

Test Report

Report No.: MTI230629016-11E3

Date of issue: 2023-08-25

Applicant: DONGGUAN CITY SITENG ELECTRONICS CO., LTD

Product: Photo Printer

Model(s): DHP511, DHP512, DHP513, DHP514, DHP515, DHP516,
DHP517, DHP518, DHP519, DHP520

FCC ID: 2A288-DHP511

Shenzhen Microtest Co., Ltd.

<http://www.mtitest.com>

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2. The test results in this test report are only responsible for the samples submitted
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4. This test report is invalid if transferred, altered, or tampered with in any form without authorization.
5. Any objection to this test report shall be submitted to the laboratory within 15 days from the date of receipt of the report.

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| Test Result Certification | |
|----------------------------------|---|
| Applicant: | DONGGUAN CITY SITENG ELECTRONICS CO., LTD |
| Address: | Block A, Jingbo Industrial Park, Buxin Industrial Area, Yan Tian Village, Fenggang Town, Dongguan, Guangdong, China |
| Manufacturer: | SITENG ELECTRONICS CO.,LTD |
| Address: | A Building,jingbo Industrial Park,Zhentian West Roat,Buxin Industrial zone,YanTian Village,Fenggang Town,Dongguan City,Guangdong Province,China |
| Product description | |
| Product name: | Photo Printer |
| Trademark: | N/A |
| Model name: | DHP511 |
| Series Model: | DHP512, DHP513, DHP514, DHP515, DHP516, DHP517, DHP518, DHP519, DHP520 |
| Standards: | 47 CFR Part 15.247 |
| Test Method: | ANSI C63.10-2013 KDB 558074 D01 15.247 Meas Guidance v05r02 |
| Date of Test | |
| Date of test: | 2023-07-13 to 2023-08-10 |
| Test result: | Pass |

| | | |
|----------------------|---|---|
| Test Engineer | : |  |
| | | (Maleah Deng) |
| Reviewed By | : |  |
| | | (Leon Chen) |
| Approved By | : |  |
| | | (Tom Xue) |

1 General Description

1.1 Description of the EUT

| | |
|----------------------------|--|
| Product name: | Photo Printer |
| Model name: | DHP511 |
| Series Model: | DHP512,DHP513,DHP514,DHP515,DHP516,DHP517,DHP518,DHP519, DHP520 |
| Model difference: | All the models are the same circuit and module, except the model name. |
| Electrical rating: | Input: DC 24V 1.6A |
| Accessories: | Adapter: Model: DSA-38PFE-24FCH240160 Input: AC 100-240V 50/60Hz, 1.0A Output: DC 24V 1.6A |
| Hardware version: | RevC.1 |
| Software version: | 0.0.1_0005 |
| Test sample(s) number: | MTI230629016-11S1001 |
| RF specification | |
| Operating frequency range: | 802.11b/g/n20:2412~2462 MHz 802.11n40:2422~2452 MHz |
| Modulation type: | IEEE 802.11b: DSSS (DBPSK, DQPSK, CCK) IEEE 802.11g/n (HT20/HT40) : OFDM (64QAM, 16QAM, QPSK, BPSK) |
| Antenna(s) type: | PCB Antenna |
| Antenna(s) gain: | -7.13dBi |

1.2 Description of test modes

| No. | Emission test modes |
|-------|---------------------|
| Mode1 | TX-802.11b |
| Mode2 | TX-802.11g |
| Mode3 | TX-802.11n(HT20) |
| Mode4 | TX-802.11n(HT40) |

1.2.1 Operation channel list

| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
|---------|-----------------|---------|-----------------|---------|-----------------|
| 1 | 2412 | 5 | 2432 | 9 | 2452 |
| 2 | 2417 | 6 | 2437 | 10 | 2457 |
| 3 | 2422 | 7 | 2442 | 11 | 2462 |
| 4 | 2427 | 8 | 2447 | / | / |

Note: The test software provided by manufacturer is used to control EUT for working in engineering mode, that enables selectable channel, and capable of continuous transmitting mode.

Test Software:

For power setting, refer to below table.

| Test Software: | | Realtek MP Test | |
|----------------|---------------|-----------------|---------------|
| 802.11b | | 802.11g | |
| Channel | Power setting | Channel | Power setting |
| 1 | Default | 1 | Default |
| 6 | Default | 6 | Default |
| 11 | Default | 11 | Default |
| 802.11n (HT20) | | 802.11n (HT40) | |
| Channel | Power setting | Channel | Power setting |
| 1 | Default | 3 | Default |
| 6 | Default | 6 | Default |
| 11 | Default | 9 | Default |

```

-v, --verbose: display the power settings
for every
rate even when every rate in a rate group
has the same power.
wl [pkteng_stop]
stop packet engine; usage: wl pkteng_stop
<tx|rx>
wl [pkteng_stats]
packet engine stats; usage: wl pkteng_stat
s
wl [rdvar]
Read a named variable to the srom
wl [wrvar]
Write a named variable to the srom
NOTE: Must use single quotes around the na
me=value clause:
wl wrvar 'macaddr=11:22:33:44:55:66'
NOTE: Must use hex form for numeric values
:
wl wrvar 'boardnum=0xaaaa'
wl [revinfo]
Get hardware revision information
wl [clmver]
Get version information for CLM data and t
ools
Sending wl command...done
Sending wl command...done
Sending wl command...done
packet engine started
>
    
```

1.3 Environmental Conditions

During the measurement the environmental conditions were within the listed ranges:

| | |
|-----------------------|------------------|
| Temperature: | 15°C ~ 35°C |
| Humidity: | 20% RH ~ 75% RH |
| Atmospheric pressure: | 98 kPa ~ 101 kPa |

1.4 Description of support units

| Support equipment list | | | |
|------------------------|------------|------------|--------------|
| Description | Model | Serial No. | Manufacturer |
| / | / | / | / |
| Support cable list | | | |
| Description | Length (m) | From | To |
| / | / | / | / |

1.5 Measurement uncertainty

| Measurement | Uncertainty |
|--|-------------|
| Conducted emissions (AMN 150kHz~30MHz) | 3.1dB |
| Occupied channel bandwidth | ±3 % |
| RF output power, conducted | ±1 dB |
| Power Spectral Density, conducted | ±1 dB |
| Unwanted Emissions, conducted | ±1 dB |
| Radiated spurious emissions (1GHz~25GHz) | 5.3dB |
| Radiated spurious emissions (9kHz~30MHz) | 4.3dB |
| Radiated spurious emissions (30MHz~1GHz) | 4.7dB |
| Temperature | ±1 °C |
| Humidity | ± 5 % |

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

2 Summary of Test Result

| No. | Item | Standard | Requirement | Result |
|-----|---|--------------------|------------------------------------|--------|
| 1 | Antenna requirement | 47 CFR Part 15.247 | 47 CFR 15.203 | Pass |
| 2 | Conducted Emission at AC power line | 47 CFR Part 15.247 | 47 CFR 15.207(a) | Pass |
| 3 | Occupied Bandwidth | 47 CFR Part 15.247 | 47 CFR 15.247(a)(2) | Pass |
| 4 | Maximum Conducted Output Power | 47 CFR Part 15.247 | 47 CFR 15.247(b)(3) | Pass |
| 5 | Power Spectral Density | 47 CFR Part 15.247 | 47 CFR 15.247(e) | Pass |
| 6 | Emissions in frequency bands | 47 CFR Part 15.247 | 47 CFR 15.247(d) 15.209, 15.205 | Pass |
| 7 | Band edge emissions (Radiated) | 47 CFR Part 15.247 | 47 CFR 15.247(d) 15.209, 15.205 | Pass |
| 8 | Emissions in frequency bands (below 1GHz) | 47 CFR Part 15.247 | 47 CFR 15.247(d) 15.209, 15.205 | Pass |
| 9 | Emissions in frequency bands (above 1GHz) | 47 CFR Part 15.247 | 47 CFR 15.247(d) 15.209, 15.205 | Pass |

3 Test Facilities and accreditations

3.1 Test laboratory

| | |
|------------------------|--|
| Test laboratory: | Shenzhen Microtest Co., Ltd. |
| Test site location: | 101, No.7, Zone 2, Xinxing Industrial Park, Fuhai Avenue, Xinhe Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China |
| Telephone: | (86-755)88850135 |
| Fax: | (86-755)88850136 |
| CNAS Registration No.: | CNAS L5868 |
| FCC Registration No.: | 448573 |
| IC Registration No.: | 21760 |
| CABID: | CN0093 |

4 List of test equipment

| No. | Equipment | Manufacturer | Model | Serial No. | Cal. date | Cal. Due |
|--|--------------------------------------|-----------------|-------------|------------|------------|------------|
| Conducted Emission at AC power line | | | | | | |
| 1 | EMI Test Receiver | Rohde&schwarz | ESCI3 | 101368 | 2023-04-26 | 2024-04-25 |
| 2 | Artificial mains network | Schwarzbeck | NSLK 8127 | 183 | 2023-05-05 | 2024-05-04 |
| 3 | Artificial Mains Network | Schwarzbeck | NSLK 8127 | 1001 | 2023-05-06 | 2024-05-05 |
| Occupied Bandwidth Maximum Conducted Output Power Power Spectral Density Emissions in frequency bands | | | | | | |
| 1 | Wideband Radio Communication Tester | Rohde&schwarz | CMW500 | 149155 | 2023-04-26 | 2024-04-25 |
| 2 | ESG Series Analog Signal Generator | Agilent | E4421B | GB40051240 | 2023-04-25 | 2024-04-24 |
| 3 | PXA Signal Analyzer | Agilent | N9030A | MY51350296 | 2023-04-25 | 2024-04-24 |
| 4 | Synthesized Sweeper | Agilent | 83752A | 3610A01957 | 2023-04-25 | 2024-04-24 |
| 5 | MXA Signal Analyzer | Agilent | N9020A | MY50143483 | 2023-04-26 | 2024-04-25 |
| 6 | RF Control Unit | Tonscend | JS0806-1 | 19D8060152 | 2023-04-26 | 2024-04-25 |
| 7 | Band Reject Filter Group | Tonscend | JS0806-F | 19D8060160 | 2023-05-05 | 2024-05-04 |
| 8 | ESG Vector Signal Generator | Agilent | N5182A | MY50143762 | 2023-04-25 | 2024-04-24 |
| 9 | DC Power Supply | Agilent | E3632A | MY40027695 | 2023-05-05 | 2024-05-04 |
| Band edge emissions (Radiated) Emissions in frequency bands (above 1GHz) | | | | | | |
| 1 | EMI Test Receiver | Rohde&schwarz | ESCI7 | 101166 | 2023-04-26 | 2024-04-25 |
| 2 | Double Ridged Broadband Horn Antenna | schwarabeck | BBHA 9120 D | 2278 | 2023-05-26 | 2024-05-25 |
| 3 | Amplifier | Agilent | 8449B | 3008A01120 | 2023-05-26 | 2024-05-25 |
| 4 | Multi-device Controller | TuoPu | TPMDC | / | 2023-05-04 | 2024-05-03 |
| 5 | MXA signal analyzer | Agilent | N9020A | MY54440859 | 2023-05-05 | 2024-05-04 |
| Emissions in frequency bands (below 1GHz) | | | | | | |
| 1 | EMI Test Receiver | Rohde&schwarz | ESCI7 | 101166 | 2023-04-26 | 2024-04-25 |
| 2 | TRILOG Broadband Antenna | schwarabeck | VULB 9163 | 9163-1338 | 2023-06-11 | 2025-06-10 |
| 3 | Amplifier | Hewlett-Packard | 8447F | 3113A06184 | 2023-04-26 | 2024-04-25 |
| 4 | Multi-device Controller | TuoPu | TPMDC | / | 2023-05-04 | 2024-05-03 |
| 5 | Active Loop Antenna | Schwarzbeck | FMZB 1519 B | 00066 | 2023-06-11 | 2025-06-10 |

5 Evaluation Results (Evaluation)

5.1 Antenna requirement

| | |
|------------------------------------|--|
| Test Requirement: | An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. |
| Description of the antenna of EUT: | The antenna of the EUT is permanently attached. |
| Conclusion: | The EUT complies with the requirement of FCC PART 15.203. |

6 Radio Spectrum Matter Test Results (RF)

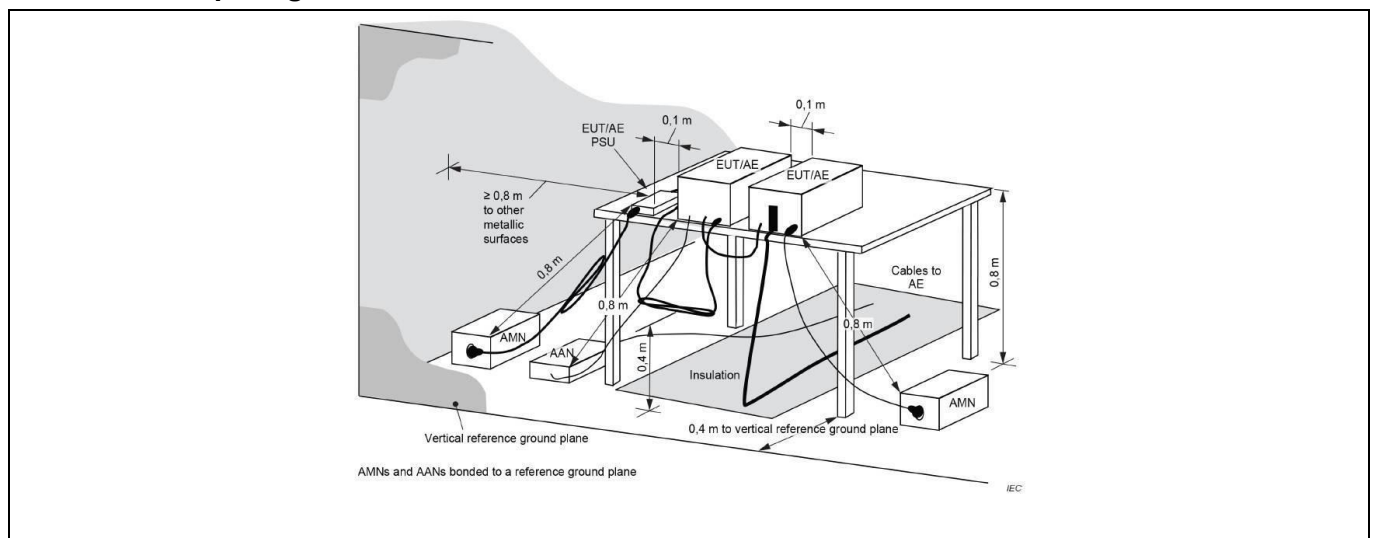
6.1 Conducted Emission at AC power line

| | | | |
|-------------------|---|------------------------------|-----------|
| Test Requirement: | Refer to 47 CFR 15.207(a), Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN). | | |
| Test Limit: | Frequency of emission (MHz) | Conducted limit (dB μ V) | |
| | | Quasi-peak | Average |
| | 0.15-0.5 | 66 to 56* | 56 to 46* |
| | 0.5-5 | 56 | 46 |
| | 5-30 | 60 | 50 |
| | *Decreases with the logarithm of the frequency. | | |
| Test Method: | ANSI C63.10-2013 section 6.2 | | |
| Procedure: | Refer to ANSI C63.10-2013 section 6.2, standard test method for ac power-line conducted emissions from unlicensed wireless devices | | |

6.1.1 E.U.T. Operation:

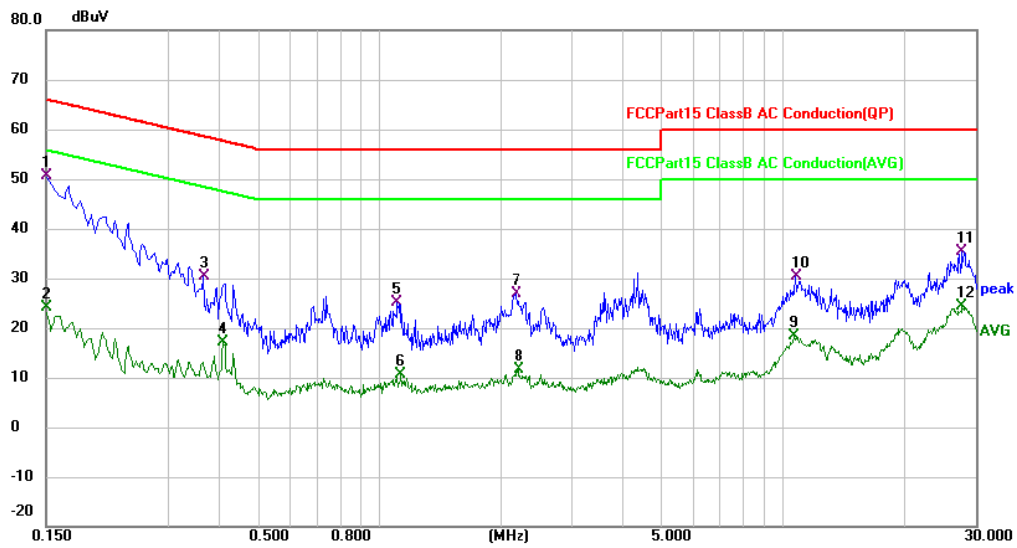
| | | | | | |
|---|----------------------------|-----------|--------|-----------------------|----------|
| Operating Environment: | | | | | |
| Temperature: | 22.7 °C | Humidity: | 52.9 % | Atmospheric Pressure: | 98.8 kPa |
| Test mode: | Mode1, Mode2, Mode3, Mode4 | | | | |
| Note: All modes of operation of the EUT were investigated, and only the worst-case results are reported | | | | | |

6.1.2 Test Setup Diagram:



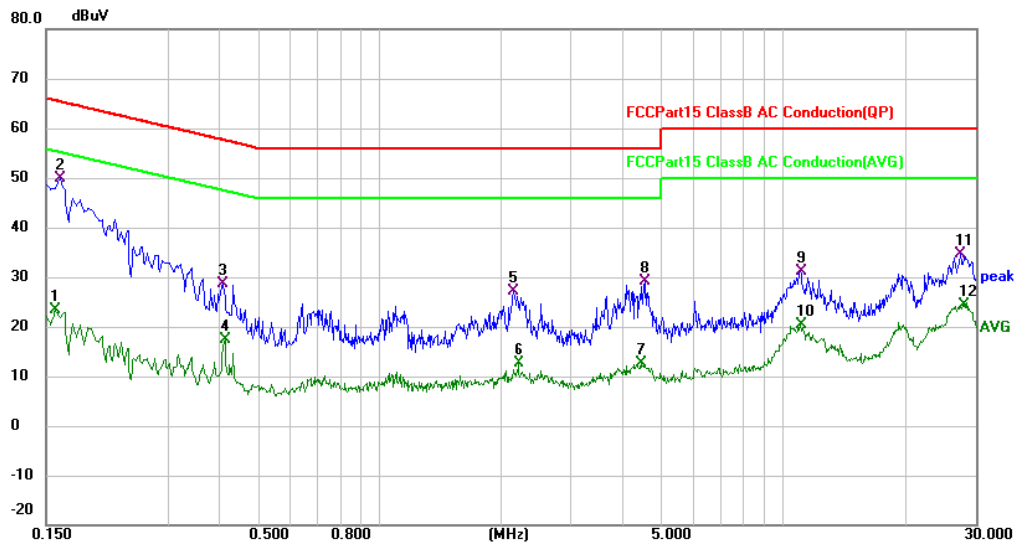
6.1.3 Test Data:

Mode1(AC 120/60Hz) / Line: Line / Band: 2.4G / BW: 20



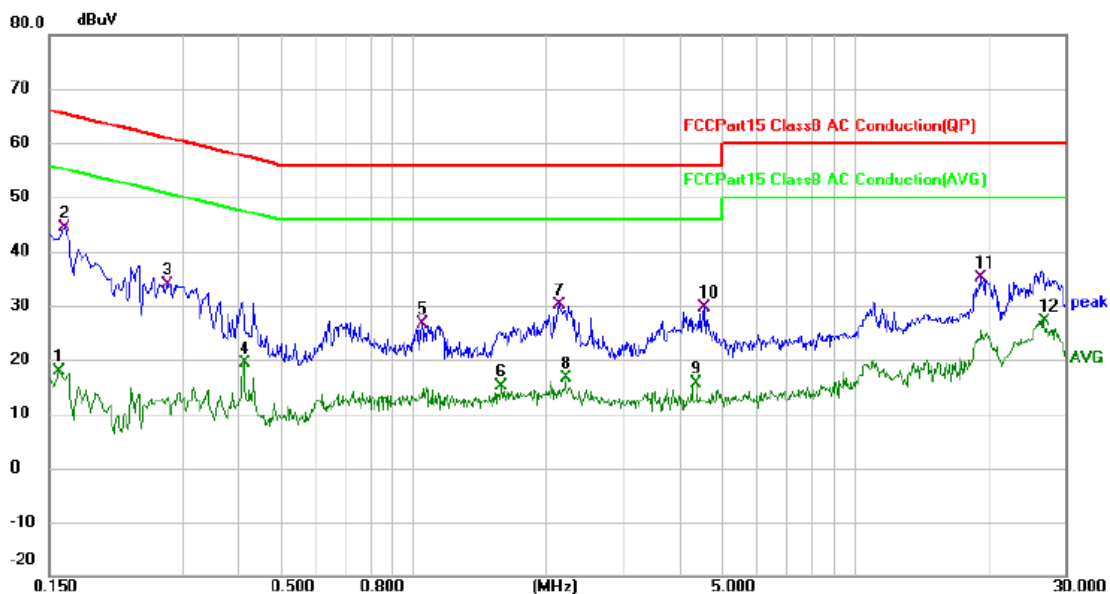
| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV | Limit dB | Over dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|--------------------------|-------------|------------|----------|---------|
| 1 | * | 0.1500 | 40.23 | 10.29 | 50.52 | 66.00 | -15.48 | QP | |
| 2 | | 0.1500 | 13.75 | 10.29 | 24.04 | 56.00 | -31.96 | AVG | |
| 3 | | 0.3660 | 19.49 | 10.98 | 30.47 | 58.59 | -28.12 | QP | |
| 4 | | 0.4100 | 5.95 | 11.07 | 17.02 | 47.65 | -30.63 | AVG | |
| 5 | | 1.1060 | 12.49 | 12.57 | 25.06 | 56.00 | -30.94 | QP | |
| 6 | | 1.1300 | -1.85 | 12.60 | 10.75 | 46.00 | -35.25 | AVG | |
| 7 | | 2.1820 | 16.43 | 10.44 | 26.87 | 56.00 | -29.13 | QP | |
| 8 | | 2.2180 | 1.24 | 10.44 | 11.68 | 46.00 | -34.32 | AVG | |
| 9 | | 10.7018 | 8.04 | 10.34 | 18.38 | 50.00 | -31.62 | AVG | |
| 10 | | 10.7418 | 19.92 | 10.34 | 30.26 | 60.00 | -29.74 | QP | |
| 11 | | 27.7900 | 24.57 | 10.83 | 35.40 | 60.00 | -24.60 | QP | |
| 12 | | 27.7900 | 13.47 | 10.83 | 24.30 | 50.00 | -25.70 | AVG | |

Mode1(AC 120/60Hz) / Line: Neutral / Band: 2.4G / BW: 20



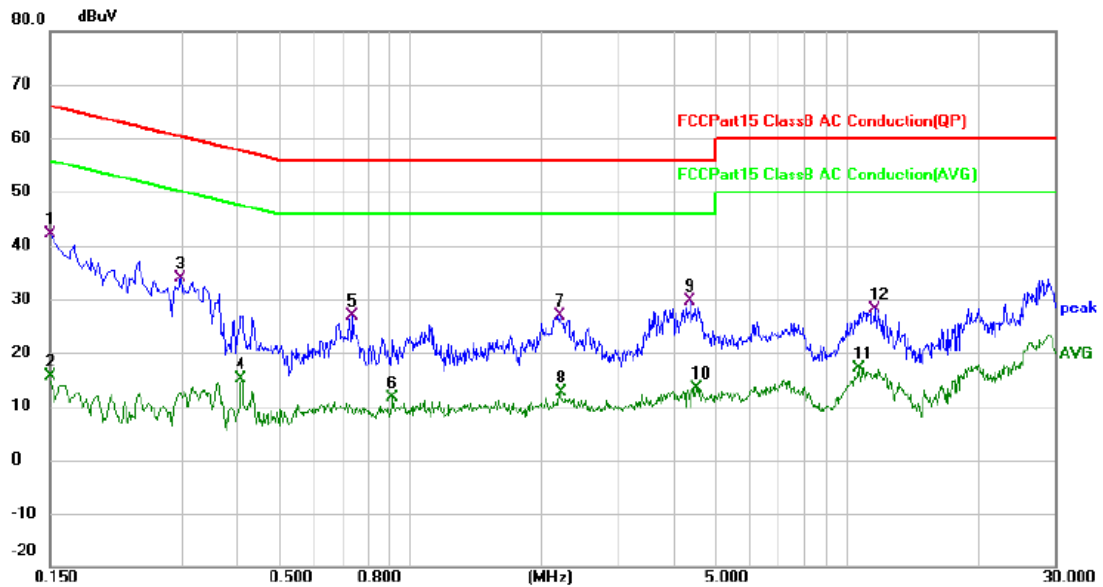
| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV | Limit dBuV | Over dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|--------------------------|---------------|------------|----------|---------|
| 1 | | 0.1580 | 13.09 | 10.28 | 23.37 | 55.57 | -32.20 | AVG | |
| 2 | * | 0.1620 | 39.66 | 10.28 | 49.94 | 65.36 | -15.42 | QP | |
| 3 | | 0.4100 | 17.55 | 11.12 | 28.67 | 57.65 | -28.98 | QP | |
| 4 | | 0.4140 | 6.32 | 11.12 | 17.44 | 47.57 | -30.13 | AVG | |
| 5 | | 2.1460 | 17.01 | 10.04 | 27.05 | 56.00 | -28.95 | QP | |
| 6 | | 2.2220 | 2.54 | 10.06 | 12.60 | 46.00 | -33.40 | AVG | |
| 7 | | 4.4740 | 2.43 | 10.26 | 12.69 | 46.00 | -33.31 | AVG | |
| 8 | | 4.5939 | 18.97 | 10.27 | 29.24 | 56.00 | -26.76 | QP | |
| 9 | | 11.0580 | 20.62 | 10.43 | 31.05 | 60.00 | -28.95 | QP | |
| 10 | | 11.0580 | 9.95 | 10.43 | 20.38 | 50.00 | -29.62 | AVG | |
| 11 | | 27.5260 | 23.72 | 10.83 | 34.55 | 60.00 | -25.45 | QP | |
| 12 | | 28.0060 | 13.51 | 10.84 | 24.35 | 50.00 | -25.65 | AVG | |

Mode1(AC 240/60Hz) / Line: Line / Band: 2.4G / BW: 20



| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV | Limit dBuV | Over dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|--------------------------|---------------|------------|----------|---------|
| 1 | | 0.1580 | 7.59 | 10.28 | 17.87 | 55.57 | -37.70 | AVG | |
| 2 | * | 0.1620 | 34.16 | 10.28 | 44.44 | 65.36 | -20.92 | QP | |
| 3 | | 0.2779 | 23.03 | 10.83 | 33.86 | 60.88 | -27.02 | QP | |
| 4 | | 0.4138 | 8.32 | 11.12 | 19.44 | 47.57 | -28.13 | AVG | |
| 5 | | 1.0500 | 14.25 | 12.49 | 26.74 | 56.00 | -29.26 | QP | |
| 6 | | 1.5859 | 1.67 | 13.35 | 15.02 | 46.00 | -30.98 | AVG | |
| 7 | | 2.1459 | 20.01 | 10.04 | 30.05 | 56.00 | -25.95 | QP | |
| 8 | | 2.2219 | 6.54 | 10.06 | 16.60 | 46.00 | -29.40 | AVG | |
| 9 | | 4.3859 | 5.29 | 10.26 | 15.55 | 46.00 | -30.45 | AVG | |
| 10 | | 4.5937 | 19.47 | 10.27 | 29.74 | 56.00 | -26.26 | QP | |
| 11 | | 19.3018 | 24.42 | 10.63 | 35.05 | 60.00 | -24.95 | QP | |
| 12 | | 26.8218 | 16.43 | 10.82 | 27.25 | 50.00 | -22.75 | AVG | peak |

Mode1(AC 240/60Hz) / Line: Neutral / Band: 2.4G / BW: 20



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measurement | Limit | Over | Detector | Comment |
|-----|-----|---------|---------------|----------------|-------------|-------|--------|----------|---------|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | | |
| 1 | * | 0.1500 | 31.73 | 10.29 | 42.02 | 66.00 | -23.98 | QP | |
| 2 | | 0.1500 | 5.25 | 10.29 | 15.54 | 56.00 | -40.46 | AVG | |
| 3 | | 0.2977 | 23.10 | 10.84 | 33.94 | 60.31 | -26.37 | QP | |
| 4 | | 0.4100 | 3.95 | 11.07 | 15.02 | 47.65 | -32.63 | AVG | |
| 5 | | 0.7419 | 14.91 | 11.86 | 26.77 | 56.00 | -29.23 | QP | |
| 6 | | 0.9140 | -0.47 | 12.16 | 11.69 | 46.00 | -34.31 | AVG | |
| 7 | | 2.2058 | 16.46 | 10.44 | 26.90 | 56.00 | -29.10 | QP | |
| 8 | | 2.2179 | 2.24 | 10.44 | 12.68 | 46.00 | -33.32 | AVG | |
| 9 | | 4.3978 | 19.26 | 10.28 | 29.54 | 56.00 | -26.46 | QP | |
| 10 | | 4.5457 | 3.16 | 10.28 | 13.44 | 46.00 | -32.56 | AVG | |
| 11 | | 10.6500 | 6.90 | 10.34 | 17.24 | 50.00 | -32.76 | AVG | |
| 12 | | 11.5656 | 17.68 | 10.37 | 28.05 | 60.00 | -31.95 | QP | |

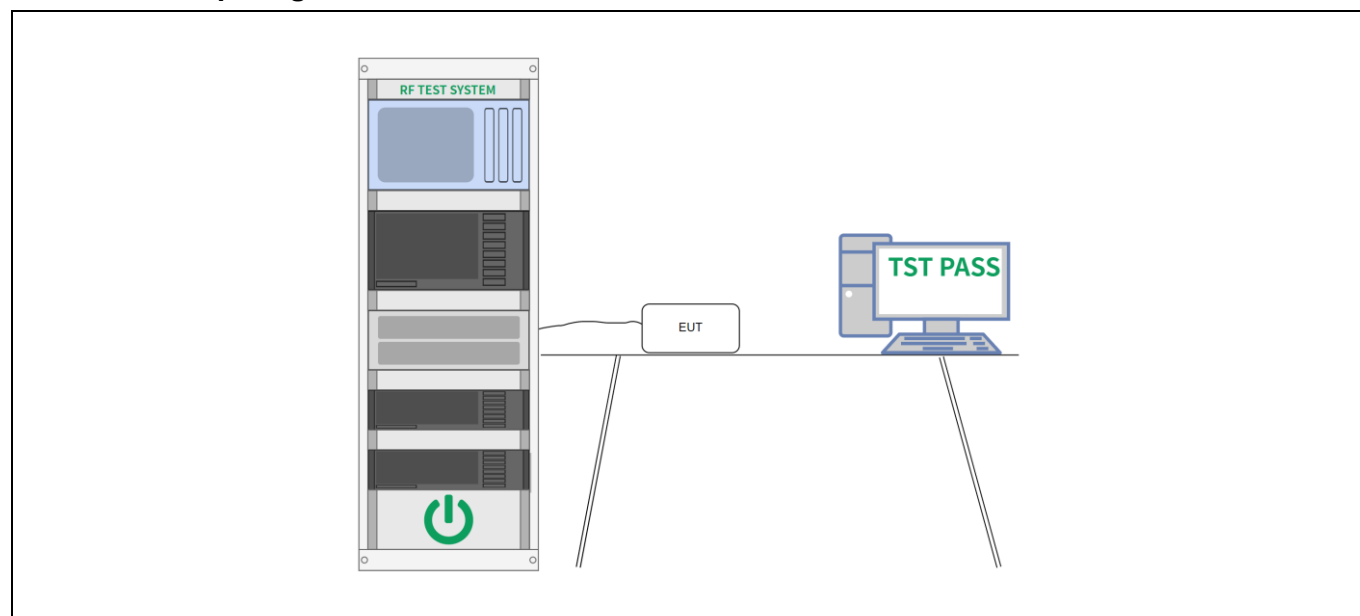
6.2 Occupied Bandwidth

| | |
|-------------------|--|
| Test Requirement: | 47 CFR 15.247(a)(2) |
| Test Limit: | Refer to 47 CFR 15.247(a)(2), Systems using digital modulation techniques may operate in the 902-928 MHz, and 2400-2483.5 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz. |
| Test Method: | ANSI C63.10-2013, section 11.8 KDB 558074 D01 15.247 Meas Guidance v05r02 |
| Procedure: | a) Set RBW = 100 kHz. b) Set the VBW \geq [3 × RBW]. c) Detector = peak. d) Trace mode = max hold. e) Sweep = auto couple. f) Allow the trace to stabilize. g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission. |

6.2.1 E.U.T. Operation:

| | | | | | |
|------------------------|----------------------------|-----------|--------|-----------------------|---------|
| Operating Environment: | | | | | |
| Temperature: | 30.5 °C | Humidity: | 22.2 % | Atmospheric Pressure: | 100 kPa |
| Test mode: | Mode1, Mode2, Mode3, Mode4 | | | | |

6.2.2 Test Setup Diagram:



6.2.3 Test Data:

Please Refer to Appendix for Details.

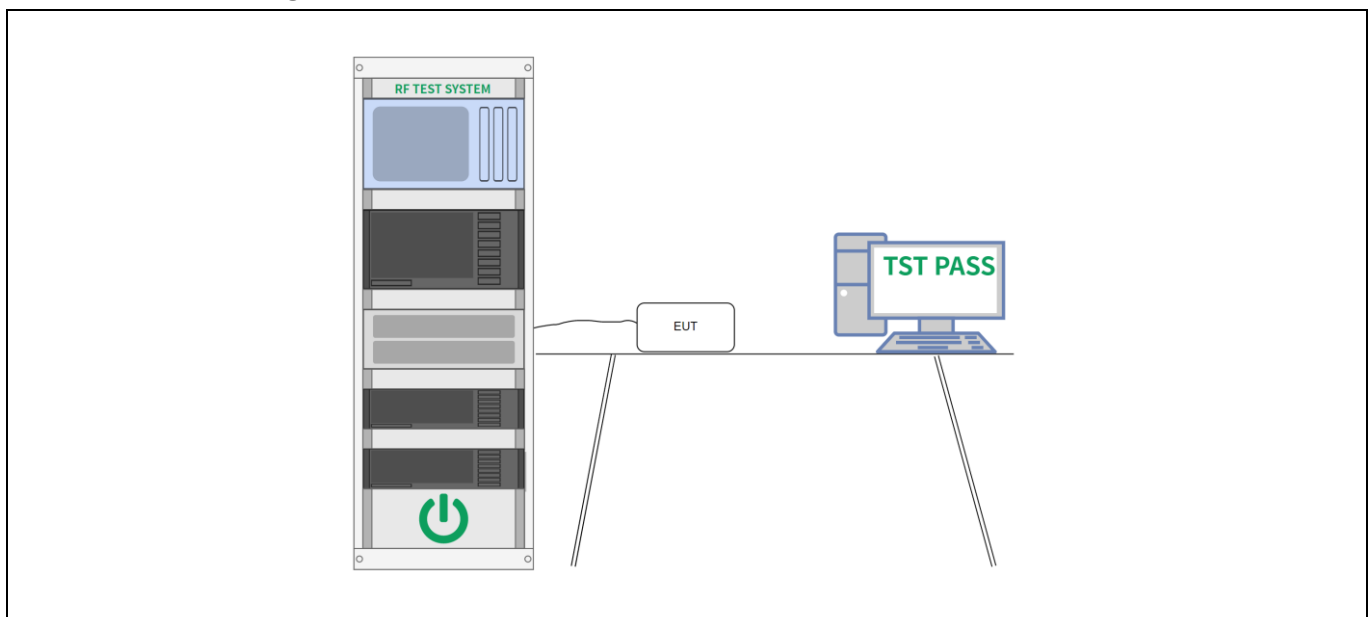
6.3 Maximum Conducted Output Power

| | |
|-------------------|--|
| Test Requirement: | 47 CFR 15.247(b)(3) |
| Test Limit: | Refer to 47 CFR 15.247(b)(3), For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode. |
| Test Method: | ANSI C63.10-2013, section 11.9.1 KDB 558074 D01 15.247 Meas Guidance v05r02 |
| Procedure: | ANSI C63.10-2013, section 11.9.1 Maximum peak conducted output power |

6.3.1 E.U.T. Operation:

| | | | | | |
|------------------------|----------------------------|-----------|--------|-----------------------|---------|
| Operating Environment: | | | | | |
| Temperature: | 30.5 °C | Humidity: | 22.2 % | Atmospheric Pressure: | 100 kPa |
| Test mode: | Mode1, Mode2, Mode3, Mode4 | | | | |

6.3.2 Test Setup Diagram:



6.3.3 Test Data:

Please Refer to Appendix for Details.

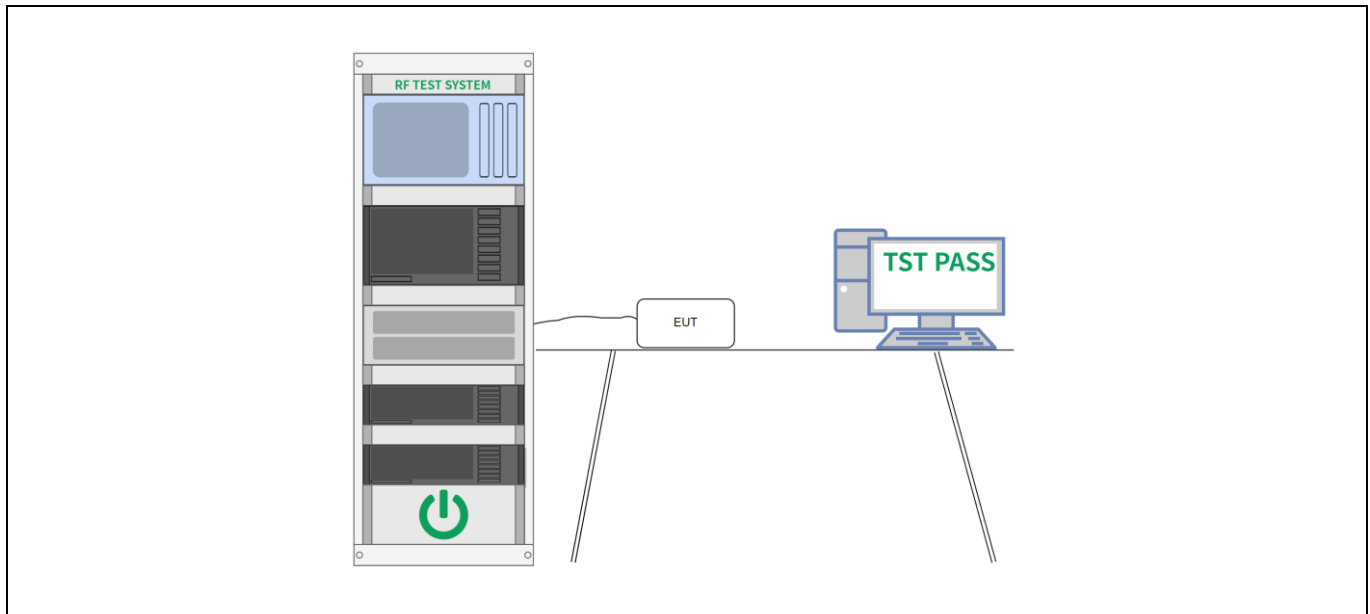
6.4 Power Spectral Density

| | |
|-------------------|---|
| Test Requirement: | 47 CFR 15.247(e) |
| Test Limit: | Refer to 47 CFR 15.247(e), For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density. |
| Test Method: | ANSI C63.10-2013, section 11.10 KDB 558074 D01 15.247 Meas Guidance v05r02 |
| Procedure: | ANSI C63.10-2013, section 11.10, Maximum power spectral density level in the fundamental emission |

6.4.1 E.U.T. Operation:

| | | | | | |
|------------------------|----------------------------|-----------|--------|-----------------------|---------|
| Operating Environment: | | | | | |
| Temperature: | 30.5 °C | Humidity: | 22.2 % | Atmospheric Pressure: | 100 kPa |
| Test mode: | Mode1, Mode2, Mode3, Mode4 | | | | |

6.4.2 Test Setup Diagram:



6.4.3 Test Data:

Please Refer to Appendix for Details.

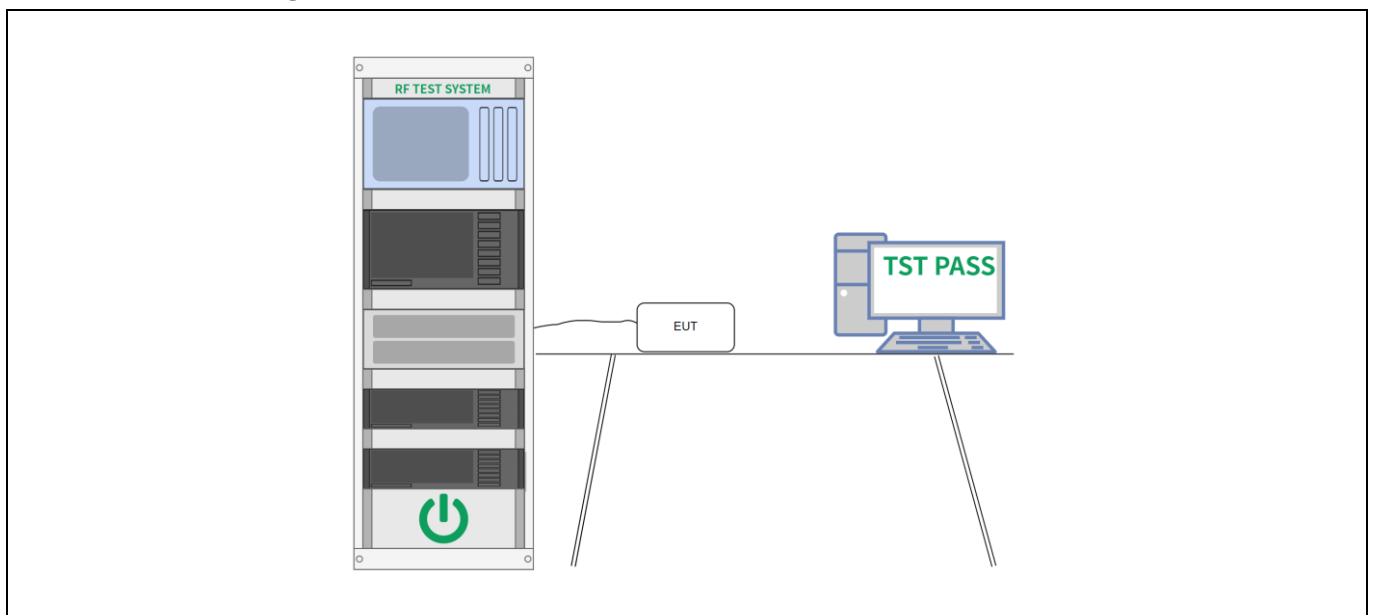
6.5 Emissions in frequency bands

| | |
|-------------------|---|
| Test Requirement: | 47 CFR 15.247(d) |
| Test Limit: | Refer to 47 CFR 15.247(d), 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 conducted power limits. If the transmitter complies with the conducted 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 § 15.209(a) is not required. |
| Test Method: | ANSI C63.10-2013 section 11.11 KDB 558074 D01 15.247 Meas Guidance v05r02 |
| Procedure: | ANSI C63.10-2013 Section 11.11.1, Section 11.11.2, Section 11.11.3 |

6.5.1 E.U.T. Operation:

| | | | | | |
|------------------------|----------------------------|-----------|--------|-----------------------|---------|
| Operating Environment: | | | | | |
| Temperature: | 30.5 °C | Humidity: | 22.2 % | Atmospheric Pressure: | 100 kPa |
| Test mode: | Mode1, Mode2, Mode3, Mode4 | | | | |

6.5.2 Test Setup Diagram:



6.5.3 Test Data:

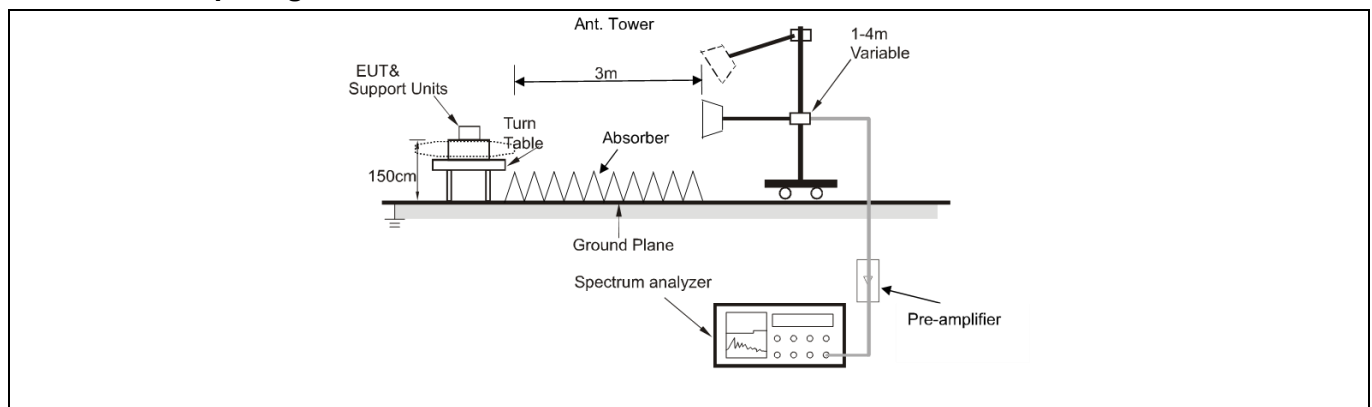
Please Refer to Appendix for Details.

6.6 Band edge emissions (Radiated)

| | | | |
|-------------------|---|-----------------------------------|-------------------------------|
| Test Requirement: | Refer to 47 CFR 15.247(d), In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).` | | |
| Test Limit: | 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 |
| | ** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241. | | |
| Test Method: | ANSI C63.10-2013 section 6.10 KDB 558074 D01 15.247 Meas Guidance v05r02 | | |
| Procedure: | ANSI C63.10-2013 section 6.10.5.2 | | |

6.6.1 E.U.T. Operation:

| | | | |
|---|----------------------------|-----------------------|--------|
| Operating Environment: | | | |
| Temperature: | 29.7 °C | Humidity: | 42.2 % |
| | | Atmospheric Pressure: | 99 kPa |
| Test mode: | Mode1, Mode2, Mode3, Mode4 | | |
| Note: All modes of operation of the EUT were investigated, and only the worst-case results are reported All other emissions are attenuated 20dB below the limit, so does not recorded. | | | |

6.6.2 Test Setup Diagram:


6.6.3 Test Data:

Mode1 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: 1

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measurement | Limit | Over | Detector |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | |
| 1 | | 2310.000 | 46.41 | -8.08 | 38.33 | 74.00 | -35.67 | peak |
| 2 | | 2310.000 | 35.18 | -8.08 | 27.10 | 54.00 | -26.90 | AVG |
| 3 | | 2390.000 | 56.07 | -7.71 | 48.36 | 74.00 | -25.64 | peak |
| 4 | * | 2390.000 | 42.42 | -7.71 | 34.71 | 54.00 | -19.29 | AVG |

Mode1 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: 1

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measurement | Limit | Over | Detector |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | |
| 1 | | 2310.000 | 44.48 | -8.08 | 36.40 | 74.00 | -37.60 | peak |
| 2 | | 2310.000 | 33.88 | -8.08 | 25.80 | 54.00 | -28.20 | AVG |
| 3 | | 2390.000 | 51.71 | -7.71 | 44.00 | 74.00 | -30.00 | peak |
| 4 | * | 2390.000 | 38.17 | -7.71 | 30.46 | 54.00 | -23.54 | AVG |

Mode1 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: 11

| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV/m | Limit dBuV/m | Over dB | Detector |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|
| 1 | | 2483.500 | 53.81 | -7.24 | 46.57 | 74.00 | -27.43 | peak |
| 2 | * | 2483.500 | 44.69 | -7.24 | 37.45 | 54.00 | -16.55 | AVG |
| 3 | | 2500.000 | 50.58 | -7.17 | 43.41 | 74.00 | -30.59 | peak |
| 4 | | 2500.000 | 39.73 | -7.17 | 32.56 | 54.00 | -21.44 | AVG |

Mode1 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: 11

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measurement | Limit | Over | Detector |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | |
| 1 | | 2483.500 | 50.34 | -7.24 | 43.10 | 74.00 | -30.90 | peak |
| 2 | * | 2483.500 | 40.67 | -7.24 | 33.43 | 54.00 | -20.57 | AVG |
| 3 | | 2500.000 | 49.48 | -7.17 | 42.31 | 74.00 | -31.69 | peak |
| 4 | | 2500.000 | 38.25 | -7.17 | 31.08 | 54.00 | -22.92 | AVG |

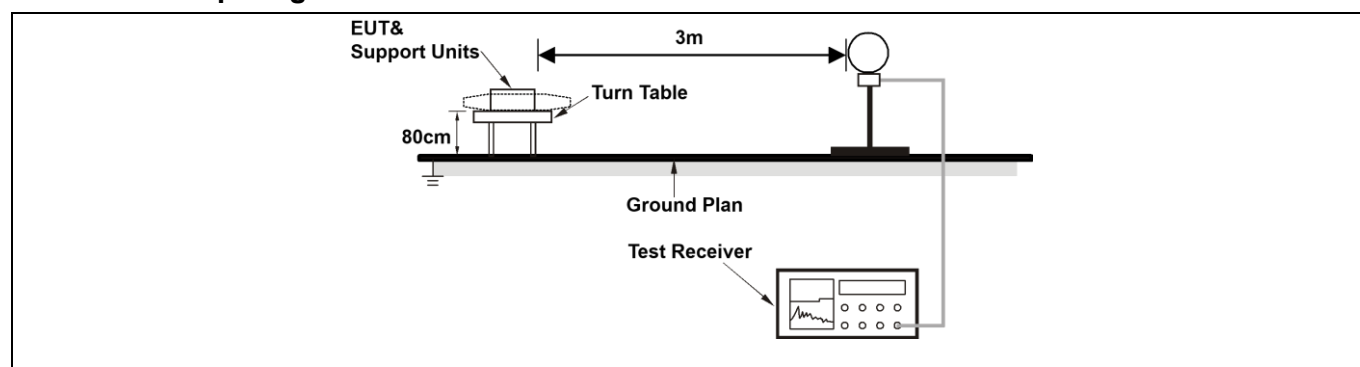
6.7 Emissions in frequency bands (below 1GHz)

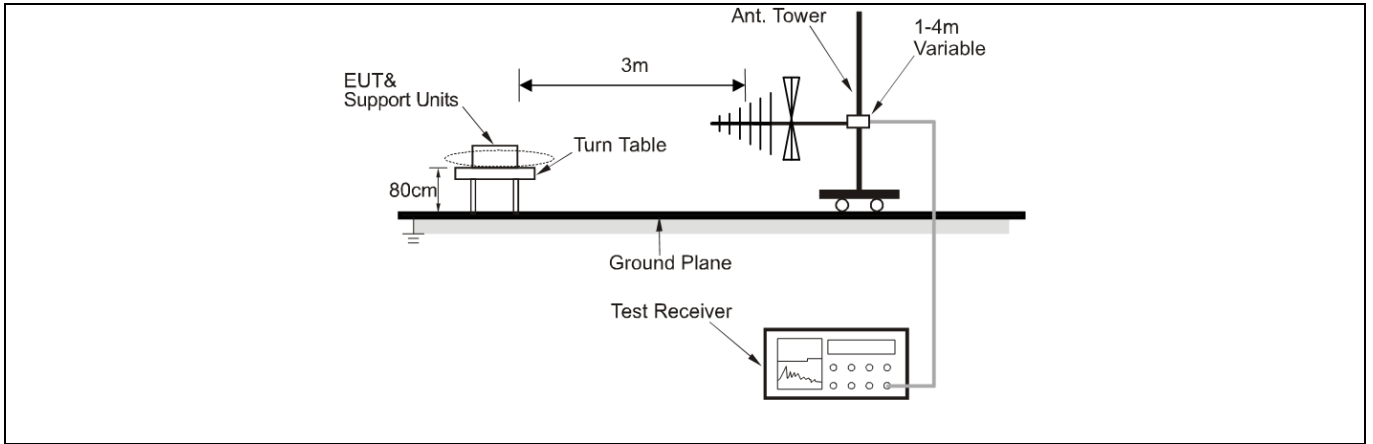
| | | | |
|-------------------|---|-----------------------------------|-------------------------------|
| Test Requirement: | Refer to 47 CFR 15.247(d), In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).` | | |
| Test Limit: | 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 |
| | ** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241. | | |
| Test Method: | ANSI C63.10-2013 section 6.6.4 KDB 558074 D01 15.247 Meas Guidance v05r02 | | |
| Procedure: | ANSI C63.10-2013 section 6.6.4 | | |

6.7.1 E.U.T. Operation:

| | | | |
|---|----------------------------|-----------------------|---------|
| Operating Environment: | | | |
| Temperature: | 24 °C | Humidity: | 55 % |
| | | Atmospheric Pressure: | 101 kPa |
| Test mode: | Mode1, Mode2, Mode3, Mode4 | | |
| Note: The amplitude of spurious emissions which are attenuated more than 20 dB below the limits are not reported. All modes of operation of the EUT were investigated, and only the worst-case results are reported. There were no emissions found below 30MHz within 20dB of the limit. | | | |

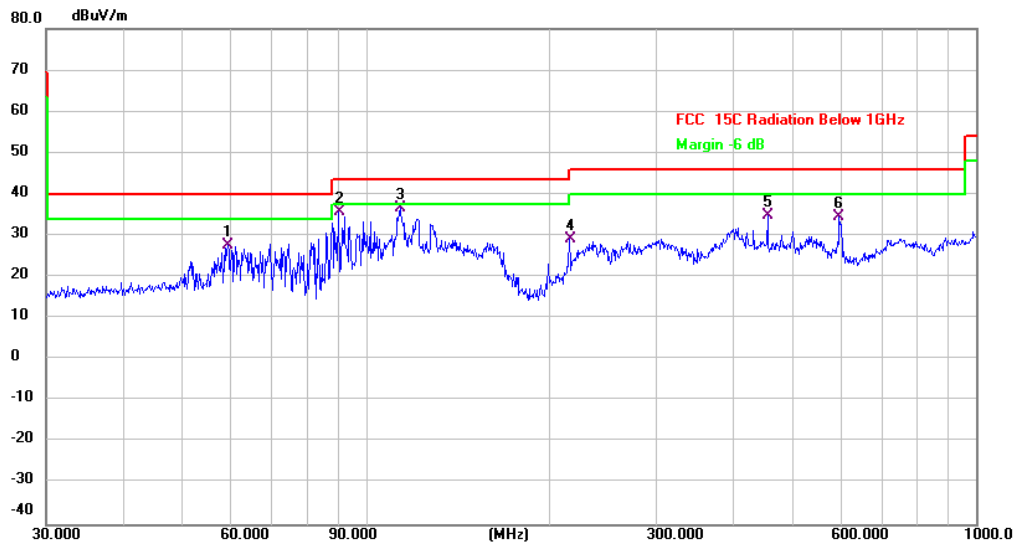
6.7.2 Test Setup Diagram:





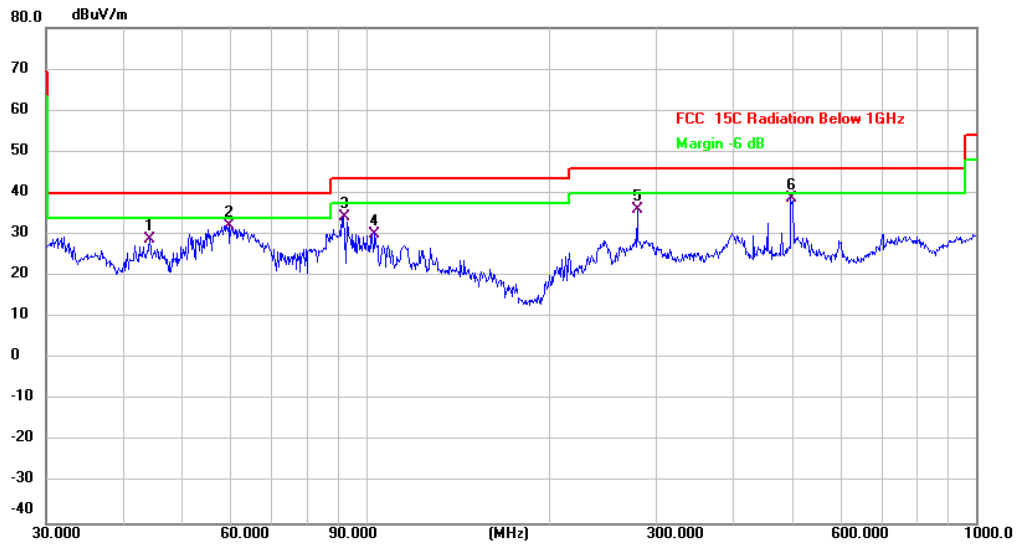
6.7.3 Test Data:

Mode1 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: 11



| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV/m | Limit dBuV/m | Over dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1 | | 59.4405 | 34.29 | -6.77 | 27.52 | 40.00 | -12.48 | QP | |
| 2 | | 90.2205 | 45.29 | -9.44 | 35.85 | 43.50 | -7.65 | QP | |
| 3 | * | 113.7143 | 45.93 | -9.29 | 36.64 | 43.50 | -6.86 | QP | |
| 4 | | 216.0240 | 35.86 | -6.62 | 29.24 | 46.00 | -16.76 | QP | |
| 5 | | 455.9058 | 40.29 | -5.55 | 34.74 | 46.00 | -11.26 | QP | |
| 6 | | 597.2234 | 36.74 | -2.16 | 34.58 | 46.00 | -11.42 | QP | |

Mode1 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: 11



| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV/m | Limit dBuV/m | Over dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1 | | 44.2752 | 35.18 | -6.39 | 28.79 | 40.00 | -11.21 | QP | |
| 2 | | 59.6493 | 38.85 | -6.76 | 32.09 | 40.00 | -7.91 | QP | |
| 3 | | 91.8163 | 43.31 | -9.08 | 34.23 | 43.50 | -9.27 | QP | |
| 4 | | 103.4421 | 37.97 | -7.77 | 30.20 | 43.50 | -13.30 | QP | |
| 5 | | 279.0436 | 43.56 | -7.39 | 36.17 | 46.00 | -9.83 | QP | |
| 6 | * | 497.6765 | 41.56 | -2.68 | 38.88 | 46.00 | -7.12 | QP | |

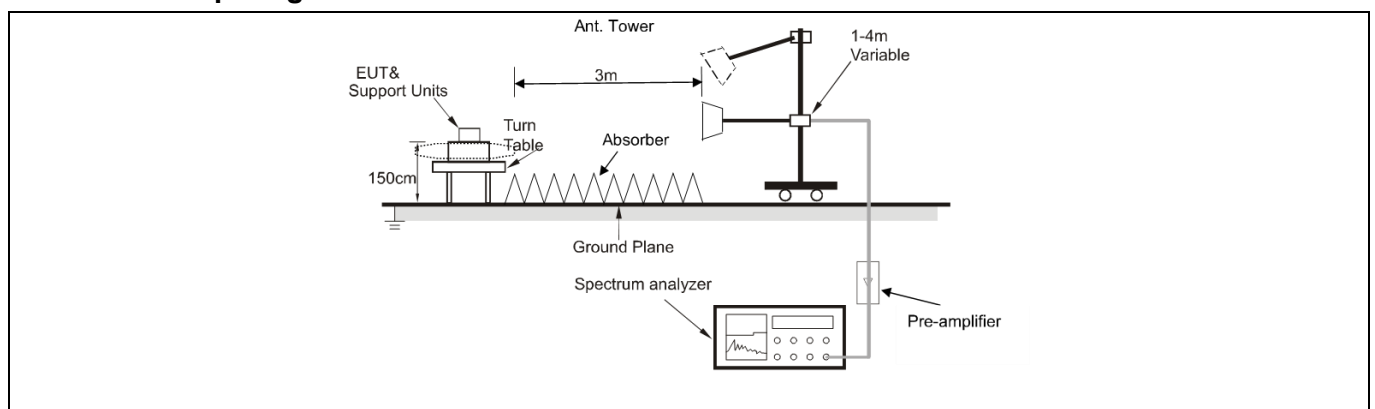
6.8 Emissions in frequency bands (above 1GHz)

| | | | |
|---|---|-----------------------------------|-------------------------------|
| Test Requirement: | In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).` | | |
| Test Limit: | 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 |
| ** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241. | | | |
| Test Method: | ANSI C63.10-2013 section 6.6.4 KDB 558074 D01 15.247 Meas Guidance v05r02 | | |
| Procedure: | ANSI C63.10-2013 section 6.6.4 | | |

6.8.1 E.U.T. Operation:

| | | | |
|--|----------------------------|-----------------------|---------|
| Operating Environment: | | | |
| Temperature: | 25 °C | Humidity: | 57 % |
| | | Atmospheric Pressure: | 101 kPa |
| Test mode: | Mode1, Mode2, Mode3, Mode4 | | |
| Note: Test frequency are from 1GHz to 25GHz, the amplitude of spurious emissions which are attenuated more than 20 dB below the limits are not reported. All modes of operation of the EUT were investigated, and only the worst-case results are reported. | | | |

6.8.2 Test Setup Diagram:



6.8.3 Test Data:

Mode1 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: 1

| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV/m | Limit dBuV/m | Over dB | Detector |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|
| 1 | | 4824.000 | 45.71 | 0.82 | 46.53 | 74.00 | -27.47 | peak |
| 2 | | 4824.000 | 39.44 | 0.82 | 40.26 | 54.00 | -13.74 | AVG |
| 3 | | 7236.000 | 40.69 | 6.00 | 46.69 | 74.00 | -27.31 | peak |
| 4 | | 7236.000 | 34.33 | 6.00 | 40.33 | 54.00 | -13.67 | AVG |
| 5 | | 9648.000 | 40.81 | 6.17 | 46.98 | 74.00 | -27.02 | peak |
| 6 | * | 9648.000 | 34.32 | 6.17 | 40.49 | 54.00 | -13.51 | AVG |

Mode1 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: 1

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measurement | Limit | Over | Detector |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | |
| 1 | | 4824.000 | 42.03 | 0.82 | 42.85 | 74.00 | -31.15 | peak |
| 2 | | 4824.000 | 35.60 | 0.82 | 36.42 | 54.00 | -17.58 | AVG |
| 3 | | 7236.000 | 39.43 | 6.00 | 45.43 | 74.00 | -28.57 | peak |
| 4 | | 7236.000 | 33.22 | 6.00 | 39.22 | 54.00 | -14.78 | AVG |
| 5 | | 9648.000 | 41.37 | 6.17 | 47.54 | 74.00 | -26.46 | peak |
| 6 | * | 9648.000 | 35.12 | 6.17 | 41.29 | 54.00 | -12.71 | AVG |

Mode1 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: 6

| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV/m | Limit dBuV/m | Over dB | Detector |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|
| 1 | | 4874.000 | 46.36 | 1.01 | 47.37 | 74.00 | -26.63 | peak |
| 2 | * | 4874.000 | 40.25 | 1.01 | 41.26 | 54.00 | -12.74 | AVG |
| 3 | | 7311.000 | 40.00 | 5.94 | 45.94 | 74.00 | -28.06 | peak |
| 4 | | 7311.000 | 33.39 | 5.94 | 39.33 | 54.00 | -14.67 | AVG |
| 5 | | 9748.000 | 40.60 | 6.54 | 47.14 | 74.00 | -26.86 | peak |
| 6 | | 9748.000 | 34.56 | 6.54 | 41.10 | 54.00 | -12.90 | AVG |

Mode1 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: 6

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measurement | Limit | Over | Detector |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | |
| 1 | | 4874.000 | 42.54 | 1.01 | 43.55 | 74.00 | -30.45 | peak |
| 2 | | 4874.000 | 36.28 | 1.01 | 37.29 | 54.00 | -16.71 | AVG |
| 3 | | 7311.000 | 40.11 | 5.94 | 46.05 | 74.00 | -27.95 | peak |
| 4 | | 7311.000 | 34.16 | 5.94 | 40.10 | 54.00 | -13.90 | AVG |
| 5 | | 9748.000 | 40.69 | 6.54 | 47.23 | 74.00 | -26.77 | peak |
| 6 | * | 9748.000 | 34.61 | 6.54 | 41.15 | 54.00 | -12.85 | AVG |

Mode1 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: 11

| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV/m | Limit dBuV/m | Over dB | Detector |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|
| 1 | | 4924.000 | 46.57 | 1.27 | 47.84 | 74.00 | -26.16 | peak |
| 2 | * | 4924.000 | 40.11 | 1.27 | 41.38 | 54.00 | -12.62 | AVG |
| 3 | | 7386.000 | 40.95 | 5.86 | 46.81 | 74.00 | -27.19 | peak |
| 4 | | 7386.000 | 34.47 | 5.86 | 40.33 | 54.00 | -13.67 | AVG |
| 5 | | 9848.000 | 41.35 | 6.31 | 47.66 | 74.00 | -26.34 | peak |
| 6 | | 9848.000 | 34.97 | 6.31 | 41.28 | 54.00 | -12.72 | AVG |

Mode1 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: 11

| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV/m | Limit dBuV/m | Over dB | Detector |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|
| 1 | | 4924.000 | 42.31 | 1.27 | 43.58 | 74.00 | -30.42 | peak |
| 2 | | 4924.000 | 35.95 | 1.27 | 37.22 | 54.00 | -16.78 | AVG |
| 3 | | 7386.000 | 40.62 | 5.86 | 46.48 | 74.00 | -27.52 | peak |
| 4 | | 7386.000 | 34.37 | 5.86 | 40.23 | 54.00 | -13.77 | AVG |
| 5 | | 9848.000 | 41.12 | 6.31 | 47.43 | 74.00 | -26.57 | peak |
| 6 | * | 9848.000 | 35.05 | 6.31 | 41.36 | 54.00 | -12.64 | AVG |

Photographs of the test setup

Refer to Appendix - Test Setup Photos

Photographs of the EUT

Refer to Appendix - EUT Photos

Appendix

Appendix A: DTS Bandwidth

Test Result

| Test Mode | Antenna | Frequency [MHz] | DTS BW [MHz] | Limit [MHz] | Verdict |
|-----------|---------|-----------------|--------------|-------------|---------|
| 11B | Ant1 | 2412 | 8.040 | 0.5 | PASS |
| | | 2437 | 8.080 | 0.5 | PASS |
| | | 2462 | 8.520 | 0.5 | PASS |
| 11G | Ant1 | 2412 | 15.440 | 0.5 | PASS |
| | | 2437 | 15.720 | 0.5 | PASS |
| | | 2462 | 15.640 | 0.5 | PASS |
| 11N20SISO | Ant1 | 2412 | 15.160 | 0.5 | PASS |
| | | 2437 | 15.080 | 0.5 | PASS |
| | | 2462 | 15.880 | 0.5 | PASS |
| 11N40SISO | Ant1 | 2422 | 35.280 | 0.5 | PASS |
| | | 2437 | 35.280 | 0.5 | PASS |
| | | 2452 | 35.200 | 0.5 | PASS |

Test Graphs



11G Ant1 2412



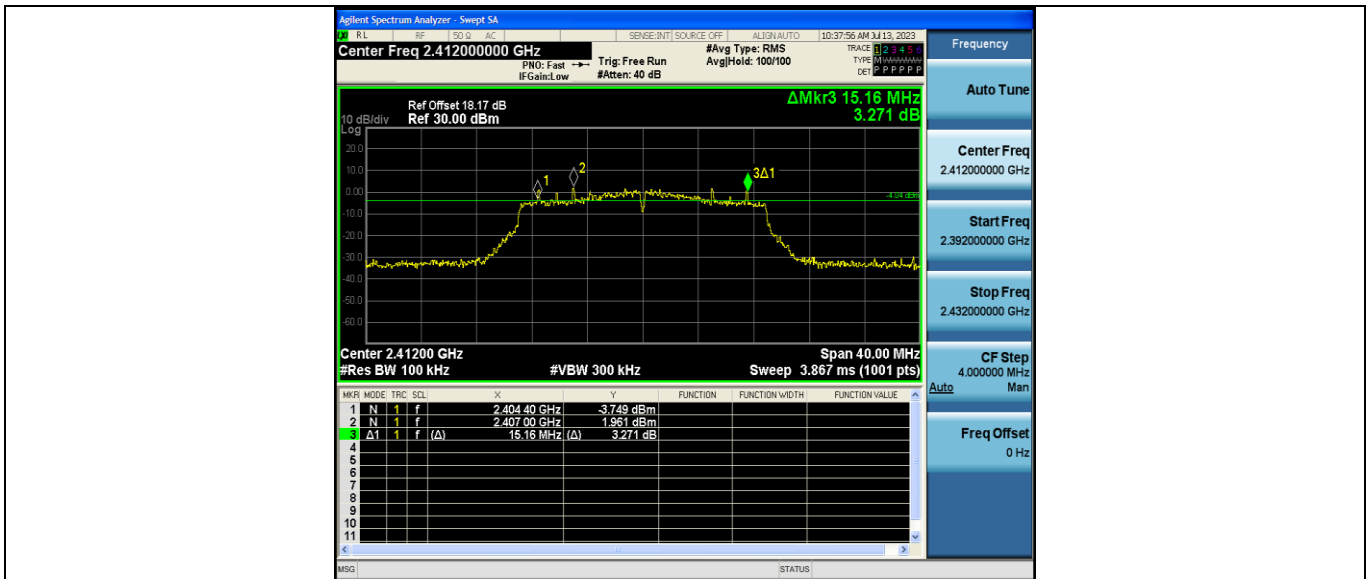
11G Ant1 2437



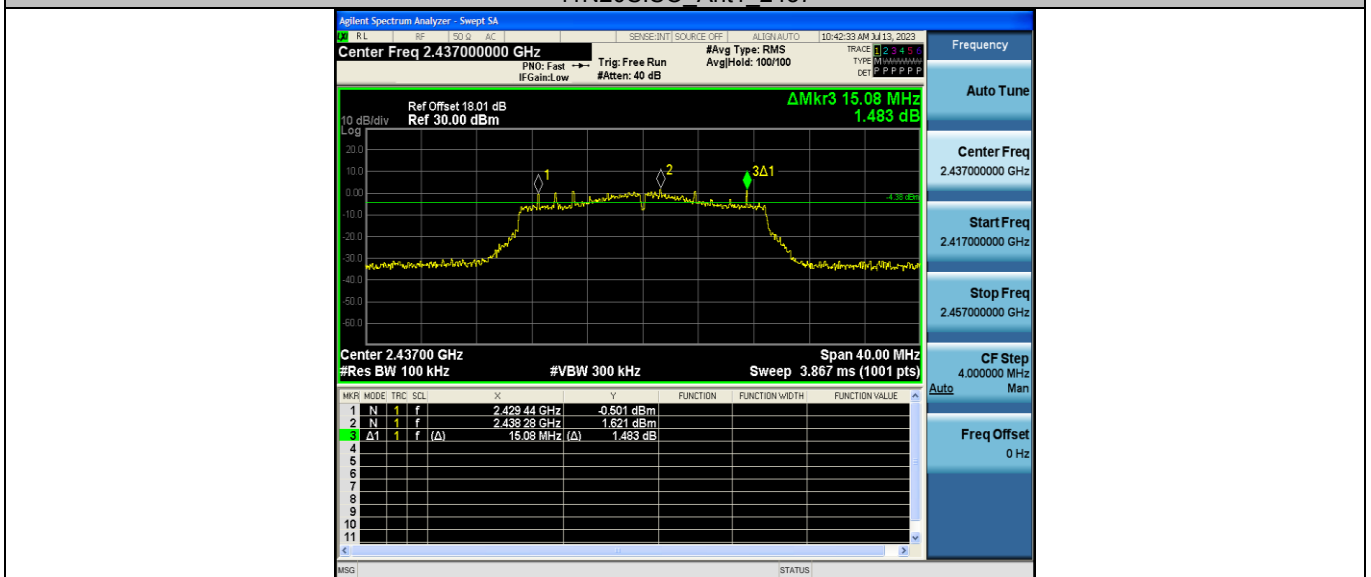
11G Ant1 2462



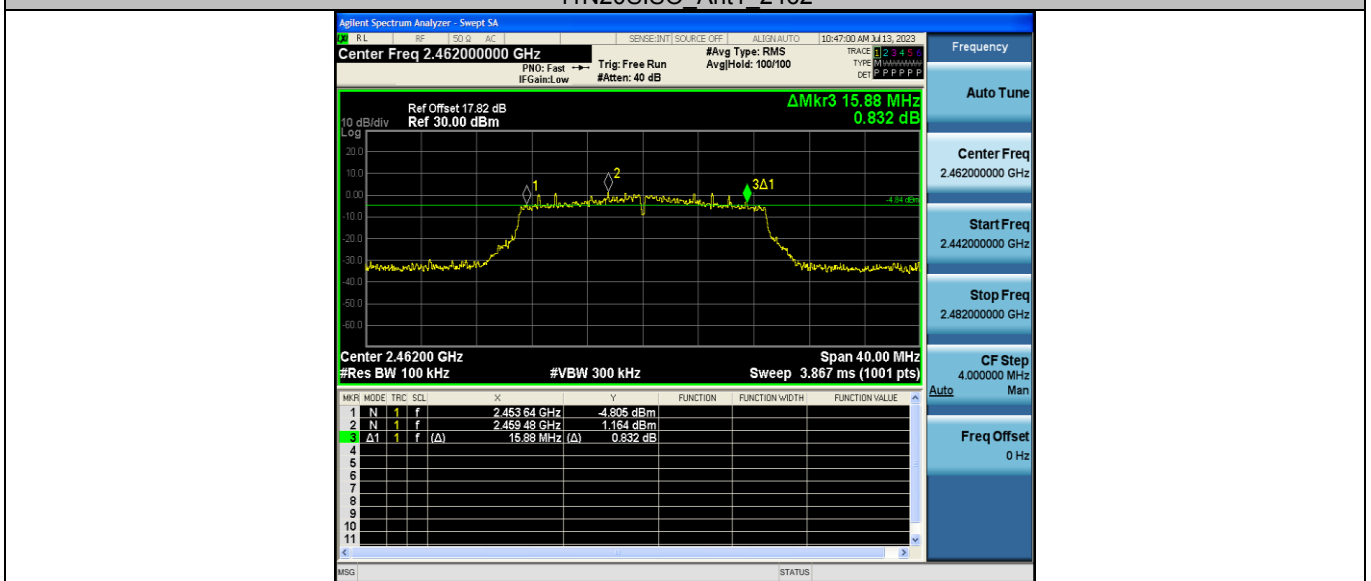
11N20SISO Ant1 2412



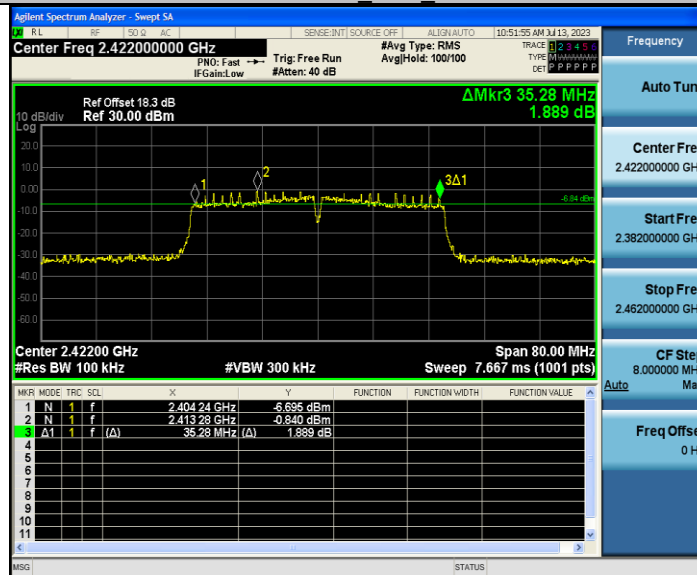
11N20SISO_Ant1_2437



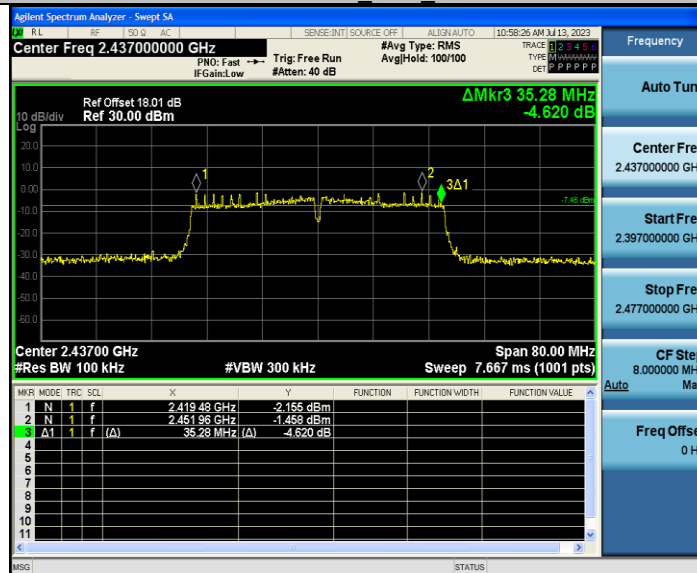
11N20SISO_Ant1_2462



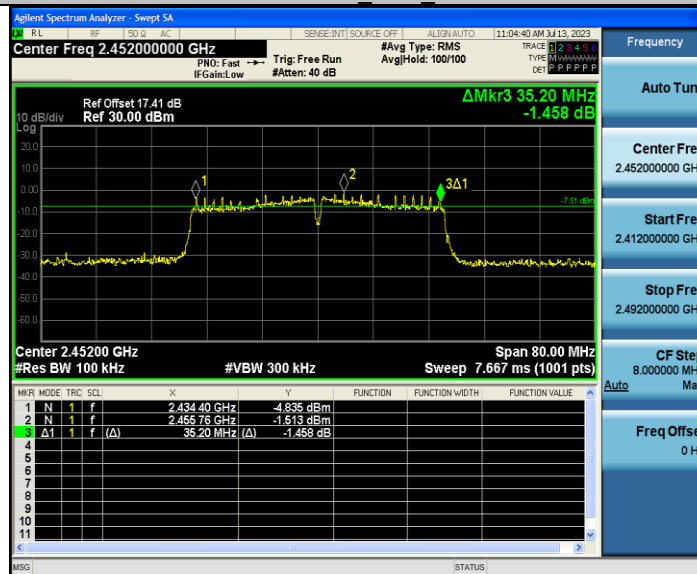
11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



Appendix B: Maximum conducted output power

Test Result Peak

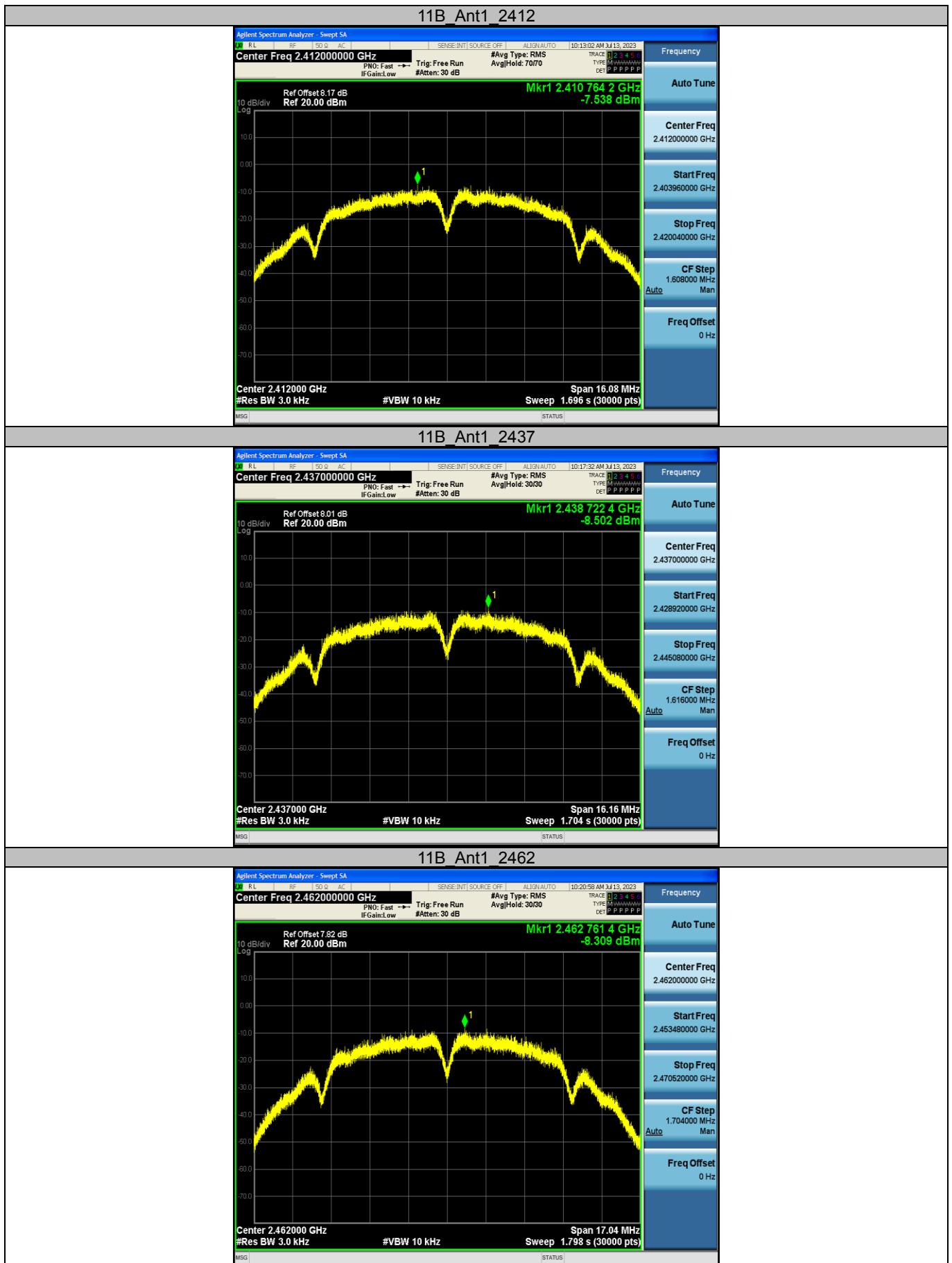
| Test Mode | Antenna | Frequency [MHz] | Peak Power [dBm] | Conducted Limit [dBm] | Verdict |
|-----------|---------|-----------------|------------------|-----------------------|---------|
| 11B | Ant1 | 2412 | 16.28 | ≤30.00 | PASS |
| | | 2437 | 15.80 | ≤30.00 | PASS |
| | | 2462 | 16.08 | ≤30.00 | PASS |
| 11G | Ant1 | 2412 | 21.79 | ≤30.00 | PASS |
| | | 2437 | 20.86 | ≤30.00 | PASS |
| | | 2462 | 21.29 | ≤30.00 | PASS |
| 11N20SISO | Ant1 | 2412 | 20.05 | ≤30.00 | PASS |
| | | 2437 | 19.26 | ≤30.00 | PASS |
| | | 2462 | 19.62 | ≤30.00 | PASS |
| 11N40SISO | Ant1 | 2422 | 20.02 | ≤30.00 | PASS |
| | | 2437 | 19.75 | ≤30.00 | PASS |
| | | 2452 | 19.31 | ≤30.00 | PASS |

Appendix C: Maximum power spectral density

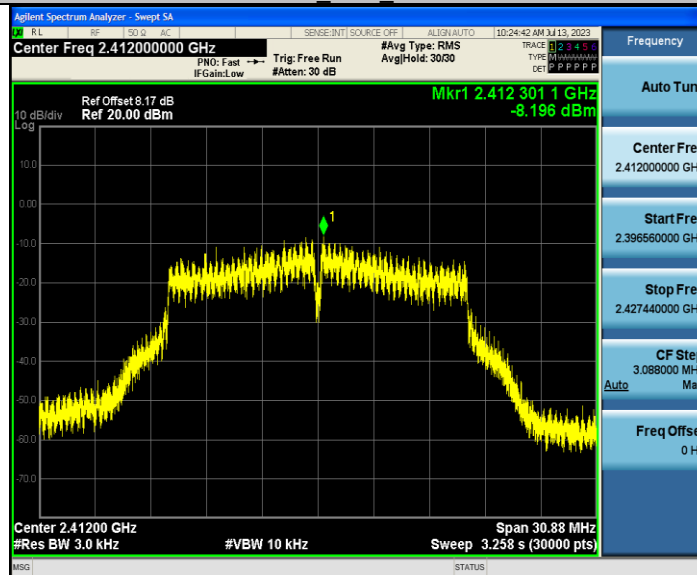
Test Result

| Test Mode | Antenna | Frequency [MHz] | Result [dBm/3-100kHz] | Limit [dBm/3kHz] | Verdict |
|-----------|---------|-----------------|-----------------------|------------------|---------|
| 11B | Ant1 | 2412 | -7.54 | ≤8.00 | PASS |
| | | 2437 | -8.5 | ≤8.00 | PASS |
| | | 2462 | -8.31 | ≤8.00 | PASS |
| 11G | Ant1 | 2412 | -8.2 | ≤8.00 | PASS |
| | | 2437 | -8.98 | ≤8.00 | PASS |
| | | 2462 | -8.77 | ≤8.00 | PASS |
| 11N20SISO | Ant1 | 2412 | -10.25 | ≤8.00 | PASS |
| | | 2437 | -9.22 | ≤8.00 | PASS |
| | | 2462 | -9.3 | ≤8.00 | PASS |
| 11N40SISO | Ant1 | 2422 | -13.82 | ≤8.00 | PASS |
| | | 2437 | -14.18 | ≤8.00 | PASS |
| | | 2452 | -13.89 | ≤8.00 | PASS |

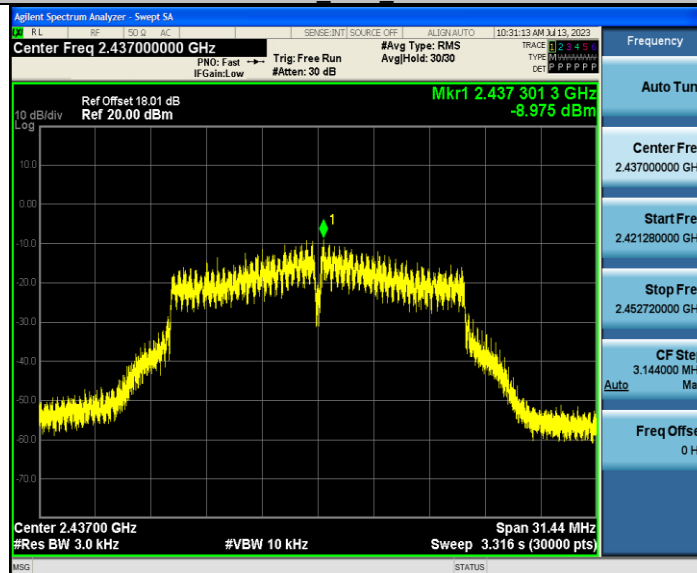
Test Graphs



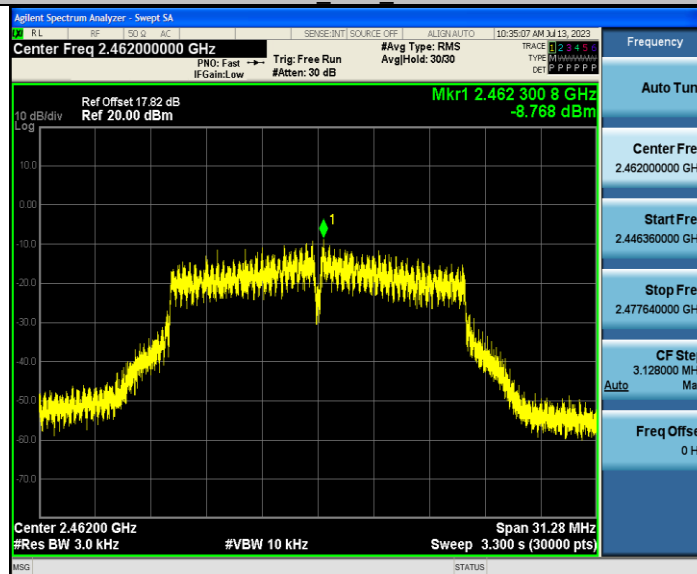
11G Ant1 2412



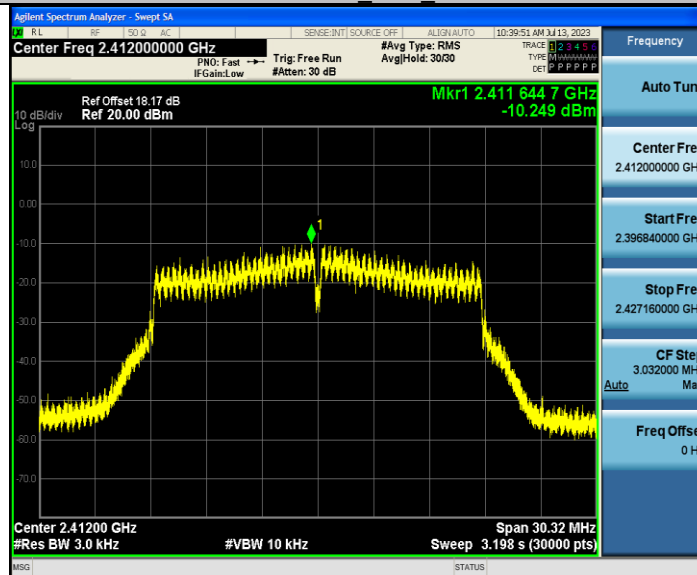
11G Ant1 2437



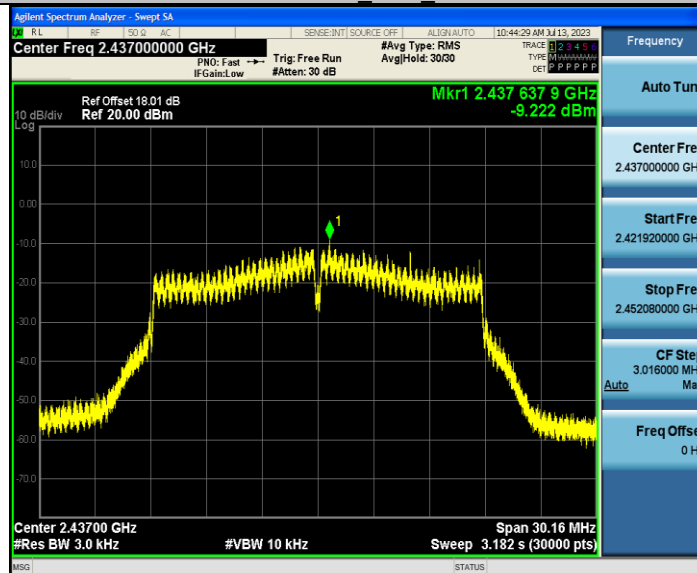
11G Ant1 2462



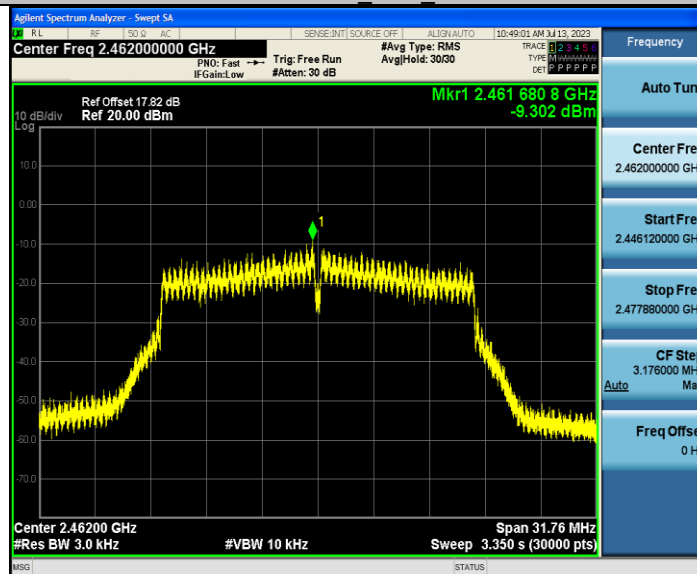
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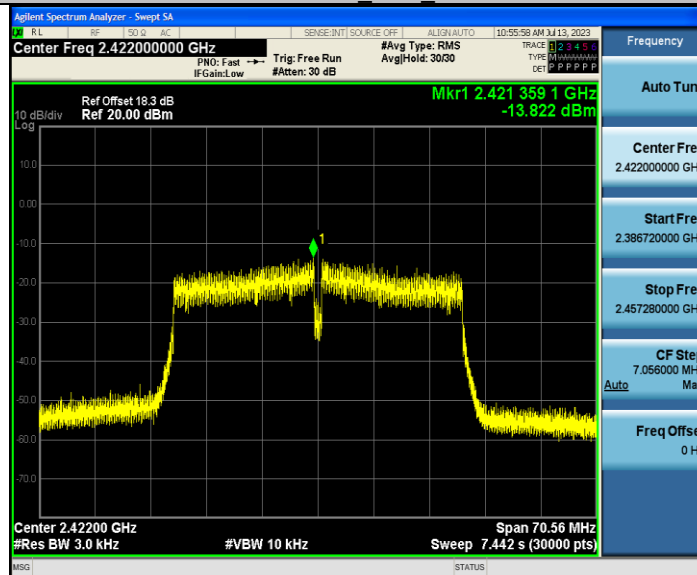
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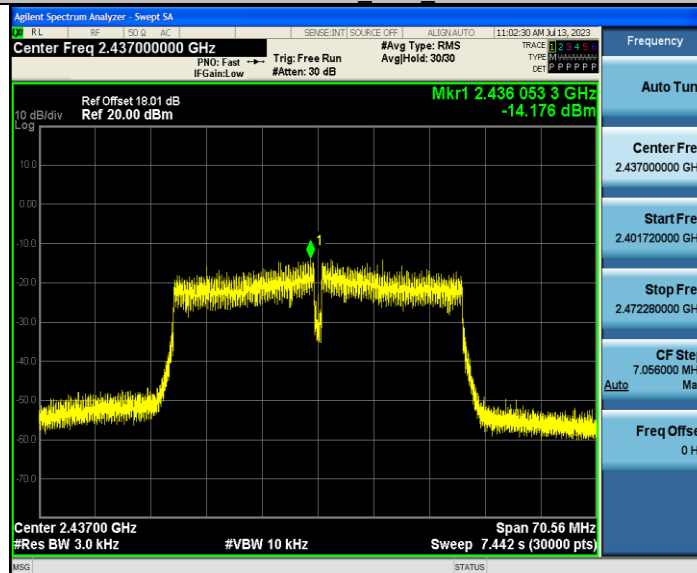
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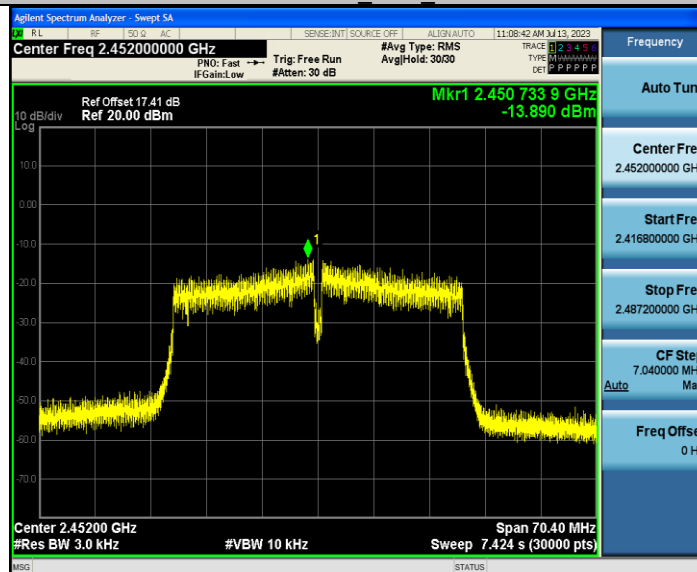
11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



Appendix D: Band edge measurements

