# FCC RADIO TEST REPORT

| | | |
|---|---|---|
| FCC ID | : | QXO-AP3917K |
| Equipment | : | Wireless 802.11 a/ac+b/g/n PCBA module |
| Brand Name | : | Extreme Networks |
| Model Name | : | AP3917k/AP7662k |
| Applicant | : | Extreme Networks, Inc.<br>6480 Via Del Oro San Jose CA 95119 United States Of America |
| Manufacturer | : | Senao Networks, Inc.<br>3F, No. 529, Chung Cheng Rd. Hsintien Taipei Taiwan |
| Standard | : | 47 CFR FCC Part 90 Subpart Y |

The product was received on Sep. 21, 2017, and testing was started from Mar. 22, 2018 and completed on Mar. 23, 2018. We, SPORTON INTERTIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI/TIA-603-D-2010 , 47 CFR FCC Part 90 Subpart Y , ANSI C63.26-2015, KDB971168 D01 Power Meas License Digital Systems v03 and shown compliance with the applicable technical standards.

The test results in this variant report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERTIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Approved by: Sam Chen

*SPORTON INTERTIONAL INC. EMC & Wireless Communications Laboratory*
*No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)*

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**Appendix A. Test Photos**

**Photographs of EUT v01**

# History of This Test Report

| Report No. | Version | Description | Issued Date |
|---|---|---|---|
| FL780809-02 | 01 | Initial issue of report | Apr. 10, 2018 |
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# Summary of Test Result

| Report Clause | Ref Std. Clause | Test Items | Result (PASS/FAIL) | Remark |
|---|---|---|---|---|
| 2.1 | 2.1053/90.210(m) | Transmitter Radiated Unwanted Emissions | PASS | - |

**Reviewed by: Sam Chen**

**Report Producer: Wendy Pan**

# 1. General Information

## 1.1. Product Details

| Items | Description |
|---|---|
| Power Type | From host system |
| Equipment Category | Fixed Point-to-Multipoint |
| Product Type | High Power Device |
| Modulation | OFDM (BPSK / QPSK / 16QAM / 64QAM) |
| Channel Bandwidth | 5MHz / 10MHz / 20MHz |
| Accessories | Antenna SMA cable*4 |

## 1.2. Antenna information

| Ant. | Type | Model No. | EUT Board Port | Antenna Gain (dBi) | SMA Cable loss (dB) | I-PEX Cable loss (dB) | True Gain (dBi) |
|---|---|---|---|---|---|---|---|
| 2 | Omni (Short) | ML-5299-HPA5-01 | 1 | 8.25 | N/A | 0.5 | 7.75 |
| | | | 2 | 8.25 | N/A | 0.5 | 7.75 |
| 3 | Omni | CX08OMI136-VC | 1 | 7.2 | 4.6 | 1.3 | 1.3 |
| | | | 2 | 7.2 | 4.63 | 1.3 | 1.27 |

## 1.3. Table for Carrier Frequencies

| Channel Bandwidth | Carrier Frequency (MHz) |
|---|---|
| 5 MHz | 4942.5 |
| | 4947.5 |
| | 4952.5 |
| | 4957.5 |
| | 4962.5 |
| | 4967.5 |
| | 4972.5 |
| | 4977.5 |
| | 4982.5 |
| | 4987.5 |
| 10 MHz | 4945 |
| | 4950 |
| | 4955 |
| | 4960 |
| | 4965 |
| | 4970 |
| | 4975 |
| | 4980 |
| | 4985 |
| 20 MHz | 4950 |
| | 4955 |
| | 4960 |
| | 4965 |
| | 4970 |
| | 4975 |
| | 4980 |

## 1.4. Table for Test Modes

Investigation has been done on all the possible configurations for searching the worst cases (All modulation modes and different data rates would be evaluated). The following table is a list of the test modes shown in this test report.

| Test Items | Channel Bandwidth | Modulation Mode |
|---|---|---|
| Transmitter Radiated Unwanted Emissions | 5MHz / 10MHz/ 20MHz | QPSK-6Mbps / QPSK-6Mbps |

The following test modes were performed for all tests:

The EUT was performed at X axis, Y axis and Z axis position for Radiated emission test, and the worst case was found at Z axis. So the measurement will follow this same test configuration.

For Radiated Emission test:

Mode 1. EUT in Z axis

## 1.5. Table for Testing Locations

| Test Site Location | | | | |
|---|---|---|---|---|
| Address: | No.8, Lane 724, Bo-ai St., Jhubei City, Hsinchu County 302, Taiwan, R.O.C. | | | |
| TEL: | 886-3-656-9065 | | | |
| FAX: | 886-3-656-9085 | | | |
| **Test Site No.** | **Site Category** | **Location** | **FCC Designation No.** | **IC File No.** |
| 03CH01-CB | SAC | Hsin Chu | TW0006 | IC 4086D |

Open Area Test Site (OATS); Semi Anechoic Chamber (SAC).

## 1.6. Table for Multiple Listing

The EUT has two model names, which are identical to each other in all aspects except for the following table:

| Model Name | Description |
|---|---|
| AP3917k | All the models are identical, the difference model name for difference brand served as marketing strategy. |
| AP7662k | |

From the above models, model: AP3917k was selected as representative model for the test and its data was recorded in this report.

## 1.7. Table for Class II Change

This product is an extension of original one reported under Sporton project number: FL780809

Below is the table for the change of the product with respect to the original one.

| Modifications | Performance Checking |
|---|---|
| Adding 1 set same type of Omni antenna with lower gain. | Transmitter Radiated Unwanted Emissions |

Note: The above test items will be based on original output power to re-test.

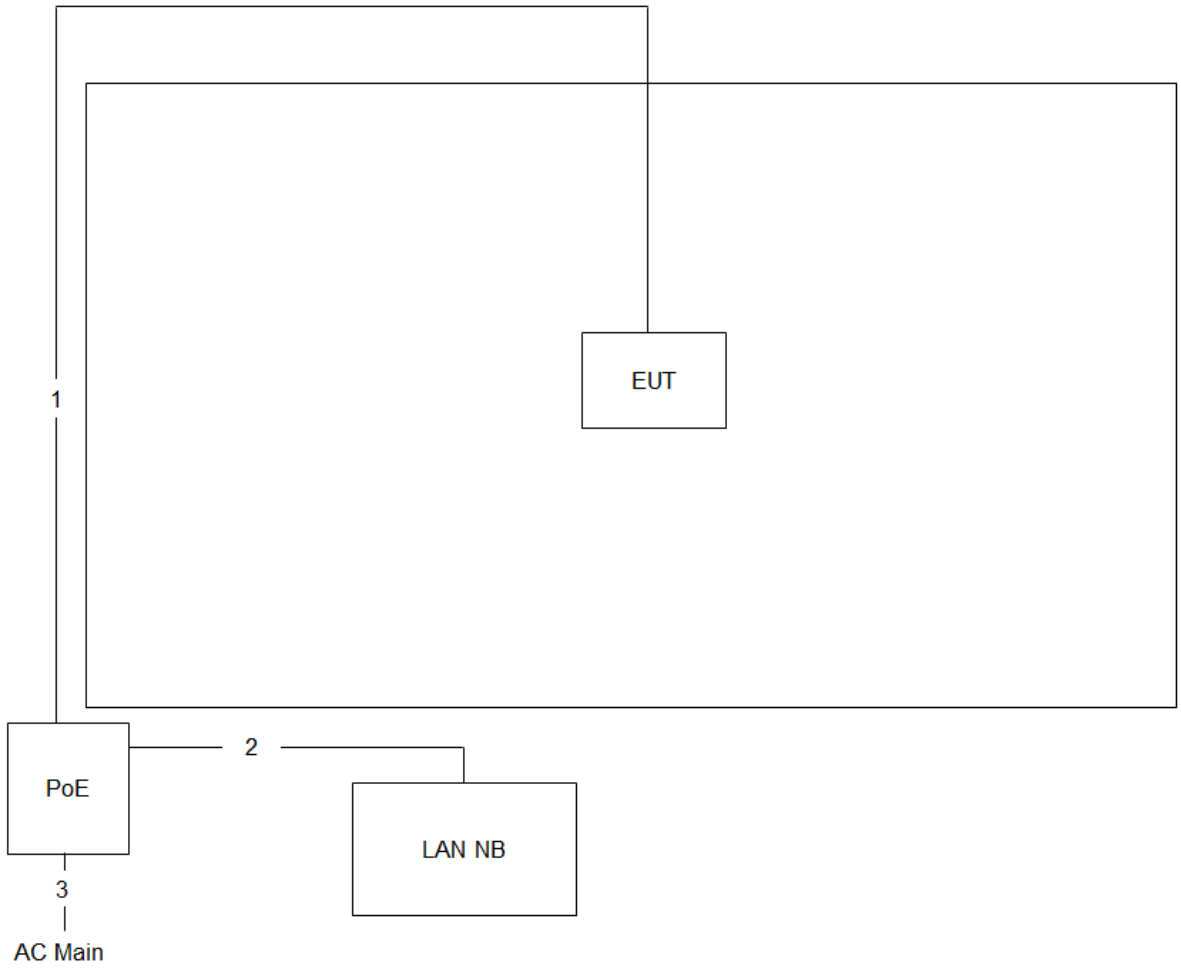
## 1.8. Table for Supporting Units

| Support Unit | Brand | Model | FCC ID |
|---|---|---|---|
| Notebook | DELL | E4300 | DoC |
| PoE | EnGenius | EPA5012GP | N/A |

## 1.9. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

## 1.10. Test Configurations




| Item | Connection | Shielded | Length |
|---|---|---|---|
| 1 | RJ-45 cable | No | 10m |
| 2 | RJ-45 cable | No | 1.5m |
| 3 | Power cable | No | 0.7m |

# 2. Test Result

## 2.1. Transmitter Radiated Unwanted Emissions Measurement

### 2.1.1. Limit

On any frequency removed from the assigned frequency above 150% of the authorized bandwidth: 50 or 55+ 10 log (P) dB, whichever is the lesser attenuation. (P=Average transmit power in watt)

### 2.1.2. Measuring Instruments and Setting

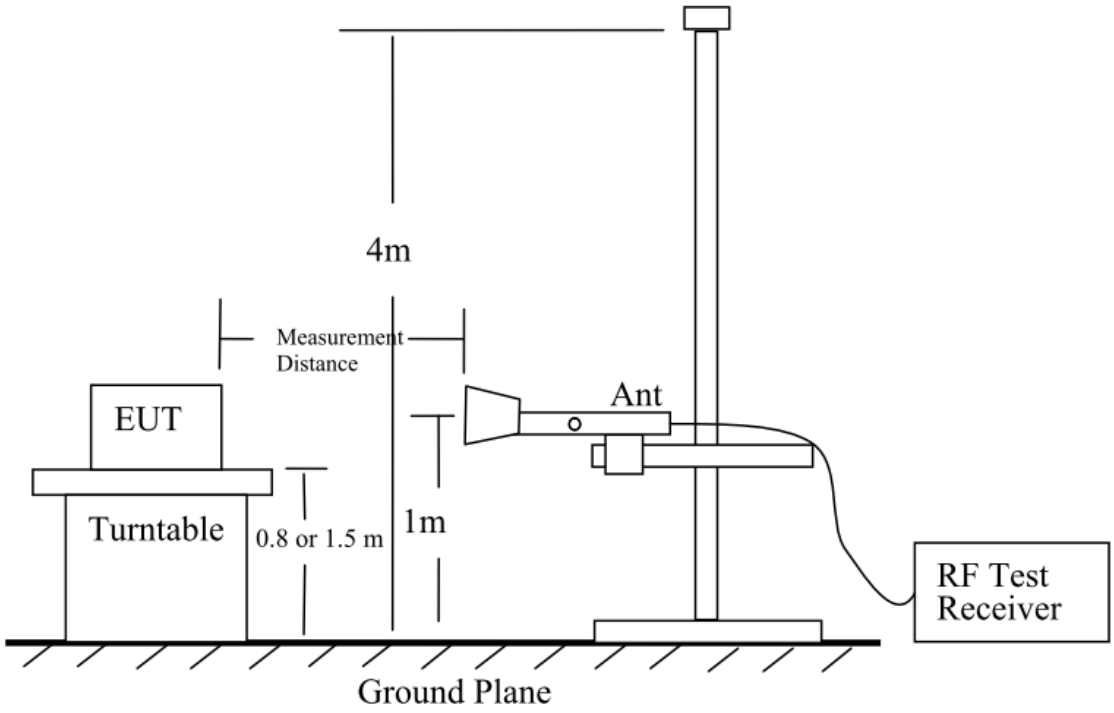
Please refer to section 3 in this report. The following table is the setting of the Spectrum Analyzer.

| Spectrum Parameter | Setting |
|---|---|
| Detector | RMS (Average) |
| Frequency Range | 30MHz – 40GHz |
| RBW / VBW | 1 MHz / 3MHz |

### 2.1.3. Test Procedures

1. The EUT was placed on the top of the turntable in anechoic chamber.
2. A spectrum analyzer was used RBW of 1 MHz and VBW of 3 MHz for the final measurements utilizing an RMS detector at the frequencies with spurious emissions amplitudes.
3. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find *spurious emissions reading*.
4. *Spurious emissions field strength level* equal to *spurious emissions reading on spectrum analyzer+ Corrected Reading* (Antenna Factor + Cable Loss - Preamp Factor).
5. Final *radiated spurious emissions* may be converted from *spurious emissions field strength level* - 95.2 dB

### 2.1.4. Test Setup Layout



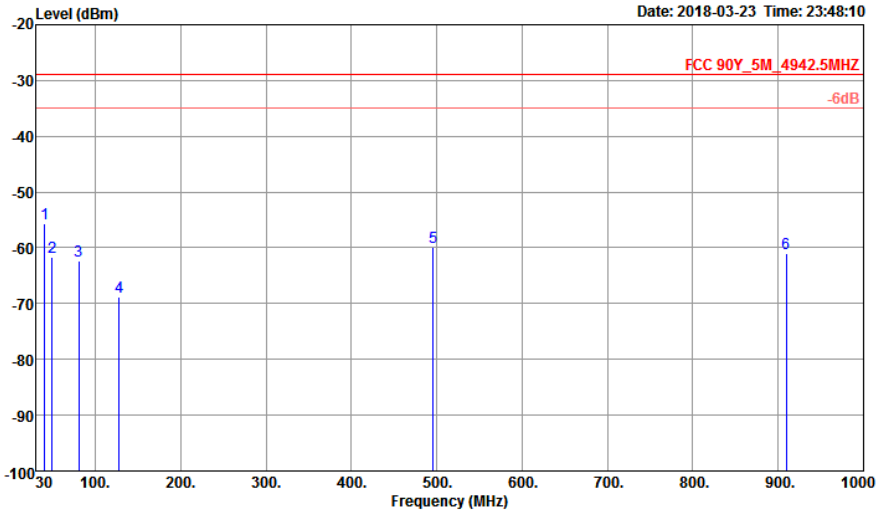

### 2.1.5. Test Deviation

There is no deviation with the original standard.

## 2.1.6. Results of Transmitter Radiated Unwanted Emissions (30MHz~1GHz)

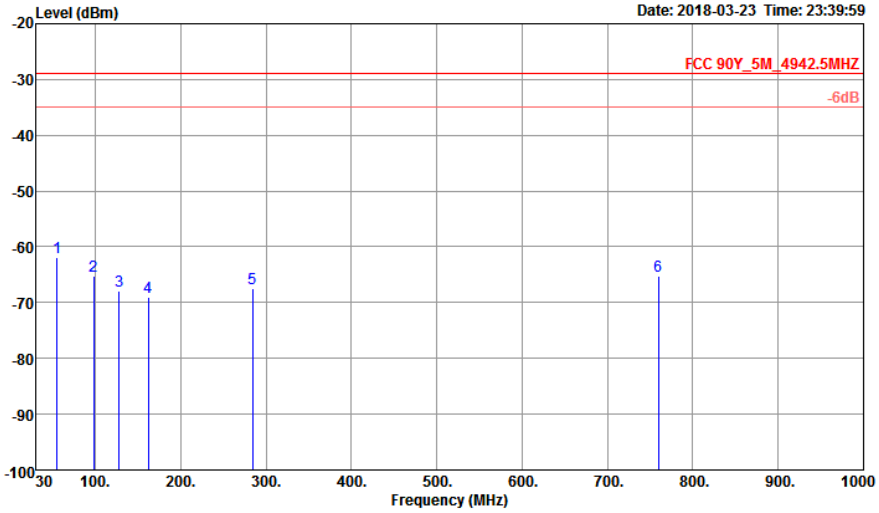
| Temperature | 22℃ | Humidity | 54% |
|---|---|---|---|
| Test Engineer | Welson Chen | Mode | 5MHz / 4942.5MHz |

***Horizontal***




| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 40.67 | -55.63 | -26.63 | -29.00 | -69.78 | 14.15 | 100 | 324 | Peak | HORIZONTAL |
| 2 | 49.40 | -61.62 | -32.62 | -29.00 | -66.71 | 5.09 | 125 | 240 | Peak | HORIZONTAL |
| 3 | 80.44 | -62.40 | -33.40 | -29.00 | -63.87 | 1.47 | 100 | 165 | Peak | HORIZONTAL |
| 4 | 127.97 | -68.88 | -39.88 | -29.00 | -69.71 | 0.83 | 125 | 282 | Peak | HORIZONTAL |
| 5 | 495.60 | -59.97 | -30.97 | -29.00 | -74.59 | 14.62 | 100 | 274 | Peak | HORIZONTAL |
| 6 | 909.79 | -61.11 | -32.11 | -29.00 | -76.18 | 15.07 | 125 | 165 | Peak | HORIZONTAL |

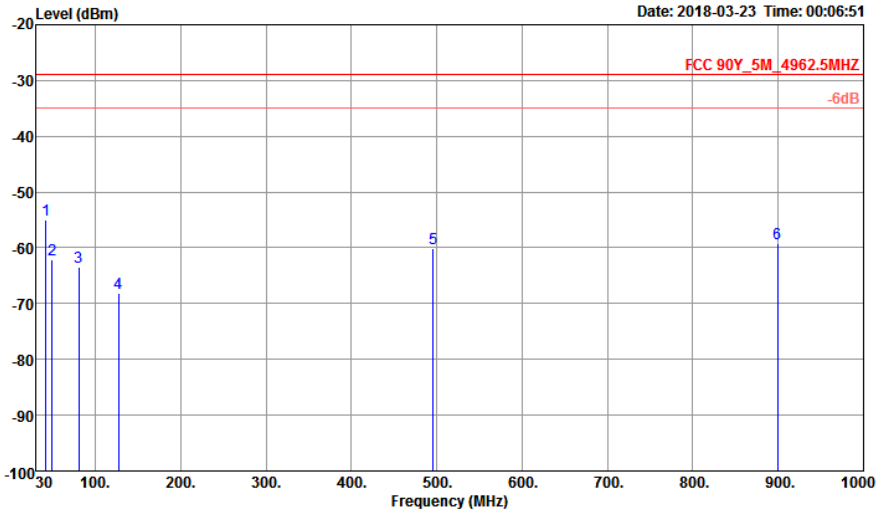
***Vertical***




| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 55.22 | -61.90 | -32.90 | -29.00 | -53.38 | -8.52 | 100 | 256 | Peak | VERTICAL |
| 2 | 97.90 | -65.15 | -36.15 | -29.00 | -63.01 | -2.14 | 125 | 127 | Peak | VERTICAL |
| 3 | 127.97 | -67.92 | -38.92 | -29.00 | -66.72 | -1.20 | 100 | 241 | Peak | VERTICAL |
| 4 | 161.92 | -69.12 | -40.12 | -29.00 | -67.22 | -1.90 | 100 | 198 | Peak | VERTICAL |
| 5 | 284.14 | -67.49 | -38.49 | -29.00 | -74.11 | 6.62 | 125 | 166 | Peak | VERTICAL |
| 6 | 759.44 | -65.21 | -36.21 | -29.00 | -74.95 | 9.74 | 125 | 35 | Peak | VERTICAL |

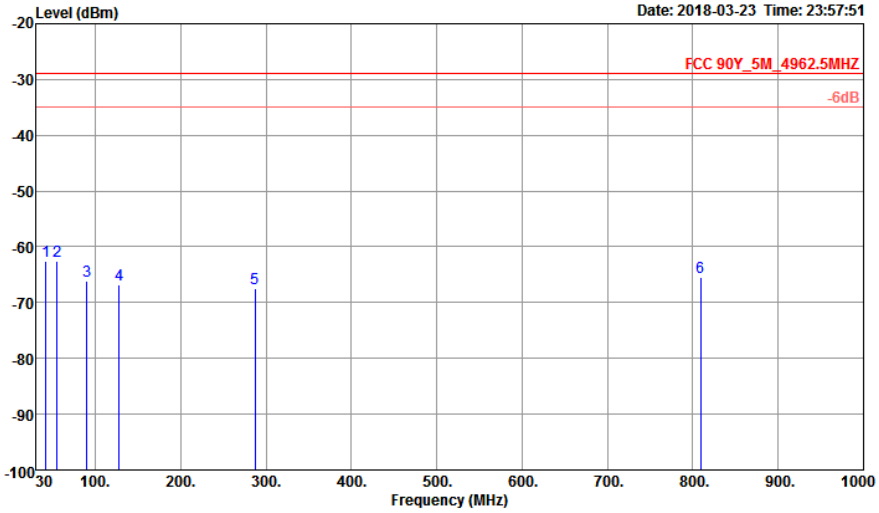
| Temperature | 22℃ | Humidity | 54% |
|---|---|---|---|
| Test Engineer | Welson Chen | Mode | 5MHz / 4962.5MHz |

***Horizontal***




| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 41.64 | -54.88 | -25.90 | -28.98 | -68.13 | 13.25 | 100 | 262 | Peak | HORIZONTAL |
| 2 | 49.40 | -62.04 | -33.06 | -28.98 | -67.13 | 5.09 | 125 | 354 | Peak | HORIZONTAL |
| 3 | 80.44 | -63.51 | -34.53 | -28.98 | -64.98 | 1.47 | 100 | 264 | Peak | HORIZONTAL |
| 4 | 127.00 | -68.22 | -39.24 | -28.98 | -69.06 | 0.84 | 125 | 135 | Peak | HORIZONTAL |
| 5 | 495.60 | -60.07 | -31.09 | -28.98 | -74.69 | 14.62 | 100 | 281 | Peak | HORIZONTAL |
| 6 | 899.12 | -59.13 | -30.15 | -28.98 | -74.84 | 15.71 | 100 | 65 | Peak | HORIZONTAL |

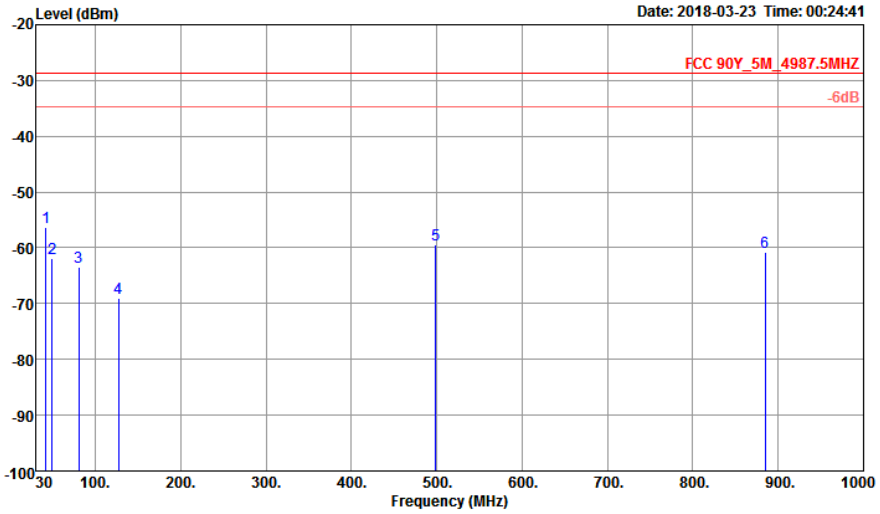
***Vertical***




| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 41.64 | -62.63 | -33.65 | -28.98 | -54.46 | -8.17 | 100 | 5 | Peak | VERTICAL |
| 2 | 55.22 | -62.58 | -33.60 | -28.98 | -54.06 | -8.52 | 125 | 294 | Peak | VERTICAL |
| 3 | 90.14 | -66.19 | -37.21 | -28.98 | -64.05 | -2.14 | 100 | 126 | Peak | VERTICAL |
| 4 | 127.97 | -66.86 | -37.88 | -28.98 | -65.66 | -1.20 | 125 | 99 | Peak | VERTICAL |
| 5 | 287.05 | -67.55 | -38.57 | -28.98 | -74.26 | 6.71 | 125 | 45 | Peak | VERTICAL |
| 6 | 808.91 | -65.39 | -36.41 | -28.98 | -75.09 | 9.70 | 100 | 306 | Peak | VERTICAL |

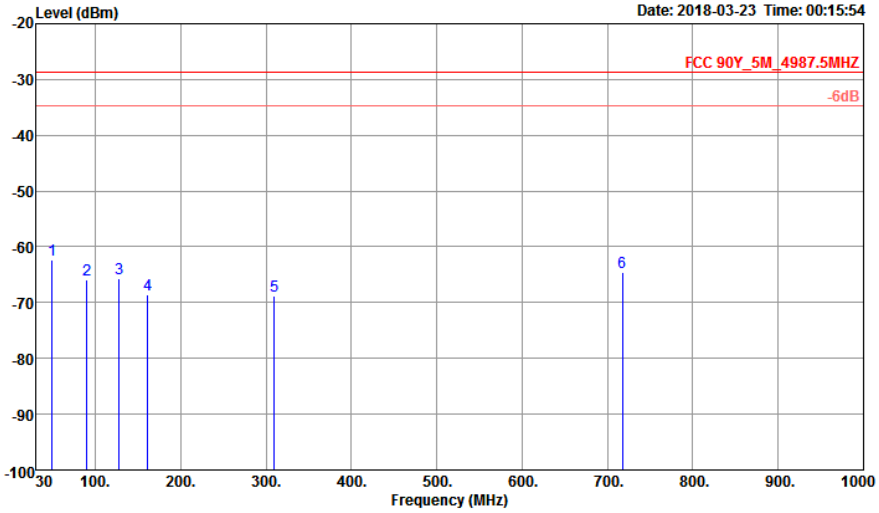
| Temperature | 22℃ | Humidity | 54% |
|---|---|---|---|
| Test Engineer | Welson Chen | Mode | 5MHz / 4987.5MHz |

***Horizontal***




| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 41.64 | -56.41 | -27.71 | -28.70 | -69.66 | 13.25 | 125 | 300 | Peak | HORIZONTAL |
| 2 | 49.40 | -61.97 | -33.27 | -28.70 | -67.06 | 5.09 | 100 | 275 | Peak | HORIZONTAL |
| 3 | 80.44 | -63.56 | -34.86 | -28.70 | -65.03 | 1.47 | 100 | 269 | Peak | HORIZONTAL |
| 4 | 127.00 | -68.96 | -40.26 | -28.70 | -69.80 | 0.84 | 100 | 138 | Peak | HORIZONTAL |
| 5 | 498.51 | -59.52 | -30.82 | -28.70 | -74.30 | 14.78 | 100 | 298 | Peak | HORIZONTAL |
| 6 | 884.57 | -60.76 | -32.06 | -28.70 | -75.29 | 14.53 | 100 | 78 | Peak | HORIZONTAL |

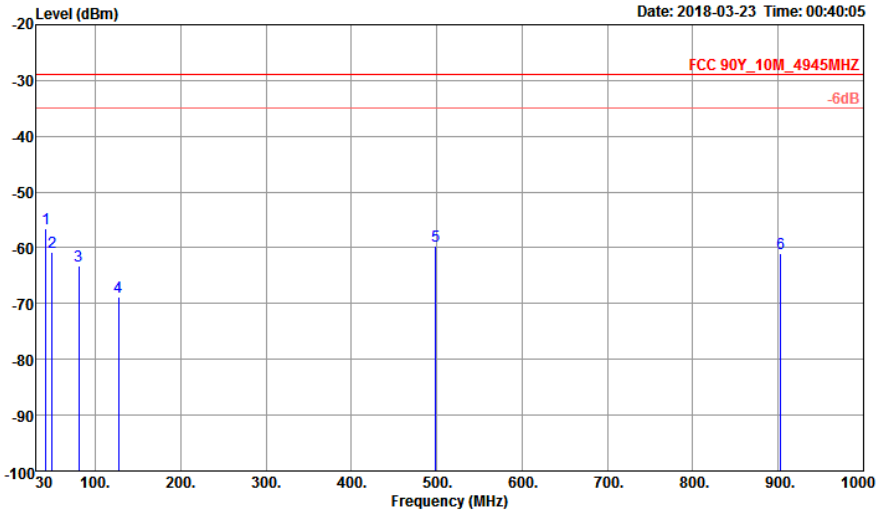
***Vertical***




| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 49.40 | -62.24 | -33.54 | -28.70 | -53.64 | -8.60 | 125 | 48 | Peak | VERTICAL |
| 2 | 90.14 | -66.01 | -37.31 | -28.70 | -63.87 | -2.14 | 100 | 164 | Peak | VERTICAL |
| 3 | 127.97 | -65.63 | -36.93 | -28.70 | -64.43 | -1.20 | 125 | 65 | Peak | VERTICAL |
| 4 | 160.95 | -68.53 | -39.83 | -28.70 | -66.54 | -1.99 | 100 | 333 | Peak | VERTICAL |
| 5 | 309.36 | -68.81 | -40.11 | -28.70 | -75.54 | 6.73 | 150 | 228 | Peak | VERTICAL |
| 6 | 717.73 | -64.49 | -35.79 | -28.70 | -74.06 | 9.57 | 100 | 122 | Peak | VERTICAL |

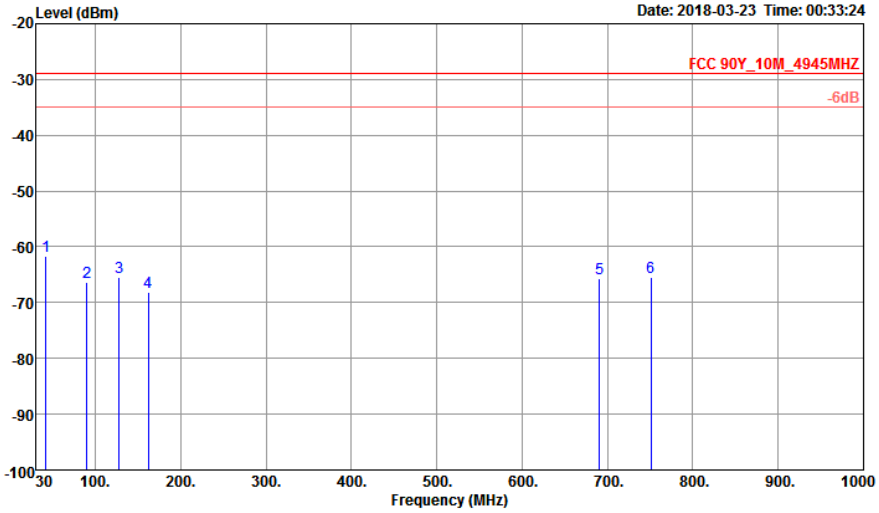
| Temperature | 22℃ | Humidity | 54% |
|---|---|---|---|
| Test Engineer | Welson Chen | Mode | 10MHz / 4945MHz |

***Horizontal***




| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 41.64 | -56.53 | -27.62 | -28.91 | -69.78 | 13.25 | 100 | 222 | Peak | HORIZONTAL |
| 2 | 49.40 | -60.72 | -31.81 | -28.91 | -65.81 | 5.09 | 100 | 148 | Peak | HORIZONTAL |
| 3 | 80.44 | -63.32 | -34.41 | -28.91 | -64.79 | 1.47 | 125 | 344 | Peak | HORIZONTAL |
| 4 | 127.00 | -68.87 | -39.96 | -28.91 | -69.71 | 0.84 | 100 | 156 | Peak | HORIZONTAL |
| 5 | 498.51 | -59.56 | -30.65 | -28.91 | -74.34 | 14.78 | 100 | 208 | Peak | HORIZONTAL |
| 6 | 903.00 | -61.07 | -32.16 | -28.91 | -76.57 | 15.50 | 125 | 269 | Peak | HORIZONTAL |

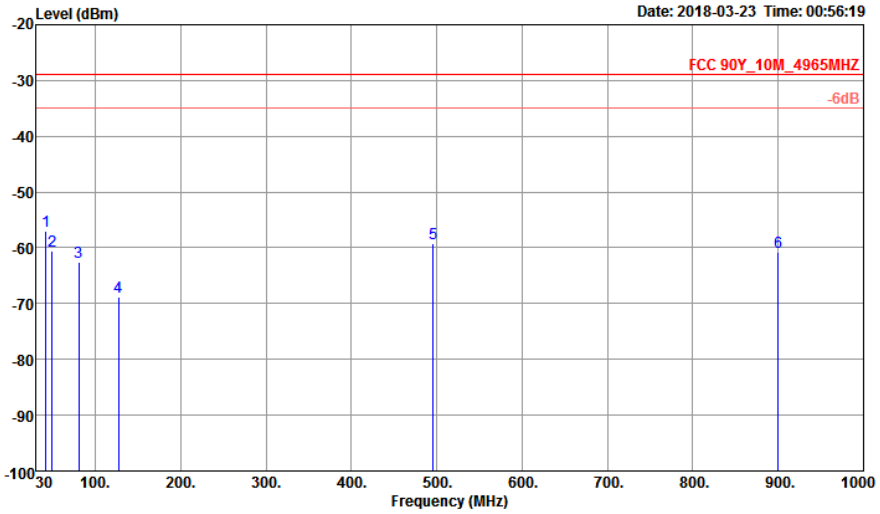
***Vertical***




| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 41.64 | -61.71 | -32.80 | -28.91 | -53.54 | -8.17 | 125 | 301 | Peak | VERTICAL |
| 2 | 90.14 | -66.32 | -37.41 | -28.91 | -64.18 | -2.14 | 100 | 61 | Peak | VERTICAL |
| 3 | 127.97 | -65.57 | -36.66 | -28.91 | -64.37 | -1.20 | 100 | 22 | Peak | VERTICAL |
| 4 | 161.92 | -68.07 | -39.16 | -28.91 | -66.17 | -1.90 | 125 | 348 | Peak | VERTICAL |
| 5 | 690.57 | -65.64 | -36.73 | -28.91 | -74.84 | 9.20 | 100 | 247 | Peak | VERTICAL |
| 6 | 750.71 | -65.56 | -36.65 | -28.91 | -75.26 | 9.70 | 100 | 38 | Peak | VERTICAL |

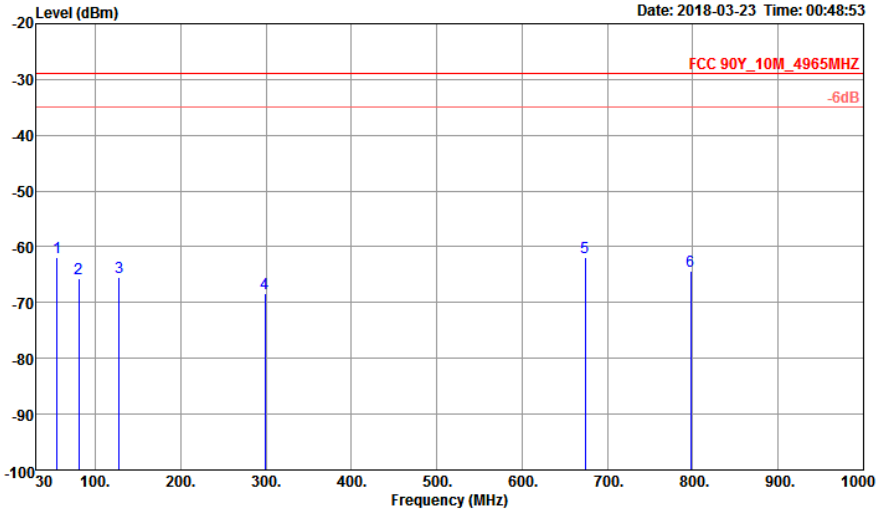
| Temperature | 22℃ | Humidity | 54% |
|---|---|---|---|
| Test Engineer | Welson Chen | Mode | 10MHz / 4965MHz |

***Horizontal***




| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 41.64 | -56.94 | -28.04 | -28.90 | -70.19 | 13.25 | 100 | 106 | Peak | HORIZONTAL |
| 2 | 49.40 | -60.50 | -31.60 | -28.90 | -65.59 | 5.09 | 125 | 54 | Peak | HORIZONTAL |
| 3 | 80.44 | -62.59 | -33.69 | -28.90 | -64.06 | 1.47 | 100 | 126 | Peak | HORIZONTAL |
| 4 | 127.00 | -68.89 | -39.99 | -28.90 | -69.73 | 0.84 | 100 | 248 | Peak | HORIZONTAL |
| 5 | 495.60 | -59.22 | -30.32 | -28.90 | -73.84 | 14.62 | 125 | 197 | Peak | HORIZONTAL |
| 6 | 900.09 | -60.76 | -31.86 | -28.90 | -76.47 | 15.71 | 100 | 145 | Peak | HORIZONTAL |

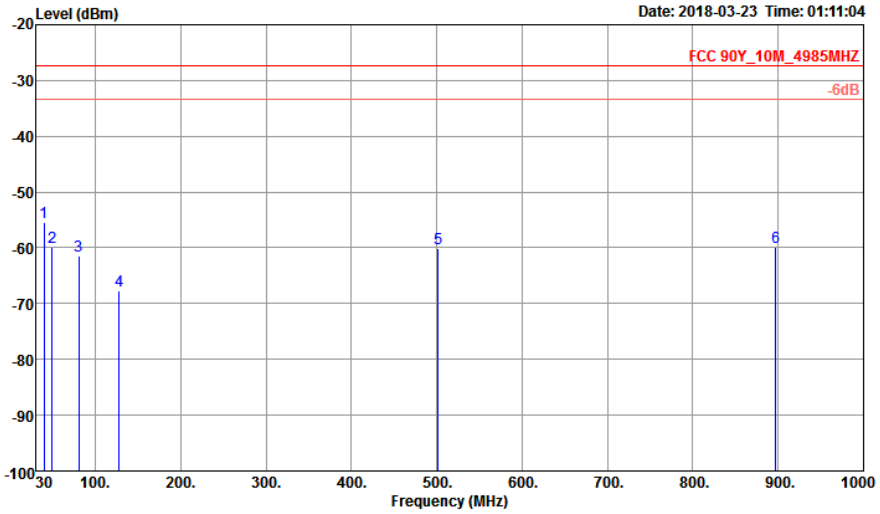
***Vertical***




| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 55.22 | -62.01 | -33.11 | -28.90 | -53.49 | -8.52 | 100 | 64 | Peak | VERTICAL |
| 2 | 80.44 | -65.61 | -36.71 | -28.90 | -60.61 | -5.00 | 125 | 120 | Peak | VERTICAL |
| 3 | 127.97 | -65.55 | -36.65 | -28.90 | -64.35 | -1.20 | 100 | 301 | Peak | VERTICAL |
| 4 | 298.69 | -68.32 | -39.42 | -28.90 | -75.34 | 7.02 | 100 | 200 | Peak | VERTICAL |
| 5 | 674.08 | -61.79 | -32.89 | -28.90 | -70.55 | 8.76 | 150 | 85 | Peak | VERTICAL |
| 6 | 797.27 | -64.42 | -35.52 | -28.90 | -74.29 | 9.87 | 100 | 231 | Peak | VERTICAL |

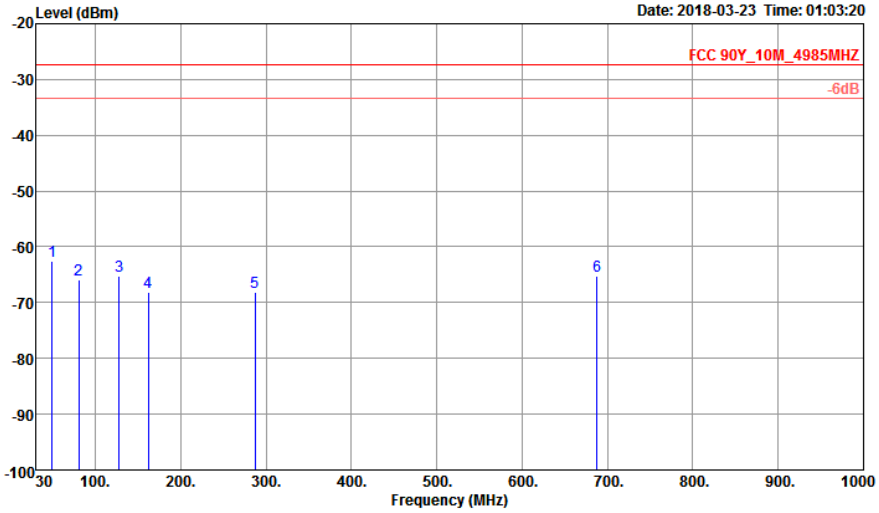
| Temperature | 22℃ | Humidity | 54% |
|---|---|---|---|
| Test Engineer | Cola Fan | Mode | 10MHz / 4985MHz |

***Horizontal***




| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 39.70 | -55.53 | -28.17 | -27.36 | -70.22 | 14.69 | 100 | 146 | Peak | HORIZONTAL |
| 2 | 49.40 | -59.86 | -32.50 | -27.36 | -64.95 | 5.09 | 100 | 275 | Peak | HORIZONTAL |
| 3 | 80.44 | -61.49 | -34.13 | -27.36 | -62.96 | 1.47 | 125 | 35 | Peak | HORIZONTAL |
| 4 | 127.97 | -67.75 | -40.39 | -27.36 | -68.58 | 0.83 | 125 | 153 | Peak | HORIZONTAL |
| 5 | 501.42 | -60.14 | -32.78 | -27.36 | -74.90 | 14.76 | 150 | 298 | Peak | HORIZONTAL |
| 6 | 897.18 | -59.85 | -32.49 | -27.36 | -75.32 | 15.47 | 100 | 256 | Peak | HORIZONTAL |

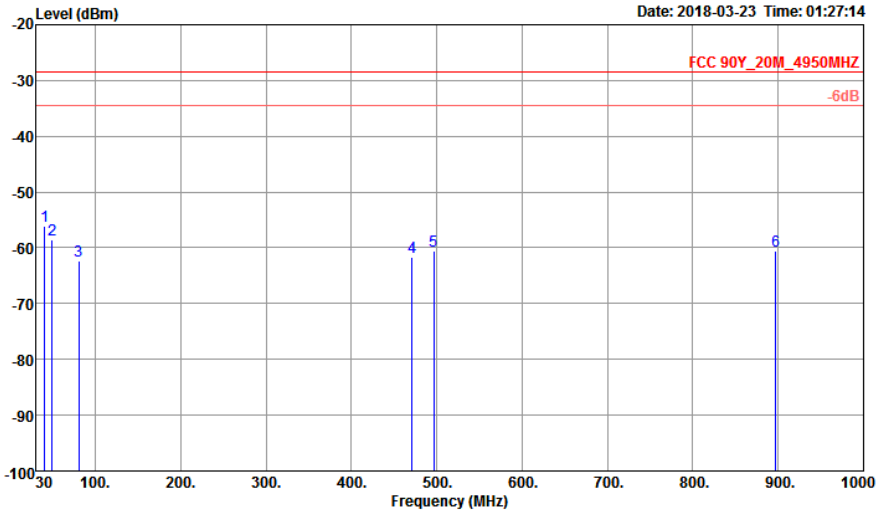
***Vertical***




| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 49.40 | -62.61 | -35.25 | -27.36 | -54.01 | -8.60 | 125 | 54 | Peak | VERTICAL |
| 2 | 80.44 | -65.82 | -38.46 | -27.36 | -60.82 | -5.00 | 100 | 264 | Peak | VERTICAL |
| 3 | 127.97 | -65.25 | -37.89 | -27.36 | -64.05 | -1.20 | 100 | 138 | Peak | VERTICAL |
| 4 | 161.92 | -68.12 | -40.76 | -27.36 | -66.22 | -1.90 | 125 | 296 | Peak | VERTICAL |
| 5 | 287.05 | -68.10 | -40.74 | -27.36 | -74.81 | 6.71 | 100 | 25 | Peak | VERTICAL |
| 6 | 687.66 | -65.25 | -37.89 | -27.36 | -74.38 | 9.13 | 100 | 351 | Peak | VERTICAL |

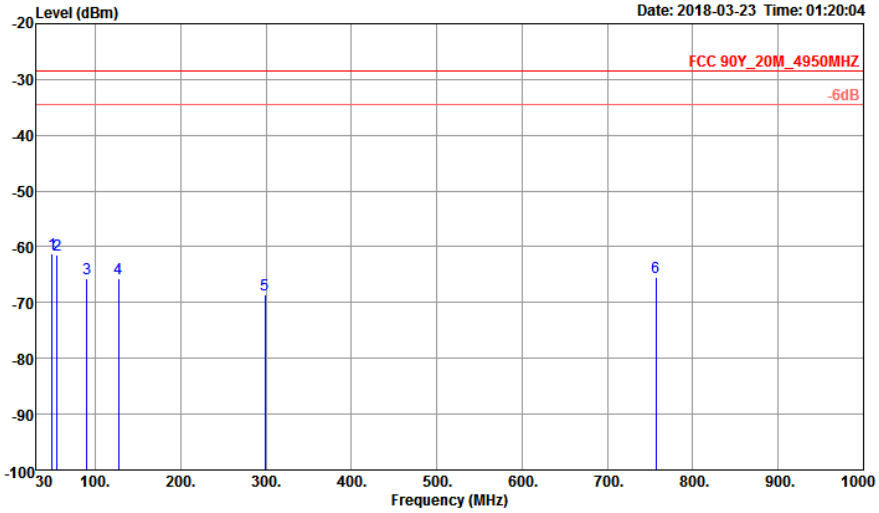
| Temperature | 22℃ | Humidity | 54% |
|---|---|---|---|
| Test Engineer | Welson Chen | Mode | 20MHz / 4950MHz |

***Horizontal***




| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 40.67 | -56.06 | -27.50 | -28.56 | -70.21 | 14.15 | 100 | 16 | Peak | HORIZONTAL |
| 2 | 49.40 | -58.54 | -29.98 | -28.56 | -63.63 | 5.09 | 100 | 238 | Peak | HORIZONTAL |
| 3 | 80.44 | -62.44 | -33.88 | -28.56 | -63.91 | 1.47 | 125 | 265 | Peak | HORIZONTAL |
| 4 | 471.35 | -61.78 | -33.22 | -28.56 | -74.09 | 12.31 | 125 | 211 | Peak | HORIZONTAL |
| 5 | 496.57 | -60.47 | -31.91 | -28.56 | -75.09 | 14.62 | 100 | 58 | Peak | HORIZONTAL |
| 6 | 897.18 | -60.52 | -31.96 | -28.56 | -75.99 | 15.47 | 100 | 84 | Peak | HORIZONTAL |

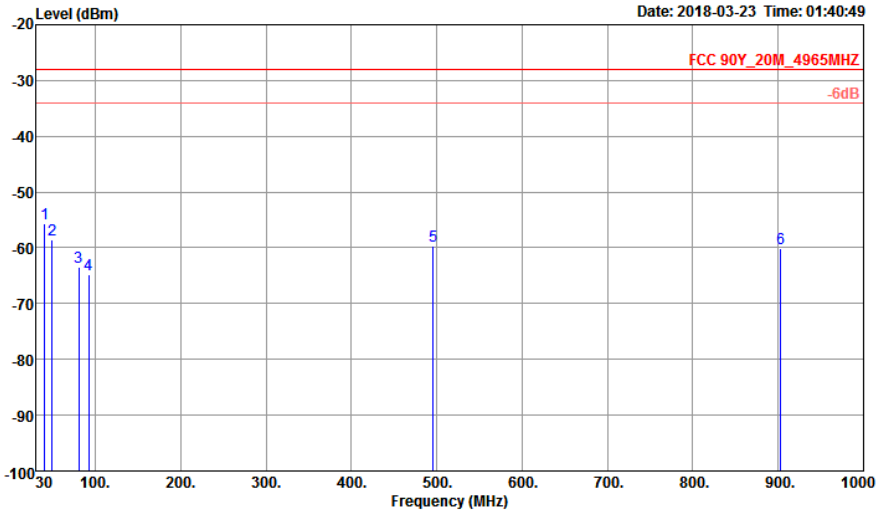
***Vertical***




| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 49.40 | -61.21 | -32.65 | -28.56 | -52.61 | -8.60 | 100 | 259 | Peak | VERTICAL |
| 2 | 55.22 | -61.39 | -32.83 | -28.56 | -52.87 | -8.52 | 100 | 132 | Peak | VERTICAL |
| 3 | 90.14 | -65.72 | -37.16 | -28.56 | -63.58 | -2.14 | 100 | 185 | Peak | VERTICAL |
| 4 | 127.00 | -65.76 | -37.20 | -28.56 | -64.37 | -1.39 | 100 | 226 | Peak | VERTICAL |
| 5 | 298.69 | -68.54 | -39.98 | -28.56 | -75.56 | 7.02 | 100 | 158 | Peak | VERTICAL |
| 6 | 756.53 | -65.42 | -36.86 | -28.56 | -75.14 | 9.72 | 125 | 2 | Peak | VERTICAL |

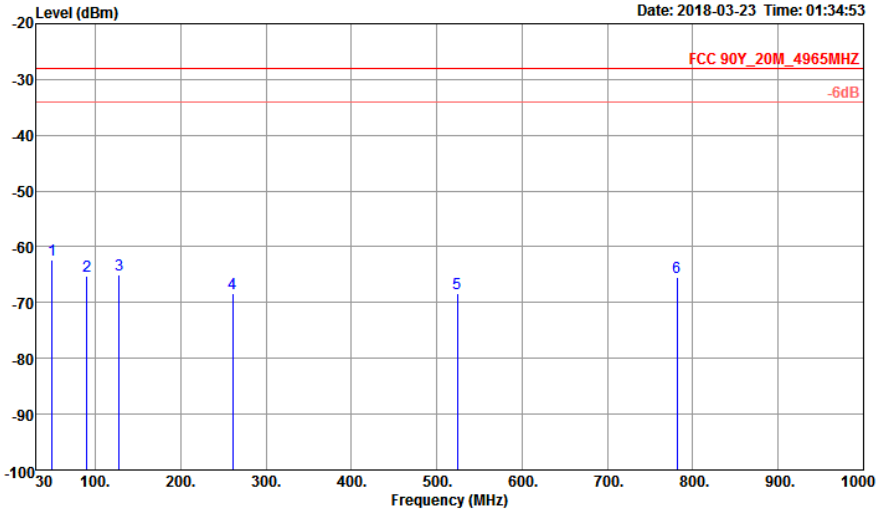
| Temperature | 22℃ | Humidity | 54% |
|---|---|---|---|
| Test Engineer | Welson Chen | Mode | 20MHz / 4965MHz |

***Horizontal***




| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 40.67 | -55.72 | -27.74 | -27.98 | -69.87 | 14.15 | 100 | 60 | Peak | HORIZONTAL |
| 2 | 49.40 | -58.63 | -30.65 | -27.98 | -63.72 | 5.09 | 100 | 124 | Peak | HORIZONTAL |
| 3 | 80.44 | -63.55 | -35.57 | -27.98 | -65.02 | 1.47 | 125 | 50 | Peak | HORIZONTAL |
| 4 | 92.08 | -64.90 | -36.92 | -27.98 | -69.86 | 4.96 | 100 | 36 | Peak | HORIZONTAL |
| 5 | 495.60 | -59.63 | -31.65 | -27.98 | -74.25 | 14.62 | 125 | 142 | Peak | HORIZONTAL |
| 6 | 903.00 | -60.05 | -32.07 | -27.98 | -75.55 | 15.50 | 100 | 334 | Peak | HORIZONTAL |

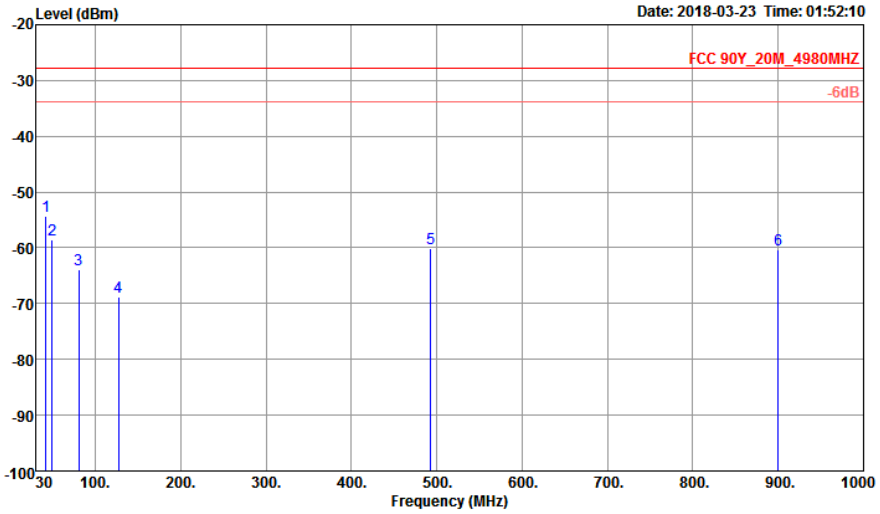
***Vertical***




| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 49.40 | -62.28 | -34.30 | -27.98 | -53.68 | -8.60 | 100 | 24 | Peak | VERTICAL |
| 2 | 90.14 | -65.25 | -37.27 | -27.98 | -63.11 | -2.14 | 125 | 324 | Peak | VERTICAL |
| 3 | 127.97 | -65.07 | -37.09 | -27.98 | -63.87 | -1.20 | 100 | 156 | Peak | VERTICAL |
| 4 | 260.86 | -68.37 | -40.39 | -27.98 | -74.30 | 5.93 | 100 | 94 | Peak | VERTICAL |
| 5 | 523.73 | -68.37 | -40.39 | -27.98 | -72.28 | 3.91 | 125 | 43 | Peak | VERTICAL |
| 6 | 781.75 | -65.45 | -37.47 | -27.98 | -75.27 | 9.82 | 100 | 222 | Peak | VERTICAL |

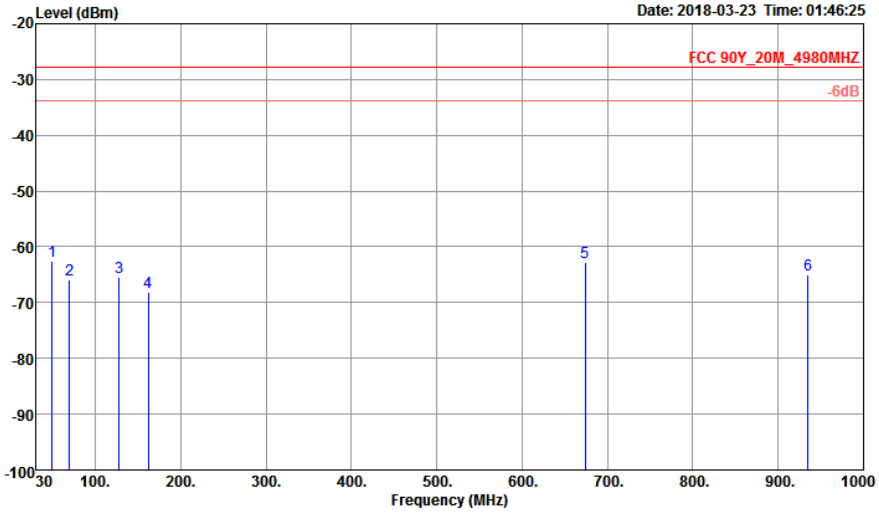
| Temperature | 22℃ | Humidity | 54% |
|---|---|---|---|
| Test Engineer | Welson Chen | Mode | 20MHz / 4980MHz |

***Horizontal***




| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 41.64 | -54.28 | -26.38 | -27.90 | -67.53 | 13.25 | 100 | 153 | Peak | HORIZONTAL |
| 2 | 49.40 | -58.50 | -30.60 | -27.90 | -63.59 | 5.09 | 150 | 257 | Peak | HORIZONTAL |
| 3 | 80.44 | -63.84 | -35.94 | -27.90 | -65.31 | 1.47 | 100 | 210 | Peak | HORIZONTAL |
| 4 | 127.00 | -68.82 | -40.92 | -27.90 | -69.66 | 0.84 | 100 | 315 | Peak | HORIZONTAL |
| 5 | 492.69 | -60.12 | -32.22 | -27.90 | -74.41 | 14.29 | 125 | 22 | Peak | HORIZONTAL |
| 6 | 900.09 | -60.43 | -32.53 | -27.90 | -76.14 | 15.71 | 100 | 256 | Peak | HORIZONTAL |

***Vertical***




| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 49.40 | -62.46 | -34.56 | -27.90 | -53.86 | -8.60 | 100 | 52 | Peak | VERTICAL |
| 2 | 69.77 | -65.89 | -37.99 | -27.90 | -58.66 | -7.23 | 125 | 238 | Peak | VERTICAL |
| 3 | 127.97 | -65.41 | -37.51 | -27.90 | -64.21 | -1.20 | 125 | 146 | Peak | VERTICAL |
| 4 | 161.92 | -68.15 | -40.25 | -27.90 | -66.25 | -1.90 | 100 | 236 | Peak | VERTICAL |
| 5 | 674.08 | -62.76 | -34.86 | -27.90 | -71.52 | 8.76 | 100 | 168 | Peak | VERTICAL |
| 6 | 935.01 | -65.06 | -37.16 | -27.90 | -74.26 | 9.20 | 100 | 106 | Peak | VERTICAL |

Note1:

The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Note2:

EIRP = Pr - Gr + 20 log (4 * Pi * D / λ) - Cr - PAr – Pr

Where

Pr = Receiver Power

Gr = Gain of receiving antenna

D = Distance in km

Cr = Loss of receiving path

PAr = Gain of receiving amplifier

## 2.1.7. Results of Transmitter Radiated Unwanted Emissions (1GHz~40GHz)

| Temperature | 22℃ | Humidity | 54% |
|---|---|---|---|
| Test Engineer | Welson Chen | Mode | 5MHz / 4942.5MHz |
| Test Date | Mar. 22, 2018 ~ Mar. 23, 2018 | | |

***Horizontal***

| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 2344.71 | -52.43 | -23.43 | -29.00 | -64.18 | 11.75 | 115 | 282 | Peak | HORIZONTAL |
| 2 | 3326.05 | -50.93 | -21.93 | -29.00 | -65.75 | 14.82 | 101 | 117 | Peak | HORIZONTAL |
| 3 | 6995.31 | -42.08 | -13.08 | -29.00 | -64.94 | 22.86 | 106 | 8 | Peak | HORIZONTAL |
| 4 | 9882.67 | -31.24 | -2.24 | -29.00 | -53.39 | 22.15 | 101 | 78 | Peak | HORIZONTAL |
| 5 | 10214.09 | -42.56 | -13.56 | -29.00 | -65.02 | 22.46 | 104 | 130 | Peak | HORIZONTAL |
| 6 | 14824.86 | -40.16 | -11.16 | -29.00 | -64.57 | 24.41 | 101 | 56 | Peak | HORIZONTAL |

***Vertical***

| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 2343.70 | -51.36 | -22.36 | -29.00 | -62.71 | 11.35 | 120 | 91 | Peak | VERTICAL |
| 2 | 3318.00 | -47.58 | -18.58 | -29.00 | -62.92 | 15.34 | 105 | 104 | Peak | VERTICAL |
| 3 | 6998.60 | -38.11 | -9.11 | -29.00 | -62.94 | 24.83 | 108 | 356 | Peak | VERTICAL |
| 4 | 9886.13 | -29.20 | -0.20 | -29.00 | -55.34 | 26.14 | 100 | 155 | Peak | VERTICAL |
| 5 | 10218.50 | -37.14 | -8.14 | -29.00 | -63.36 | 26.22 | 110 | 139 | Peak | VERTICAL |
| 6 | 14827.70 | -37.85 | -8.85 | -29.00 | -64.55 | 26.70 | 101 | 140 | Peak | VERTICAL |

| Temperature | 22℃ | Humidity | 54% |
|---|---|---|---|
| Test Engineer | Welson Chen | Mode | 5MHz / 4962.5MHz |
| Test Date | Mar. 22, 2018 ~ Mar. 23, 2018 | | |

***Horizontal***

| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 2343.46 | -53.61 | -24.63 | -28.98 | -65.36 | 11.75 | 105 | 63 | Peak | HORIZONTAL |
| 2 | 3324.89 | -50.92 | -21.94 | -28.98 | -65.74 | 14.82 | 107 | 174 | Peak | HORIZONTAL |
| 3 | 6997.51 | -43.47 | -14.49 | -28.98 | -66.33 | 22.86 | 111 | 77 | Peak | HORIZONTAL |
| 4 | 9922.80 | -32.24 | -3.26 | -28.98 | -54.38 | 22.14 | 100 | 330 | Peak | HORIZONTAL |
| 5 | 10209.98 | -42.86 | -13.88 | -28.98 | -65.32 | 22.46 | 110 | 323 | Peak | HORIZONTAL |
| 6 | 14880.64 | -38.49 | -9.51 | -28.98 | -62.86 | 24.37 | 100 | 309 | Peak | HORIZONTAL |

***Vertical***

| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 2341.73 | -53.81 | -24.83 | -28.98 | -65.15 | 11.34 | 101 | 152 | Peak | VERTICAL |
| 2 | 3321.59 | -50.40 | -21.42 | -28.98 | -65.74 | 15.34 | 115 | 88 | Peak | VERTICAL |
| 3 | 6993.77 | -41.57 | -12.59 | -28.98 | -66.40 | 24.83 | 100 | 113 | Peak | VERTICAL |
| 4 | 9926.51 | -30.09 | -1.11 | -28.98 | -56.24 | 26.15 | 100 | 316 | Peak | VERTICAL |
| 5 | 10210.39 | -39.05 | -10.07 | -28.98 | -65.27 | 26.22 | 101 | 50 | Peak | VERTICAL |
| 6 | 14891.87 | -36.16 | -7.18 | -28.98 | -62.71 | 26.55 | 100 | 298 | Peak | VERTICAL |

| Temperature | 22℃ | Humidity | 54% |
|---|---|---|---|
| Test Engineer | Welson Chen | Mode | 5MHz / 4987.5MHz |
| Test Date | Mar. 22, 2018 ~ Mar. 23, 2018 | | |

***Horizontal***

| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 2342.91 | -53.42 | -24.72 | -28.70 | -65.17 | 11.75 | 117 | 307 | Peak | HORIZONTAL |
| 2 | 3327.09 | -51.06 | -22.36 | -28.70 | -65.88 | 14.82 | 105 | 247 | Peak | HORIZONTAL |
| 3 | 6994.90 | -43.98 | -15.28 | -28.70 | -66.84 | 22.86 | 115 | 43 | Peak | HORIZONTAL |
| 4 | 9972.63 | -32.69 | -3.99 | -28.70 | -54.82 | 22.13 | 100 | 267 | Peak | HORIZONTAL |
| 5 | 10209.92 | -43.63 | -14.93 | -28.70 | -66.09 | 22.46 | 105 | 359 | Peak | HORIZONTAL |
| 6 | 14958.39 | -40.24 | -11.54 | -28.70 | -64.53 | 24.29 | 103 | 255 | Peak | HORIZONTAL |

***Vertical***

| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 2337.65 | -53.62 | -24.92 | -28.70 | -64.96 | 11.34 | 106 | 126 | Peak | VERTICAL |
| 2 | 3324.19 | -50.55 | -21.85 | -28.70 | -65.93 | 15.38 | 113 | 182 | Peak | VERTICAL |
| 3 | 6994.30 | -41.63 | -12.93 | -28.70 | -66.46 | 24.83 | 103 | 113 | Peak | VERTICAL |
| 4 | 9976.71 | -30.05 | -1.35 | -28.70 | -56.20 | 26.15 | 116 | 55 | Peak | VERTICAL |
| 5 | 10227.41 | -38.93 | -10.23 | -28.70 | -65.15 | 26.22 | 102 | 193 | Peak | VERTICAL |
| 6 | 14963.98 | -37.98 | -9.28 | -28.70 | -64.21 | 26.23 | 106 | 77 | Peak | VERTICAL |

| Temperature | 22℃ | Humidity | 54% |
|---|---|---|---|
| Test Engineer | Welson Chen | Mode | 10MHz / 4945MHz |
| Test Date | Mar. 22, 2018 ~ Mar. 23, 2018 | | |

***Horizontal***

| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 2339.40 | -53.53 | -24.62 | -28.91 | -65.28 | 11.75 | 100 | 205 | Peak | HORIZONTAL |
| 2 | 3323.17 | -51.49 | -22.58 | -28.91 | -66.27 | 14.78 | 104 | 47 | Peak | HORIZONTAL |
| 3 | 6999.22 | -44.21 | -15.30 | -28.91 | -67.07 | 22.86 | 118 | 78 | Peak | HORIZONTAL |
| 4 | 9886.18 | -35.00 | -6.09 | -28.91 | -57.15 | 22.15 | 100 | 50 | Peak | HORIZONTAL |
| 5 | 10227.38 | -42.79 | -13.88 | -28.91 | -65.25 | 22.46 | 115 | 10 | Peak | HORIZONTAL |
| 6 | 14828.18 | -41.08 | -12.17 | -28.91 | -65.49 | 24.41 | 100 | 39 | Peak | HORIZONTAL |

***Vertical***

| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 2351.47 | -53.79 | -24.88 | -28.91 | -65.14 | 11.35 | 101 | 357 | Peak | VERTICAL |
| 2 | 3324.25 | -50.23 | -21.32 | -28.91 | -65.61 | 15.38 | 109 | 63 | Peak | VERTICAL |
| 3 | 6986.80 | -42.26 | -13.35 | -28.91 | -67.09 | 24.83 | 112 | 341 | Peak | VERTICAL |
| 4 | 9893.99 | -31.95 | -3.04 | -28.91 | -58.09 | 26.14 | 101 | 134 | Peak | VERTICAL |
| 5 | 10225.25 | -39.62 | -10.71 | -28.91 | -65.84 | 26.22 | 103 | 10 | Peak | VERTICAL |
| 6 | 14840.47 | -39.73 | -10.82 | -28.91 | -66.43 | 26.70 | 100 | 152 | Peak | VERTICAL |

| Temperature | 22℃ | Humidity | 54% |
|---|---|---|---|
| Test Engineer | Welson Chen | Mode | 10MHz / 4965MHz |
| Test Date | Mar. 22, 2018 ~ Mar. 23, 2018 | | |

***Horizontal***

| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 2346.69 | -53.95 | -25.05 | -28.90 | -65.70 | 11.75 | 104 | 128 | Peak | HORIZONTAL |
| 2 | 3330.20 | -50.88 | -21.98 | -28.90 | -65.70 | 14.82 | 102 | 208 | Peak | HORIZONTAL |
| 3 | 6993.96 | -43.49 | -14.59 | -28.90 | -66.35 | 22.86 | 105 | 46 | Peak | HORIZONTAL |
| 4 | 9925.70 | -34.34 | -5.44 | -28.90 | -56.48 | 22.14 | 100 | 221 | Peak | HORIZONTAL |
| 5 | 10223.99 | -43.67 | -14.77 | -28.90 | -66.13 | 22.46 | 108 | 294 | Peak | HORIZONTAL |
| 6 | 14889.49 | -41.28 | -12.38 | -28.90 | -65.65 | 24.37 | 100 | 191 | Peak | HORIZONTAL |

***Vertical***

| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 2333.80 | -53.99 | -25.09 | -28.90 | -65.33 | 11.34 | 117 | 121 | Peak | VERTICAL |
| 2 | 3328.64 | -50.32 | -21.42 | -28.90 | -65.70 | 15.38 | 111 | 61 | Peak | VERTICAL |
| 3 | 6996.78 | -41.59 | -12.69 | -28.90 | -66.42 | 24.83 | 110 | 182 | Peak | VERTICAL |
| 4 | 9932.52 | -31.78 | -2.88 | -28.90 | -57.93 | 26.15 | 100 | 343 | Peak | VERTICAL |
| 5 | 10229.11 | -39.56 | -10.66 | -28.90 | -65.78 | 26.22 | 112 | 279 | Peak | VERTICAL |
| 6 | 14895.87 | -40.05 | -11.15 | -28.90 | -66.44 | 26.39 | 100 | 332 | Peak | VERTICAL |

| Temperature | 22℃ | Humidity | 54% |
|---|---|---|---|
| Test Engineer | Welson Chen | Mode | 10MHz / 4985MHz |
| Test Date | Mar. 22, 2018 ~ Mar. 23, 2018 | | |

***Horizontal***

| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 2342.09 | -53.50 | -26.14 | -27.36 | -65.25 | 11.75 | 117 | 42 | Peak | HORIZONTAL |
| 2 | 3317.96 | -51.03 | -23.67 | -27.36 | -65.81 | 14.78 | 117 | 40 | Peak | HORIZONTAL |
| 3 | 7001.69 | -43.54 | -16.18 | -27.36 | -66.40 | 22.86 | 107 | 102 | Peak | HORIZONTAL |
| 4 | 9965.62 | -30.64 | -3.28 | -27.36 | -52.78 | 22.14 | 100 | 60 | Peak | HORIZONTAL |
| 5 | 10229.85 | -42.66 | -15.30 | -27.36 | -65.16 | 22.50 | 116 | 150 | Peak | HORIZONTAL |
| 6 | 14949.83 | -39.69 | -12.33 | -27.36 | -63.98 | 24.29 | 100 | 44 | Peak | HORIZONTAL |

***Vertical***

| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 2344.09 | -54.57 | -27.21 | -27.36 | -65.92 | 11.35 | 103 | 224 | Peak | VERTICAL |
| 2 | 3322.60 | -50.36 | -23.00 | -27.36 | -65.70 | 15.34 | 109 | 149 | Peak | VERTICAL |
| 3 | 7012.63 | -41.58 | -14.22 | -27.36 | -66.39 | 24.81 | 120 | 109 | Peak | VERTICAL |
| 4 | 9972.30 | -29.33 | -1.97 | -27.36 | -55.48 | 26.15 | 101 | 59 | Peak | VERTICAL |
| 5 | 10204.54 | -39.06 | -11.70 | -27.36 | -65.28 | 26.22 | 115 | 59 | Peak | VERTICAL |
| 6 | 14961.08 | -38.92 | -11.56 | -27.36 | -65.15 | 26.23 | 100 | 48 | Peak | VERTICAL |

| Temperature | 22℃ | Humidity | 54% |
|---|---|---|---|
| Test Engineer | Welson Chen | Mode | 20MHz / 4950MHz |
| Test Date | Mar. 22, 2018 ~ Mar. 23, 2018 | | |

***Horizontal***

| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 2346.71 | -54.04 | -25.48 | -28.56 | -65.79 | 11.75 | 119 | 133 | Peak | HORIZONTAL |
| 2 | 3337.22 | -50.52 | -21.96 | -28.56 | -65.38 | 14.86 | 109 | 338 | Peak | HORIZONTAL |
| 3 | 6998.23 | -42.28 | -13.72 | -28.56 | -65.14 | 22.86 | 100 | 344 | Peak | HORIZONTAL |
| 4 | 9891.03 | -38.02 | -9.46 | -28.56 | -60.17 | 22.15 | 100 | 165 | Peak | HORIZONTAL |
| 5 | 10234.61 | -42.53 | -13.97 | -28.56 | -65.03 | 22.50 | 116 | 23 | Peak | HORIZONTAL |
| 6 | 14857.53 | -40.83 | -12.27 | -28.56 | -65.20 | 24.37 | 100 | 178 | Peak | HORIZONTAL |

***Vertical***

| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 2340.86 | -53.72 | -25.16 | -28.56 | -65.06 | 11.34 | 111 | 298 | Peak | VERTICAL |
| 2 | 3320.78 | -51.05 | -22.49 | -28.56 | -66.39 | 15.34 | 105 | 82 | Peak | VERTICAL |
| 3 | 6994.87 | -40.73 | -12.17 | -28.56 | -65.56 | 24.83 | 110 | 195 | Peak | VERTICAL |
| 4 | 9905.27 | -33.81 | -5.25 | -28.56 | -59.95 | 26.14 | 116 | 181 | Peak | VERTICAL |
| 5 | 10224.60 | -39.49 | -10.93 | -28.56 | -65.71 | 26.22 | 110 | 31 | Peak | VERTICAL |
| 6 | 14856.25 | -39.78 | -11.22 | -28.56 | -66.33 | 26.55 | 102 | 201 | Peak | VERTICAL |

| Temperature | 22℃ | Humidity | 54% |
|---|---|---|---|
| Test Engineer | Welson Chen | Mode | 20MHz / 4965MHz |
| Test Date | Mar. 22, 2018 ~ Mar. 23, 2018 | | |

***Horizontal***

| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 2341.84 | -54.39 | -26.41 | -27.98 | -66.14 | 11.75 | 110 | 37 | Peak | HORIZONTAL |
| 2 | 3336.18 | -50.83 | -22.85 | -27.98 | -65.69 | 14.86 | 103 | 209 | Peak | HORIZONTAL |
| 3 | 6998.98 | -42.24 | -14.26 | -27.98 | -65.10 | 22.86 | 106 | 312 | Peak | HORIZONTAL |
| 4 | 9922.59 | -36.23 | -8.25 | -27.98 | -58.37 | 22.14 | 100 | 141 | Peak | HORIZONTAL |
| 5 | 10235.89 | -42.62 | -14.64 | -27.98 | -65.12 | 22.50 | 108 | 4 | Peak | HORIZONTAL |
| 6 | 14887.36 | -41.67 | -13.69 | -27.98 | -66.04 | 24.37 | 100 | 147 | Peak | HORIZONTAL |

***Vertical***

| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 2344.62 | -54.40 | -26.42 | -27.98 | -65.75 | 11.35 | 103 | 78 | Peak | VERTICAL |
| 2 | 3329.06 | -50.31 | -22.33 | -27.98 | -65.69 | 15.38 | 120 | 65 | Peak | VERTICAL |
| 3 | 6999.74 | -40.78 | -12.80 | -27.98 | -65.61 | 24.83 | 112 | 197 | Peak | VERTICAL |
| 4 | 9938.57 | -32.62 | -4.64 | -27.98 | -58.77 | 26.15 | 100 | 48 | Peak | VERTICAL |
| 5 | 10224.08 | -39.71 | -11.73 | -27.98 | -65.93 | 26.22 | 115 | 179 | Peak | VERTICAL |
| 6 | 14906.81 | -38.73 | -10.75 | -27.98 | -65.12 | 26.39 | 100 | 52 | Peak | VERTICAL |

| Temperature | 22℃ | Humidity | 54% |
|---|---|---|---|
| Test Engineer | Welson Chen | Mode | 20MHz / 4980MHz |
| Test Date | Mar. 22, 2018 ~ Mar. 23, 2018 | | |

***Horizontal***

| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 2340.40 | -53.46 | -25.56 | -27.90 | -65.21 | 11.75 | 118 | 209 | Peak | HORIZONTAL |
| 2 | 3327.44 | -50.74 | -22.84 | -27.90 | -65.56 | 14.82 | 107 | 88 | Peak | HORIZONTAL |
| 3 | 6999.04 | -42.55 | -14.65 | -27.90 | -65.41 | 22.86 | 117 | 139 | Peak | HORIZONTAL |
| 4 | 9950.85 | -36.06 | -8.16 | -27.90 | -58.20 | 22.14 | 100 | 47 | Peak | HORIZONTAL |
| 5 | 10236.93 | -42.48 | -14.58 | -27.90 | -64.98 | 22.50 | 103 | 137 | Peak | HORIZONTAL |
| 6 | 14958.29 | -40.88 | -12.98 | -27.90 | -65.17 | 24.29 | 100 | 43 | Peak | HORIZONTAL |

***Vertical***

| | Freq | Level | Over Limit | Limit Line | Read Level | Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBm | dB | dBm | dBm | dB | cm | deg | | |
| 1 | 2337.67 | -54.46 | -26.56 | -27.90 | -65.80 | 11.34 | 110 | 162 | Peak | VERTICAL |
| 2 | 3318.23 | -51.49 | -23.59 | -27.90 | -66.83 | 15.34 | 100 | 310 | Peak | VERTICAL |
| 3 | 6997.77 | -40.55 | -12.65 | -27.90 | -65.38 | 24.83 | 109 | 260 | Peak | VERTICAL |
| 4 | 9968.51 | -31.51 | -3.61 | -27.90 | -57.66 | 26.15 | 100 | 332 | Peak | VERTICAL |
| 5 | 10206.19 | -39.43 | -11.53 | -27.90 | -65.65 | 26.22 | 103 | 55 | Peak | VERTICAL |
| 6 | 14958.52 | -38.50 | -10.60 | -27.90 | -64.73 | 26.23 | 102 | 279 | Peak | VERTICAL |

Note1:

The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Note2:

EIRP = Pr - Gr + 20 log (4 * Pi * D / λ) - Cr - PAr – Pr

Where

Pr = Receiver Power

Gr = Gain of receiving antenna

D = Distance in km

Cr = Loss of receiving path

PAr = Gain of receiving amplifier

# 3. List of Measuring Equipments

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Calibration Due Date | Remark |
|---|---|---|---|---|---|---|---|
| BILOG ANTENNA with 6dB Attenuator | TESEQ & EMCI | CBL6112D & N-6-06 | 37880 & AT-N0609 | 20MHz ~ 2GHz | Aug. 30, 2017 | Aug. 29, 2018 | Radiation (03CH01-CB) |
| Horn Antenna | EMCO | 3115 | 00075790 | 750MHz ~ 18GHz | Nov. 20, 2017 | Nov. 19, 2018 | Radiation (03CH01-CB) |
| Horn Antenna | Schwarzbeck | BBHA 9170 | BBHA9170252 | 15GHz ~ 40GHz | Jul. 05, 2017 | Jul. 04, 2018 | Radiation (03CH01-CB) |
| Pre-Amplifier | EMCI | EMC330N | 980332 | 20MHz ~ 3GHz | May 02, 2017 | May 01, 2018 | Radiation (03CH01-CB) |
| Pre-Amplifier | Agilent | 8449B | 3008A02310 | 1GHz ~ 26.5GHz | Jan. 09, 2018 | Jan. 08, 2019 | Radiation (03CH01-CB) |
| Pre-Amplifier | MITEQ | TTA1840-35-HG | 1864479 | 18GHz ~ 40GHz | Jul. 10, 2017 | Jul. 09, 2018 | Radiation (03CH01-CB) |
| Spectrum Analyzer | R&S | FSP40 | 100056 | 9kHz ~ 40GHz | Nov. 23, 2017 | Nov. 22, 2018 | Radiation (03CH01-CB) |
| EMI Test | R&S | ESCS | 100355 | 9kHz ~ 2.75GHz | May 06, 2017 | May 05, 2018 | Radiation (03CH01-CB) |
| RF Cable-low | Woken | Low Cable-16+17 | N/A | 30 MHz ~ 1 GHz | Oct. 11, 2017 | Oct. 10, 2018 | Radiation (03CH01-CB) |
| RF Cable-high | Woken | High Cable-16 | N/A | 1 GHz ~ 18 GHz | Oct. 11, 2017 | Oct. 10, 2018 | Radiation (03CH01-CB) |
| RF Cable-high | Woken | High Cable-16+17 | N/A | 1 GHz ~ 18 GHz | Oct. 11, 2017 | Oct. 10, 2018 | Radiation (03CH01-CB) |
| RF Cable-high | Woken | High Cable-40G#1 | N/A | 18GHz ~ 40 GHz | Oct. 11, 2017 | Oct. 10, 2018 | Radiation (03CH01-CB) |
| RF Cable-high | Woken | High Cable-40G#2 | N/A | 18GHz ~ 40 GHz | Oct. 11, 2017 | Oct. 10, 2018 | Radiation (03CH01-CB) |

Note: Calibration Interval of instruments listed above is one year.

# 4. Measurement Uncertainty

| Test Items | Uncertainty | Remark |
|---|---|---|
| Radiated Emission (30MHz ~ 1,000MHz) | 3.6 dB | Confidence levels of 95% |
| Radiated Emission (1GHz ~ 18GHz) | 3.7 dB | Confidence levels of 95% |
| Radiated Emission (18GHz ~ 40GHz) | 3.5 dB | Confidence levels of 95% |