

# TEST REPORT

Report No.: BCTC2109437538E

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Applicant: Nexxt Solutions

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Product Name: IP CAMERA

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Model/Type Ref.: NHC-P710

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Tested Date: 2021-09-27 to 2021-10-22

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Issued Date: 2021-10-25

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**Shenzhen BCTC Testing Co., Ltd.**



# FCC ID: X4YHACP710

Product Name: IP CAMERA  
Trademark: NEXXT SOLUTIONS  
NHC-P710  
Model/Type Ref.: NHC-P720, NHC-P730, SC-RIPC-2008, SC-RIPC-2006, SC-RIIPC-3002,  
SC-RIPC-3003, SC-RIPC-3005, SC-RIPC-6001, SC-RIPC-6002, SC-RIPC-6006,  
SC-RIPC-8001, SC-RIPC-8002, SC-RIPC-8003  
Prepared For: Nexxt Solutions  
Address: 3505 N.W 107TH AVE. MIAMI, FL 33178  
Manufacturer: Sungale Electronics (Shenzhen) Limited  
Address: No. 1302, DaHong High-Tech Park, No. 6-18, Xinhe Road, Xinqiao, BaoAn,  
Shenzhen 518125, CHINA  
Prepared By: Shenzhen BCTC Testing Co., Ltd.  
Address: 1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Tangwei,  
Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China  
Sample Received Date: 2021-09-27  
Sample tested Date: 2021-09-27 to 2021-10-22  
Issue Date: 2021-10-25  
Report No.: BCTC2109437538E  
Test Standards: FCC Part15.247  
ANSI C63.10-2013  
Test Results: PASS  
Remark: This is WIFI-2.4GHz band radio test report.

Tested by:



Eric Yang/Project Handler

Approved by:



Zero Zhou/Reviewer

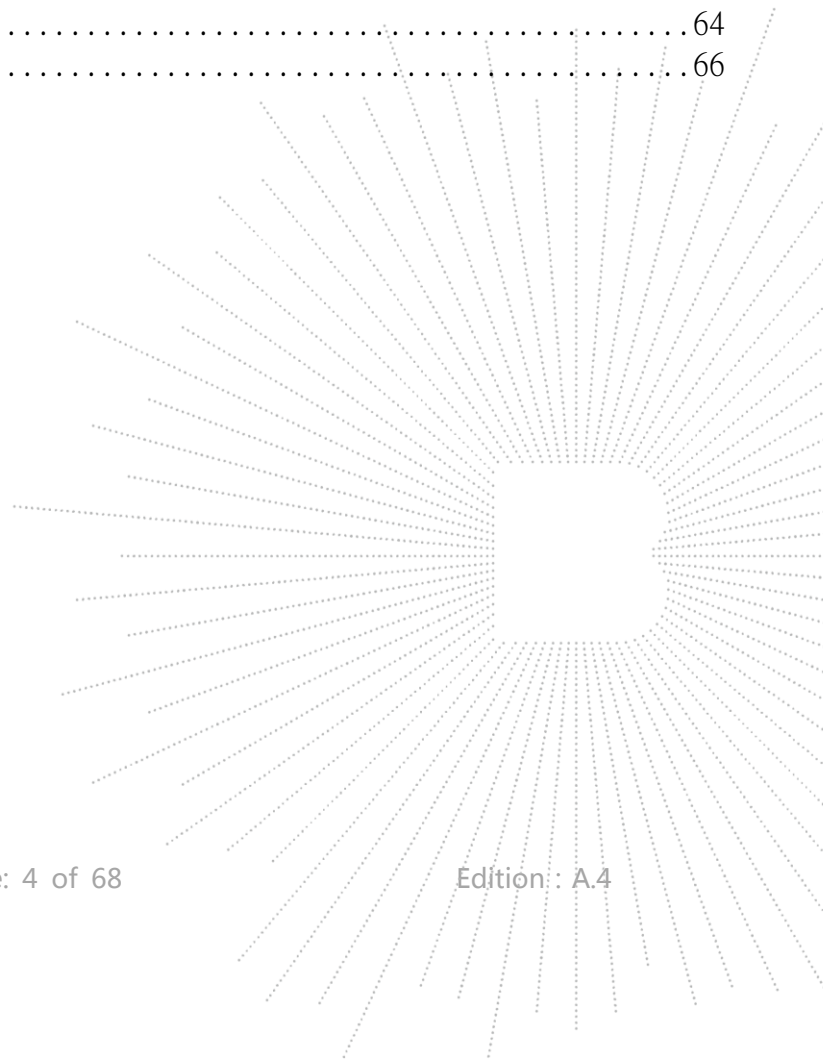
The test report is effective only with both signature and specialized stamp. This result(s) shown in this report refer only to the sample(s) tested. Without written approval of Shenzhen BCTC Testing Co., Ltd, this report can't be reproduced except in full. The tested sample(s) and the sample information are provided by the client.

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(Note: N/A Means Not Applicable)



**1. Version**

| Report No.      | Issue Date | Description | Approved |
|-----------------|------------|-------------|----------|
| BCTC2109437538E | 2021-10-25 | Original    | Valid    |
|                 |            |             |          |

## 2. Test Summary

The Product has been tested according to the following specifications:

| No. | Test Parameter                    | Clause No     | Results |
|-----|-----------------------------------|---------------|---------|
| 1   | Conducted Emission                | 15.207        | PASS    |
| 2   | 6dB Bandwidth                     | 15.247 (a)(2) | PASS    |
| 3   | Peak Output Power                 | 15.247 (b)    | PASS    |
| 4   | Radiated Spurious Emission        | 15.247 (d)    | PASS    |
| 5   | Power Spectral Density            | 15.247 (e)    | PASS    |
| 6   | Restricted Band of Operation      | 15.205        | PASS    |
| 7   | Band Edge (Out of Band Emissions) | 15.247 (d)    | PASS    |
| 8   | Antenna Requirement               | 15.203        | PASS    |

### 3. Measurement Uncertainty

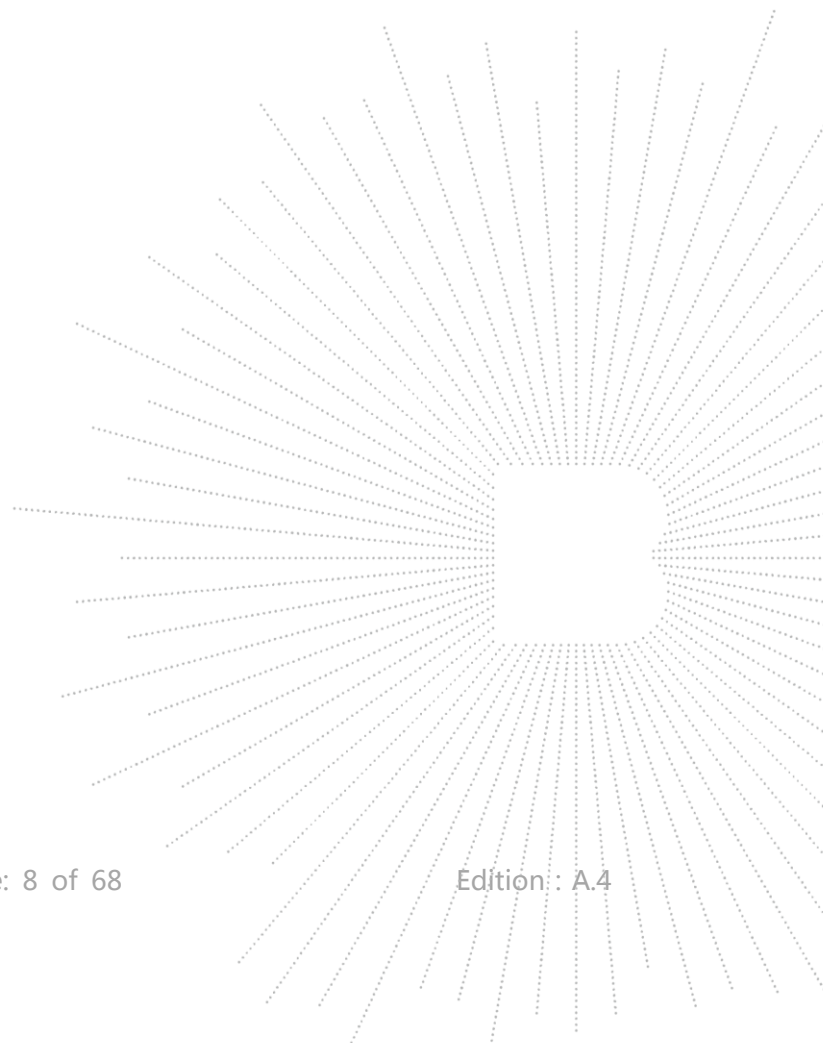
Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

| No. | Item                                               | Uncertainty |
|-----|----------------------------------------------------|-------------|
| 1   | 3m chamber Radiated spurious emission(9kHz-30MHz)  | U=3.7dB     |
| 2   | 3m chamber Radiated spurious emission(30MHz-1GHz)  | U=4.3dB     |
| 3   | 3m chamber Radiated spurious emission(1GHz-18GHz)  | U=4.5dB     |
| 4   | 3m chamber Radiated spurious emission(18GHz-40GHz) | U=3.34dB    |
| 5   | Conducted Emission(150kHz-30MHz)                   | U=3.20dB    |
| 6   | Conducted Adjacent channel power                   | U=1.38dB    |
| 7   | Conducted output power uncertainty Above 1G        | U=1.576dB   |
| 8   | Conducted output power uncertainty below 1G        | U=1.28dB    |
| 9   | humidity uncertainty                               | U=5.3%      |
| 10  | Temperature uncertainty                            | U=0.59°C    |

## 4. Product Information And Test Setup

### 4.1 Product Information

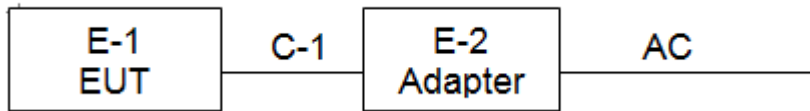
|                          |                                                                                                                                                                               |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          | NHC-P710                                                                                                                                                                      |
| Model/Type Ref.:         | NHC-P720, NHC-P730, SC-RIPC-2008, SC-RIPC-2006, SC-RIIPC-3002, SC-RIPC-3003, SC-RIPC-3005, SC-RIPC-6001, SC-RIPC-6002, SC-RIPC-6006, SC-RIPC-8001, SC-RIPC-8002, SC-RIPC-8003 |
| Model differences:       | All the model are the same circuit and RF module, except model names.                                                                                                         |
| Operation Frequency:     | 802.11b/g/n20MHz:2412~2462 MHz<br>802.11n40MHz:2422~2452 MHz                                                                                                                  |
| Bit Rate of Transmitter: | 802.11b:11/5.5/2/1 Mbps<br>802.11g:54/48/36/24/18/12/9/6Mbps<br>802.11n Up to 150Mbps                                                                                         |
| Type of Modulation:      | WIFI: OFDM/DSSS                                                                                                                                                               |
| Number Of Channel:       | 802.11b/g/n20MHz:11 CH<br>802.11n40MHz: 7 CH                                                                                                                                  |
| Antenna installation:    | Internal antenna                                                                                                                                                              |
| Antenna Gain:            | 1dBi                                                                                                                                                                          |
| Ratings:                 | DC 5V                                                                                                                                                                         |
| Adapter:                 | Model No.: XED-UL050100CU<br>Input: AC 100-240V 50/60Hz 0.2A<br>Output: DC 5V 1A                                                                                              |



## 4.2 Test Setup Configuration

See test photographs attached in *EUT TEST SETUP PHOTOGRAPHS* for the actual connections between Product and support equipment.

Conducted Emission/Radiated Spurious Emission:



## 4.3 Support Equipment

| No. | Device Type | Brand | Model          | Series No. | Note      |
|-----|-------------|-------|----------------|------------|-----------|
| E-2 | Adapter     | N/A   | XED-UL050100CU | N/A        | Auxiliary |
|     |             |       |                |            |           |

| Item | Shielded Type | Ferrite Core | Length | Note                |
|------|---------------|--------------|--------|---------------------|
| C-1  | NO            | NO           | 1.2M   | DC cable unshielded |

### Notes:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

#### 4.4 Channel List

| Channel List for 802.11b/g/n(20) |                 |         |                 |         |                 |
|----------------------------------|-----------------|---------|-----------------|---------|-----------------|
| Channel                          | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| 01                               | 2412            | 02      | 2417            | 03      | 2422            |
| 04                               | 2427            | 05      | 2432            | 06      | 2437            |
| 07                               | 2442            | 08      | 2447            | 09      | 2452            |
| 10                               | 2457            | 11      | 2462            |         |                 |

| Channel List for 802.11n(40) |                 |         |                 |         |                 |
|------------------------------|-----------------|---------|-----------------|---------|-----------------|
| Channel                      | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| 03                           | 2422            | 04      | 2427            | 05      | 2432            |
| 06                           | 2437            | 07      | 2442            | 08      | 2447            |
| 09                           | 2452            |         |                 |         |                 |

#### 4.5 Test Mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

| Pretest Mode | Description              |
|--------------|--------------------------|
| Mode 1       | 802.11b CH1/ CH6/ CH11   |
| Mode 2       | 802.11g CH1/ CH6/ CH11   |
| Mode 3       | 802.11n20 CH1/ CH6/ CH11 |
| Mode 4       | 802.11n40 CH3/ CH6/ CH9  |
| Mode 5       | Link Mode                |

| Radiated Emission |             |
|-------------------|-------------|
| Final Test Mode   | Description |
| Mode 5            | Link Mode   |

| For Radiated Emission |                          |
|-----------------------|--------------------------|
| Final Test Mode       | Description              |
| Mode 1                | 802.11b CH1/ CH6/ CH11   |
| Mode 2                | 802.11g CH1/ CH6/ CH11   |
| Mode 3                | 802.11n20 CH1/ CH6/ CH11 |
| Mode 4                | 802.11n40 CH3/ CH6/ CH9  |

Note:

(1) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported.

## 5. Test Facility And Test Instrument Used

### 5.1 Test Facility

All measurement facilities used to collect the measurement data are located at Shenzhen BCTC Testing Co., Ltd. Address: 1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Tangwei, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China. The site and apparatus are constructed in conformance with the requirements of ANSI C63.4 and CISPR 16-1-1 other equivalent standards.

FCC Test Firm Registration Number: 712850

IC Registered No.: 23583

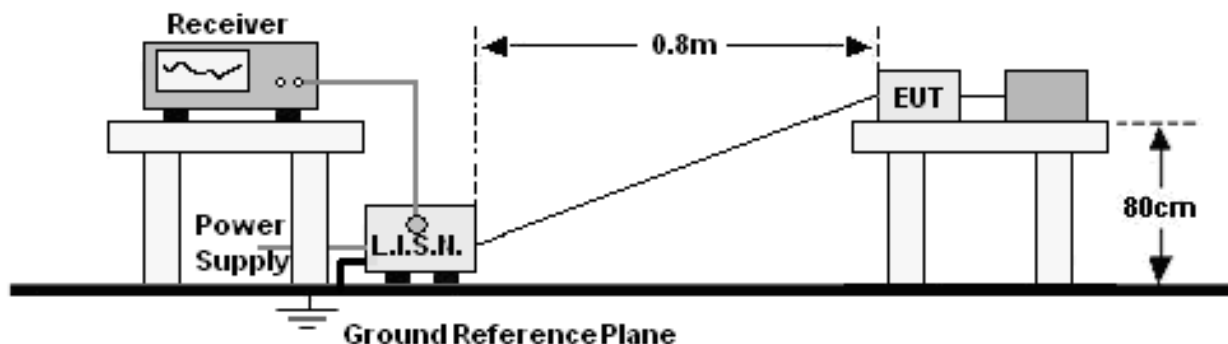
### 5.2 Test Instrument Used

| Conducted emissions Test |              |          |                |              |              |
|--------------------------|--------------|----------|----------------|--------------|--------------|
| Equipment                | Manufacturer | Model#   | Serial#        | Last Cal.    | Next Cal.    |
| Receiver                 | R&S          | ESR3     | 102075         | May 28, 2021 | May 27, 2022 |
| LISN                     | R&S          | ENV216   | 101375         | May 28, 2021 | May 27, 2022 |
| ISN                      | HPX          | ISN T800 | S1509001       | May 28, 2021 | May 27, 2022 |
| Software                 | Frad         | EZ-EMC   | EMC-CON<br>3A1 | \            | \            |

| Radiated emissions Test (966 chamber) |              |                      |                   |               |               |
|---------------------------------------|--------------|----------------------|-------------------|---------------|---------------|
| Equipment                             | Manufacturer | Model#               | Serial#           | Last Cal.     | Next Cal.     |
| 966 chamber                           | ChengYu      | 966 Room             | 966               | Jun. 06. 2020 | Jun. 05, 2023 |
| Receiver                              | R&S          | ESR3                 | 102075            | May 28, 2021  | May 27, 2022  |
| Receiver                              | R&S          | ESRP                 | 101154            | May 28, 2021  | May 27, 2022  |
| Amplifier                             | SKET         | LAPA_01G18<br>G-45dB | \                 | May 28, 2021  | May 27, 2022  |
| Amplifier                             | Schwarzbeck  | BBV9744              | 9744-0037         | May 28, 2021  | May 27, 2022  |
| TRILOG<br>Broadband<br>Antenna        | schwarzbeck  | VULB 9163            | VULB9163-9<br>42  | Jun. 01, 2021 | May 31, 2022  |
| Horn Antenna                          | SCHWARZBECK  | BBHA9120D            | 1541              | Jun. 02, 2021 | Jun. 01, 2022 |
| Horn Antenna<br>(18GHz-40GHz)         | SCHWARZBECK  | BBHA9170             | 822               | May 28, 2021  | May 27, 2022  |
| Amplifier<br>(18GHz-40GHz)            | MITEQ        | TTA1840-35-<br>HG    | 2034381           | May 28, 2021  | May 27, 2022  |
| Loop Antenna<br>(9kHz-30MHz)          | SCHWARZBECK  | FMZB1519B            | 014               | Jun. 02, 2021 | Jun. 01, 2022 |
| RF cables1<br>(9kHz-30MHz)            | Huber+Suhnar | 9kHz-30MHz           | B1702988-00<br>08 | May 28, 2021  | May 27, 2022  |
| RF cables2<br>(30MHz-1GHz)            | Huber+Suhnar | 30MHz-1GHz           | 1486150           | May 28, 2021  | May 27, 2022  |
| RF cables3<br>(1GHz-40GHz)            | Huber+Suhnar | 1GHz-40GHz           | 1607106           | May 28, 2021  | May 27, 2022  |
| Power Metter                          | Keysight     | E4419B               | \                 | May 28, 2021  | May 27, 2022  |
| Power Sensor<br>(AV)                  | Keysight     | E9 300A              | \                 | May 28, 2021  | May 27, 2022  |
| Signal<br>Analyzer<br>20kHz-26.5GHz   | KEYSIGHT     | N9020A               | MY49100060        | May 28, 2021  | May 27, 2022  |
| Spectrum<br>Analyzer<br>9kHz-40GHz    | Agilent      | FSP40                | 100363            | May 28, 2021  | May 27, 2022  |
| Software                              | Frad         | EZ-EMC               | FA-03A2 RE        | \             | \             |

## 6. Conducted Emissions

### 6.1 Block Diagram Of Test Setup



### 6.2 Limit

| FREQUENCY (MHz) | Limit (dBuV) |           |
|-----------------|--------------|-----------|
|                 | Quas-peak    | Average   |
| 0.15 -0.5       | 66 - 56 *    | 56 - 46 * |
| 0.50 -5.0       | 56.00        | 46.00     |
| 5.0 -30.0       | 60.00        | 50.00     |

Notes:

- \*Decreasing linearly with logarithm of frequency.
- The lower limit shall apply at the transition frequencies.

### 6.3 Test Procedure

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

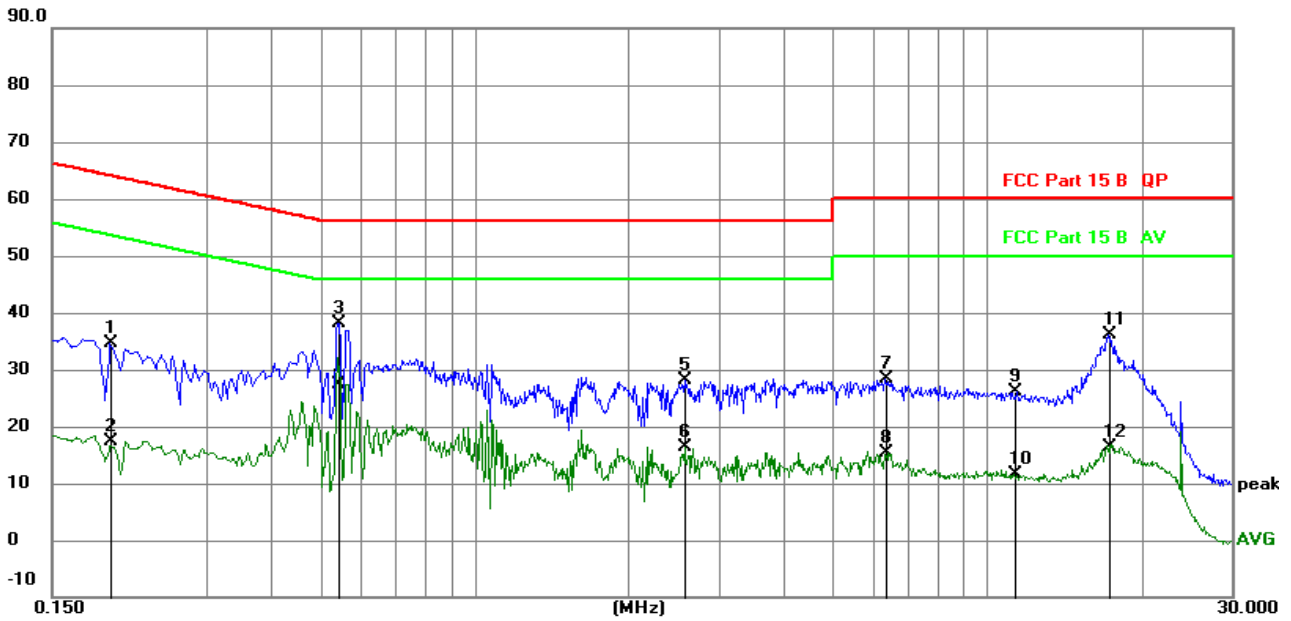
- The Product was placed on a nonconductive table 0.8 m above the horizontal ground reference plane, and 0.4 m from the vertical ground reference plane, and connected to the main through Line Impedance Stability Network (L.I.S.N).
- The RBW of the receiver was set at 9 kHz in 150 kHz ~ 30MHz with Peak and AVG detector in Max Hold mode. Run the receiver's pre-scan to record the maximum disturbance generated from Product in all power lines in the full band.
- For each frequency whose maximum record was higher or close to limit, measure its QP and AVG values and record.

### 6.4 EUT Operating Conditions

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

## 6.5 Test Result

|                |              |                     |        |
|----------------|--------------|---------------------|--------|
| Temperature :  | 26 °C        | Relative Humidity : | 54%    |
| Pressure :     | 101kPa       | Phase :             | L      |
| Test Voltage : | AC 120V/60Hz | Test Mode :         | Mode 5 |

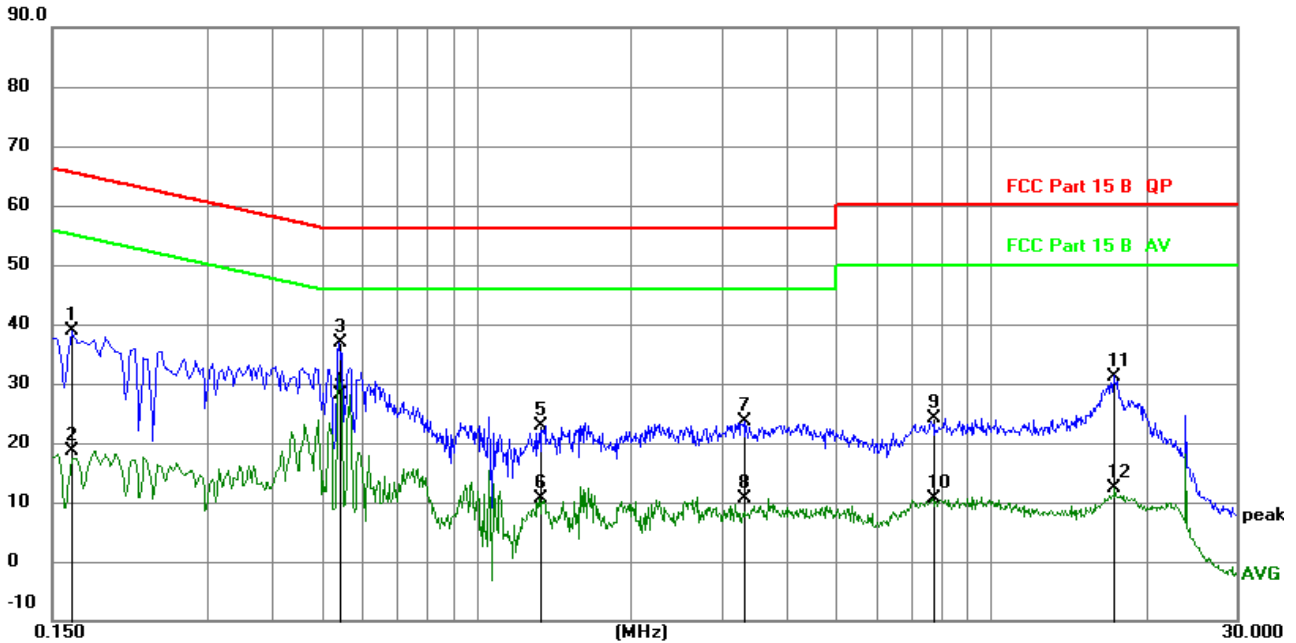


Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

| No. | Mk. | Freq.<br>MHz | Reading<br>Level | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV | Limit<br>dBuV | Over<br>dB | Detector |
|-----|-----|--------------|------------------|-------------------------|--------------------------|---------------|------------|----------|
| 1   |     | 0.1949       | 24.90            | 9.61                    | 34.51                    | 63.83         | -29.32     | QP       |
| 2   |     | 0.1949       | 7.77             | 9.61                    | 17.38                    | 53.83         | -36.45     | AVG      |
| 3   | *   | 0.5415       | 28.57            | 9.62                    | 38.19                    | 56.00         | -17.81     | QP       |
| 4   |     | 0.5415       | 17.77            | 9.62                    | 27.39                    | 46.00         | -18.61     | AVG      |
| 5   |     | 2.5800       | 18.50            | 9.65                    | 28.15                    | 56.00         | -27.85     | QP       |
| 6   |     | 2.5800       | 6.63             | 9.65                    | 16.28                    | 46.00         | -29.72     | AVG      |
| 7   |     | 6.3465       | 18.70            | 9.73                    | 28.43                    | 60.00         | -31.57     | QP       |
| 8   |     | 6.3465       | 5.76             | 9.73                    | 15.49                    | 50.00         | -34.51     | AVG      |
| 9   |     | 11.2605      | 16.32            | 9.79                    | 26.11                    | 60.00         | -33.89     | QP       |
| 10  |     | 11.2605      | 1.89             | 9.79                    | 11.68                    | 50.00         | -38.32     | AVG      |
| 11  |     | 17.2275      | 26.31            | 9.77                    | 36.08                    | 60.00         | -23.92     | QP       |
| 12  |     | 17.2275      | 6.57             | 9.77                    | 16.34                    | 50.00         | -33.66     | AVG      |

|                |              |                     |        |
|----------------|--------------|---------------------|--------|
| Temperature :  | 26 °C        | Relative Humidity : | 54%    |
| Pressure :     | 101kPa       | Phase :             | N      |
| Test Voltage : | AC 120V/60Hz | Test Mode :         | Mode 5 |



Remark:

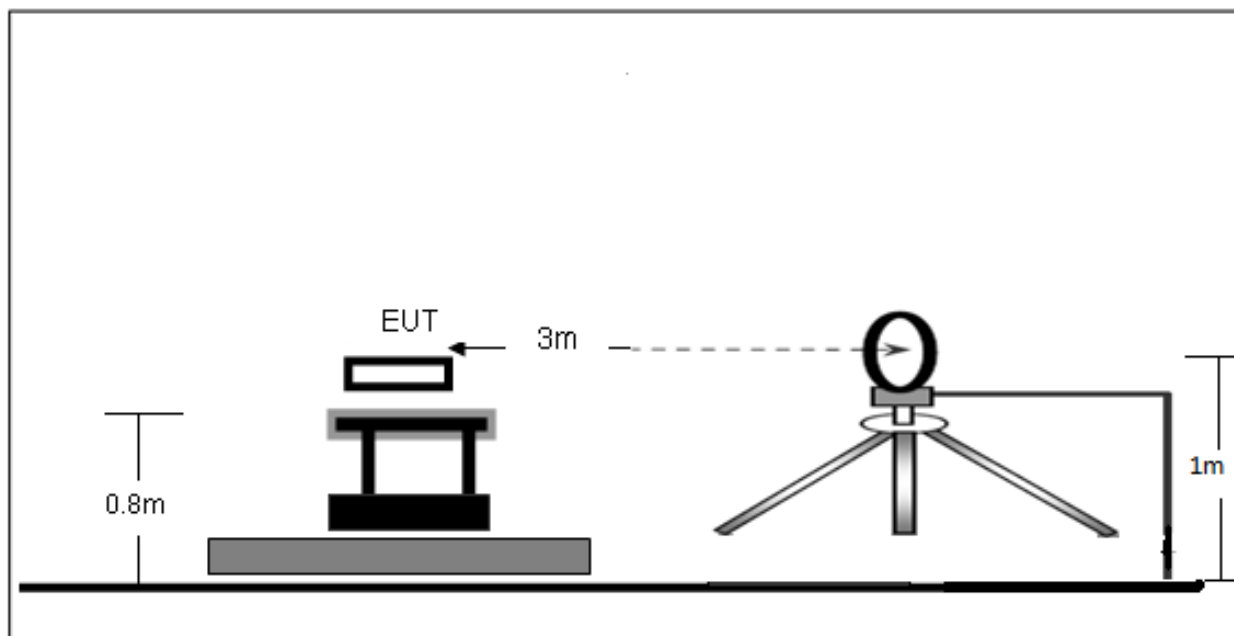
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

| No. | Mk. | Freq.<br>MHz | Reading<br>Level | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV | Limit<br>dBuV | Over<br>dB | Detector |
|-----|-----|--------------|------------------|-------------------------|--------------------------|---------------|------------|----------|
| 1   |     | 0.1633       | 29.21            | 9.61                    | 38.82                    | 65.29         | -26.47     | QP       |
| 2   |     | 0.1633       | 8.93             | 9.61                    | 18.54                    | 55.29         | -36.75     | AVG      |
| 3   |     | 0.5407       | 27.26            | 9.62                    | 36.88                    | 56.00         | -19.12     | QP       |
| 4   | *   | 0.5407       | 18.54            | 9.62                    | 28.16                    | 46.00         | -17.84     | AVG      |
| 5   |     | 1.3238       | 13.34            | 9.63                    | 22.97                    | 56.00         | -33.03     | QP       |
| 6   |     | 1.3238       | 0.99             | 9.63                    | 10.62                    | 46.00         | -35.38     | AVG      |
| 7   |     | 3.3105       | 14.01            | 9.66                    | 23.67                    | 56.00         | -32.33     | QP       |
| 8   |     | 3.3105       | 1.02             | 9.66                    | 10.68                    | 46.00         | -35.32     | AVG      |
| 9   |     | 7.6870       | 14.32            | 9.75                    | 24.07                    | 60.00         | -35.93     | QP       |
| 10  |     | 7.6870       | 0.97             | 9.75                    | 10.72                    | 50.00         | -39.28     | AVG      |
| 11  |     | 17.3826      | 21.48            | 9.77                    | 31.25                    | 60.00         | -28.75     | QP       |
| 12  |     | 17.3826      | 2.56             | 9.77                    | 12.33                    | 50.00         | -37.67     | AVG      |

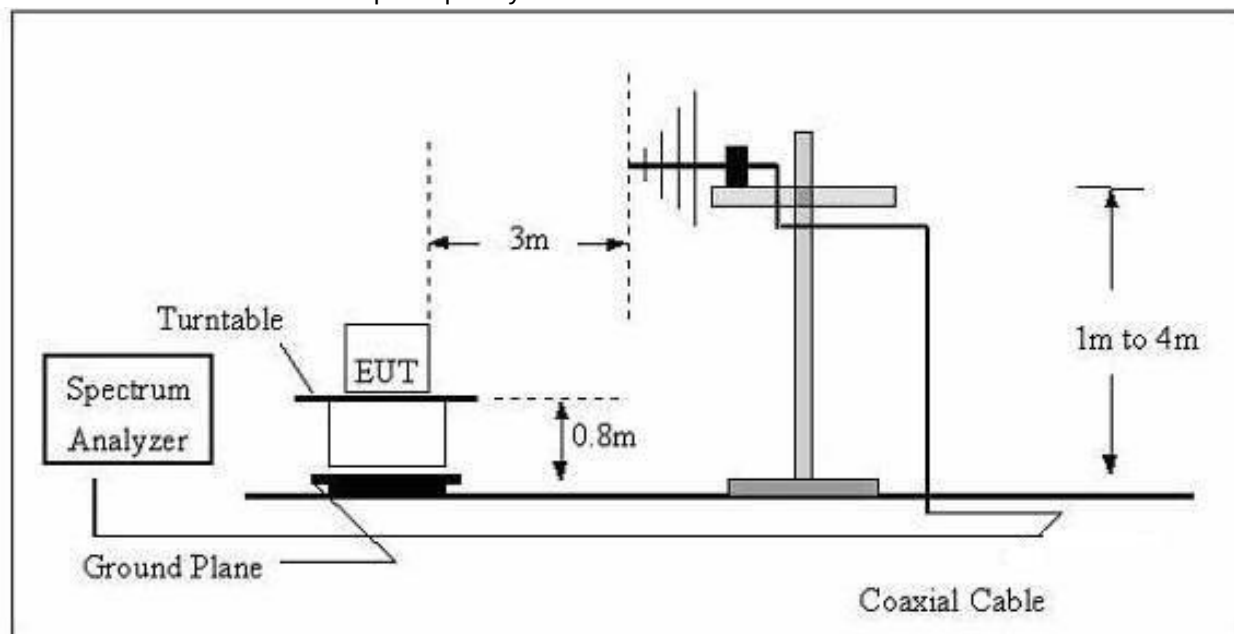
## 7. Radiated Emissions

### 7.1 Block Diagram Of Test Setup

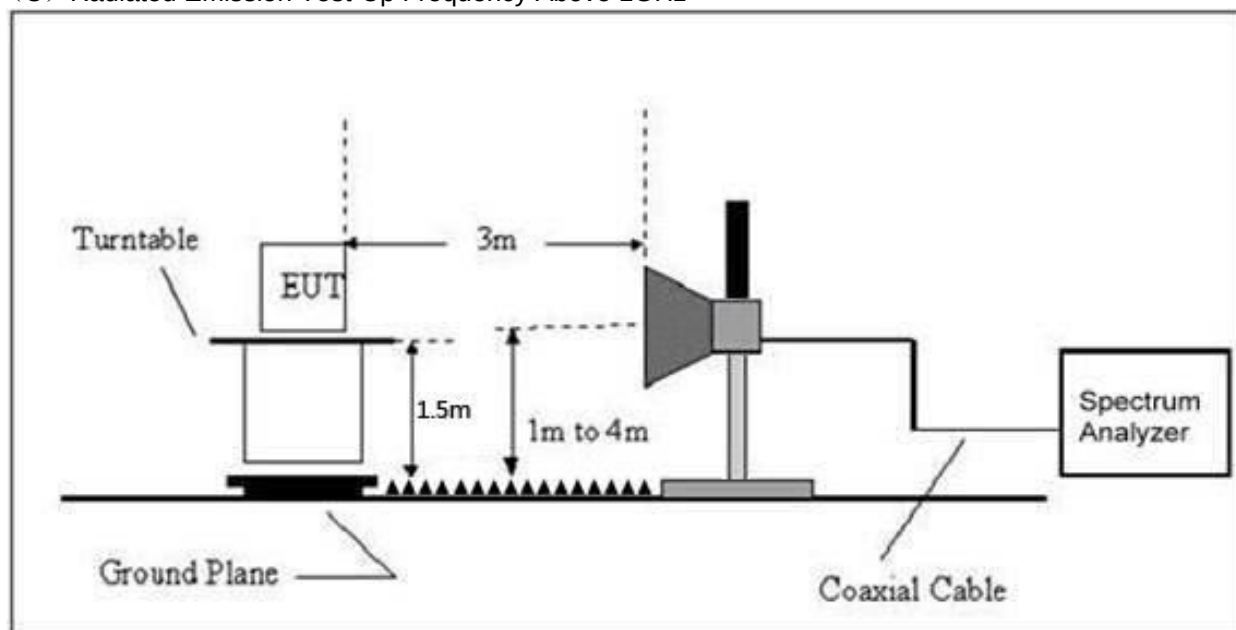
#### (A) Radiated Emission Test-Up Frequency Below 30MHz



#### (B) Radiated Emission Test-Up Frequency 30MHz~1GHz



## (C) Radiated Emission Test-Up Frequency Above 1GHz



## 7.2 Limit

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

| Frequency     | Field Strength        | Distance | Field Strength Limit at 3m Distance |                                    |
|---------------|-----------------------|----------|-------------------------------------|------------------------------------|
| (MHz)         | uV/m                  | (m)      | uV/m                                | dBuV/m                             |
| 0.009 ~ 0.490 | $2400/F(\text{kHz})$  | 300      | $10000 * 2400/F(\text{kHz})$        | $20\log(2400/F(\text{kHz})) + 80$  |
| 0.490 ~ 1.705 | $24000/F(\text{kHz})$ | 30       | $100 * 24000/F(\text{kHz})$         | $20\log(24000/F(\text{kHz})) + 40$ |
| 1.705 ~ 30    | 30                    | 30       | $100 * 30$                          | $20\log(30) + 40$                  |
| 30 ~ 88       | 100                   | 3        | 100                                 | $20\log(100)$                      |
| 88 ~ 216      | 150                   | 3        | 150                                 | $20\log(150)$                      |
| 216 ~ 960     | 200                   | 3        | 200                                 | $20\log(200)$                      |
| Above 960     | 500                   | 3        | 500                                 | $20\log(500)$                      |

## LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

| FREQUENCY<br>(MHz) | Limit (dBuV/m) (at 3M) |         |
|--------------------|------------------------|---------|
|                    | PEAK                   | AVERAGE |
| Above 1000         | 74                     | 54      |

Notes:

- (1)The limit for radiated test was performed according to FCC PART 15C.
- (2)The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

### FREQUENCY RANGE OF RADIATED MEASUREMENT (For unintentional radiators)

| Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz) | Range (MHz)                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| Below 1.705                                                                                                                     | 30                                                                              |
| 1.705 – 108                                                                                                                     | 1000                                                                            |
| 108 – 500                                                                                                                       | 2000                                                                            |
| 500 – 1000                                                                                                                      | 5000                                                                            |
| Above 1000                                                                                                                      | 5 <sup>th</sup> harmonic of the highest frequency or 40 GHz, whichever is lower |

### 7.3 Test Procedure

| Receiver Parameter | Setting           |
|--------------------|-------------------|
| Attenuation        | Auto              |
| 9kHz~150kHz        | RBW 200Hz for QP  |
| 150kHz~30MHz       | RBW 9kHz for QP   |
| 30MHz~1000MHz      | RBW 120kHz for QP |

| Spectrum Parameter | Setting                                                            |
|--------------------|--------------------------------------------------------------------|
| 1-25GHz            | RBW 1 MHz /VBW 1 MHz for Peak,<br>RBW 1 MHz / VBW 10Hz for Average |

Below 1GHz test procedure as below:

- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Above 1GHz test procedure as below:

g. Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 metre to 1.5 metre( Above 18GHz the distance is 1 meter and table is 1.5 metre).

h. Test the EUT in the lowest channel ,the middle channel ,the Highest channel.

Note:

Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported.

Above 1GHz test procedure as below:

a. The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

g. Test the EUT in the lowest channel, the Highest channel.

Note:

Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported.

## 7.4 EUT Operating Conditions

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

## 7.5 Test Result

Below 30MHz

|              |         |                    |             |
|--------------|---------|--------------------|-------------|
| Temperature: | 26℃     | Relative Humidity: | 24%         |
| Pressure:    | 101 kPa | Test Voltage :     | AC120V/60Hz |
| Test Mode :  | Mode 5  | Polarization :     | --          |

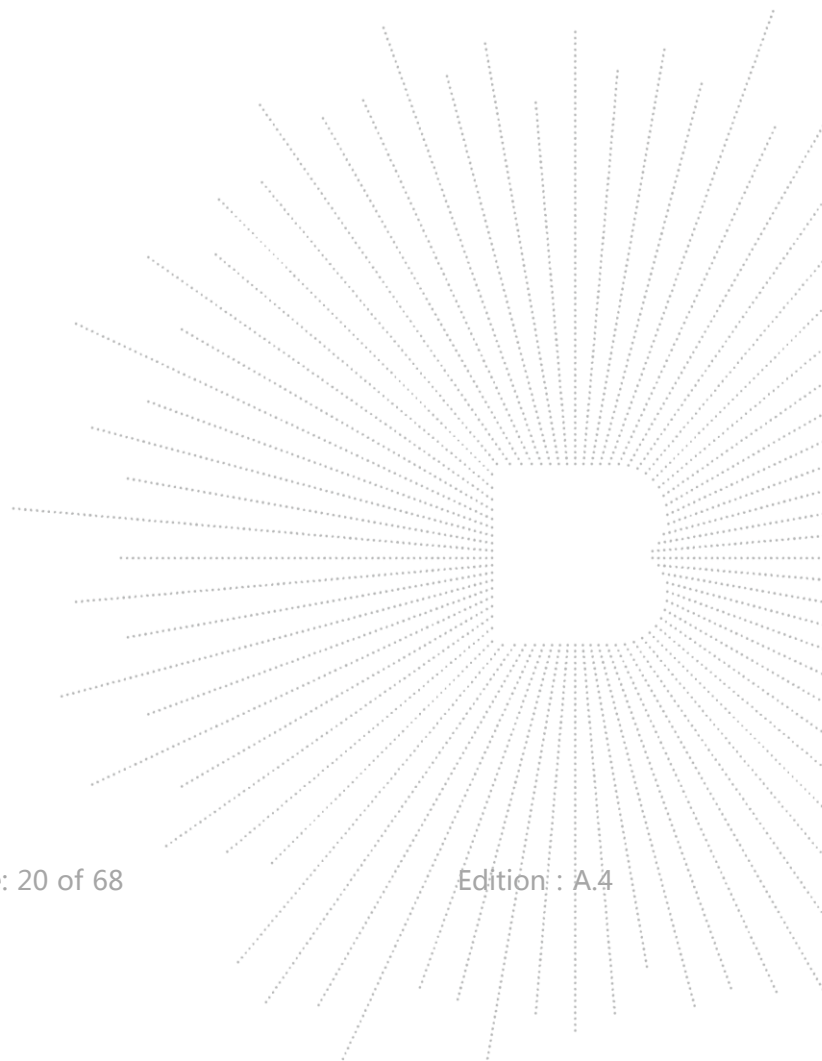
| Freq. | Reading  | Limit    | Margin | State |
|-------|----------|----------|--------|-------|
| (MHz) | (dBuV/m) | (dBuV/m) | (dB)   | P/F   |
| --    | --       | --       | --     | PASS  |
| --    | --       | --       | --     | PASS  |

**Note:**

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

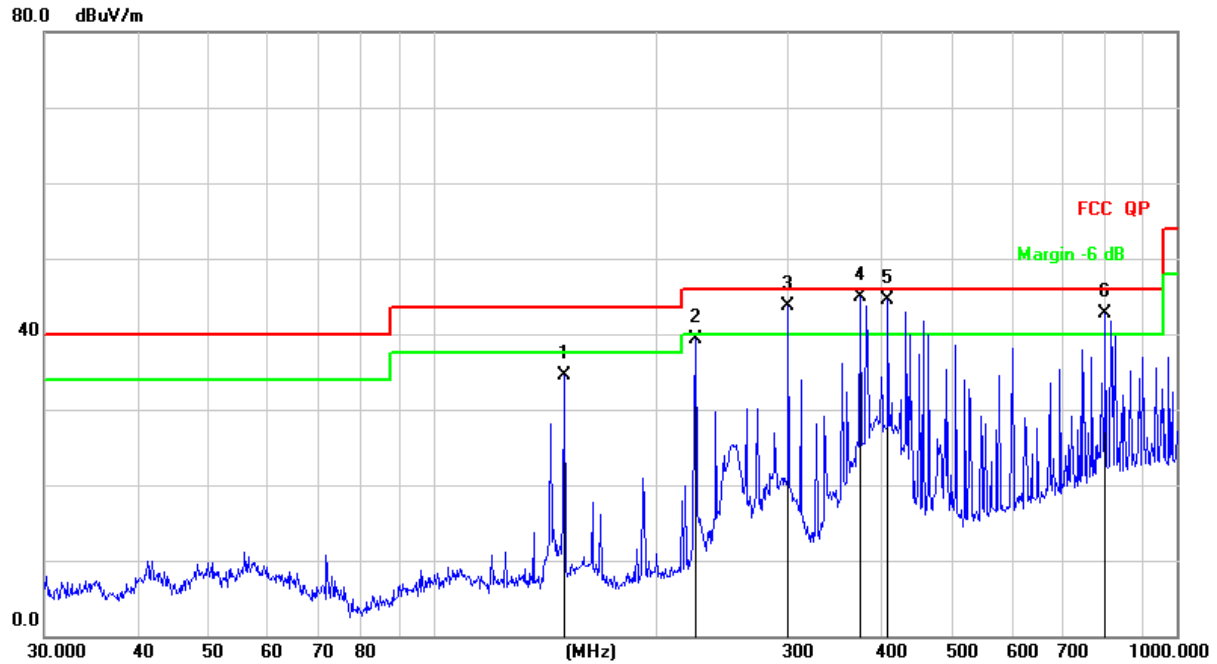
Distance extrapolation factor =  $40 \log (\text{specific distance/test distance})$ (dB);

Limit line = specific limits(dBuv) + distance extrapolation factor.



Between 30MHz – 1GHz

|              |         |                    |             |
|--------------|---------|--------------------|-------------|
| Temperature: | 26°C    | Relative Humidity: | 54%         |
| Pressure:    | 101 kPa | Test Voltage :     | AC120V/60Hz |
| Test Mode :  | Mode 5  | Polarization :     | Horizontal  |

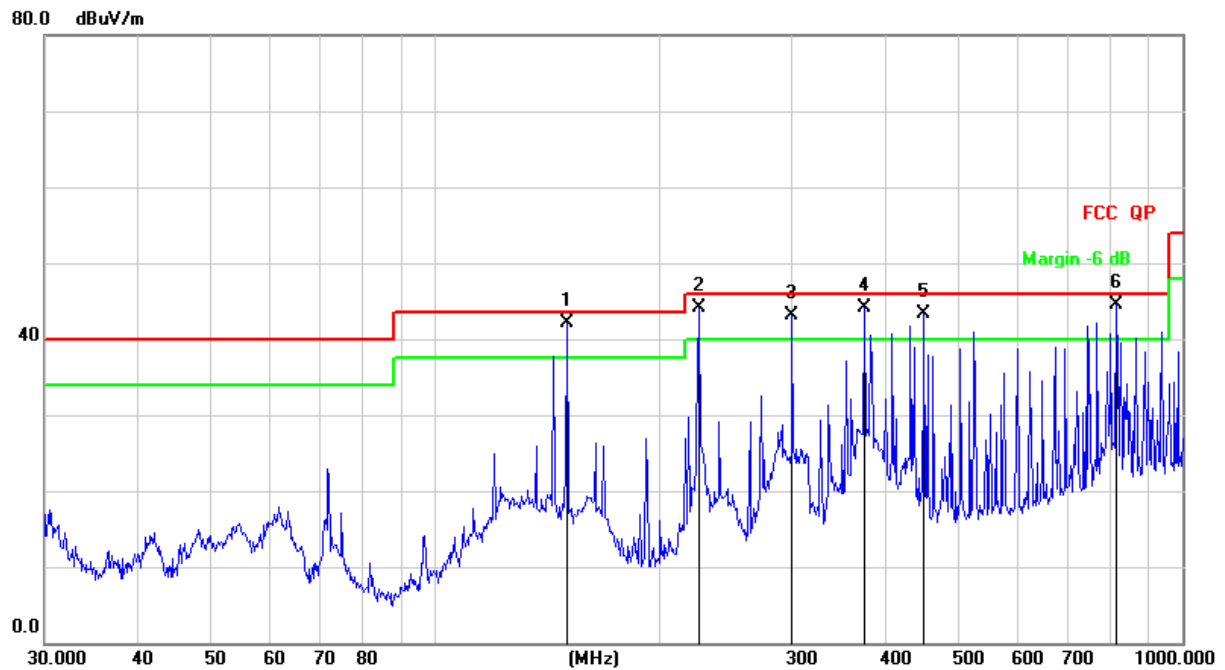


Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit | Over  | Detector |
|-----|-----|----------|---------------|----------------|-------------|-------|-------|----------|
|     |     | MHz      | dBuV          | dB             | dBuV/m      | dB/m  | dB    |          |
| 1   |     | 150.0107 | 54.08         | -19.49         | 34.59       | 43.50 | -8.91 | QP       |
| 2   |     | 225.3079 | 54.32         | -15.04         | 39.28       | 46.00 | -6.72 | QP       |
| 3   | !   | 300.3672 | 57.53         | -13.75         | 43.78       | 46.00 | -2.22 | QP       |
| 4   | *   | 375.9384 | 56.53         | -11.55         | 44.98       | 46.00 | -1.02 | QP       |
| 5   | !   | 408.9460 | 55.17         | -10.62         | 44.55       | 46.00 | -1.45 | QP       |
| 6   | !   | 801.7862 | 44.55         | -1.90          | 42.65       | 46.00 | -3.35 | QP       |

|              |         |                    |             |
|--------------|---------|--------------------|-------------|
| Temperature: | 26°C    | Relative Humidity: | 54%         |
| Pressure:    | 101 kpa | Test Voltage :     | AC120V/60Hz |
| Test Mode :  | Mode 5  | Polarization :     | Vertical    |



Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

| No. Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit | Over  |          |
|---------|----------|---------------|----------------|-------------|-------|-------|----------|
|         | MHz      | dBuV          | dB             | dBuV/m      | dB/m  | dB    | Detector |
| 1 *     | 150.0107 | 61.68         | -19.49         | 42.19       | 43.50 | -1.31 | QP       |
| 2 !     | 225.3079 | 59.17         | -15.04         | 44.13       | 46.00 | -1.87 | QP       |
| 3 !     | 300.3672 | 56.93         | -13.75         | 43.18       | 46.00 | -2.82 | QP       |
| 4 !     | 375.9384 | 55.59         | -11.55         | 44.04       | 46.00 | -1.96 | QP       |
| 5 !     | 451.1349 | 52.78         | -9.55          | 43.23       | 46.00 | -2.77 | QP       |
| 6 !     | 815.9678 | 46.06         | -1.57          | 44.49       | 46.00 | -1.51 | QP       |

Between 1GHz – 25GHz  
802.11b

| Polar<br>(H/V)         | Frequency | Reading<br>Level | Correct<br>Factor | Measure-m<br>ent | Limits       | Over   | Detector<br>Type |
|------------------------|-----------|------------------|-------------------|------------------|--------------|--------|------------------|
|                        | (MHz)     | (dBuV/m)         | (dB)              | (dBuV/m)         | (dBuV/<br>m) | (dB)   |                  |
| Low channel:2412MHz    |           |                  |                   |                  |              |        |                  |
| V                      | 4824.00   | 53.43            | -0.43             | 53.00            | 74.00        | -21.00 | PK               |
| V                      | 4824.00   | 43.99            | -0.43             | 43.56            | 54.00        | -10.44 | AV               |
| V                      | 7236.00   | 45.86            | 8.31              | 54.17            | 74.00        | -19.83 | PK               |
| V                      | 7236.00   | 35.42            | 8.31              | 43.73            | 54.00        | -10.27 | AV               |
| H                      | 4824.00   | 50.70            | -0.43             | 50.27            | 74.00        | -23.73 | PK               |
| H                      | 4824.00   | 40.96            | -0.43             | 40.53            | 54.00        | -13.47 | AV               |
| H                      | 7236.00   | 43.81            | 8.31              | 52.12            | 74.00        | -21.88 | PK               |
| H                      | 7236.00   | 35.19            | 8.31              | 43.50            | 54.00        | -10.50 | AV               |
| Middle channel:2437MHz |           |                  |                   |                  |              |        |                  |
| V                      | 4874.00   | 50.03            | -0.38             | 49.65            | 74.00        | -24.35 | PK               |
| V                      | 4874.00   | 43.29            | -0.38             | 42.91            | 54.00        | -11.09 | AV               |
| V                      | 7311.00   | 39.36            | 8.83              | 48.19            | 74.00        | -25.81 | PK               |
| V                      | 7311.00   | 31.29            | 8.83              | 40.12            | 54.00        | -13.88 | AV               |
| H                      | 4874.00   | 47.94            | -0.38             | 47.56            | 74.00        | -26.44 | PK               |
| H                      | 4874.00   | 38.00            | -0.38             | 37.62            | 54.00        | -16.38 | AV               |
| H                      | 7311.00   | 37.92            | 8.83              | 46.75            | 74.00        | -27.25 | PK               |
| H                      | 7311.00   | 29.21            | 8.83              | 38.04            | 54.00        | -15.96 | AV               |
| High channel:2462MHz   |           |                  |                   |                  |              |        |                  |
| V                      | 4924.00   | 51.12            | -0.32             | 50.80            | 74.00        | -23.20 | PK               |
| V                      | 4924.00   | 42.06            | -0.32             | 41.74            | 54.00        | -12.26 | AV               |
| V                      | 7386.00   | 44.28            | 9.35              | 53.63            | 74.00        | -20.37 | PK               |
| V                      | 7386.00   | 33.87            | 9.35              | 43.22            | 54.00        | -10.78 | AV               |
| H                      | 4924.00   | 48.92            | -0.32             | 48.60            | 74.00        | -25.40 | PK               |
| H                      | 4924.00   | 38.35            | -0.32             | 38.03            | 54.00        | -15.97 | AV               |
| H                      | 7386.00   | 42.21            | 9.35              | 51.56            | 74.00        | -22.44 | PK               |
| H                      | 7386.00   | 34.59            | 9.35              | 43.94            | 54.00        | -10.06 | AV               |

Remark:

1.Emission Level = Meter Reading + Factor,

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Over= Emission Level - Limit

2.If peak below the average limit, the average emission was no test.

3. In restricted bands of operation, The spurious emissions below the permissible value more than 20dB

4. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

5.All the Modulation are test, the worst mode is 802.11b, the data recording in the report.

**802.11g**

| Polar<br>(H/V)         | Frequency | Reading<br>Level | Correct<br>Factor | Measure-m<br>ent | Limits       | Over   | Detector<br>Type |
|------------------------|-----------|------------------|-------------------|------------------|--------------|--------|------------------|
|                        | (MHz)     | (dBuV/m)         | (dB)              | (dBuV/m)         | (dBuV/<br>m) | (dB)   |                  |
| Low channel:2412MHz    |           |                  |                   |                  |              |        |                  |
| V                      | 4824.00   | 53.64            | -0.43             | 53.21            | 74.00        | -20.79 | PK               |
| V                      | 4824.00   | 43.88            | -0.43             | 43.45            | 54.00        | -10.55 | AV               |
| V                      | 7236.00   | 44.65            | 8.31              | 52.96            | 74.00        | -21.04 | PK               |
| V                      | 7236.00   | 34.50            | 8.31              | 42.81            | 54.00        | -11.19 | AV               |
| H                      | 4824.00   | 49.78            | -0.43             | 49.35            | 74.00        | -24.65 | PK               |
| H                      | 4824.00   | 39.07            | -0.43             | 38.64            | 54.00        | -15.36 | AV               |
| H                      | 7236.00   | 41.85            | 8.31              | 50.16            | 74.00        | -23.84 | PK               |
| H                      | 7236.00   | 33.67            | 8.31              | 41.98            | 54.00        | -12.02 | AV               |
| Middle channel:2437MHz |           |                  |                   |                  |              |        |                  |
| V                      | 4874.00   | 50.11            | -0.38             | 49.73            | 74.00        | -24.27 | PK               |
| V                      | 4874.00   | 42.41            | -0.38             | 42.03            | 54.00        | -11.97 | AV               |
| V                      | 7311.00   | 43.09            | 8.83              | 51.92            | 74.00        | -22.08 | PK               |
| V                      | 7311.00   | 34.26            | 8.83              | 43.09            | 54.00        | -10.91 | AV               |
| H                      | 4874.00   | 46.03            | -0.38             | 45.65            | 74.00        | -28.35 | PK               |
| H                      | 4874.00   | 35.08            | -0.38             | 34.70            | 54.00        | -19.30 | AV               |
| H                      | 7311.00   | 41.73            | 8.83              | 50.56            | 74.00        | -23.44 | PK               |
| H                      | 7311.00   | 33.20            | 8.83              | 42.03            | 54.00        | -11.97 | AV               |
| High channel:2462MHz   |           |                  |                   |                  |              |        |                  |
| V                      | 4924.00   | 52.91            | -0.32             | 52.59            | 74.00        | -21.41 | PK               |
| V                      | 4924.00   | 42.13            | -0.32             | 41.81            | 54.00        | -12.19 | AV               |
| V                      | 7386.00   | 45.73            | 9.35              | 55.08            | 74.00        | -18.92 | PK               |
| V                      | 7386.00   | 35.03            | 9.35              | 44.38            | 54.00        | -9.62  | AV               |
| H                      | 4924.00   | 50.67            | -0.32             | 50.35            | 74.00        | -23.65 | PK               |
| H                      | 4924.00   | 40.51            | -0.32             | 40.19            | 54.00        | -13.81 | AV               |
| H                      | 7386.00   | 44.06            | 9.35              | 53.41            | 74.00        | -20.59 | PK               |
| H                      | 7386.00   | 36.66            | 9.35              | 46.01            | 54.00        | -7.99  | AV               |

**Remark:**

- 1.Emission Level = Meter Reading + Factor,  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.  
Over= Emission Level - Limit
- 2.If peak below the average limit, the average emission was no test.
3. In restricted bands of operation, The spurious emissions below the permissible value more than 20dB
4. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.
- 5.All the Modulation are test, the worst mode is 802.11b, the data recording in the report.

**802.11n20**

| Polar<br>(H/V)         | Frequency | Reading<br>Level | Correct<br>Factor | Measure-m<br>ent | Limits       | Over   | Detector<br>Type |
|------------------------|-----------|------------------|-------------------|------------------|--------------|--------|------------------|
|                        | (MHz)     | (dBuV/m)         | (dB)              | (dBuV/m)         | (dBuV/<br>m) | (dB)   |                  |
| Low channel:2412MHz    |           |                  |                   |                  |              |        |                  |
| V                      | 4824.00   | 52.00            | -0.43             | 51.57            | 74.00        | -22.43 | PK               |
| V                      | 4824.00   | 42.52            | -0.43             | 42.09            | 54.00        | -11.91 | AV               |
| V                      | 7236.00   | 42.06            | 8.31              | 50.37            | 74.00        | -23.63 | PK               |
| V                      | 7236.00   | 31.63            | 8.31              | 39.94            | 54.00        | -14.06 | AV               |
| H                      | 4824.00   | 50.33            | -0.43             | 49.90            | 74.00        | -24.10 | PK               |
| H                      | 4824.00   | 40.37            | -0.43             | 39.94            | 54.00        | -14.06 | AV               |
| H                      | 7236.00   | 40.05            | 8.31              | 48.36            | 74.00        | -25.64 | PK               |
| H                      | 7236.00   | 32.19            | 8.31              | 40.50            | 54.00        | -13.50 | AV               |
| Middle channel:2437MHz |           |                  |                   |                  |              |        |                  |
| V                      | 4874.00   | 50.69            | -0.38             | 50.31            | 74.00        | -23.69 | PK               |
| V                      | 4874.00   | 43.96            | -0.38             | 43.58            | 54.00        | -10.42 | AV               |
| V                      | 7311.00   | 39.74            | 8.83              | 48.57            | 74.00        | -25.43 | PK               |
| V                      | 7311.00   | 31.33            | 8.83              | 40.16            | 54.00        | -13.84 | AV               |
| H                      | 4874.00   | 48.93            | -0.38             | 48.55            | 74.00        | -25.45 | PK               |
| H                      | 4874.00   | 39.75            | -0.38             | 39.37            | 54.00        | -14.63 | AV               |
| H                      | 7311.00   | 38.38            | 8.83              | 47.21            | 74.00        | -26.79 | PK               |
| H                      | 7311.00   | 30.31            | 8.83              | 39.14            | 54.00        | -14.86 | AV               |
| High channel:2462MHz   |           |                  |                   |                  |              |        |                  |
| V                      | 4924.00   | 53.54            | -0.32             | 53.22            | 74.00        | -20.78 | PK               |
| V                      | 4924.00   | 43.95            | -0.32             | 43.63            | 54.00        | -10.37 | AV               |
| V                      | 7386.00   | 47.36            | 9.35              | 56.71            | 74.00        | -17.29 | PK               |
| V                      | 7386.00   | 36.69            | 9.35              | 46.04            | 54.00        | -7.96  | AV               |
| H                      | 4924.00   | 51.46            | -0.32             | 51.14            | 74.00        | -22.86 | PK               |
| H                      | 4924.00   | 41.10            | -0.32             | 40.78            | 54.00        | -13.22 | AV               |
| H                      | 7386.00   | 44.78            | 9.35              | 54.13            | 74.00        | -19.87 | PK               |
| H                      | 7386.00   | 37.35            | 9.35              | 46.70            | 54.00        | -7.30  | AV               |

**Remark:**

- 1.Emission Level = Meter Reading + Factor,  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.  
Over= Emission Level - Limit
- 2.If peak below the average limit, the average emission was no test.
3. In restricted bands of operation, The spurious emissions below the permissible value more than 20dB
4. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.
- 5.All the Modulation are test, the worst mode is 802.11b, the data recording in the report.

**802.11n40**

| Polar<br>(H/V)         | Frequency | Reading<br>Level | Correct<br>Factor | Measure-m<br>ent | Limits       | Over   | Detector<br>Type |
|------------------------|-----------|------------------|-------------------|------------------|--------------|--------|------------------|
|                        | (MHz)     | (dBuV/m)         | (dB)              | (dBuV/m)         | (dBuV/<br>m) | (dB)   |                  |
| Low channel:2422MHz    |           |                  |                   |                  |              |        |                  |
| V                      | 4844.00   | 53.10            | -0.43             | 52.67            | 74.00        | -21.33 | PK               |
| V                      | 4844.00   | 43.32            | -0.43             | 42.89            | 54.00        | -11.11 | AV               |
| V                      | 7266.00   | 44.48            | 8.31              | 52.79            | 74.00        | -21.21 | PK               |
| V                      | 7266.00   | 34.56            | 8.31              | 42.87            | 54.00        | -11.13 | AV               |
| H                      | 4844.00   | 51.21            | -0.43             | 50.78            | 74.00        | -23.22 | PK               |
| H                      | 4844.00   | 40.66            | -0.43             | 40.23            | 54.00        | -13.77 | AV               |
| H                      | 7266.00   | 41.67            | 8.31              | 49.98            | 74.00        | -24.02 | PK               |
| H                      | 7266.00   | 33.76            | 8.31              | 42.07            | 54.00        | -11.93 | AV               |
| Middle channel:2437MHz |           |                  |                   |                  |              |        |                  |
| V                      | 4874.00   | 49.33            | -0.38             | 48.95            | 74.00        | -25.05 | PK               |
| V                      | 4874.00   | 41.64            | -0.38             | 41.26            | 54.00        | -12.74 | AV               |
| V                      | 7311.00   | 39.91            | 8.83              | 48.74            | 74.00        | -25.26 | PK               |
| V                      | 7311.00   | 31.00            | 8.83              | 39.83            | 54.00        | -14.17 | AV               |
| H                      | 4874.00   | 47.24            | -0.38             | 46.86            | 74.00        | -27.14 | PK               |
| H                      | 4874.00   | 38.21            | -0.38             | 37.83            | 54.00        | -16.17 | AV               |
| H                      | 7311.00   | 38.54            | 8.83              | 47.37            | 74.00        | -26.63 | PK               |
| H                      | 7311.00   | 29.99            | 8.83              | 38.82            | 54.00        | -15.18 | AV               |
| High channel:2452MHz   |           |                  |                   |                  |              |        |                  |
| V                      | 4904.00   | 51.89            | -0.32             | 51.57            | 74.00        | -22.43 | PK               |
| V                      | 4904.00   | 43.05            | -0.32             | 42.73            | 54.00        | -11.27 | AV               |
| V                      | 7356.00   | 43.13            | 9.35              | 52.48            | 74.00        | -21.52 | PK               |
| V                      | 7356.00   | 32.81            | 9.35              | 42.16            | 54.00        | -11.84 | AV               |
| H                      | 4904.00   | 50.79            | -0.32             | 50.47            | 74.00        | -23.53 | PK               |
| H                      | 4904.00   | 41.35            | -0.32             | 41.03            | 54.00        | -12.97 | AV               |
| H                      | 7356.00   | 40.46            | 9.35              | 49.81            | 74.00        | -24.19 | PK               |
| H                      | 7356.00   | 31.76            | 9.35              | 41.11            | 54.00        | -12.89 | AV               |

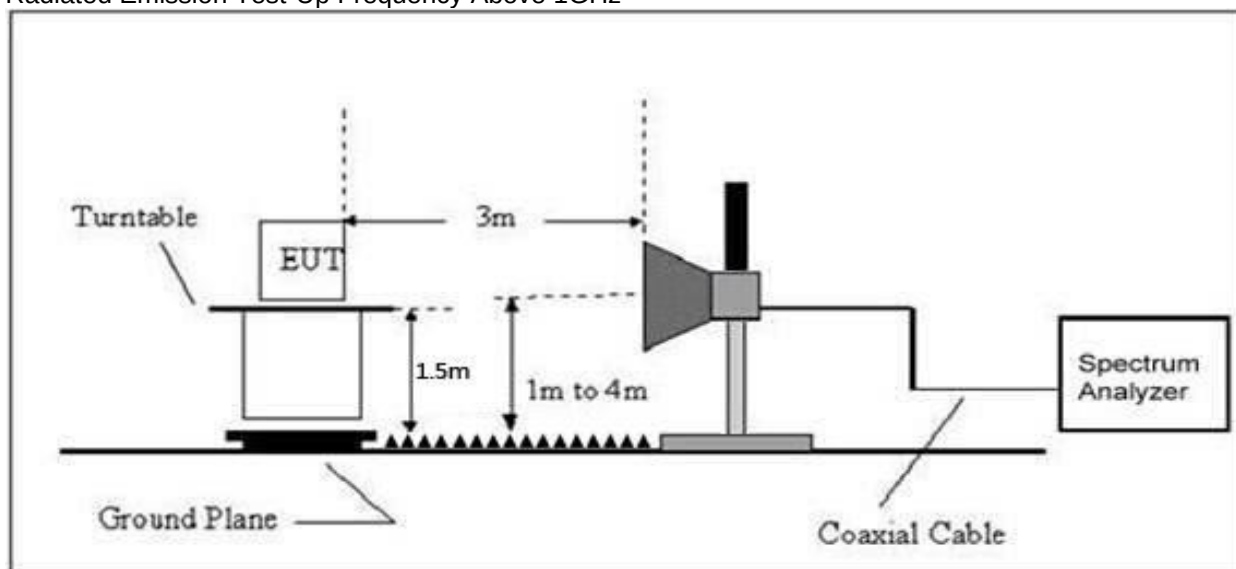
**Remark:**

- 1.Emission Level = Meter Reading + Factor,  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.  
Over= Emission Level - Limit
- 2.If peak below the average limit, the average emission was no test.
3. In restricted bands of operation, The spurious emissions below the permissible value more than 20dB
4. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.
- 5.All the Modulation are test, the worst mode is 802.11b, the data recording in the report.

## 8. Radiated Band Emission Measurement And Restricted Bands Of Operation

### 8.1 Block Diagram Of Test Setup

Radiated Emission Test-Up Frequency Above 1GHz



### 8.2 Limit

FCC Part15 C Section 15.209 and 15.205

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

| MHz               | MHz                 | MHz           | GHz              |
|-------------------|---------------------|---------------|------------------|
| 0.090-0.110       | 16.42-16.423        | 399.9-410     | 4.5-5.15         |
| 0.495-0.505       | 16.69475-16.69525   | 608-614       | 5.35-5.46        |
| 2.1735-2.1905     | 16.80425-16.80475   | 960-1240      | 7.25-7.75        |
| 4.125-4.128       | 25.5-25.67          | 1300-1427     | 8.025-8.5        |
| 4.17725-4.17775   | 37.5-38.25          | 1435-1626.5   | 9.0-9.2          |
| 4.20725-4.20775   | 73-74.6             | 1645.5-1646.5 | 9.3-9.5          |
| 6.215-6.218       | 74.8-75.2           | 1660-1710     | 10.6-12.7        |
| 6.26775-6.26825   | 108-121.94          | 1718.8-1722.2 | 13.25-13.4       |
| 6.31175-6.31225   | 123-138             | 2200-2300     | 14.47-14.5       |
| 8.291-8.294       | 149.9-150.05        | 2310-2390     | 15.35-16.2       |
| 8.362-8.366       | 156.52475-156.52525 | 2483.5-2500   | 17.7-21.4        |
| 8.37625-8.38675   | 156.7-156.9         | 2690-2900     | 22.01-23.12      |
| 8.41425-8.41475   | 162.0125-167.17     | 3260-3267     | 23.6-24.0        |
| 12.29-12.293      | 167.72-173.2        | 3332-3339     | 31.2-31.8        |
| 12.51975-12.52025 | 240-285             | 3345.8-3358   | 36.43-36.5       |
| 12.57675-12.57725 | 322-335.4           | 3600-4400     | ( <sup>2</sup> ) |
| 13.36-13.41       |                     |               |                  |

#### LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

| FREQUENCY<br>(MHz) | Limit (dBuV/m) (at 3M) |         |
|--------------------|------------------------|---------|
|                    | PEAK                   | AVERAGE |
| Above 1000         | 74                     | 54      |

Notes:

- (1)The limit for radiated test was performed according to FCC PART 15C.
- (2)The tighter limit applies at the band edges.
- (3)Emission level (dBuV/m)=20log Emission level (uV/m).

### 8.3 Test Procedure

| Receiver Parameter                    | Setting                                          |
|---------------------------------------|--------------------------------------------------|
| Attenuation                           | Auto                                             |
| Start Frequency                       | 2300MHz                                          |
| Stop Frequency                        | 2520                                             |
| RB / VB (emission in restricted band) | 1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average |

Above 1GHz test procedure as below:

- The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- Test the EUT in the lowest channel, the Highest channel.

Note:

Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported.

### 8.4 EUT operating Conditions

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