# FCC Test Report

# (Co-located)

| | |
|---|---|
| **Report No.:** | RFCGJR-WTW-P23010147-6 |
| **FCC ID:** | G95EWM322T |
| **Test Model:** | EWM322TTCH2 |
| **Variant Model:** | EGM322TTCH2 |
| **Received Date:** | 2023/2/13 |
| **Test Date:** | 2023/3/21 ~ 2023/5/16 |
| **Issued Date:** | 2023/5/22 |
| **Applicant:** | Vantiva USA LLC |
| **Address:** | 4855 Peachtree Industrial Blvd. Suite 200 Norcross, Georgia 30092. |
| **Issued By:** | Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Lin Kou Laboratories |
| **Lab Address:** | No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan |
| **Test Location:** | No. 70, Wenming Rd., Guishan Dist., Taoyuan City 333, Taiwan |
| **FCC Registration / Designation Number:** | 281270 / TW0032 |

Testing Laboratory
2021

## Table of Contents

**Release Control Record** ..... **3**

**1 Certificate of Conformity** ..... **4**

**2 Summary of Test Results** ..... **5**

2.1 Measurement Uncertainty ..... 5
2.2 Modification Record ..... 5

**3 General Information** ..... **6**

3.1 General Description of EUT ..... 6
3.2 Description of Test Modes ..... 9
3.2.1 Test Mode Applicability and Tested Channel Detail ..... 14
3.3 Description of Support Units ..... 16
3.3.1 Configuration of System under Test ..... 16
3.4 General Description of Applied Standards ..... 17

**4 Test Types and Results** ..... **18**

4.1 Radiated Emission and Bandedge Measurement ..... 18
4.1.1 Limits of Radiated Emission and Bandedge Measurement ..... 18
4.1.2 Test Instruments ..... 22
4.1.3 Test Procedures ..... 24
4.1.4 Deviation from Test Standard ..... 25
4.1.5 Test Setup ..... 25
4.1.6 EUT Operating Conditions ..... 26
4.1.7 Test Results ..... 27
4.2 Conducted Out of Band Emission Measurement ..... 37
4.2.1 Limits of Conducted Out of Band Emission Measurement ..... 37
4.2.2 Test Setup ..... 37
4.2.3 Test Instruments ..... 37
4.2.4 Test Procedure ..... 37
4.2.5 Deviation from Test Standard ..... 38
4.2.6 EUT Operating Condition ..... 38
4.2.7 Test Results ..... 38

**5 Pictures of Test Arrangements** ..... **39**

**Appendix – Information of the Testing Laboratories** ..... **40**

## Release Control Record

| Issue No. | Description | Date Issued |
|---|---|---|
| RFCGJR-WTW-P23010147-6 | Original Release | 2023/5/22 |

## 1 Certificate of Conformity

| | |
|---|---|
| **Product:** | Wireless Access Point |
| **Brand:** | technicolor |
| **Test Model:** | EWM322TTCH2 |
| **Variant Model:** | EGM322TTCH2 |
| **Sample Status:** | Engineering Sample |
| **Applicant:** | Vantiva USA LLC |
| **Test Date:** | 2023/3/21 ~ 2023/5/16 |
| **Standards:** | 47 CFR FCC Part 15, Subpart C (Section 15.247)<br>47 CFR FCC Part 15, Subpart E (Section 15.407)<br>ANSI C63.10-2013 |

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

**Prepared by :** Vera Huang , **Date:** 2023/5/22

Vera Huang / Specialist

**Approved by :** Jeremy Lin , **Date:** 2023/5/22

Jeremy Lin / Project Engineer

## 2 Summary of Test Results

| 47 CFR FCC Part 15, Subpart C (Section 15.247)<br>47 CFR FCC Part 15, Subpart E (Section 15.407)<br>ANSI C63.10-2013 | | | |
|---|---|---|---|
| **FCC Clause** | **Test Item** | **Result** | **Remarks** |
| 15.205 /<br>15.209 /<br>15.247(d) /<br>15.407(b)(9)<br>15.407(b) (1/10)<br>15.407(b) (4(i)/10)<br>15.407(b) (6/10) | Radiated Emissions and Band Edge Measurement | Pass | Meet the requirement of limit.<br>Minimum passing margin is -0.1 dB at 53.28 MHz. |

Note:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

### 2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

| Measurement | Frequency | Expanded Uncertainty (k=2) (±) |
|---|---|---|
| Radiated Emissions up to 1 GHz | 9 kHz ~ 30 MHz | 3.59 dB |
| | 30 MHz ~ 1 GHz | 3.6 dB |
| Radiated Emissions above 1 GHz | 1 GHz ~ 18 GHz | 2.29 dB |
| | 18 GHz ~ 40 GHz | 2.29 dB |

### 2.2 Modification Record

There were no modifications required for compliance.

## 3 General Information

### 3.1 General Description of EUT

| | | |
|---|---|---|
| **Product** | Wireless Access Point | |
| **Brand** | technicolor | |
| **Test Model** | EWM322TTCH2 | |
| **Variant Model** | EGM322TTCH2 | |
| **Model Difference** | for marketing purpose | |
| **Status of EUT** | Engineering Sample | |
| **Power Supply Rating** | Refer to Note | |
| **Modulation Type** | WLAN | CCK, DQPSK, DBPSK for DSSS<br>64QAM, 16QAM, QPSK, BPSK for OFDM<br>256QAM for OFDM in VHT/11ac mode<br>1024QAM for OFDMA in 11ax HE mode |
| | BT LE | GFSK |
| | Zigbee | O-QPSK |
| **Data Rate** | WLAN | 802.11a: 54/48/36/24/18/12/9/6Mbps<br>802.11b: 11.0 / 5.5 / 2.0 / 1.0 Mbps<br>802.11g: 54.0 / 48.0 / 36.0 / 24.0 / 18.0 / 12.0 / 9.0 / 6.0 Mbps<br>802.11n: up to 600 Mbps<br>VHT: up to 800 Mbps (For 2.4G)<br>802.11ac: up to 1733.3Mbps (For 5G)<br>802.11ax: up to 1147.1 Mbps (For 2.4G)<br>802.11ax: up to 2401.9Mbps (For 5G)<br>802.11ax: up to 4803.9Mbps (For 6G) |
| | BT LE | Up to 1 Mbps |
| | Zigbee | 250kb/s |
| **Operating Frequency** | WLAN | 2412 ~ 2462 MHz<br>5180 ~ 5240 MHz, 5745 ~ 5825 MHz<br>5955 ~ 6415MHz, 6435 ~ 6525MHz,<br>6535 ~ 6865MHz, 6875 ~ 7095MHz |
| | BT LE | 2402 ~ 2480 MHz |
| | Zigbee | 2405 ~ 2480 MHz |
| **Number of Channel** | WLAN | **2.4G:**<br>802.11b, 802.11g, 802.11n (HT20), VHT20, 802.11ax (HE20):11<br>802.11n (HT40), VHT40, 802.11ax (HE40):7<br>**5G:**<br>5180 ~ 5240MHz:<br>802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 4<br>802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 2<br>802.11ac (VHT80), 802.11ax (HE80): 1<br>5745 ~ 5825MHz:<br>802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 5<br>802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 2<br>802.11ac (VHT80), 802.11ax (HE80): 1 |

| | | |
|---|---|---|
| **Number of Channel** | WLAN | **6G:**<br>802.11a/ax (HE20): 58<br>802.11ax (HE40): 29<br>802.11ax (HE80): 14<br>802.11ax (HE160): 7 |
| | BT LE | 40 |
| | Zigbee | 16 |
| **Antenna Type** | Refer to Note as below | |
| **Antenna Connector** | Refer to Note as below | |
| **Accessory Device** | Refer to Note as below | |
| **Data Cable Supplied** | N/A | |

Note:

1. The EUT uses following accessories.

| **AC Adapter 1** | | | |
|---|---|---|---|
| **Brand** | **Model** | **Part Number** | **Specification** |
| Honor | ADS-42FI-12<br>12042EPCU-L | 6322120A | AC Input : 100-120V, 50/60Hz<br>DC Output : 12V, 3.5A<br>DC Output Cable : 1.8m<br>Plug : US |

2. The EUT incorporates a MIMO function.

| **2.4 GHz Band** | | |
|---|---|---|
| **Modulation Mode** | **TX & RX Configuration** | |
| **802.11b** | 4TX | 4TX |
| **802.11g** | 4TX | 4TX |
| **802.11n (HT20)** | 4TX | 4TX |
| **802.11n (HT40)** | 4TX | 4TX |
| **VHT20** | 4TX | 4TX |
| **VHT40** | 4TX | 4TX |
| **802.11ax (HE20)** | 4TX | 4TX |
| **802.11ax (HE40)** | 4TX | 4TX |
| **5 GHz Band** | | |
| **Modulation Mode** | **TX & RX Configuration** | |
| **802.11a** | 4TX | 4TX |
| **802.11n (HT20)** | 4TX | 4TX |
| **802.11n (HT40)** | 4TX | 4TX |
| **802.11ac (VHT20)** | 4TX | 4TX |
| **802.11ac (VHT40)** | 4TX | 4TX |
| **802.11ac (VHT80)** | 4TX | 4TX |
| **802.11ax (HE20)** | 4TX | 4TX |
| **802.11ax (HE40)** | 4TX | 4TX |
| **802.11ax (HE80)** | 4TX | 4TX |
| **6 GHz Band** | | |
| **Modulation Mode** | **TX & RX Configuration** | |
| **802.11a** | 4TX | 4TX |
| **802.11ax (HE20)** | 4TX | 4TX |
| **802.11ax (HE40)** | 4TX | 4TX |
| **802.11ax (HE80)** | 4TX | 4TX |
| **802.11ax (HE160)** | 4TX | 4TX |

*The EUT not support partial RU.

3. The following antennas were provided to the EUT.

| Antenna NO. | RF Chain NO. | Brand | Model | Antenna Net Gain(dBi) | Frequency range | Antenna Type | Connector Type |
|---|---|---|---|---|---|---|---|
| DB1 | 2.4G core3 | Technicolor | EWM322T/EWA322T | 3.92 | 2.4~2.4835GHz | Dipole | ipex(MHF) |
| | 5G core0 | Technicolor | EWM322T/EWA322T | 5.61 | 5.15~5.25GHz | Dipole | ipex(MHF) |
| | | | | 5.47 | 5.725~5.85GHz | Dipole | ipex(MHF) |
| DB2 | 2.4G core2 | Technicolor | EWM322T/EWA322T | 3.49 | 2.4~2.4835GHz | Dipole | ipex(MHF) |
| | 5G core1 | Technicolor | EWM322T/EWA322T | 5.96 | 5.15~5.25GHz | Dipole | ipex(MHF) |
| | | | | 5.53 | 5.725~5.85GHz | Dipole | ipex(MHF) |
| DB3 | 2.4G core1 | Technicolor | EWM322T/EWA322T | 4.18 | 2.4~2.4835GHz | Dipole | ipex(MHF) |
| | 5G core2 | Technicolor | EWM322T/EWA322T | 4.21 | 5.15~5.25GHz | Dipole | ipex(MHF) |
| | | | | 4.80 | 5.725~5.85GHz | Dipole | ipex(MHF) |
| DB4 | 2.4G core0 | Technicolor | EWM322T/EWA322T | 4.52 | 2.4~2.4835GHz | Dipole | ipex(MHF) |
| | 5G core3 | Technicolor | EWM322T/EWA322T | 3.96 | 5.15~5.25GHz | Dipole | ipex(MHF) |
| | | | | 3.86 | 5.725~5.85GHz | Dipole | ipex(MHF) |
| 6G1 | 6G core 3 | Technicolor | EWM322T/EWA322T | 5.83 | 5.925~6.425GHz | Dipole | ipex(MHF) |
| | | | | 5.31 | 6.425~6.525GHz | Dipole | ipex(MHF) |
| | | | | 5.17 | 6.525-6.875GHz | Dipole | ipex(MHF) |
| | | | | 5.48 | 6.875-7.125GHz | Dipole | ipex(MHF) |
| 6G2 | 6G core 2 | Technicolor | EWM322T/EWA322T | 5.38 | 5.925~6.425GHz | Dipole | ipex(MHF) |
| | | | | 5.38 | 6.425~6.525GHz | Dipole | ipex(MHF) |
| | | | | 5.64 | 6.525-6.875GHz | Dipole | ipex(MHF) |
| | | | | 5.51 | 6.875-7.125GHz | Dipole | ipex(MHF) |
| 6G3 | 6G core 1 | Technicolor | EWM322T/EWA322T | 5.68 | 5.925~6.425GHz | Dipole | ipex(MHF) |
| | | | | 5.56 | 6.425~6.525GHz | Dipole | ipex(MHF) |
| | | | | 5.76 | 6.525-6.875GHz | Dipole | ipex(MHF) |
| | | | | 5.76 | 6.875-7.125GHz | Dipole | ipex(MHF) |
| 6G4 | 6G core 0 | Technicolor | EWM322T/EWA322T | 6.27 | 5.925~6.425GHz | Dipole | ipex(MHF) |
| | | | | 6.27 | 6.425~6.525GHz | Dipole | ipex(MHF) |
| | | | | 6.16 | 6.525-6.875GHz | Dipole | ipex(MHF) |
| | | | | 5.79 | 6.875-7.125GHz | Dipole | ipex(MHF) |
| BT/Zigbee | - | Technicolor | EWM322T/EWA322T | 3.95 | 2.4~2.4835GHz | PIFA | ipex(MHF) |

* Detail antenna specification please refer to antenna datasheet and/or antenna measurement report.

4. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

## 3.2 Description of Test Modes

### WLAN 2.4G

11 channels are provided for 802.11b, 802.11g, 802.11n (HT20), VHT20, 802.11ax (HE20):

| Channel | Frequency | Channel | Frequency |
|---|---|---|---|
| 1 | 2412 MHz | 7 | 2442 MHz |
| 2 | 2417 MHz | 8 | 2447 MHz |
| 3 | 2422 MHz | 9 | 2452 MHz |
| 4 | 2427 MHz | 10 | 2457 MHz |
| 5 | 2432 MHz | 11 | 2462 MHz |
| 6 | 2437 MHz | | |

7 channels are provided for 802.11n (HT40), VHT40, 802.11ax (HE40):

| Channel | Frequency | Channel | Frequency |
|---|---|---|---|
| 3 | 2422 MHz | 7 | 2442 MHz |
| 4 | 2427 MHz | 8 | 2447 MHz |
| 5 | 2432 MHz | 9 | 2452 MHz |
| 6 | 2437 MHz | | |

## WLAN 5G

### 5180 ~ 5240 MHz

4 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

| Channel | Frequency | Channel | Frequency |
|---|---|---|---|
| 36 | 5180 MHz | 44 | 5220 MHz |
| 40 | 5200 MHz | 48 | 5240 MHz |

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

| Channel | Frequency | Channel | Frequency |
|---|---|---|---|
| 38 | 5190 MHz | 46 | 5230 MHz |

1 channel is provided for 802.11ac (VHT80), 802.11ax (HE80):

| Channel | Frequency |
|---|---|
| 42 | 5210 MHz |

### 5745 ~ 5825 MHz

5 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

| Channel | Frequency | Channel | Frequency |
|---|---|---|---|
| 149 | 5745 MHz | 161 | 5805 MHz |
| 153 | 5765 MHz | 165 | 5825 MHz |
| 157 | 5785 MHz | | |

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

| Channel | Frequency | Channel | Frequency |
|---|---|---|---|
| 151 | 5755 MHz | 159 | 5795 MHz |

1 channel is provided for 802.11ac (VHT80), 802.11ax (HE80):

| Channel | Frequency |
|---|---|
| 155 | 5775 MHz |

## WLAN 6G

### U-NII-5

24 channels are provided for 802.11a, 802.11ax (HE20):

| Channel | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
|---|---|---|---|---|---|---|---|
| 1 | 5955 MHz | 5 | 5975 MHz | 9 | 5995 MHz | 13 | 6015 MHz |
| 17 | 6035 MHz | 21 | 6055 MHz | 25 | 6075 MHz | 29 | 6095 MHz |
| 33 | 6115 MHz | 37 | 6135 MHz | 41 | 6155 MHz | 45 | 6175 MHz |
| 49 | 6195 MHz | 53 | 6215 MHz | 57 | 6235 MHz | 61 | 6255 MHz |
| 65 | 6275 MHz | 69 | 6295 MHz | 73 | 6315 MHz | 77 | 6335 MHz |
| 81 | 6355 MHz | 85 | 6375 MHz | 89 | 6395 MHz | 93 | 6415 MHz |

12 channels are provided for 802.11ax (HE40):

| Channel | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
|---|---|---|---|---|---|---|---|
| 3 | 5965 MHz | 11 | 6005 MHz | 19 | 6045 MHz | 27 | 6085 MHz |
| 35 | 6125 MHz | 43 | 6165 MHz | 51 | 6205 MHz | 59 | 6245 MHz |
| 67 | 6285 MHz | 75 | 6325 MHz | 83 | 6365 MHz | 91 | 6405 MHz |

6 channel is provided for 802.11ax (HE80):

| Channel | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
|---|---|---|---|---|---|---|---|
| 7 | 5985 MHz | 23 | 6065 MHz | 39 | 6145 MHz | 55 | 6225 MHz |
| 71 | 6305 MHz | 87 | 6385 MHz | | | | |

3 channels are provided for 802.11ax (HE160):

| Channel | Frequency | Channel | Frequency | Channel | Frequency |
|---|---|---|---|---|---|
| 15 | 6025 MHz | 47 | 6185 MHz | 79 | 6345 MHz |

### U-NII-6

5 channels are provided for 802.11a, 802.11ax (HE20):

| Channel | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
|---|---|---|---|---|---|---|---|
| 97 | 6435 MHz | 101 | 6455 MHz | 105 | 6475 MHz | 109 | 6495 MHz |
| 113 | 6515 MHz | | | | | | |

3 channels are provided for 802.11ax (HE40):

| Channel | Frequency | Channel | Frequency | Channel | Frequency |
|---|---|---|---|---|---|
| 99 | 6445 MHz | 107 | 6485 MHz | *115 | 6525 MHz |

1 channel are provided for 802.11ax (HE80):

| Channel | Frequency |
|---|---|
| 103 | 6465 MHz |

1 channel is provided for 802.11ax (HE160):

| Channel | Frequency |
|---|---|
| *111 | 6505 MHz |

U-NII-7

17 channels are provided for 802.11a, 802.11ax (HE20):

| Channel | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
|---|---|---|---|---|---|---|---|
| 117 | 6535 MHz | 121 | 6555 MHz | 125 | 6575 MHz | 129 | 6595 MHz |
| 133 | 6615 MHz | 137 | 6635 MHz | 141 | 6655 MHz | 145 | 6675 MHz |
| 149 | 6695 MHz | 153 | 6715 MHz | 157 | 6735 MHz | 161 | 6755 MHz |
| 165 | 6775 MHz | 169 | 6795 MHz | 173 | 6815 MHz | 177 | 6835 MHz |
| 181 | 6855 MHz | | | | | | |

8 channels are provided for 802.11ax (HE40):

| Channel | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
|---|---|---|---|---|---|---|---|
| 123 | 6565 MHz | 131 | 6605 MHz | 139 | 6645 MHz | 147 | 6685 MHz |
| 155 | 6725 MHz | 163 | 6765 MHz | 171 | 6805 MHz | 179 | 6845 MHz |

5 channels are provided for 802.11ax (HE80):

| Channel | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
|---|---|---|---|---|---|---|---|
| *119 | 6545 MHz | 135 | 6625 MHz | 151 | 6705 MHz | 167 | 6785 MHz |
| *183 | 6865 MHz | | | | | | |

2 channels are provided for 802.11ax (HE160):

| Channel | Frequency | Channel | Frequency |
|---|---|---|---|
| 143 | 6665 MHz | *175 | 6825 MHz |

U-NII-8

12 channels are provided for 802.11a, 802.11ax (HE20):

| Channel | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
|---|---|---|---|---|---|---|---|
| *185 | 6875 MHz | 189 | 6895 MHz | 193 | 6915 MHz | 197 | 6935 MHz |
| 201 | 6955 MHz | 205 | 6975 MHz | 209 | 6995 MHz | 213 | 7015 MHz |
| 217 | 7035 MHz | 221 | 7055 MHz | 225 | 7075 MHz | 229 | 7095 MHz |

6 channels are provided for 802.11ax (HE40):

| Channel | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
|---|---|---|---|---|---|---|---|
| *187 | 6885 MHz | 195 | 6925 MHz | 203 | 6965 MHz | 211 | 7005 MHz |
| 219 | 7045 MHz | 227 | 7085 MHz | | | | |

2 channel is provided for 802.11ax (HE80):

| Channel | Frequency | Channel | Frequency |
|---|---|---|---|
| 199 | 6945 MHz | 215 | 7025 MHz |

1 channel is provided for 802.11ax (HE160):

| Channel | Frequency |
|---|---|
| 207 | 6985 MHz |

Note: * mean this's straddle channel.

## BT LE

40 channels are provided for BT-LE:

| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
|---|---|---|---|---|---|---|---|
| 0 | 2402 | 10 | 2422 | 20 | 2442 | 30 | 2462 |
| 1 | 2404 | 11 | 2424 | 21 | 2444 | 31 | 2464 |
| 2 | 2406 | 12 | 2426 | 22 | 2446 | 32 | 2466 |
| 3 | 2408 | 13 | 2428 | 23 | 2448 | 33 | 2468 |
| 4 | 2410 | 14 | 2430 | 24 | 2450 | 34 | 2470 |
| 5 | 2412 | 15 | 2432 | 25 | 2452 | 35 | 2472 |
| 6 | 2414 | 16 | 2434 | 26 | 2454 | 36 | 2474 |
| 7 | 2416 | 17 | 2436 | 27 | 2456 | 37 | 2476 |
| 8 | 2418 | 18 | 2438 | 28 | 2458 | 38 | 2478 |
| 9 | 2420 | 19 | 2440 | 29 | 2460 | 39 | 2480 |

## Zigbee

16 channels are provided to this EUT:

| Channel | Freq. (MHz) | Channel | Freq. (MHz) | Channel | Freq. (MHz) | Channel | Freq. (MHz) |
|---|---|---|---|---|---|---|---|
| 11 | 2405 | 15 | 2425 | 19 | 2445 | 23 | 2465 |
| 12 | 2410 | 16 | 2430 | 20 | 2450 | 24 | 2470 |
| 13 | 2415 | 17 | 2435 | 21 | 2455 | 25 | 2475 |
| 14 | 2420 | 18 | 2440 | 22 | 2460 | 26 | 2480 |

### 3.2.1 Test Mode Applicability and Tested Channel Detail

| EUT Configure Mode | Applicable to | | | Description |
|---|---|---|---|---|
| | RE≥1G | RE<1G | OB | |
| - | √ | √ | √ | - |

Where RE≥1G: Radiated Emission above 1GHz & Bandedge Measurement

RE<1G: Radiated Emission below 1GHz

OB: Conducted Out-Band Emission Measurement

Note: The EUT is designed to be positioned on the X-plane only.

**Radiated Emission Test (Above 1 GHz):**

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

| EUT Configure Mode | Mode | Freq. Range | Tested Channel | Modulation |
|---|---|---|---|---|
| - | 802.11b + 802.11ax (HE20) + 802.11ax (HE160) + BT LE | 2412~2462 MHz | 11 + 48 + 47 + 19 | DBPSK |
| | | 5180 ~ 5240MHz, 5745 ~ 5825MHz | | OFDMA |
| | | 5955 ~ 6415MHz, 6435 ~ 6525MHz, 6535 ~ 6865MHz, 6875 ~ 7095MHz | | OFDMA |
| | | 2402 ~ 2480 MHz | | GFSK |
| - | 802.11b + 802.11ax (HE20) + 802.11ax (HE160) + Zigbee | 2412~2462 MHz | 11 + 48 + 47 + 11 | DBPSK |
| | | 5180 ~ 5240MHz, 5745 ~ 5825MHz | | OFDMA |
| | | 5955 ~ 6415MHz, 6435 ~ 6525MHz, 6535 ~ 6865MHz, 6875 ~ 7095MHz | | OFDMA |
| | | 2405 ~ 2480 MHz | | O-QPSK |

**Radiated Emission Test (Below 1GHz):**

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

| EUT Configure Mode | Mode | Freq. Range | Tested Channel | Modulation |
|---|---|---|---|---|
| - | 802.11b + 802.11ax (HE20) + 802.11ax (HE160) + BT LE | 2412~2462 MHz | 11 + 48 + 47 + 19 | DBPSK |
| | | 5180 ~ 5240MHz, 5745 ~ 5825MHz | | OFDMA |
| | | 5955 ~ 6415MHz, 6435 ~ 6525MHz, 6535 ~ 6865MHz, 6875 ~ 7095MHz | | OFDMA |
| | | 2402 ~ 2480 MHz | | GFSK |
| - | 802.11b + 802.11ax (HE20) + 802.11ax (HE160) + Zigbee | 2412~2462 MHz | 11 + 48 + 47 + 11 | DBPSK |
| | | 5180 ~ 5240MHz, 5745 ~ 5825MHz | | OFDMA |
| | | 5955 ~ 6415MHz, 6435 ~ 6525MHz, 6535 ~ 6865MHz, 6875 ~ 7095MHz | | OFDMA |
| | | 2405 ~ 2480 MHz | | O-QPSK |

**Conducted Out-Band Emission Measurement:**

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

| EUT Configure Mode | Mode | Freq. Range | Tested Channel | Modulation |
|---|---|---|---|---|
| - | 802.11b + 802.11ax (HE20) | 2412~2462 MHz | 11 + 48 | DBPSK |
| | | 5180 ~ 5240MHz, 5745 ~ 5825MHz | | OFDMA |

**Test Condition:**

| Applicable to | Environmental Conditions | Input Power (System) | Tested by |
|---|---|---|---|
| RE≥1G | 23 deg. C, 67 % RH | 120 Vac, 60 Hz | Adair Peng |
| RE<1G | 23 deg. C, 67 % RH | 120 Vac, 60 Hz | Adair Peng |
| OB | 23 deg. C, 67 % RH | 120 Vac, 60 Hz | Wayne Lin |

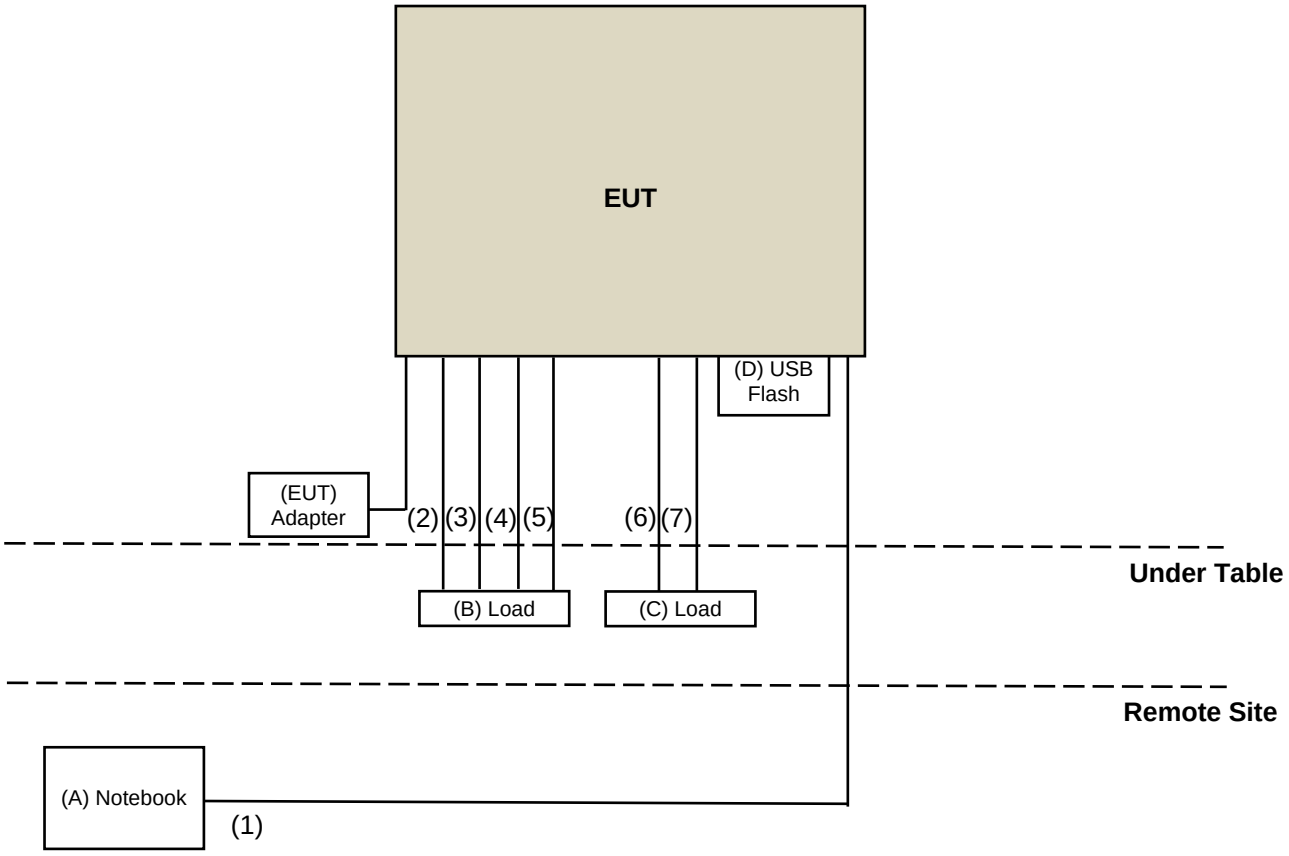
### 3.3 Description of Support Units

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

| ID | Product | Brand | Model No. | Serial No. | FCC ID | Remarks |
|---|---|---|---|---|---|---|
| A | Notebook | Lenovo | L470 | PF0TALMG | N/A | Provided by Lab |
| B | Load | N/A | N/A | N/A | N/A | Provided by Lab |
| C | Load | N/A | N/A | N/A | N/A | Provided by Lab |
| D | FLASH | sandisk | SDDDC3-0320G | N/A | N/A | Provided by Lab |

| ID | Cable Descriptions | Qty. | Length (m) | Shielding (Yes/No) | Cores (Qty.) | Remarks |
|---|---|---|---|---|---|---|
| 1 | LAN Cable | 1 | 6 | N | N | Provided by Lab |
| 2 | LAN Cable | 1 | 1.5 | N | N | Provided by Lab |
| 3 | LAN Cable | 1 | 1.5 | N | N | Provided by Lab |
| 4 | LAN Cable | 1 | 1.5 | N | N | Provided by Lab |
| 5 | LAN Cable | 1 | 1.5 | N | N | Provided by Lab |
| 6 | Tel. Cable | 1 | 1.5 | N | N | Provided by Lab |
| 7 | Tel. Cable | 1 | 1.5 | N | N | Provided by Lab |

#### 3.3.1 Configuration of System under Test



### 3.4 General Description of Applied Standards

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards and references:

**Test Standard:**
**FCC Part 15, Subpart C (15.247)**
**FCC Part 15, Subpart E (15.407)**
ANSI C63.10-2013
All test items have been performed and recorded as per the above standards.

**References Test Guidance:**
**KDB 558074 D01 15.247 Meas Guidance v05r02**
**KDB 789033 D02 General UNII Test Procedure New Rules v02r01**
**KDB 662911 D01 Multiple Transmitter Output v02r01**
**KDB 987594 D02 U-NII 6 GHz EMC Measurement v01v01**
All test items have been performed as a reference to the above KDB test guidance.

# 4 Test Types and Results

## 4.1 Radiated Emission and Bandedge Measurement

### 4.1.1 Limits of Radiated Emission and Bandedge Measurement

**WLAN2.4G**

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 30 dB below the highest level of the desired power:

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

**Note**:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

## WLAN5G

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

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

**Note**:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

Limits of Unwanted Emission Out of the Restricted Bands

<table>
<tr><th colspan="3">Applicable To</th><th colspan="2">Limit</th></tr>
<tr><td colspan="3" rowspan="2">789033 D02 General UNII Test Procedures New Rules v02r01</td><td colspan="2">Field Strength at 3 m</td></tr>
<tr><td>PK: 74 (dBμV/m)</td><td>AV: 54 (dBμV/m)</td></tr>
<tr><th>Frequency Band</th><th colspan="2">Applicable To</th><th>EIRP Limit</th><th>Equivalent Field Strength at 3 m</th></tr>
<tr><td>5150~5250 MHz</td><td colspan="2">15.407(b)(1)</td><td rowspan="3">PK: -27 (dBm/MHz)</td><td rowspan="3">PK: 68.2 (dBμV/m)</td></tr>
<tr><td>5250~5350 MHz</td><td colspan="2">15.407(b)(2)</td></tr>
<tr><td>5470~5725 MHz</td><td colspan="2">15.407(b)(3)</td></tr>
<tr><td rowspan="2">5725~5850 MHz</td><td>☒</td><td>15.407(b)(4)(i)</td><td>PK:-27 (dBm/MHz) *1<br>PK:10 (dBm/MHz) *2<br>PK:15.6 (dBm/MHz) *3<br>PK:27 (dBm/MHz) *4</td><td>PK: 68.2 (dBμV/m) *1<br>PK:105.2 (dBμV/m) *2<br>PK: 110.8 (dBμV/m) *3<br>PK:122.2 (dBμV/m) *4</td></tr>
<tr><td>☐</td><td>15.407(b)(4)(ii)</td><td colspan="2">Emission limits in section 15.247(d)</td></tr>
<tr><td colspan="5">*1 beyond 75 MHz or more above of the band edge.<br>*2 below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.<br>*3 below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.<br>*4 from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.</td></tr>
</table>

**Note:** The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000\sqrt{30P}}{3}$$ μV/m, where P is the eirp (Watts).

**WLAN6G**

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

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

Note:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

Limits of unwanted emission out of the restricted bands

| Frequencies (MHz) | EIRP Limit | Equivalent Field Strength at 3m |
|---|---|---|
| 5925MHz > F > 7125MHz | Peak:-7 (dBm/MHz) | 88.2(dBµV/m) |
| | Average: -27 (dBm/MHz) | 68.2(dBµV/m) |

Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000\sqrt{30P}}{3}$$ µV/m, where P is the eirp (Watts).

## BT / Zigbee

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20 dB below the highest level of the desired power:

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

**Note**:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

### 4.1.2 Test Instruments

For Radiated emission below 1 GHz test

| Description<br>Manufacturer | Model No. | Serial No. | Calibrated Date | Calibrated Until |
|---|---|---|---|---|
| Antenna Tower &Turn<br>BV ADT | AT100 | AT93021705 | N/A | N/A |
| Bi_Log Antenna<br>Schwarbeck | VULB9168 | 9168-160 | 2022/10/20 | 2023/10/19 |
| Loop Antenna<br>EMCI | EM-6879 | 269 | 2022/09/19 | 2023/09/18 |
| Loop Antenna<br>TESEQ | HLA 6121 | 45745 | 2022/07/27 | 2023/07/26 |
| Pre-amplifier<br>EMCI | EMC001340 | 980201 | 2022/09/23 | 2023/09/22 |
| Preamplifier<br>Agilent | 8447D | 2944A10638 | 2022/05/14 | 2023/05/13 |
| RF Coaxial Cable<br>EMCI | 5D-NM-BM | 140903+140902 | 2023/01/07 | 2024/01/06 |
| RF Coaxial Cable<br>WOKEN | 8D-FB | Cable-CH9-01 | 2022/05/14 | 2023/05/13 |
| Software<br>BV ADT | ADT_Radiated_<br>V7.6.15.9.5 | N/A | N/A | N/A |
| Spectrum Analyzer<br>R&S | FSW43 | 101867 | 2022/12/30 | 2023/12/29 |
| Test Receiver<br>KEYSIGHT | N9038A | MY55420137 | 2022/04/27 | 2023/04/26 |
| Turn Table<br>BV ADT | TT100 | TT93021705 | N/A | N/A |
| Turn Table Controller<br>BV ADT | SC100 | SC93021705 | N/A | N/A |

Notes:

1. The test was performed in HY - 966 chamber 4.
2. Tested Date: 2023/3/30

For Radiated emission above 1 GHz test

| Description<br>Manufacturer | Model No. | Serial No. | Calibrated Date | Calibrated Until |
|---|---|---|---|---|
| Antenna Tower &Turn<br>BV ADT | AT100 | AT93021705 | N/A | N/A |
| Boresight antenna tower fixture<br>BV | BAF-02 | 5 | N/A | N/A |
| Horn Antenna<br>Schwarzbeck | 9120D | 9120D-1169 | 2022/11/13 | 2023/11/12 |
| | BBHA 9170 | 9170-480 | 2022/11/13 | 2023/11/12 |
| | | BBHA9170243 | 2022/11/13 | 2023/11/12 |
| Pre-Ammlifier<br>EMCI | EMC 184045 | 980116 | 2022/10/1 | 2023/9/30 |
| Preamplifier<br>Agilent | 8449B | 3008A02367 | 2023/2/15 | 2024/2/14 |
| RF Coaxial Cable<br>EMCI | EMC102-KM-KM-600 | 150928 | 2022/7/9 | 2023/7/8 |
| | EMC102-KM-KM-3000 | 150929 | 2022/7/9 | 2023/7/8 |
| RF Coaxial Cable<br>HUBER+SUHNER | SUCOFLEX 104 | CABLE-CH9-(250795/4) | 2023/1/7 | 2024/1/6 |
| RF Coaxial Cable<br>HUBER+SUHNER&EMCI | SUCOFLEX 104&<br>EMC104-SM-SM8000 | CABLE-CH9-02<br>(248780+171006) | 2023/1/7 | 2024/1/6 |
| RF FLITER<br>MICRO-TRONICS | BRM17690 | 004 | 2023/1/11 | 2024/1/10 |
| | BRM50716 | 060 | 2023/1/11 | 2024/1/10 |
| Software<br>BV ADT | ADT_Radiated_<br>V7.6.15.9.5 | N/A | N/A | N/A |
| Spectrum Analyzer<br>R&S | FSW43 | 101867 | 2022/12/30 | 2023/12/29 |
| Test Receiver<br>KEYSIGHT | N9038A | MY55420137 | 2022/4/27 | 2023/4/26 |
| Turn Table<br>BV ADT | TT100 | TT93021705 | N/A | N/A |
| Turn Table Controller<br>BV ADT | SC100 | SC93021705 | N/A | N/A |

Notes:

1. The test was performed in HY - 966 chamber 4.
2. Tested Date: 2023/3/21~2023/3/22

### 4.1.3 Test Procedures

**For Radiated emission below 30MHz**

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

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

c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

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

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

**For Radiated emission above 30MHz**

a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

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

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

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

e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

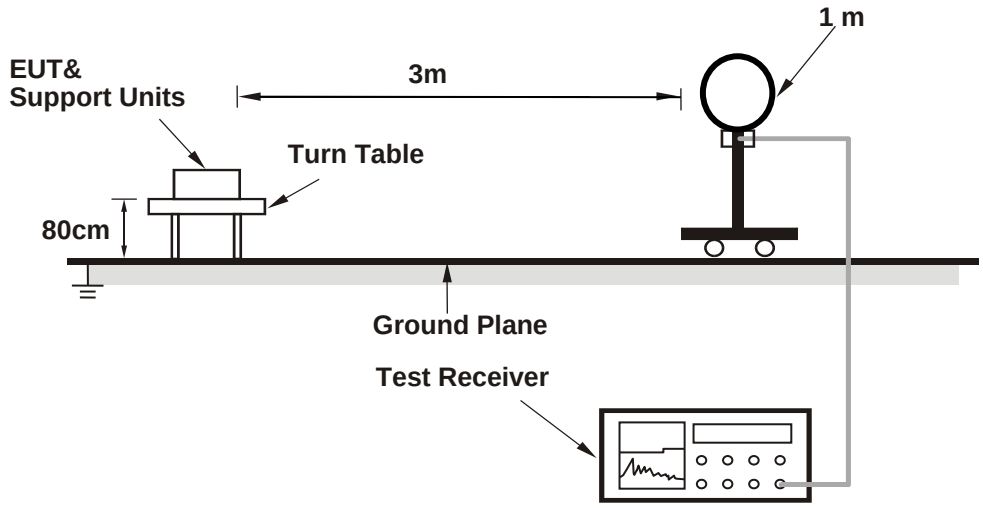
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz. (RBW = 1MHz, VBW = 1kHz)
4. All modes of operation were investigated and the worst-case emissions are reported.

### 4.1.4 Deviation from Test Standard

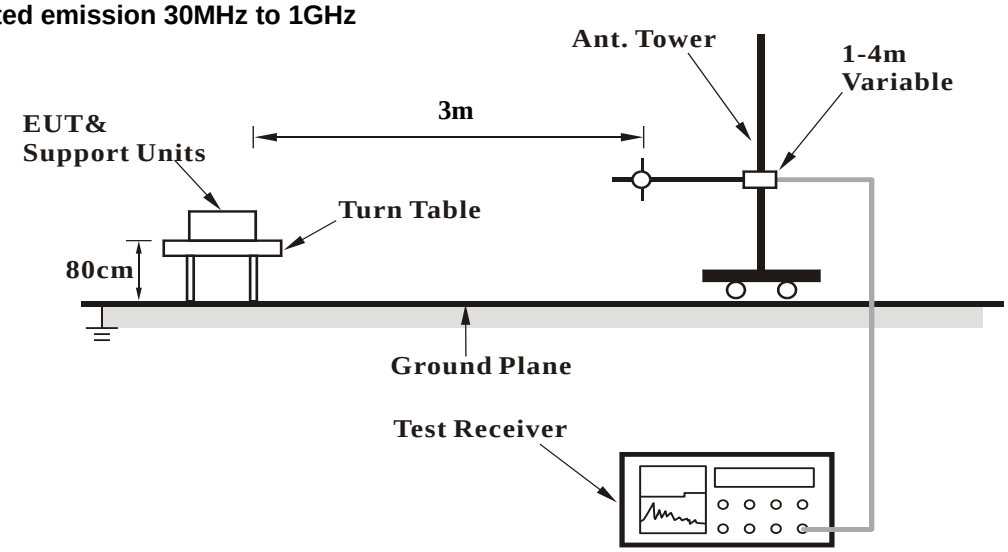
No deviation.

### 4.1.5 Test Setup

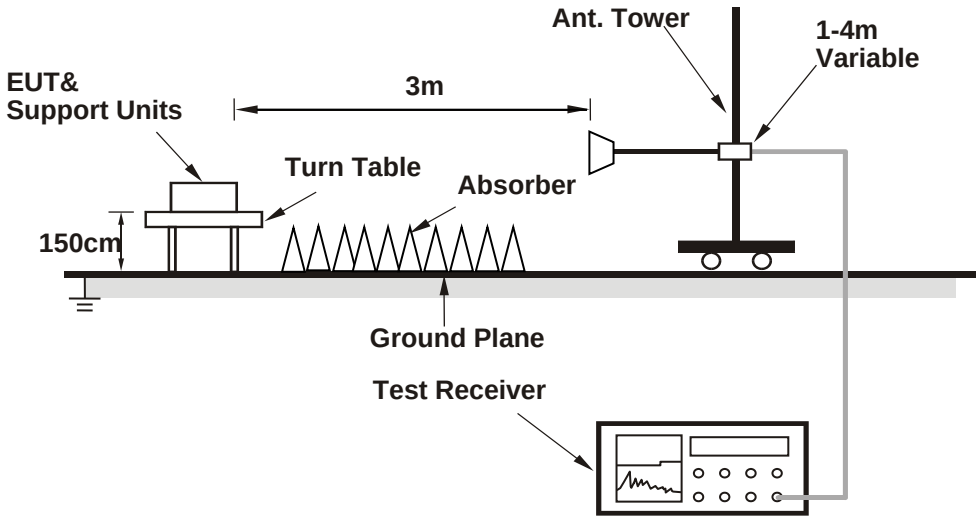
**For Radiated emission below 30MHz**




**For Radiated emission 30MHz to 1GHz**



**For Radiated emission above 1GHz**




For the actual test configuration, please refer to the attached file (Test Setup Photo).

### 4.1.6 EUT Operating Conditions

1. Placed the EUT on the testing table.
2. Set the EUT under transmission condition continuously at specific channel frequency.

### 4.1.7 Test Results

**Above 1 GHz Data：**

802.11b + 802.11ax (HE20) + 802.11ax (HE160) + BT LE

| Channel | Ch 11 + 48 + 47 + 19 | Detector Function | Peak (PK)<br>Average (AV) |
|---|---|---|---|
| Frequency Range | 1GHz ~ 25GHz | | |

| Antenna Polarity & Test Distance : Horizontal at 3 m | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | *2440.00 | 113.5 PK | | | 1.11 H | 265 | 79.7 | 33.8 |
| 2 | *2440.00 | 112.7 AV | | | 1.11 H | 265 | 78.9 | 33.8 |
| 3 | *2462.00 | 116.4 PK | | | 1.90 H | 308 | 82.5 | 33.9 |
| 4 | *2462.00 | 114.0 AV | | | 1.90 H | 308 | 80.1 | 33.9 |
| 5 | 2483.50 | 62.5 PK | 74.0 | -11.5 | 1.90 H | 308 | 28.7 | 33.8 |
| 6 | 2483.50 | 51.8 AV | 54.0 | -2.2 | 1.90 H | 308 | 18.0 | 33.8 |
| 7 | 4880.00 | 51.9 PK | 74.0 | -22.1 | 2.26 H | 25 | 41.4 | 10.5 |
| 8 | 4880.00 | 41.5 AV | 54.0 | -12.5 | 2.26 H | 25 | 31.0 | 10.5 |
| 9 | 4924.00 | 47.6 PK | 74.0 | -26.4 | 2.15 H | 229 | 41.8 | 5.8 |
| 10 | 4924.00 | 46.4 AV | 54.0 | -7.6 | 2.15 H | 229 | 40.6 | 5.8 |
| 11 | 7320.00 | 62.3 PK | 74.0 | -11.7 | 2.43 H | 330 | 44.1 | 18.2 |
| 12 | 7320.00 | 51.3 AV | 54.0 | -2.7 | 2.43 H | 330 | 33.1 | 18.2 |
| Antenna Polarity & Test Distance : Vertical at 3 m | | | | | | | | |
| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | *2440.00 | 114.0 PK | | | 2.66 V | 175 | 80.2 | 33.8 |
| 2 | *2440.00 | 113.3 AV | | | 2.66 V | 175 | 79.5 | 33.8 |
| 3 | *2462.00 | 117.2 PK | | | 1.63 V | 57 | 83.3 | 33.9 |
| 4 | *2462.00 | 114.8 AV | | | 1.63 V | 57 | 80.9 | 33.9 |
| 5 | 2483.50 | 64.9 PK | 74.0 | -9.1 | 1.63 V | 57 | 31.1 | 33.8 |
| 6 | 2483.50 | 53.2 AV | 54.0 | -0.8 | 1.63 V | 57 | 19.4 | 33.8 |
| 7 | 4880.00 | 51.9 PK | 74.0 | -22.1 | 1.52 V | 330 | 41.4 | 10.5 |
| 8 | 4880.00 | 41.5 AV | 54.0 | -12.5 | 1.52 V | 330 | 31.0 | 10.5 |
| 9 | 4924.00 | 52.9 PK | 74.0 | -21.1 | 2.11 V | 252 | 42.5 | 10.4 |
| 10 | 4924.00 | 45.9 AV | 54.0 | -8.1 | 2.11 V | 252 | 35.5 | 10.4 |
| 11 | 7320.00 | 62.1 PK | 74.0 | -11.9 | 1.77 V | 345 | 43.9 | 18.2 |
| 12 | 7320.00 | 51.5 AV | 54.0 | -2.5 | 1.77 V | 345 | 33.3 | 18.2 |

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

| Channel | Ch 11 + 48 + 47 + 19 | Detector Function | Peak (PK)<br>Average (AV) |
|---|---|---|---|
| Frequency Range | 1GHz ~ 25GHz | | |

| Antenna Polarity & Test Distance : Horizontal at 3 m | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | *5240.00 | 116.5 PK | | | 3.23 H | 209 | 75.6 | 40.9 |
| 2 | *5240.00 | 106.5 AV | | | 3.23 H | 209 | 65.6 | 40.9 |
| 3 | 5350.00 | 61.8 PK | 74.0 | -12.2 | 3.23 H | 209 | 40.8 | 21.0 |
| 4 | 5350.00 | 48.5 AV | 54.0 | -5.5 | 3.23 H | 209 | 27.5 | 21.0 |
| 5 | 10480.00 | 62.6 PK | 68.2 | -5.6 | 3.08 H | 223 | 37.7 | 24.9 |
| 6 | 15720.00 | 64.0 PK | 74.0 | -10.0 | 1.52 H | 63 | 37.0 | 27.0 |
| 7 | 15720.00 | 50.7 AV | 54.0 | -3.3 | 1.52 H | 63 | 23.7 | 27.0 |
| Antenna Polarity & Test Distance : Vertical at 3 m | | | | | | | | |
| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | *5240.00 | 120.0 PK | | | 2.60 V | 279 | 79.1 | 40.9 |
| 2 | *5240.00 | 110.0 AV | | | 2.60 V | 279 | 69.1 | 40.9 |
| 3 | 5350.00 | 62.2 PK | 74.0 | -11.8 | 2.60 V | 279 | 41.2 | 21.0 |
| 4 | 5350.00 | 48.9 AV | 54.0 | -5.1 | 2.60 V | 279 | 27.9 | 21.0 |
| 5 | 10480.00 | 63.4 PK | 68.2 | -4.8 | 2.58 V | 261 | 38.5 | 24.9 |
| 6 | 15720.00 | 64.7 PK | 74.0 | -9.3 | 2.75 V | 330 | 37.7 | 27.0 |
| 7 | 15720.00 | 51.5 AV | 54.0 | -2.5 | 2.75 V | 330 | 24.5 | 27.0 |

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

| Channel | Ch 11 + 48 + 47 + 19 | Detector Function | Peak (PK)<br>Average (AV) |
|---|---|---|---|
| Frequency Range | 1GHz ~ 25GHz | | |

| Antenna Polarity & Test Distance : Horizontal at 3 m | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 5925.00 | 48.0 PK | 88.2 | -40.2 | 1.78 H | 351 | 41.5 | 6.5 |
| 2 | 5925.00 | 45.4 AV | 68.2 | -22.8 | 1.78 H | 351 | 38.9 | 6.5 |
| 3 | *6185.00 | 109.0 PK | | | 1.78 H | 351 | 67.6 | 41.4 |
| 4 | *6185.00 | 96.5 AV | | | 1.78 H | 351 | 55.1 | 41.4 |
| 5 | 12370.00 | 54.3 PK | 74.0 | -19.7 | 1.85 H | 333 | 38.3 | 16.0 |
| 6 | 12370.00 | 41.4 AV | 54.0 | -12.6 | 1.85 H | 333 | 25.4 | 16.0 |
| Antenna Polarity & Test Distance : Vertical at 3 m | | | | | | | | |
| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 5925.00 | 48.1 PK | 88.2 | -40.1 | 3.39 V | 270 | 41.6 | 6.5 |
| 2 | 5925.00 | 45.5 AV | 68.2 | -22.7 | 3.39 V | 270 | 39.0 | 6.5 |
| 3 | *6185.00 | 109.2 PK | | | 3.39 V | 270 | 67.8 | 41.4 |
| 4 | *6185.00 | 96.9 AV | | | 3.39 V | 270 | 55.5 | 41.4 |
| 5 | 12370.00 | 54.4 PK | 74.0 | -19.6 | 1.63 V | 276 | 38.4 | 16.0 |
| 6 | 12370.00 | 41.5 AV | 54.0 | -12.5 | 1.63 V | 276 | 25.5 | 16.0 |

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

802.11b + 802.11ax (HE20) + 802.11ax (HE160) + Zigbee

| Channel | Ch 11 + 48 + 47 + 11 | Detector Function | Peak (PK)<br>Average (AV) |
|---|---|---|---|
| Frequency Range | 1GHz ~ 25GHz | | |

| Antenna Polarity & Test Distance : Horizontal at 3 m | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 2390.00 | 58.8 PK | 74.0 | -15.2 | 1.18 H | 292 | 25.1 | 33.7 |
| 2 | 2390.00 | 46.3 AV | 54.0 | -7.7 | 1.18 H | 292 | 12.6 | 33.7 |
| 3 | *2405.00 | 114.7 PK | | | 1.18 H | 292 | 81.0 | 33.7 |
| 4 | *2405.00 | 110.7 AV | | | 1.18 H | 292 | 77.0 | 33.7 |
| 5 | 2462.00 | 116.2 PK | | | 1.93 H | 310 | 82.3 | 33.9 |
| 6 | *2462.00 | 113.9 AV | | | 1.93 H | 310 | 80.0 | 33.9 |
| 7 | 2483.50 | 62.4 PK | 74.0 | -11.6 | 1.93 H | 310 | 28.6 | 33.8 |
| 8 | 2483.50 | 51.8 AV | 54.0 | -2.2 | 1.93 H | 310 | 18.0 | 33.8 |
| 9 | 4810.00 | 51.8 PK | 74.0 | -22.2 | 1.69 H | 22 | 41.7 | 10.1 |
| 10 | 4810.00 | 39.8 AV | 54.0 | -14.2 | 1.69 H | 22 | 29.7 | 10.1 |
| 11 | 4924.00 | 52.1 PK | 74.0 | -21.9 | 2.13 H | 233 | 41.7 | 10.4 |
| 12 | 4924.00 | 50.9 AV | 54.0 | -3.1 | 2.13 H | 233 | 40.5 | 10.4 |
| Antenna Polarity & Test Distance : Vertical at 3 m | | | | | | | | |
| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 2390.00 | 58.9 PK | 74.0 | -15.1 | 3.43 V | 212 | 25.2 | 33.7 |
| 2 | 2390.00 | 46.3 AV | 54.0 | -7.7 | 3.43 V | 212 | 12.6 | 33.7 |
| 3 | *2405.00 | 112.9 PK | | | 3.43 V | 212 | 79.2 | 33.7 |
| 4 | *2405.00 | 109.1 AV | | | 3.43 V | 212 | 75.4 | 33.7 |
| 5 | *2462.00 | 117.0 PK | | | 1.67 V | 55 | 83.1 | 33.9 |
| 6 | *2462.00 | 114.6 AV | | | 1.67 V | 55 | 80.7 | 33.9 |
| 7 | 2483.50 | 64.8 PK | 74.0 | -9.2 | 1.67 V | 55 | 31.0 | 33.8 |
| 8 | 2483.50 | 53.1 AV | 54.0 | -0.9 | 1.67 V | 55 | 19.3 | 33.8 |
| 9 | 4810.00 | 52.1 PK | 74.0 | -21.9 | 1.55 V | 315 | 42.0 | 10.1 |
| 10 | 4810.00 | 40.0 AV | 54.0 | -14.0 | 1.55 V | 315 | 29.9 | 10.1 |
| 11 | 4924.00 | 52.7 PK | 74.0 | -21.3 | 2.18 V | 255 | 42.3 | 10.4 |
| 12 | 4924.00 | 45.7 AV | 54.0 | -8.3 | 2.18 V | 255 | 35.3 | 10.4 |

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

| Channel | Ch 11 + 48 + 47 + 11 | Detector Function | Peak (PK)<br>Average (AV) |
|---|---|---|---|
| Frequency Range | 1GHz ~ 25GHz | | |

| Antenna Polarity & Test Distance : Horizontal at 3 m | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | *5240.00 | 116.3 PK | | | 3.25 H | 202 | 75.4 | 40.9 |
| 2 | *5240.00 | 106.2 AV | | | 3.25 H | 202 | 65.3 | 40.9 |
| 3 | 5350.00 | 61.7 PK | 74.0 | -12.3 | 3.25 H | 202 | 40.7 | 21.0 |
| 4 | 5350.00 | 48.3 AV | 54.0 | -5.7 | 3.25 H | 202 | 27.3 | 21.0 |
| 5 | 10480.00 | 62.4 PK | 68.2 | -5.8 | 3.11 H | 226 | 37.5 | 24.9 |
| 6 | 15720.00 | 63.8 PK | 74.0 | -10.2 | 1.55 H | 66 | 36.8 | 27.0 |
| 7 | 15720.00 | 50.5 AV | 54.0 | -3.5 | 1.55 H | 66 | 23.5 | 27.0 |
| Antenna Polarity & Test Distance : Vertical at 3 m | | | | | | | | |
| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | *5240.00 | 119.9 PK | | | 2.62 V | 280 | 79.0 | 40.9 |
| 2 | *5240.00 | 109.9 AV | | | 2.62 V | 280 | 69.0 | 40.9 |
| 3 | 5350.00 | 62.1 PK | 74.0 | -11.9 | 2.62 V | 280 | 41.1 | 21.0 |
| 4 | 5350.00 | 48.8 AV | 54.0 | -5.2 | 2.62 V | 280 | 27.8 | 21.0 |
| 5 | 10480.00 | 63.3 PK | 68.2 | -4.9 | 2.61 V | 260 | 38.4 | 24.9 |
| 6 | 15720.00 | 64.6 PK | 74.0 | -9.4 | 2.77 V | 325 | 37.6 | 27.0 |
| 7 | 15720.00 | 51.4 AV | 54.0 | -2.6 | 2.77 V | 325 | 24.4 | 27.0 |

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

| Channel | Ch 11 + 48 + 47 + 11 | Detector Function | Peak (PK)<br>Average (AV) |
|---|---|---|---|
| Frequency Range | 1GHz ~ 25GHz | | |

| Antenna Polarity & Test Distance : Horizontal at 3 m | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 5925.00 | 47.9 PK | 88.2 | -40.3 | 1.79 H | 350 | 41.4 | 6.5 |
| 2 | 5925.00 | 45.3 AV | 68.2 | -22.9 | 1.79 H | 350 | 38.8 | 6.5 |
| 3 | *6185.00 | 108.9 PK | | | 1.79 H | 350 | 67.5 | 41.4 |
| 4 | *6185.00 | 96.4 AV | | | 1.79 H | 350 | 55.0 | 41.4 |
| 5 | 12370.00 | 54.3 PK | 74.0 | -19.7 | 1.87 H | 328 | 38.3 | 16.0 |
| 6 | 12370.00 | 41.3 AV | 54.0 | -12.7 | 1.87 H | 328 | 25.3 | 16.0 |
| Antenna Polarity & Test Distance : Vertical at 3 m | | | | | | | | |
| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 5925.00 | 48.0 PK | 88.2 | -40.2 | 3.41 V | 272 | 41.5 | 6.5 |
| 2 | 5925.00 | 45.4 AV | 68.2 | -22.8 | 3.41 V | 272 | 38.9 | 6.5 |
| 3 | *6185.00 | 109.1 PK | | | 3.41 V | 272 | 67.7 | 41.4 |
| 4 | *6185.00 | 96.8 AV | | | 3.41 V | 272 | 55.4 | 41.4 |
| 5 | 12370.00 | 54.3 PK | 74.0 | -19.7 | 1.65 V | 277 | 38.3 | 16.0 |
| 6 | 12370.00 | 41.4 AV | 54.0 | -12.6 | 1.65 V | 277 | 25.4 | 16.0 |

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

**Below 1GHz data**

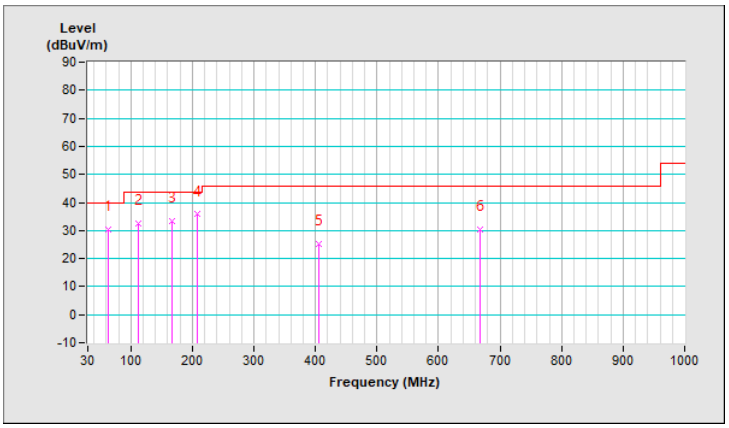
802.11b + 802.11ax (HE20) + 802.11ax (HE160) + BT LE

| Channel | Ch 11 + 48 + 47 + 19 | Detector Function | Quasi-Peak (QP) |
|---|---|---|---|
| Frequency Range | 30MHz ~ 1GHz | | |

| Antenna Polarity & Test Distance : Horizontal at 3 m | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 63.95 | 30.2 QP | 40.0 | -9.8 | 1.00 H | 10 | 40.4 | -10.2 |
| 2 | 111.48 | 32.4 QP | 43.5 | -11.1 | 1.50 H | 354 | 44.3 | -11.9 |
| 3 | 167.74 | 33.2 QP | 43.5 | -10.3 | 1.00 H | 18 | 42.1 | -8.9 |
| 4 | 207.51 | 35.7 QP | 43.5 | -7.8 | 1.00 H | 82 | 47.1 | -11.4 |
| 5 | 405.39 | 25.2 QP | 46.0 | -20.8 | 2.00 H | 213 | 29.8 | -4.6 |
| 6 | 667.29 | 30.4 QP | 46.0 | -15.6 | 1.00 H | 206 | 29.7 | 0.7 |

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

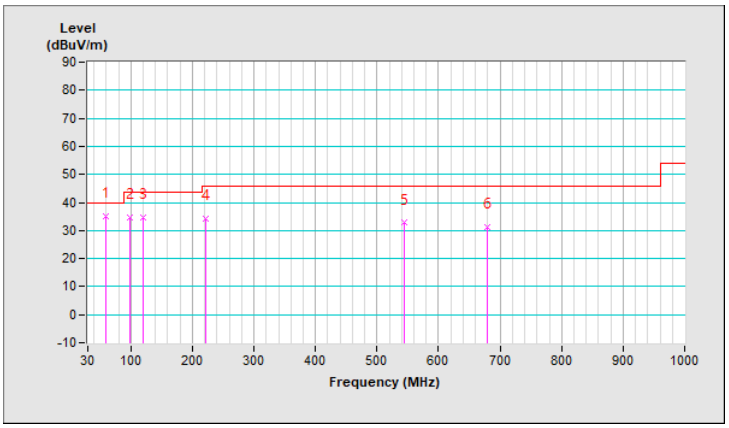


| Channel | Ch 11 + 48 + 47 + 19 | Detector Function | Quasi-Peak (QP) |
|---|---|---|---|
| Frequency Range | 30MHz ~ 1GHz | | |

| Antenna Polarity & Test Distance : Vertical at 3 m | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 60.07 | 35.1 QP | 40.0 | -4.9 | 1.49 V | 185 | 44.6 | -9.5 |
| 2 | 97.90 | 34.7 QP | 43.5 | -8.8 | 1.00 V | 186 | 48.5 | -13.8 |
| 3 | 119.24 | 34.5 QP | 43.5 | -9.0 | 1.00 V | 227 | 45.7 | -11.2 |
| 4 | 221.09 | 34.1 QP | 46.0 | -11.9 | 1.49 V | 185 | 45.2 | -11.1 |
| 5 | 544.10 | 32.7 QP | 46.0 | -13.3 | 1.00 V | 100 | 34.5 | -1.8 |
| 6 | 679.90 | 31.1 QP | 46.0 | -14.9 | 1.00 V | 238 | 30.2 | 0.9 |

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



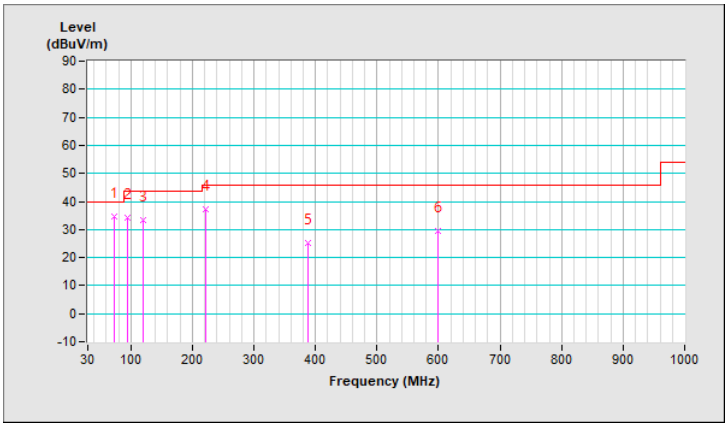
802.11b + 802.11ax (HE20) + 802.11ax (HE160) + Zigbee

| Channel | Ch 11 + 48 + 47 + 11 | Detector Function | Quasi-Peak (QP) |
|---|---|---|---|
| Frequency Range | 30MHz ~ 1GHz | | |

| Antenna Polarity & Test Distance : Horizontal at 3 m | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 73.65 | 34.7 QP | 40.0 | -5.3 | 1.50 H | 207 | 46.6 | -11.9 |
| 2 | 94.02 | 34.3 QP | 43.5 | -9.2 | 2.00 H | 181 | 48.6 | -14.3 |
| 3 | 119.24 | 33.2 QP | 43.5 | -10.3 | 1.00 H | 341 | 44.4 | -11.2 |
| 4 | 221.09 | 37.1 QP | 46.0 | -8.9 | 1.00 H | 67 | 48.2 | -11.1 |
| 5 | 386.96 | 25.3 QP | 46.0 | -20.7 | 1.50 H | 110 | 30.3 | -5.0 |
| 6 | 599.39 | 29.5 QP | 46.0 | -16.5 | 1.00 H | 149 | 29.8 | -0.3 |

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

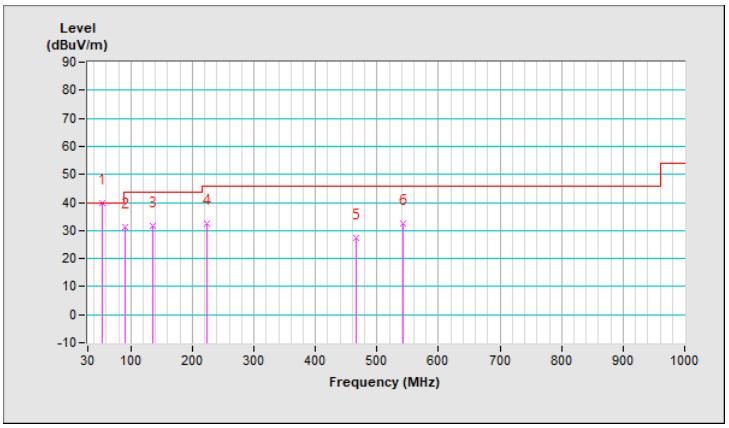


| Channel | Ch 11 + 48 + 47 + 11 | Detector Function | Quasi-Peak (QP) |
|---|---|---|---|
| Frequency Range | 30MHz ~ 1GHz | | |

| Antenna Polarity & Test Distance : Vertical at 3 m | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| **1** | **53.28** | **39.9 QP** | **40.0** | **-0.1** | **1.01 V** | **164** | **48.9** | **-9.0** |
| 2 | 91.11 | 31.0 QP | 43.5 | -12.5 | 2.00 V | 117 | 45.6 | -14.6 |
| 3 | 135.73 | 31.8 QP | 43.5 | -11.7 | 2.00 V | 279 | 41.3 | -9.5 |
| 4 | 224.00 | 32.7 QP | 46.0 | -13.3 | 1.51 V | 70 | 43.7 | -11.0 |
| 5 | 466.50 | 27.5 QP | 46.0 | -18.5 | 2.00 V | 145 | 30.5 | -3.0 |
| 6 | 542.16 | 32.5 QP | 46.0 | -13.5 | 1.01 V | 109 | 34.3 | -1.8 |

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

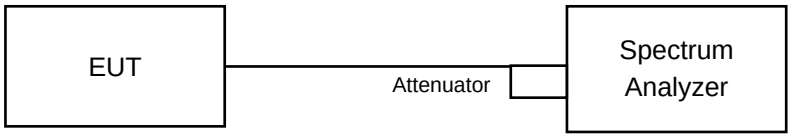


## 4.2 Conducted Out of Band Emission Measurement

### 4.2.1 Limits of Conducted Out of Band Emission Measurement

Below 30dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

### 4.2.2 Test Setup




### 4.2.3 Test Instruments

| Description<br>Manufacturer | Model No. | Serial No. | Calibrated Date | Calibrated Until |
|---|---|---|---|---|
| Software<br>BV | ADT_RF Test Software V6.6.5.4 | N/A | N/A | N/A |
| Spectrum Analyzer<br>R&S | FSV40 | 100980 | 2023/05/03 | 2024/05/02 |

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2023/5/16

### 4.2.4 Test Procedure

**MEASUREMENT PROCEDURE REF**

a. Set the RBW = 100 kHz.
b. Set the VBW ≥ 300 kHz.
c. Detector = peak.
d. Sweep time = auto couple.
e. Trace mode = max hold.
f. Allow trace to fully stabilize.
g. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

**MEASUREMENT PROCEDURE OOBE**

a. Set RBW = 100 kHz.
b. Set VBW ≥ 300 kHz.
c. Detector = peak.
d. Sweep = auto couple.
e. Trace Mode = max hold.
f. Allow trace to fully stabilize.
g. Use the peak marker function to determine the maximum amplitude level.

### 4.2.5 Deviation from Test Standard

No deviation.

### 4.2.6 EUT Operating Condition

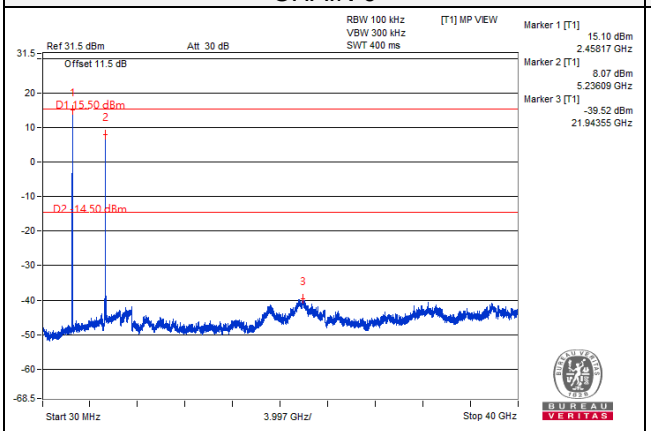
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

### 4.2.7 Test Results

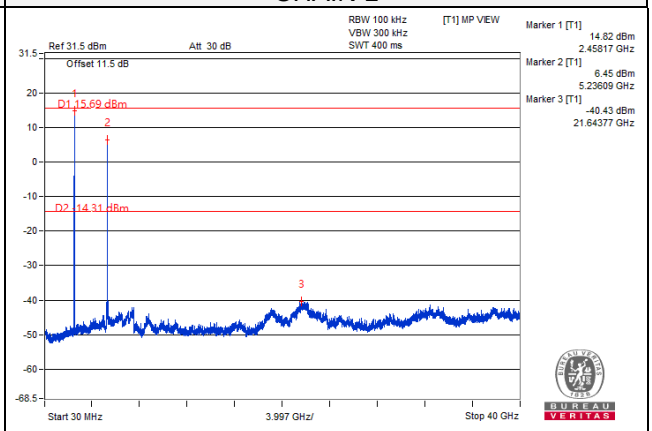
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 30dB offset below D1. It shows compliance with the requirement.

802.11b, CH11 + 802.11ax (HE20), CH48

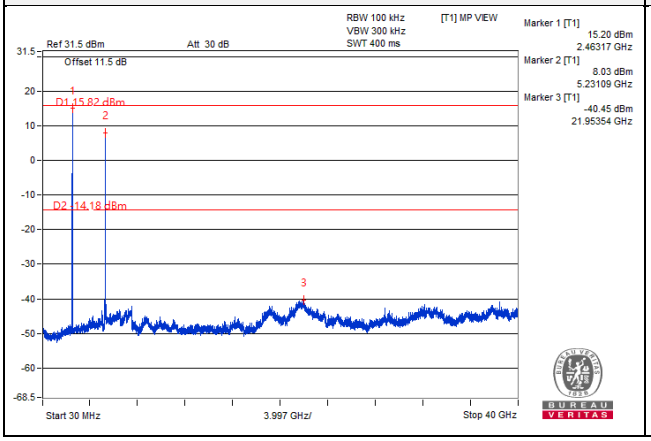
CHAIN 0



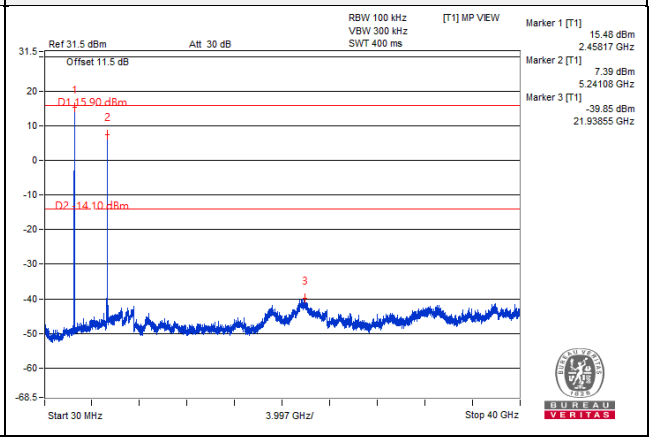

CHAIN 1




CHAIN 2




CHAIN 3



## 5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

**Appendix – Information of the Testing Laboratories**

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:


**Lin Kou EMC/RF Lab**
Tel: 886-2-26052180
Fax: 886-2-26051924

**Hsin Chu EMC/RF/Telecom Lab**
Tel: 886-3-6668565
Fax: 886-3-6668323

**Hwa Ya EMC/RF/Safety Lab**
Tel: 886-3-3183232
Fax: 886-3-3270892

**Email:** service.adt@bureauveritas.com
**Web Site:** http://ee.bureauveritas.com.tw


The address and road map of all our labs can be found in our web site also.

**--- END ---**