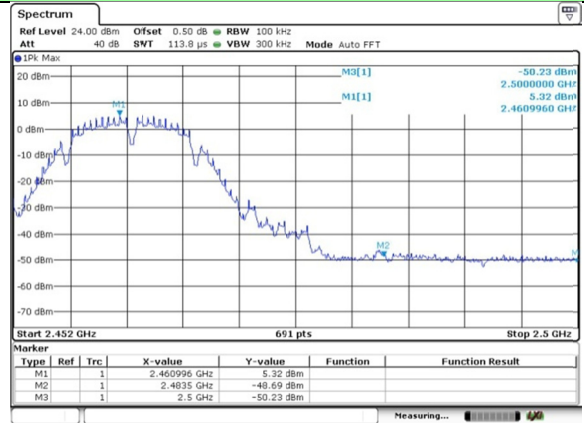
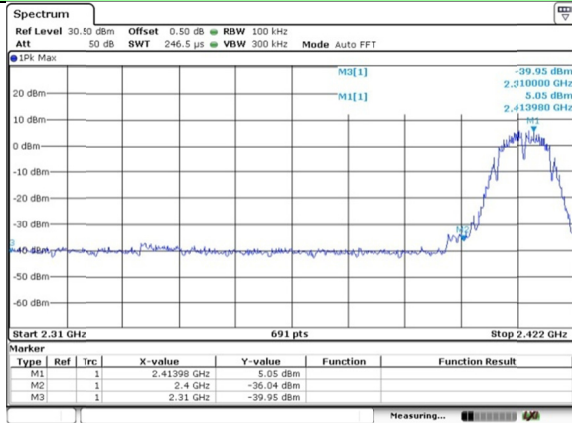
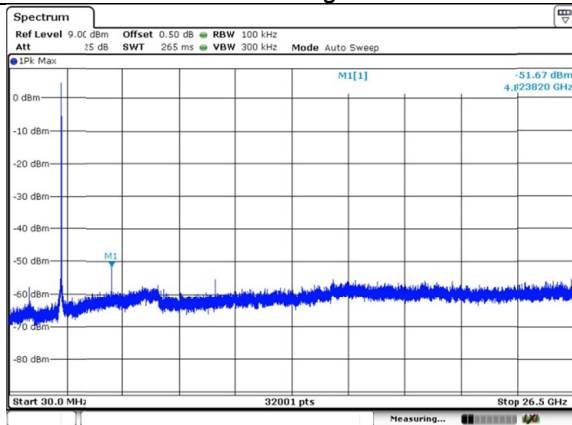


## 802.11b

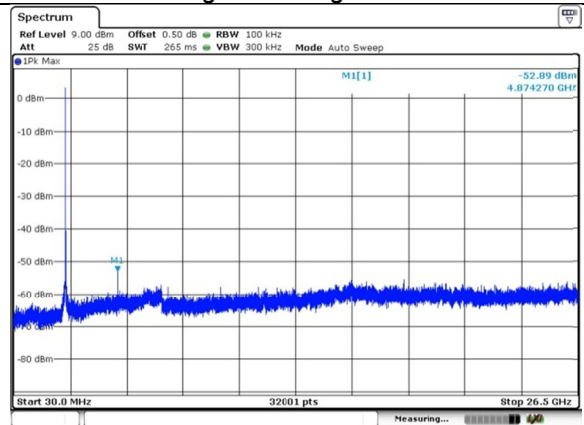


## Low bandedge Plot

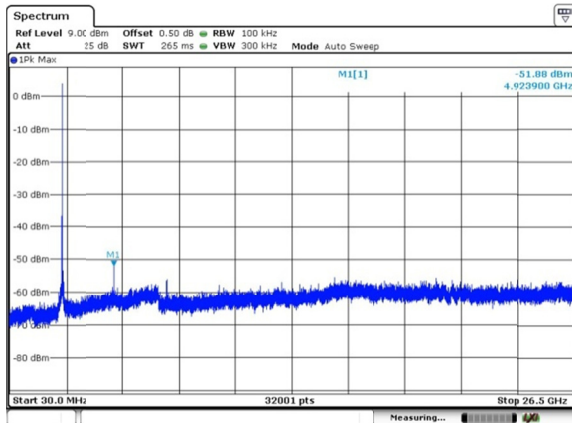


## CH01

## High bandedge Plot

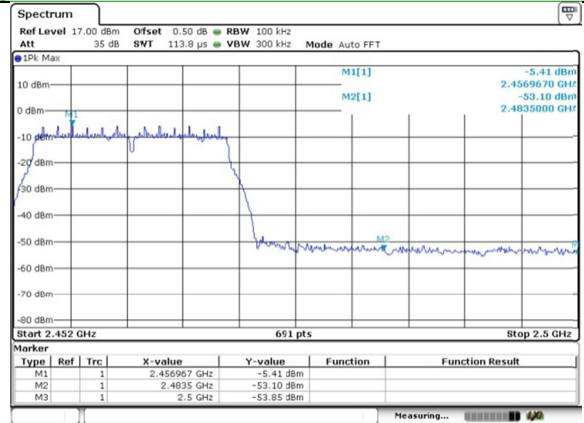
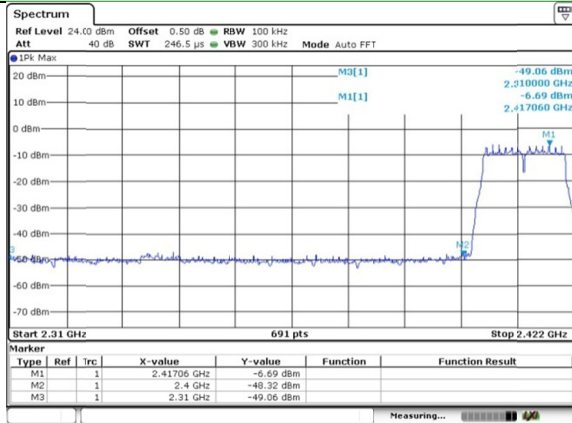


## CH06

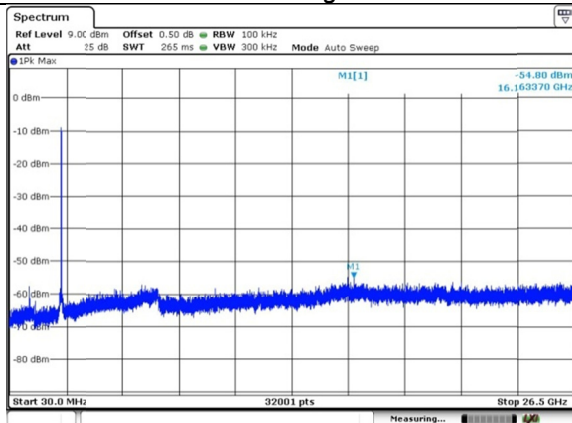


## CH11

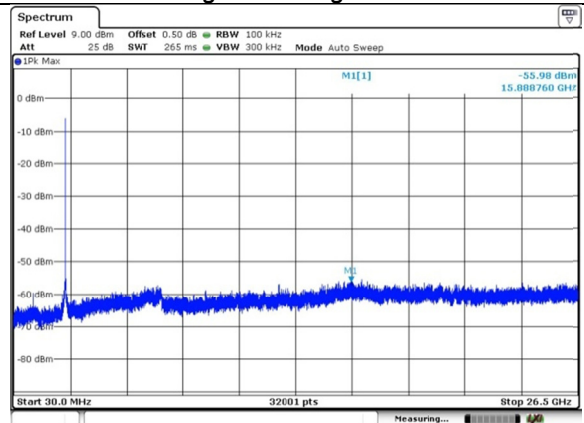
## 802.11g



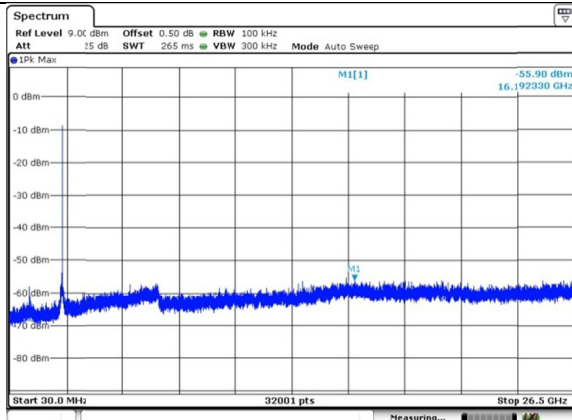
## Low bandedge Plot



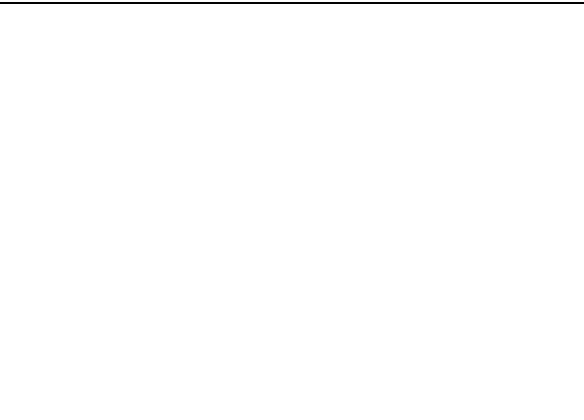
## High bandedge Plot



## CH01

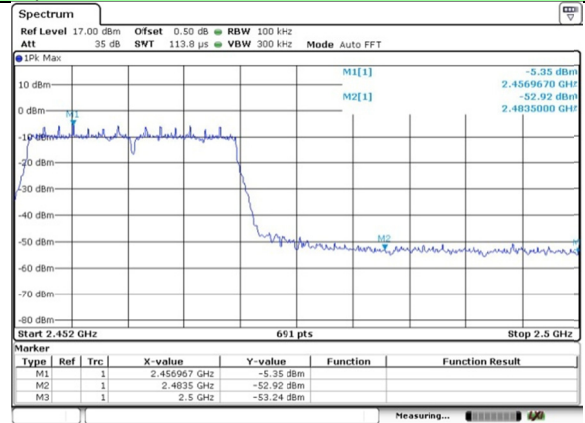
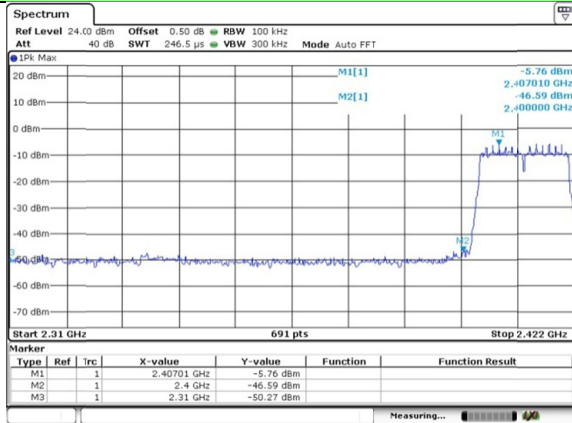


## CH06

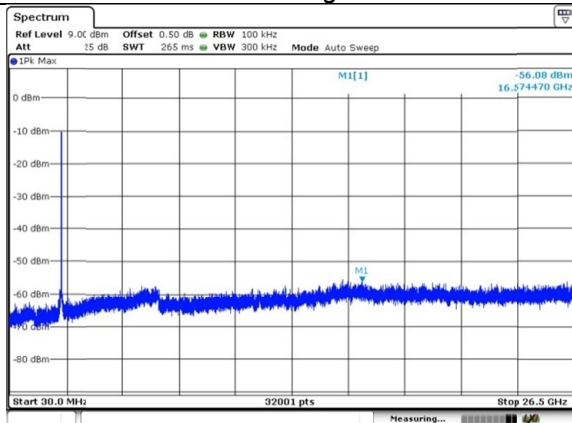


## CH11

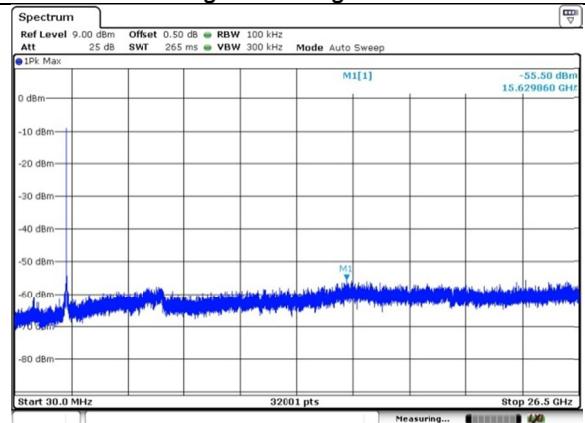
## 802.11n(H20)



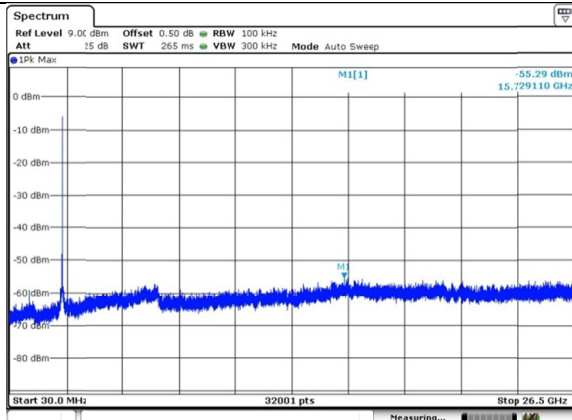
## Low bandedge Plot



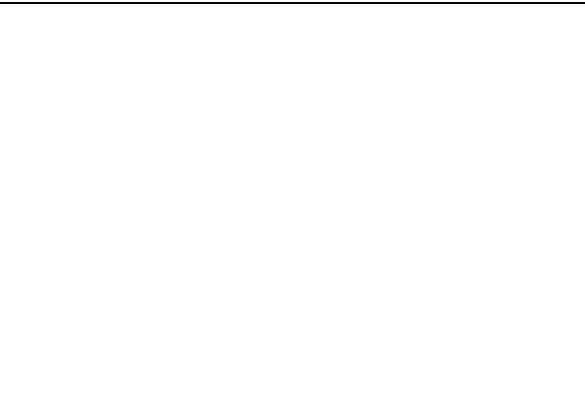
## High bandedge Plot



## CH01

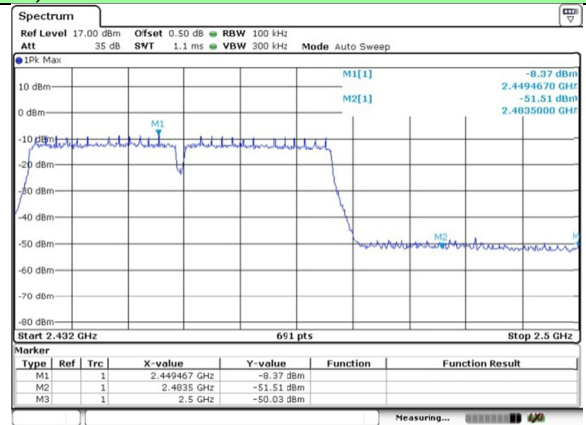
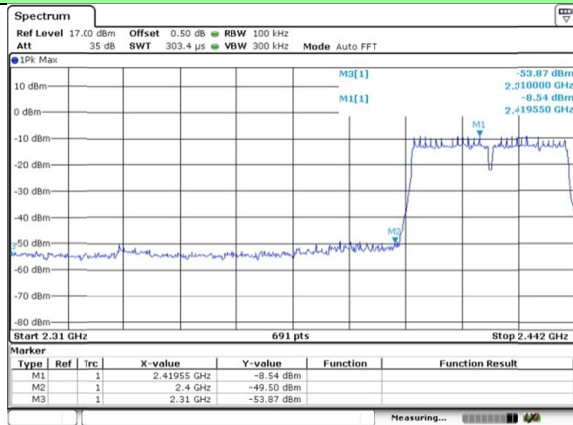


## CH06

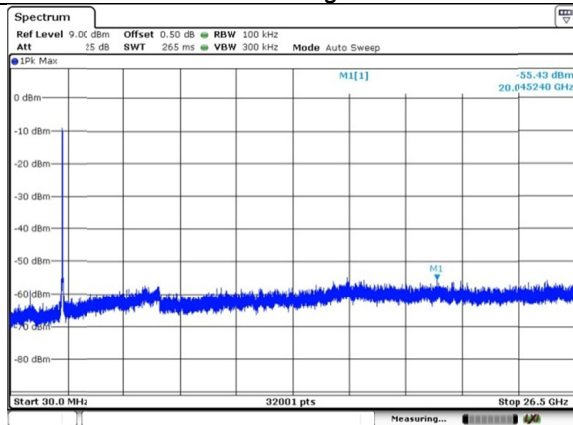


## CH11

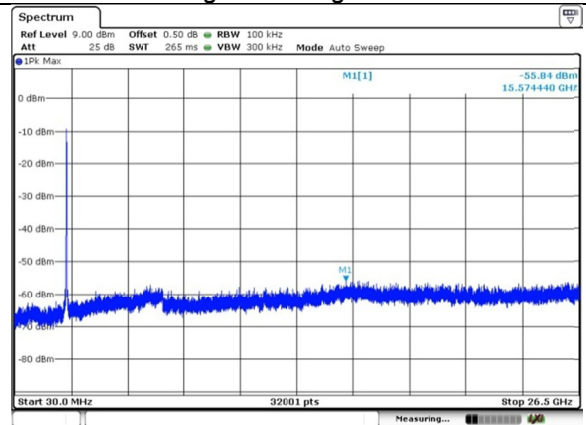
## 802.11n(H40)



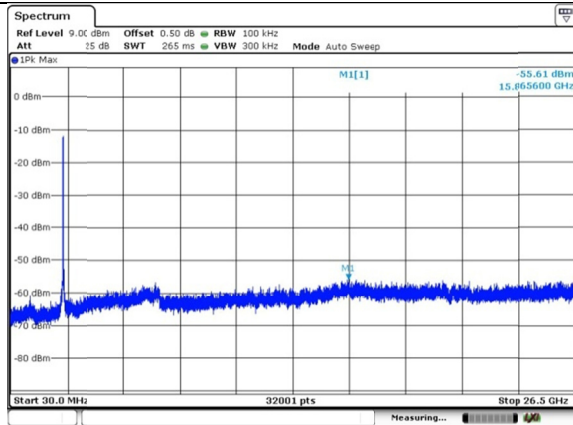
## Low bandedge Plot



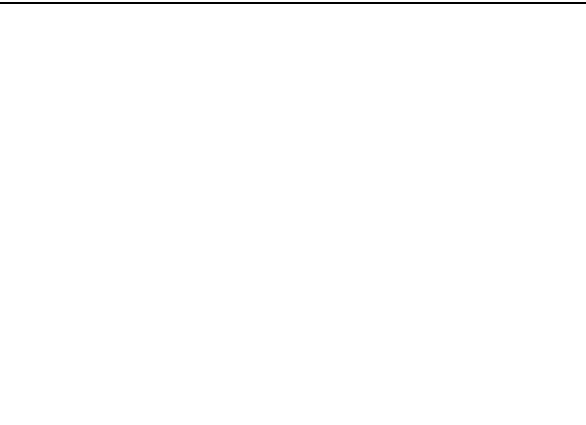
## High bandedge Plot



## CH03



## CH06



## CH09

## 4.8. Spurious Emission (radiated)

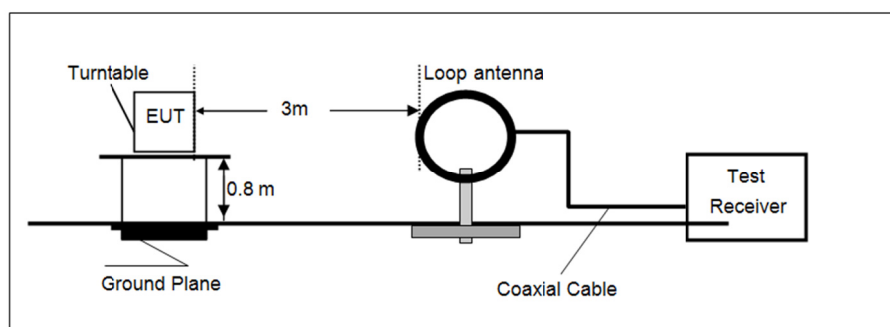
### LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.209

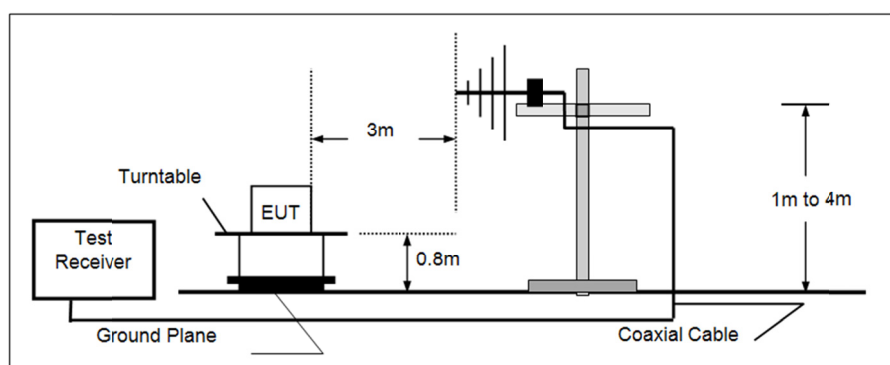
| Frequency     | Limit (dBuV/m @3m) | Value      |
|---------------|--------------------|------------|
| 30MHz-88MHz   | 40.00              | Quasi-peak |
| 88MHz-216MHz  | 43.50              | Quasi-peak |
| 216MHz-960MHz | 46.00              | Quasi-peak |
| 960MHz-1GHz   | 54.00              | Quasi-peak |
| Above 1GHz    | 54.00              | Average    |
|               | 74.00              | Peak       |

### TEST CONFIGURATION

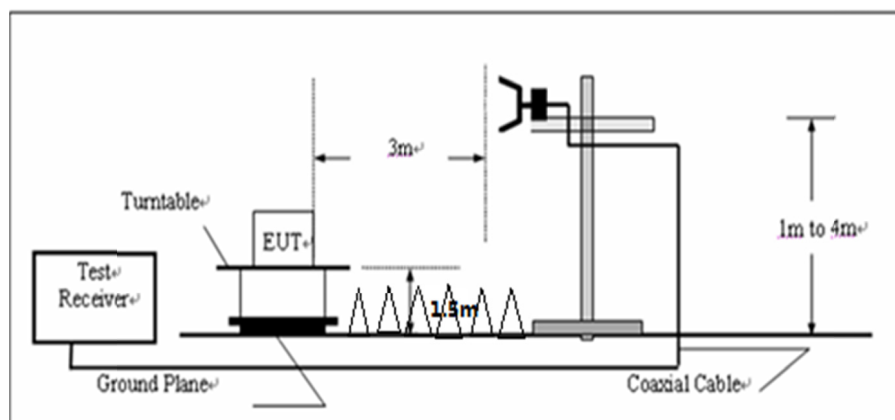
- 9KHz ~30MHz



- 30MHz ~ 1GHz



- Above 1GHz



**TEST PROCEDURE**

1. The EUT was setup and tested according to ANSI C63.10:2013 for compliance to FCC 47CFR 15.247 requirements.
2. The EUT is placed on a turn table which is 0.8 meter above ground for below 1GHz, and 1.5m for above 1GHz. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
3. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
4. The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10:2013 on radiated measurement.
5. Use the following spectrum analyzer settings
  - (1) Span shall be wide enough to fully capture the emission being measured;
  - (2) Below 1GHz, RBW=120KHz, VBW=300KHz, Sweep=auto, Detector function=peak, Trace=max hold;  
*If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.*
  - (3) Above 1GHz, RBW=1MHz, VBW=3MHz for Peak value  
RBW=1MHz, VBW=10Hz for Average value.

**TEST RESULTS**

*Noted:*

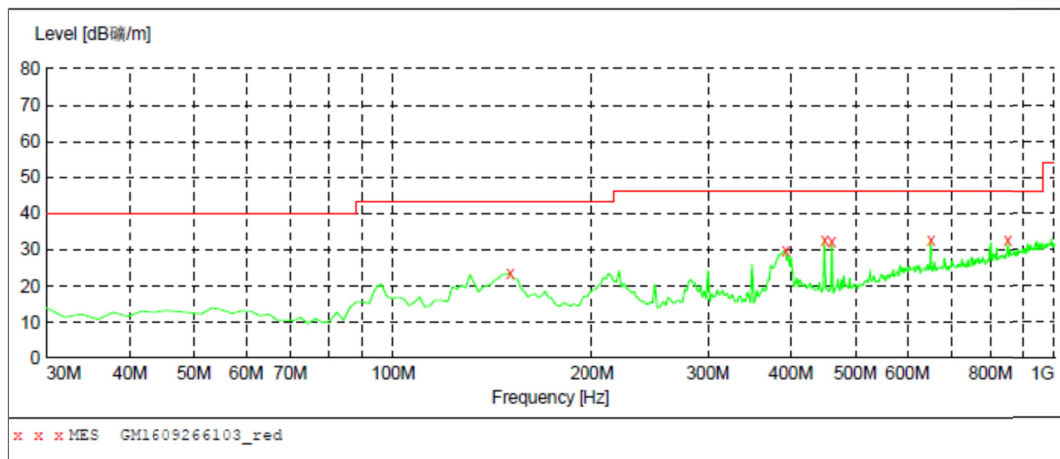
*Below 1GHz, Have pre-scan all modulation mode, found the 802.11b mode CH06 which it was worst case, so only the worst case's data on the test report.*

**Measurement data:****■ 9kHz ~ 30MHz**

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

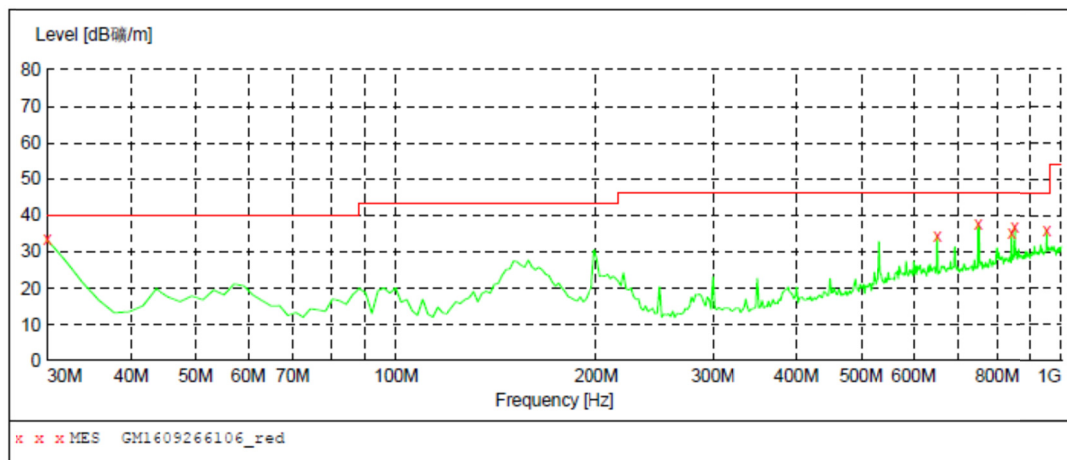
All test modes had been pre-tested. The 802.11b mode is the worst case and recorded in the report.

## ■ 30MHz ~ 1GHz

**MEASUREMENT RESULT: "GM1609266103\_red"**

9/26/2016 9:08PM

| Frequency<br>MHz | Level<br>dBμV/m | Transd<br>dB | Limit<br>dBμV/m | Margin<br>dB | Det. | Height<br>cm | Azimuth<br>deg | Polarization |
|------------------|-----------------|--------------|-----------------|--------------|------|--------------|----------------|--------------|
| 150.280000       | 23.60           | -17.8        | 43.5            | 19.9         | QP   | 300.0        | 289.00         | HORIZONTAL   |
| 392.780000       | 30.00           | -11.0        | 46.0            | 16.0         | QP   | 100.0        | 172.00         | HORIZONTAL   |
| 449.040000       | 32.70           | -9.0         | 46.0            | 13.3         | QP   | 100.0        | 266.00         | HORIZONTAL   |
| 460.680000       | 32.20           | -8.6         | 46.0            | 13.8         | QP   | 100.0        | 266.00         | HORIZONTAL   |
| 650.800000       | 32.70           | -2.3         | 46.0            | 13.3         | QP   | 100.0        | 47.00          | HORIZONTAL   |
| 850.620000       | 32.50           | 1.6          | 46.0            | 13.5         | QP   | 100.0        | 106.00         | HORIZONTAL   |

**MEASUREMENT RESULT: "GM1609266106\_red"**

9/26/2016 9:18PM

| Frequency<br>MHz | Level<br>dBμV/m | Transd<br>dB | Limit<br>dBμV/m | Margin<br>dB | Det. | Height<br>cm | Azimuth<br>deg | Polarization |
|------------------|-----------------|--------------|-----------------|--------------|------|--------------|----------------|--------------|
| 30.000000        | 33.40           | -16.8        | 40.0            | 6.6          | QP   | 100.0        | 223.00         | VERTICAL     |
| 650.800000       | 34.20           | -2.3         | 46.0            | 11.8         | QP   | 100.0        | 93.00          | VERTICAL     |
| 749.740000       | 37.50           | -0.7         | 46.0            | 8.5          | QP   | 100.0        | 313.00         | VERTICAL     |
| 840.920000       | 35.30           | 1.3          | 46.0            | 10.7         | QP   | 100.0        | 324.00         | VERTICAL     |
| 850.620000       | 36.70           | 1.6          | 46.0            | 9.3          | QP   | 100.0        | 313.00         | VERTICAL     |
| 951.500000       | 36.20           | 3.7          | 46.0            | 9.8          | QP   | 100.0        | 355.00         | VERTICAL     |

Remark: Transd=Cable lose+Antenna factor-Pre-amplifier; Margin=Limit-Level

**Above 1GHz**

| CH01 for 802.11b |                   |                       |                 |                          |                |                     |                   |              |            |
|------------------|-------------------|-----------------------|-----------------|--------------------------|----------------|---------------------|-------------------|--------------|------------|
| Frequency (MHz)  | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Margin Limit (dB) | Polarization | Test value |
| 4824.00          | 40.63             | 29.18                 | 8.61            | 37.99                    | 40.43          | 74.00               | -33.57            | Vertical     | Peak       |
| 7236.00          | 33.61             | 36.17                 | 10.95           | 38.15                    | 42.58          | 74.00               | -31.42            | Vertical     |            |
| 9648.00          | 34.20             | 38.2                  | 12.17           | 38.08                    | 46.49          | 74.00               | -27.51            | Vertical     |            |
| 13161.62         | *                 |                       |                 |                          |                | 74.00               |                   | Vertical     |            |
| 4824.00          | 37.71             | 32                    | 9.53            | 38.39                    | 40.85          | 74.00               | -33.15            | Horizontal   |            |
| 7236.00          | 35.76             | 35.92                 | 6.94            | 35.18                    | 43.44          | 74                  | -28.16            | Horizontal   |            |
| 9648.00          | 34.00             | 38.2                  | 12.17           | 38.08                    | 46.285         | 74.00               | -27.72            | Horizontal   |            |
| 13161.62         | *                 |                       |                 |                          |                | 74.00               |                   | Horizontal   |            |
| 4824.00          | 34.78             | 29.18                 | 8.61            | 37.99                    | 34.58          | 54.00               | -19.42            | Vertical     | Average    |
| 7236.00          | 28.47             | 36.17                 | 10.95           | 38.15                    | 37.44          | 54.00               | -16.56            | Vertical     |            |
| 9648.00          | 28.04             | 38.2                  | 12.17           | 38.08                    | 40.33          | 54.00               | -13.67            | Vertical     |            |
| 13161.62         | 0.00              |                       |                 |                          |                | 54.00               |                   | Vertical     |            |
| 4824.00          | 31.38             | 32                    | 9.53            | 38.39                    | 34.52          | 54.00               | -19.48            | Horizontal   |            |
| 7236.00          | 28.57             | 35.92                 | 6.94            | 35.18                    | 36.25          | 54.00               | -17.75            | Horizontal   |            |
| 9648.00          | 28.39             | 38.2                  | 12.17           | 38.08                    | 40.68          | 54.00               | -13.32            | Horizontal   |            |
| 13161.62         | *                 |                       |                 |                          |                | 54.00               |                   | Horizontal   |            |

| CH06 for 802.11b |                   |                       |                 |                          |                |                     |                   |              |            |
|------------------|-------------------|-----------------------|-----------------|--------------------------|----------------|---------------------|-------------------|--------------|------------|
| Frequency (MHz)  | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Margin Limit (dB) | Polarization | Test value |
| 4874.00          | 38.88             | 30.91                 | 8.99            | 38.34                    | 40.44          | 74.00               | -33.56            | Vertical     | Peak       |
| 7311.00          | 35.41             | 35.44                 | 10.53           | 38.02                    | 43.36          | 74.00               | -30.64            | Vertical     |            |
| 9748.00          | 34.33             | 38.02                 | 12.17           | 38.08                    | 46.44          | 74.00               | -27.56            | Vertical     |            |
| 12341.44         | *                 |                       |                 |                          |                | 74.00               |                   | Vertical     |            |
| 4874.00          | 39.64             | 30.24                 | 8.81            | 38.17                    | 40.52          | 74.00               | -33.48            | Horizontal   |            |
| 7311.00          | 35.13             | 35.44                 | 10.53           | 38.02                    | 43.08          | 74.00               | -30.92            | Horizontal   |            |
| 9748.00          | 34.23             | 38.2                  | 12.17           | 38.08                    | 46.52          | 74.00               | -27.48            | Horizontal   |            |
| 12341.44         | *                 |                       |                 |                          |                | 74.00               |                   | Horizontal   |            |
| 4874.00          | 33.02             | 30.91                 | 8.99            | 38.34                    | 34.58          | 54.00               | -19.42            | Vertical     | Average    |
| 7311.00          | 29.93             | 35.44                 | 10.53           | 38.02                    | 37.88          | 54.00               | -16.12            | Vertical     |            |
| 9748.00          | 28.41             | 38.02                 | 12.17           | 38.08                    | 40.52          | 54.00               | -13.48            | Vertical     |            |
| 12341.44         | 0.00              |                       |                 |                          |                | 54.00               |                   | Vertical     |            |
| 4874.00          | 33.77             | 30.24                 | 8.81            | 38.17                    | 34.65          | 54.00               | -19.35            | Horizontal   |            |
| 7311.00          | 28.94             | 35.44                 | 10.53           | 38.02                    | 36.89          | 54.00               | -17.11            | Horizontal   |            |
| 9748.00          | 28.29             | 38.2                  | 12.17           | 38.08                    | 40.58          | 54.00               | -13.42            | Horizontal   |            |
| 12341.44         | *                 |                       |                 |                          |                | 54.00               |                   | Horizontal   |            |

**Remark:**

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “\*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

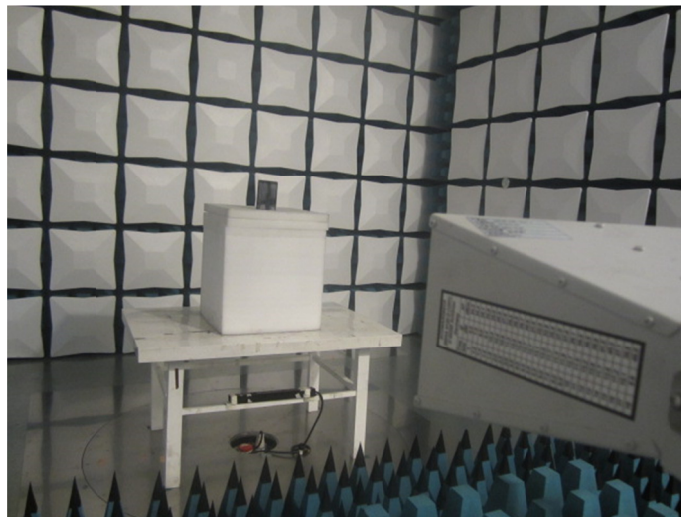
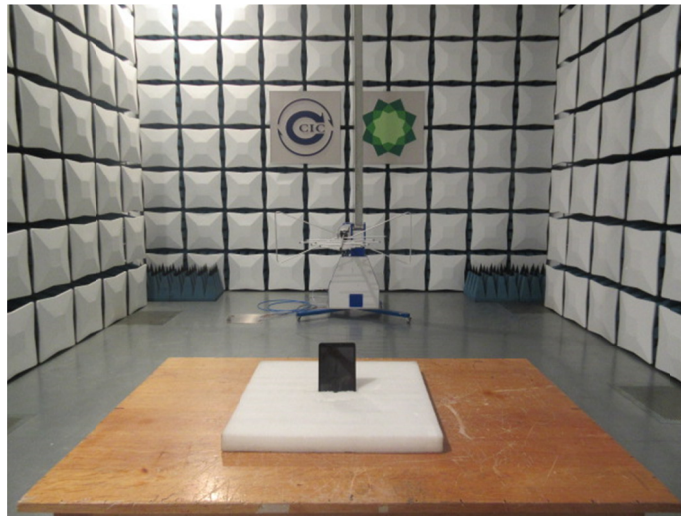
| CH11 for 802.11b |                   |                       |                 |                          |                |                     |                   |              |            |
|------------------|-------------------|-----------------------|-----------------|--------------------------|----------------|---------------------|-------------------|--------------|------------|
| Frequency (MHz)  | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Margin Limit (dB) | Polarization | Test value |
| 4924.00          | 38.79             | 31.17                 | 9.31            | 38.62                    | 40.65          | 74.00               | -33.35            | Vertical     | Peak       |
| 7386.00          | 33.64             | 36.72                 | 11.24           | 38.24                    | 43.36          | 74.00               | -30.64            | Vertical     |            |
| 9848.00          | 33.87             | 38.33                 | 12.39           | 38.12                    | 46.47          | 74.00               | -27.53            | Vertical     |            |
| 11692.64         | *                 |                       |                 |                          |                | 74.00               |                   | Vertical     |            |
| 4924.00          | 38.39             | 31.17                 | 9.31            | 38.62                    | 40.25          | 74.00               | -33.75            | Horizontal   |            |
| 7386.00          | 34.46             | 36.13                 | 10.93           | 38.14                    | 43.38          | 74.00               | -30.62            | Horizontal   |            |
| 9848.00          | 33.68             | 38.33                 | 12.39           | 38.12                    | 46.28          | 74.00               | -27.72            | Horizontal   |            |
| 11692.64         | *                 |                       |                 |                          |                | 74.00               |                   | Horizontal   |            |
| 4924.00          | 32.66             | 31.17                 | 9.31            | 38.62                    | 34.52          | 54.00               | -19.48            | Vertical     | Average    |
| 7386.00          | 28.13             | 36.72                 | 11.24           | 38.24                    | 37.85          | 54.00               | -16.15            | Vertical     |            |
| 9848.00          | 28.24             | 38.33                 | 12.39           | 38.12                    | 40.84          | 54.00               | -13.16            | Vertical     |            |
| 11692.64         | *                 |                       |                 |                          |                | 54.00               |                   | Vertical     |            |
| 4924.00          | 32.89             | 31.17                 | 9.31            | 38.62                    | 34.75          | 54.00               | -19.25            | Horizontal   |            |
| 7386.00          | 28.92             | 36.13                 | 10.93           | 38.14                    | 37.84          | 54.00               | -16.16            | Horizontal   |            |
| 9848.00          | 28.06             | 38.33                 | 12.39           | 38.12                    | 40.66          | 54.00               | -13.34            | Horizontal   |            |
| 11692.64         | *                 |                       |                 |                          |                | 54.00               |                   | Horizontal   |            |

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “\*”, means this data is too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

## 5. Test Setup Photos of the EUT

### Radiated Emission



### Conducted Emission (AC Mains)



## 6. External and Internal Photos of the EUT

Reference to Test Report No.: TRE1609005901.

.....*End of Report*.....