

FCC Radio Test Report

FCC ID: FCC ID:KA2IRX3260A1

This report concerns: Original Grant

| Project No. | : | 2102H003 |
|-----------------------|---|---|
| Equipment | : | AX3200 Mesh Wi-Fi 6 Router |
| Brand Name | : | D-Link |
| Test Model | : | DIR-X3260 |
| Series Model | : | N/A |
| Applicant | : | D-Link Corporation |
| Address | : | 14420 Myford Road Suite 100 Irvine California United States 92606 |
| Manufacturer | : | D-Link Corporation |
| Address | : | 14420 Myford Road Suite 100 Irvine California United States 92606 |
| Date of Receipt | : | Mar. 10, 2021 |
| Date of Test | : | Mar. 10, 2021~Apr. 14, 2021 |
| Issued Date | : | May. 19, 2021 |
| Report Version | : | R00 |
| Test Sample | : | Engineering Sample No.: SH2021020931 for radiation; |
| | | SH2021020932 for conducted; SH2021020930-3 for adapter. |
| Standard(s) | : | FCC CFR Title 47, Part 15, Subpart C FCC KDB 558074 D01 15.247 Meas Guidance v05r02 FCC KDB 662911 D01 Multiple Transmitter Output v02r01 ANSI C63.10-2013 |

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

Maker Qi

Prepared by : Maker Qi

User Sort

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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. | May. 19, 2021 |

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

| FCC CFR Title 47, Part 15, Subpart C | | | | | | | |
|--------------------------------------|-----------------------------------|--|--------|---------|--|--|--|
| Standard(s) Section | Test 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 Output Power | APPENDIX F | PASS | | | | |
| 15.247(d) | Conducted Spurious Emissions | APPENDIX G | PASS | | | | |
| 15.247(e) | Power Spectral Density | APPENDIX H | PASS | | | | |
| 15.203 | Antenna Requirement | | PASS | Note(2) | | | |

Note:

(1) "N/A" denotes test is not applicable 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. 29, Jintang Road, Tangzhen Industry Park, Pudong New Area, Shanghai 201210,China BTL's Test Firm Registration Number for FCC: 476765 BTL's Designation Number for FCC: CN1241

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) |
|------------------|-------|--------------------------------|---------|
| SH-C01 | CISPR | 150 kHz ~ 30 MHz | 2.70 |

B.Radiated emissions test:

| Test Site | Method | Measurement Frequency Range | Ant. H / V | U, (dB) |
|-----------|--------|-----------------------------|---------------|---------|
| | | 9 KHz~30 MHz | V | 3.79 |
| | | 9 KHz~30 MHz | Н | 3.57 |
| | | 30 MHz~200 MHz | V | 4.04 |
| | CISPR | 30 MHz~200 MHz | Н | 3.76 |
| SH-CB01 | | 200 MHz~1,000 MHz | V | 4.24 |
| SH-CBU1 | | 200 MHz~1,000 MHz | Н | 3.84 |
| | | 1 GHz~18 GHz | V | 4.46 |
| | | 1 GHz~18 GHz | Н | 4.40 |
| | | 18 GHz~40 GHz | V | 3.95 |
| | | 18 GHz~40 GHz | Н | 3.95 |

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 | 21°C | 43% | AC 120V/60Hz | Joven Xiong |
| Radiated Emissions-30MHz to 1000MHz | 24°C | 58% | AC 120V/60Hz | Forest Li |
| Radiated Emissions-Above 1000MHz | 24°C | 58% | AC 120V/60Hz | Forest Li |
| Bandwidth | 22°C | 46% | AC 120V/60Hz | Danny Dang |
| Maximum Output Power | 22°C | 46% | AC 120V/60Hz | Danny Dang |
| Conducted Spurious Emissions | 22°C | 46% | AC 120V/60Hz | Danny Dang |
| Power Spectral Density | 22°C | 46% | AC 120V/60Hz | Danny Dang |

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

| Equipment | AX3200 Mesh Wi-Fi 6 Router |
|--|--|
| Brand Name | D-Link |
| Test Model | DIR-X3260 |
| Series Model | N/A |
| Model Difference(s) | N/A |
| Software Version | 1 |
| Hardware Version | A1 and R1 |
| Power Source | DC voltage supplied from AC/DC adapter. #1: MAUS-1202002400 #2: S24B72-120A200-0K |
| Power Rating | #1: 100-240V ~ 50/60Hz 0.8A O/P: 12V2.0A #2: 100-240V ~ 50/60Hz Max. 0.8A O/P: 12V2A |
| 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 800 Mbps |
| Maximum AVG Output Power _CDD | IEEE 802.11b: 25.20 dBm IEEE 802.11g: 21.78 dBm IEEE 802.11n20: 27.83 dBm IEEE 802.11n40: 26.71 dBm |
| Maximum AVG Output Power _Beamforming | IEEE 802.11n20: 24.55 dBm IEEE 802.11n40: 24.86 dBm |

Note:

1. 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) CH03 - CH09 for IEEE 802.11n(HT40) | | | | | | | |
|---------|--|----|------|----|------|----|------|--|
| Channel | | | | | | | | |
| 01 | 2412 | 04 | 2427 | 07 | 2442 | 10 | 2457 | |
| 02 | 02 2417 05 2432 08 2447 11 2462 | | | | | | | |
| 03 | 2422 | 06 | 2437 | 09 | 2452 | | | |

4. Antenna Specification:

| Ant. | Brand | Model Name | Antenna Type | Connector | Gain (dBi) |
|------|-------|------------|--------------|-----------|------------|
| 1 | N/A | N/A | Dipole | N/A | 4.75 |
| 2 | N/A | N/A | Dipole | N/A | 4.75 |
| 3 | N/A | N/A | Dipole | N/A | 4.75 |
| 4 | N/A | N/A | Dipole | N/A | 4.67 |

Note:

This EUT supports Beamforming and CDD, all antennas have the same gain, any transmit signals are correlated with each other, so

1) Beamforming:

Directional gain = $10\log[(10^{G1/20}+10^{G2/20+...+}10^{GN/20})^2/N_{ANT}]dBi$,

that is Directional gain=10log[$(10^{G1/20}+10^{G2/20+...+}10^{GN/20})^2/N_{ANT}]dBi$ =10.75;

So output power limit is 30-10.75+6=25.25, the power spectral density limit is 8-10.75+6=3.25. 2) CDD:

For power spectral density measurements,

Directional gain = $10\log[(10^{G1/20}+10^{G2/20+...+}10^{GN/20})^2/N_{ANT}]dBi$,

that is Directional gain= $10\log[(10^{G1/20}+10^{G2/20+...+}10^{GN/20})^2/N_{ANT}]dBi = 10.75;$

So power spectral density limit is 8-10.75+6=3.25.

For power meansurements, Directional gain =G_{ANT MAX}.+Array Gain, Array Gain=0dB(N_{ANT}≤4), so the Directional gain=4.75.

5. Table for Antenna Configuration:

| Operating Mode TX Mode | Ant. 1 | Ant. 2 | Ant. 3 | Ant. 4 | Ant. 1+2+3+4 |
|---------------------------|--------------|--------------|--------------|--------------|--------------|
| IEEE 802.11b | \checkmark | \checkmark | \checkmark | \checkmark | × |
| IEEE 802.11g | ✓ | \checkmark | \checkmark | ~ | × |
| IEEE 802.11n (HT20) | ✓ | \checkmark | \checkmark | \checkmark | ~ |
| IEEE 802.11n (HT40) | \checkmark | ~ | ~ | ~ | \checkmark |



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(HT20) Mode Channel 01/06/11 |
| Mode 4 | TX N(HT40) Mode Channel 03/06/09 |
| Mode 7 | TX N(HT20) Mode Channel 06 |
| Mode 8 | TX B Mode Channel 01/02/06/10/11 |
| Mode 9 | TX G Mode Channel 01/02/06/10/11 |
| Mode 10 | TX N(HT20) Mode Channel 01/02/06/10/11 |
| Mode 11 | TX N(HT40) Mode Channel 03/04/06/08/09 |

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

| AC power line conducted emissions test | | |
|--|----------------------------|--|
| Final Test Mode | Description | |
| Mode 7 | TX N(HT20) Mode Channel 06 | |

| Radiated emissions test - Below 1GHz | | |
|--------------------------------------|----------------------------|--|
| Final Test Mode Description | | |
| Mode 7 | TX N(HT20) 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(HT20) Mode Channel 01/06/11 | |
| Mode 4 | TX N(HT40) Mode Channel 03/06/09 | |



| 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(HT20) Mode Channel 01/06/11 | |
| Mode 4 | TX N(HT40) Mode Channel 03/06/09 | |

NOTE:

- (1) All the bit rate of transmitter have been tested and found the lowest rate is found to be the worst case and recorded.
- (2) For AC power line conducted emissions and radiated emission below 1 GHz test, the TX N(HT20) Mode Channel 06 is found to be the worst case and recorded.
- (3) For radiated emission above 1 GHz test, the spurious points of 1GHz~26.5GHz have been pre-tested and in this report only recorded the worst case. The remaining spurious points are all below the limit value of 20dB.
- (4) The measurements for Output Power are tested, the Non Beamforming and Beamforming are recorded in the report. The worst case is Non Beamforming and only the worst case is documented for other test items.
- (5) For radiated emission below 1 GHz and AC Power Line Conducted Emissions test, all adapters had been pre-tested and in this report only recorded the worst case.

2.3 PARAMETERS OF TEST SOFTWARE

| CDD | | | |
|-----------------------|-------------------|-------|-------|
| Test Software Version | QA tool v0.0.2.24 | | |
| Frequency (MHz) | 2412 | 2437 | 2462 |
| IEEE 802.11b | 22.00 | 22.00 | 21.00 |
| IEEE 802.11g | 19.00 | 19.00 | 19.00 |
| IEEE 802.11n(HT20) | 12.00 | 20.00 | 12.50 |
| Frequency (MHz) | 2422 | 2437 | 2452 |
| IEEE 802.11n(HT40) | 14.50 | 19.00 | 18.50 |

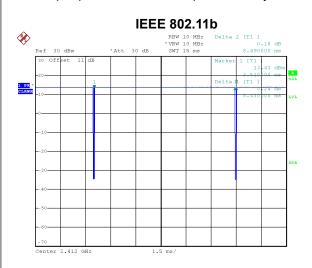
| Beamforming | | | | |
|-----------------------|-------------------|-------|-------|--|
| Test Software Version | QA tool v0.0.2.24 | | | |
| Frequency (MHz) | 2412 2437 2462 | | | |
| IEEE 802.11n(HT20) | 12.00 | 17.00 | 12.50 | |
| Frequency (MHz) | 2422 | 2437 | 2452 | |
| IEEE 802.11n(HT40) | 14.50 | 17.00 | 17.00 | |





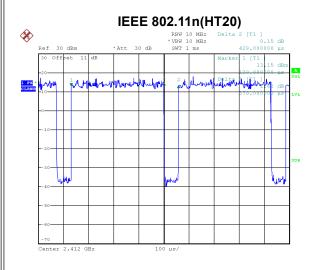
2.4 DUTY CYCLE

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



Date: 22.FEB.2021 16:48:33

Duty cycle = 8.430 ms / 8.490 ms = 99.29% Duty Factor = 10 log(1/Duty cycle) = 0.03



Date: 22.FEB.2021 17:19:20

Duty cycle = 0.370 ms / 0.428 ms = 86.45% Duty Factor = 10 log(1/Duty cycle) = 0.63

NOTE:

For IEEE 802.11b/g:

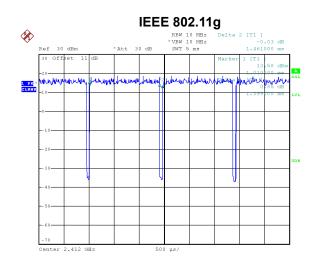
For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 1 kHz.

For 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 3 kHz.

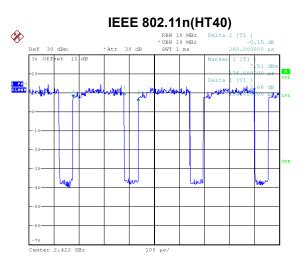
For IEEE 802.11n(HT40):

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 5 kHz.



Date: 22.FEB.2021 17:18:15

Duty cycle = 1.399 ms / 1.461 ms = 95.76% Duty Factor = 10 log(1/Duty cycle) = 0.19

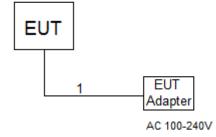


Date: 22.FEB.2021 17:20:12

Duty cycle = 0.204 ms / 0.260 ms = 78.46% Duty Factor = 10 log(1/Duty cycle) = 1.05



2.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



2.6 SUPPORT UNITS

| Item | Cable Type | Shielded Type | Ferrite Core | Length |
|------|------------|---------------|--------------|--------|
| 1 | DC Cable | N/A | N/A | 1m |



3. AC POWER LINE CONDUCTED EMISSIONS

3.1 LIMIT

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

NOTE:

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

3.2 TEST PROCEDURE

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

The following table is the setting of the receiver:

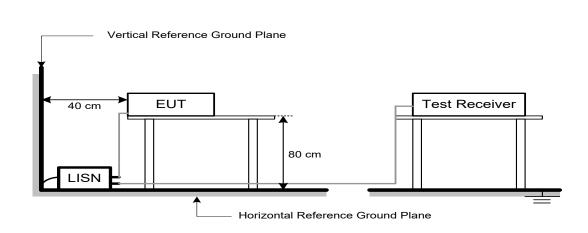
| Receiver Parameters | Setting | |
|---------------------|----------|--|
| Start Frequency | 0.15 MHz | |
| Stop Frequency | 30 MHz | |
| IF Bandwidth | 9 kHz | |

3.3 DEVIATION FROM TEST STANDARD

No deviation.



3.4 TEST SETUP



3.5 EUT OPERATION CONDITIONS

EUT was programmed to be in continuously transmitting mode.

3.6 TEST RESULTS

Please refer to the APPENDIX A.





4. RADIATED EMISSIONS

4.1 LIMIT

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

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

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

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000 MHz)

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

NOTE:

- (1) The limit for radiated test was performed according to FCC CFR Title 47, Part 15, Subpart C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).
- (4) The test result calculated as following: Measurement Value = Reading Level + Correct Factor Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain(if use) Margin Level = Measurement Value - Limit Value



4.2 TEST PROCEDURE

- a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1 GHz)
- b. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1 GHz)
- c. The height of the equipment or of the substitution antenna shall be 0.8m or 1.5m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
- e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.
- f. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- g. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform. (below 1 GHz)
- h. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform. (above 1 GHz)
- i. For the actual test configuration, please refer to the related Item -EUT Test Photos.

The following table is the setting of the receiver:

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

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

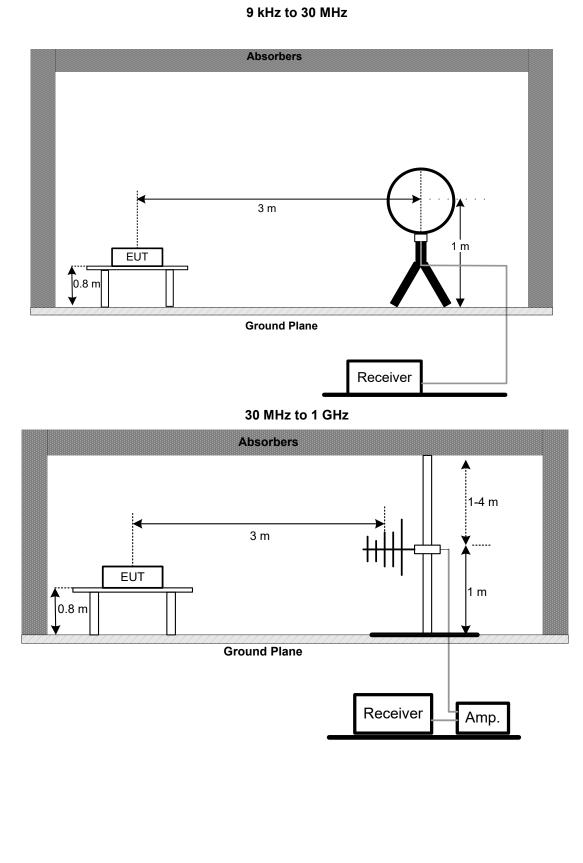
| Receiver Parameters | Setting |
|------------------------|-------------------------------------|
| Start ~ Stop Frequency | 9 kHz~90 kHz for PK/AVG detector |
| Start ~ Stop Frequency | 90 kHz~110 kHz for QP detector |
| Start ~ Stop Frequency | 110 kHz~490 kHz for PK/AVG detector |
| Start ~ Stop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



4.3 DEVIATION FROM TEST STANDARD

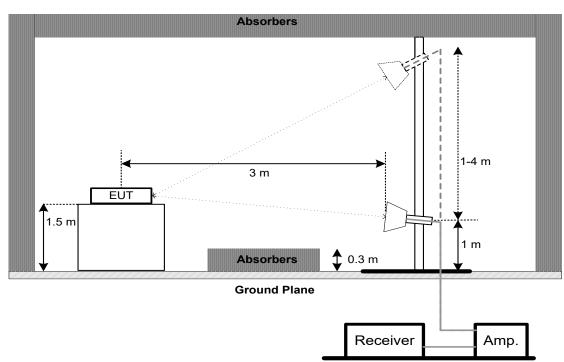
No deviation.

4.4 TEST SETUP









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 (specific distance / 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

5.1 LIMIT

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

5.2 TEST PROCEDURE

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

For 6 dB Bandwidth:

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

For 99% Emission Bandwidth:

| Spectrum Parameters | Setting | | | |
|---------------------|---|--|--|--|
| Span Frequency | Between 1.5 times and 5.0 times the OBW | | | |
| RBW | 300 kHz For 20MHz 1 MHz For 40MHz | | | |
| VBW | 1 MHz For 20MHz 3 MHz For 40MHz | | | |
| Detector | Peak | | | |
| Trace | Max Hold | | | |
| Sweep Time | Auto | | | |

5.3 DEVIATION FROM STANDARD

No deviation.

5.4 TEST SETUP



5.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

5.6 TEST RESULTS

Please refer to the APPENDIX E.



6. MAXIMUM OUTPUT POWER

6.1 LIMIT

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

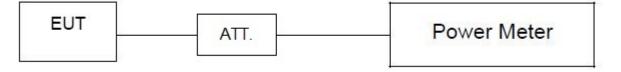
6.2 TEST PROCEDURE

- a. The EUT was directly connected to the power meter and antenna output port as show in the block diagram below.
- b. The maximum conducted output power was performed in accordance with method 11.9.2.3.1 (for AVG power) of ANSI C63.10-2013 and FCC KDB 662911 D01 v02r01 Multiple Transmitter Output.

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

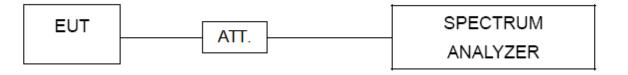
- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- b. The following table is the setting of the spectrum analyzer:

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

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP



7.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

7.6 TEST RESULTS

Please refer to the APPENDIX G.



8. POWER SPECTRAL DENSITY

8.1 LIMIT

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

8.2 TEST PROCEDURE

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

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

| Spectrum Parameters | Setting |
|---------------------|-----------------------------------|
| Span Frequency | 25 MHz (20 MHz) / 60 MHz (40 MHz) |
| RBW | 3 kHz |
| VBW | 10 kHz |
| Detector | Peak |
| Trace | Max Hold |
| Sweep Time | Auto |

8.3 DEVIATION FROM STANDARD

No deviation.

8.4 TEST SETUP



8.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

8.6 TEST RESULTS

Please refer to the APPENDIX H.



9. MEASUREMENT INSTRUMENTS LIST

| | AC Power Line Conducted Emissions | | | | | |
|------|---|--------------|--------------------------|------------|--------------------------------|--|
| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until | |
| 1 | Line Impedance Stabilisation Network | Schwarzbeck | NNLK 8121 | 8121-822 | Mar. 21, 2021 Mar. 20, 2022 | |
| 2 | TWO-LINE V-NETWORK | R&S | ENV216 | 101340 | Aug. 23, 2021 | |
| 3 | Test Cable | emci | EMCRG400-BM-N M-10000 | 170628 | Apr. 12, 2021 Apr. 11, 2022 | |
| 4 | EMI Test Receiver | R&S | ESCI | 100082 | Mar. 22, 2021 Mar. 21, 2022 | |
| 5 | 50Ω Terminator | SHX | TF2-1G-A | 17051602 | Mar. 19, 2021 Mar. 20, 2022 | |
| 6 | 50Ω coaxial switch | Anritsu | MP59B | 6201750902 | Mar. 19, 2021 Mar. 20, 2022 | |
| 7 | Measurement Software | Farad | EZ-EMC Ver.NB-03A1-01 | N/A | N/A | |

| | Radiated Emissions - 9 kHz to 30 MHz | | | | | |
|------|--------------------------------------|--------------|--------------------------|------------|--------------------------------|--|
| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until | |
| 1 | Loop Antenna | EMCI | EMCI LPA600 | 275 | Apr. 15, 2021 | |
| 2 | Cable | N/A | EMCRG400-BM-N M-10000 | 170628 | Apr. 12, 2021 Apr. 11, 2022 | |
| 3 | MXE EMI Receiver | Keysight | N9038A | MY57150106 | Mar. 22, 2021 Mar. 21, 2022 | |
| 4 | Measurement Software | Farad | EZ-EMC Ver.BTL-2ANT-1 | N/A | N/A | |

| | Radiated Emissions - 30 MHz to 1 GHz | | | | | | | |
|------|--------------------------------------|----------------------------|----------------------------|--------------------------------|--------------------------------|--|--|--|
| Item | m Kind of Equipment Manufacturer | | Type No. | Serial No. | Calibrated until | | | |
| 1 | TRILOG Broadband Antenna | Schwarzbeck | VULB 9168 | 719 | Mar. 27, 2021 Mar. 26, 2022 | | | |
| 2 | Pre-Amplifier | emci EMC9135 980400 | | Mar. 21, 2021 Mar. 20, 2022 | | | | |
| 3 | MXE EMI Receiver | Keysight N9038A MY57150106 | | Mar. 22, 2021 Mar. 21, 2022 | | | | |
| 4 | Test Cable | emci | EMC104-SM-SM-7 000 | 170330 | Apr. 13, 2021 Apr. 11, 2022 | | | |
| 5 | Test Cable | emci | emci EMC104-SM-SM-1 170331 | | Apr. 13, 2021 Apr. 11, 2022 | | | |
| 6 | Test Cable | emci | emci EMC104-SM-NM-3 170621 | | Apr. 13, 2021 Apr. 11, 2022 | | | |
| 7 | Measurement Software | Farad | EZ-EMC Ver.NB-03A1-01 | N/A | N/A | | | |



| | Radiated Emissions - Above 1 GHz | | | | | | | | |
|------|--|---|-------------------------------------|------------------|--------------------------------|--|--|--|--|
| Item | Kind of Equipment | of Equipment Manufacturer Type No. Serial No. | | Calibrated until | | | | | |
| 1 | Double-Ridged Waveguide Horn Antenna | ETS-Lindgren | 9120D | 9120D-1786 | Mar. 27, 2021 Mar. 26, 2022 | | | | |
| 2 | Pre-Amplifier | emci | EMC012645SE | 980421 | May. 11, 2021 | | | | |
| 3 | EXA Spectrum Analyzer | Keysight | N9010A | MY56480545 | Mar. 21, 2022 Mar. 20, 2022 | | | | |
| 4 | Test Cable | emci | EMC104-SM-SM-7 000 | 170330 | Apr. 13, 2021 Apr. 11, 2022 | | | | |
| 5 | Test Cable | emci | EMC104-SM-SM-1 000 | 170331 | Apr. 13, 2021 Apr. 11, 2022 | | | | |
| 6 | Test Cable | emci | EMC104-SM-NM-3 500 | 170621 | Apr. 13, 2021 Apr. 11, 2022 | | | | |
| 7 | Measurement Software | Farad | EZ-EMC Ver.NB-03A1-01 | N/A | N/A | | | | |
| 8 | MXE EMI Receiver | Keysight | N9038A | MY57150106 | Mar. 22, 2021 Mar. 21, 2022 | | | | |
| 9 | Double-Ridged Waveguide Horn Antenna | ETS-Lindgren | 3116C | 00203919 | Mar. 28, 2021 Mar. 27, 2022 | | | | |
| 10 | Pre-Amplifier | emci | EMC184045SE | 980409 | Mar. 21, 2021 Mar. 20, 2022 | | | | |
| 11 | EXA Spectrum Analyzer | Keysight | N9010A | MY56480579 | Mar. 22, 2021 Mar. 21, 2022 | | | | |
| 12 | Test Cable | emci | EMC102-KM-KM-8 00 | 170654 | Apr. 16, 2021 | | | | |
| 13 | Test Cable | emci | Super Reliable-40G-SS11- 7000 | W0030860001 | Apr. 16, 2021 | | | | |
| 14 | Measurement Software | Farad | EZ-EMC Ver.NB-03A1-01 | N/A | N/A | | | | |

| Bandwidth | | | | | | | |
|-----------|-------------------|--------------|----------|------------|------------------|--|--|
| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until | | |
| 1 | Spectrum Analyzer | R&S | FSP40 | 100626 | May. 06, 2021 | | |

| Maximum Output Power | | | | | | |
|----------------------|-------------------|--------------|----------|------------|------------------|--|
| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until | |
| 1 | Spectrum Analyzer | R&S | FSP40 | 100626 | May. 06, 2021 | |

| Antenna Conducted Spurious Emissions | | | | | | | |
|--------------------------------------|-------------------|--------------|----------|------------|------------------|--|--|
| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until | | |
| 1 | Spectrum Analyzer | R&S | FSP40 | 100626 | May. 06, 2021 | | |

| Power Spectral Density | | | | | | | |
|------------------------|-------------------|--------------|----------|------------|------------------|--|--|
| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until | | |
| 1 | Spectrum Analyzer | R&S | FSP40 | 100626 | May. 06, 2021 | | |

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

All calibration period of equipment list is one year.



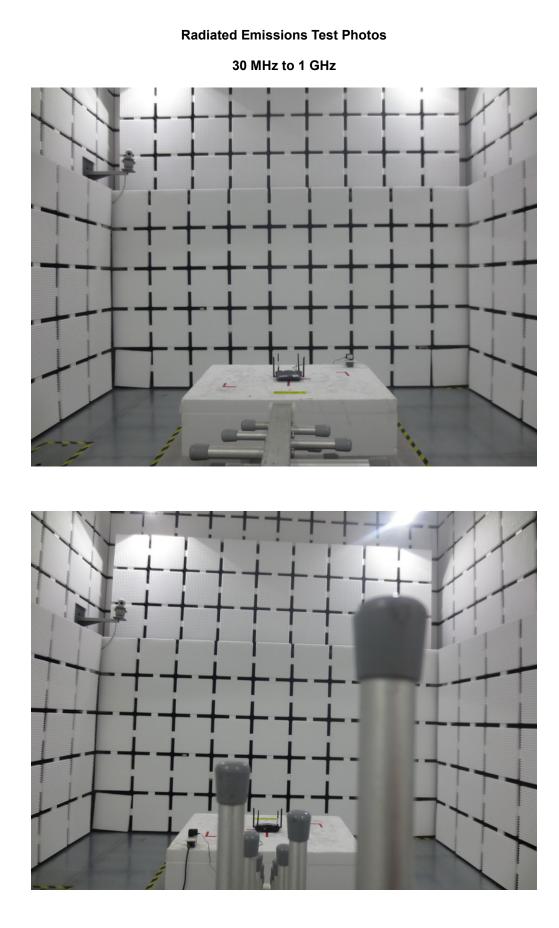
10. EUT TEST PHOTO

Conducted Emissions Test Photos

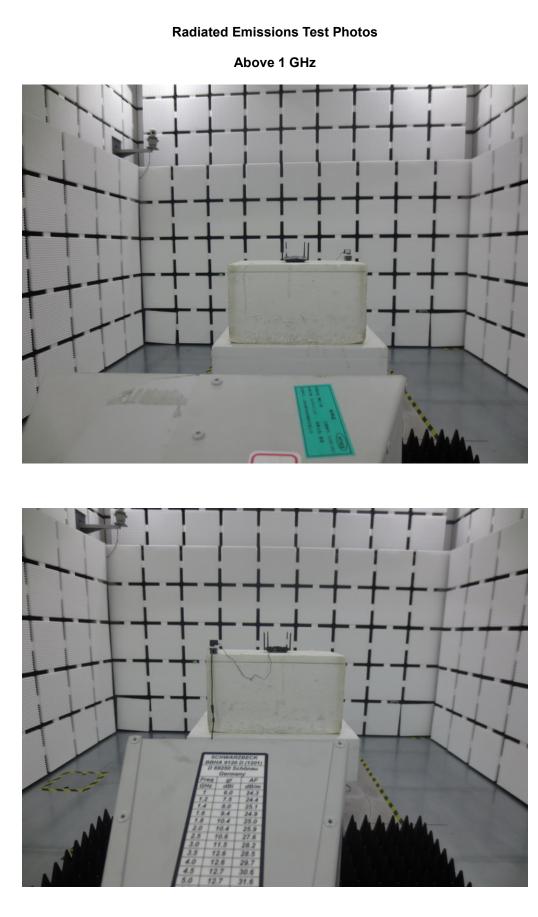




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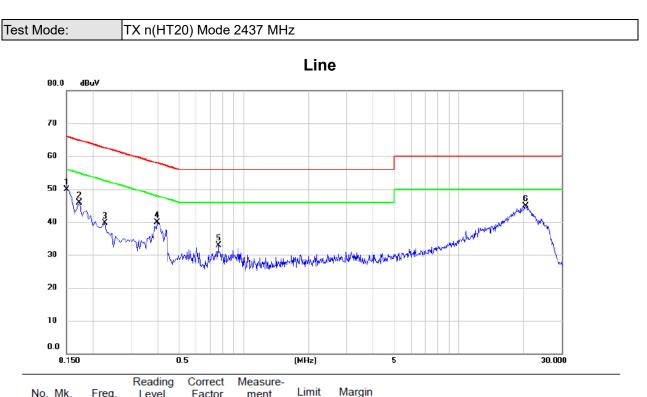






APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS



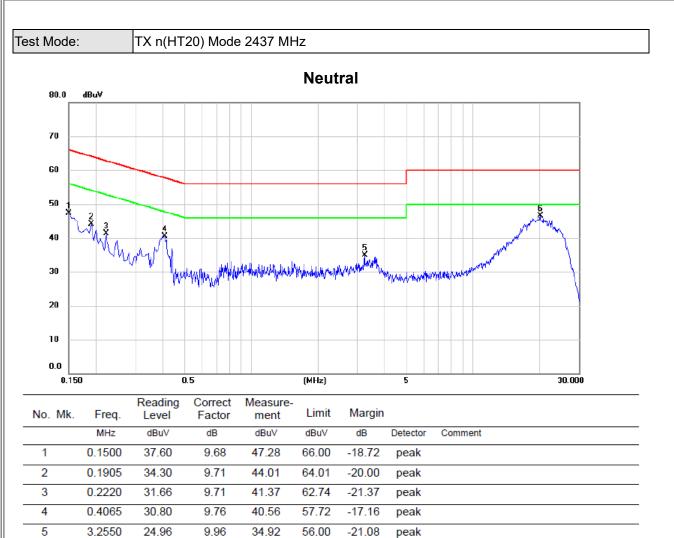


| No. Mk. | Freq. | Level | Factor | ment | Limit | Margin | | |
|---------|---------|-------|--------|-------|-------|--------|----------|---------|
| | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | 0.1500 | 40.18 | 9.71 | 49.89 | 66.00 | -16.11 | peak | |
| 2 | 0.1725 | 36.09 | 9.73 | 45.82 | 64.84 | -19.02 | peak | |
| 3 | 0.2265 | 30.06 | 9.74 | 39.80 | 62.58 | -22.78 | peak | |
| 4 | 0.3975 | 30.11 | 9.78 | 39.89 | 57.91 | -18.02 | peak | |
| 5 | 0.7620 | 23.06 | 9.82 | 32.88 | 56.00 | -23.12 | peak | |
| 6 * | 20.4045 | 34.42 | 10.52 | 44.94 | 60.00 | -15.06 | peak | |

REMARKS:

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





REMARKS:

6 *

20.1165

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

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46.42

60.00

-13.58

peak

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

35.85



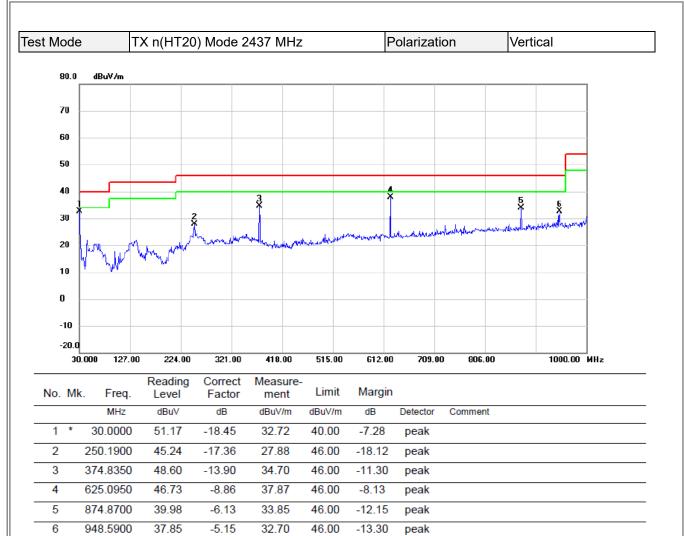
APPENDIX B - RADIATED EMISSION - 9 KHZ TO 30 MHZ

Note: The measured value have enough margin over 20dB than the limit, therefore they are not reported.



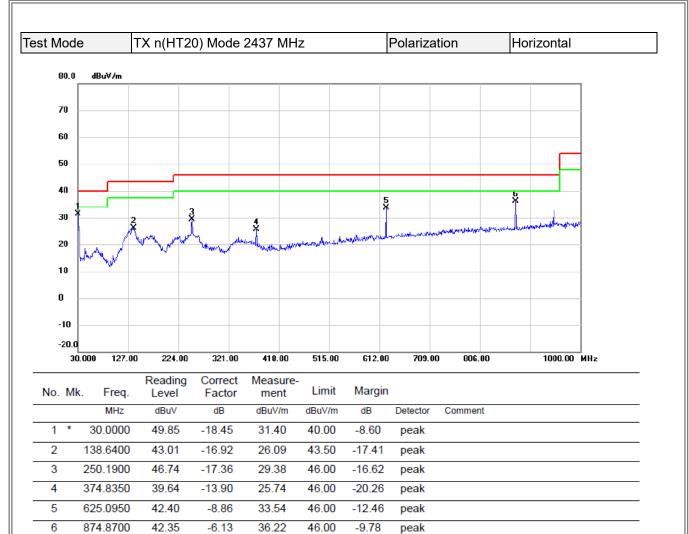
APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ

BIL



REMARKS:

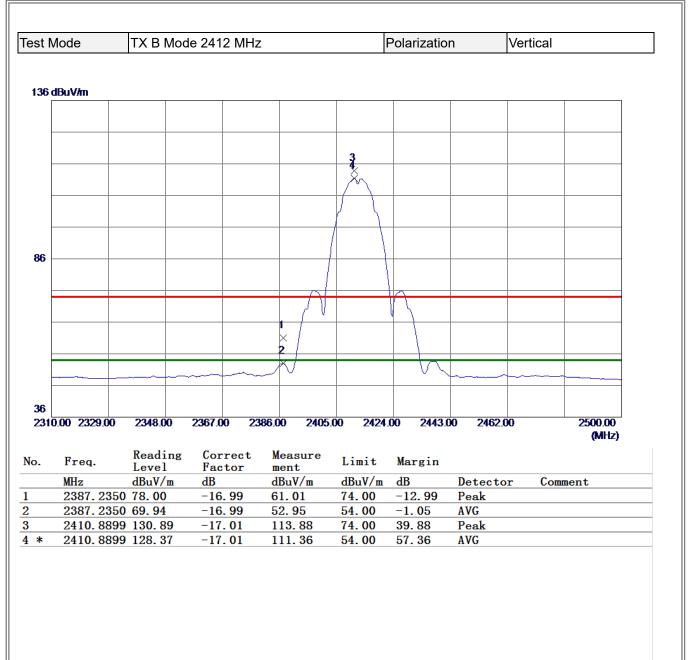
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.



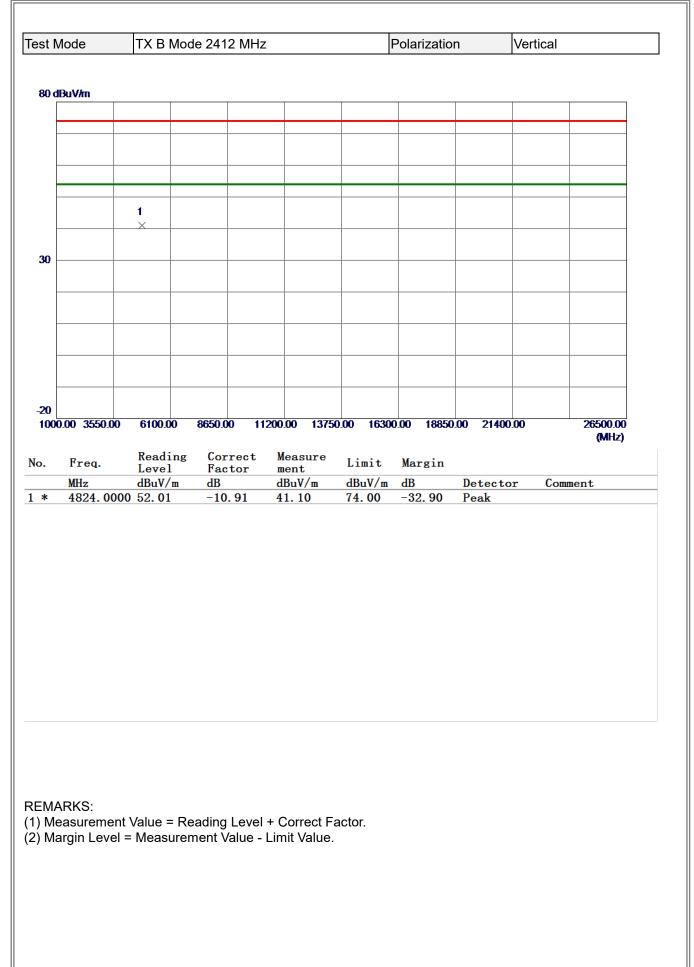
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.

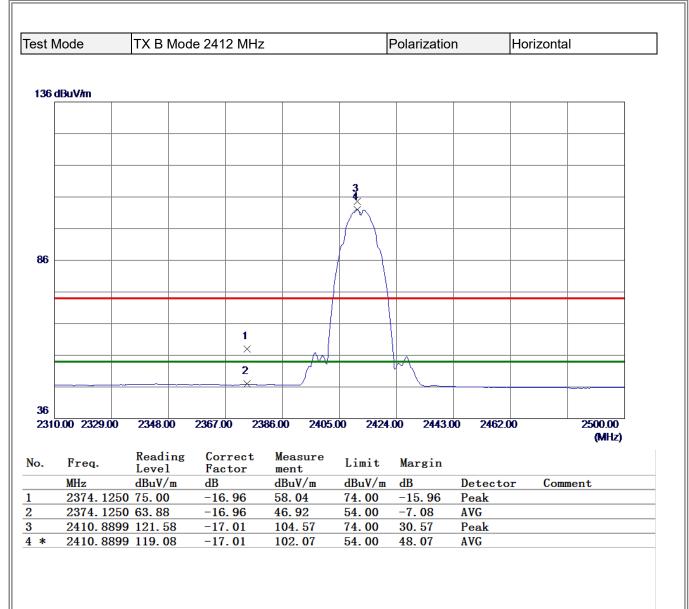


APPENDIX D - RADIATED EMISSION- ABOVE 1000 MHZ



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

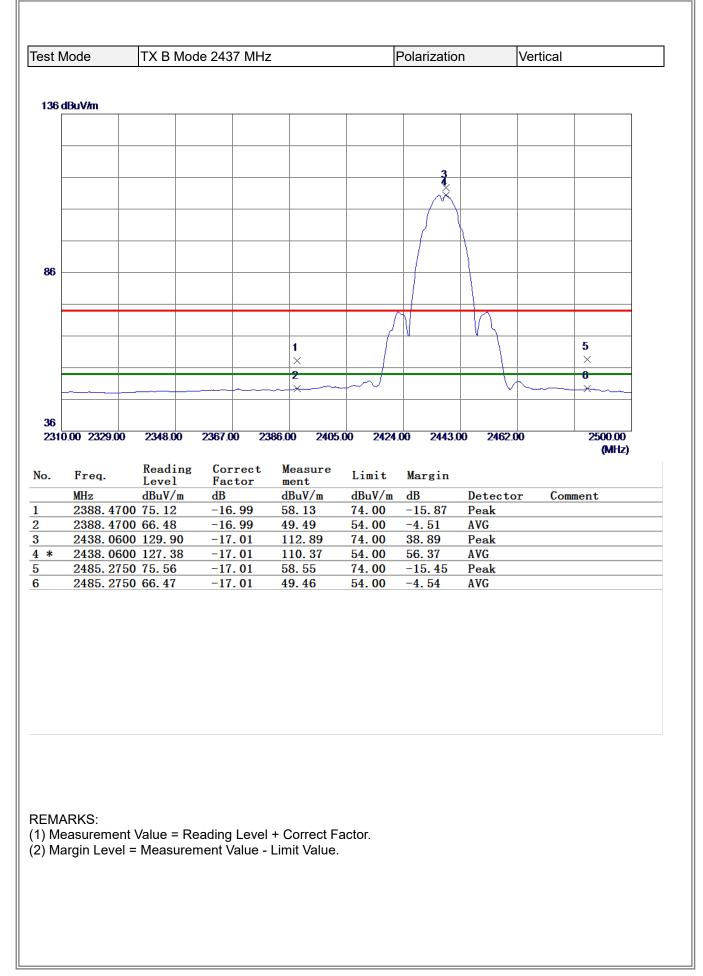




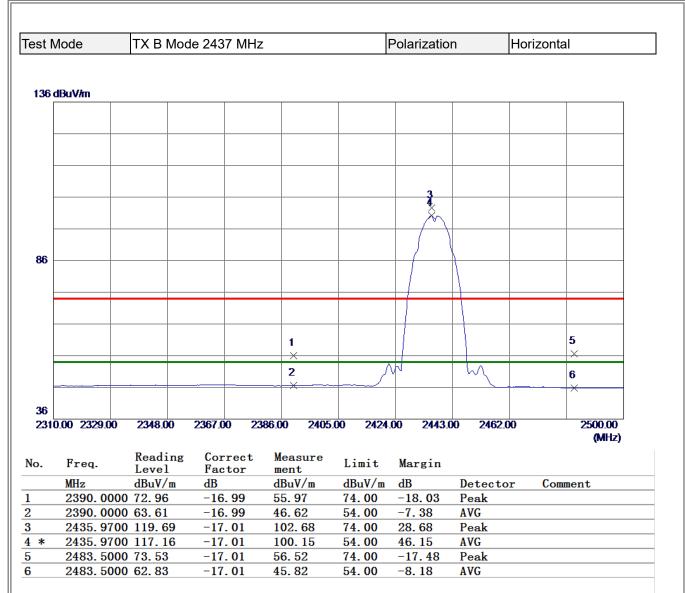
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.

| st Mode | TX E | 3 Mode | 2412 N | 1Hz | | F | Polari | ization | | Horizo | ontal |
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| | | | | | | | | | | | |
| . Free | Rea | ding | Correc | et Mea | sure I | .imit | Mar | gin | | | |
| | 4. Lev | el | Factor | men | t ¹ | .imit BuV/m | | gin | Detecto | or (| |
| MHz | Rea Lev dBu 1.0000 50.5 | el V/m | Correc Factor dB -10.91 | men dBu | t ¹ V/m d | .imit BuV/m 4.00 | | | Detecto Peak | or (| Comment |
| MHz | 4- Lev dBu | el V/m | Factor dB | men dBu | t ¹ V/m d | BuV/m | dB | | | pr (| |





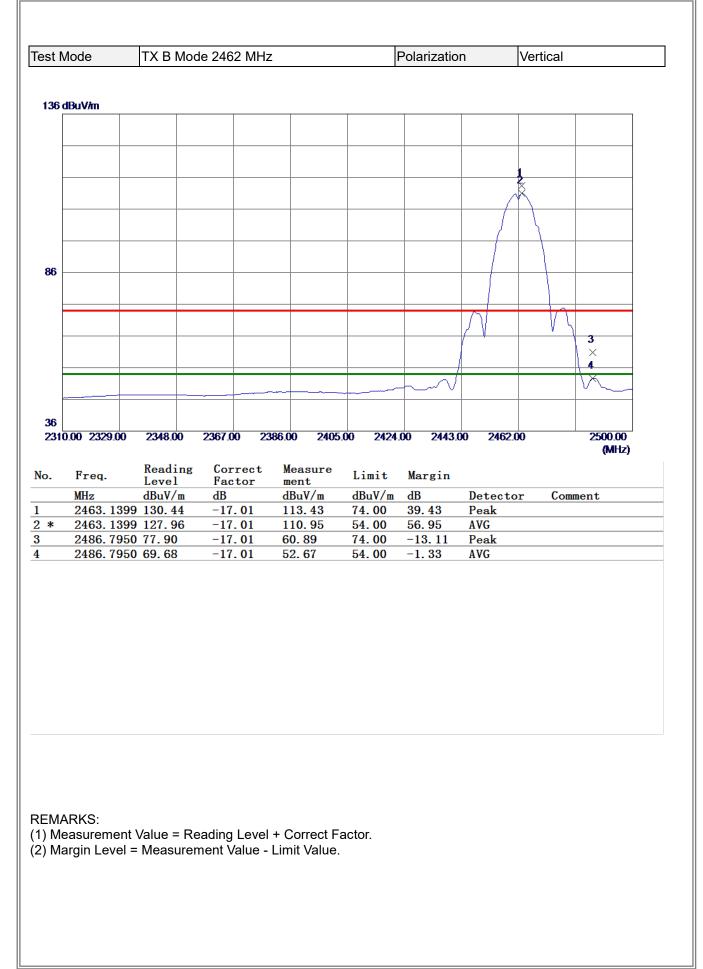
| 80 dBuV | (h_ | | Jue 243 | 7 MHz | | I | Polariza | ation | | Vertical | |
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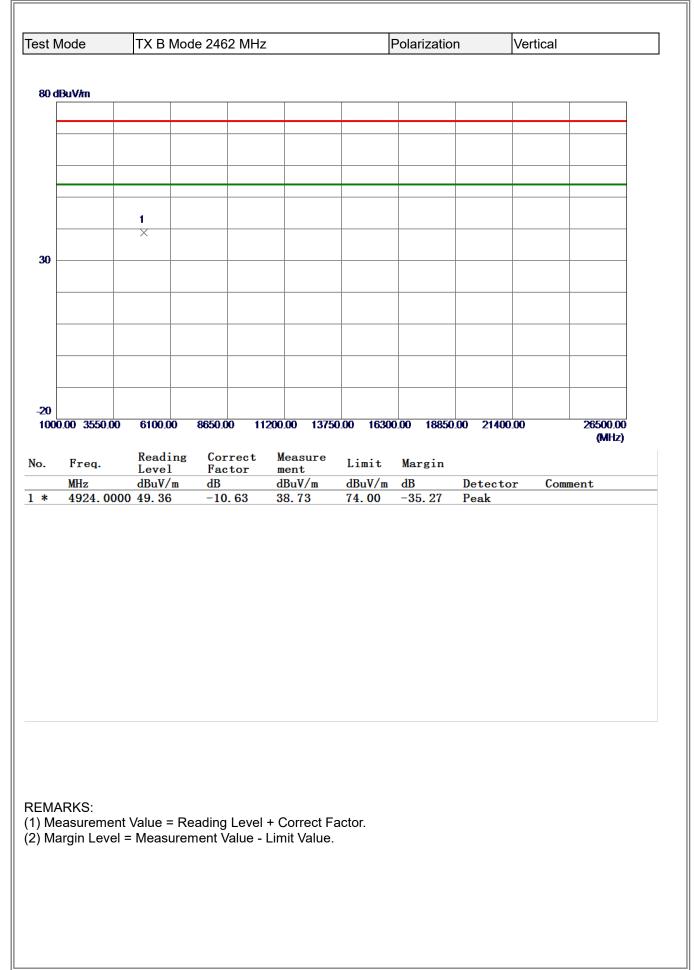


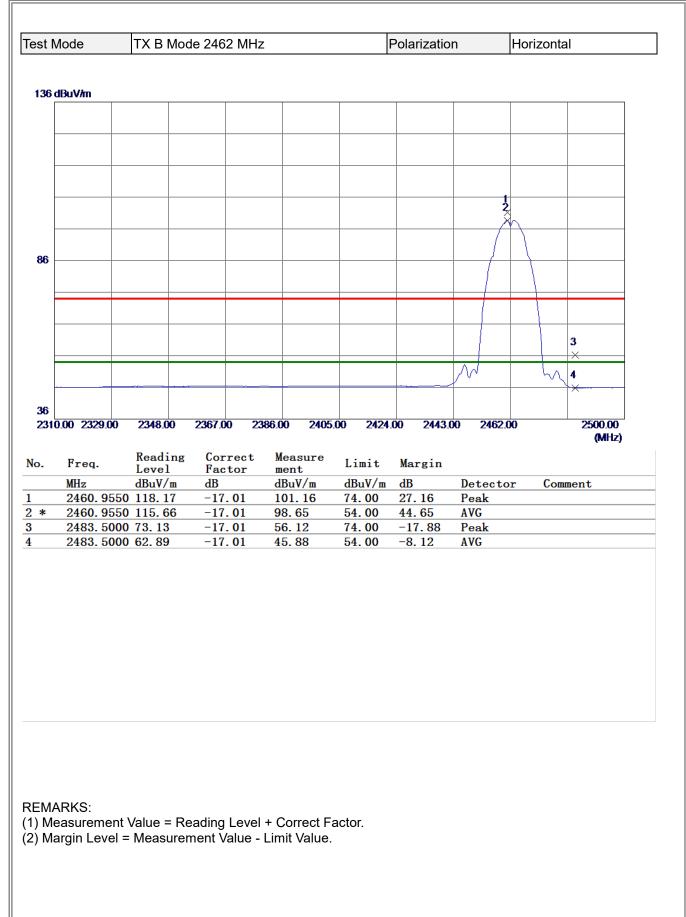
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.

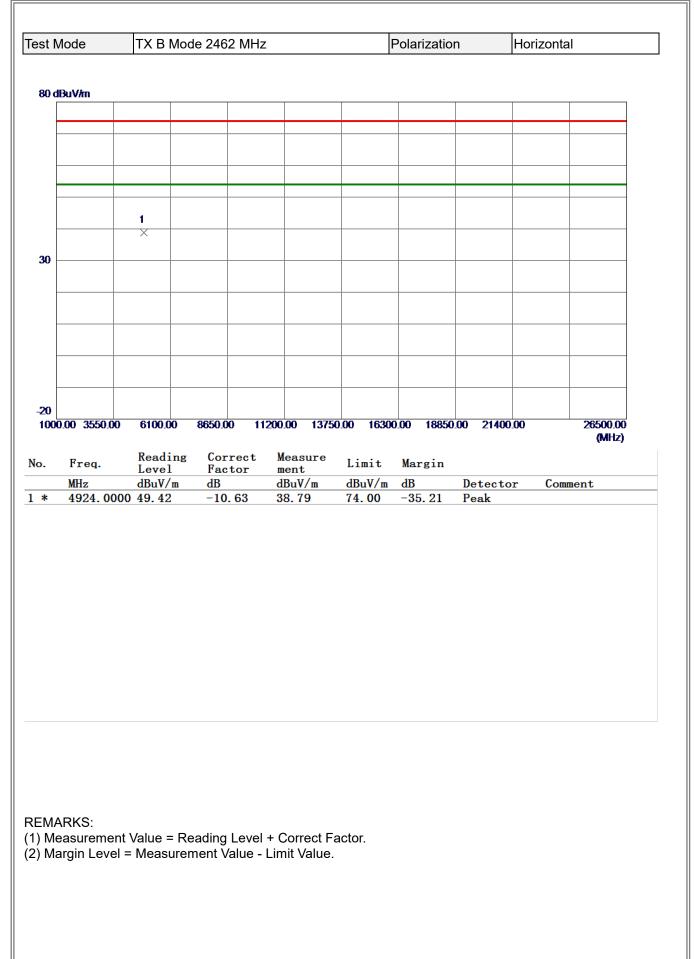
| st Mode | | TX B N | Node 24 | 437 N | lHz | | | F | Polai | rizatio | n | | Hor | izonta | al |
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| | | Readi | ng C | orrec | t Me | easu | | 16300 | | 18850 rgin | .00 | 21400 | .00 | | 26500.00 (MHz) |
| . Fre | eq. | Readi Level dBuV/1 | ng C F m dl | orrec actor 3 | t Me me dB | easuu ent BuV/m | re Li n dF | imit BuV/m | Man dB | rgin | De | tecto | | Сот | |
| . Fre MHz | eq. | Readi Level dBuV/1 | ng C F m dl | orrec actor | t Me me dB | easu ent | re Li n dF | imit | Man dB | | De | | | Сот | (MHz) |
| MHz | eq. | Readi Level dBuV/1 | ng C F m dl | orrec actor 3 | t Me me dB | easuu ent BuV/m | re Li n dF | imit BuV/m | Man dB | rgin | De | tecto | | Сот | (MHz) |

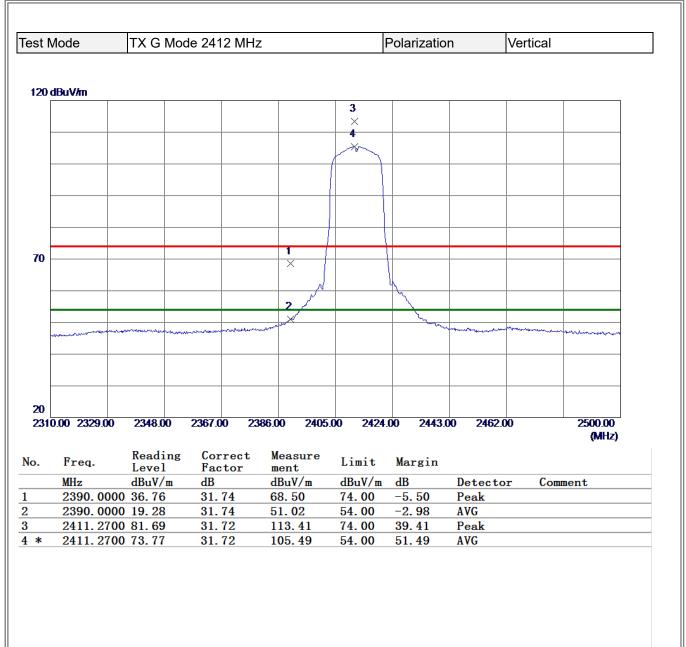




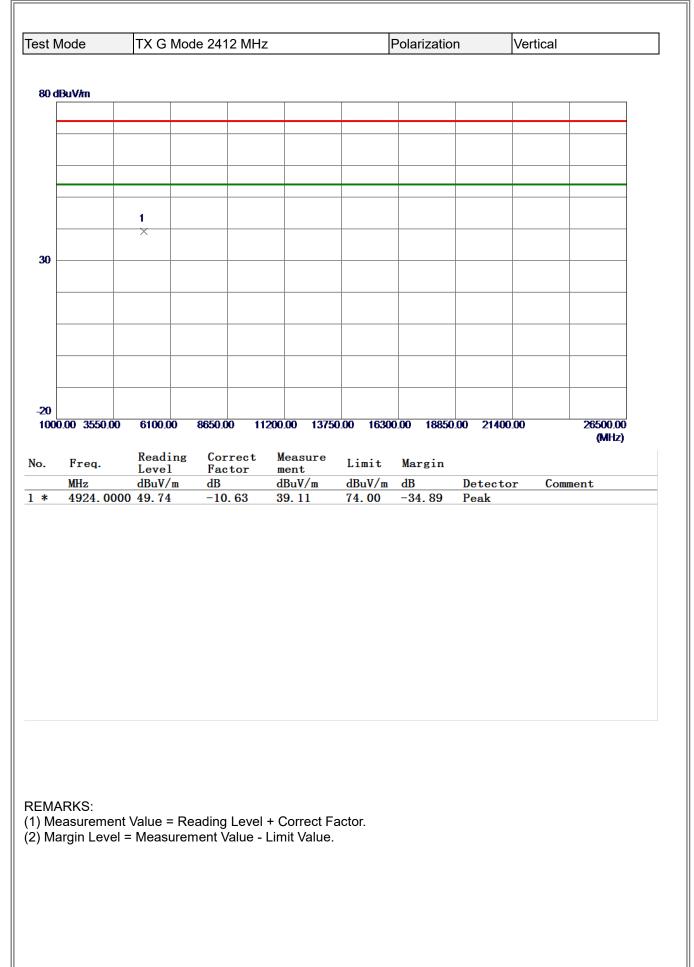


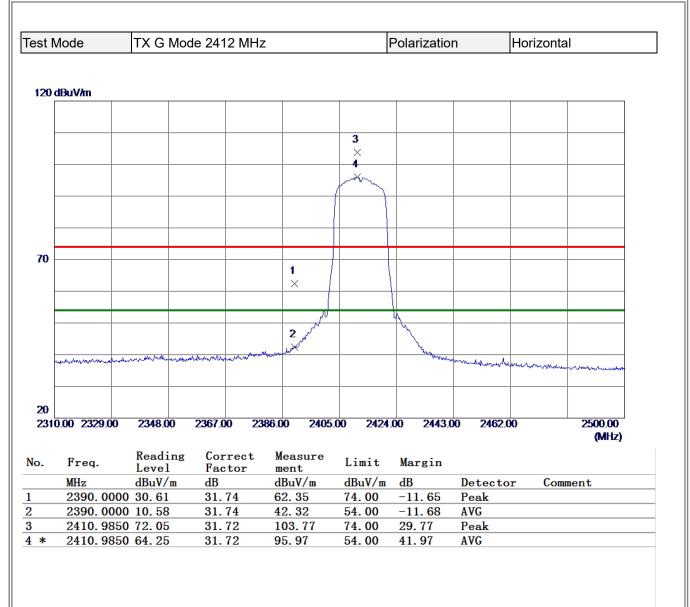




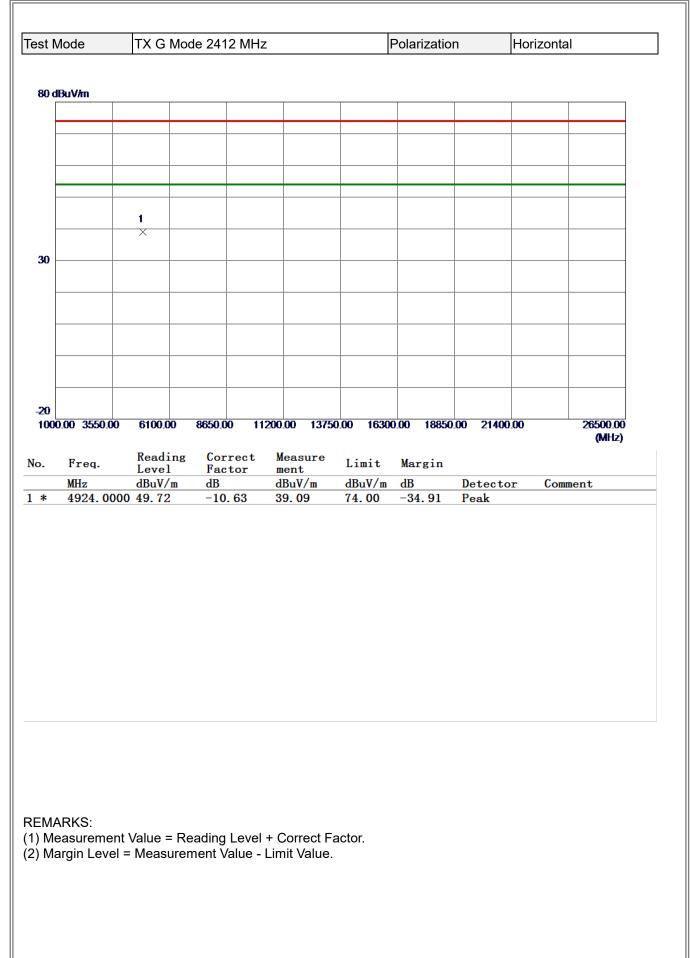


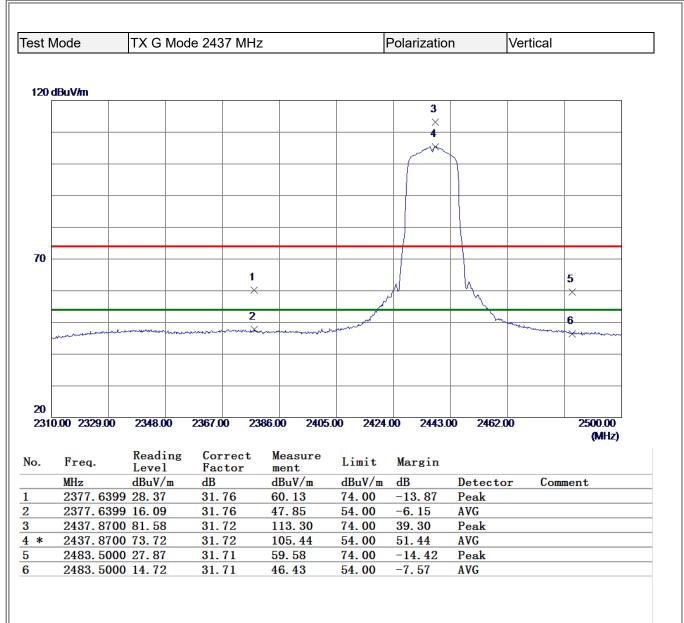
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.





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

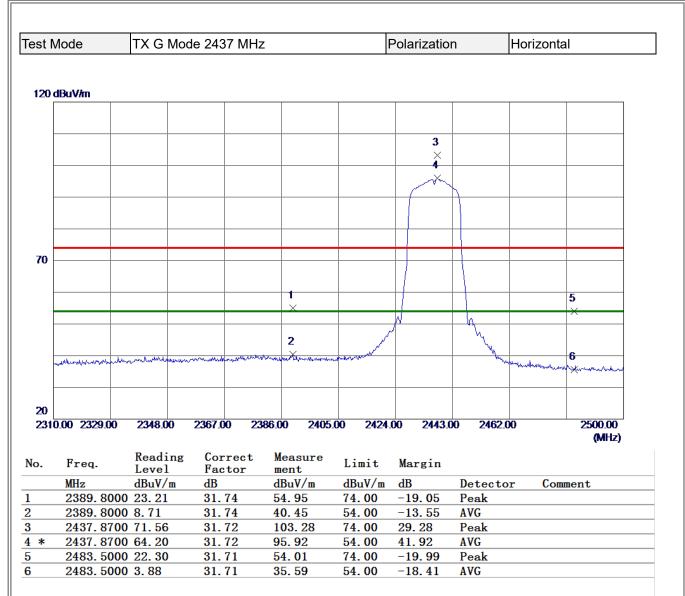




- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.

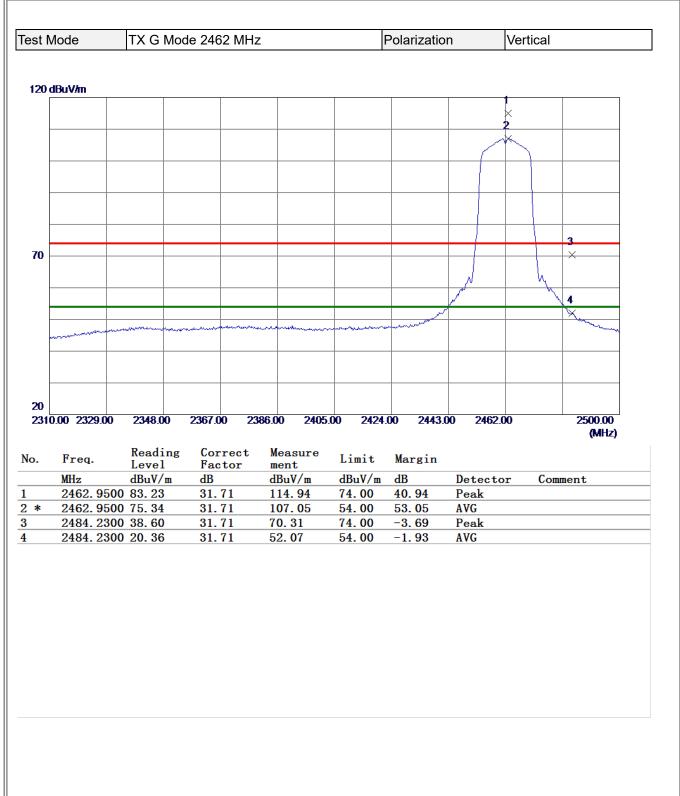
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| est N | /lode | TX G I | Mode 2 | 437 MH | Z | | Polarizatio | n | Vertical | |
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| | P | Readi | ng (| orrect | Measure | | . · | | | |
| •- | Freq. | Readi Level | F | orrect actor | Measure ment | Limit | Margin | Detect | C | |
| | Freq. MHz 4874.000 | Level dBuV/ | F m d | orrect actor B 10.79 | | Limit dBuV/m 74.00 | | Detect Peak | or Co | omment |
| * | MHz | Level dBuV/ | F m d | actor B | ment dBuV/m | dBuV/m | dB | | or Co | omment |



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

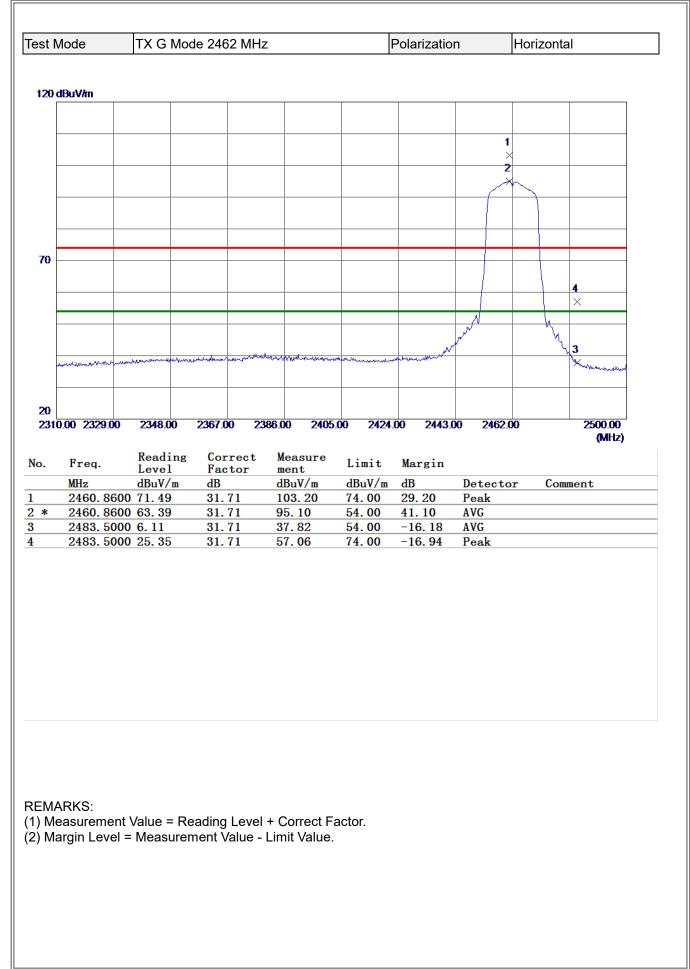
| estr | Node | TX G | Mode 24 | 437 M | Hz | | | | Pola | rizatio | n | | Horiz | zonta | al |
|------------|--------------|----------------|------------|------------|----------|----------------------|---------|-----------------|-------|--------------|----------|-------|-------|-------|-------------------|
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| 80 c | lBuV/m | | | | | | | | | | 1 | | 1 | | |
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| 20 | | | | | | | | | | | | | | | |
| -20 100 | 0.00 3550.00 | 6100.0 | 0 8650 | 0.00 | 11200.0 | 00 1 | 13750.0 | 0 163 | 00.00 | 18850 | .00 | 21400 | .00 | | 26500.00 (MHz) |
| | | | | | | | | | | | | | | | |
| D. | Freq. | Readi | ng Co | orrec | | asu | re | Limit | Ma | rgin | | | | | |
|). | Freq. MHz | Level dBuV/ | Fa m dH | actor 3 | ше | easu ent BuV/1 | m (| Limit 1BuV/m | ı dB | rgin | De | tecto | r | Сош | ment |
| | | Level dBuV/ | Fa m dH | actor | me dB | ent | m (| | ı dB | rgin 5.58 | De Pe | | r | Com | |
| o. * | MHz | Level dBuV/ | Fa m dH | actor 3 | me dB | ent BuV/r | m (| lBuV/n | ı dB | | | | r | Com | |



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

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| 0 | st N | Node | TX G | Mode 24 | 62 MHz | 2 | l | Polarizatio | 'n | Vertical | |
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| X Image: Contract Measure Factor. Limit Margin MHz dBuV/m dBuV/m dBuV/m dB Detector Comment | 80 d | IBuV/m | | | | | | | 1 | | |
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| X Image: Contract Measure Factor. Limit Margin MHz dBuV/m dBuV/m dBuV/m dB Detector Comment | | | | | | | | | | | |
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| Freq. Reading Level Correct Factor Measure ment Limit Margin MHz dBuV/m dB dBuV/m dB Detector Comment 4924.0000 50.01 -10.63 39.38 74.00 -34.62 Peak | 000 | 0.00 3550.00 | 6100.0 | 0 8650. | 00 11 | 200.00 13750 | 0.00 1630 | 0.00 18850 | 0.00 21400 | 0.00 | |
| MHz dBuV/m dB dBuV/m dB Detector Comment 4924.0000 50.01 -10.63 39.38 74.00 -34.62 Peak | - | Frag | Readi | | | | | | | | |
| # 4924. 0000 50. 01 -10. 63 39. 38 74. 00 -34. 62 Peak MARKS: Measurement Value = Reading Level + Correct Factor. | | | | ing Co | rrect | | Limit | Morgin | | | |
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| Measurement Value = Reading Level + Correct Factor. | | MHz | Level dBuV/ | Fa m dB | ctor | ment dBuV/m | dBuV/m | dB | | or Co | mment |
| Measurement Value = Reading Level + Correct Factor. | | MHz | Level dBuV/ | Fa m dB | ctor | ment dBuV/m | dBuV/m | dB | | or Co | mment |
| Measurement Value = Reading Level + Correct Factor. | | MHz | Level dBuV/ | Fa m dB | ctor | ment dBuV/m | dBuV/m | dB | | or Co | mment |
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| Measurement Value = Reading Level + Correct Factor. | | MHz | Level dBuV/ | Fa m dB | ctor | ment dBuV/m | dBuV/m | dB | | or Co | mment |
| Measurement Value = Reading Level + Correct Factor. | | MHz | Level dBuV/ | Fa m dB | ctor | ment dBuV/m | dBuV/m | dB | | or Co | mment |
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| Measurement Value = Reading Level + Correct Factor. | | MHz | Level dBuV/ | Fa m dB | ctor | ment dBuV/m | dBuV/m | dB | | or Co | mment |
| Measurement Value = Reading Level + Correct Factor. | | MHz | Level dBuV/ | Fa m dB | ctor | ment dBuV/m | dBuV/m | dB | | or Co | mment |
| Measurement Value = Reading Level + Correct Factor. | | MHz | Level dBuV/ | Fa m dB | ctor | ment dBuV/m | dBuV/m | dB | | or Co | mment |
| Measurement Value = Reading Level + Correct Factor. | | MHz | Level dBuV/ | Fa m dB | ctor | ment dBuV/m | dBuV/m | dB | | or Co | mment |
| Margin Level = Measurement Value - Limit Value. | * | MHz 4924.000 | Level dBuV/ | Fa m dB | ctor | ment dBuV/m | dBuV/m | dB | | or Co | mment |
| | * MA Me | MHz 4924.000 | Level dBuV/ 00 50.01 | E Reading | ctor 0.63 | ment dBuV/m 39.38 + Correct Fa | dBuV/m 74.00 | dB | | or Co | mment |
| | * * Me | MHz 4924.000 | Level dBuV/ 00 50.01 | E Reading | ctor 0.63 | ment dBuV/m 39.38 + Correct Fa | dBuV/m 74.00 | dB | | or Co | mment |
| | * * Me | MHz 4924.000 | Level dBuV/ 00 50.01 | E Reading | ctor 0.63 | ment dBuV/m 39.38 + Correct Fa | dBuV/m 74.00 | dB | | or Co | mment |
| | ⊧ Μ∕ Μ€ | MHz 4924.000 | Level dBuV/ 00 50.01 | E Reading | ctor 0.63 | ment dBuV/m 39.38 + Correct Fa | dBuV/m 74.00 | dB | | or Co | mment |
| | * MA Me | MHz 4924.000 | Level dBuV/ 00 50.01 | E Reading | ctor 0.63 | ment dBuV/m 39.38 + Correct Fa | dBuV/m 74.00 | dB | | or Co | mment |



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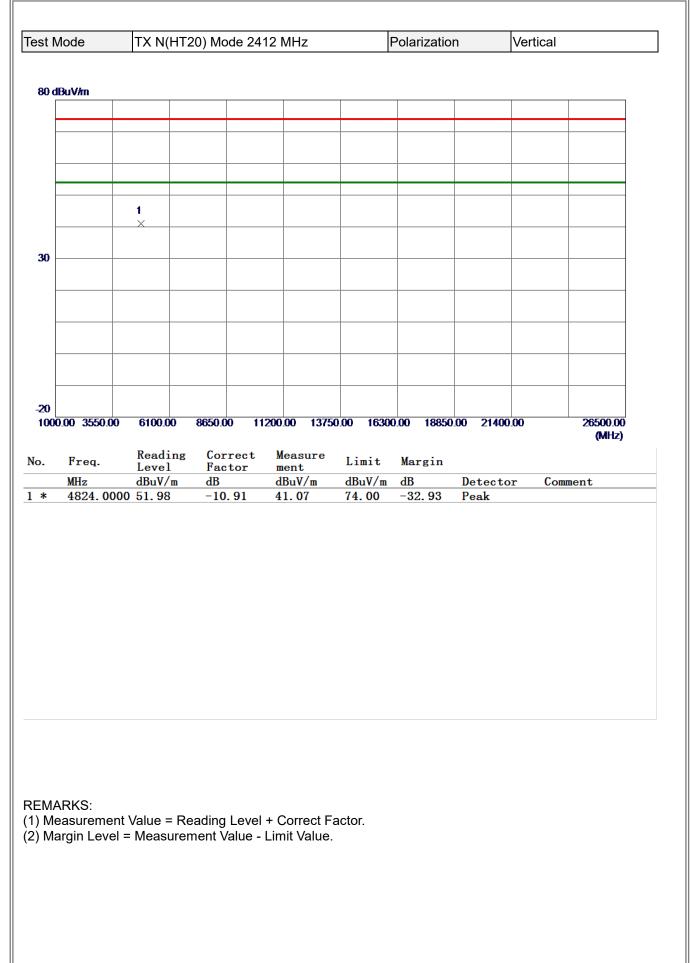
| | Mode | TX G M | 1ode 246 | 62 MHz | 2 | | Polarizatio | n | Horizont | al |
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| -20 | 0.00 3550.00 | 6100.00 | 8650.0 | 0 11 | 200.00 1375 |).00 1630 | 0.00 18850 | 0.00 21400 | 100 | 26500.00 |
| 100 | 0.00 5550.00 | 0100.00 | 0000.0 | U 11. | 200.00 1373 | .00 1030 | 0.00 100.00 | .00 21400 | | (MHz) |
| lo. | Freq. | Readin Level | ig Cor Fac | rect tor | Measure ment | Limit | Margin | | | |
| * | MHz | dBuV/m | ı dB | | dBuV/m | dBuV/m | dB | Detecto | or Cor | ment |
| - | | n 10 an | _10 | 63 | | | | | | |
| | 1021.000 | 0 48.90 | -10 | . 63 | 38. 27 | 74.00 | -35.73 | Peak | | |
| | 10211.000 | 0 48.90 | | . 63 | | | | | | |



| est I | Node | TX N(HT2 | 20) Mode 24 | 12 MHz | | Polarizatio | n V | ertical |
|-------------|--------------|--------------------|--|-----------------|---------------|----------------|------------|------------------------------|
| 120 | dBuV/m | | | | | | | |
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| Zət | 0.00 2329.00 | 2348.00 | 2307.00 23 | 60.00 2403. | 00 2424 | 4.00 2443.0 | JU Z40Z.UU | 2500.00 (MHz) |
| No. | Freq. | Reading Level | Correct Factor | Measure ment | Limit | Margin | | |
| | MHz | dBuV/m | dB | dBuV/m | dBuV/m | | Detector | Comment |
| L | 2387.805 | | 31.74 | 63.95 | 74.00 | -10.05 | Peak | |
| 1 2 3 | 2387.805 | | 31.74 | 53.48 | 54.00 | -0. 52 | AVG | |
| | 2413.170 | | 31.72 | 114.25 | 74.00 | 40.25 | Peak | |
| 4 * | 2413.170 | 0 74.54 | 31.72 | 106.26 | 54. 00 | 52.26 | AVG | |

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



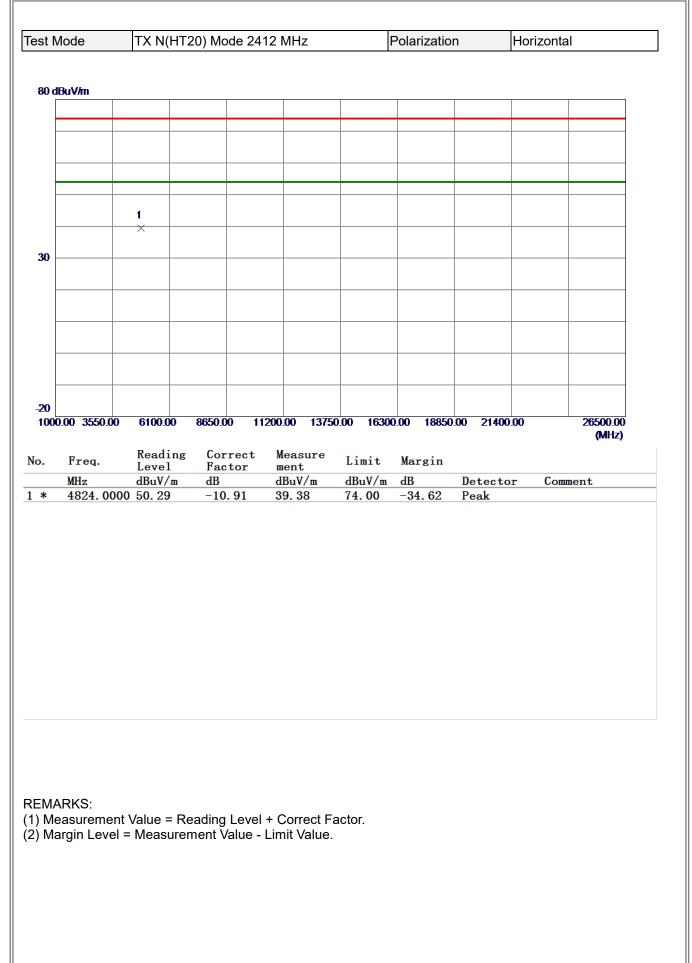




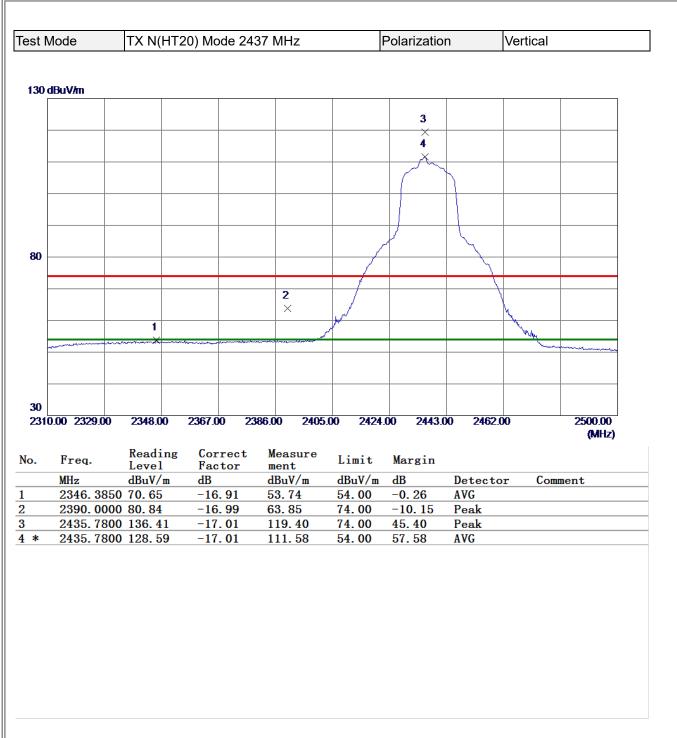
| est I | Vode | TX N(HT2 | 20) Mode 24 | 12 MHz | | Polarizatio | n Ho | orizontal |
|-------------|---------------------|----------------------|-------------------|-------------------|----------------|----------------|-------------|--|
| 120 | dBuV/m | | | | | | | |
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| | 0.00 2329.00 | 2348.00 | 2367.00 23 | 86.00 2405. | 00 2424 | .00 2443.0 | 0 2462.00 | 2500.00 (MHz) |
| No. | Freq. | Reading Level | Correct Factor | Measure ment | Limit | Margin | | |
| | MHz | dBuV/m | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 2 3 | 2384.764 | | 31.75 | 58.29 | 74.00 | -15.71 | Peak | |
| 2 | 2384.764 | | 31.75 | 44.52 | 54.00 | -9.48 | AVG | |
| 5 1 * | 2409.465 | 50 68.59 50 62.04 | 31.72 31.72 | 100. 31 93. 76 | 74.00 54.00 | 26.31 39.76 | Peak AVG | |

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



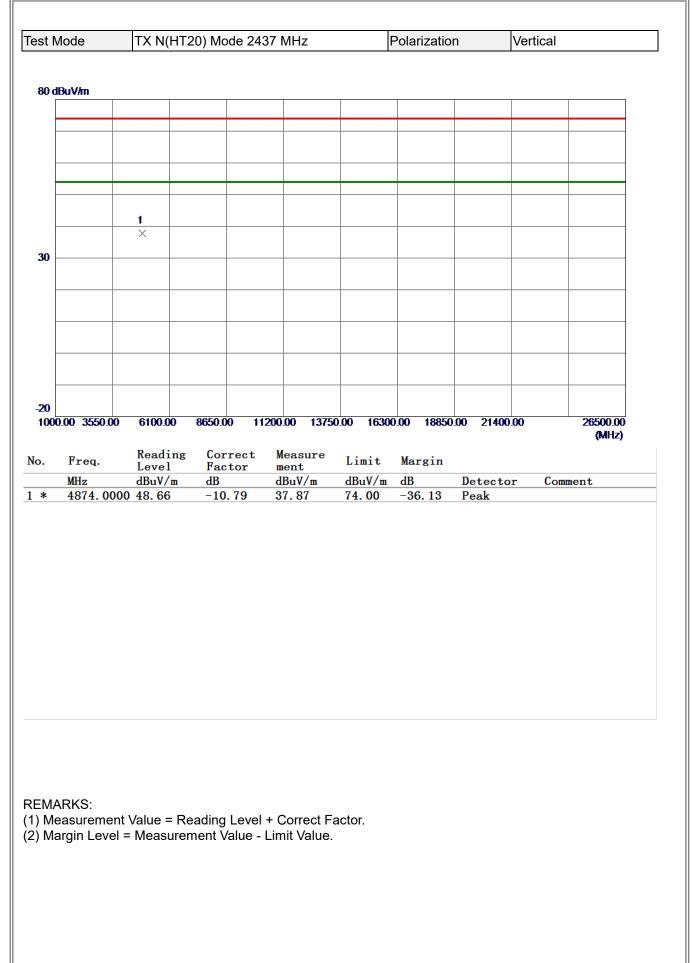






- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.



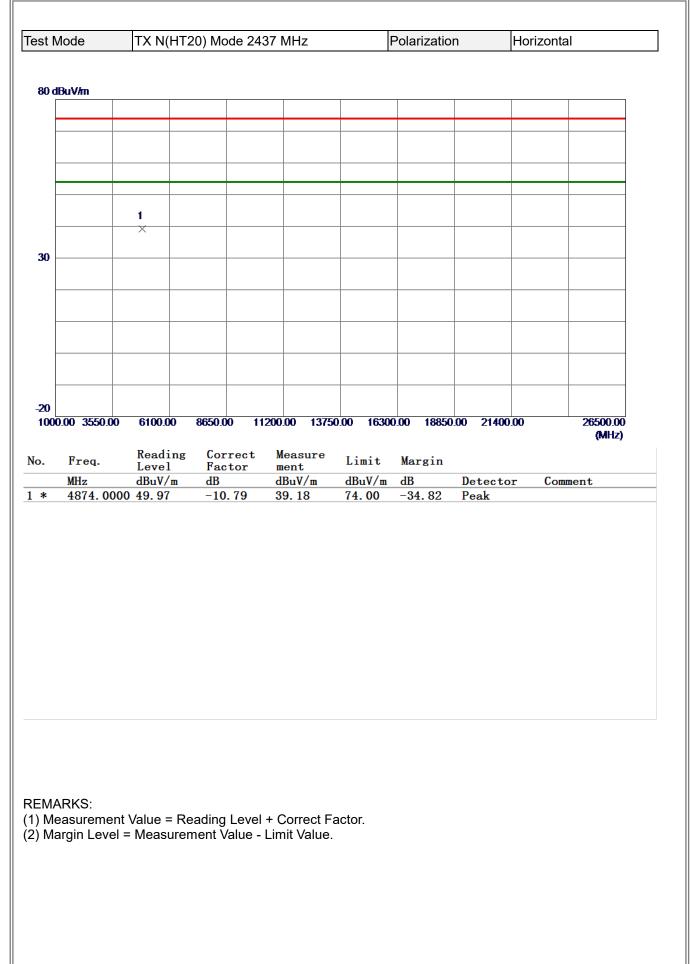




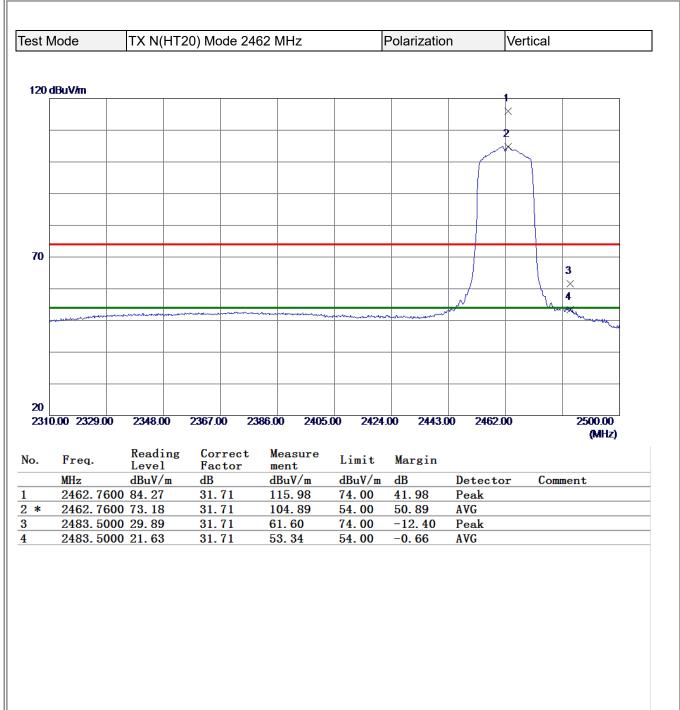
| t IV | lode | TX N(HT2 | 0) Mode 243 | 37 MHz | | Polarization | n | Horizontal | |
|------------|----------------------|------------------|--------------------|--|----------------|-----------------|-------------|------------|------------------|
| 0 <u>d</u> | 1BuV/m | | | | | | | | |
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| 10 |).00 2329.00 | 2348.00 | 2367.00 23 | 86.00 2405. | .00 2424 | 1.00 2443.0 | 0 2462. | 00 2 | 2500.00 (MHz) |
| | Freq. | Reading Level | Correct Factor | Measure ment | Limit | Margin | | | |
| | MHz | dBuV/m | dB | dBuV/m | dBuV/m | | Detecto | or Commen | ıt |
| | 2388.470 2388.470 | | -16. 99 -16. 99 | 59.24 50.82 | 74.00 54.00 | -14.76 -3.18 | Peak AVG | | |
| _ | 2388.4700 | | -17.01 | 112.68 | 74.00 | 38.68 | Peak | | |
| _ | 2438.0600 | | -17.01 | 106.33 | 54.00 | 52.33 | AVG | | |

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



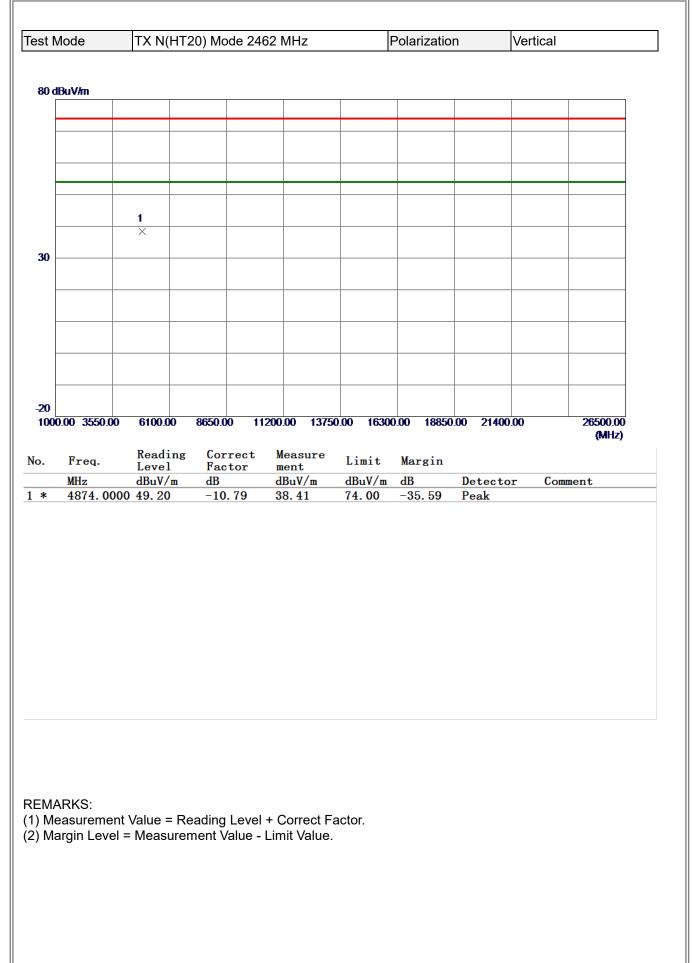




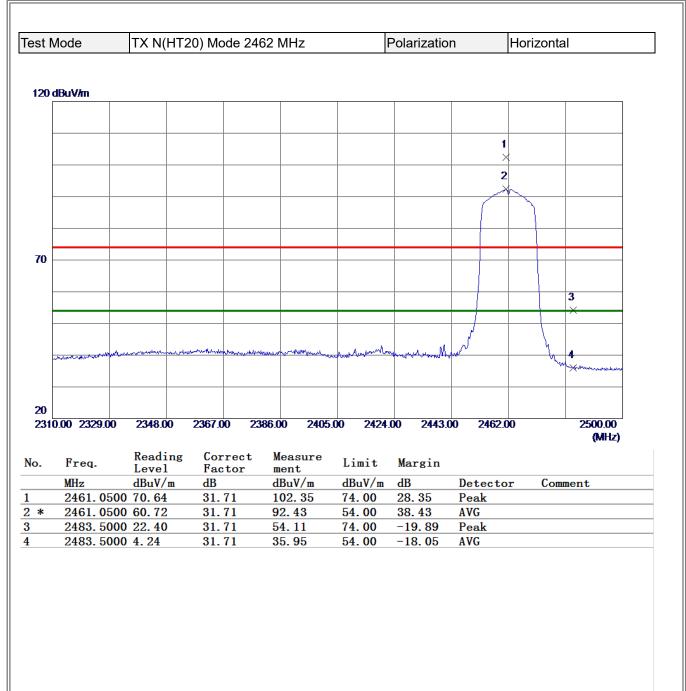


- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.





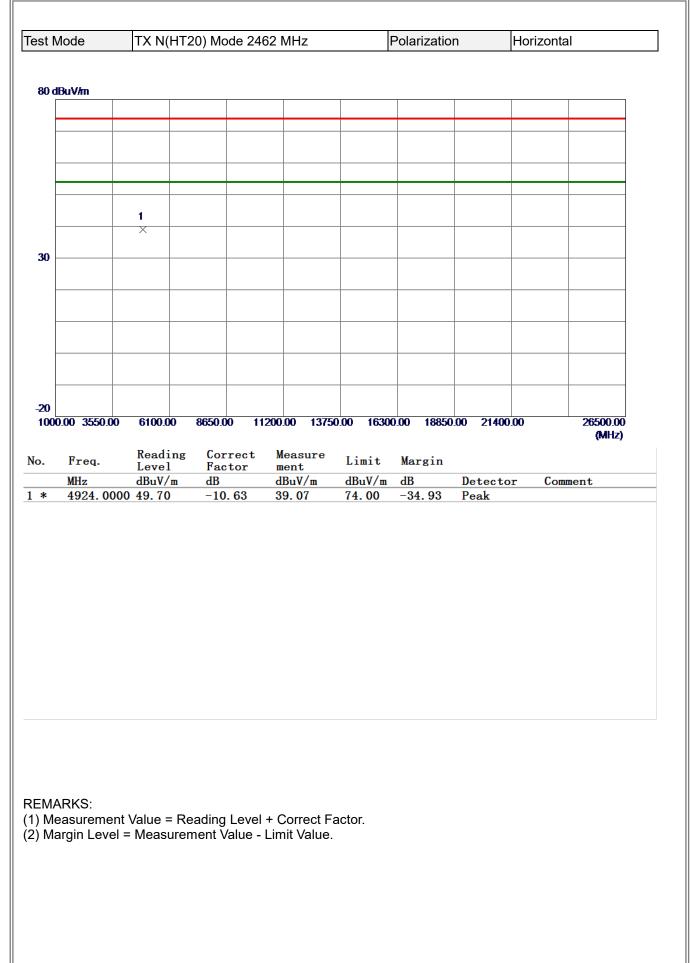
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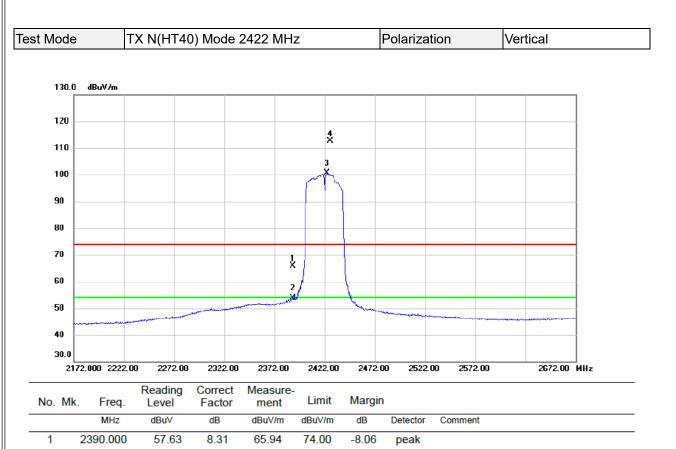
REMARKS:

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









54.00

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REMARKS:

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2390.000

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4 X 2427.500

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

45.68

92.24

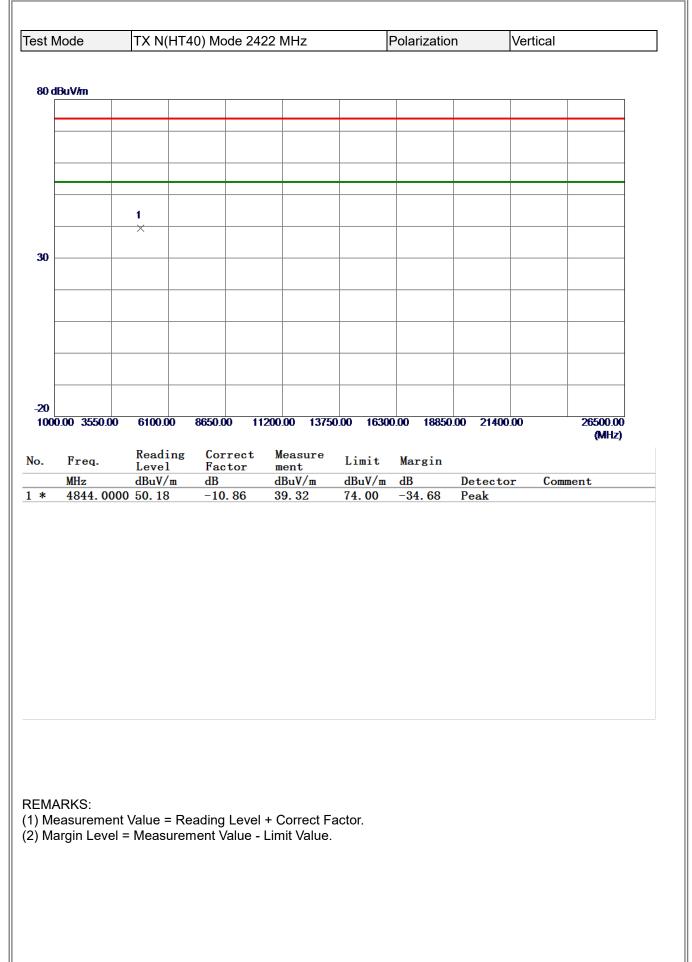
104.33

8.31

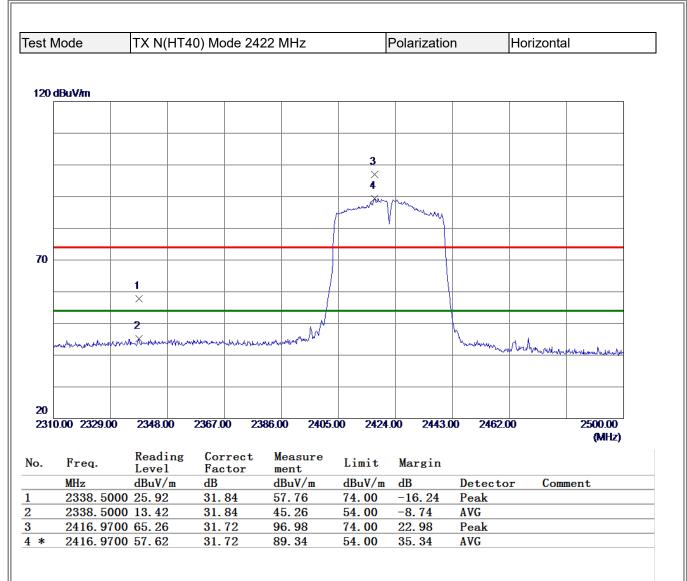
8.35

8.35





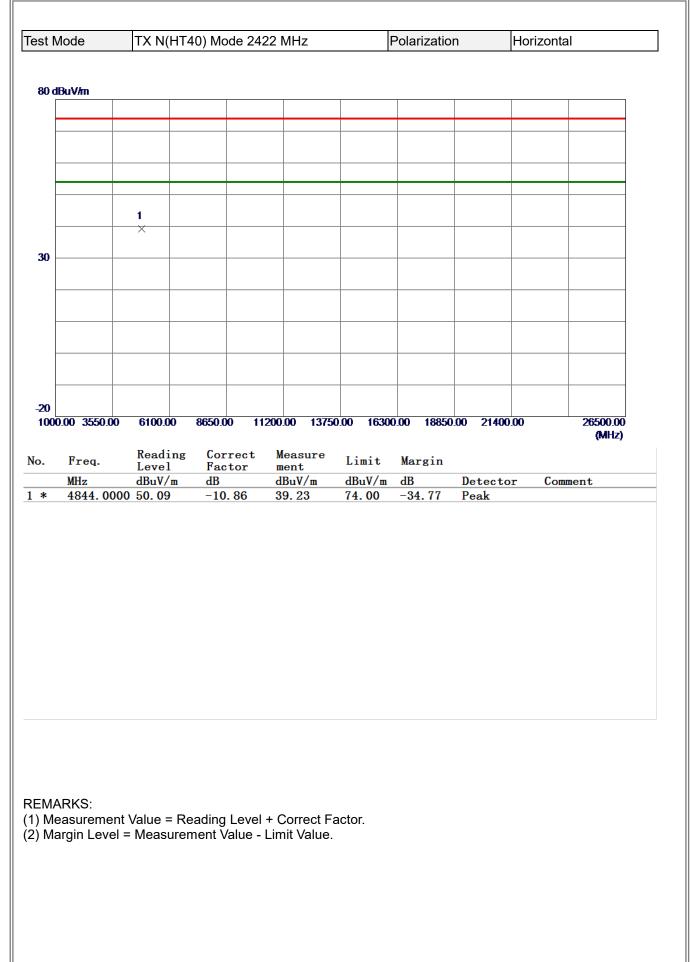
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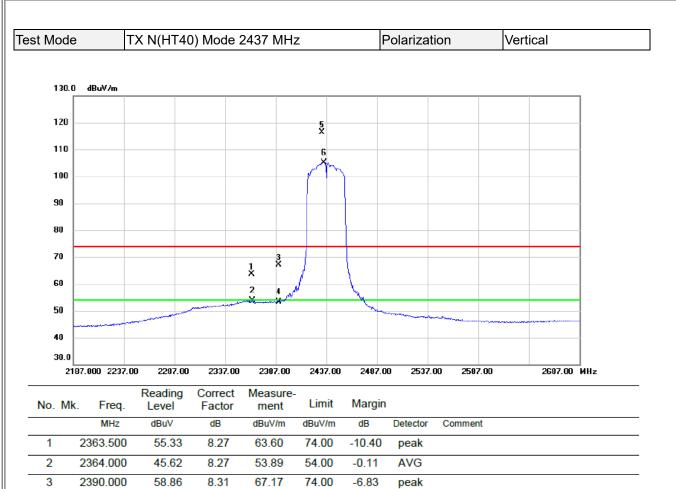
REMARKS:

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









REMARKS:

4

5 X

6 *

2390.000

2432.500

2434.500

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

45.09

108.13

96.87

8.31

8.36

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74.00

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42.49

51.23

AVG

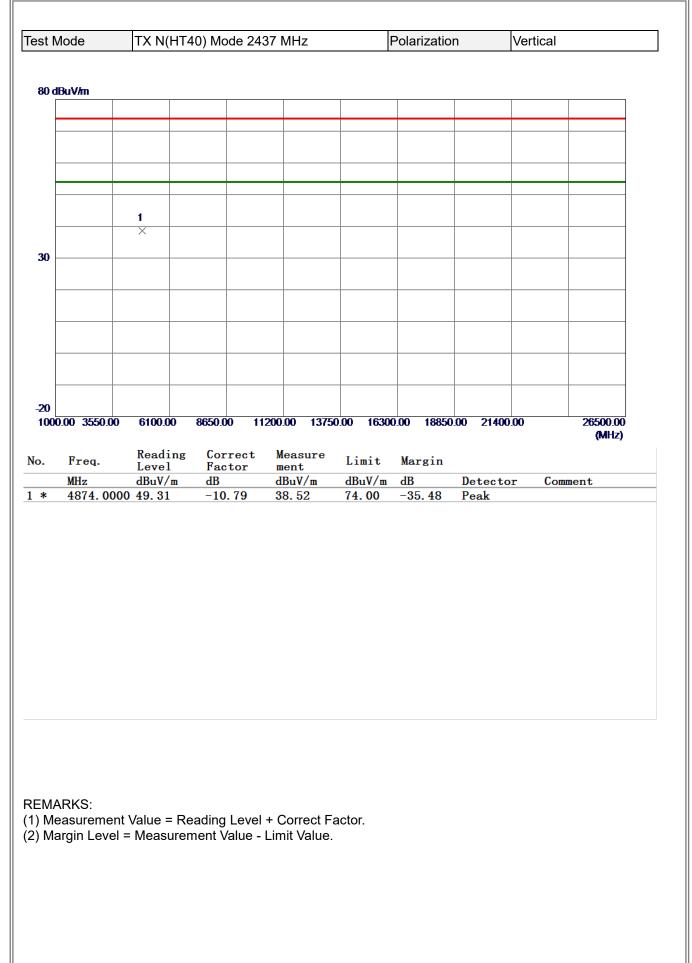
peak

AVG

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REMARKS:

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2485.9400 13.13

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

31.71

44.84

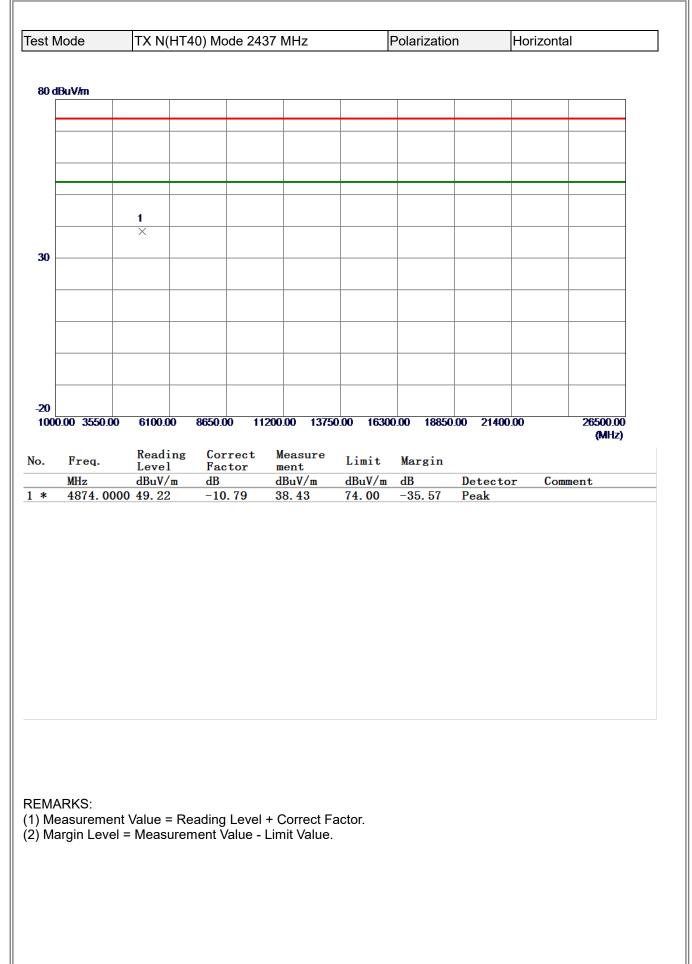
54.00

-9.16

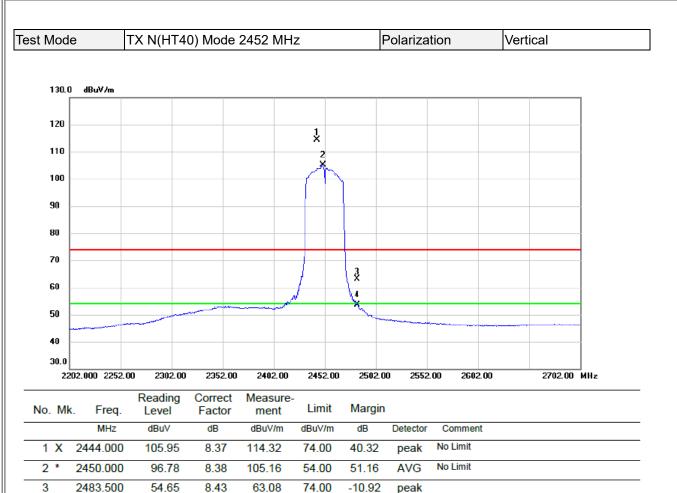
AVG

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









54.00

53.72

AVG

-0.28

REMARKS:

4

2483.500

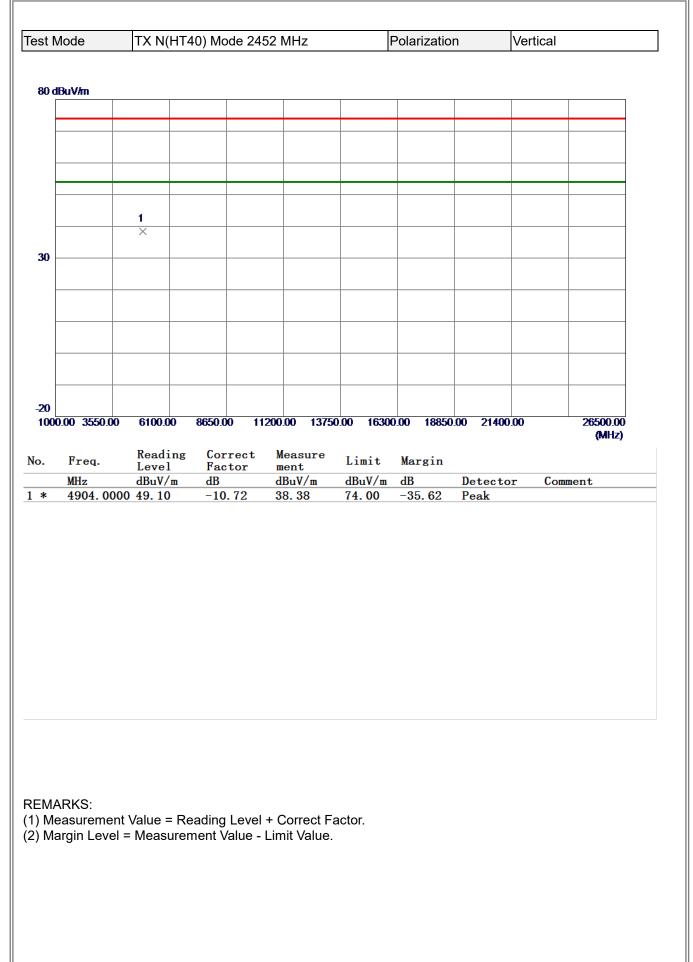
(1) Measurement Value = Reading Level + Correct Factor.

8.43

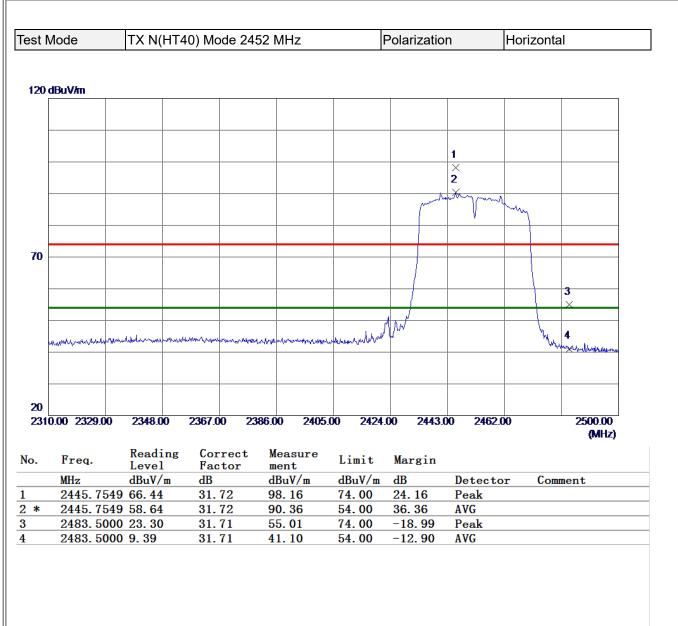
(2) Margin Level = Measurement Value - Limit Value.

45.29





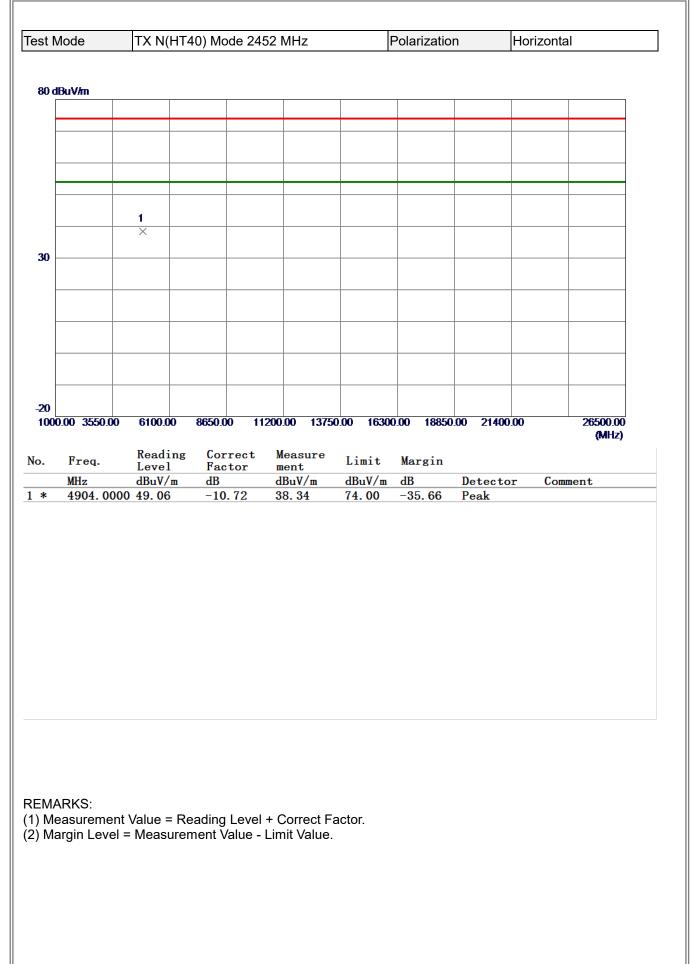




REMARKS:

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

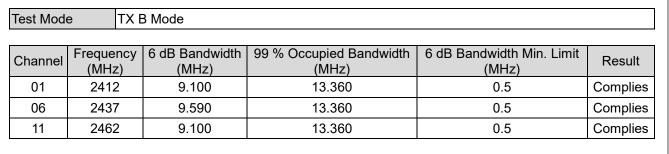


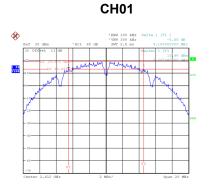




APPENDIX E - BANDWIDTH





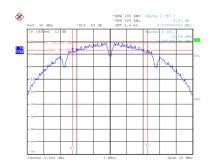




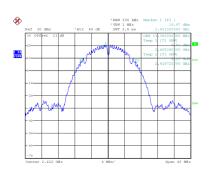
Date: 15.APR.2021 13:21:25

Date: 15.APR.2021 13:21:32

CH11

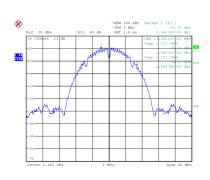


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Date: 15.APR.2021 15:12:38

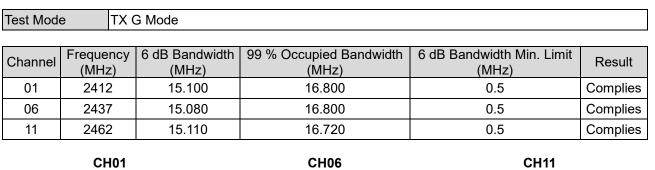
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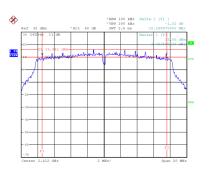


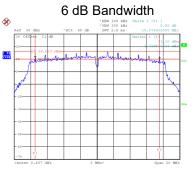
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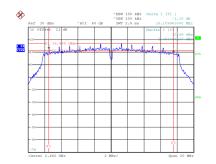
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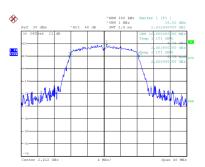






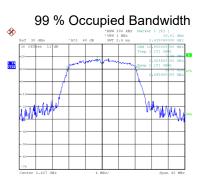


Date: 15.APR.2021 15:15:14



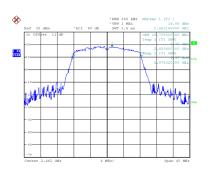
Date: 15.APR.2021 15:15:21

Date: 15.APR.2021 15:16:54



Date: 15.APR.2021 15:18:25

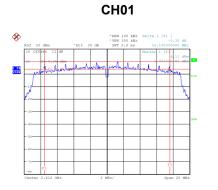
Date: 15.APR.2021 15:18:32

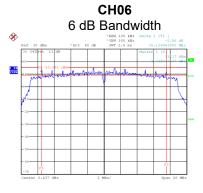


Date: 15.APR.2021 15:17:00

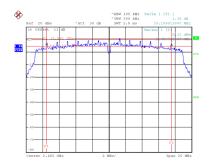


| Test Mode TX N(HT20) Mode | | | | | | | | | | | |
|---------------------------|--------------------|-------------------------|----------------------------------|------------------------------------|----------|--|--|--|--|--|--|
| Channel | Frequency (MHz) | 6 dB Bandwidth (MHz) | 99 % Occupied Bandwidth (MHz) | 6 dB Bandwidth Min. Limit (MHz) | Result | | | | | | |
| 01 | 2412 | 15.180 | 17.680 | 0.5 | Complies | | | | | | |
| 06 | 2437 | 15.140 | 17.600 | 0.5 | Complies | | | | | | |
| 11 | 2462 | 15.160 | 17.680 | 0.5 | Complies | | | | | | |

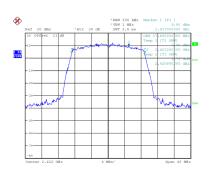




CH11



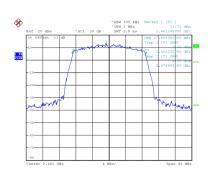
Date: 15.APR.2021 16:53:11



99 % Occupied Bandwidth

Date: 15.APR.2021 17:22:02

Date: 15.APR.2021 17:22:09



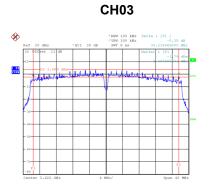
Date: 15.APR.2021 16:53:17

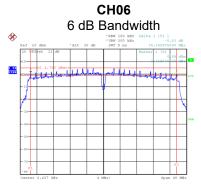
Date: 15.APR.2021 13:28:59

Date: 15.APR.2021 13:28:52

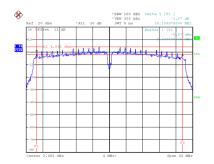


| Test Mode TX N(HT40) Mode | | | | | | | | | | | |
|---------------------------|--------------------|-------------------------|----------------------------------|------------------------------------|----------|--|--|--|--|--|--|
| Channel | Frequency (MHz) | 6 dB Bandwidth (MHz) | 99 % Occupied Bandwidth (MHz) | 6 dB Bandwidth Min. Limit (MHz) | Result | | | | | | |
| 03 | 2422 | 35.240 | 36.160 | 0.5 | Complies | | | | | | |
| 06 | 2437 | 35.160 | 36.320 | 0.5 | Complies | | | | | | |
| 09 | 2452 | 35.160 | 36.320 | 0.5 | Complies | | | | | | |

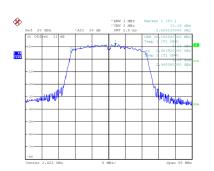




CH09

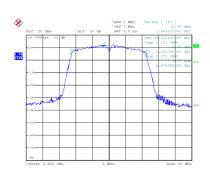


Date: 15.APR.2021 17:29:13



99 % Occupied Bandwidth

Date: 15.APR.2021 16:05:33



Date: 15.APR.2021 17:29:20

Date: 15.APR.2021 16:03:54

Date: 15.APR.2021 16:03:47

Date: 15.APR.2021 16:05:40



APPENDIX F - MAXIMUM OUTPUT POWER



| CDD |
|-----|
|-----|

| ٦ | Fest Mode | TX B Mode_Ant. 1 |
|---|-----------|------------------|
| | | |

| Channel | Frequency (MHz) | AVG Output Power (dBm) | Duty Factor | AVG Output Power + Duty Factor (dBm) | Max. Limit (dBm) | Max. Limit (W) | Result |
|---------|--------------------|---------------------------|-------------|--|---------------------|-------------------|----------|
| 01 | 2412 | 25.17 | 0.03 | 25.20 | 30.00 | 1.0000 | Complies |
| 06 | 2437 | 24.50 | 0.03 | 24.53 | 30.00 | 1.0000 | Complies |
| 11 | 2462 | 24.37 | 0.03 | 24.40 | 30.00 | 1.0000 | Complies |

Test Mode TX G Mode_Ant. 1

| Channel | Frequency (MHz) | AVG Output Power (dBm) | Duty Factor | AVG Output Power + Duty Factor (dBm) | Max. Limit (dBm) | Max. Limit (W) | Result |
|---------|--------------------|---------------------------|-------------|--|---------------------|-------------------|----------|
| 01 | 2412 | 21.56 | 0.19 | 21.75 | 30.00 | 1.0000 | Complies |
| 06 | 2437 | 20.92 | 0.19 | 21.11 | 30.00 | 1.0000 | Complies |
| 11 | 2462 | 21.59 | 0.19 | 21.78 | 30.00 | 1.0000 | Complies |



Test Mode TX N(HT20) Mode_Ant. 1

| Channel | Frequency (MHz) | AVG Output Power (dBm) | Duty Factor | AVG Output Power + Duty Factor (dBm) | Max. Limit (dBm) | Max. Limit (W) | Result |
|---------|--------------------|---------------------------|-------------|--|---------------------|-------------------|----------|
| 01 | 2412 | 14.79 | 0.63 | 15.42 | 30.00 | 1.0000 | Complies |
| 06 | 2437 | 21.16 | 0.63 | 21.79 | 30.00 | 1.0000 | Complies |
| 11 | 2462 | 14.60 | 0.63 | 15.23 | 30.00 | 1.0000 | Complies |

Test Mode TX N(HT20) Mode_Ant. 2

| Channel | Frequency (MHz) | AVG Output Power (dBm) | Duty Factor | AVG Output Power + Duty Factor (dBm) | Max. Limit (dBm) | Max. Limit (W) | Result |
|---------|--------------------|---------------------------|-------------|--|---------------------|-------------------|----------|
| 01 | 2412 | 14.78 | 0.63 | 15.41 | 30.00 | 1.0000 | Complies |
| 06 | 2437 | 20.64 | 0.63 | 21.27 | 30.00 | 1.0000 | Complies |
| 11 | 2462 | 14.39 | 0.63 | 15.02 | 30.00 | 1.0000 | Complies |

Test Mode TX N(HT20) Mode_Ant. 3

| Channel | Frequency (MHz) | AVG Output Power (dBm) | Duty Factor | AVG Output Power + Duty Factor (dBm) | Max. Limit (dBm) | Max. Limit (W) | Result |
|---------|--------------------|---------------------------|-------------|--|---------------------|-------------------|----------|
| 01 | 2412 | 14.18 | 0.63 | 14.81 | 30.00 | 1.0000 | Complies |
| 06 | 2437 | 20.91 | 0.63 | 21.54 | 30.00 | 1.0000 | Complies |
| 11 | 2462 | 14.38 | 0.63 | 15.01 | 30.00 | 1.0000 | Complies |

Test Mode TX N(HT20) Mode_Ant. 4

| Channel | Frequency (MHz) | AVG Output Power (dBm) | Duty Factor | AVG Output Power + Duty Factor (dBm) | Max. Limit (dBm) | Max. Limit (W) | Result |
|---------|--------------------|---------------------------|-------------|--|---------------------|-------------------|----------|
| 01 | 2412 | 14.93 | 0.63 | 15.56 | 30.00 | 1.0000 | Complies |
| 06 | 2437 | 21.89 | 0.63 | 22.52 | 30.00 | 1.0000 | Complies |
| 11 | 2462 | 15.03 | 0.63 | 15.66 | 30.00 | 1.0000 | Complies |

Test Mode TX N(HT20) Mode_Total

Frequency AVG Output Power Max. Limit Max. Limit Channel Result (dBm) (dBm) (MHz) (W) 21.33 30.00 1.0000 Complies 01 2412 27.83 30.00 1.0000 Complies 06 2437 30.00 11 2462 21.26 1.0000 Complies



Test Mode TX N(HT40) Mode_Ant. 1

| Channel | Frequency (MHz) | AVG Output Power (dBm) | Duty Factor | AVG Output Power + Duty Factor (dBm) | Max. Limit (dBm) | Max. Limit (W) | Result |
|---------|--------------------|---------------------------|-------------|--|---------------------|-------------------|----------|
| 03 | 2422 | 16.99 | 1.05 | 18.04 | 30.00 | 1.0000 | Complies |
| 06 | 2437 | 20.08 | 1.05 | 21.13 | 30.00 | 1.0000 | Complies |
| 09 | 2452 | 20.26 | 1.05 | 21.31 | 30.00 | 1.0000 | Complies |

Test Mode TX N(HT40) Mode_Ant. 2

| Channel | Frequency (MHz) | AVG Output Power (dBm) | Duty Factor | AVG Output Power + Duty Factor (dBm) | Max. Limit (dBm) | Max. Limit (W) | Result |
|---------|--------------------|---------------------------|-------------|--|---------------------|-------------------|----------|
| 03 | 2422 | 16.77 | 1.05 | 17.82 | 30.00 | 1.0000 | Complies |
| 06 | 2437 | 19.23 | 1.05 | 20.28 | 30.00 | 1.0000 | Complies |
| 09 | 2452 | 18.85 | 1.05 | 19.90 | 30.00 | 1.0000 | Complies |

Test Mode TX N(HT40) Mode_Ant. 3

| Channel | Frequency (MHz) | AVG Output Power (dBm) | Duty Factor | AVG Output Power + Duty Factor (dBm) | Max. Limit (dBm) | Max. Limit (W) | Result |
|---------|--------------------|---------------------------|-------------|--|---------------------|-------------------|----------|
| 03 | 2422 | 16.04 | 1.05 | 17.09 | 30.00 | 1.0000 | Complies |
| 06 | 2437 | 18.75 | 1.05 | 19.80 | 30.00 | 1.0000 | Complies |
| 09 | 2452 | 18.98 | 1.05 | 20.03 | 30.00 | 1.0000 | Complies |

Test Mode TX N(HT40) Mode_Ant. 4

| Channel | Frequency (MHz) | AVG Output Power (dBm) | Duty Factor | AVG Output Power + Duty Factor (dBm) | Max. Limit (dBm) | Max. Limit (W) | Result |
|---------|--------------------|---------------------------|-------------|--|---------------------|-------------------|----------|
| 03 | 2422 | 16.27 | 1.05 | 17.32 | 30.00 | 1.0000 | Complies |
| 06 | 2437 | 20.32 | 1.05 | 21.37 | 30.00 | 1.0000 | Complies |
| 09 | 2452 | 19.45 | 1.05 | 20.50 | 30.00 | 1.0000 | Complies |

Test Mode TX N(HT40) Mode_Total

| Channel | Frequency (MHz) | AVG Output Power (dBm) | Max. Limit (dBm) | Max. Limit (W) | Result |
|---------|--------------------|---------------------------|---------------------|-------------------|----------|
| 03 | 2422 | 23.61 | 30.00 | 1.0000 | Complies |
| 06 | 2437 | 26.71 | 30.00 | 1.0000 | Complies |
| 09 | 2452 | 26.50 | 30.00 | 1.0000 | Complies |





Beamforming

| Test Mode | TX N(H | T20) Mode_Ant | . 1 | | | | |
|-----------|--------------------|---------------------------|-----------------------|--|---------------------|-------------------|----------|
| | | | | | | | |
| Channel | Frequency (MHz) | AVG Output Power (dBm) | Duty Factor | AVG Output Power + Duty Factor (dBm) | Max. Limit (dBm) | Max. Limit (W) | Result |
| 01 | 2412 | 14.33 | 0.63 | 14.96 | 25.25 | 0.3350 | Complies |
| 06 | 2437 | 18.62 | 0.63 | 19.25 | 25.25 | 0.3350 | Complies |
| 11 | 2462 | 14.51 | 0.63 | 15.14 | 25.25 | 0.3350 | Complies |
| | | | | | | | |
| Test Mode | TX N(H | T20) Mode_Ant | . 2 | | | | |
| Channel | Frequency (MHz) | AVG Output Power (dBm) | Duty Factor | AVG Output Power + Duty Factor (dBm) | Max. Limit (dBm) | Max. Limit (W) | Result |
| 01 | 2412 | 13.65 | 0.63 | 14.28 | 25.25 | 0.3350 | Complies |
| 06 | 2437 | 17.37 | 0.63 | 18.00 | 25.25 | 0.3350 | Complies |
| 11 | 2462 | 13.32 | 0.63 | 13.95 | 25.25 | 0.3350 | Complies |
| | | | | | | | |
| Test Mode | TX N(H | T20) Mode_Ant | . 3 | | | | |
| Channel | Frequency (MHz) | AVG Output Power (dBm) | Duty Factor | AVG Output Power + Duty Factor (dBm) | Max. Limit (dBm) | Max. Limit (W) | Result |
| 01 | 2412 | 13.32 | 0.63 | 13.95 | 25.25 | 0.3350 | Complies |
| 06 | 2437 | 17.05 | 0.63 | 17.68 | 25.25 | 0.3350 | Complies |
| 11 | 2462 | 13.47 | 0.63 | 14.10 | 25.25 | 0.3350 | Complies |
| | | | | | | | |
| Test Mode | TX N(H | T20) Mode_Ant | . 4 | | | | |
| Channel | Frequency (MHz) | AVG Output Power (dBm) | Duty Factor | AVG Output Power + Duty Factor (dBm) | Max. Limit (dBm) | Max. Limit (W) | Result |
| 01 | 2412 | 14.02 | 0.63 | 14.65 | 25.25 | 0.3350 | Complies |
| 06 | 2437 | 18.35 | 0.63 | 18.98 | 25.25 | 0.3350 | Complies |
| 11 | 2462 | 14.38 | 0.63 | 15.01 | 25.25 | 0.3350 | Complies |
| | | | | | | | |
| Test Mode | TX N(H | T20) Mode_Tota | al | | | | |
| | | | | | | | |
| Channel | Frequency (MHz) | AV | G Output Pov (dBm) | wer | Max. Limit (dBm) | Max. Limit (W) | Result |
| 01 | 2412 | | 20.50 | | 25.25 | 0.3350 | Complies |
| 06 | 2437 | | 24.55 | | 25.25 | 0.3350 | Complies |
| 11 | 2462 | | 20.60 | | 25.25 | 0.3350 | Complies |
| | | | | | | | |



| Test Mode | TX N(H | T40) Mode_Ant | . 1 | | | | |
|-----------|--------------------|---------------------------|-------------|--|---------------------|-------------------|----------|
| Channel | Frequency (MHz) | AVG Output Power (dBm) | Duty Factor | AVG Output Power + Duty Factor (dBm) | Max. Limit (dBm) | Max. Limit (W) | Result |
| 03 | 2422 | 16.82 | 1.05 | 17.87 | 25.25 | 0.3350 | Complies |
| 06 | 2437 | 17.94 | 1.05 | 18.99 | 25.25 | 0.3350 | Complies |
| 09 | 2452 | 18.75 | 1.05 | 19.80 | 25.25 | 0.3350 | Complies |

Test Mode TX N(HT40) Mode_Ant. 2

| Channel | Frequency (MHz) | AVG Output Power (dBm) | Duty Factor | AVG Output Power + Duty Factor (dBm) | Max. Limit (dBm) | Max. Limit (W) | Result |
|---------|--------------------|---------------------------|-------------|--|---------------------|-------------------|----------|
| 03 | 2422 | 16.67 | 1.05 | 17.72 | 25.25 | 0.3350 | Complies |
| 06 | 2437 | 17.09 | 1.05 | 18.14 | 25.25 | 0.3350 | Complies |
| 09 | 2452 | 17.22 | 1.05 | 18.27 | 25.25 | 0.3350 | Complies |

Test Mode TX N(HT40) Mode_Ant. 3

| Channel | Frequency (MHz) | AVG Output Power (dBm) | Duty Factor | AVG Output Power + Duty Factor (dBm) | Max. Limit (dBm) | Max. Limit (W) | Result |
|---------|--------------------|---------------------------|-------------|--|---------------------|-------------------|----------|
| 03 | 2422 | 15.89 | 1.05 | 16.94 | 25.25 | 0.3350 | Complies |
| 06 | 2437 | 16.53 | 1.05 | 17.58 | 25.25 | 0.3350 | Complies |
| 09 | 2452 | 17.12 | 1.05 | 18.17 | 25.25 | 0.3350 | Complies |

Test Mode TX N(HT40) Mode_Ant. 4

| Channel | Frequency (MHz) | AVG Output Power (dBm) | Duty Factor | AVG Output Power + Duty Factor (dBm) | Max. Limit (dBm) | Max. Limit (W) | Result |
|---------|--------------------|---------------------------|-------------|--|---------------------|-------------------|----------|
| 03 | 2422 | 16.10 | 1.05 | 17.15 | 25.25 | 0.3350 | Complies |
| 06 | 2437 | 18.12 | 1.05 | 19.17 | 25.25 | 0.3350 | Complies |
| 09 | 2452 | 17.86 | 1.05 | 18.91 | 25.25 | 0.3350 | Complies |

Test Mode TX

TX N(HT40) Mode_Total

| Channel | Frequency (MHz) | AVG Output Power (dBm) | Max. Limit (dBm) | Max. Limit (W) | Result |
|---------|--------------------|---------------------------|---------------------|-------------------|----------|
| 03 | 2422 | 23.46 | 25.25 | 0.3350 | Complies |
| 06 | 2437 | 24.54 | 25.25 | 0.3350 | Complies |
| 09 | 2452 | 24.86 | 25.25 | 0.3350 | Complies |



APPENDIX G - CONDUCTED SPURIOUS EMISSIONS



