# FCC Test Report

Report No.: AGC00529141105FE04

| | | |
|---|---|---|
| **FCC ID** | : | 2ABN6W700 |
| **APPLICATION PURPOSE** | : | Original Equipment |
| **PRODUCT DESIGNATION** | : | Equal Lite |
| **BRAND NAME** | : | POSH |
| **MODEL NAME** | : | W700 |
| **CLIENT** | : | Posh Mobile Limited |
| **DATE OF ISSUE** | : | Dec.08, 2014 |
| **STANDARD(S)**<br>**TEST PROCEDURE(S)** | : | FCC Part 15.247<br>KDB 558074 v03r02 |
| **REPORT VERSION** | : | V1.0 |

***A***ttestation of ***G***lobal ***C***ompliance (Shenzhen) Co., Ltd

## Report Revise Record

| Report Version | Revise Time | Issued Date | Valid Version | Notes |
|---|---|---|---|---|
| V1.0 | / | Dec.08, 2014 | Valid | Original Report |

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## 1. VERIFICATION OF CONFORMITY

| | |
|---|---|
| **Applicant** | Posh Mobile Limited |
| **Address** | 1011A, 10/F., Harbour Centre Tower 1, No.1 Hok Cheung St., Hung Hom, Kowloon, Hong Kong |
| **Manufacturer** | Shenzhen Posh Mobile Limited |
| **Address** | Room 6G, Block C, NEO Building, Chegongmiao, Futian District, Shenzhen, P.R.China |
| **Product Designation** | Equal Lite |
| **Brand Name** | POSH |
| **Test Model** | W700 |
| **Date of test** | Dec.02, 2014 to Dec.06, 2014 |
| **Deviation** | None |
| **Condition of Test Sample** | Normal |
| **Report Template** | AGCRT-US-BGN/RF |

We hereby certify that:
The above equipment was tested by Attestation of Global Compliance (Shenzhen) Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4 (2003) and the energy emitted by the sample EUT tested as described in this report is in compliance with requirement of FCC Part 15 Rules requirement.

| | | |
|---|---|---|
| Prepared By | Max Zhang | |
| | Max Zhang | Dec.08, 2014 |
| Checked By | Kidd Yang | |
| | Kidd Yang | Dec.08, 2014 |
| Authorized By | Solger Zhang | |
| | Solger Zhang | Dec.08, 2014 |

# 2. GENERAL INFORMATION

## 2.1. PRODUCT DESCRIPTION

The EUT is designed as “Equal Lite”. It is designed by way of utilizing the DSSS and OFDM technology to achieve the system operation.

A major technical description of EUT is described as following

| | |
|---|---|
| **Operation Frequency** | 2.412 GHz～2.462GHz |
| **Output Power** | IEEE 802.11b:11.54dBm; IEEE 802.11g:9.53dBm;<br>IEEE 802.11n(20):8.67dBm; IEEE 802.11n(40):5.76dBm |
| **Modulation** | DSSS(DBPSK/DQPSK/CCK);OFDM(BPSK/QPSK/16-QAM/64-QAM) |
| **Number of channels** | 11 |
| **Hardware Version** | N/A |
| **Software Version** | N/A |
| **Antenna Designation** | Component Antenna |
| **Antenna Gain** | 0dBi |
| **Power Supply** | DC3.7V by Built-in Li-ion Battery |

## 2.2. TABLE OF CARRIER FREQUENCYS

| Frequency Band | Channel Number | Frequency |
|---|---|---|
| 2400~2483.5MHZ | 1 | 2412 MHZ |
| | 2 | 2417 MHZ |
| | 3 | 2422 MHZ |
| | 4 | 2427 MHZ |
| | 5 | 2432 MHZ |
| | 6 | 2437 MHZ |
| | 7 | 2442 MHZ |
| | 8 | 2447 MHZ |
| | 9 | 2452 MHZ |
| | 10 | 2457 MHZ |
| | 11 | 2462 MHZ |

Note: For 20MHZ bandwidth system use Channel 1 to Channel 11
For 40MHZ bandwidth system use Channel 3 to Channel 9

### 2.3. IEEE 802.11N MODULATION SCHEME

| MCS Index | Nss | Modulation | R | NBPSC | NCBPS | | NDBPS | | Data rate(Mbps) | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 800nsGI | |
| | | | | | 20MHz | 40MHz | 20MHz | 40MHz | 20MHz | 40MHz |
| 0 | 1 | BPSK | 1/2 | 1 | 52 | 108 | 26 | 54 | 6.5 | 13.5 |
| 1 | 1 | QPSK | 1/2 | 2 | 104 | 216 | 52 | 108 | 13.0 | 27.0 |
| 2 | 1 | QPSK | 3/4 | 2 | 104 | 216 | 78 | 162 | 19.5 | 40.5 |
| 3 | 1 | 16-QAM | 1/2 | 4 | 208 | 432 | 104 | 216 | 26.0 | 54.0 |
| 4 | 1 | 16-QAM | 3/4 | 4 | 208 | 432 | 156 | 324 | 39.0 | 81.0 |
| 5 | 1 | 64-QAM | 2/3 | 6 | 312 | 648 | 208 | 432 | 52.0 | 108.0 |
| 6 | 1 | 64-QAM | 3/4 | 6 | 312 | 648 | 234 | 489 | 58.5 | 121.5 |
| 7 | 1 | 64-QAM | 5/6 | 6 | 312 | 648 | 260 | 540 | 65.0 | 135.0 |

| Symbol | Explanation |
|---|---|
| NSS | Number of spatial streams |
| R | Code rate |
| NBPSC | Number of coded bits per single carrier |
| NCBPS | Number of coded bits per symbol |
| NDBPS | Number of data bits per symbol |
| GI | Guard interval |

### 2.4. RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for **FCC ID: 2ABN6W700** filing to comply with the FCC Part 15 requirements.

### 2.5. TEST METHODOLOGY

Both conducted and radiated testing was performed according to the procedures in ANSI C63.4 (2003).
Radiated testing was performed at an antenna to EUT distance 3 meters.
Others testing (listed at item 5.3) was performed according to the procedures in FCC Part 15.247 rules KDB 558074 D01 DTS Meas Guidance v03r02.

### 2.6. SPECIAL ACCESSORIES

Refer to section 5.2.

## 2.7. EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

## 3. MEASUREMENT UNCERTAINTY

Conducted measurement: +/- 2.75dB

Radiated measurement: +/- 3.2dB

## 4. DESCRIPTION OF TEST MODES

| NO. | TEST MODE DESCRIPTION |
|---|---|
| 1 | Low channel TX |
| 2 | Middle channel TX |
| 3 | High channel TX |
| 4 | Normal operating |
| Note:<br>Transmit by 802.11b with Date rate (1/2/5.5/11)<br>Transmit by 802.11g with Date rate (6/9/12/18/24/36/48/54)<br>Transmit by 802.11n (20MHz) with Date rate (6.5/13/19.5/26/39/52/58.5/65)<br>Transmit by 802.11n (40MHz) with Date rate<br>(13.5/27/40.5/54/81/108/121.5/135) | |

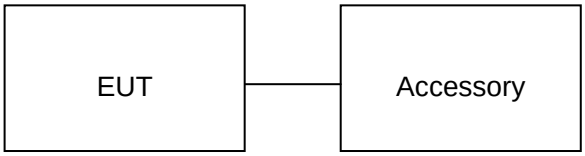
**Note:**

1. The EUT has been set to operate continuously on the lowest, middle and highest operation frequency Individually, and the eut is operating at its maximum duty cycle>or equal 98%
2. All modes under which configure applicable have been tested and the worst mode test data recording in the test report, if no other mode data.
3. For Radiated Emission, 3axis were chosen for testing for each applicable mode.

# 5. SYSTEM TEST CONFIGURATION

## 5.1. CONFIGURATION OF EUT SYSTEM

**Configure:**




## 5.2. EQUIPMENT USED IN EUT SYSTEM

| Item | Equipment | Model No. | ID or Specification | Remark |
|---|---|---|---|---|
| 1 | tablet pc | POSH | W700 | EUT |
| 2 | Adapter | POSH | W700 | Accessory |

Note: All the accessories have been used during the test in conduction emission test.

## 5.3. SUMMARY OF TEST RESULTS

| FCC RULES | DESCRIPTION OF TEST | RESULT |
|---|---|---|
| §15.247 | Peak Output Power | Compliant |
| §15.247 | 6 dB Bandwidth | Compliant |
| §15.247 | Conducted Spurious Emission | Compliant |
| §15.247 | Maximum Conducted Output Power SPECTRAL Density | Compliant |
| §15.209 | Radiated Emission | Compliant |
| §15.247 | Band Edges | Compliant |
| §15.207 | Line Conduction Emission | Compliant |

**Note:** The EUT received power from DC3.7V lithium battery.

## 6. TEST FACILITY

| | |
|---|---|
| **Site** | Attestation of Global Compliance (Shenzhen) Co., Ltd |
| **Location** | 2/F., Building 2, No.1-No.4, Chaxi Sanwei Technical Industrial Park, Gushu, Xixiang, Bao'an District, Shenzhen, Guangdong, China |
| **Description** | The test site is constructed and calibrated to meet the FCC requirements in documents ANSI C63.4:2003. |

**ALL TEST EQUIPMENT LIST**

| Description | Manufacturer | Model | Cal. Date | Cal. Due |
|---|---|---|---|---|
| Power Probe | R&S | NRP-Z23 | 07/25/2014 | 07/24/2015 |
| Power Meter | Agilent | N1911A | 04/20/2014 | 04/20/2015 |
| RF attenuator | N/A | RFA20db | N/A | N/A |
| Spectrum Analyzer | Agilent | E4440A | 02/17/2014 | 02/16/2015 |
| Amplifier | EM | EM30180 | 02/17/2014 | 02/16/2015 |
| Horn Antenna | EM | EM-AH-10180 | 02/17/2014 | 02/16/2015 |
| Horn Antenna | A.H. Systems Inc. | SAS-574 | 07/25/2014 | 07/24/2015 |
| EMI Test Receiver | Rohde & Schwarz | ESCI | 07/25/2014 | 07/24/2015 |
| WIDEBAND REQUENCY ANTENNA | SCHWARZBECK | VULB9168 | 08/16/2014 | 08/15/2015 |
| Loop Antenna | A.H. | SAS-526B | 05/10/2014 | 05/09/2015 |
| LISN | R&S | ESH3-Z5 | 07/25/2014 | 07/24/2015 |
| Radiation Cable 1 | Sat | RE1 | 06/04/2014 | 06/03/2015 |
| Radiation Cable 2 | Sat | RE2 | 06/04/2014 | 06/03/2015 |
| Conduction Cable | Sat | CE1 | 06/04/2014 | 06/03/2015 |

# 7. PEAK OUTPUT POWER

## 7.1. MEASUREMENT PROCEDURE

For peak power test:

1. Use a direct connection between the antenna port of the transmitter and the power meter, through suitable attenuation
2. Set the bandwidth of the power meter is 40MHz
3. Record the peak value

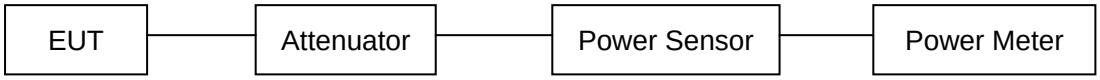
For average power test:

1. Connect EUT RF output port to power probe through an RF attenuator.
2. Connect the power probe to the PC.
3. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
4. Record the maximum power from the software.
5. The maximum peak power shall be less 1 Watt (30dBm).

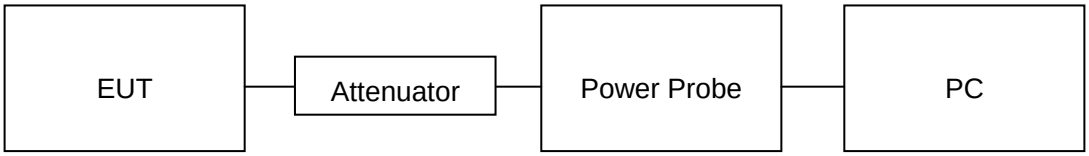
**Note**：The EUT was tested according to KDB 558074v03r02 for compliance to FCC 47CFR 15.247 requirements.

## 7.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

**PEAK POWER TEST SETUP**




**AVERAGE POWER SETUP**



### 7.3. LIMITS AND MEASUREMENT RESULT

| | |
|---|---|
| **TEST ITEM** | PEAK POWER |
| **TEST MODE** | 802.11b with data rate 1 |

| LIMITS AND MEASUREMENT RESULT | | | | |
|---|---|---|---|---|
| **Frequency (GHz)** | **Average Power (dBm)** | **Peak Power (dBm)** | **Applicable Limits (dBm)** | **Pass or Fail** |
| 2.412 | 9.56 | 11.54 | 30 | Pass |
| 2.437 | 9.31 | 11.29 | 30 | Pass |
| 2.462 | 9.35 | 11.33 | 30 | Pass |

| | |
|---|---|
| **TEST ITEM** | PEAK POWER |
| **TEST MODE** | 802.11g with data rate 6 |

| LIMITS AND MEASUREMENT RESULT | | | | |
|---|---|---|---|---|
| **Frequency (GHz)** | **Average Power (dBm)** | **Peak Power (dBm)** | **Applicable Limits (dBm)** | **Pass or Fail** |
| 2.412 | 7.55 | 9.53 | 30 | Pass |
| 2.437 | 7.28 | 9.26 | 30 | Pass |
| 2.462 | 7.14 | 9.12 | 30 | Pass |

| | |
|---|---|
| **TEST ITEM** | PEAK POWER |
| **TEST MODE** | 802.11n 20 with data rate 6.5 |

| LIMITS AND MEASUREMENT RESULT | | | | |
|---|---|---|---|---|
| **Frequency (GHz)** | **Average Power (dBm)** | **Peak Power (dBm)** | **Applicable Limits (dBm)** | **Pass or Fail** |
| 2.412 | 6.59 | 8.57 | 30 | Pass |
| 2.437 | 6.69 | 8.67 | 30 | Pass |
| 2.462 | 6.48 | 8.46 | 30 | Pass |

| | |
|---|---|
| **TEST ITEM** | PEAK POWER |
| **TEST MODE** | 802.11n 40 with data rate 13.5 |

| **LIMITS AND MEASUREMENT RESULT** | | | | |
|---|---|---|---|---|
| **Frequency (GHz)** | **Average Power (dBm)** | **Peak Power (dBm)** | **Applicable Limits (dBm)** | **Pass or Fail** |
| 2.422 | 3.69 | 5.67 | 30 | Pass |
| 2.437 | 3.78 | 5.76 | 30 | Pass |
| 2.452 | 3.39 | 5.37 | 30 | Pass |

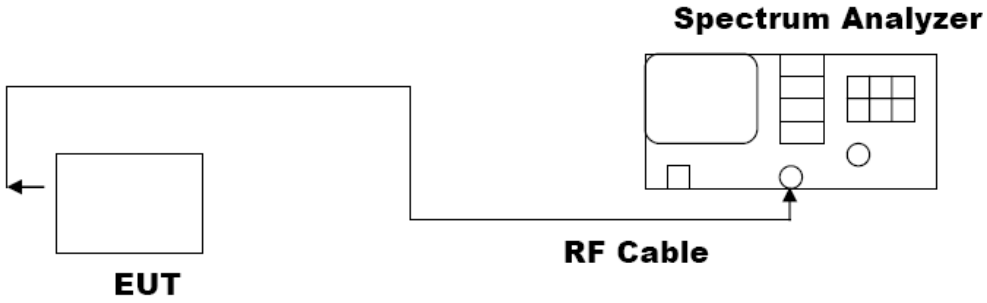
# 8. 6DB BANDWIDTH

## 8.1. MEASUREMENT PROCEDURE

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
3. Set SPA Centre Frequency = Operation Frequency, RBW= 100 KHz, VBW≥3×RBW.
4. Set SPA Trace 1 Max hold, then View.

**Note:** The EUT was tested according to KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

## 8.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



### 8.3. LIMITS AND MEASUREMENT RESULTS

| | |
|---|---|
| **TEST ITEM** | 6DB BANDWIDTH |
| **TEST MODE** | 802.11b with data rate 11 |

| **LIMITS AND MEASUREMENT RESULT** | | | |
|---|---|---|---|
| **Applicable Limits** | **Applicable Limits** | | |
| | **Test Data (MHz)** | | **Criteria** |
| >500KHZ | Low Channel | 9.121 | PASS |
| | Middle Channel | 9.106 | PASS |
| | High Channel | 9.578 | PASS |

| | |
|---|---|
| **TEST ITEM** | 6DB BANDWIDTH |
| **TEST MODE** | 802.11g with data rate 54 |

| **LIMITS AND MEASUREMENT RESULT** | | | |
|---|---|---|---|
| **Applicable Limits** | **Applicable Limits** | | |
| | **Test Data (MHz)** | | **Criteria** |
| >500KHZ | Low Channel | 15.15 | PASS |
| | Middle Channel | 15.46 | PASS |
| | High Channel | 15.15 | PASS |

| | |
|---|---|
| **TEST ITEM** | 6DB BANDWIDTH |
| **TEST MODE** | 802.11n 20 with data rate 65 |

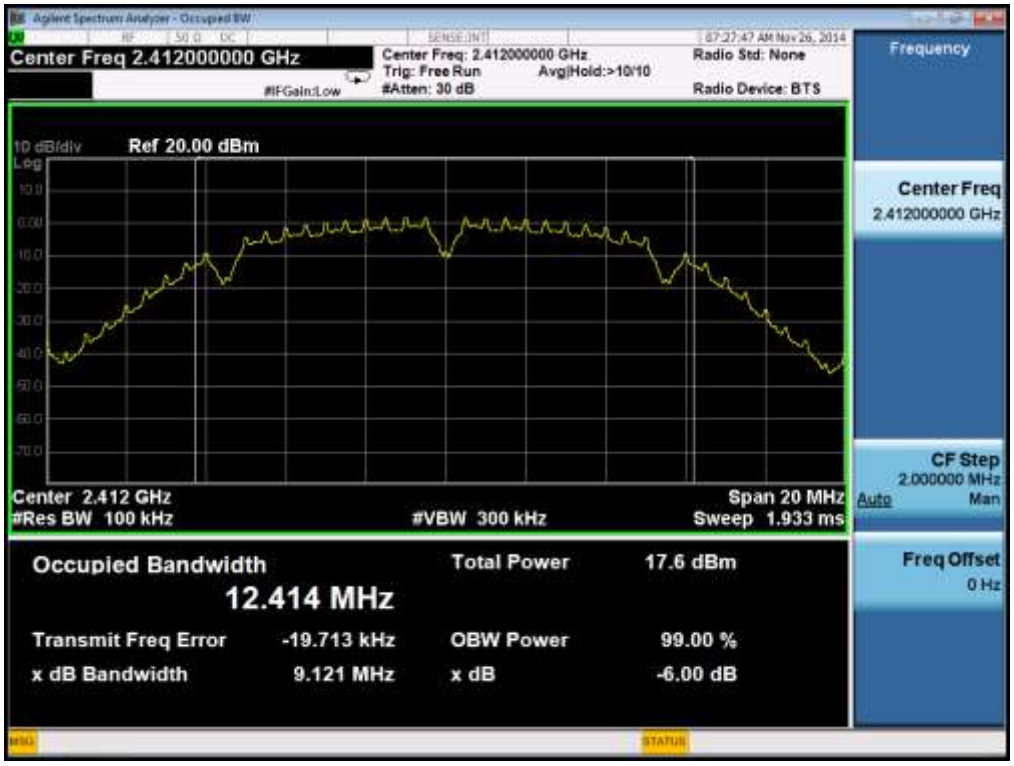
| **LIMITS AND MEASUREMENT RESULT** | | | |
|---|---|---|---|
| **Applicable Limits** | **Applicable Limits** | | |
| | **Test Data (MHz)** | | **Criteria** |
| >500KHZ | Low Channel | 15.15 | PASS |
| | Middle Channel | 15.33 | PASS |
| | High Channel | 15.33 | PASS |

| | |
|---|---|
| **TEST ITEM** | 6DB BANDWIDTH |
| **TEST MODE** | 802.11n 40 with data rate 135 |

| **LIMITS AND MEASUREMENT RESULT** | | | |
|---|---|---|---|
| **Applicable Limits** | **Applicable Limits** | | |
| | **Test Data (MHz)** | | **Criteria** |
| >500KHZ | Low Channel | 36.09 | PASS |
| | Middle Channel | 36.09 | PASS |
| | High Channel | 36.04 | PASS |

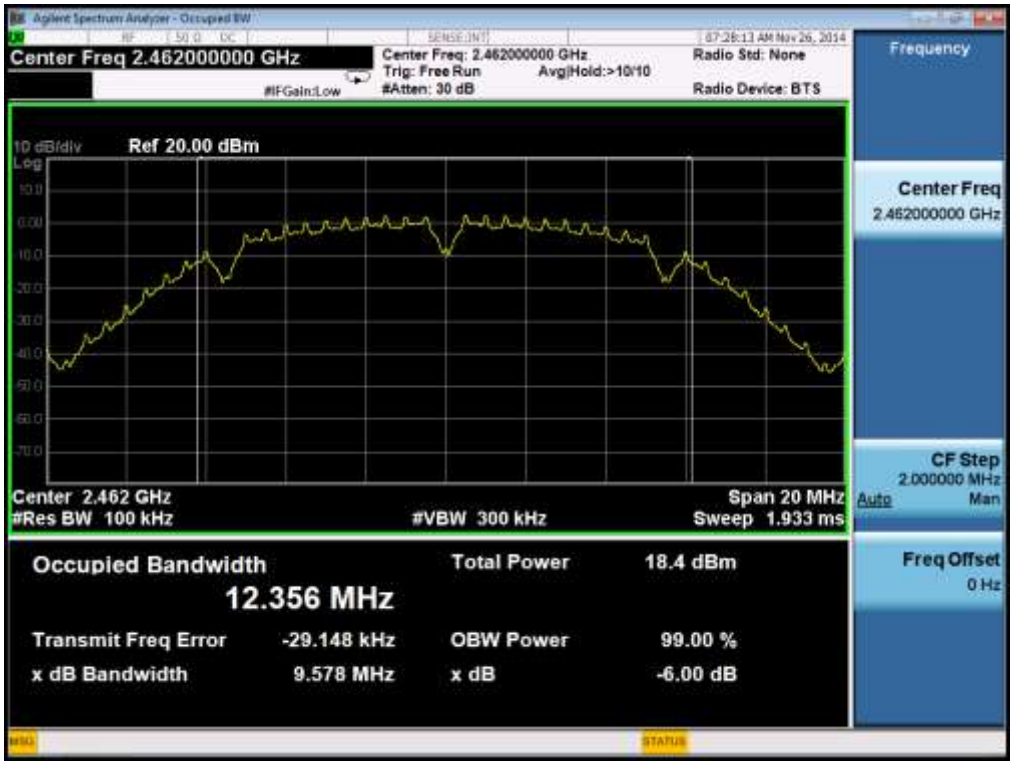
**802.11b TEST RESULT**

TEST PLOT OF BANDWIDTH FOR LOW CHANNEL



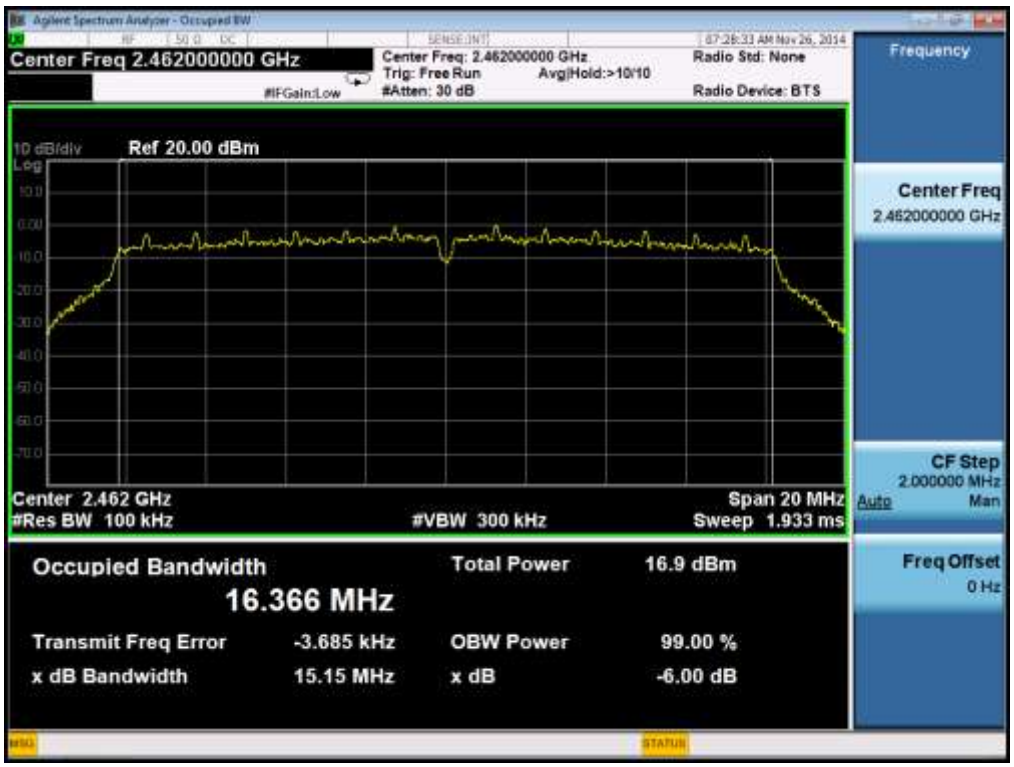

TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL

TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL

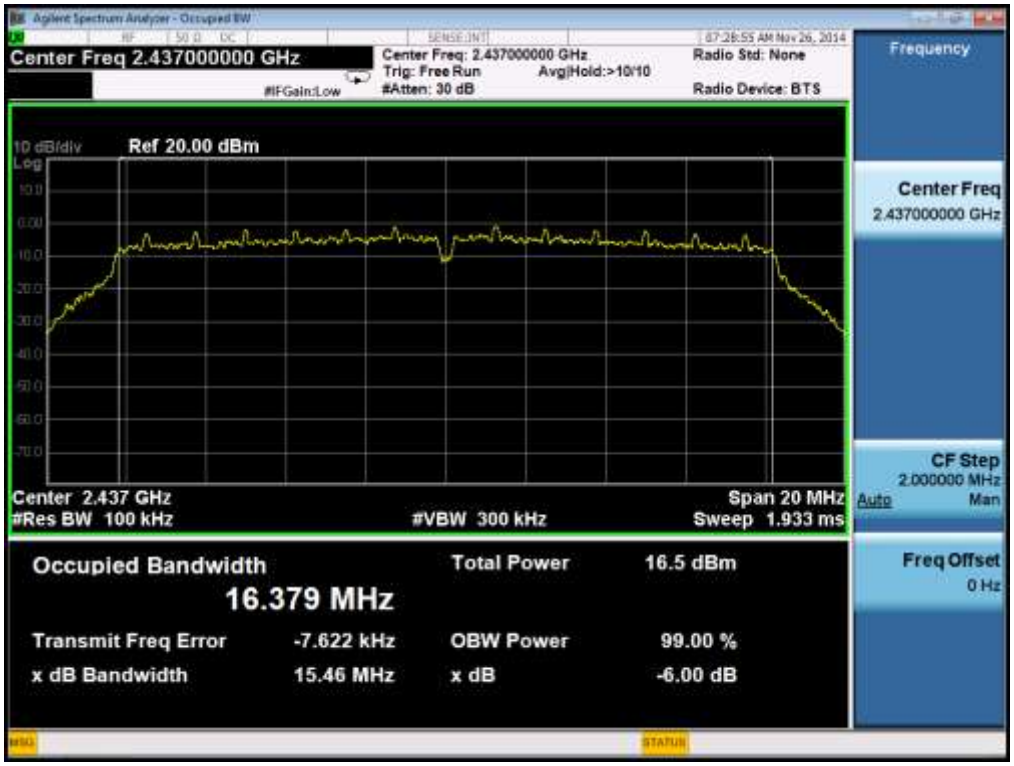


**802.11g TEST RESULT**

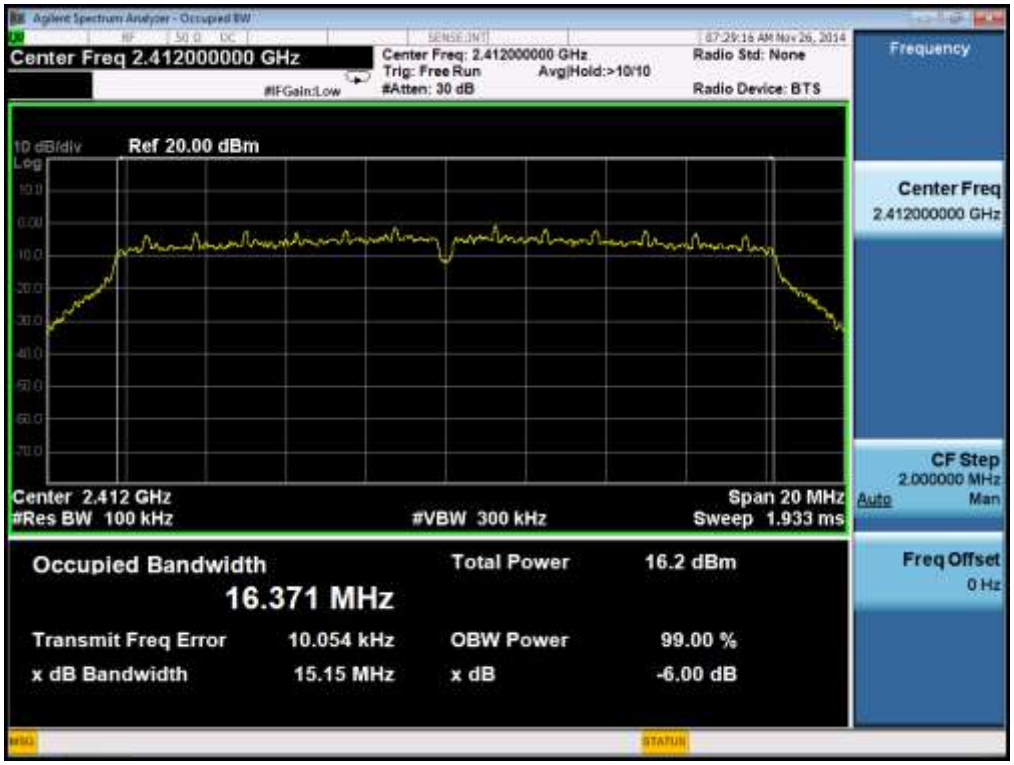
TEST PLOT OF BANDWIDTH FOR LOW CHANNEL




TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL

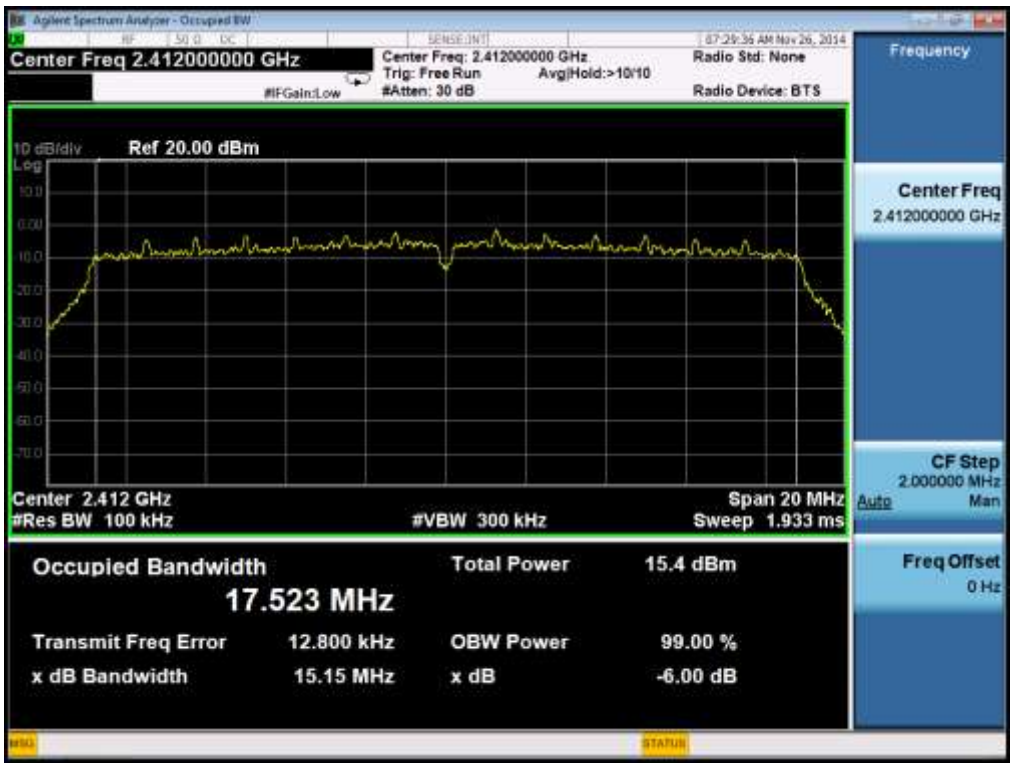


TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL

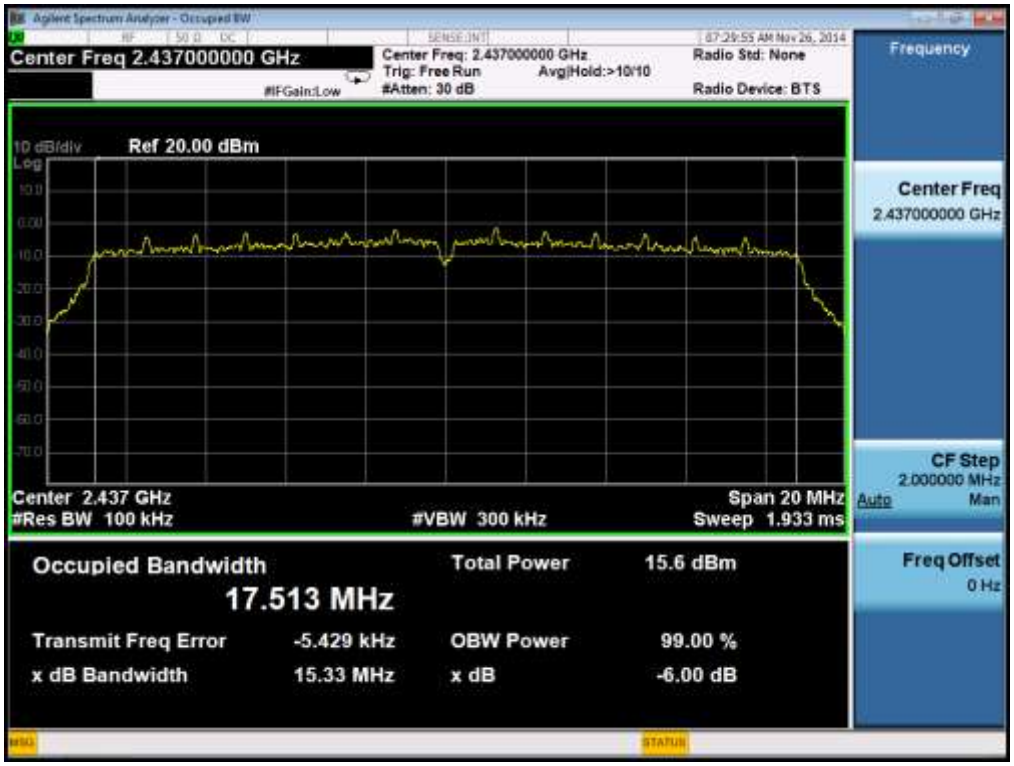


**802.11n (20) TEST RESULT**

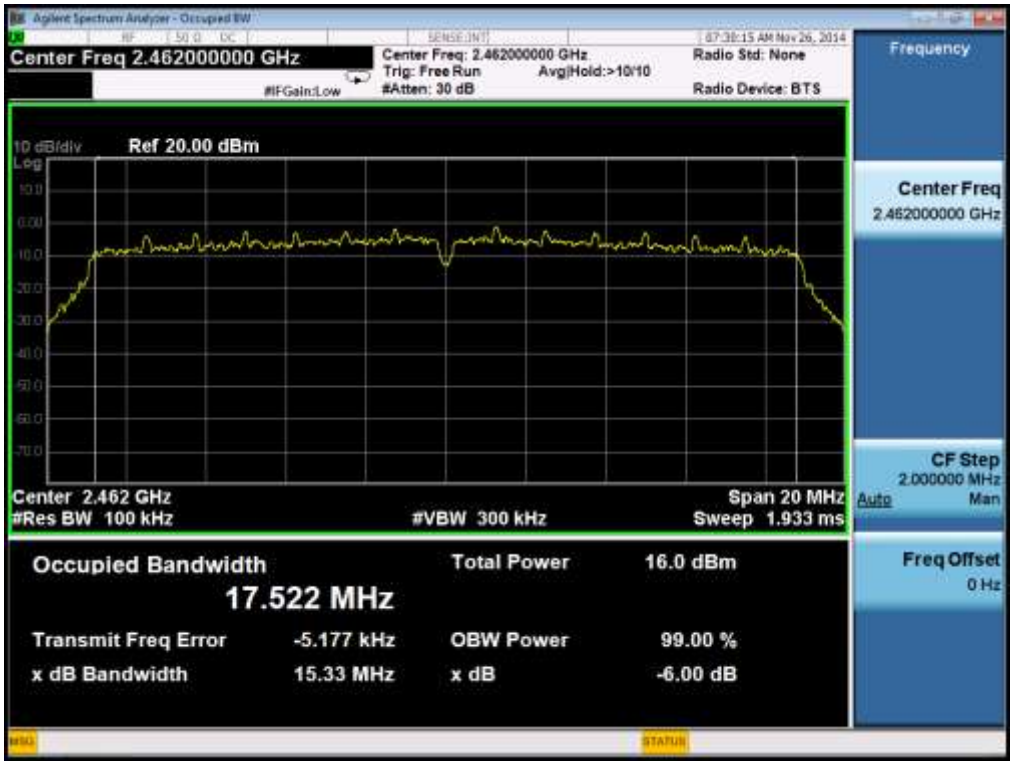
TEST PLOT OF BANDWIDTH FOR LOW CHANNEL




TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL

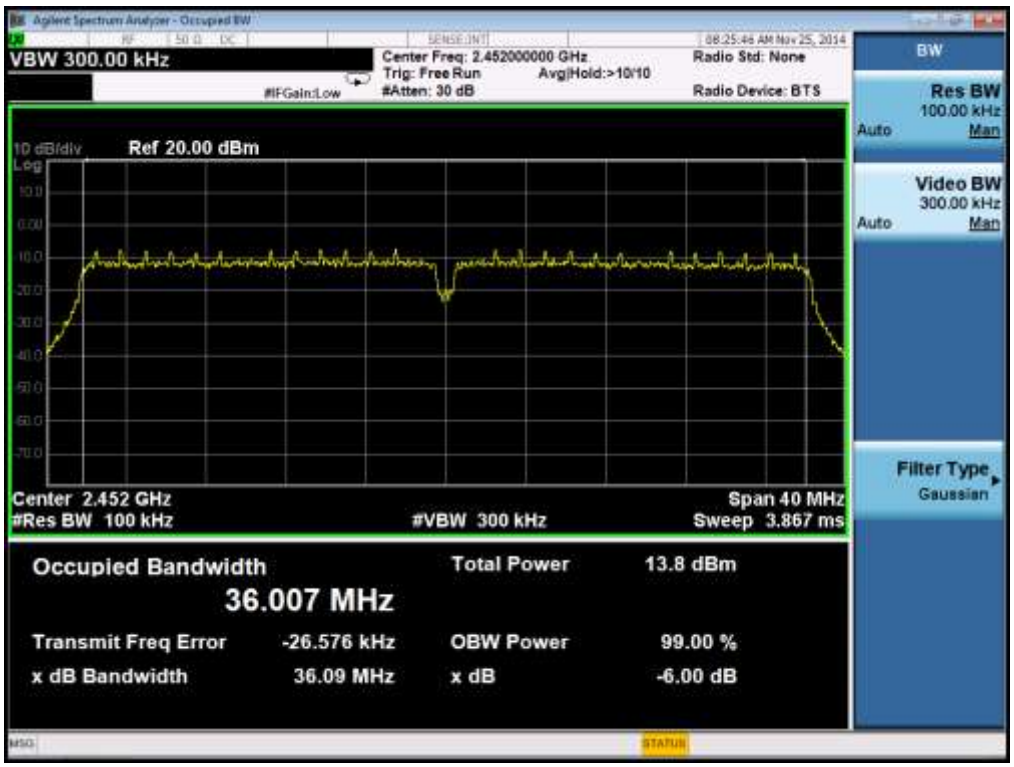


TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL

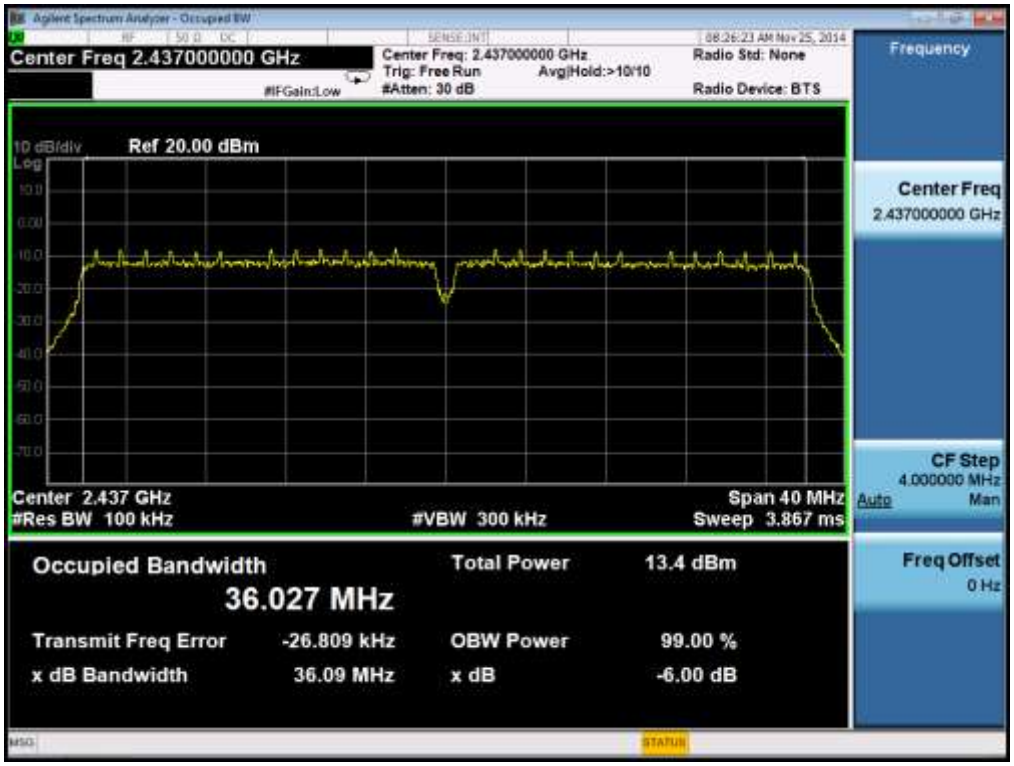


**802.11n(40) TEST RESULT**

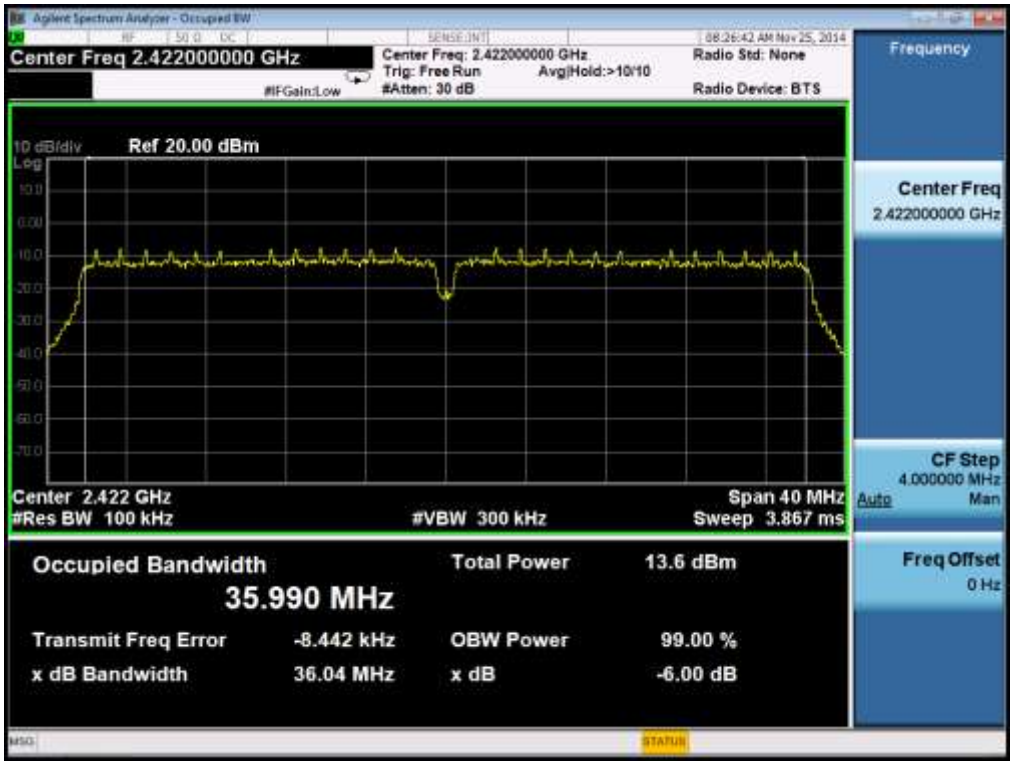
TEST PLOT OF BANDWIDTH FOR LOW CHANNEL




TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL



TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL



# 9. CONDUCTED SPURIOUS EMISSION

## 9.1. MEASUREMENT PROCEDURE

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2, Set the EUT Work on the top, the middle and the bottom operation frequency individually.
3. Set SPA Trace 1 Max hold, then View.

**Note:** The EUT was tested according to KDB 558074 for compliance to FCC 47CFR 15.247 requirements. Owing to satisfy the requirements of the number of measurement points, we set the RBW=1MHz, VBW＞RBW, scan up through 10th harmonic, and consider the tested results as the worst case, if the tested results conform to the requirement, we can deem that the real tested results(set the RBW=100KHz, VBW＞RBW) are conform to the requirement.

## 9.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

The same as described in section 8.2.

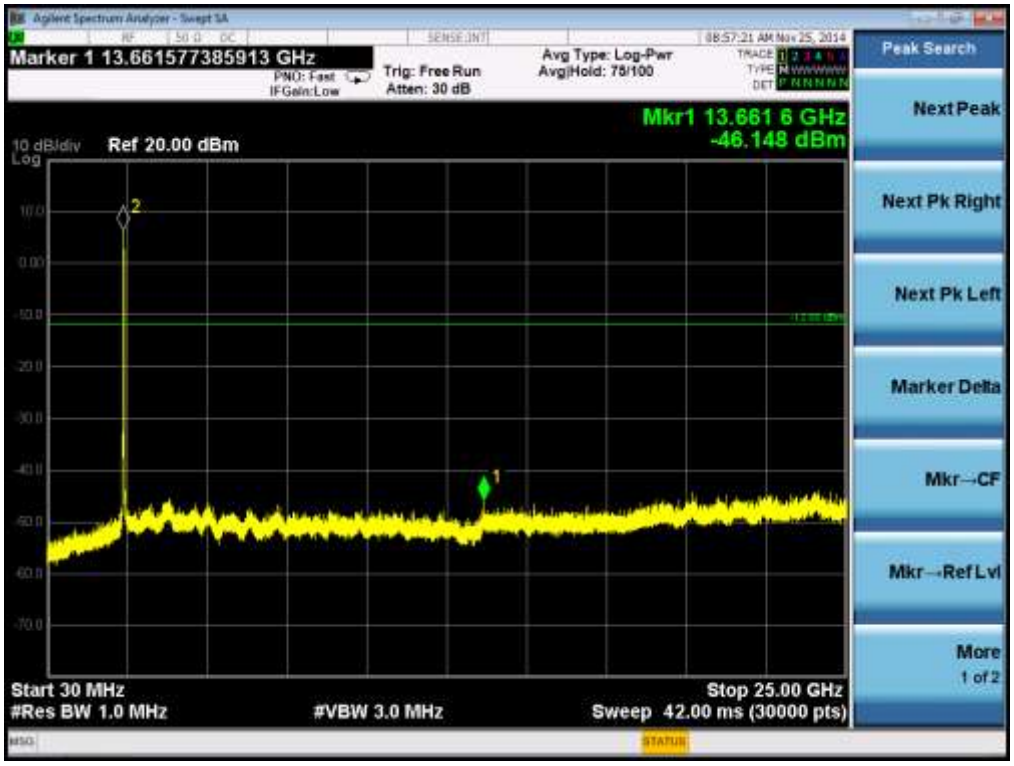
## 9.3. MEASUREMENT EQUIPMENT USED

The same as described in section 6.

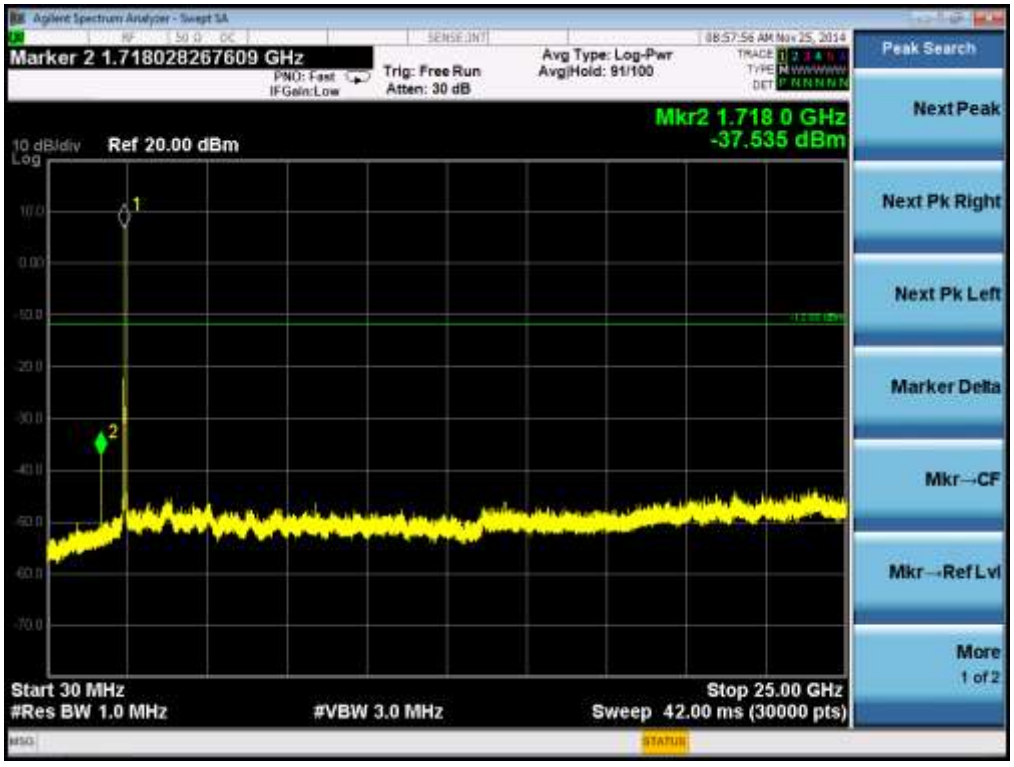
## 9.4. LIMITS AND MEASUREMENT RESULT

| LIMITS AND MEASUREMENT RESULT | | |
|---|---|---|
| **Applicable Limits** | **Measurement Result** | |
| | **Test Data** | **Criteria** |
| In any 100 KHz Bandwidth Outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produce by the intentional radiator shall be at least 20 dB below that in 100KHz bandwidth within the band that contains the highest level of the desired power.<br>In addition, radiation emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in§15.209(a)) | At least -20dBc than the limit Specified on the BOTTOM Channel | PASS |
| | At least -20dBc than the limit Specified on the TOP Channel | PASS |

TEST PLOT OF OUT OF BAND EMISSIONS WITH THE WORST CASE
OF 802.11b FOR MODULATION IN LOW CHANNEL

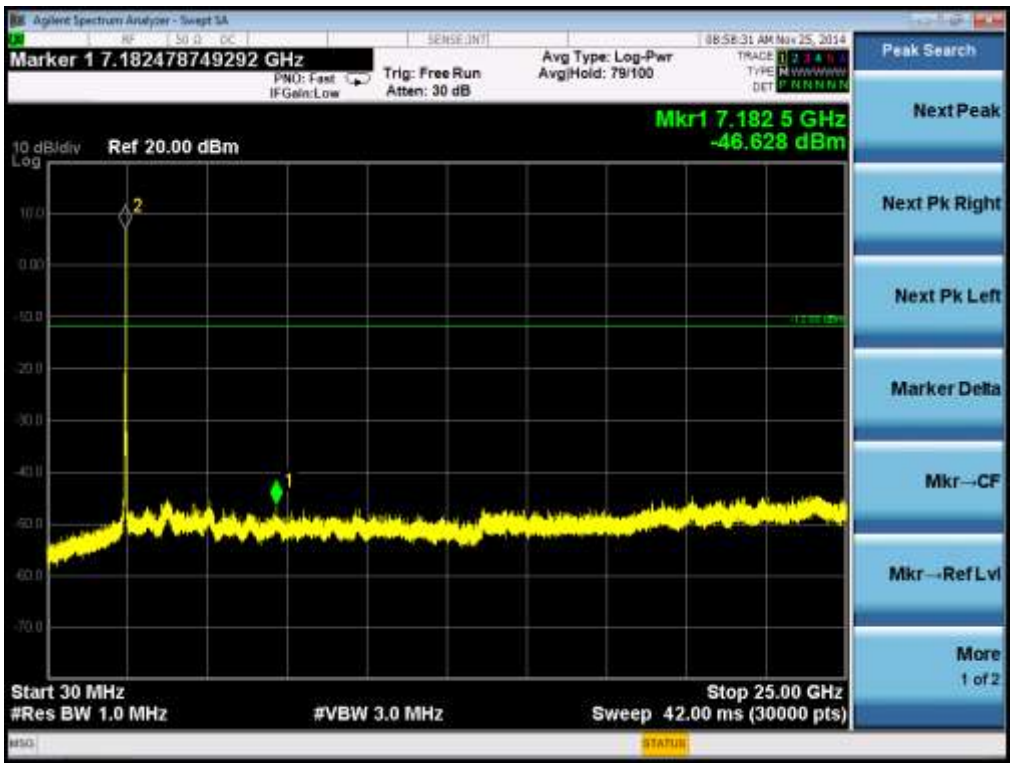



TEST PLOT OF OUT OF BAND EMISSIONS
OF 802.11b FOR MODULATION IN MIDDLE CHANNEL



TEST PLOT OF OUT OF BAND EMISSIONS

OF 802.11b FOR MODULATION IN HIGH CHANNEL



# 10. MAXIMUM CONDUCTED OUTPUT PEAK POWER SPECTRAL DENSITY

## 10.1 MEASUREMENT PROCEDURE

(1). Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
(2). Set the EUT Work on the top, the middle and the bottom operation frequency individually.
(3). Set SPA Trace 1 Max hold, then View.

Note: The method of PKPSD in the KDB 558074 item 10.2 was used in this testing.

## 10.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

Refer To Section 8.2.

## 10.3 MEASUREMENT EQUIPMENT USED

Refer To Section 6.

## 10.4 LIMITS AND MEASUREMENT RESULT

| | |
|---|---|
| **TEST ITEM** | POWER PECTRAL DENSITY |
| **TEST MODE** | 802.11b with data rate 1 |

| Channel No. | PSD (dBm) | Limit (dBm) | Result |
|---|---|---|---|
| Low Channel | -12.71 | 8 | Pass |
| Middle Channel | -12.64 | 8 | Pass |
| High Channel | -12.66 | 8 | Pass |

| | |
|---|---|
| **TEST ITEM** | POWER PECTRAL DENSITY |
| **TEST MODE** | 802.11g with data rate 6 |

| Channel No. | PSD (dBm) | Limit (dBm) | Result |
|---|---|---|---|
| Low Channel | -14.54 | 8 | Pass |
| Middle Channel | -15.20 | 8 | Pass |
| High Channel | -15.59 | 8 | Pass |

| TEST ITEM | POWER PECTRAL DENSITY |
|---|---|
| TEST MODE | 802.11n 20 with data rate 6.5 |

| Channel No. | PSD (dBm) | Limit (dBm) | Result |
|---|---|---|---|
| Low Channel | -17.03 | 8 | Pass |
| Middle Channel | -16.35 | 8 | Pass |
| High Channel | -16.33 | 8 | Pass |

| TEST ITEM | POWER PECTRAL DENSITY |
|---|---|
| TEST MODE | 802.11n 40 with data rate 13.5 |

| Channel No. | PSD (dBm) | Limit (dBm) | Result |
|---|---|---|---|
| Low Channel | -20.47 | 8 | Pass |
| Middle Channel | -20.28 | 8 | Pass |
| High Channel | -19.27 | 8 | Pass |

**802.11b TEST RESULT**

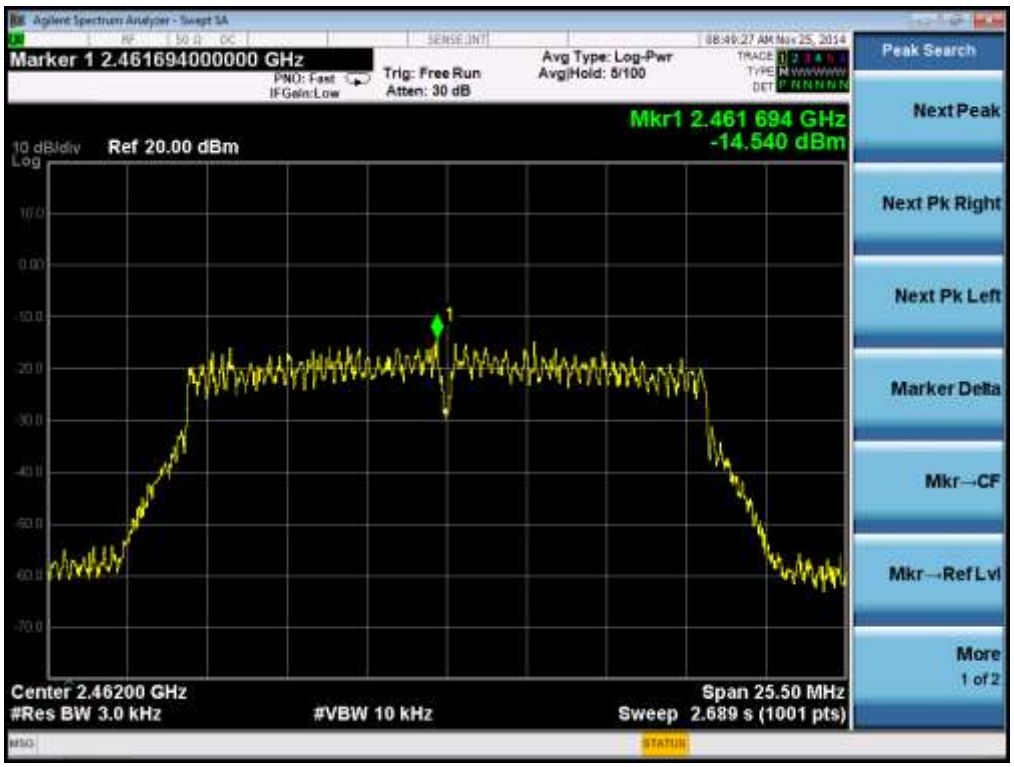
TEST PLOT OF SPECTRAL DENSITY FOR LOW CHANNEL


TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL

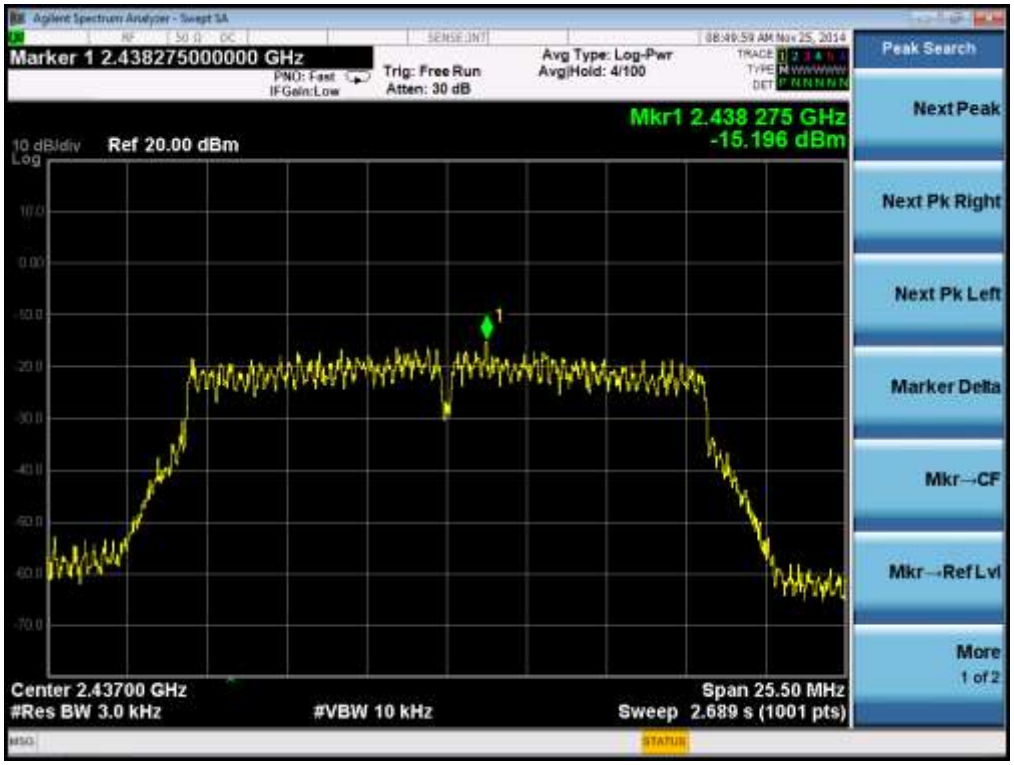
TEST PLOT OF SPECTRAL DENSITY FOR HIGH CHANNEL

**802.11g TEST RESULT**

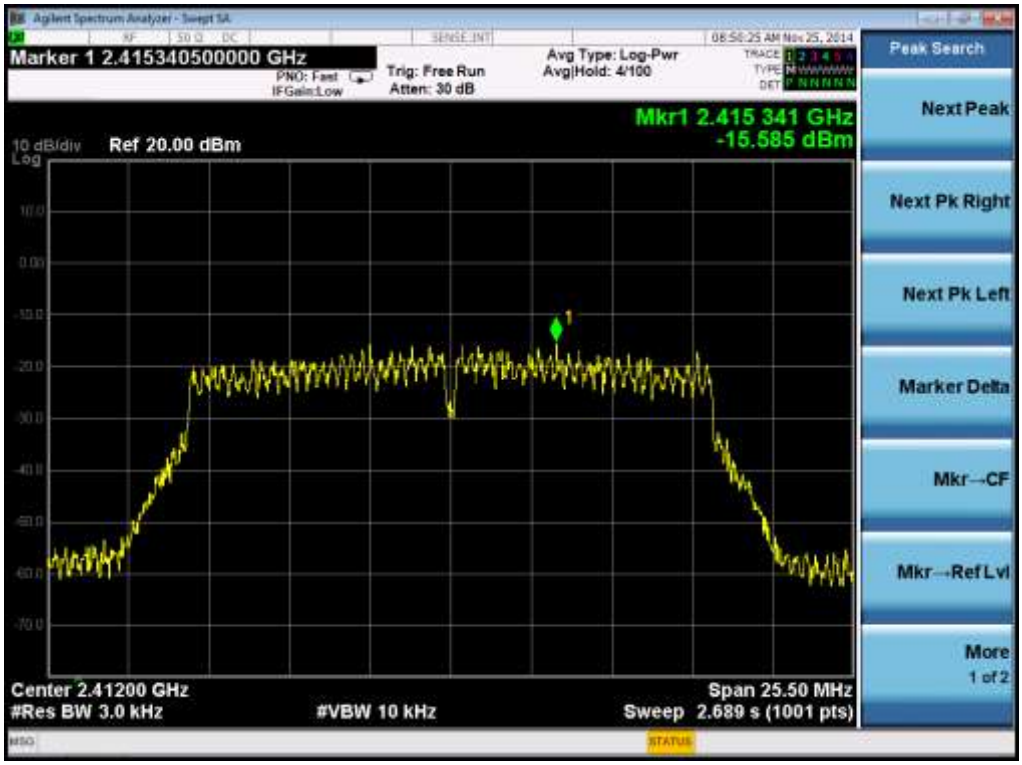
TEST PLOT OF SPECTRAL DENSITY FOR LOW CHANNEL




TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL

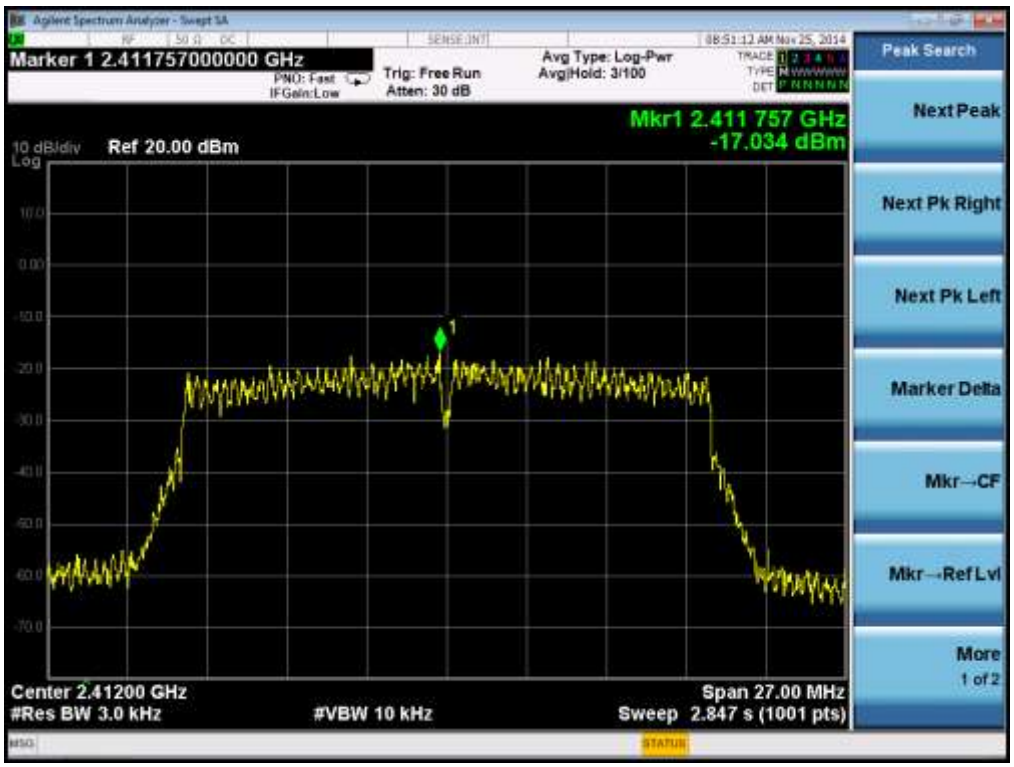


TEST PLOT OF SPECTRAL DENSITY FOR HIGH CHANNEL

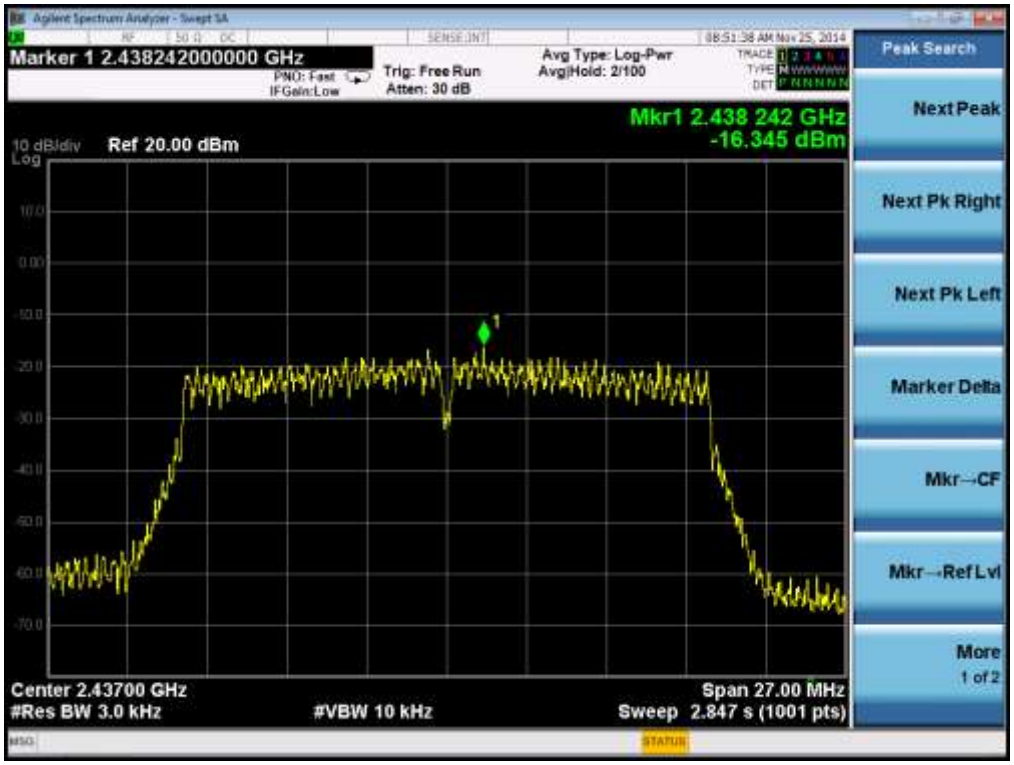


**802.11n 20 TEST RESULT**

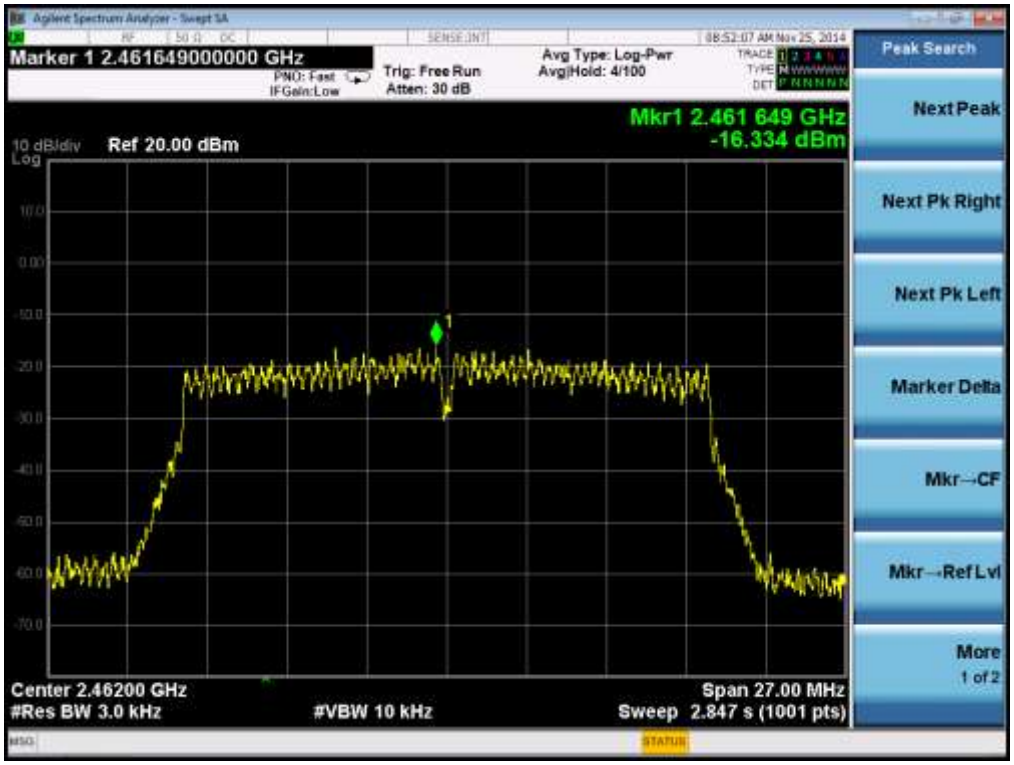
TEST PLOT OF SPECTRAL DENSITY FOR LOW CHANNEL




TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL

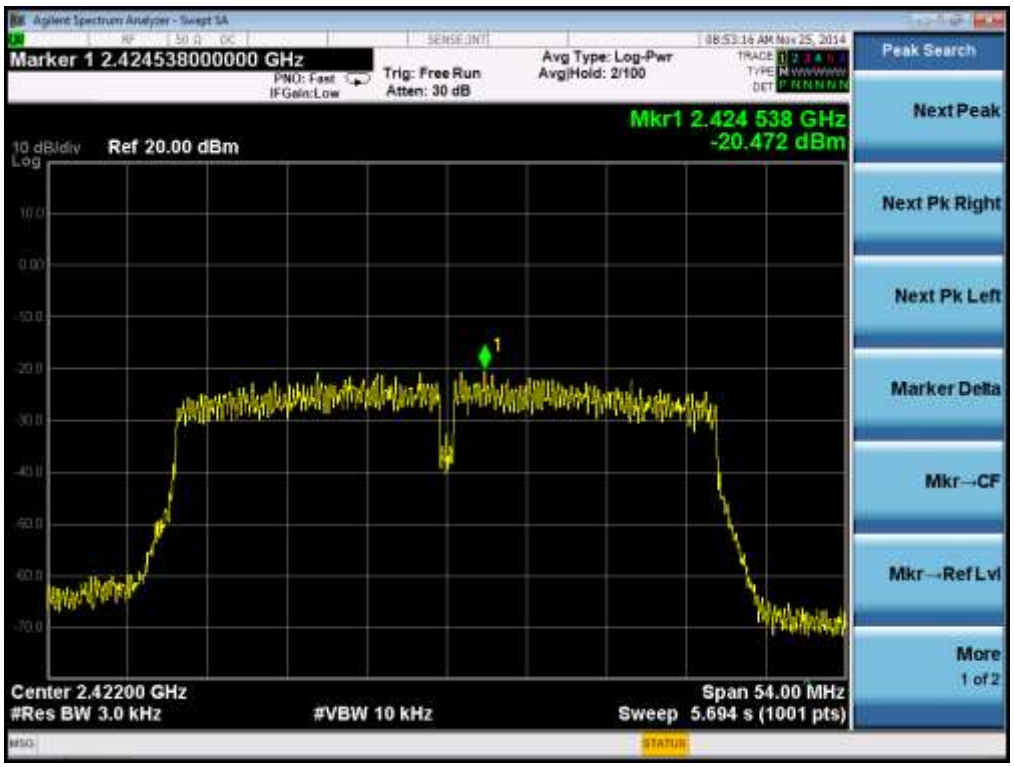


TEST PLOT OF SPECTRAL DENSITY FOR HIGH CHANNEL

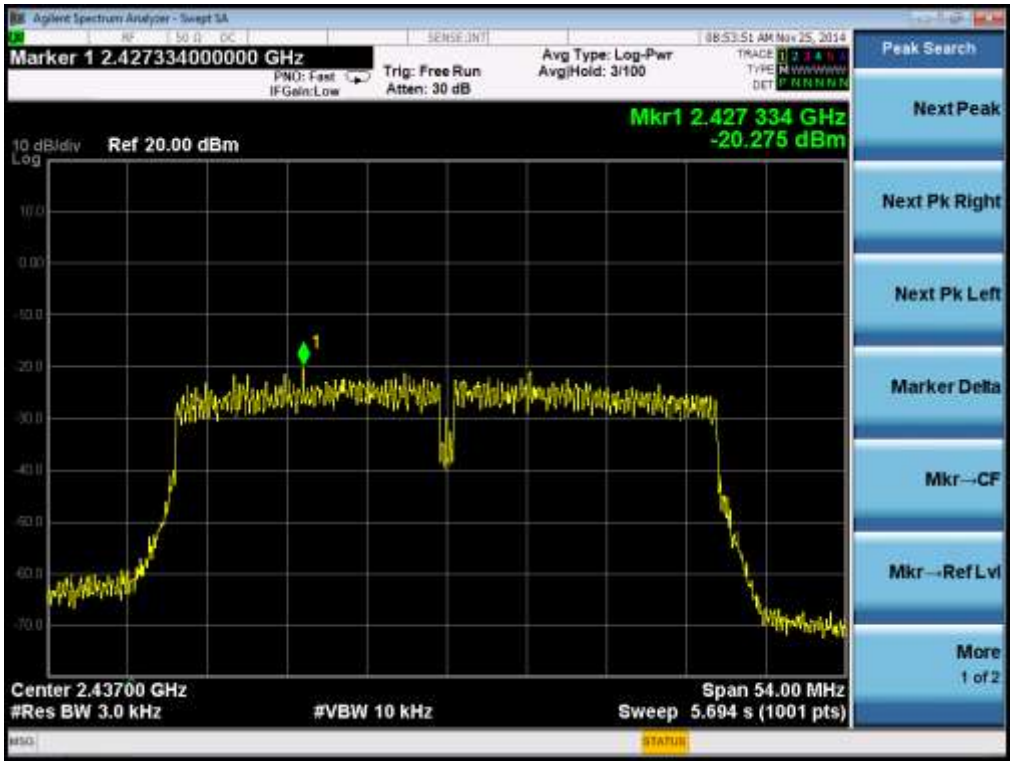


**802.11n 40 TEST RESULT**

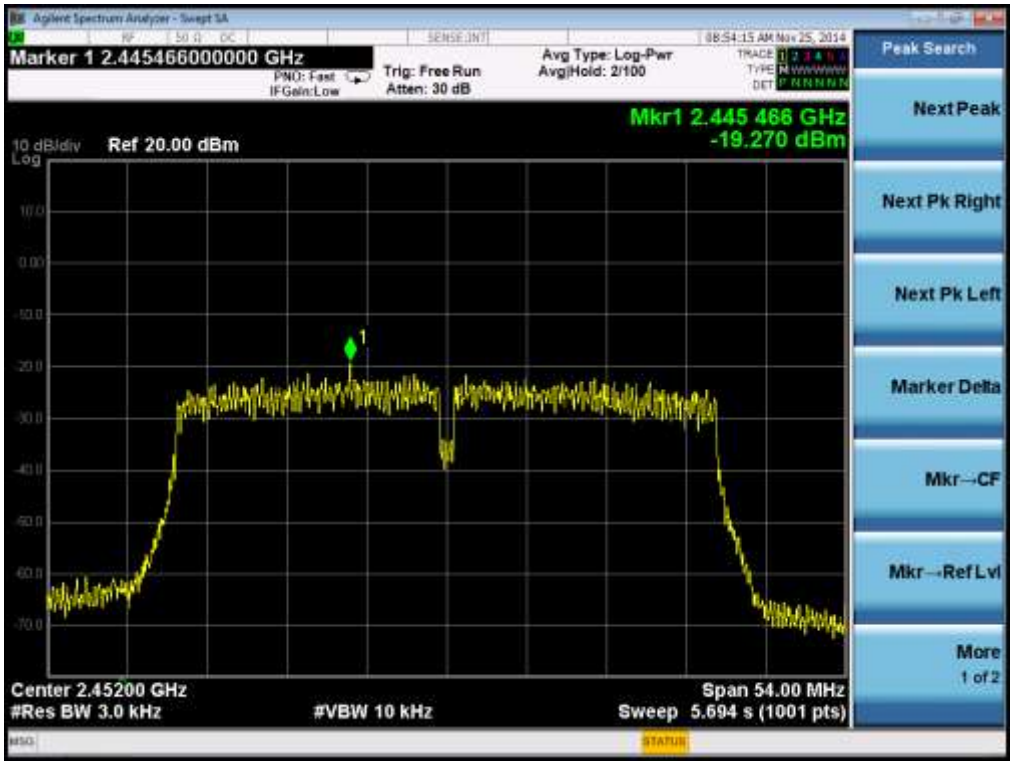
TEST PLOT OF SPECTRAL DENSITY FOR LOW CHANNEL




TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL



TEST PLOT OF SPECTRAL DENSITY FOR HIGH CHANNEL



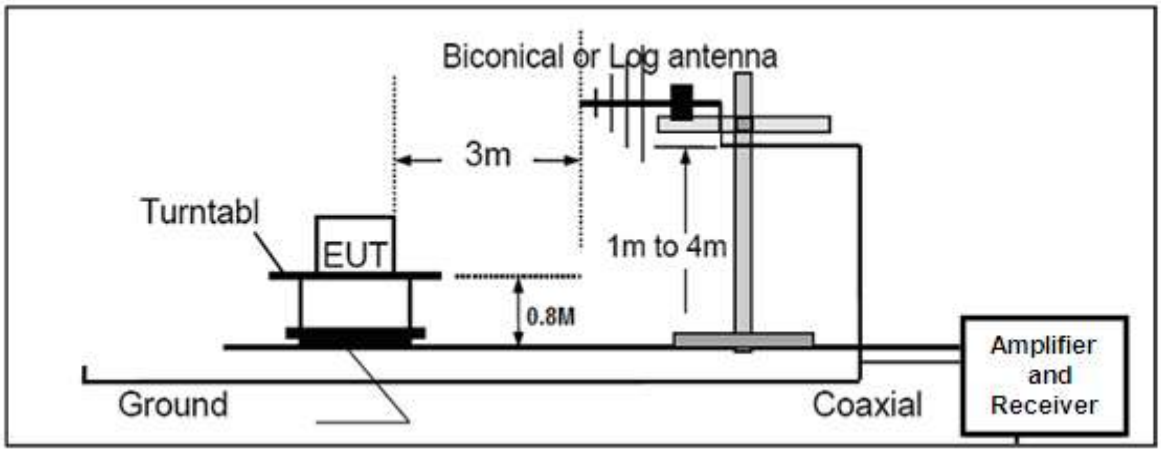
# 11. RADIATED EMISSION

## 11.1. MEASUREMENT PROCEDURE

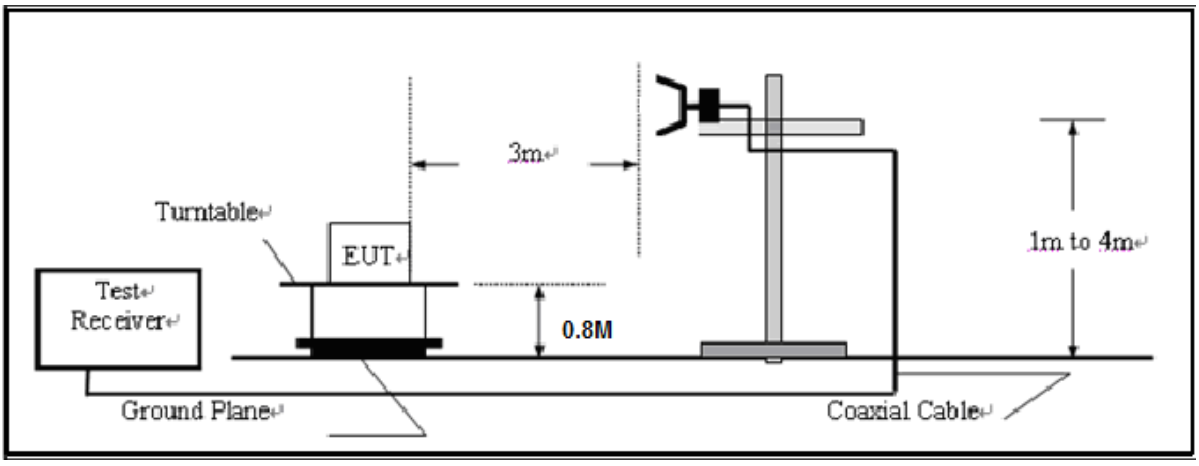
1. Configure the EUT according to ANSI C63.4. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High - Low scan is not required in this case.

**11.2. TEST SETUP**

RADIATED EMISSION TEST SETUP 30MHz-1000MHz




RADIATED EMISSION TEST SETUP ABOVE 1000MHz



### 11.3. LIMITS AND MEASUREMENT RESULT

15.209(a) Limit in the below table has to be followed

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

Note: All modes were tested For restricted band radiated emission,
the test records reported below are the worst result compared to other modes.

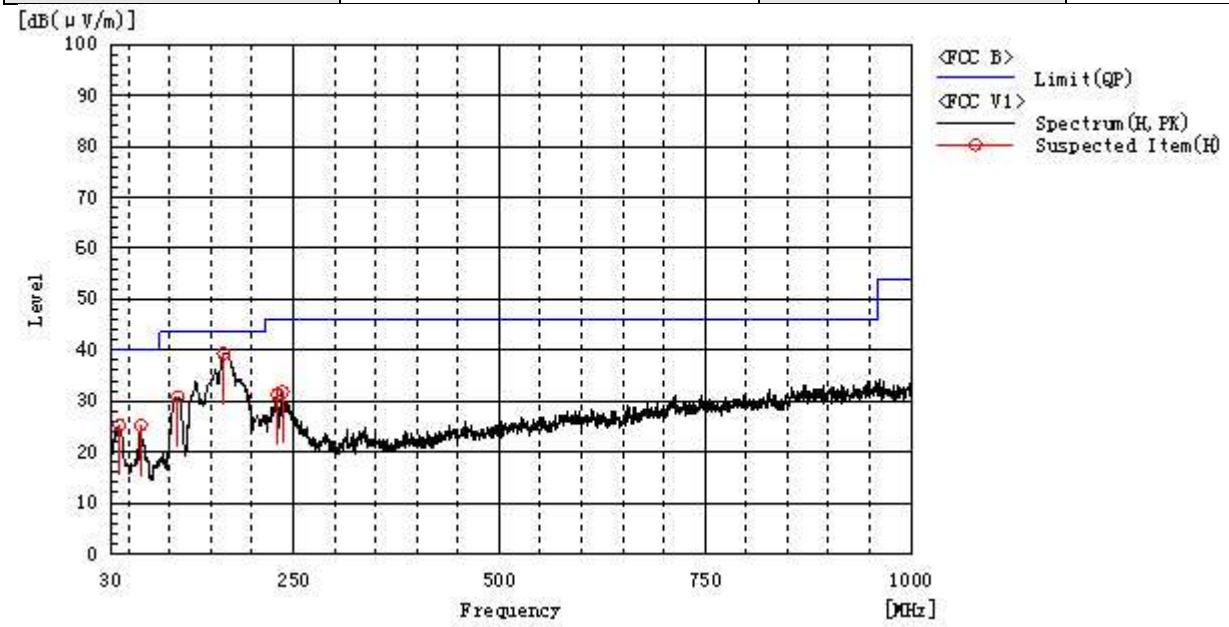
### 11.4. TEST RESULT

**RADIATED EMISSION BELOW 30MHZ**

No emission found between lowest internal used/generated frequencies to 30MHz.

## RADIATED EMISSION BELOW 1GHZ

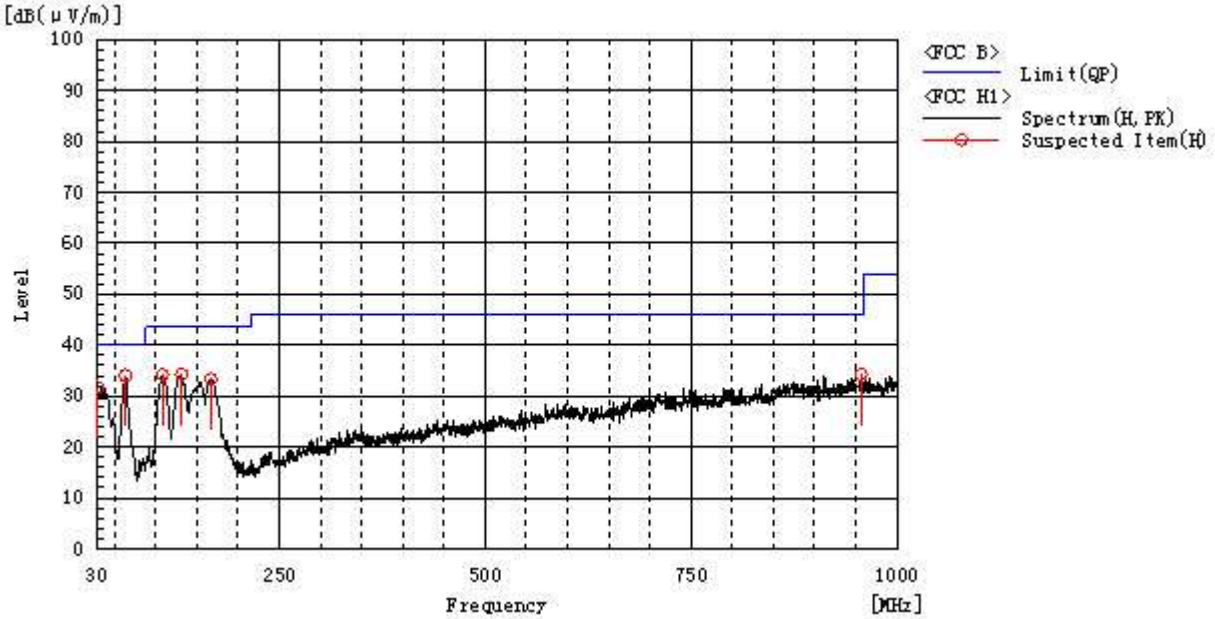
| | | | |
|---|---|---|---|
| **EUT** | Equal Lite | **Model Name** | W700 |
| **Temperature** | 25°C | **Relative Humidity** | 55.4% |
| **Pressure** | 960hPa | **Test Voltage** | Normal Voltage |
| **Test Mode** | 802.11b with date rate 1 2412MHZ | **Antenna** | Horizontal |




| Frequency MHz | Polarization | Reading dB(uV) | Factor dB (1/m) | Level dB(uV/m) PK | Limit dB(uV/m) QP | Margin dB | Pass/Fail | Height cm | Angle deg |
|---|---|---|---|---|---|---|---|---|---|
| 39.215 | H | 4.6 | 20.7 | 25.3 | 40.0 | 14.7 | Pass | 200.0 | 288.1 |
| 65.405 | H | 14.2 | 11.0 | 25.2 | 40.0 | 14.8 | Pass | 100.0 | 105.7 |
| 110.025 | H | 19.7 | 11.2 | 30.9 | 43.5 | 12.6 | Pass | 150.0 | 181.8 |
| 166.285 | H | 24.5 | 14.9 | 39.4 | 43.5 | 4.1 | Pass | 200.0 | 216.7 |
| 230.790 | H | 18.3 | 13.0 | 31.3 | 46.0 | 14.7 | Pass | 200.0 | 288.1 |
| 237.580 | H | 18.4 | 13.4 | 31.8 | 46.0 | 14.2 | Pass | 150.0 | 75.2 |

**RESULT: PASS**

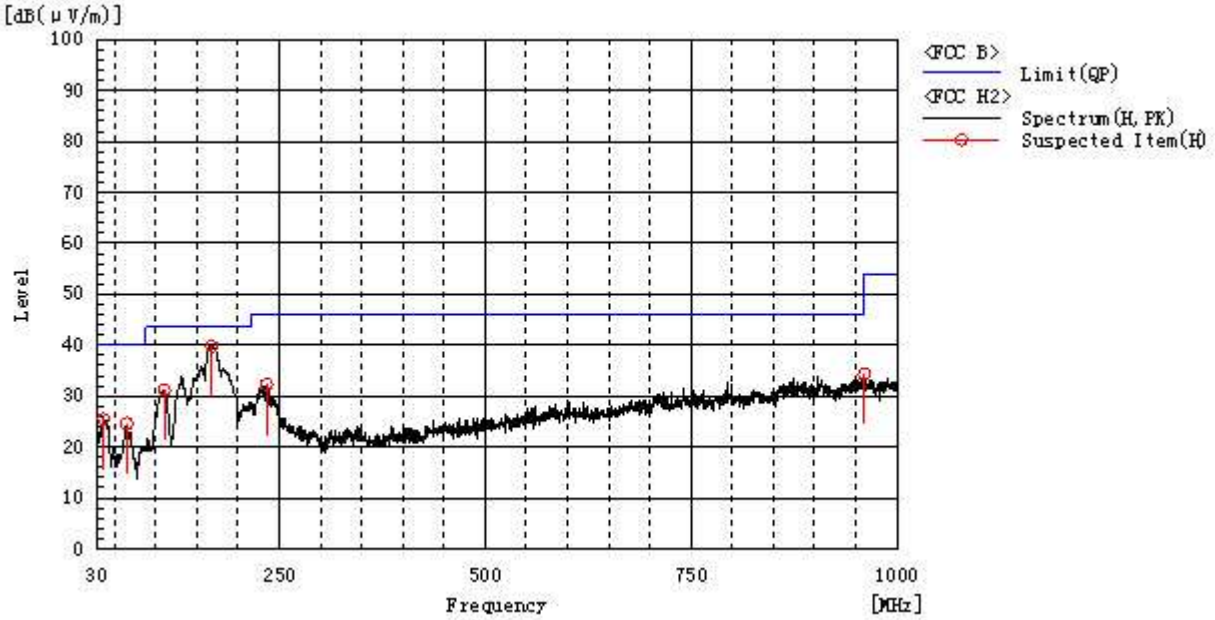
| EUT | Equal Lite | Model Name | W700 |
|---|---|---|---|
| Temperature | 25°C | Relative Humidity | 55.4% |
| Pressure | 960hPa | Test Voltage | Normal Voltage |
| Test Mode | 802.11b with date rate 1 2412MHZ | Antenna | Vertical |




| Frequency MHz | Polarization | Reading dB(uV) | Factor dB (1/m) | Level dB(uV/m) PK | Limit dB(uV/m) QP | Margin dB | Pass/Fail | Height cm | Angle deg |
|---|---|---|---|---|---|---|---|---|---|
| 30.000 | H | 16.2 | 15.6 | 31.8 | 40.0 | 8.2 | Pass | 200.0 | 177.1 |
| 63.465 | H | 22.6 | 11.5 | 34.1 | 40.0 | 5.9 | Pass | 150.0 | 251.7 |
| 108.570 | H | 22.9 | 11.3 | 34.2 | 43.5 | 9.3 | Pass | 200.0 | 104.3 |
| 131.850 | H | 20.0 | 14.3 | 34.3 | 43.5 | 9.2 | Pass | 200.0 | 104.3 |
| 167.255 | H | 18.4 | 14.9 | 33.3 | 43.5 | 10.2 | Pass | 200.0 | 177.1 |
| 956.350 | H | 5.6 | 28.7 | 34.3 | 46.0 | 11.7 | Pass | 200.0 | 177.1 |

**RESULT: PASS**

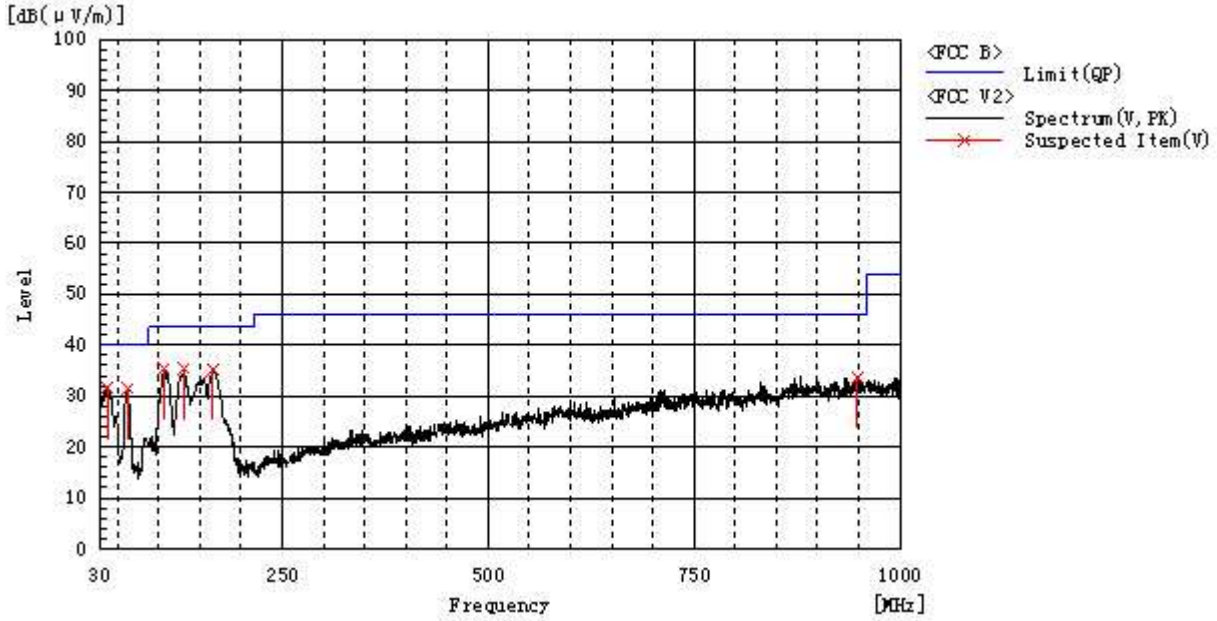
| EUT | Equal Lite | Model Name | W700 |
|---|---|---|---|
| Temperature | 25°C | Relative Humidity | 55.4% |
| Pressure | 960hPa | Test Voltage | Normal Voltage |
| Test Mode | 802.11b with date rate 1 2437MHZ | Antenna | Horizontal |




| Frequency MHz | Polarization | Reading dB(uV) | Factor dB (1/m) | Level dB(uV/m) PK | Limit dB(uV/m) QP | Margin dB | Pass/Fail | Height cm | Angle deg |
|---|---|---|---|---|---|---|---|---|---|
| 36.790 | H | 5.4 | 20.1 | 25.5 | 40.0 | 14.5 | Pass | 150.0 | 38.1 |
| 65.405 | H | 13.6 | 11.0 | 24.6 | 40.0 | 15.4 | Pass | 100.0 | 71.0 |
| 110.995 | H | 19.9 | 11.3 | 31.2 | 43.5 | 12.3 | Pass | 100.0 | 252.3 |
| 168.225 | H | 24.9 | 14.9 | 39.8 | 43.5 | 3.7 | Pass | 150.0 | 285.1 |
| 234.670 | H | 19.1 | 13.2 | 32.3 | 46.0 | 13.7 | Pass | 150.0 | 180.2 |
| 960.230 | H | 5.7 | 28.7 | 34.4 | 54.0 | 19.6 | Pass | 200.0 | 180.1 |

**RESULT: PASS**

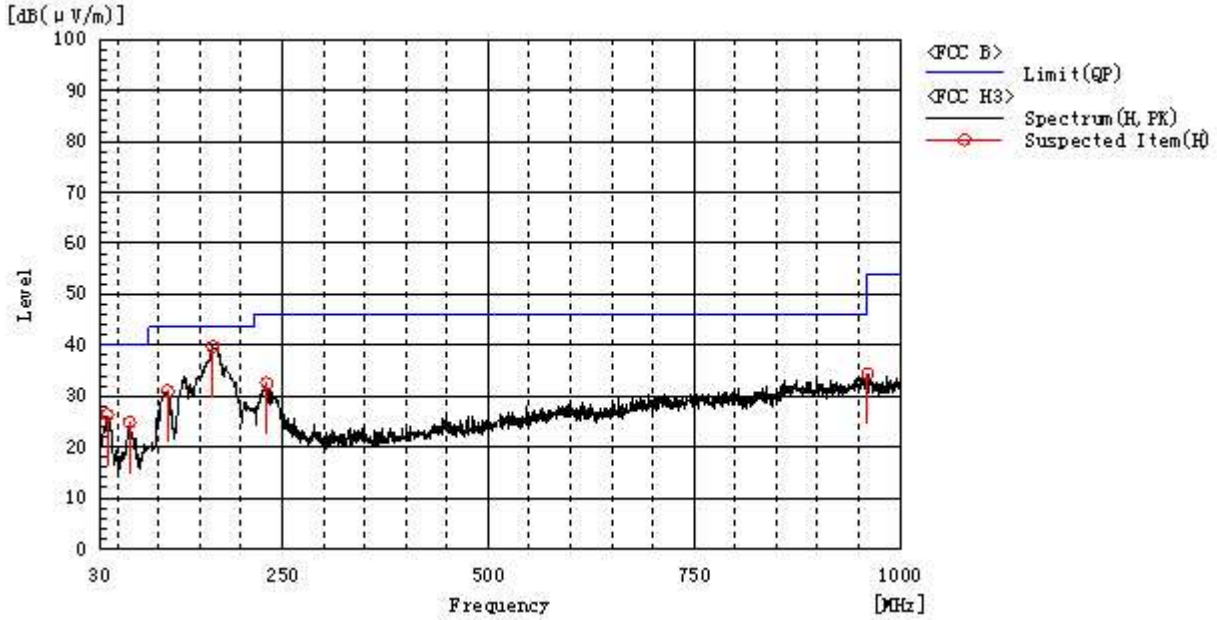
| EUT | Equal Lite | Model Name | W700 |
|---|---|---|---|
| Temperature | 25°C | Relative Humidity | 55.4% |
| Pressure | 960hPa | Test Voltage | Normal Voltage |
| Test Mode | 802.11b with date rate 1 2437MHZ | Antenna | Vertical |




| Frequency MHz | Polarization | Reading dB(uV) | Factor dB (1/m) | Level dB(uV/m) PK | Limit dB(uV/m) QP | Margin dB | Pass/Fail | Height cm | Angle deg |
|---|---|---|---|---|---|---|---|---|---|
| 37.760 | V | 10.4 | 21.2 | 31.6 | 40.0 | 8.4 | Pass | 150.0 | 143.6 |
| 62.495 | V | 19.7 | 11.7 | 31.4 | 40.0 | 8.6 | Pass | 100.0 | 140.8 |
| 106.630 | V | 24.0 | 11.4 | 35.4 | 43.5 | 8.1 | Pass | 200.0 | 65.3 |
| 130.395 | V | 21.1 | 14.2 | 35.3 | 43.5 | 8.2 | Pass | 100.0 | 103.6 |
| 165.800 | V | 20.1 | 15.0 | 35.1 | 43.5 | 8.4 | Pass | 150.0 | 143.6 |
| 948.105 | V | 5.0 | 28.7 | 33.7 | 46.0 | 12.3 | Pass | 200.0 | 110.1 |

**RESULT: PASS**

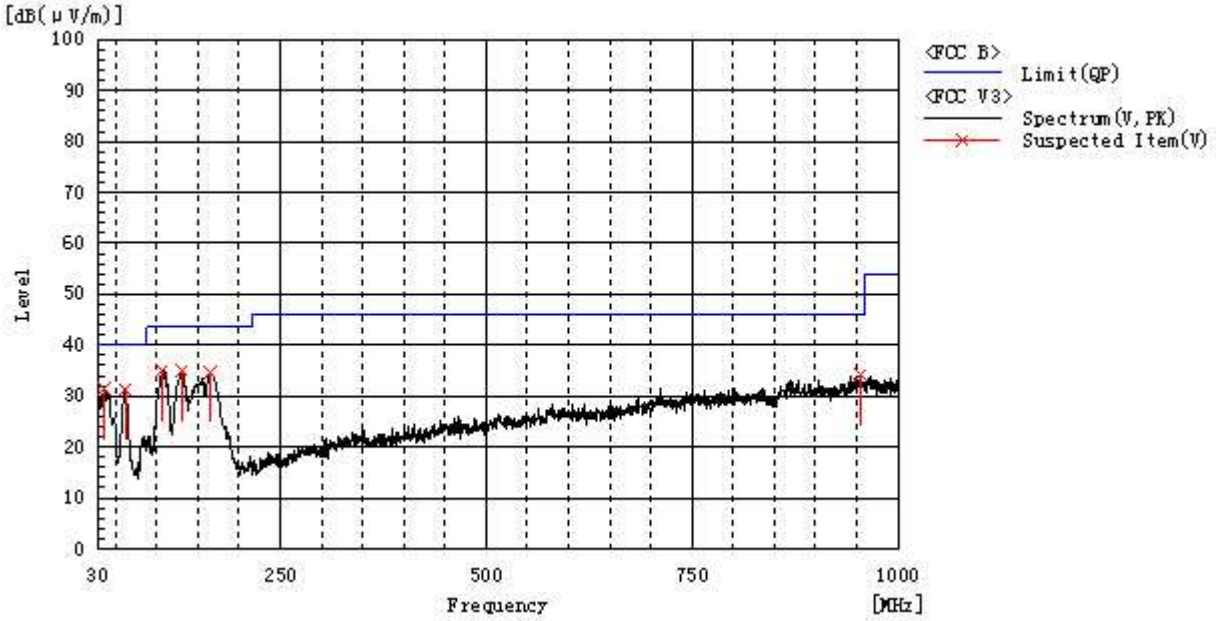
| EUT | Equal Lite | Model Name | W700 |
|---|---|---|---|
| Temperature | 25°C | Relative Humidity | 55.4% |
| Pressure | 960hPa | Test Voltage | Normal Voltage |
| Test Mode | 802.11b with date rate 1 2462MHZ | Antenna | Horizontal |




| Frequency MHz | Polarization | Reading dB(uV) | Factor dB (1/m) | Level dB(uV/m) PK | Limit dB(uV/m) QP | Margin dB | Pass/Fail | Height cm | Angle deg |
|---|---|---|---|---|---|---|---|---|---|
| 37.760 | H | 5.1 | 21.2 | 26.3 | 40.0 | 13.7 | Pass | 100.0 | 289.2 |
| 64.920 | H | 13.8 | 11.1 | 24.9 | 40.0 | 15.1 | Pass | 100.0 | 289.2 |
| 111.480 | H | 19.7 | 11.3 | 31.0 | 43.5 | 12.5 | Pass | 200.0 | 289.9 |
| 166.285 | H | 24.8 | 14.9 | 39.7 | 43.5 | 3.8 | Pass | 150.0 | 144.9 |
| 231.275 | H | 19.6 | 13.0 | 32.6 | 46.0 | 13.4 | Pass | 100.0 | 325.6 |
| 960.715 | H | 5.7 | 28.7 | 34.4 | 54.0 | 19.6 | Pass | 150.0 | 72.7 |

**RESULT: PASS**

| EUT | Equal Lite | Model Name | W700 |
|---|---|---|---|
| Temperature | 25°C | Relative Humidity | 55.4% |
| Pressure | 960hPa | Test Voltage | Normal Voltage |
| Test Mode | 802.11b with date rate 1 2462MHZ | Antenna | Vertical |




| Frequency MHz | Polarization | Reading dB(uV) | Factor dB (1/m) | Level dB(uV/m) PK | Limit dB(uV/m) QP | Margin dB | Pass/Fail | Height cm | Angle deg |
|---|---|---|---|---|---|---|---|---|---|
| 37.275 | V | 10.7 | 20.8 | 31.5 | 40.0 | 8.5 | Pass | 200.0 | 142.6 |
| 62.495 | V | 19.6 | 11.7 | 31.3 | 40.0 | 8.7 | Pass | 100.0 | 288.6 |
| 107.115 | V | 23.7 | 11.3 | 35.0 | 43.5 | 8.5 | Pass | 200.0 | 178.4 |
| 130.395 | V | 20.8 | 14.2 | 35.0 | 43.5 | 8.5 | Pass | 150.0 | 39.2 |
| 165.315 | V | 19.7 | 15.0 | 34.7 | 43.5 | 8.8 | Pass | 150.0 | 39.2 |
| 954.895 | V | 5.4 | 28.7 | 34.1 | 46.0 | 11.9 | Pass | 100.0 | 288.6 |

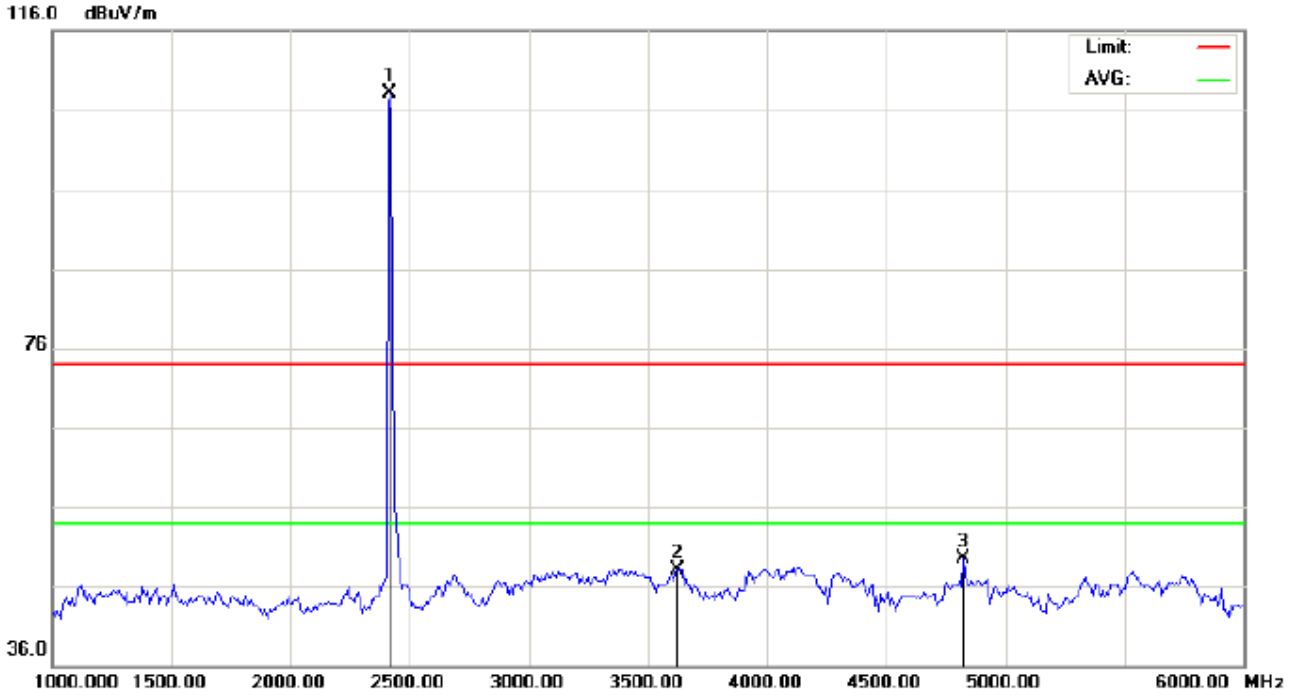
**RESULT: PASS**

**Note:** 1. Factor=Antenna Factor + Cable loss, Margin=Measurement-Limit.

2. The “Factor” value can be calculated automatically by software of measurement system.

## RADIATED EMISSION ABOVE 1GHZ

| | | | |
|---|---|---|---|
| **EUT** | Equal Lite | **Model Name** | W700 |
| **Temperature** | 25℃ | **Relative Humidity** | 55.4% |
| **Pressure** | 960hPa | **Test Voltage** | Normal Voltage |
| **Test Mode** | 802.11b with date rate 1 2412MHZ | **Antenna** | Horizontal |




Site: site #1
Limit: FCC Class B 3M Radiation above 1GHZ(PK)
EUT: Equal Lite
M/N: W700
Mode: 802.11g Low Channel TX
Note:

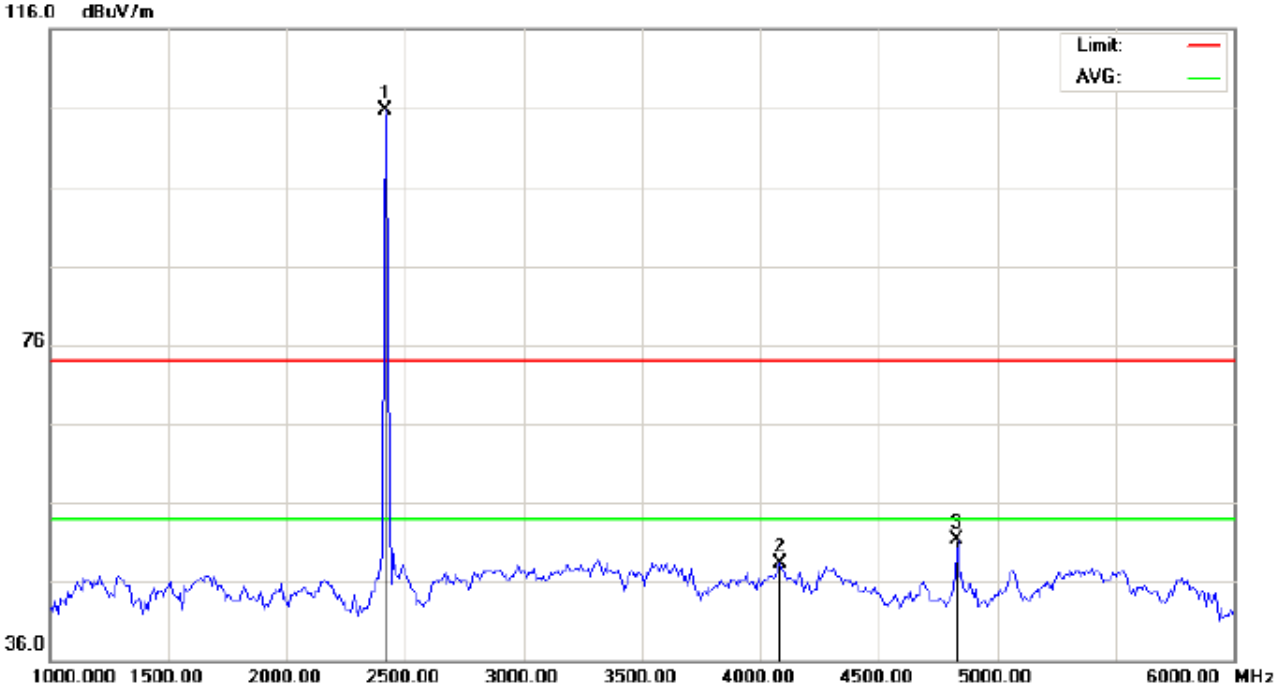
Polarization: *Horizontal*
Power:
Distance: 3m

Temperature: 26
Humidity: 60 %

| No. | Mk | Freq. | Reading | Factor | Measurement | Limit | Over | Detector | Antenna Height | Table Degree | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | - | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | degree | |
| 1 | * | 2416.667 | 117.77 | -9.66 | 108.11 | 74.00 | 34.11 | peak | | | |
| 2 | | 3625.000 | 55.30 | -7.12 | 48.18 | 74.00 | -25.82 | peak | | | |
| 3 | | 4825.000 | 51.74 | -2.26 | 49.48 | 74.00 | -24.52 | peak | | | |

**RESULT: PASS**

| EUT | Equal Lite | Model Name | W700 |
|---|---|---|---|
| Temperature | 25℃ | Relative Humidity | 55.4% |
| Pressure | 960hPa | Test Voltage | Normal Voltage |
| Test Mode | 802.11b with date rate 1 2412MHZ | Antenna | Vertical |




Site: site #1
Limit: FCC Class B 3M Radiation above 1GHZ(PK)
EUT: Equal Lite
M/N: W700
Mode: 802.11g Low Channel TX
Note:

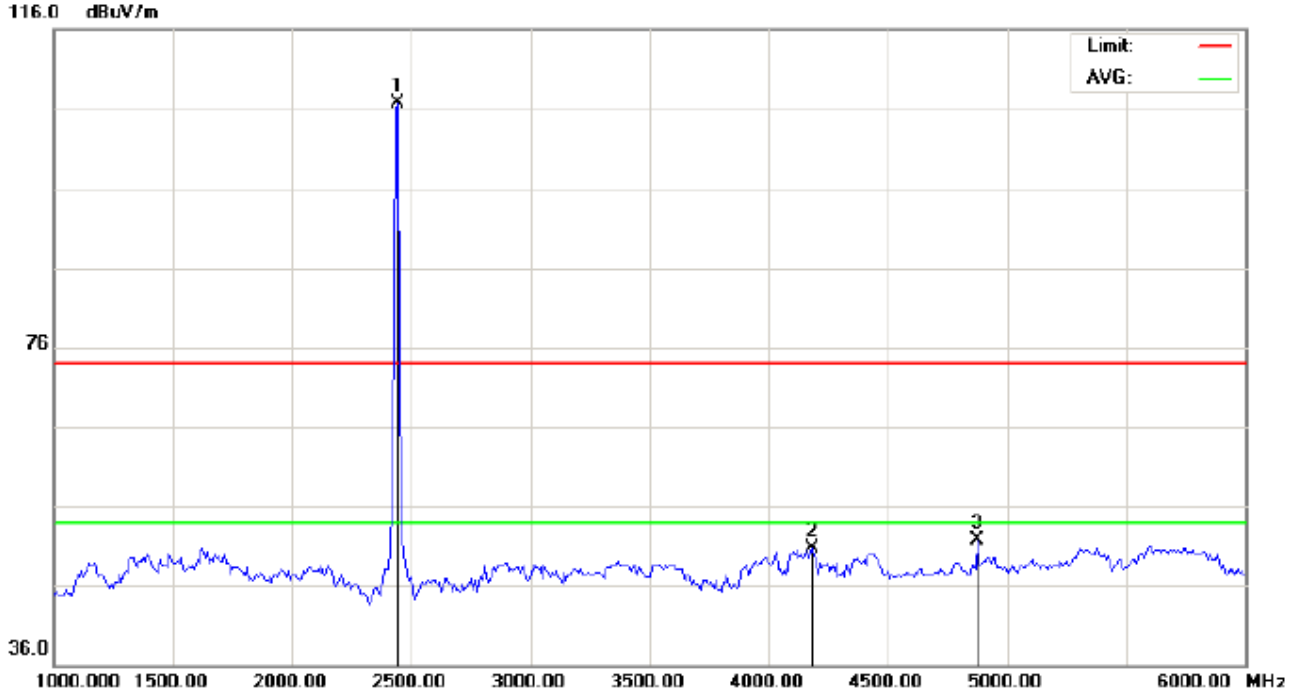
Polarization: *Vertical*
Power:
Distance: 3m

Temperature: 26
Humidity: 60 %

| No. | Mk | Freq. | Reading | Factor | Measurement | Limit | Over | Detector | Antenna Height | Table Degree | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | - | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | degree | |
| 1 | * | 2416.667 | 115.27 | -9.66 | 105.61 | 74.00 | 31.61 | peak | | | |
| 2 | | 4083.333 | 52.90 | -4.53 | 48.37 | 74.00 | -25.63 | peak | | | |
| 3 | | 4833.333 | 53.45 | -2.24 | 51.21 | 74.00 | -22.79 | peak | | | |

**RESULT: PASS**

| EUT | Equal Lite | Model Name | W700 |
|---|---|---|---|
| Temperature | 25℃ | Relative Humidity | 55.4% |
| Pressure | 960hPa | Test Voltage | Normal Voltage |
| Test Mode | 802.11b with date rate 1 2437MHZ | Antenna | Horizontal |




Site: site #1
Limit: FCC Class B 3M Radiation above 1GHZ(PK)
EUT: Equal Lite
M/N: W700
Mode: 802.11g Middle Channel TX
Note:

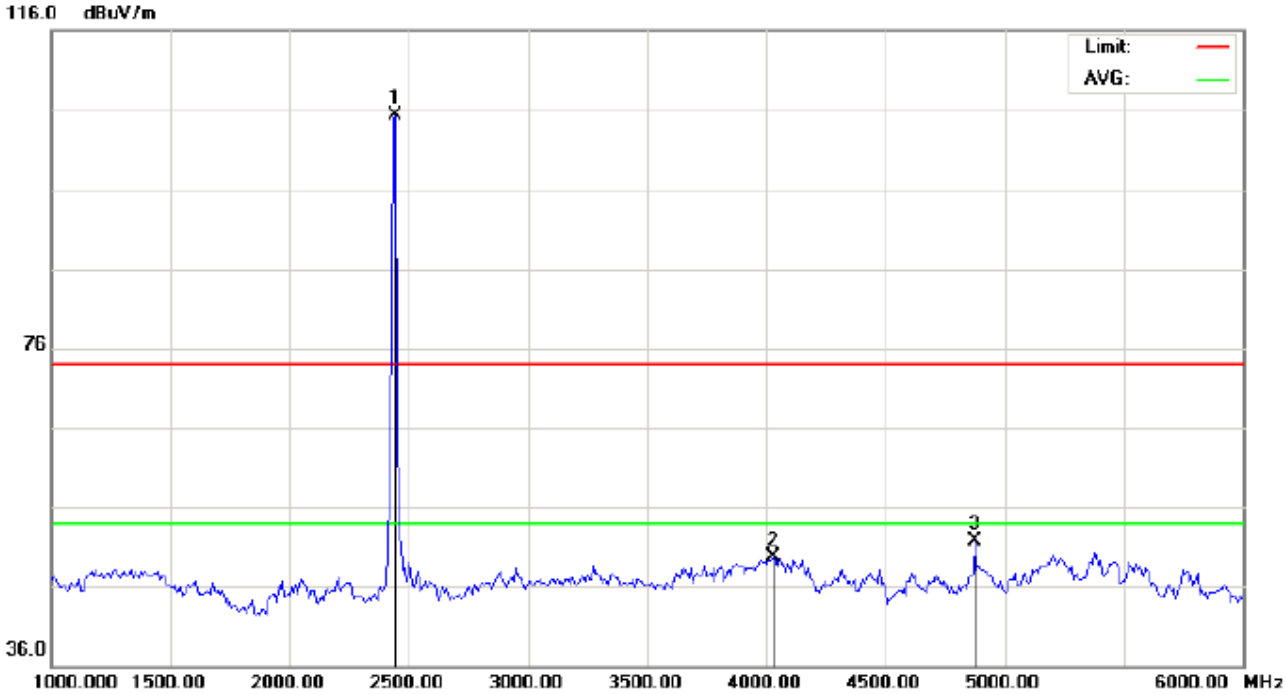
Polarization: *Horizontal*
Power:
Distance: 3m

Temperature: 26
Humidity: 60 %

| No. | Mk. | Freq. | Reading | Factor | Measurement | Limit | Over | Detector | Antenna Height | Table Degree | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | degree | |
| 1 | * | 2441.667 | 116.34 | -9.63 | 106.71 | 74.00 | 32.71 | peak | | | |
| 2 | | 4183.333 | 54.91 | -4.19 | 50.72 | 74.00 | -23.28 | peak | | | |
| 3 | | 4875.000 | 53.83 | -2.13 | 51.70 | 74.00 | -22.30 | peak | | | |

**RESULT: PASS**

| EUT | Equal Lite | Model Name | W700 |
|---|---|---|---|
| Temperature | 25°C | Relative Humidity | 55.4% |
| Pressure | 960hPa | Test Voltage | Normal Voltage |
| Test Mode | 802.11b with date rate 1 2437MHZ | Antenna | Vertical |




Site: site #1
Limit: FCC Class B 3M Radiation above 1GHZ(PK)
EUT: Equal Lite
M/N: W700
Mode: 802.11g Middle Channel TX
Note:

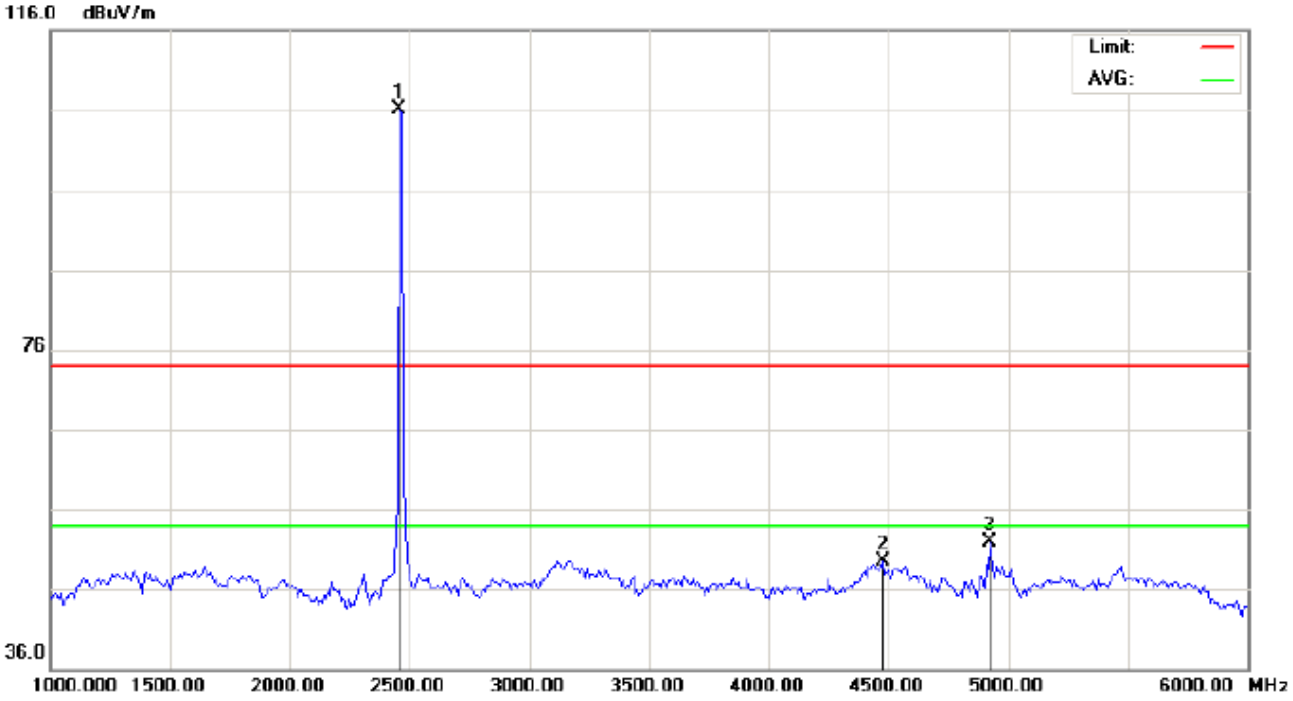
Polarization: *Vertical*
Power:
Distance: 3m

Temperature: 26
Humidity: 60 %

| No. | Mk. | Freq. | Reading | Factor | Measurement | Limit | Over | Detector | Antenna Height | Table Degree | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | degree | |
| 1 | * | 2441.667 | 114.84 | -9.63 | 105.21 | 74.00 | 31.21 | peak | | | |
| 2 | | 4033.333 | 54.44 | -4.70 | 49.74 | 74.00 | -24.26 | peak | | | |
| 3 | | 4875.000 | 53.83 | -2.13 | 51.70 | 74.00 | -22.30 | peak | | | |

**RESULT: PASS**

| EUT | Equal Lite | Model Name | W700 |
|---|---|---|---|
| Temperature | 25℃ | Relative Humidity | 55.4% |
| Pressure | 960hPa | Test Voltage | Normal Voltage |
| Test Mode | 802.11b with date rate 1 2462MHZ | Antenna | Horizontal |




Site: site #1
Limit: FCC Class B 3M Radiation above 1GHZ(PK)
EUT: Equal Lite
M/N: W700
Mode: 802.11b High Channel TX
Note:

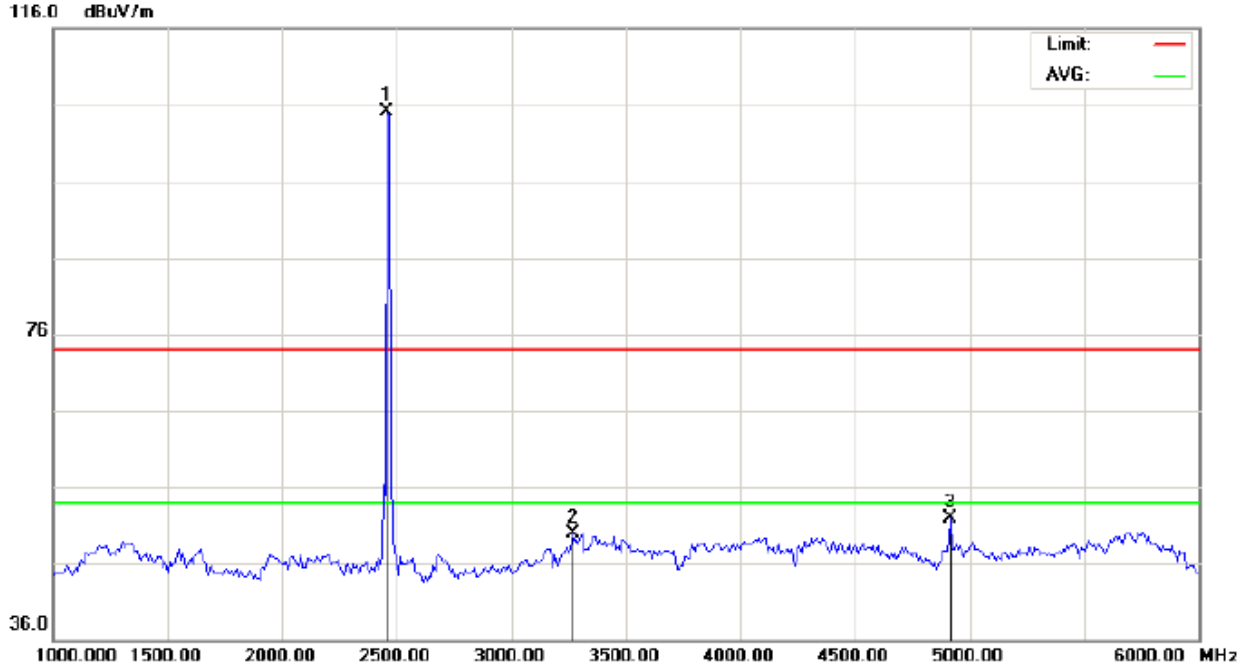
Polarization: *Horizontal*
Power:
Distance: 3m

Temperature: 26
Humidity: 60 %

| No. | Mk. | Freq. | Reading | Factor | Measurement | Limit | Over | Detector | Antenna Height | Table Degree | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | degree | |
| 1 | * | 2458.333 | 115.71 | -9.62 | 106.09 | 74.00 | 32.09 | peak | | | |
| 2 | | 4475.000 | 52.78 | -3.19 | 49.59 | 74.00 | -24.41 | peak | | | |
| 3 | | 4925.000 | 54.00 | -2.00 | 52.00 | 74.00 | -22.00 | peak | | | |

**RESULT: PASS**

| EUT | Equal Lite | Model Name | W700 |
|---|---|---|---|
| Temperature | 25°C | Relative Humidity | 55.4% |
| Pressure | 960hPa | Test Voltage | Normal Voltage |
| Test Mode | 802.11b with date rate 1 2462MHZ | Antenna | Vertical |




Site: site #1
Limit: FCC Class B 3M Radiation above 1GHZ(PK)
EUT: Equal Lite
M/N: W700
Mode: 802.11b High Channel TX
Note:

Polarization: *Vertical*
Power:
Distance: 3m

Temperature: 26
Humidity: 60 %

| No. | Mk | Freq. | Reading | Factor | Measurement | Limit | Over | Detector | Antenna Height | Table Degree | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | degree | |
| 1 | * | 2458.333 | 114.71 | -9.62 | 105.09 | 74.00 | 31.09 | peak | | | |
| 2 | | 3266.667 | 58.10 | -8.11 | 49.99 | 74.00 | -24.01 | peak | | | |
| 3 | | 4916.667 | 53.95 | -2.02 | 51.93 | 74.00 | -22.07 | peak | | | |

**RESULT: PASS**

**Note:** The other modes radiation emissions have more than 20dB margin.

All modes radiation emission from 6GHz to 25GHz at least have 20dB margin.

Factor = Antenna Factor + Cable loss - Amplifier gain, Over=Measure-Limit.

The “Factor” value can be calculated automatically by software of measurement system.

# 12. BAND EDGE EMISSION

## 12.1. MEASUREMENT PROCEDURE

1)Radiated restricted band edge measurements

The radiated restricted band edge measurements are measured with an EMI test receiver connected to the receive antenna while the EUT is transmitting

2)Conducted Emissions at the bang edge

a)The transmitter output was connected to the spectrum analyzer

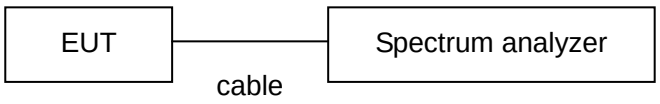
b)Set RBW=100kHz,VBW=300kHz

c)Suitable frequency span including 100kHz bandwidth from band edge

## 12.2. TEST SET-UP

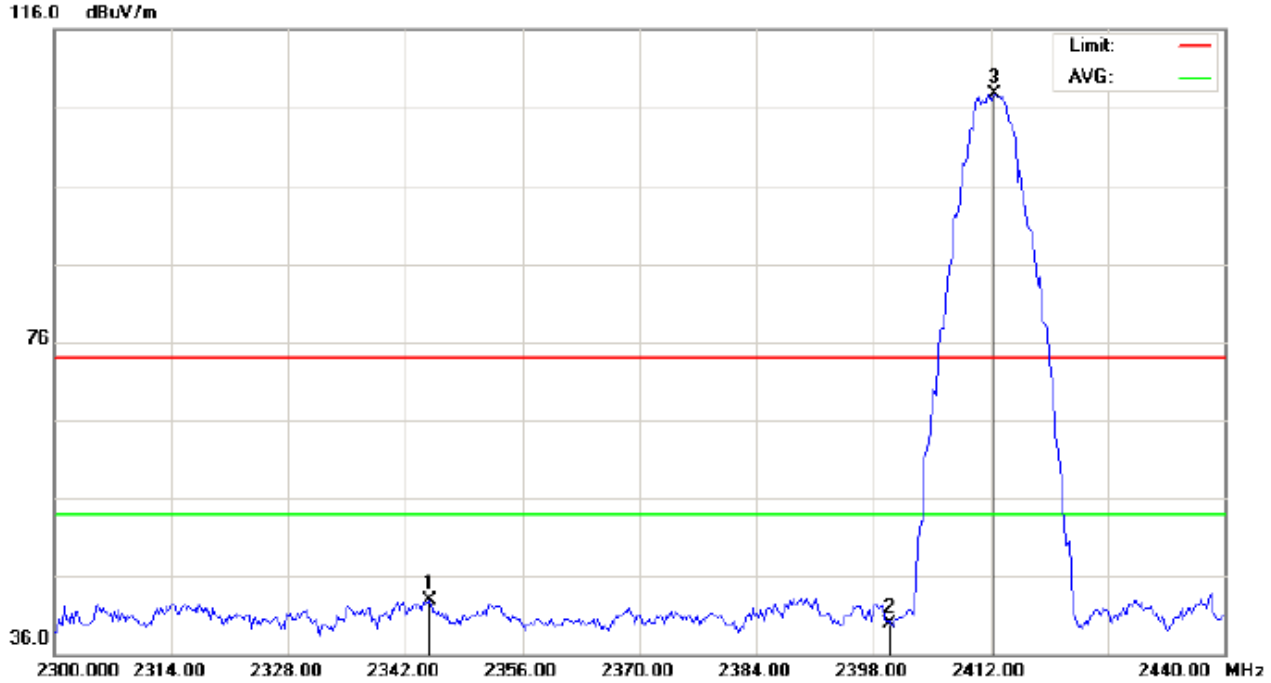
Radiated same as 11.2

Conducted set up



### 12.3. Radiated Test Result

| | | | |
|---|---|---|---|
| **EUT** | Equal Lite | **Model Name** | W700 |
| **Temperature** | 25°C | **Relative Humidity** | 55.4% |
| **Pressure** | 960hPa | **Test Voltage** | Normal Voltage |
| **Test Mode** | 802.11b with data rate 1 2412MHZ | **Antenna** | Horizontal |




Site: site #1
Limit: FCC Class B 3M Radiation above 1GHZ(PK)
EUT:Equal Lite
M/N:W700
Mode: 802.11b Low Channel TX
Note:

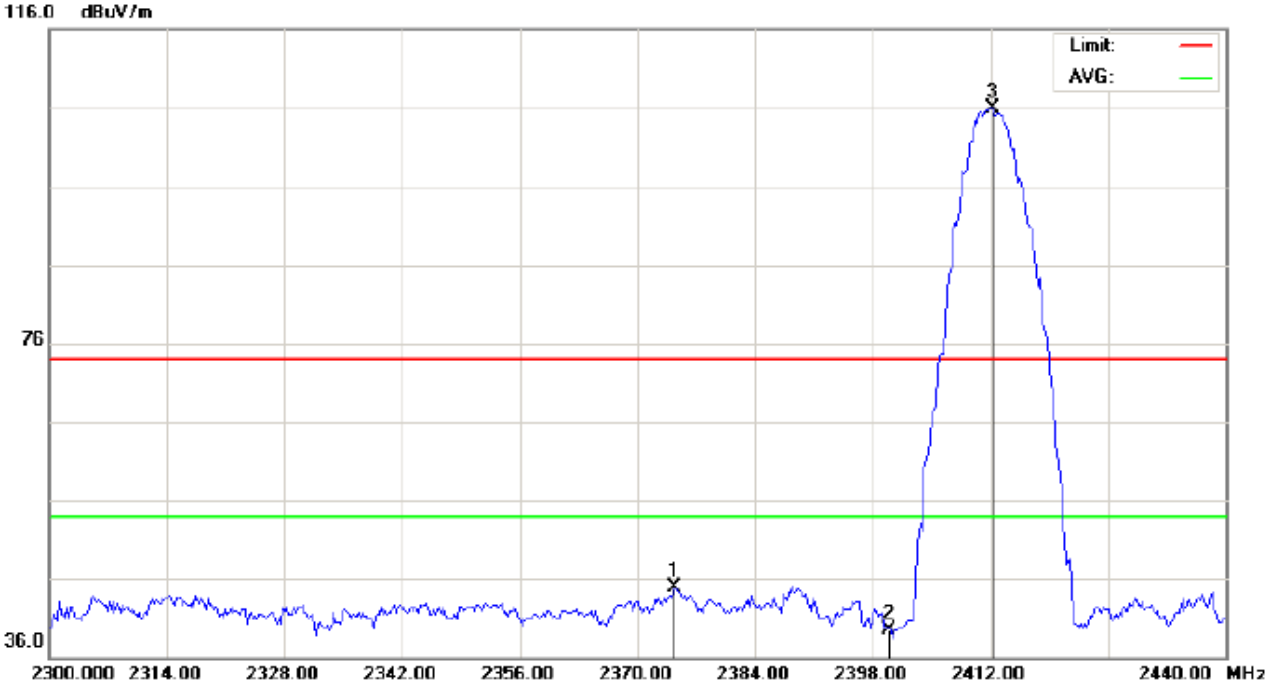
Polarization: *Horizontal*
Power:
Distance: 3m

Temperature: 26
Humidity: 60 %

| No. | Mk. | Freq. | Reading | Factor | Measurement | Limit | Over | Detector | Antenna Height | Table Degree | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | degree | |
| 1 | | 2344.800 | 52.70 | -9.74 | 42.96 | 74.00 | -31.04 | peak | | | |
| 2 | | 2400.000 | 49.61 | -9.68 | 39.93 | 74.00 | -34.07 | peak | | | |
| 3 | * | 2412.467 | 117.34 | -9.67 | 107.67 | 74.00 | 33.67 | peak | | | |

**RESULT: PASS**

| EUT | Equal Lite | Model Name | W700 |
|---|---|---|---|
| Temperature | 25℃ | Relative Humidity | 55.4% |
| Pressure | 960hPa | Test Voltage | Normal Voltage |
| Test Mode | 802.11b with data rate 1<br>2412MHZ | Antenna | Vertical |




Site: site #1
Limit: FCC Class B 3M Radiation above 1GHZ(PK)
EUT:Equal Lite
M/N:W700
Mode: 802.11b Low Channel TX
Note:

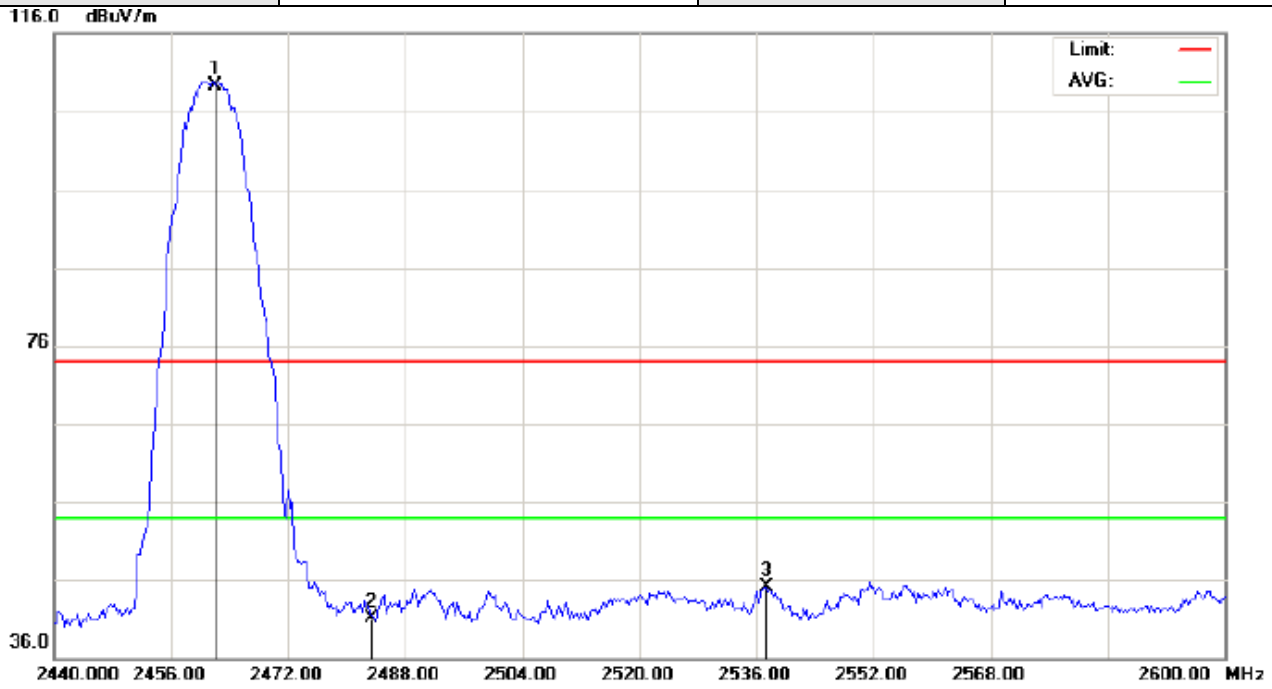
Polarization: *Vertical*
Power:
Distance: 3m

Temperature: 26
Humidity: 60 %

| No. | Mk | Freq. | Reading | Factor | Measurement | Limit | Over | Detector | Antenna Height | Table Degree | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | degree | |
| 1 | | 2374.433 | 54.61 | -9.71 | 44.90 | 74.00 | -29.10 | peak | | | |
| 2 | | 2400.000 | 49.11 | -9.68 | 39.43 | 74.00 | -34.57 | peak | | | |
| 3 | * | 2412.233 | 115.64 | -9.67 | 105.97 | 74.00 | 31.97 | peak | | | |

**RESULT: PASS**

| EUT | Equal Lite | Model Name | W700 |
|---|---|---|---|
| Temperature | 25°C | Relative Humidity | 55.4% |
| Pressure | 960hPa | Test Voltage | Normal Voltage |
| Test Mode | 802.11b with data rate 1 2462MHZ | Antenna | Horizontal |




Site: site #1
Limit: FCC Class B 3M Radiation above 1GHZ(PK)
EUT:Equal Lite
M/N:W700
Mode: 802.11b High Channel TX
Note:

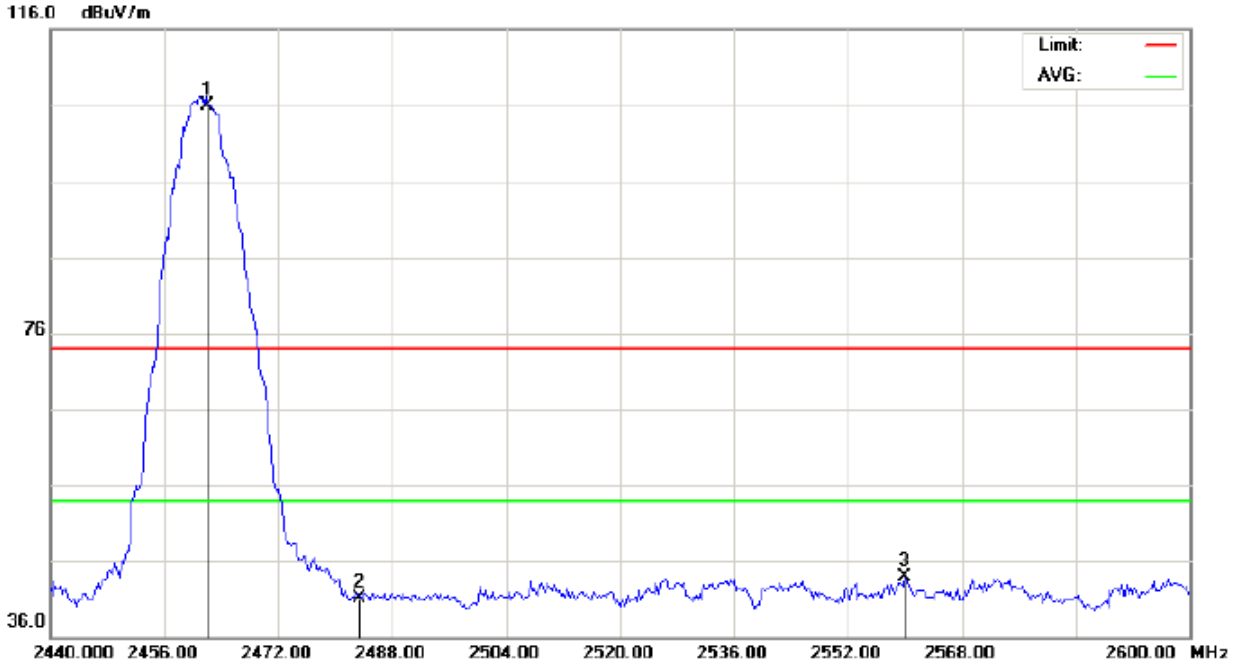
Polarization: *Horizontal*
Power:
Distance: 3m

Temperature: 26
Humidity: 60 %

| No. | Mk | Freq. | Reading | Factor | Measurement | Limit | Over | Detector | Antenna Height | Table Degree | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | degree | |
| 1 | * | 2462.000 | 118.92 | -9.61 | 109.31 | 74.00 | 35.31 | peak | | | |
| 2 | | 2483.500 | 50.72 | -9.59 | 41.13 | 74.00 | -32.87 | peak | | | |
| 3 | | 2537.333 | 54.57 | -9.48 | 45.09 | 74.00 | -28.91 | peak | | | |

**RESULT: PASS**

| EUT | Equal Lite | Model Name | W700 |
|---|---|---|---|
| Temperature | 25°C | Relative Humidity | 55.4% |
| Pressure | 960hPa | Test Voltage | Normal Voltage |
| Test Mode | 802.11b with data rate 1<br>2462MHZ | Antenna | Vertical |




Site: site #1
Limit: FCC Class B 3M Radiation above 1GHZ(PK)
EUT:Equal Lite
M/N:W700
Mode: 802.11b High Channel TX
Note:

Polarization: *Vertical*
Power:
Distance: 3m

Temperature: 26
Humidity: 60 %

| No. | Mk. | Freq. | Reading | Factor | Measurement | Limit | Over | Detector | Antenna Height | Table Degree | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | degree | |
| 1 | * | 2462.000 | 115.42 | -9.61 | 105.81 | 74.00 | 31.81 | peak | | | |
| 2 | | 2483.500 | 50.72 | -9.59 | 41.13 | 74.00 | -32.87 | peak | | | |
| 3 | | 2560.000 | 53.28 | -9.42 | 43.86 | 74.00 | -30.14 | peak | | | |

**RESULT: PASS**

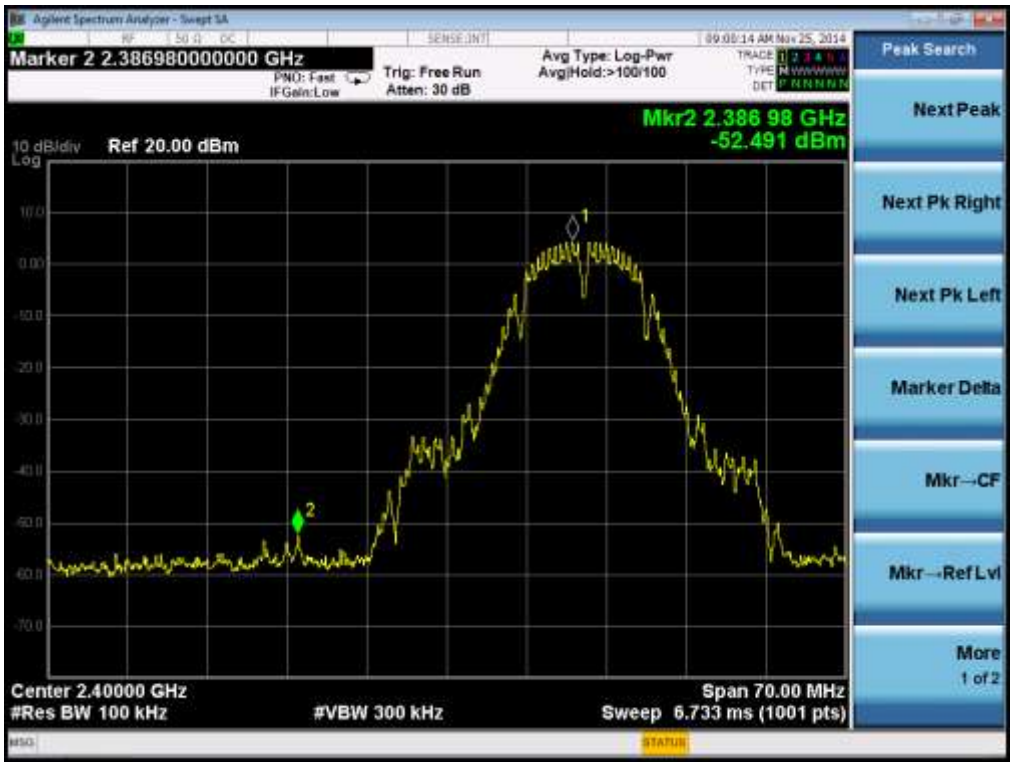
**Note**: The other modes radiation emission have enough 20dB margin.

Factor = Antenna Factor + Cable loss - Amplifier gain, Over=Measure-Limit.

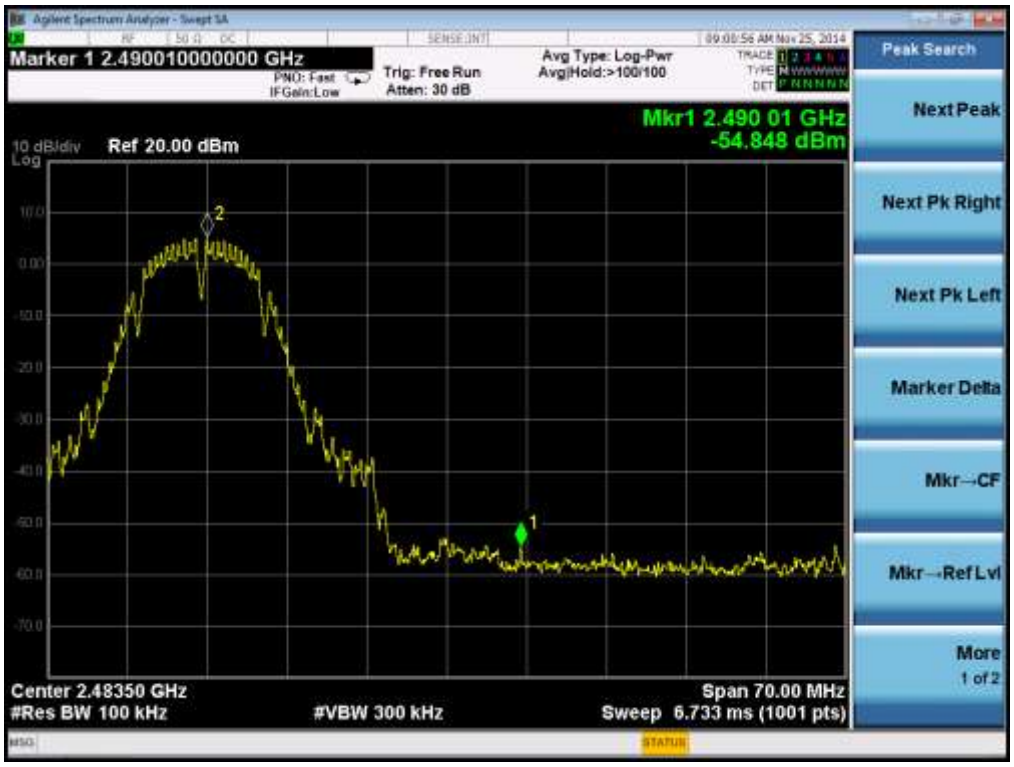
The “Factor” value can be calculated automatically by software of measurement system

## 12.4. Conducted Test Result

802.11b-CH1



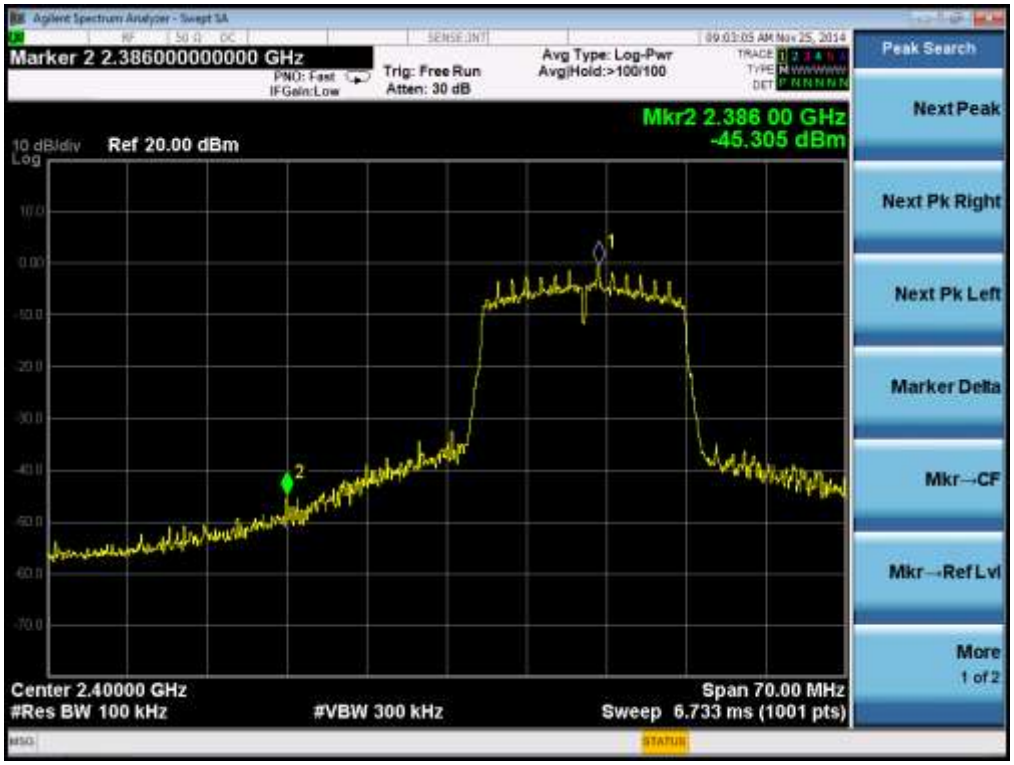

802.11b-CH11



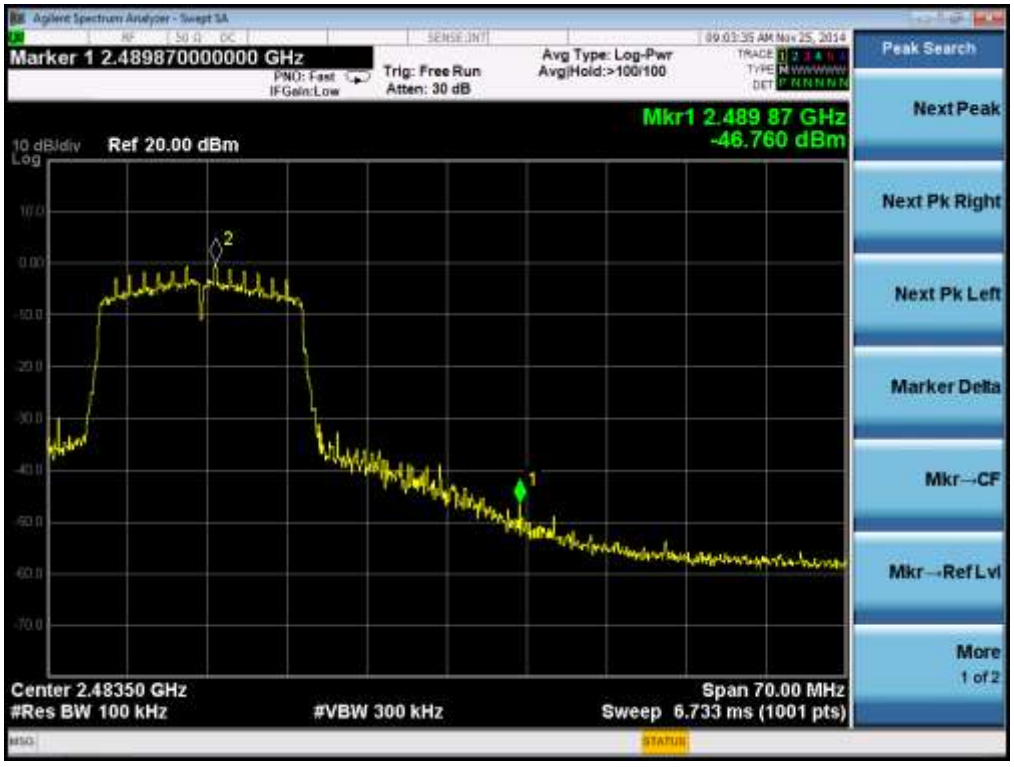
802.11g- CH1


802.11g- CH11

802.11n-CH1




802.11n-CH11



# 13. FCC LINE CONDUCTED EMISSION TEST

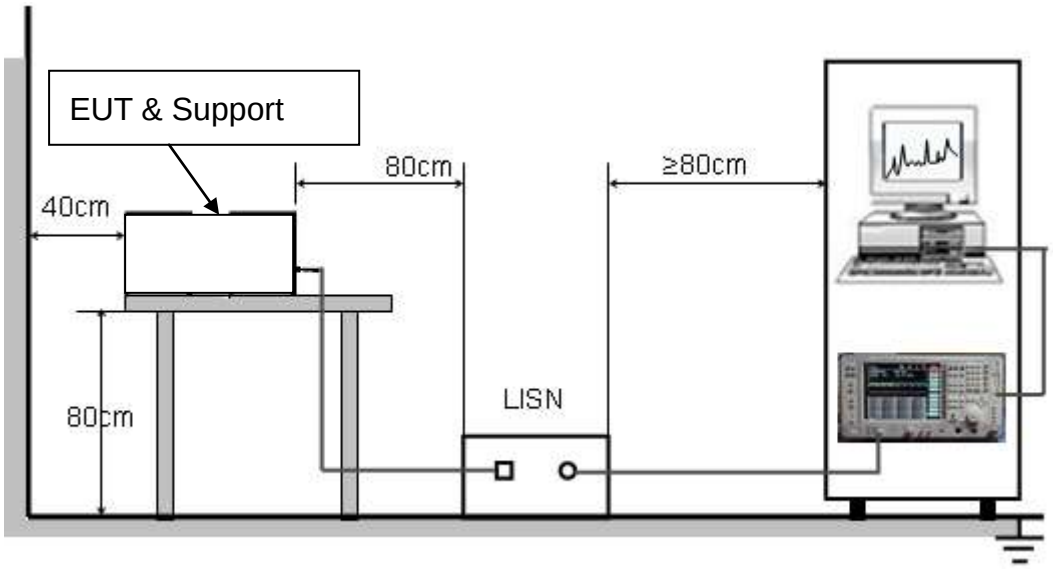
## 13.1. LIMITS OF LINE CONDUCTED EMISSION TEST

| Frequency | Maximum RF Line Voltage | |
|---|---|---|
| | Q.P.( dBuV) | Average( dBuV) |
| 150kHz~500kHz | 66-56 | 56-46 |
| 500kHz~5MHz | 56 | 46 |
| 5MHz~30MHz | 60 | 50 |

Note:

1. The lower limit shall apply at the transition frequency.
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

## 13.2. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST



### 13.3. PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST

1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
2. Support equipment, if needed, was placed as per ANSI C63.4.
3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
4. All support equipments received AC120V/60Hz power from a LISN, if any.
5. The EUT received charging voltage by adapter which received 120V/60Hzpower by a LISN..
6. The test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7. Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
8. During the above scans, the emissions were maximized by cable manipulation.
9. The test mode(s) were scanned during the preliminary test.

Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

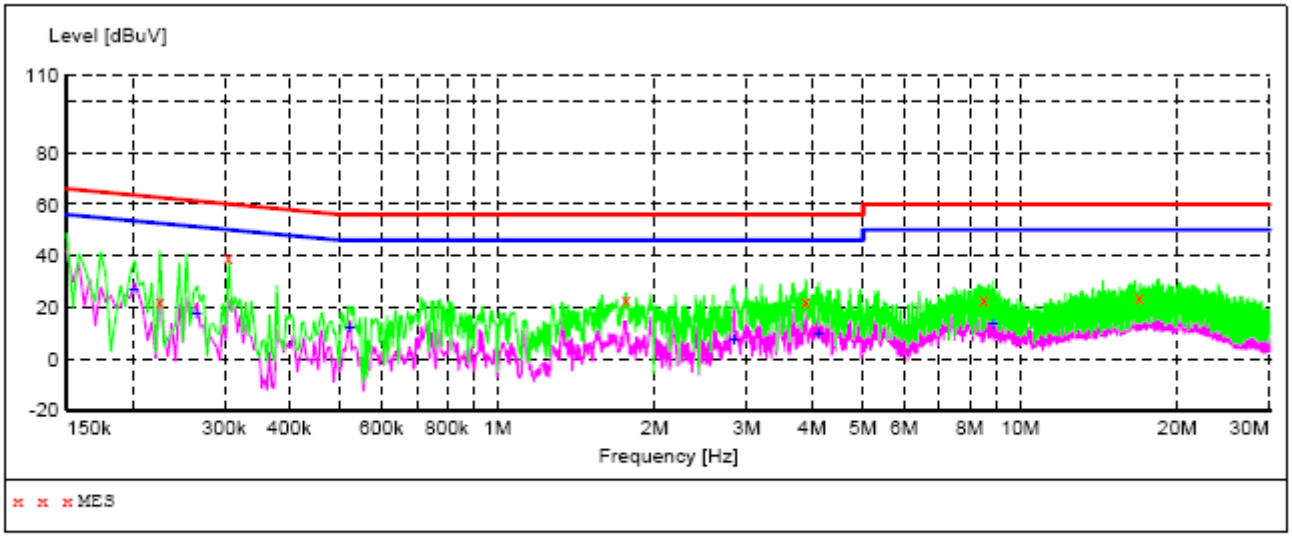
### 13.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

1. EUT and support equipment was set up on the test bench as per step 2 of the preliminary test.
2. A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less –2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.
3. The test data of the worst case condition(s) was reported on the Summary Data page.

## 13.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST

LINE CONDUCTED EMISSION TEST LINE 1-L

*SCAN TABLE: "Voltage(150K-30M)FIN"*
Short Description: 9k-30M Voltage




*MEASUREMENT RESULT:*

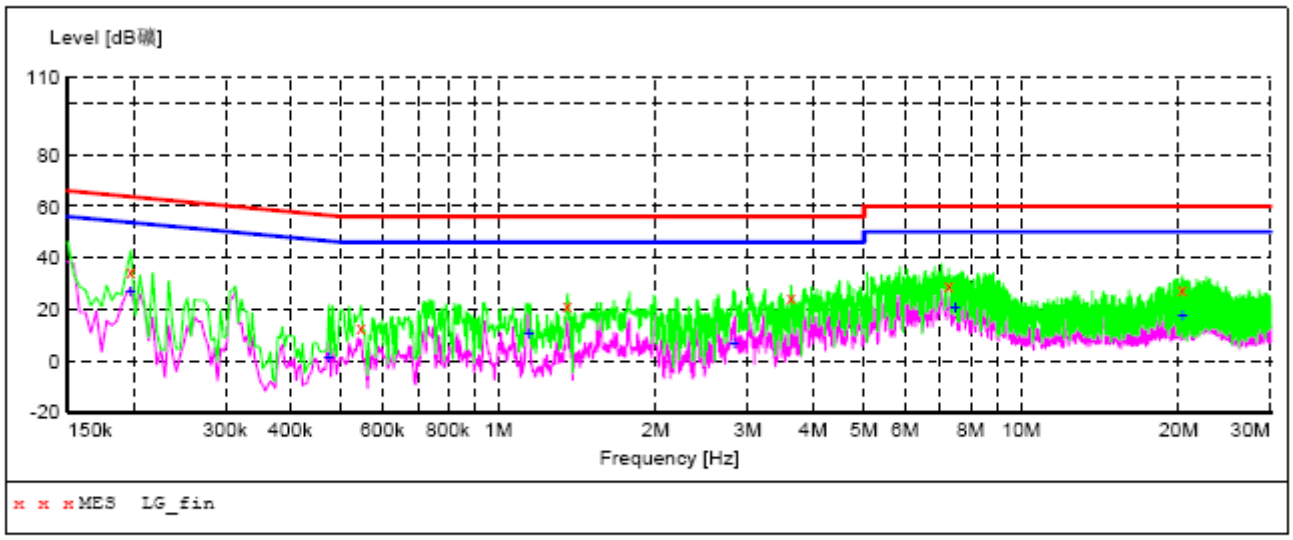
| Frequency | Level | Transd | Limit | Margin | Detector | Line | PE | AUX STATE |
|---|---|---|---|---|---|---|---|---|
| MHz | dBuV | dB | dBuV | dB | | | | |
| 0.226000 | 21.90 | 0.2 | 63 | 40.7 | QP | L1 | GND | ON |
| 0.306000 | 39.00 | 0.2 | 60 | 21.1 | QP | L1 | GND | ON |
| 1.762000 | 22.90 | 0.3 | 56 | 33.1 | QP | L1 | GND | ON |
| 3.886000 | 22.10 | 0.3 | 56 | 33.9 | QP | L1 | GND | ON |
| 8.526000 | 23.10 | 0.4 | 60 | 36.9 | QP | L1 | GND | ON |
| 16.898000 | 24.00 | 0.7 | 60 | 36.0 | QP | L1 | GND | ON |

*MEASUREMENT RESULT:*

| Frequency | Level | Transd | Limit | Margin | Detector | Line | PE | AUX STATE |
|---|---|---|---|---|---|---|---|---|
| MHz | dBuV | dB | dBuV | dB | | | | |
| 0.202000 | 27.30 | 0.2 | 54 | 26.2 | AV | L1 | GND | ON |
| 0.266000 | 17.20 | 0.2 | 51 | 34.0 | AV | L1 | GND | ON |
| 0.522000 | 12.40 | 0.2 | 46 | 33.6 | AV | L1 | GND | ON |
| 2.834000 | 7.40 | 0.3 | 46 | 38.6 | AV | L1 | GND | ON |
| 4.118000 | 9.80 | 0.3 | 46 | 36.2 | AV | L1 | GND | ON |
| 8.874000 | 13.30 | 0.4 | 50 | 36.7 | AV | L1 | GND | ON |

Line Conducted Emission Test Line 2-N

***SCAN TABLE: "Voltage(150K-30M)FIN"***
Short Description: 9k-30M Voltage




***MEASUREMENT RESULT: "LG_fin"***

2014-11-3 18:10

| Frequency MHz | Level dBµV | Transd dB | Limit dBµV | Margin dB | Detector | Line | PE | AUX STATE |
|---|---|---|---|---|---|---|---|---|
| 0.198000 | 34.30 | 0.2 | 64 | 29.4 | QP | N | GND | ON |
| 0.546000 | 13.20 | 0.2 | 56 | 42.8 | QP | N | GND | ON |
| 1.354000 | 21.80 | 0.2 | 56 | 34.2 | QP | N | GND | ON |
| 3.630000 | 24.70 | 0.3 | 56 | 31.3 | QP | N | GND | ON |
| 7.266000 | 29.30 | 0.4 | 60 | 30.7 | QP | N | GND | ON |
| 20.318000 | 27.90 | 0.8 | 60 | 32.1 | QP | N | GND | ON |

***MEASUREMENT RESULT: "LG_fin2"***

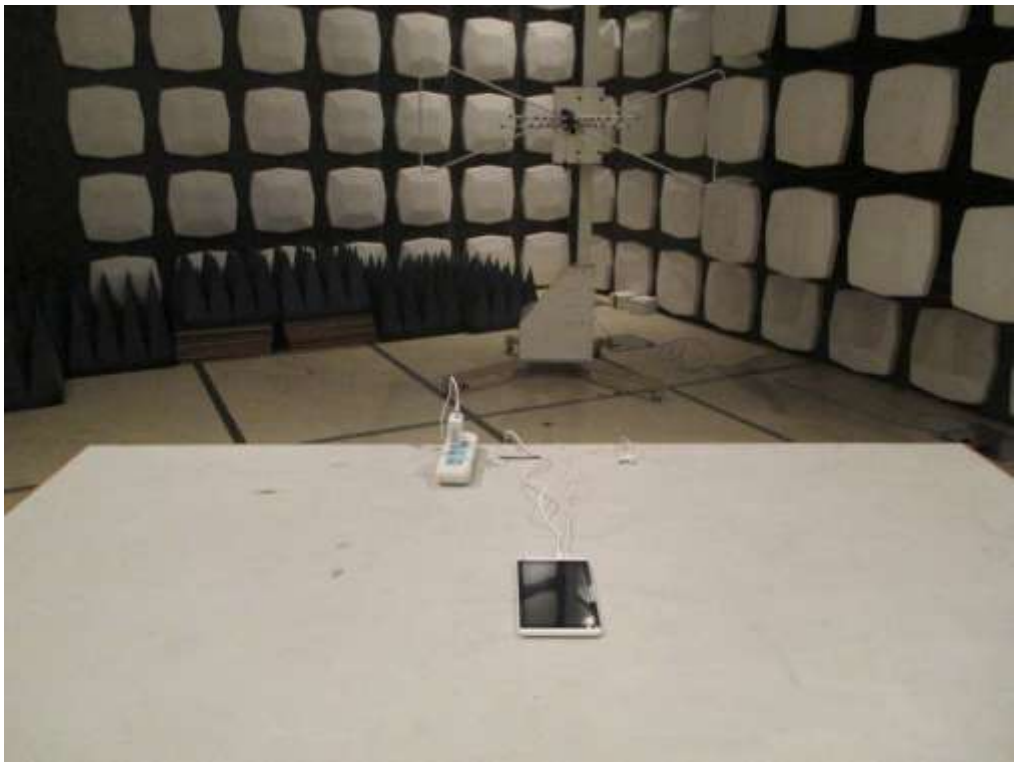
2014-11-3 18:10

| Frequency MHz | Level dBµV | Transd dB | Limit dBµV | Margin dB | Detector | Line | PE | AUX STATE |
|---|---|---|---|---|---|---|---|---|
| 0.198000 | 26.60 | 0.2 | 54 | 27.1 | AV | N | GND | ON |
| 0.474000 | 0.90 | 0.2 | 46 | 45.5 | AV | N | GND | ON |
| 1.146000 | 10.70 | 0.2 | 46 | 35.3 | AV | N | GND | ON |
| 2.830000 | 6.80 | 0.3 | 46 | 39.2 | AV | N | GND | ON |
| 7.486000 | 20.30 | 0.4 | 50 | 29.7 | AV | N | GND | ON |
| 20.378000 | 17.70 | 0.8 | 50 | 32.3 | AV | N | GND | ON |

# APPENDIX A: PHOTOGRAPHS OF TEST SETUP

FCC LINE CONDUCTED EMISSION TEST SETUP

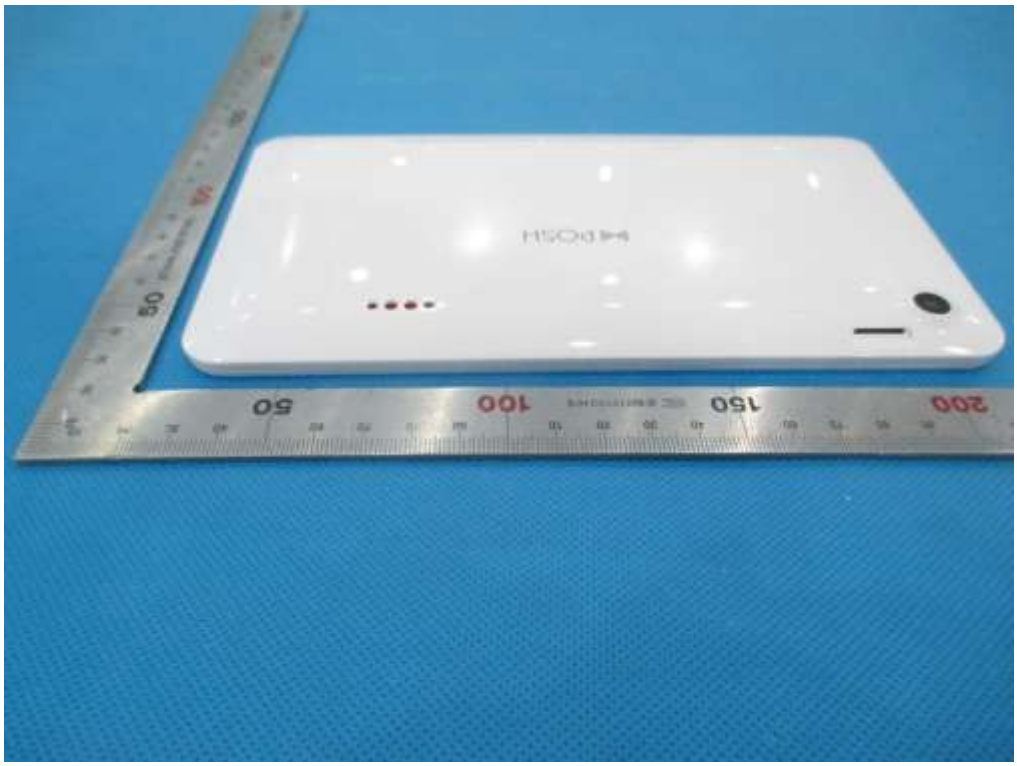
FCC RADIATED EMISSION TEST SETUP



# APPENDIX B: PHOTOGRAPHS OF EUT

ALL VIEW OF EUT


TOP VIEW OF EUT

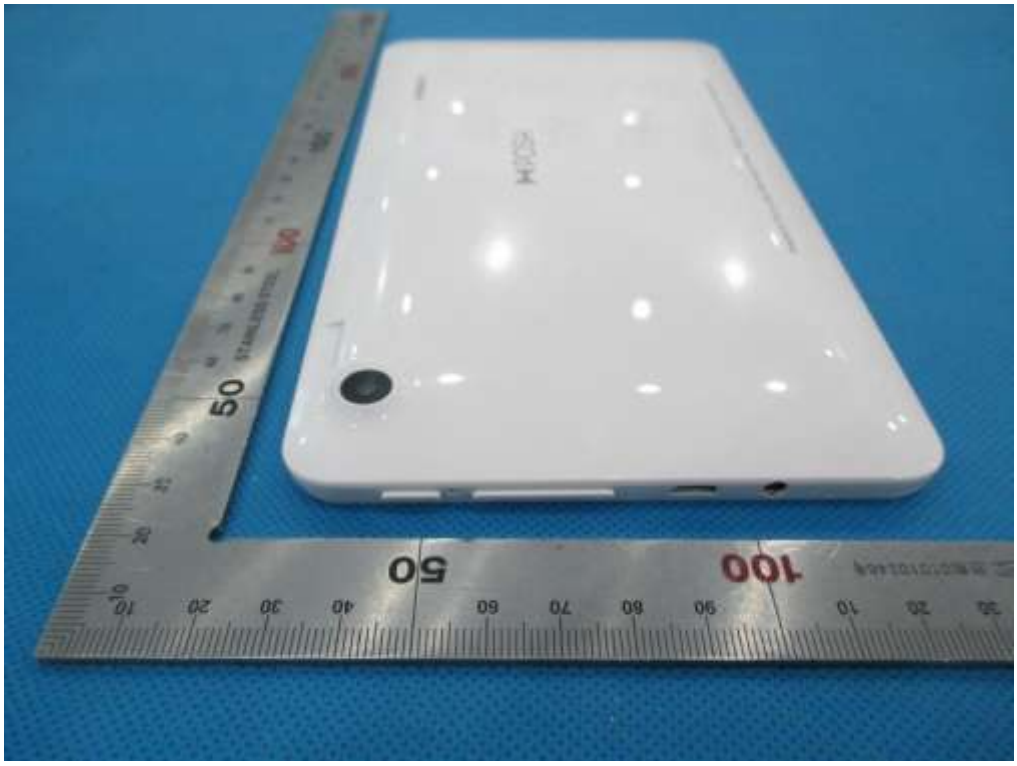


BOTTOM VIEW OF EUT

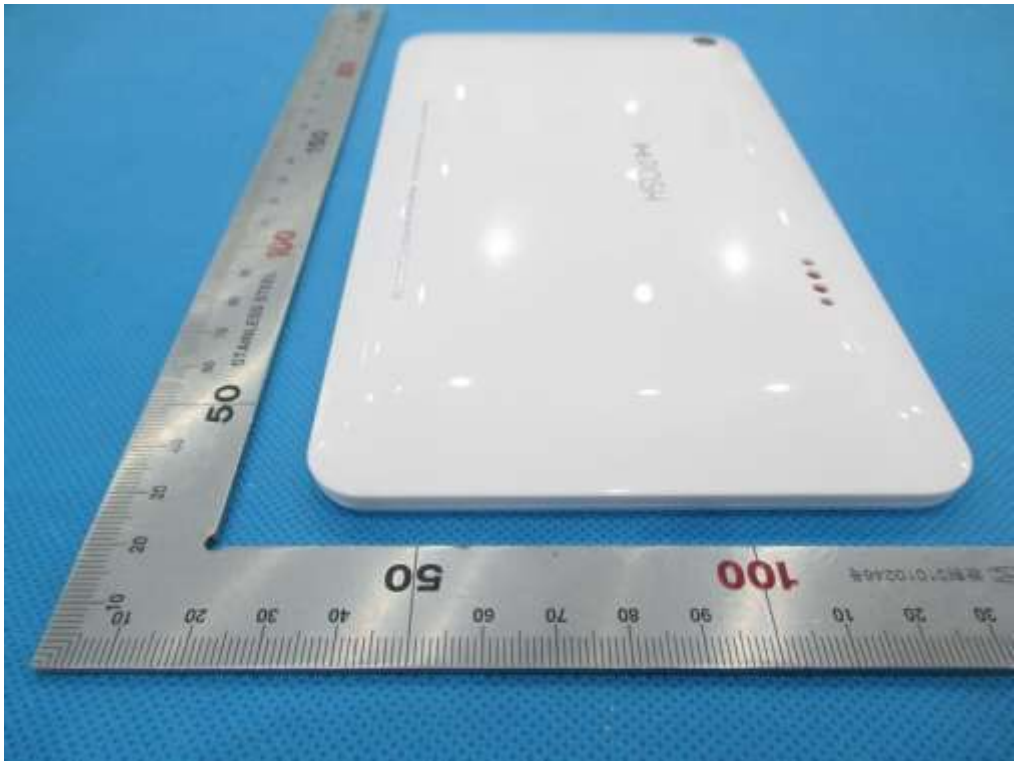
FRONT VIEW OF EUT

BACK VIEW OF EUT

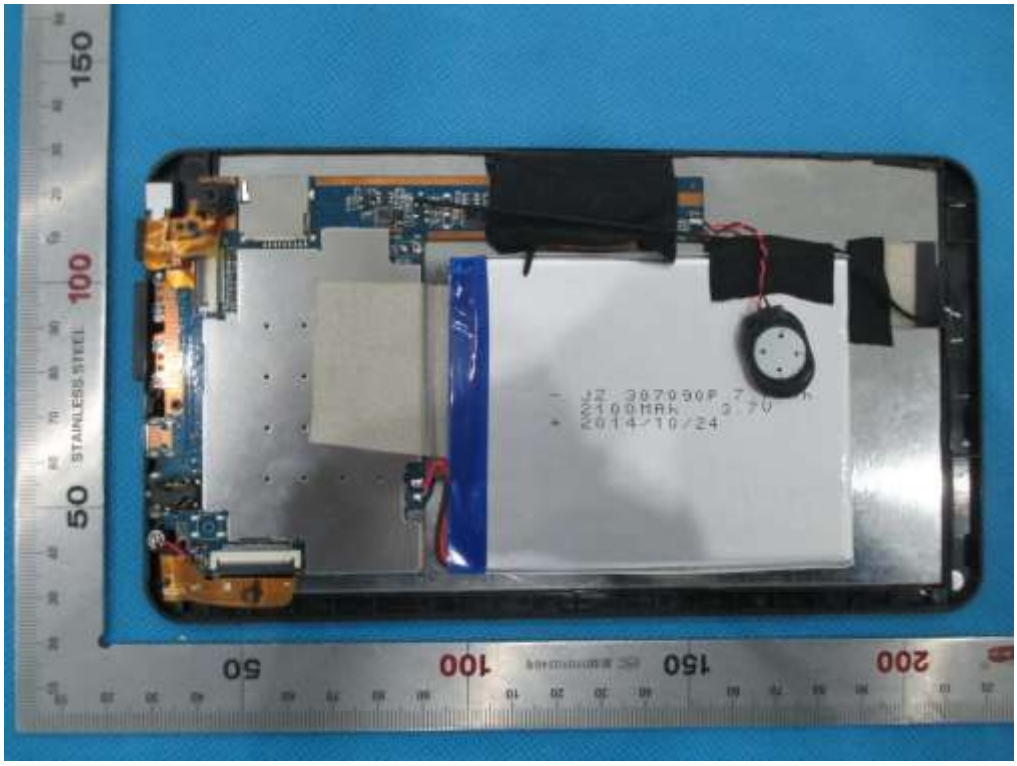

LEFT VIEW OF EUT



RIGHT VIEW OF EUT

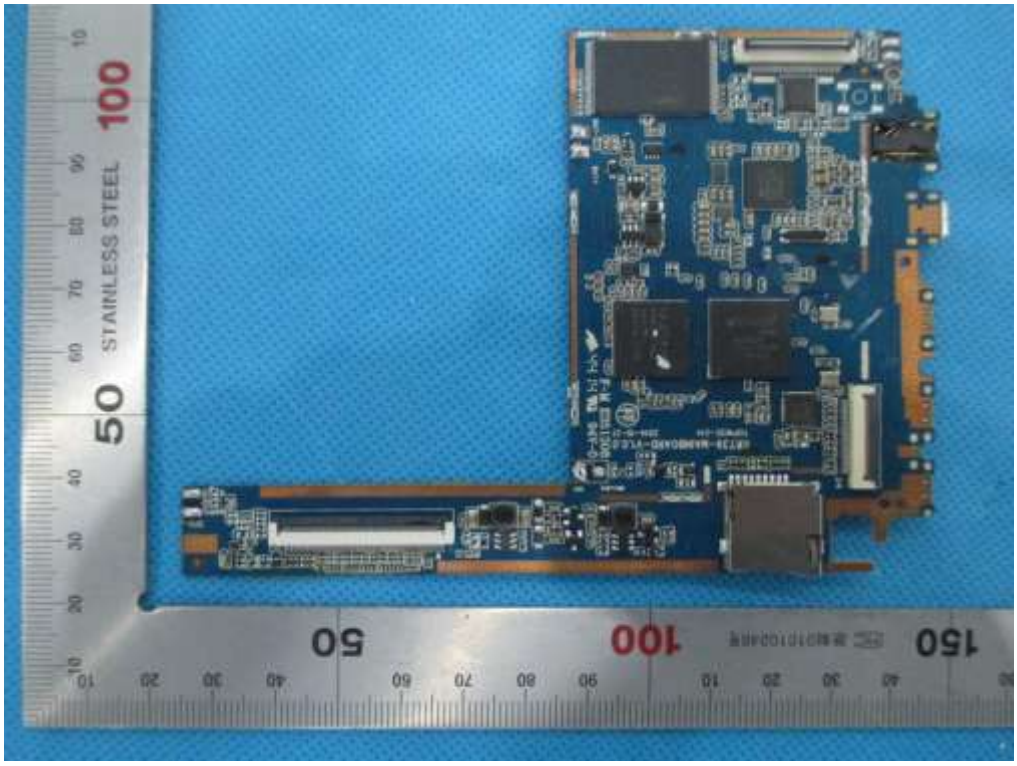


OPEN VIEW OF EUT-1

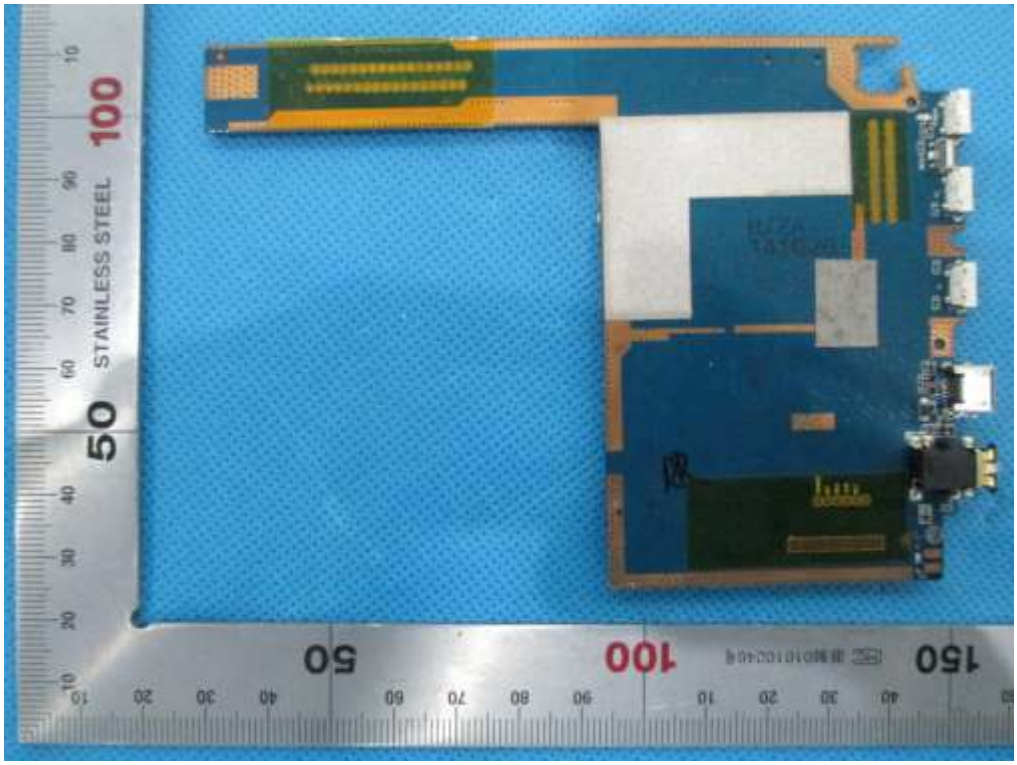


OPEN VIEW OF EUT-2

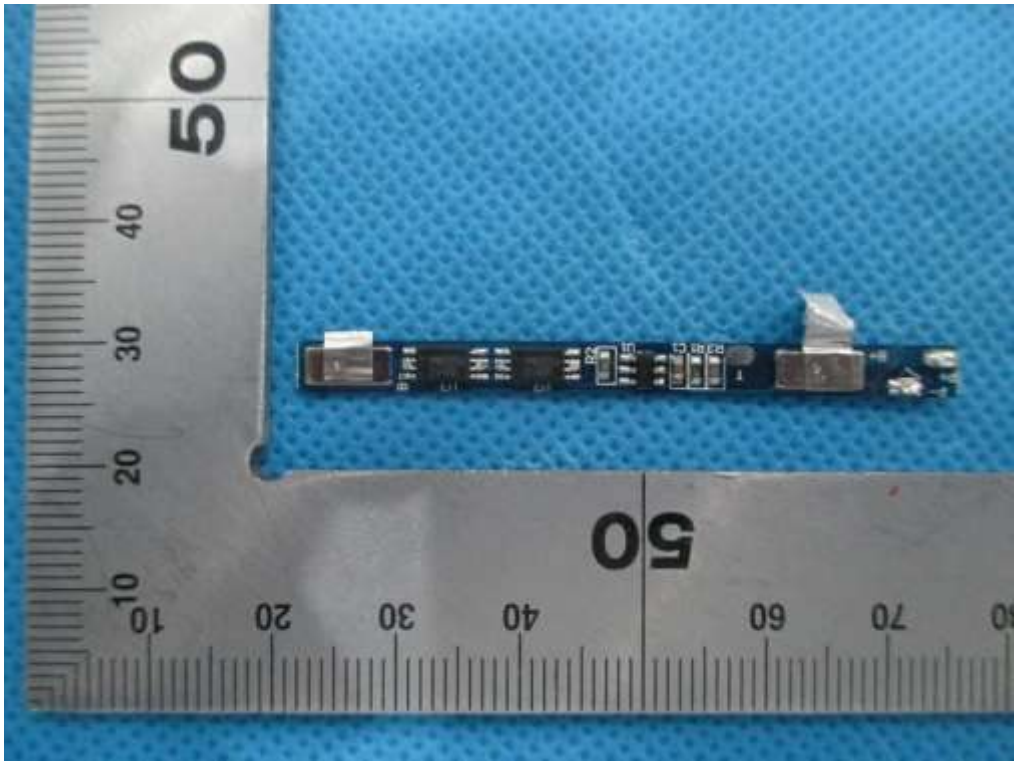

INTERNAL VIEW OF EUT-1



INTERNAL VIEW OF EUT-2




INTERNAL VIEW OF EUT-3



INTERNAL VIEW OF EUT-4


**----END OF REPORT----**