

FCC Co-Location Test Report

FCC ID : QXO-4200
Equipment : Wireless 802.11 ac/a + b/g/n Access Point
Model No. : WS-AP3805i, WS-AP3805e, WS-AP3801i,
30912, 30913
(refer to item 1.1.1 for more details)
Brand Name : Extreme Networks
Applicant : Extreme Networks, Inc.
Address : 9 Northeastern Blvd., Salem, New Hampshire,
United States, 03079
Standard : 47 CFR FCC Part 15.247
47 CFR FCC Part 15.407
Received Date : Jun. 13, 2014
Tested Date : Jul. 01 ~ Oct. 18, 2014

We, International Certification Corp., would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It may be duplicated completely for legal use with the approval of the applicant. It shall not be reproduced except in full without the written approval of our laboratory.

Approved & Reviewed by:



Gary Chang / Manager



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Release Record

| Report No. | Version | Description | Issued Date |
|-------------|---------|---------------|---------------|
| FR482702-04 | Rev. 01 | Initial issue | Mar. 25, 2016 |

Summary of Test Results

| FCC Rules | Test Items | Measured | Result |
|----------------------------------|--------------------|---|--------|
| 15.247(d) 15.407(b) 15.209 | Radiated Emissions | [dBuV/m at 3m]: 37.94MHz 38.76 (Margin -1.24dB) – QP | Pass |

1 General Description

1.1 Information

This report is issued as a duplicate report to the original ICC report no. FA482702. The modification is only concerned with adding multiple-listing models (30912 & 30913) for marketing purpose.

1.1.1 Product Details

The following models are provided to this EUT. (**New additional models are marked in boldface.**)

| Brand Name | Model Name | Description | Product Name | Remarks |
|------------------|--------------|-----------------------|---|-------------------------|
| Extreme Networks | WS-AP3805i | --- | Wireless 802.11 ac/a + b/g/n Access Point | Internal PIFA antenna |
| | 30912 | WS-AP3805i-FCC | | |
| | 30913 | WS-AP3805-ROW | | |
| | WS-AP3801i | --- | | Internal PIFA antenna |
| | WS-AP3805e | --- | | External Dipole antenna |

Note: The AP3805i and AP3801i use identical hardware. The only difference is the AP3801i is software limited to prevent simultaneous operation in the 2.4 GHz and 5GHz bands.

1.1.2 Specification of the Equipment under Test (EUT)

| RF General Information | | | | | |
|------------------------|------------------|-----------------|----------------|------------------------------------|-----------------|
| Frequency Range (MHz) | IEEE Std. 802.11 | Ch. Freq. (MHz) | Channel Number | Transmit Chains (N _{TX}) | Data Rate / MCS |
| 2400-2483.5 | b | 2412-2462 | 1-11 [11] | 2 | 1-11 Mbps |
| 2400-2483.5 | g | 2412-2462 | 1-11 [11] | 2 | 6-54 Mbps |
| 2400-2483.5 | n (HT20) | 2412-2462 | 1-11 [11] | 2 | MCS 0-15 |
| 2400-2483.5 | n (HT40) | 2422-2452 | 3-9 [7] | 2 | MCS 0-15 |

Note 1: RF output power specifies that Maximum Peak Conducted Output Power.
Note 2: 802.11b uses a combination of DSSS-DBPSK, DQPSK, CCK modulation.
Note 3: 802.11g/n uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.

| RF General Information | | | | | |
|------------------------|------------------|-----------------|----------------|------------------------------------|-----------------|
| Frequency Range (MHz) | IEEE Std. 802.11 | Ch. Freq. (MHz) | Channel Number | Transmit Chains (N _{TX}) | Data Rate / MCS |
| 5150-5250 | a | 5180-5240 | 36-48 [4] | 2 | 6-54 Mbps |
| 5150-5250 | n (HT20) | 5180-5240 | 36-48 [4] | 2 | MCS 0-15 |
| 5150-5250 | n (HT40) | 5190-5230 | 38-46 [2] | 2 | MCS 0-15 |
| 5150-5250 | ac (VHT20) | 5180-5240 | 36-48 [4] | 2 | MCS 0-8 |
| 5150-5250 | ac (VHT40) | 5190-5230 | 38-46 [2] | 2 | MCS 0-9 |
| 5150-5250 | ac (VHT80) | 5210 | 42 [1] | 2 | MCS 0-9 |

Note 1: RF output power specifies that Maximum Conducted Output Power.
Note 2: 802.11a/n/ac uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.

| RF General Information | | | | | |
|------------------------|------------------|-----------------|----------------|------------------------------------|-----------------|
| Frequency Range (MHz) | IEEE Std. 802.11 | Ch. Freq. (MHz) | Channel Number | Transmit Chains (N _{TX}) | Data Rate / MCS |
| 5725-5850 | a | 5745-5825 | 149-165 [5] | 2 | 6-54 Mbps |
| 5725-5850 | n (HT20) | 5745-5825 | 149-165 [5] | 2 | MCS 0-15 |
| 5725-5850 | n (HT40) | 5755-5795 | 151-159 [2] | 2 | MCS 0-15 |
| 5725-5850 | ac (VHT20) | 5745-5825 | 149-165 [5] | 2 | MCS 0-8 |
| 5725-5850 | ac (VHT40) | 5755-5795 | 151-159 [2] | 2 | MCS 0-9 |
| 5725-5850 | ac (VHT80) | 5775 | 155 [1] | 2 | MCS 0-9 |

Note 1: RF output power specifies that Maximum Conducted Output Power.
Note 2: 802.11a/n/ac uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.

1.1.3 Antenna Details

| Ant. No. | Model | Type | Connector | Operating Frequencies (MHz) / Antenna Gain (dBi) | | |
|----------|---------------|-------------------|-----------|--|-----------|-----------|
| | | | | 2400~2483.5 | 5150~5250 | 5725~5850 |
| 1 | 5718A0075300 | PIFA | I-Pex | 3.52 | --- | --- |
| 2 | 5718A0074300 | PIFA | I-Pex | 3.16 | --- | --- |
| 3 | 5718A0077300 | PIFA | I-Pex | --- | 5.40 | 5.23 |
| 4 | 5718A0076300 | PIFA | I-Pex | --- | 4.08 | 5.68 |
| 5 | 7102A0300000 | Dipole | R SMA | 4.42 | --- | --- |
| 6 | 7102A0301000 | Dipole | R SMA | --- | 3.18 | 2.95 |
| 7 | WS-AI-DQ04360 | Directional Panel | RPSMA | 4 | 7 | 7 |
| 8 | WS-AI-DD05120 | Directional Panel | RPSMA | 5 | 5 | 5 |

1.1.4 Power Supply Type of Equipment under Test (EUT)

| | |
|--------------------------|-------------------------------------|
| Power Supply Type | 12Vdc from adapter / 48Vdc from PoE |
|--------------------------|-------------------------------------|

1.1.5 Accessories & Support Units

| Accessories & Support Units | | |
|-----------------------------|--|--|
| No. | Equipment | Description |
| 1 | Power Supply Type 1 Adapter | Brand: Powertron Electronics Corp. Model: PA1015-2I I/P: 100-240Vac, 50-60Hz, 0.4A O/P: 12Vdc, 1.25A, 15W Power line: 1.2m non-shielded with one core |
| 2 | Power Supply Type 2 With POE injector (Model: EPE-48GR) **Support unit only | Brand: Powertron Electronics Corp. Model: PA1040-480IB080 I/P: 100-240Vac, 50-60Hz, 1.5A O/P: 48Vdc, 0.8A, 38.4W max Power line: 1.5m non-shielded with one core |

1.2 The Equipment List

| Test Item | Radiated Emission | | | | |
|-------------------------|----------------------------|-------------|------------------|------------------|-------------------|
| Test Site | 966 chamber1 / (03CH01-WS) | | | | |
| Instrument | Manufacturer | Model No. | Serial No. | Calibration Date | Calibration Until |
| Spectrum Analyzer | R&S | FSV40 | 101498 | Jan. 25, 2014 | Jan. 24, 2015 |
| Receiver | R&S | ESR3 | 101658 | Jan. 10, 2014 | Jan. 09, 2015 |
| Bilog Antenna | SCHWARZBECK | VULB9168 | VULB9168-523 | Jan. 23, 2014 | Jan. 22, 2015 |
| Horn Antenna 1G-18G | SCHWARZBECK | BBHA 9120 D | BBHA 9120 D 1096 | Feb. 13, 2014 | Feb. 12, 2015 |
| Horn Antenna 18G-40G | SCHWARZBECK | BBHA 9170 | BBHA 9170517 | Dec. 27, 2013 | Dec. 26, 2014 |
| Preamplifier | Burgeon | BPA-530 | 100218 | Dec. 09, 2013 | Dec. 08, 2014 |
| Preamplifier | Agilent | 83017A | MY39501308 | Dec. 16, 2013 | Dec. 15, 2014 |
| RF Cable | HUBER+SUHNER | SUCOFLEX104 | MY16014/4 | Dec. 16, 2013 | Dec. 15, 2014 |
| RF Cable | HUBER+SUHNER | SUCOFLEX104 | MY16019/4 | Dec. 16, 2013 | Dec. 15, 2014 |
| RF Cable | HUBER+SUHNER | SUCOFLEX104 | MY16139/4 | Dec. 16, 2013 | Dec. 15, 2014 |
| LF cable 3M | Woken | CFD400NL-LW | CFD400NL-001 | Dec. 16, 2013 | Dec. 15, 2014 |
| LF cable 10M | Woken | CFD400NL-LW | CFD400NL-002 | Dec. 16, 2013 | Dec. 15, 2014 |
| Measurement Software | AUDIX | e3 | 6.120210g | NA | NA |

Note: Calibration Interval of instruments listed above is one year.

| | | | | | |
|--------------|-----|----------|--------|---------------|---------------|
| Loop Antenna | R&S | HFH2-Z2 | 100330 | Nov. 15, 2012 | Nov. 14, 2014 |
| Amplifier | EM | EM18G40G | 060604 | Oct. 17, 2013 | Oct. 16, 2015 |

Note: Calibration Interval of instruments listed above is two year.

1.3 Test Standards

According to the specification of EUT, the EUT must comply with following standards and KDB documents.

47 CFR FCC Part 15.247

47 CFR FCC Part 15.407

ANSI C63.10-2009

FCC KDB 412172

FCC 789033 D02 General UNII Test Procedures New Rules v01

FCC KDB 644545 D03 Guidance for IEEE 802 11ac New Rules v01

FCC KDB 558074 D01 DTS Meas Guidance v03r02

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

1.4 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))

| Measurement Uncertainty | |
|-------------------------------|---------------|
| Parameters | Uncertainty |
| Radiated emission \leq 1GHz | ± 3.26 dB |
| Radiated emission $>$ 1GHz | ± 4.94 dB |

2 Test Configuration

2.1 Testing Condition

| Test Item | Test Site | Ambient Condition | Tested By |
|--------------------|-----------|-------------------|----------------------------|
| Radiated Emissions | 03CH01-WS | 22-25°C / 64-68% | Anderson Hong Haru Yang |

➤ FCC site registration No.: 657002

➤ IC site registration No.: 10807A-1

2.2 The Worst Test Modes and Channel Details

| Test item | Modulation Mode | Test Channel | Data rate | Test Configuration |
|-----------------------------|-----------------------------|--------------|---------------|--------------------|
| Radiated Emissions ≤1GHz | 2.4G 11n 20 + 5G 11ac VHT20 | CH6 + CH48 | MCS 0 + MCS 0 | 1, 5 |
| | 2.4G 11g + 5G 11a | CH6 + CH40 | 6Mbps + 6Mbps | 2, 6 |
| | 2.4G 11g + 5G 11ac VHT20 | CH6 + CH40 | 6Mbps + MCS 0 | 3, 7 |
| | 2.4G 11n 20 + 5G 11ac VHT20 | CH6 + CH40 | MCS 0 + MCS 0 | 4, 8 |
| Radiated Emissions >1GHz | 2.4G 11n 20 + 5G 11ac VHT20 | CH6 + CH48 | MCS 0 + MCS 0 | 1 |
| | 2.4G 11g + 5G 11a | CH6 + CH40 | 6Mbps + 6Mbps | 2 |
| | 2.4G 11g + 5G 11ac VHT20 | CH6 + CH40 | 6Mbps + MCS 0 | 3 |
| | 2.4G 11n 20 + 5G 11ac VHT20 | CH6 + CH40 | MCS 0 + MCS 0 | 4 |

NOTE:

1. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. Refer to the following configurations for each worst case plane.
2. The final test configurations are listed as follows:
 - 1) Configuration 1: Internal PIFA antenna, Adapter mode, Y-plane.
 - 2) Configuration 2: External Dipole antenna, Adapter mode, Y-plane.
 - 3) Configuration 3: External Directional Panel antenna (model WS-AI-DQ04360), Adapter mode, Y-plane.
 - 4) Configuration 4: External Directional Panel antenna (model WS-AI-DD05120), Adapter mode, Y-plane.
 - 5) Configuration 5: Internal PIFA antenna, POE mode, Y-plane.
 - 6) Configuration 6: External Dipole antenna, POE mode, Y-plane.
 - 7) Configuration 7: External Directional Panel antenna (model WS-AI-DQ04360), POE mode, Y-plane.
 - 8) Configuration 8: External Directional Panel antenna (model WS-AI-DD05120), POE mode, Y-plane.

3 Transmitter Test Results

3.1 Unwanted Emissions into Restricted Frequency Bands

3.1.1 Limit of Unwanted Emissions into Restricted Frequency Bands

| Restricted Band Emissions Limit | | | |
|---------------------------------|-----------------------|-------------------------|----------------------|
| Frequency Range (MHz) | Field Strength (uV/m) | Field Strength (dBuV/m) | Measure Distance (m) |
| 0.009~0.490 | 2400/F(kHz) | 48.5 - 13.8 | 300 |
| 0.490~1.705 | 24000/F(kHz) | 33.8 - 23 | 30 |
| 1.705~30.0 | 30 | 29 | 30 |
| 30~88 | 100 | 40 | 3 |
| 88~216 | 150 | 43.5 | 3 |
| 216~960 | 200 | 46 | 3 |
| Above 960 | 500 | 54 | 3 |

Note 1:
Qusai-Peak value is measured for frequency below 1GHz except for 9–90 kHz, 110–490 kHz frequency band. Peak and average value are measured for frequency above 1GHz. The limit on average radio frequency emission is as above table. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit

Note 2:
Measurements may be performed at a distance other than what is specified provided. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor as below, Frequency at or above 30 MHz: 20 dB/decade Frequency below 30 MHz: 40 dB/decade.

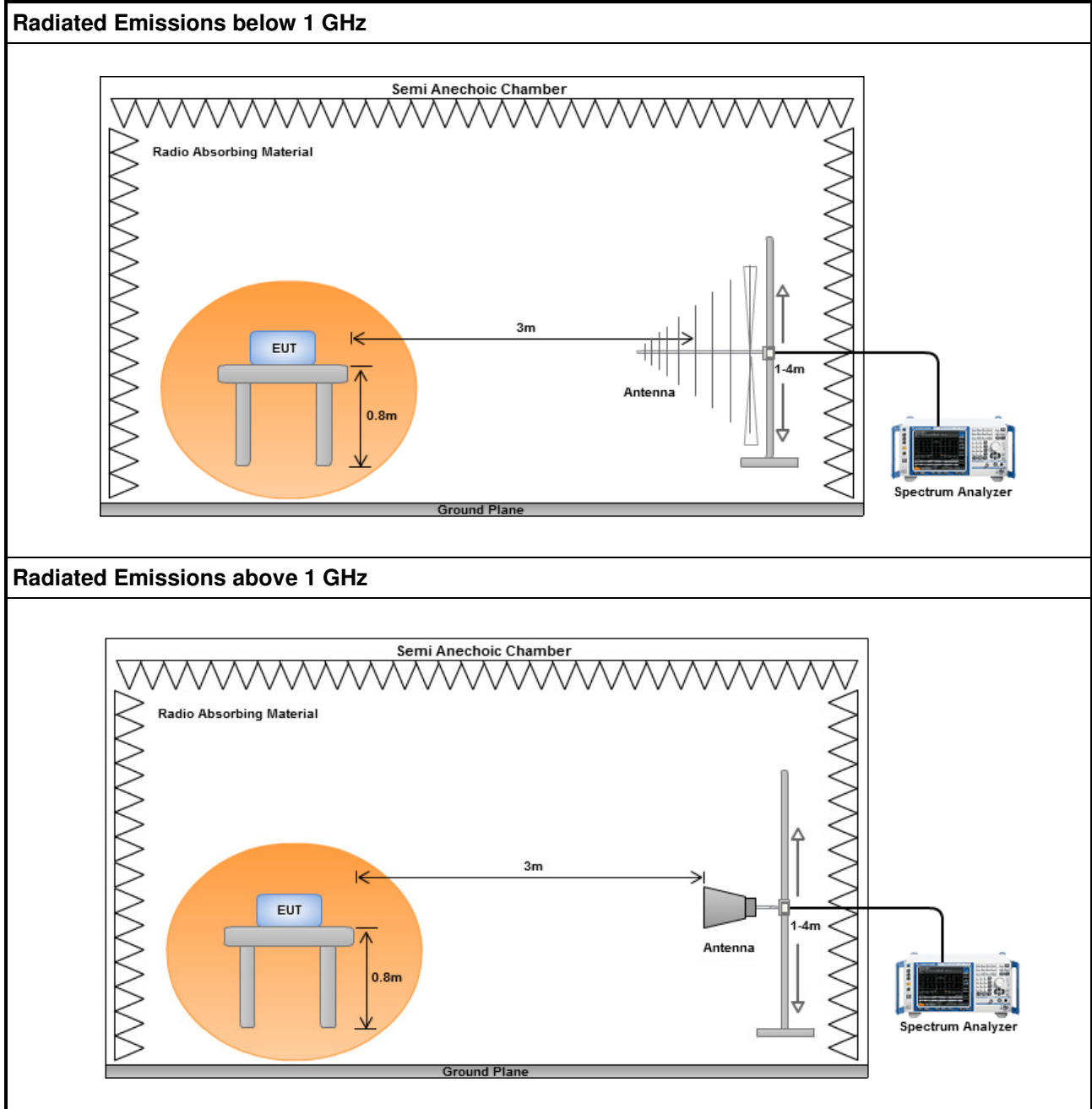
3.1.2 Test Procedures

1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. The EUT is placed at a height of 0.8 m test table above the ground plane.
2. Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1 m ~ 4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3 m.
3. This investigation is performed with the EUT rotated 360°, the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

Note:

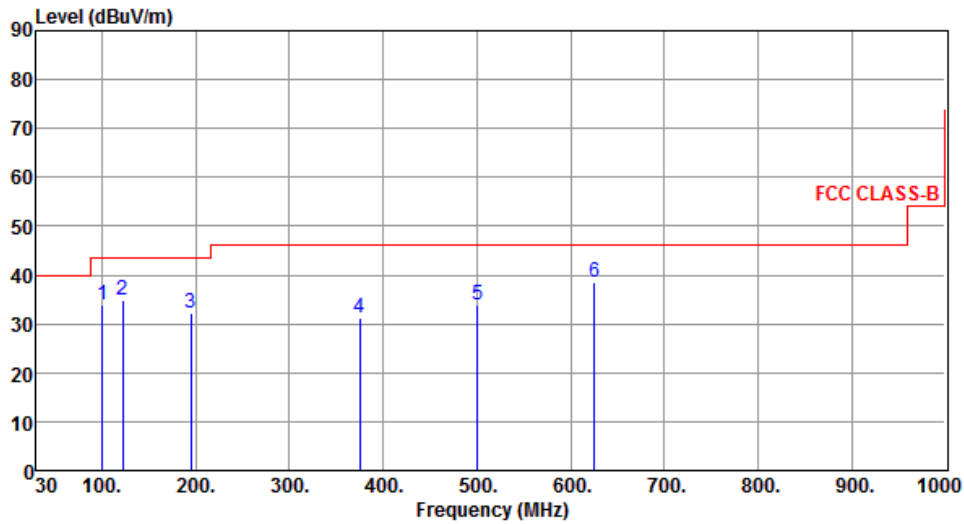
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above 1GHz.

3.1.3 Test Setup



3.1.4 Transmitter Radiated Unwanted Emissions (Below 1GHz) (Configuration 1: Internal PIFA antenna)

| | | | |
|---------------------|-----------------------------|---------------------------|------------|
| Modulation | 2.4G 11n 20 + 5G 11ac VHT20 | Test Channel | CH6 + CH48 |
| Polarization | Horizontal | Test Configuration | 1 |



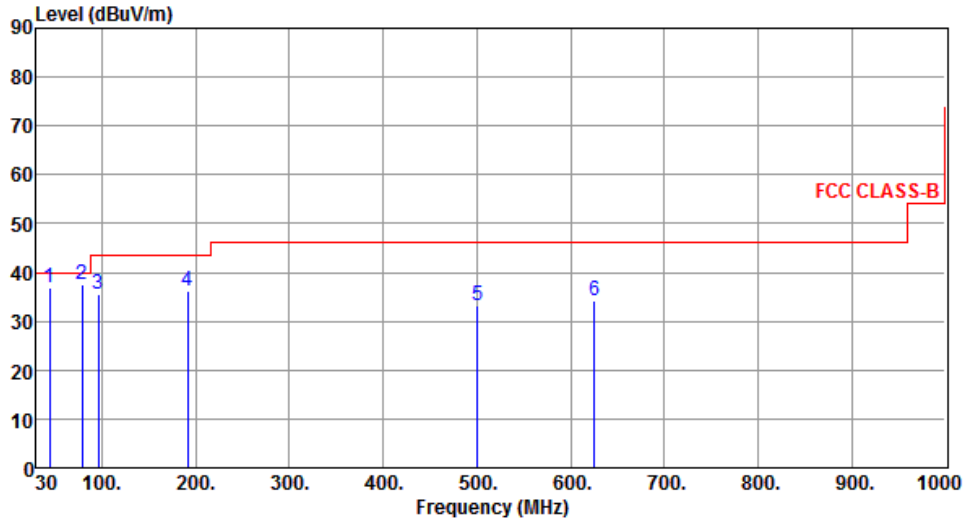
| | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB | Remark | ANT High cm | Turn Table deg |
|---|--------------|-----------------------------|-----------------|--------------|-----------------------|--------------|--------|-------------------|----------------------|
| 1 | 100.53 | 33.94 | 43.50 | -9.56 | 55.69 | -21.75 | Peak | --- | --- |
| 2 | 122.43 | 34.87 | 43.50 | -8.63 | 53.80 | -18.93 | Peak | --- | --- |
| 3 | 194.58 | 32.26 | 43.50 | -11.24 | 51.89 | -19.63 | Peak | --- | --- |
| 4 | 375.26 | 31.17 | 46.00 | -14.83 | 45.51 | -14.34 | Peak | --- | --- |
| 5 | 500.39 | 33.99 | 46.00 | -12.01 | 45.53 | -11.54 | Peak | --- | --- |
| 6 | 625.49 | 38.36 | 46.00 | -7.64 | 47.54 | -9.18 | Peak | --- | --- |

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

| | | | |
|---------------------|-----------------------------|---------------------------|------------|
| Modulation | 2.4G 11n 20 + 5G 11ac VHT20 | Test Channel | CH6 + CH48 |
| Polarization | Vertical | Test Configuration | 1 |



| | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB | Remark | ANT High cm | Turn Table deg |
|---|--------------|-----------------------------|-----------------|--------------|-----------------------|--------------|--------|-------------------|----------------------|
| 1 | 44.52 | 36.89 | 40.00 | -3.11 | 53.71 | -16.82 | Peak | --- | --- |
| 2 | 79.23 | 37.54 | 40.00 | -2.46 | 59.01 | -21.47 | Peak | --- | --- |
| 3 | 96.54 | 35.70 | 43.50 | -7.80 | 57.95 | -22.25 | Peak | --- | --- |
| 4 | 191.61 | 36.24 | 43.50 | -7.26 | 55.85 | -19.61 | Peak | --- | --- |
| 5 | 500.35 | 33.33 | 46.00 | -12.67 | 44.87 | -11.54 | Peak | --- | --- |
| 6 | 625.47 | 34.28 | 46.00 | -11.72 | 43.46 | -9.18 | Peak | --- | --- |

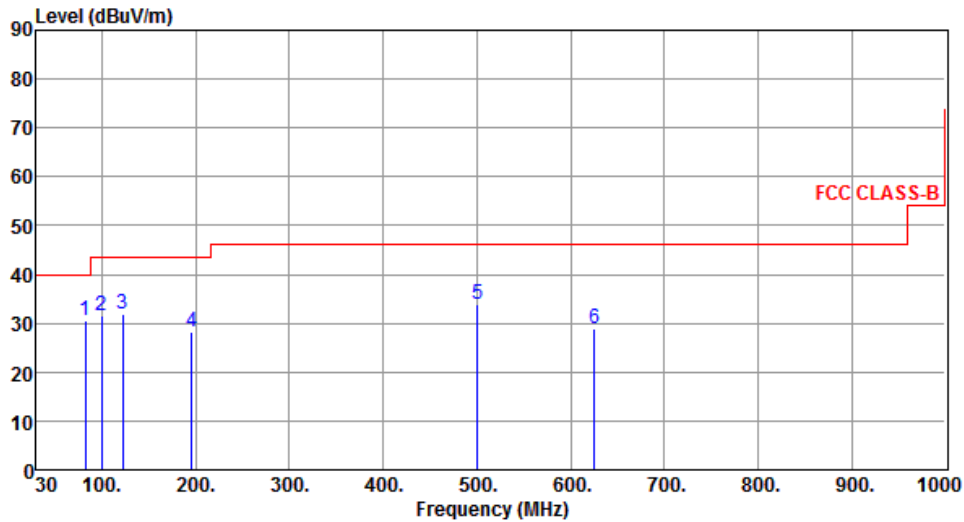
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

3.1.5 Transmitter Radiated Unwanted Emissions (Below 1GHz) (Configuration 2: External Dipole antenna)

| | | | |
|---------------------|-------------------|---------------------------|------------|
| Modulation | 2.4G 11g + 5G 11a | Test Channel | CH6 + CH40 |
| Polarization | Horizontal | Test Configuration | 2 |



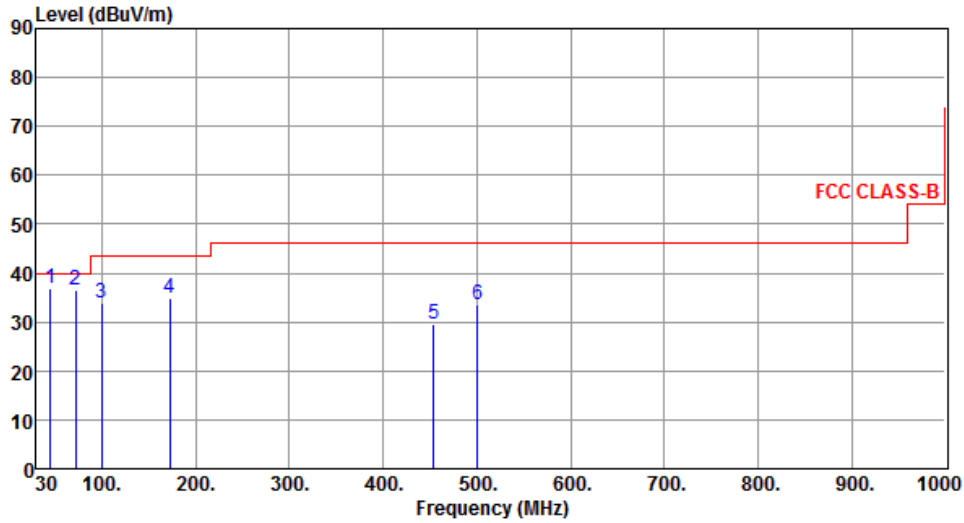
| | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB | Remark | ANT High cm | Turn Table deg |
|---|--------------|-----------------------------|-----------------|--------------|-----------------------|--------------|--------|-------------------|----------------------|
| 1 | 81.88 | 30.43 | 40.00 | -9.57 | 52.31 | -21.88 | Peak | --- | --- |
| 2 | 99.53 | 31.48 | 43.50 | -12.02 | 53.36 | -21.88 | Peak | --- | --- |
| 3 | 122.46 | 31.94 | 43.50 | -11.56 | 50.86 | -18.92 | Peak | --- | --- |
| 4 | 195.87 | 28.33 | 43.50 | -15.17 | 47.96 | -19.63 | Peak | --- | --- |
| 5 | 500.43 | 33.75 | 46.00 | -12.25 | 45.29 | -11.54 | Peak | --- | --- |
| 6 | 625.50 | 28.78 | 46.00 | -17.22 | 37.96 | -9.18 | Peak | --- | --- |

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

| | | | |
|---------------------|-------------------|---------------------------|------------|
| Modulation | 2.4G 11g + 5G 11a | Test Channel | CH6 + CH40 |
| Polarization | Vertical | Test Configuration | 2 |



| | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB | Remark | ANT High cm | Turn Table deg |
|---|--------------|-----------------------------|-----------------|--------------|-----------------------|--------------|--------|-------------------|----------------------|
| 1 | 45.32 | 36.76 | 40.00 | -3.24 | 53.54 | -16.78 | Peak | --- | --- |
| 2 | 72.25 | 36.46 | 40.00 | -3.54 | 56.38 | -19.92 | Peak | --- | --- |
| 3 | 99.88 | 33.75 | 43.50 | -9.75 | 55.59 | -21.84 | Peak | --- | --- |
| 4 | 172.43 | 34.81 | 43.50 | -8.69 | 52.52 | -17.71 | Peak | --- | --- |
| 5 | 453.74 | 29.60 | 46.00 | -16.40 | 42.05 | -12.45 | Peak | --- | --- |
| 6 | 500.49 | 33.58 | 46.00 | -12.42 | 45.12 | -11.54 | Peak | --- | --- |

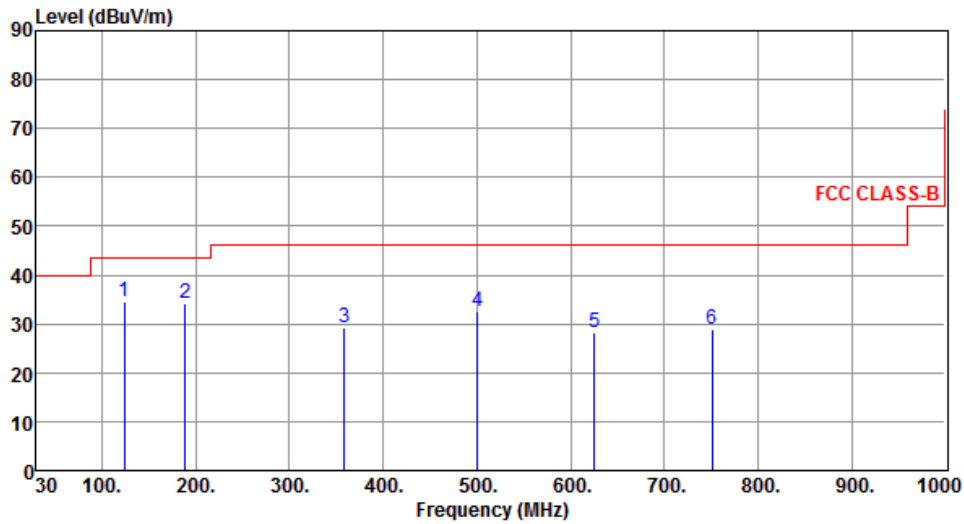
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

3.1.6 Transmitter Radiated Unwanted Emissions (Below 1GHz) (Configuration 3: External Directional Panel antenna (model WS-AI-DQ04360))

| | | | |
|---------------------|--------------------------|---------------------------|------------|
| Modulation | 2.4G 11g + 5G 11ac VHT20 | Test Channel | CH6 + CH40 |
| Polarization | Horizontal | Test Configuration | 3 |



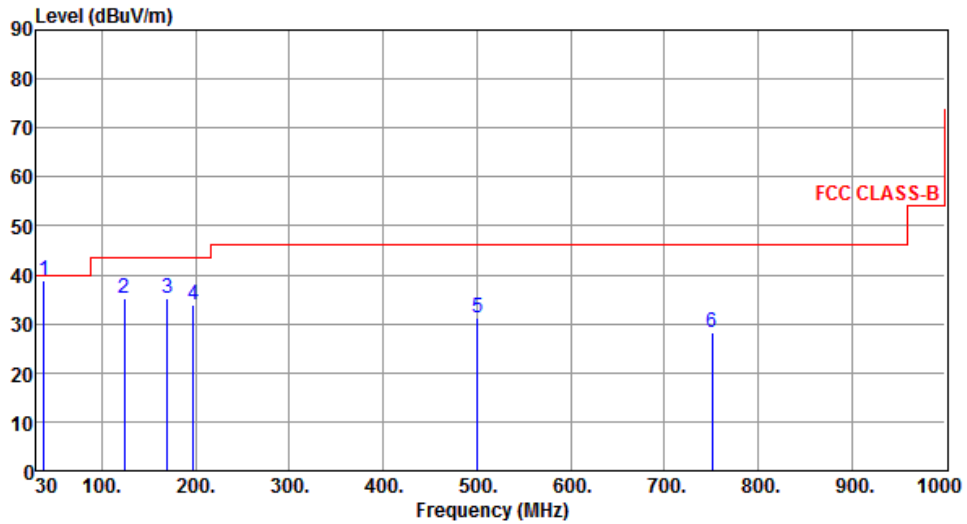
| | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB | Remark | ANT High cm | Turn Table deg |
|---|--------------|-----------------------------|-----------------|--------------|-----------------------|--------------|--------|-------------------|----------------------|
| 1 | 124.09 | 34.58 | 43.50 | -8.92 | 53.30 | -18.72 | Peak | --- | --- |
| 2 | 189.08 | 34.27 | 43.50 | -9.23 | 53.29 | -19.02 | Peak | --- | --- |
| 3 | 358.83 | 29.35 | 46.00 | -16.65 | 44.02 | -14.67 | Peak | --- | --- |
| 4 | 500.45 | 32.70 | 46.00 | -13.30 | 44.11 | -11.41 | Peak | --- | --- |
| 5 | 625.58 | 28.14 | 46.00 | -17.86 | 37.34 | -9.20 | Peak | --- | --- |
| 6 | 750.71 | 28.74 | 46.00 | -17.26 | 35.80 | -7.06 | Peak | --- | --- |

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

| | | | |
|---------------------|--------------------------|---------------------------|------------|
| Modulation | 2.4G 11g + 5G 11ac VHT20 | Test Channel | CH6 + CH40 |
| Polarization | Vertical | Test Configuration | 3 |



| | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB | Remark | ANT High cm | Turn Table deg |
|---|--------------|-----------------------------|-----------------|--------------|-----------------------|--------------|--------|-------------------|----------------------|
| 1 | 37.94 | 38.76 | 40.00 | -1.24 | 55.80 | -17.04 | QP | --- | --- |
| 2 | 124.09 | 35.33 | 43.50 | -8.17 | 54.05 | -18.72 | Peak | --- | --- |
| 3 | 169.68 | 35.04 | 43.50 | -8.46 | 52.00 | -16.96 | Peak | --- | --- |
| 4 | 197.81 | 33.91 | 43.50 | -9.59 | 53.08 | -19.17 | Peak | --- | --- |
| 5 | 500.45 | 31.20 | 46.00 | -14.80 | 42.61 | -11.41 | Peak | --- | --- |
| 6 | 750.71 | 28.36 | 46.00 | -17.64 | 35.42 | -7.06 | Peak | --- | --- |

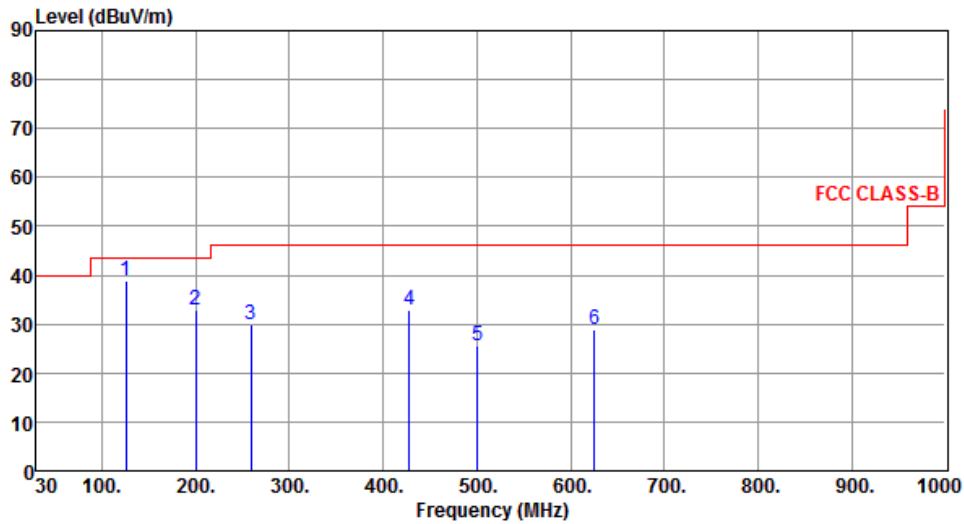
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

3.1.7 Transmitter Radiated Unwanted Emissions (Below 1GHz) (Configuration 4: External Directional Panel antenna (model WS-AI-DD05120))

| | | | |
|---------------------|-----------------------------|---------------------------|------------|
| Modulation | 2.4G 11n 20 + 5G 11ac VHT20 | Test Channel | CH6 + CH40 |
| Polarization | Horizontal | Test Configuration | 4 |



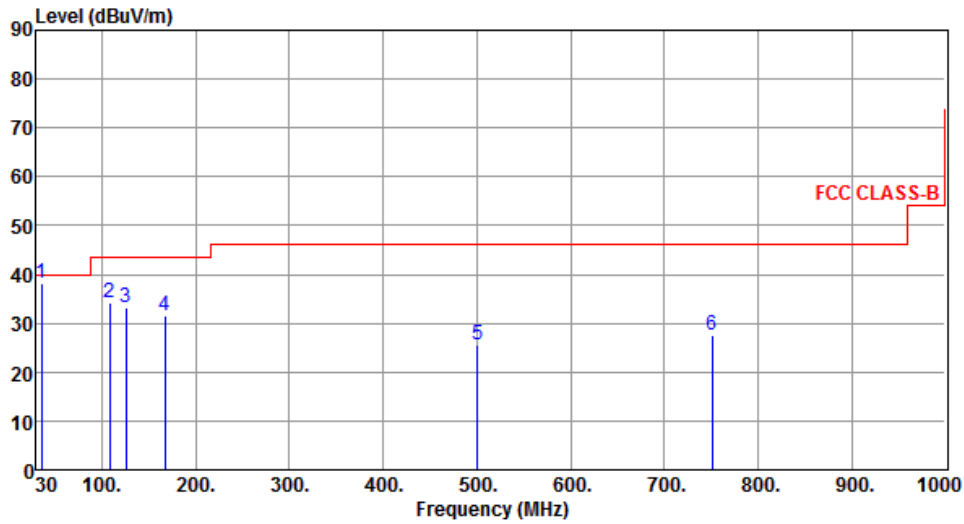
| | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB | Remark | ANT High cm | Turn Table deg |
|---|--------------|-----------------------------|-----------------|--------------|-----------------------|--------------|--------|-------------------|----------------------|
| 1 | 126.03 | 38.83 | 43.50 | -4.67 | 57.35 | -18.52 | Peak | --- | --- |
| 2 | 199.75 | 32.92 | 43.50 | -10.58 | 52.10 | -19.18 | Peak | --- | --- |
| 3 | 258.92 | 29.86 | 46.00 | -16.14 | 47.31 | -17.45 | Peak | --- | --- |
| 4 | 427.70 | 32.96 | 46.00 | -13.04 | 45.93 | -12.97 | Peak | --- | --- |
| 5 | 500.45 | 25.55 | 46.00 | -20.45 | 36.96 | -11.41 | Peak | --- | --- |
| 6 | 625.58 | 28.92 | 46.00 | -17.08 | 38.12 | -9.20 | Peak | --- | --- |

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

| | | | |
|---------------------|-----------------------------|---------------------------|------------|
| Modulation | 2.4G 11n 20 + 5G 11ac VHT20 | Test Channel | CH6 + CH40 |
| Polarization | Vertical | Test Configuration | 4 |



| | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB | Remark | ANT High cm | Turn Table deg |
|---|--------------|-----------------------------|-----------------|--------------|-----------------------|--------------|--------|-------------------|----------------------|
| 1 | 35.82 | 38.25 | 40.00 | -1.75 | 55.49 | -17.24 | Peak | --- | --- |
| 2 | 108.57 | 34.05 | 43.50 | -9.45 | 54.29 | -20.24 | Peak | --- | --- |
| 3 | 126.03 | 33.36 | 43.50 | -10.14 | 51.88 | -18.52 | Peak | --- | --- |
| 4 | 166.77 | 31.71 | 43.50 | -11.79 | 48.62 | -16.91 | Peak | --- | --- |
| 5 | 500.45 | 25.73 | 46.00 | -20.27 | 37.14 | -11.41 | Peak | --- | --- |
| 6 | 750.71 | 27.68 | 46.00 | -18.32 | 34.74 | -7.06 | Peak | --- | --- |

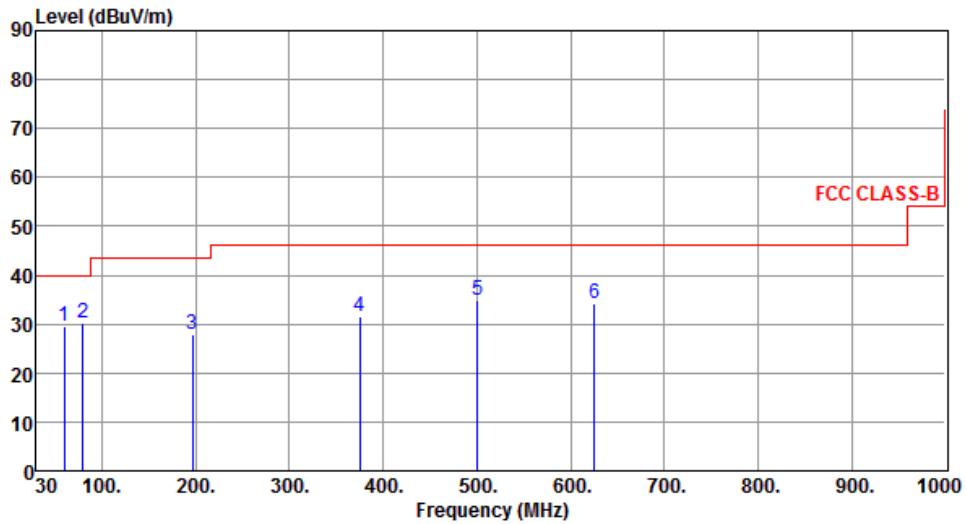
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

3.1.8 Transmitter Radiated Unwanted Emissions (Below 1GHz) (Configuration 5: Internal PIFA antenna)

| | | | |
|---------------------|-----------------------------|---------------------------|------------|
| Modulation | 2.4G 11n 20 + 5G 11ac VHT20 | Test Channel | CH6 + CH48 |
| Polarization | Horizontal | Test Configuration | 5 |



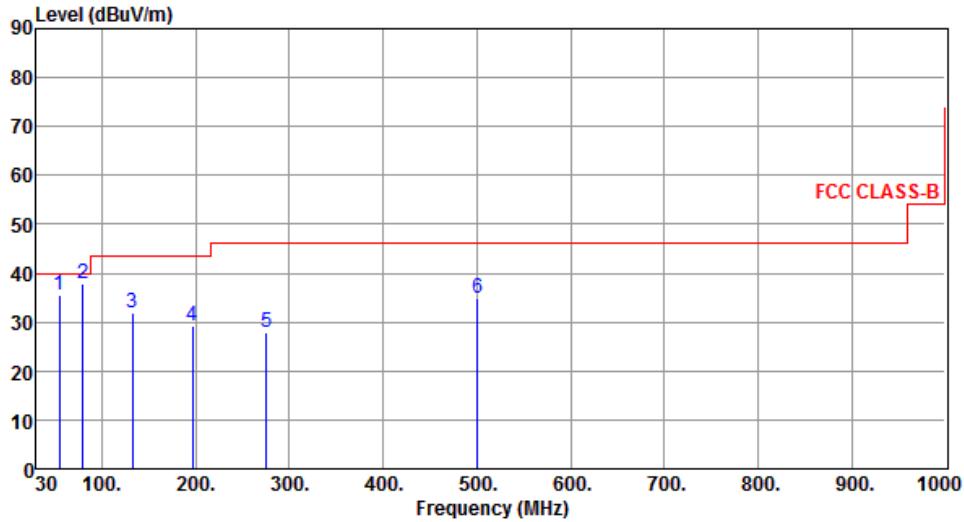
| | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB | Remark | ANT High cm | Turn Table deg |
|---|--------------|-----------------------------|-----------------|--------------|-----------------------|--------------|--------|-------------------|----------------------|
| 1 | 59.43 | 29.62 | 40.00 | -10.38 | 46.73 | -17.11 | Peak | --- | --- |
| 2 | 79.84 | 30.17 | 40.00 | -9.83 | 51.77 | -21.60 | Peak | --- | --- |
| 3 | 196.75 | 27.88 | 43.50 | -15.62 | 47.52 | -19.64 | Peak | --- | --- |
| 4 | 375.31 | 31.56 | 46.00 | -14.44 | 45.90 | -14.34 | Peak | --- | --- |
| 5 | 500.45 | 34.94 | 46.00 | -11.06 | 46.48 | -11.54 | Peak | --- | --- |
| 6 | 625.34 | 34.27 | 46.00 | -11.73 | 43.46 | -9.19 | Peak | --- | --- |

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

| | | | |
|---------------------|-----------------------------|---------------------------|------------|
| Modulation | 2.4G 11n 20 + 5G 11ac VHT20 | Test Channel | CH6 + CH48 |
| Polarization | Vertical | Test Configuration | 5 |



| | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB | Remark | ANT High cm | Turn Table deg |
|---|--------------|-----------------------------|-----------------|--------------|-----------------------|--------------|--------|-------------------|----------------------|
| 1 | 54.61 | 35.45 | 40.00 | -4.55 | 52.27 | -16.82 | QP | --- | --- |
| 2 | 79.75 | 37.74 | 40.00 | -2.26 | 59.32 | -21.58 | Peak | --- | --- |
| 3 | 132.92 | 32.00 | 43.50 | -11.50 | 50.00 | -18.00 | Peak | --- | --- |
| 4 | 196.84 | 29.23 | 43.50 | -14.27 | 48.87 | -19.64 | Peak | --- | --- |
| 5 | 275.55 | 27.99 | 46.00 | -18.01 | 44.85 | -16.86 | Peak | --- | --- |
| 6 | 500.53 | 34.92 | 46.00 | -11.08 | 46.46 | -11.54 | Peak | --- | --- |

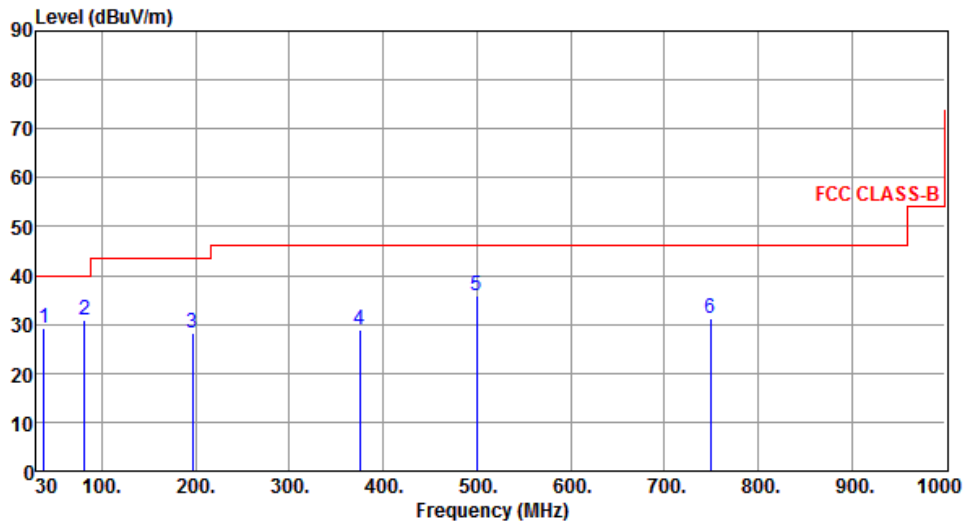
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

3.1.9 Transmitter Radiated Unwanted Emissions (Below 1GHz) (Configuration 6: External Dipole antenna)

| | | | |
|---------------------|-------------------|---------------------------|------------|
| Modulation | 2.4G 11g + 5G 11a | Test Channel | CH6 + CH40 |
| Polarization | Horizontal | Test Configuration | 6 |



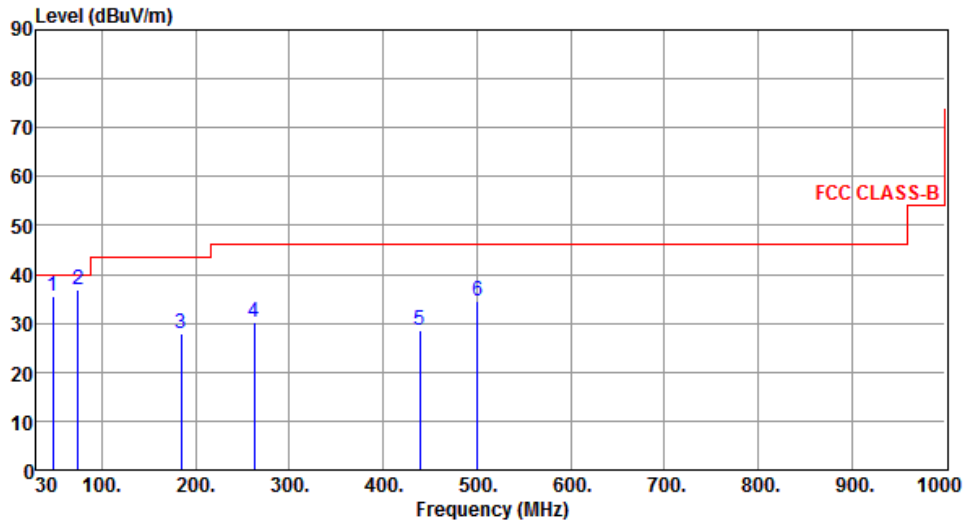
| | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB | Remark | ANT High cm | Turn Table deg |
|---|--------------|-----------------------------|-----------------|--------------|-----------------------|--------------|--------|-------------------|----------------------|
| 1 | 37.73 | 29.17 | 40.00 | -10.83 | 46.39 | -17.22 | Peak | --- | --- |
| 2 | 81.56 | 30.90 | 40.00 | -9.10 | 52.75 | -21.85 | Peak | --- | --- |
| 3 | 196.47 | 28.14 | 43.50 | -15.36 | 47.77 | -19.63 | Peak | --- | --- |
| 4 | 375.29 | 28.99 | 46.00 | -17.01 | 43.33 | -14.34 | Peak | --- | --- |
| 5 | 500.26 | 35.97 | 46.00 | -10.03 | 47.52 | -11.55 | Peak | --- | --- |
| 6 | 749.14 | 31.36 | 46.00 | -14.64 | 38.61 | -7.25 | Peak | --- | --- |

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

| | | | |
|---------------------|-------------------|---------------------------|------------|
| Modulation | 2.4G 11g + 5G 11a | Test Channel | CH6 + CH40 |
| Polarization | Vertical | Test Configuration | 6 |



| | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB | Remark | ANT High cm | Turn Table deg |
|---|--------------|-----------------------------|-----------------|--------------|-----------------------|--------------|--------|-------------------|----------------------|
| 1 | 47.58 | 35.55 | 40.00 | -4.45 | 52.20 | -16.65 | Peak | --- | --- |
| 2 | 74.54 | 36.89 | 40.00 | -3.11 | 57.34 | -20.45 | Peak | --- | --- |
| 3 | 184.58 | 27.93 | 43.50 | -15.57 | 46.94 | -19.01 | Peak | --- | --- |
| 4 | 262.75 | 30.37 | 46.00 | -15.63 | 47.84 | -17.47 | Peak | --- | --- |
| 5 | 439.18 | 28.69 | 46.00 | -17.31 | 41.46 | -12.77 | Peak | --- | --- |
| 6 | 500.37 | 34.58 | 46.00 | -11.42 | 46.12 | -11.54 | Peak | --- | --- |

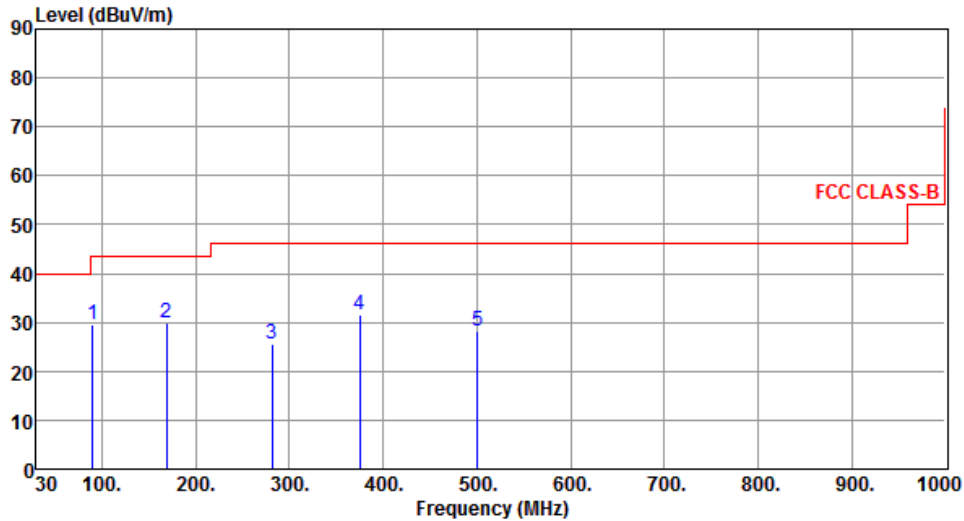
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

3.1.10 Transmitter Radiated Unwanted Emissions (Below 1GHz) (Configuration 7: External Directional Panel antenna (model WS-AI-DQ04360))

| | | | |
|---------------------|--------------------------|---------------------------|------------|
| Modulation | 2.4G 11g + 5G 11ac VHT20 | Test Channel | CH6 + CH40 |
| Polarization | Horizontal | Test Configuration | 7 |



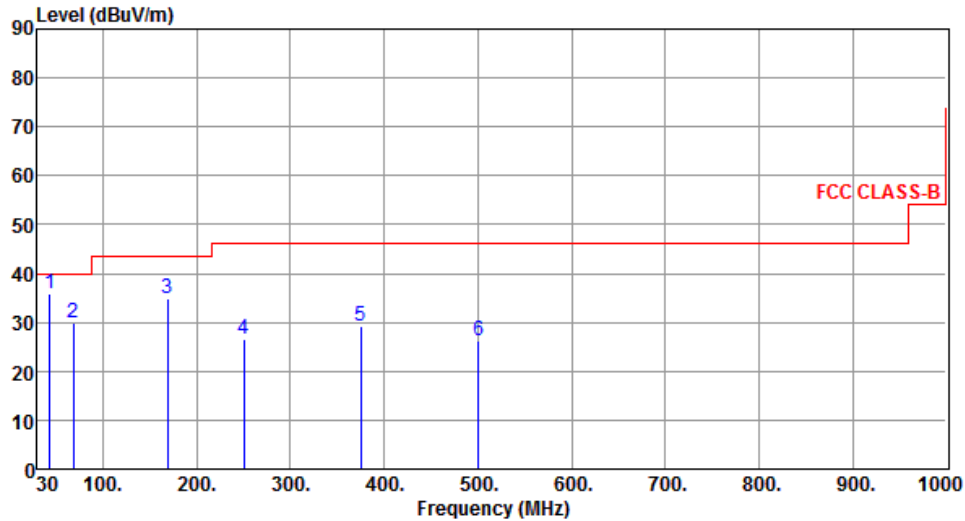
| | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB | Remark | ANT High cm | Turn Table deg |
|---|--------------|-----------------------------|-----------------|--------------|-----------------------|--------------|--------|-------------------|----------------------|
| 1 | 90.14 | 29.70 | 43.50 | -13.80 | 52.65 | -22.95 | Peak | --- | --- |
| 2 | 168.71 | 29.84 | 43.50 | -13.66 | 46.78 | -16.94 | Peak | --- | --- |
| 3 | 281.23 | 25.60 | 46.00 | -20.40 | 42.03 | -16.43 | Peak | --- | --- |
| 4 | 375.32 | 31.67 | 46.00 | -14.33 | 45.90 | -14.23 | Peak | --- | --- |
| 5 | 500.45 | 28.12 | 46.00 | -17.88 | 39.53 | -11.41 | Peak | --- | --- |

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

| | | | |
|---------------------|--------------------------|---------------------------|------------|
| Modulation | 2.4G 11g + 5G 11ac VHT20 | Test Channel | CH6 + CH40 |
| Polarization | Vertical | Test Configuration | 7 |



| | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB | Remark | ANT High cm | Turn Table deg |
|---|--------------|-----------------------------|-----------------|--------------|-----------------------|--------------|--------|-------------------|----------------------|
| 1 | 43.58 | 36.02 | 40.00 | -3.98 | 52.66 | -16.64 | Peak | --- | --- |
| 2 | 68.80 | 29.80 | 40.00 | -10.20 | 48.87 | -19.07 | Peak | --- | --- |
| 3 | 168.71 | 34.83 | 43.50 | -8.67 | 51.77 | -16.94 | Peak | --- | --- |
| 4 | 250.19 | 26.53 | 46.00 | -19.47 | 44.27 | -17.74 | Peak | --- | --- |
| 5 | 375.32 | 29.36 | 46.00 | -16.64 | 43.59 | -14.23 | Peak | --- | --- |
| 6 | 500.45 | 26.30 | 46.00 | -19.70 | 37.71 | -11.41 | Peak | --- | --- |

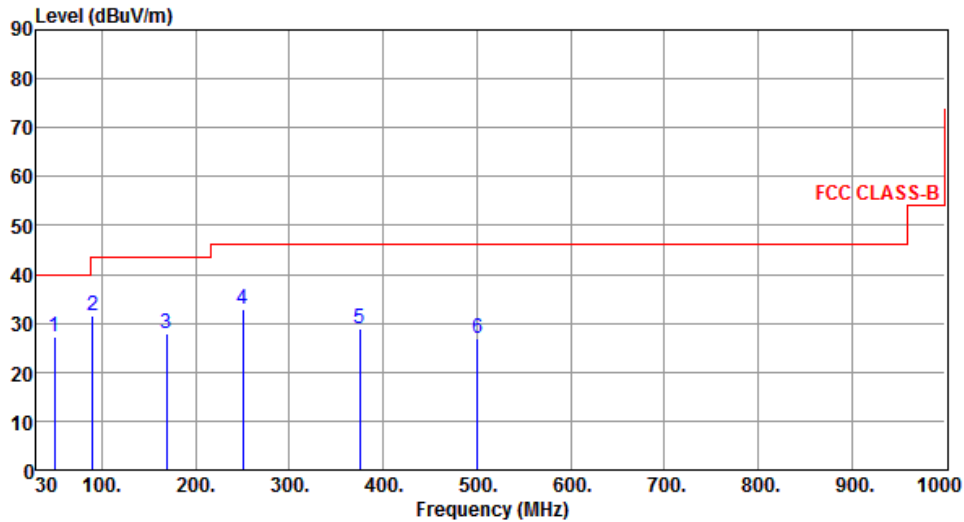
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

3.1.11 Transmitter Radiated Unwanted Emissions (Below 1GHz) (Configuration 8: External Directional Panel antenna (model WS-AI-DD05120))

| | | | |
|---------------------|-----------------------------|---------------------------|------------|
| Modulation | 2.4G 11n 20 + 5G 11ac VHT20 | Test Channel | CH6 + CH40 |
| Polarization | Horizontal | Test Configuration | 8 |



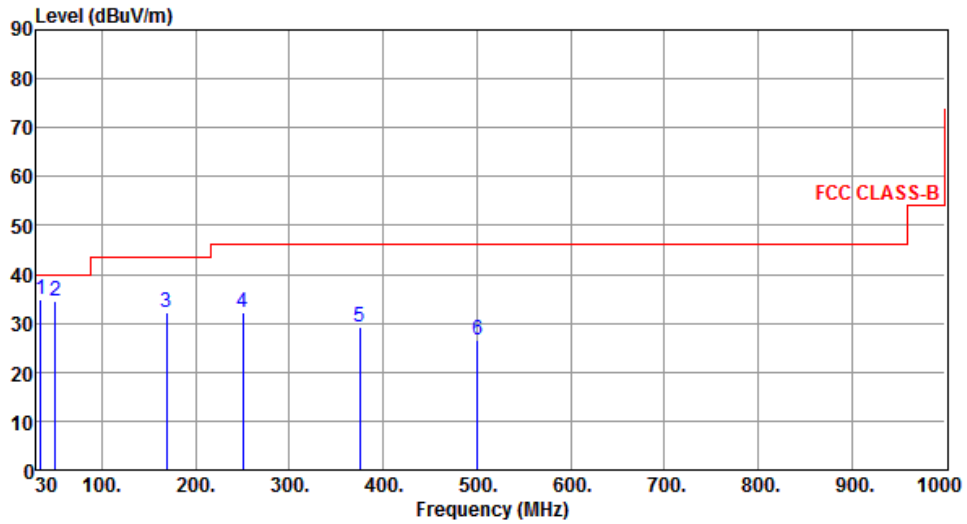
| | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB | Remark | ANT High cm | Turn Table deg |
|---|--------------|-----------------------------|-----------------|--------------|-----------------------|--------------|--------|-------------------|----------------------|
| 1 | 49.40 | 27.21 | 40.00 | -12.79 | 43.61 | -16.40 | Peak | --- | --- |
| 2 | 90.14 | 31.43 | 43.50 | -12.07 | 54.38 | -22.95 | Peak | --- | --- |
| 3 | 168.71 | 27.85 | 43.50 | -15.65 | 44.79 | -16.94 | Peak | --- | --- |
| 4 | 250.19 | 32.95 | 46.00 | -13.05 | 50.69 | -17.74 | Peak | --- | --- |
| 5 | 375.32 | 28.86 | 46.00 | -17.14 | 43.09 | -14.23 | Peak | --- | --- |
| 6 | 500.45 | 26.84 | 46.00 | -19.16 | 38.25 | -11.41 | Peak | --- | --- |

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

| | | | |
|---------------------|-----------------------------|---------------------------|------------|
| Modulation | 2.4G 11n 20 + 5G 11ac VHT20 | Test Channel | CH6 + CH40 |
| Polarization | Vertical | Test Configuration | 8 |



| | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB | Remark | ANT High cm | Turn Table deg |
|---|--------------|-----------------------------|-----------------|--------------|-----------------------|--------------|--------|-------------------|----------------------|
| 1 | 34.85 | 34.73 | 40.00 | -5.27 | 52.06 | -17.33 | Peak | --- | --- |
| 2 | 50.37 | 34.49 | 40.00 | -5.51 | 50.90 | -16.41 | Peak | --- | --- |
| 3 | 168.71 | 32.17 | 43.50 | -11.33 | 49.11 | -16.94 | Peak | --- | --- |
| 4 | 250.19 | 32.28 | 46.00 | -13.72 | 50.02 | -17.74 | Peak | --- | --- |
| 5 | 375.32 | 29.22 | 46.00 | -16.78 | 43.45 | -14.23 | Peak | --- | --- |
| 6 | 500.45 | 26.47 | 46.00 | -19.53 | 37.88 | -11.41 | Peak | --- | --- |

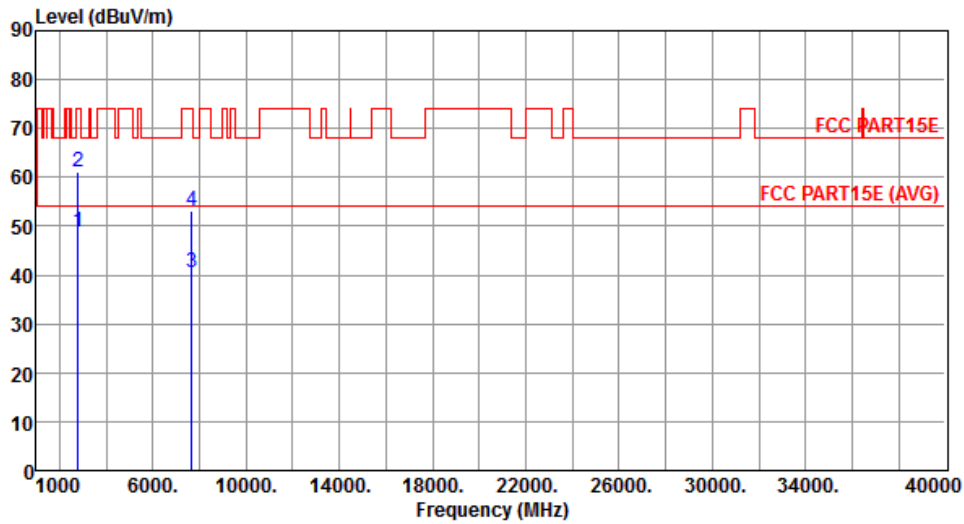
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

3.1.12 Transmitter Radiated Unwanted Emissions (Above 1GHz) (Configuration 1: Internal PIFA antenna)

| | | | |
|---------------------|-----------------------------|---------------------------|------------|
| Modulation | 2.4G 11n 20 + 5G 11ac VHT20 | Test Channel | CH6 + CH48 |
| Polarization | Horizontal | Test Configuration | 1 |



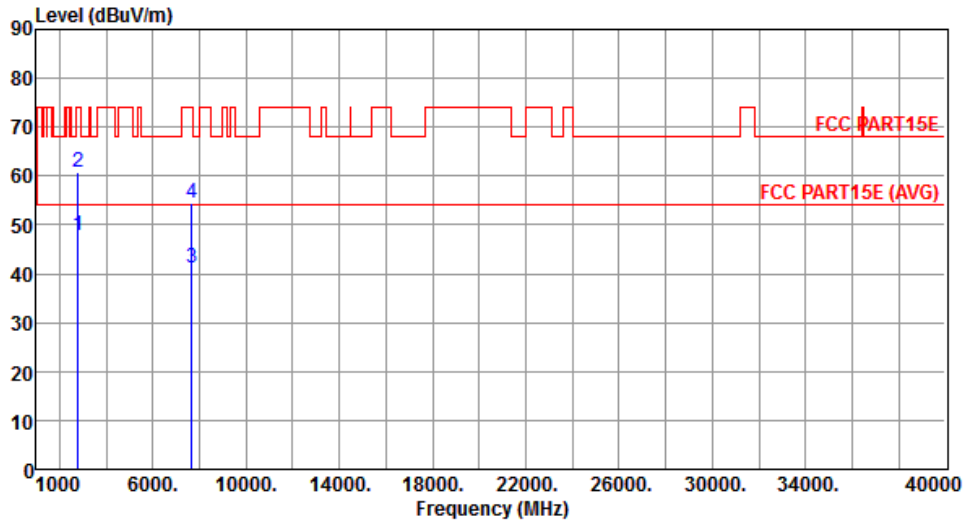
| | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB | Remark | ANT High cm | Turn Table deg |
|---|--------------|-----------------------------|-----------------|--------------|-----------------------|--------------|---------|-------------------|----------------------|
| 1 | 2803.00 | 48.75 | 54.00 | -5.25 | 50.85 | -2.10 | Average | --- | --- |
| 2 | 2803.00 | 61.16 | 74.00 | -12.84 | 63.26 | -2.10 | Peak | --- | --- |
| 3 | 7677.00 | 40.55 | 54.00 | -13.45 | 30.31 | 10.24 | Average | --- | --- |
| 4 | 7677.00 | 53.01 | 74.00 | -20.99 | 42.77 | 10.24 | Peak | --- | --- |

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

| | | | |
|---------------------|-----------------------------|---------------------------|------------|
| Modulation | 2.4G 11n 20 + 5G 11ac VHT20 | Test Channel | CH6 + CH48 |
| Polarization | Vertical | Test Configuration | 1 |



| | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB | Remark | ANT High cm | Turn Table deg |
|---|--------------|-----------------------------|-----------------|--------------|-----------------------|--------------|---------|-------------------|----------------------|
| 1 | 2803.00 | 47.92 | 54.00 | -6.08 | 50.02 | -2.10 | Average | --- | --- |
| 2 | 2803.00 | 60.67 | 74.00 | -13.33 | 62.77 | -2.10 | Peak | --- | --- |
| 3 | 7677.00 | 41.18 | 54.00 | -12.82 | 30.94 | 10.24 | Average | --- | --- |
| 4 | 7677.00 | 54.48 | 74.00 | -19.52 | 44.24 | 10.24 | Peak | --- | --- |

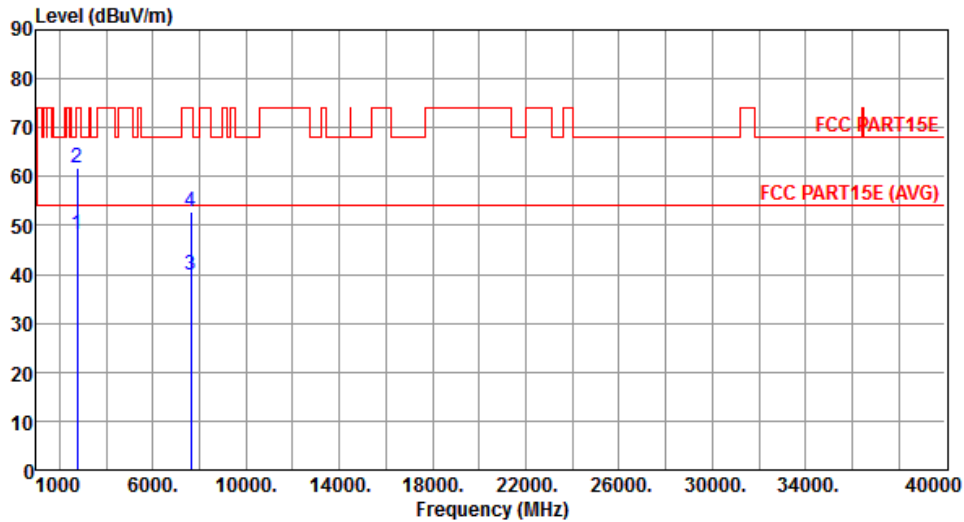
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

3.1.13 Transmitter Radiated Unwanted Emissions (Above 1GHz) (Configuration 2: External Dipole antenna)

| | | | |
|---------------------|-------------------|---------------------------|------------|
| Modulation | 2.4G 11g + 5G 11a | Test Channel | CH6 + CH40 |
| Polarization | Horizontal | Test Configuration | 2 |



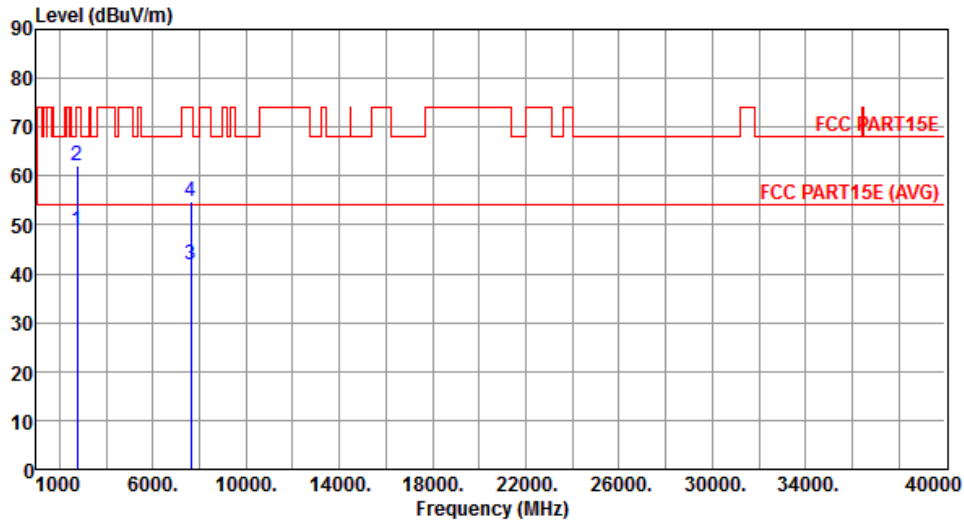
| | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB | Remark | ANT High cm | Turn Table deg |
|---|--------------|-----------------------------|-----------------|--------------|-----------------------|--------------|---------|-------------------|----------------------|
| 1 | 2763.00 | 48.28 | 54.00 | -5.72 | 50.53 | -2.25 | Average | --- | --- |
| 2 | 2763.00 | 61.65 | 74.00 | -12.35 | 63.90 | -2.25 | Peak | --- | --- |
| 3 | 7637.00 | 39.75 | 54.00 | -14.25 | 29.47 | 10.28 | Average | --- | --- |
| 4 | 7637.00 | 52.79 | 74.00 | -21.21 | 42.51 | 10.28 | Peak | --- | --- |

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

| | | | |
|---------------------|-------------------|---------------------------|------------|
| Modulation | 2.4G 11g + 5G 11a | Test Channel | CH6 + CH40 |
| Polarization | Vertical | Test Configuration | 2 |



| | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB | Remark | ANT High cm | Turn Table deg |
|---|--------------|-----------------------------|-----------------|--------------|-----------------------|--------------|---------|-------------------|----------------------|
| 1 | 2763.00 | 48.72 | 54.00 | -5.28 | 50.97 | -2.25 | Average | --- | --- |
| 2 | 2763.00 | 62.02 | 74.00 | -11.98 | 64.27 | -2.25 | Peak | --- | --- |
| 3 | 7637.00 | 41.77 | 54.00 | -12.23 | 31.49 | 10.28 | Average | --- | --- |
| 4 | 7637.00 | 54.79 | 74.00 | -19.21 | 44.51 | 10.28 | Peak | --- | --- |

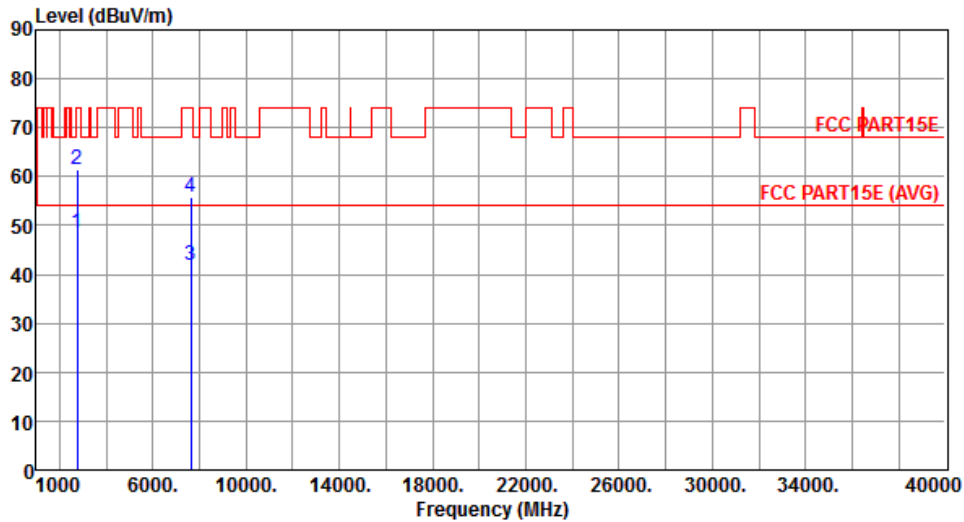
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

3.1.14 Transmitter Radiated Unwanted Emissions (Above 1GHz) (Configuration 3: External Directional Panel antenna (model WS-AI-DQ04360))

| | | | |
|---------------------|--------------------------|---------------------------|------------|
| Modulation | 2.4G 11g + 5G 11ac VHT20 | Test Channel | CH6 + CH40 |
| Polarization | Horizontal | Test Configuration | 3 |



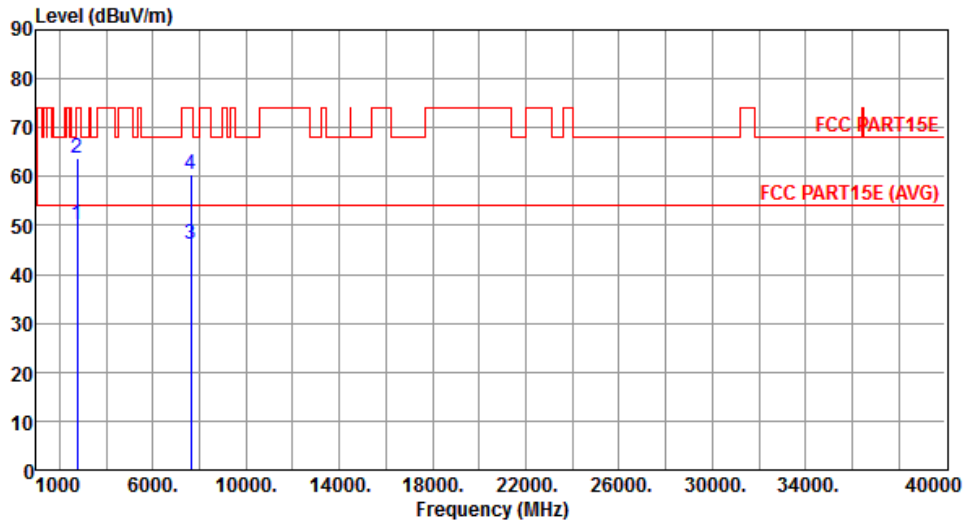
| | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB | Remark | ANT High cm | Turn Table deg |
|---|--------------|-----------------------------|-----------------|--------------|-----------------------|--------------|---------|-------------------|----------------------|
| 1 | 2763.00 | 48.38 | 54.00 | -5.62 | 50.63 | -2.25 | Average | --- | --- |
| 2 | 2763.00 | 61.51 | 74.00 | -12.49 | 63.76 | -2.25 | Peak | --- | --- |
| 3 | 7637.00 | 41.87 | 54.00 | -12.13 | 31.59 | 10.28 | Average | --- | --- |
| 4 | 7637.00 | 55.92 | 74.00 | -18.08 | 45.64 | 10.28 | Peak | --- | --- |

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

| | | | |
|---------------------|--------------------------|---------------------------|------------|
| Modulation | 2.4G 11g + 5G 11ac VHT20 | Test Channel | CH6 + CH40 |
| Polarization | Vertical | Test Configuration | 3 |



| | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB | Remark | ANT High cm | Turn Table deg |
|---|--------------|-----------------------------|-----------------|--------------|-----------------------|--------------|---------|-------------------|----------------------|
| 1 | 2763.00 | 50.15 | 54.00 | -3.85 | 52.40 | -2.25 | Average | --- | --- |
| 2 | 2763.00 | 63.85 | 74.00 | -10.15 | 66.10 | -2.25 | Peak | --- | --- |
| 3 | 7637.00 | 46.31 | 54.00 | -7.69 | 36.03 | 10.28 | Average | --- | --- |
| 4 | 7637.00 | 60.39 | 74.00 | -13.61 | 50.11 | 10.28 | Peak | --- | --- |

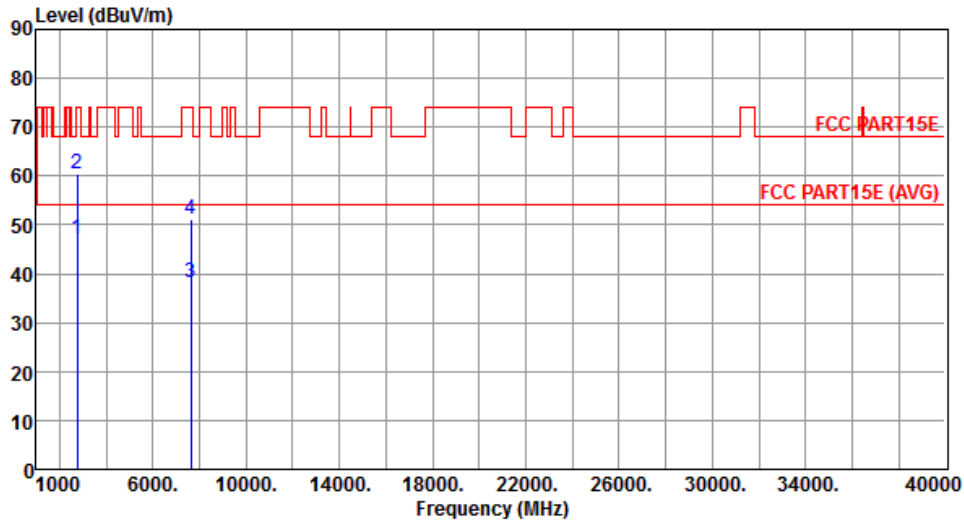
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

3.1.15 Transmitter Radiated Unwanted Emissions (Above 1GHz) (Configuration 4: External Directional Panel antenna (model WS-AI-DD05120))

| | | | |
|---------------------|-----------------------------|---------------------------|------------|
| Modulation | 2.4G 11n 20 + 5G 11ac VHT20 | Test Channel | CH6 + CH40 |
| Polarization | Horizontal | Test Configuration | 4 |



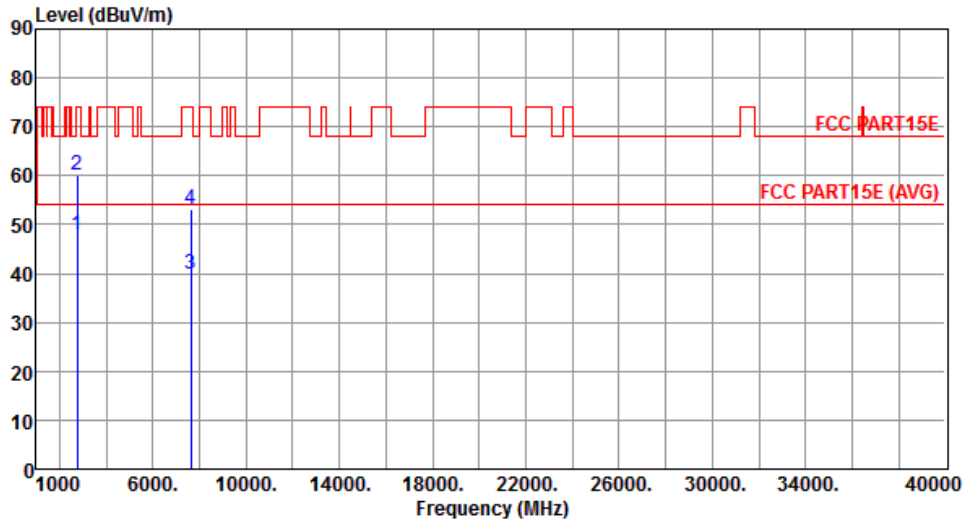
| | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB | Remark | ANT High cm | Turn Table deg |
|---|--------------|-----------------------------|-----------------|--------------|-----------------------|--------------|---------|-------------------|----------------------|
| 1 | 2763.00 | 47.17 | 54.00 | -6.83 | 49.42 | -2.25 | Average | --- | --- |
| 2 | 2763.00 | 60.31 | 74.00 | -13.69 | 62.56 | -2.25 | Peak | --- | --- |
| 3 | 7637.00 | 38.32 | 54.00 | -15.68 | 28.04 | 10.28 | Average | --- | --- |
| 4 | 7637.00 | 51.21 | 74.00 | -22.79 | 40.93 | 10.28 | Peak | --- | --- |

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

| | | | |
|---------------------|-----------------------------|---------------------------|------------|
| Modulation | 2.4G 11n 20 + 5G 11ac VHT20 | Test Channel | CH6 + CH40 |
| Polarization | Vertical | Test Configuration | 4 |



| | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB | Remark | ANT High cm | Turn Table deg |
|---|--------------|-----------------------------|-----------------|--------------|-----------------------|--------------|---------|-------------------|----------------------|
| 1 | 2763.00 | 47.85 | 54.00 | -6.15 | 50.10 | -2.25 | Average | --- | --- |
| 2 | 2763.00 | 60.21 | 74.00 | -13.79 | 62.46 | -2.25 | Peak | --- | --- |
| 3 | 7637.00 | 39.82 | 54.00 | -14.18 | 29.54 | 10.28 | Average | --- | --- |
| 4 | 7637.00 | 53.14 | 74.00 | -20.86 | 42.86 | 10.28 | Peak | --- | --- |

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

4 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corp, it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan Hsiang. Location map can be found on our website <http://www.icertifi.com.tw>.

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