

# Japan Radio Test Report

**Project No.** : 2308G121  
**Equipment** : AX3000 Whole Home Mesh Wi-Fi 6 System with PoE  
**Brand Name** : tp-link  
**Test Model** : Deco X50-PoE  
**Series Model** : N/A  
**Applicant** : Big Field Global PTE. Ltd.  
**Address** : 7 Temasek Boulevard #29-03 Suntec Tower One, Singapore 038987  
**Manufacturer** : Big Field Global PTE. Ltd.  
**Address** : 7 Temasek Boulevard #29-03 Suntec Tower One, Singapore 038987  
**Factory** : TP-LINK International Shenzhen Co. Ltd. Guangming Branch  
**Address** : Room -101,1F-8F,C901,C1001,C1101,C1201,TP-LINK Export factory, No.198, Kelian Road, Tianliao Community, Yutang Sub-district, Guangming District, Shenzhen City, Guangdong Province, P.R.China  
**Date of Receipt** : Aug. 28, 2023  
**Date of Test** : Aug. 29, 2023 ~ Oct. 11, 2023  
**Issued Date** : Oct. 27, 2023  
**Report Version** : R00  
**Test Sample** : Engineering Sample No.: SSL20230828241 for carrier sense capability, SSL20230904204 for other conducted.  
**MIC Category** : Ordinance Concerning Technical Regulations Conformity Certification etc. of Specified Radio Equipment Article 2 Paragraph 1 of item19-3  
**Technical Standard(s)** : Ordinance Regulating Radio Equipment General Provisions, Transmitting Equipment, Receiving Equipment, Article 49-20  
**Test Procedure** : Test Method Specified Radio Equipment Article 2 Paragraph 1 of item19-3 (MIC Notice No.88 Appendix No.45)

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.(Dongguan).

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The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

**Limitation**

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.

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### REPORT ISSUED HISTORY

| Report No.          | Version | Description      | Issued Date   | Note  |
|---------------------|---------|------------------|---------------|-------|
| BTL-JPAP-2-2308G121 | R00     | Original Report. | Oct. 27, 2023 | Valid |

## 1. SUMMARY OF TEST RESULTS

| Part | Description of Test                                                         | Article of ORRE     | Result    |
|------|-----------------------------------------------------------------------------|---------------------|-----------|
| 3.1  | Frequency Tolerance                                                         | Clause 3            | Pass      |
| 3.2  | Occupied Bandwidth                                                          | Clause 4            | Pass      |
| 3.3  | Unwanted Emission Intensity                                                 | Clause 5 & Clause 6 | Pass      |
| 3.4  | Antenna Power Tolerance                                                     | Clause 7            | Pass      |
| 3.5  | Adjacent Channel Emitted Power                                              | Clause 8            | Pass      |
| 3.6  | Limitation of Collateral Emission of Receiver                               | Clause 9            | Pass      |
| 3.7  | Radio Interference Prevention Capability                                    | Clause 10           | Good      |
| 3.8  | Transmission Burst Length                                                   | Clause 11           | Pass      |
|      | Transmission Power Control Function (TPC)                                   | Clause 12           | Pass      |
| 3.9  | Carrier Sense Capability (1)                                                | Clause 13           | Good      |
|      | Carrier Sense Capability (2) (Dynamic Frequency Selection (DFS)) for 5.3GHz | Clause 14           | Pass      |
|      | Carrier Sense Capability (3) (Dynamic Frequency Selection (DFS)) for 5.6GHz | Clause 15           | N/A       |
|      | Number of carrier                                                           | --                  | 49-20     |
|      | protective structure                                                        | --                  | 49-20     |
|      | Warning indication for 'indoor use only'                                    | --                  | MIC No.48 |

Note:

(1) TPC feature available: ☒ Yes ☐ No

(2) This device was functioned as a

☒ Master

☐ Slave device without radar detection

☐ Slave device with radar detection

The methodology and results for DFS please refer to report No.: BTL-JPAP-3-2308G121.

## 1.1 TEST FACILITY

The test facilities used to collect the test data in this report:

**TR13/TR17:** No.3, Jinshagang 1st Road, Dalang, Dongguan, Guangdong, China.

## 1.2 MEASUREMENT UNCERTAINTY

| Test Items          | Uncertainty | Remark                      |
|---------------------|-------------|-----------------------------|
| Frequency Tolerance | 2.7 ppm     | Confidence levels of 95.45% |
| 99% Bandwidth       | 0.90 %      | Confidence levels of 95.45% |
| Antenna Power       | 1.4 dB      | Confidence levels of 95.45% |
| TX-RX Emission      | 1.9 dB      | Confidence levels of 95.45% |

## 1.3 TEST ENVIRONMENT CONDITIONS

| Test Item                                     | Temperature | Humidity | Test Voltage | Tested By  |
|-----------------------------------------------|-------------|----------|--------------|------------|
| Frequency Tolerance                           | 25°C        | 52 ~ 56% | AC 100V/60Hz | Willem Li  |
| Occupied Bandwidth                            | 25°C        | 52 ~ 56% | AC 100V/60Hz | Willem Li  |
| Unwanted Emission Intensity                   | 25°C        | 52 ~ 56% | AC 100V/60Hz | Willem Li  |
| Antenna Power Tolerance                       | 25°C        | 52 ~ 56% | AC 100V/60Hz | Willem Li  |
| Adjacent Channel Power                        | 25°C        | 52 ~ 56% | AC 100V/60Hz | Willem Li  |
| Limitation of Collateral Emission of Receiver | 25°C        | 52 ~ 56% | AC 100V/60Hz | Willem Li  |
| Transmission Burst Length                     | 25°C        | 52 ~ 56% | AC 100V/60Hz | Willem Li  |
| Carrier Sense Capability                      | 22.8°C      | 56.8%    | AC 100V/60Hz | Jaden Kong |

## 2. GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

|                                                   |                                                                                                                                                                                                                                                                    |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Equipment                                         | AX3000 Whole Home Mesh Wi-Fi 6 System with PoE                                                                                                                                                                                                                     |
| Brand Name                                        | tp-link                                                                                                                                                                                                                                                            |
| Test Model                                        | Deco X50-PoE                                                                                                                                                                                                                                                       |
| Series Model                                      | N/A                                                                                                                                                                                                                                                                |
| Model Difference(s)                               | N/A                                                                                                                                                                                                                                                                |
| Hardware Version                                  | V2                                                                                                                                                                                                                                                                 |
| Software Version                                  | V2                                                                                                                                                                                                                                                                 |
| Power Source                                      | 1# DC Voltage supplied from AC adapter.<br>Model: T120120-2B4<br>2# DC voltage supplied from PoE adapter. (support unit).                                                                                                                                          |
| Power Rating                                      | 1# I/P: 100-240V~ 50/60Hz 0.4A O/P: 12V --- 1.2A<br>2# PoE 802.3at                                                                                                                                                                                                 |
| Operation Frequency Band(s)                       | W52: 5150MHz ~ 5250MHz<br>W53: 5250MHz ~ 5350MHz                                                                                                                                                                                                                   |
| Modulation Technology                             | IEEE 802.11a/n/ac: OFDM<br>IEEE 802.11ax: OFDMA                                                                                                                                                                                                                    |
| Bit Rate of Transmitter                           | IEEE 802.11a: 54/48/36/24/18/12/9/6 Mbps<br>IEEE 802.11n: up to 300 Mbps<br>IEEE 802.11ac: up to 1733.4 Mbps<br>IEEE 802.11ax: up to 2402 Mbps                                                                                                                     |
| Occupied Bandwidth                                | 157.44 MHz                                                                                                                                                                                                                                                         |
| Antenna Power - W52<br>(Rated Power)              | IEEE 802.11a: 7.67 mW/MHz<br>IEEE 802.11ac(VHT20): 7.71 mW/MHz<br>IEEE 802.11ac(VHT40): 3.80 mW/MHz<br>IEEE 802.11ac(VHT80): 1.88 mW/MHz<br>IEEE 802.11ax(HE20): 7.62 mW/MHz<br>IEEE 802.11ax(HE40): 3.80 mW/MHz<br>IEEE 802.11ax(HE80): 1.95 mW/MHz               |
| Antenna Power - W52+W53<br>(Rated Power)          | IEEE 802.11ac(VHT160): 0.91 mW/MHz<br>IEEE 802.11ax(HE160): 0.92 mW/MHz                                                                                                                                                                                            |
| Antenna Power - W52<br>(Max. Conducted Power)     | IEEE 802.11a: 7.6736 mW/MHz<br>IEEE 802.11ac(VHT20): 7.7090 mW/MHz<br>IEEE 802.11ac(VHT40): 3.8019 mW/MHz<br>IEEE 802.11ac(VHT80): 1.8793 mW/MHz<br>IEEE 802.11ax(HE20): 7.6208 mW/MHz<br>IEEE 802.11ax(HE40): 3.8019 mW/MHz<br>IEEE 802.11ax(HE80): 1.9454 mW/MHz |
| Antenna Power - W52+W53<br>(Max. Conducted Power) | IEEE 802.11ac(VHT160): 0.9078 mW/MHz<br>IEEE 802.11ax(HE160): 0.9183 mW/MHz                                                                                                                                                                                        |

Note:

- For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

## 2. Channel List:

| IEEE 802.11a<br>IEEE 802.11n(HT20)<br>IEEE 802.11ac(VHT20)<br>IEEE 802.11ax(HE20) |                 | IEEE 802.11n(HT40)<br>IEEE 802.11ac(VHT40)<br>IEEE 802.11ax(HE40) |                 | IEEE 802.11ac(VHT80)<br>IEEE 802.11ax(HE80) |                 |
|-----------------------------------------------------------------------------------|-----------------|-------------------------------------------------------------------|-----------------|---------------------------------------------|-----------------|
| W52                                                                               |                 | W52                                                               |                 | W52                                         |                 |
| Channel                                                                           | Frequency (MHz) | Channel                                                           | Frequency (MHz) | Channel                                     | Frequency (MHz) |
| 36                                                                                | 5180            | 38                                                                | 5190            | 42                                          | 5210            |
| 40                                                                                | 5200            | 46                                                                | 5230            |                                             |                 |
| 44                                                                                | 5220            |                                                                   |                 |                                             |                 |
| 48                                                                                | 5240            |                                                                   |                 |                                             |                 |

| IEEE 802.11ac(VHT160)<br>IEEE 802.11ax(HE160) |                 |
|-----------------------------------------------|-----------------|
| Channel                                       | Frequency (MHz) |
| 50                                            | 5250            |

## 3. Table for Filed Antenna Table:

| Ant. | Manufacturer              | Model Name | Antenna Type | Connector | Gain (dBi) |
|------|---------------------------|------------|--------------|-----------|------------|
| 1    | BIG FIELD GLOBAL PTE. LTD | 3101506356 | Dipole       | N/A       | 0.93       |
| 2    | BIG FIELD GLOBAL PTE. LTD | 3101506354 | Dipole       | N/A       | 0.97       |
| 3    | BIG FIELD GLOBAL PTE. LTD | 3101506355 | Dipole       | N/A       | 0.98       |

Note:

- 1) The EUT supports CDD. Physically, the EUT provides three completed transmitters and receivers (3T3R).
- 2) All of Ant. 1, Ant. 2, Ant. 3 had been pre-tested and found the Ant.3 power is the highest and worst, so only the data of Ant.3 with offset 4.77dB had been recorded.
- 3) Ant. 3 is the auxiliary antenna.
- 4) The antenna gain is provided by the manufacturer.

## 4. Table for Antenna Configuration:

| Operating Mode<br>TX Mode | 3TX                      |
|---------------------------|--------------------------|
| IEEE 802.11a              | V (Ant. 1+Ant. 2+Ant. 3) |
| IEEE 802.11n(HT20)        | V (Ant. 1+Ant. 2+Ant. 3) |
| IEEE 802.11n(HT40)        | V (Ant. 1+Ant. 2+Ant. 3) |
| IEEE 802.11ac(VHT20)      | V (Ant. 1+Ant. 2+Ant. 3) |
| IEEE 802.11ac(VHT40)      | V (Ant. 1+Ant. 2+Ant. 3) |
| IEEE 802.11ac(VHT80)      | V (Ant. 1+Ant. 2+Ant. 3) |
| IEEE 802.11ac(VHT160)     | V (Ant. 1+Ant. 2+Ant. 3) |
| IEEE 802.11ax(HE20)       | V (Ant. 1+Ant. 2+Ant. 3) |
| IEEE 802.11ax(HE40)       | V (Ant. 1+Ant. 2+Ant. 3) |
| IEEE 802.11ax(HE80)       | V (Ant. 1+Ant. 2+Ant. 3) |
| IEEE 802.11ax(HE160)      | V (Ant. 1+Ant. 2+Ant. 3) |

## 2.2 DESCRIPTION OF TEST MODES

The EUT Module was tested while in a continuous transmitter / receiver mode.

The EUT was tuned to a low, middle and high channel for all tests.

The EUT continuously transmitted a modulated packet with payload, while transmitting the EUT was setup to operate at the intended maximum power output available to the end user.

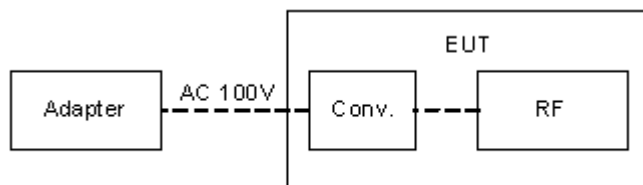
For all test cases pre-scan were completed in all modes to determine worst case levels.

| Test Mode | Description                                 |
|-----------|---------------------------------------------|
| Mode 1    | IEEE 802.11a / CH36,CH40,CH48 (W52)         |
| Mode 2    | IEEE 802.11n(HT20) / CH36,CH40,CH48 (W52)   |
| Mode 3    | IEEE 802.11n(HT40) / CH38,CH46 (W52)        |
| Mode 4    | IEEE 802.11ac(VHT20) / CH36,CH40,CH48 (W52) |
| Mode 5    | IEEE 802.11ac(VHT40) / CH38,CH46 (W52)      |
| Mode 6    | IEEE 802.11ac(VHT80) / CH42 (W52)           |
| Mode 7    | IEEE 802.11ax(HE20) / CH36,CH40,CH48 (W52)  |
| Mode 8    | IEEE 802.11ax(HE40) / CH38,CH46 (W52)       |
| Mode 9    | IEEE 802.11ax(HE80) / CH42 (W52)            |
| Mode 10   | IEEE 802.11ac(VHT160) / CH50 (W52+W53)      |
| Mode 11   | IEEE 802.11ax(HE160) / CH50 (W52+W53)       |

Note:

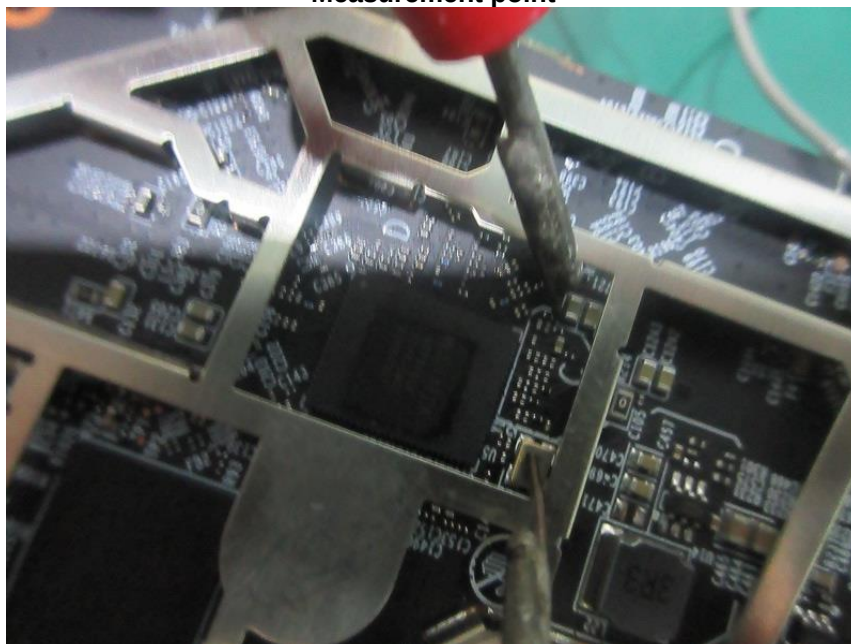
- 1) IEEE 802.11ax mode only supports full RU, so only the full RU is evaluated and measured inside report.
- 2) VHT20/VHT40 covers HT20/HT40, due to same modulation. The power setting for 802.11n HT20 and HT40 are the same or lower than 802.11ac VHT20 and VHT40.

## Power Supply Voltage Fluctuation Test



| Voltage Fluctuation Test | Normal Voltage | High Voltage + 10% of Normal Voltage | Low Voltage - 10% of Normal Voltage |
|--------------------------|----------------|--------------------------------------|-------------------------------------|
| Input: AC Power          | 100V           | 110V                                 | 90V                                 |
| Output: DC Power         | 3.262V         | 3.263V                               | 3.262V                              |
| Voltage Variation (%)    | -              | 0.03                                 | 0.00                                |

Measurement point



Note:

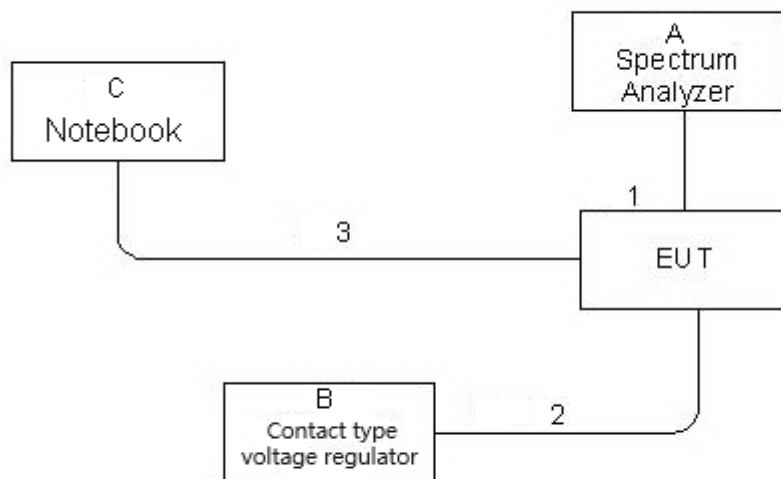
Voltage Variation (%)

= (Output High or Low Voltage - Output Normal Voltage)/Output Normal Voltage \* 100

During the input supply voltage to the EUT from the external power source is varied by +/- 10%, if output voltage had been confirmed that the fluctuation of power supply to the RF circuit of EUT (excluding power source) is equal to or less than +/- 1%.

Exempt extremely high and low supply voltage condition tests, EUT only operated in normal voltage to test all regulation.

## 2.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



## 2.4 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.

| Item | Equipment                      | Brand | Model No. | Series No. |
|------|--------------------------------|-------|-----------|------------|
| A    | Spectrum Analyzer              | R&S   | FSP40     | 100185     |
| B    | Contact type voltage regulator | SAKO  | TDGC2     | N/A        |
| C    | Notebook                       | DELL  | N/A       | N/A        |

| Item | Cable Type     | Shielded Type | Ferrite Core | Length |
|------|----------------|---------------|--------------|--------|
| 1    | RF Cable       | YES           | NO           | 0.1m   |
| 2    | DC Power Cable | YES           | NO           | 1.2m   |
| 3    | Control Cable  | NO            | NO           | 1.1m   |

## 2.5 TABLE FOR PARAMETERS OF TEST SOFTWARE SETTING

During testing, Channel & Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level.

| W52                   |                     |      |      |
|-----------------------|---------------------|------|------|
| Test Software Version | QATool_Dbg 0.0.2.78 |      |      |
| Frequency (MHz)       | 5180                | 5200 | 5240 |
| IEEE 802.11a          | 14.5                | 14.5 | 13.5 |
| IEEE 802.11ac(VHT20)  | 14.5                | 14.5 | 14   |
| IEEE 802.11ax(HE20)   | 14.5                | 14.5 | 14   |
| Frequency (MHz)       | 5190                | 5230 |      |
| IEEE 802.11ac(VHT40)  | 14.5                | 15   |      |
| IEEE 802.11ax(HE40)   | 15                  | 14.5 |      |
| Frequency (MHz)       | 5210                |      |      |
| IEEE 802.11ac(VHT80)  | 15                  |      |      |
| IEEE 802.11ax(HE80)   | 15                  |      |      |

| W52+W53               |                     |
|-----------------------|---------------------|
| Test Software Version | QATool_Dbg 0.0.2.78 |
| Frequency (MHz)       | 5250                |
| IEEE 802.11ac(VHT160) | 14                  |
| IEEE 802.11ax(HE160)  | 14                  |

### 3. TEST RESULTS

#### 3.1 FREQUENCY TOLERANCE MEASUREMENT

##### 3.1.1 LIMIT

| Item                | Limits<br>(See Article 5, Table1 of the Ordinance Regulating Radio Equipment) |
|---------------------|-------------------------------------------------------------------------------|
| Frequency Tolerance | -20≤ppm≤20                                                                    |

##### 3.1.2 SETTING

The following table is the setting of spectrum analyzer.

| Spectrum Parameter | Setting       |
|--------------------|---------------|
| Span               | 500kHz        |
| RBW / VBW          | 30kHz / 30kHz |
| Detector           | Peak          |
| Trace              | Max Hold      |
| Sweep Time         | Auto          |

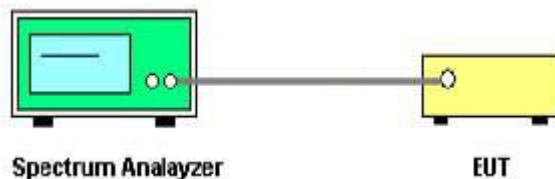
##### 3.1.3 TEST PROCEDURES

Test method which surpass to Claus 3 of Specified Radio Equipment Article 2 Paragraph 1 of item19-3 (Annex No.45 of MIC Notification No.88).

Frequency accuracy of SA shall be less than 10% of limits tolerance (2ppm).

1. Set spectrum analyzer with condition in section 3.1.2 and tune reference level to observe receiving signal position.
2. Center Frequency: The center frequency of testing for EUT.
3. EUT have transmitted absence of modulation signal and fixed channelize. f is using the mark cursor to mark the peak frequency value,  $f_c$  is declaring of channel frequency.  
Then the frequency error formula is  $(f_c - f) / f_c \times 10^6$  ppm and the limit is less than  $\pm 20$ ppm.

##### 3.1.4 TEST SETUP LAYOUT



##### 3.1.5 TEST DEVIATION

There is no deviation with the original standard.

##### 3.1.6 EUT OPERATION DURING TEST

The EUT was placed on the test table and programmed in un-modulation function.

##### 3.1.7 TEST RESULTS

Please refer to the Appendix A.

## 3.2 OCCUPIED BANDWIDTH MEASUREMENT

### 3.2.1 LIMIT

| Item               | Limits<br>(See Article 6, Table2 and Article 49-20, Item1-h,i of the Ordinance Regulating Radio Equipment) |
|--------------------|------------------------------------------------------------------------------------------------------------|
| Occupied Bandwidth | 20MHz systems≤20MHz<br>40MHz systems≤40MHz<br>80MHz systems≤80MHz<br>160MHz systems≤160MHz                 |

### 3.2.2 SETTING

The following table is the setting of spectrum analyzer.

| Spectrum Parameter | Setting                                                                                         |
|--------------------|-------------------------------------------------------------------------------------------------|
| Span               | 20MHz systems: 50MHz<br>40MHz systems: 80MHz<br>80MHz systems: 160MHz<br>160MHz systems: 320MHz |
| RBW / VBW          | 300kHz / 300kHz                                                                                 |
| Detector           | Peak                                                                                            |
| Trace              | Max Hold                                                                                        |
| Sweep Time         | Auto                                                                                            |

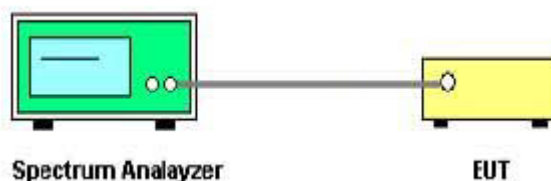
### 3.2.3 TEST PROCEDURES

Test method which surpass to Clause 4 of Specified Radio Equipment Article 2 Paragraph 1 of item19-3 (Annex No.45 of MIC Notification No.88).

Set spectrum analyzer with condition in section 3.2.2 and tune reference level to observe receiving signal position.

1. EUT have transmitted the maximum modulation signal and fixed channelize. SA set to 99% of occupied bandwidth to measure occupied bandwidth. The limit is less than table 3.2.1.

### 3.2.4 TEST SETUP LAYOUT



### 3.2.5 TEST DEVIATION

There is no deviation with the original standard.

### 3.2.6 EUT OPERATION DURING TEST

The EUT was programmed to be in continuously transmitting mode.

### 3.2.7 TEST RESULTS

Please refer to the Appendix B.

### 3.3 UNWANTED EMISSION INTENSITY MEASUREMENT

#### 3.3.1 LIMIT

| Item                                                        | Limits<br>(See Article 7, Table 3 of the Ordinance Regulating Radio Equipment)              | OBW           |
|-------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------|
| TX Spurious Emission<br>(EIRP)<br>For 20MHz systems<br>-W52 | 30MHz ~ 5142MHz Limit $\leq 2.5 \mu\text{W/MHz}$<br>(-26.02 dBm/MHz)                        | 18MHz or less |
|                                                             | 5142MHz ~ 5150MHz Limit $\leq 15 \mu\text{W/MHz}$<br>(-18.24 dBm/MHz)                       |               |
|                                                             | 5250MHz ~ 5251MHz Limit $\leq 1000 \sim 100 \mu\text{W/MHz}$<br>(0 ~ -10 dBm/MHz)           |               |
|                                                             | 5251MHz ~ 5260MHz Limit $\leq 100 \sim 15.8 \mu\text{W/MHz}$<br>(-10 ~ -18 dBm/MHz)         |               |
|                                                             | 5260MHz ~ 5266.7MHz Limit $\leq 15.8 \sim 2.5 \mu\text{W/MHz}$<br>(-18 ~ -26 dBm/MHz)       |               |
|                                                             | 5266.7MHz ~ 26000MHz Limit $\leq 2.5 \mu\text{W/MHz}$<br>(-26.02 dBm/MHz)                   |               |
|                                                             | 30MHz ~ 5142MHz Limit $\leq 2.5 \mu\text{W/MHz}$<br>(-26.02 dBm/MHz)                        | 18MHz-20MHz   |
|                                                             | 5142MHz ~ 5150MHz Limit $\leq 15 \mu\text{W/MHz}$<br>(-18.24 dBm/MHz)                       |               |
|                                                             | 5250MHz ~ 5250.2MHz Limit $\leq 2154.4 \sim 631.0 \mu\text{W/MHz}$<br>(3.33 ~ -2.0 dBm/MHz) |               |
|                                                             | 5250.2MHz ~ 5251MHz Limit $\leq 631.0 \sim 100 \mu\text{W/MHz}$<br>(-2.0 ~ -10 dBm/MHz)     |               |
|                                                             | 5251MHz ~ 5260MHz Limit $\leq 100 \sim 15.8 \mu\text{W/MHz}$<br>(-10 ~ -18 dBm/MHz)         |               |
|                                                             | 5260 MHz ~ 5266.7 MHz Limit $\leq 15.8 \sim 2.5 \mu\text{W/MHz}$<br>(-18 ~ -26 dBm/MHz)     |               |
|                                                             | 5266.7MHz ~ 26000MHz Limit $\leq 2.5 \mu\text{W/MHz}$<br>(-26.02 dBm/MHz)                   |               |

| Item                                                        | Limits<br>(See Article 7, Table 3 of the Ordinance Regulating Radio Equipment)    |
|-------------------------------------------------------------|-----------------------------------------------------------------------------------|
| TX Spurious Emission<br>(EIRP) For 40MHz<br>systems<br>-W52 | 30MHz ~ 5141.6MHz Limit $\leq 2.5 \mu\text{W/MHz}$ (-26.02 dBm/MHz)               |
|                                                             | 5141.6MHz ~ 5150MHz Limit $\leq 15 \mu\text{W/MHz}$ (-18.24 dBm/MHz)              |
|                                                             | 5250MHz ~ 5251MHz Limit $\leq 500 \sim 50 \mu\text{W/MHz}$ (-3 ~ -13 dBm/MHz)     |
|                                                             | 5251MHz ~ 5270MHz Limit $\leq 50 \sim 7.9 \mu\text{W/MHz}$ (-13 ~ -21 dBm/MHz)    |
|                                                             | 5270MHz ~ 5278.4MHz Limit $\leq 7.9 \sim 2.5 \mu\text{W/MHz}$ (-21 ~ -26 dBm/MHz) |
|                                                             | 5278.4MHz ~ 26000MHz Limit $\leq 2.5 \mu\text{W/MHz}$ (-26.02 dBm/MHz)            |

| Item                                                        | Limits<br>(See Article 7, Table 3 of the Ordinance Regulating Radio Equipment)    |
|-------------------------------------------------------------|-----------------------------------------------------------------------------------|
| TX Spurious Emission<br>(EIRP) For 80MHz<br>systems<br>-W52 | 30MHz ~ 5123.2MHz Limit $\leq 2.5 \mu\text{W/MHz}$ (-26.02 dBm/MHz)               |
|                                                             | 5123.2MHz ~ 5150MHz Limit $\leq 15 \mu\text{W/MHz}$ (-18.24 dBm/MHz)              |
|                                                             | 5250MHz ~ 5251MHz Limit $\leq 250 \sim 25 \mu\text{W/MHz}$ (-6 ~ -16 dBm/MHz)     |
|                                                             | 5251MHz ~ 5290MHz Limit $\leq 25 \sim 4.0 \mu\text{W/MHz}$ (-16 ~ -24 dBm/MHz)    |
|                                                             | 5290MHz ~ 5296.7MHz Limit $\leq 4.0 \sim 2.5 \mu\text{W/MHz}$ (-24 ~ -26 dBm/MHz) |
|                                                             | 5296.7MHz ~ 26000MHz Limit $\leq 2.5 \mu\text{W/MHz}$ (-26.02 dBm/MHz)            |

| Item                                                    | Limits                                                                 |
|---------------------------------------------------------|------------------------------------------------------------------------|
|                                                         | (See Article 7, Table 3 of the Ordinance Regulating Radio Equipment)   |
| TX Spurious Emission (EIRP) For 160MHz systems -W52+W53 | 30MHz ~ 5099.6MHz Limit $\leq 2.5 \mu\text{W/MHz}$ (-26.02 dBm/MHz)    |
|                                                         | 5099.6MHz ~ 5150MHz Limit $\leq 15 \mu\text{W/MHz}$ (-18.24 dBm/MHz)   |
|                                                         | 5350MHz ~ 5400.4MHz Limit $\leq 15 \mu\text{W/MHz}$ (-18.24 dBm/MHz)   |
|                                                         | 5400.4MHz ~ 26000MHz Limit $\leq 2.5 \mu\text{W/MHz}$ (-26.02 dBm/MHz) |

| Band            | W52 / W53 / W56 |               |               |                |                |
|-----------------|-----------------|---------------|---------------|----------------|----------------|
| Frequency Range | 30MHz ~ 1GHz    | 1GHz ~ 2.5GHz | 2.5GHz ~ 6GHz | 6GHz ~ 12.5GHz | 12.5GH ~ 26GHz |
| Cable Loss (dB) | 16.5            | 16.5          | 16.5          | 16.5           | 16.5           |

### 3.3.2 SETTING

The following table is the setting of spectrum analyzer.

| Spectrum Parameter | Setting       |
|--------------------|---------------|
| RBW / VBW          | 1MHz / 1MHz   |
| Detector           | Positive Peak |
| Trace              | Max Hold      |
| Sweep Time         | Auto          |

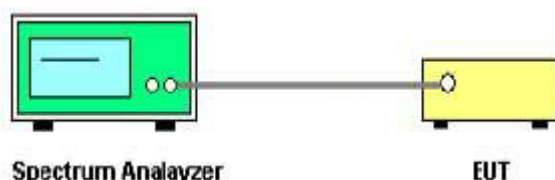
### 3.3.3 TEST PROCEDURES

Test method which surpass to Clause 5 & Clause 6 of Specified Radio Equipment Article 2 Paragraph 1 of item19-3 (Annex No.45 of MIC Notification No.88).

EUT have transmitted the maximum modulation signal and fixed channelize.

1. Set spectrum analyzer with condition in section 3.3.2 and tune reference level to observe receiving signal position.
2. Setting of SA with frequency in section 3.3.1 , then to mark peak reading value + cable loss + Max Ant. Gain shall be less than Limit.
3. Sweep with every specified sweep bandwidth and find maximum power value of each band. Then transform the found values of "Pa" to "Poa" using following formula and if corresponding EIRP "Poa" (dBm/MHz) satisfies regulated limitation, skip the next procedure 3 and record the "Poa" as measurement results. Poa is calculated by following formula  $Poa = Pa + Gt - Lf$  Pa: found values in the measurment of out of band leakage power (dBm/MHz) Gt: Antenna gain at the frequency of the found values (dBi) Lf: Cable loss at the frequency of the found values (dB).
4. If the Result\_Value is over the requirement, take total sum of 1MHz band centered at the spur frequency like time domain power measurement as Result\_Value.

### 3.3.4 TEST SETUP LAYOUT



### 3.3.5 TEST DEVIATION

There is no deviation with the original standard.

### 3.3.6 EUT OPERATION DURING TEST

The EUT was programmed to be in continuously transmitting mode.

### **3.3.7 TEST RESULTS**

Please refer to the Appendix C.

### 3.4 ANTENNA POWER TOLERANCE MEASUREMENT

#### 3.4.1 LIMIT

| Item                                 | Limits<br>(See Article 14 and 49-20 Item1-e of the Ordinance Regulating Radio Equipment) |
|--------------------------------------|------------------------------------------------------------------------------------------|
| Antenna Power Density<br>- W52 / W53 | 20MHz systems $\leq 10$ mW/MHz                                                           |
|                                      | 40MHz systems $\leq 5$ mW/MHz                                                            |
|                                      | 80MHz systems $\leq 2.5$ mW/MHz                                                          |
|                                      | 160MHz systems $\leq 1.25$ mW/MHz                                                        |
| EIRP Density<br>- W52                | 20MHz systems $\leq 10$ mW/MHz                                                           |
|                                      | 40MHz systems $\leq 5$ mW/MHz                                                            |
|                                      | 80MHz systems $\leq 2.5$ mW/MHz                                                          |
| EIRP Density<br>- W52+W53            | 160MHz systems $\leq 1.25$ mW/MHz With TPC                                               |
| Antenna Power Tolerance              | W52 / W53: +20% ~ -80%<br>(Base on manufacturer declare antenna power density)           |

#### 3.4.2 SETTING

The following table is the setting of spectrum analyzer.

Step 1:

| Spectrum Parameter | Setting                                                                                        |
|--------------------|------------------------------------------------------------------------------------------------|
| Span               | 20MHz systems: 20MHz<br>40MHz systems: 40MHz<br>80MHz systems: 80MHz<br>160MHz systems: 160MHz |
| RBW / VBW          | 1MHz / 1MHz                                                                                    |
| Detector           | RMS                                                                                            |
| Trace              | Max Hold                                                                                       |
| Sweep Time         | Auto                                                                                           |

Step 3:

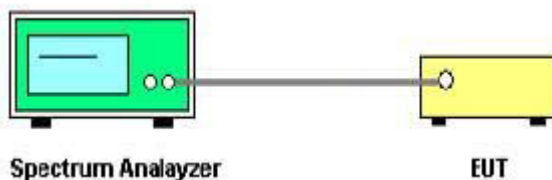
| Spectrum Parameter | Setting     |
|--------------------|-------------|
| Span               | 0Hz         |
| RBW / VBW          | 1MHz / 1MHz |
| Detector           | RMS         |
| Trace              | Max Hold    |
| Sweep Time         | 60s         |

### 3.4.3 TEST PROCEDURES

Test method which surpass to Clause 7 of Specified Radio Equipment Article 2 Paragraph 1 of item19-3 (Annex No.45 of MIC Notification No.88).

1. Set spectrum analyzer with condition in section 3.4.2 Step 1 and tune reference level to observe receiving signal position.
2. When the trace is complete, find the peak value of the power envelope and record the frequency.
3. Set spectrum analyzer with condition in section 3.4.2 Step 3 and tune reference level to observe receiving signal position. The detector mode "Average" is often referred to as "RMS Average" or "Sample" but do not use Video Average.
4. When the trace is complete, capture the trace, for example using the "View" option on the spectrum analyser.  
Find the peak value of the trace and place the analyser marker on this peak. This level is recorded as the highest mean power (spectral power density) in a 1 MHz band.
5. The maximum e.i.r.p. spectral density is calculated from the above measured power density (D), the observed duty cycle x (see clause 5.7.2.2, step 1), and the applicable antenna assembly gain "G" in dBi, according to the formula below. If more than one antenna assembly is intended for this power setting, the gain of the antenna assembly with the highest gain shall be used.  
•  $PD = D + G + 10 \log (1/x)$ .

### 3.4.4 TEST SETUP LAYOUT



### 3.4.5 TEST DEVIATION

There is no deviation with the original standard.

### 3.4.6 EUT OPERATION DURING TEST

The EUT was programmed to be in continuously transmitting mode.

### 3.4.7 TEST RESULTS

Please refer to the Appendix D.

### 3.5 ADJACENT CHANNEL EMITTED POWER MEASUREMENT

#### 3.5.1 LIMIT

| Item                           | Limits<br>(See 49-20 Item1-e of the Ordinance Regulating Radio Equipment)                                          |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Adjacent Channel Emitted Power | $\geq 25$ dB<br>$f \pm 20$ MHz (20MHz systems)<br>$f \pm 40$ MHz (40MHz systems)<br>$f \pm 80$ MHz (80MHz systems) |
|                                | $\geq 40$ dB<br>$f \pm 40$ MHz (20MHz systems)<br>$f \pm 80$ MHz (40MHz systems)                                   |

#### 3.5.2 SETTING

The following table is the setting of spectrum analyzer.

| Spectrum Parameter | Setting                                                                 |
|--------------------|-------------------------------------------------------------------------|
| Span               | 20MHz systems: 200MHz<br>40MHz systems: 400MHz<br>80MHz systems: 500MHz |
| RBW / VBW          | 300kHz / 300kHz                                                         |
| Detector           | Peak                                                                    |
| Trace              | Max Hold                                                                |
| Sweep Time         | Auto                                                                    |

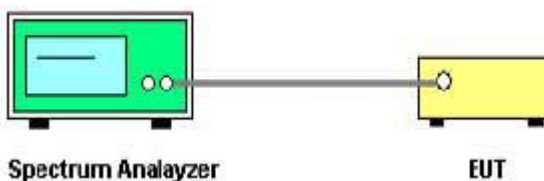
#### 3.5.3 TEST PROCEDURES

Test method which surpass to Clause 8 of Specified Radio Equipment Article 2 Paragraph 1 of item19-3 (Annex No.45 of MIC Notification No.88).

EUT have transmitted the maximum modulation signal and fixed channelize.

1. Set spectrum analyzer with condition in section 3.5.2 and tune reference level to observe receiving signal position.
2. SA set the Channel Power Function and Channel Bandwidth: 20MHz and Center Frequency: The center frequency of testing for EUT (Such as 5180MHz). Then SA automatically calculate the channel power of EUT and A is representative of this channel power.
3. SA set the Channel Power Function and Channel Bandwidth: 20MHz and Center Frequency: The center frequency of testing for EUT (Such as 5180MHz)  $\pm 20$ MHz. Then SA automatically calculate the first adjacent channel power of EUT and B is representative of this first adjacent channel power.
4. SA set the Channel Power Function and Channel Bandwidth: 20MHz and Center Frequency: The center frequency of testing for EUT (Such as 5180MHz)  $\pm 40$ MHz. Then SA automatically calculate the second adjacent channel power of EUT and C is representative of this first adjacent channel power.
5. Conclusion that A - B is more than 25dB and A - C is more than 40dB.

#### 3.5.4 TEST SETUP LAYOUT



**3.5.5 TEST DEVIATION**

There is no deviation with the original standard.

**3.5.6 EUT OPERATION DURING TEST**

The EUT was programmed to be in continuously transmitting mode.

**3.5.7 TEST RESULTS**

Please refer to the Appendix E.

### 3.6 LIMITATION OF COLLATERAL EMISSION OF RECEIVER MEASUREMENT

#### 3.6.1 LIMIT

| Item                 | Limits<br>(See Article 24, Paragraph 2 of the Ordinance Regulating Radio Equipment) |
|----------------------|-------------------------------------------------------------------------------------|
|                      |                                                                                     |
| RX Spurious Emission | $\leq 4\text{nW}$ ( $f < 1\text{GHz}$ )                                             |
|                      | $\leq 20\text{nW}$ ( $1\text{GHz} \leq f$ )                                         |

| Band            | W52 / W53 / W56 |               |               |                |                 |
|-----------------|-----------------|---------------|---------------|----------------|-----------------|
| Frequency Range | 30MHz ~ 1GHz    | 1GHz ~ 2.5GHz | 2.5GHz ~ 6GHz | 6GHz ~ 12.5GHz | 12.5GHz ~ 26GHz |
| Cable Loss (dB) | 16.5            | 16.5          | 16.5          | 16.5           | 16.5            |

#### 3.6.2 SETTING

The following table is the setting of spectrum analyzer.

| Spectrum Parameter | Setting                                                              |
|--------------------|----------------------------------------------------------------------|
| RBW / VBW          | 100 kHz / 100 kHz (30 MHz ~ 1000 MHz)<br>1MHz / 1MHz (Above 1000MHz) |
| Detector           | Positive Peak                                                        |
| Trace              | Max Hold                                                             |
| Sweep Time         | Auto                                                                 |

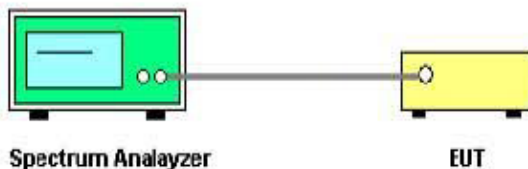
#### 3.6.3 TEST PROCEDURES

Test method which surpass to Clause 9 of Specified Radio Equipment Article 2 Paragraph 1 of item19-3 (Annex No.45 of MIC Notification No.88).

EUT have the continuous reception mode and fixed only one channelize.

1. Set spectrum analyzer with condition in section 3.6.2 and tune reference level to observe receiving signal position.
2. SA set RBW: 100kHz and VBW: 100kHz. Then adjust to start frequency 30MHz and stop frequency 1000MHz. Search to mark peak reading value + cable loss shall be less than 4nW.
3. SA set RBW: 1MHz and VBW: 1MHz. Then adjust to start frequency 1000MHz and stop frequency 26000MHz. Search to mark peak reading value + cable loss shall be less than 20nW.
4. If power level of lower emissions are more than 1/10 of limit (0.4nW for  $f < 1\text{GHz}$ , 2nW for  $f \geq 1\text{GHz}$ ), all those are to be indicated in the 2nd and 3rd lines. If others are 1/10 or less more of the limit, no necessary to be indicated.

#### 3.6.4 TEST SETUP LAYOUT



#### 3.6.5 TEST DEVIATION

There is no deviation with the original standard.

#### 3.6.6 EUT OPERATION DURING TEST

The EUT was programmed to be in continuously receiving mode.

### **3.6.7 TEST RESULTS**

Please refer to the Appendix F.

### 3.7 RADIO INTERFERENCE PREVENTION CAPABILITY MEASUREMENT

#### 3.7.1 LIMIT

| Item                | Limits<br>(See Article 9-4, Item9-C of the Ordinance Regulating Radio Equipment)                                                     |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Identification code | The wireless equipment of the radio station mainly used in the same station automatically sends or receives the identification code. |

#### 3.7.2 MEASURING ID CODE SOFTWARE

| PC with Net Tool | Setting  |
|------------------|----------|
| MAC IP List      | MAC Scan |

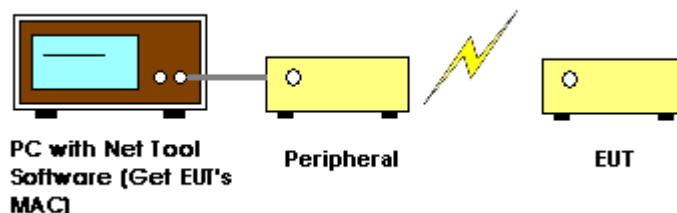
#### 3.7.3 TEST PROCEDURES

Test method which surpass to Clause 10 of Specified Radio Equipment Article 2 Paragraph 1 of item19-3 (Annex No.45 of MIC Notification No.88).

In the case that the EUT has the function of automatically transmitting the identification code:

- a. Transmit the predetermined identification codes form EUT.
- b. Check the transmitted identification codes with the demodulator.
1. In the case of receiving the identification code:
  - a. Transmit the predetermined identification codes form the counterpart.
  - b. Check if communication is normal.
  - c. Transmit the signals other than predetermined ID codes form the counterpart.
  - d. Check if the EUT stops the transmission, or if it displays that identification codes are different from the predetermined ones.

#### 3.7.4 TEST SETUP LAYOUT



#### 3.7.5 TEST DEVIATION

There is no deviation with the original standard.

#### 3.7.6 EUT OPERATION DURING TEST

The EUT was programmed to be in normal transmitting mode.

#### 3.7.7 TEST RESULT OF RADIO INTERFERENCE PREVENTION CAPABILIT

|              |                                                 |
|--------------|-------------------------------------------------|
| Test Power:  | Normal Voltage                                  |
| Test Mode:   | IEEE 802.11a                                    |
| Test Result: | Good (identification code: [00:14:78:FA:15:86]) |

00:14:78:FA:15:86

### 3.8 TRANSMISSION BURST LENGTH MEASUREMENT

#### 3.8.1 LIMIT

| Item                      | Limits<br>(See 49-20 Item1-e of the Ordinance Regulating Radio Equipment) |
|---------------------------|---------------------------------------------------------------------------|
| Transmission Burst Length | ≤ 8 ms                                                                    |

#### 3.8.2 SETTING

The following table is the setting of spectrum analyzer.

| Spectrum Parameter | Setting       |
|--------------------|---------------|
| Span               | 0Hz           |
| RBW / VBW          | 10MHz / 10MHz |
| Sweep              | Single        |
| Detector           | Peak          |
| Trigger mode       | Video         |

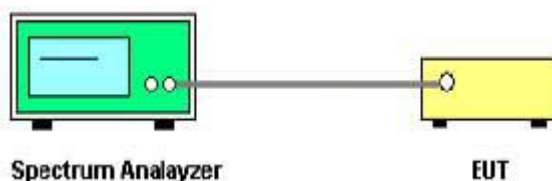
#### 3.8.3 TEST PROCEDURES

Test method which surpass to Clause 11 of Specified Radio Equipment Article 2 Paragraph 1 of item19-3 (Annex No.45 of MIC Notification No.88).

The transmitter output (antenna port) was connected to the spectrum analyzer.

1. Set spectrum analyzer with condition in section 3.8.2 and tune reference level to observe receiving signal position.
2. Use a video trigger with the trigger level set to enable triggering only on full pulses.
3. Sweep Time is more than once pulse time.
4. Set the center frequency on any frequency would be measure and set the frequency span to zero span.
5. Measure the maximum time duration of one single pulse.

#### 3.8.4 TEST SETUP LAYOUT



#### 3.8.5 TEST DEVIATION

There is no deviation with the original standard.

#### 3.8.6 EUT OPERATION DURING TEST

The EUT was programmed to be in normal transmitting mode.

#### 3.8.7 TEST RESULTS

Please refer to the Appendix G.

### 3.9 CARRIER SENSE CAPABILITY MEASUREMENT

#### 3.9.1 LIMIT

| Item                     | Limits<br>(See Article 49-20, Item1-k of the Ordinance Regulating Radio Equipment)                                                                                                                                                                                                                                                                                                                 |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Carrier Sense Capability | Field intensity in the direction of the maximum gain of a receiving antenna:100mV/m.<br>*Start transmission after performing a carrier sense. However, when transmission and reception are controlled from other radio equipment, and when the radio equipment which performed transmission resumes transmission within 8 millisecond after a career sense, it can omit performing a career sense. |

#### 3.9.2 SETTING

The following table is the setting of spectrum analyzer.

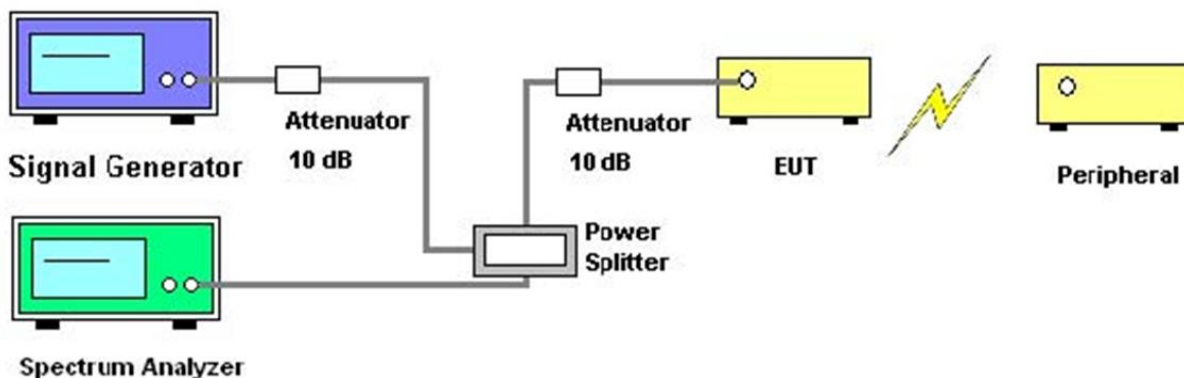
| Spectrum Parameter | Setting     |
|--------------------|-------------|
| Span               | 0Hz         |
| RBW / VBW          | 1MHz / 1MHz |
| Sweep              | Continuous  |
| Detector           | Peak        |
| Trigger mode       | Video       |

#### 3.9.3 TEST PROCEDURES

Test method which surpass to Clause 13 of Specified Radio Equipment Article 2 Paragraph 1 of item19-3 (Annex No.45 of MIC Notification No.88).

1. SSG adjusted the frequency as same as the EUT transmitted signal and emitted the absence of modulation from SSG and power level is (On  $22.79 + Gr - 20 \cdot \log(f)$  [dBm] (Gr: dBi; f:MHz). Then turn off the RF signal of SSG.
2. EUT have transmitted the maximum modulation signal and fixed channelize.
3. Set spectrum analyzer with condition in section 3.9.2 and tune reference level to observe receiving signal position.
4. SSG RF Signal On.
5. EUT shall be stop the transmitted any signal and SSG RF Signal Off. Then EUT will be continuous transmitted signal.

#### 3.9.4 TEST SETUP LAYOUT



**3.9.5 TEST DEVIATION**

There is no deviation with the original standard.

**3.9.6 EUT OPERATION DURING TEST**

The EUT was programmed to be in normal transmitting mode.

**3.9.7 TEST RESULTS**

Please refer to the Appendix H.

### 3.10 CONSTRUCTION PROTECTION CONFIRMATION METHOD

#### 3.10.1 LIMIT

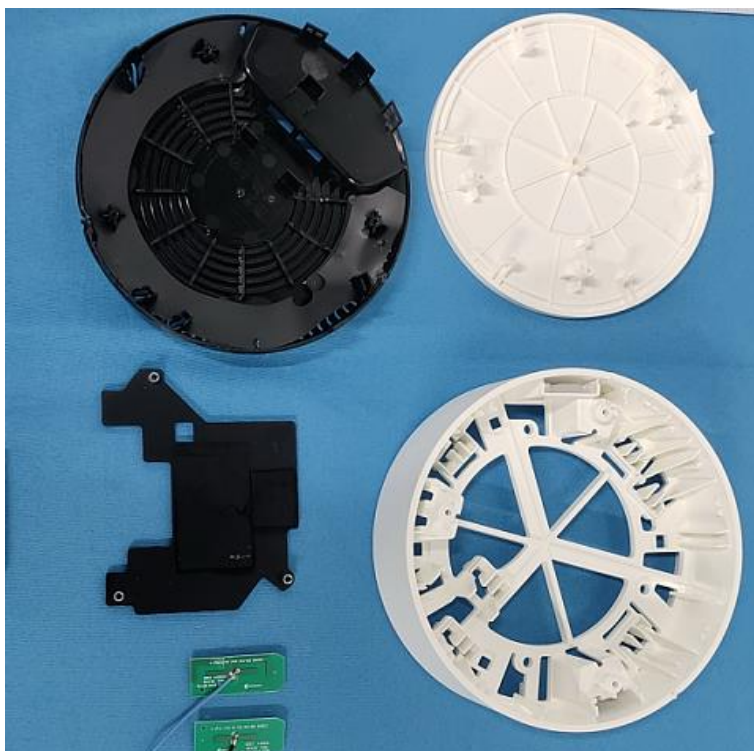
(See Article 49-20, Item1-a of the Ordinance Regulating Radio Equipment).

The high-frequency section and modulation section of the radio equipment except for the antenna system shall not be capable of being opened easily.

#### 3.10.2 CONFIRMATION METHOD

The RF and modulation portions are protected against illegal modification as following method:

| Tick the appropriate box            |                                                                                                                                                               |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/>            | 1. Sealed with special screws.                                                                                                                                |
| <input type="checkbox"/>            | 2. Plastic chassis is being welded using ultrasonic waves.                                                                                                    |
| <input type="checkbox"/>            | 3. Chassis is glued using a special adhesive.                                                                                                                 |
| <input type="checkbox"/>            | 4. Metal covers are spot-fused.                                                                                                                               |
| <input checked="" type="checkbox"/> | 5. Cover is specially interlocked.                                                                                                                            |
| <input type="checkbox"/>            | 6. RF and Modulation components are covered with shielding case and this shielding case is soldered.                                                          |
| <input type="checkbox"/>            | 7. Shield case is welded at RF and modulation parts, and ID-ROM is welded using the BGA Method.                                                               |
| <input type="checkbox"/>            | 8. Shield case is welded at RF and modulation parts, and ID-ROM is glued at its lead with a special adhesive                                                  |
| <input type="checkbox"/>            | 9. Shield case is welded at RF and modulation parts, and ID-ROM is glued with a non-transparent laminating agent.                                             |
| <input type="checkbox"/>            | 10. RF and Modulation parts are mounted on PCB with surface mount technology, and there is no any adjustable part on PCB or adjustable parts are not exposed. |



#### 4. LIST OF MEASURING EQUIPMENTS

| Kind of Equipment              | Manufacturer     | Model No.           | Serial No. | Validity Date | Calibration Agency                    | Class Information |
|--------------------------------|------------------|---------------------|------------|---------------|---------------------------------------|-------------------|
| Spectrum Analyzer              | R&S              | FSP40               | 100185     | Jun. 16, 2024 | CEPREI Calibration and Testing Center | (c)               |
| EXA Spectrum Analyzer          | Agilent          | N9010A              | MY55150209 | Jun. 16, 2024 | CEPREI Calibration and Testing Center | (c)               |
| MXG Vector Signal Generator    | Agilent          | N5182A              | MY49060447 | Jan. 07, 2024 | CEPREI Calibration and Testing Center | (c)               |
| Attenuator                     | Talent Microwave | TA10A0-S-26.5       | N/A        | N/A           | N/A                                   | -                 |
| Contact type voltage regulator | SAKO             | TDGC2               | N/A        | Jul. 07, 2024 | CEPREI Calibration and Testing Center | (c)               |
| Notebook                       | Lenovo           | XIAOXIN PRO 13 2020 | N/A        | N/A           | N/A                                   | -                 |

**Remark:**

- Calibration conducted by the National Institute of Information and Communications Technology (NITC) in Japan (hereinafter referred to as "NITC") or a designated calibration agency under Article 102-18 paragraph (1) in JRL.
- Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Act (Act No.51 of 1992).
- Calibration conducted in countries except Japan, which shall be equivalent to the calibration conducted by the NITC or a designation agency under Article 102-18 paragraph (1).
- Calibration, etc. conducted by using measuring instruments and other equipment listed in the right column of appended table No.3, which shall have been given any type of calibration, etc. listed above from (a) to (c). From JRL Article 24-2, paragraph 4, item 2.

**Note:**

- The calibration interval of the above test instruments is 12 months.

## 5. EUT TEST PHOTO

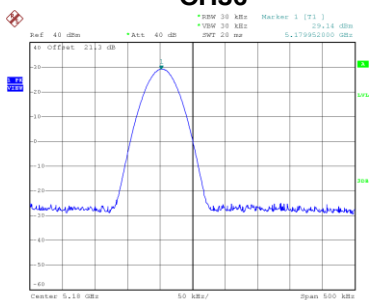


## APPENDIX A - FREQUENCY TOLERANCE

Test Mode: IEEE 802.11a - W52

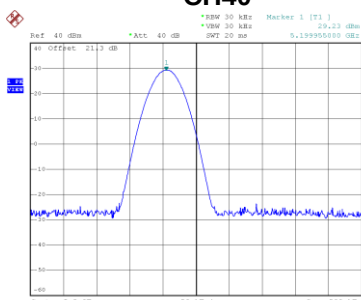
| Test Voltage              | Normal Voltage |           |           | Remarks                              |
|---------------------------|----------------|-----------|-----------|--------------------------------------|
| Test Frequency (MHz)      | 5180           | 5200      | 5240      | Low/Mid/High of test frequency range |
| Measured Frequency (MHz)  | 5179.9520      | 5199.9550 | 5239.9540 | -                                    |
| Frequency Tolerance (ppm) | -9.27          | -8.65     | -8.78     | Limit: $-20 \leq \text{ppm} \leq 20$ |

CH36



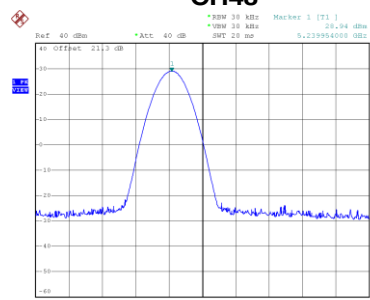
Date: 18.SEP.2023 11:17:37

CH40



Date: 18.SEP.2023 11:18:42

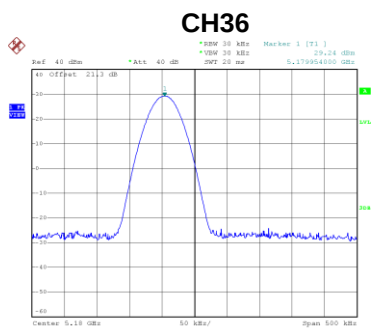
CH48



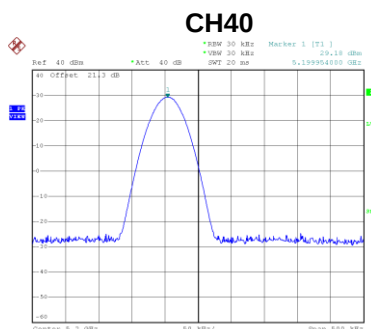
Date: 18.SEP.2023 11:18:57

|            |                            |
|------------|----------------------------|
| Test Mode: | IEEE 802.11ac(VHT20) - W52 |
|------------|----------------------------|

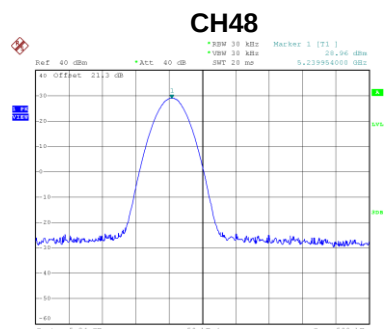
| Test Voltage              | Normal Voltage |           |           | Remarks                              |
|---------------------------|----------------|-----------|-----------|--------------------------------------|
| Test Frequency (MHz)      | 5180           | 5200      | 5240      | Low/Mid/High of test frequency range |
| Measured Frequency (MHz)  | 5179.9540      | 5199.9540 | 5239.9540 | -                                    |
| Frequency Tolerance (ppm) | -8.88          | -8.85     | -8.78     | Limit: $-20 \leq \text{ppm} \leq 20$ |



Date: 18.SEP.2023 11:19:49



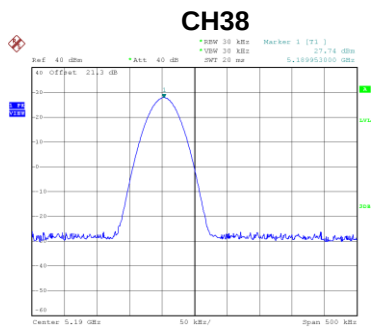
Date: 18.SEP.2023 11:20:07



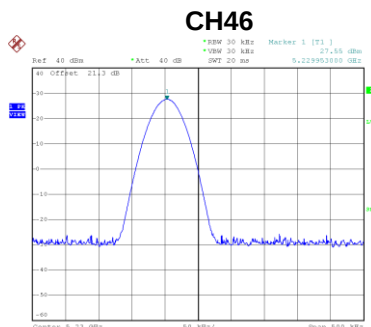
Date: 18.SEP.2023 11:20:33

|            |                            |
|------------|----------------------------|
| Test Mode: | IEEE 802.11ac(VHT40) - W52 |
|------------|----------------------------|

| Test Voltage              | Normal Voltage |           | Remarks                              |
|---------------------------|----------------|-----------|--------------------------------------|
| Test Frequency (MHz)      | 5190           | 5230      | Low/Mid/High of test frequency range |
| Measured Frequency (MHz)  | 5189.9530      | 5229.9530 | -                                    |
| Frequency Tolerance (ppm) | -9.06          | -8.99     | Limit: $-20 \leq \text{ppm} \leq 20$ |



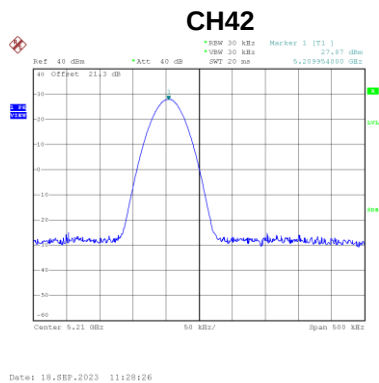
Date: 18.SEP.2023 11:26:10



Date: 18.SEP.2023 11:26:21

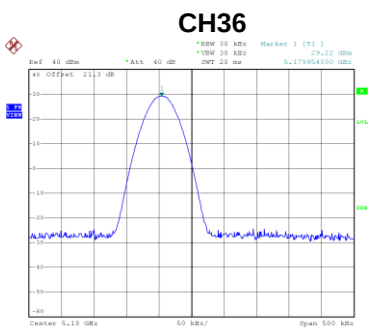
|            |                            |
|------------|----------------------------|
| Test Mode: | IEEE 802.11ac(VHT80) - W52 |
|------------|----------------------------|

|                           |                |                                      |
|---------------------------|----------------|--------------------------------------|
| Test Voltage              | Normal Voltage | Remarks                              |
| Test Frequency (MHz)      | 5210           | Low/Mid/High of test frequency range |
| Measured Frequency (MHz)  | 5209.9540      | -                                    |
| Frequency Tolerance (ppm) | -8.83          | Limit: -20≤ppm≤20                    |

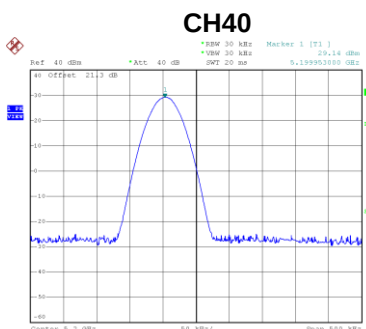


|            |                           |
|------------|---------------------------|
| Test Mode: | IEEE 802.11ax(HE20) - W52 |
|------------|---------------------------|

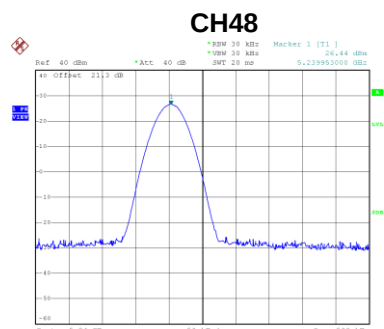
| Test Voltage              | Normal Voltage |           |           | Remarks                              |
|---------------------------|----------------|-----------|-----------|--------------------------------------|
| Test Frequency (MHz)      | 5180           | 5200      | 5240      | Low/Mid/High of test frequency range |
| Measured Frequency (MHz)  | 5179.9540      | 5199.9530 | 5239.9530 | -                                    |
| Frequency Tolerance (ppm) | -8.88          | -9.04     | -8.97     | Limit: $-20 \leq \text{ppm} \leq 20$ |



Date: 18.SEP.2023 11:21:10



Date: 18.SEP.2023 11:21:43

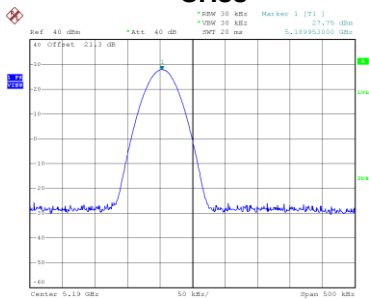


Date: 18.SEP.2023 11:23:55

|            |                           |
|------------|---------------------------|
| Test Mode: | IEEE 802.11ax(HE40) - W52 |
|------------|---------------------------|

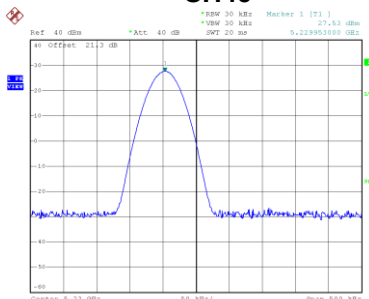
| Test Voltage              | Normal Voltage |           | Remarks                              |
|---------------------------|----------------|-----------|--------------------------------------|
| Test Frequency (MHz)      | 5190           | 5230      | Low/Mid/High of test frequency range |
| Measured Frequency (MHz)  | 5189.9530      | 5229.9530 | -                                    |
| Frequency Tolerance (ppm) | -9.06          | -8.99     | Limit: $-20 \leq \text{ppm} \leq 20$ |

CH38



Date: 18.SEP.2023 11:27:02

CH46

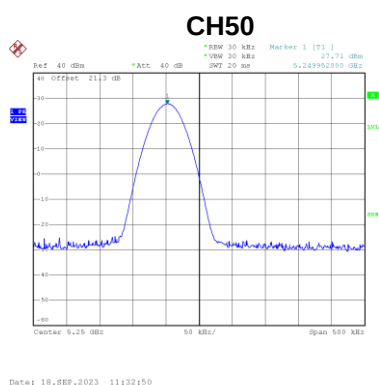


Date: 18.SEP.2023 11:27:18



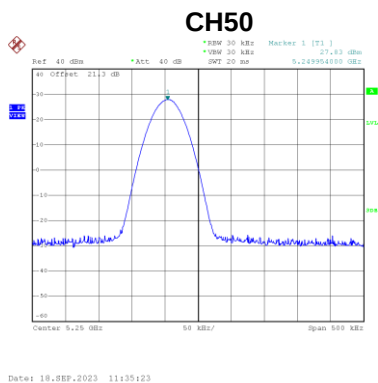
|            |                                 |
|------------|---------------------------------|
| Test Mode: | IEEE 802.11ac(VHT160) - W52+W53 |
|------------|---------------------------------|

| Test Voltage              | Normal Voltage | Remarks                              |
|---------------------------|----------------|--------------------------------------|
| Test Frequency (MHz)      | 5250           | Low/Mid/High of test frequency range |
| Measured Frequency (MHz)  | 5249.9520      | -                                    |
| Frequency Tolerance (ppm) | -9.14          | Limit: $-20 \leq \text{ppm} \leq 20$ |



|            |                                |
|------------|--------------------------------|
| Test Mode: | IEEE 802.11ax(HE160) - W52+W53 |
|------------|--------------------------------|

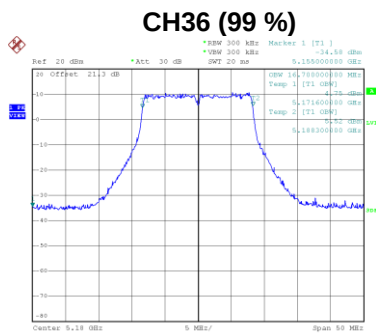
| Test Voltage              | Normal Voltage | Remarks                              |
|---------------------------|----------------|--------------------------------------|
| Test Frequency (MHz)      | 5250           | Low/Mid/High of test frequency range |
| Measured Frequency (MHz)  | 5249.9540      | -                                    |
| Frequency Tolerance (ppm) | -8.76          | Limit: -20≤ppm≤20                    |



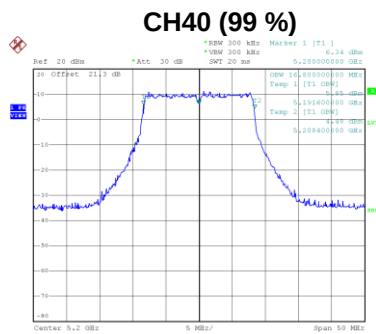
## APPENDIX B - OCCUPIED BANDWIDTH

Test Mode: IEEE 802.11a - W52

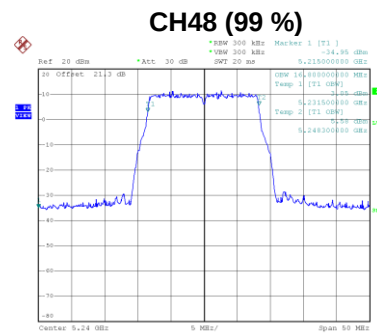
| Test Voltage             | Normal Voltage |       |       | Remarks                              |
|--------------------------|----------------|-------|-------|--------------------------------------|
| Test Frequency (MHz)     | 5180           | 5200  | 5240  | Low/Mid/High of test frequency range |
| Occupied Bandwidth (MHz) | 16.70          | 16.80 | 16.80 | Limit ≤ 20 MHz                       |



Date: 16.SEP.2023 14:22:43



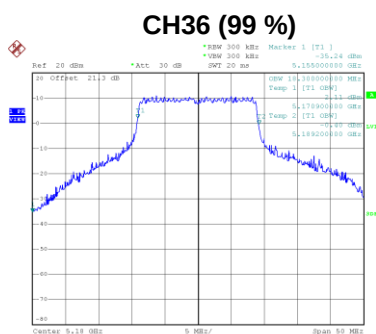
Date: 16.SEP.2023 14:24:38



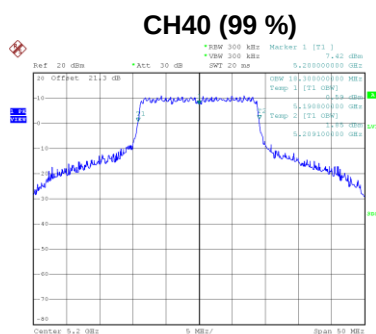
Date: 16.SEP.2023 14:26:12

Test Mode: IEEE 802.11ac(VHT20) - W52

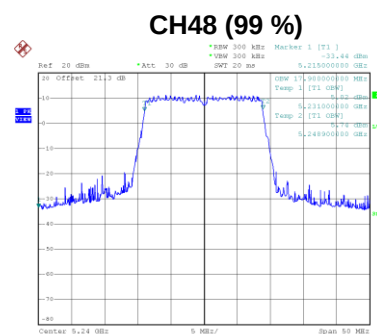
| Test Voltage             | Normal Voltage |       |       | Remarks                              |
|--------------------------|----------------|-------|-------|--------------------------------------|
| Test Frequency (MHz)     | 5180           | 5200  | 5240  | Low/Mid/High of test frequency range |
| Occupied Bandwidth (MHz) | 18.30          | 18.30 | 17.90 | Limit ≤ 20 MHz                       |



Date: 16.SEP.2023 14:31:44



Date: 16.SEP.2023 14:33:12

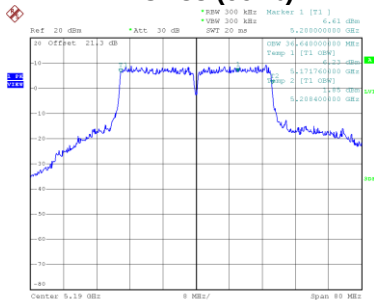


Date: 16.SEP.2023 14:42:47

Test Mode: IEEE 802.11ac(VHT40) - W52

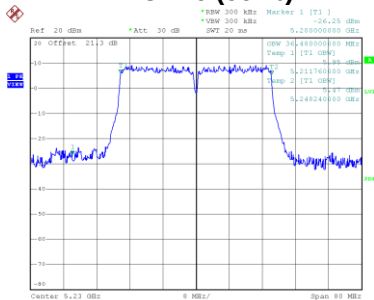
| Test Voltage             | Normal Voltage |       | Remarks                              |
|--------------------------|----------------|-------|--------------------------------------|
| Test Frequency (MHz)     | 5190           | 5230  | Low/Mid/High of test frequency range |
| Occupied Bandwidth (MHz) | 36.64          | 36.48 | Limit $\leq$ 40 MHz                  |

CH38 (99 %)



Date: 16.SEP.2023 14:51:42

CH46 (99 %)

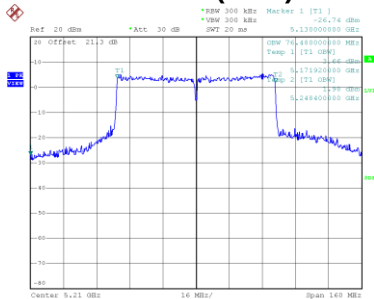


Date: 16.SEP.2023 14:53:57

Test Mode: IEEE 802.11ac(VHT80) - W52

| Test Voltage             | Normal Voltage |  | Remarks                              |
|--------------------------|----------------|--|--------------------------------------|
| Test Frequency (MHz)     | 5210           |  | Low/Mid/High of test frequency range |
| Occupied Bandwidth (MHz) | 76.48          |  | Limit $\leq$ 80 MHz                  |

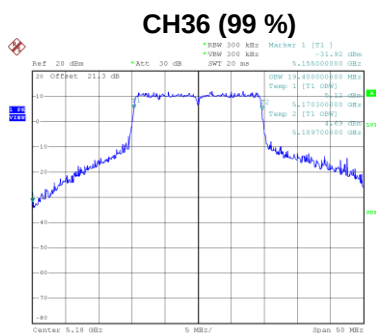
CH42 (99 %)



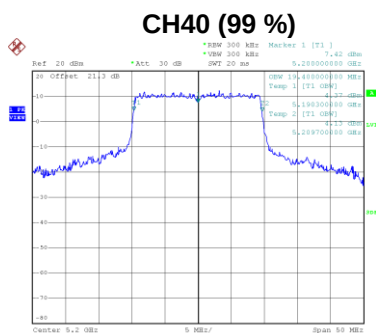
Date: 18.SEP.2023 09:49:33

Test Mode: IEEE 802.11ax(HE20) - W52

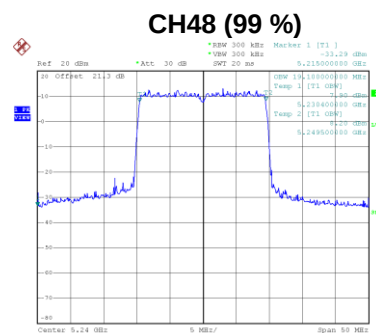
| Test Voltage             | Normal Voltage |       |       | Remarks                              |
|--------------------------|----------------|-------|-------|--------------------------------------|
| Test Frequency (MHz)     | 5180           | 5200  | 5240  | Low/Mid/High of test frequency range |
| Occupied Bandwidth (MHz) | 19.40          | 19.40 | 19.10 | Limit $\leq$ 20 MHz                  |



Date: 16.SEP.2023 14:45:44



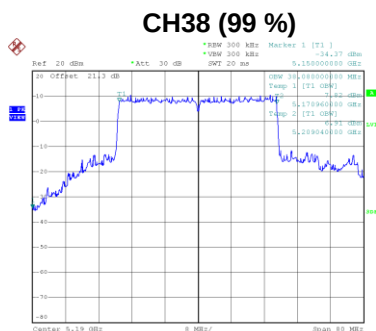
Date: 16.SEP.2023 14:47:16



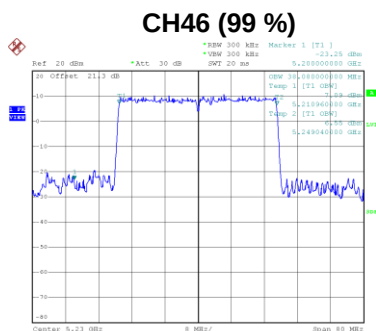
Date: 16.SEP.2023 14:49:23

Test Mode: IEEE 802.11ax(HE40) - W52

| Test Voltage             | Normal Voltage |       | Remarks                              |
|--------------------------|----------------|-------|--------------------------------------|
| Test Frequency (MHz)     | 5190           | 5230  | Low/Mid/High of test frequency range |
| Occupied Bandwidth (MHz) | 38.08          | 38.08 | Limit $\leq$ 40 MHz                  |



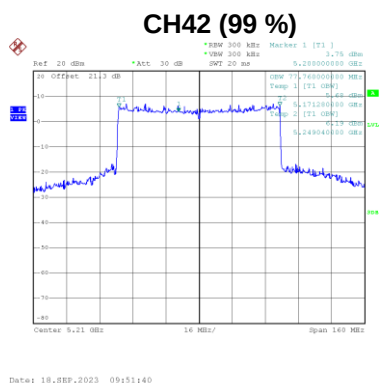
Date: 16.SEP.2023 14:55:37



Date: 16.SEP.2023 14:58:25

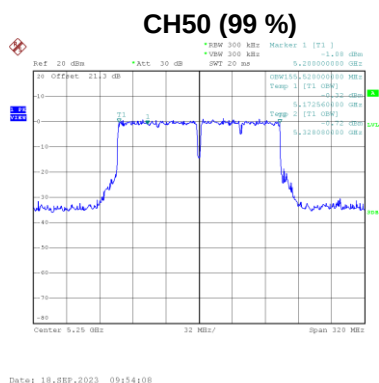
|            |                           |
|------------|---------------------------|
| Test Mode: | IEEE 802.11ax(HE80) - W52 |
|------------|---------------------------|

| Test Voltage             | Normal Voltage | Remarks                              |
|--------------------------|----------------|--------------------------------------|
| Test Frequency (MHz)     | 5210           | Low/Mid/High of test frequency range |
| Occupied Bandwidth (MHz) | 77.76          | Limit ≤ 80 MHz                       |



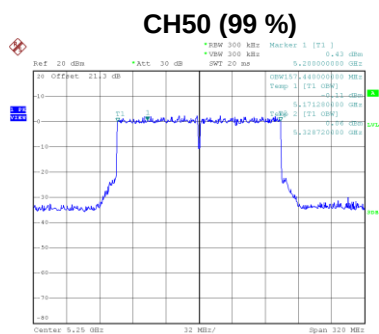
|            |                                 |
|------------|---------------------------------|
| Test Mode: | IEEE 802.11ac(VHT160) - W52+W53 |
|------------|---------------------------------|

| Test Voltage             | Normal Voltage | Remarks                              |
|--------------------------|----------------|--------------------------------------|
| Test Frequency (MHz)     | 5250           | Low/Mid/High of test frequency range |
| Occupied Bandwidth (MHz) | 155.52         | Limit ≤ 160 MHz                      |



|            |                                |
|------------|--------------------------------|
| Test Mode: | IEEE 802.11ax(HE160) - W52+W53 |
|------------|--------------------------------|

|                          |                |                                      |
|--------------------------|----------------|--------------------------------------|
| Test Voltage             | Normal Voltage | Remarks                              |
| Test Frequency (MHz)     | 5250           | Low/Mid/High of test frequency range |
| Occupied Bandwidth (MHz) | 157.44         | Limit $\leq$ 160 MHz                 |



Date: 18.SEP.2023 09:55:16

## **APPENDIX C - UNWANTED EMISSION INTENSITY**

|            |                    |
|------------|--------------------|
| Test Mode: | IEEE 802.11a - W52 |
|------------|--------------------|

| Test Voltage                                           |                   | Normal Voltage |          |           | Remarks                                                                                  |
|--------------------------------------------------------|-------------------|----------------|----------|-----------|------------------------------------------------------------------------------------------|
| Test Frequency                                         | MHz               | 5180           | 5200     | 5240      | Low/Mid/High of test frequency range                                                     |
| Unwanted Emission Intensity<br>(Max value in the band) | MHz               | 3148.32        | 3199.44  | 3127.87   | 30MHz ~ 5142MHz<br>Limit $\leq 2.5 \mu\text{W/MHz}$<br>(-26.02 dBm/MHz)                  |
|                                                        | dBm/MHz           | -33.73         | -33.79   | -33.77    |                                                                                          |
|                                                        | $\mu\text{W/MHz}$ | 0.42364        | 0.41783  | 0.41976   |                                                                                          |
|                                                        | MHz               | 5148.32        | 5142.19  | 5145.68   | 5142MHz ~ 5150MHz<br>Limit $\leq 15 \mu\text{W/MHz}$<br>(-18.24 dBm/MHz)                 |
|                                                        | dBm/MHz           | -34.83         | -34.24   | -35.78    |                                                                                          |
|                                                        | $\mu\text{W/MHz}$ | 0.32885        | 0.37670  | 0.26424   |                                                                                          |
|                                                        | MHz               | 5250.92        | 5251.00  | 5250.04   | 5250MHz ~ 5251MHz<br>Limit $\leq 1000 \sim 100 \mu\text{W/MHz}$<br>(0 ~ -10 dBm/MHz)     |
|                                                        | dBm/MHz           | -35.56         | -35.48   | -1.00     |                                                                                          |
|                                                        | $\mu\text{W/MHz}$ | 0.27797        | 0.28314  | 794.32823 |                                                                                          |
|                                                        | MHz               | 5259.82        | 5259.86  | 5251.00   | 5251MHz ~ 5260MHz<br>Limit $\leq 100 \sim 15.8 \mu\text{W/MHz}$<br>(-10 ~ -18 dBm/MHz)   |
|                                                        | dBm/MHz           | -35.29         | -35.97   | -14.08    |                                                                                          |
|                                                        | $\mu\text{W/MHz}$ | 0.29580        | 0.25293  | 39.08409  |                                                                                          |
|                                                        | MHz               | 5266.41        | 5266.49  | 5266.31   | 5260MHz ~ 5266.7MHz<br>Limit $\leq 15.8 \sim 2.5 \mu\text{W/MHz}$<br>(-18 ~ -26 dBm/MHz) |
|                                                        | dBm/MHz           | -34.83         | -35.80   | -30.66    |                                                                                          |
|                                                        | $\mu\text{W/MHz}$ | 0.32885        | 0.26303  | 0.85901   |                                                                                          |
|                                                        | MHz               | 26000.00       | 24963.34 | 5266.70   | 5266.7MHz ~ 26000MHz<br>Limit $\leq 2.5 \mu\text{W/MHz}$<br>(-26.02 dBm/MHz)             |
|                                                        | dBm/MHz           | -33.22         | -33.88   | -31.97    |                                                                                          |
|                                                        | $\mu\text{W/MHz}$ | 0.47643        | 0.40926  | 0.63533   |                                                                                          |

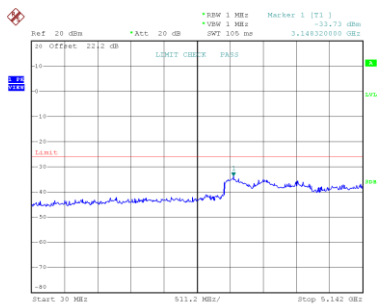
Note:

Emission value = SA measurement value + Directional gain + cable loss

Directional gain =  $10 \log (\text{Ant } X)$

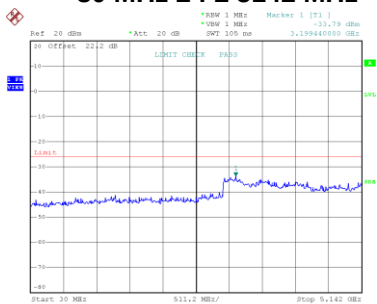
X = the total number of antennas

## CH36



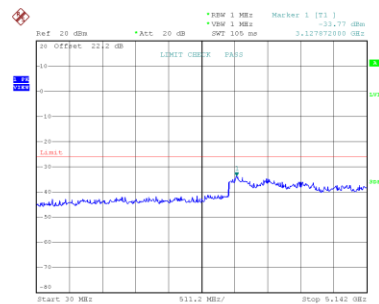
Date: 16,SEP,2023 14:21:52

## CH40 30 MHz ≤ f ≤ 5142 MHz



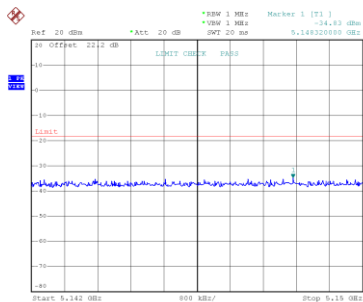
Date: 16,SEP,2023 14:23:46

## CH48

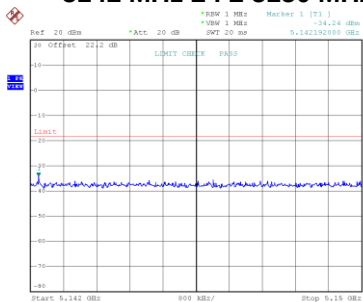


Date: 16,SEP,2023 14:25:14

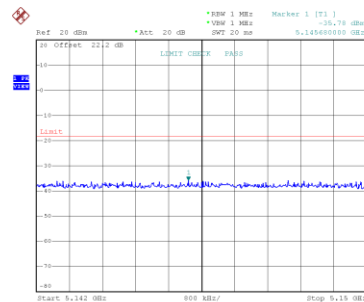
## 5142 MHz ≤ f ≤ 5150 MHz



Date: 16,SEP,2023 14:22:00

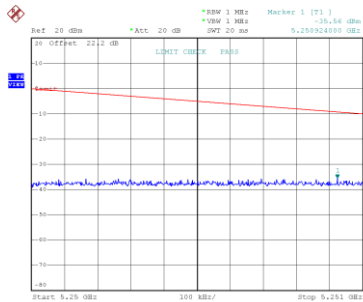


Date: 16,SEP,2023 14:23:54

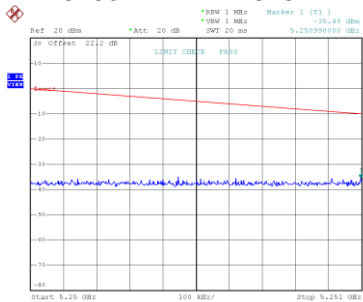


Date: 16,SEP,2023 14:25:21

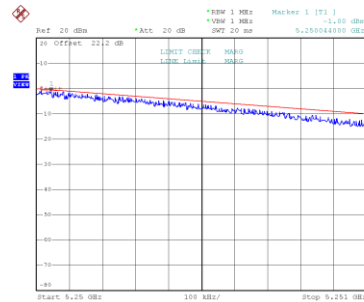
## 5250 MHz < f ≤ 5251 MHz



Date: 16,SEP,2023 14:22:06

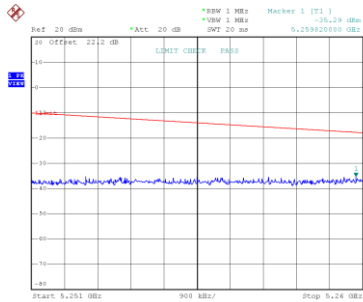


Date: 16,SEP,2023 14:24:00

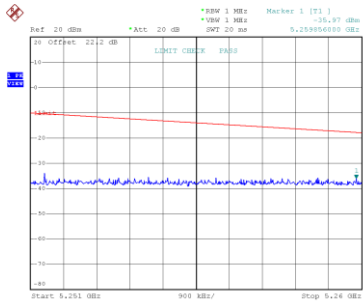


Date: 16,SEP,2023 14:25:28

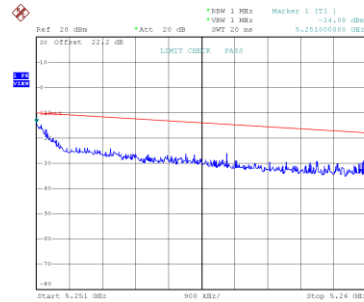
## 5251 MHz ≤ f < 5260 MHz



Date: 16,SEP,2023 14:22:14

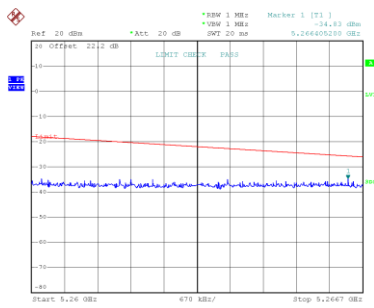


Date: 16,SEP,2023 14:24:08



Date: 16,SEP,2023 14:25:42

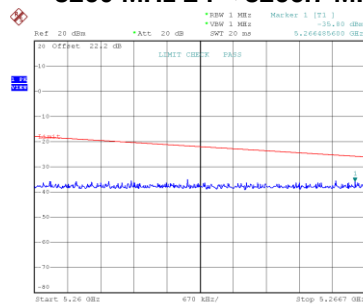
## CH36



Date: 16.SEP.2023 14:22:22

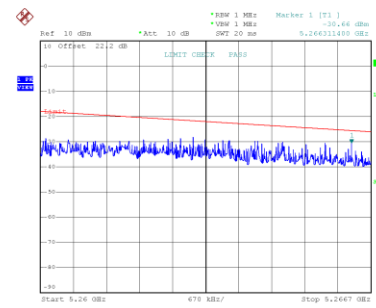
## CH40

### 5260 MHz ≤ f < 5266.7 MHz



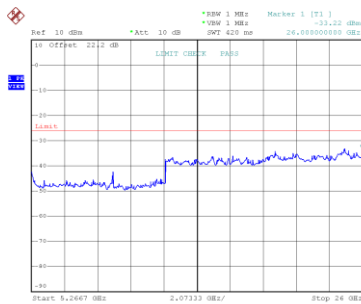
Date: 16.SEP.2023 14:24:16

## CH48

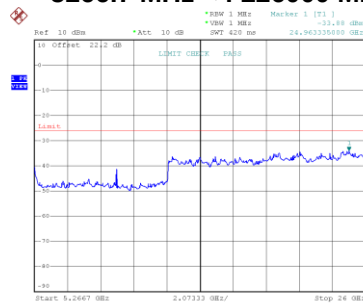


Date: 16.SEP.2023 14:25:50

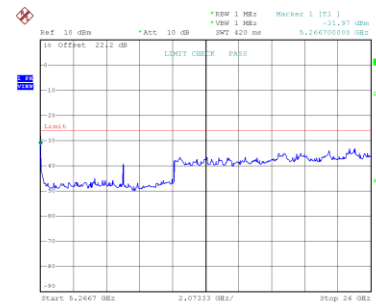
## 5266.7 MHz < f ≤ 26000 MHz



Date: 16.SEP.2023 15:00:16



Date: 16.SEP.2023 15:00:32



Date: 16.SEP.2023 15:00:48

|            |                            |
|------------|----------------------------|
| Test Mode: | IEEE 802.11ac(VHT20) - W52 |
|------------|----------------------------|

| Test Voltage                                        |                   | Normal Voltage |          |         | Remarks                                                                                    |
|-----------------------------------------------------|-------------------|----------------|----------|---------|--------------------------------------------------------------------------------------------|
| Test Frequency                                      | MHz               | 5180           | 5200     | 5240    | Low/Mid/High of test frequency range                                                       |
| Unwanted Emission Intensity (Max value in the band) | MHz               | 5101.10        | 5131.78  | 3158.54 | 30MHz ~ 5142MHz<br>Limit $\leq 2.5 \mu\text{W/MHz}$<br>(-26.02 dBm/MHz)                    |
|                                                     | dBm/MHz           | -39.03         | -38.28   | -33.71  |                                                                                            |
|                                                     | $\mu\text{W/MHz}$ | 0.13           | 0.15     | 0.43    |                                                                                            |
|                                                     | MHz               | 5148.70        | 5143.10  | 5149.47 | 5142MHz ~ 5150MHz<br>Limit $\leq 15 \mu\text{W/MHz}$<br>(-18.24 dBm/MHz)                   |
|                                                     | dBm/MHz           | -37.96         | -38.33   | -35.40  |                                                                                            |
|                                                     | $\mu\text{W/MHz}$ | 0.16           | 0.15     | 0.29    |                                                                                            |
|                                                     | MHz               | 5250.20        | 5250.20  | 5250.19 | 5250MHz ~ 5250.2MHz<br>Limit $\leq 2154.4 \sim 631 \mu\text{W/MHz}$<br>(3.33 ~ -2 dBm/MHz) |
|                                                     | dBm/MHz           | -39.78         | -36.83   | -11.94  |                                                                                            |
|                                                     | $\mu\text{W/MHz}$ | 0.11           | 0.21     | 63.97   |                                                                                            |
|                                                     | MHz               | 5250.94        | 5250.95  | 5254.89 | 5250.2MHz ~ 5251MHz<br>Limit $\leq 631 \sim 100 \mu\text{W/MHz}$<br>(-2 ~ -10 dBm/MHz)     |
|                                                     | dBm/MHz           | -38.69         | -37.29   | -33.68  |                                                                                            |
|                                                     | $\mu\text{W/MHz}$ | 0.14           | 0.19     | 0.43    |                                                                                            |
|                                                     | MHz               | 5259.89        | 5260.00  | 5264.50 | 5251MHz ~ 5260MHz<br>Limit $\leq 100 \sim 15.8 \mu\text{W/MHz}$<br>(-10 ~ -18 dBm/MHz)     |
|                                                     | dBm/MHz           | -38.12         | -39.52   | -36.77  |                                                                                            |
|                                                     | $\mu\text{W/MHz}$ | 0.15           | 0.11     | 0.21    |                                                                                            |
|                                                     | MHz               | 5266.57        | 5266.38  | 5266.70 | 5260MHz ~ 5266.7MHz<br>Limit $\leq 15.8 \sim 2.5 \mu\text{W/MHz}$<br>(-18 ~ -26 dBm/MHz)   |
|                                                     | dBm/MHz           | -38.90         | -40.40   | -32.69  |                                                                                            |
|                                                     | $\mu\text{W/MHz}$ | 0.13           | 0.09     | 0.54    |                                                                                            |
|                                                     | MHz               | 25004.80       | 24880.40 | -       | 5266.7MHz ~ 26000MHz<br>Limit $\leq 2.5 \mu\text{W/MHz}$<br>(-26.02 dBm/MHz)               |
|                                                     | dBm/MHz           | -33.64         | -34.52   | -       |                                                                                            |
|                                                     | $\mu\text{W/MHz}$ | 0.43           | 0.35     | -       |                                                                                            |

Note:

Emission value = SA measurement value + Directional gain + cable loss

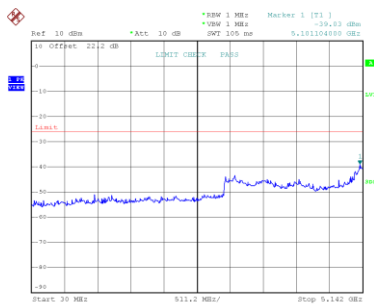
Directional gain =  $10 \log (\text{Ant } X)$

X = the total number of antennas

Explanation of Marker and ZeroSP test:

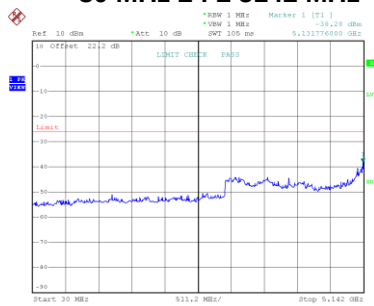
- 1) The frequency of Marker during testing is the frequency that exceeds the limit the most.
- 2) The testing of ZeroSP is the worst, covering the entire frequency band.

## CH36



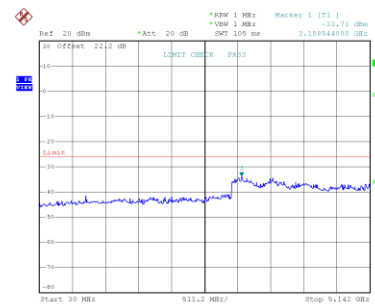
Date: 16.SEP.2023 14:10:16

## CH40 30 MHz ≤ f ≤ 5142 MHz



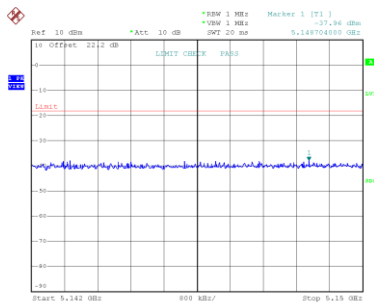
Date: 16.SEP.2023 14:12:14

## CH48

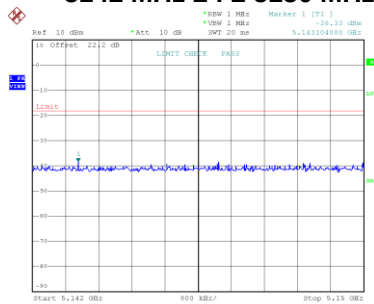


Date: 16.SEP.2023 14:41:37

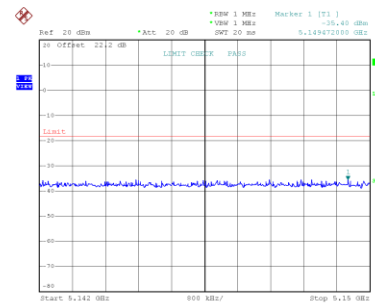
## 5142 MHz ≤ f ≤ 5150 MHz



Date: 16.SEP.2023 14:10:14

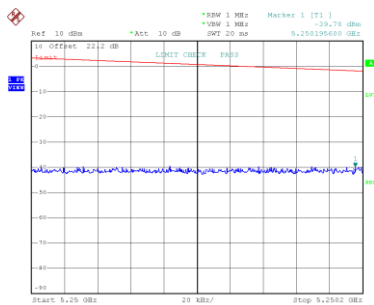


Date: 16.SEP.2023 14:12:21

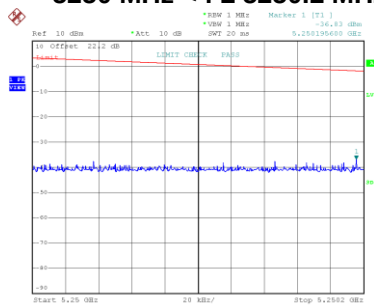


Date: 16.SEP.2023 14:41:44

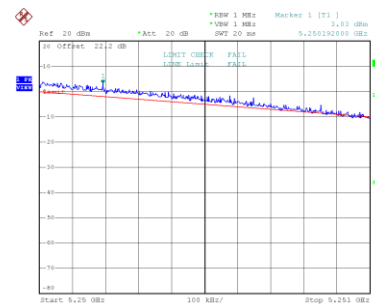
## 5250 MHz < f ≤ 5250.2 MHz



Date: 16.SEP.2023 14:13:00

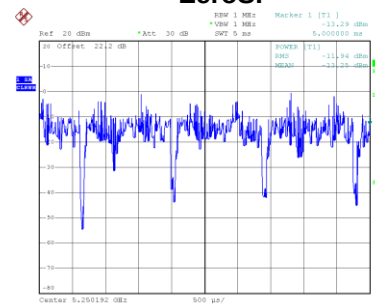


Date: 16.SEP.2023 14:12:28



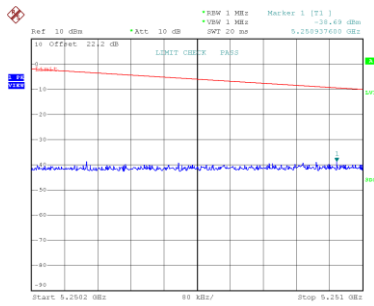
Date: 16.SEP.2023 14:41:51

## ZeroSP



Date: 16.SEP.2023 14:41:56

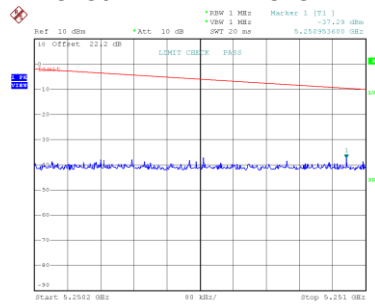
## CH36



Date: 16.SEP.2023 14:31:08

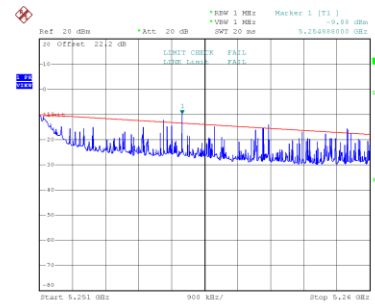
## CH40

### 5250.2 MHz < f ≤ 5251 MHz



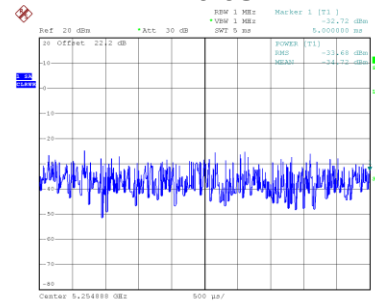
Date: 16.SEP.2023 14:32:35

## CH48



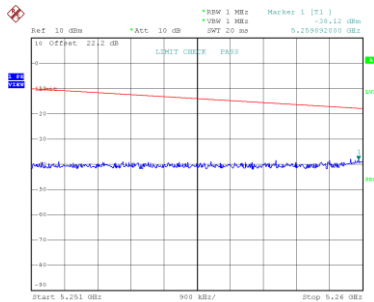
Date: 16.SEP.2023 14:42:05

## ZeroSP

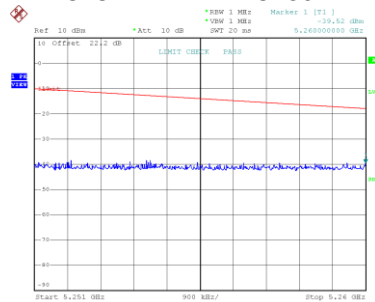


Date: 16.SEP.2023 14:42:10

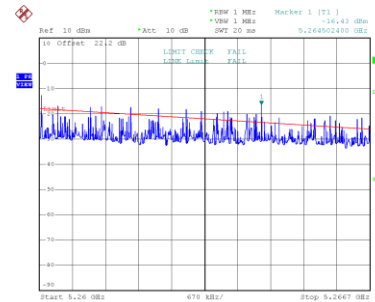
## 5251 MHz ≤ f < 5260 MHz



Date: 16.SEP.2023 14:31:15

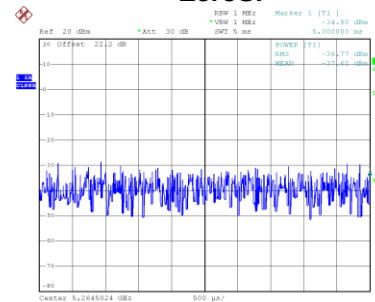


Date: 16.SEP.2023 14:32:43



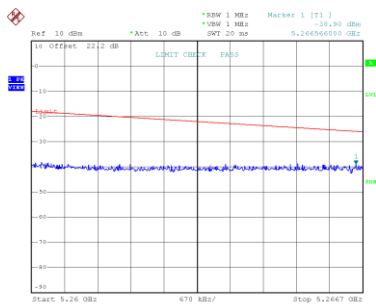
Date: 16.SEP.2023 14:42:19

## ZeroSP



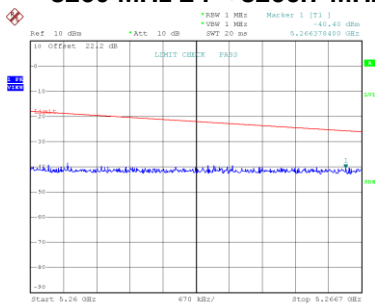
Date: 16.SEP.2023 14:42:25

## CH36



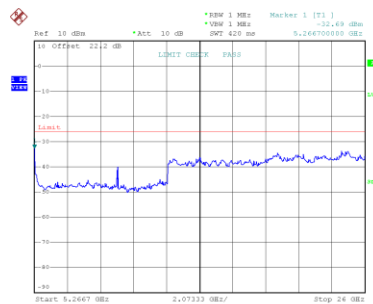
Date: 16.SEP.2023 14:31:23

## CH40 5260 MHz ≤ f < 5266.7 MHz



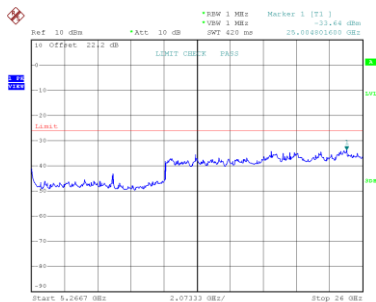
Date: 16.SEP.2023 14:32:51

## CH48

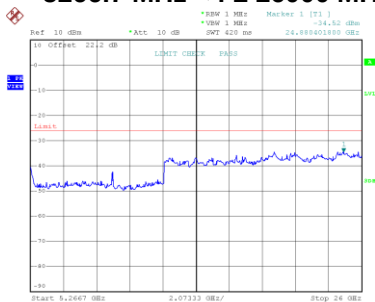


Date: 16.SEP.2023 14:42:37

## 5266.7 MHz < f ≤ 26000 MHz



Date: 16.SEP.2023 14:31:34



Date: 16.SEP.2023 14:33:02

|            |                            |
|------------|----------------------------|
| Test Mode: | IEEE 802.11ac(VHT40) - W52 |
|------------|----------------------------|

| Test Voltage                                           |                   | Normal Voltage |         | Remarks                                   |
|--------------------------------------------------------|-------------------|----------------|---------|-------------------------------------------|
| Test Frequency                                         | MHz               | 5190           | 5230    | Low/Mid/High of test frequency range      |
| Unwanted Emission Intensity<br>(Max value in the band) | MHz               | 5141.60        | 5141.60 | 30MHz ~ 5141.6MHz                         |
|                                                        | dBm/MHz           | -38.47         | -38.72  | Limit $\leq 2.5 \mu\text{W/MHz}$          |
|                                                        | $\mu\text{W/MHz}$ | 0.14223        | 0.13428 | (-26.02 dBm/MHz)                          |
|                                                        | MHz               | 5150.00        | 5149.97 | 5141.6MHz ~ 5150MHz                       |
|                                                        | dBm/MHz           | -34.25         | -34.30  | Limit $\leq 15 \mu\text{W/MHz}$           |
|                                                        | $\mu\text{W/MHz}$ | 0.37584        | 0.37154 | (-18.24 dBm/MHz)                          |
|                                                        | MHz               | 5250.98        | 5250.81 | 5250MHz ~ 5251MHz                         |
|                                                        | dBm/MHz           | -32.70         | -24.73  | Limit $\leq 500 \sim 50 \mu\text{W/MHz}$  |
|                                                        | $\mu\text{W/MHz}$ | 0.53703        | 3.36512 | (-3 ~ -13 dBm/MHz)                        |
|                                                        | MHz               | 5258.11        | 5251.04 | 5251MHz ~ 5270MHz                         |
|                                                        | dBm/MHz           | -33.10         | -26.16  | Limit $\leq 50 \sim 7.9 \mu\text{W/MHz}$  |
|                                                        | $\mu\text{W/MHz}$ | 0.48978        | 2.42103 | (-13 ~ -21 dBm/MHz)                       |
|                                                        | MHz               | 5277.73        | 5276.59 | 5270MHz ~ 5278.4MHz                       |
|                                                        | dBm/MHz           | -39.49         | -36.20  | Limit $\leq 7.9 \sim 2.5 \mu\text{W/MHz}$ |
|                                                        | $\mu\text{W/MHz}$ | 0.11246        | 0.23988 | (-21 ~ -26 dBm/MHz)                       |
|                                                        | MHz               | 24798.15       | 5278.40 | 5278.4MHz ~ 26000MHz                      |
|                                                        | dBm/MHz           | -33.86         | -36.94  | Limit $\leq 2.5 \mu\text{W/MHz}$          |
|                                                        | $\mu\text{W/MHz}$ | 0.41115        | 0.20230 | (-26.02 dBm/MHz)                          |

Note:

Emission value = SA measurement value + Directional gain + cable loss

Directional gain =  $10 \log (\text{Ant } X)$

X = the total number of antennas

Explanation of Marker and ZeroSP test:

- 1) The frequency of Marker during testing is the frequency that exceeds the limit the most.
- 2) The testing of ZeroSP is the worst, covering the entire frequency band.

Date: 16.SRP.2023 14:50:53

Date: 16.SEP.2023 14:52:41

Date: 16.SEP.2023 14:51:00

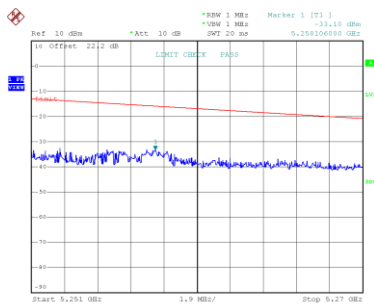
Date: 16.SEP.2023 14:52:48

Date: 16.SEP.2023 14:51:07

Date: 16.SEP.2023 14:52:54

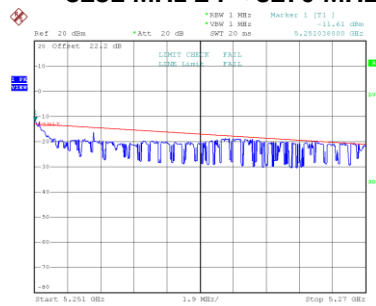
Date: 16.SEP.2023 14:53:00

## CH38



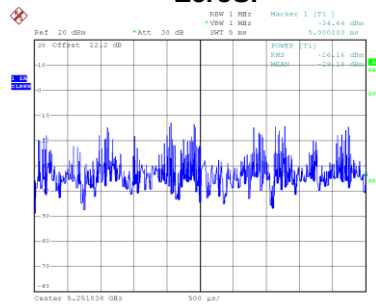
Date: 16.SEP.2023 14:51:14

## CH46 5251 MHz ≤ f < 5270 MHz



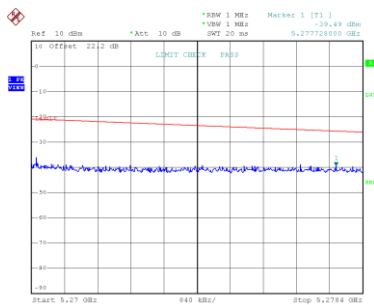
Date: 16.SEP.2023 14:53:09

## ZeroSP

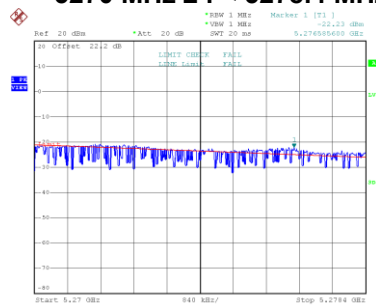


Date: 16.SEP.2023 14:53:14

## 5270 MHz ≤ f < 5278.4 MHz

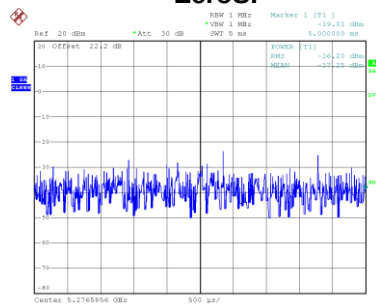


Date: 16.SEP.2023 14:51:21



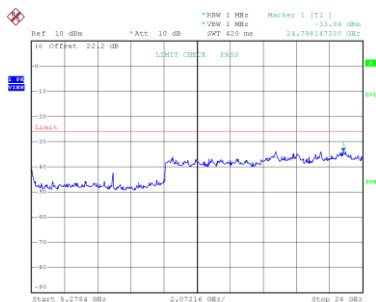
Date: 16.SEP.2023 14:53:23

## ZeroSP



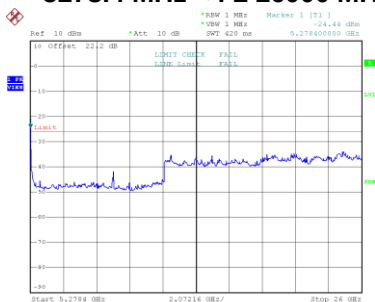
Date: 16.SEP.2023 14:53:28

## CH38



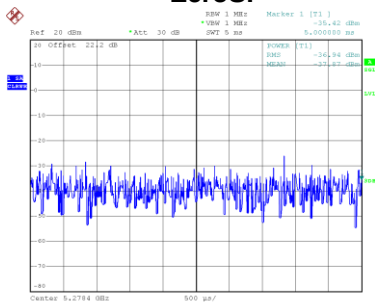
Date: 16.SEP.2023 14:51:33

## CH46 5278.4 MHz < f ≤ 26000 MHz



Date: 16.SEP.2023 14:53:41

## ZeroSP



Date: 16.SEP.2023 14:53:47

|            |                            |
|------------|----------------------------|
| Test Mode: | IEEE 802.11ac(VHT80) - W52 |
|------------|----------------------------|

| Test Voltage                                           |                   | Normal Voltage | Remarks                                   |
|--------------------------------------------------------|-------------------|----------------|-------------------------------------------|
| Test Frequency                                         | MHz               | 5210           | Low/Mid/High of test frequency range      |
| Unwanted Emission Intensity<br>(Max value in the band) | MHz               | 5123.20        | 30MHz ~ 5123.2MHz                         |
|                                                        | dBm/MHz           | -32.09         | Limit $\leq 2.5 \mu\text{W/MHz}$          |
|                                                        | $\mu\text{W/MHz}$ | 0.61802        | (-26.02 dBm/MHz)                          |
|                                                        | MHz               | 5146.36        | 5123.2MHz ~ 5150MHz                       |
|                                                        | dBm/MHz           | -29.60         | Limit $\leq 15 \mu\text{W/MHz}$           |
|                                                        | $\mu\text{W/MHz}$ | 1.09648        | (-18.24 dBm/MHz)                          |
|                                                        | MHz               | 5250.97        | 5250MHz ~ 5251MHz                         |
|                                                        | dBm/MHz           | -22.49         | Limit $\leq 250 \sim 25 \mu\text{W/MHz}$  |
|                                                        | $\mu\text{W/MHz}$ | 5.63638        | (-6 ~ -16 dBm/MHz)                        |
|                                                        | MHz               | 5275.26        | 5251MHz ~ 5290MHz                         |
|                                                        | dBm/MHz           | -26.51         | Limit $\leq 25 \sim 4.0 \mu\text{W/MHz}$  |
|                                                        | $\mu\text{W/MHz}$ | 2.23357        | (-16 ~ -24 dBm/MHz)                       |
|                                                        | MHz               | 5294.82        | 5290MHz ~ 5296.7MHz                       |
|                                                        | dBm/MHz           | -31.15         | Limit $\leq 4.0 \sim 2.5 \mu\text{W/MHz}$ |
|                                                        | $\mu\text{W/MHz}$ | 0.76736        | (-24 ~ -26 dBm/MHz)                       |
|                                                        | MHz               | 5296.70        | 5296.7MHz ~ 26000MHz                      |
|                                                        | dBm/MHz           | -31.53         | Limit $\leq 2.5 \mu\text{W/MHz}$          |
|                                                        | $\mu\text{W/MHz}$ | 0.70307        | (-26.02 dBm/MHz)                          |

Note:

Emission value = SA measurement value + Directional gain + cable loss

Directional gain =  $10 \log (\text{Ant } X)$

X = the total number of antennas

Explanation of Marker and ZeroSP test:

- 1) The frequency of Marker during testing is the frequency that exceeds the limit the most.
- 2) The testing of ZeroSP is the worst, covering the entire frequency band.

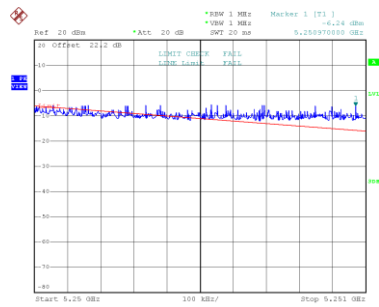
Date: 18.SEP.2023 09:48:09

Date: 18.SEP.2023 09:48:15

Date: 18.SEP.2023 09:48:23

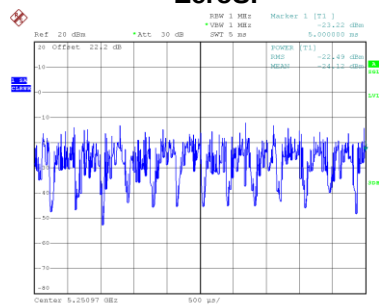
Date: 18.SEP.2023 09:48:28

## CH42 5250 MHz < f ≤ 5251 MHz



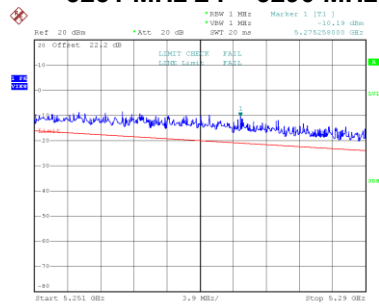
Date: 18.SEP.2023 09:48:36

## ZeroSP



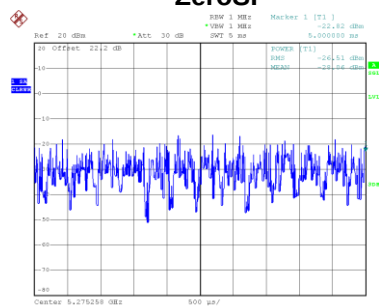
Date: 18.SEP.2023 09:48:41

## 5251 MHz ≤ f < 5290 MHz



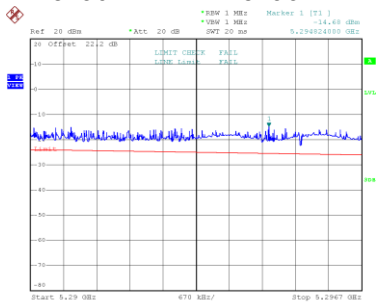
Date: 18.SEP.2023 09:48:49

## ZeroSP



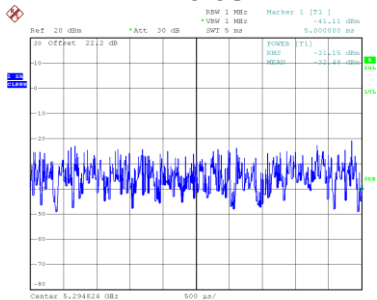
Date: 18.SEP.2023 09:48:54

## CH42 5290 MHz ≤ f < 5296.7 MHz



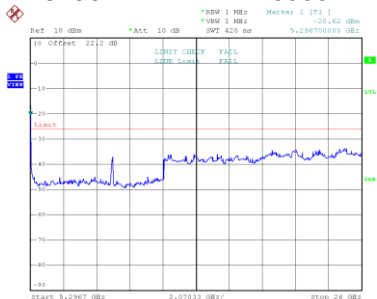
Date: 18.SEP.2023 09:49:02

## ZeroSP



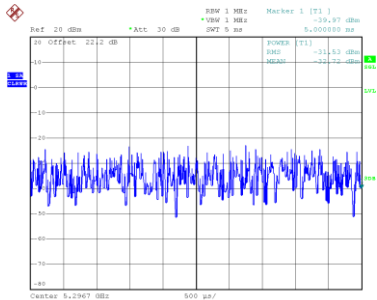
Date: 18.SEP.2023 09:49:07

## 5296.7 MHz < f ≤ 26000 MHz



Date: 18.SEP.2023 09:49:19

## ZeroSP



Date: 18.SEP.2023 09:49:24

|            |                           |
|------------|---------------------------|
| Test Mode: | IEEE 802.11ax(HE20) - W52 |
|------------|---------------------------|

| Test Voltage                                        |                   | Normal Voltage |          |           | Remarks                                                                                    |
|-----------------------------------------------------|-------------------|----------------|----------|-----------|--------------------------------------------------------------------------------------------|
| Test Frequency                                      | MHz               | 5180           | 5200     | 5240      | Low/Mid/High of test frequency range                                                       |
| Unwanted Emission Intensity (Max value in the band) | MHz               | 5111.33        | 5131.78  | 5090.88   | 30MHz ~ 5142MHz<br>Limit $\leq 2.5 \mu\text{W/MHz}$<br>(-26.02 dBm/MHz)                    |
|                                                     | dBm/MHz           | -38.02         | -39.74   | -41.40    |                                                                                            |
|                                                     | $\mu\text{W/MHz}$ | 0.15776        | 0.10617  | 0.07244   |                                                                                            |
|                                                     | MHz               | 5147.49        | 5146.37  | 5149.31   | 5142MHz ~ 5150MHz<br>Limit $\leq 15 \mu\text{W/MHz}$<br>(-18.24 dBm/MHz)                   |
|                                                     | dBm/MHz           | -36.87         | -38.59   | -40.00    |                                                                                            |
|                                                     | $\mu\text{W/MHz}$ | 0.20559        | 0.13836  | 0.10000   |                                                                                            |
|                                                     | MHz               | 5250.20        | 5250.20  | 5250.20   | 5250MHz ~ 5250.2MHz<br>Limit $\leq 2154.4 \sim 631 \mu\text{W/MHz}$<br>(3.33 ~ -2 dBm/MHz) |
|                                                     | dBm/MHz           | -38.45         | -36.75   | -2.77     |                                                                                            |
|                                                     | $\mu\text{W/MHz}$ | 0.14289        | 0.21135  | 528.44525 |                                                                                            |
|                                                     | MHz               | 5250.96        | 5250.97  | 5250.20   | 5250.2MHz ~ 5251MHz<br>Limit $\leq 631 \sim 100 \mu\text{W/MHz}$<br>(-2 ~ -10 dBm/MHz)     |
|                                                     | dBm/MHz           | -38.95         | -38.90   | -2.96     |                                                                                            |
|                                                     | $\mu\text{W/MHz}$ | 0.12735        | 0.12882  | 505.82466 |                                                                                            |
|                                                     | MHz               | 5259.62        | 5259.87  | 5251.00   | 5251MHz ~ 5260MHz<br>Limit $\leq 100 \sim 15.8 \mu\text{W/MHz}$<br>(-10 ~ -18 dBm/MHz)     |
|                                                     | dBm/MHz           | -37.45         | -38.53   | -16.19    |                                                                                            |
|                                                     | $\mu\text{W/MHz}$ | 0.17989        | 0.14028  | 24.04363  |                                                                                            |
|                                                     | MHz               | 5266.34        | 5266.67  | 5266.69   | 5260MHz ~ 5266.7MHz<br>Limit $\leq 15.8 \sim 2.5 \mu\text{W/MHz}$<br>(-18 ~ -26 dBm/MHz)   |
|                                                     | dBm/MHz           | -38.70         | -40.27   | -36.30    |                                                                                            |
|                                                     | $\mu\text{W/MHz}$ | 0.13490        | 0.09397  | 0.23442   |                                                                                            |
|                                                     | MHz               | 24631.60       | 24673.07 | 5266.70   | 5266.7MHz ~ 26000MHz<br>Limit $\leq 2.5 \mu\text{W/MHz}$<br>(-26.02 dBm/MHz)               |
|                                                     | dBm/MHz           | -33.95         | -33.90   | -29.24    |                                                                                            |
|                                                     | $\mu\text{W/MHz}$ | 0.40272        | 0.40738  | 1.19124   |                                                                                            |

Note:

Emission value = SA measurement value + Directional gain + cable loss

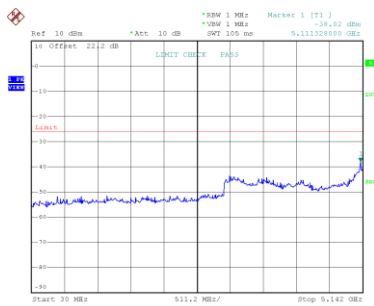
Directional gain =  $10 \log (\text{Ant } X)$

X = the total number of antennas

Explanation of Marker and ZeroSP test:

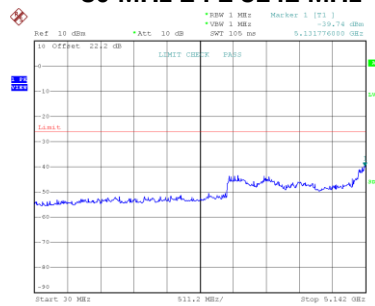
- 1) The frequency of Marker during testing is the frequency that exceeds the limit the most.
- 2) The testing of ZeroSP is the worst, covering the entire frequency band.

## CH36



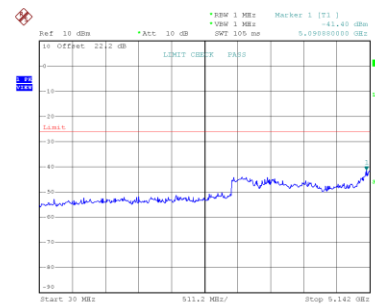
Date: 16.SEP.2023 14:44:47

## CH40 30 MHz ≤ f ≤ 5142 MHz



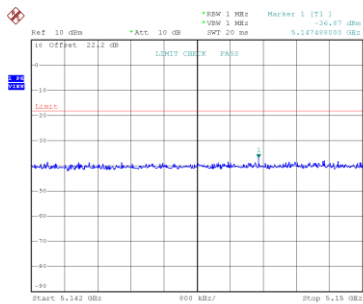
Date: 16.SEP.2023 14:46:19

## CH48

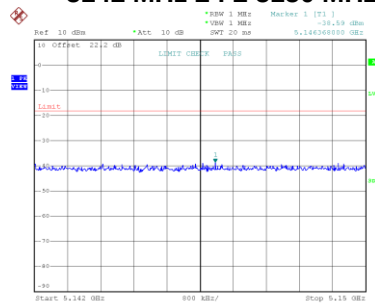


Date: 16.SEP.2023 14:47:59

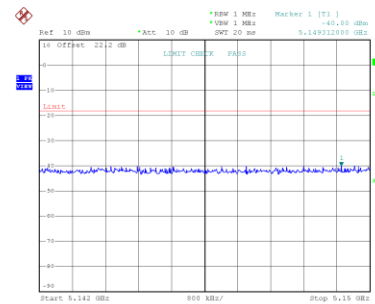
## 5142 MHz ≤ f ≤ 5150 MHz



Date: 16.SEP.2023 14:44:54

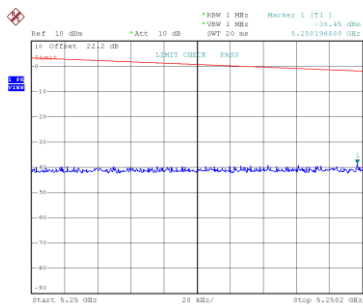


Date: 16.SEP.2023 14:46:26

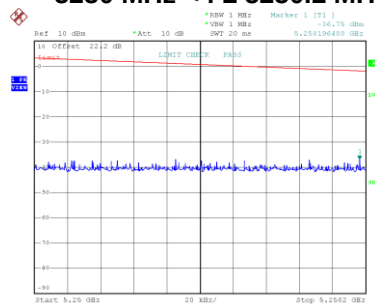


Date: 16.SEP.2023 14:48:06

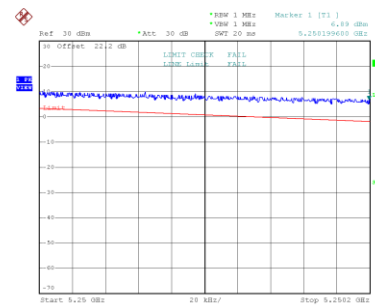
## 5250 MHz < f ≤ 5250.2 MHz



Date: 16.SEP.2023 14:45:00

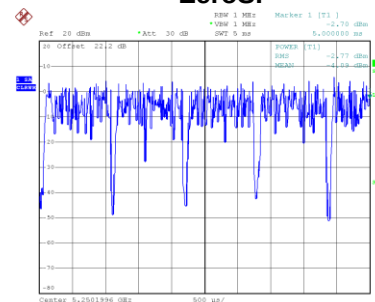


Date: 16.SEP.2023 14:46:32



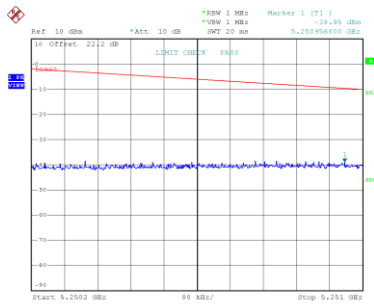
Date: 16.SEP.2023 14:48:13

## ZeroSP



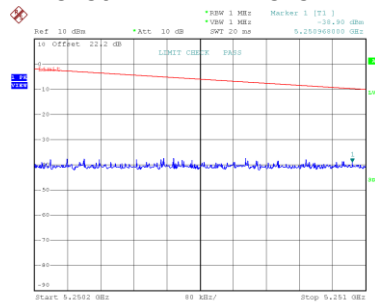
Date: 16.SEP.2023 14:48:18

## CH36



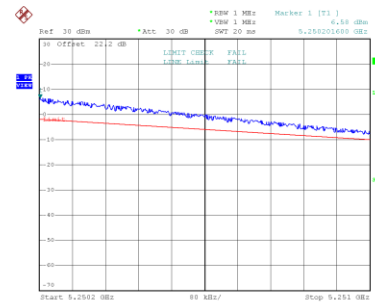
Date: 16.SEP.2023 14:45:08

## CH40 5250.2 MHz < f ≤ 5251 MHz



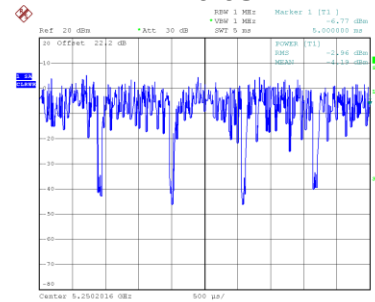
Date: 16.SEP.2023 14:46:40

## CH48



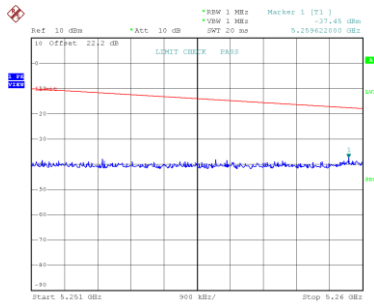
Date: 16.SEP.2023 14:49:27

## ZeroSP

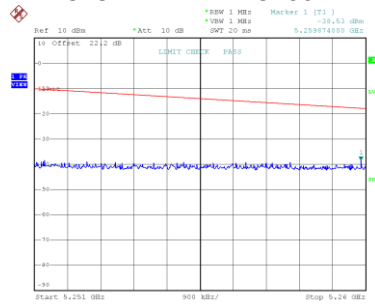


Date: 16.SEP.2023 14:49:32

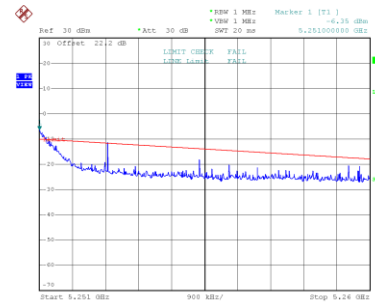
## 5251 MHz ≤ f < 5260 MHz



Date: 16.SEP.2023 14:45:15

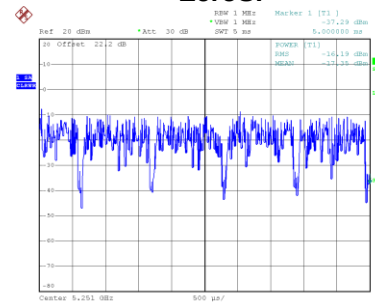


Date: 16.SEP.2023 14:46:47



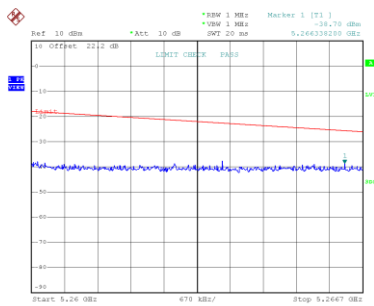
Date: 16.SEP.2023 14:49:41

## ZeroSP



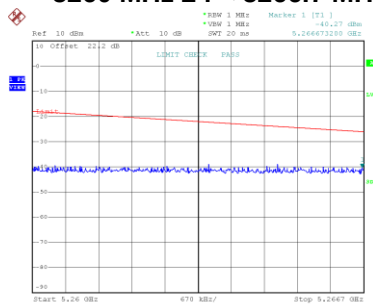
Date: 16.SEP.2023 14:49:47

## CH36



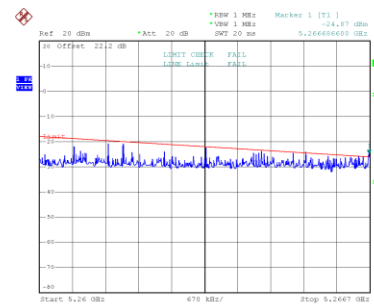
Date: 16.SEP.2023 14:45:22

## CH40 5260 MHz ≤ f < 5266.7 MHz



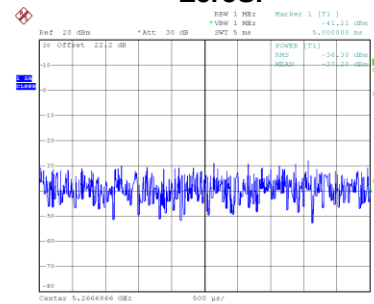
Date: 16.SEP.2023 14:46:54

## CH48



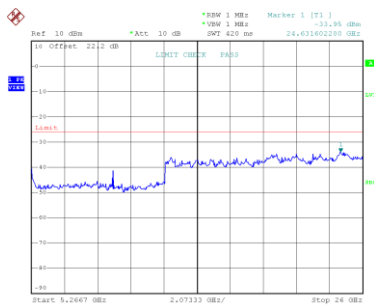
Date: 16.SEP.2023 14:49:55

## ZeroSP

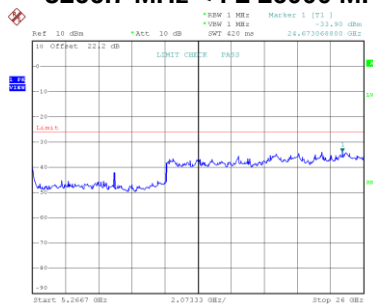


Date: 16.SEP.2023 14:49:01

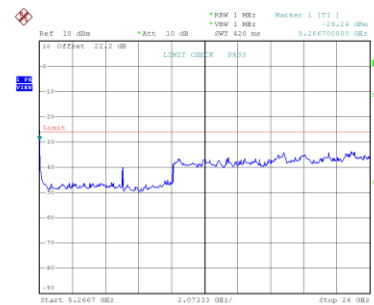
## 5266.7 MHz < f ≤ 26000 MHz



Date: 16.SEP.2023 14:45:34



Date: 16.SEP.2023 14:47:06



Date: 16.SEP.2023 14:49:13

|            |                           |
|------------|---------------------------|
| Test Mode: | IEEE 802.11ax(HE40) - W52 |
|------------|---------------------------|

| Test Voltage                                           |                   | Normal Voltage |          | Remarks                                   |
|--------------------------------------------------------|-------------------|----------------|----------|-------------------------------------------|
| Test Frequency                                         | MHz               | 5190           | 5230     | Low/Mid/High of test frequency range      |
| Unwanted Emission Intensity<br>(Max value in the band) | MHz               | 5141.60        | 5121.15  | 30MHz ~ 5141.6MHz                         |
|                                                        | dBm/MHz           | -37.60         | -37.49   | Limit $\leq 2.5 \mu\text{W/MHz}$          |
|                                                        | $\mu\text{W/MHz}$ | 0.17378        | 0.17824  | (-26.02 dBm/MHz)                          |
|                                                        | MHz               | 5147.88        | 5148.89  | 5141.6MHz ~ 5150MHz                       |
|                                                        | dBm/MHz           | -31.97         | -32.85   | Limit $\leq 15 \mu\text{W/MHz}$           |
|                                                        | $\mu\text{W/MHz}$ | 0.63533        | 0.51880  | (-18.24 dBm/MHz)                          |
|                                                        | MHz               | 5250.97        | 5250.03  | 5250MHz ~ 5251MHz                         |
|                                                        | dBm/MHz           | -30.06         | -10.13   | Limit $\leq 500 \sim 50 \mu\text{W/MHz}$  |
|                                                        | $\mu\text{W/MHz}$ | 0.98628        | 97.05100 | (-3 ~ -13 dBm/MHz)                        |
|                                                        | MHz               | 5267.30        | 5267.42  | 5251MHz ~ 5270MHz                         |
|                                                        | dBm/MHz           | -34.70         | -35.40   | Limit $\leq 50 \sim 7.9 \mu\text{W/MHz}$  |
|                                                        | $\mu\text{W/MHz}$ | 0.33884        | 0.28840  | (-13 ~ -21 dBm/MHz)                       |
|                                                        | MHz               | 5278.16        | 5276.12  | 5270MHz ~ 5278.4MHz                       |
|                                                        | dBm/MHz           | -38.86         | -35.44   | Limit $\leq 7.9 \sim 2.5 \mu\text{W/MHz}$ |
|                                                        | $\mu\text{W/MHz}$ | 0.13002        | 0.28576  | (-21 ~ -26 dBm/MHz)                       |
|                                                        | MHz               | 25005.36       | 5278.40  | 5278.4MHz ~ 26000MHz                      |
|                                                        | dBm/MHz           | -34.04         | -36.49   | Limit $\leq 2.5 \mu\text{W/MHz}$          |
|                                                        | $\mu\text{W/MHz}$ | 0.39446        | 0.22439  | (-26.02 dBm/MHz)                          |

Note:

Emission value = SA measurement value + Directional gain + cable loss

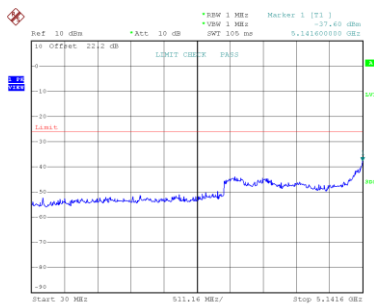
Directional gain =  $10 \log (\text{Ant } X)$

X = the total number of antennas

Explanation of Marker and ZeroSP test:

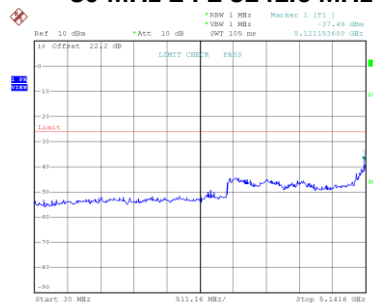
- 1) The frequency of Marker during testing is the frequency that exceeds the limit the most.
- 2) The testing of ZeroSP is the worst, covering the entire frequency band.

## CH38



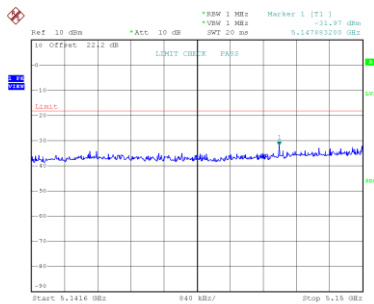
Date: 16.SEP.2023 14:54:47

## CH46 30 MHz ≤ f ≤ 5141.6 MHz

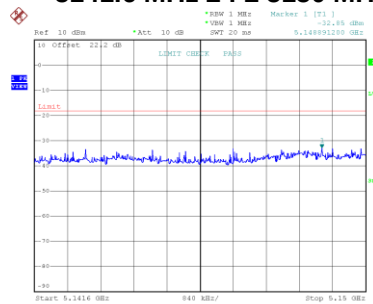


Date: 16.SEP.2023 14:57:09

## 5141.6 MHz ≤ f ≤ 5150 MHz

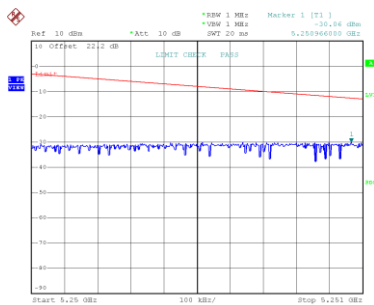


Date: 16.SEP.2023 14:54:55

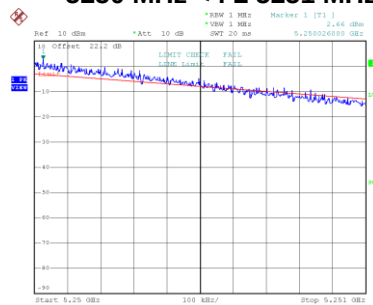


Date: 16.SEP.2023 14:57:16

## 5250 MHz < f ≤ 5251 MHz

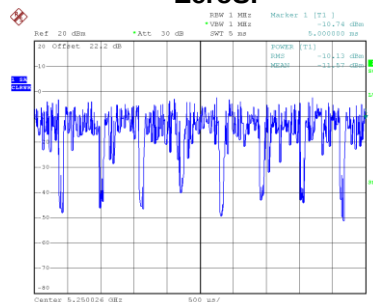


Date: 16.SEP.2023 14:55:01



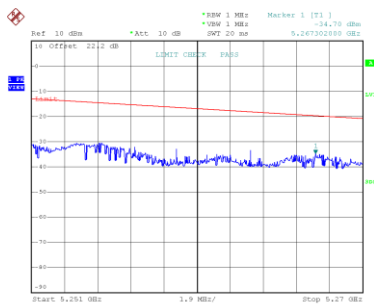
Date: 16.SEP.2023 14:57:23

## ZeroSP



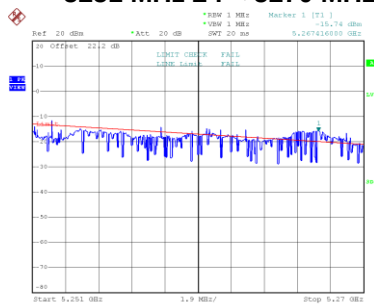
Date: 16.SEP.2023 14:57:28

## CH38



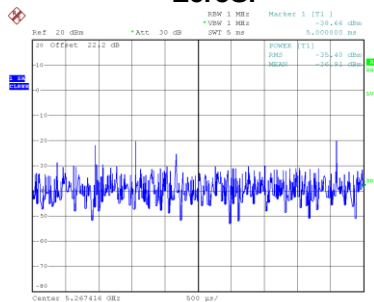
Date: 16.SEP.2023 14:55:09

## CH46 5251 MHz ≤ f < 5270 MHz



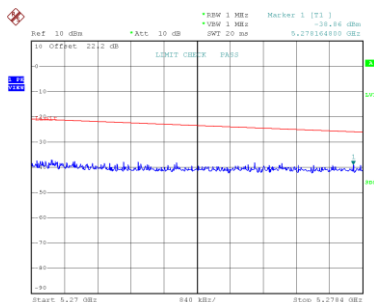
Date: 16.SEP.2023 14:57:37

## ZeroSP

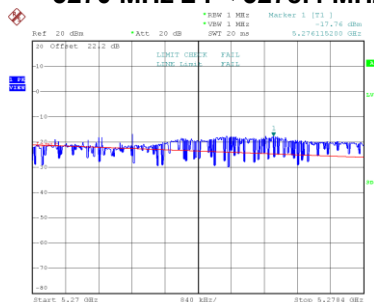


Date: 16.SEP.2023 14:57:42

## 5270 MHz ≤ f < 5278.4 MHz

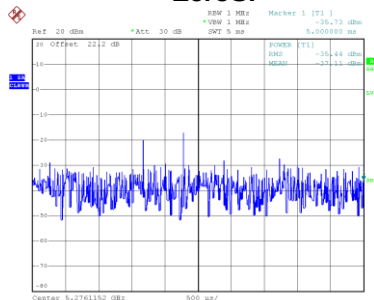


Date: 16.SEP.2023 14:55:16



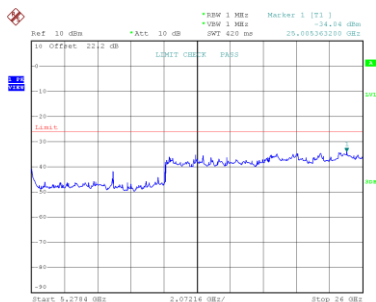
Date: 16.SEP.2023 14:57:51

## ZeroSP



Date: 16.SEP.2023 14:57:57

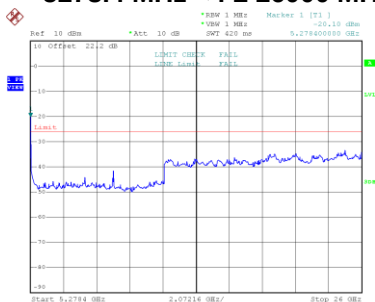
## CH38



Date: 16.SEP.2023 14:55:27

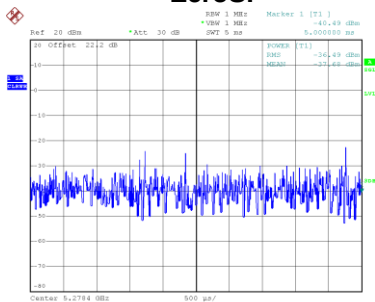
## CH46

5278.4 MHz < f ≤ 26000 MHz



Date: 16.SEP.2023 14:58:09

## ZeroSP



Date: 16.SEP.2023 14:58:15

|            |                           |
|------------|---------------------------|
| Test Mode: | IEEE 802.11ax(HE80) - W52 |
|------------|---------------------------|

| Test Voltage                                           |                   | Normal Voltage | Remarks                                   |
|--------------------------------------------------------|-------------------|----------------|-------------------------------------------|
| Test Frequency                                         | MHz               | 5210           | Low/Mid/High of test frequency range      |
| Unwanted Emission Intensity<br>(Max value in the band) | MHz               | 5123.20        | 30MHz ~ 5123.2MHz                         |
|                                                        | dBm/MHz           | -31.49         | Limit $\leq 2.5 \mu\text{W/MHz}$          |
|                                                        | $\mu\text{W/MHz}$ | 0.70958        | (-26.02 dBm/MHz)                          |
|                                                        | MHz               | 5143.84        | 5123.2MHz ~ 5150MHz                       |
|                                                        | dBm/MHz           | -28.57         | Limit $\leq 15 \mu\text{W/MHz}$           |
|                                                        | $\mu\text{W/MHz}$ | 1.38995        | (-18.24 dBm/MHz)                          |
|                                                        | MHz               | 5250.98        | 5250MHz ~ 5251MHz                         |
|                                                        | dBm/MHz           | -21.96         | Limit $\leq 250 \sim 25 \mu\text{W/MHz}$  |
|                                                        | $\mu\text{W/MHz}$ | 6.36796        | (-6 ~ -16 dBm/MHz)                        |
|                                                        | MHz               | 5263.71        | 5251MHz ~ 5290MHz                         |
|                                                        | dBm/MHz           | -24.39         | Limit $\leq 25 \sim 4.0 \mu\text{W/MHz}$  |
|                                                        | $\mu\text{W/MHz}$ | 3.63915        | (-16 ~ -24 dBm/MHz)                       |
|                                                        | MHz               | 5293.67        | 5290MHz ~ 5296.7MHz                       |
|                                                        | dBm/MHz           | -30.58         | Limit $\leq 4.0 \sim 2.5 \mu\text{W/MHz}$ |
|                                                        | $\mu\text{W/MHz}$ | 0.87498        | (-24 ~ -26 dBm/MHz)                       |
|                                                        | MHz               | 5296.70        | 5296.7MHz ~ 26000MHz                      |
|                                                        | dBm/MHz           | -31.47         | Limit $\leq 2.5 \mu\text{W/MHz}$          |
|                                                        | $\mu\text{W/MHz}$ | 0.71285        | (-26.02 dBm/MHz)                          |

Note:

Emission value = SA measurement value + Directional gain + cable loss

Directional gain =  $10 \log (\text{Ant } X)$

X = the total number of antennas

Explanation of Marker and ZeroSP test:

- 1) The frequency of Marker during testing is the frequency that exceeds the limit the most.
- 2) The testing of ZeroSP is the worst, covering the entire frequency band.

Date: 18.SEP.2023 09:50:16

Date: 18.SEP.2023 09:50:22

Date: 18.SEP.2023 09:50:29

Date: 18.SEP.2023 09:50:35

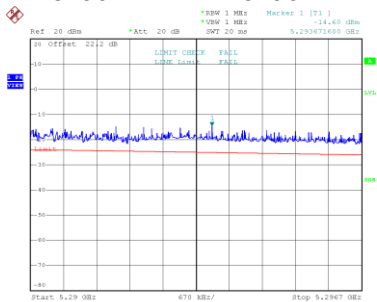
Date: 18.SEP.2023 09:50:43

Date: 18.SEP.2023 09:50:48

Date: 18.SEP.2023 09:50:55

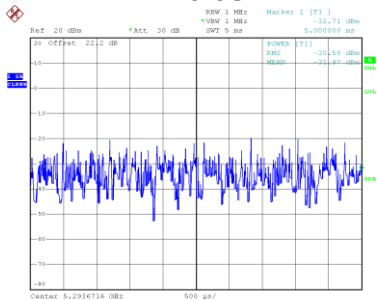
Date: 18.SEP.2023 09:51:01

## CH42 5290 MHz ≤ f < 5296.7 MHz



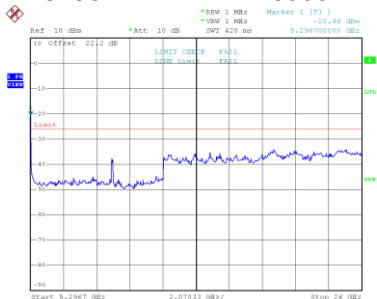
Date: 18.SEP.2023 09:51:08

## ZeroSP



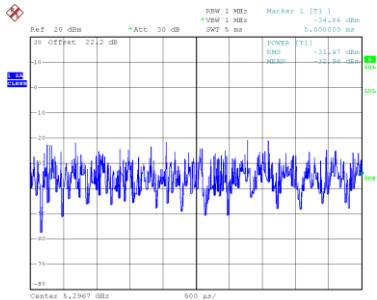
Date: 18.SEP.2023 09:51:14

## 5296.7 MHz < f ≤ 26000 MHz



Date: 18.SEP.2023 09:51:25

## ZeroSP



Date: 18.SEP.2023 09:51:31

|            |                                 |
|------------|---------------------------------|
| Test Mode: | IEEE 802.11ac(VHT160) - W52+W53 |
|------------|---------------------------------|

| Test Voltage                                           |                   | Normal Voltage | Remarks                              |
|--------------------------------------------------------|-------------------|----------------|--------------------------------------|
| Test Frequency                                         | MHz               | 5250           | Low/Mid/High of test frequency range |
| Unwanted Emission Intensity<br>(Max value in the band) | MHz               | 5099.60        | 30MHz ~ 5099.6MHz                    |
|                                                        | dBm/MHz           | -30.65         | Limit $\leq 2.5 \mu\text{W/MHz}$     |
|                                                        | $\mu\text{W/MHz}$ | 0.86099        | (-26.02 dBm/MHz)                     |
|                                                        | MHz               | 5115.83        | 5099.6MHz ~ 5150MHz                  |
|                                                        | dBm/MHz           | -28.09         | Limit $\leq 15 \mu\text{W/MHz}$      |
|                                                        | $\mu\text{W/MHz}$ | 1.55239        | (-18.24 dBm/MHz)                     |
|                                                        | MHz               | 5395.66        | 5350MHz ~ 5400.4MHz                  |
|                                                        | dBm/MHz           | -27.73         | Limit $\leq 15 \mu\text{W/MHz}$      |
|                                                        | $\mu\text{W/MHz}$ | 1.68655        | (-18.24 dBm/MHz)                     |
|                                                        | MHz               | 5400.40        | 5400.4MHz ~ 26000MHz                 |
|                                                        | dBm/MHz           | -28.70         | Limit $\leq 2.5 \mu\text{W/MHz}$     |
|                                                        | $\mu\text{W/MHz}$ | 1.34896        | (-26.02 dBm/MHz)                     |

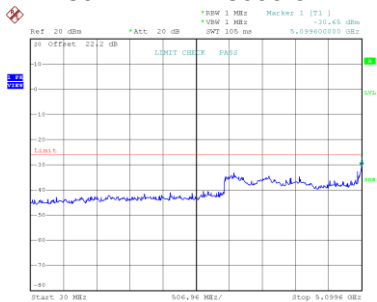
Note:

Emission value = SA measurement value + Directional gain + cable loss

Directional gain =  $10 \log (\text{Ant } X)$

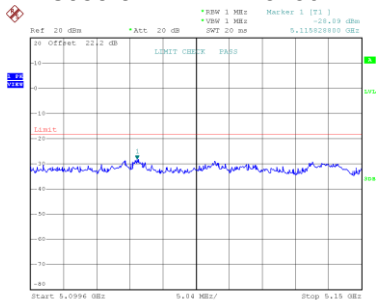
X = the total number of antennas

## CH50 30 MHz ≤ f ≤ 5099.6 MHz



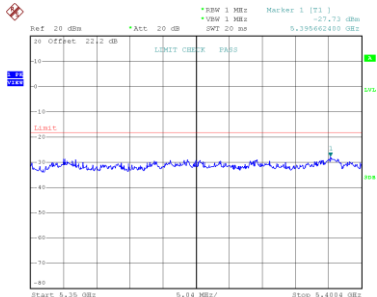
Date: 18.SEP.2023 09:54:18

## 5099.6 MHz ≤ f ≤ 5150 MHz



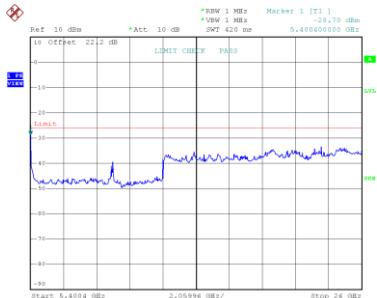
Date: 18.SEP.2023 09:54:25

## 5350 MHz < f ≤ 5400.4 MHz



Date: 18.SEP.2023 09:54:31

## 5400.4 MHz < f ≤ 26000 MHz



Date: 18.SEP.2023 09:54:42

|            |                                |
|------------|--------------------------------|
| Test Mode: | IEEE 802.11ax(HE160) - W52+W53 |
|------------|--------------------------------|

| Test Voltage                                           |                   | Normal Voltage | Remarks                              |
|--------------------------------------------------------|-------------------|----------------|--------------------------------------|
| Test Frequency                                         | MHz               | 5250           | Low/Mid/High of test frequency range |
| Unwanted Emission Intensity<br>(Max value in the band) | MHz               | 5089.46        | 30MHz ~ 5099.6MHz                    |
|                                                        | dBm/MHz           | -30.51         | Limit $\leq 2.5 \mu\text{W/MHz}$     |
|                                                        | $\mu\text{W/MHz}$ | 0.88920        | (-26.02 dBm/MHz)                     |
|                                                        | MHz               | 5131.05        | 5099.6MHz ~ 5150MHz                  |
|                                                        | dBm/MHz           | -29.07         | Limit $\leq 15 \mu\text{W/MHz}$      |
|                                                        | $\mu\text{W/MHz}$ | 1.23880        | (-18.24 dBm/MHz)                     |
|                                                        | MHz               | 5386.59        | 5350MHz ~ 5400.4MHz                  |
|                                                        | dBm/MHz           | -27.88         | Limit $\leq 15 \mu\text{W/MHz}$      |
|                                                        | $\mu\text{W/MHz}$ | 1.62930        | (-18.24 dBm/MHz)                     |
|                                                        | MHz               | 5400.40        | 5400.4MHz ~ 26000MHz                 |
|                                                        | dBm/MHz           | -28.75         | Limit $\leq 2.5 \mu\text{W/MHz}$     |
|                                                        | $\mu\text{W/MHz}$ | 1.33352        | (-26.02 dBm/MHz)                     |

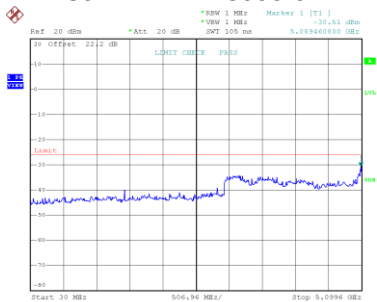
Note:

Emission value = SA measurement value + Directional gain + cable loss

Directional gain =  $10 \log (\text{Ant } X)$

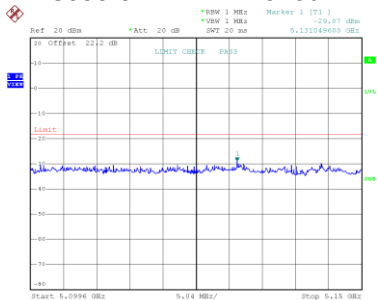
X = the total number of antennas

## CH50 30 MHz ≤ f ≤ 5099.6 MHz



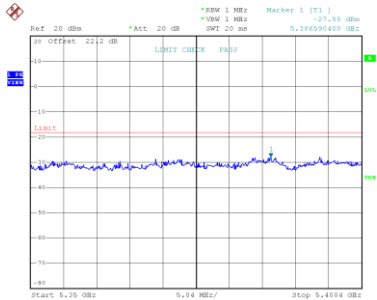
Date: 18.08P.2023 09:55:26

## 5099.6 MHz ≤ f ≤ 5150 MHz



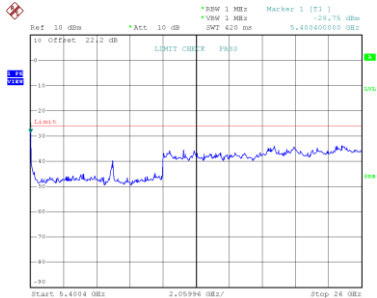
Date: 18.08P.2023 09:55:33

## 5350 MHz < f ≤ 5400.4 MHz



Date: 18.08P.2023 09:55:39

## 5400.4 MHz < f ≤ 26000 MHz



Date: 18.08P.2023 09:55:50

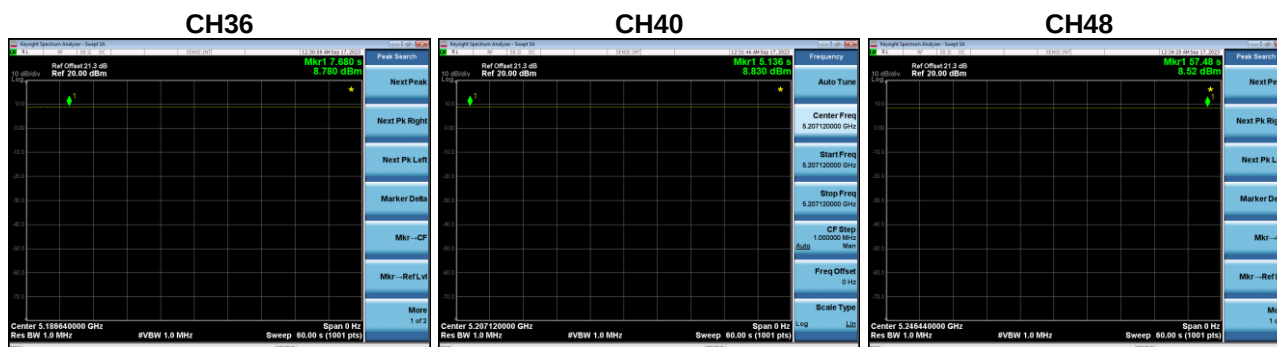
## **APPENDIX D - ANTENNA POWER TOLERANCE**

Test Mode: IEEE 802.11a - W52

| Test Voltage                        | Normal Voltage |        |         | Remarks                              |
|-------------------------------------|----------------|--------|---------|--------------------------------------|
| Test Frequency (MHz)                | 5180           | 5200   | 5240    | Low/Mid/High of test frequency range |
| Antenna Power (Conductive) (mW/MHz) | 7.5509         | 7.6736 | 7.1121  | Limit $\leq 10$ mW/MHz               |
| Antenna Power (Rated) (mW/MHz)      | 7.67           |        |         | -                                    |
| Antenna Power Tolerance (mW/MHz)    | -0.1191        | 0.0036 | -0.5579 | -                                    |
| Antenna Power Tolerance (%)         | -1.55          | 0.05   | -7.27   | Limit + 20% ~ - 80%                  |
| Antenna Power (EIRP) (mW/MHz)       | 9.4624         | 9.6161 | 8.9125  | Limit $\leq 10$ mW/MHz               |

Note:

1. Antenna power tolerance = {(conducted power density-rated power density)/rated power density}
2. Radiated RF output power density (EIRP) = conducted RF output power density + Max. Antenna gain
3. Antenna Power value = SA measurement value + Directional gain + cable loss  
Directional gain =  $10 \log (\text{Ant } X)$   
X = the total number of antennas



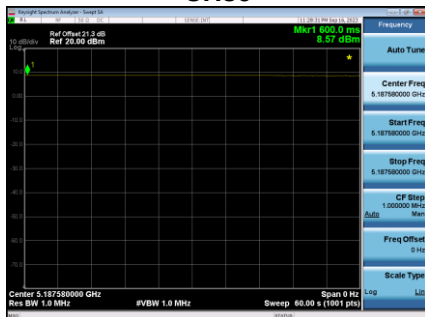
Test Mode: IEEE 802.11ac(VHT20) - W52

| Test Voltage                        | Normal Voltage |         |         | Remarks                              |
|-------------------------------------|----------------|---------|---------|--------------------------------------|
| Test Frequency (MHz)                | 5180           | 5200    | 5240    | Low/Mid/High of test frequency range |
| Antenna Power (Conductive) (mW/MHz) | 7.1945         | 7.5858  | 7.7090  | Limit $\leq 10$ mW/MHz               |
| Antenna Power (Rated) (mW/MHz)      | 7.71           |         |         | -                                    |
| Antenna Power Tolerance (mW/MHz)    | -0.5155        | -0.1242 | -0.0010 | -                                    |
| Antenna Power Tolerance (%)         | -6.69          | -1.61   | -0.01   | Limit + 20% ~ - 80%                  |
| Antenna Power (EIRP) (mW/MHz)       | 9.0157         | 9.5060  | 9.6605  | Limit $\leq 10$ mW/MHz               |

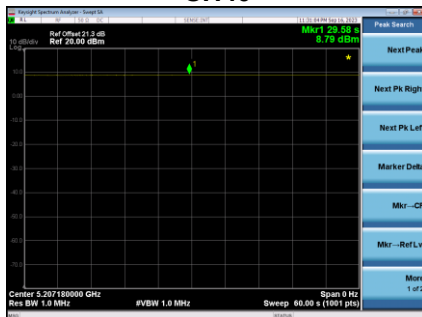
Note:

- Antenna power tolerance = {(conducted power density-rated power density)/rated power density}
- Radiated RF output power density (EIRP) = conducted RF output power density + Max. Antenna gain
- Antenna Power value = SA measurement value + Directional gain + cable loss  
Directional gain =  $10 \log (\text{Ant X})$   
X = the total number of antennas

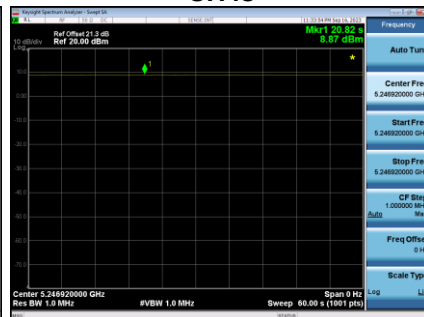
CH36



CH40



CH48



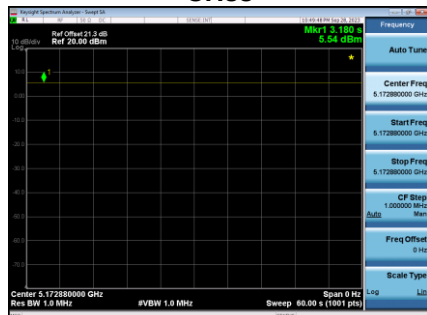
Test Mode: IEEE 802.11ac(VHT40) - W52

| Test Voltage                        | Normal Voltage |        | Remarks                              |
|-------------------------------------|----------------|--------|--------------------------------------|
| Test Frequency (MHz)                | 5190           | 5230   | Low/Mid/High of test frequency range |
| Antenna Power (Conductive) (mW/MHz) | 3.5810         | 3.8019 | Limit $\leq 5$ mW/MHz                |
| Antenna Power (Rated) (mW/MHz)      | 3.80           |        | -                                    |
| Antenna Power Tolerance (mW/MHz)    | -0.2190        | 0.0019 | -                                    |
| Antenna Power Tolerance (%)         | -5.76          | 0.05   | Limit + 20% ~ - 80%                  |
| Antenna Power (EIRP) (mW/MHz)       | 4.4875         | 4.7643 | Limit $\leq 5$ mW/MHz                |

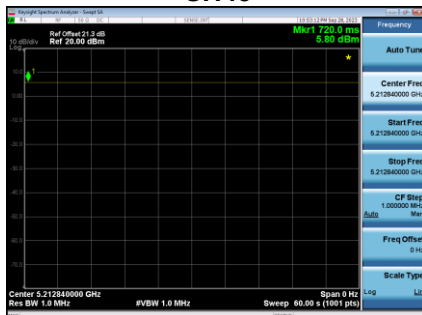
Note:

1. Antenna power tolerance = {(conducted power density-rated power density)/rated power density}
2. Radiated RF output power density (EIRP) = conducted RF output power density + Max. Antenna gain
3. Antenna Power value = SA measurement value + Directional gain + cable loss  
Directional gain =  $10 \log (\text{Ant X})$   
X = the total number of antennas

CH38



CH46



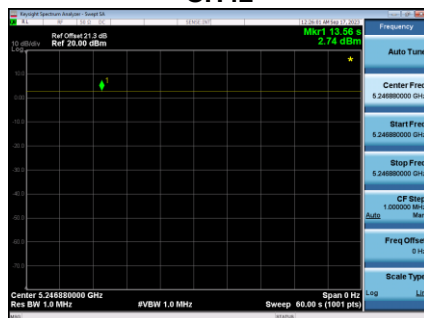
Test Mode: IEEE 802.11ac(VHT80) - W52

| Test Voltage                        | Normal Voltage | Remarks                              |
|-------------------------------------|----------------|--------------------------------------|
| Test Frequency (MHz)                | 5210           | Low/Mid/High of test frequency range |
| Antenna Power (Conductive) (mW/MHz) | 1.8793         | Limit $\leq 2.5$ mW/MHz              |
| Antenna Power (Rated) (mW/MHz)      | 1.88           | -                                    |
| Antenna Power Tolerance (mW/MHz)    | -0.0007        | -                                    |
| Antenna Power Tolerance (%)         | -0.04          | Limit + 20% ~ - 80%                  |
| Antenna Power (EIRP) (mW/MHz)       | 2.3550         | Limit $\leq 2.5$ mW/MHz              |

Note:

1. Antenna power tolerance = {(conducted power density-rated power density)/rated power density}
  2. Radiated RF output power density (EIRP) = conducted RF output power density + Max. Antenna gain
  3. Antenna Power value = SA measurement value + Directional gain + cable loss
- Directional gain =  $10 \log (\text{Ant } X)$   
 X = the total number of antennas

## CH42



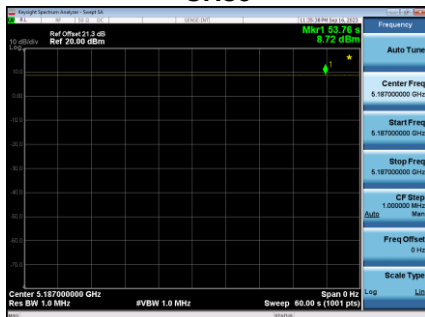
Test Mode: IEEE 802.11ax(HE20) - W52

| Test Voltage                        | Normal Voltage |        |         | Remarks                              |
|-------------------------------------|----------------|--------|---------|--------------------------------------|
| Test Frequency (MHz)                | 5180           | 5200   | 5240    | Low/Mid/High of test frequency range |
| Antenna Power (Conductive) (mW/MHz) | 7.4473         | 7.6208 | 7.6033  | Limit $\leq 10$ mW/MHz               |
| Antenna Power (Rated) (mW/MHz)      | 7.62           |        |         | -                                    |
| Antenna Power Tolerance (mW/MHz)    | -0.1727        | 0.0008 | -0.0167 | -                                    |
| Antenna Power Tolerance (%)         | -2.27          | 0.01   | -0.22   | Limit + 20% ~ - 80%                  |
| Antenna Power (EIRP) (mW/MHz)       | 9.3325         | 9.5499 | 9.5280  | Limit $\leq 10$ mW/MHz               |

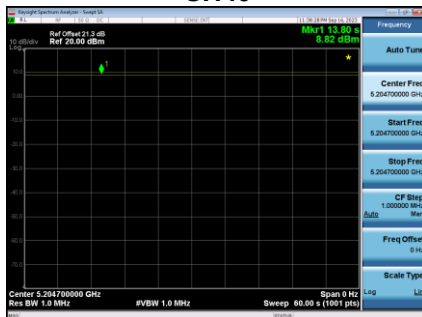
Note:

- Antenna power tolerance = {(conducted power density-rated power density)/rated power density}
- Radiated RF output power density (EIRP) = conducted RF output power density + Max. Antenna gain
- Antenna Power value = SA measurement value + Directional gain + cable loss  
Directional gain =  $10 \log (\text{Ant X})$   
X = the total number of antennas

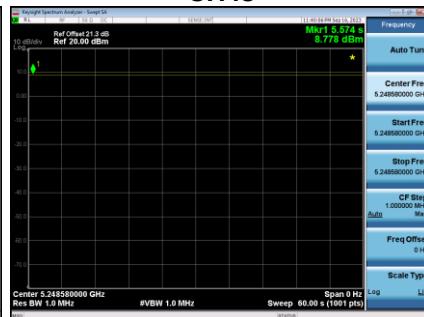
CH36



CH40



CH48



Test Mode: IEEE 802.11ax(HE40) - W52

| Test Voltage                        | Normal Voltage |         | Remarks                              |
|-------------------------------------|----------------|---------|--------------------------------------|
| Test Frequency (MHz)                | 5190           | 5230    | Low/Mid/High of test frequency range |
| Antenna Power (Conductive) (mW/MHz) | 3.8019         | 3.5318  | Limit $\leq 5$ mW/MHz                |
| Antenna Power (Rated) (mW/MHz)      | 3.80           |         | -                                    |
| Antenna Power Tolerance (mW/MHz)    | 0.0019         | -0.2682 | -                                    |
| Antenna Power Tolerance (%)         | 0.05           | -7.06   | Limit + 20% ~ - 80%                  |
| Antenna Power (EIRP) (mW/MHz)       | 4.7643         | 4.4259  | Limit $\leq 5$ mW/MHz                |

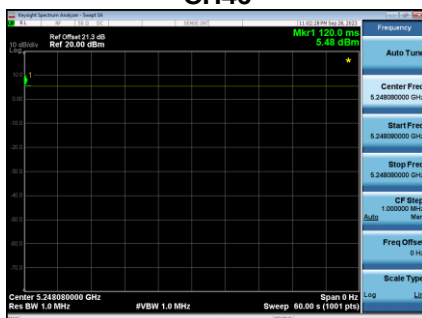
Note:

1. Antenna power tolerance = {(conducted power density-rated power density)/rated power density}
2. Radiated RF output power density (EIRP) = conducted RF output power density + Max. Antenna gain
3. Antenna Power value = SA measurement value + Directional gain + cable loss  
Directional gain =  $10 \log (\text{Ant } X)$   
X = the total number of antennas

CH38



CH46



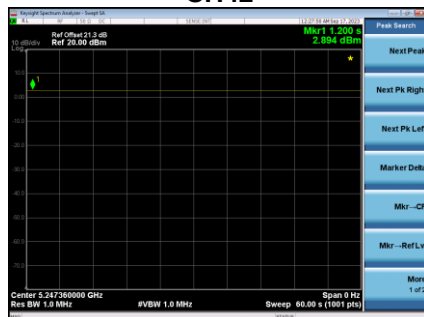
|            |                           |
|------------|---------------------------|
| Test Mode: | IEEE 802.11ax(HE80) - W52 |
|------------|---------------------------|

| Test Voltage                        | Normal Voltage | Remarks                              |
|-------------------------------------|----------------|--------------------------------------|
| Test Frequency (MHz)                | 5210           | Low/Mid/High of test frequency range |
| Antenna Power (Conductive) (mW/MHz) | 1.9454         | Limit $\leq 2.5$ mW/MHz              |
| Antenna Power (Rated) (mW/MHz)      | 1.95           | -                                    |
| Antenna Power Tolerance (mW/MHz)    | -0.0046        | -                                    |
| Antenna Power Tolerance (%)         | -0.24          | Limit + 20% ~ - 80%                  |
| Antenna Power (EIRP) (mW/MHz)       | 2.4378         | Limit $\leq 2.5$ mW/MHz              |

Note:

1. Antenna power tolerance = {(conducted power density-rated power density)/rated power density}
2. Radiated RF output power density (EIRP) = conducted RF output power density + Max. Antenna gain
3. Antenna Power value = SA measurement value + Directional gain + cable loss  
Directional gain =  $10 \log (\text{Ant } X)$   
X = the total number of antennas

#### CH42

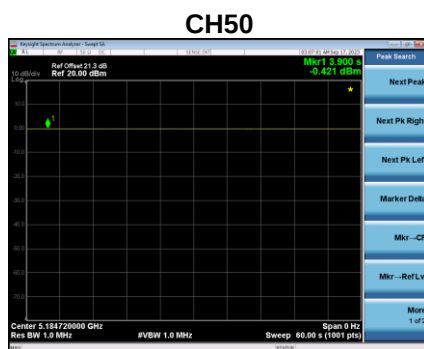


|            |                                 |
|------------|---------------------------------|
| Test Mode: | IEEE 802.11ac(VHT160) - W52+W53 |
|------------|---------------------------------|

| Test Voltage                        | Normal Voltage | Remarks                              |
|-------------------------------------|----------------|--------------------------------------|
| Test Frequency (MHz)                | 5250           | Low/Mid/High of test frequency range |
| Antenna Power (Conductive) (mW/MHz) | 0.9078         | Limit $\leq 1.25$ mW/MHz             |
| Antenna Power (Rated) (mW/MHz)      | 0.91           | -                                    |
| Antenna Power Tolerance (mW/MHz)    | -0.0022        | -                                    |
| Antenna Power Tolerance (%)         | -0.24          | Limit + 20% ~ - 80%                  |
| Antenna Power (EIRP) (mW/MHz)       | 1.1376         | Limit $\leq 1.25$ mW/MHz (With TPC)  |

Note:

1. Antenna power tolerance = {(conducted power density-rated power density)/rated power density}
2. Radiated RF output power density (EIRP) = conducted RF output power density + Max. Antenna gain
3. Antenna Power value = SA measurement value + Directional gain + cable loss  
Directional gain =  $10 \log (\text{Ant } X)$   
X = the total number of antennas



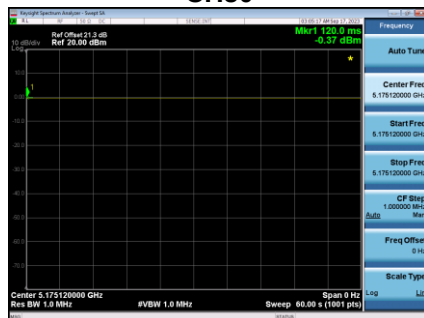
|            |                                |
|------------|--------------------------------|
| Test Mode: | IEEE 802.11ax(HE160) - W52+W53 |
|------------|--------------------------------|

| Test Voltage                        | Normal Voltage | Remarks                              |
|-------------------------------------|----------------|--------------------------------------|
| Test Frequency (MHz)                | 5250           | Low/Mid/High of test frequency range |
| Antenna Power (Conductive) (mW/MHz) | 0.9183         | Limit $\leq 1.25$ mW/MHz             |
| Antenna Power (Rated) (mW/MHz)      | 0.92           | -                                    |
| Antenna Power Tolerance (mW/MHz)    | -0.0017        | -                                    |
| Antenna Power Tolerance (%)         | -0.18          | Limit + 20% ~ - 80%                  |
| Antenna Power (EIRP) (mW/MHz)       | 1.1508         | Limit $\leq 1.25$ mW/MHz (With TPC)  |

Note:

1. Antenna power tolerance = {(conducted power density-rated power density)/rated power density}
2. Radiated RF output power density (EIRP) = conducted RF output power density + Max. Antenna gain
3. Antenna Power value = SA measurement value + Directional gain + cable loss  
Directional gain =  $10 \log (\text{Ant } X)$   
X = the total number of antennas

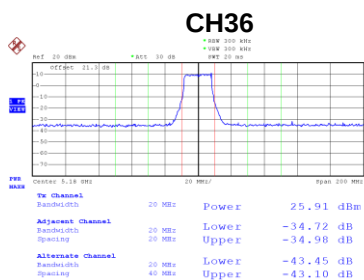
#### CH50



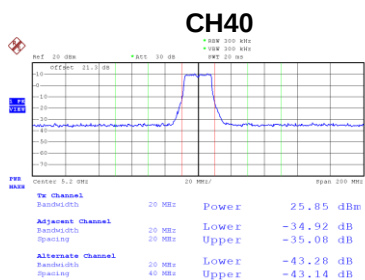
## **APPENDIX E - ADJACENT CHANNEL EMITTED POWER**

Test Mode: IEEE 802.11a - W52

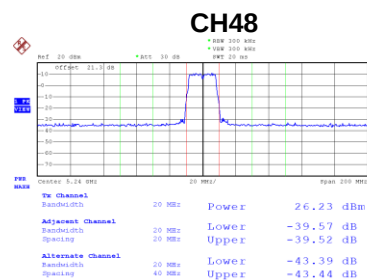
| Test Voltage                      |     | Normal Voltage |       |       |    | Remarks                              |
|-----------------------------------|-----|----------------|-------|-------|----|--------------------------------------|
| Test Frequency                    | MHz | 5180           | 5200  | 5240  | -  | Low/Mid/High of test frequency range |
| Adjacent Channel<br>Emitted Power | -20 | 34.72          | 34.92 | 39.57 | dB | Limit $\geq 25$ dB                   |
|                                   | +20 | 34.98          | 35.08 | 39.52 | dB | Limit $\geq 25$ dB                   |
|                                   | -40 | 43.45          | 43.28 | 43.39 | dB | Limit $\geq 40$ dB                   |
|                                   | +40 | 43.10          | 43.14 | 43.44 | dB | Limit $\geq 40$ dB                   |



Date: 16,SEP,2023 14:21:40



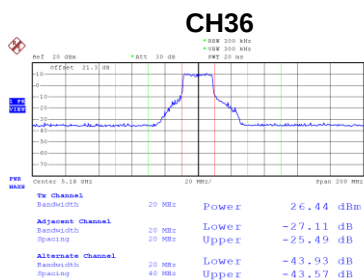
Date: 16,SEP,2023 14:23:34



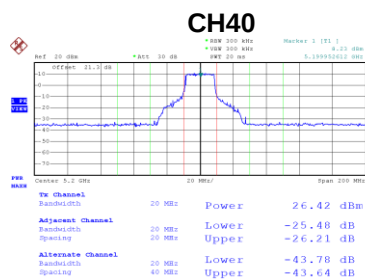
Date: 16,SEP,2023 14:25:01

Test Mode: IEEE 802.11ac(VHT20) - W52

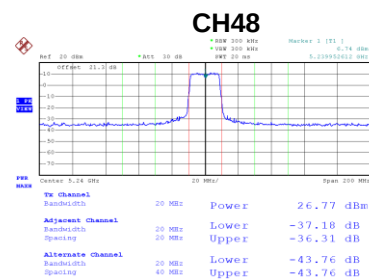
| Test Voltage                      |     | Normal Voltage |       |       |    | Remarks                              |
|-----------------------------------|-----|----------------|-------|-------|----|--------------------------------------|
| Test Frequency                    | MHz | 5180           | 5200  | 5240  | -  | Low/Mid/High of test frequency range |
| Adjacent Channel<br>Emitted Power | -20 | 27.11          | 25.48 | 37.18 | dB | Limit $\geq 25$ dB                   |
|                                   | +20 | 25.49          | 26.21 | 36.31 | dB | Limit $\geq 25$ dB                   |
|                                   | -40 | 43.93          | 43.78 | 43.76 | dB | Limit $\geq 40$ dB                   |
|                                   | +40 | 43.57          | 43.64 | 43.76 | dB | Limit $\geq 40$ dB                   |



Date: 16.SEP.2023 14:30:134



Date: 16.SEP.2023 14:32:102

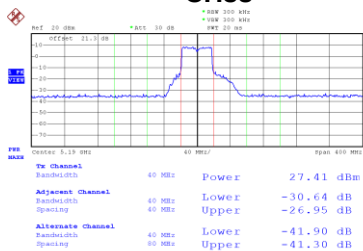


Date: 16.SEP.2023 14:33:140

Test Mode: IEEE 802.11ac(VHT40) - W52

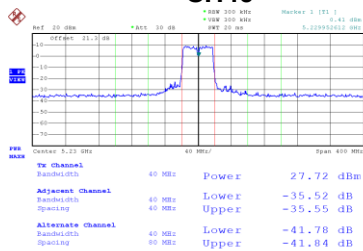
| Test Voltage                      |     | Normal Voltage |       |    | Remarks                              |
|-----------------------------------|-----|----------------|-------|----|--------------------------------------|
| Test Frequency                    | MHz | 5190           | 5230  | -  | Low/Mid/High of test frequency range |
| Adjacent Channel<br>Emitted Power | -40 | 30.64          | 35.52 | dB | Limit $\geq 25$ dB                   |
|                                   | +40 | 26.95          | 35.55 | dB | Limit $\geq 25$ dB                   |
|                                   | -80 | 41.90          | 41.78 | dB | Limit $\geq 40$ dB                   |
|                                   | +80 | 41.30          | 41.84 | dB | Limit $\geq 40$ dB                   |

CH38



Date: 16.SEP.2023 14:50:41

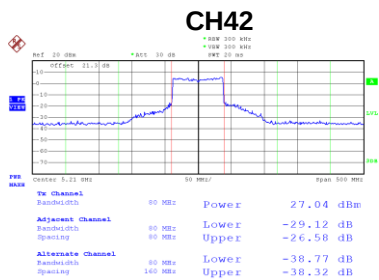
CH46



Date: 16.SEP.2023 14:52:29

|            |                            |
|------------|----------------------------|
| Test Mode: | IEEE 802.11ac(VHT80) - W52 |
|------------|----------------------------|

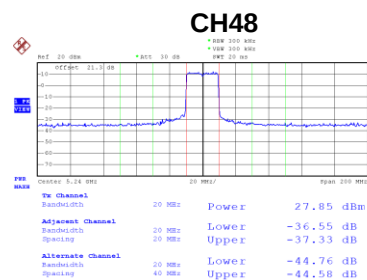
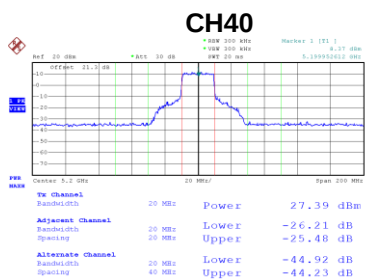
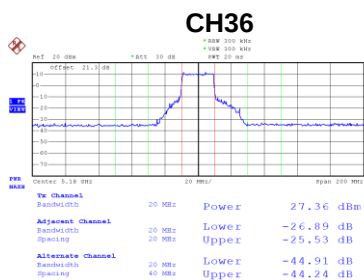
| Test Voltage                      |     | Normal Voltage |    | Remarks                              |
|-----------------------------------|-----|----------------|----|--------------------------------------|
| Test Frequency                    | MHz | 5210           | -  | Low/Mid/High of test frequency range |
| Adjacent Channel<br>Emitted Power | -80 | 29.12          | dB | Limit ≥ 25 dB                        |
|                                   | +80 | 26.58          | dB | Limit ≥ 25 dB                        |



Date: 19.SEP.2023 09:47:58

|            |                           |
|------------|---------------------------|
| Test Mode: | IEEE 802.11ax(HE20) - W52 |
|------------|---------------------------|

| Test Voltage                      |     | Normal Voltage |       |       |    | Remarks                              |
|-----------------------------------|-----|----------------|-------|-------|----|--------------------------------------|
| Test Frequency                    | MHz | 5180           | 5200  | 5240  | -  | Low/Mid/High of test frequency range |
| Adjacent Channel<br>Emitted Power | -20 | 26.89          | 26.21 | 36.55 | dB | Limit $\geq$ 25 dB                   |
|                                   | +20 | 25.53          | 25.48 | 37.33 | dB | Limit $\geq$ 25 dB                   |
|                                   | -40 | 44.91          | 44.92 | 44.76 | dB | Limit $\geq$ 40 dB                   |
|                                   | +40 | 44.24          | 44.23 | 44.58 | dB | Limit $\geq$ 40 dB                   |



Date: 16,SEP,2023 14:44:34

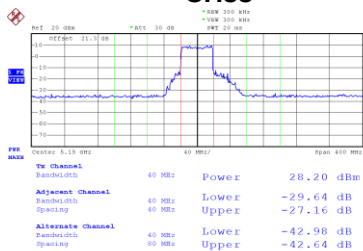
Date: 16,SEP,2023 14:46:07

Date: 16,SEP,2023 14:47:47

Test Mode: IEEE 802.11ax(HE40) - W52

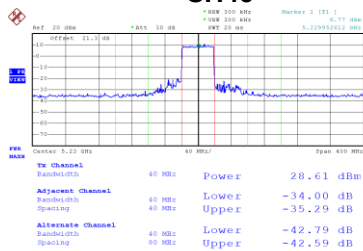
| Test Voltage                      |     | Normal Voltage |       |    | Remarks                              |
|-----------------------------------|-----|----------------|-------|----|--------------------------------------|
| Test Frequency                    | MHz | 5190           | 5230  | -  | Low/Mid/High of test frequency range |
| Adjacent Channel<br>Emitted Power | -40 | 29.64          | 34.00 | dB | Limit $\geq 25$ dB                   |
|                                   | +40 | 27.16          | 35.29 | dB | Limit $\geq 25$ dB                   |
|                                   | -80 | 42.98          | 42.79 | dB | Limit $\geq 40$ dB                   |
|                                   | +80 | 42.64          | 42.59 | dB | Limit $\geq 40$ dB                   |

CH38



Date: 16SEP.2023 14:54:35

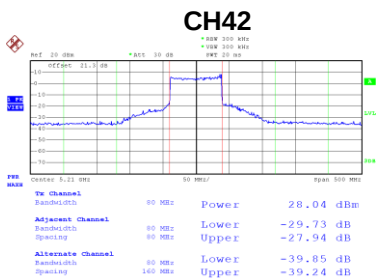
CH46



Date: 16SEP.2023 14:56:56

|            |                           |
|------------|---------------------------|
| Test Mode: | IEEE 802.11ax(HE80) - W52 |
|------------|---------------------------|

| Test Voltage                      |     | Normal Voltage |    | Remarks                              |
|-----------------------------------|-----|----------------|----|--------------------------------------|
| Test Frequency                    | MHz | 5210           | -  | Low/Mid/High of test frequency range |
| Adjacent Channel<br>Emitted Power | -80 | 29.73          | dB | Limit ≥ 25 dB                        |
|                                   | +80 | 27.94          | dB | Limit ≥ 25 dB                        |



Date: 19.SEP.2023 09:50:05

## **APPENDIX F - LIMITATION OF COLLATERAL EMISSION OF RECEIVER**

|            |                    |
|------------|--------------------|
| Test Mode: | IEEE 802.11a - W52 |
|------------|--------------------|

| Test Voltage                                  |     | Normal Voltage |          |          | Remarks                              |
|-----------------------------------------------|-----|----------------|----------|----------|--------------------------------------|
| Test Frequency                                | MHz | 5180           | 5200     | 5240     | Low/Mid/High of test frequency range |
| Limitation of Collateral Emission of Receiver | MHz | 773.02         | 565.44   | 278.32   | 30MHz~1000MHz                        |
|                                               | nW  | 0.0163         | 0.0150   | 0.0165   | Limit ≤ 4 nW(-54 dBm)                |
|                                               | MHz | 22000.00       | 25000.00 | 24950.00 | 1000MHz~26000MHz                     |
|                                               | nW  | 1.1376         | 1.1535   | 1.2560   | Limit ≤ 20 nW(-47 dBm)               |

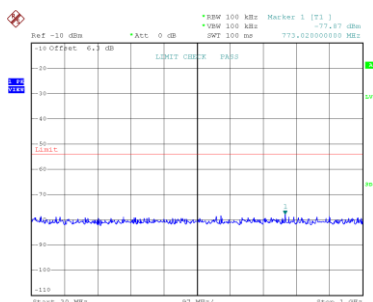
Note:

Emission value = SA measurement value + Directional gain + cable loss

Directional gain = 10 log (Ant X)

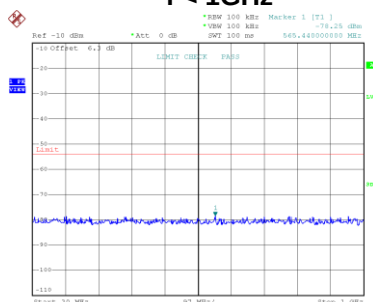
X = the total number of antennas

CH36



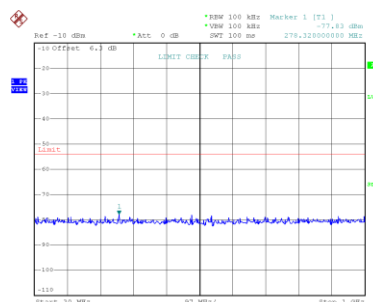
Date: 18,SEP,2023 10:07:41

CH40  
f < 1GHz



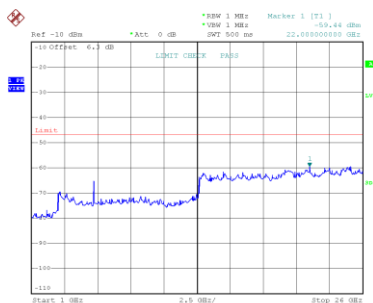
Date: 18,SEP,2023 10:08:04

CH48

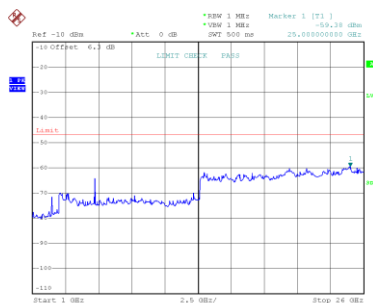


Date: 18,SEP,2023 10:08:26

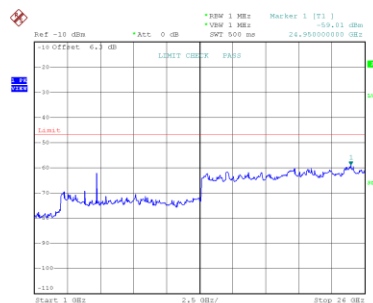
f ≥ 1GHz



Date: 18,SEP,2023 10:07:52



Date: 18,SEP,2023 10:08:14



Date: 18,SEP,2023 10:08:37

Test Mode: IEEE 802.11ac(VHT20) - W52

| Test Voltage                                  |     | Normal Voltage |          |          | Remarks                              |
|-----------------------------------------------|-----|----------------|----------|----------|--------------------------------------|
| Test Frequency                                | MHz | 5180           | 5200     | 5240     | Low/Mid/High of test frequency range |
| Limitation of Collateral Emission of Receiver | MHz | 852.56         | 222.06   | 441.28   | 30MHz~1000MHz                        |
|                                               | nW  | 0.0158         | 0.0156   | 0.0181   | Limit ≤ 4 nW(-54 dBm)                |
|                                               | MHz | 24900.00       | 24550.00 | 20500.00 | 1000MHz~26000MHz                     |
|                                               | nW  | 1.4093         | 1.1858   | 1.2942   | Limit ≤ 20 nW(-47 dBm)               |

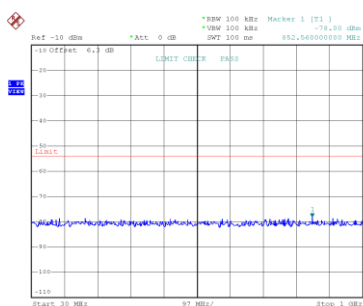
Note:

Emission value = SA measurement value + Directional gain + cable loss

Directional gain = 10 log (Ant X)

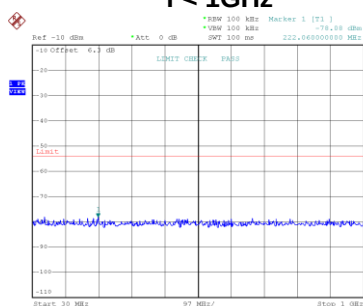
X = the total number of antennas

CH36



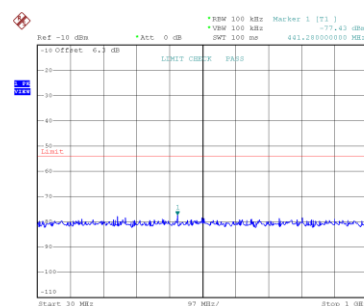
Date: 18,SEP,2023 10:09:08

CH40  
f < 1GHz



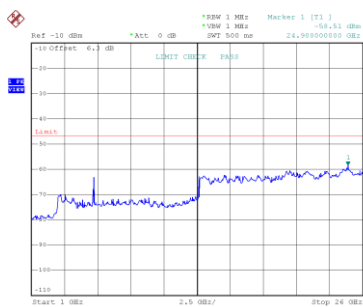
Date: 18,SEP,2023 10:09:31

CH48

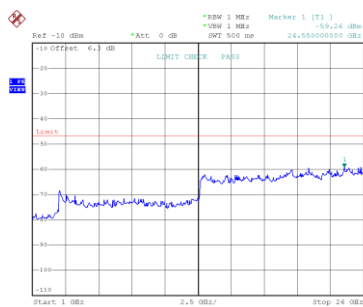


Date: 18,SEP,2023 10:10:32

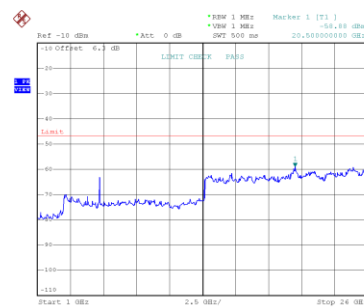
f ≥ 1GHz



Date: 18,SEP,2023 10:09:18



Date: 18,SEP,2023 10:09:42



Date: 18,SEP,2023 10:10:42

|            |                            |
|------------|----------------------------|
| Test Mode: | IEEE 802.11ac(VHT40) - W52 |
|------------|----------------------------|

| Test Voltage                                  |     | Normal Voltage |          | Remarks                              |
|-----------------------------------------------|-----|----------------|----------|--------------------------------------|
| Test Frequency                                | MHz | 5190           | 5230     | Low/Mid/High of test frequency range |
| Limitation of Collateral Emission of Receiver | MHz | 767.20         | 189.08   | 30MHz~1000MHz                        |
|                                               | nW  | 0.0162         | 0.0150   | Limit ≤ 4 nW(-54 dBm)                |
|                                               | MHz | 25000.00       | 23450.00 | 1000MHz~26000MHz                     |
|                                               | nW  | 1.1015         | 1.1614   | Limit ≤ 20 nW(-47 dBm)               |

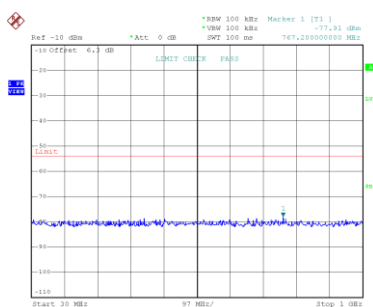
Note:

Emission value = SA measurement value + Directional gain + cable loss

Directional gain = 10 log (Ant X)

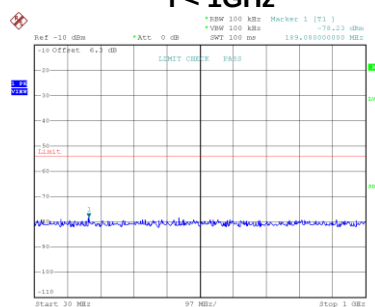
X = the total number of antennas

CH38



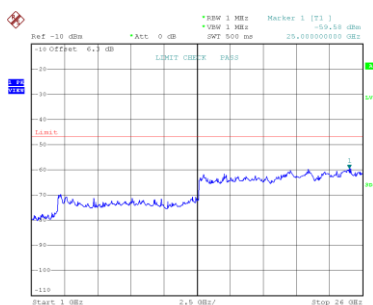
Date: 18.08P.2023 10:25:46

CH46  
f < 1GHz

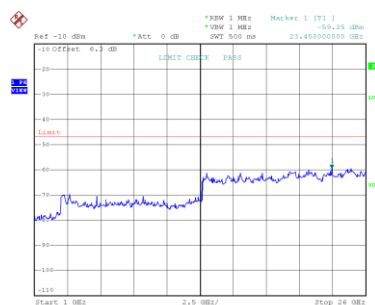


Date: 18.08P.2023 10:26:18

f ≥ 1GHz



Date: 18.08P.2023 10:25:57



Date: 18.08P.2023 10:26:29

|            |                            |
|------------|----------------------------|
| Test Mode: | IEEE 802.11ac(VHT80) - W52 |
|------------|----------------------------|

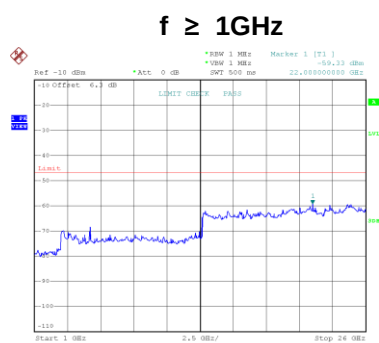
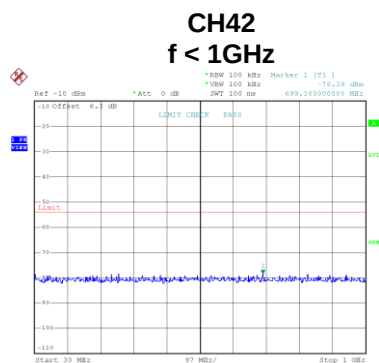
| Test Voltage                                  |     | Normal Voltage | Remarks                              |
|-----------------------------------------------|-----|----------------|--------------------------------------|
| Test Frequency                                | MHz | 5210           | Low/Mid/High of test frequency range |
| Limitation of Collateral Emission of Receiver | MHz | 699.30         | 30MHz~1000MHz                        |
|                                               | nW  | 0.0145         | Limit ≤ 4 nW(-54 dBm)                |
|                                               | MHz | 22000.00       | 1000MHz~26000MHz                     |
|                                               | nW  | 1.1668         | Limit ≤ 20 nW(-47 dBm)               |

Note:

Emission value = SA measurement value + Directional gain + cable loss

Directional gain = 10 log (Ant X)

X = the total number of antennas



Test Mode: IEEE 802.11ax(HE20) - W52

| Test Voltage                                  |     | Normal Voltage |          |          | Remarks                              |
|-----------------------------------------------|-----|----------------|----------|----------|--------------------------------------|
| Test Frequency                                | MHz | 5180           | 5200     | 5240     | Low/Mid/High of test frequency range |
| Limitation of Collateral Emission of Receiver | MHz | 33.88          | 786.60   | 342.34   | 30MHz~1000MHz                        |
|                                               | nW  | 0.0153         | 0.0158   | 0.0151   | Limit ≤ 4 nW(-54 dBm)                |
|                                               | MHz | 24950.00       | 24650.00 | 23500.00 | 1000MHz~26000MHz                     |
|                                               | nW  | 1.1143         | 1.2023   | 1.0715   | Limit ≤ 20 nW(-47 dBm)               |

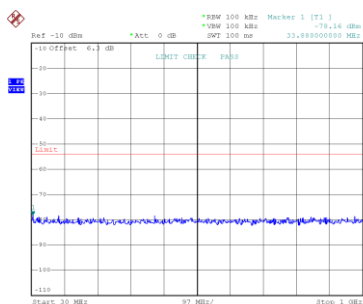
Note:

Emission value = SA measurement value + Directional gain + cable loss

Directional gain = 10 log (Ant X)

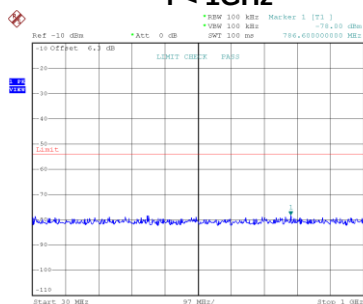
X = the total number of antennas

CH36



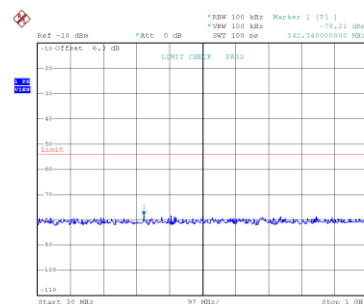
Date: 18,SEP,2023 10:16:12

CH40  
f < 1GHz



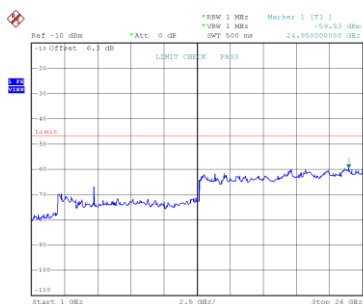
Date: 18,SEP,2023 10:16:34

CH48

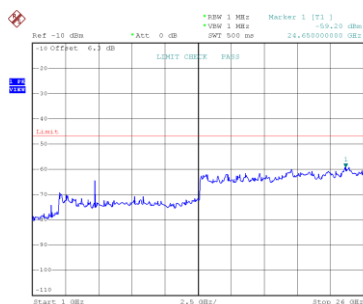


Date: 18,SEP,2023 10:17:04

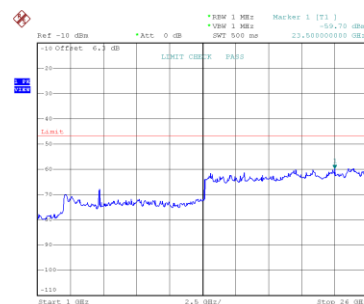
f ≥ 1GHz



Date: 18,SEP,2023 10:16:23



Date: 18,SEP,2023 10:16:45



Date: 18,SEP,2023 10:17:15

|            |                           |
|------------|---------------------------|
| Test Mode: | IEEE 802.11ax(HE40) - W52 |
|------------|---------------------------|

| Test Voltage                                  |     | Normal Voltage |          | Remarks                              |
|-----------------------------------------------|-----|----------------|----------|--------------------------------------|
| Test Frequency                                | MHz | 5190           | 5230     | Low/Mid/High of test frequency range |
| Limitation of Collateral Emission of Receiver | MHz | 811.82         | 97.90    | 30MHz~1000MHz                        |
|                                               | nW  | 0.0160         | 0.0149   | Limit ≤ 4 nW(-54 dBm)                |
|                                               | MHz | 25050.00       | 20350.00 | 1000MHz~26000MHz                     |
|                                               | nW  | 1.1749         | 1.1376   | Limit ≤ 20 nW(-47 dBm)               |

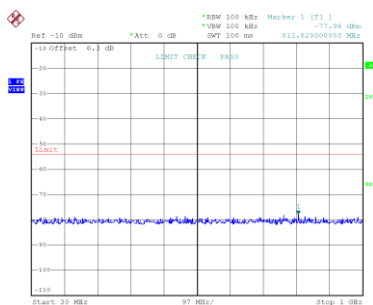
Note:

Emission value = SA measurement value + Directional gain + cable loss

Directional gain = 10 log (Ant X)

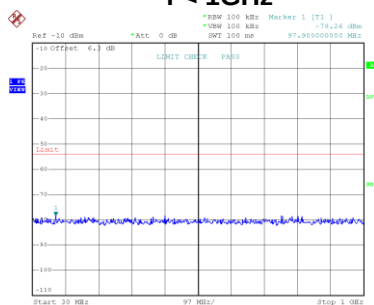
X = the total number of antennas

CH38



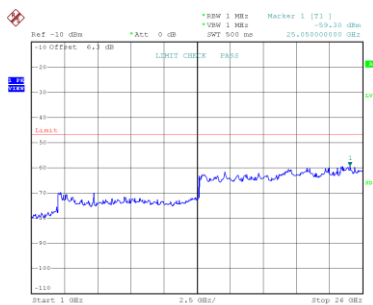
Date: 18.SEP.2023 10:28:11

CH46  
f < 1GHz

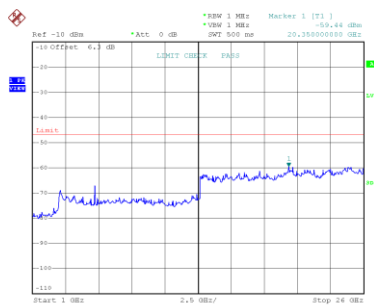


Date: 18.SEP.2023 10:28:34

f ≥ 1GHz



Date: 18.SEP.2023 10:28:21



Date: 18.SEP.2023 10:28:45

|            |                           |
|------------|---------------------------|
| Test Mode: | IEEE 802.11ax(HE80) - W52 |
|------------|---------------------------|

| Test Voltage                                  |     | Normal Voltage | Remarks                              |
|-----------------------------------------------|-----|----------------|--------------------------------------|
| Test Frequency                                | MHz | 5210           | Low/Mid/High of test frequency range |
| Limitation of Collateral Emission of Receiver | MHz | 736.16         | 30MHz~1000MHz                        |
|                                               | nW  | 0.0161         | Limit ≤ 4 nW(-54 dBm)                |
|                                               | MHz | 24600.00       | 1000MHz~26000MHz                     |
|                                               | nW  | 1.3521         | Limit ≤ 20 nW(-47 dBm)               |

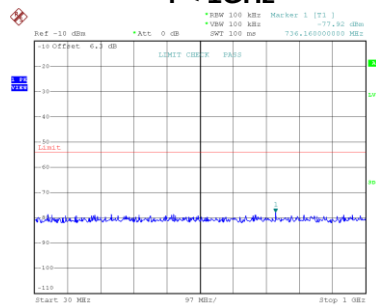
Note:

Emission value = SA measurement value + Directional gain + cable loss

Directional gain = 10 log (Ant X)

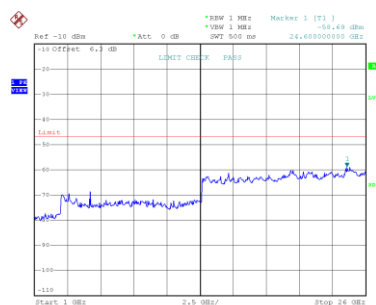
X = the total number of antennas

## CH42 f < 1GHz



Date: 18.08P.2023 10:32:31

## f ≥ 1GHz



Date: 18.08P.2023 10:32:42

|            |                                 |
|------------|---------------------------------|
| Test Mode: | IEEE 802.11ac(VHT160) - W52+W53 |
|------------|---------------------------------|

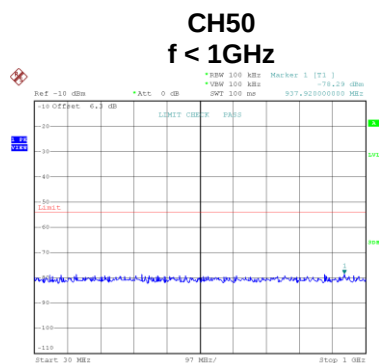
| Test Voltage                                  |     | Normal Voltage | Remarks                              |
|-----------------------------------------------|-----|----------------|--------------------------------------|
| Test Frequency                                | MHz | 5250           | Low/Mid/High of test frequency range |
| Limitation of Collateral Emission of Receiver | MHz | 937.92         | 30MHz~1000MHz                        |
|                                               | nW  | 0.0148         | Limit ≤ 4 nW(-54 dBm)                |
|                                               | MHz | 24750.00       | 1000MHz~26000MHz                     |
|                                               | nW  | 1.0889         | Limit ≤ 20 nW(-47 dBm)               |

Note:

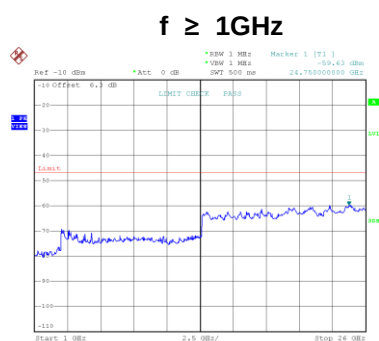
Emission value = SA measurement value + Directional gain + cable loss

Directional gain =  $10 \log (\text{Ant X})$

X = the total number of antennas



Date: 18.08P.2023 10:35:57



Date: 18.08P.2023 10:36:08

|            |                                |
|------------|--------------------------------|
| Test Mode: | IEEE 802.11ax(HE160) - W52+W53 |
|------------|--------------------------------|

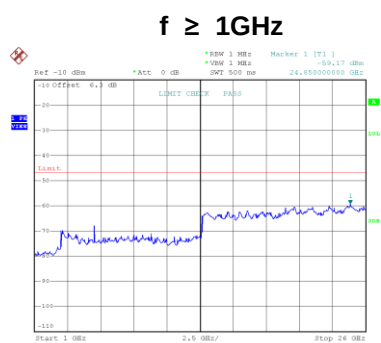
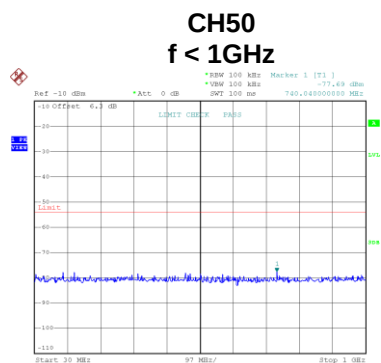
| Test Voltage                                  |     | Normal Voltage | Remarks                              |
|-----------------------------------------------|-----|----------------|--------------------------------------|
| Test Frequency                                | MHz | 5250           | Low/Mid/High of test frequency range |
| Limitation of Collateral Emission of Receiver | MHz | 740.04         | 30MHz~1000MHz                        |
|                                               | nW  | 0.0170         | Limit ≤ 4 nW(-54 dBm)                |
|                                               | MHz | 24850.00       | 1000MHz~26000MHz                     |
|                                               | nW  | 1.2106         | Limit ≤ 20 nW(-47 dBm)               |

Note:

Emission value = SA measurement value + Directional gain + cable loss

Directional gain = 10 log (Ant X)

X = the total number of antennas



## **APPENDIX G - TRANSMISSION BURST LENGTH**

|            |                    |
|------------|--------------------|
| Test Mode: | IEEE 802.11a - W52 |
|------------|--------------------|

| Test Voltage              |      | Normal Voltage |      |      | Remarks                              |
|---------------------------|------|----------------|------|------|--------------------------------------|
| Test Frequency            | MHz  | 5180           | 5200 | 5240 | Low/Mid/High of test frequency range |
| Transmission Burst Length | msec | 1.40           | 1.40 | 1.40 | Limit ≤ 8msec                        |

|            |                            |
|------------|----------------------------|
| Test Mode: | IEEE 802.11ac(VHT20) - W52 |
|------------|----------------------------|

| Test Voltage              |      | Normal Voltage |      |      | Remarks                              |
|---------------------------|------|----------------|------|------|--------------------------------------|
| Test Frequency            | MHz  | 5180           | 5200 | 5240 | Low/Mid/High of test frequency range |
| Transmission Burst Length | msec | 1.33           | 1.33 | 1.33 | Limit ≤ 8msec                        |

|            |                            |
|------------|----------------------------|
| Test Mode: | IEEE 802.11ac(VHT40) - W52 |
|------------|----------------------------|

| Test Voltage              |      | Normal Voltage |       | Remarks                              |
|---------------------------|------|----------------|-------|--------------------------------------|
| Test Frequency            | MHz  | 5190           | 5230  | Low/Mid/High of test frequency range |
| Transmission Burst Length | msec | -1.92          | -1.92 | Limit ≤ 8msec                        |

|            |                            |
|------------|----------------------------|
| Test Mode: | IEEE 802.11ac(VHT80) - W52 |
|------------|----------------------------|

| Test Voltage              |      | Normal Voltage |  | Remarks                              |
|---------------------------|------|----------------|--|--------------------------------------|
| Test Frequency            | MHz  | 5210           |  | Low/Mid/High of test frequency range |
| Transmission Burst Length | msec | 1.62           |  | Limit ≤ 8msec                        |

|            |                           |
|------------|---------------------------|
| Test Mode: | IEEE 802.11ax(HE20) - W52 |
|------------|---------------------------|

| Test Voltage              |      | Normal Voltage |      |      | Remarks                              |
|---------------------------|------|----------------|------|------|--------------------------------------|
| Test Frequency            | MHz  | 5180           | 5200 | 5240 | Low/Mid/High of test frequency range |
| Transmission Burst Length | msec | 0.98           | 0.98 | 0.98 | Limit ≤ 8msec                        |

|            |                           |
|------------|---------------------------|
| Test Mode: | IEEE 802.11ax(HE40) - W52 |
|------------|---------------------------|

| Test Voltage              |      | Normal Voltage |      | Remarks                              |
|---------------------------|------|----------------|------|--------------------------------------|
| Test Frequency            | MHz  | 5190           | 5230 | Low/Mid/High of test frequency range |
| Transmission Burst Length | msec | 2.41           | 2.41 | Limit ≤ 8msec                        |

|            |                           |
|------------|---------------------------|
| Test Mode: | IEEE 802.11ax(HE80) - W52 |
|------------|---------------------------|

| Test Voltage              |      | Normal Voltage |  | Remarks                              |
|---------------------------|------|----------------|--|--------------------------------------|
| Test Frequency            | MHz  | 5210           |  | Low/Mid/High of test frequency range |
| Transmission Burst Length | msec | 3.33           |  | Limit ≤ 8msec                        |

|            |                                 |
|------------|---------------------------------|
| Test Mode: | IEEE 802.11ac(VHT160) - W52+W53 |
|------------|---------------------------------|

| Test Voltage              |      | Normal Voltage | Remarks                              |
|---------------------------|------|----------------|--------------------------------------|
| Test Frequency            | MHz  | 5250           | Low/Mid/High of test frequency range |
| Transmission Burst Length | msec | 1.56           | Limit ≤ 8msec                        |

|            |                                |
|------------|--------------------------------|
| Test Mode: | IEEE 802.11ax(HE160) - W52+W53 |
|------------|--------------------------------|

| Test Voltage              |      | Normal Voltage | Remarks                              |
|---------------------------|------|----------------|--------------------------------------|
| Test Frequency            | MHz  | 5250           | Low/Mid/High of test frequency range |
| Transmission Burst Length | msec | 2.20           | Limit ≤ 8msec                        |

## APPENDIX H - CARRIER SENSE CAPABILITY

|            |                    |
|------------|--------------------|
| Test Mode: | IEEE 802.11a - W52 |
|------------|--------------------|

| Test Voltage               |         | Normal Voltage |      |      | Remarks                                  |
|----------------------------|---------|----------------|------|------|------------------------------------------|
| Test Frequency             | MHz     | 5180           | 5200 | 5240 | Low/Mid/High of test level               |
| Carrier Sense<br>(100mV/m) | OK / NG | OK             | OK   | OK   | Pin = 22.79+Gr-20*log(freq_MHz)<br>[dBm] |

|            |                            |
|------------|----------------------------|
| Test Mode: | IEEE 802.11ac(VHT20) - W52 |
|------------|----------------------------|

| Test Voltage               |         | Normal Voltage |      |      | Remarks                                  |
|----------------------------|---------|----------------|------|------|------------------------------------------|
| Test Frequency             | MHz     | 5180           | 5200 | 5240 | Low/Mid/High of test level               |
| Carrier Sense<br>(100mV/m) | OK / NG | OK             | OK   | OK   | Pin = 22.79+Gr-20*log(freq_MHz)<br>[dBm] |

|            |                            |
|------------|----------------------------|
| Test Mode: | IEEE 802.11ac(VHT40) - W52 |
|------------|----------------------------|

| Test Voltage               |         | Normal Voltage |      | Remarks                                  |
|----------------------------|---------|----------------|------|------------------------------------------|
| Test Frequency             | MHz     | 5190           | 5230 | Low/Mid/High of test level               |
| Carrier Sense<br>(100mV/m) | OK / NG | OK             | OK   | Pin = 22.79+Gr-20*log(freq_MHz)<br>[dBm] |

|            |                            |
|------------|----------------------------|
| Test Mode: | IEEE 802.11ac(VHT80) - W52 |
|------------|----------------------------|

| Test Voltage               |         | Normal Voltage | Remarks                                  |
|----------------------------|---------|----------------|------------------------------------------|
| Test Frequency             | MHz     | 5210           | Low/Mid/High of test level               |
| Carrier Sense<br>(100mV/m) | OK / NG | OK             | Pin = 22.79+Gr-20*log(freq_MHz)<br>[dBm] |

|            |                           |
|------------|---------------------------|
| Test Mode: | IEEE 802.11ax(HE20) - W52 |
|------------|---------------------------|

| Test Voltage               |         | Normal Voltage |      |      | Remarks                                  |
|----------------------------|---------|----------------|------|------|------------------------------------------|
| Test Frequency             | MHz     | 5180           | 5200 | 5240 | Low/Mid/High of test level               |
| Carrier Sense<br>(100mV/m) | OK / NG | OK             | OK   | OK   | Pin = 22.79+Gr-20*log(freq_MHz)<br>[dBm] |

|            |                           |
|------------|---------------------------|
| Test Mode: | IEEE 802.11ax(HE40) - W52 |
|------------|---------------------------|

| Test Voltage               |         | Normal Voltage |      | Remarks                                  |
|----------------------------|---------|----------------|------|------------------------------------------|
| Test Frequency             | MHz     | 5190           | 5230 | Low/Mid/High of test level               |
| Carrier Sense<br>(100mV/m) | OK / NG | OK             | OK   | Pin = 22.79+Gr-20*log(freq_MHz)<br>[dBm] |

|            |                           |
|------------|---------------------------|
| Test Mode: | IEEE 802.11ax(HE80) - W52 |
|------------|---------------------------|

| Test Voltage               |         | Normal Voltage | Remarks                                  |
|----------------------------|---------|----------------|------------------------------------------|
| Test Frequency             | MHz     | 5210           | Low/Mid/High of test level               |
| Carrier Sense<br>(100mV/m) | OK / NG | OK             | Pin = 22.79+Gr-20*log(freq_MHz)<br>[dBm] |

|            |                                 |
|------------|---------------------------------|
| Test Mode: | IEEE 802.11ac(VHT160) - W52+W53 |
|------------|---------------------------------|

| Test Voltage            |         | Normal Voltage | Remarks                                  |
|-------------------------|---------|----------------|------------------------------------------|
| Test Frequency          | MHz     | 5250           | Low/Mid/High of test level               |
| Carrier Sense (100mV/m) | OK / NG | OK             | Pin = 22.79+Gr-20*log(freq_MHz)<br>[dBm] |

|            |                                |
|------------|--------------------------------|
| Test Mode: | IEEE 802.11ax(HE160) - W52+W53 |
|------------|--------------------------------|

| Test Voltage            |         | Normal Voltage | Remarks                                  |
|-------------------------|---------|----------------|------------------------------------------|
| Test Frequency          | MHz     | 5250           | Low/Mid/High of test level               |
| Carrier Sense (100mV/m) | OK / NG | OK             | Pin = 22.79+Gr-20*log(freq_MHz)<br>[dBm] |

**End of Test Report**