

# **FCC REPORT**

## **(UNII)**

**Applicant:** Shenzhen LINGDU Auto Electronics Co., Ltd.

**Address of Applicant:** 1801-1808 Haiyun Building, No. 468 Minzhi Avenue, Longhua, Shenzhen, China

**Equipment Under Test (EUT)**

Product Name: CAR DVR

Model No.: LS01, BN03

**FCC ID:** 2ASWV-LS01

**Applicable standards:** FCC CFR Title 47 Part 15 Subpart E Section 15.407

**Date of sample receipt:** 30 Aug., 2019

**Date of Test:** 31 Aug., to 29 Sep., 2019

**Date of report issued:** 23 Oct., 2019

**Test Result:** PASS\*

\* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:



Bruce Zhang  
Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the CCIS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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## 2 Version

| Version No. | Date          | Description                                               |
|-------------|---------------|-----------------------------------------------------------|
| 00          | 30 Sep., 2019 | Original                                                  |
| 01          | 23 Oct., 2019 | Updated address of Applicant and Manufacturer on P.1, P.5 |
|             |               |                                                           |
|             |               |                                                           |
|             |               |                                                           |

Tested by:

*Yaro Wu*

Test Engineer

Date:

23 Oct., 2019

Reviewed by:

*Winner Zhang*

Project Engineer

Date:

23 Oct., 2019

### 3 Contents

|                                                           | Page      |
|-----------------------------------------------------------|-----------|
| <b>1 COVER PAGE.....</b>                                  | <b>1</b>  |
| <b>2 VERSION.....</b>                                     | <b>2</b>  |
| <b>3 CONTENTS.....</b>                                    | <b>3</b>  |
| <b>4 TEST SUMMARY.....</b>                                | <b>4</b>  |
| <b>5 GENERAL INFORMATION.....</b>                         | <b>5</b>  |
| 5.1 CLIENT INFORMATION.....                               | 5         |
| 5.2 GENERAL DESCRIPTION OF E.U.T.....                     | 5         |
| 5.3 TEST ENVIRONMENT AND TEST MODE.....                   | 6         |
| 5.4 DESCRIPTION OF SUPPORT UNITS.....                     | 7         |
| 5.5 MEASUREMENT UNCERTAINTY.....                          | 7         |
| 5.6 RELATED SUBMITTAL(S) / GRANT (S).....                 | 7         |
| 5.7 LABORATORY FACILITY.....                              | 7         |
| 5.8 LABORATORY LOCATION.....                              | 7         |
| 5.9 TEST INSTRUMENTS LIST.....                            | 8         |
| <b>6 TEST RESULTS AND MEASUREMENT DATA.....</b>           | <b>9</b>  |
| 6.1 ANTENNA REQUIREMENT.....                              | 9         |
| 6.2 CONDUCTED EMISSION.....                               | 10        |
| 6.3 CONDUCTED OUTPUT POWER.....                           | 15        |
| 6.4 OCCUPY BANDWIDTH.....                                 | 20        |
| 6.5 POWER SPECTRAL DENSITY.....                           | 29        |
| 6.6 BAND EDGE.....                                        | 34        |
| 6.7 SPURIOUS EMISSION.....                                | 42        |
| 6.7.1 Restricted Band.....                                | 42        |
| 6.7.2 Unwanted Emissions out of the Restricted Bands..... | 49        |
| 6.8 FREQUENCY STABILITY.....                              | 61        |
| <b>7 TEST SETUP PHOTO.....</b>                            | <b>63</b> |
| <b>8 EUT CONSTRUCTIONAL DETAILS.....</b>                  | <b>64</b> |

## 4 Test Summary

| Test Item                                                                      | Section in CFR 47            | Test Result |
|--------------------------------------------------------------------------------|------------------------------|-------------|
| Antenna requirement                                                            | 15.203 & 15.407 (a)          | Pass        |
| AC Power Line Conducted Emission                                               | 15.207                       | Pass        |
| Conducted Peak Output Power                                                    | 15.407 (a) (3)               | Pass        |
| 26dB Occupied Bandwidth                                                        | 15.407 (a) (5)               | Pass        |
| 6dB Emission Bandwidth                                                         | 15.407(e)                    | Pass        |
| Power Spectral Density                                                         | 15.407 (a) (3)               | Pass        |
| Band Edge                                                                      | 15.407(b)                    | Pass        |
| Spurious Emission                                                              | 15.407 (b) & 15.205 & 15.209 | Pass        |
| Frequency Stability                                                            | 15.407(g)                    | Pass        |
| <i>Pass: The EUT complies with the essential requirements in the standard.</i> |                              |             |
| <i>N/A: N/A: Not Applicable.</i>                                               |                              |             |

## 5 General Information

### 5.1 Client Information

|               |                                                                                  |
|---------------|----------------------------------------------------------------------------------|
| Applicant:    | Shenzhen LINGDU Auto Electronics Co., Ltd.                                       |
| Address:      | 1801-1808 Haiyun Building, No. 468 Minzhi Avenue, Longhua, Shenzhen, China       |
| Manufacturer: | Shenzhen LINGDU Auto Electronics Co., Ltd.                                       |
| Address:      | 1801-1808 Haiyun Building, No. 468 Minzhi Avenue, Longhua, Shenzhen, China       |
| Factory:      | Dongguan Kaka Electronic Technology Co., LTD.                                    |
| Address:      | No.395, Huanshi East Road, Shitanpu District, Tangxia Town, Dongguan City, China |

### 5.2 General Description of E.U.T.

|                                        |                                                                                                                                                                                         |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Name:                          | CAR DVR                                                                                                                                                                                 |
| Model No.:                             | LS01, BN03                                                                                                                                                                              |
| Operation Frequency:                   | Band 4: 5725MHz-5825MHz                                                                                                                                                                 |
| Channel numbers:                       | Band 4: 802.11a/802.11n/ac20: 5, 802.11n/ac40: 2, 802.11ac: 1                                                                                                                           |
| Channel separation:                    | 802.11a/802.11n20: 20MHz, 802.11n40: 40MHz, 802.11ac: 80MHz                                                                                                                             |
| Modulation technology (IEEE 802.11a):  | BPSK, QPSK, 16-QAM, 64-QAM                                                                                                                                                              |
| Modulation technology (IEEE 802.11n):  | BPSK, QPSK, 16-QAM, 64-QAM                                                                                                                                                              |
| Modulation technology (IEEE 802.11ac): | BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM                                                                                                                                                     |
| Data speed (IEEE 802.11a):             | 6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps, 54Mbps                                                                                                                            |
| Data speed (IEEE 802.11n20):           | MCS0: 6.5Mbps, MCS1:13Mbps, MCS2:19.5Mbps, MCS3:26Mbps, MCS4:39Mbps, MCS5:52Mbps, MCS6:58.5Mbps, MCS7:65Mbps                                                                            |
| Data speed (IEEE 802.11n40):           | MCS0:15Mbps, MCS1:30Mbps, MCS2:45Mbps, MCS3:60Mbps, MCS4:90Mbps, MCS5:120Mbps, MCS6:135Mbps, MCS7:150Mbps                                                                               |
| Data speed (IEEE 802.11ac):            | Up to 433.3Mbps                                                                                                                                                                         |
| Antenna Type:                          | Internal Antenna                                                                                                                                                                        |
| Antenna gain:                          | 1.72 dBi                                                                                                                                                                                |
| Car adapter:                           | Model: DC/DCADAPTER<br>Input: DC12-24V<br>Output: DC 5.0V, 2.5A                                                                                                                         |
| Remark:                                | Model No.: LS01, BN03 were identical inside, the electrical circuit design, layout, components used and internal wiring, with only difference being model name and for different areas. |
| Test Sample Condition:                 | The test samples were provided in good working order with no visible defects.                                                                                                           |

| Operation Frequency each of channel |           |              |           |            |           |
|-------------------------------------|-----------|--------------|-----------|------------|-----------|
| Band 4                              |           |              |           |            |           |
| 802.11a/802.11n/ac20                |           | 802.11n/ac40 |           | 802.11ac80 |           |
| Channel                             | Frequency | Channel      | Frequency | Channel    | Frequency |
| 149                                 | 5745MHz   | 151          | 5755MHz   | 155        | 5775MHz   |
| 153                                 | 5765MHz   | 159          | 5795MHz   |            |           |
| 157                                 | 5785MHz   |              |           |            |           |
| 161                                 | 5805MHz   |              |           |            |           |
| 165                                 | 5825MHz   |              |           |            |           |

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

| Band 4               |           |              |           |            |           |
|----------------------|-----------|--------------|-----------|------------|-----------|
| 802.11a/802.11n/ac20 |           | 802.11n/ac40 |           | 802.11ac80 |           |
| Channel              | Frequency | Channel      | Frequency | Channel    | Frequency |
| Lowest               | 5745MHz   | Lowest       | 5755MHz   | Middle     | 5775MHz   |
| Middle               | 5785MHz   | Highest      | 5795MHz   |            |           |
| Highest              | 5825MHz   |              |           |            |           |

## 5.3 Test environment and test mode

| Operating Environment:                                                                                                                                                                                       |                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| Temperature:                                                                                                                                                                                                 | 24.0 °C                                                       |
| Humidity:                                                                                                                                                                                                    | 54 % RH                                                       |
| Atmospheric Pressure:                                                                                                                                                                                        | 1010 mbar                                                     |
| Test mode:                                                                                                                                                                                                   |                                                               |
| Continuously transmitting mode                                                                                                                                                                               | Keep the EUT in 100% duty cycle transmitting with modulation. |
| We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows: |                                                               |
| Per-scan all kind of data rate, and found the follow list were the worst case.                                                                                                                               |                                                               |
| Mode                                                                                                                                                                                                         | Data rate                                                     |
| 802.11a                                                                                                                                                                                                      | 6 Mbps                                                        |
| 802.11n20                                                                                                                                                                                                    | 6.5 Mbps                                                      |
| 802.11n40                                                                                                                                                                                                    | 13 Mbps                                                       |
| 802.11ac                                                                                                                                                                                                     | 29.3 Mbps                                                     |

## 5.4 Description of Support Units

| Manufacturer | Description       | Model      | S/N        | FCC ID/DoC |
|--------------|-------------------|------------|------------|------------|
| LENOVO       | Laptop            | SL510      | 2847A65    | DoC        |
| GS Japan     | Lead-acid battery | 55D26R-MFZ | 8362810610 | N/A        |

## 5.5 Measurement Uncertainty

| Parameters                          | Expanded Uncertainty |
|-------------------------------------|----------------------|
| Conducted Emission (9kHz ~ 30MHz)   | ±1.60 dB (k=2)       |
| Radiated Emission (9kHz ~ 30MHz)    | ±3.12 dB (k=2)       |
| Radiated Emission (30MHz ~ 1000MHz) | ±4.32 dB (k=2)       |
| Radiated Emission (1GHz ~ 18GHz)    | ±5.38 dB (k=2)       |
| Radiated Emission (18GHz ~ 40GHz)   | ±3.36 dB (k=2)       |

## 5.6 Related Submittal(s) / Grant (s)

This is an original grant, no related submittals and grants.

## 5.7 Laboratory Facility

The test facility is recognized, certified, or accredited by the following organizations:

● **FCC - Designation No.: CN1211**

Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551.

● **ISED – CAB identifier.: CN0021**

The 3m Semi-anechoic chamber of Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

● **CNAS - Registration No.: CNAS L6048**

Shenzhen Zhongjian Nanfang Testing Co., Ltd. is accredited to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L6048.

● **A2LA - Registration No.: 4346.01**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: <https://portal.a2la.org/scopepdf/4346-01.pdf>

## 5.8 Laboratory Location

Shenzhen Zhongjian Nanfang Testing Co., Ltd.  
Address: No. B-C, 1/F., Building 2, Laodong No.2 Industrial Park, Xixiang Road,  
Bao'an District, Shenzhen, Guangdong, China  
Tel: +86-755-23118282, Fax: +86-755-23116366  
Email: info@ccis-cb.com, Website: <http://www.ccis-cb.com>

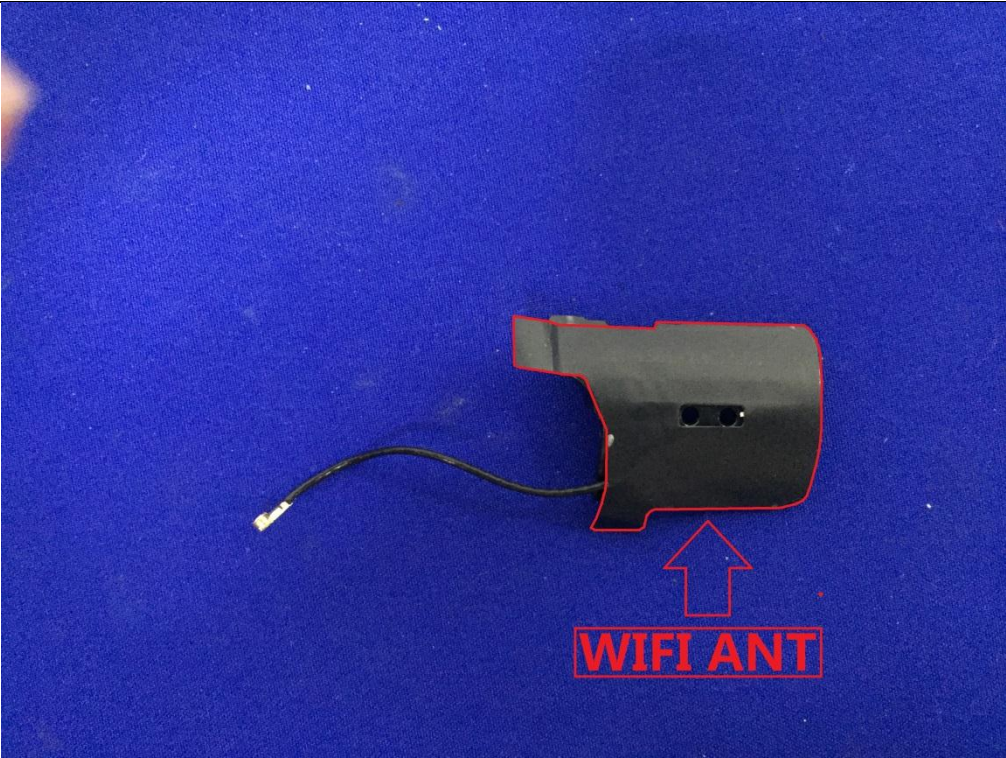
## 5.9 Test Instruments list

| Test Equipment               | Manufacturer    | Model No.     | Serial No.         | Cal. Date (mm-dd-yy) | Cal. Due date (mm-dd-yy) |
|------------------------------|-----------------|---------------|--------------------|----------------------|--------------------------|
| 3m SAC                       | SAEMC           | 9m*6m*6m      | 966                | 07-22-2017           | 07-21-2020               |
| BiConiLog Antenna            | SCHWARZBECK     | VULB9163      | 497                | 03-18-2019           | 03-17-2020               |
| Biconical Antenna            | SCHWARZBECK     | VUBA9117      | 359                | 06-22-2017           | 06-21-2020               |
| Horn Antenna                 | SCHWARZBECK     | BBHA9120D     | 916                | 03-18-2019           | 03-17-2020               |
| Horn Antenna                 | SCHWARZBECK     | BBHA9120D     | 1805               | 06-22-2017           | 06-21-2020               |
| Horn Antenna                 | SCHWARZBECK     | BBHA 9170     | BBHA9170582        | 11-21-2018           | 11-20-2019               |
| EMI Test Software            | AUDIX           | E3            | Version: 6.110919b |                      |                          |
| Pre-amplifier                | HP              | 8447D         | 2944A09358         | 03-18-2019           | 03-17-2020               |
| Pre-amplifier                | CD              | PAP-1G18      | 11804              | 03-18-2019           | 03-17-2020               |
| Spectrum analyzer            | Rohde & Schwarz | FSP30         | 101454             | 03-18-2019           | 03-17-2020               |
| Spectrum analyzer            | Rohde & Schwarz | FSP40         | 100363             | 11-21-2018           | 11-20-2019               |
| EMI Test Receiver            | Rohde & Schwarz | ESRP7         | 101070             | 03-18-2019           | 03-17-2020               |
| Spectrum Analyzer            | Agilent         | N9020A        | MY50510123         | 11-10-2018           | 11-09-2019               |
| Signal Generator             | Rohde & Schwarz | SMX           | 835454/016         | 03-18-2019           | 03-17-2020               |
| Signal Generator             | R&S             | SMR20         | 1008100050         | 03-18-2019           | 03-17-2020               |
| RF Switch Unit               | MWRFTTEST       | MW200         | N/A                | N/A                  | N/A                      |
| Test Software                | MWRFTTEST       | MTS8200       | Version: 2.0.0.0   |                      |                          |
| Cable                        | ZDECL           | Z108-NJ-NJ-81 | 1608458            | 03-18-2019           | 03-17-2020               |
| Cable                        | MICRO-COAX      | MFR64639      | K10742-5           | 03-18-2019           | 03-17-2020               |
| Cable                        | SUHNER          | SUCOFLEX100   | 58193/4PE          | 03-18-2019           | 03-17-2020               |
| DC Power Supply              | XinNuoEr        | WYK-10020K    | 1409050110020      | 10-31-2018           | 10-30-2019               |
| Temperature Humidity Chamber | HengPu          | HPGDS-500     | 20140828008        | 09-24-2019           | 09-23-2020               |
| Simulated Station            | Rohde & Schwarz | CMW500        | 140493             | 07-16-2019           | 07-15-2020               |

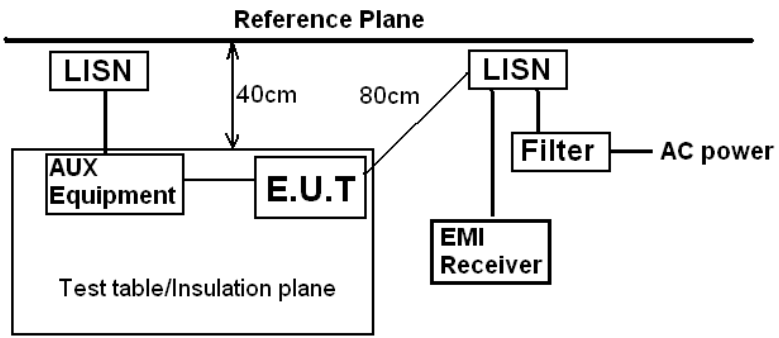
| Conducted Emission: |                 |            |                    |                      |                          |
|---------------------|-----------------|------------|--------------------|----------------------|--------------------------|
| Test Equipment      | Manufacturer    | Model No.  | Serial No.         | Cal. Date (mm-dd-yy) | Cal. Due date (mm-dd-yy) |
| EMI Test Receiver   | Rohde & Schwarz | ESCI       | 101189             | 03-18-2019           | 03-17-2020               |
| Pulse Limiter       | SCHWARZBECK     | OSRAM 2306 | 9731               | 03-18-2019           | 03-17-2020               |
| LISN                | CHASE           | MN2050D    | 1447               | 03-18-2019           | 03-17-2020               |
| LISN                | Rohde & Schwarz | ESH3-Z5    | 8438621/010        | 07-21-2018           | 07-20-2021               |
| Cable               | HP              | 10503A     | N/A                | 03-18-2019           | 03-17-2020               |
| EMI Test Software   | AUDIX           | E3         | Version: 6.110919b |                      |                          |

## 6 Test results and Measurement Data

### 6.1 Antenna requirement

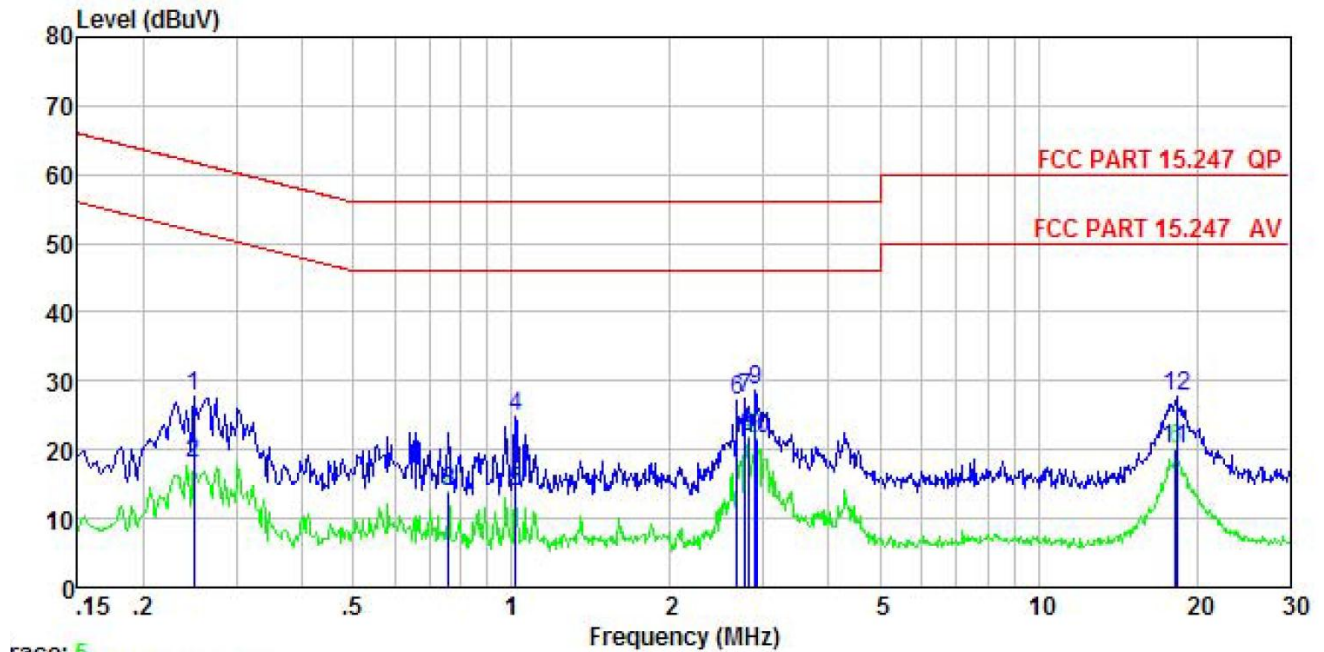
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|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| <b>Standard requirement:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | FCC Part15 E Section 15.203 /407(a) |
| <p>15.203 requirement:<br/>An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.</p> <p>This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, § 15.213, § 15.217, § 15.219, or § 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.</p> |                                     |
| <b>E.U.T Antenna:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                     |
| <p>The Wi-Fi antenna is an Internal antenna which cannot replace by end-user, the best case gain of the antenna is 1.72 dBi.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                     |

## 6.2 Conducted Emission

|                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |          |
|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|----------|
| Test Requirement:                                | FCC Part15 C Section 15.207                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |          |
| Test Method:                                     | ANSI C63.10: 2013                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |              |          |
| Test Frequency Range:                            | 150kHz to 30MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |          |
| Class / Severity:                                | Class B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |              |          |
| Receiver setup:                                  | RBW=9kHz, VBW=30kHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |              |          |
| Limit:                                           | Frequency range (MHz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Limit (dBUV) |          |
|                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Quasi-peak   |          |
|                                                  | 0.15-0.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 66 to 56*    | 0.15-0.5 |
|                                                  | 0.5-5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 56           | 0.5-5    |
|                                                  | 5-30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 60           | 5-30     |
| * Decreases with the logarithm of the frequency. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |          |
| Test procedure                                   | <ol style="list-style-type: none"> <li>The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). It provides a 50ohm/50uH coupling impedance for the measuring equipment.</li> <li>The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).</li> <li>Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement.</li> </ol> |              |          |
| Test setup:                                      |  <p><i>Remark:</i><br/> E.U.T: Equipment Under Test<br/> LISN: Line Impedance Stabilization Network<br/> Test table height=0.8m</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |              |          |
| Test Instruments:                                | Refer to section 5.9 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |              |          |
| Test mode:                                       | Refer to section 5.3 for details.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |              |          |
| Test results:                                    | Passed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |              |          |

Measurement Data:

|                 |                  |                |                        |
|-----------------|------------------|----------------|------------------------|
| Product name:   | CAR DVR          | Product model: | LS01                   |
| Test by:        | Yaro             | Test mode:     | 5.8G Wi-Fi Tx mode     |
| Test frequency: | 150 kHz ~ 30 MHz | Phase:         | Line                   |
| Test voltage:   | DC 12V           | Environment:   | Temp: 22.5°C Humi: 55% |

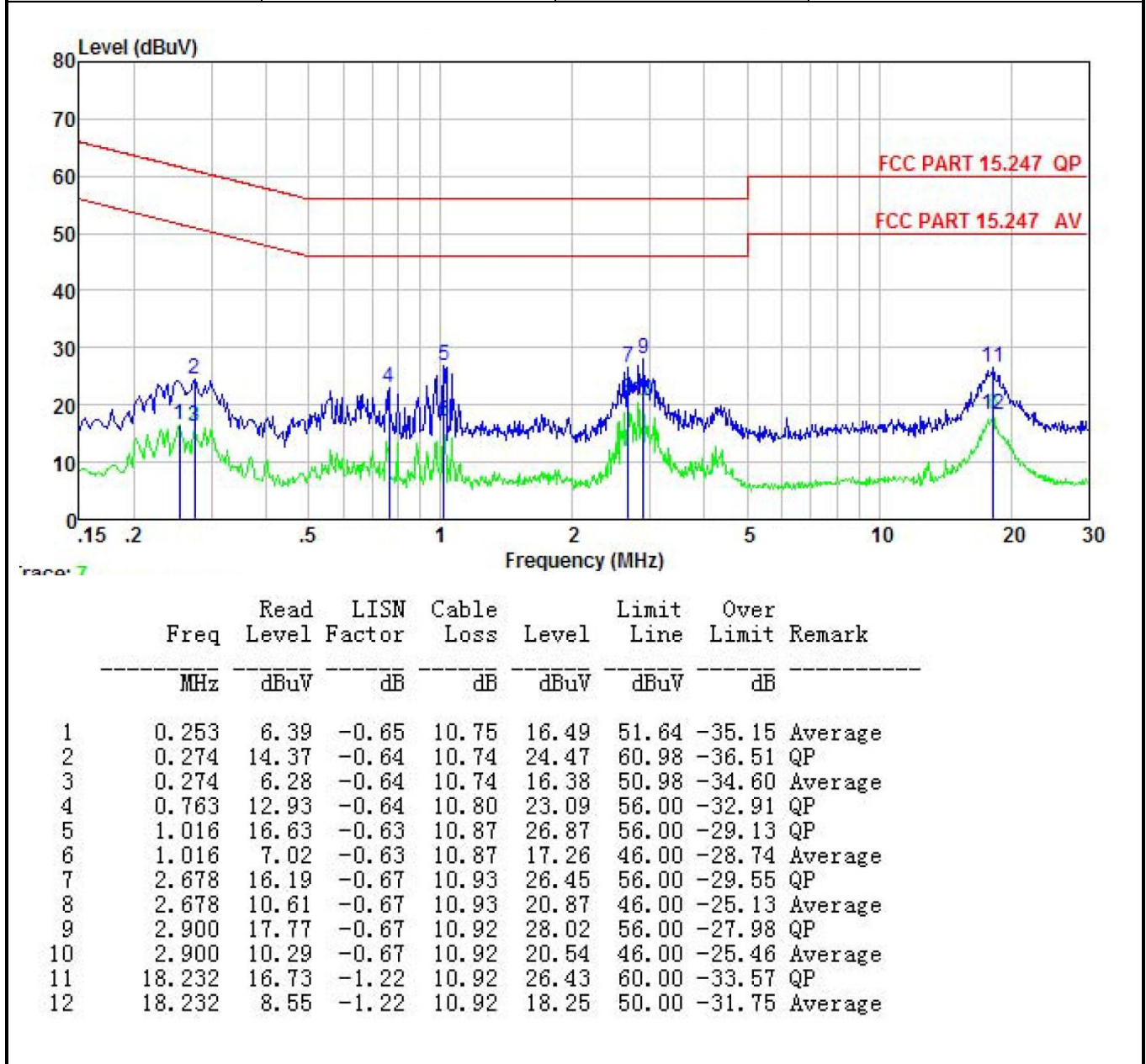


|    | Freq   | Read Level | LISN Factor | Cable Loss | Level | Limit Line | Over Limit | Remark  |
|----|--------|------------|-------------|------------|-------|------------|------------|---------|
|    | MHz    | dBuV       | dB          | dB         | dBuV  | dBuV       | dB         |         |
| 1  | 0.249  | 17.48      | -0.40       | 10.75      | 27.83 | 61.78      | -33.95     | QP      |
| 2  | 0.249  | 7.77       | -0.40       | 10.75      | 18.12 | 51.78      | -33.66     | Average |
| 3  | 0.759  | 3.35       | -0.38       | 10.80      | 13.77 | 46.00      | -32.23     | Average |
| 4  | 1.016  | 14.16      | -0.38       | 10.87      | 24.65 | 56.00      | -31.35     | QP      |
| 5  | 1.016  | 3.35       | -0.38       | 10.87      | 13.84 | 46.00      | -32.16     | Average |
| 6  | 2.678  | 16.77      | -0.43       | 10.93      | 27.27 | 56.00      | -28.73     | QP      |
| 7  | 2.779  | 16.89      | -0.43       | 10.93      | 27.39 | 56.00      | -28.61     | QP      |
| 8  | 2.809  | 11.32      | -0.44       | 10.93      | 21.81 | 46.00      | -24.19     | Average |
| 9  | 2.900  | 18.27      | -0.44       | 10.92      | 28.75 | 56.00      | -27.25     | QP      |
| 10 | 2.915  | 11.17      | -0.44       | 10.92      | 21.65 | 46.00      | -24.35     | Average |
| 11 | 18.232 | 10.13      | -0.88       | 10.92      | 20.17 | 50.00      | -29.83     | Average |
| 12 | 18.328 | 17.66      | -0.88       | 10.92      | 27.70 | 60.00      | -32.30     | QP      |

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level = Receiver Read level + LISN Factor + Cable Loss.

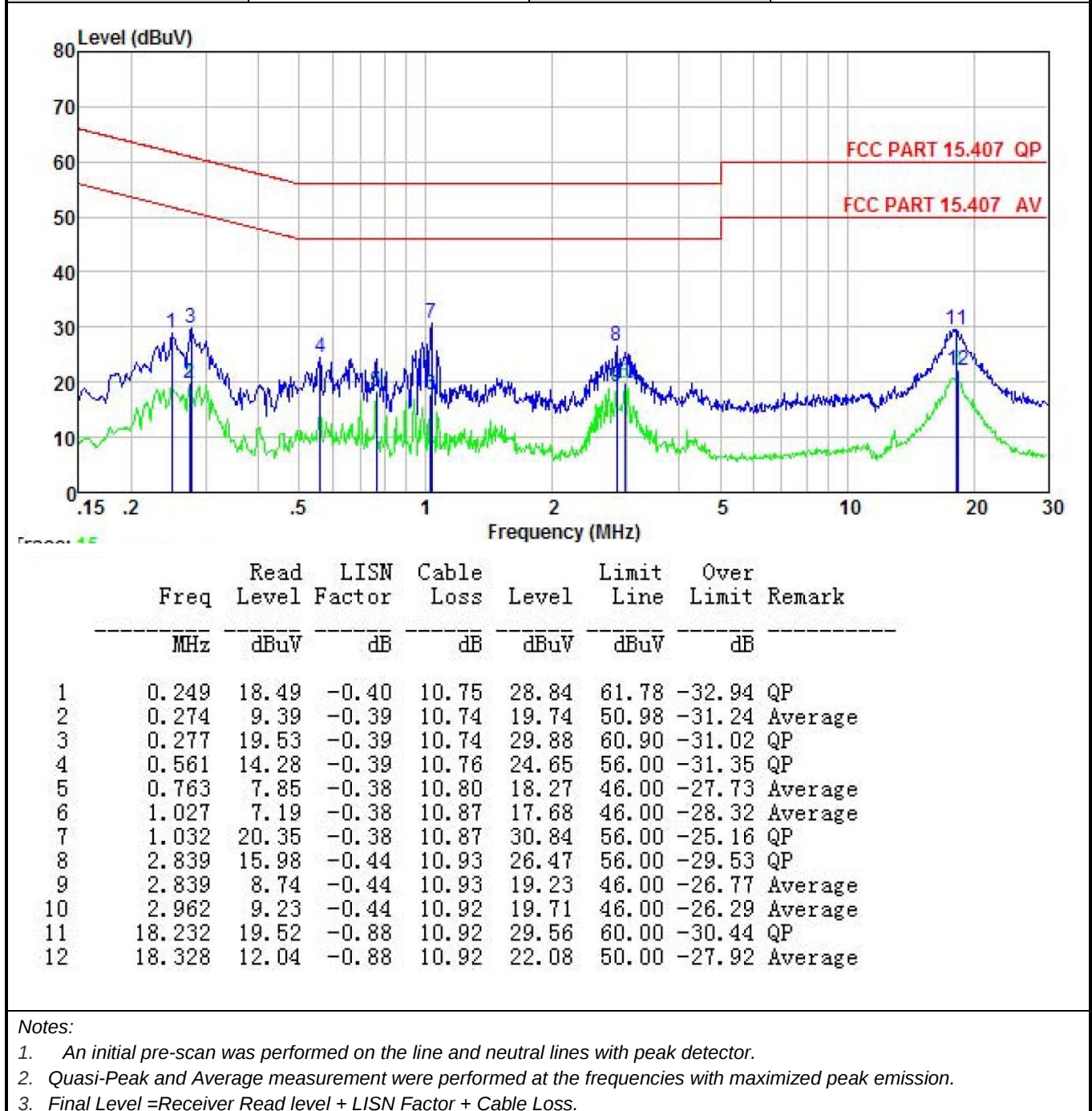
|                 |                  |                |                       |
|-----------------|------------------|----------------|-----------------------|
| Product name:   | CAR DVR          | Product model: | LS01                  |
| Test by:        | Yaro             | Test mode:     | 5.8G Wi-Fi Tx mode    |
| Test frequency: | 150 kHz ~ 30 MHz | Phase:         | Neutral               |
| Test voltage:   | DC 12V           | Environment:   | Temp: 22.5℃ Humi: 55% |



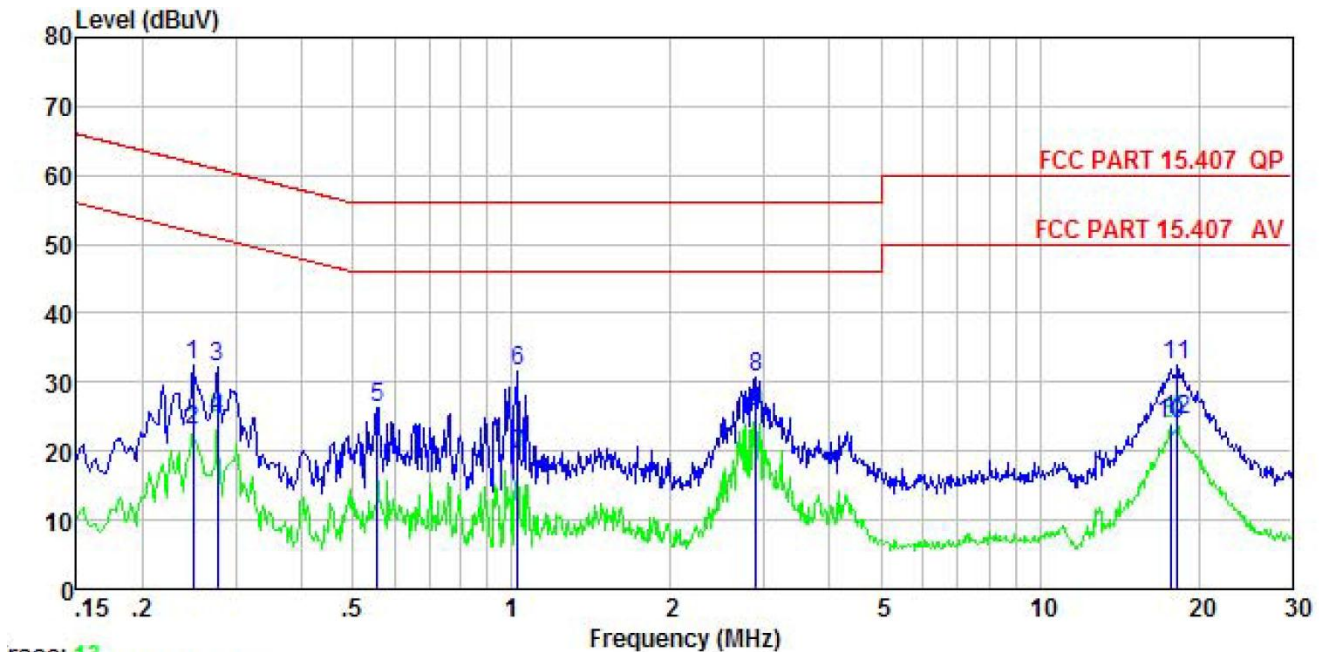
**Notes:**

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level = Receiver Read level + LISN Factor + Cable Loss.

|                 |                  |                |                       |
|-----------------|------------------|----------------|-----------------------|
| Product name:   | CAR DVR          | Product model: | LS01                  |
| Test by:        | Yaro             | Test mode:     | 5.8G Wi-Fi Tx mode    |
| Test frequency: | 150 kHz ~ 30 MHz | Phase:         | Line                  |
| Test voltage:   | DC 24V           | Environment:   | Temp: 22.5℃ Humi: 55% |



|                 |                  |                |                       |
|-----------------|------------------|----------------|-----------------------|
| Product name:   | CAR DVR          | Product model: | LS01                  |
| Test by:        | Yaro             | Test mode:     | 5.8G Wi-Fi Tx mode    |
| Test frequency: | 150 kHz ~ 30 MHz | Phase:         | Neutral               |
| Test voltage:   | DC 24V           | Environment:   | Temp: 22.5℃ Humi: 55% |

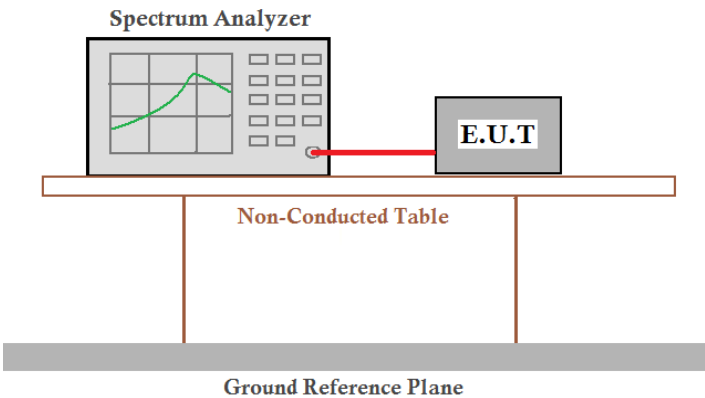


|    | Freq   | Read Level | LISN Factor | Cable Loss | Level | Limit Line | Over Limit | Remark  |
|----|--------|------------|-------------|------------|-------|------------|------------|---------|
|    | MHz    | dBuV       | dB          | dB         | dBuV  | dBuV       | dB         |         |
| 1  | 0.249  | 22.47      | -0.66       | 10.75      | 32.56 | 61.78      | -29.22     | QP      |
| 2  | 0.249  | 12.86      | -0.66       | 10.75      | 22.95 | 51.78      | -28.83     | Average |
| 3  | 0.277  | 22.10      | -0.64       | 10.74      | 32.20 | 60.90      | -28.70     | QP      |
| 4  | 0.277  | 14.72      | -0.64       | 10.74      | 24.82 | 50.90      | -26.08     | Average |
| 5  | 0.555  | 16.21      | -0.65       | 10.76      | 26.32 | 56.00      | -29.68     | QP      |
| 6  | 1.027  | 21.30      | -0.63       | 10.87      | 31.54 | 56.00      | -24.46     | QP      |
| 7  | 1.027  | 9.27       | -0.63       | 10.87      | 19.51 | 46.00      | -26.49     | Average |
| 8  | 2.900  | 20.32      | -0.67       | 10.92      | 30.57 | 56.00      | -25.43     | QP      |
| 9  | 2.900  | 15.40      | -0.67       | 10.92      | 25.65 | 46.00      | -20.35     | Average |
| 10 | 17.661 | 14.24      | -1.15       | 10.92      | 24.01 | 50.00      | -25.99     | Average |
| 11 | 18.232 | 22.66      | -1.22       | 10.92      | 32.36 | 60.00      | -27.64     | QP      |
| 12 | 18.232 | 14.79      | -1.22       | 10.92      | 24.49 | 50.00      | -25.51     | Average |

**Notes:**

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level = Receiver Read level + LISN Factor + Cable Loss.

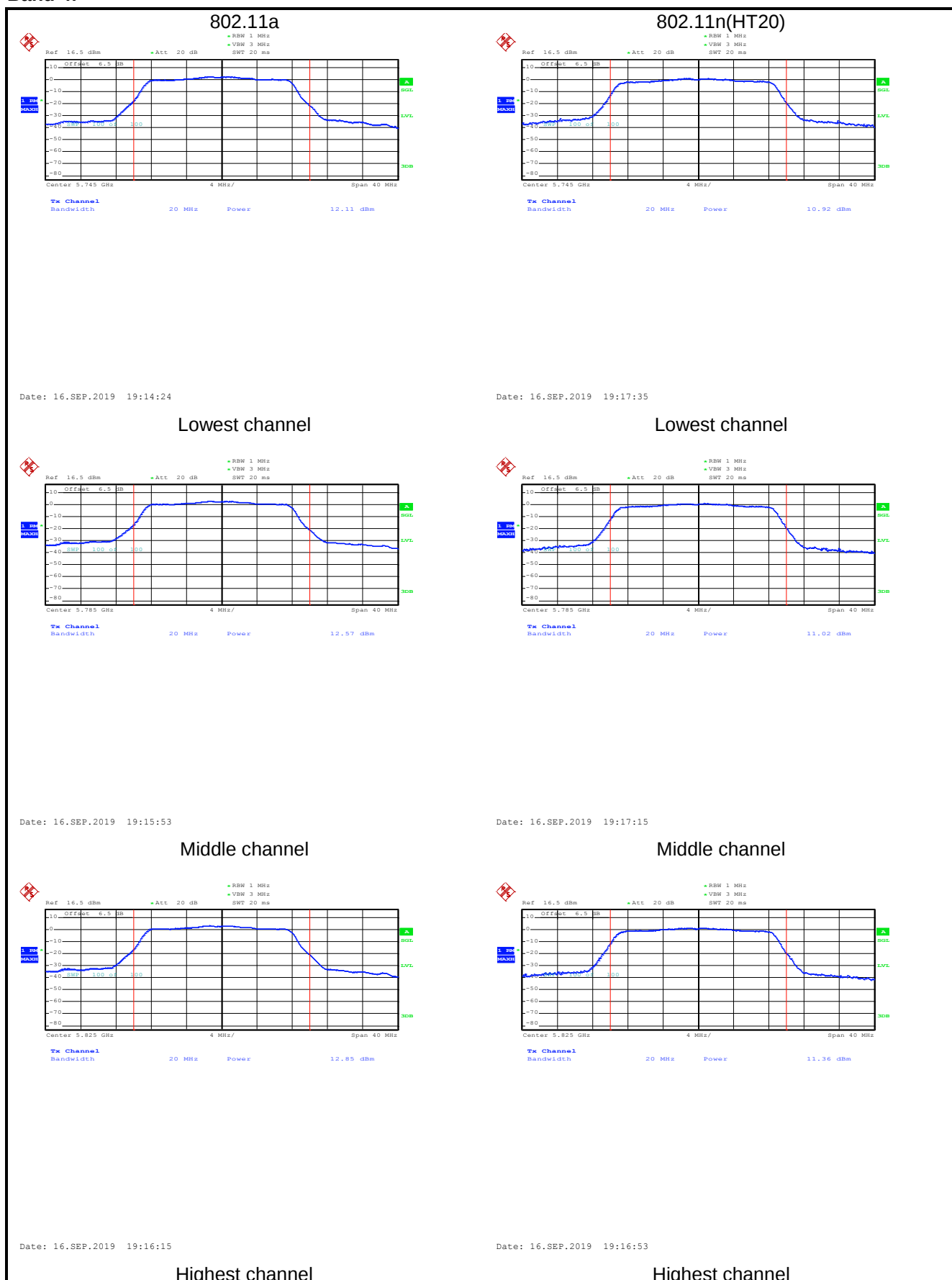
## 6.3 Conducted Output Power

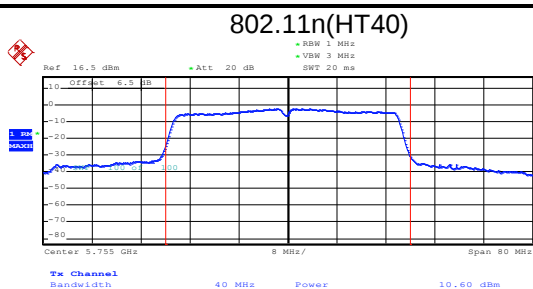
|                   |                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | FCC Part15 E Section 15.407 (a) (3)                                                                                                                                                                                                                                                                                                                                                            |
| Test Method:      | ANSI C63.10: 2013, KDB789033                                                                                                                                                                                                                                                                                                                                                                   |
| Limit:            | Band 4: 30dBm                                                                                                                                                                                                                                                                                                                                                                                  |
| Test setup:       |  <p>The diagram illustrates the test setup for conducted output power measurement. A Spectrum Analyzer is connected via a red cable to an E.U.T. (Equipment Under Test). Both are placed on a Non-Conducted Table, which is supported by two vertical legs. Below the table is a Ground Reference Plane.</p> |
| Test Instruments: | Refer to section 5.9 for details                                                                                                                                                                                                                                                                                                                                                               |
| Test mode:        | Refer to section 5.3 for details                                                                                                                                                                                                                                                                                                                                                               |
| Test results:     | Passed                                                                                                                                                                                                                                                                                                                                                                                         |

## Measurement Data:

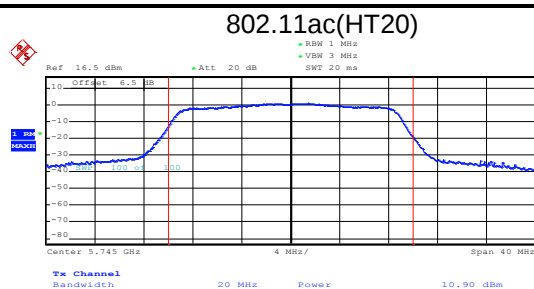
| Band 4     |         |                              |             |        |
|------------|---------|------------------------------|-------------|--------|
| Mode       | Test CH | Conducted Output power (dBm) | Limit (dBm) | Result |
| 802.11a    | Lowest  | 12.11                        | 30.00       | Pass   |
|            | Middle  | 12.57                        |             |        |
|            | Highest | 12.85                        |             |        |
| 802.11n20  | Lowest  | 10.92                        | 30.00       | Pass   |
|            | Middle  | 11.02                        |             |        |
|            | Highest | 11.36                        |             |        |
| 802.11n40  | Lowest  | 10.60                        | 30.00       | Pass   |
|            | Highest | 10.69                        |             |        |
| 802.11ac20 | Lowest  | 10.90                        | 30.00       | Pass   |
|            | Middle  | 11.00                        |             |        |
|            | Highest | 11.05                        |             |        |
| 802.11ac40 | Lowest  | 10.56                        | 30.00       | Pass   |
|            | Highest | 10.62                        |             |        |
| 802.11ac80 | Middle  | 8.03                         | 30.00       | Pass   |

Test plot as follows:  
Band 4:





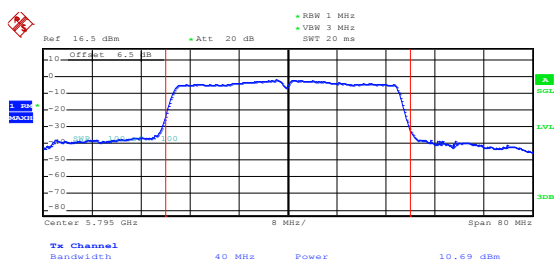
Date: 16.SEP.2019 19:20:58



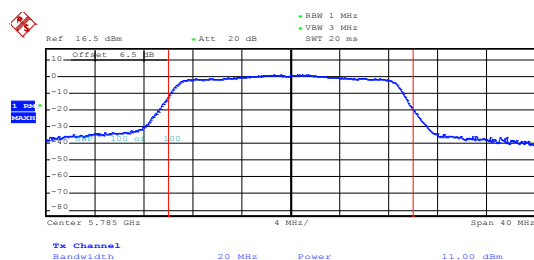
Date: 16.SEP.2019 19:18:34

Lowest channel

Lowest channel



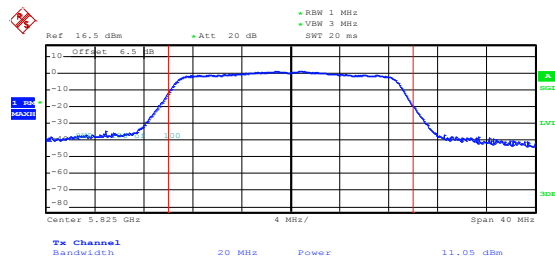
Date: 16.SEP.2019 19:20:34



Date: 16.SEP.2019 19:18:55

Highest channel

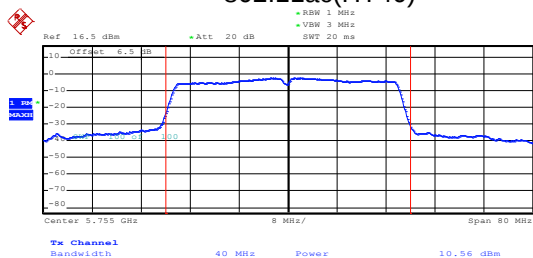
Middle channel



Date: 16.SEP.2019 19:19:18

Highest channel

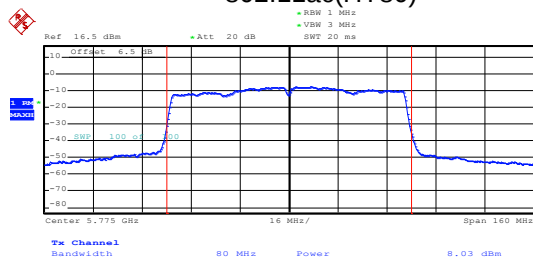
802.11ac(HT40)



Date: 16.SEP.2019 19:21:40

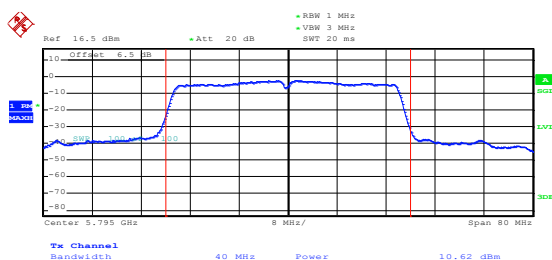
Lowest channel

802.11ac(HT80)



Date: 16.SEP.2019 19:23:24

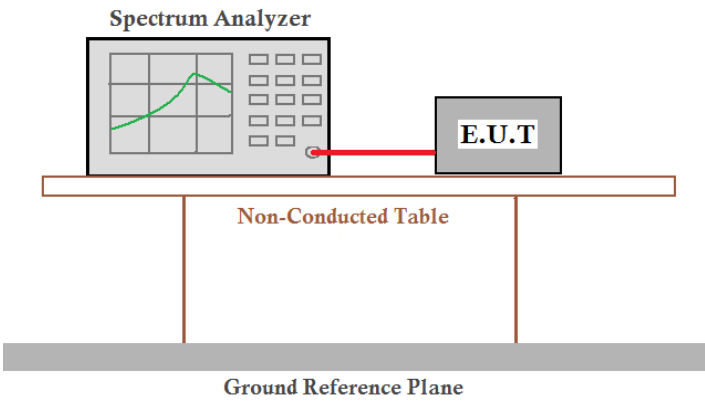
Middle channel



Date: 16.SEP.2019 19:21:59

Highest channel

## 6.4 Occupy Bandwidth

|                   |                                                                                    |
|-------------------|------------------------------------------------------------------------------------|
| Test Requirement: | FCC Part15 E Section 15.407 (a) (5) and Section 15.407 (e)                         |
| Test Method:      | ANSI C63.10:2013 and KDB 789033                                                    |
| Limit:            | Band 4: >500kHz (6dB Bandwidth)                                                    |
| Test setup:       |  |
| Test Instruments: | Refer to section 5.9 for details                                                   |
| Test mode:        | Refer to section 5.3 for details                                                   |
| Test results:     | Passed                                                                             |

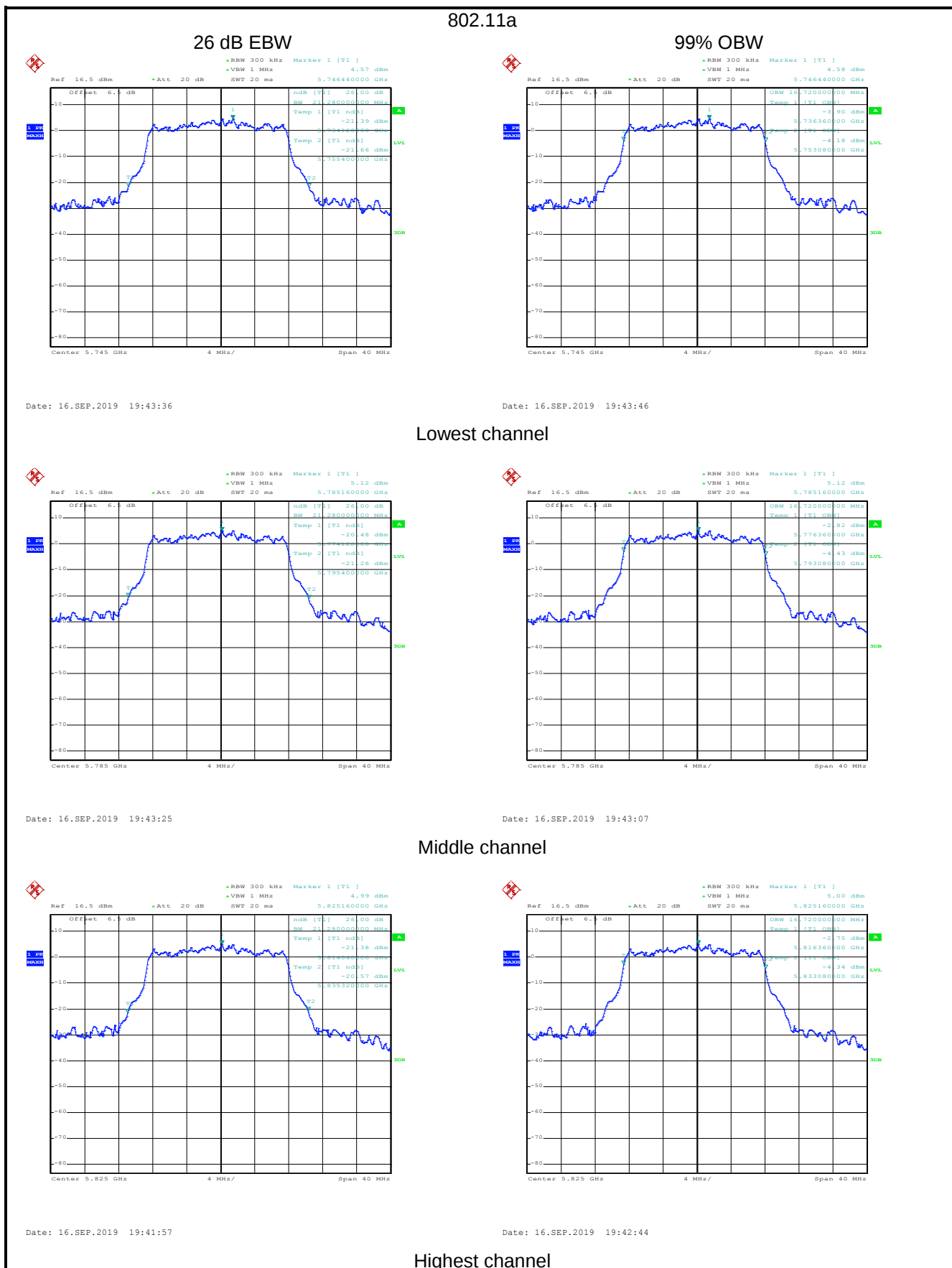
### Measurement Data:

#### Band 4:

| Test Channel | 26dB Emission Bandwidth (MHz) |                |                |                 |                 |                 | Limit   | Result |
|--------------|-------------------------------|----------------|----------------|-----------------|-----------------|-----------------|---------|--------|
|              | 802.11a                       | 802.11n (HT20) | 802.11n (HT40) | 802.11ac (HT20) | 802.11ac (HT40) | 802.11ac (HT80) |         |        |
| Lowest       | 21.28                         | 21.68          | 41.28          | 21.84           | 42.24           | ---             | N/A     | PASS   |
| Middle       | 21.28                         | 21.68          | ---            | 21.60           | ---             | 81.28           |         |        |
| Highest      | 21.28                         | 21.76          | 41.28          | 21.68           | 41.76           | ---             |         |        |
| Test Channel | 99% Occupy Bandwidth (MHz)    |                |                |                 |                 |                 | Limit   | Result |
|              | 802.11a                       | 802.11n (HT20) | 802.11n (HT40) | 802.11ac (HT20) | 802.11ac (HT40) | 802.11ac (HT80) |         |        |
| Lowest       | 16.72                         | 18.08          | 36.96          | 18.16           | 37.28           | ---             | N/A     | PASS   |
| Middle       | 16.72                         | 18.08          | ---            | 18.08           | ---             | 75.84           |         |        |
| Highest      | 16.72                         | 18.08          | 36.80          | 18.08           | 37.28           | ---             |         |        |
| Test Channel | 6dB Emission Bandwidth (MHz)  |                |                |                 |                 |                 | Limit   | Result |
|              | 802.11a                       | 802.11n (HT20) | 802.11n (HT40) | 802.11ac (HT20) | 802.11ac (HT40) | 802.11ac (HT80) |         |        |
| Lowest       | 16.64                         | 17.92          | 36.80          | 17.92           | 36.80           | ---             | >500kHz | PASS   |
| Middle       | 16.64                         | 17.92          | ---            | 17.92           | ---             | 76.16           |         |        |
| Highest      | 16.64                         | 17.92          | 36.80          | 17.92           | 36.80           | ---             |         |        |

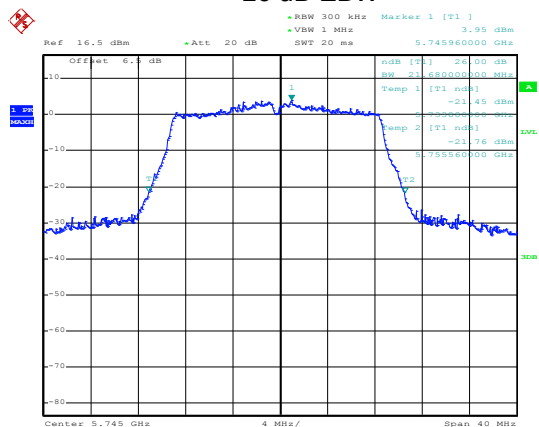
Test plot as follows:

Band 4:



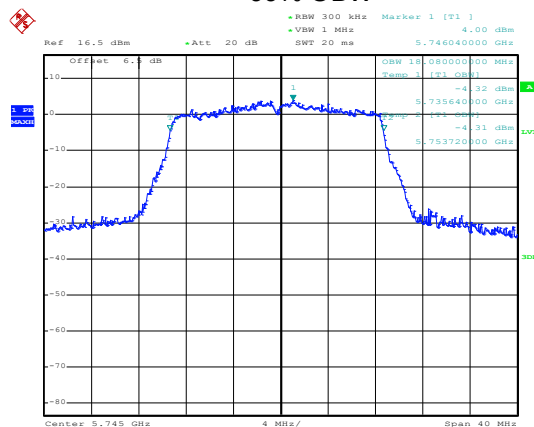
## 802.11n(HT20)

### 26 dB EBW



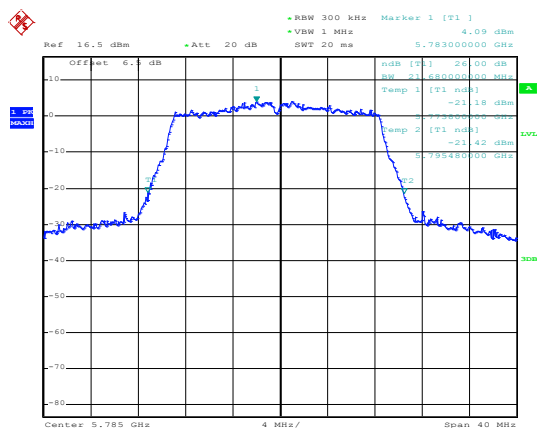
Date: 16.SEP.2019 19:44:25

### 99% OBW

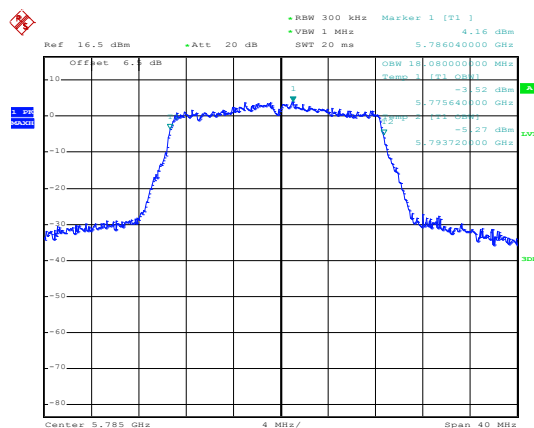


Date: 16.SEP.2019 19:44:10

## Lowest channel

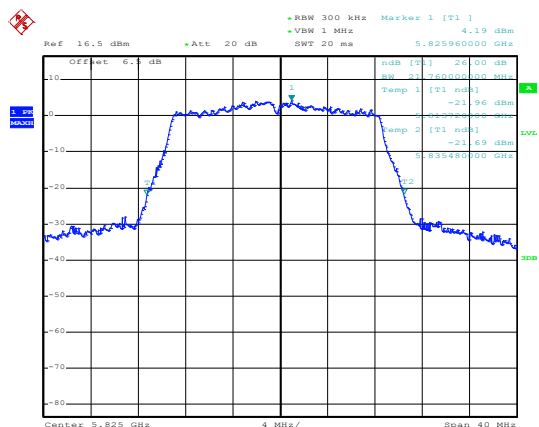


Date: 16.SEP.2019 19:45:14

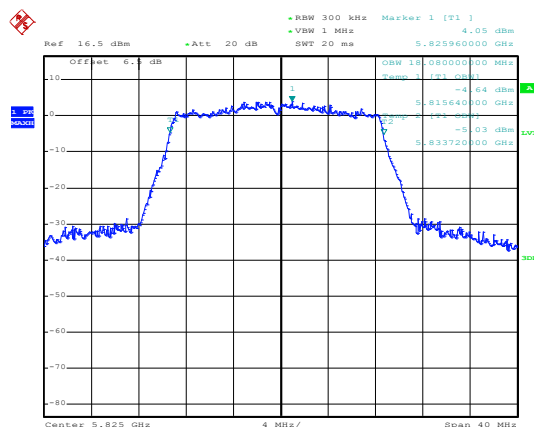


Date: 16.SEP.2019 19:45:25

## Middle channel



Date: 16.SEP.2019 19:46:16

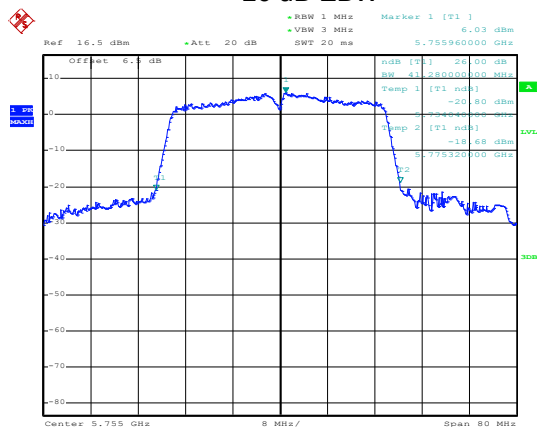


Date: 16.SEP.2019 19:45:46

## Highest channel

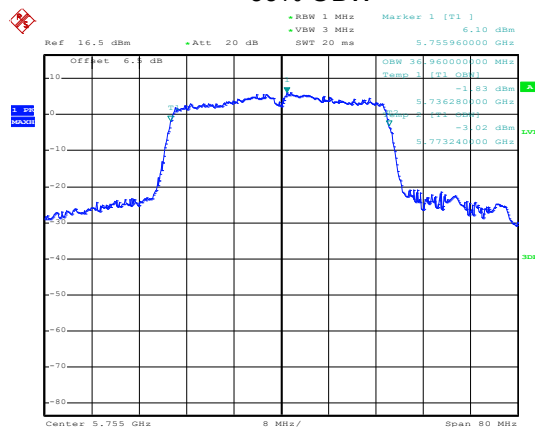
## 802.11n(HT40)

26 dB EBW



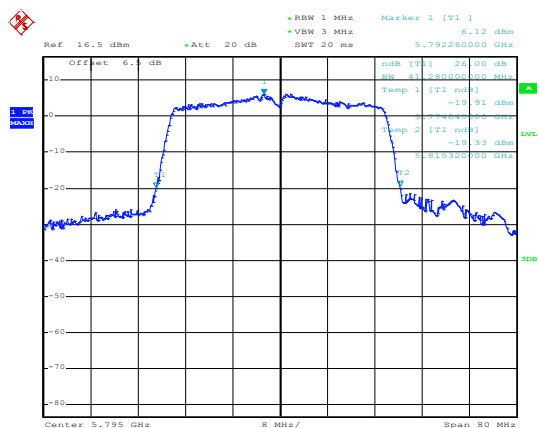
Date: 16.SEP.2019 19:50:21

99% OBW

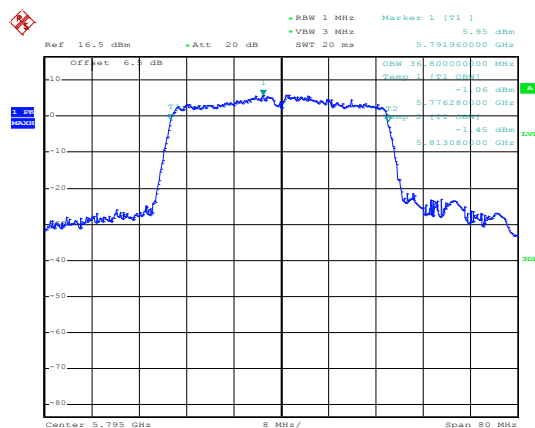


Date: 16.SEP.2019 19:50:46

## Lowest channel



Date: 16.SEP.2019 19:50:06

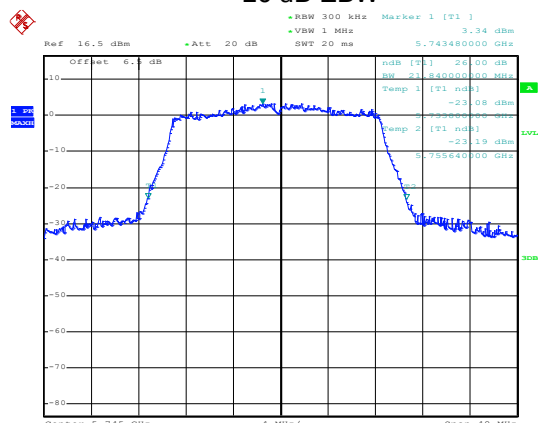


Date: 16.SEP.2019 19:49:56

## Highest channel

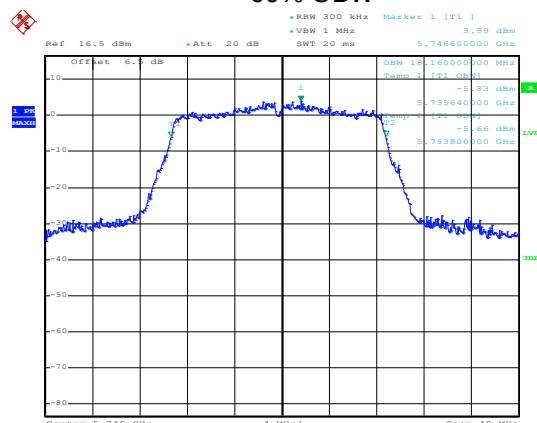
## 802.11ac(HT20)

### 26 dB EBW



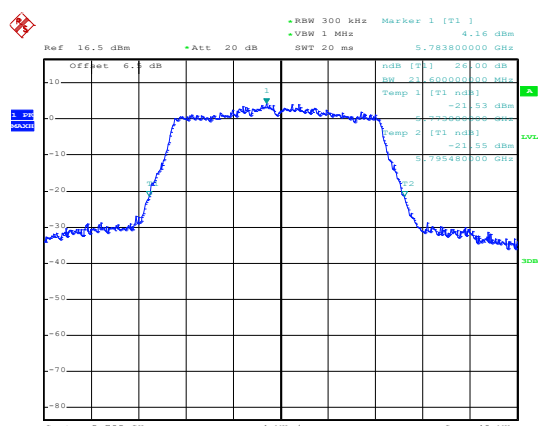
Date: 16.SEP.2019 19:46:44

### 99% OBW

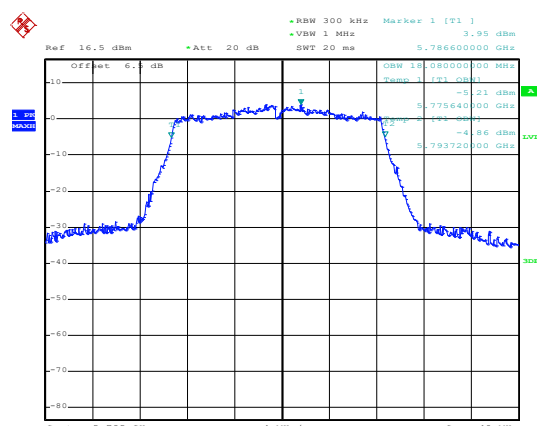


Date: 16.SEP.2019 19:46:54

## Lowest channel

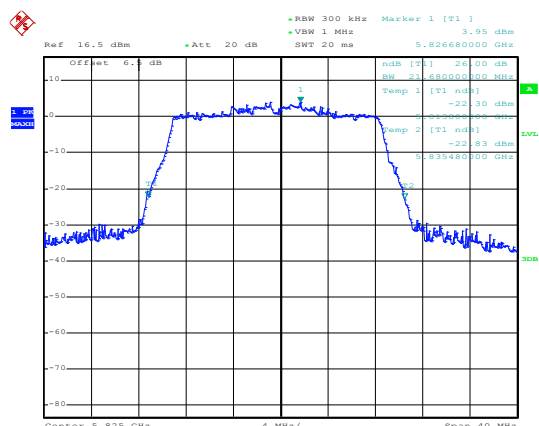


Date: 16.SEP.2019 19:47:35

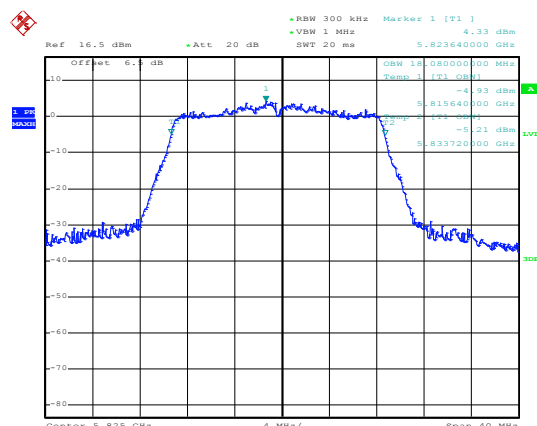


Date: 16.SEP.2019 19:47:21

## Middle channel



Date: 16.SEP.2019 19:47:56

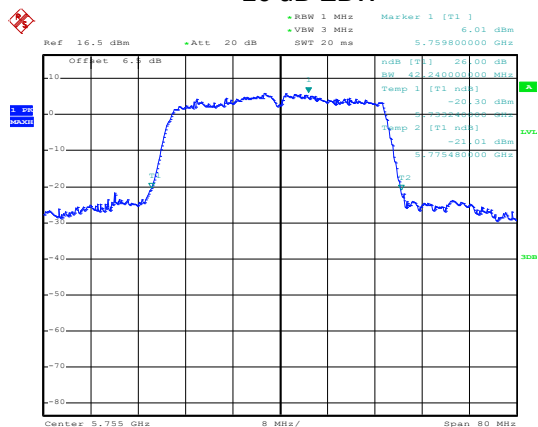


Date: 16.SEP.2019 19:48:05

## Highest channel

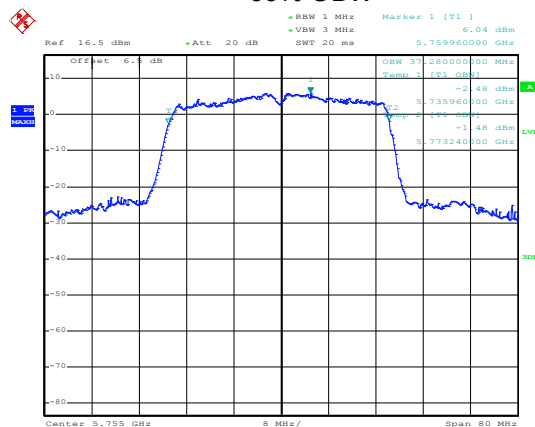
## 802.11ac(HT40)

26 dB EBW



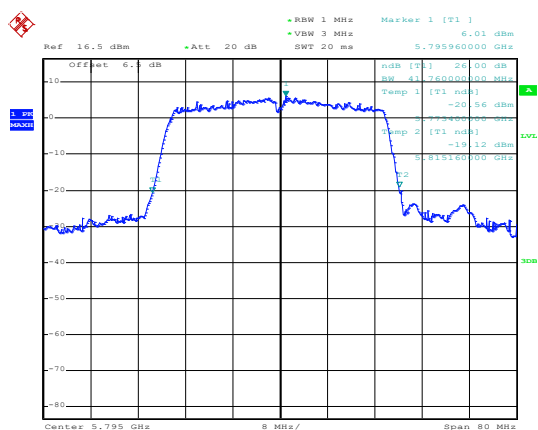
Date: 16.SEP.2019 19:49:10

99% OBW

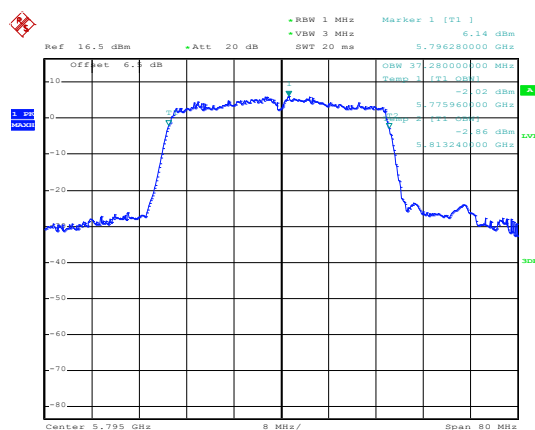


Date: 16.SEP.2019 19:49:01

## Lowest channel



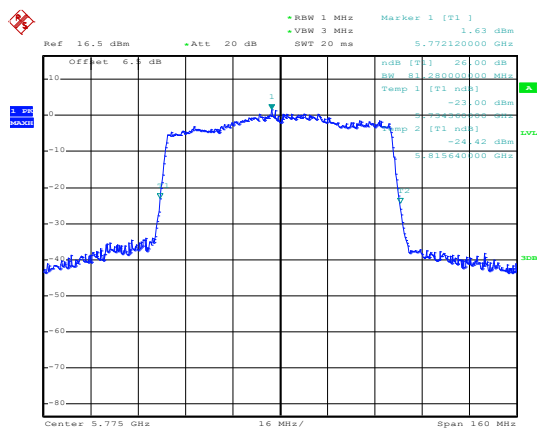
Date: 16.SEP.2019 19:49:28



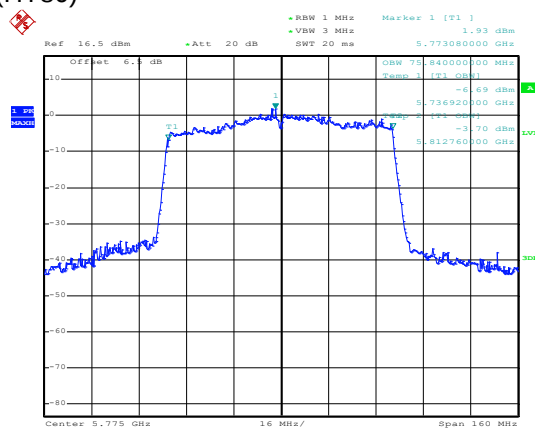
Date: 16.SEP.2019 19:49:41

## Highest channel

## 802.11ac(HT80)

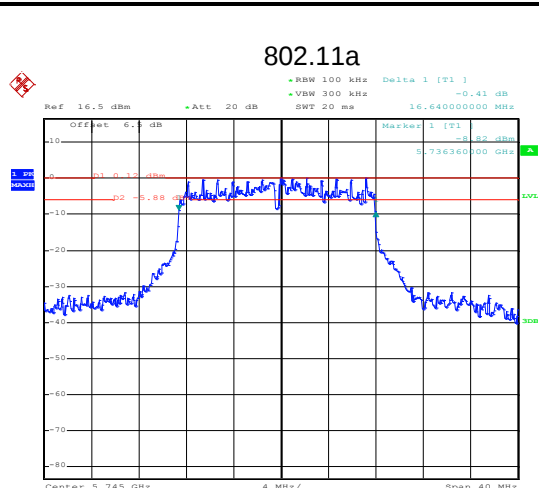


Date: 16.SEP.2019 19:51:21



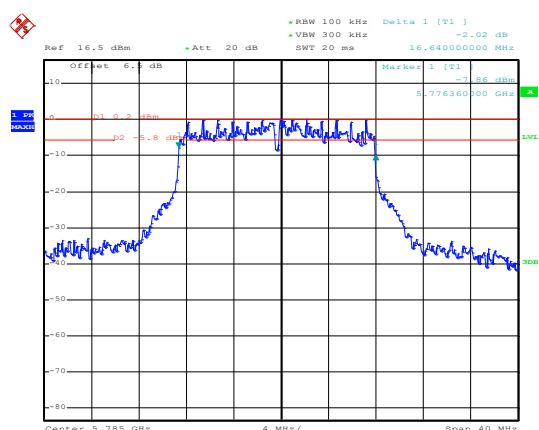
Date: 16.SEP.2019 19:51:07

## Middle channel



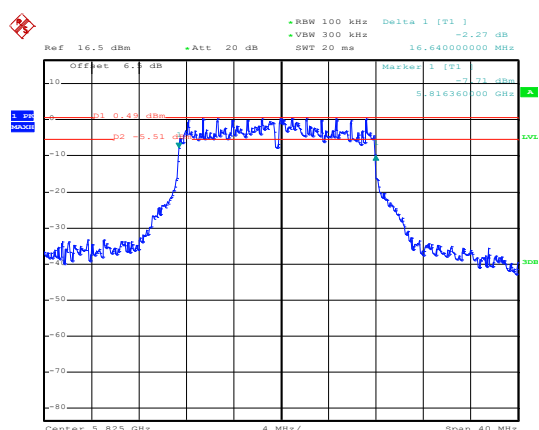
Date: 16.SEP.2019 19:39:40

Lowest channel



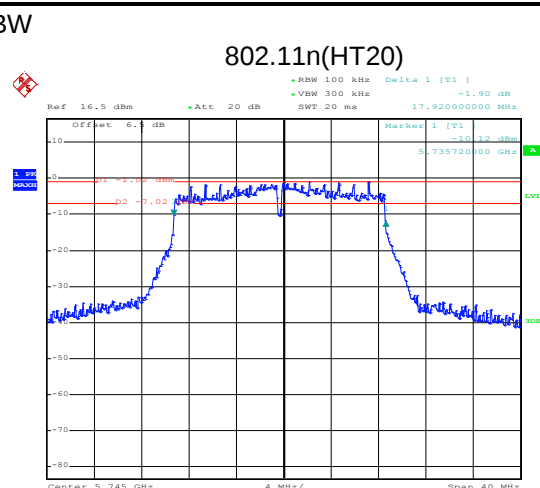
Date: 16.SEP.2019 19:40:29

Middle channel



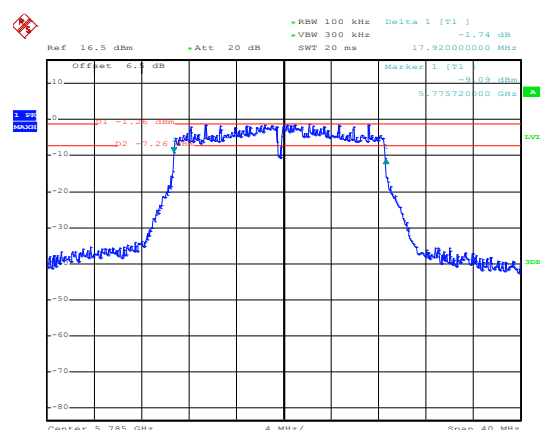
Date: 16.SEP.2019 19:41:11

Highest channel



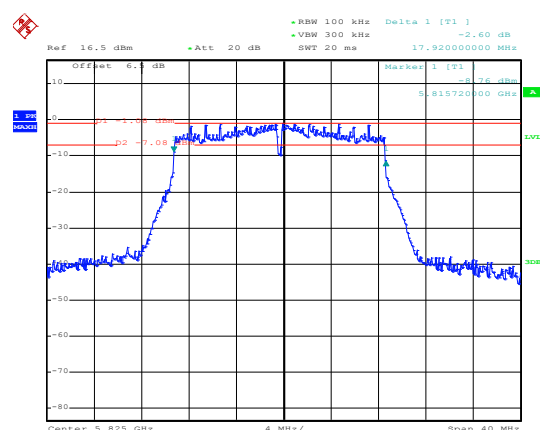
Date: 16.SEP.2019 19:32:26

Lowest channel



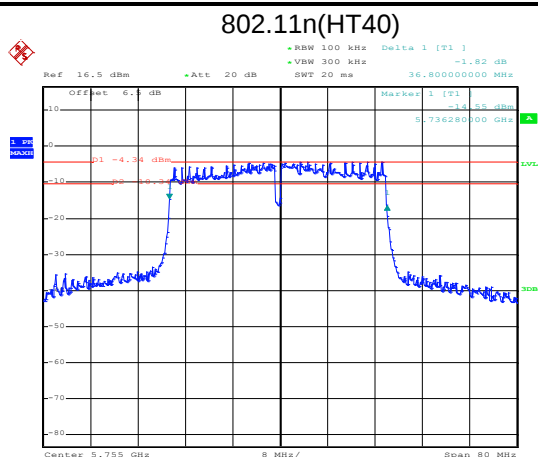
Date: 16.SEP.2019 19:33:22

Middle channel



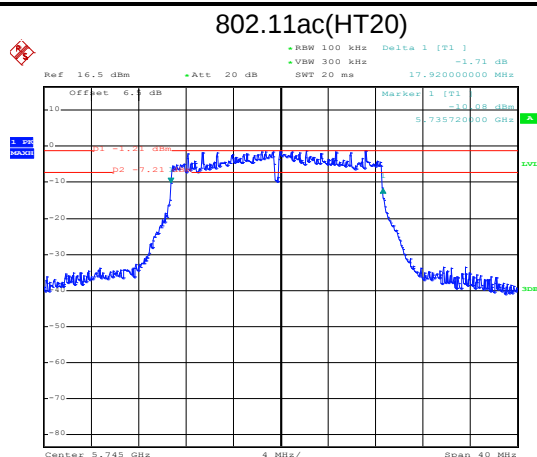
Date: 16.SEP.2019 19:34:27

Highest channel



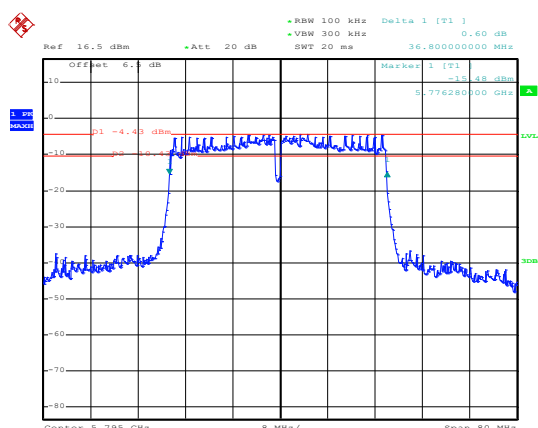
Date: 16.SEP.2019 19:31:23

Lowest channel



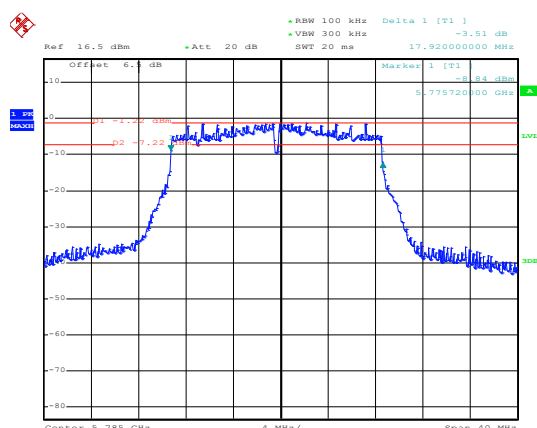
Date: 16.SEP.2019 19:37:11

Lowest channel



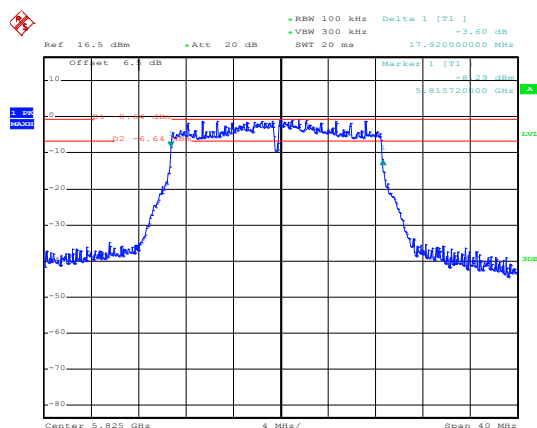
Date: 16.SEP.2019 19:29:54

Highest channel



Date: 16.SEP.2019 19:36:18

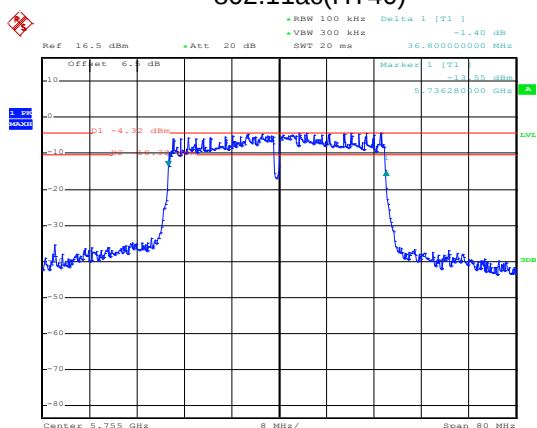
Middle channel



Date: 16.SEP.2019 19:35:20

Highest channel

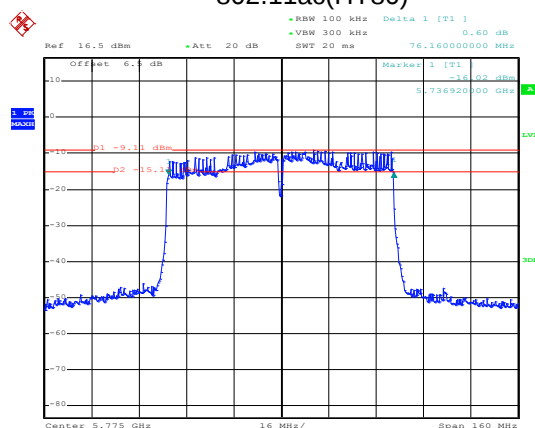
## 802.11ac(HT40)



Date: 16.SEP.2019 19:28:32

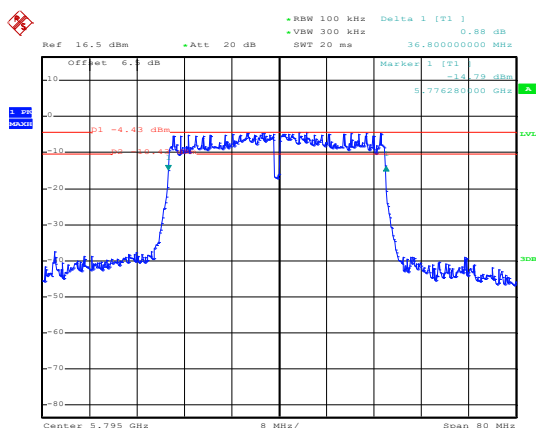
### Lowest channel

## 802.11ac(HT80)



Date: 16.SEP.2019 19:25:27

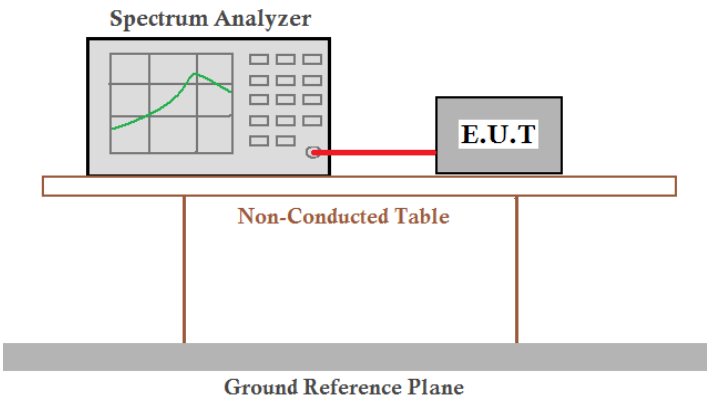
### Middle channel



Date: 16.SEP.2019 19:29:17

### Highest channel

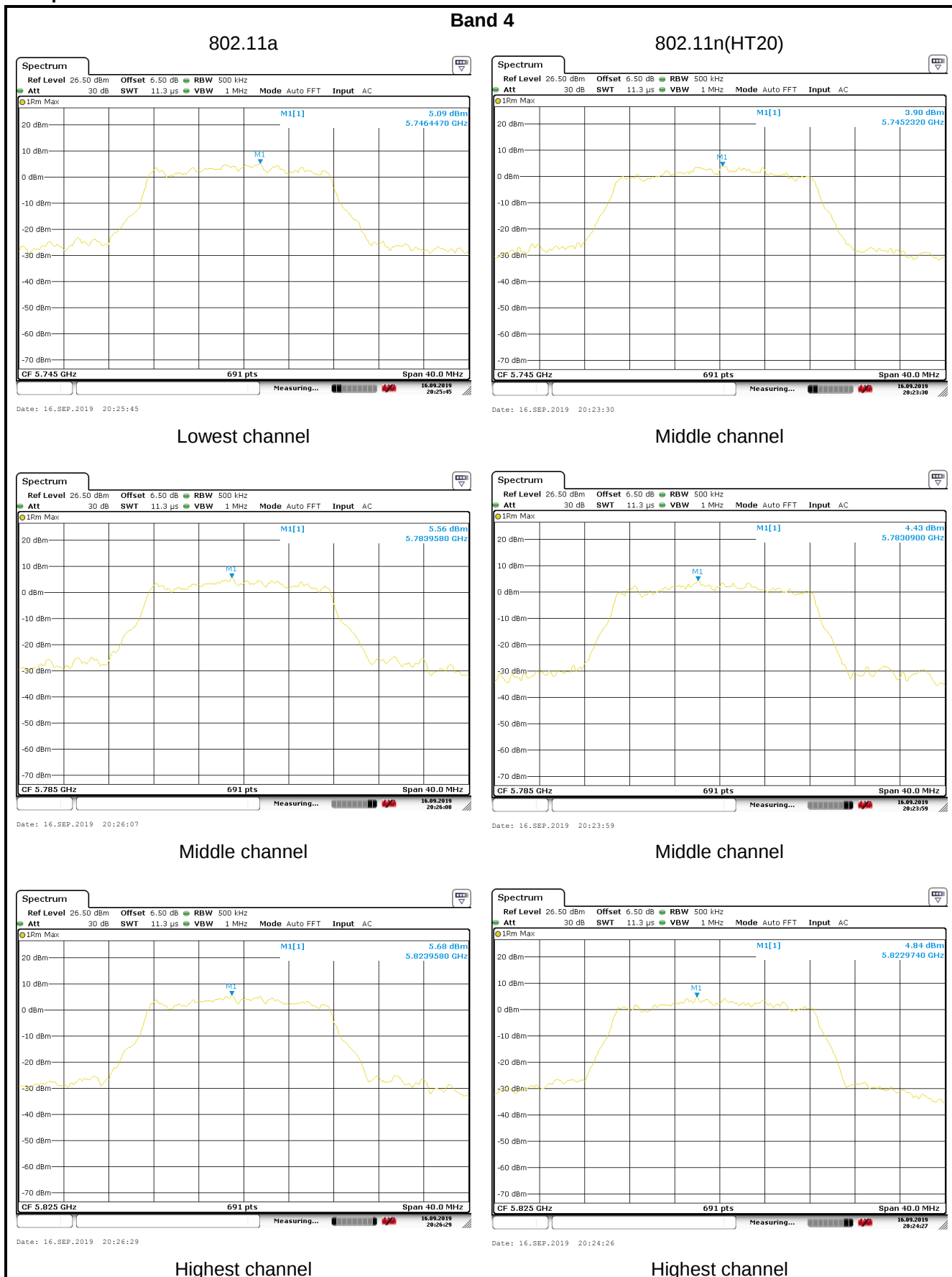
## 6.5 Power Spectral Density

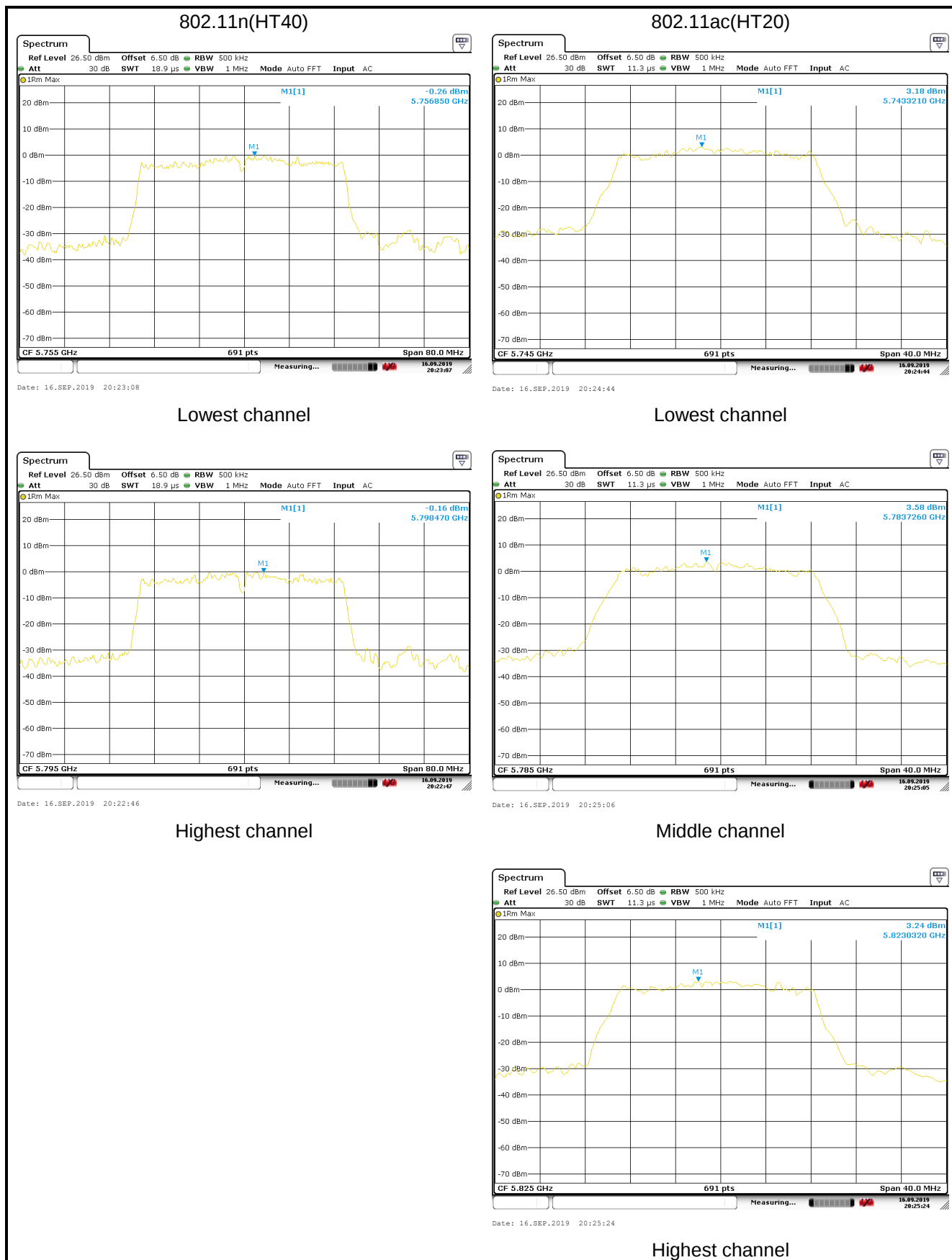
|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | FCC Part15 E Section 15.407 (a)(3)                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Test Method:      | ANSI C63.10:2013, KDB 789033                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Limit:            | Band 4: 30 dBm/500kHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Test setup:       |  <p>The diagram illustrates the test setup. A Spectrum Analyzer, shown with a grid and a green curve, is connected to an E.U.T. (Equipment Under Test) box by a red cable. Both the Spectrum Analyzer and the E.U.T. are positioned on a table labeled 'Non-Conducted Table'. This table is supported by two vertical legs. Below the table, a horizontal bar represents the 'Ground Reference Plane'.</p> |
| Test Instruments: | Refer to section 5.9 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Test mode:        | Refer to section 5.3 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Test results:     | Passed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

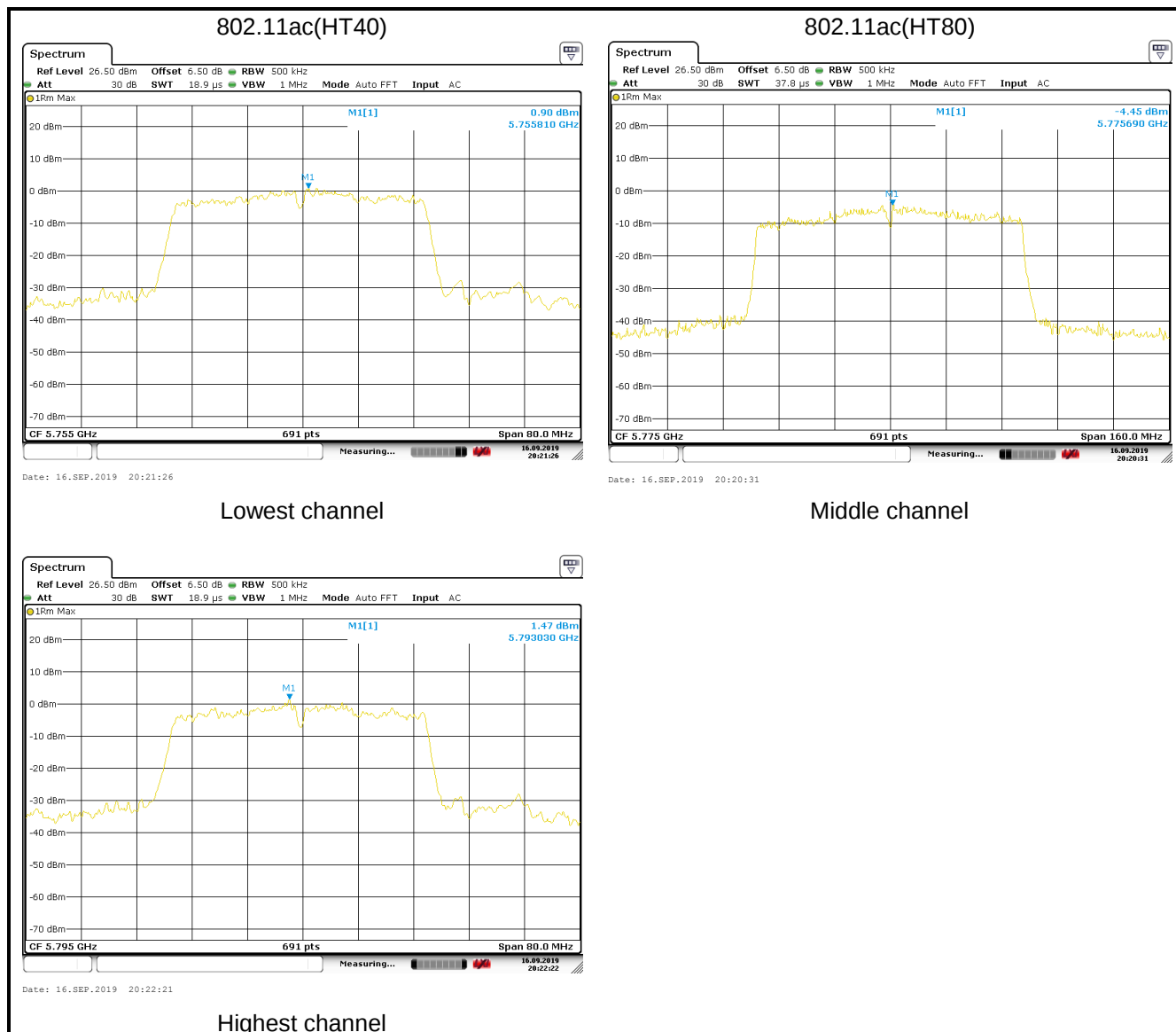
## Measurement Data:

| Band 4     |         |           |             |        |
|------------|---------|-----------|-------------|--------|
| Mode       | Test CH | PSD (dBm) | Limit (dBm) | Result |
| 802.11a    | Lowest  | 5.09      | 30.00       | Pass   |
|            | Middle  | 5.56      |             |        |
|            | Highest | 5.68      |             |        |
| 802.11n20  | Lowest  | 3.90      | 30.00       | Pass   |
|            | Middle  | 4.43      |             |        |
|            | Highest | 4.84      |             |        |
| 802.11n40  | Lowest  | -0.26     | 30.00       | Pass   |
|            | Highest | -0.16     |             |        |
| 802.11ac20 | Lowest  | 3.18      | 30.00       | Pass   |
|            | Middle  | 3.58      |             |        |
|            | Highest | 3.24      |             |        |
| 802.11ac40 | Lowest  | 0.90      | 30.00       | Pass   |
|            | Highest | 1.47      |             |        |
| 802.11ac80 | Middle  | -4.45     | 30.00       | Pass   |

Test plot as follows:

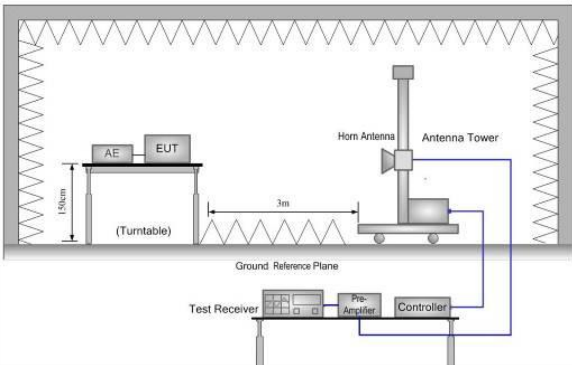






## 6.6 Band Edge

|                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                 |                    |                  |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------------|--|
| Test Requirement:                                                                                                                                                                                                                                                                                                                                      | FCC Part 15 E Section 15.407 (b)                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                 |                    |                  |  |
| Test Method:                                                                                                                                                                                                                                                                                                                                           | ANSI C63.10:2013 , KDB 789033                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                 |                    |                  |  |
| Receiver setup:                                                                                                                                                                                                                                                                                                                                        | Detector                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | RBW                                                                                                                                                                                                                             | VBW                | Remark           |  |
|                                                                                                                                                                                                                                                                                                                                                        | Quasi-peak                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 120kHz                                                                                                                                                                                                                          | 300kHz             | Quasi-peak Value |  |
|                                                                                                                                                                                                                                                                                                                                                        | RMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1MHz                                                                                                                                                                                                                            | 3MHz               | Average Value    |  |
| Limit:                                                                                                                                                                                                                                                                                                                                                 | Band                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                 | Limit (dBuV/m @3m) | Remark           |  |
|                                                                                                                                                                                                                                                                                                                                                        | Band 1/2/3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                 | 68.20              | Peak Value       |  |
|                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                 | 54.00              | Average Value    |  |
|                                                                                                                                                                                                                                                                                                                                                        | Band 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                 | 78.20              | Peak Value       |  |
|                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                 | 54.00              | Average Value    |  |
|                                                                                                                                                                                                                                                                                                                                                        | Band 4 limit:<br>For transmitters operating in the 5.725-5.85 GHz band:<br>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. |                                                                                                                                                                                                                                 |                    |                  |  |
|                                                                                                                                                                                                                                                                                                                                                        | Remark:<br>1. Band 1/2/3 limit:<br>E[dBuV/m] = EIRP[dBm] + 95.2=68.2 dBuV/m, for EIPR[dBm]=-27dBm.<br>2. Band 4 limit:<br>E[dBuV/m] = EIRP[dBm] + 95.2=68.2 dBuV/m, for EIPR[dBm]=-27dBm.<br>E[dBuV/m] = EIRP[dBm] + 95.2=105.2 dBuV/m, for EIPR[dBm]=10dBm.<br>E[dBuV/m] = EIRP[dBm] + 95.2=110.8 dBuV/m, for EIPR[dBm]=15.6dBm.<br>E[dBuV/m] = EIRP[dBm] + 95.2=122.2 dBuV/m, for EIPR[dBm]=27dBm.                                                                                                       |                                                                                                                                                                                                                                 |                    |                  |  |
|                                                                                                                                                                                                                                                                                                                                                        | Test Procedure:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.                                     |                    |                  |  |
|                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.                                                                                      |                    |                  |  |
|                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 3. The antenna 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. |                    |                  |  |
| 4. 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 was turned from 0 degrees to 360 degrees to find the maximum reading.                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                 |                    |                  |  |
| 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                 |                    |                  |  |
| 6. 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. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                 |                    |                  |  |

|                   |                                                                                    |  |
|-------------------|------------------------------------------------------------------------------------|--|
| Test setup:       |  |  |
| Test Instruments: | Refer to section 5.9 for details                                                   |  |
| Test mode:        | Refer to section 5.3 for details                                                   |  |
| Test results:     | Passed                                                                             |  |

## Measurement Data (worst case):

## Band 4:

| Band 4 – 802.11a                                                                                       |                     |                     |                 |                    |                |                     |                 |              |
|--------------------------------------------------------------------------------------------------------|---------------------|---------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| Test channel: Lowest channel                                                                           |                     |                     |                 |                    |                |                     |                 |              |
| Detector: Peak Value                                                                                   |                     |                     |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                        | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5650.00                                                                                                | 52.94               | 32.68               | 7.45            | 41.85              | 51.22          | 68.20               | -16.98          | Horizontal   |
| 5700.00                                                                                                | 57.16               | 32.77               | 7.60            | 41.90              | 55.63          | 105.20              | -49.57          | Horizontal   |
| 5720.00                                                                                                | 80.25               | 32.81               | 7.64            | 41.92              | 78.78          | 110.80              | -32.02          | Horizontal   |
| 5725.00                                                                                                | 89.26               | 32.81               | 7.69            | 41.94              | 87.82          | 122.20              | -34.38          | Horizontal   |
| 5650.00                                                                                                | 56.24               | 32.68               | 7.45            | 41.85              | 54.52          | 68.20               | -13.68          | Vertical     |
| 5700.00                                                                                                | 57.16               | 32.77               | 7.60            | 41.90              | 55.63          | 105.20              | -49.57          | Vertical     |
| 5720.00                                                                                                | 79.67               | 32.81               | 7.64            | 41.92              | 78.20          | 110.80              | -32.60          | Vertical     |
| 5725.00                                                                                                | 84.15               | 32.81               | 7.69            | 41.94              | 82.71          | 122.20              | -39.49          | Vertical     |
| Test channel: Highest channel                                                                          |                     |                     |                 |                    |                |                     |                 |              |
| Detector: Peak Value                                                                                   |                     |                     |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                        | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5850.00                                                                                                | 68.94               | 33.04               | 7.45            | 41.85              | 67.58          | 122.20              | -54.62          | Horizontal   |
| 5855.00                                                                                                | 67.13               | 33.05               | 7.60            | 41.90              | 65.88          | 110.80              | -44.92          | Horizontal   |
| 5875.00                                                                                                | 61.55               | 33.08               | 7.64            | 41.92              | 60.35          | 105.20              | -44.85          | Horizontal   |
| 5925.00                                                                                                | 55.91               | 33.17               | 7.69            | 41.94              | 54.83          | 68.20               | -13.37          | Horizontal   |
| 5850.00                                                                                                | 65.47               | 33.04               | 7.45            | 41.85              | 64.11          | 122.20              | -58.09          | Vertical     |
| 5855.00                                                                                                | 61.38               | 33.05               | 7.60            | 41.90              | 60.13          | 110.80              | -50.67          | Vertical     |
| 5875.00                                                                                                | 52.97               | 33.08               | 7.64            | 41.92              | 51.77          | 105.20              | -53.43          | Vertical     |
| 5925.00                                                                                                | 52.29               | 33.17               | 7.69            | 41.94              | 51.21          | 68.20               | -16.99          | Vertical     |
| Remark:                                                                                                |                     |                     |                 |                    |                |                     |                 |              |
| 1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Pre-amplifier Factor.             |                     |                     |                 |                    |                |                     |                 |              |
| 2. The emission levels of other frequencies are very lower than the limit and not show in test report. |                     |                     |                 |                    |                |                     |                 |              |

| Band 4 – 802.11n(HT20)                                                                                                                                                                                         |                     |                     |                 |                    |                |                     |                 |              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| Test channel: Lowest channel                                                                                                                                                                                   |                     |                     |                 |                    |                |                     |                 |              |
| Detector: Peak Value                                                                                                                                                                                           |                     |                     |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5650.00                                                                                                                                                                                                        | 52.41               | 32.68               | 7.45            | 41.85              | 50.69          | 68.20               | -17.51          | Horizontal   |
| 5700.00                                                                                                                                                                                                        | 56.19               | 32.77               | 7.60            | 41.90              | 54.66          | 105.20              | -50.54          | Horizontal   |
| 5720.00                                                                                                                                                                                                        | 82.67               | 32.81               | 7.64            | 41.92              | 81.20          | 110.80              | -29.60          | Horizontal   |
| 5725.00                                                                                                                                                                                                        | 89.74               | 32.81               | 7.69            | 41.94              | 88.30          | 122.20              | -33.90          | Horizontal   |
| 5650.00                                                                                                                                                                                                        | 56.11               | 32.68               | 7.45            | 41.85              | 54.39          | 68.20               | -13.81          | Vertical     |
| 5700.00                                                                                                                                                                                                        | 57.81               | 32.77               | 7.60            | 41.90              | 56.28          | 105.20              | -48.92          | Vertical     |
| 5720.00                                                                                                                                                                                                        | 78.26               | 32.81               | 7.64            | 41.92              | 76.79          | 110.80              | -34.01          | Vertical     |
| 5725.00                                                                                                                                                                                                        | 86.67               | 32.81               | 7.69            | 41.94              | 85.23          | 122.20              | -36.97          | Vertical     |
| Test channel: Highest channel                                                                                                                                                                                  |                     |                     |                 |                    |                |                     |                 |              |
| Detector: Peak Value                                                                                                                                                                                           |                     |                     |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5850.00                                                                                                                                                                                                        | 88.26               | 33.04               | 7.45            | 41.85              | 86.90          | 122.20              | -35.30          | Horizontal   |
| 5855.00                                                                                                                                                                                                        | 82.67               | 33.05               | 7.60            | 41.90              | 81.42          | 110.80              | -29.38          | Horizontal   |
| 5875.00                                                                                                                                                                                                        | 70.41               | 33.08               | 7.64            | 41.92              | 69.21          | 105.20              | -35.99          | Horizontal   |
| 5925.00                                                                                                                                                                                                        | 56.19               | 33.17               | 7.69            | 41.94              | 55.11          | 68.20               | -13.09          | Horizontal   |
| 5850.00                                                                                                                                                                                                        | 84.51               | 33.04               | 7.45            | 41.85              | 83.15          | 122.20              | -39.05          | Vertical     |
| 5855.00                                                                                                                                                                                                        | 76.26               | 33.05               | 7.60            | 41.90              | 75.01          | 110.80              | -35.79          | Vertical     |
| 5875.00                                                                                                                                                                                                        | 65.48               | 33.08               | 7.64            | 41.92              | 64.28          | 105.20              | -40.92          | Vertical     |
| 5925.00                                                                                                                                                                                                        | 53.16               | 33.17               | 7.69            | 41.94              | 52.08          | 68.20               | -16.12          | Vertical     |
| Remark:<br>1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.<br>2. The emission levels of other frequencies are very lower than the limit and not show in test report. |                     |                     |                 |                    |                |                     |                 |              |

| Band 4 – 802.11n(HT40)                                                                                                                                                                                         |                     |                     |                 |                          |                |                     |                 |              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------|-----------------|--------------------------|----------------|---------------------|-----------------|--------------|
| Test channel: Lowest channel                                                                                                                                                                                   |                     |                     |                 |                          |                |                     |                 |              |
| Detector: Peak Value                                                                                                                                                                                           |                     |                     |                 |                          |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5650.00                                                                                                                                                                                                        | 53.16               | 32.68               | 7.45            | 41.85                    | 51.44          | 68.20               | -16.76          | Horizontal   |
| 5700.00                                                                                                                                                                                                        | 68.25               | 32.77               | 7.60            | 41.90                    | 66.72          | 105.20              | -38.48          | Horizontal   |
| 5720.00                                                                                                                                                                                                        | 83.55               | 32.81               | 7.64            | 41.92                    | 82.08          | 110.80              | -28.72          | Horizontal   |
| 5725.00                                                                                                                                                                                                        | 85.47               | 32.81               | 7.69            | 41.94                    | 84.03          | 122.20              | -38.17          | Horizontal   |
| 5650.00                                                                                                                                                                                                        | 55.16               | 32.68               | 7.45            | 41.85                    | 53.44          | 68.20               | -14.76          | Vertical     |
| 5700.00                                                                                                                                                                                                        | 70.61               | 32.77               | 7.60            | 41.90                    | 69.08          | 105.20              | -36.12          | Vertical     |
| 5720.00                                                                                                                                                                                                        | 85.61               | 32.81               | 7.64            | 41.92                    | 84.14          | 110.80              | -26.66          | Vertical     |
| 5725.00                                                                                                                                                                                                        | 86.29               | 32.81               | 7.69            | 41.94                    | 84.85          | 122.20              | -37.35          | Vertical     |
| Test channel: Highest channel                                                                                                                                                                                  |                     |                     |                 |                          |                |                     |                 |              |
| Detector: Peak Value                                                                                                                                                                                           |                     |                     |                 |                          |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5850.00                                                                                                                                                                                                        | 88.64               | 33.04               | 7.45            | 41.85                    | 87.28          | 122.20              | -34.92          | Horizontal   |
| 5855.00                                                                                                                                                                                                        | 82.16               | 33.05               | 7.60            | 41.90                    | 80.91          | 110.80              | -29.89          | Horizontal   |
| 5875.00                                                                                                                                                                                                        | 70.34               | 33.08               | 7.64            | 41.92                    | 69.14          | 105.20              | -36.06          | Horizontal   |
| 5925.00                                                                                                                                                                                                        | 55.89               | 33.17               | 7.69            | 41.94                    | 54.81          | 68.20               | -13.39          | Horizontal   |
| 5850.00                                                                                                                                                                                                        | 85.26               | 33.04               | 7.45            | 41.85                    | 83.90          | 122.20              | -38.30          | Vertical     |
| 5855.00                                                                                                                                                                                                        | 80.41               | 33.05               | 7.60            | 41.90                    | 79.16          | 110.80              | -31.64          | Vertical     |
| 5875.00                                                                                                                                                                                                        | 70.16               | 33.08               | 7.64            | 41.92                    | 68.96          | 105.20              | -36.24          | Vertical     |
| 5925.00                                                                                                                                                                                                        | 55.17               | 33.17               | 7.69            | 41.94                    | 54.09          | 68.20               | -14.11          | Vertical     |
| Remark:<br>1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.<br>2. The emission levels of other frequencies are very lower than the limit and not show in test report. |                     |                     |                 |                          |                |                     |                 |              |

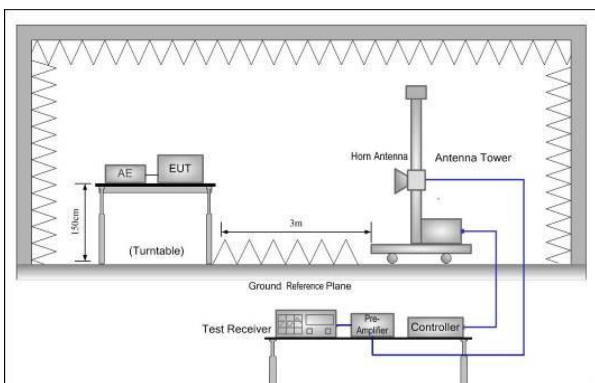
| Band 4 – 802.11ac(HT20)                                                                                                                                                                                        |                     |                     |                 |                          |                |                     |                 |              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------|-----------------|--------------------------|----------------|---------------------|-----------------|--------------|
| Test channel: Lowest channel                                                                                                                                                                                   |                     |                     |                 |                          |                |                     |                 |              |
| Detector: Peak Value                                                                                                                                                                                           |                     |                     |                 |                          |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5650.00                                                                                                                                                                                                        | 52.24               | 32.68               | 7.45            | 41.85                    | 50.52          | 68.20               | -17.68          | Horizontal   |
| 5700.00                                                                                                                                                                                                        | 56.97               | 32.77               | 7.60            | 41.90                    | 55.44          | 105.20              | -49.76          | Horizontal   |
| 5720.00                                                                                                                                                                                                        | 82.26               | 32.81               | 7.64            | 41.92                    | 80.79          | 110.80              | -30.01          | Horizontal   |
| 5725.00                                                                                                                                                                                                        | 89.46               | 32.81               | 7.69            | 41.94                    | 88.02          | 122.20              | -34.18          | Horizontal   |
| 5650.00                                                                                                                                                                                                        | 56.71               | 32.68               | 7.45            | 41.85                    | 54.99          | 68.20               | -13.21          | Vertical     |
| 5700.00                                                                                                                                                                                                        | 57.15               | 32.77               | 7.60            | 41.90                    | 55.62          | 105.20              | -49.58          | Vertical     |
| 5720.00                                                                                                                                                                                                        | 78.63               | 32.81               | 7.64            | 41.92                    | 77.16          | 110.80              | -33.64          | Vertical     |
| 5725.00                                                                                                                                                                                                        | 88.58               | 32.81               | 7.69            | 41.94                    | 87.14          | 122.20              | -35.06          | Vertical     |
| Test channel: Highest channel                                                                                                                                                                                  |                     |                     |                 |                          |                |                     |                 |              |
| Detector: Peak Value                                                                                                                                                                                           |                     |                     |                 |                          |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5850.00                                                                                                                                                                                                        | 88.97               | 33.04               | 7.45            | 41.85                    | 87.61          | 122.20              | -34.59          | Horizontal   |
| 5855.00                                                                                                                                                                                                        | 82.26               | 33.05               | 7.60            | 41.90                    | 81.01          | 110.80              | -29.79          | Horizontal   |
| 5875.00                                                                                                                                                                                                        | 70.61               | 33.08               | 7.64            | 41.92                    | 69.41          | 105.20              | -35.79          | Horizontal   |
| 5925.00                                                                                                                                                                                                        | 56.66               | 33.17               | 7.69            | 41.94                    | 55.58          | 68.20               | -12.62          | Horizontal   |
| 5850.00                                                                                                                                                                                                        | 84.61               | 33.04               | 7.45            | 41.85                    | 83.25          | 122.20              | -38.95          | Vertical     |
| 5855.00                                                                                                                                                                                                        | 76.15               | 33.05               | 7.60            | 41.90                    | 74.90          | 110.80              | -35.90          | Vertical     |
| 5875.00                                                                                                                                                                                                        | 65.23               | 33.08               | 7.64            | 41.92                    | 64.03          | 105.20              | -41.17          | Vertical     |
| 5925.00                                                                                                                                                                                                        | 53.83               | 33.17               | 7.69            | 41.94                    | 52.75          | 68.20               | -15.45          | Vertical     |
| Remark:<br>1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.<br>2. The emission levels of other frequencies are very lower than the limit and not show in test report. |                     |                     |                 |                          |                |                     |                 |              |

| Band 4 – 802.11ac(HT40)                                                                                                                                                                                        |                     |                     |                 |                    |                |                     |                 |              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| Test channel: Lowest channel                                                                                                                                                                                   |                     |                     |                 |                    |                |                     |                 |              |
| Detector: Peak Value                                                                                                                                                                                           |                     |                     |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5650.00                                                                                                                                                                                                        | 52.26               | 32.68               | 7.45            | 41.85              | 50.54          | 68.20               | -17.66          | Horizontal   |
| 5700.00                                                                                                                                                                                                        | 70.16               | 32.77               | 7.60            | 41.90              | 68.63          | 105.20              | -36.57          | Horizontal   |
| 5720.00                                                                                                                                                                                                        | 83.55               | 32.81               | 7.64            | 41.92              | 82.08          | 110.80              | -28.72          | Horizontal   |
| 5725.00                                                                                                                                                                                                        | 85.97               | 32.81               | 7.69            | 41.94              | 84.53          | 122.20              | -37.67          | Horizontal   |
| 5650.00                                                                                                                                                                                                        | 55.64               | 32.68               | 7.45            | 41.85              | 53.92          | 68.20               | -14.28          | Vertical     |
| 5700.00                                                                                                                                                                                                        | 70.39               | 32.77               | 7.60            | 41.90              | 68.86          | 105.20              | -36.34          | Vertical     |
| 5720.00                                                                                                                                                                                                        | 85.83               | 32.81               | 7.64            | 41.92              | 84.36          | 110.80              | -26.44          | Vertical     |
| 5725.00                                                                                                                                                                                                        | 88.16               | 32.81               | 7.69            | 41.94              | 86.72          | 122.20              | -35.48          | Vertical     |
| Test channel: Highest channel                                                                                                                                                                                  |                     |                     |                 |                    |                |                     |                 |              |
| Detector: Peak Value                                                                                                                                                                                           |                     |                     |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5850.00                                                                                                                                                                                                        | 88.46               | 33.04               | 7.45            | 41.85              | 87.10          | 122.20              | -35.10          | Horizontal   |
| 5855.00                                                                                                                                                                                                        | 82.26               | 33.05               | 7.60            | 41.90              | 81.01          | 110.80              | -29.79          | Horizontal   |
| 5875.00                                                                                                                                                                                                        | 70.15               | 33.08               | 7.64            | 41.92              | 68.95          | 105.20              | -36.25          | Horizontal   |
| 5925.00                                                                                                                                                                                                        | 55.18               | 33.17               | 7.69            | 41.94              | 54.10          | 68.20               | -14.10          | Horizontal   |
| 5850.00                                                                                                                                                                                                        | 85.26               | 33.04               | 7.45            | 41.85              | 83.90          | 122.20              | -38.30          | Vertical     |
| 5855.00                                                                                                                                                                                                        | 80.67               | 33.05               | 7.60            | 41.90              | 79.42          | 110.80              | -31.38          | Vertical     |
| 5875.00                                                                                                                                                                                                        | 70.69               | 33.08               | 7.64            | 41.92              | 69.49          | 105.20              | -35.71          | Vertical     |
| 5925.00                                                                                                                                                                                                        | 53.24               | 33.17               | 7.69            | 41.94              | 52.16          | 68.20               | -16.04          | Vertical     |
| Remark:<br>1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.<br>2. The emission levels of other frequencies are very lower than the limit and not show in test report. |                     |                     |                 |                    |                |                     |                 |              |

| Band 4 – 802.11ac(HT80)                                                                                                                                                                                        |                     |                     |                 |                          |                |                     |                 |              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------|-----------------|--------------------------|----------------|---------------------|-----------------|--------------|
| Test channel: Middle channel                                                                                                                                                                                   |                     |                     |                 |                          |                |                     |                 |              |
| Detector: Peak Value                                                                                                                                                                                           |                     |                     |                 |                          |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5650.00                                                                                                                                                                                                        | 52.96               | 32.68               | 7.45            | 41.85                    | 51.24          | 68.20               | -16.96          | Horizontal   |
| 5700.00                                                                                                                                                                                                        | 68.26               | 32.77               | 7.60            | 41.90                    | 66.73          | 105.20              | -38.47          | Horizontal   |
| 5720.00                                                                                                                                                                                                        | 83.16               | 32.81               | 7.64            | 41.92                    | 81.69          | 110.80              | -29.11          | Horizontal   |
| 5725.00                                                                                                                                                                                                        | 85.27               | 32.81               | 7.69            | 41.94                    | 83.83          | 122.20              | -38.37          | Horizontal   |
| 5650.00                                                                                                                                                                                                        | 60.16               | 32.68               | 7.45            | 41.85                    | 58.44          | 68.20               | -9.76           | Vertical     |
| 5700.00                                                                                                                                                                                                        | 70.25               | 32.77               | 7.60            | 41.90                    | 68.72          | 105.20              | -36.48          | Vertical     |
| 5720.00                                                                                                                                                                                                        | 83.92               | 32.81               | 7.64            | 41.92                    | 82.45          | 110.80              | -28.35          | Vertical     |
| 5725.00                                                                                                                                                                                                        | 84.15               | 32.81               | 7.69            | 41.94                    | 82.71          | 122.20              | -39.49          | Vertical     |
| Test channel: Middle channel                                                                                                                                                                                   |                     |                     |                 |                          |                |                     |                 |              |
| Detector: Peak Value                                                                                                                                                                                           |                     |                     |                 |                          |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5850.00                                                                                                                                                                                                        | 82.57               | 33.04               | 7.45            | 41.85                    | 81.21          | 122.20              | -40.99          | Horizontal   |
| 5855.00                                                                                                                                                                                                        | 82.16               | 33.05               | 7.60            | 41.90                    | 80.91          | 110.80              | -29.89          | Horizontal   |
| 5875.00                                                                                                                                                                                                        | 80.60               | 33.08               | 7.64            | 41.92                    | 79.40          | 105.20              | -25.80          | Horizontal   |
| 5925.00                                                                                                                                                                                                        | 62.58               | 33.17               | 7.69            | 41.94                    | 61.50          | 68.20               | -6.70           | Horizontal   |
| 5850.00                                                                                                                                                                                                        | 78.41               | 33.04               | 7.45            | 41.85                    | 77.05          | 122.20              | -45.15          | Vertical     |
| 5855.00                                                                                                                                                                                                        | 76.92               | 33.05               | 7.60            | 41.90                    | 75.67          | 110.80              | -35.13          | Vertical     |
| 5875.00                                                                                                                                                                                                        | 72.16               | 33.08               | 7.64            | 41.92                    | 70.96          | 105.20              | -34.24          | Vertical     |
| 5925.00                                                                                                                                                                                                        | 57.58               | 33.17               | 7.69            | 41.94                    | 56.50          | 68.20               | -11.70          | Vertical     |
| Remark:<br>1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.<br>2. The emission levels of other frequencies are very lower than the limit and not show in test report. |                     |                     |                 |                          |                |                     |                 |              |

## 6.7 Spurious Emission

### 6.7.1 Restricted Band

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |      |      |               |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------|------|---------------|
| Test Requirement:     | FCC Part15 E Section 15.407(b)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                    |      |      |               |
| Test Method:          | ANSI C63.10: 2013                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                    |      |      |               |
| Test Frequency Range: | 4.5 GHz to 5.15 GHz and 5.35GHz to 5.46GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                    |      |      |               |
| Test site:            | Measurement Distance: 3m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                    |      |      |               |
| Receiver setup:       | Frequency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Detector           | RBW  | VBW  | Remark        |
|                       | Above 1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Peak               | 1MHz | 3MHz | Peak Value    |
|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | RMS                | 1MHz | 3MHz | Average Value |
| Limit:                | Frequency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Limit (dBuV/m @3m) |      |      | Remark        |
|                       | Above 1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 74.00              |      |      | Peak Value    |
|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 54.00              |      |      | Average Value |
| Test Procedure:       | <div>1. The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.</div> <div>2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</div> <div>3. The antenna 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.</div> <div>4. 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 rota table was turned from 0 degrees to 360 degrees to find the maximum reading.</div> <div>5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</div> <div>6. 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.</div> |                    |      |      |               |
| Test setup:           | <div></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |      |      |               |
| Test Instruments:     | Refer to section 5.9 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |      |      |               |
| Test mode:            | Refer to section 5.3 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |      |      |               |
| Test results:         | Passed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    |      |      |               |

**Measurement Data (worst case):**

**Band 4:**

| Band 4 – 802.11a                                                                                                                                                                                                      |                     |                     |                 |                    |                |                     |                 |              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| Test channel: Lowest channel                                                                                                                                                                                          |                     |                     |                 |                    |                |                     |                 |              |
| Detector: Peak Value                                                                                                                                                                                                  |                     |                     |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                       | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5350.00                                                                                                                                                                                                               | 48.62               | 35.37               | 7.11            | 41.89              | 49.21          | 74.00               | -24.79          | Horizontal   |
| 5350.00                                                                                                                                                                                                               | 48.27               | 35.37               | 7.11            | 41.89              | 48.86          | 74.00               | -25.14          | Vertical     |
| Detector: Average Value                                                                                                                                                                                               |                     |                     |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                       | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5350.00                                                                                                                                                                                                               | 38.24               | 35.37               | 7.11            | 41.89              | 38.83          | 54.00               | -15.17          | Horizontal   |
| 5350.00                                                                                                                                                                                                               | 38.16               | 35.37               | 7.11            | 41.89              | 38.75          | 54.00               | -15.25          | Vertical     |
| Test channel: Lowest channel                                                                                                                                                                                          |                     |                     |                 |                    |                |                     |                 |              |
| Detector: Peak Value                                                                                                                                                                                                  |                     |                     |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                       | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5460.00                                                                                                                                                                                                               | 48.52               | 34.90               | 7.18            | 41.85              | 48.75          | 74.00               | -25.25          | Horizontal   |
| 5460.00                                                                                                                                                                                                               | 48.16               | 34.90               | 7.18            | 41.85              | 48.39          | 74.00               | -25.61          | Vertical     |
| Detector: Average Value                                                                                                                                                                                               |                     |                     |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                       | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5460.00                                                                                                                                                                                                               | 38.69               | 34.90               | 7.18            | 41.85              | 38.92          | 54.00               | -15.08          | Horizontal   |
| 5460.00                                                                                                                                                                                                               | 38.46               | 34.90               | 7.18            | 41.85              | 38.69          | 54.00               | -15.31          | Vertical     |
| <b>Remark:</b><br>1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.<br>2. The emission levels of other frequencies are very lower than the limit and not show in test report. |                     |                     |                 |                    |                |                     |                 |              |

| Band 4 – 802.11n(HT20)                                                                                                                                                                                                |                     |                     |                 |                          |                |                     |                 |              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------|-----------------|--------------------------|----------------|---------------------|-----------------|--------------|
| Test channel: Lowest channel                                                                                                                                                                                          |                     |                     |                 |                          |                |                     |                 |              |
| Detector: Peak Value                                                                                                                                                                                                  |                     |                     |                 |                          |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                       | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5350.00                                                                                                                                                                                                               | 48.65               | 35.37               | 7.11            | 41.89                    | 49.24          | 74.00               | -24.76          | Horizontal   |
| 5350.00                                                                                                                                                                                                               | 48.71               | 35.37               | 7.11            | 41.89                    | 49.30          | 74.00               | -24.70          | Vertical     |
| Detector: Average Value                                                                                                                                                                                               |                     |                     |                 |                          |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                       | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5350.00                                                                                                                                                                                                               | 38.51               | 35.37               | 7.11            | 41.89                    | 39.10          | 54.00               | -14.90          | Horizontal   |
| 5350.00                                                                                                                                                                                                               | 38.69               | 35.37               | 7.11            | 41.89                    | 39.28          | 54.00               | -14.72          | Vertical     |
| Test channel: Lowest channel                                                                                                                                                                                          |                     |                     |                 |                          |                |                     |                 |              |
| Detector: Peak Value                                                                                                                                                                                                  |                     |                     |                 |                          |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                       | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5460.00                                                                                                                                                                                                               | 48.52               | 34.90               | 7.18            | 41.85                    | 48.75          | 74.00               | -25.25          | Horizontal   |
| 5460.00                                                                                                                                                                                                               | 48.71               | 34.90               | 7.18            | 41.85                    | 48.94          | 74.00               | -25.06          | Vertical     |
| Detector: Average Value                                                                                                                                                                                               |                     |                     |                 |                          |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                       | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5460.00                                                                                                                                                                                                               | 38.59               | 34.90               | 7.18            | 41.85                    | 38.82          | 54.00               | -15.18          | Horizontal   |
| 5460.00                                                                                                                                                                                                               | 38.14               | 34.90               | 7.18            | 41.85                    | 38.37          | 54.00               | -15.63          | Vertical     |
| <b>Remark:</b><br>1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.<br>2. The emission levels of other frequencies are very lower than the limit and not show in test report. |                     |                     |                 |                          |                |                     |                 |              |

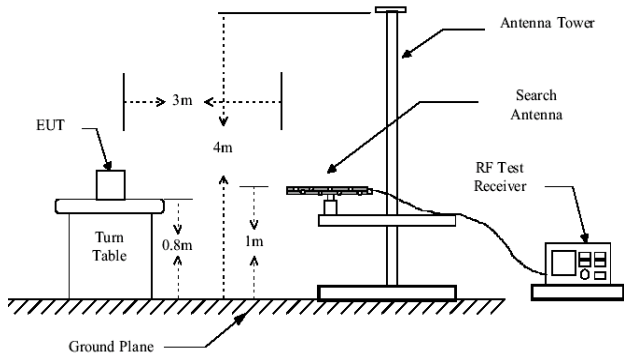
| Band 4 – 802.11n(HT40)                                                                                                                                                                                                              |                     |                     |                 |                    |                |                     |                 |              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| Test channel: Lowest channel                                                                                                                                                                                                        |                     |                     |                 |                    |                |                     |                 |              |
| Detector: Peak Value                                                                                                                                                                                                                |                     |                     |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                                     | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5350.00                                                                                                                                                                                                                             | 48.47               | 35.37               | 7.11            | 41.89              | 49.06          | 74.00               | -24.94          | Horizontal   |
| 5350.00                                                                                                                                                                                                                             | 48.97               | 35.37               | 7.11            | 41.89              | 49.56          | 74.00               | -24.44          | Vertical     |
| Detector: Average Value                                                                                                                                                                                                             |                     |                     |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                                     | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5350.00                                                                                                                                                                                                                             | 38.48               | 35.37               | 7.11            | 41.89              | 39.07          | 54.00               | -14.93          | Horizontal   |
| 5350.00                                                                                                                                                                                                                             | 38.41               | 35.37               | 7.11            | 41.89              | 39.00          | 54.00               | -15.00          | Vertical     |
| Test channel: Lowest channel                                                                                                                                                                                                        |                     |                     |                 |                    |                |                     |                 |              |
| Detector: Peak Value                                                                                                                                                                                                                |                     |                     |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                                     | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5460.00                                                                                                                                                                                                                             | 48.97               | 34.90               | 7.18            | 41.85              | 49.20          | 74.00               | -24.80          | Horizontal   |
| 5460.00                                                                                                                                                                                                                             | 48.63               | 34.90               | 7.18            | 41.85              | 48.86          | 74.00               | -25.14          | Vertical     |
| Detector: Average Value                                                                                                                                                                                                             |                     |                     |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                                     | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5460.00                                                                                                                                                                                                                             | 38.24               | 34.90               | 7.18            | 41.85              | 38.47          | 54.00               | -15.53          | Horizontal   |
| 5460.00                                                                                                                                                                                                                             | 38.54               | 34.90               | 7.18            | 41.85              | 38.77          | 54.00               | -15.23          | Vertical     |
| <b>Remark:</b><br>1. <i>Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.</i><br>2. <i>The emission levels of other frequencies are very lower than the limit and not show in test report.</i> |                     |                     |                 |                    |                |                     |                 |              |

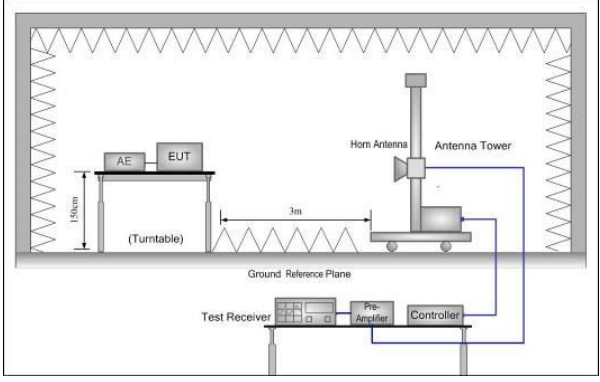
| Band 4 – 802.11ac(HT20)                                                                                                                                                                                               |                     |                     |                 |                    |                |                     |                 |              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| Test channel: Lowest channel                                                                                                                                                                                          |                     |                     |                 |                    |                |                     |                 |              |
| Detector: Peak Value                                                                                                                                                                                                  |                     |                     |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                       | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5350.00                                                                                                                                                                                                               | 48.52               | 35.37               | 7.11            | 41.89              | 49.11          | 74.00               | -24.89          | Horizontal   |
| 5350.00                                                                                                                                                                                                               | 48.13               | 35.37               | 7.11            | 41.89              | 48.72          | 74.00               | -25.28          | Vertical     |
| Detector: Average Value                                                                                                                                                                                               |                     |                     |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                       | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5350.00                                                                                                                                                                                                               | 38.13               | 35.37               | 7.11            | 41.89              | 38.72          | 54.00               | -15.28          | Horizontal   |
| 5350.00                                                                                                                                                                                                               | 38.51               | 35.37               | 7.11            | 41.89              | 39.10          | 54.00               | -14.90          | Vertical     |
| Test channel: Lowest channel                                                                                                                                                                                          |                     |                     |                 |                    |                |                     |                 |              |
| Detector: Peak Value                                                                                                                                                                                                  |                     |                     |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                       | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5460.00                                                                                                                                                                                                               | 48.62               | 34.90               | 7.18            | 41.85              | 48.85          | 74.00               | -25.15          | Horizontal   |
| 5460.00                                                                                                                                                                                                               | 48.43               | 34.90               | 7.18            | 41.85              | 48.66          | 74.00               | -25.34          | Vertical     |
| Detector: Average Value                                                                                                                                                                                               |                     |                     |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                       | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5460.00                                                                                                                                                                                                               | 38.62               | 34.90               | 7.18            | 41.85              | 38.85          | 54.00               | -15.15          | Horizontal   |
| 5460.00                                                                                                                                                                                                               | 38.15               | 34.90               | 7.18            | 41.85              | 38.38          | 54.00               | -15.62          | Vertical     |
| <b>Remark:</b><br>1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.<br>2. The emission levels of other frequencies are very lower than the limit and not show in test report. |                     |                     |                 |                    |                |                     |                 |              |

| Band 4 – 802.11ac(HT40)                                                                                                                                                                                               |                     |                     |                 |                    |                |                     |                 |              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| Test channel: Lowest channel                                                                                                                                                                                          |                     |                     |                 |                    |                |                     |                 |              |
| Detector: Peak Value                                                                                                                                                                                                  |                     |                     |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                       | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5350.00                                                                                                                                                                                                               | 48.52               | 35.37               | 7.11            | 41.89              | 49.11          | 74.00               | -24.89          | Horizontal   |
| 5350.00                                                                                                                                                                                                               | 48.69               | 35.37               | 7.11            | 41.89              | 49.28          | 74.00               | -24.72          | Vertical     |
| Detector: Average Value                                                                                                                                                                                               |                     |                     |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                       | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5350.00                                                                                                                                                                                                               | 38.57               | 35.37               | 7.11            | 41.89              | 39.16          | 54.00               | -14.84          | Horizontal   |
| 5350.00                                                                                                                                                                                                               | 38.16               | 35.37               | 7.11            | 41.89              | 38.75          | 54.00               | -15.25          | Vertical     |
| Test channel: Lowest channel                                                                                                                                                                                          |                     |                     |                 |                    |                |                     |                 |              |
| Detector: Peak Value                                                                                                                                                                                                  |                     |                     |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                       | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5460.00                                                                                                                                                                                                               | 48.26               | 34.90               | 7.18            | 41.85              | 48.49          | 74.00               | -25.51          | Horizontal   |
| 5460.00                                                                                                                                                                                                               | 48.47               | 34.90               | 7.18            | 41.85              | 48.70          | 74.00               | -25.30          | Vertical     |
| Detector: Average Value                                                                                                                                                                                               |                     |                     |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                       | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5460.00                                                                                                                                                                                                               | 38.62               | 34.90               | 7.18            | 41.85              | 38.85          | 54.00               | -15.15          | Horizontal   |
| 5460.00                                                                                                                                                                                                               | 38.51               | 34.90               | 7.18            | 41.85              | 38.74          | 54.00               | -15.26          | Vertical     |
| <b>Remark:</b><br>1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.<br>2. The emission levels of other frequencies are very lower than the limit and not show in test report. |                     |                     |                 |                    |                |                     |                 |              |

| Band 4 – 802.11ac(HT80)                                                                                                                                                                                                             |                     |                     |                 |                    |                |                     |                 |              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| Test channel: Middle channel                                                                                                                                                                                                        |                     |                     |                 |                    |                |                     |                 |              |
| Detector: Peak Value                                                                                                                                                                                                                |                     |                     |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                                     | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5350.00                                                                                                                                                                                                                             | 48.23               | 35.37               | 7.11            | 41.89              | 48.82          | 74.00               | -25.18          | Horizontal   |
| 5350.00                                                                                                                                                                                                                             | 48.11               | 35.37               | 7.11            | 41.89              | 48.70          | 74.00               | -25.30          | Vertical     |
| Detector: Average Value                                                                                                                                                                                                             |                     |                     |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                                     | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5350.00                                                                                                                                                                                                                             | 38.25               | 35.37               | 7.11            | 41.89              | 38.84          | 54.00               | -15.16          | Horizontal   |
| 5350.00                                                                                                                                                                                                                             | 38.62               | 35.37               | 7.11            | 41.89              | 39.21          | 54.00               | -14.79          | Vertical     |
| Test channel: Middle channel                                                                                                                                                                                                        |                     |                     |                 |                    |                |                     |                 |              |
| Detector: Peak Value                                                                                                                                                                                                                |                     |                     |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                                     | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5460.00                                                                                                                                                                                                                             | 48.25               | 34.90               | 7.18            | 41.85              | 48.48          | 74.00               | -25.52          | Horizontal   |
| 5460.00                                                                                                                                                                                                                             | 48.63               | 34.90               | 7.18            | 41.85              | 48.86          | 74.00               | -25.14          | Vertical     |
| Detector: Average Value                                                                                                                                                                                                             |                     |                     |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                                     | Read Level (dBuV/m) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 5460.00                                                                                                                                                                                                                             | 38.15               | 34.90               | 7.18            | 41.85              | 38.38          | 54.00               | -15.62          | Horizontal   |
| 5460.00                                                                                                                                                                                                                             | 38.78               | 34.90               | 7.18            | 41.85              | 39.01          | 54.00               | -14.99          | Vertical     |
| <b>Remark:</b><br>1. <i>Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.</i><br>2. <i>The emission levels of other frequencies are very lower than the limit and not show in test report.</i> |                     |                     |                 |                    |                |                     |                 |              |

## 6.7.2 Unwanted Emissions out of the Restricted Bands

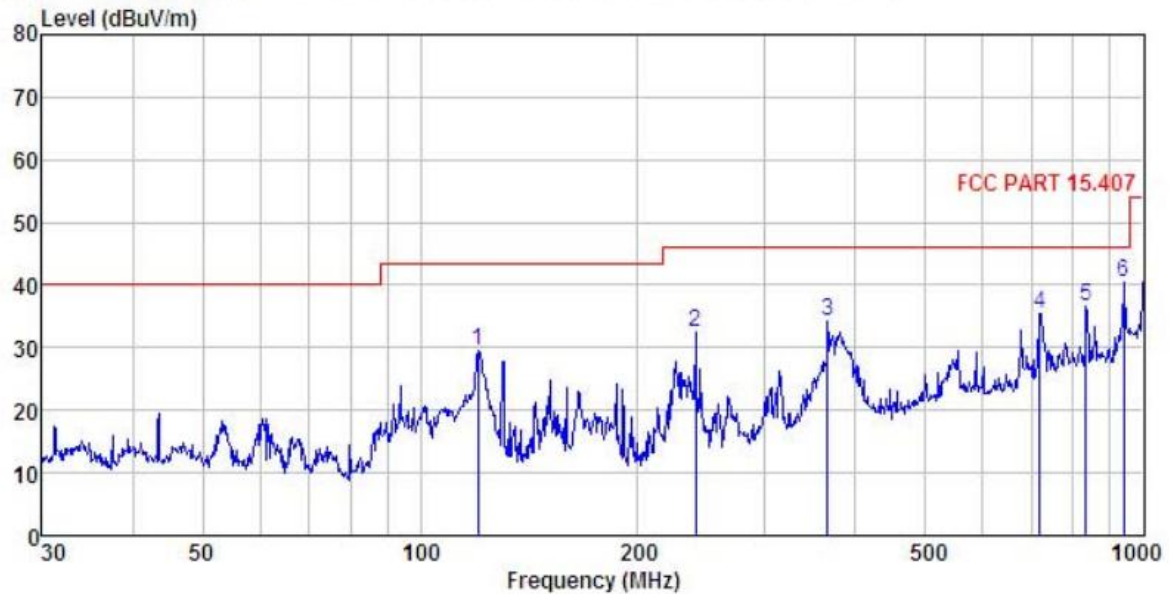
|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            |                    |        |                  |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|--------|------------------|
| Test Requirement:     | FCC Part15 C Section 15.209 and 15.205                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |                    |        |                  |
| Test Method:          | ANSI C63.10: 2013                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |            |                    |        |                  |
| Test Frequency Range: | 30MHz to 40GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |                    |        |                  |
| Test site:            | Measurement Distance: 3m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |                    |        |                  |
| Receiver setup:       | Frequency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Detector   | RBW                | VBW    | Remark           |
|                       | 30MHz-1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Quasi-peak | 100kHz             | 300kHz | Quasi-peak Value |
|                       | Above 1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Peak       | 1MHz               | 3MHz   | Peak Value       |
|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | RMS        | 1MHz               | 3MHz   | Average Value    |
| Limit:                | Frequency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            | Limit (dBuV/m @3m) |        | Remark           |
|                       | 30MHz-88MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            | 40.0               |        | Quasi-peak Value |
|                       | 88MHz-216MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            | 43.5               |        | Quasi-peak Value |
|                       | 216MHz-960MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            | 46.0               |        | Quasi-peak Value |
|                       | 960MHz-1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            | 54.0               |        | Quasi-peak Value |
|                       | Above 1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            | 68.20              |        | Peak Value       |
|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | 54.00              |        | Average Value    |
|                       | Remark:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |        |                  |
|                       | Above 1GHz limit:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |            |                    |        |                  |
|                       | $E[dBuV/m] = EIRP[dBm] + 95.2=68.2 \text{ dBuV/m}$ , for $EIPR[dBm]=-27dBm$ .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |                    |        |                  |
| Test Procedure:       | <div>1. The EUT was placed on the top of a rotating table 0.8m(below 1GHz)/1.5m(above 1GHz) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.</div> <div>2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</div> <div>3. The antenna 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.</div> <div>4. 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 rota table was turned from 0 degrees to 360 degrees to find the maximum reading.</div> <div>5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</div> <div>6. 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.</div> |            |                    |        |                  |
| Test setup:           | <div>Below 1GHz</div> <div></div> <div>Above 1GHz</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |                    |        |                  |

|                   |                                                                                    |
|-------------------|------------------------------------------------------------------------------------|
|                   |  |
| Test Instruments: | Refer to section 5.9 for details                                                   |
| Test mode:        | Refer to section 5.3 for details                                                   |
| Test results:     | Passed                                                                             |

## Measurement Data (worst case):

## Below 1GHz

|                 |                |                |                     |
|-----------------|----------------|----------------|---------------------|
| Product Name:   | CAR DVR        | Product model: | LS01                |
| Test By:        | Yaro           | Test mode:     | 5G Wi-Fi Tx mode    |
| Test Frequency: | 30 MHz ~ 1 GHz | Polarization:  | Vertical            |
| Test Voltage:   | DC 12V         | Environment:   | Temp: 24℃ Humi: 57% |

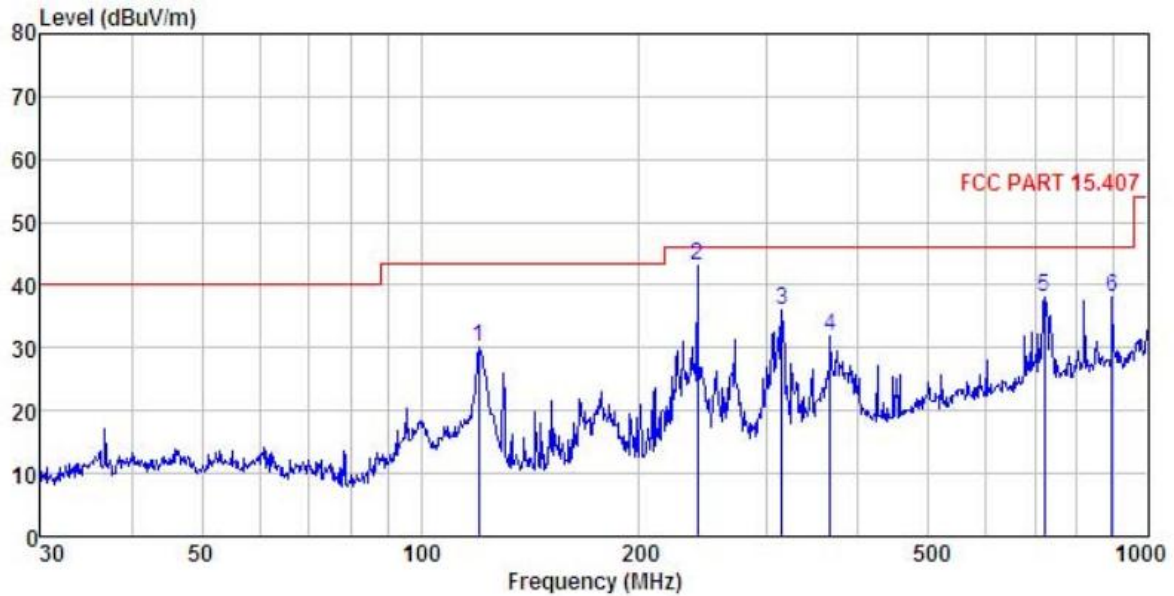


|   | Freq    | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Level  | Limit Line | Over Limit | Remark |
|---|---------|------------|----------------|------------|---------------|--------|------------|------------|--------|
|   | MHz     | dBuV       | dB/m           | dB         | dB            | dBuV/m | dBuV/m     | dB         |        |
| 1 | 120.277 | 45.83      | 10.85          | 2.17       | 29.39         | 29.46  | 43.50      | -14.04     | QP     |
| 2 | 239.987 | 46.02      | 12.30          | 2.82       | 28.59         | 32.55  | 46.00      | -13.45     | QP     |
| 3 | 365.539 | 45.00      | 14.82          | 3.09       | 28.63         | 34.28  | 46.00      | -11.72     | QP     |
| 4 | 719.200 | 39.22      | 20.48          | 4.25       | 28.59         | 35.36  | 46.00      | -10.64     | QP     |
| 5 | 833.317 | 38.09      | 22.29          | 4.24       | 28.07         | 36.55  | 46.00      | -9.45      | QP     |
| 6 | 938.833 | 41.46      | 22.65          | 4.10       | 27.76         | 40.45  | 46.00      | -5.55      | QP     |

## Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

|                 |                |                |                     |
|-----------------|----------------|----------------|---------------------|
| Product Name:   | CAR DVR        | Product model: | LS01                |
| Test By:        | Yaro           | Test mode:     | 5G Wi-Fi Tx mode    |
| Test Frequency: | 30 MHz ~ 1 GHz | Polarization:  | Horizontal          |
| Test Voltage:   | DC 12V         | Environment:   | Temp: 24℃ Humi: 57% |

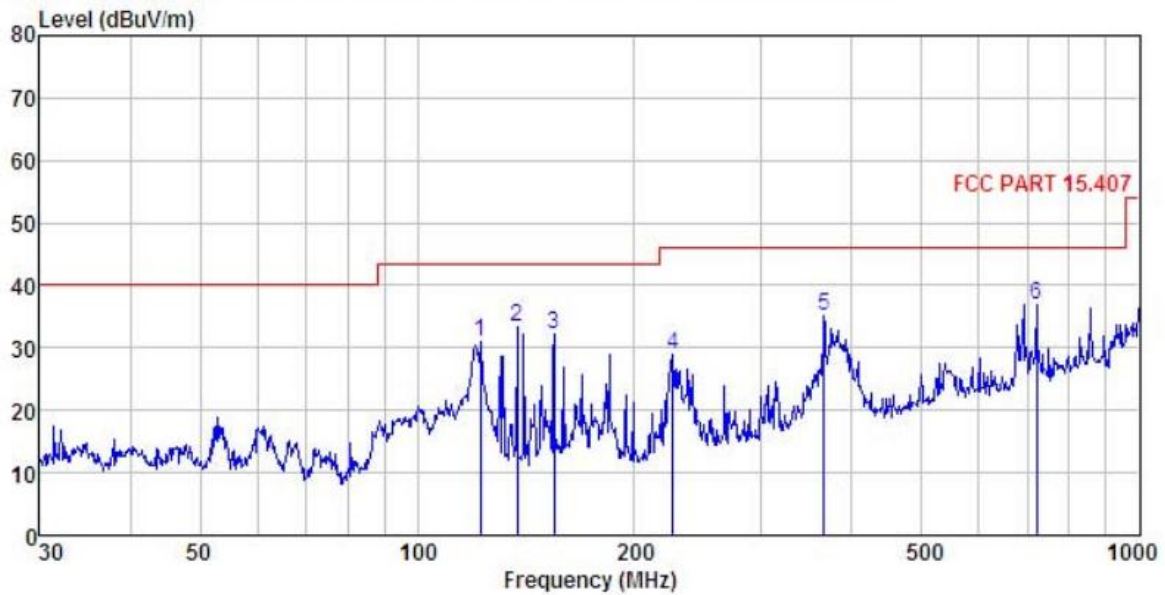


|       | ReadAntenna | Cable Preamp |       | Limit  | Over   |        |
|-------|-------------|--------------|-------|--------|--------|--------|
| Freq  | Level       | Factor       | Loss  | Factor | Level  | Line   |
| ----- | -----       | -----        | ----- | -----  | -----  | -----  |
| MHz   | dBuV        | dB/m         | dB    | dB     | dBuV/m | dBuV/m |
| 1     | 120.277     | 46.37        | 10.85 | 2.17   | 29.39  | 30.00  |
| 2     | 239.987     | 56.59        | 12.30 | 2.82   | 28.59  | 43.12  |
| 3     | 314.377     | 47.59        | 13.90 | 2.98   | 28.48  | 35.99  |
| 4     | 365.539     | 42.71        | 14.82 | 3.09   | 28.63  | 31.99  |
| 5     | 721.726     | 41.87        | 20.49 | 4.26   | 28.58  | 38.04  |
| 6     | 893.857     | 39.80        | 22.51 | 3.77   | 27.89  | 38.19  |

**Remark:**

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

|                 |                |                |                           |
|-----------------|----------------|----------------|---------------------------|
| Product Name:   | CAR DVR        | Product model: | LS01                      |
| Test By:        | Yaro           | Test mode:     | 5G Wi-Fi Tx mode          |
| Test Frequency: | 30 MHz ~ 1 GHz | Polarization:  | Vertical                  |
| Test Voltage:   | DC 24V         | Environment:   | Temp: 24°C      Humi: 57% |

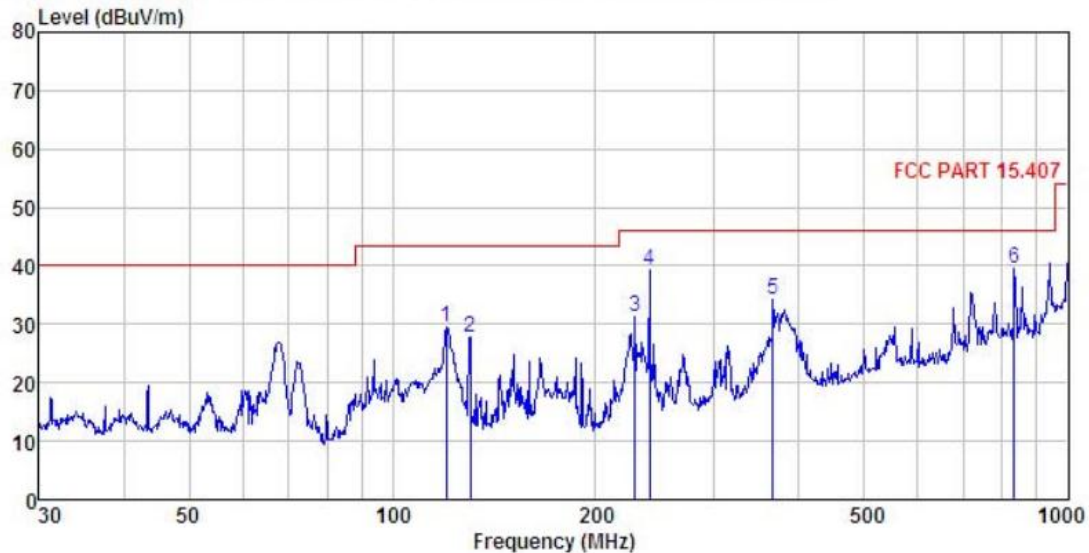


|       | ReadAntenna | Cable  | Preamp |        | Limit  | Over   |       |
|-------|-------------|--------|--------|--------|--------|--------|-------|
| Freq  | Level       | Factor | Loss   | Factor | Level  | Line   | Limit |
| ----- | -----       | -----  | -----  | -----  | -----  | -----  | ----- |
| MHz   | dBuV        | dB/m   | dB     | dB     | dBuV/m | dBuV/m | dB    |
| 1     | 122.404     | 47.60  | 10.70  | 2.19   | 29.38  | 31.11  | 43.50 |
| 2     | 137.420     | 50.58  | 9.69   | 2.37   | 29.29  | 33.35  | 43.50 |
| 3     | 154.821     | 49.56  | 9.10   | 2.55   | 29.18  | 32.03  | 43.50 |
| 4     | 226.099     | 43.15  | 11.75  | 2.84   | 28.67  | 29.07  | 46.00 |
| 5     | 365.539     | 45.93  | 14.82  | 3.09   | 28.63  | 35.21  | 46.00 |
| 6     | 721.726     | 40.83  | 20.49  | 4.26   | 28.58  | 37.00  | 46.00 |

## Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

|                 |                |                |                     |
|-----------------|----------------|----------------|---------------------|
| Product Name:   | CAR DVR        | Product model: | LS01                |
| Test By:        | Yaro           | Test mode:     | 5G Wi-Fi Tx mode    |
| Test Frequency: | 30 MHz ~ 1 GHz | Polarization:  | Horizontal          |
| Test Voltage:   | DC 24V         | Environment:   | Temp: 24℃ Humi: 57% |



|   | Freq    | Read<br>Level | Antenna<br>Factor | Cable<br>Loss | Preamp<br>Factor | Level  | Limit<br>Line | Over<br>Limit | Remark |
|---|---------|---------------|-------------------|---------------|------------------|--------|---------------|---------------|--------|
|   | MHz     | dBuV          | dB/m              | dB            | dB               | dBuV/m | dBuV/m        | dB            |        |
| 1 | 120.277 | 45.83         | 10.85             | 2.17          | 29.39            | 29.46  | 43.50         | -14.04        | QP     |
| 2 | 130.379 | 44.74         | 10.14             | 2.29          | 29.33            | 27.84  | 43.50         | -15.66        | QP     |
| 3 | 228.490 | 45.31         | 11.83             | 2.84          | 28.66            | 31.32  | 46.00         | -14.68        | QP     |
| 4 | 239.987 | 52.85         | 12.30             | 2.82          | 28.59            | 39.38  | 46.00         | -6.62         | QP     |
| 5 | 365.539 | 45.00         | 14.82             | 3.09          | 28.63            | 34.28  | 46.00         | -11.72        | QP     |
| 6 | 833.317 | 41.09         | 22.29             | 4.24          | 28.07            | 39.55  | 46.00         | -6.45         | QP     |

**Remark:**

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

## Above 1GHz:

## Band 4:

| Band 4 – 802.11a                                                                                       |                   |                       |                 |                    |                |                     |                 |              |
|--------------------------------------------------------------------------------------------------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| Test channel: Lowest channel                                                                           |                   |                       |                 |                    |                |                     |                 |              |
| Detector: Peak Value                                                                                   |                   |                       |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                        | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 11490.00                                                                                               | 51.26             | 41.50                 | 10.81           | 42.29              | 61.28          | 74.00               | -12.72          | Vertical     |
| 11490.00                                                                                               | 51.74             | 41.50                 | 10.81           | 42.29              | 61.76          | 74.00               | -12.24          | Horizontal   |
| Detector: Average Value                                                                                |                   |                       |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                        | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 11490.00                                                                                               | 38.56             | 41.50                 | 10.81           | 42.29              | 48.58          | 54.00               | -5.42           | Vertical     |
| 11490.00                                                                                               | 38.16             | 41.50                 | 10.81           | 42.29              | 48.18          | 54.00               | -5.82           | Horizontal   |
| Test channel: Middle channel                                                                           |                   |                       |                 |                    |                |                     |                 |              |
| Detector: Peak Value                                                                                   |                   |                       |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                        | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 11570.00                                                                                               | 51.25             | 41.38                 | 10.78           | 42.27              | 61.14          | 74.00               | -12.86          | Vertical     |
| 11570.00                                                                                               | 51.36             | 41.38                 | 10.78           | 42.27              | 61.25          | 74.00               | -12.75          | Horizontal   |
| Detector: Average Value                                                                                |                   |                       |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                        | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 11570.00                                                                                               | 38.52             | 41.38                 | 10.78           | 42.27              | 48.41          | 54.00               | -5.59           | Vertical     |
| 11570.00                                                                                               | 39.16             | 41.38                 | 10.78           | 42.27              | 49.05          | 54.00               | -4.95           | Horizontal   |
| Test channel: Highest channel                                                                          |                   |                       |                 |                    |                |                     |                 |              |
| Detector: Peak Value                                                                                   |                   |                       |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                        | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 11650.00                                                                                               | 52.73             | 41.26                 | 10.76           | 42.26              | 62.49          | 74.00               | -11.51          | Vertical     |
| 11650.00                                                                                               | 51.49             | 41.26                 | 10.76           | 42.26              | 61.25          | 74.00               | -12.75          | Horizontal   |
| Detector: Average Value                                                                                |                   |                       |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                        | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 11650.00                                                                                               | 39.85             | 41.26                 | 10.76           | 42.26              | 49.61          | 54.00               | -4.39           | Vertical     |
| 11650.00                                                                                               | 38.47             | 41.26                 | 10.76           | 42.26              | 48.23          | 54.00               | -5.77           | Horizontal   |
| Remark:                                                                                                |                   |                       |                 |                    |                |                     |                 |              |
| 1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.              |                   |                       |                 |                    |                |                     |                 |              |
| 2. The emission levels of other frequencies are very lower than the limit and not show in test report. |                   |                       |                 |                    |                |                     |                 |              |

| Band 4 – 802.11n(HT20)                                                                                 |                   |                       |                 |                    |                |                     |                 |              |
|--------------------------------------------------------------------------------------------------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| Test channel: Lowest channel                                                                           |                   |                       |                 |                    |                |                     |                 |              |
| Detector: Peak Value                                                                                   |                   |                       |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                        | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 11490.00                                                                                               | 51.85             | 41.50                 | 10.81           | 42.29              | 61.87          | 74.00               | -12.13          | Vertical     |
| 11490.00                                                                                               | 51.26             | 41.50                 | 10.81           | 42.29              | 61.28          | 74.00               | -12.72          | Horizontal   |
| Detector: Average Value                                                                                |                   |                       |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                        | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 11490.00                                                                                               | 38.64             | 41.50                 | 10.81           | 42.29              | 48.66          | 54.00               | -5.34           | Vertical     |
| 11490.00                                                                                               | 38.16             | 41.50                 | 10.81           | 42.29              | 48.18          | 54.00               | -5.82           | Horizontal   |
| Test channel: Middle channel                                                                           |                   |                       |                 |                    |                |                     |                 |              |
| Detector: Peak Value                                                                                   |                   |                       |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                        | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 11570.00                                                                                               | 51.74             | 41.38                 | 10.78           | 42.27              | 61.63          | 74.00               | -12.37          | Vertical     |
| 11570.00                                                                                               | 51.26             | 41.38                 | 10.78           | 42.27              | 61.15          | 74.00               | -12.85          | Horizontal   |
| Detector: Average Value                                                                                |                   |                       |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                        | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 11570.00                                                                                               | 38.92             | 41.38                 | 10.78           | 42.27              | 48.81          | 54.00               | -5.19           | Vertical     |
| 11570.00                                                                                               | 38.25             | 41.38                 | 10.78           | 42.27              | 48.14          | 54.00               | -5.86           | Horizontal   |
| Test channel: Highest channel                                                                          |                   |                       |                 |                    |                |                     |                 |              |
| Detector: Peak Value                                                                                   |                   |                       |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                        | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 11650.00                                                                                               | 52.84             | 41.26                 | 10.76           | 42.26              | 62.60          | 74.00               | -11.40          | Vertical     |
| 11650.00                                                                                               | 51.46             | 41.26                 | 10.76           | 42.26              | 61.22          | 74.00               | -12.78          | Horizontal   |
| Detector: Average Value                                                                                |                   |                       |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                        | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 11650.00                                                                                               | 38.16             | 41.26                 | 10.76           | 42.26              | 47.92          | 54.00               | -6.08           | Vertical     |
| 11650.00                                                                                               | 39.25             | 41.26                 | 10.76           | 42.26              | 49.01          | 54.00               | -4.99           | Horizontal   |
| Remark:                                                                                                |                   |                       |                 |                    |                |                     |                 |              |
| 1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.              |                   |                       |                 |                    |                |                     |                 |              |
| 2. The emission levels of other frequencies are very lower than the limit and not show in test report. |                   |                       |                 |                    |                |                     |                 |              |

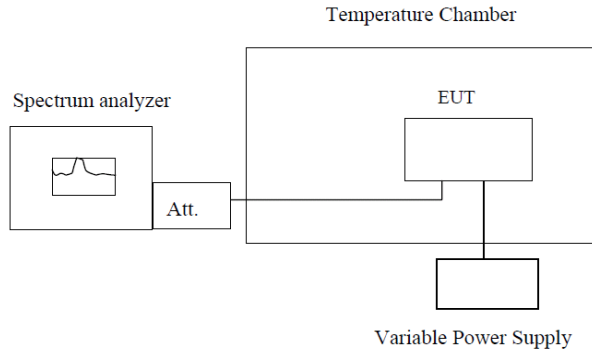
| Band 4 – 802.11n(HT40)                                                                                                                                                                                                |                   |                       |                 |                    |                |                     |                 |              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| Test channel: Lowest channel                                                                                                                                                                                          |                   |                       |                 |                    |                |                     |                 |              |
| Detector: Peak Value                                                                                                                                                                                                  |                   |                       |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                       | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 11510.00                                                                                                                                                                                                              | 51.83             | 41.50                 | 10.81           | 42.29              | 61.85          | 74.00               | -12.15          | Vertical     |
| 11510.00                                                                                                                                                                                                              | 51.47             | 41.50                 | 10.81           | 42.29              | 61.49          | 74.00               | -12.51          | Horizontal   |
| Detector: Average Value                                                                                                                                                                                               |                   |                       |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                       | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 11510.00                                                                                                                                                                                                              | 38.95             | 41.50                 | 10.81           | 42.29              | 48.97          | 54.00               | -5.03           | Vertical     |
| 11510.00                                                                                                                                                                                                              | 38.25             | 41.50                 | 10.81           | 42.29              | 48.27          | 54.00               | -5.73           | Horizontal   |
| Test channel: Highest channel                                                                                                                                                                                         |                   |                       |                 |                    |                |                     |                 |              |
| Detector: Peak Value                                                                                                                                                                                                  |                   |                       |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                       | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 11590.00                                                                                                                                                                                                              | 51.92             | 41.32                 | 10.77           | 42.27              | 61.74          | 74.00               | -12.26          | Vertical     |
| 11590.00                                                                                                                                                                                                              | 51.25             | 41.32                 | 10.77           | 42.27              | 61.07          | 74.00               | -12.93          | Horizontal   |
| Detector: Average Value                                                                                                                                                                                               |                   |                       |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                       | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 11590.00                                                                                                                                                                                                              | 38.57             | 41.32                 | 10.77           | 42.27              | 48.39          | 54.00               | -5.61           | Vertical     |
| 11590.00                                                                                                                                                                                                              | 38.15             | 41.32                 | 10.77           | 42.27              | 47.97          | 54.00               | -6.03           | Horizontal   |
| <b>Remark:</b><br>1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.<br>2. The emission levels of other frequencies are very lower than the limit and not show in test report. |                   |                       |                 |                    |                |                     |                 |              |

| Band 4 – 802.11ac(HT20)                                                                                |                   |                       |                 |                    |                |                     |                 |              |
|--------------------------------------------------------------------------------------------------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| Test channel: Lowest channel                                                                           |                   |                       |                 |                    |                |                     |                 |              |
| Detector: Peak Value                                                                                   |                   |                       |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                        | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 11490.00                                                                                               | 52.74             | 41.50                 | 10.81           | 42.29              | 62.76          | 74.00               | -11.24          | Vertical     |
| 11490.00                                                                                               | 52.16             | 41.50                 | 10.81           | 42.29              | 62.18          | 74.00               | -11.82          | Horizontal   |
| Detector: Average Value                                                                                |                   |                       |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                        | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 11490.00                                                                                               | 39.26             | 41.50                 | 10.81           | 42.29              | 49.28          | 54.00               | -4.72           | Vertical     |
| 11490.00                                                                                               | 38.95             | 41.50                 | 10.81           | 42.29              | 48.97          | 54.00               | -5.03           | Horizontal   |
| Test channel: Middle channel                                                                           |                   |                       |                 |                    |                |                     |                 |              |
| Detector: Peak Value                                                                                   |                   |                       |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                        | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 11570.00                                                                                               | 51.47             | 41.38                 | 10.78           | 42.27              | 61.36          | 74.00               | -12.64          | Vertical     |
| 11570.00                                                                                               | 51.89             | 41.38                 | 10.78           | 42.27              | 61.78          | 74.00               | -12.22          | Horizontal   |
| Detector: Average Value                                                                                |                   |                       |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                        | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 11570.00                                                                                               | 38.67             | 41.38                 | 10.78           | 42.27              | 48.56          | 54.00               | -5.44           | Vertical     |
| 11570.00                                                                                               | 38.85             | 41.38                 | 10.78           | 42.27              | 48.74          | 54.00               | -5.26           | Horizontal   |
| Test channel: Highest channel                                                                          |                   |                       |                 |                    |                |                     |                 |              |
| Detector: Peak Value                                                                                   |                   |                       |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                        | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 11650.00                                                                                               | 52.79             | 41.26                 | 10.76           | 42.26              | 62.55          | 74.00               | -11.45          | Vertical     |
| 11650.00                                                                                               | 51.16             | 41.26                 | 10.76           | 42.26              | 60.92          | 74.00               | -13.08          | Horizontal   |
| Detector: Average Value                                                                                |                   |                       |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                        | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 11650.00                                                                                               | 38.53             | 41.26                 | 10.76           | 42.26              | 48.29          | 54.00               | -5.71           | Vertical     |
| 11650.00                                                                                               | 38.26             | 41.26                 | 10.76           | 42.26              | 48.02          | 54.00               | -5.98           | Horizontal   |
| Remark:                                                                                                |                   |                       |                 |                    |                |                     |                 |              |
| 1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.              |                   |                       |                 |                    |                |                     |                 |              |
| 2. The emission levels of other frequencies are very lower than the limit and not show in test report. |                   |                       |                 |                    |                |                     |                 |              |

| Band 4 – 802.11ac(HT40)                                                                                                                                                                                               |                   |                       |                 |                    |                |                     |                 |              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| Test channel: Lowest channel                                                                                                                                                                                          |                   |                       |                 |                    |                |                     |                 |              |
| Detector: Peak Value                                                                                                                                                                                                  |                   |                       |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                       | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
| 11510.00                                                                                                                                                                                                              | 51.32             | 41.50                 | 10.81           | 42.29              | 61.34          | 74.00               | -12.66          | Vertical     |
| 11510.00                                                                                                                                                                                                              | 52.59             | 41.50                 | 10.81           | 42.29              | 62.61          | 74.00               | -11.39          | Horizontal   |
| Detector: Average Value                                                                                                                                                                                               |                   |                       |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                       | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
| 11510.00                                                                                                                                                                                                              | 38.24             | 41.50                 | 10.81           | 42.29              | 48.26          | 54.00               | -5.74           | Vertical     |
| 11510.00                                                                                                                                                                                                              | 39.26             | 41.50                 | 10.81           | 42.29              | 49.28          | 54.00               | -4.72           | Horizontal   |
| Test channel: Highest channel                                                                                                                                                                                         |                   |                       |                 |                    |                |                     |                 |              |
| Detector: Peak Value                                                                                                                                                                                                  |                   |                       |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                       | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
| 11590.00                                                                                                                                                                                                              | 51.78             | 41.32                 | 10.77           | 42.27              | 61.60          | 74.00               | -12.40          | Vertical     |
| 11590.00                                                                                                                                                                                                              | 52.68             | 41.32                 | 10.77           | 42.27              | 62.50          | 74.00               | -11.50          | Horizontal   |
| Detector: Average Value                                                                                                                                                                                               |                   |                       |                 |                    |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                       | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
| 11590.00                                                                                                                                                                                                              | 38.41             | 41.32                 | 10.77           | 42.27              | 48.23          | 54.00               | -5.77           | Vertical     |
| 11590.00                                                                                                                                                                                                              | 38.79             | 41.32                 | 10.77           | 42.27              | 48.61          | 54.00               | -5.39           | Horizontal   |
| <b>Remark:</b><br>1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.<br>2. The emission levels of other frequencies are very lower than the limit and not show in test report. |                   |                       |                 |                    |                |                     |                 |              |

| Band 4 – 802.11ac(HT80)                                                                                                                                                                                               |                   |                       |                 |                          |                |                     |                 |              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------------------|-----------------|--------------------------|----------------|---------------------|-----------------|--------------|
| Test channel: Middle channel                                                                                                                                                                                          |                   |                       |                 |                          |                |                     |                 |              |
| Detector: Peak Value                                                                                                                                                                                                  |                   |                       |                 |                          |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                       | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 11550.00                                                                                                                                                                                                              | 52.41             | 41.50                 | 10.81           | 42.29                    | 62.43          | 74.00               | -11.57          | Vertical     |
| 11550.00                                                                                                                                                                                                              | 52.98             | 41.50                 | 10.81           | 42.29                    | 63.00          | 74.00               | -11.00          | Horizontal   |
| Detector: Average Value                                                                                                                                                                                               |                   |                       |                 |                          |                |                     |                 |              |
| Frequency (MHz)                                                                                                                                                                                                       | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
| 11550.00                                                                                                                                                                                                              | 38.16             | 41.50                 | 10.81           | 42.29                    | 48.18          | 54.00               | -5.82           | Vertical     |
| 11550.00                                                                                                                                                                                                              | 38.25             | 41.50                 | 10.81           | 42.29                    | 48.27          | 54.00               | -5.73           | Horizontal   |
| <b>Remark:</b><br>1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.<br>2. The emission levels of other frequencies are very lower than the limit and not show in test report. |                   |                       |                 |                          |                |                     |                 |              |

## 6.8 Frequency stability

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | FCC Part15 E Section 15.407 (g)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Limit:            | Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Test setup:       |  <p><b>Note :</b> Measurement setup for testing on Antenna connector</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Test procedure:   | <ol style="list-style-type: none"> <li>1. The EUT is installed in an environment test chamber with external power source.</li> <li>2. Set the chamber to operate at 50 centigrade and external power source to output at nominal voltage of EUT.</li> <li>3. A sufficient stabilization period at each temperature is used prior to each frequency measurement.</li> <li>4. When temperature is stabled, measure the frequency stability.</li> <li>5. The test shall be performed under -30 to 50 centigrade and 85 to 115 percent of the nominal voltage. Change setting of chamber and external power source to complete all conditions.</li> </ol> |
| Test Instruments: | Refer to section 5.9 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Test mode:        | Refer to section 5.3 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Test results:     | Passed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

## Measurement Data (the worst channel):

## Band 4:

## Voltage vs. Frequency Stability (Lowest channel=5745MHz)

| Test conditions |             | Frequency(MHz) | Max. Deviation (ppm) |
|-----------------|-------------|----------------|----------------------|
| Temp(℃)         | Voltage(dc) |                |                      |
| 20              | 20.5V       | 5744.974766    | 4.39                 |
|                 | 24.0V       | 5744.993381    | 1.15                 |
|                 | 27.5V       | 5744.998588    | 0.25                 |

## Temperature vs. Frequency Stability (Lowest channel=5745MHz)

| Test conditions |         | Frequency(MHz) | Max. Deviation (ppm) |
|-----------------|---------|----------------|----------------------|
| Voltage(dc)     | Temp(℃) |                |                      |
| 24V             | -20     | 5744.994798    | 0.91                 |
|                 | -10     | 5744.993693    | 1.10                 |
|                 | 0       | 5744.994771    | 0.91                 |
|                 | 10      | 5744.985355    | 2.55                 |
|                 | 20      | 5744.993864    | 1.07                 |
|                 | 30      | 5744.994481    | 0.96                 |
|                 | 40      | 5744.999347    | 0.11                 |
|                 | 50      | 5744.992458    | 1.31                 |