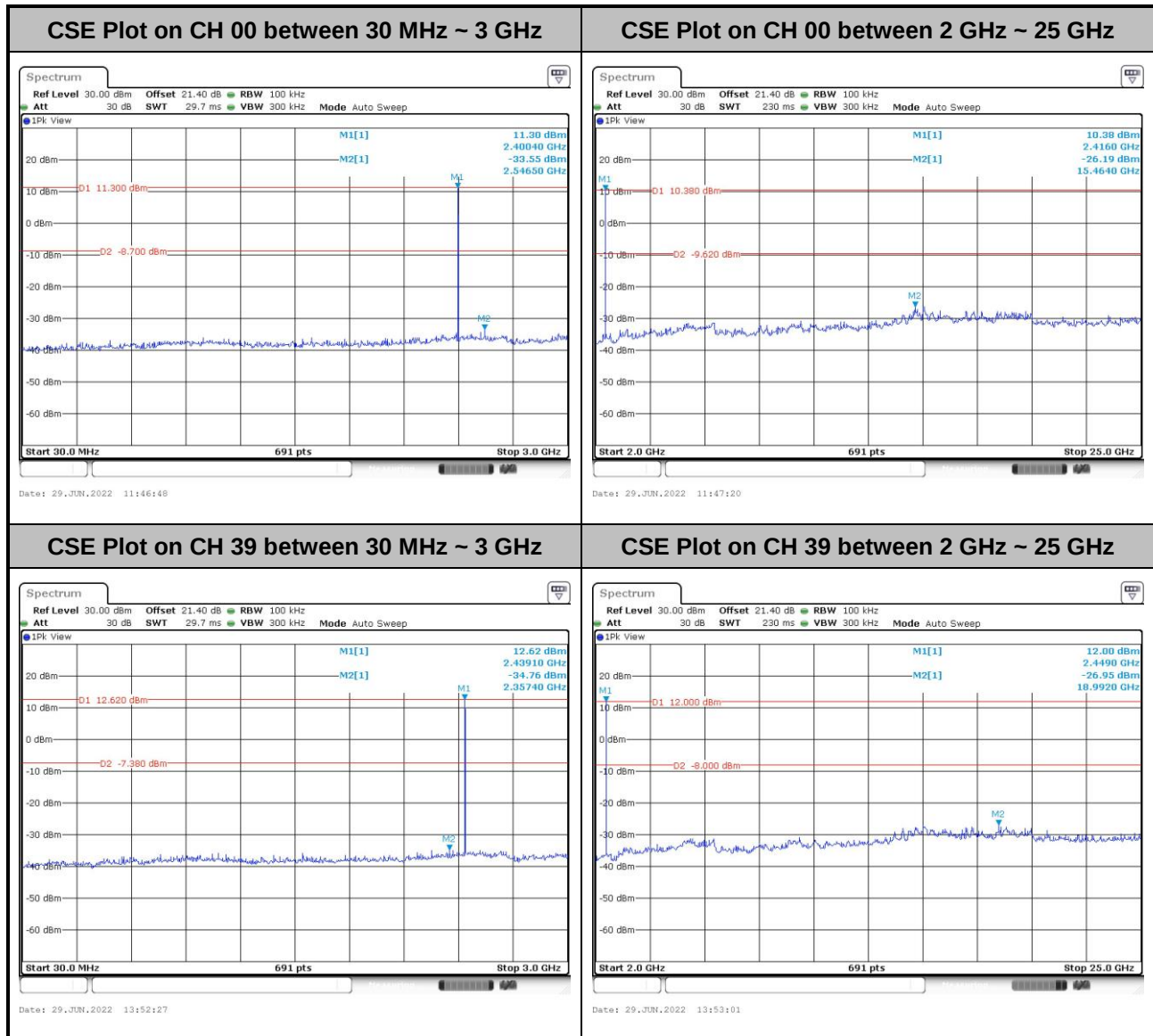


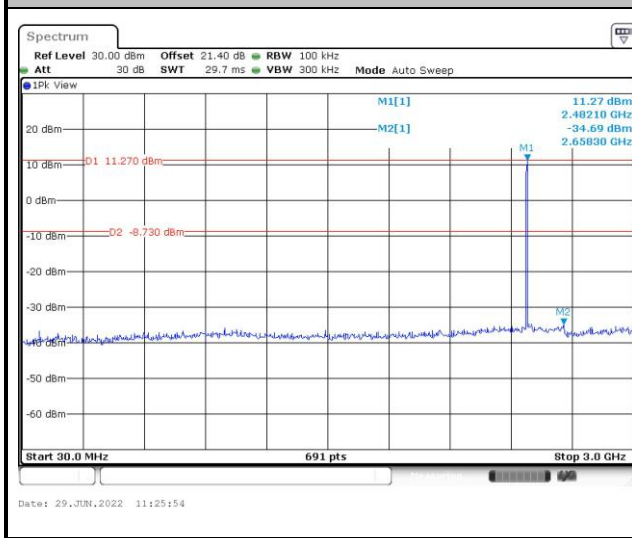


&lt;2Mbps&gt;

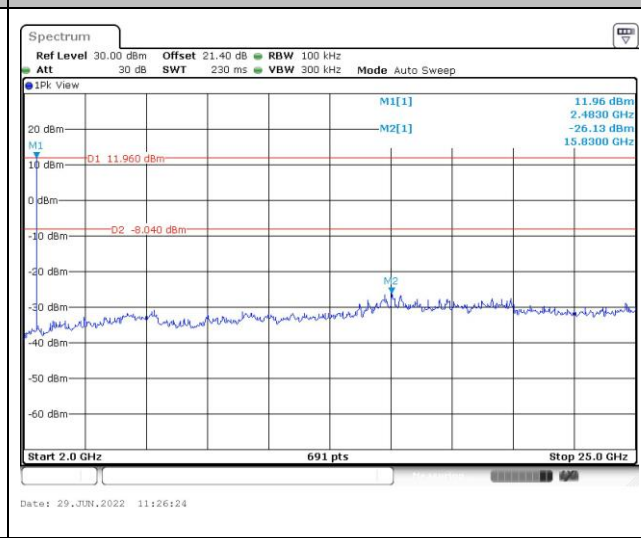




CSE Plot on CH 78 between 30 MHz ~ 3 GHz

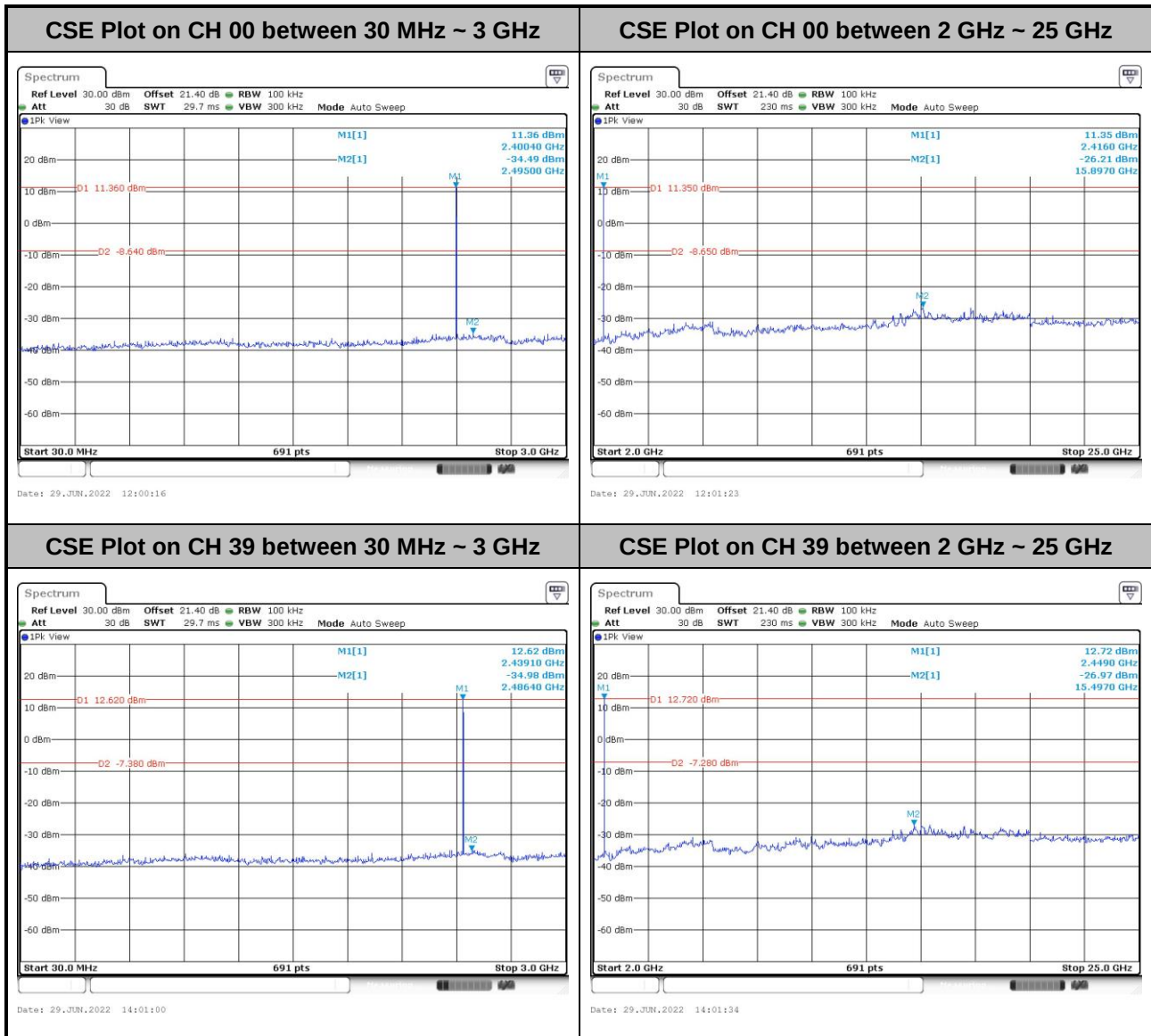


CSE Plot on CH 78 between 2 GHz ~ 25 GHz



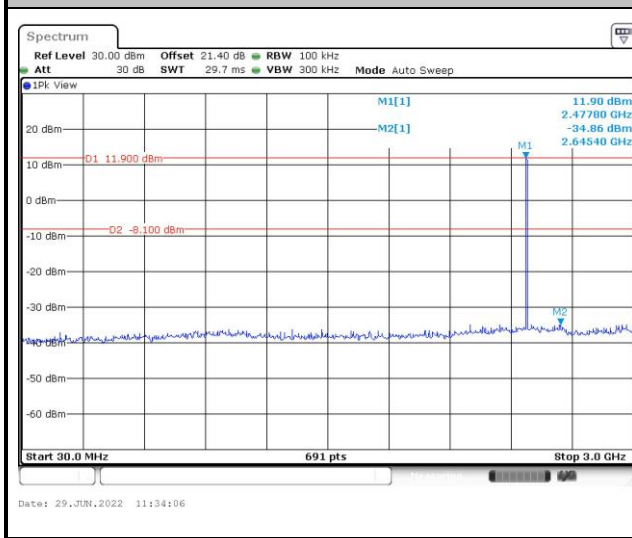


&lt;3Mbps&gt;

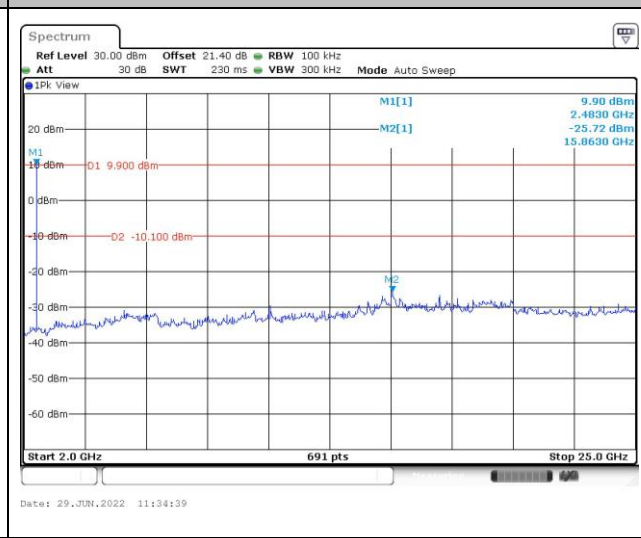




CSE Plot on CH 78 between 30 MHz ~ 3 GHz



CSE Plot on CH 78 between 2 GHz ~ 25 GHz



### 3.8 Radiated Band Edges and Spurious Emission Measurement

#### 3.8.1 Limit of Radiated Band Edges and Spurious Emission

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics / spurious must be at least 20 dB below the highest emission level within the authorized band. In addition, radiated emissions which fall in the restricted bands must also comply with the limits as below.

| Frequency<br>(MHz) | Field Strength<br>(microvolts/meter) | Measurement Distance<br>(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                                |

#### 3.8.2 Measuring Instruments

Please refer to the measuring equipment list in this test report.

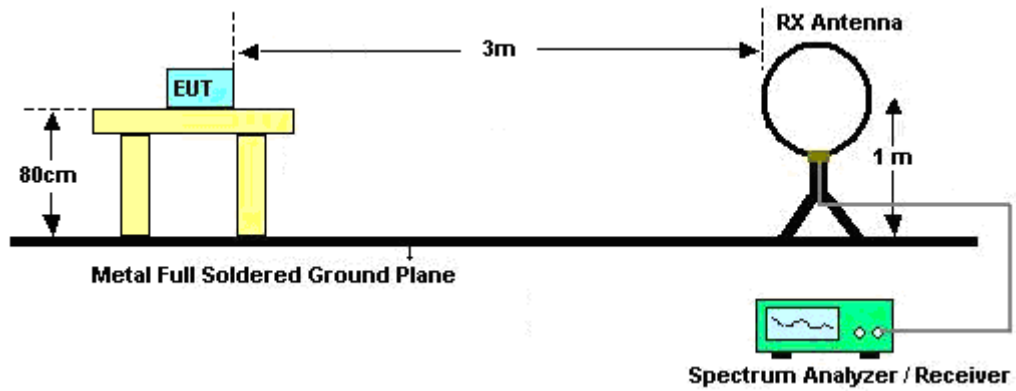
### 3.8.3 Test Procedures

1. The EUT is placed on a turntable with 0.8 meter for frequency below 1 GHz and 1.5 meter for frequency above 1 GHz respectively above ground.
2. The EUT is set 3 meters away from the receiving antenna, which is mounted on the top of a variable height antenna tower.
3. For each suspected emission, the EUT is arranged to its worst case and then tune the Antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level to comply with the guidelines.
4. Set the maximum power setting and enable the EUT to transmit continuously.
5. Use the following spectrum analyzer settings:
  - (1) Span shall wide enough to fully capture the emission being measured;
  - (2) Set RBW = 100 kHz for  $f < 1$  GHz, RBW = 1 MHz for  $f > 1$  GHz ; VBW  $\geq$  RBW; Sweep = auto; Detector function = peak; Trace = max hold for peak
  - (3) For average measurement: use duty cycle correction factor method per 15.35(c).  
Duty cycle = On time/100 milliseconds  
On time =  $N_1 * L_1 + N_2 * L_2 + \dots + N_{n-1} * L_{n-1} + N_n * L_n$   
Where  $N_1$  is number of type 1 pulses,  $L_1$  is length of type 1 pulses, etc.  
Average Emission Level = Peak Emission Level +  $20 * \log$  (Duty cycle)
6. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
7. Radiated testing below 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading. When there is no suspected emission found and the emission level is with at least 6 dB margin against QP limit line, the position is marked as “-”.
8. Radiated testing above 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading for scanning all frequencies. When there is no suspected emission found and the harmonic emission level is with at least 6 dB margin against average limit line, the position is marked as “-”.

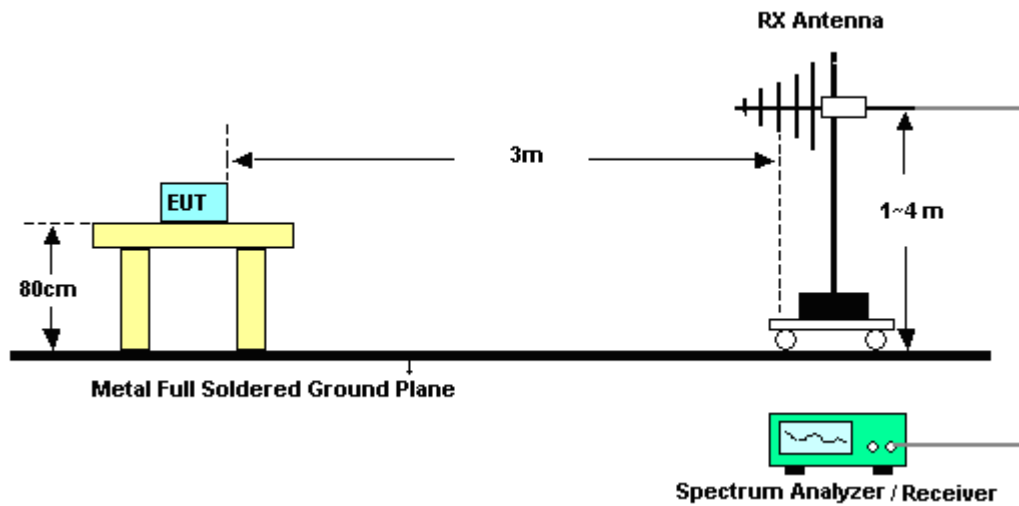
Note: The average levels are calculated from the peak level corrected with duty cycle correction factor (-24.79dB) derived from  $20 \log$  (dwell time/100ms). This correction is only for signals that hop with the fundamental signal, such as band-edge and harmonic. Other spurious signals that are independent of the hopping signal would not use this correction.

### 3.8.4 Test Setup

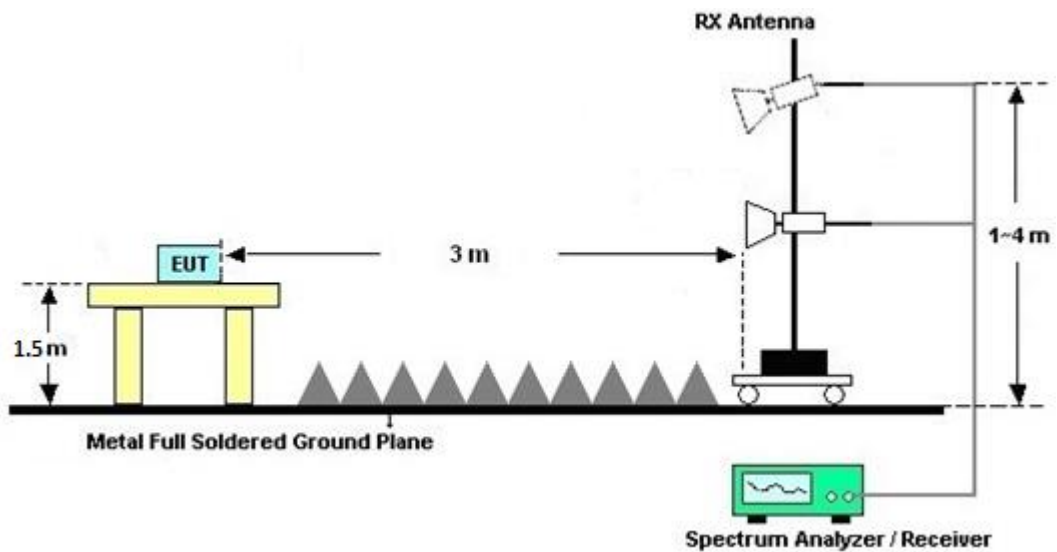
For radiated test below 30MHz



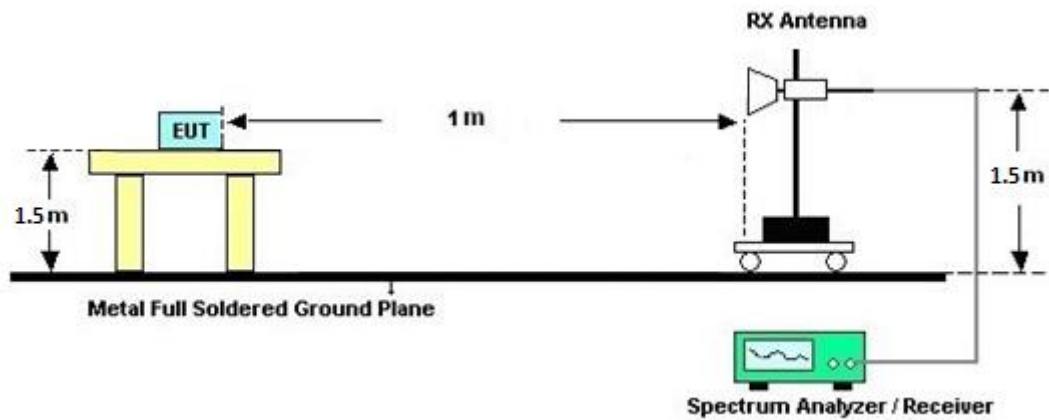
For radiated test from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz



### 3.8.5 Test Results of Radiated Spurious Emissions (9 kHz ~ 30 MHz)

The low frequency, which starts from 9 kHz to 30 MHz, is pre-scanned and the result which is 20 dB lower than the limit line is not reported.

There is adequate comparison measurement of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result comes out very similar.

### 3.8.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C and D.

### 3.8.7 Duty Cycle

Please refer to Appendix E.

### 3.8.8 Test Result of Radiated Spurious Emission (30MHz ~ 10<sup>th</sup> Harmonic)

Please refer to Appendix C and D.

### 3.9 AC Conducted Emission Measurement

#### 3.9.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

| Frequency of emission (MHz) | Conducted limit (dBμV) |           |
|-----------------------------|------------------------|-----------|
|                             | Quasi-peak             | Average   |
| 0.15-0.5                    | 66 to 56*              | 56 to 46* |
| 0.5-5                       | 56                     | 46        |
| 5-30                        | 60                     | 50        |

\*Decreases with the logarithm of the frequency.

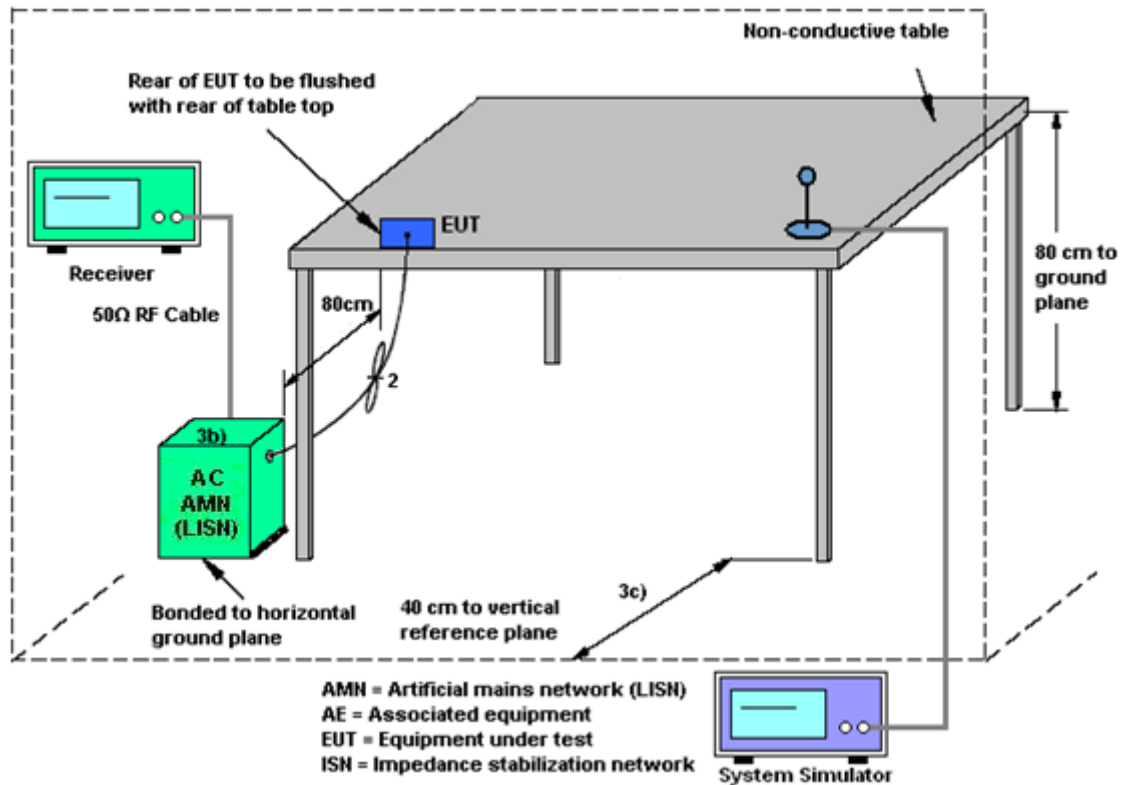
#### 3.9.2 Measuring Instruments

Please refer to the measuring equipment list in this test report.

#### 3.9.3 Test Procedures

1. The EUT is placed 0.4 meter away from the conducting wall of the shielding room, and is kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN shall be used.
6. Both Line and Neutral shall be tested in order to find out the maximum conducted emission.
7. The frequency range from 150 kHz to 30 MHz is scanned.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9 kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

### 3.9.4 Test Setup



### 3.9.5 Test Result of AC Conducted Emission

Please refer to Appendix B.



## **3.10 Antenna Requirements**

### **3.10.1 Standard Applicable**

If directional gain of transmitting antennas is greater than 6 dBi, the power shall be reduced by the same level in dB comparing to gain minus 6 dBi. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the rule.

### **3.10.2 Antenna Anti-Replacement Construction**

An embedded-in antenna design is used.

### **3.10.3 Antenna Gain**

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.



## 4 List of Measuring Equipment

| Instrument              | Brand Name        | Model No.                           | Serial No.           | Characteristics                  | Calibration Date | Test Date                       | Due Date      | Remark                   |
|-------------------------|-------------------|-------------------------------------|----------------------|----------------------------------|------------------|---------------------------------|---------------|--------------------------|
| Loop Antenna            | Rohde & Schwarz   | HFH2-Z2                             | 100488               | 9 kHz~30 MHz                     | May 13, 2022     | Jun. 21, 2022~<br>Jul. 14, 2022 | May 12, 2023  | Radiation<br>(03CH11-HY) |
| Bilog Antenna           | TESEQ             | CBL 6111D &<br>N-6-06               | 35414 &<br>AT-N0602  | 30MHz~1GHz                       | Oct. 09, 2021    | Jun. 21, 2022~<br>Jul. 14, 2022 | Oct. 08, 2022 | Radiation<br>(03CH11-HY) |
| Horn Antenna            | SCHWARZBE<br>CK   | BBHA 9120 D                         | 9120D-1212           | 1GHz ~ 18GHz                     | Mar. 10, 2022    | Jun. 21, 2022~<br>Jul. 14, 2022 | Mar. 09, 2023 | Radiation<br>(03CH11-HY) |
| SHF-EHF Horn<br>Antenna | SCHWARZBE<br>CK   | BBHA9170                            | 00993                | 18GHz~40GHz                      | Nov. 30, 2021    | Jun. 21, 2022~<br>Jul. 14, 2022 | Nov. 29, 2022 | Radiation<br>(03CH11-HY) |
| Amplifier               | SONOMA            | 310N                                | 187312               | 9kHz~1GHz                        | Dec. 10, 2021    | Jun. 21, 2022~<br>Jul. 14, 2022 | Dec. 09, 2022 | Radiation<br>(03CH11-HY) |
| Preamplifier            | Keysight          | 83017A                              | MY53270080           | 1GHz~26.5GHz                     | Nov. 10, 2021    | Jun. 21, 2022~<br>Jul. 14, 2022 | Nov. 09, 2022 | Radiation<br>(03CH11-HY) |
| Preamplifier            | Jet-Power         | JPA0118-55-30<br>3                  | 17100018000<br>55007 | 1GHz~18GHz                       | Jun. 15, 2022    | Jun. 21, 2022~<br>Jul. 14, 2022 | Jun. 14, 2023 | Radiation<br>(03CH11-HY) |
| Preamplifier            | EMEC              | EM18G40G                            | 060715               | 18GHz~40GHz                      | Dec. 24, 2021    | Jun. 21, 2022~<br>Jul. 14, 2022 | Dec. 23, 2022 | Radiation<br>(03CH11-HY) |
| Spectrum<br>Analyzer    | Keysight          | N9010A                              | MY54200486           | 10Hz~44GHz                       | Oct. 15, 2021    | Jun. 21, 2022~<br>Jul. 14, 2022 | Oct. 14, 2022 | Radiation<br>(03CH11-HY) |
| EMI Test<br>Receiver    | Keysight          | N9038A(MXE)                         | MY55420170           | 20MHz~8.4GHz                     | Jul. 15, 2021    | Jun. 21, 2022~<br>Jul. 13, 2022 | Jul. 14, 2022 | Radiation<br>(03CH11-HY) |
| EMI Test<br>Receiver    | Keysight          | N9038A(MXE)                         | MY57290111           | 20MHz~8.4GHz                     | Dec. 15, 2021    | Jul. 14, 2022                   | Dec. 14, 2022 | Radiation<br>(03CH11-HY) |
| Controller              | EMEC              | EM 1000                             | N/A                  | Control Turn<br>table & Ant Mast | N/A              | Jun. 21, 2022~<br>Jul. 14, 2022 | N/A           | Radiation<br>(03CH11-HY) |
| Antenna Mast            | EMEC              | AM-BS-4500-B                        | N/A                  | 1~4m                             | N/A              | Jun. 21, 2022~<br>Jul. 14, 2022 | N/A           | Radiation<br>(03CH11-HY) |
| Turn Table              | EMEC              | TT 2000                             | N/A                  | 0~360 Degree                     | N/A              | Jun. 21, 2022~<br>Jul. 14, 2022 | N/A           | Radiation<br>(03CH11-HY) |
| Software                | Audix             | E3<br>6.2009-8-24                   | RK-001053            | N/A                              | N/A              | Jun. 21, 2022~<br>Jul. 14, 2022 | N/A           | Radiation<br>(03CH11-HY) |
| RF Cable                | HUBER +<br>SUHNER | SUCOFLEX<br>102                     | MY2859/2             | 30MHz-40GHz                      | Mar. 10, 2022    | Jun. 21, 2022~<br>Jul. 14, 2022 | Mar. 09, 2023 | Radiation<br>(03CH11-HY) |
| RF Cable                | HUBER +<br>SUHNER | SUCOFLEX<br>104                     | MY9837/4PE           | 9kHz-30MHz                       | Mar. 10, 2022    | Jun. 21, 2022~<br>Jul. 14, 2022 | Mar. 09, 2023 | Radiation<br>(03CH11-HY) |
| RF Cable                | HUBER +<br>SUHNER | SUCOFLEX<br>104                     | MY9837/4PE           | 30MHz-18GHz                      | Mar. 10, 2022    | Jun. 21, 2022~<br>Jul. 14, 2022 | Mar. 09, 2023 | Radiation<br>(03CH11-HY) |
| RF Cable                | HUBER +<br>SUHNER | SUCOFLEX<br>104                     | 811852/4             | 30MHz-18GHz                      | Mar. 10, 2022    | Jun. 21, 2022~<br>Jul. 14, 2022 | Mar. 09, 2023 | Radiation<br>(03CH11-HY) |
| Filter                  | Wainwright        | WLK4-1000-15<br>30-8000-40SS        | SN11                 | 1.53G Low<br>Pass                | Sep. 13, 2021    | Jun. 21, 2022~<br>Jul. 14, 2022 | Sep. 12, 2022 | Radiation<br>(03CH11-HY) |
| Filter                  | Wainwright        | WHKX12-2700<br>-3000-18000-6<br>0SS | SN3                  | 3GHz High<br>Pass Filter         | Sep. 13, 2021    | Jun. 21, 2022~<br>Jul. 14, 2022 | Sep. 12, 2022 | Radiation<br>(03CH11-HY) |



| Instrument        | Brand Name      | Model No.                    | Serial No.             | Characteristics          | Calibration Date | Test Date                   | Due Date      | Remark                |
|-------------------|-----------------|------------------------------|------------------------|--------------------------|------------------|-----------------------------|---------------|-----------------------|
| Filter            | Wainwright      | WHKX8-5872.5-6750-18000-40SS | SN3                    | 6.75GHz High Pass Filter | Sep. 13, 2021    | Jun. 21, 2022~Jul. 14, 2022 | Sep. 12, 2022 | Radiation (03CH11-HY) |
| Filter            | Wainwright      | WHKX12-900-1000-15000-60SS   | SN12                   | 1GHz High Pass Filter    | Nov. 04, 2021    | Jun. 21, 2022~Jul. 14, 2022 | Nov. 03, 2022 | Radiation (03CH11-HY) |
| Hygrometer        | TECEPEL         | DTM-303B                     | TP140325               | N/A                      | Nov. 26, 2021    | Jun. 21, 2022~Jul. 14, 2022 | Nov. 25, 2022 | Radiation (03CH11-HY) |
| Hygrometer        | TECEPEL         | DTM-303B                     | TP200880               | N/A                      | Sep. 30, 2021    | Jun. 21, 2022~Jul. 14, 2022 | Sep. 29, 2022 | Radiation (03CH11-HY) |
| Hygrometer        | TECEPEL         | DTM-303A                     | TP201996               | N/A                      | Nov. 16, 2021    | May 27, 2022~Jun. 29, 2022  | Nov. 15, 2022 | Conducted (TH05-HY)   |
| Power Sensor      | DARE            | RPR3006W                     | 16I00054SNO10 (NO:131) | 10MHz~6GHz               | Dec. 16, 2021    | May 27, 2022~Jun. 29, 2022  | Dec. 15, 2022 | Conducted (TH05-HY)   |
| Power Meter       | Anritsu         | ML2495A                      | 932001                 | N/A                      | Sep. 30, 2021    | May 27, 2022                | Sep. 29, 2022 | Conducted (TH05-HY)   |
| Power Sensor      | Anritsu         | MA2411B                      | 846202                 | 300MHz~40GHz             | Sep. 30, 2021    | May 27, 2022                | Sep. 29, 2022 | Conducted (TH05-HY)   |
| Signal Analyzer   | Rohde & Schwarz | FSV40                        | 101566                 | 10Hz~40GHz               | Aug. 30, 2021    | May 27, 2022~Jun. 29, 2022  | Aug. 29, 2022 | Conducted (TH05-HY)   |
| AC Power Source   | ChainTek        | APC-1000W                    | N/A                    | N/A                      | N/A              | May 29, 2022                | N/A           | Conduction (CO05-HY)  |
| EMI Test Receiver | Rohde & Schwarz | ESR3                         | 102388                 | 9kHz~3.6GHz              | Dec. 01, 2021    | May 29, 2022                | Nov. 30, 2022 | Conduction (CO05-HY)  |
| Hygrometer        | Testo           | 608-H1                       | 34913912               | N/A                      | Nov. 17, 2021    | May 29, 2022                | Nov. 16, 2022 | Conduction (CO05-HY)  |
| LISN              | Rohde & Schwarz | ENV216                       | 100080                 | 9kHz~30MHz               | Dec. 03, 2021    | May 29, 2022                | Dec. 02, 2022 | Conduction (CO05-HY)  |
| Software          | Rohde & Schwarz | EMC32                        | N/A                    | N/A                      | N/A              | May 29, 2022                | N/A           | Conduction (CO05-HY)  |
| Pulse Limiter     | SCHWARZBECK     | VTSD 9561-FN                 | 00691                  | N/A                      | Jul. 28, 2021    | May 29, 2022                | Jul. 27, 2022 | Conduction (CO05-HY)  |
| LISN Cable        | MVE             | RG-400                       | 260260                 | N/A                      | Dec. 30, 2021    | May 29, 2022                | Dec. 29, 2022 | Conduction (CO05-HY)  |



## 5 Uncertainty of Evaluation

### Uncertainty of Conducted Emission Measurement (150 kHz ~ 30 MHz)

|                                                                         |        |
|-------------------------------------------------------------------------|--------|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 3.1 dB |
|-------------------------------------------------------------------------|--------|

### Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

|                                                                         |        |
|-------------------------------------------------------------------------|--------|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 5.8 dB |
|-------------------------------------------------------------------------|--------|

### Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

|                                                                         |        |
|-------------------------------------------------------------------------|--------|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 5.4 dB |
|-------------------------------------------------------------------------|--------|

### Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

|                                                                         |        |
|-------------------------------------------------------------------------|--------|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 5.9 dB |
|-------------------------------------------------------------------------|--------|

**Appendix A. Test Result of Conducted Test Items**

|                |                     |                    |       |    |
|----------------|---------------------|--------------------|-------|----|
| Test Engineer: | Ching Chen          | Temperature:       | 21~25 | °C |
| Test Date:     | 2022/5/27-2022/6/29 | Relative Humidity: | 51~54 | %  |

&lt;Ant. 7&gt;

**TEST RESULTS DATA****20dB and 99% Occupied Bandwidth and Hopping Channel Separation**

| Mod. | Data Rate | NTX | CH. | Freq. (MHz) | 20db BW (MHz) | 99% Bandwidth (MHz) | Hopping Channel Separation Measurement (MHz) | Hopping Channel Separation Measurement Limit (MHz) | Pass/Fail |
|------|-----------|-----|-----|-------------|---------------|---------------------|----------------------------------------------|----------------------------------------------------|-----------|
| DH   | 1Mbps     | 1   | 0   | 2402        | 0.877         | 0.805               | 1.003                                        | 0.5847                                             | Pass      |
| DH   | 1Mbps     | 1   | 39  | 2441        | 0.877         | 0.805               | 1.003                                        | 0.5847                                             | Pass      |
| DH   | 1Mbps     | 1   | 78  | 2480        | 0.877         | 0.805               | 0.999                                        | 0.5847                                             | Pass      |
| 2DH  | 2Mbps     | 1   | 0   | 2402        | 1.268         | 1.166               | 1.003                                        | 0.8451                                             | Pass      |
| 2DH  | 2Mbps     | 1   | 39  | 2441        | 1.268         | 1.166               | 0.999                                        | 0.8451                                             | Pass      |
| 2DH  | 2Mbps     | 1   | 78  | 2480        | 1.263         | 1.166               | 1.003                                        | 0.8423                                             | Pass      |
| 3DH  | 3Mbps     | 1   | 0   | 2402        | 1.255         | 1.149               | 1.003                                        | 0.8365                                             | Pass      |
| 3DH  | 3Mbps     | 1   | 39  | 2441        | 1.255         | 1.149               | 0.999                                        | 0.8365                                             | Pass      |
| 3DH  | 3Mbps     | 1   | 78  | 2480        | 1.255         | 1.149               | 1.003                                        | 0.8365                                             | Pass      |

**TEST RESULTS DATA****Dwell Time**

| Mod.      | Hopping Channel Number Rate | Hops Over Occupancy Time (hops) | Package Transfer Time (msec) | Dwell Time (sec) | Limits (sec) | Pass/Fail |
|-----------|-----------------------------|---------------------------------|------------------------------|------------------|--------------|-----------|
| DH5       | 79                          | 106.670                         | 2.88                         | 0.31             | 0.4          | Pass      |
| DH5 (AFH) | 20                          | 53.330                          | 2.88                         | 0.15             | 0.4          | Pass      |

**TEST RESULTS DATA****Peak Power Table**

| DH   | CH. | NTX | Peak Power (dBm) | Power Limit (dBm) | Test Result |
|------|-----|-----|------------------|-------------------|-------------|
| DH1  | 0   | 1   | 15.77            | 30.00             | Pass        |
|      | 39  | 1   | 16.50            | 30.00             | Pass        |
|      | 78  | 1   | 16.38            | 30.00             | Pass        |
| 2DH1 | 0   | 1   | 15.09            | 20.97             | Pass        |
|      | 39  | 1   | 15.95            | 20.97             | Pass        |
|      | 78  | 1   | 15.62            | 20.97             | Pass        |
| 3DH1 | 0   | 1   | 15.53            | 20.97             | Pass        |
|      | 39  | 1   | 16.59            | 20.97             | Pass        |
|      | 78  | 1   | 16.13            | 20.97             | Pass        |

**TEST RESULTS DATA****Average Power Table**  
**(Reporting Only)**

| DH   | CH. | NTX | Average Power (dBm) | Duty Factor (dB) |
|------|-----|-----|---------------------|------------------|
| DH1  | 0   | 1   | 15.59               | 5.22             |
|      | 39  | 1   | 16.31               | 5.22             |
|      | 78  | 1   | 16.16               | 5.22             |
| 2DH1 | 0   | 1   | 12.67               | 5.12             |
|      | 39  | 1   | 13.51               | 5.12             |
|      | 78  | 1   | 13.27               | 5.12             |
| 3DH1 | 0   | 1   | 12.63               | 5.15             |
|      | 39  | 1   | 13.70               | 5.15             |
|      | 78  | 1   | 13.27               | 5.15             |

**TEST RESULTS DATA****Number of Hopping Frequency**

| Number of Hopping (Channel) | Adaptive Frequency Hopping (Channel) | Limits (Channel) | Pass/Fail |
|-----------------------------|--------------------------------------|------------------|-----------|
| 79                          | 20                                   | > 15             | Pass      |

&lt;Ant. 8&gt;

**TEST RESULTS DATA****20dB and 99% Occupied Bandwidth and Hopping Channel Separation**

| Mod. | Data Rate | NTX | CH. | Freq. (MHz) | 20db BW (MHz) | 99% Bandwidth (MHz) | Hopping Channel Separation Measurement (MHz) | Hopping Channel Separation Measurement Limit (MHz) | Pass/Fail |
|------|-----------|-----|-----|-------------|---------------|---------------------|----------------------------------------------|----------------------------------------------------|-----------|
| DH   | 1Mbps     | 1   | 0   | 2402        | 0.877         | 0.805               | 0.999                                        | 0.5847                                             | Pass      |
| DH   | 1Mbps     | 1   | 39  | 2441        | 0.877         | 0.805               | 1.003                                        | 0.5847                                             | Pass      |
| DH   | 1Mbps     | 1   | 78  | 2480        | 0.874         | 0.805               | 1.007                                        | 0.5827                                             | Pass      |
| 2DH  | 2Mbps     | 1   | 0   | 2402        | 1.263         | 1.166               | 1.003                                        | 0.8423                                             | Pass      |
| 2DH  | 2Mbps     | 1   | 39  | 2441        | 1.263         | 1.166               | 1.007                                        | 0.8423                                             | Pass      |
| 2DH  | 2Mbps     | 1   | 78  | 2480        | 1.263         | 1.166               | 0.999                                        | 0.8423                                             | Pass      |
| 3DH  | 3Mbps     | 1   | 0   | 2402        | 1.250         | 1.152               | 1.007                                        | 0.8336                                             | Pass      |
| 3DH  | 3Mbps     | 1   | 39  | 2441        | 1.255         | 1.152               | 1.003                                        | 0.8365                                             | Pass      |
| 3DH  | 3Mbps     | 1   | 78  | 2480        | 1.255         | 1.149               | 0.999                                        | 0.8365                                             | Pass      |

**TEST RESULTS DATA****Dwell Time**

| Mod.      | Hopping Channel Number Rate | Hops Over Occupancy Time (hops) | Package Transfer Time (msec) | Dwell Time (sec) | Limits (sec) | Pass/Fail |
|-----------|-----------------------------|---------------------------------|------------------------------|------------------|--------------|-----------|
| DH5       | 79                          | 106.670                         | 2.88                         | 0.31             | 0.4          | Pass      |
| DH5 (AFH) | 20                          | 53.330                          | 2.88                         | 0.15             | 0.4          | Pass      |

**TEST RESULTS DATA****Peak Power Table**

| DH   | CH. | NTX | Peak Power (dBm) | Power Limit (dBm) | Test Result |
|------|-----|-----|------------------|-------------------|-------------|
| DH1  | 0   | 1   | 14.77            | 30.00             | Pass        |
|      | 39  | 1   | 16.87            | 30.00             | Pass        |
|      | 78  | 1   | 15.41            | 30.00             | Pass        |
| 2DH1 | 0   | 1   | 14.20            | 20.97             | Pass        |
|      | 39  | 1   | 15.74            | 20.97             | Pass        |
|      | 78  | 1   | 14.59            | 20.97             | Pass        |
| 3DH1 | 0   | 1   | 14.72            | 20.97             | Pass        |
|      | 39  | 1   | 16.13            | 20.97             | Pass        |
|      | 78  | 1   | 15.09            | 20.97             | Pass        |

**TEST RESULTS DATA****Average Power Table  
(Reporting Only)**

| DH   | CH. | NTX | Average Power (dBm) | Duty Factor (dB) |
|------|-----|-----|---------------------|------------------|
| DH1  | 0   | 1   | 14.63               | 5.22             |
|      | 39  | 1   | 16.68               | 5.22             |
|      | 78  | 1   | 15.24               | 5.22             |
| 2DH1 | 0   | 1   | 11.80               | 5.12             |
|      | 39  | 1   | 13.30               | 5.12             |
|      | 78  | 1   | 12.15               | 5.12             |
| 3DH1 | 0   | 1   | 11.88               | 5.15             |
|      | 39  | 1   | 13.21               | 5.15             |
|      | 78  | 1   | 12.15               | 5.15             |

**TEST RESULTS DATA****Number of Hopping Frequency**

| Number of Hopping (Channel) | Adaptive Frequency Hopping (Channel) | Limits (Channel) | Pass/Fail |
|-----------------------------|--------------------------------------|------------------|-----------|
| 79                          | 20                                   | > 15             | Pass      |



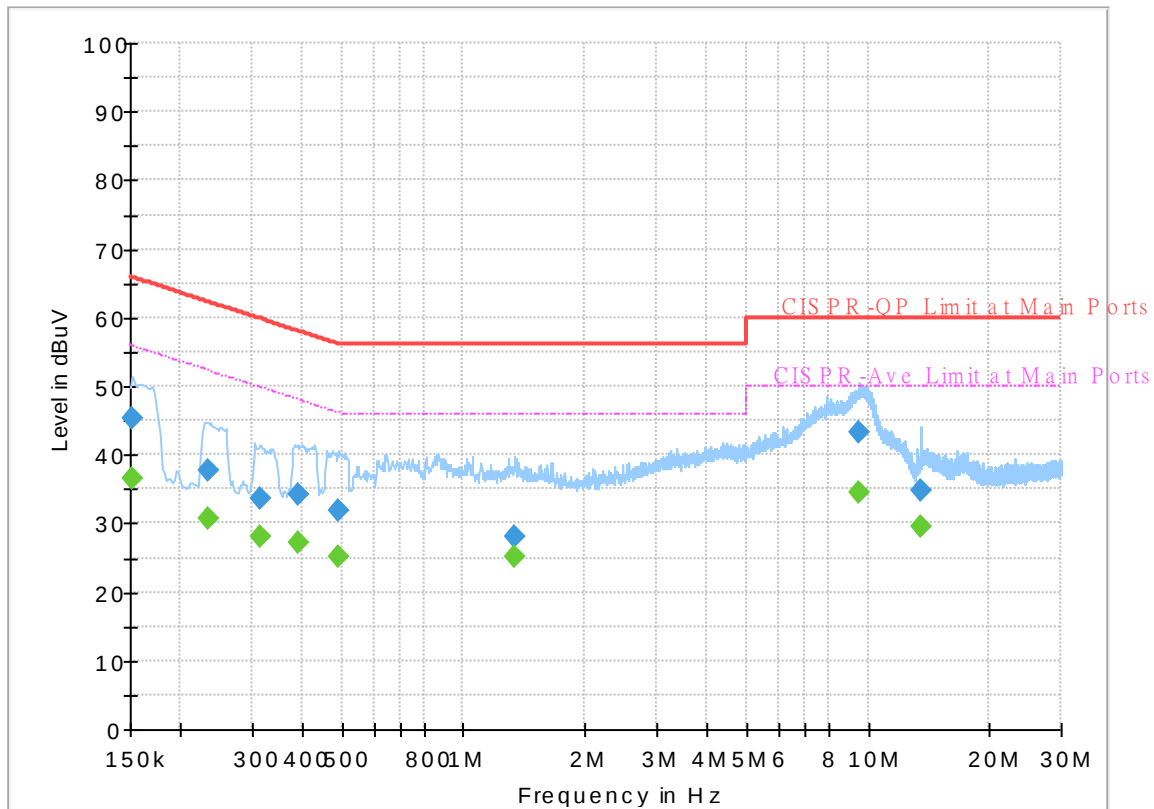
## **Appendix B. AC Conducted Emission Test Results**

|                        |              |                            |        |
|------------------------|--------------|----------------------------|--------|
| <b>Test Engineer :</b> | Howard Huang | <b>Temperature :</b>       | 23~26℃ |
|                        |              | <b>Relative Humidity :</b> | 45~55% |

## EUT Information

Report NO : 210409  
Test Mode : Mode 1  
Test Voltage : 120Vac/60Hz  
Phase : Line

Full Spectrum



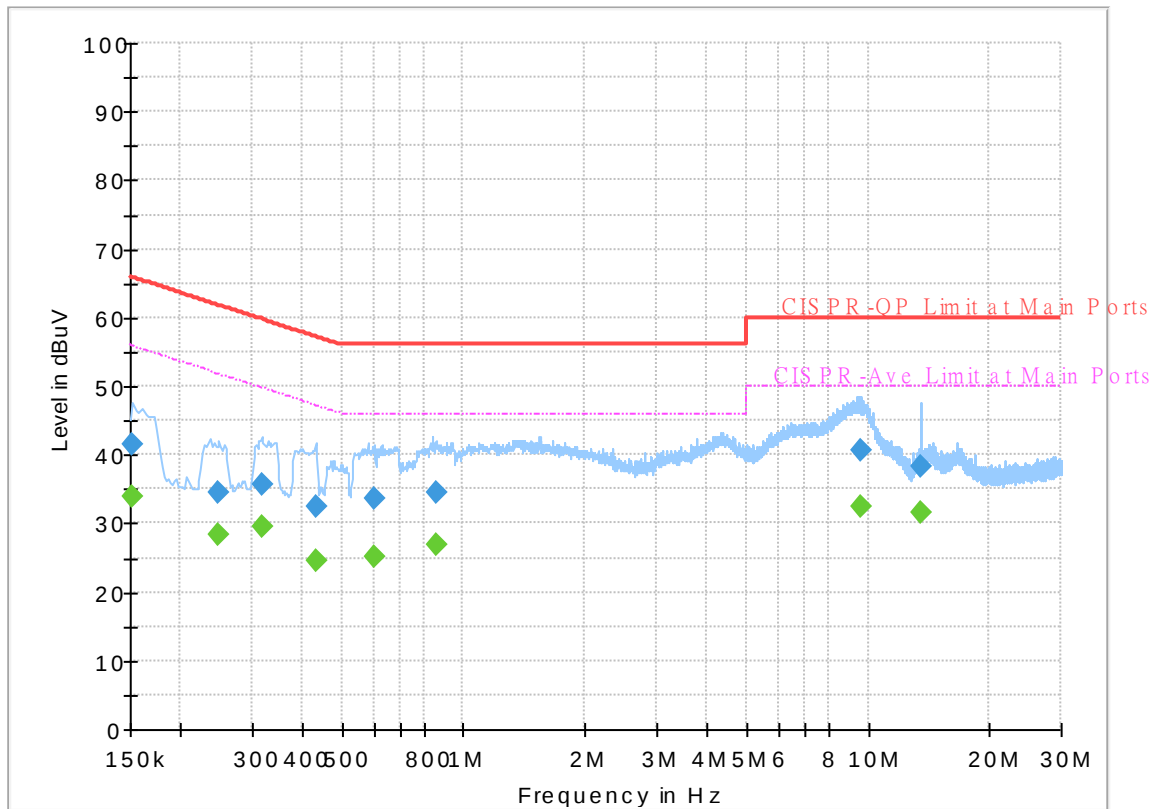
## Final\_Result

| Frequency (MHz) | QuasiPeak (dBuV) | CAverage (dBuV) | Limit (dBuV) | Margin (dB) | Line | Filter | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|------|--------|------------|
| 0.152250        | ---              | 36.49           | 55.88        | 19.39       | L1   | OFF    | 19.6       |
| 0.152250        | 45.29            | ---             | 65.88        | 20.59       | L1   | OFF    | 19.6       |
| 0.233250        | ---              | 30.59           | 52.33        | 21.74       | L1   | OFF    | 19.6       |
| 0.233250        | 37.82            | ---             | 62.33        | 24.51       | L1   | OFF    | 19.6       |
| 0.314250        | ---              | 28.09           | 49.86        | 21.77       | L1   | OFF    | 19.6       |
| 0.314250        | 33.48            | ---             | 59.86        | 26.38       | L1   | OFF    | 19.6       |
| 0.388500        | ---              | 27.14           | 48.10        | 20.96       | L1   | OFF    | 19.6       |
| 0.388500        | 34.24            | ---             | 58.10        | 23.86       | L1   | OFF    | 19.6       |
| 0.492000        | ---              | 25.14           | 46.13        | 20.99       | L1   | OFF    | 19.6       |
| 0.492000        | 31.77            | ---             | 56.13        | 24.36       | L1   | OFF    | 19.6       |
| 1.338000        | ---              | 25.07           | 46.00        | 20.93       | L1   | OFF    | 19.7       |
| 1.338000        | 28.11            | ---             | 56.00        | 27.89       | L1   | OFF    | 19.7       |
| 9.543750        | ---              | 34.63           | 50.00        | 15.37       | L1   | OFF    | 20.0       |
| 9.543750        | 43.35            | ---             | 60.00        | 16.65       | L1   | OFF    | 20.0       |
| 13.560000       | ---              | 29.44           | 50.00        | 20.56       | L1   | OFF    | 20.2       |
| 13.560000       | 34.77            | ---             | 60.00        | 25.23       | L1   | OFF    | 20.2       |

## EUT Information

Report NO : 210409  
Test Mode : Mode 1  
Test Voltage : 120Vac/60Hz  
Phase : Neutral

Full Spectrum



## Final\_Result

| Frequency (MHz) | QuasiPeak (dBuV) | CAverage (dBuV) | Limit (dBuV) | Margin (dB) | Line | Filter | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|------|--------|------------|
| 0.152250        | ---              | 33.83           | 55.88        | 22.05       | N    | OFF    | 19.6       |
| 0.152250        | 41.64            | ---             | 65.88        | 24.24       | N    | OFF    | 19.6       |
| 0.249000        | ---              | 28.29           | 51.79        | 23.50       | N    | OFF    | 19.6       |
| 0.249000        | 34.39            | ---             | 61.79        | 27.40       | N    | OFF    | 19.6       |
| 0.316500        | ---              | 29.54           | 49.80        | 20.26       | N    | OFF    | 19.6       |
| 0.316500        | 35.65            | ---             | 59.80        | 24.15       | N    | OFF    | 19.6       |
| 0.431250        | ---              | 24.65           | 47.23        | 22.58       | N    | OFF    | 19.6       |
| 0.431250        | 32.52            | ---             | 57.23        | 24.71       | N    | OFF    | 19.6       |
| 0.600000        | ---              | 25.12           | 46.00        | 20.88       | N    | OFF    | 19.6       |
| 0.600000        | 33.57            | ---             | 56.00        | 22.43       | N    | OFF    | 19.6       |
| 0.854250        | ---              | 26.77           | 46.00        | 19.23       | N    | OFF    | 19.6       |
| 0.854250        | 34.39            | ---             | 56.00        | 21.61       | N    | OFF    | 19.6       |
| 9.642750        | ---              | 32.51           | 50.00        | 17.49       | N    | OFF    | 20.1       |
| 9.642750        | 40.63            | ---             | 60.00        | 19.37       | N    | OFF    | 20.1       |
| 13.560000       | ---              | 31.56           | 50.00        | 18.44       | N    | OFF    | 20.2       |
| 13.560000       | 38.43            | ---             | 60.00        | 21.57       | N    | OFF    | 20.2       |



## Appendix C. Radiated Spurious Emission

|                 |                                     |                     |             |
|-----------------|-------------------------------------|---------------------|-------------|
| Test Engineer : | Daniel Lee, Fu Chen and Troye Hsieh | Temperature :       | 20.1~21.6°C |
|                 |                                     | Relative Humidity : | 56.5~66.9%  |

### 2.4GHz 2400~2483.5MHz

#### BT (Band Edge @ 3m)

| BT                     | Note | Frequency | Level      | Margin | Limit      | Read     | Antenna  | Path   | Preamp | Ant    | Table   | Peak    | Pol.    |
|------------------------|------|-----------|------------|--------|------------|----------|----------|--------|--------|--------|---------|---------|---------|
| Ant.                   |      |           |            |        | Line       | Level    | Factor   | Loss   | Factor | Pos    | Pos     | Avg.    |         |
| 7                      |      | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | ( dBμV ) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | ( P/A ) | ( H/V ) |
| BT<br>CH00<br>2402MHz  |      | 2361.135  | 42.97      | -31.03 | 74         | 42.27    | 27.34    | 7.32   | 33.96  | 100    | 88      | P       | H       |
|                        |      | 2361.135  | 18.18      | -35.82 | 54         | -        | -        | -      | -      | -      | -       | A       | H       |
|                        | *    | 2402      | 107.19     | -      | -          | 106.26   | 27.51    | 7.37   | 33.95  | 100    | 88      | P       | H       |
|                        | *    | 2402      | 82.4       | -      | -          | -        | -        | -      | -      | -      | -       | A       | H       |
|                        |      |           |            |        |            |          |          |        |        |        |         |         | H       |
|                        |      |           |            |        |            |          |          |        |        |        |         |         | H       |
|                        |      | 2333.415  | 42.53      | -31.47 | 74         | 41.91    | 27.3     | 7.28   | 33.96  | 400    | 257     | P       | V       |
|                        |      | 2333.415  | 17.74      | -36.26 | 54         | -        | -        | -      | -      | -      | -       | A       | V       |
|                        | *    | 2402      | 100.97     | -      | -          | 100.04   | 27.51    | 7.37   | 33.95  | 400    | 257     | P       | V       |
|                        | *    | 2402      | 76.18      | -      | -          | -        | -        | -      | -      | -      | -       | A       | V       |
|                        |      |           |            |        |            |          |          |        |        |        |         |         | V       |
|                        |      |           |            |        |            |          |          |        |        |        |         |         | V       |
| BT<br>CH 39<br>2441MHz |      | 2353.54   | 43.32      | -30.68 | 74         | 42.66    | 27.31    | 7.31   | 33.96  | 100    | 86      | P       | H       |
|                        |      | 2353.54   | 18.53      | -35.47 | 54         | -        | -        | -      | -      | -      | -       | A       | H       |
|                        | *    | 2441      | 109.52     | -      | -          | 108.37   | 27.66    | 7.43   | 33.94  | 100    | 86      | P       | H       |
|                        | *    | 2441      | 84.73      | -      | -          | -        | -        | -      | -      | -      | -       | A       | H       |
|                        |      | 2496.5    | 44.23      | -29.77 | 74         | 42.85    | 27.79    | 7.51   | 33.92  | 100    | 86      | P       | H       |
|                        |      | 2496.5    | 19.44      | -34.56 | 54         | -        | -        | -      | -      | -      | -       | A       | H       |
|                        |      | 2384.34   | 43.04      | -30.96 | 74         | 42.2     | 27.44    | 7.35   | 33.95  | 400    | 143     | P       | V       |
|                        |      | 2384.34   | 18.25      | -35.75 | 54         | -        | -        | -      | -      | -      | -       | A       | V       |
|                        | *    | 2441      | 103.24     | -      | -          | 102.09   | 27.66    | 7.43   | 33.94  | 400    | 143     | P       | V       |
|                        | *    | 2441      | 78.45      | -      | -          | -        | -        | -      | -      | -      | -       | A       | V       |
|                        |      | 2484.39   | 43.68      | -30.32 | 74         | 42.33    | 27.77    | 7.5    | 33.92  | 400    | 143     | P       | V       |
|                        |      | 2484.39   | 18.89      | -35.11 | 54         | -        | -        | -      | -      | -      | -       | A       | V       |



|                                 |                                                                                             |         |        |        |    |        |       |      |       |     |     |   |   |
|---------------------------------|---------------------------------------------------------------------------------------------|---------|--------|--------|----|--------|-------|------|-------|-----|-----|---|---|
| <b>BT<br/>CH 78<br/>2480MHz</b> | *                                                                                           | 2480    | 108.6  | -      | -  | 107.28 | 27.76 | 7.49 | 33.93 | 100 | 86  | P | H |
|                                 | *                                                                                           | 2480    | 83.81  | -      | -  | -      | -     | -    | -     | -   | -   | A | H |
|                                 |                                                                                             | 2483.56 | 51.73  | -22.27 | 74 | 50.38  | 27.77 | 7.5  | 33.92 | 100 | 86  | P | H |
|                                 |                                                                                             | 2483.56 | 26.94  | -27.06 | 54 | -      | -     | -    | -     | -   | -   | A | H |
|                                 |                                                                                             |         |        |        |    |        |       |      |       |     |     |   | H |
|                                 |                                                                                             |         |        |        |    |        |       |      |       |     |     |   | H |
|                                 | *                                                                                           | 2480    | 101.27 | -      | -  | 99.95  | 27.76 | 7.49 | 33.93 | 400 | 243 | P | V |
|                                 | *                                                                                           | 2480    | 76.48  | -      | -  | -      | -     | -    | -     | -   | -   | A | V |
|                                 |                                                                                             | 2483.6  | 45.65  | -28.35 | 74 | 44.3   | 27.77 | 7.5  | 33.92 | 400 | 243 | P | V |
|                                 |                                                                                             | 2483.6  | 20.86  | -33.14 | 54 | -      | -     | -    | -     | -   | -   | A | V |
|                                 |                                                                                             |         |        |        |    |        |       |      |       |     |     |   | V |
|                                 |                                                                                             |         |        |        |    |        |       |      |       |     |     |   | V |
| <b>Remark</b>                   | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |         |        |        |    |        |       |      |       |     |     |   |   |



## 2.4GHz 2400~2483.5MHz

## BT (Harmonic @ 3m)

| BT<br>Ant.<br>7        | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Margin<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|------------------------|------|----------------------|---------------------|------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| BT<br>CH 00<br>2402MHz |      | 4804                 | 39.1                | -34.9            | 74                          | 53.42                     | 32.22                         | 11.4                   | 57.94                      | -                    | -                       | P                       | H               |
|                        |      | 4804                 | 14.31               | -39.69           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | H               |
|                        |      | 12135                | 47.56               | -26.44           | 74                          | 53.21                     | 39.2                          | 17.94                  | 62.79                      | -                    | -                       | P                       | H               |
|                        |      | 12135                | 22.77               | -31.23           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | H               |
|                        |      | 14505                | 48.23               | -25.77           | 74                          | 49.25                     | 40.59                         | 20.85                  | 62.46                      | -                    | -                       | P                       | H               |
|                        |      | 14505                | 23.44               | -30.56           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | H               |
|                        |      | 17895                | 50                  | -24              | 74                          | 41.51                     | 41.83                         | 22.94                  | 56.28                      | -                    | -                       | P                       | H               |
|                        |      | 17895                | 25.21               | -28.79           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | H               |
|                        |      |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                        |      |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                        |      |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                        |      |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                        |      | 4804                 | 39.69               | -34.31           | 74                          | 54.01                     | 32.22                         | 11.4                   | 57.94                      | -                    | -                       | P                       | V               |
|                        |      | 4804                 | 14.9                | -39.1            | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | V               |
|                        |      | 11070                | 48.89               | -25.11           | 74                          | 53.78                     | 38.9                          | 17.44                  | 61.23                      | -                    | -                       | P                       | V               |
|                        |      | 11070                | 24.1                | -29.9            | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | V               |
|                        |      | 14505                | 48.34               | -25.66           | 74                          | 49.36                     | 40.59                         | 20.85                  | 62.46                      | -                    | -                       | P                       | V               |
|                        |      | 14505                | 23.55               | -30.45           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | V               |
|                        |      | 17925                | 49.96               | -24.04           | 74                          | 41.13                     | 42.08                         | 22.97                  | 56.22                      | -                    | -                       | P                       | V               |
|                        |      | 17925                | 25.17               | -28.83           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | V               |
|                        |      |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                        |      |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                        |      |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                        |      |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         | V               |



| BT<br>Ant.<br>7        | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Margin<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|------------------------|------|----------------------|---------------------|------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| BT<br>CH 39<br>2441MHz |      | 4882                 | 40.68               | -33.32           | 74                          | 54.4                      | 32.63                         | 11.65                  | 58                         | -                    | -                       | P                       | H               |
|                        |      | 4882                 | 15.89               | -38.11           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | H               |
|                        |      | 7323                 | 42.47               | -31.53           | 74                          | 50.74                     | 37.01                         | 13.45                  | 58.73                      | -                    | -                       | P                       | H               |
|                        |      | 7323                 | 17.68               | -36.32           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | H               |
|                        |      | 11430                | 47.49               | -26.51           | 74                          | 52.39                     | 39.1                          | 17.58                  | 61.58                      | -                    | -                       | P                       | H               |
|                        |      | 11430                | 22.7                | -31.3            | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | H               |
|                        |      | 14490                | 48.52               | -25.48           | 74                          | 49.57                     | 40.59                         | 20.83                  | 62.47                      | -                    | -                       | P                       | H               |
|                        |      | 14490                | 23.73               | -30.27           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | H               |
|                        |      | 18000                | 50.63               | -23.37           | 74                          | 41.07                     | 42.6                          | 23.04                  | 56.08                      | -                    | -                       | P                       | H               |
|                        |      | 18000                | 25.84               | -28.16           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | H               |
|                        |      |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                        |      |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                        |      | 4882                 | 41.04               | -32.96           | 74                          | 54.76                     | 32.63                         | 11.65                  | 58                         | -                    | -                       | P                       | V               |
|                        |      | 4882                 | 16.25               | -37.75           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | V               |
|                        |      | 7323                 | 42.75               | -31.25           | 74                          | 51.02                     | 37.01                         | 13.45                  | 58.73                      | -                    | -                       | P                       | V               |
|                        |      | 7323                 | 17.96               | -36.04           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | V               |
|                        |      | 12585                | 47.44               | -26.56           | 74                          | 52.79                     | 39.46                         | 18.43                  | 63.24                      | -                    | -                       | P                       | V               |
|                        |      | 12585                | 22.65               | -31.35           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | V               |
|                        |      | 14490                | 49.01               | -24.99           | 74                          | 50.06                     | 40.59                         | 20.83                  | 62.47                      | -                    | -                       | P                       | V               |
|                        |      | 14490                | 24.22               | -29.78           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | V               |
|                        |      | 17925                | 49.51               | -24.49           | 74                          | 40.68                     | 42.08                         | 22.97                  | 56.22                      | -                    | -                       | P                       | V               |
|                        |      | 17925                | 24.72               | -29.28           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | V               |
|                        |      |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                        |      |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         | V               |



| BT<br>Ant.<br>7                 | Note                                                                                                                                    | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Margin<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------|---------------------|------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| <b>BT<br/>CH 78<br/>2480MHz</b> |                                                                                                                                         | 4960                 | 41.03               | -32.97           | 74                          | 54.18                     | 33.02                         | 11.89                  | 58.06                      | -                    | -                       | P                       | H               |
|                                 |                                                                                                                                         | 4960                 | 16.24               | -37.76           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | H               |
|                                 |                                                                                                                                         | 7440                 | 41.59               | -32.41           | 74                          | 50.11                     | 36.44                         | 13.75                  | 58.71                      | -                    | -                       | P                       | H               |
|                                 |                                                                                                                                         | 7440                 | 16.8                | -37.2            | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | H               |
|                                 |                                                                                                                                         | 11235                | 47.39               | -26.61           | 74                          | 52.15                     | 39.13                         | 17.5                   | 61.39                      | -                    | -                       | P                       | H               |
|                                 |                                                                                                                                         | 11235                | 22.6                | -31.4            | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | H               |
|                                 |                                                                                                                                         | 14475                | 48.51               | -25.49           | 74                          | 49.63                     | 40.57                         | 20.81                  | 62.5                       | -                    | -                       | P                       | H               |
|                                 |                                                                                                                                         | 14475                | 23.72               | -30.28           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | H               |
|                                 |                                                                                                                                         | 17925                | 49.7                | -24.3            | 74                          | 40.87                     | 42.08                         | 22.97                  | 56.22                      | -                    | -                       | P                       | H               |
|                                 |                                                                                                                                         | 17925                | 24.91               | -29.09           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | H               |
|                                 |                                                                                                                                         |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                 |                                                                                                                                         |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                 |                                                                                                                                         | 4960                 | 41.68               | -32.32           | 74                          | 54.83                     | 33.02                         | 11.89                  | 58.06                      | -                    | -                       | P                       | V               |
|                                 |                                                                                                                                         | 4960                 | 16.89               | -37.11           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | V               |
|                                 |                                                                                                                                         | 7440                 | 41.06               | -32.94           | 74                          | 49.58                     | 36.44                         | 13.75                  | 58.71                      | -                    | -                       | P                       | V               |
|                                 |                                                                                                                                         | 7440                 | 16.27               | -37.73           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | V               |
|                                 |                                                                                                                                         | 11175                | 47.93               | -26.07           | 74                          | 52.73                     | 39.05                         | 17.48                  | 61.33                      | -                    | -                       | P                       | V               |
|                                 |                                                                                                                                         | 11175                | 23.14               | -30.86           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | V               |
|                                 |                                                                                                                                         | 14490                | 48.79               | -25.21           | 74                          | 49.84                     | 40.59                         | 20.83                  | 62.47                      | -                    | -                       | P                       | V               |
|                                 |                                                                                                                                         | 14490                | 24                  | -30              | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | V               |
|                                 |                                                                                                                                         | 17940                | 49.3                | -24.7            | 74                          | 40.33                     | 42.18                         | 22.99                  | 56.2                       | -                    | -                       | P                       | V               |
|                                 |                                                                                                                                         | 17940                | 24.51               | -29.49           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | V               |
|                                 |                                                                                                                                         |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                 |                                                                                                                                         |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| <b>Remark</b>                   | 1. No other spurious found.                                                                                                             |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         |                 |
|                                 | 2. All results are PASS against Peak and Average limit line.                                                                            |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         |                 |
|                                 | 3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only. |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         |                 |
|                                 | 4. The emission level close to 18GHz is checked that the average emission level is noise floor only.                                    |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         |                 |

## Emission above 18GHz

## 2.4GHz BT (SHF)

[illegible]

## Emission below 1GHz

## 2.4GHz BT (LF)

| BT                         | Note                                                                                                                                                               | Frequency | Level      | Margin | Limit      | Read   | Antenna  | Path   | Preamp | Ant    | Table   | Peak  | Pol.  |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|--------|------------|--------|----------|--------|--------|--------|---------|-------|-------|
| Ant.                       |                                                                                                                                                                    |           |            |        | Line       | Level  | Factor   | Loss   | Factor | Pos    | Pos     | Avg.  |       |
| 7                          |                                                                                                                                                                    | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | (dBμV) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | (P/A) | (H/V) |
| 2.4GHz<br><br>BT<br><br>LF |                                                                                                                                                                    | 30        | 24.43      | -15.57 | 40         | 31.57  | 24.27    | 0.95   | 32.36  | -      | -       | P     | H     |
|                            |                                                                                                                                                                    | 103.72    | 24.93      | -18.57 | 43.5       | 39.54  | 16.2     | 1.58   | 32.39  | -      | -       | P     | H     |
|                            |                                                                                                                                                                    | 172.59    | 23.04      | -20.46 | 43.5       | 38.33  | 15.17    | 2.03   | 32.49  | -      | -       | P     | H     |
|                            |                                                                                                                                                                    | 798.24    | 29.39      | -16.61 | 46         | 28.69  | 28.11    | 4.35   | 31.76  | -      | -       | P     | H     |
|                            |                                                                                                                                                                    | 858.38    | 30.6       | -15.4  | 46         | 28.39  | 29.14    | 4.52   | 31.45  | -      | -       | P     | H     |
|                            |                                                                                                                                                                    | 966.05    | 31.5       | -22.5  | 54         | 26.46  | 31.01    | 4.82   | 30.79  | -      | -       | P     | H     |
|                            |                                                                                                                                                                    |           |            |        |            |        |          |        |        |        |         |       | H     |
|                            |                                                                                                                                                                    |           |            |        |            |        |          |        |        |        |         |       | H     |
|                            |                                                                                                                                                                    |           |            |        |            |        |          |        |        |        |         |       | H     |
|                            |                                                                                                                                                                    |           |            |        |            |        |          |        |        |        |         |       | H     |
|                            |                                                                                                                                                                    |           |            |        |            |        |          |        |        |        |         |       | H     |
|                            |                                                                                                                                                                    |           |            |        |            |        |          |        |        |        |         |       | H     |
|                            |                                                                                                                                                                    |           |            |        |            |        |          |        |        |        |         |       | H     |
|                            |                                                                                                                                                                    | 40.67     | 31.77      | -8.23  | 40         | 44.4   | 18.89    | 0.91   | 32.43  | -      | -       | P     | V     |
|                            |                                                                                                                                                                    | 73.65     | 23.77      | -16.23 | 40         | 42.49  | 12.42    | 1.3    | 32.44  | -      | -       | P     | V     |
|                            |                                                                                                                                                                    | 166.77    | 23.37      | -20.13 | 43.5       | 38.25  | 15.61    | 1.99   | 32.48  | -      | -       | P     | V     |
|                            |                                                                                                                                                                    | 782.72    | 28.13      | -17.87 | 46         | 27.66  | 28.03    | 4.3    | 31.86  | -      | -       | P     | V     |
|                            |                                                                                                                                                                    | 860.32    | 29.97      | -16.03 | 46         | 27.73  | 29.15    | 4.53   | 31.44  | -      | -       | P     | V     |
|                            |                                                                                                                                                                    | 970.9     | 32.21      | -21.79 | 54         | 27.19  | 30.93    | 4.84   | 30.75  | -      | -       | P     | V     |
|                            |                                                                                                                                                                    |           |            |        |            |        |          |        |        |        |         |       | V     |
|                            |                                                                                                                                                                    |           |            |        |            |        |          |        |        |        |         |       | V     |
|                            |                                                                                                                                                                    |           |            |        |            |        |          |        |        |        |         |       | V     |
|                            |                                                                                                                                                                    |           |            |        |            |        |          |        |        |        |         |       | V     |
|                            |                                                                                                                                                                    |           |            |        |            |        |          |        |        |        |         |       | V     |
|                            |                                                                                                                                                                    |           |            |        |            |        |          |        |        |        |         | V     |       |
| Remark                     | 1. No other spurious found.                                                                                                                                        |           |            |        |            |        |          |        |        |        |         |       |       |
|                            | 2. All results are PASS against limit line.                                                                                                                        |           |            |        |            |        |          |        |        |        |         |       |       |
|                            | 3. The emission position marked as “-” means no suspected emission found and emission level has at least 6dB margin against limit or emission is noise floor only. |           |            |        |            |        |          |        |        |        |         |       |       |
|                            |                                                                                                                                                                    |           |            |        |            |        |          |        |        |        |         |       |       |



## 2.4GHz 2400~2483.5MHz

## BT (Band Edge @ 3m)

| BT                     | Note | Frequency | Level      | Margin | Limit      | Read     | Antenna  | Path   | Preamp | Ant    | Table   | Peak  | Pol.  |
|------------------------|------|-----------|------------|--------|------------|----------|----------|--------|--------|--------|---------|-------|-------|
| Ant.                   |      |           |            |        | Line       | Level    | Factor   | Loss   | Factor | Pos    | Pos     | Avg.  |       |
| 8                      |      | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | ( dBμV ) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | (P/A) | (H/V) |
| BT<br>CH00<br>2402MHz  |      | 2355.885  | 42.64      | -31.36 | 74         | 41.97    | 27.32    | 7.31   | 33.96  | 100    | 86      | P     | H     |
|                        |      | 2355.885  | 17.85      | -36.15 | 54         | -        | -        | -      | -      | -      | -       | A     | H     |
|                        | *    | 2402      | 99.98      | -      | -          | 99.05    | 27.51    | 7.37   | 33.95  | 100    | 86      | P     | H     |
|                        | *    | 2402      | 75.19      | -      | -          | -        | -        | -      | -      | -      | -       | A     | H     |
|                        |      |           |            |        |            |          |          |        |        |        |         |       | H     |
|                        |      |           |            |        |            |          |          |        |        |        |         |       | H     |
|                        |      | 2389.905  | 45.19      | -28.81 | 74         | 44.32    | 27.46    | 7.36   | 33.95  | 400    | 121     | P     | V     |
|                        |      | 2389.905  | 20.4       | -33.6  | 54         | -        | -        | -      | -      | -      | -       | A     | V     |
|                        | *    | 2402      | 94.23      | -      | -          | 93.3     | 27.51    | 7.37   | 33.95  | 400    | 121     | P     | V     |
|                        | *    | 2402      | 69.44      | -      | -          | -        | -        | -      | -      | -      | -       | A     | V     |
|                        |      |           |            |        |            |          |          |        |        |        |         |       | V     |
|                        |      |           |            |        |            |          |          |        |        |        |         |       | V     |
| BT<br>CH 39<br>2441MHz |      | 2374.26   | 44.15      | -29.85 | 74         | 43.36    | 27.4     | 7.34   | 33.95  | 100    | 84      | P     | H     |
|                        |      | 2374.26   | 19.36      | -34.64 | 54         | -        | -        | -      | -      | -      | -       | A     | H     |
|                        | *    | 2441      | 101.66     | -      | -          | 100.51   | 27.66    | 7.43   | 33.94  | 100    | 84      | P     | H     |
|                        | *    | 2441      | 76.87      | -      | -          | -        | -        | -      | -      | -      | -       | A     | H     |
|                        |      | 2487.54   | 43.42      | -30.58 | 74         | 42.06    | 27.78    | 7.5    | 33.92  | 100    | 84      | P     | H     |
|                        |      | 2487.54   | 18.63      | -35.37 | 54         | -        | -        | -      | -      | -      | -       | A     | H     |
|                        |      | 2388.82   | 43.32      | -30.68 | 74         | 42.45    | 27.46    | 7.36   | 33.95  | 400    | 227     | P     | V     |
|                        |      | 2388.82   | 18.53      | -35.47 | 54         | -        | -        | -      | -      | -      | -       | A     | V     |
|                        | *    | 2441      | 95.75      | -      | -          | 94.6     | 27.66    | 7.43   | 33.94  | 400    | 227     | P     | V     |
|                        | *    | 2441      | 70.96      | -      | -          | -        | -        | -      | -      | -      | -       | A     | V     |
|                        |      | 2489.08   | 44.13      | -29.87 | 74         | 42.77    | 27.78    | 7.5    | 33.92  | 400    | 227     | P     | V     |
|                        |      | 2489.08   | 19.34      | -34.66 | 54         | -        | -        | -      | -      | -      | -       | A     | V     |



|                                 |                                                                                             |         |        |        |    |       |       |      |       |     |     |   |   |
|---------------------------------|---------------------------------------------------------------------------------------------|---------|--------|--------|----|-------|-------|------|-------|-----|-----|---|---|
| <b>BT<br/>CH 78<br/>2480MHz</b> | *                                                                                           | 2480    | 100.49 | -      | -  | 99.17 | 27.76 | 7.49 | 33.93 | 100 | 81  | P | H |
|                                 | *                                                                                           | 2480    | 75.7   | -      | -  | -     | -     | -    | -     | -   | -   | A | H |
|                                 |                                                                                             | 2483.76 | 44.89  | -29.11 | 74 | 43.54 | 27.77 | 7.5  | 33.92 | 100 | 81  | P | H |
|                                 |                                                                                             | 2483.76 | 20.1   | -33.9  | 54 | -     | -     | -    | -     | -   | -   | A | H |
|                                 |                                                                                             |         |        |        |    |       |       |      |       |     |     |   | H |
|                                 |                                                                                             |         |        |        |    |       |       |      |       |     |     |   | H |
|                                 | *                                                                                           | 2480    | 93.66  | -      | -  | 92.34 | 27.76 | 7.49 | 33.93 | 300 | 140 | P | V |
|                                 | *                                                                                           | 2480    | 68.87  | -      | -  | -     | -     | -    | -     | -   | -   | A | V |
|                                 |                                                                                             | 2487.92 | 43.64  | -30.36 | 74 | 42.28 | 27.78 | 7.5  | 33.92 | 300 | 140 | P | V |
|                                 |                                                                                             | 2487.92 | 18.85  | -35.15 | 54 | -     | -     | -    | -     | -   | -   | A | V |
|                                 |                                                                                             |         |        |        |    |       |       |      |       |     |     |   | V |
|                                 |                                                                                             |         |        |        |    |       |       |      |       |     |     |   | V |
| <b>Remark</b>                   | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |         |        |        |    |       |       |      |       |     |     |   |   |



## 2.4GHz 2400~2483.5MHz

## BT (Harmonic @ 3m)

| BT<br>Ant.<br>8        | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Margin<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|------------------------|------|----------------------|---------------------|------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| BT<br>CH 00<br>2402MHz |      | 4804                 | 38.68               | -35.32           | 74                          | 53                        | 32.22                         | 11.4                   | 57.94                      | -                    | -                       | P                       | H               |
|                        |      | 4804                 | 13.89               | -40.11           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | H               |
|                        |      | 11235                | 48.51               | -25.49           | 74                          | 53.27                     | 39.13                         | 17.5                   | 61.39                      | -                    | -                       | P                       | H               |
|                        |      | 11235                | 23.72               | -30.28           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | H               |
|                        |      | 14475                | 48.5                | -25.5            | 74                          | 49.62                     | 40.57                         | 20.81                  | 62.5                       | -                    | -                       | P                       | H               |
|                        |      | 14475                | 23.71               | -30.29           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | H               |
|                        |      | 17940                | 49.61               | -24.39           | 74                          | 40.64                     | 42.18                         | 22.99                  | 56.2                       | -                    | -                       | P                       | H               |
|                        |      | 17940                | 24.82               | -29.18           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | H               |
|                        |      |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                        |      |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                        |      |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                        |      |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                        |      | 4804                 | 42.02               | -31.98           | 74                          | 56.34                     | 32.22                         | 11.4                   | 57.94                      | -                    | -                       | P                       | V               |
|                        |      | 4804                 | 17.23               | -36.77           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | V               |
|                        |      | 12180                | 46.87               | -27.13           | 74                          | 52.55                     | 39.2                          | 17.99                  | 62.87                      | -                    | -                       | P                       | V               |
|                        |      | 12180                | 22.08               | -31.92           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | V               |
|                        |      | 14505                | 48.59               | -25.41           | 74                          | 49.61                     | 40.59                         | 20.85                  | 62.46                      | -                    | -                       | P                       | V               |
|                        |      | 14505                | 23.8                | -30.2            | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | V               |
|                        |      | 17925                | 50.11               | -23.89           | 74                          | 41.28                     | 42.08                         | 22.97                  | 56.22                      | -                    | -                       | P                       | V               |
|                        |      | 17925                | 25.32               | -28.68           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | V               |
|                        |      |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                        |      |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                        |      |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                        |      |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         | V               |



| BT<br>Ant.<br>8        | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Margin<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|------------------------|------|----------------------|---------------------|------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| BT<br>CH 39<br>2441MHz |      | 4882                 | 40.3                | -33.7            | 74                          | 54.02                     | 32.63                         | 11.65                  | 58                         | -                    | -                       | P                       | H               |
|                        |      | 4882                 | 15.51               | -38.49           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | H               |
|                        |      | 7323                 | 42.82               | -31.18           | 74                          | 51.09                     | 37.01                         | 13.45                  | 58.73                      | -                    | -                       | P                       | H               |
|                        |      | 7323                 | 18.03               | -35.97           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | H               |
|                        |      | 12660                | 47.6                | -26.4            | 74                          | 52.64                     | 39.56                         | 18.5                   | 63.1                       | -                    | -                       | P                       | H               |
|                        |      | 12660                | 22.81               | -31.19           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | H               |
|                        |      | 14475                | 48.13               | -25.87           | 74                          | 49.25                     | 40.57                         | 20.81                  | 62.5                       | -                    | -                       | P                       | H               |
|                        |      | 14475                | 23.34               | -30.66           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | H               |
|                        |      | 17985                | 49.52               | -24.48           | 74                          | 40.11                     | 42.49                         | 23.03                  | 56.11                      | -                    | -                       | P                       | H               |
|                        |      | 17985                | 24.73               | -29.27           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | H               |
|                        |      |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                        |      |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                        |      | 4882                 | 40.21               | -33.79           | 74                          | 53.93                     | 32.63                         | 11.65                  | 58                         | -                    | -                       | P                       | V               |
|                        |      | 4882                 | 15.42               | -38.58           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | V               |
|                        |      | 7323                 | 42.28               | -31.72           | 74                          | 50.55                     | 37.01                         | 13.45                  | 58.73                      | -                    | -                       | P                       | V               |
|                        |      | 7323                 | 17.49               | -36.51           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | V               |
|                        |      | 11460                | 47.07               | -26.93           | 74                          | 51.99                     | 39.1                          | 17.59                  | 61.61                      | -                    | -                       | P                       | V               |
|                        |      | 11460                | 22.28               | -31.72           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | V               |
|                        |      | 14490                | 48.65               | -25.35           | 74                          | 49.7                      | 40.59                         | 20.83                  | 62.47                      | -                    | -                       | P                       | V               |
|                        |      | 14490                | 23.86               | -30.14           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | V               |
|                        |      | 18000                | 49.89               | -24.11           | 74                          | 40.33                     | 42.6                          | 23.04                  | 56.08                      | -                    | -                       | P                       | V               |
|                        |      | 18000                | 25.1                | -28.9            | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | V               |
|                        |      |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                        |      |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         | V               |



| BT<br>Ant.<br>8                 | Note                                                                                                                                    | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Margin<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------|---------------------|------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| <b>BT<br/>CH 78<br/>2480MHz</b> |                                                                                                                                         | 4960                 | 40.87               | -33.13           | 74                          | 54.02                     | 33.02                         | 11.89                  | 58.06                      | -                    | -                       | P                       | H               |
|                                 |                                                                                                                                         | 4960                 | 16.08               | -37.92           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | H               |
|                                 |                                                                                                                                         | 7440                 | 41.59               | -32.41           | 74                          | 50.11                     | 36.44                         | 13.75                  | 58.71                      | -                    | -                       | P                       | H               |
|                                 |                                                                                                                                         | 7440                 | 16.8                | -37.2            | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | H               |
|                                 |                                                                                                                                         | 12660                | 47.64               | -26.36           | 74                          | 52.68                     | 39.56                         | 18.5                   | 63.1                       | -                    | -                       | P                       | H               |
|                                 |                                                                                                                                         | 12660                | 22.85               | -31.15           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | H               |
|                                 |                                                                                                                                         | 14475                | 48.57               | -25.43           | 74                          | 49.69                     | 40.57                         | 20.81                  | 62.5                       | -                    | -                       | P                       | H               |
|                                 |                                                                                                                                         | 14475                | 23.78               | -30.22           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | H               |
|                                 |                                                                                                                                         | 17895                | 49.73               | -24.27           | 74                          | 41.24                     | 41.83                         | 22.94                  | 56.28                      | -                    | -                       | P                       | H               |
|                                 |                                                                                                                                         | 17895                | 24.94               | -29.06           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | H               |
|                                 |                                                                                                                                         |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                 |                                                                                                                                         |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                 |                                                                                                                                         | 4960                 | 42.13               | -31.87           | 74                          | 55.28                     | 33.02                         | 11.89                  | 58.06                      | -                    | -                       | P                       | V               |
|                                 |                                                                                                                                         | 4960                 | 17.34               | -36.66           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | V               |
|                                 |                                                                                                                                         | 7440                 | 42.83               | -31.17           | 74                          | 51.35                     | 36.44                         | 13.75                  | 58.71                      | -                    | -                       | P                       | V               |
|                                 |                                                                                                                                         | 7440                 | 18.04               | -35.96           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | V               |
|                                 |                                                                                                                                         | 11070                | 47.87               | -26.13           | 74                          | 52.76                     | 38.9                          | 17.44                  | 61.23                      | -                    | -                       | P                       | V               |
|                                 |                                                                                                                                         | 11070                | 23.08               | -30.92           | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | V               |
|                                 |                                                                                                                                         | 14505                | 49.49               | -24.51           | 74                          | 50.51                     | 40.59                         | 20.85                  | 62.46                      | -                    | -                       | P                       | V               |
|                                 |                                                                                                                                         | 14505                | 24.7                | -29.3            | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | V               |
|                                 |                                                                                                                                         | 17955                | 49.89               | -24.11           | 74                          | 40.78                     | 42.28                         | 23                     | 56.17                      | -                    | -                       | P                       | V               |
|                                 |                                                                                                                                         | 17955                | 25.1                | -28.9            | 54                          | -                         | -                             | -                      | -                          | -                    | -                       | A                       | V               |
|                                 |                                                                                                                                         |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                 |                                                                                                                                         |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| <b>Remark</b>                   | 1. No other spurious found.                                                                                                             |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         |                 |
|                                 | 2. All results are PASS against Peak and Average limit line.                                                                            |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         |                 |
|                                 | 3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only. |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         |                 |
|                                 | 4. The emission level close to 18GHz is checked that the average emission level is noise floor only.                                    |                      |                     |                  |                             |                           |                               |                        |                            |                      |                         |                         |                 |

## Emission above 18GHz

## 2.4GHz BT (SHF)

[illegible]

## Emission below 1GHz

## 2.4GHz BT (LF)

| BT                         | Note                                                                                                                                                               | Frequency | Level      | Margin | Limit      | Read   | Antenna  | Path   | Preamp | Ant    | Table   | Peak  | Pol.  |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|--------|------------|--------|----------|--------|--------|--------|---------|-------|-------|
| Ant.                       |                                                                                                                                                                    |           |            |        | Line       | Level  | Factor   | Loss   | Factor | Pos    | Pos     | Avg.  |       |
| 8                          |                                                                                                                                                                    | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | (dBμV) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | (P/A) | (H/V) |
| 2.4GHz<br><br>BT<br><br>LF |                                                                                                                                                                    | 30        | 22.48      | -17.52 | 40         | 29.62  | 24.27    | 0.95   | 32.36  | -      | -       | P     | H     |
|                            |                                                                                                                                                                    | 103.72    | 24.69      | -18.81 | 43.5       | 39.3   | 16.2     | 1.58   | 32.39  | -      | -       | P     | H     |
|                            |                                                                                                                                                                    | 178.41    | 21.52      | -21.98 | 43.5       | 37.16  | 14.79    | 2.07   | 32.5   | -      | -       | P     | H     |
|                            |                                                                                                                                                                    | 823.46    | 28.84      | -17.16 | 46         | 28.08  | 27.98    | 4.41   | 31.63  | -      | -       | P     | H     |
|                            |                                                                                                                                                                    | 864.2     | 29.92      | -16.08 | 46         | 27.65  | 29.15    | 4.54   | 31.42  | -      | -       | P     | H     |
|                            |                                                                                                                                                                    | 966.05    | 32.11      | -21.89 | 54         | 27.07  | 31.01    | 4.82   | 30.79  | -      | -       | P     | H     |
|                            |                                                                                                                                                                    |           |            |        |            |        |          |        |        |        |         |       | H     |
|                            |                                                                                                                                                                    |           |            |        |            |        |          |        |        |        |         |       | H     |
|                            |                                                                                                                                                                    |           |            |        |            |        |          |        |        |        |         |       | H     |
|                            |                                                                                                                                                                    |           |            |        |            |        |          |        |        |        |         |       | H     |
|                            |                                                                                                                                                                    |           |            |        |            |        |          |        |        |        |         |       | H     |
|                            |                                                                                                                                                                    |           |            |        |            |        |          |        |        |        |         |       | H     |
|                            |                                                                                                                                                                    |           |            |        |            |        |          |        |        |        |         |       | H     |
|                            |                                                                                                                                                                    | 41.64     | 32.39      | -7.61  | 40         | 45.53  | 18.37    | 0.93   | 32.44  | -      | -       | P     | V     |
|                            |                                                                                                                                                                    | 109.54    | 20.74      | -22.76 | 43.5       | 34.99  | 16.51    | 1.63   | 32.39  | -      | -       | P     | V     |
|                            |                                                                                                                                                                    | 166.77    | 22.3       | -21.2  | 43.5       | 37.18  | 15.61    | 1.99   | 32.48  | -      | -       | P     | V     |
|                            |                                                                                                                                                                    | 881.66    | 29.83      | -16.17 | 46         | 27.64  | 28.92    | 4.6    | 31.33  | -      | -       | P     | V     |
|                            |                                                                                                                                                                    | 958.29    | 30.92      | -15.08 | 46         | 26.13  | 30.82    | 4.81   | 30.84  | -      | -       | P     | V     |
|                            |                                                                                                                                                                    | 976.72    | 32.29      | -21.71 | 54         | 27.42  | 30.74    | 4.85   | 30.72  | -      | -       | P     | V     |
|                            |                                                                                                                                                                    |           |            |        |            |        |          |        |        |        |         |       | V     |
|                            |                                                                                                                                                                    |           |            |        |            |        |          |        |        |        |         |       | V     |
|                            |                                                                                                                                                                    |           |            |        |            |        |          |        |        |        |         |       | V     |
|                            |                                                                                                                                                                    |           |            |        |            |        |          |        |        |        |         |       | V     |
|                            |                                                                                                                                                                    |           |            |        |            |        |          |        |        |        |         |       | V     |
|                            |                                                                                                                                                                    |           |            |        |            |        |          |        |        |        |         | V     |       |
| Remark                     | 1. No other spurious found.                                                                                                                                        |           |            |        |            |        |          |        |        |        |         |       |       |
|                            | 2. All results are PASS against limit line.                                                                                                                        |           |            |        |            |        |          |        |        |        |         |       |       |
|                            | 3. The emission position marked as “-” means no suspected emission found and emission level has at least 6dB margin against limit or emission is noise floor only. |           |            |        |            |        |          |        |        |        |         |       |       |
|                            |                                                                                                                                                                    |           |            |        |            |        |          |        |        |        |         |       |       |



**Note symbol**

|     |                                                                                                                                                          |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| *   | <b>Fundamental Frequency</b> which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency. |
| !   | Test result is <b>over limit</b> line.                                                                                                                   |
| P/A | <b>Peak</b> or <b>Average</b>                                                                                                                            |
| H/V | <b>Horizontal</b> or <b>Vertical</b>                                                                                                                     |



A calculation example for radiated spurious emission is shown as below:

| BT                     | Note | Frequency | Level      | Margin | Limit      | Read     | Antenna  | Path   | Preamp | Ant    | Table   | Peak    | Pol.    |
|------------------------|------|-----------|------------|--------|------------|----------|----------|--------|--------|--------|---------|---------|---------|
|                        |      |           |            |        | Line       | Level    | Factor   | Loss   | Factor | Pos    | Pos     | Avg.    |         |
|                        |      | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | ( dBμV ) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | ( P/A ) | ( H/V ) |
| BT<br>CH 00<br>2402MHz |      | 2390      | 55.45      | -18.55 | 74         | 54.51    | 32.22    | 4.58   | 35.86  | 103    | 308     | P       | H       |
|                        |      | 2390      | 43.54      | -10.46 | 54         | 42.6     | 32.22    | 4.58   | 35.86  | 103    | 308     | A       | H       |

1. Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Attenuator loss(dB)
2. Level(dBμV/m) =  
Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
3. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

**For Peak Limit @ 2390MHz:**

1. Level(dBμV/m)  
= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)  
= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)  
= 55.45 (dBμV/m)
2. Over Limit(dB)  
= Level(dBμV/m) – Limit Line(dBμV/m)  
= 55.45(dBμV/m) – 74(dBμV/m)  
= -18.55(dB)

**Peak measured complies with the limit line, so test result is “PASS”.**

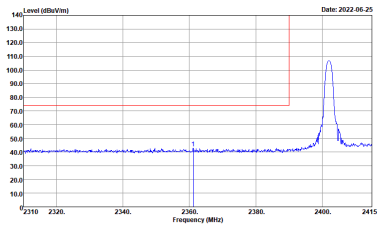
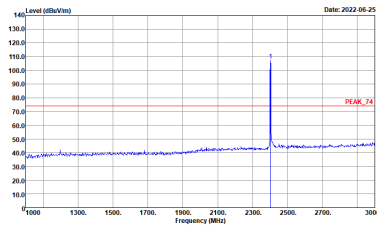


## Appendix D. Radiated Spurious Emission Plots

|                 |                                     |                     |             |
|-----------------|-------------------------------------|---------------------|-------------|
| Test Engineer : | Daniel Lee, Fu Chen and Troye Hsieh | Temperature :       | 20.1~21.6°C |
|                 |                                     | Relative Humidity : | 56.5~66.9%  |

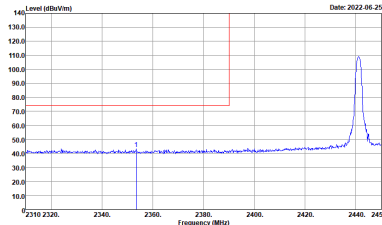
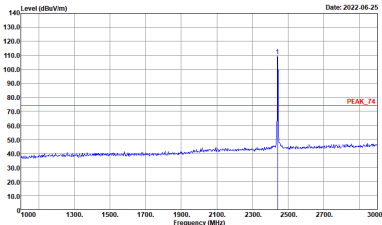
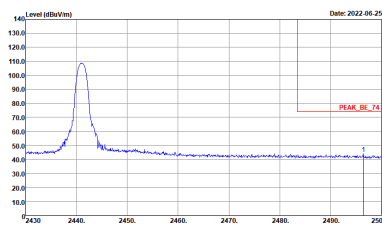
2.4GHz 2400~2483.5MHz

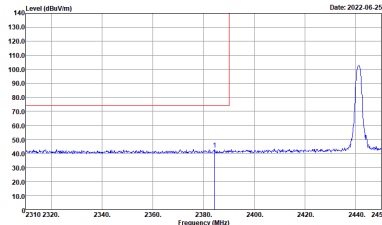
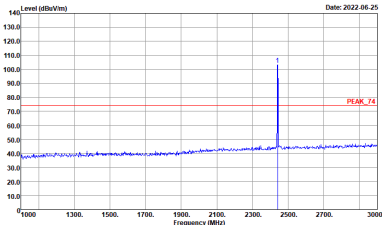
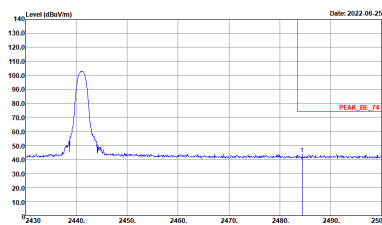
BT (Band Edge @ 3m)

|      |                                                                                                                                                                                                                      |                                                                                                                                                                                                                    |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BT   | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                                                                                                 |                                                                                                                                                                                                                    |
| ANT  | BT CH00 2402MHz                                                                                                                                                                                                      |                                                                                                                                                                                                                    |
| 7    | Horizontal                                                                                                                                                                                                           | Fundamental                                                                                                                                                                                                        |
| Peak |  <p>Site : 03CH11-HY<br/>Condition : PEAK_95_74 3m 91200_1212_220310 HORIZONTAL<br/>: RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p> |  <p>Site : 03CH11-HY<br/>Condition : PEAK_74 3m 91200_1212_220310 HORIZONTAL<br/>: RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p> |



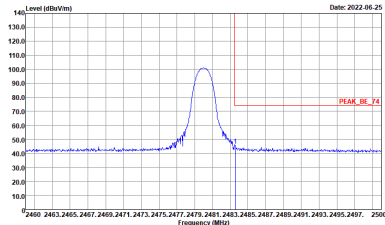
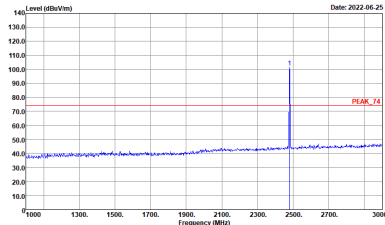
| BT   | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                       |                                                                                                                                         |
|------|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | BT CH00 2402MHz                                                                                                                            |                                                                                                                                         |
| 7    | Vertical                                                                                                                                   | Fundamental                                                                                                                             |
| Peak | <div><p>Site : 03CH11-HY<br/>Condition : PEAK_BE_74 3m 91200_1212_220310 VERTICAL<br/>: RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p></div> | <div><p>Site : 03CH11-HY<br/>Condition : PEAK_74 3m 91200_1212_220310 VERTICAL<br/>: RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p></div> |

| BT   | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                                                                                                  |                                                                                                                                                                                                                   |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | BT CH39 2441MHz                                                                                                                                                                                                       |                                                                                                                                                                                                                   |
| 7    | Horizontal                                                                                                                                                                                                            | Fundamental                                                                                                                                                                                                       |
| Peak |  <p>Site : 03CH11-HY<br/>Condition : PEAK_BE_74 3m 91200_1212_220310 HORIZONTAL<br/>: RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>   |  <p>Site : 03CH11-HY<br/>Condition : PEAK_74 3m 91200_1212_220310 HORIZONTAL<br/>: RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p> |
|      |  <p>Site : 03CH11-HY<br/>Condition : PEAK_BE_74 3m 91200_1212_220310 HORIZONTAL<br/>: RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p> | Left blank                                                                                                                                                                                                        |

| BT   | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                                                                                                |                                                                                                                                                                                                                 |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | BT CH39 2441MHz                                                                                                                                                                                                     |                                                                                                                                                                                                                 |
| 7    | Vertical                                                                                                                                                                                                            | Fundamental                                                                                                                                                                                                     |
| Peak |  <p>Site : 03CH11-HY<br/>Condition : PEAK_BE_74 3m 91200_1212_220310 VERTICAL<br/>: RBW:1000.0000Hz VBW:3000.0000Hz SWT:Auto</p>   |  <p>Site : 03CH11-HY<br/>Condition : PEAK_74 3m 91200_1212_220310 VERTICAL<br/>: RBW:1000.0000Hz VBW:3000.0000Hz SWT:Auto</p> |
|      |  <p>Site : 03CH11-HY<br/>Condition : PEAK_BE_74 3m 91200_1212_220310 VERTICAL<br/>: RBW:1000.0000Hz VBW:3000.0000Hz SWT:Auto</p> | Left blank                                                                                                                                                                                                      |



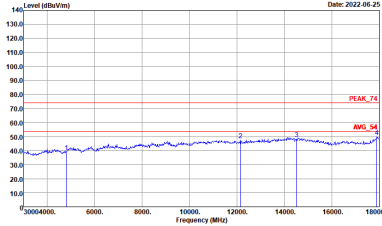
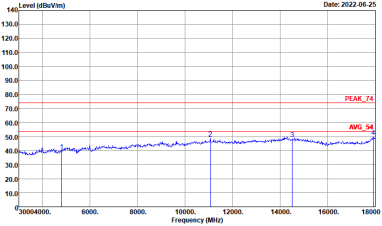
| BT   | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                         |                                                                                                                                           |
|------|----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | BT CH78 2480MHz                                                                                                                              |                                                                                                                                           |
| 7    | Horizontal                                                                                                                                   | Fundamental                                                                                                                               |
| Peak | <div><p>Site : 03CH11-HY<br/>Condition : PEAK_BE_74 3m 91200_1212_220310 HORIZONTAL<br/>: RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p></div> | <div><p>Site : 03CH11-HY<br/>Condition : PEAK_74 3m 91200_1212_220310 HORIZONTAL<br/>: RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p></div> |

| BT   | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                                                                                              |                                                                                                                                                                                                                 |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | BT CH78 2480MHz                                                                                                                                                                                                   |                                                                                                                                                                                                                 |
| 7    | Vertical                                                                                                                                                                                                          | Fundamental                                                                                                                                                                                                     |
| Peak |  <p>Site : 03CH11-HY<br/>Condition : PEAK_BE_74 3m 91200_1212_220310 VERTICAL<br/>: RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p> |  <p>Site : 03CH11-HY<br/>Condition : PEAK_74 3m 91200_1212_220310 VERTICAL<br/>: RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p> |

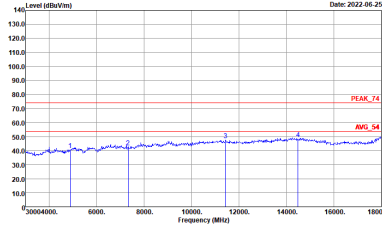
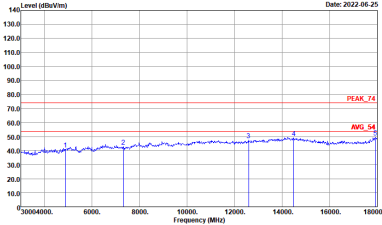


2.4GHz 2400~2483.5MHz

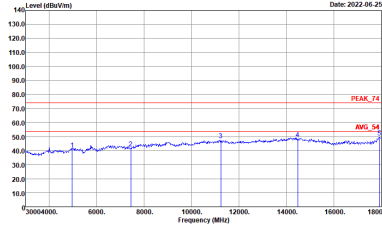
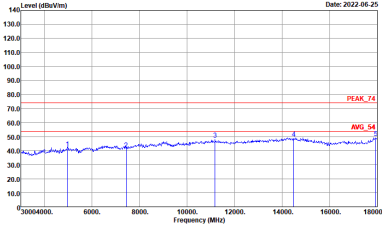
BT (Harmonic @ 3m)

| BT           | 2.4GHz 2400~2483.5MHz Harmonic @ 3m                                                                                                                               |                                                                                                                                                                  |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | BT CH00 2402MHz                                                                                                                                                   |                                                                                                                                                                  |
| 7            | Horizontal                                                                                                                                                        | Vertical                                                                                                                                                         |
| Peak<br>Avg. |  <p>Site : 03CH11-HY<br/>Condition : PEAK_74 3m 91200_1212_220310 HORIZONTAL</p> |  <p>Site : 03CH11-HY<br/>Condition : PEAK_74 3m 91200_1212_220310 VERTICAL</p> |



| BT           | 2.4GHz 2400~2483.5MHz Harmonic @ 3m                                                                                                                                |                                                                                                                                                                   |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | BT CH39 2441MHz                                                                                                                                                    |                                                                                                                                                                   |
| 7            | Horizontal                                                                                                                                                         | Vertical                                                                                                                                                          |
| Peak<br>Avg. |  <p>Site : 03CH11-14Y<br/>Condition : PEAK_74 3m 91200_1212_220310 HORIZONTAL</p> |  <p>Site : 03CH11-14Y<br/>Condition : PEAK_74 3m 91200_1212_220310 VERTICAL</p> |
|              |                                                                                                                                                                    |                                                                                                                                                                   |

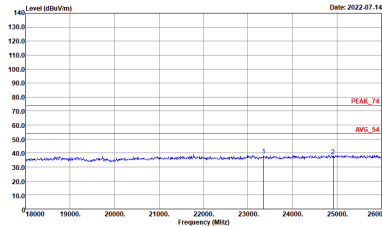
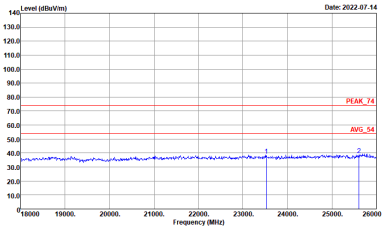


|              |                                                                                                                                                                              |                                                                                                                                                                             |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BT           | 2.4GHz 2400~2483.5MHz Harmonic @ 3m                                                                                                                                          |                                                                                                                                                                             |
| ANT          | BT CH78 2480MHz                                                                                                                                                              |                                                                                                                                                                             |
| 7            | Horizontal                                                                                                                                                                   | Vertical                                                                                                                                                                    |
| Peak<br>Avg. | <div><p>Site : 03CH11-14Y<br/>Condition : PEAK_74 3m 91200_1212_220310 HORIZONTAL</p></div> | <div><p>Site : 03CH11-14Y<br/>Condition : PEAK_74 3m 91200_1212_220310 VERTICAL</p></div> |



Emission above 18GHz

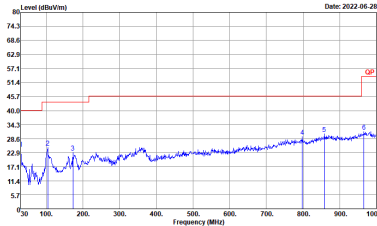
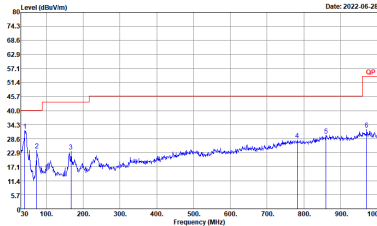
2.4GHz BT (SHF @ 1m)

| BT           | 2.4GHz 2400~2483.5MHz                                                                                                                                             |                                                                                                                                                                  |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | BT SHF                                                                                                                                                            |                                                                                                                                                                  |
| 7            | Horizontal                                                                                                                                                        | Vertical                                                                                                                                                         |
| Peak<br>Avg. |  <p>Site : 03CH11-14Y<br/>Condition : PEAK_74 1m SHF_00993_211130 HORIZONTAL</p> |  <p>Site : 03CH11-14Y<br/>Condition : PEAK_74 1m SHF_00993_211130 VERTICAL</p> |
|              |                                                                                                                                                                   |                                                                                                                                                                  |



Emission below 1GHz

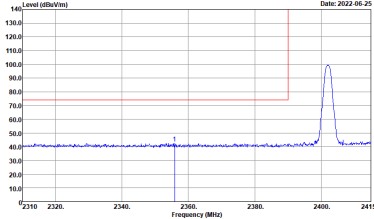
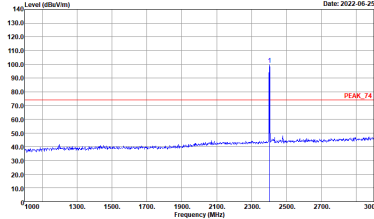
2.4GHz BT (LF)

| BT           | 2.4GHz 2400~2483.5MHz                                                                                                                                          |                                                                                                                                                               |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | BT LF                                                                                                                                                          |                                                                                                                                                               |
| 7            | Horizontal                                                                                                                                                     | Vertical                                                                                                                                                      |
| QP /<br>Peak |  <p>Site : 03CH11-HY<br/>Condition : QP 3m BT-LOG 35414-211009 HORIZONTAL</p> |  <p>Site : 03CH11-HY<br/>Condition : QP 3m BT-LOG 35414-211009 VERTICAL</p> |
|              |                                                                                                                                                                |                                                                                                                                                               |

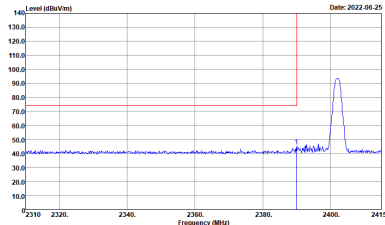
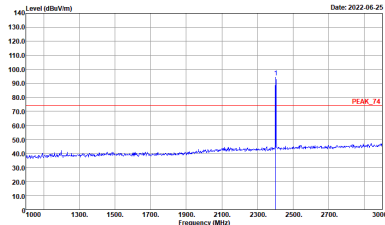


2.4GHz 2400~2483.5MHz

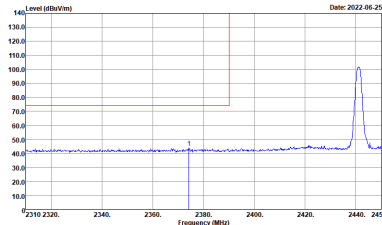
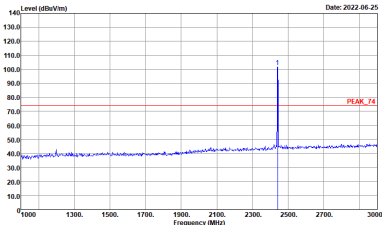
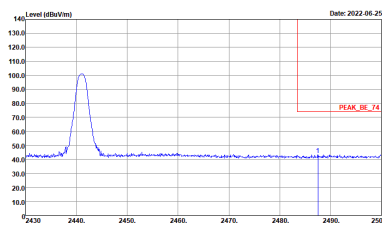
BT (Band Edge @ 3m)

| BT   | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                                                                                                          |                                                                                                                                                                                                                             |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | BT CH00 2402MHz                                                                                                                                                                                                               |                                                                                                                                                                                                                             |
| 8    | Horizontal                                                                                                                                                                                                                    | Fundamental                                                                                                                                                                                                                 |
| Peak | <div><p>Site : 03CH11-HY<br/>Condition : PEAK_BE_74 3m 91200_1212_220310 HORIZONTAL<br/>: RBW:1000.0000Hz VBW:3000.0000Hz SWT:Auto</p></div> | <div><p>Site : 03CH11-HY<br/>Condition : PEAK_74 3m 91200_1212_220310 HORIZONTAL<br/>: RBW:1000.0000Hz VBW:3000.0000Hz SWT:Auto</p></div> |

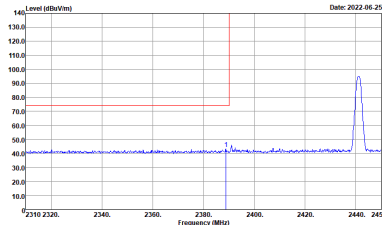
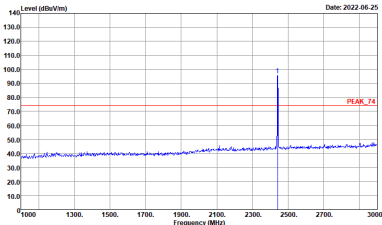
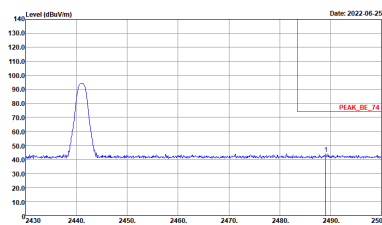


| BT   | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                                                                                                  |                                                                                                                                                                                                                     |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | BT CH00 2402MHz                                                                                                                                                                                                       |                                                                                                                                                                                                                     |
| 8    | Vertical                                                                                                                                                                                                              | Fundamental                                                                                                                                                                                                         |
| Peak |  <p>Site<br/>Condition : 03CH11-HY<br/>: PEAK_BE_74 3m 91200_1212_220310 VERTICAL<br/>: RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p> |  <p>Site<br/>Condition : 03CH11-HY<br/>: PEAK_74 3m 91200_1212_220310 VERTICAL<br/>: RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p> |
|      |                                                                                                                                                                                                                       |                                                                                                                                                                                                                     |



| BT   | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                                                                                                            |                                                                                                                                                                                                                             |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | BT CH39 2441MHz                                                                                                                                                                                                                 |                                                                                                                                                                                                                             |
| 8    | Horizontal                                                                                                                                                                                                                      | Fundamental                                                                                                                                                                                                                 |
| Peak | <div><p>Site : 03CH11-HY<br/>Condition : PEAK_BE_74 3m 91200_1212_220310 HORIZONTAL<br/>: RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p></div>   | <div><p>Site : 03CH11-HY<br/>Condition : PEAK_74 3m 91200_1212_220310 HORIZONTAL<br/>: RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p></div> |
| Peak | <div><p>Site : 03CH11-HY<br/>Condition : PEAK_BE_74 3m 91200_1212_220310 HORIZONTAL<br/>: RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p></div> | Left blank                                                                                                                                                                                                                  |



| BT   | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                                                                                                |                                                                                                                                                                                                                 |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | BT CH39 2441MHz                                                                                                                                                                                                     |                                                                                                                                                                                                                 |
| 8    | Vertical                                                                                                                                                                                                            | Fundamental                                                                                                                                                                                                     |
| Peak |  <p>Site : 03CH11-HY<br/>Condition : PEAK_BE_74 3m 91200_1212_220310 VERTICAL<br/>: RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>   |  <p>Site : 03CH11-HY<br/>Condition : PEAK_74 3m 91200_1212_220310 VERTICAL<br/>: RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p> |
|      |  <p>Site : 03CH11-HY<br/>Condition : PEAK_BE_74 3m 91200_1212_220310 VERTICAL<br/>: RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p> | Left blank                                                                                                                                                                                                      |



| BT   | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                         |                                                                                                                                           |
|------|----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | BT CH78 2480MHz                                                                                                                              |                                                                                                                                           |
| 8    | Horizontal                                                                                                                                   | Fundamental                                                                                                                               |
| Peak | <div><p>Site : 03CH11-HY<br/>Condition : PEAK_BE_74 3m 91200_1212_220310 HORIZONTAL<br/>: RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p></div> | <div><p>Site : 03CH11-HY<br/>Condition : PEAK_74 3m 91200_1212_220310 HORIZONTAL<br/>: RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p></div> |

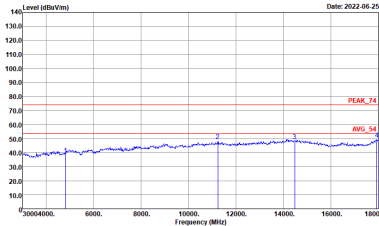
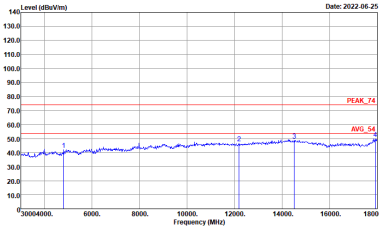


| BT   | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                       |                                                                                                                                         |
|------|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | BT CH78 2480MHz                                                                                                                            |                                                                                                                                         |
| 8    | Vertical                                                                                                                                   | Fundamental                                                                                                                             |
| Peak | <div><p>Site : 03CH11-HY<br/>Condition : PEAK_BE_74 3m 91200_1212_220310 VERTICAL<br/>: RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p></div> | <div><p>Site : 03CH11-HY<br/>Condition : PEAK_74 3m 91200_1212_220310 VERTICAL<br/>: RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p></div> |

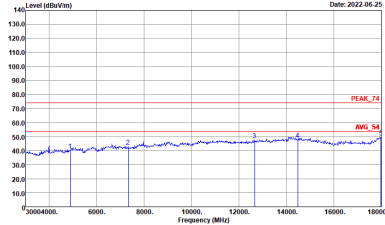
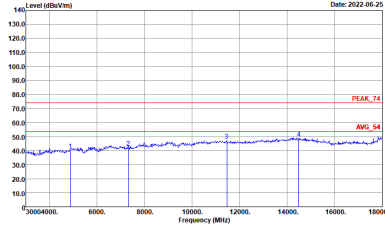


2.4GHz 2400~2483.5MHz

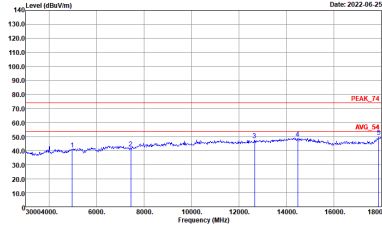
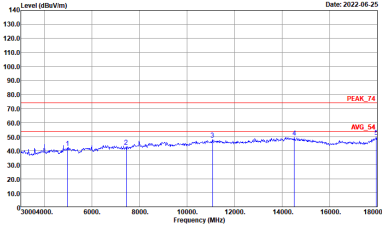
BT (Harmonic @ 3m)

| BT           | 2.4GHz 2400~2483.5MHz Harmonic @ 3m                                                                                                                               |                                                                                                                                                                  |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | BT CH00 2402MHz                                                                                                                                                   |                                                                                                                                                                  |
| 8            | Horizontal                                                                                                                                                        | Vertical                                                                                                                                                         |
| Peak<br>Avg. |  <p>Site : 03CH11-HY<br/>Condition : PEAK_74 3m 91200_1212_220310 HORIZONTAL</p> |  <p>Site : 03CH11-HY<br/>Condition : PEAK_74 3m 91200_1212_220310 VERTICAL</p> |
|              |                                                                                                                                                                   |                                                                                                                                                                  |



| BT           | 2.4GHz 2400~2483.5MHz Harmonic @ 3m                                                                                                                                |                                                                                                                                                                   |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | BT CH39 2441MHz                                                                                                                                                    |                                                                                                                                                                   |
| 8            | Horizontal                                                                                                                                                         | Vertical                                                                                                                                                          |
| Peak<br>Avg. |  <p>Site : 03CH11-14Y<br/>Condition : PEAK_74 3m 91200_1212_220310 HORIZONTAL</p> |  <p>Site : 03CH11-14Y<br/>Condition : PEAK_74 3m 91200_1212_220310 VERTICAL</p> |
|              |                                                                                                                                                                    |                                                                                                                                                                   |

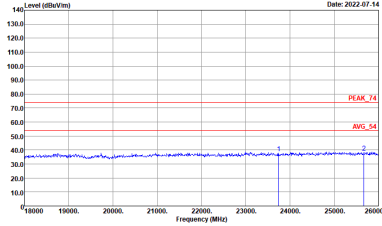
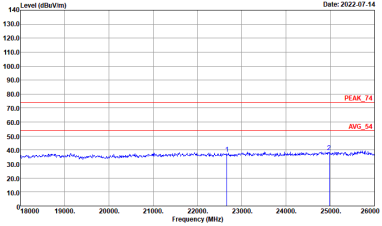


|              |                                                                                                                                                                              |                                                                                                                                                                             |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BT           | 2.4GHz 2400~2483.5MHz Harmonic @ 3m                                                                                                                                          |                                                                                                                                                                             |
| ANT          | BT CH78 2480MHz                                                                                                                                                              |                                                                                                                                                                             |
| 8            | Horizontal                                                                                                                                                                   | Vertical                                                                                                                                                                    |
| Peak<br>Avg. | <div><p>Site : 03CH11-14Y<br/>Condition : PEAK_74 3m 91200_1212_220310 HORIZONTAL</p></div> | <div><p>Site : 03CH11-14Y<br/>Condition : PEAK_74 3m 91200_1212_220310 VERTICAL</p></div> |



Emission above 18GHz

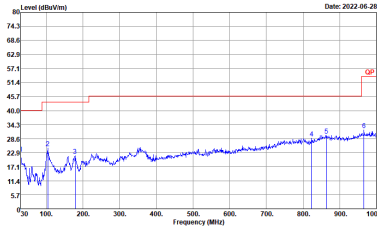
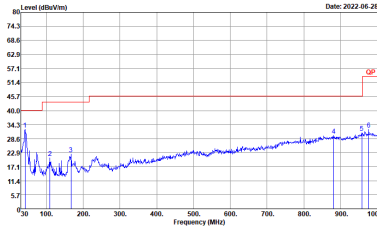
2.4GHz BT (SHF @ 1m)

| BT           | 2.4GHz 2400~2483.5MHz                                                                                                                                             |                                                                                                                                                                  |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | BT SHF                                                                                                                                                            |                                                                                                                                                                  |
| 8            | Horizontal                                                                                                                                                        | Vertical                                                                                                                                                         |
| Peak<br>Avg. |  <p>Site : 03CH11-14Y<br/>Condition : PEAK_74 1m SHF_00993_211130 HORIZONTAL</p> |  <p>Site : 03CH11-14Y<br/>Condition : PEAK_74 1m SHF_00993_211130 VERTICAL</p> |
|              |                                                                                                                                                                   |                                                                                                                                                                  |



Emission below 1GHz

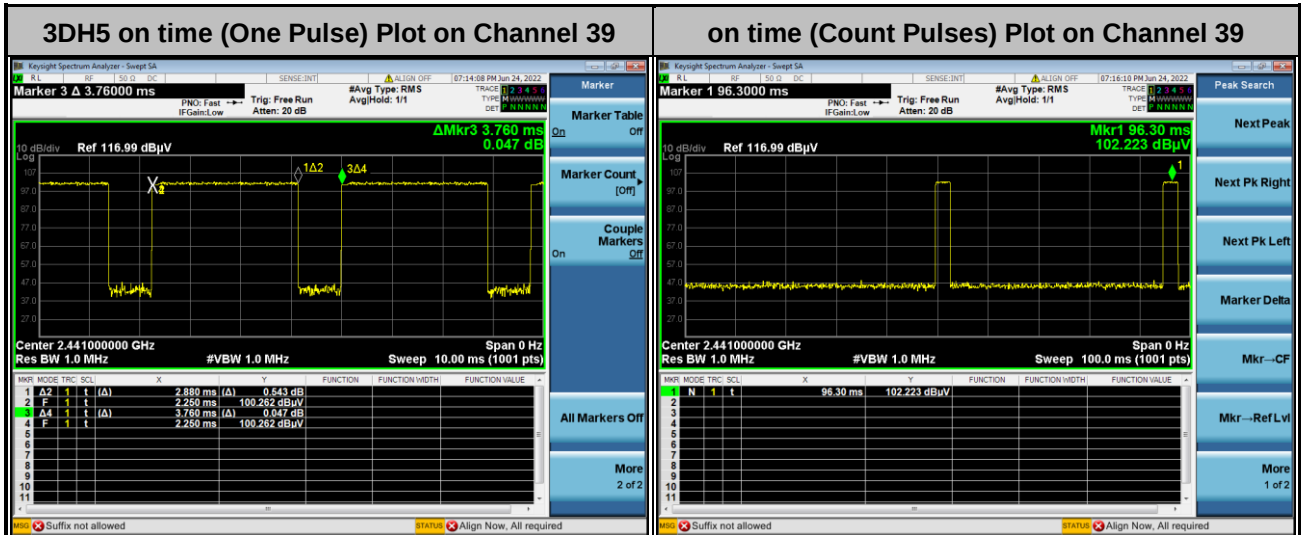
2.4GHz BT (LF)

| BT           | 2.4GHz 2400~2483.5MHz                                                                                                                                          |                                                                                                                                                               |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | BT LF                                                                                                                                                          |                                                                                                                                                               |
| 8            | Horizontal                                                                                                                                                     | Vertical                                                                                                                                                      |
| QP /<br>Peak |  <p>Site : 03CH11-HY<br/>Condition : QP 3m BT-LOG 35414-211009 HORIZONTAL</p> |  <p>Site : 03CH11-HY<br/>Condition : QP 3m BT-LOG 35414-211009 VERTICAL</p> |
|              |                                                                                                                                                                |                                                                                                                                                               |



## Appendix E. Duty Cycle Plots

<Ant. 7>



### Note:

1. Worst case Duty cycle = on time/100 milliseconds =  $2 * 2.88 / 100 = 5.76 \%$
2. Worst case Duty cycle correction factor =  $20 * \log(\text{Duty cycle}) = -24.79 \text{ dB}$
3. 3DH5 has the highest duty cycle worst case and is reported.

### Duty Cycle Correction Factor Consideration for AFH mode:

Bluetooth normal hopping rate is 1600Hz and reduced to 800Hz in AFH mode; due to the reduced number of hopping frequencies, with the same packet configuration the dwell time in each channel frequency within 100msec period is longer in AFH mode than normal mode.

In AFH mode, the minimum hopping frequencies are 20, to get the longest dwell time DH5 packet is observed; the on time period to have DH5 packet completing one hopping sequence is

$$2.88 \text{ ms} \times 20 \text{ channels} = 57.6 \text{ ms}$$

There cannot be 2 complete hopping sequences within 100ms period, considering the random hopping behavior, maximum 2 hops can be possibly observed within the period.  $[100 \text{ ms} / 57.6 \text{ ms}] = 2 \text{ hops}$

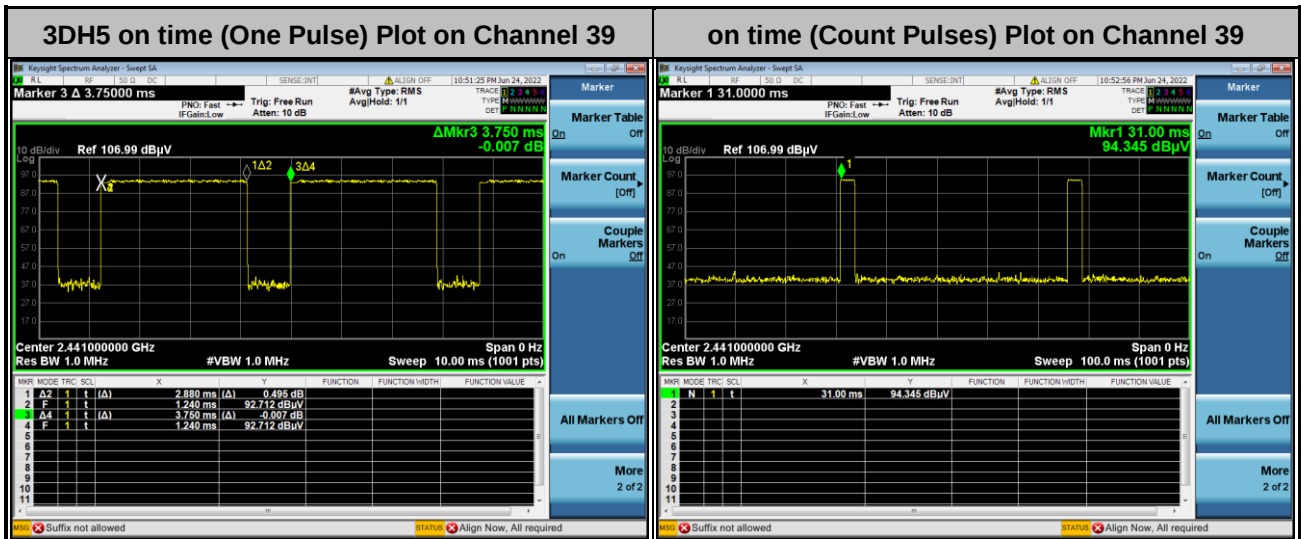
Thus, the maximum possible ON time:

$$2.88 \text{ ms} \times 2 = 5.76 \text{ ms}$$

Worst case Duty Cycle Correction factor, which is derived from the maximum possible ON time,

$$20 \times \log(5.76 \text{ ms}/100 \text{ ms}) = -24.79 \text{ dB}$$

<Ant. 8>



**Note:**

1. Worst case Duty cycle = on time/100 milliseconds =  $2 * 2.88 / 100 = 5.76 \%$
2. Worst case Duty cycle correction factor =  $20 * \log(\text{Duty cycle}) = -24.79 \text{ dB}$
3. 3DH5 has the highest duty cycle worst case and is reported.

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In AFH mode, the minimum hopping frequencies are 20, to get the longest dwell time DH5 packet is observed; the on time period to have DH5 packet completing one hopping sequence is

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There cannot be 2 complete hopping sequences within 100ms period, considering the random hopping behavior, maximum 2 hops can be possibly observed within the period.  $[100 \text{ ms} / 57.6 \text{ ms}] = 2 \text{ hops}$

Thus, the maximum possible ON time:

$$2.88 \text{ ms} \times 2 = 5.76 \text{ ms}$$

Worst case Duty Cycle Correction factor, which is derived from the maximum possible ON time,

$$20 \times \log(5.76 \text{ ms}/100 \text{ ms}) = -24.79 \text{ dB}$$