

# VARIANT FCC TEST REPORT

## (Part 15, Subpart E)

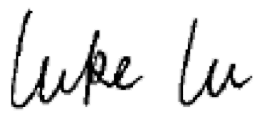
|            |                                                         |
|------------|---------------------------------------------------------|
| Applicant: | Honeywell International Inc                             |
| Address:   | 9680 Old Bailes Road, Fort Mill, SC 29707 United States |

|                           |                                                         |
|---------------------------|---------------------------------------------------------|
| Manufacturer or Supplier: | Honeywell International Inc                             |
| Address:                  | 9680 Old Bailes Road, Fort Mill, SC 29707 United States |
| Product:                  | Mobile Computer                                         |
| Brand Name:               | Honeywell                                               |
| Model Name:               | CT45P-X0N                                               |
| FCC ID:                   | HD5-CT45PX0N                                            |
| Date of tests:            | Oct, 09, 2025 ~ Dec. 17, 2025                           |

The tests have been carried out according to the requirements of the following standard:

☒ FCC Part 15, Subpart E, Section 15.407

**CONCLUSION:** The submitted sample was found to COMPLY with the test requirement

|                                                                                     |                                                                                       |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Prepared by Hanwen Xu<br>Engineer / Mobile Department                               | Approved by Luke Lu<br>Manager / Mobile Department                                    |
|  |  |
| Date: Dec. 17, 2025                                                                 | Date: Dec. 17, 2025                                                                   |

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**RELEASE CONTROL RECORD**

| ISSUE NO.             | REASON FOR CHANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | DATE ISSUED   |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| W7L-P21080021RF09     | Original release                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Sep. 17, 2021 |
| PSU-QBJ2512030414RF03 | Based on the original report, the new product add alternate parts, the electrical specs of the alternate part is equivalent to the current part. This report update the SW version, verify power, CE and RSE worst case. The verify results of conducted power are similar or lower. So this report updates CE and the low frequency data and the high frequency data (802.11ac(20MHz) SISO ANT0_CH36 & 802.11ac(20MHz) MIMO_CH64 & 802.11ac(40MHz) SISO ANT0_CH102 & 802.11n(HT20) SISO ANT0_CH157) of RSE, other data please refer to original report. | Dec. 17, 2025 |

## 1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

| APPLIED STANDARD: FCC PART 15, SUBPART E |                                           |            |
|------------------------------------------|-------------------------------------------|------------|
| STANDARD SECTION                         | TEST TYPE AND LIMIT                       | RESULT     |
| 15.407(b)(9)                             | AC Power Conducted Emission               | Compliance |
| 15.407(b)<br>(1/2/3/4/5)                 | Radiated Emission & Band Edge Measurement | Compliance |
| 15.407(a/1/2/3)                          | Maximum conducted output Power            | See note   |
| 15.407(a/1/2/3)                          | Peak Power Spectral Density               | See note   |
| 15.407(a)(2)(12)                         | 26 dB Bandwidth                           | See note   |
| 15.407(e)                                | 6 dB Bandwidth                            | See note   |
| 15.203                                   | Antenna Requirement                       | See note   |

**NOTE::** Please refer to report W7L-P21080021RF09 (FCC ID: HD5-CT45PX0N).

### \*Test Lab Information Reference

**Lab A:**

Huarui 7Layers High Technology (Suzhou) Co., Ltd.

**Lab Address:**

Tower N, Innovation Center, 88 Zuyi Road, High-tech District, Suzhou City, Anhui Province, China

**Accredited Test Lab Cert 6613.01**

The FCC Site Registration No. is 434559; The Designation No. is CN1325.

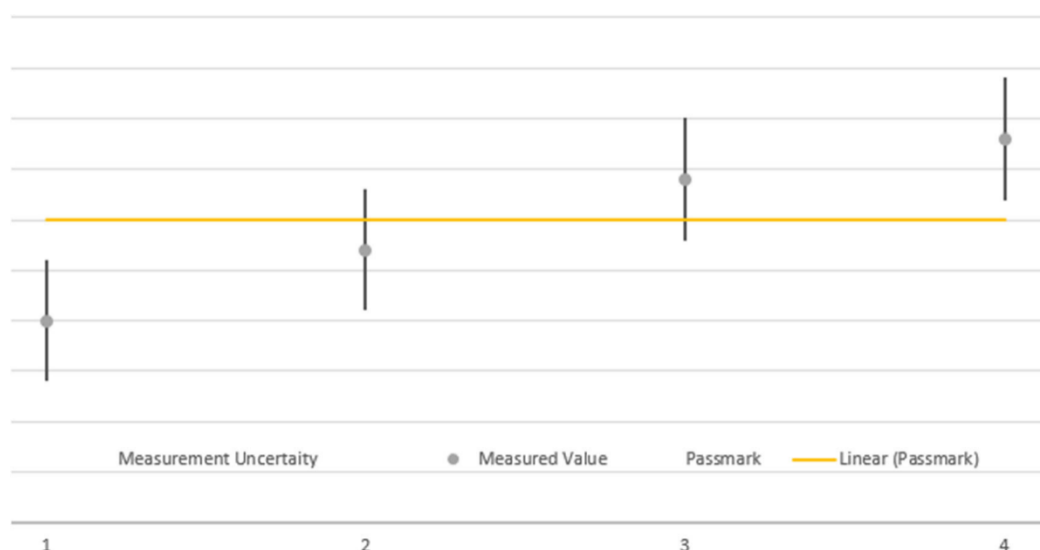


## 1.1 MEASUREMENT UNCERTAINTY

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

| MEASUREMENT                       | UNCERTAINTY           |
|-----------------------------------|-----------------------|
| AC Power Conducted emissions      | $\pm 2.70\text{dB}$   |
| Radiated emissions (9KHz~30MHz)   | $\pm 2.68\text{dB}$   |
| Radiated emissions (30MHz~1GHz)   | $\pm 4.98\text{dB}$   |
| Radiated emissions (1GHz ~6GHz)   | $\pm 4.70\text{dB}$   |
| Radiated emissions (6GHz ~18GHz)  | $\pm 4.60\text{dB}$   |
| Radiated emissions (18GHz ~40GHz) | $\pm 4.12\text{dB}$   |
| Conducted emissions               | $\pm 4.01\text{dB}$   |
| Occupied Channel Bandwidth        | $\pm 43.58\text{KHz}$ |
| Conducted Output power            | $\pm 2.06\text{dB}$   |
| Power Spectral Density            | $\pm 0.85\text{ dB}$  |

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of  $k = 2$ .



The verdicts in this test report are given according the above diagram:

| Case | Measured Value  | Uncertainty Range | Verdict |
|------|-----------------|-------------------|---------|
| 1    | below pass mark | below pass mark   | Passed  |
| 2    | below pass mark | within pass mark  | Passed  |
| 3    | above pass mark | within pass mark  | Failed  |
| 4    | above pass mark | above pass mark   | Failed  |

That means, the laboratory applies, as decision rule (see ISO/IEC 17025:2017), the so-called shared risk principle.



## 2 GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

|                             |                                                           |                                               |
|-----------------------------|-----------------------------------------------------------|-----------------------------------------------|
| <b>PRODUCT*</b>             | Mobile Computer                                           |                                               |
| <b>BRAND NAME*</b>          | Honeywell                                                 |                                               |
| <b>MODEL NAME*</b>          | CT45P-X0N                                                 |                                               |
| <b>NOMINAL VOLTAGE*</b>     | 5Vdc (adapter)<br>3.85Vdc (Lithium-ion cell, battery)     |                                               |
| <b>MODULATION *</b>         | OFDM                                                      |                                               |
| <b>TRANSFER RATE*</b>       | 802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps |                                               |
|                             | 802.11n: up to MCS7                                       |                                               |
|                             | 802.11ac: up to 390.0Mbps                                 |                                               |
|                             | 802.11ax: up to 1201.0Mbps                                |                                               |
| <b>OPERATING FREQUENCY*</b> | 5180~5240MHz, 5260~5320MHz                                |                                               |
|                             | 5500~5720MHz, 5745~5825MHz                                |                                               |
| <b>NUMBER OF CHANNEL</b>    | 5180~5240MHz                                              | 4 for 802.11a,802.11n/ac (20MHz)/ ax(20MHz)   |
|                             |                                                           | 2 for 802.11n/ac (40MHz)/ ax(40MHz)           |
|                             |                                                           | 1 for 802.11ac (80MHz)/ ax(80MHz)             |
|                             | 5260~5320MHz                                              | 4 for 802.11a,802.11n/ac(20MHz)/ ax(20MHz)    |
|                             |                                                           | 2 for 802.11n/ac(40MHz)/ ax(40MHz)            |
|                             |                                                           | 1 for 802.11ac(80MHz)/ ax(80MHz)              |
|                             | 5500~5720MHz                                              | 12 for 802.11a, 802.11n/ac (20MHz)/ ax(20MHz) |
|                             |                                                           | 6 for 802.11n/ac (40MHz)/ ax(40MHz)           |
|                             |                                                           | 3 for 802.11ac(80MHz)/ ax(80MHz)              |
|                             | 5745~5825MHz                                              | 5 for 802.11a, 802.11n/ac (20MHz)/ ax(20MHz)  |
|                             |                                                           | 2 for 802.11n/ac (40MHz)/ ax(40MHz)           |
|                             |                                                           | 1 for 802.11ac (80MHz)/ ax(80MHz)             |
| <b>MAX. OUTPUT POWER</b>    | 44.57mW for 5180 ~ 5240MHz                                |                                               |
|                             | 40.09mW for 5260 ~ 5320MHz                                |                                               |



|                        |                                                                                                           |                             |
|------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------|
|                        | 44.46mW for 5500 ~ 5720MHz                                                                                |                             |
|                        | 16.41mW for 5745 ~ 5825MHz                                                                                |                             |
| <b>ANTENNA TYPE*</b>   | PIFA Antenna                                                                                              |                             |
| <b>ANTENNA GAIN*</b>   | <input checked="" type="checkbox"/> Provided by client                                                    |                             |
|                        | 5180 ~ 5240MHz                                                                                            | ANT0: 1.5dBi<br>ANT1:2.3dBi |
|                        | 5260 ~ 5320MHz                                                                                            | ANT0: 1.7dBi<br>ANT1:2.2dBi |
|                        | 5500 ~ 5720MHz                                                                                            | ANT0: 1.6dBi<br>ANT1:1.7dBi |
|                        | 5745 ~ 5825MHz                                                                                            | ANT0: 1.5dBi<br>ANT1:1.2dBi |
| <b>HW VERSION*</b>     | V1.0                                                                                                      |                             |
| <b>SW VERSION*</b>     | OS.11.003                                                                                                 |                             |
| <b>I/O PORTS*</b>      | Refer to user's manual                                                                                    |                             |
| <b>CABLE SUPPLIED*</b> | USB cable: shielded without ferrite, 1.25 meter<br>Earphone cable: unshielded without ferrite, 1.27 meter |                             |

**NOTE:**

- \*Since the above data and/or information is provided by the client relevant results or conclusions of this report are only made for these data and/or information, Test Lab is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.
- For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
- The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitters and two receivers.

| MODULATION MODE                            | TX FUNCTION |
|--------------------------------------------|-------------|
| 802.11a                                    | 2TX/2RX     |
| 802.11n/802.11ac (20MHz)/ 802.11ax (20MHz) | 2TX/2RX     |
| 802.11n/802.11ac (40MHz)/ 802.11ax (40MHz) | 2TX/2RX     |
| 802.11ac (80MHz) / 802.11ax (80MHz)        | 2TX/2RX     |

- For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
- Antenna gain and EUT conducted cable loss are provided by the customer, and the laboratory will record the results based on these items that involve these two parameters.



6. This product includes the following two SKU which hardware is exactly same, the difference is described as following, Sample 1 was full test, sample 2 verify the worst case check worst case Radiated emission:

| SAMPLE | EUT CONFIGURATION INFORMATION                                        |
|--------|----------------------------------------------------------------------|
| 1      | SKU ID:CT45P-X0N-37D100G ,Assembled with Scanner Imager: S0703       |
| 2      | SKU ID:CT45P-X0N-38D100G ,Assembled with Scanner Imager: N6803/S0803 |

7. List of Accessory:

| ACCESSORIES | BRAND     | MODEL                | SPECIFICATION                         |
|-------------|-----------|----------------------|---------------------------------------|
| Battery     | Honeywell | CT50-BTSC            | Capacity: 3.85vdc 4020mAh             |
| AC Adapter  | HONOR     | ADS-12B-06<br>05010E | I/P:100-240Vac, 0.3A<br>O/P: 5Vdc, 2A |
| USB Cable   | Honeywell | CT40-SN              | Shielded, 1.25meter                   |
| Earphone    | Honeywell | PTE-300N 3.5L        | Shielded, 1.27meter                   |
| LCD Panel   | CASIL     | CTM10801920T01       | 5.0" FHD(1928*1080)                   |



## 2.2 DESCRIPTION OF TEST MODES

### FOR 5180 ~ 5240MHz

4 channels are provided for 802.11a, 802.11n, 802.11ac (20MHz)/ 802.11ax (20MHz):

| CHANNEL | FREQUENCY | CHANNEL | FREQUENCY |
|---------|-----------|---------|-----------|
| 36      | 5180 MHz  | 44      | 5220 MHz  |
| 40      | 5200 MHz  | 48      | 5240 MHz  |

2 channels are provided for 802.11n, 802.11ac(40MHz)/ 802.11ax (40MHz):

| CHANNEL | FREQUENCY | CHANNEL | FREQUENCY |
|---------|-----------|---------|-----------|
| 38      | 5190 MHz  | 46      | 5230 MHz  |

1 channel is provided for 802.11ac(80MHz)/ 802.11ax (80MHz):

| CHANNEL | FREQUENCY | CHANNEL | FREQUENCY |
|---------|-----------|---------|-----------|
| 42      | 5210 MHz  |         |           |

### FOR 5260 ~ 5320MHz

4 channels are provided for 802.11a, 802.11n, 802.11ac(20MHz)/ 802.11ax (20MHz):

| CHANNEL | FREQUENCY | CHANNEL | FREQUENCY |
|---------|-----------|---------|-----------|
| 52      | 5260 MHz  | 60      | 5300 MHz  |
| 56      | 5280 MHz  | 64      | 5320 MHz  |

2 channels are provided for 802.11n, 802.11ac (40MHz)/ 802.11ax (40MHz):

| CHANNEL | FREQUENCY | CHANNEL | FREQUENCY |
|---------|-----------|---------|-----------|
| 54      | 5270 MHz  | 62      | 5310 MHz  |

1 channel is provided for 802.11ac(80MHz)/ 802.11ax (80MHz):

| CHANNEL | FREQUENCY | CHANNEL | FREQUENCY |
|---------|-----------|---------|-----------|
| 58      | 5290 MHz  |         |           |



## FOR 5500 ~ 5700MHz

12 channels are provided for 802.11a, 802.11n, 802.11ac(20MHz)/ 802.11ax (20MHz):

| CHANNEL | FREQUENCY | CHANNEL | FREQUENCY |
|---------|-----------|---------|-----------|
| 100     | 5500 MHz  | 124     | 5620MHz   |
| 104     | 5520 MHz  | 128     | 5640MHz   |
| 108     | 5540 MHz  | 132     | 5660 MHz  |
| 112     | 5560 MHz  | 136     | 5680 MHz  |
| 116     | 5580 MHz  | 140     | 5700 MHz  |
| 120     | 5600 MHz  | 144     | 5720 MHz  |

6 channels are provided for 802.11n, 802.11ac (40MHz)/ 802.11ax (40MHz):

| CHANNEL | FREQUENCY | CHANNEL | FREQUENCY |
|---------|-----------|---------|-----------|
| 102     | 5510 MHz  | 126     | 5630MHz   |
| 110     | 5550 MHz  | 134     | 5670 MHz  |
| 118     | 5590 MHz  | 142     | 5710 MHz  |

3 channel is provided for 802.11ac (80MHz)/ 802.11ax (80MHz):

| CHANNEL | FREQUENCY | CHANNEL | FREQUENCY |
|---------|-----------|---------|-----------|
| 106     | 5530 MHz  | 122     | 5610 MHz  |
| 138     | 5690 MHz  |         |           |

## FOR 5745 ~ 5825MHz

5 channels are provided for 802.11a, 802.11n, 802.11ac (20MHz) /802.11ax (20MHz):

| CHANNEL | FREQUENCY | CHANNEL | FREQUENCY |
|---------|-----------|---------|-----------|
| 149     | 5745 MHz  | 161     | 5805 MHz  |
| 153     | 5765 MHz  | 165     | 5825 MHz  |
| 157     | 5785 MHz  |         |           |

2 channels are provided for 802.11n, 802.11ac (40MHz)/ 802.11ax (40MHz):

| CHANNEL | FREQUENCY | CHANNEL | FREQUENCY |
|---------|-----------|---------|-----------|
| 142     | 5710 MHz  | 159     | 5795 MHz  |
| 151     | 5755 MHz  |         |           |

1 channel is provided for 802.11ac (80MHz)/ 802.11ax (80MHz):

| CHANNEL | FREQUENCY |
|---------|-----------|
| 155     | 5775 MHz  |



## 2.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

| EUT<br>CONFIGURE<br>MODE | APPLICABLE TO |       |     |      | DESCRIPTION                           |
|--------------------------|---------------|-------|-----|------|---------------------------------------|
|                          | RE $\geq$ 1G  | RE<1G | PLC | APCM |                                       |
| A                        | √             | √     | √   | -    | Powered by Adapter with wifi(5G) link |
| B                        | -             | -     | -   | √    | Powered by Battery with wifi(5G) link |
| C                        | -             | -     | -   | -    | Powered by USB with wifi(5G) link     |

Where **RE $\geq$ 1G**: Radiated Emission above 1GHz

**RE<1G**: Radiated Emission below 1GHz

**PLC**: Power Line Conducted Emission

**APCM**: Antenna Port Conducted Measurement

**NOTE:**

The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane**.

**NOTE:** "-" means no effect

### RADIATED EMISSION TEST (BELOW 1GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ The following channel(s) was (were) selected for the final test as listed below.

| EUT<br>CONFIGURE<br>MODE | MODE             | FREQ. BAND<br>(MHz) | AVAILABLE<br>CHANNEL | TESTED<br>CHANNEL | MODULATION | DATA RATE<br>(Mbps) |
|--------------------------|------------------|---------------------|----------------------|-------------------|------------|---------------------|
| A                        | 802.11ac (20MHz) | 5180-5240           | 36 to 48             | 36                | OFDM       | MCS0                |

### RADIATED EMISSION TEST (ABOVE 1GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ The following channel(s) was (were) selected for the final test as listed below.

| EUT<br>CONFIGURE<br>MODE | MODE             | FREQ. BAND<br>(MHz) | AVAILABLE<br>CHANNEL | TESTED CHANNEL | MODULATION | DATA RATE<br>(Mbps) |
|--------------------------|------------------|---------------------|----------------------|----------------|------------|---------------------|
| A                        | 802.11ac (20MHz) | 5180-5240           | 36 to 48             | 36             | OFDM       | MCS0                |
| A                        | 802.11ac (20MHz) | 5260-5320           | 52 to 64             | 64             | OFDM       | MCS0                |
| A                        | 802.11ac (40MHz) | 5500-5720           | 102 to 142           | 102            | OFDM       | MCS0                |
| A                        | 802.11n (20MHz)  | 5745-5825           | 149 to 165           | 157            | OFDM       | MCS0                |



**POWER LINE CONDUCTED EMISSION TEST:**

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ The following channel(s) was (were) selected for the final test as listed below.

| EUT CONFIGURE MODE | MODE             | FREQ. BAND (MHz) | AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION | DATA RATE (Mbps) |
|--------------------|------------------|------------------|-------------------|----------------|------------|------------------|
| A                  | 802.11ac (20MHz) | 5180-5240        | 36 to 48          | 36             | OFDM       | MCS0             |

| TEST CONDITION |                          |                    |           |
|----------------|--------------------------|--------------------|-----------|
| APPLICABLE TO  | ENVIRONMENTAL CONDITIONS | INPUT POWER        | TESTED BY |
| RE<1G          | 23deg. C, 70%RH          | DC 5.0V By Adapter | Hanwen Xu |
| RE≥1G          | 23deg. C, 70%RH          | DC 5.0V By Adapter | Hanwen Xu |
| PLC            | 25deg. C, 52%RH          | DC 5.0V By Adapter | Hanwen Xu |



## 2.3 DUTY CYCLE OF TEST SIGNAL

Please refer to report W7L-P21040030RF14 (FCC ID: HD5-CT45L1NG).

## 2.4 DESCRIPTION OF SUPPORT UNITS

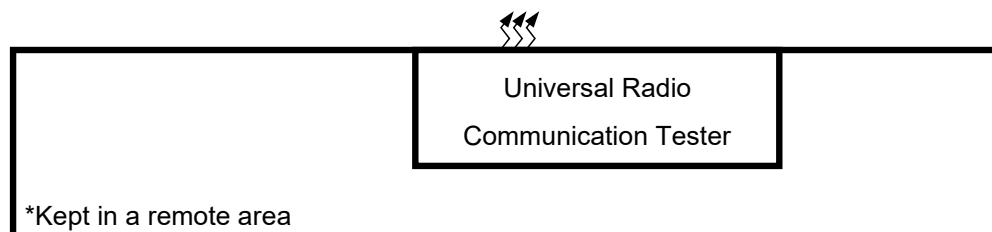
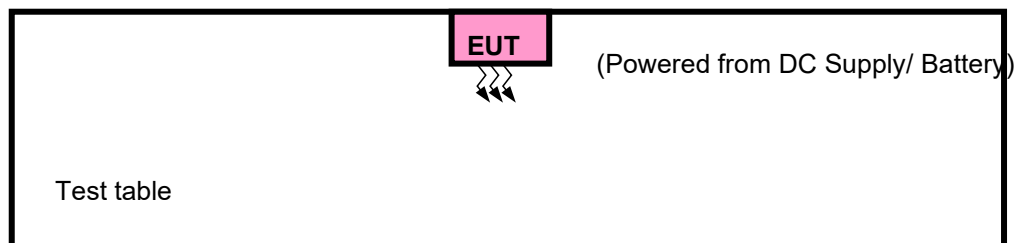
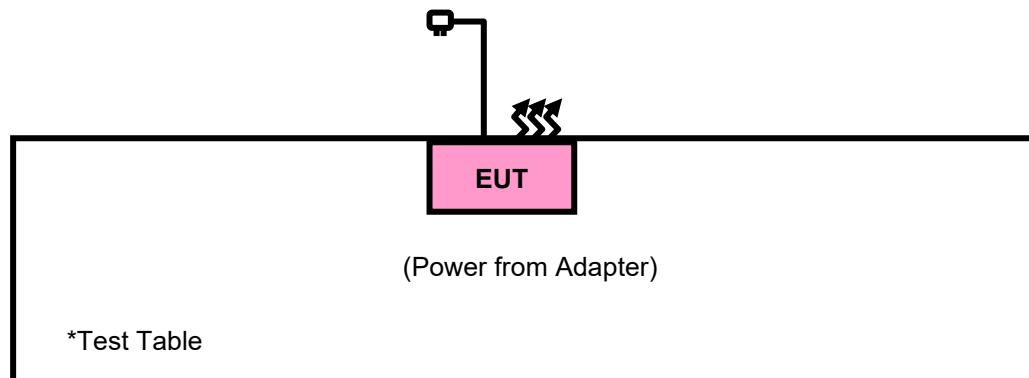
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

| NO. | PRODUCT    | BRAND  | MODEL NO.    | SERIAL NO. | FCC ID |
|-----|------------|--------|--------------|------------|--------|
| 1   | Laptop     | Lenovo | Thinkpad E14 | SL10W47313 | N/A    |
| 2   | PC Adapter | Lenovo | ADLX65YCC3D  | N/A        | N/A    |

| NO. | SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS |
|-----|-----------------------------------------------------|
| 1   | USB Line: Shielded, Detachable 1.25m;               |
| 2   | PC USB Line: Unshielded, Detachable, 1.0m;          |



## 2.4.1 CONFIGURATION OF SYSTEM UNDER TEST





## **2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS**

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

**FCC Part 15, Subpart E (15.407)**

**KDB 789033 D02 General U-NII Test Procedures New Rules v02r01**

**ANSI C63.10-2020**

All test items have been performed and recorded as per the above standards.

**NOTE:** The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (Certification). The test report has been issued separately.



### 3 TEST TYPES AND RESULTS

#### 3.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT

##### 3.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

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

| FREQUENCIES (MHz) | FIELD STRENGTH (microvolts/meter) | MEASUREMENT DISTANCE (meters) |
|-------------------|-----------------------------------|-------------------------------|
| 0.009 ~ 0.490     | 2400/F(kHz)                       | 300                           |
| 0.490 ~ 1.705     | 24000/F(kHz)                      | 30                            |
| 1.705 ~ 30.0      | 30                                | 30                            |
| 30 ~ 88           | 100                               | 3                             |
| 88 ~ 216          | 150                               | 3                             |
| 216 ~ 960         | 200                               | 3                             |
| Above 960         | 500                               | 3                             |

**NOTE:**

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



### 3.1.2 LIMITS OF UNWANTED EMISSION

| RESTRICTED BANDS            | APPLICABLE TO                                                  | LIMIT                         |                                          |
|-----------------------------|----------------------------------------------------------------|-------------------------------|------------------------------------------|
|                             | 789033 D02 General UNII<br>Test Procedures New<br>Rules v02r01 | FIELD STRENGTH AT 3m (dBµV/m) |                                          |
|                             |                                                                | PK : 74                       | AV : 54                                  |
| OUT OF THE RESTRICTED BANDS | APPLICABLE TO                                                  | EIRP LIMIT (dBm/MHz)          | EQUIVALENT FIELD STRENGTH AT 3m (dBµV/m) |
|                             | 15.407(b)(1)                                                   | PK : -27                      | PK : 68.2                                |
|                             | 15.407(b)(2)                                                   |                               |                                          |
|                             | 15.407(b)(3)                                                   |                               |                                          |
|                             | 15.407(b)(4)                                                   | See note 2 (FCC 16-24)        |                                          |

**NOTE:**

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

$$E = \frac{1000000\sqrt{30P}}{3} \mu\text{V/m}, \text{ where } P \text{ is the eirp (Watts).}$$
- All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.



### 3.1.3 TEST INSTRUMENTS

| Equipment                          | Manufacturer                 | Model No.        | Serial No.            | Last Cal. | Next Cal. |
|------------------------------------|------------------------------|------------------|-----------------------|-----------|-----------|
| Pre-Amplifier                      | R&S                          | SCU18F1          | 100815                | Aug.29,25 | Aug.28,27 |
| Pre-Amplifier                      | R&S                          | SCU08F1          | 101028                | Jan.22,24 | Jan.21,26 |
| Signal Generator                   | R&S                          | SMB100A          | 182185                | Mar.29,24 | Mar.28,26 |
| 3m Fully-anechoic Chamber          | TDK                          | 9m*6m*6m         | HRSW-SZ-EMC-01Chamber | Nov.24,22 | Nov.23,25 |
| 3m Fully-anechoic Chamber          | TDK                          | 9m*6m*6m         | HRSW-SZ-EMC-01Chamber | Nov.23,25 | Nov.22,28 |
| 3m Semi-anechoic Chamber           | TDK                          | 9m*6m*6m         | HRSW-SZ-EMC-02Chamber | Aug.20,25 | Aug.19,28 |
| EMI TEST Receiver                  | R&S                          | ESW44            | 101973                | Mar.28,24 | Mar.27,26 |
| Bilog Antenna                      | SCHWARZBECK                  | VULB 9163        | 1264                  | Jul.04,25 | Jul.03,27 |
| Horn Antenna                       | ETS-LINDGREN                 | 3117             | 227836                | Aug.20,25 | Aug.19,27 |
| Horn Antenna (18GHz-40GHz)         | Steatite Q-par Antennas      | QMS 00880        | 23486                 | Jul.15,24 | Jul.14,26 |
| Horn Antenna                       | Steatite Q-par Antennas      | QMS 00208        | 23485                 | Mar.22,25 | Mar.21,27 |
| Loop Antenna                       | SCHWARZ                      | HFH2-Z2/Z2E      | 100976                | Jul.08,25 | Jul.07,27 |
| WIDEBANDRADIO COMMUNICATION TESTER | R&S                          | CMW500           | 169399                | Jun.19,24 | Jun.18,26 |
| Test Software                      | ELEKTRA                      | ELEKTRA4.32      | N/A                   | N/A       | N/A       |
| Open Switch and Control Unit       | R&S                          | OSP220           | 101964                | N/A       | N/A       |
| DC Source                          | HYELEC                       | HY3010B          | 551016                | Jul.31,25 | Jul.30,27 |
| Hygrothermograph                   | DELI                         | 20210528         | SZ014                 | Mar.18,25 | Mar.17,27 |
| 6DB attenuator                     | Tonscend Technology Co., Ltd | N/A              | 23062787              | N/A       | N/A       |
| PC                                 | LENOVO                       | E14              | HRSW0024              | N/A       | N/A       |
| TMC-AMI18843A(CABLE)               | R&S                          | HF290-NMNM-7.00M | N/A                   | N/A       | N/A       |
| TMC-AMI18843A(CABLE)               | R&S                          | HF290-NMNM-4.00M | N/A                   | N/A       | N/A       |
| CABLE                              | R&S                          | W13.02           | N/A                   | Apr.26,25 | Apr.25,26 |
| CABLE                              | R&S                          | W12.14           | N/A                   | Apr.26,25 | Apr.25,26 |

**NOTE:**

1. The calibration interval of the above test instruments is 12/ 24 / 36 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
2. The test was performed in 3m Chamber.
3. The FCC Site Registration No. is 434559; The Designation No. is CN1325.



### 3.1.4 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters (for below 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3-meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise, the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

#### NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor ( $10 \log(1/\text{duty cycle})$ ).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle  $\geq 98\%$ ) for Average detection (AV) at frequency above 1GHz.
5. All modes of operation were investigated, and the worst-case emissions are reported.

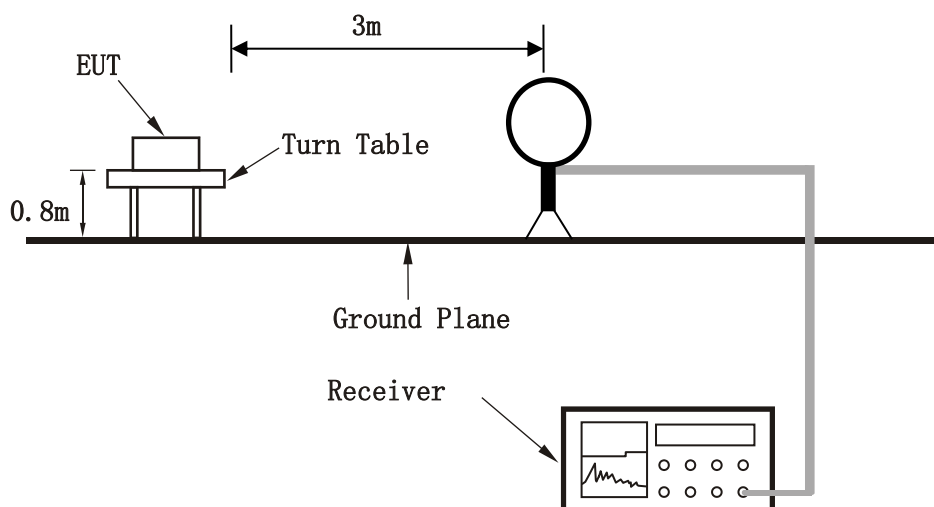
### 3.1.5 DEVIATION FROM TEST STANDARD

No deviation.

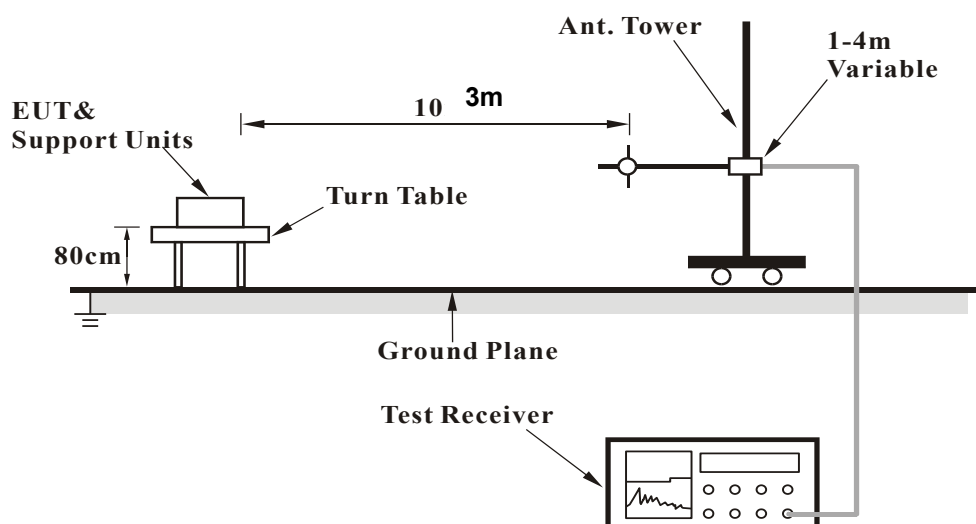


### 3.1.6 TEST SETUP

#### <Frequency Range 9KHz~30MHz >

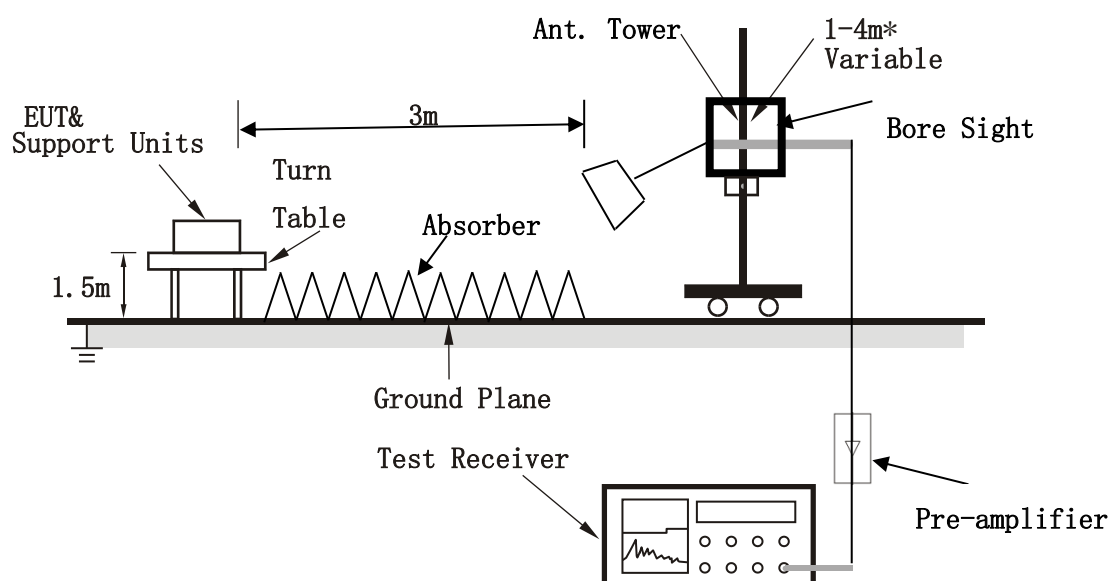


#### < Frequency Range 30MHz~1GHz >





**<Frequency Range above 1GHz>**



**Note:** Above 1G is a directional antenna

Depends on the EUT height and the antenna 3dB beamwidth both, refer to section 7.3 of CISPR 16-2-3.

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

### 3.1.7 EUT OPERATING CONDITION

- Set the EUT under full load condition and placed them on a testing table.
- Set the transmitter part of EUT under transmission condition continuously at specific channel frequency.
- The necessary accessories enable the EUT in full functions.



### 3.1.8 TEST RESULTS

NOTE : The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

#### BAND EDGE MEASUREMENT

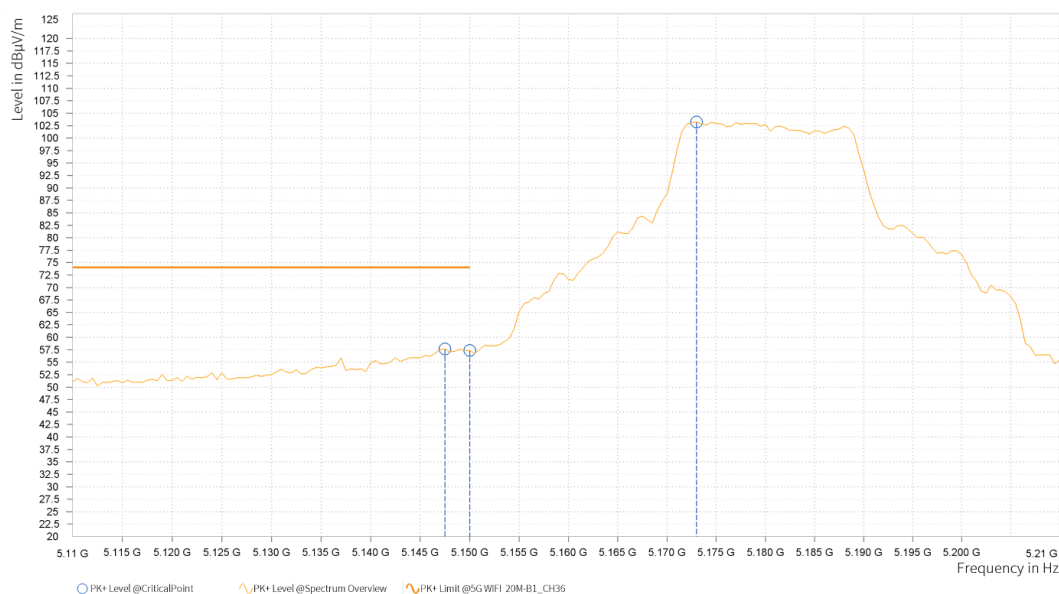
BADN 1

#### 802.11ac (20MHz) SISO ANT0

|                 |               |          |              |
|-----------------|---------------|----------|--------------|
| CHANNEL         | TX Channel 36 | DETECTOR | Peak (PK)    |
| FREQUENCY RANGE | 1GHz ~ 40GHz  | FUNCTION | Average (AV) |

#### ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

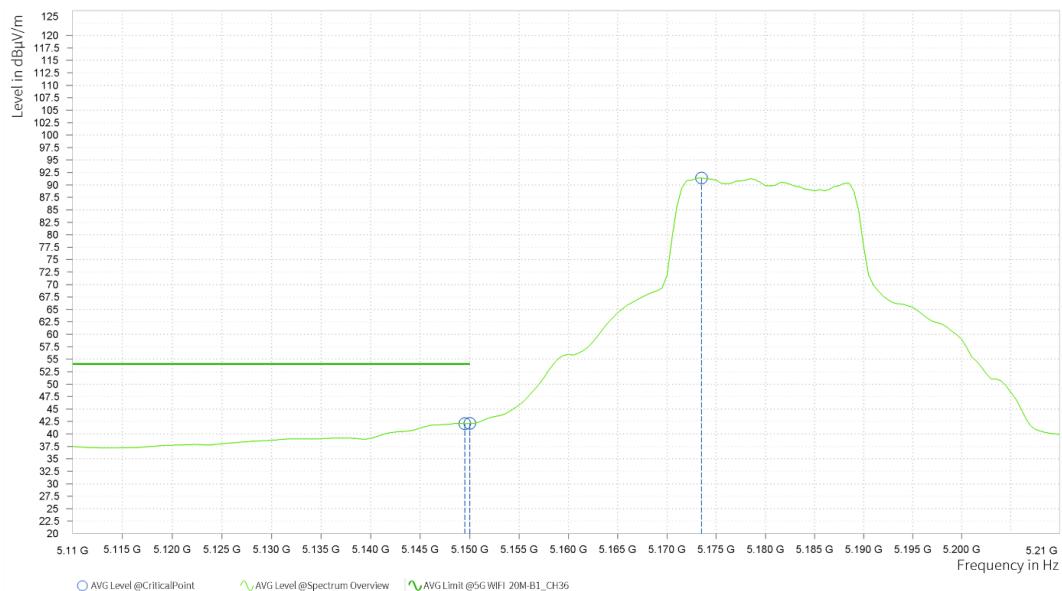
| Rg | Frequency [MHz] | PK+ Level [dBμV/m] | PK+ Limit [dBμV/m] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 1  | 5,147.500       | 57.68              | 74.00              | 16.32           | 12.01           | H            | 137.9         | 1.00               |
| 1  | 5,150.000       | 57.38              | 74.00              | 16.62           | 12.03           | H            | 137.9         | 1.00               |
| 1  | 5,173.000       | 103.22             |                    |                 | 12.08           | H            | 4.9           | 1.00               |





ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

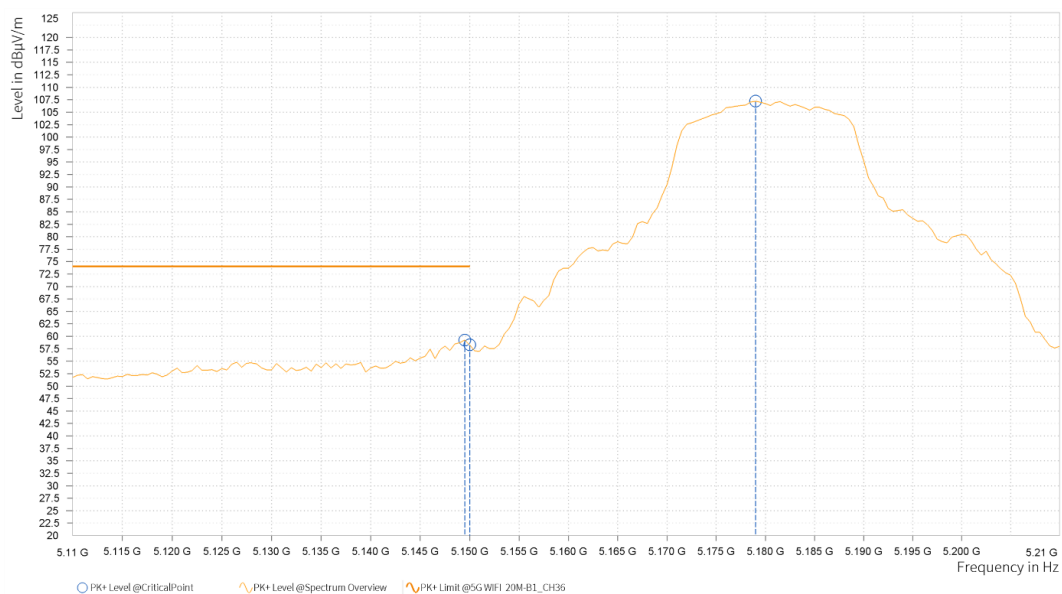
| Rg | Frequency [MHz] | AVG Level [dBμV/m] | AVG Limit [dBμV/m] | AVG Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 1  | 5,149.500       | 42.08              | 54.00              | 11.92           | 12.02           | H            | 137.9         | 1.00               |
| 1  | 5,150.000       | 42.09              | 54.00              | 11.91           | 12.03           | H            | 137.9         | 1.00               |
| 1  | 5,173.500       | 91.40              |                    |                 | 12.08           | H            | 4.9           | 1.00               |





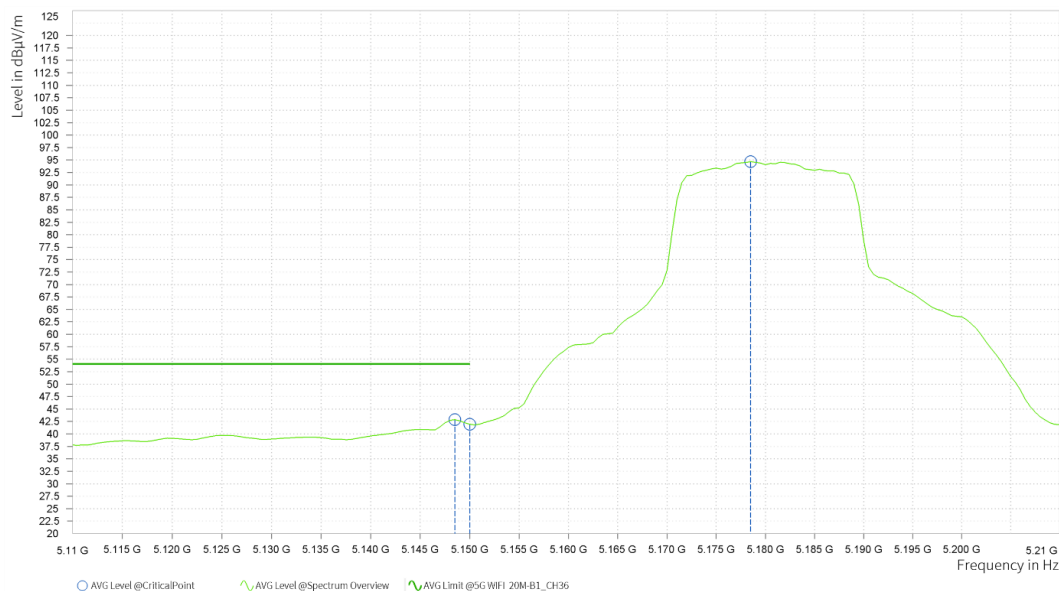
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| Rg | Frequency [MHz] | PK+ Level [dBμV/m] | PK+ Limit [dBμV/m] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 1  | 5,149.500       | 59.26              | 74.00              | 14.74           | 12.02           | V            | 4.9           | 1.00               |
| 1  | 5,150.000       | 58.30              | 74.00              | 15.70           | 12.03           | V            | 4.9           | 1.00               |
| 1  | 5,179.000       | 107.20             |                    |                 | 12.10           | V            | 279           | 1.00               |



**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

| Rg | Frequency [MHz] | AVG Level [dBμV/m] | AVG Limit [dBμV/m] | AVG Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 1  | 5,148.500       | 42.87              | 54.00              | 11.13           | 12.02           | V            | 4.8           | 1.00               |
| 1  | 5,150.000       | 41.94              | 54.00              | 12.06           | 12.03           | V            | 4.8           | 1.00               |
| 1  | 5,178.500       | 94.67              |                    |                 | 12.09           | V            | 281.3         | 1.00               |

**REMARKS:**

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. Margin value = Limit value- Emission level.
3. 5180MHz: Fundamental frequency.



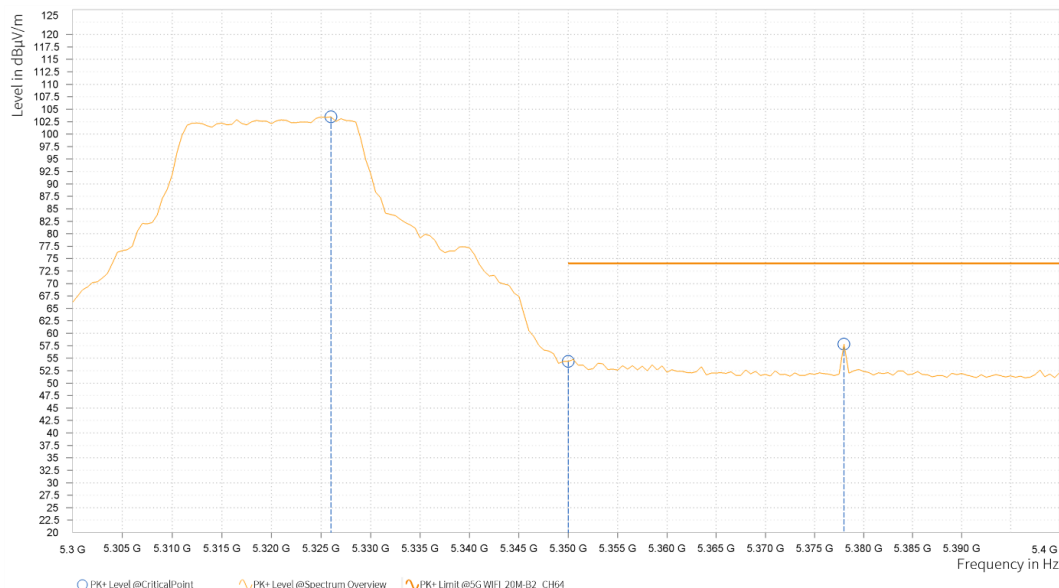
Band 2

802.11ac (20MHz) MIMO

|                 |               |                      |              |
|-----------------|---------------|----------------------|--------------|
| CHANNEL         | TX Channel 64 | DETECTOR<br>FUNCTION | Peak (PK)    |
| FREQUENCY RANGE | 1GHz ~ 40GHz  |                      | Average (AV) |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

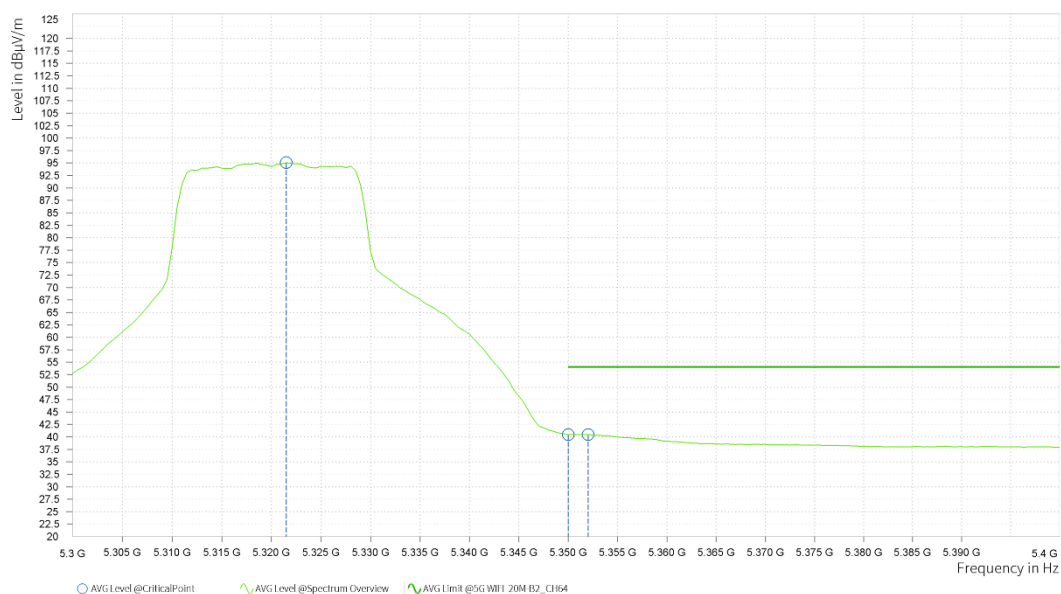
| Rg | Frequency [MHz] | PK+ Level [dBμV/m] | PK+ Limit [dBμV/m] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 7  | 5,326.000       | 103.47             |                    |                 | 12.02           | H            | 206           | 1.00               |
| 7  | 5,350.000       | 54.38              | 74.00              | 19.62           | 12.06           | H            | 206           | 1.00               |
| 7  | 5,378.000       | 57.84              | 74.00              | 16.16           | 12.24           | H            | 291.5         | 2.00               |





ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

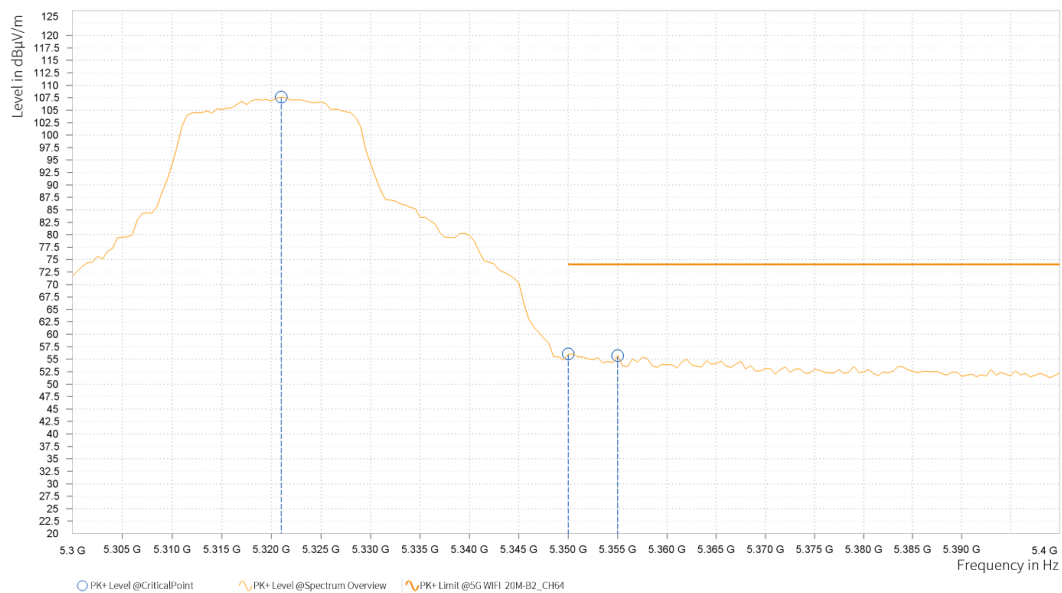
| Rg | Frequency [MHz] | AVG Level [dBμV/m] | AVG Limit [dBμV/m] | AVG Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 7  | 5,321.500       | 95.07              |                    |                 | 12.02           | H            | 169           | 1.00               |
| 7  | 5,350.000       | 40.45              | 54.00              | 13.55           | 12.06           | H            | 169           | 1.00               |
| 7  | 5,352.000       | 40.49              | 54.00              | 13.51           | 12.08           | H            | 169           | 1.00               |





ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

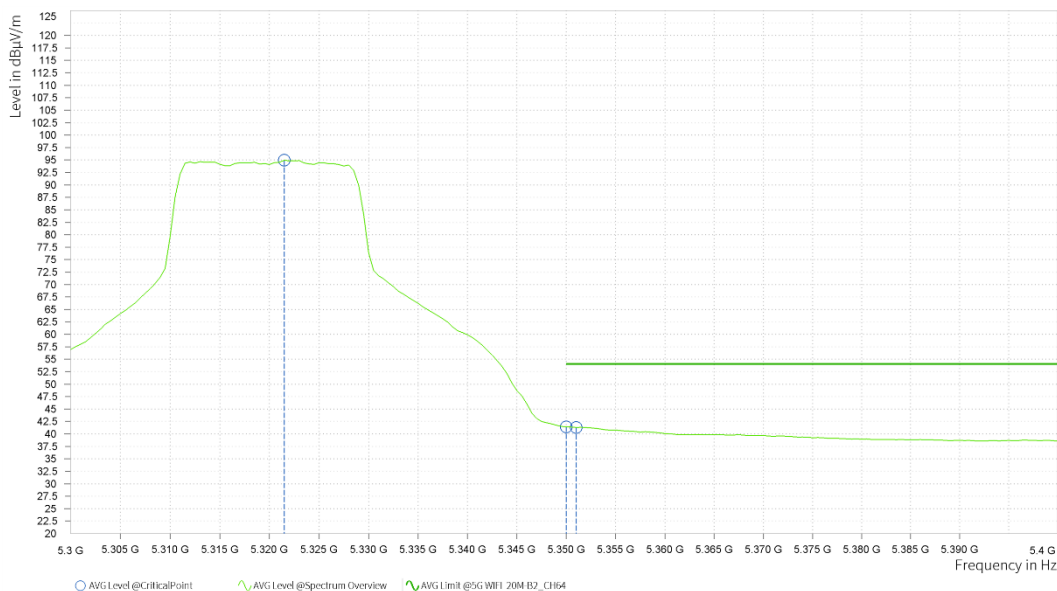
| Rg | Frequency [MHz] | PK+ Level [dBμV/m] | PK+ Limit [dBμV/m] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 7  | 5,321.000       | 107.63             |                    |                 | 12.02           | V            | 177.9         | 2.00               |
| 7  | 5,350.000       | 56.05              | 74.00              | 17.95           | 12.06           | V            | 320.7         | 1.00               |
| 7  | 5,355.000       | 55.73              | 74.00              | 18.27           | 12.09           | V            | 359.1         | 1.00               |





ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| Rg | Frequency [MHz] | AVG Level [dBμV/m] | AVG Limit [dBμV/m] | AVG Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 7  | 5,321.500       | 94.94              |                    |                 | 12.02           | V            | 117.6         | 1.00               |
| 7  | 5,350.000       | 41.42              | 54.00              | 12.58           | 12.06           | V            | 314.8         | 1.00               |
| 7  | 5,351.000       | 41.31              | 54.00              | 12.69           | 12.07           | V            | 314.8         | 1.00               |



REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. Margin value = Limit value- Emission level.
3. 5260MHz: Fundamental frequency.



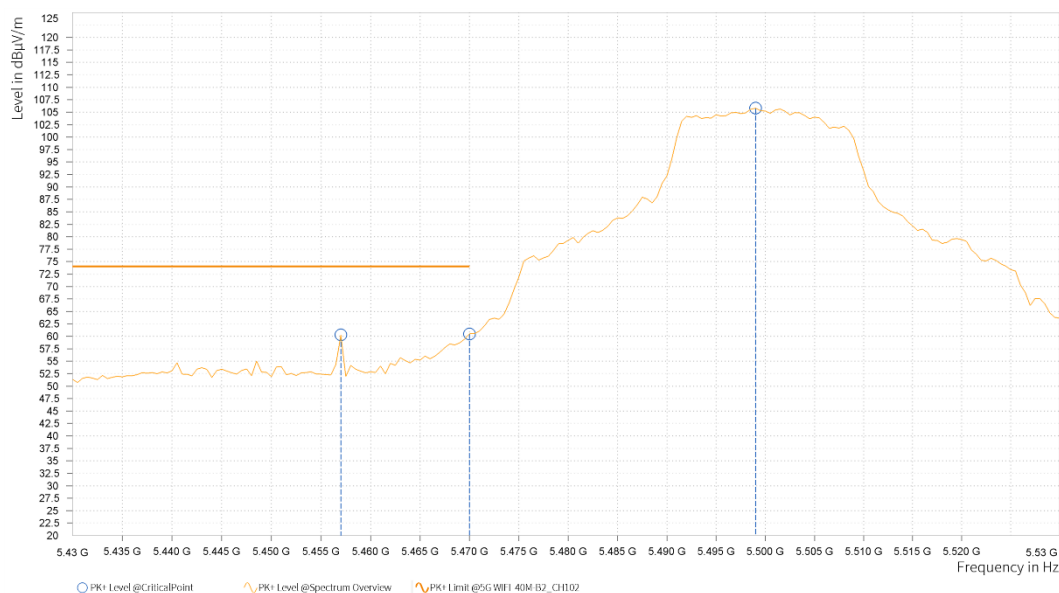
Band 3

802.11ac(40MHz) SISO ANT0

|                 |                |          |              |
|-----------------|----------------|----------|--------------|
| CHANNEL         | TX Channel 102 | DETECTOR | Peak (PK)    |
| FREQUENCY RANGE | 1GHz ~ 40GHz   | FUNCTION | Average (AV) |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

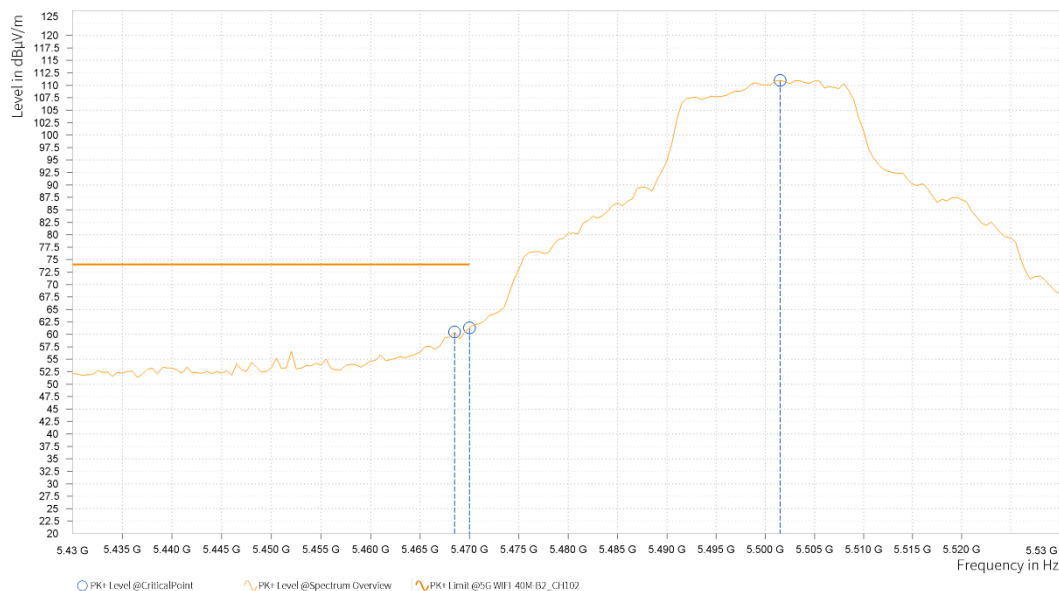
| Rg | Frequency [MHz] | PK+ Level [dBμV/m] | PK+ Limit [dBμV/m] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 5  | 5,457.000       | 60.29              | 74.00              | 13.71           | 12.58           | H            | 183.8         | 2.00               |
| 5  | 5,470.000       | 60.50              | 74.00              | 13.50           | 12.58           | H            | 176.1         | 1.00               |
| 5  | 5,499.000       | 105.80             |                    |                 | 12.57           | H            | 57.8          | 1.00               |





ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| Rg | Frequency [MHz] | PK+ Level [dBμV/m] | PK+ Limit [dBμV/m] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 5  | 5,468.500       | 60.45              | 74.00              | 13.55           | 12.58           | V            | 4.9           | 1.00               |
| 5  | 5,470.000       | 61.29              | 74.00              | 12.71           | 12.58           | V            | 4.9           | 1.00               |
| 5  | 5,501.500       | 110.97             |                    |                 | 12.58           | V            | 295.7         | 1.00               |



REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. Margin value = Limit value- Emission level.
3. 5700MHz: Fundamental frequency.
4. #: Out of restricted band.



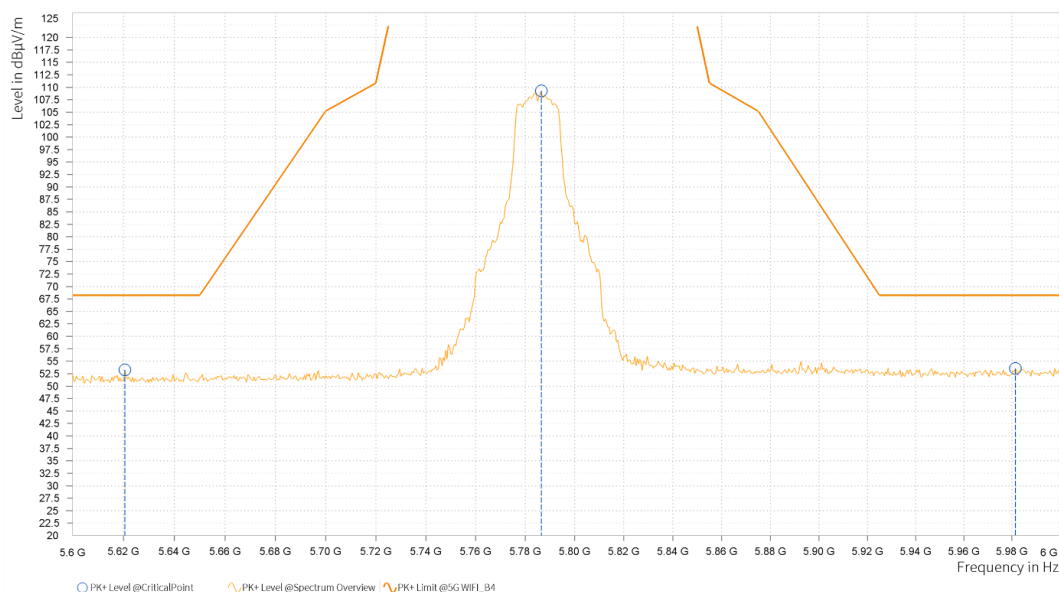
BAND 4

802.11n (20MHz) SISO ANT0

|                    |                |                      |                           |
|--------------------|----------------|----------------------|---------------------------|
| CHANNEL            | TX Channel 157 | DETECTOR<br>FUNCTION | Peak (PK)<br>Average (AV) |
| FREQUENCY<br>RANGE | 1GHz ~ 40GHz   |                      |                           |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

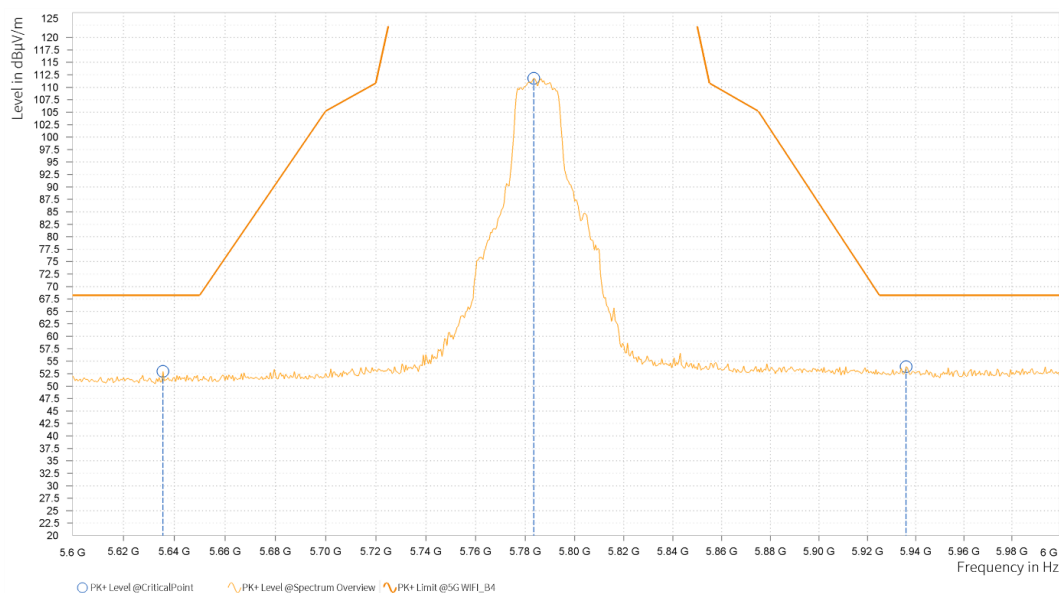
| Rg | Frequency<br>[MHz] | PK+ Level<br>[dBμV/m] | PK+ Limit<br>[dBμV/m] | PK+<br>Margin<br>[dB] | Correction<br>[dB] | Polarization | Azimuth<br>[deg] | Antenna<br>Height<br>[m] |
|----|--------------------|-----------------------|-----------------------|-----------------------|--------------------|--------------|------------------|--------------------------|
| 12 | 5,620.500          | 53.28                 | 68.20                 | 14.92                 | 12.79              | H            | 121.1            | 1.00                     |
| 12 | 5,786.500          | 109.29                |                       |                       | 13.33              | H            | 244.2            | 1.00                     |
| 12 | 5,981.500          | 53.53                 | 68.20                 | 14.67                 | 13.80              | H            | 355.7            | 2.00                     |





## ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M

| Rg | Frequency [MHz] | PK+ Level [dBμV/m] | PK+ Limit [dBμV/m] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 12 | 5,635.500       | 52.96              | 68.20              | 15.24           | 12.86           | V            | 182.2         | 1.00               |
| 12 | 5,783.500       | 111.81             |                    |                 | 13.31           | V            | 306.4         | 1.00               |
| 12 | 5,936.000       | 53.93              | 68.20              | 14.27           | 13.83           | V            | 59            | 1.00               |



## REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. Margin value = Limit value- Emission level.
3. 5745MHz: Fundamental frequency.



## RADIATED EMISSION

## BELOW 1GHz WORST-CASE DATA

## Band 3

## 802.11ac(40MHz) SISO ANT0

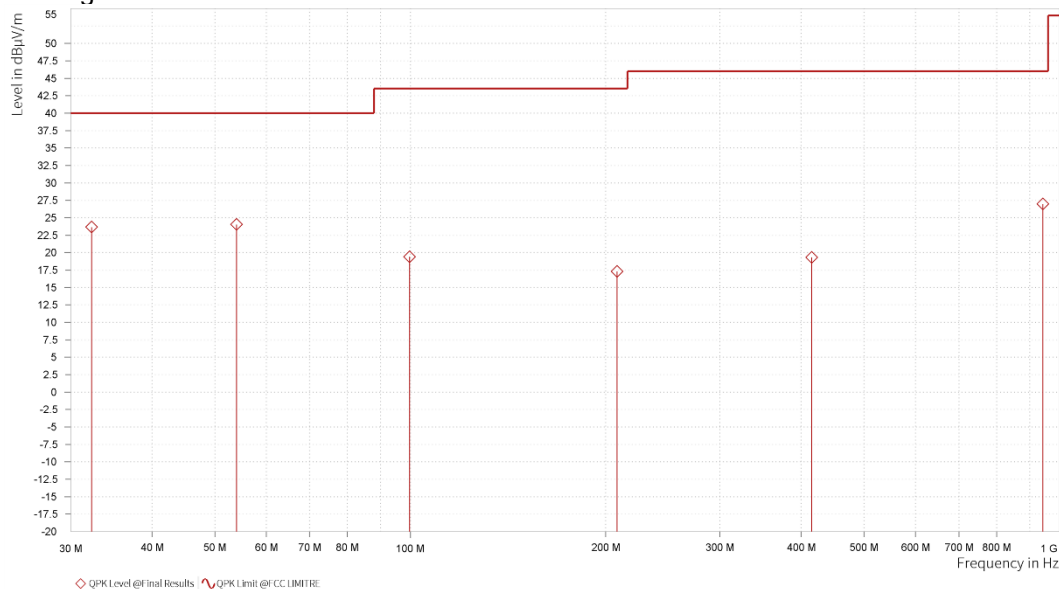
|                 |                |                      |                 |
|-----------------|----------------|----------------------|-----------------|
| CHANNEL         | TX Channel 102 | DETECTOR<br>FUNCTION | Quasi-Peak (QP) |
| FREQUENCY RANGE | 30MHz ~ 1GHz   |                      |                 |

## ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M

| Rg | Frequency [MHz] | QPK Level [dBμV/m] | QPK Limit [dBμV/m] | QPK Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] | Meas. BW [kHz] |
|----|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|----------------|
| 1  | 32.280          | 23.66              | 40.00              | 16.34           | -13.13          | H            | 318.4         | 1.00               | 120.000        |
| 1  | 54.008          | 24.02              | 40.00              | 15.98           | -10.42          | H            | 1             | 2.00               | 120.000        |
| 1  | 99.743          | 19.39              | 43.50              | 24.11           | -12.22          | H            | 158.2         | 1.00               | 120.000        |
| 1  | 208.238         | 17.29              | 43.50              | 26.21           | -11.47          | H            | 359           | 1.00               | 120.000        |
| 1  | 415.139         | 19.31              | 46.00              | 26.69           | -3.85           | H            | 318.4         | 1.00               | 120.000        |
| 1  | 942.770         | 26.96              | 46.00              | 19.04           | 2.81            | H            | 5.5           | 1.00               | 120.000        |

## REMARKS:

1. Emission level (dBuV/m) = Read level (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Limit value- Emission level.





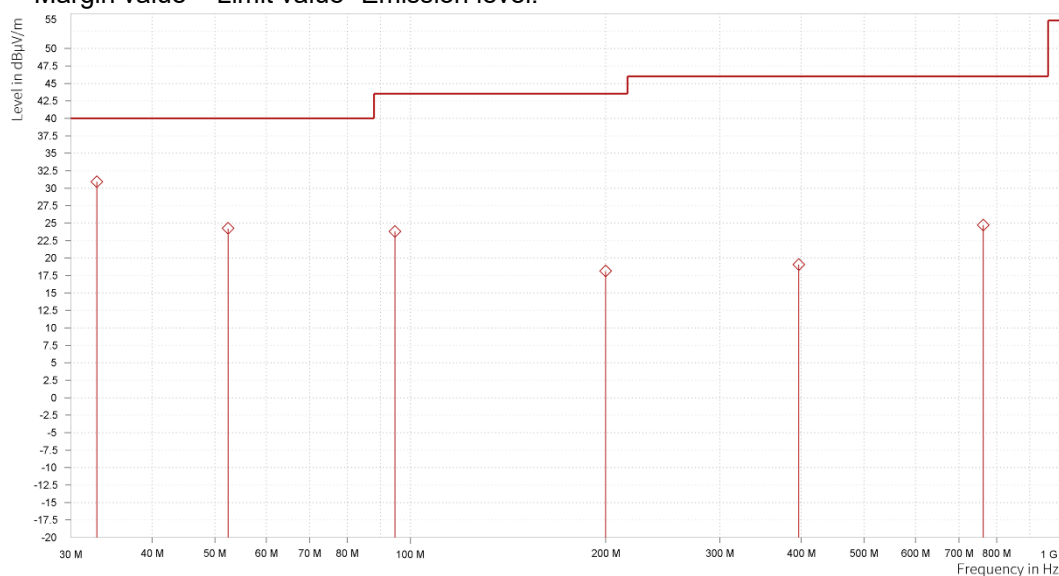
|                 |              |                   |                 |
|-----------------|--------------|-------------------|-----------------|
| CHANNEL         | Channel 102  | DETECTOR FUNCTION | Quasi-Peak (QP) |
| FREQUENCY RANGE | 30MHz ~ 1GHz |                   |                 |

## ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M

| Rg | Frequency [MHz] | QPK Level [dBμV/m] | QPK Limit [dBμV/m] | QPK Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] | Meas. BW [kHz] |
|----|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|----------------|
| 1  | 32.910          | 30.91              | 40.00              | 9.09            | -13.07          | V            | 155.8         | 1.00               | 120.000        |
| 1  | 52.407          | 24.23              | 40.00              | 15.77           | -10.20          | V            | 4.8           | 1.00               | 120.000        |
| 1  | 94.748          | 23.79              | 43.50              | 19.71           | -13.10          | V            | 359.1         | 1.00               | 120.000        |
| 1  | 199.944         | 18.11              | 43.50              | 25.39           | -11.12          | V            | 155.8         | 1.00               | 120.000        |
| 1  | 396.515         | 19.06              | 46.00              | 26.94           | -4.28           | V            | 0.9           | 2.00               | 120.000        |
| 1  | 762.690         | 24.71              | 46.00              | 21.29           | -0.03           | V            | 355.2         | 2.00               | 120.000        |

## REMARKS:

1. Emission level (dBuV/m) = Read level (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Limit value- Emission level.

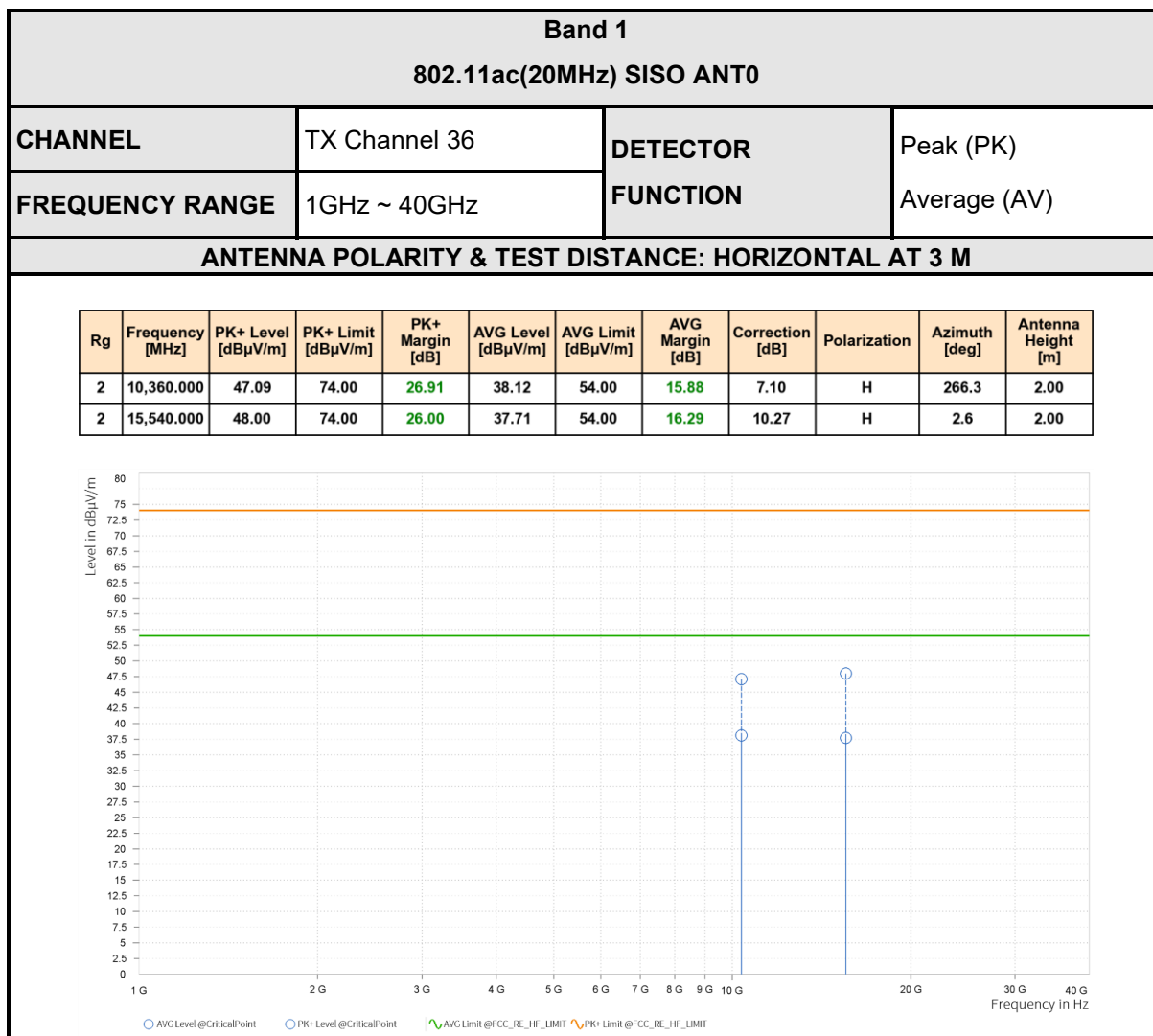


◇ QPK Level @ Final Results    ▽ QPK Limit @ FCC LIMIT

**ABOVE 1GHz WORST-CASE DATA**

**Note:** 1. For higher frequency, the emission is too low to be detected.

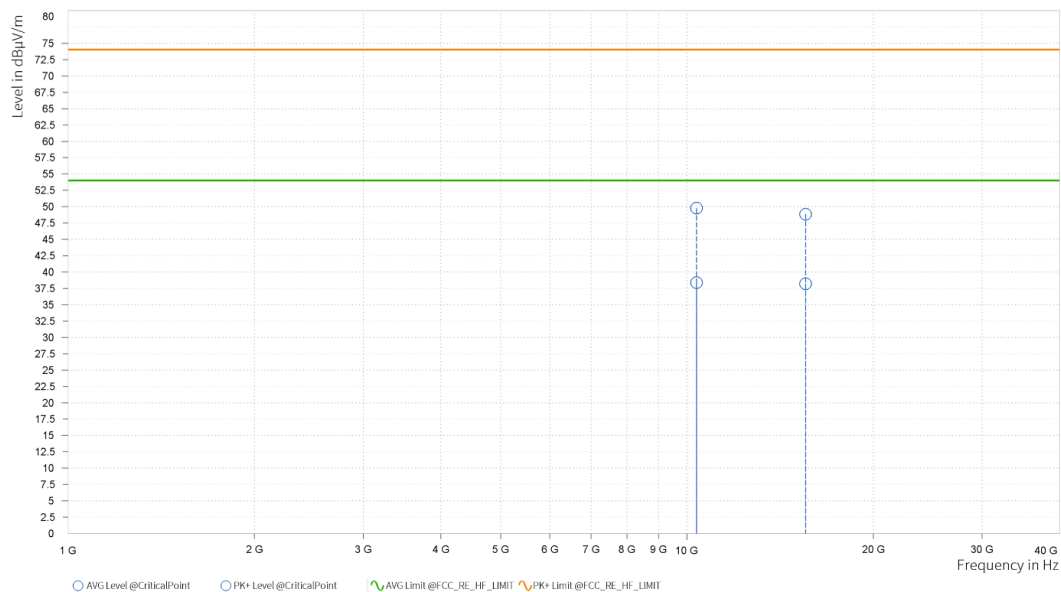
2. For radiated emission testing, all supported channels, bandwidths and modes have been tested, the report only shown the worst-case data of each sub-band.





ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| Rg | Frequency [MHz] | PK+ Level [dBμV/m] | PK+ Limit [dBμV/m] | PK+ Margin [dB] | AVG Level [dBμV/m] | AVG Limit [dBμV/m] | AVG Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|--------------------|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 10,360.000      | 49.79              | 74.00              | 24.21           | 38.38              | 54.00              | 15.62           | 7.10            | V            | 267.5         | 2.00               |
| 2  | 15,540.000      | 48.86              | 74.00              | 25.14           | 38.22              | 54.00              | 15.78           | 10.27           | V            | 267.5         | 2.00               |



REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. Margin value = Limit value- Emission level.
3. 5210MHz: Fundamental frequency.



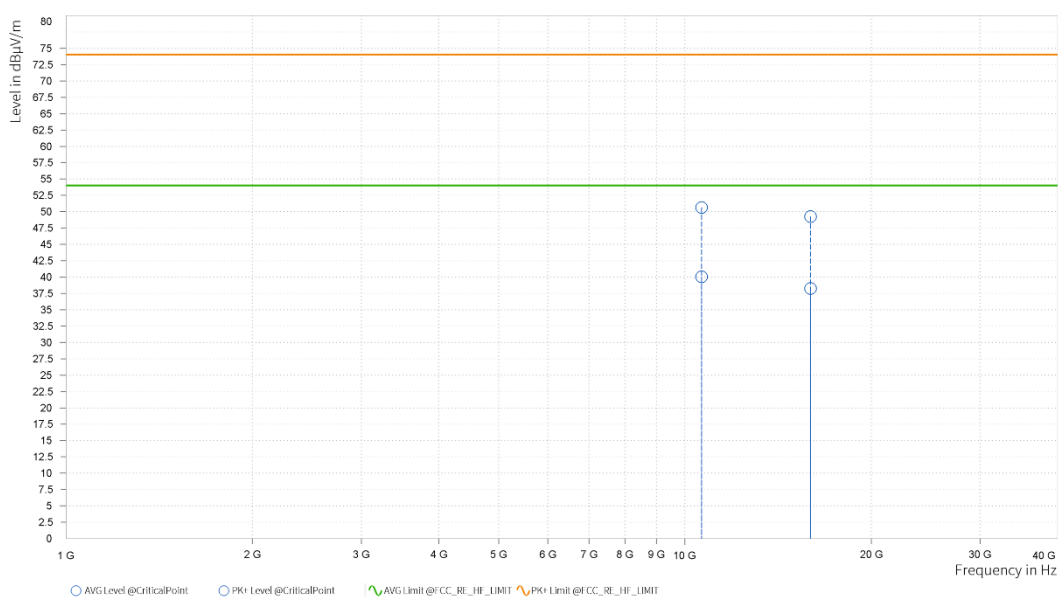
Band 2

802.11ac(20MHz) MIMO

|                 |               |                      |              |
|-----------------|---------------|----------------------|--------------|
| CHANNEL         | TX Channel 64 | DETECTOR<br>FUNCTION | Peak (PK)    |
| FREQUENCY RANGE | 1GHz ~ 40GHz  |                      | Average (AV) |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

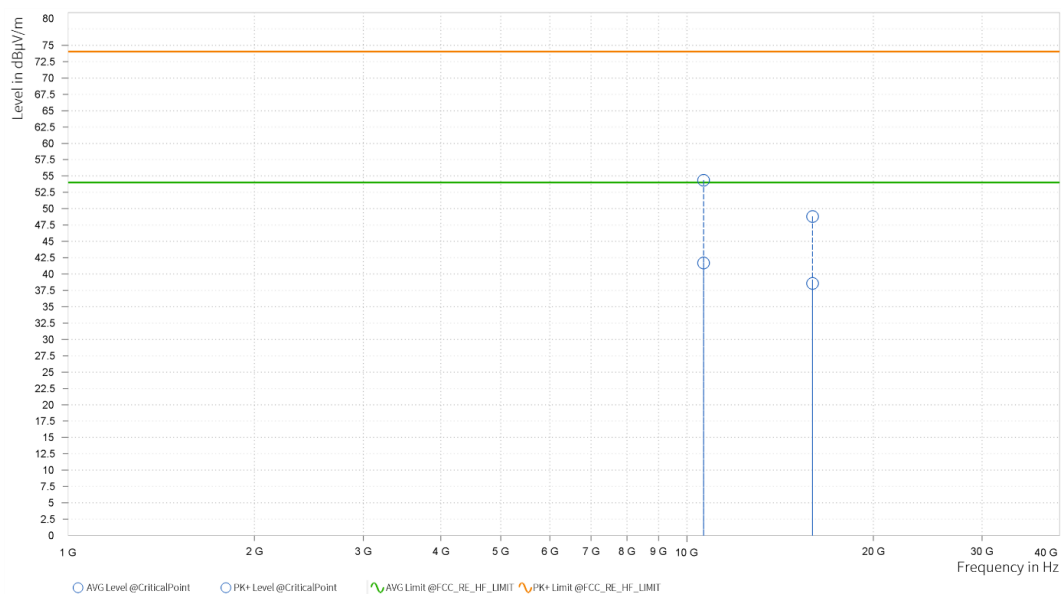
| Rg | Frequency [MHz] | PK+ Level [dBμV/m] | PK+ Limit [dBμV/m] | PK+ Margin [dB] | AVG Level [dBμV/m] | AVG Limit [dBμV/m] | AVG Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|--------------------|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 10,640.000      | 50.65              | 74.00              | 23.35           | 40.06              | 54.00              | 13.94           | 7.38            | H            | 1             | 1.00               |
| 2  | 15,960.000      | 49.27              | 74.00              | 24.73           | 38.27              | 54.00              | 15.73           | 10.91           | H            | 1             | 2.00               |





## ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M

| Rg | Frequency [MHz] | PK+ Level [dBμV/m] | PK+ Limit [dBμV/m] | PK+ Margin [dB] | AVG Level [dBμV/m] | AVG Limit [dBμV/m] | AVG Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|--------------------|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 10,637.000      | 54.37              | 74.00              | 19.63           | 41.72              | 54.00              | 12.28           | 7.38            | V            | 255           | 1.00               |
| 2  | 15,960.000      | 48.82              | 74.00              | 25.18           | 38.58              | 54.00              | 15.42           | 10.91           | V            | 1.2           | 2.00               |



## REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. Margin value = Limit value- Emission level.
3. 5290MHz: Fundamental frequency.



Band 3

802.11ac(40MHz) SISO ANT0

|                 |                |                      |              |
|-----------------|----------------|----------------------|--------------|
| CHANNEL         | TX Channel 102 | DETECTOR<br>FUNCTION | Peak (PK)    |
| FREQUENCY RANGE | 1GHz ~ 40GHz   |                      | Average (AV) |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

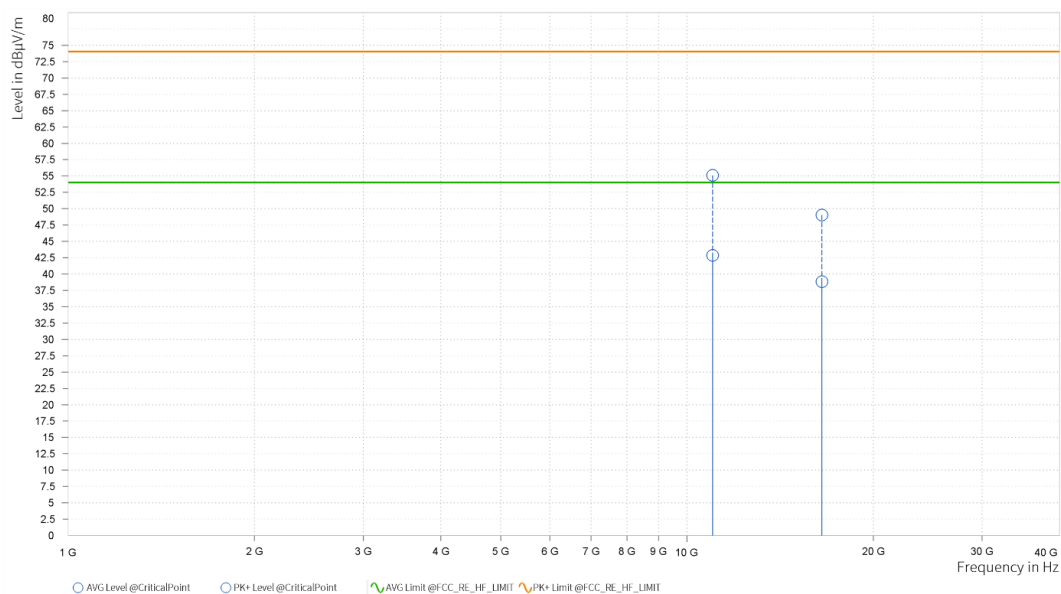
| Rg | Frequency [MHz] | PK+ Level [dBμV/m] | PK+ Limit [dBμV/m] | PK+ Margin [dB] | AVG Level [dBμV/m] | AVG Limit [dBμV/m] | AVG Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|--------------------|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 11,020.000      | 52.28              | 74.00              | 21.72           | 40.24              | 54.00              | 13.76           | 7.96            | H            | 1             | 1.00               |
| 2  | 16,530.000      | 49.88              | 74.00              | 24.12           | 39.02              | 54.00              | 14.98           | 12.10           | H            | 1             | 2.00               |





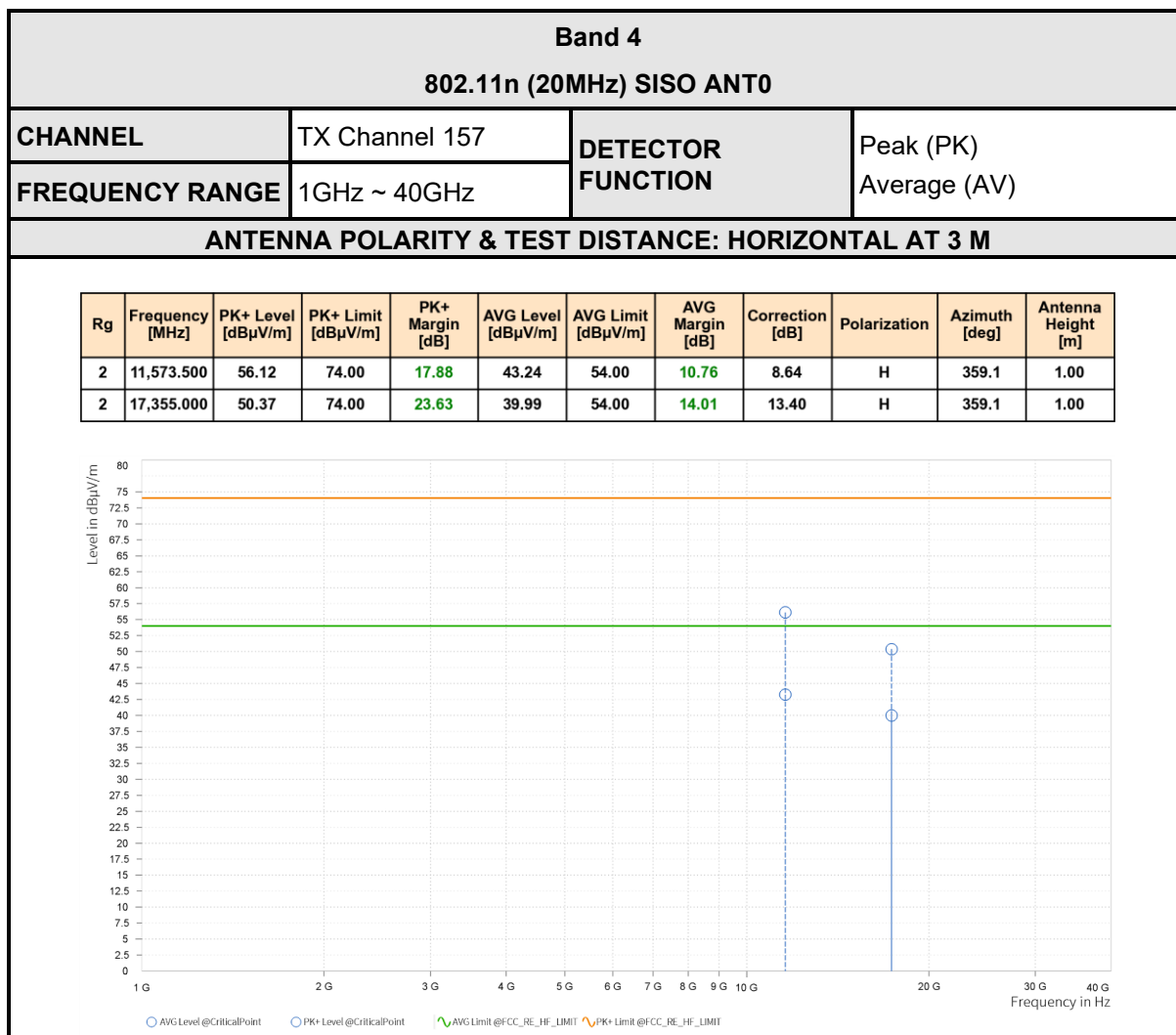
## ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M

| Rg | Frequency [MHz] | PK+ Level [dBμV/m] | PK+ Limit [dBμV/m] | PK+ Margin [dB] | AVG Level [dBμV/m] | AVG Limit [dBμV/m] | AVG Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|--------------------|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 11,003.500      | 55.09              | 74.00              | 18.91           | 42.86              | 54.00              | 11.14           | 7.95            | V            | 359.1         | 1.00               |
| 2  | 16,530.000      | 49.04              | 74.00              | 24.96           | 38.82              | 54.00              | 15.18           | 12.10           | V            | 116.9         | 2.00               |



## REMARKS:

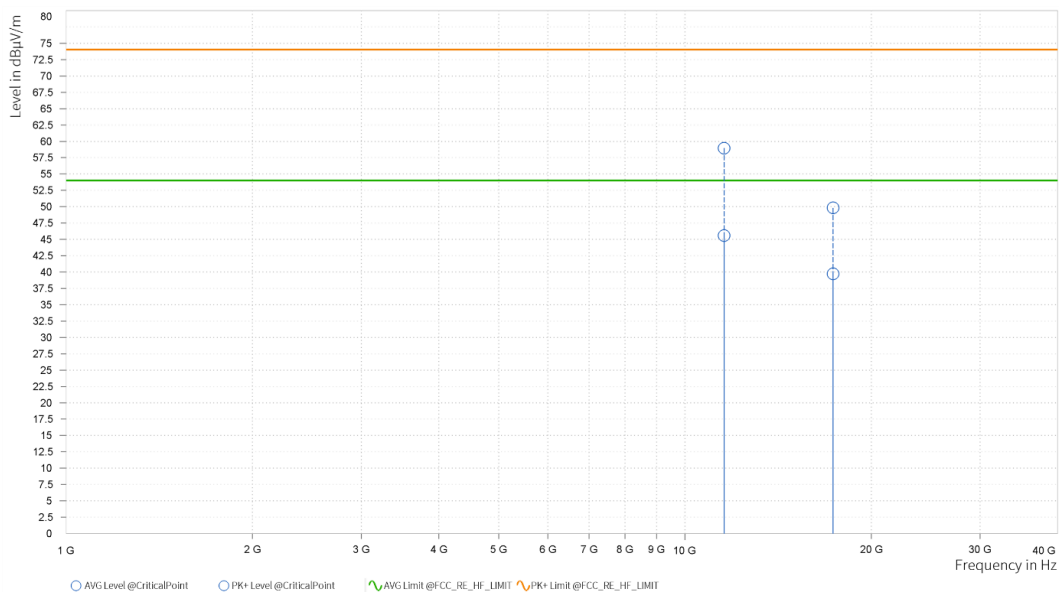
1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. Margin value = Limit value- Emission level.
3. 5530MHz: Fundamental frequency.
4. #: Out of restricted band.





ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| Rg | Frequency [MHz] | PK+ Level [dBμV/m] | PK+ Limit [dBμV/m] | PK+ Margin [dB] | AVG Level [dBμV/m] | AVG Limit [dBμV/m] | AVG Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|--------------------|--------------------|-----------------|--------------------|--------------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 11,567.500      | 58.97              | 74.00              | 15.03           | 45.60              | 54.00              | 8.40            | 8.66            | V            | 1             | 1.00               |
| 2  | 17,355.000      | 49.82              | 74.00              | 24.18           | 39.74              | 54.00              | 14.26           | 13.40           | V            | 359           | 2.00               |



REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. Margin value = Limit value- Emission level.
3. 5785MHz: Fundamental frequency.



### 3.2 CONDUCTED EMISSION MEASUREMENT

#### 3.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

| FREQUENCY OF EMISSION (MHz) | CONDUCTED LIMIT (dB $\mu$ V) |          |
|-----------------------------|------------------------------|----------|
|                             | Quasi-peak                   | Average  |
| 0.15 ~ 0.5                  | 66 to 56                     | 56 to 46 |
| 0.5 ~ 5                     | 56                           | 46       |
| 5 ~ 30                      | 60                           | 50       |

**NOTE:**

- 1 The lower limit shall apply at the transition frequencies.
- 2 The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.
- 3 All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

#### 3.2.2 TEST INSTRUMENTS

| Equipment             | Manufacturer  | Model No. | Serial No. | Last Cal. | Next Cal. |
|-----------------------|---------------|-----------|------------|-----------|-----------|
| EMI Test Receiver     | Rohde&Schwarz | ESR3      | 102749     | Mar.28,24 | Mar.27,26 |
| ELEKTRA test software | Rohde&Schwarz | ELEKTRA   | NA         | N/A       | N/A       |
| LISN network          | Rohde&Schwarz | ENV216    | 102640     | Mar.28,24 | Mar.27,26 |
| CABLE                 | Rohde&Schwarz | W61.01    | N/A        | Apr.26,25 | Apr.25,26 |
| CABLE                 | Rohde&Schwarz | W601      | N/A        | Apr.26,25 | Apr.25,26 |

**NOTE:**

1. The test was performed in CE shielded room.
2. The calibration interval of the above test instruments is 12/24 months. And the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

**3.2.3 TEST PROCEDURES**

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

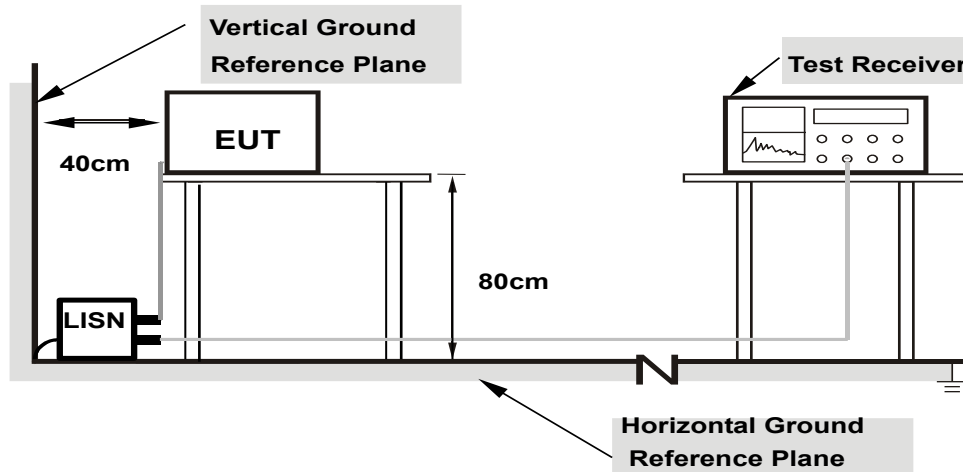
**NOTE:** All modes of operation were investigated and the worst-case emissions are reported.



### 3.2.4 DEVIATION FROM TEST STANDARD

No deviation.

### 3.2.5 TEST SETUP



- Note:** 1.Support units were connected to second LISN.  
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

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

### 3.2.6 EUT OPERATING CONDITIONS

Same as 3.1.7.



## 3.2.7 TEST RESULTS

