

FCC Part 15C Test Report

Report No.: BCTC-LH161212488E

FCC ID: 2ADEB-M1601

| Product Name: | Yunmai 2 Smart Scale |
|------------------|--|
| Trademark: | YUNMA |
| Model Name : | M1601 |
| Prepared For : | SHENZHEN YUNMAI TECHNOLOGY CO., LTD. |
| Address : | Room 10D, Block C, Building NO.4,Shenzhen Software Industry Base, Shenzhen,China |
| Prepared By : | Shenzhen BCTC Technology Co., Ltd. |
| Address : | No.101, Yousong Road, Longhua New District, Shenzhen, China |
| Test Date: | Nov. 20 - Nov. 28, 2016 |
| Date of Report : | Dec. 10, 2016 |
| Report No.: | BCTC-LH161212488E |



TEST RESULT CERTIFICATION

Report No.: BCTC-LH161212488E

Applicant's name: SHENZHEN YUNMAI TECHNOLOGY CO., LTD.

Address: Room 10D, Block C, Building NO.4,Shenzhen Software Industry Base, Shenzhen,China

Manufacture's Name: SHENZHEN YUNMAI TECHNOLOGY CO., LTD.

Address: Room 10D, Block C, Building NO.4,Shenzhen Software Industry Base, Shenzhen,China

Product description

Product name: Yunmai 2 Smart Scale

Standards FCC Part15.247

ANSI C63.10:2013

KBD 558074 D01 DTS Meas Guidance v03r05

This device described above has been tested by BCTC, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Testing Engineer :

Eric Yang

Reviewer (Supervisor) :

Jade Yang

Approved & Authorized Signer(Manager)

Eric Yang

Garson Zhang



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1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

| FCC Part15 (15.247) , Subpart C | | | | |
|---------------------------------|-----------------------------------|----------|--------|--|
| Standard Section | Test Item | Judgment | Remark | |
| 15.207 | Conducted Emission | PASS | | |
| 15.247 (a)(2) | 6dB Bandwidth | PASS | | |
| 15.247 (b) | Peak Output Power | PASS | | |
| 15.247 (d) | Radiated Spurious Emission | PASS | | |
| 15.247 (e) | Power Spectral Density | PASS | | |
| 15.205 | Restricted Band of Operation | PASS | | |
| 15.247 (d) | Band Edge (Out of Band Emissions) | PASS | | |
| 15.203 | Antenna Requirement | PASS | | |

NOTE:

(1)" N/A" denotes test is not applicable in this Test Report



1.1 TEST FACILITY

Shenzhen BCTC Technology Co., Ltd.

Add.: No.101, Yousong Road, Longhua New District, Shenzhen, China

FCC Registered No.: 187086

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $\mathbf{y} \pm \mathbf{U}$, where expended uncertainty \mathbf{U} is based on a standard uncertainty multiplied by a coverage factor of $\mathbf{k=2}$, providing a level of confidence of approximately 95 %.

| No. | Item | Uncertainty |
|-----|------------------------------|-------------|
| 1 | Conducted Emission Test | ±1.38dB |
| 2 | RF power,conducted | ±0.16dB |
| 3 | Spurious emissions,conducted | ±0.21dB |
| 4 | All emissions,radiated(<1G) | ±4.68dB |
| 5 | All emissions,radiated(>1G) | ±4.89dB |
| 6 | Temperature | ±0.5°C |
| 7 | Humidity | ±2% |



2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

| Equipment | Yunmai 2 Smart Scale | | | |
|------------------------|--|---|--|--|
| Trade Name | YUNMAI | | | |
| Model Name | M1601 | | | |
| Model Difference | N/A | | | |
| | The EUT is a Yunmai 2 Operation Frequency: | 802.11b/g/n20MHz:2412~2462 MHz 802.11n40MHz:2422~2452 MHz BT:2402~2480MHz | | |
| | Modulation Type: | WIFI: OFDM/DSSS BT:GFSK | | |
| Product Description | Bit Rate of Transmitter | 802.11b:11/5.5/2/1 Mbps 802.11g:54/48/36/24/18/12/9/6Mbps 802.11n Up to 150Mbps BT:2Mbps | | |
| | Number Of Channel | 802.11b/g/n20MHz:11 CH 802.11n40MHz: 7 CH BT:40CH | | |
| | Antenna Designation: | Please see Note 3. | | |
| | Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual. | | | |
| Channel List | Please refer to the Note | 2. | | |
| Dower | DC 3.7V | | | |
| Power | DC 5V from USB | | | |
| hardware version | | | | |
| Software version | | | | |
| Serial number | | | | |
| Connecting I/O Port(s) | Please refer to the User | s Manual | | |

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.



2.

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

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| | Channel List for 802.11n(40) | | | | | | |
|---------|------------------------------|---------|--------------------|------------|--------------------|---------|--------------------|
| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| 03 | 2422 | 05 | 2432 | 07 | 2442 | 09 | 2452 |
| 04 | 2427 | 06 | 2437 | 08 | 2447 | | |
| | | | Channel I | ist for BT | | | |
| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| 01 | 2402 | 11 | 2427 | 21 | 2442 | 31 | 2462 |
| 02 | 2404 | 12 | 2432 | 22 | 2444 | 32 | 2464 |
| ~ | ~ | ~ | ~ | ~ | ~ | ~ | ~ |
| 9 | 2418 | 19 | 2438 | 29 | 58 | 39 | 2478 |
| 10 | 2420 | 20 | 2440 | 30 | 60 | 40 | 2480 |

3. Table for Filed Antenna

| Ant. | Brand | Model Name | Antenna Type | Connector | Gain (dBi) | NOTE |
|------|-------|------------|------------------|-----------|------------|------|
| 1 | N/A | N/A | Internal Antenna | | 2.0 | WIFI |
| 2 | N/A | N/A | PCB Antenna | | 1.2 | ВТ |

2.2 DESCRIPTION OF TEST MODES

| 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 | BT CH1/CH20/CH40 |
| Mode 6 | Link Mode |

| Conducted Emission | | |
|--------------------|-------------|--|
| Final Test Mode | Description | |
| Mode 6 | 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 the highest, middle, lowest available channels.
- (2) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported
- (3) According to ANSI C63.10 standards, the test results are both the "worst case" and "worst setup" 11MHz for 802.11b,6MHz for 802.11g,13Mbps for 802.11n(H20), 54Mbps for 802.11n(H40).

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2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Radiated Spurious Emission Test

E-1 EUT

Conducted Spurious Emission Test



2.4 DESCRIPTION OF TEST UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

| Item | Equipment | Mfr/Brand | Model/Type No. | Series No. | Note |
|------|---------------------------------|-----------|----------------|------------|---|
| E-1 | Yunmai 2 Smart Scale | N/A | M1601 | N/A | EUT |
| E-2 | Adapter(provide by test lab) | N/A | FYA05010US | N/A | I/P:AC 100-240V 50/60Hz O/P: DC 5V/0.5A |
| | | | | | |
| | | | | | |

| Item | Shielded Type | Ferrite Core | Length | Note |
|------|---------------|--------------|--------|----------|
| C1 | No | No | 0.8m | Mini USB |
| | | | | |

Note:

⁽¹⁾ For detachable type I/O cable should be specified the length in cm in 『Length』 column.



2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation Test equipment

| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Last calibration | Calibrated until |
|------|-----------------------|-----------------|-----------------|-------------------|------------------|------------------|
| 1 | Spectrum Analyzer | Agilent | E4407B | MY4510957 2 | 2016.08.27 | 2017.08.26 |
| 2 | Test Receiver | R&S | ESPI | 101396 | 2016.08.27 | 2017.08.26 |
| 3 | Bilog Antenna | SCHWARZB ECK | VULB9160 | VULB9160- 3369 | 2016.08.27 | 2017.08.26 |
| 4 | 50Ω Coaxial Switch | Anritsu | MP59B | 620026441 6 | 2016.08.27 | 2017.08.26 |
| 5 | Spectrum Analyzer | Agilent | N9020A | MY5051041 | 2016.08.27 | 2017.08.26 |
| 6 | Horn Antenna | SCHWARZB ECK | 9120D | 9120D-1275 | 2016.08.27 | 2017.08.26 |
| 7 | Horn Ant | Schwarzbeck | BBHA 9170 | 9170-181 | 2016.07.06 | 2017.07.05 |
| 8 | Amplifier | SCHWARZB ECK | BBV9718 | 9718-270 | 2016.08.27 | 2017.08.26 |
| 9 | Amplifier | SCHWARZB ECK | BBV9743 | 9743-119 | 2016.08.27 | 2017.08.26 |
| 10 | Loop Antenna | ARA | PLDS83030 /B | 1029 | 2016.07.06 | 2017.07.05 |
| 11 | Power Meter | R&S | NRVS | 100696 | 2016.08.27 | 2017.08.26 |
| 12 | Power Sensor | R&S | URV5-Z4 | 0395.1619. 05 | 2016.08.27 | 2017.08.26 |
| 13 | RF cables | R&S | N/A | N/A | 2016.08.27 | 2017.08.26 |

Conduction Test equipment

| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Last calibration | Calibrated until |
|------|-----------------------|--------------|--------------|--------------------------------|------------------|------------------|
| 1 | Test Receiver | R&S | ESCI | 1166.5950K 03-101165- ha | 2016.08.27 | 2017.08.26 |
| 2 | LISN | R&S | NSLK81 26 | 812646 6 | 2016.08.27 | 2017.08.26 |
| 3 | LISN | R&S | NSLK81 26 | 812648 7 | 2016.08.27 | 2017.08.26 |
| 4 | 50Ω Coaxial Switch | Anritsu | MP59B | 620026441 7 | 2016.08.27 | 2017.08.26 |
| 5 | RF cables | R&S | R204 | R20X | 2016.08.27 | 2017.08.26 |



3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

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| EDEOLIENCY (MHz) | Limit(| Standard | | |
|------------------|------------|-----------|----------|--|
| FREQUENCY (MHz) | Quasi-peak | Average | Standard | |
| 0.15 -0.5 | 66 - 56 * | 56 - 46 * | FCC | |
| 0.50 -5.0 | 56.00 | 46.00 | FCC | |
| 5.0 -30.0 60.00 | | 50.00 | FCC | |

Note:

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

The following table is the setting of the receiver

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

3.1.2 TEST PROCEDURE

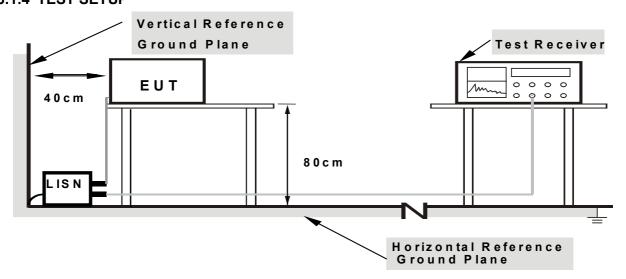
- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.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

3.1.3 DEVIATION FROM TEST STANDARD

No deviation



3.1.4 TEST SETUP



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Note: 1.Support units were connected to second LISN.

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

3.1.5 EUT OPERATING CONDITIONS

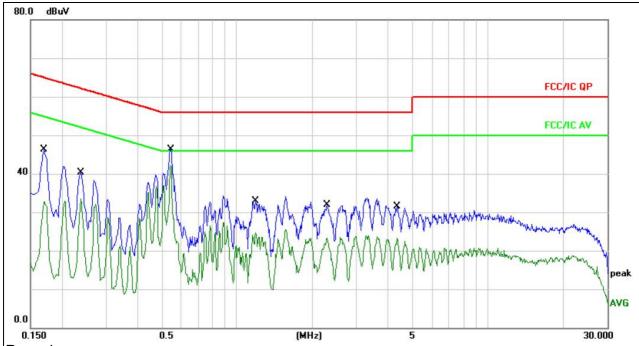
The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

We pretest AC 120V and AC 240V, the worst voltage was AC 120V and the data recording in the report.

3.1.6 TEST RESULTS



| Temperature : | 25 ℃ | Relative Humidity: | 54% |
|----------------|--------------|--------------------|--------|
| Pressure : | 1010hPa | Phase : | L |
| Test Voltage : | AC 120V/60Hz | Test Mode : | Mode 6 |



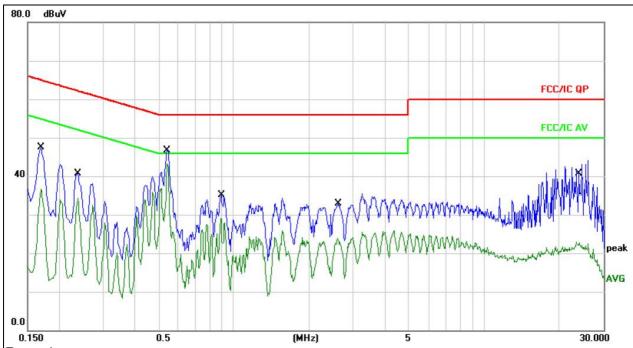
- All readings are Quasi-Peak and Average values.
 Factor = Insertion Loss + Cable Loss.

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | | |
|-----|-----|--------|------------------|-------------------|------------------|-------|--------|----------|---------|
| | | MHz | dBuV | dB | dBuV | dBu∀ | dB | Detector | Comment |
| 1 | | 0.1700 | 36.16 | 10.06 | 46.22 | 64.96 | -18.74 | QP | |
| 2 | | 0.1700 | 22.73 | 10.06 | 32.79 | 54.96 | -22.17 | AVG | |
| 3 | | 0.2380 | 30.28 | 10.08 | 40.36 | 62.16 | -21.80 | QP | |
| 4 | | 0.2380 | 23.46 | 10.08 | 33.54 | 52.16 | -18.62 | AVG | |
| 5 | | 0.5460 | 36.21 | 10.12 | 46.33 | 56.00 | -9.67 | QP | |
| 6 | * | 0.5460 | 32.16 | 10.12 | 42.28 | 46.00 | -3.72 | AVG | |
| 7 | | 1.1900 | 22.70 | 10.17 | 32.87 | 56.00 | -23.13 | QP | |
| 8 | | 1.1900 | 14.49 | 10.17 | 24.66 | 46.00 | -21.34 | AVG | |
| 9 | | 2.2860 | 21.72 | 10.18 | 31.90 | 56.00 | -24.10 | QP | |
| 10 | | 2.2860 | 13.03 | 10.18 | 23.21 | 46.00 | -22.79 | AVG | |
| 11 | | 4.3420 | 21.29 | 10.16 | 31.45 | 56.00 | -24.55 | QP | |
| 12 | | 4.3420 | 13.05 | 10.16 | 23.21 | 46.00 | -22.79 | AVG | |



| Temperature : | 25 ℃ | Relative Humidity: | 54% |
|----------------|--------------|--------------------|--------|
| Pressure : | 1010hPa | Phase : | Ν |
| Test Voltage : | AC 120V/60Hz | Test Mode : | Mode 6 |

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

| No. Mk. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | | | |
|---------|---------|------------------|-------------------|------------------|-------|--------|----------|---------|--|
| | MHz | dBu∨ | dB | dBuV | dBuV | dB | Detector | Comment | |
| 1 | 0.1700 | 37.39 | 10.06 | 47.45 | 64.96 | -17.51 | QP | | |
| 2 | 0.1700 | 26.60 | 10.06 | 36.66 | 54.96 | -18.30 | AVG | | |
| 3 | 0.2380 | 30.70 | 10.08 | 40.78 | 62.16 | -21.38 | QP | | |
| 4 | 0.2380 | 24.26 | 10.08 | 34.34 | 52.16 | -17.82 | AVG | | |
| 5 | 0.5420 | 36.68 | 10.12 | 46.80 | 56.00 | -9.20 | QP | | |
| 6 * | 0.5420 | 33.14 | 10.12 | 43.26 | 46.00 | -2.74 | AVG | | |
| 7 | 0.8860 | 25.05 | 10.15 | 35.20 | 56.00 | -20.80 | QP | | |
| 8 | 0.8860 | 19.03 | 10.15 | 29.18 | 46.00 | -16.82 | AVG | | |
| 9 | 2.6060 | 22.63 | 10.19 | 32.82 | 56.00 | -23.18 | QP | | |
| 10 | 2.6060 | 13.71 | 10.19 | 23.90 | 46.00 | -22.10 | AVG | | |
| 11 | 24.1180 | 33.88 | 10.19 | 44.07 | 60.00 | -15.93 | QP | | |
| 12 | 24.1180 | 12.45 | 10.19 | 22.64 | 50.00 | -27.36 | AVG | | |



3.2 RADIATED EMISSION MEASUREMENT

3.2.1 RADIATED EMISSION LIMITS (Frequency Range 9kHz-1000MHz)

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.

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

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

| | Limit(dBuV/m) (at 3M) | | | |
|-----------------|-----------------------|---------|--|--|
| FREQUENCY (MHz) | 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).

| Spectrum Parameter | Setting | | | | |
|---------------------------------------|--|--|--|--|--|
| Attenuation | Auto | | | | |
| Start Frequency | 1000 MHz | | | | |
| Stop Frequency | 25GHz | | | | |
| RB / VB (emission in restricted band) | 1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average | | | | |

| Receiver Parameter | Setting |
|------------------------|----------------------------------|
| Attenuation | Auto |
| Start ~ Stop Frequency | 9kHz~150kHz / RB 200Hz for QP |
| Start ~ Stop Frequency | 150kHz~30MHz / RB 9kHz for QP |
| Start ~ Stop Frequency | 30MHz~1000MHz / RB 120kHz for QP |



3.2.2 TEST PROCEDURE

Below 1GHz test procedure as below:

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.

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- 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 (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.
- 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.

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

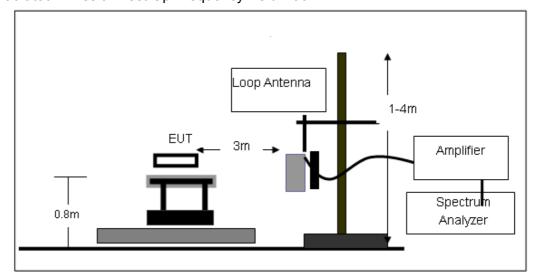
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported We pretest AC 120V and AC 240V, the worst voltage was AC 120V and the data recording in the report.

3.2.3 DEVIATION FROM TEST STANDARD

No deviation

3.2.4 TEST SETUP

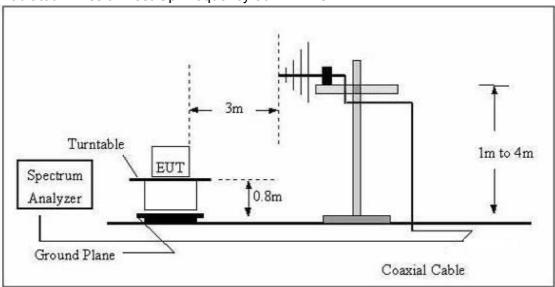
(A) Radiated Emission Test-Up Frequency Below 30MHz



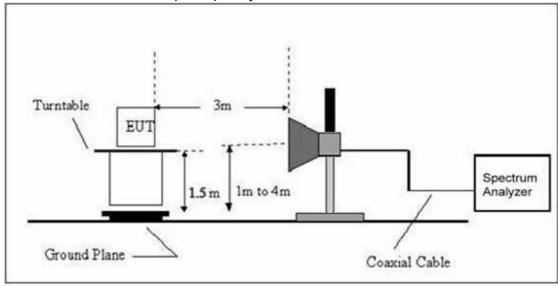


Report No.: BCTC-LH161212488E

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



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



3.2.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.



3.2.6 TEST RESULTS (BETWEEN 9KHZ - 30 MHZ)

| Temperature: | 20℃ | Relative Humidtity: | 48% |
|--------------|----------|---------------------|---------|
| Pressure: | 1010 hPa | Test Voltage: | DC 3.7V |
| Test Mode: | Mode 6 | Polarization : | |

Report No.: BCTC-LH161212488E

| Freq. | Reading | ading 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.

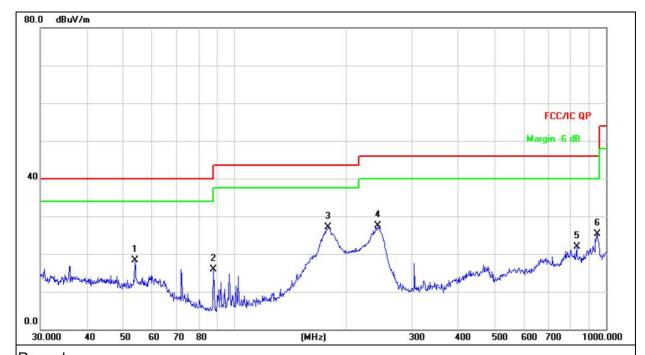
Distance extrapolation factor =40 log (specific distance/test distance)(dB);

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



3.2.7 TEST RESULTS (BETWEEN 30MHZ - 1GHZ)

| Temperature : | 26℃ | Relative Humidity: | 54% |
|----------------|----------|--------------------|------------|
| Pressure : | 1010 hPa | Polarization : | Horizontal |
| Test Voltage : | DC 3.7V | | |
| Test Mode : | Mode 6 | | |

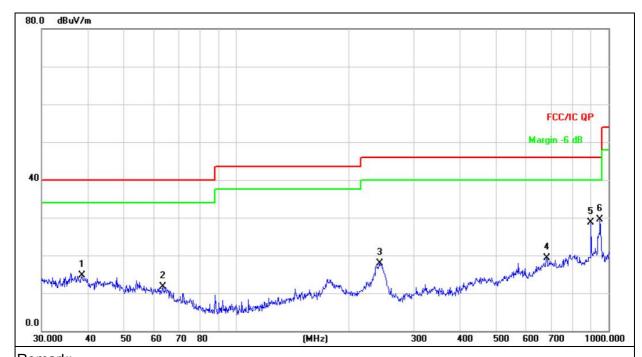


Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | |
|-----|-----|----------|------------------|-------------------|------------------|--------|--------|----------|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 53.8818 | 29.18 | -10.93 | 18.25 | 40.00 | -21.75 | QP |
| 2 | | 87.7248 | 33.67 | -17.79 | 15.88 | 40.00 | -24.12 | QP |
| 3 | * | 178.7584 | 41.37 | -14.23 | 27.14 | 43.50 | -16.36 | QP |
| 4 | | 243.3772 | 41.90 | -14.40 | 27.50 | 46.00 | -18.50 | QP |
| 5 | | 833.3171 | 24.22 | -2.22 | 22.00 | 46.00 | -24.00 | QP |
| 6 | | 945.4399 | 25.84 | -0.56 | 25.28 | 46.00 | -20.72 | QP |



| Temperature : | 26 ℃ | Relative Humidity: | 54% |
|----------------|-------------|--------------------|----------|
| Pressure : | 1010 hPa | Polarization : | Vertical |
| Test Voltage : | DC 3.7V | | |
| Test Mode : | Mode 6 | | |



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

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | |
|-----|-----|----------|------------------|-------------------|------------------|--------|--------|----------|
| 537 | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 38.4809 | 23.44 | -8.78 | 14.66 | 40.00 | -25.34 | QP |
| 2 | | 63.5356 | 23.86 | -12.22 | 11.64 | 40.00 | -28.36 | QP |
| 3 | | 242.5252 | 32.25 | -14.41 | 17.84 | 46.00 | -28.16 | QP |
| 4 | | 682.3484 | 23.92 | -4.66 | 19.26 | 46.00 | -26.74 | QP |
| 5 | | 896.9965 | 30.13 | -1.52 | 28.61 | 46.00 | -17.39 | QP |
| 6 | * | 948.7610 | 29.92 | -0.48 | 29.44 | 46.00 | -16.56 | QP |



3.2.8 TEST RESULTS (1GHZ~25GHZ)

802.11b

Report No.: BCTC-LH161212488E

| 002.110 | | | | | | | | | | |
|--------------------------|-----------|------------------|-------------------|---------------|-------------------|-------------------|----------|--------|----------|--|
| Polar | Frequency | Meter Reading | Pre- amplifier | Cable Loss | Antenna Factor | Emission Level | Limits | Margin | Detector | |
| (H/V) | (MHz) | (dBuV) | (dB) | (dB) | (dB/m) | (dBuV/m) | (dBuV/m) | (dB) | Туре | |
| operation frequency:2412 | | | | | | | | | | |
| V | 4824.00 | 66.83 | 39.55 | 7.85 | 25.66 | 60.79 | 74 | -13.21 | PK | |
| V | 4824.00 | 48.67 | 39.55 | 7.85 | 25.66 | 42.63 | 54 | -11.37 | AV | |
| V | 7236.00 | 67.89 | 38.33 | 7.52 | 24.55 | 61.63 | 74 | -12.37 | PK | |
| V | 7236.00 | 48.16 | 38.33 | 7.52 | 24.55 | 41.90 | 54 | -12.10 | AV | |
| V | 15450.00 | 51.23 | 35.23 | 6.75 | 26.59 | 49.34 | 74 | -24.66 | PK | |
| Н | 4824.00 | 68.35 | 39.55 | 7.85 | 25.66 | 62.31 | 74 | -11.69 | PK | |
| Н | 4824.00 | 49.14 | 39.55 | 7.85 | 25.66 | 43.10 | 54 | -10.90 | AV | |
| Н | 7236.00 | 69.09 | 38.33 | 7.52 | 23.55 | 61.83 | 74 | -12.17 | PK | |
| Н | 7236.00 | 52.42 | 38.33 | 7.52 | 23.22 | 44.83 | 54 | -9.17 | AV | |
| Н | 15450.00 | 47.48 | 35.45 | 6.75 | 27.88 | 46.66 | 74 | -27.34 | PK | |
| | | | | operation f | requency:243 | 7 | • | | | |
| V | 4874.00 | 65.15 | 38.89 | 7.57 | 25.45 | 59.28 | 74 | -14.72 | PK | |
| V | 4874.00 | 48.34 | 38.89 | 7.57 | 25.45 | 42.47 | 54 | -11.53 | AV | |
| V | 7311.00 | 66.26 | 38.78 | 7.35 | 24.78 | 59.61 | 74 | -14.39 | PK | |
| V | 7311.00 | 47.94 | 38.78 | 7.35 | 24.78 | 41.29 | 54 | -12.71 | AV | |
| V | 15450.00 | 52.03 | 35.89 | 6.42 | 26.47 | 49.03 | 74 | -24.97 | PK | |
| Н | 4874.00 | 64.48 | 38.89 | 7.57 | 25.45 | 58.61 | 74 | -15.39 | PK | |
| Н | 4874.00 | 49.23 | 38.89 | 7.57 | 25.45 | 43.36 | 54 | -10.64 | AV | |
| Н | 7311.00 | 69.91 | 38.78 | 7.35 | 24.78 | 63.26 | 74 | -10.74 | PK | |
| Н | 7311.00 | 48.50 | 38.78 | 7.35 | 24.78 | 41.85 | 54 | -12.15 | AV | |
| Н | 15450.00 | 48.38 | 36.68 | 6.45 | 26.65 | 44.80 | 74 | -29.20 | PK | |
| | | | | operation f | requency:246 | 2 | | | | |
| V | 4924.00 | 67.93 | 38.75 | 7.46 | 25.45 | 62.09 | 74 | -11.91 | PK | |
| V | 4924.00 | 50.46 | 38.75 | 7.46 | 25.45 | 44.62 | 54 | -9.38 | AV | |
| V | 7386.00 | 67.32 | 38.65 | 7.22 | 24.78 | 60.67 | 74 | -13.33 | PK | |
| V | 7386.00 | 49.04 | 38.65 | 7.22 | 24.78 | 42.39 | 54 | -11.61 | AV | |
| V | 15450.00 | 53.28 | 35.58 | 6.35 | 26.47 | 50.52 | 74 | -23.48 | PK | |
| Н | 4924.00 | 65.80 | 38.75 | 7.46 | 25.45 | 59.96 | 74 | -14.04 | PK | |
| Н | 4924.00 | 50.06 | 38.75 | 7.46 | 25.45 | 44.22 | 54 | -9.78 | AV | |
| Н | 7386.00 | 69.25 | 38.65 | 7.22 | 24.78 | 62.60 | 74 | -11.40 | PK | |
| Н | 7386.00 | 47.93 | 38.65 | 7.22 | 24.78 | 41.28 | 54 | -12.72 | AV | |
| Н | 15450.00 | 50.16 | 36.42 | 6.32 | 26.65 | 46.71 | 74 | -27.29 | PK | |
| - | • | • | | | | | | | | |

- 1. Emission Level = Meter Reading + Antenna Factor + Cable Loss Pre-amplifier, Margin= Emission Level Limit
- 2. If peak below the average limit, the average emission was no test.
- 3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.



802.11g

Report No.: BCTC-LH161212488E

| | | | | 00 | 2.11g | | | | |
|-------|-----------|------------------|-------------------|---------------|-------------------|-------------------|----------|--------|----------|
| Polar | Frequency | Meter Reading | Pre- amplifier | Cable Loss | Antenna Factor | Emission Level | Limits | Margin | Detector |
| (H/V) | (MHz) | (dBuV) | (dB) | (dB) | (dB/m) | (dBuV/m) | (dBuV/m) | (dB) | Туре |
| | | | | operation for | requency:241 | 2 | | | |
| V | 4824.00 | 65.67 | 39.55 | 7.85 | 25.66 | 59.63 | 74 | -14.37 | PK |
| V | 4824.00 | 49.16 | 39.55 | 7.85 | 25.66 | 43.12 | 54 | -10.88 | AV |
| V | 7236.00 | 65.83 | 38.33 | 7.52 | 24.55 | 59.57 | 74 | -14.43 | PK |
| V | 7236.00 | 47.27 | 38.33 | 7.52 | 24.55 | 41.01 | 54 | -12.99 | AV |
| V | 15450.00 | 50.52 | 35.23 | 6.75 | 26.59 | 48.63 | 74 | -25.37 | PK |
| Н | 4824.00 | 62.72 | 39.55 | 7.85 | 25.66 | 56.68 | 74 | -17.32 | PK |
| Н | 4824.00 | 49.07 | 39.55 | 7.85 | 25.66 | 43.03 | 54 | -10.97 | AV |
| Н | 7236.00 | 68.77 | 38.33 | 7.52 | 23.55 | 61.51 | 74 | -12.49 | PK |
| Н | 7236.00 | 50.05 | 38.33 | 7.52 | 23.22 | 42.46 | 54 | -11.54 | AV |
| Н | 15450.00 | 45.40 | 35.45 | 6.75 | 27.88 | 44.58 | 74 | -29.42 | PK |
| | | | | operation f | requency:243 | 7 | • | | |
| V | 4874.00 | 66.11 | 38.89 | 7.57 | 25.45 | 60.24 | 74 | -13.76 | PK |
| V | 4874.00 | 48.84 | 38.89 | 7.57 | 25.45 | 42.97 | 54 | -11.03 | AV |
| V | 7311.00 | 66.97 | 38.78 | 7.35 | 24.78 | 60.32 | 74 | -13.68 | PK |
| V | 7311.00 | 47.35 | 38.78 | 7.35 | 24.78 | 40.70 | 54 | -13.30 | AV |
| V | 15450.00 | 52.40 | 35.89 | 6.42 | 26.47 | 49.40 | 74 | -24.60 | PK |
| Н | 4874.00 | 64.79 | 38.89 | 7.57 | 25.45 | 58.92 | 74 | -15.08 | PK |
| Н | 4874.00 | 49.07 | 38.89 | 7.57 | 25.45 | 43.20 | 54 | -10.80 | AV |
| Н | 7311.00 | 68.74 | 38.78 | 7.35 | 24.78 | 62.09 | 74 | -11.91 | PK |
| Н | 7311.00 | 47.87 | 38.78 | 7.35 | 24.78 | 41.22 | 54 | -12.78 | AV |
| Н | 15450.00 | 48.95 | 36.68 | 6.42 | 26.65 | 45.34 | 74 | -28.66 | PK |
| | .1 | | | operation f | requency:246 | 2 | | 1 | |
| V | 4924.00 | 67.32 | 38.75 | 7.46 | 25.45 | 61.48 | 74 | -12.52 | PK |
| V | 4924.00 | 48.04 | 38.75 | 7.46 | 25.45 | 42.20 | 54 | -11.80 | AV |
| V | 7386.00 | 67.99 | 38.65 | 7.22 | 24.78 | 61.34 | 74 | -12.66 | PK |
| V | 7386.00 | 49.36 | 38.65 | 7.22 | 24.78 | 42.71 | 54 | -11.29 | AV |
| V | 15450.00 | 53.21 | 35.58 | 6.35 | 26.47 | 50.45 | 74 | -23.55 | PK |
| Н | 4924.00 | 65.99 | 38.75 | 7.46 | 25.45 | 60.15 | 74 | -13.85 | PK |
| Н | 4924.00 | 50.02 | 38.75 | 7.46 | 25.45 | 44.18 | 54 | -9.82 | AV |
| Н | 7386.00 | 68.79 | 38.65 | 7.22 | 24.78 | 62.14 | 74 | -11.86 | PK |
| Н | 7386.00 | 48.47 | 38.65 | 7.22 | 24.78 | 41.82 | 54 | -12.18 | AV |
| Н | 15450.00 | 49.32 | 36.42 | 6.32 | 26.65 | 45.87 | 74 | -28.13 | PK |
| | | | 1 | | | 7 7 | 1 | | |

- 1. Emission Level = Meter Reading + Antenna Factor + Cable Loss Pre-amplifier, Margin= Emission Level Limit
- 2. If peak below the average limit, the average emission was no test.
- 3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.



802.11n(20MHz)

Report No.: BCTC-LH161212488E

| | Frequency | Meter | Pre- | Cable | n(20MHz) Antenna | Emission | Limits | Margin | |
|----------------|-----------|---------|-----------|-------------|---------------------|----------|----------|--------|----------|
| Polar (H/V) | Troquency | Reading | amplifier | Loss | Factor | Level | Liiiito | urgiii | Detector |
| (n/v) | (MHz) | (dBuV) | (dB) | (dB) | (dB/m) | (dBuV/m) | (dBuV/m) | (dB) | Туре |
| | | | | peration fi | requency:241 | 2 | • | | |
| ٧ | 4824.00 | 67.34 | 39.55 | 7.85 | 25.66 | 61.30 | 74 | -12.70 | PK |
| ٧ | 4824.00 | 48.37 | 39.55 | 7.85 | 25.66 | 42.33 | 54 | -11.67 | AV |
| ٧ | 7236.00 | 68.03 | 38.33 | 7.52 | 24.55 | 61.77 | 74 | -12.23 | PK |
| ٧ | 7236.00 | 48.24 | 38.33 | 7.52 | 24.55 | 41.98 | 54 | -12.02 | AV |
| V | 15450.00 | 51.46 | 35.23 | 6.75 | 26.59 | 49.57 | 74 | -24.43 | PK |
| Н | 4824.00 | 67.92 | 39.55 | 7.85 | 25.66 | 61.88 | 74 | -12.12 | PK |
| Н | 4824.00 | 49.33 | 39.55 | 7.85 | 25.66 | 43.29 | 54 | -10.71 | AV |
| Н | 7236.00 | 68.93 | 38.33 | 7.52 | 23.55 | 61.67 | 74 | -12.33 | PK |
| Н | 7236.00 | 52.15 | 38.33 | 7.52 | 23.22 | 44.56 | 54 | -9.44 | AV |
| Н | 15450.00 | 47.55 | 35.45 | 6.75 | 27.88 | 46.73 | 74 | -27.27 | PK |
| | | | | peration fi | requency:243 | 7 | | | |
| V | 4874.00 | 66.30 | 38.89 | 7.57 | 25.45 | 60.43 | 74 | -13.57 | PK |
| V | 4874.00 | 49.33 | 38.89 | 7.57 | 25.45 | 43.46 | 54 | -10.54 | AV |
| V | 7311.00 | 66.95 | 38.78 | 7.35 | 24.78 | 60.30 | 74 | -13.70 | PK |
| V | 7311.00 | 47.15 | 38.78 | 7.35 | 24.78 | 40.50 | 54 | -13.50 | AV |
| V | 15450.00 | 52.03 | 35.89 | 6.42 | 26.47 | 49.03 | 74 | -24.97 | PK |
| Н | 4874.00 | 65.18 | 38.89 | 7.57 | 25.45 | 59.31 | 74 | -14.69 | PK |
| Н | 4874.00 | 49.35 | 38.89 | 7.57 | 25.45 | 43.48 | 54 | -10.52 | AV |
| Н | 7311.00 | 69.32 | 38.78 | 7.35 | 24.78 | 62.67 | 74 | -11.33 | PK |
| Н | 7311.00 | 48.51 | 38.78 | 7.35 | 24.78 | 41.86 | 54 | -12.14 | AV |
| Н | 15450.00 | 49.32 | 36.68 | 6.42 | 26.65 | 45.71 | 74 | -28.29 | PK |
| <u> </u> | | | | peration fi | requency:246 | 2 | • | | |
| V | 4924.00 | 68.34 | 38.75 | 7.46 | 25.45 | 62.50 | 74 | -11.50 | PK |
| V | 4924.00 | 50.06 | 38.75 | 7.46 | 25.45 | 44.22 | 54 | -9.78 | AV |
| V | 7386.00 | 67.34 | 38.65 | 7.22 | 24.78 | 60.69 | 74 | -13.31 | PK |
| V | 7386.00 | 49.26 | 38.65 | 7.22 | 24.78 | 42.61 | 54 | -11.39 | AV |
| V | 15450.00 | 53.05 | 35.58 | 6.35 | 26.47 | 50.29 | 74 | -23.71 | PK |
| Н | 4924.00 | 66.36 | 38.75 | 7.46 | 25.45 | 60.52 | 74 | -13.48 | PK |
| Н | 4924.00 | 50.20 | 38.75 | 7.46 | 25.45 | 44.36 | 54 | -9.64 | AV |
| Н | 7386.00 | 68.85 | 38.65 | 7.22 | 24.78 | 62.20 | 74 | -11.80 | PK |
| Н | 7386.00 | 48.07 | 38.65 | 7.22 | 24.78 | 41.42 | 54 | -12.58 | AV |
| Н | 15450.00 | 49.85 | 36.42 | 6.32 | 26.65 | 46.40 | 74 | -27.60 | PK |

- 1. Emission Level = Meter Reading + Antenna Factor + Cable Loss Pre-amplifier, Margin= Emission Level Limit
- 2. If peak below the average limit, the average emission was no test.
- 3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.



802.11n(40MHz)

Report No.: BCTC-LH161212488E

| Polar | Frequency | Meter Reading | Pre- amplifier | Cable Loss | Antenna Factor | Emission Level | Limits | Margin | Detector |
|-------|-----------|------------------|-------------------|---------------|-------------------|-------------------|----------|--------|----------|
| (H/V) | (MHz) | (dBuV) | (dB) | (dB) | (dB/m) | (dBuV/m) | (dBuV/m) | (dB) | Туре |
| | | | (| peration fi | equency:242 | 2 | | | |
| V | 4844.000 | 68.71 | 39.55 | 7.77 | 25.66 | 62.59 | 74 | -11.41 | PK |
| V | 4844.000 | 48.76 | 39.55 | 7.77 | 25.66 | 42.64 | 54 | -11.36 | AV |
| V | 7266.000 | 67.69 | 38.33 | 7.30 | 24.55 | 61.21 | 74 | -12.79 | PK |
| V | 7266.000 | 48.47 | 38.33 | 7.30 | 24.55 | 41.99 | 54 | -12.01 | AV |
| V | 15450.00 | 51.86 | 35.23 | 6.60 | 26.59 | 49.82 | 74 | -24.18 | PK |
| Н | 4844.000 | 68.92 | 39.55 | 7.77 | 25.66 | 62.80 | 74 | -11.20 | PK |
| Н | 4844.000 | 49.49 | 39.55 | 7.77 | 25.66 | 43.37 | 54 | -10.63 | AV |
| Н | 7266.000 | 69.90 | 38.33 | 7.30 | 23.55 | 62.42 | 74 | -11.58 | PK |
| Н | 7266.000 | 52.66 | 38.33 | 7.30 | 23.22 | 44.85 | 54 | -9.15 | AV |
| Н | 15450.00 | 48.54 | 35.45 | 6.60 | 27.88 | 47.57 | 74 | -26.43 | PK |
| | | | (| peration fi | requency:243 | 7 | | | |
| V | 4874.00 | 66.90 | 38.89 | 7.57 | 25.45 | 61.03 | 74 | -12.97 | PK |
| V | 4874.00 | 49.78 | 38.89 | 7.57 | 25.45 | 43.91 | 54 | -10.09 | AV |
| V | 7311.00 | 67.80 | 38.78 | 7.35 | 24.78 | 61.15 | 74 | -12.85 | PK |
| V | 7311.00 | 47.85 | 38.78 | 7.35 | 24.78 | 41.20 | 54 | -12.80 | AV |
| V | 15450.00 | 52.47 | 35.89 | 6.42 | 26.47 | 49.47 | 74 | -24.53 | PK |
| Н | 4874.00 | 65.36 | 38.89 | 7.57 | 25.45 | 59.49 | 74 | -14.51 | PK |
| Н | 4874.00 | 49.78 | 38.89 | 7.57 | 25.45 | 43.91 | 54 | -10.09 | AV |
| Н | 7311.00 | 70.11 | 38.78 | 7.35 | 24.78 | 63.46 | 74 | -10.54 | PK |
| Н | 7311.00 | 48.34 | 38.78 | 7.35 | 24.78 | 41.69 | 54 | -12.31 | AV |
| Н | 15450.00 | 49.57 | 36.68 | 6.42 | 26.65 | 45.96 | 74 | -28.04 | PK |
| | | | | peration fi | requency:245 | 2 | | | |
| V | 4904.00 | 68.72 | 38.75 | 7.38 | 25.45 | 62.80 | 74 | -11.20 | PK |
| V | 4904.00 | 50.46 | 38.75 | 7.38 | 25.45 | 44.54 | 54 | -9.46 | AV |
| V | 7356.00 | 67.78 | 38.65 | 7.15 | 24.78 | 61.06 | 74 | -12.94 | PK |
| V | 7356.00 | 50.05 | 38.65 | 7.15 | 24.78 | 43.33 | 54 | -10.67 | AV |
| V | 15450.00 | 53.56 | 35.58 | 6.25 | 26.47 | 50.70 | 74 | -23.30 | PK |
| Н | 4904.00 | 66.86 | 38.75 | 7.38 | 25.45 | 60.94 | 74 | -13.06 | PK |
| Н | 4904.00 | 51.05 | 38.75 | 7.38 | 25.45 | 45.13 | 54 | -8.87 | AV |
| Н | 7356.00 | 69.91 | 38.65 | 7.15 | 24.78 | 63.19 | 74 | -10.81 | PK |
| Н | 7356.00 | 48.67 | 38.65 | 7.15 | 24.78 | 41.95 | 54 | -12.05 | AV |
| Н | 15450.00 | 50.48 | 36.42 | 6.25 | 26.65 | 46.96 | 74 | -27.04 | PK |

- 1. Emission Level = Meter Reading + Antenna Factor + Cable Loss Pre-amplifier, Margin= Emission Level Limit
- 2. If peak below the average limit, the average emission was no test.
- 3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.





| Polar (H/V) | Frequency | Meter Reading | Pre- amplifier | Cable Loss | Antenna Factor | Emission Level | Limits | Margin | Detector | |
|--------------------------|-----------|------------------|-------------------|---------------|-------------------|-------------------|----------|--------|----------|--|
| (111 🕶) | (MHz) | (dBuV) | (dB) | (dB) | (dB/m) | (dBuV/m) | (dBuV/m) | (dB) | Туре | |
| operation frequency:2402 | | | | | | | | | | |
| V | 4804.00 | 59.29 | 38.53 | 7.78 | 23.25 | 51.79 | 74 | -22.21 | PK | |
| V | 4804.00 | 45.68 | 38.53 | 7.78 | 23.25 | 38.18 | 54 | -15.82 | AV | |
| V | 7206.00 | 67.77 | 38.33 | 7.52 | 24.55 | 61.51 | 74 | -12.49 | PK | |
| V | 7206.00 | 48.07 | 38.33 | 7.52 | 24.55 | 41.81 | 54 | -12.19 | AV | |
| V | 16132.00 | 49.88 | 38.75 | 10.36 | 26.57 | 48.06 | 74 | -25.94 | PK | |
| Н | 4804.00 | 60.12 | 38.53 | 7.78 | 23.25 | 52.62 | 74 | -21.38 | PK | |
| Н | 4804.00 | 45.56 | 38.53 | 7.78 | 23.25 | 38.06 | 54 | -15.94 | AV | |
| Н | 7206.00 | 68.81 | 38.33 | 7.52 | 23.55 | 61.55 | 74 | -12.45 | PK | |
| Н | 7206.00 | 52.06 | 38.33 | 7.52 | 23.22 | 44.47 | 54 | -9.53 | AV | |
| Н | 16132.00 | 49.62 | 38.75 | 10.36 | 26.57 | 47.80 | 74 | -26.20 | PK | |
| | l | | | operation | frequency:2 | 440 | , | l | I | |
| V | 4880.00 | 60.22 | 38.65 | 7.78 | 23.61 | 52.96 | 74 | -21.04 | PK | |
| V | 4880.00 | 45.72 | 38.65 | 7.78 | 23.61 | 38.46 | 54 | -15.54 | AV | |
| V | 7320.00 | 66.83 | 38.78 | 7.35 | 24.78 | 60.18 | 74 | -13.82 | PK | |
| V | 7320.00 | 47.07 | 38.78 | 7.35 | 24.78 | 40.42 | 54 | -13.58 | AV | |
| V | 16132.00 | 48.13 | 38.75 | 10.36 | 26.57 | 46.31 | 74 | -27.69 | PK | |
| Н | 4880.00 | 61.28 | 38.65 | 7.78 | 23.61 | 54.02 | 74 | -19.98 | PK | |
| Н | 4880.00 | 46.44 | 38.65 | 7.78 | 23.61 | 39.18 | 54 | -14.82 | AV | |
| Н | 7320.00 | 69.20 | 38.78 | 7.35 | 24.78 | 62.55 | 74 | -11.45 | PK | |
| Н | 7320.00 | 48.42 | 38.78 | 7.35 | 24.78 | 41.77 | 54 | -12.23 | AV | |
| Н | 16132.00 | 49.79 | 38.75 | 10.36 | 26.57 | 47.97 | 74 | -26.03 | PK | |
| | | • | • | operation | frequency:2 | 480 | • | | • | |
| V | 4960.00 | 61.03 | 38.69 | 7.78 | 23.83 | 53.95 | 74 | -20.05 | PK | |
| V | 4960.00 | 46.00 | 38.69 | 7.78 | 23.83 | 38.92 | 54 | -15.08 | AV | |
| V | 7440.00 | 67.22 | 38.65 | 7.22 | 24.78 | 60.57 | 74 | -13.43 | PK | |
| V | 7440.00 | 49.17 | 38.65 | 7.22 | 24.78 | 42.52 | 54 | -11.48 | AV | |
| V | 16132.00 | 50.02 | 38.75 | 10.36 | 26.57 | 48.20 | 74 | -25.80 | PK | |
| Н | 4960.00 | 61.23 | 38.69 | 7.78 | 23.83 | 54.15 | 74 | -19.85 | PK | |
| Н | 4960.00 | 46.03 | 38.69 | 7.78 | 23.83 | 38.95 | 54 | -15.05 | AV | |
| Н | 7440.00 | 68.73 | 38.65 | 7.22 | 24.78 | 62.08 | 74 | -11.92 | PK | |
| Н | 7440.00 | 47.98 | 38.65 | 7.22 | 24.78 | 41.33 | 54 | -12.67 | AV | |
| Н | 16132.00 | 50.34 | 38.75 | 10.36 | 26.57 | 48.52 | 74 | -25.48 | PK | |

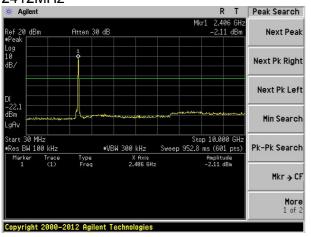
- 1. Emission Level = Meter Reading + Antenna Factor + Cable Loss Pre-amplifier, Margin= Emission Level - Limit
- 2. If peak below the average limit, the average emission was no test.
- 3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

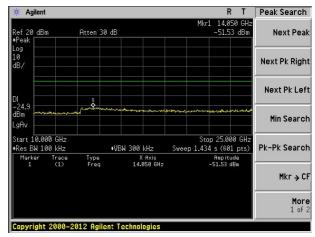


For Conducted

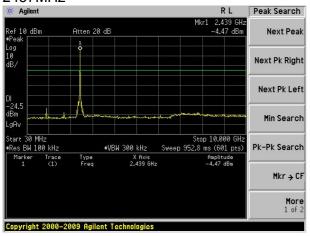
we pretest all mode, the worst mode was 802.11b, and the data only show the worst mode data. 802.11b

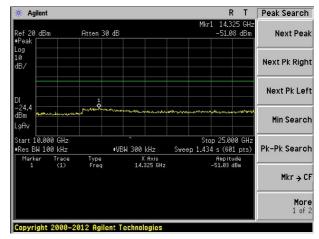
2412MHz



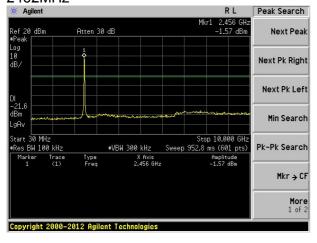


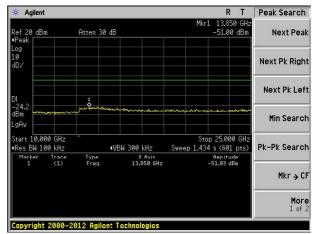
2437MHz





2462MHz







3.3 RADIATED BAND EMISSION MEASUREMENT 3.3.1 TEST REQUIREMENT:

FCC Part15 C Section 15.209 and 15.205

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

| | Limit(dBuV/m) (at 3M) | | | | | |
|-----------------|-----------------------|---------|--|--|--|--|
| FREQUENCY (MHz) | 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).

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

3.3.2 TEST PROCEDURE

Above 1GHz test procedure as below:

- a. 1. The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. 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

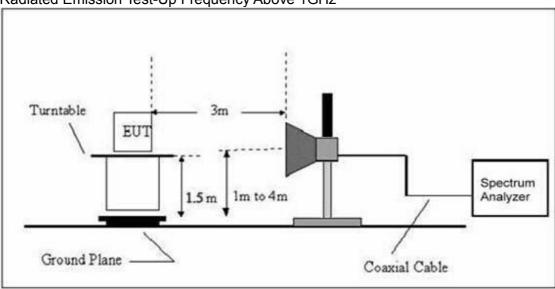


3.3.3 DEVIATION FROM TEST STANDARD

No deviation

3.3.4 TEST SETUP

Radiated Emission Test-Up Frequency Above 1GHz



3.3.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.



3.3.6 TEST RESULT

| Polar | Frequency | Meter | Pre- | Cable | Antenna | Emission | Limits | Margin | Detector | |
|----------------------------------|-----------|---------|-----------|----------|-----------|----------|---------|--------|----------|--|
| (H/V) | | Reading | amplifier | Loss | Factor | evel | | | Туре | |
| (/ | (MHz) | (dBuV) | (dB) | (dB) | (dB/m) | (dBuV/m) | (dBuV/m | (dB) | .,,,, | |
| 802.11b operation frequency:2412 | | | | | | | | | | |
| V | 2390.00 | 67.39 | 38.06 | 7.42 | 20.15 | 56.90 | 74 | -17.10 | PK | |
| V | 2390.00 | 55.98 | 38.06 | 7.42 | 20.15 | 45.49 | 54 | -8.51 | AV | |
| V | 2400.00 | 67.60 | 38.06 | 7.42 | 20.15 | 57.11 | 74 | -16.89 | PK | |
| V | 2400.00 | 55.56 | 38.06 | 7.42 | 20.15 | 45.07 | 54 | -8.93 | AV | |
| Н | 2390.00 | 67.68 | 38.06 | 7.42 | 20.15 | 57.19 | 74 | -16.81 | PK | |
| Н | 2390.00 | 56.01 | 38.06 | 7.42 | 20.15 | 45.52 | 54 | -8.48 | AV | |
| Н | 2400.00 | 67.55 | 38.06 | 7.42 | 20.15 | 57.06 | 74 | -16.94 | PK | |
| Н | 2400.00 | 55.95 | 38.06 | 7.42 | 20.15 | 45.46 | 54 | -8.54 | AV | |
| | | | 802.11k | operatio | n frequen | cy:2462 | | | | |
| V | 2483.50 | 67.60 | 38.17 | 7.42 | 20.51 | 57.36 | 74 | -16.64 | PK | |
| V | 2483.50 | 56.23 | 38.17 | 7.42 | 20.51 | 45.99 | 54 | -8.01 | AV | |
| V | 2500.00 | 67.54 | 38.20 | 7.45 | 20.54 | 57.33 | 74 | -16.67 | PK | |
| V | 2500.00 | 55.67 | 38.20 | 7.45 | 20.54 | 45.46 | 54 | -8.54 | AV | |
| Н | 2483.50 | 67.72 | 38.17 | 7.42 | 20.51 | 57.48 | 74 | -16.52 | PK | |
| Н | 2483.50 | 56.27 | 38.17 | 7.42 | 20.51 | 46.03 | 54 | -7.97 | AV | |
| Н | 2500.00 | 67.34 | 38.20 | 7.45 | 20.54 | 57.13 | 74 | -16.87 | PK | |
| Н | 2500.00 | 56.53 | 38.20 | 7.45 | 20.54 | 46.32 | 54 | -7.68 | AV | |
| | | | 802.110 | operatio | n frequen | cy:2412 | | | | |
| V | 2390.00 | 67.55 | 38.06 | 7.42 | 20.15 | 57.06 | 74 | -16.94 | PK | |
| V | 2390.00 | 56.12 | 38.06 | 7.42 | 20.15 | 45.63 | 54 | -8.37 | AV | |
| V | 2400.00 | 67.76 | 38.06 | 7.42 | 20.15 | 57.27 | 74 | -16.73 | PK | |
| V | 2400.00 | 55.69 | 38.06 | 7.42 | 20.15 | 45.20 | 54 | -8.80 | AV | |
| Н | 2390.00 | 67.84 | 38.06 | 7.42 | 20.15 | 57.35 | 74 | -16.65 | PK | |
| Н | 2390.00 | 56.15 | 38.06 | 7.42 | 20.15 | 45.66 | 54 | -8.34 | AV | |
| Н | 2400.00 | 67.71 | 38.06 | 7.42 | 20.15 | 57.22 | 74 | -16.78 | PK | |
| Н | 2400.00 | 56.08 | 38.06 | 7.42 | 20.15 | 45.59 | 54 | -8.41 | AV | |
| | | | 802.110 | operatio | n frequen | cy:2462 | | | | |
| V | 2483.50 | 67.76 | 38.17 | 7.42 | 20.51 | 57.52 | 74 | -16.48 | PK | |
| V | 2483.50 | 56.37 | 38.17 | 7.42 | 20.51 | 46.13 | 54 | -7.87 | AV | |
| V | 2500.00 | 67.70 | 38.20 | 7.45 | 20.54 | 57.49 | 74 | -16.51 | PK | |
| V | 2500.00 | 55.80 | 38.20 | 7.45 | 20.54 | 45.59 | 54 | -8.41 | AV | |
| Н | 2483.50 | 67.88 | 38.17 | 7.42 | 20.51 | 57.64 | 74 | -16.36 | PK | |
| Н | 2483.50 | 56.41 | 38.17 | 7.42 | 20.51 | 46.17 | 54 | -7.83 | AV | |
| Н | 2500.00 | 67.50 | 38.20 | 7.45 | 20.54 | 57.29 | 74 | -16.71 | PK | |
| Н | 2500.00 | 56.67 | 38.20 | 7.45 | 20.54 | 46.46 | 54 | -7.54 | AV | |

Remark:

- 1. Emission Level = Meter Reading + Factor, Margin= Emission Level Limit
- 2. If peak below the average limit, the average emission was no test.
- 3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.



| Polar | Frequency | Meter | Pre- | Cable | Antenna | Emission | Limits | Margin | Detector | |
|---|-----------|---------|-------------|----------|-------------|-----------|---------|--------|----------|--|
| (H/V) | Trequency | Reading | amplifier | Loss | Factor | evel | Lillits | Margin | Type | |
| (11/4) | (MHz) | (dBuV) | (dB) | (dB) | (dB/m) | (dBuV/m) | (dBuV/m | (dB) | Турс | |
| 802.11n(20MHz) operation frequency:2412 | | | | | | | | | | |
| V | 2390.00 | 67.73 | 38.06 | 7.42 | 20.15 | 57.24 | 74 | -16.76 | PK | |
| V | 2390.00 | 56.29 | 38.06 | 7.42 | 20.15 | 45.80 | 54 | -8.20 | AV | |
| V | 2400.00 | 67.96 | 38.06 | 7.42 | 20.15 | 57.47 | 74 | -16.53 | PK | |
| V | 2400.00 | 55.84 | 38.06 | 7.42 | 20.15 | 45.35 | 54 | -8.65 | AV | |
| Н | 2390.00 | 68.04 | 38.06 | 7.42 | 20.15 | 57.55 | 74 | -16.45 | PK | |
| Н | 2390.00 | 56.32 | 38.06 | 7.42 | 20.15 | 45.83 | 54 | -8.17 | AV | |
| Η | 2400.00 | 67.89 | 38.06 | 7.42 | 20.15 | 57.40 | 74 | -16.60 | PK | |
| Н | 2400.00 | 56.25 | 38.06 | 7.42 | 20.15 | 45.76 | 54 | -8.24 | AV | |
| | | | 302.11n(20l | MHz) ope | ration fred | quency:24 | | | | |
| V | 2483.50 | 67.96 | 38.17 | 7.42 | 20.51 | 57.72 | 74 | -16.28 | PK | |
| V | 2483.50 | 56.53 | 38.17 | 7.42 | 20.51 | 46.29 | 54 | -7.71 | AV | |
| V | 2500.00 | 67.88 | 38.20 | 7.45 | 20.54 | 57.67 | 74 | -16.33 | PK | |
| ٧ | 2500.00 | 55.95 | 38.20 | 7.45 | 20.54 | 45.74 | 54 | -8.26 | AV | |
| Н | 2483.50 | 68.08 | 38.17 | 7.42 | 20.51 | 57.84 | 74 | -16.16 | PK | |
| Н | 2483.50 | 56.57 | 38.17 | 7.42 | 20.51 | 46.33 | 54 | -7.67 | AV | |
| Н | 2500.00 | 67.68 | 38.20 | 7.45 | 20.54 | 57.47 | 74 | -16.53 | PK | |
| Н | 2500.00 | 56.82 | 38.20 | 7.45 | 20.54 | 46.61 | 54 | -7.39 | AV | |
| | | 8 | 02.11n(40 | MHz) ope | ration free | quency:24 | 22 | | | |
| ٧ | 2390.00 | 67.60 | 38.06 | 7.42 | 20.15 | 57.11 | 74 | -16.89 | PK | |
| V | 2390.00 | 56.16 | 38.06 | 7.42 | 20.15 | 45.67 | 54 | -8.33 | AV | |
| V | 2400.00 | 67.81 | 38.06 | 7.42 | 20.15 | 57.32 | 74 | -16.68 | PK | |
| ٧ | 2400.00 | 55.73 | 38.06 | 7.42 | 20.15 | 45.24 | 54 | -8.76 | AV | |
| Н | 2390.00 | 67.89 | 38.06 | 7.42 | 20.15 | 57.40 | 74 | -16.60 | PK | |
| Н | 2390.00 | 56.19 | 38.06 | 7.42 | 20.15 | 45.70 | 54 | -8.30 | AV | |
| H | 2400.00 | 67.76 | 38.06 | 7.42 | 20.15 | 57.27 | 74 | -16.73 | PK | |
| Н | 2400.00 | 56.12 | 38.06 | 7.42 | 20.15 | 45.63 | 54 | -8.37 | AV | |
| | | 8 | 02.11n(40 | MHz) ope | ration free | quency:24 | 52 | | | |
| ٧ | 2483.50 | 67.81 | 38.17 | 7.42 | 20.51 | 57.57 | 74 | -16.43 | PK | |
| V | 2483.50 | 56.40 | 38.17 | 7.42 | 20.51 | 46.16 | 54 | -7.84 | AV | |
| V | 2500.00 | 67.75 | 38.20 | 7.45 | 20.54 | 57.54 | 74 | -16.46 | PK | |
| V | 2500.00 | 55.84 | 38.20 | 7.45 | 20.54 | 45.63 | 54 | -8.37 | AV | |
| Н | 2483.50 | 67.93 | 38.17 | 7.42 | 20.51 | 57.69 | 74 | -16.31 | PK | |
| Н | 2483.50 | 56.44 | 38.17 | 7.42 | 20.51 | 46.20 | 54 | -7.80 | AV | |
| Н | 2500.00 | 67.55 | 38.20 | 7.45 | 20.54 | 57.34 | 74 | -16.66 | PK | |
| Н | 2500.00 | 56.71 | 38.20 | 7.45 | 20.54 | 46.50 | 54 | -7.50 | AV | |

- Emission Level = Meter Reading + Factor, Margin= Emission Level Limit
 If peak below the average limit, the average emission was no test.
 The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.



| Polar (H/V) | Frequency | Meter Reading | Pre- amplifier | Cable Loss | Antenna Factor | Emission evel | Limits | Margin | Detector Type | |
|-----------------------------|-----------|------------------|-------------------|---------------|-------------------|---------------|---------|--------|------------------|--|
| (11/4) | (MHz) | (dBuV) | (dB) | (dB) | (dB/m) | (dBuV/m) | (dBuV/m | (dB) | Type | |
| BT operation frequency:2402 | | | | | | | | | | |
| V | 2390.00 | 67.44 | 38.06 | 7.42 | 20.15 | 56.95 | 74 | -17.05 | PK | |
| V | 2390.00 | 56.05 | 38.06 | 7.42 | 20.15 | 45.56 | 54 | -8.44 | AV | |
| V | 2400.00 | 67.66 | 38.06 | 7.42 | 20.15 | 57.17 | 74 | -16.83 | PK | |
| V | 2400.00 | 55.60 | 38.06 | 7.42 | 20.15 | 45.11 | 54 | -8.89 | AV | |
| Н | 2390.00 | 67.74 | 38.06 | 7.42 | 20.15 | 57.25 | 74 | -16.75 | PK | |
| Н | 2390.00 | 56.08 | 38.06 | 7.42 | 20.15 | 45.59 | 54 | -8.41 | AV | |
| Н | 2400.00 | 67.60 | 38.06 | 7.42 | 20.15 | 57.11 | 74 | -16.89 | PK | |
| Н | 2400.00 | 56.01 | 38.06 | 7.42 | 20.15 | 45.52 | 54 | -8.48 | AV | |
| | | | BT o | peration | frequency | /:2480 | | | | |
| V | 2483.50 | 67.66 | 38.17 | 7.42 | 20.51 | 57.42 | 74 | -16.58 | PK | |
| V | 2483.50 | 56.28 | 38.17 | 7.42 | 20.51 | 46.04 | 54 | -7.96 | AV | |
| V | 2500.00 | 67.59 | 38.20 | 7.45 | 20.54 | 57.38 | 74 | -16.62 | PK | |
| V | 2500.00 | 55.71 | 38.20 | 7.45 | 20.54 | 45.50 | 54 | -8.50 | AV | |
| Н | 2483.50 | 67.78 | 38.17 | 7.42 | 20.51 | 57.54 | 74 | -16.46 | PK | |
| Н | 2483.50 | 56.32 | 38.17 | 7.42 | 20.51 | 46.08 | 54 | -7.92 | AV | |
| Н | 2500.00 | 67.39 | 38.20 | 7.45 | 20.54 | 57.18 | 74 | -16.82 | PK | |
| Н | 2500.00 | 56.57 | 38.20 | 7.45 | 20.54 | 46.36 | 54 | -7.64 | AV | |

- 1. Emission Level = Meter Reading + Factor, Margin= Emission Level Limit
- If peak below the average limit, the average emission was no test.
 The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.