---------------------------------|----------|
| 01 | 2412 | 9.62 | 500 | Complies |
| 06 | 2437 | 9.60 | 500 | Complies |
| 11 | 2462 | 9.58 | 500 | Complies |



Date: 24.AUG.2019 14:43:09



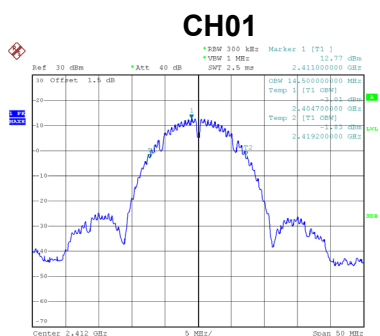
Date: 24.AUG.2019 14:45:58



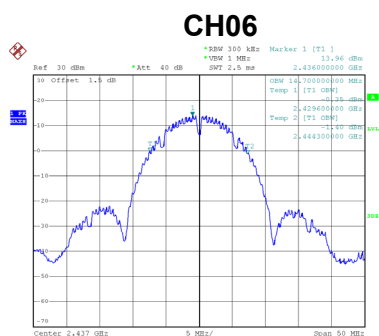
Date: 24.AUG.2019 14:49:20

| | |
|-----------|-----------|
| Test Mode | TX B Mode |
|-----------|-----------|

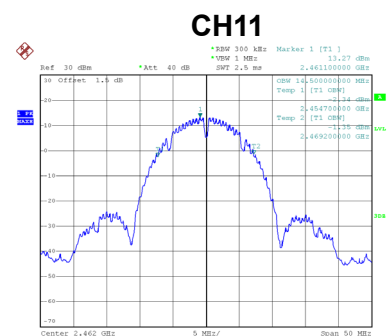
| Channel | Frequency (MHz) | 99 % Emission Bandwidth (MHz) | Result |
|---------|-----------------|-------------------------------|----------|
| 01 | 2412 | 14.50 | Complies |
| 06 | 2437 | 14.70 | Complies |
| 11 | 2462 | 14.50 | Complies |



Date: 24.AUG.2019 15:16:51



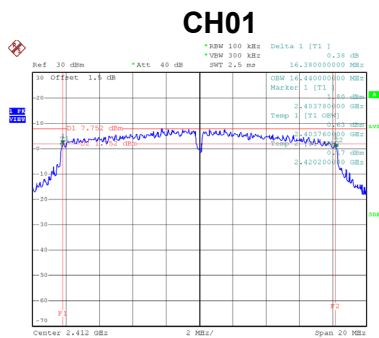
Date: 24.AUG.2019 15:17:22



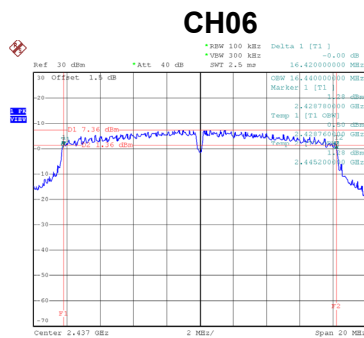
Date: 24.AUG.2019 15:17:51

| | |
|-----------|-----------|
| Test Mode | TX G Mode |
|-----------|-----------|

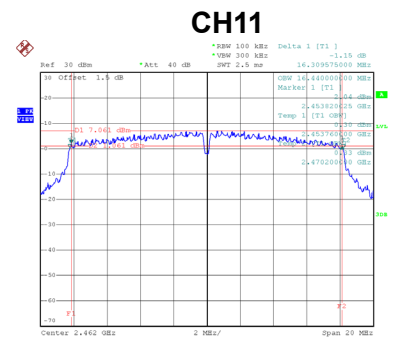
| Channel | Frequency (MHz) | 6 dB Bandwidth (MHz) | 6 dB Bandwidth Min. Limit (kHz) | Result |
|---------|-----------------|----------------------|---------------------------------|----------|
| 01 | 2412 | 16.38 | 500 | Complies |
| 06 | 2437 | 16.42 | 500 | Complies |
| 11 | 2462 | 16.31 | 500 | Complies |



Date: 24.AUG.2019 14:52:00



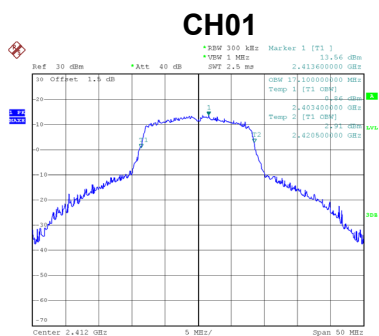
Date: 24.AUG.2019 14:53:44



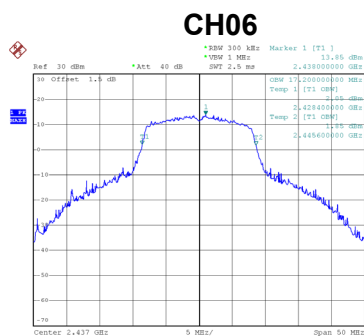
Date: 24.AUG.2019 14:56:13

| | |
|-----------|-----------|
| Test Mode | TX G Mode |
|-----------|-----------|

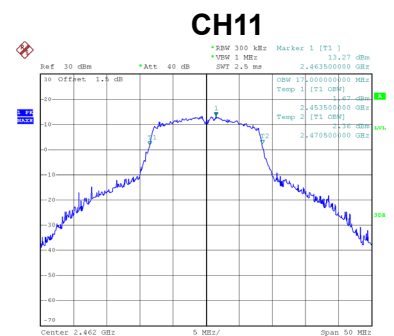
| Channel | Frequency (MHz) | 99 % Emission Bandwidth (MHz) | Result |
|---------|-----------------|-------------------------------|----------|
| 01 | 2412 | 17.10 | Complies |
| 06 | 2437 | 17.20 | Complies |
| 11 | 2462 | 17.00 | Complies |



Date: 24.AUG.2019 15:18:56



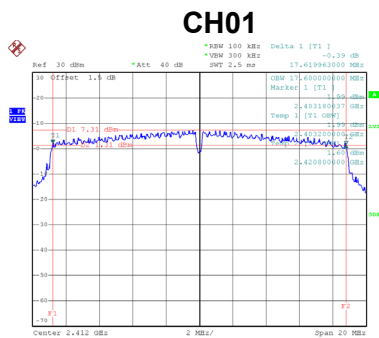
Date: 24.AUG.2019 15:19:39



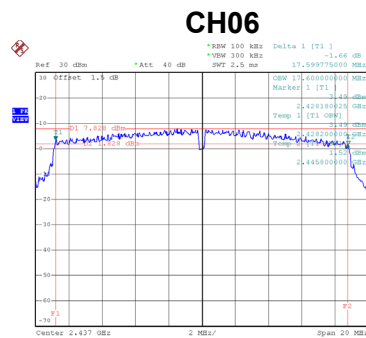
Date: 24.AUG.2019 15:20:18

| | |
|-----------|---------------|
| Test Mode | TX N-20M Mode |
|-----------|---------------|

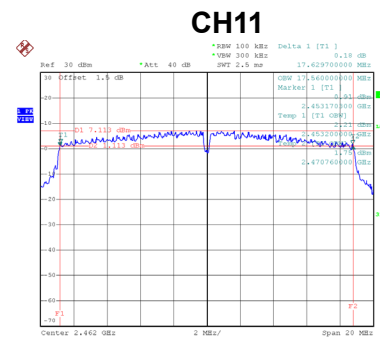
| Channel | Frequency (MHz) | 6 dB Bandwidth (MHz) | 6 dB Bandwidth Min. Limit (kHz) | Result |
|---------|-----------------|----------------------|---------------------------------|----------|
| 01 | 2412 | 17.62 | 500 | Complies |
| 06 | 2437 | 17.60 | 500 | Complies |
| 11 | 2462 | 17.63 | 500 | Complies |



Date: 24.AUG.2019 14:58:43



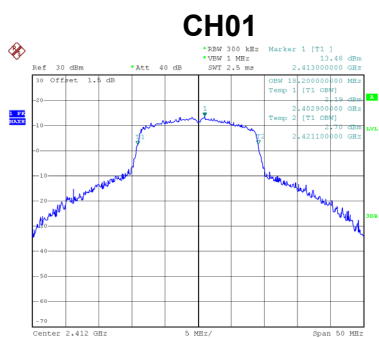
Date: 24.AUG.2019 15:00:54



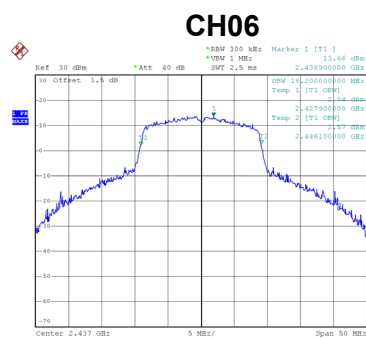
Date: 24.AUG.2019 15:02:41

| | |
|-----------|---------------|
| Test Mode | TX N-20M Mode |
|-----------|---------------|

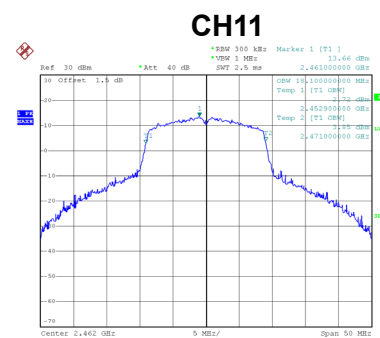
| Channel | Frequency (MHz) | 99 % Emission Bandwidth (MHz) | Result |
|---------|-----------------|-------------------------------|----------|
| 01 | 2412 | 18.20 | Complies |
| 06 | 2437 | 18.20 | Complies |
| 11 | 2462 | 18.10 | Complies |



Date: 24.AUG.2019 15:20:57



Date: 24.AUG.2019 15:21:25



Date: 24.AUG.2019 15:22:18

APPENDIX F - MAXIMUM PEAK OUTPUT POWER

| | |
|-----------|-----------|
| Test Mode | TX B Mode |
|-----------|-----------|

| Channel | Frequency (MHz) | Output Power (dBm) | Output Power (W) | Max. Limit (dBm) | Max. Limit (W) | Result |
|---------|-----------------|--------------------|------------------|------------------|----------------|----------|
| 01 | 2412 | 22.64 | 0.1837 | 30.00 | 1.0000 | Complies |
| 06 | 2437 | 22.53 | 0.1791 | 30.00 | 1.0000 | Complies |
| 11 | 2462 | 22.56 | 0.1803 | 30.00 | 1.0000 | Complies |

| | |
|-----------|-----------|
| Test Mode | TX G Mode |
|-----------|-----------|

| Channel | Frequency (MHz) | Output Power (dBm) | Output Power (W) | Max. Limit (dBm) | Max. Limit (W) | Result |
|---------|-----------------|--------------------|------------------|------------------|----------------|----------|
| 01 | 2412 | 26.58 | 0.4550 | 30.00 | 1.0000 | Complies |
| 06 | 2437 | 26.56 | 0.4529 | 30.00 | 1.0000 | Complies |
| 11 | 2462 | 26.21 | 0.4178 | 30.00 | 1.0000 | Complies |

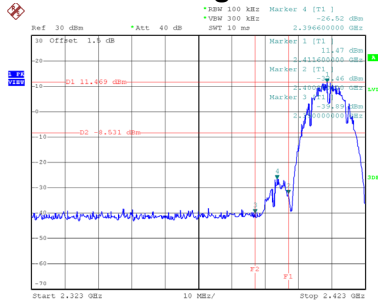
| | |
|-----------|---------------|
| Test Mode | TX N-20M Mode |
|-----------|---------------|

| Channel | Frequency (MHz) | Output Power (dBm) | Output Power (W) | Max. Limit (dBm) | Max. Limit (W) | Result |
|---------|-----------------|--------------------|------------------|------------------|----------------|----------|
| 01 | 2412 | 26.58 | 0.4550 | 30.00 | 1.0000 | Complies |
| 06 | 2437 | 26.73 | 0.4710 | 30.00 | 1.0000 | Complies |
| 11 | 2462 | 26.48 | 0.4446 | 30.00 | 1.0000 | Complies |

APPENDIX G - CONDUCTED SPURIOUS EMISSIONS

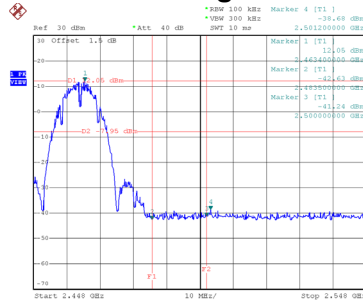
Test Mode TX B Mode

Bandedge-CH01



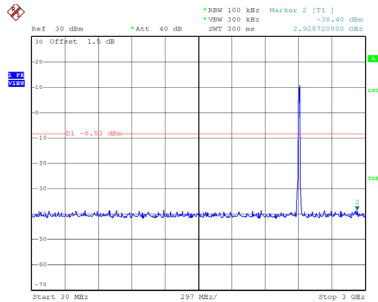
Date: 24.AUG.2019 14:43:19

Bandedge-CH11

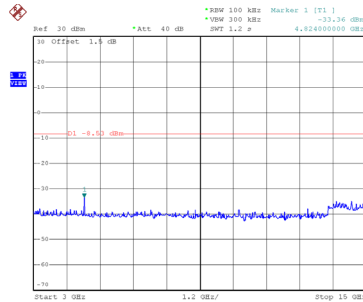


Date: 24.AUG.2019 14:49:28

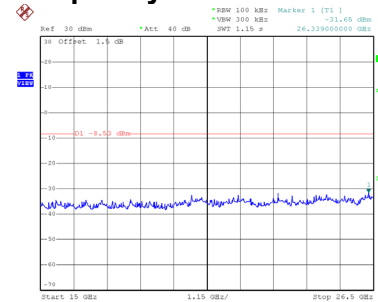
CH01 – 10th Harmonic of the fundamental frequency



Date: 24.AUG.2019 14:43:33

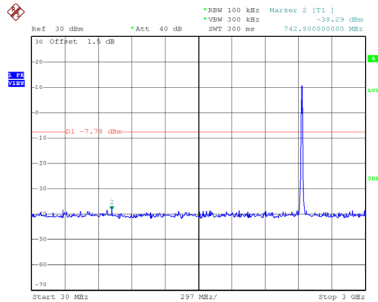


Date: 24.AUG.2019 14:43:42

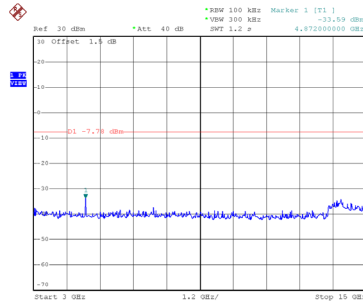


Date: 24.AUG.2019 14:43:50

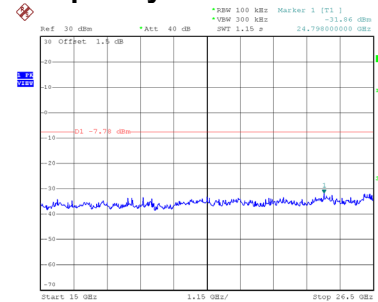
CH06 – 10th Harmonic of the fundamental frequency



Date: 24.AUG.2019 14:46:20

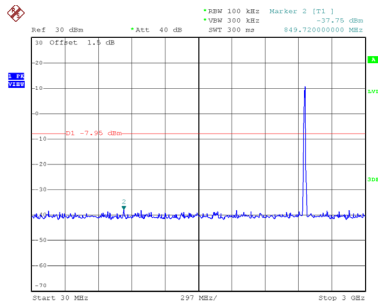


Date: 24.AUG.2019 14:46:28

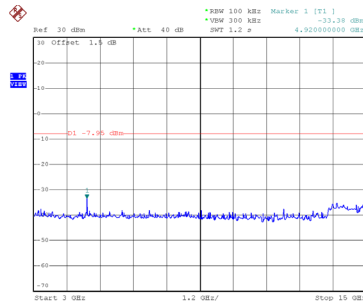


Date: 24.AUG.2019 14:46:36

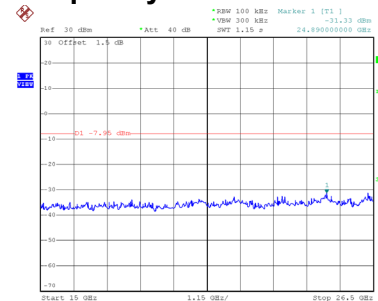
CH11 – 10th Harmonic of the fundamental frequency



Date: 24.AUG.2019 14:49:42



Date: 24.AUG.2019 14:49:51



Date: 24.AUG.2019 14:49:59