



# FCC RF Test Report

APPLICANT : Huawei Technologies Co., Ltd.  
EQUIPMENT : Smartphone  
BRAND NAME : HUAWEI  
MODEL NAME : LYA-L29, LYA-L09  
FCC ID : QISLYA-LX9  
STANDARD : FCC Part 15 Subpart E §15.407

The product was received on Aug. 02, 2018 and testing was completed on Sep. 07, 2018. We, Sporton International (Shenzhen) Inc., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International (Shenzhen) Inc., the test report shall not be reproduced except in full.



Approved by: Eric Shih / Manager

**Sporton International (Shenzhen) Inc.**

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Guangdong Province 518055 China**



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### SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.403(i)	6dB, 26dB and 99% Occupied Bandwidth	> 500kHz	Pass	-
3.2	15.407(a)	Maximum Conducted Output Power	≤ 30 dBm	Pass	-
3.3	15.407(a)	Power Spectral Density	≤ 30 dBm/500kHz	Pass	-
3.4	15.407(b)	Unwanted Emissions	15.407(b)(4)(i) & 15.209(a)	Pass	Under limit 9.64 dB at 17235.000 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 8.40 dB at 0.680 MHz
3.6	15.407(c)	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
3.7	15.203 & 15.407(a)	Antenna Requirement	N/A	Pass	-



# 1 General Description

## 1.1 Applicant

**Huawei Technologies Co., Ltd.**

Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.C

## 1.2 Manufacturer

**Huawei Technologies Co., Ltd.**

Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.C

## 1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Smartphone
Brand Name	HUAWEI
Model Name	LYA-L29, LYA-L09
FCC ID	QISLYA-LX9
EUT supports Radios application	GSM/WCDMA/HSPA/LTE/NFC/GNSS/WPC WLAN 11a/b/g/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80/VHT160 Bluetooth BR/EDR/LE
HW Version	HL2LAYAM
SW Version	9.0.0.82(C432E82R1P7)
EUT Stage	Production Unit

**Remark:** The above EUT's information was declared by manufacturer.



### 1.4 Product Specification of Equipment Under Test

Standards-related Product Specification							
<b>Tx/Rx Channel Frequency Range</b>	5745 MHz ~ 5825 MHz						
<b>Maximum Output Power</b>	<b>MIMO &lt;Ant. 1 + 2&gt;</b> 802.11a : 12.78 dBm / 0.0190 W 802.11n HT20 : 11.79 dBm / 0.0151 W 802.11n HT40 : 12.04 dBm / 0.0160 W 802.11ac VHT20: 11.74 dBm / 0.0149 W 802.11ac VHT40: 11.96 dBm / 0.0157 W 802.11ac VHT80: 10.00 dBm / 0.0100 W						
<b>99% Occupied Bandwidth</b>	<b>MIMO &lt;Ant. 1&gt;</b> 802.11a : 17.98 MHz 802.11n HT20 : 18.78 MHz 802.11n HT40 : 36.56 MHz 802.11ac VHT20 : 18.38 MHz 802.11ac VHT40 : 36.46 MHz 802.11ac VHT80 : 75.28 MHz <b>MIMO &lt;Ant. 2&gt;</b> 802.11a : 18.58 MHz 802.11n HT20 : 18.53 MHz 802.11n HT40 : 36.66 MHz 802.11ac VHT20 : 18.53 MHz 802.11ac VHT40 : 36.86 MHz 802.11ac VHT80 : 75.28 MHz						
<b>Type of Modulation</b>	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)						
<b>Antenna Type / Gain</b>	<b>Ant. 1:</b> IFA Antenna with gain -0.06 dBi <b>Ant. 2:</b> IFA Antenna with gain -3.79 dBi						
<b>Antenna Function Description</b>	<table border="1"> <thead> <tr> <th></th> <th>Ant. 1</th> <th>Ant. 2</th> </tr> </thead> <tbody> <tr> <td>802.11 a/n/ac MIMO</td> <td>V</td> <td>V</td> </tr> </tbody> </table>		Ant. 1	Ant. 2	802.11 a/n/ac MIMO	V	V
	Ant. 1	Ant. 2					
802.11 a/n/ac MIMO	V	V					



Accessories Information				
AC Adapter 1	Brand Name	Huawei Technologies Co., Ltd.	Model Name	HW-100400A00
	Manufacturer	Huawei Technologies Co., Ltd.		
	Power Rating	I/P: 100 - 240 Vac~50/60Hz, 1.2 A; O/P: 5V === 2A or 9V === 2A or 10V === 4A		
AC Adapter 2	Brand Name	Huawei Technologies Co., Ltd.	Model Name	HW-100400U00
	Manufacturer	Huawei Technologies Co., Ltd.		
	Power Rating	I/P: 100 - 240 Vac~50/60Hz, 1.2 A; O/P: 5V === 2A or 9V === 2A or 10V === 4A		
AC Adapter 3	Brand Name	Huawei Technologies Co., Ltd.	Model Name	HW-100400E00
	Manufacturer	Huawei Technologies Co., Ltd.		
	Power Rating	I/P: 100 - 240 Vac~50/60Hz, 1.2 A; O/P: 5V === 2A or 9V === 2A or 10V === 4A		
AC Adapter 4	Brand Name	Huawei Technologies Co., Ltd.	Model Name	HW-100400B00
	Manufacturer	Huawei Technologies Co., Ltd.		
	Power Rating	I/P: 100 - 240 Vac~50/60Hz, 1.2 A; O/P: 5V === 2A or 9V === 2A or 10V === 4A		
Battery 1	Brand Name	Huawei Technologies Co., Ltd.	Model Name	HB486486ECW
	Power Rating	Nominal Voltage: ===+3.82Vdc Charging Voltage: ===+4.4V Rated Capacity: 4100mAh	Type	Li-ion Polymer
Battery 2	Brand Name	Huawei Technologies Co., Ltd.	Model Name	HB486486ECW
	Power Rating	Nominal Voltage: ===+3.82Vdc Charging Voltage: ===+4.4V Rated Capacity: 4100mAh	Type	Li-ion Polymer
Battery 3	Brand Name	Huawei Technologies Co., Ltd.	Model Name	HB486486ECW
	Power Rating	Nominal Voltage: ===+3.82Vdc Charging Voltage: ===+4.4V Rated Capacity: 4100mAh	Type	Li-ion Polymer
Earphone 1	Brand Name	Jiangxi Lianchuang Hongsheng Electronic Co., Ltd.		
	Model Name	MEND1632B729003	Number	22040325
Earphone 2	Brand Name	GoerTek Inc.		
	Model Name	Windy-S	Number	22040325
Earphone 3	Brand Name	Boluo County Quancheng Electronic Co., Ltd.		
	Model Name	1331-3301-6001-TC-088	Number	22040325
Earphone 4	Brand Name	Boluo County Quancheng Electronic Co., Ltd.		
	Model Name	630276	Number	N/A

### 1.5 Modification of EUT

No modifications are made to the EUT during all test items.



### 1.6 Testing Location

Sporton International (Shenzhen) Inc. is accredited to ISO 17025 by National Voluntary Laboratory Accreditation Program (NVLAP code: 600156-0) and the FCC designation No. are CN5018 and CN5019.

<b>Test Site</b>	Sporton International (Shenzhen) Inc.		
<b>Test Site Location</b>	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan Shenzhen City Guangdong Province 518055 China TEL: +86-755-8637-9589 FAX: +86-755-8637-9595		
<b>Test Site No.</b>	<b>Sporton Site No.</b>		<b>FCC Test Firm Registration No.</b>
	TH01-SZ	CO01-SZ	337463

<b>Test Site</b>	Sporton International (Shenzhen) Inc.		
<b>Test Site Location</b>	No. 3 Bldg the third floor of south, Shahe River west, Fengzeyuan Warehouse, Nanshan District Shenzhen City Guangdong Province 518055 China TEL: +86-755-3320-2398		
<b>Test Site No.</b>	<b>Sporton Site No.</b>		<b>FCC Test Firm Registration No.</b>
	03CH01-SZ		577730

### 1.7 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15 Subpart E
- FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
- FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ANSI C63.10-2013

**Remark:** All test items were verified and recorded according to the standards and without any deviation during the test.





## 2 Test Configuration of Equipment Under Test

- a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Y plane) were recorded in this report.
- b. AC power line Conducted Emission was tested under maximum output power.

### 2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5725-5850 MHz Band 4 (U-NII-3)	149	5745	157	5785
	151*	5755	159*	5795
	153	5765	161	5805
	155#	5775	165	5825

**Note:**

1. The above Frequency and Channel in "\*" were 802.11n HT40 and 802.11ac VHT40.
2. The above Frequency and Channel in "#n" were 802.11ac VHT80.



## 2.2 Test Mode

Final test modes are considering the modulation and worse data rates as below table.

### MIMO Mode

Modulation	Data Rate
802.11a	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0
802.11ac VHT20	MCS0
802.11ac VHT40	MCS0
802.11ac VHT80	MCS0

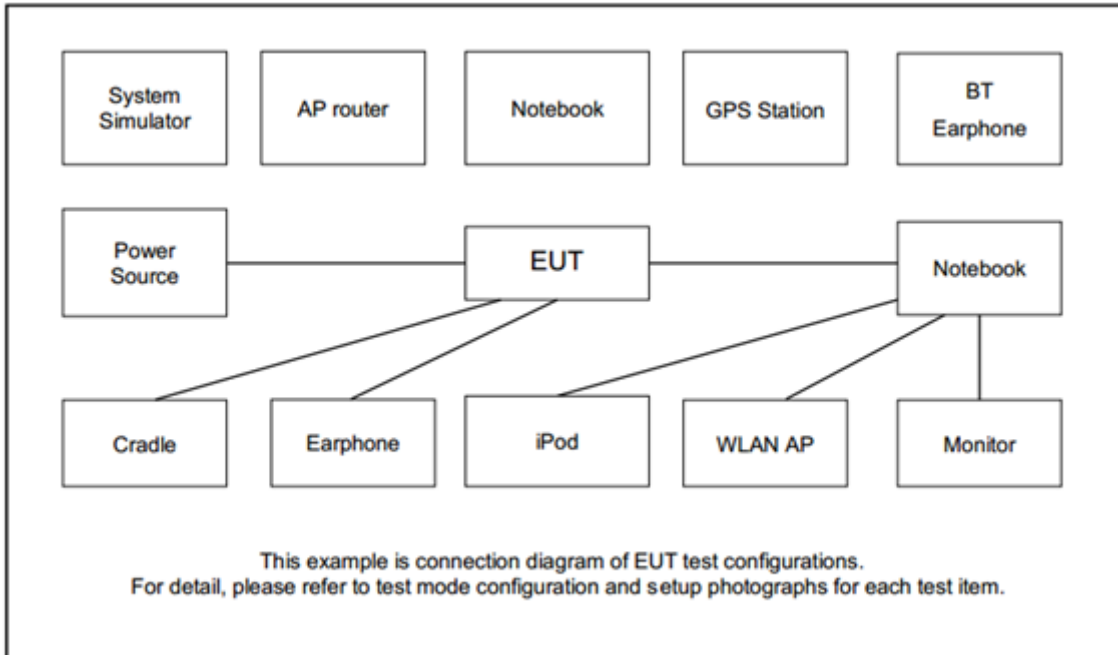
<b>AC Conducted Emission</b>	<p>Mode 1 : GSM850 Idle + WLAN (5GHz) Link + Bluetooth Link + wireless charger + Earphone + SIM 1</p> <p>Mode 2 : GSM850 Idle + WLAN (5GHz) Link + Bluetooth Link + Smart phone (USB Cable Charging from Adapter) charger to EUT + Earphone + SIM 2</p> <p>Mode 3 : GSM850 Idle + WLAN (5GHz) Link + Bluetooth Link + USB Cable Charging from Adapter + SIM 2</p>
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**Remark:**

1. The worst case of conducted emission is mode 2; only the test data of it was reported.
2. For Radiated Test Cases, The tests were performed with USB Cable 1.

Ch. #		Band IV : 5725-5850 MHz			
		802.11a	802.11n HT20	802.11n HT40	802.11ac VHT80
L	Low	149	149	151	-
M	Middle	157	157	-	155
H	High	165	165	159	-

### 2.3 Connection Diagram of Test System



### 2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
2.	Bluetooth Earphone	Samsung	EO-MG900	PYAHS-107W	N/A	N/A
3.	WLAN AP	Dlink	DIR-820L	KA2IR820LA1	N/A	Unshielded,1.8m
4.	Notebook	Lenovo	E540	FCC DoC	N/A	AC I/P : Unshielded, 1.2m DC O/P : Shielded, 1.8m
5.	SD Card	N/A	MicroSD HC	FCC DoC	N/A	N/A
6.	wireless charger	samsuang	EP-NG920	FCC DoC	N/A	N/A



## 2.5 EUT Operation Test Setup

The RF test items, utility “adb” was installed in EUT which was programmed in order to make the EUT get into the engineering modes to provide channel selection, power level, data rate and the application type and for continuous transmitting signals.

## 2.6 Measurement Results Explanation Example

**For all conducted test items:**

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example :

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

*Offset = RF cable loss + attenuator factor.*

Following shows an offset computation example with cable loss 4.2 dB and 10dB attenuator.

$$\begin{aligned} \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\ &= 4.2 + 10 = 14.2 \text{ (dB)} \end{aligned}$$

### 3 Test Result

#### 3.1 6dB and 26dB and 99% Occupied Bandwidth Measurement

##### 3.1.1 Description of 6dB and 26dB and 99% Occupied Bandwidth

The minimum 6 dB bandwidth shall be at least 500 kHz.

26dB and 99% Occupied bandwidth are reporting only.

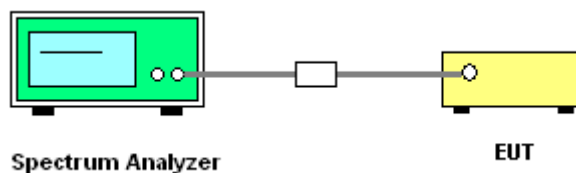
##### 3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

##### 3.1.3 Test Procedures

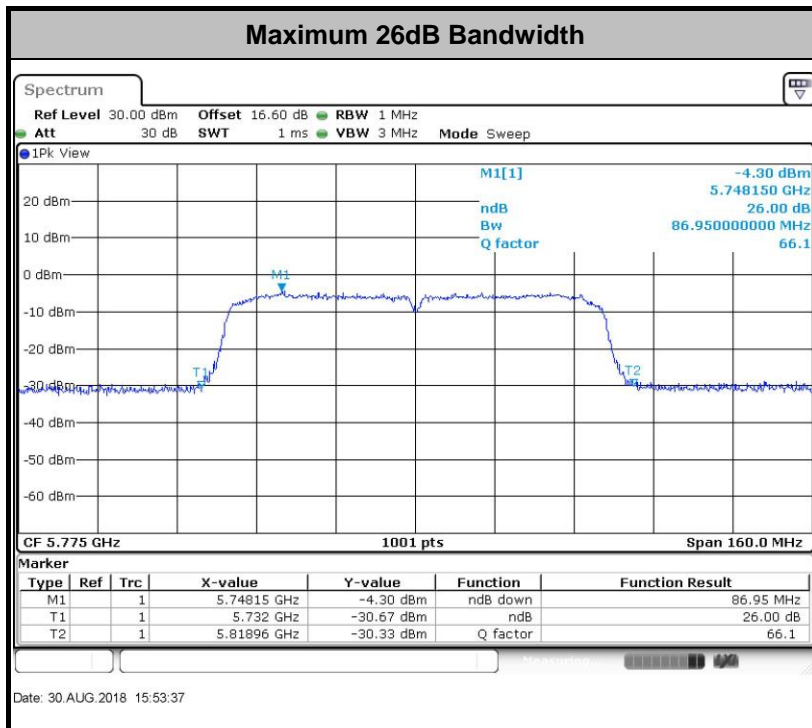
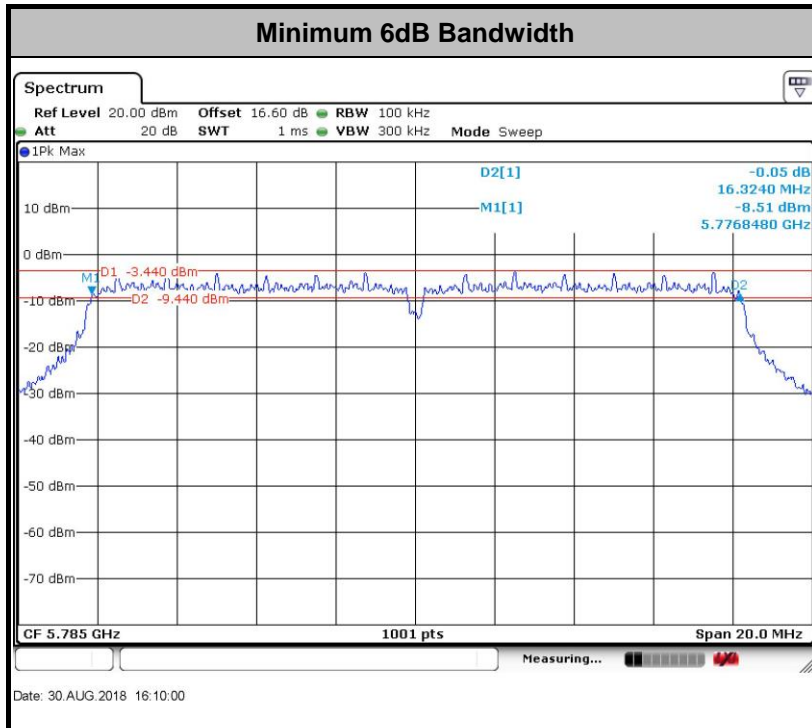
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section C) Emission bandwidth for the band 5.725-5.85GHz
2. Set RBW = 100kHz.
3. Set the VBW  $\geq 3 \times$  RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 6 dB down from the peak of the emission.
7. Measure and record the results in the test report.

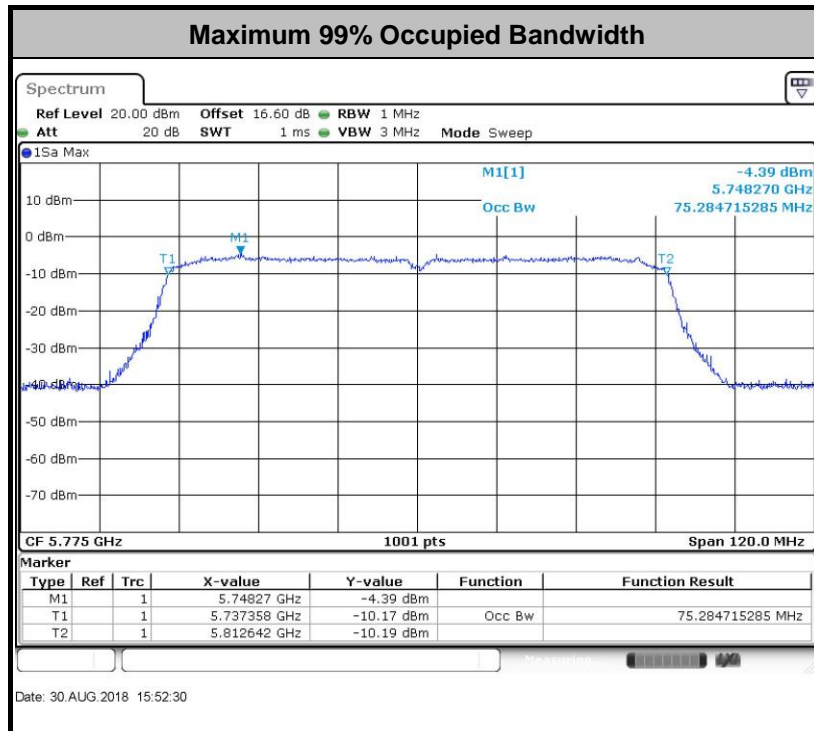
##### 3.1.4 Test Setup



##### 3.1.5 Test Result of 6dB Bandwidth

Please refer to Appendix A.





**Note:** The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

## 3.2 Maximum Conducted Output Power Measurement

### 3.2.1 Limit of Maximum Conducted Output Power

For the band 5.725–5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

### 3.2.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

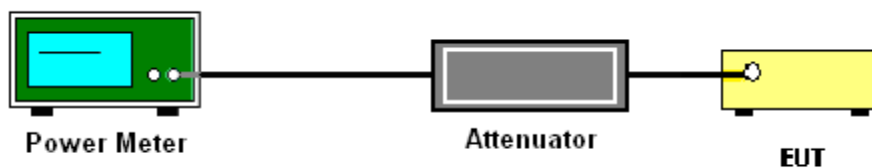
### 3.2.3 Test Procedures

The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

Method PM (Measurement using an RF average power meter):

1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit continuously with a consistent duty cycle at its maximum power control level.
3. Measure the average power of the transmitter, and the average power is corrected with duty factor,  $10 \log(1/x)$ , where  $x$  is the duty cycle.

### 3.2.4 Test Setup



### 3.2.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.





### 3.3 Power Spectral Density Measurement

#### 3.3.1 Limit of Power Spectral Density

For the band 5.725–5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.

If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### 3.3.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

#### 3.3.3 Test Procedures

The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section F) Maximum power spectral density.

##### # Method SA-2 #

(trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).

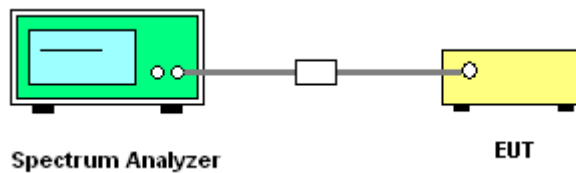
- Measure the duty cycle.
- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 300 kHz.
- Set VBW  $\geq$  1 MHz.
- Number of points in sweep  $\geq$  2 Span / RBW.
- Sweep time = auto.
- Detector = RMS
- Trace average at least 100 traces in power averaging mode.
- Add  $10 \log(500\text{kHz}/\text{RBW})$  to the test result.
- Add  $10 \log(1/x)$ , where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add  $10 \log(1/0.25) = 6$  dB if the duty cycle is 25 percent.

1. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
2. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.
3. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

Method (c): Measure and add  $10 \log(N_{ANT})$  dB.

With this technique, spectrum measurements are performed at each output of the device, but rather than summing the spectra or the spectral peaks across the outputs, the quantity  $10 \log(N_{ANT})$  dB is added to each spectrum value before comparing to the emission limit. The addition of  $10 \log(N_{ANT})$  dB serves to apportion the emission limit among the  $N_{ANT}$  outputs so that each output is permitted to contribute no more than  $1/N_{ANT}^{th}$  of the PSD limit.

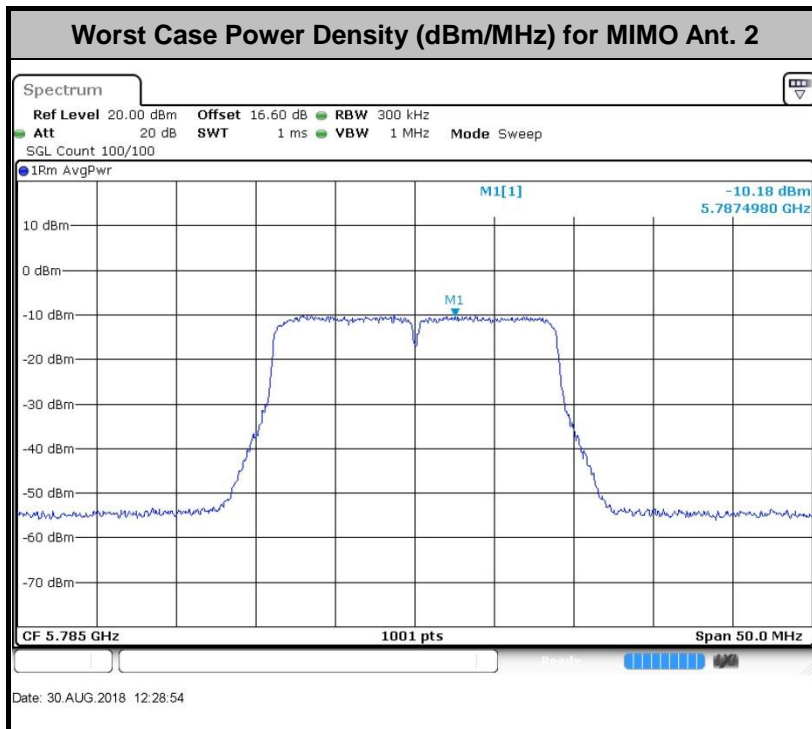
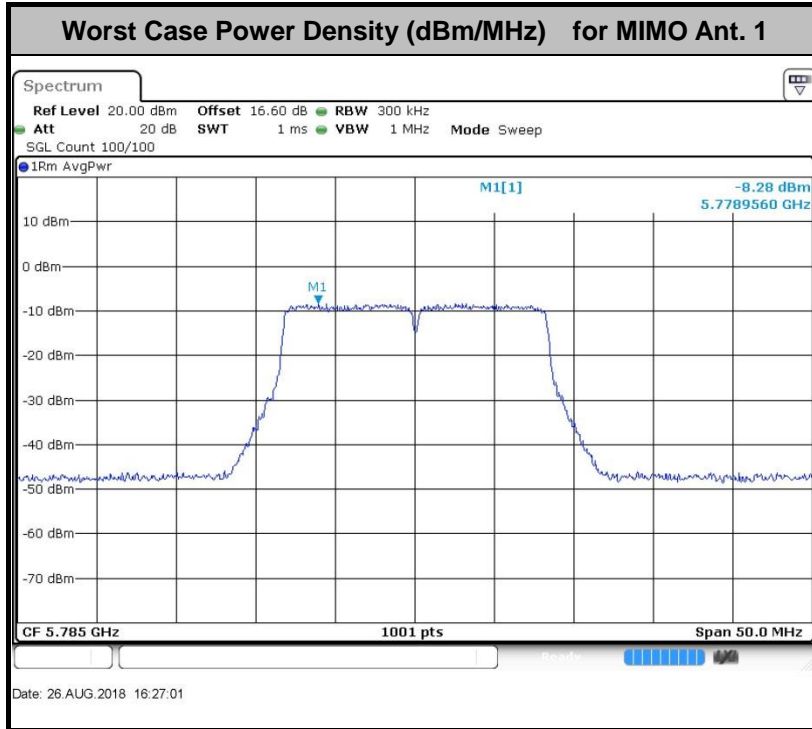
### 3.3.4 Test Setup





### 3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.





### 3.4 Unwanted Emissions Measurement

This section is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement.

#### 3.4.1 Limit of Unwanted Emissions

- (1) For transmitters operating in the 5.725-5.85 GHz band:  
15.407(b)(4)(i) 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.
- (2) Unwanted spurious emissions fallen in restricted bands shall comply with the general field strength limits as below table,

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

EIRP (dBm)	Field Strength at 3m (dBµV/m)
- 27	68.2

**Note:** The following formula is used to convert the EIRP to field strength.

$$EIRP = E_{Meas} + 20\log (d_{Meas}) -104.7$$

where

EIRP is the equivalent isotropically radiated power, in dBm

E<sub>Meas</sub> is the field strength of the emission at the measurement distance, in dBµV/m

d<sub>Meas</sub> is the measurement distance, in m

#### 3.4.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

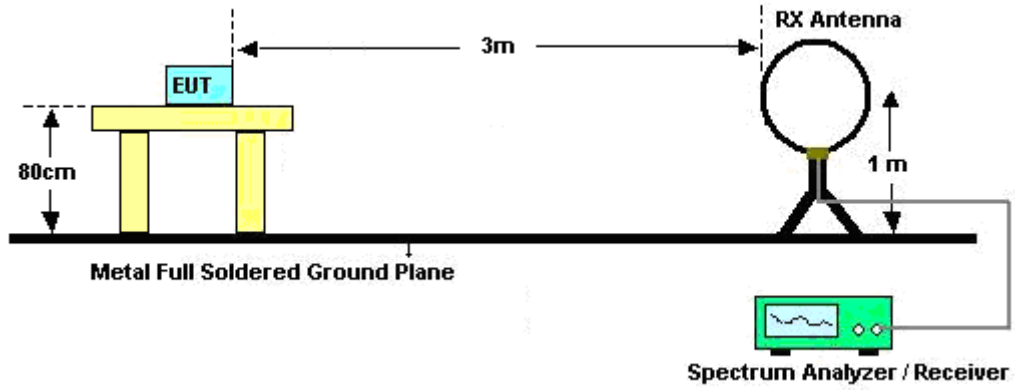


### 3.4.3 Test Procedures

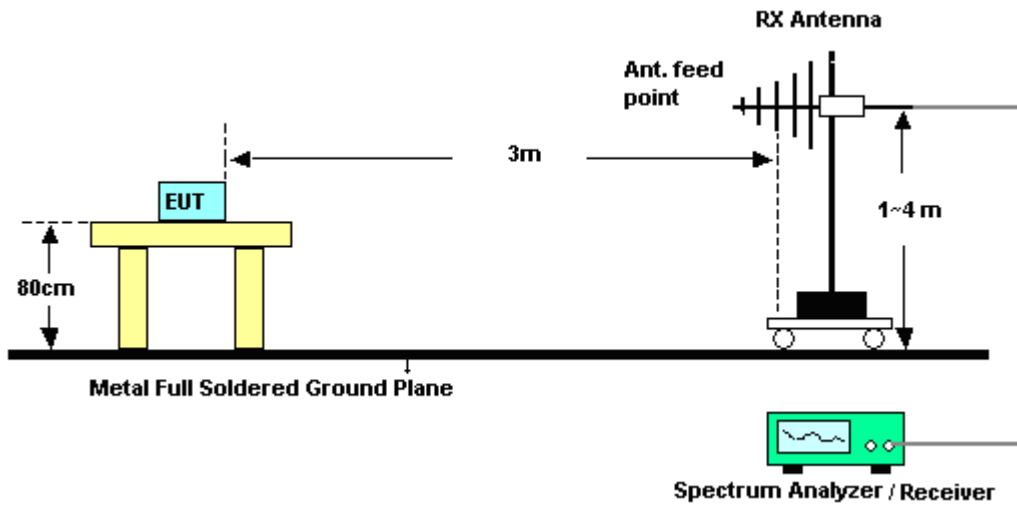
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section G) Unwanted emissions measurement.
  - (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
    - RBW = 120 kHz
    - VBW = 300 kHz
    - Detector = Peak
    - Trace mode = max hold
  - (2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz
    - RBW = 1 MHz
    - VBW  $\geq$  3 MHz
    - Detector = Peak
    - Sweep time = auto
    - Trace mode = max hold
  - (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz
    - RBW = 1 MHz
    - VBW = 10 Hz, when duty cycle is no less than 98 percent.
    - VBW  $\geq$  1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

### 3.4.4 Test Setup

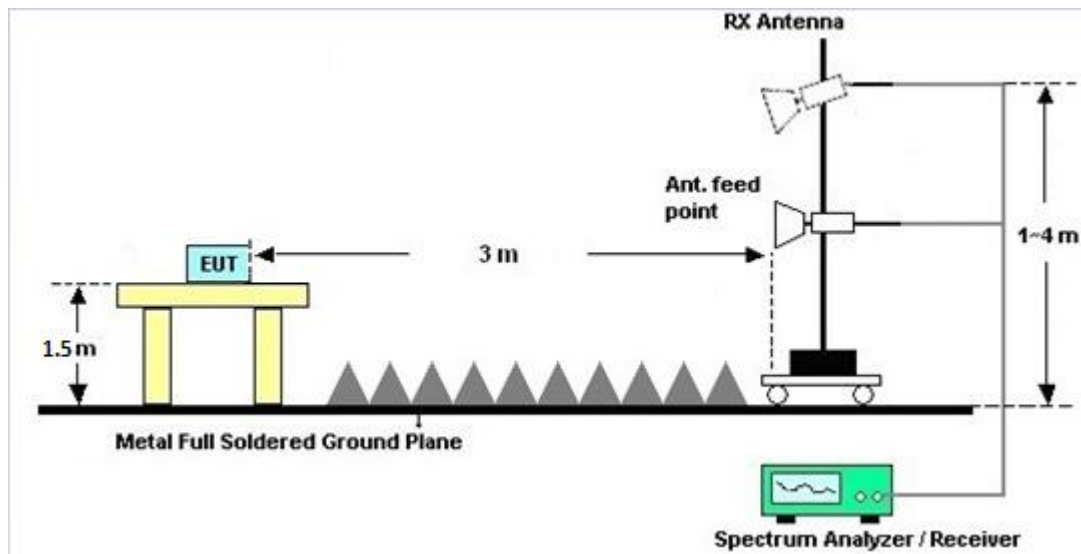
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



### 3.4.5 Test Results of Radiated Emissions (9 kHz ~ 30 MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

### 3.4.6 Test Result of Radiated Band Edges

Please refer to Appendix C and D.

### 3.4.7 Duty Cycle

Please refer to Appendix E.

### 3.4.8 Test Result of Unwanted Radiated Emission (30MHz ~ 10th Harmonic)

Please refer to Appendix C and D.



### 3.5 AC Conducted Emission Measurement

#### 3.5.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of emission (MHz)	Conducted limit (dBµV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

\*Decreases with the logarithm of the frequency.

#### 3.5.2 Measuring Instruments

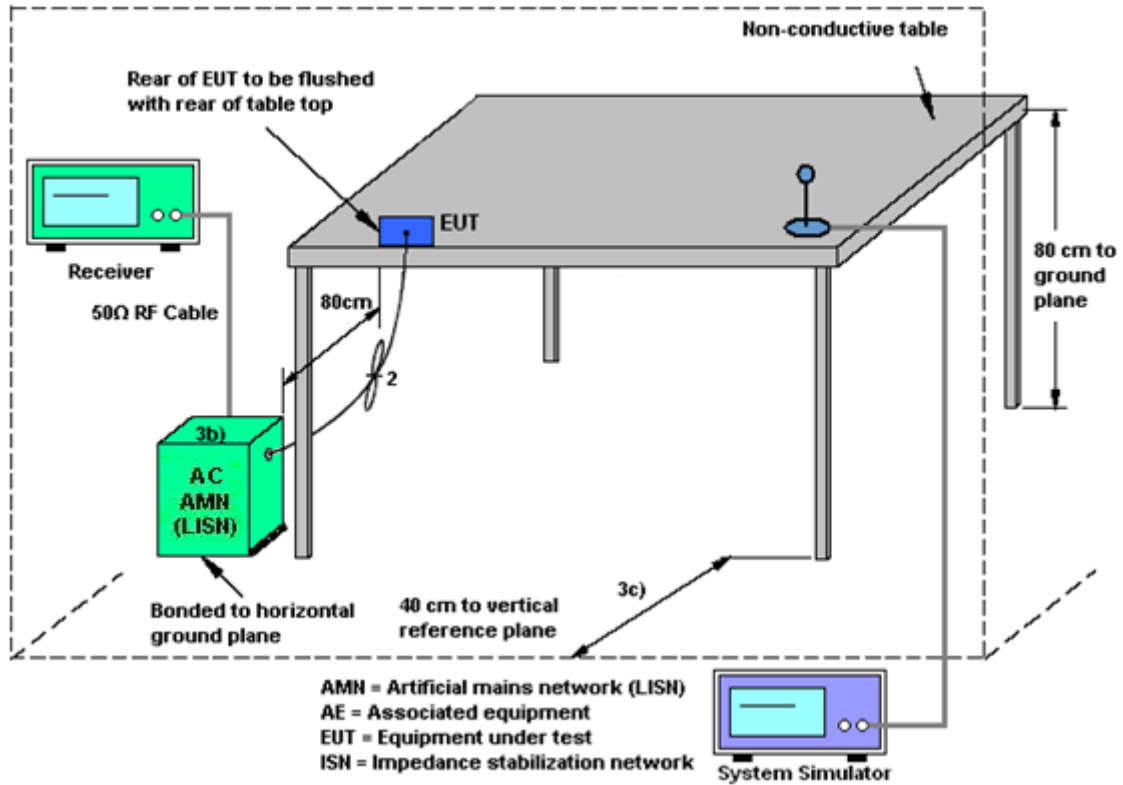
The measuring equipment is listed in the section 4 of this test report.

#### 3.5.3 Test Procedures

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.



### 3.5.4 Test Setup



### 3.5.5 Test Result of AC Conducted Emission

Please refer to Appendix B.



## 3.6 Automatically Discontinue Transmission

### 3.6.1 Limit of Automatically Discontinue Transmission

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization to describe how this requirement is met.

### 3.6.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

### 3.6.3 Test Result of Automatically Discontinue Transmission

While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.



## **3.7 Antenna Requirements**

### **3.7.1 Standard Applicable**

If transmitting antenna directional gain is greater than 6 dBi, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

### **3.7.2 Antenna Anti-Replacement Construction**

An embedded-in antenna design is used.

### **3.7.3 Antenna Gain**

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.



## 4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 19, 2018	Aug. 08, 2018~ Sep. 07, 2018	Apr. 18, 2019	Conducted (TH01-SZ)
Pulse Power Sensor	Anritsu	MA2411B	1207253	30MHz~40GHz	Dec. 26, 2017	Aug. 08, 2018~ Sep. 07, 2018	Dec. 25, 2018	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	50MHz Bandwidth	Dec. 26, 2017	Aug. 08, 2018~ Sep. 07, 2018	Dec. 25, 2018	Conducted (TH01-SZ)
DC Power Supply	GWINSTEK	AnritsuGPS-3030D	EM882636	Max 30V	Apr. 19, 2018	Aug. 08, 2018~ Sep. 07, 2018	Apr. 18, 2019	Conducted (TH01-SZ)
EMI Receiver	R&S	ESR7	101630	9kHz~7GHz;	Dec. 26, 2017	Aug. 16, 2018	Dec. 25, 2018	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103912	9kHz~30MHz	Dec. 26, 2017	Aug. 16, 2018	Dec. 25, 2018	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	MessTec	3816/2SH	00103892	9kHz~30MHz	Nov. 01, 2017	Aug. 16, 2018	Oct. 31, 2018	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Vac	Jul. 18, 2018	Aug. 16, 2018	Jul. 17, 2019	Conduction (CO01-SZ)
Pulse Limiter (RF Cable)	SCHWARZBECK MESS-ELEKTRONIK	VTSD9561-FN	9561-FN00294	150kHz~30MHz	Oct. 18, 2017	Aug. 16, 2018	Oct. 17, 2018	Conduction (CO01-SZ)
Radio communication analyzer	Anritsu	MT8820C	6201432833	GSM/WCDMA/LTE	Dec. 28, 2017	Aug. 16, 2018	Dec. 27, 2019	Conduction (CO01-SZ)
EMI Test Receiver&SA	Agilent	N9038A	MY52260185	20Hz~26.5GHz	Apr. 19, 2018	Aug. 16, 2018 ~ Aug. 28, 2018	Apr. 18, 2019	Radiation (03CH01-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	May 14, 2018	Aug. 16, 2018 ~ Aug. 28, 2018	May13, 2019	Radiation (03CH01-SZ)
Bilog Antenna	TeseQ	CBL6112D	35408	30MHz-2GHz	Apr. 19, 2018	Aug. 16, 2018 ~ Aug. 28, 2018	Apr. 18, 2019	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS Lindgren	3117	119436	1GHz~18GHz	Jul. 28, 2018	Aug. 16, 2018 ~ Aug. 28, 2018	Jul. 27, 2019	Radiation (03CH01-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Mar. 30, 2018	Aug. 16, 2018 ~ Aug. 28, 2018	Mar. 29, 2019	Radiation (03CH01-SZ)
LF Amplifier	Burgeon	BPA-530	102209	0.01~3000Mhz	Apr. 19, 2018	Aug. 16, 2018 ~ Aug. 28, 2018	Apr.18, 2019	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10 P-R	1707137	1GHz~18GHz	Oct. 19, 2017	Aug. 16, 2018 ~ Aug. 28, 2018	Oct. 18, 2018	Radiation (03CH01-SZ)
HF Amplifier	KEYSIGHT	83017A	MY53270104	0.5GHz~26.5GHz	Oct. 19, 2017	Aug. 16, 2018 ~ Aug. 28, 2018	Oct. 18, 2018	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 30, 2018	Aug. 16, 2018 ~ Aug. 28, 2018	Jul. 30, 2019	Radiation (03CH01-SZ)
AC Power Source	Chroma	61601	616010001985	N/A	NCR	Aug. 16, 2018 ~ Aug. 28, 2018	NCR	Radiation (03CH01-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Aug. 16, 2018 ~ Aug. 28, 2018	NCR	Radiation (03CH01-SZ)



## 5 Uncertainty of Evaluation

### Uncertainty of Conducted Emission Measurement (150kHz ~ 30MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	2.6
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### Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	4.8
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### Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	5.0
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### Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	4.3
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## Appendix A. Conducted Test Results

Test Engineer:	Shuai Qian	Temperature:	21~25	°C
Test Date:	2018/8/8 ~ 2018/9/7	Relative Humidity:	51~54	%

**TEST RESULTS DATA**  
**6dB and 26dB EBW and 99% OBW**

Band IV													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)		26dB Bandwidth (MHz)		6 dB Bandwidth (MHz)		6 dB Bandwidth Min. Limit (MHz)		Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	2	149	5745	17.98	18.53	22.38	22.38	16.34	16.34	0.5	0.5	Pass
11a	6Mbps	2	157	5785	17.83	18.58	22.53	22.43	16.34	16.32	0.5	0.5	Pass
11a	6Mbps	2	165	5825	17.68	18.48	21.88	22.33	16.34	16.32	0.5	0.5	Pass
HT20	MCS0	2	149	5745	18.78	18.53	22.78	22.33	17.54	17.28	0.5	0.5	Pass
HT20	MCS0	2	157	5785	18.38	18.48	21.93	22.33	17.54	17.30	0.5	0.5	Pass
HT20	MCS0	2	165	5825	18.38	18.43	21.93	22.18	17.56	17.28	0.5	0.5	Pass
HT40	MCS0	2	151	5755	36.56	36.66	42.44	42.62	35.68	35.80	0.5	0.5	Pass
HT40	MCS0	2	159	5795	36.46	36.56	42.53	43.34	35.68	35.80	0.5	0.5	Pass
VHT20	MCS0	2	149	5745	18.38	18.43	21.83	22.43	17.54	17.30	0.5	0.5	Pass
VHT20	MCS0	2	157	5785	18.33	18.53	21.98	22.38	17.54	17.32	0.5	0.5	Pass
VHT20	MCS0	2	165	5825	18.33	18.38	21.78	22.28	17.56	17.30	0.5	0.5	Pass
VHT40	MCS0	2	151	5755	36.26	36.56	41.99	43.16	35.45	35.80	0.5	0.5	Pass
VHT40	MCS0	2	159	5795	36.46	36.86	42.26	43.61	35.68	35.80	0.5	0.5	Pass
VHT80	MCS0	2	155	5775	75.28	75.28	86.95	85.99	75.05	75.13	0.5	0.5	Pass

**TEST RESULTS DATA**  
**Average Power Table**

Band IV														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	2	149	5745	0.06	0.05	9.81	9.05	12.46	30.00		-0.06		Pass
11a	6Mbps	2	157	5785	0.06	0.05	10.02	9.36	12.72	30.00		-0.06		Pass
11a	6Mbps	2	165	5825	0.06	0.05	10.15	9.35	12.78	30.00		-0.06		Pass
HT20	MCS0	2	149	5745	0.13	0.14	8.81	8.12	11.49	30.00		-0.06		Pass
HT20	MCS0	2	157	5785	0.13	0.14	8.94	8.19	11.60	30.00		-0.06		Pass
HT20	MCS0	2	165	5825	0.13	0.14	9.21	8.30	11.79	30.00		-0.06		Pass
HT40	MCS0	2	151	5755	0.11	0.25	8.97	8.90	11.95	30.00		-0.06		Pass
HT40	MCS0	2	159	5795	0.11	0.25	9.00	9.05	12.04	30.00		-0.06		Pass
VHT20	MCS0	2	149	5745	0.06	0.07	8.86	7.77	11.36	30.00		-0.06		Pass
VHT20	MCS0	2	157	5785	0.06	0.07	8.89	8.44	11.68	30.00		-0.06		Pass
VHT20	MCS0	2	165	5825	0.06	0.07	9.11	8.31	11.74	30.00		-0.06		Pass
VHT40	MCS0	2	151	5755	0.12	0.12	8.88	8.65	11.78	30.00		-0.06		Pass
VHT40	MCS0	2	159	5795	0.12	0.12	9.15	8.74	11.96	30.00		-0.06		Pass
VHT80	MCS0	2	155	5775	0.26	0.24	6.77	7.19	10.00	30.00		-0.06		Pass



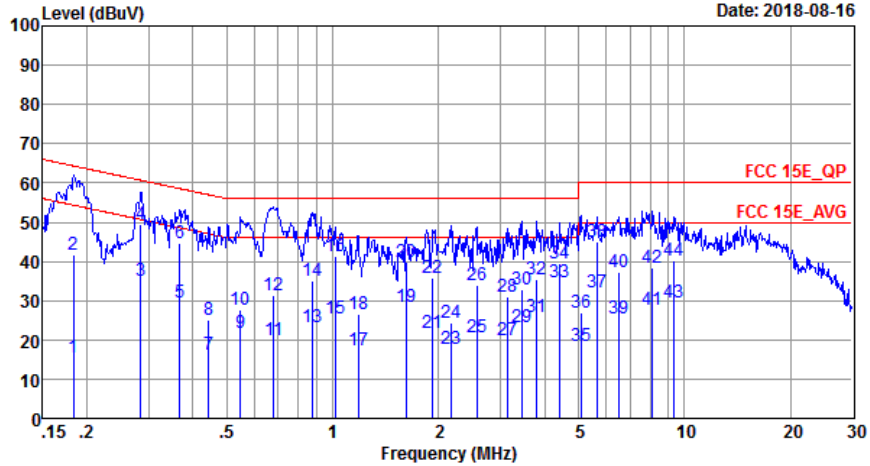
**TEST RESULTS DATA**  
**Power Spectral Density**

Band IV																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		10log (500kHz /RBW) Factor (dB)		Average Power Density (dBm/500kHz)			Average PSD Limit (dBm/500kHz)		DG (dBi)		Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	2	149	5745	0.06	0.05	2.22				-3.00	30.00	1.28		Pass	
11a	6Mbps	2	157	5785	0.06	0.05	2.22				-2.99	30.00	1.28		Pass	
11a	6Mbps	2	165	5825	0.06	0.05	2.22				-3.24	30.00	1.28		Pass	
HT20	MCS0	2	149	5745	0.13	0.14	2.22				-4.51	30.00	1.28		Pass	
HT20	MCS0	2	157	5785	0.13	0.14	2.22				-4.69	30.00	1.28		Pass	
HT20	MCS0	2	165	5825	0.13	0.14	2.22				-4.27	30.00	1.28		Pass	
HT40	MCS0	2	151	5755	0.11	0.25	2.22				-7.48	30.00	1.28		Pass	
HT40	MCS0	2	159	5795	0.11	0.25	2.22				-7.06	30.00	1.28		Pass	
VHT20	MCS0	2	149	5745	0.06	0.07	2.22				-4.71	30.00	1.28		Pass	
VHT20	MCS0	2	157	5785	0.06	0.07	2.22				-4.68	30.00	1.28		Pass	
VHT20	MCS0	2	165	5825	0.06	0.07	2.22				-4.33	30.00	1.28		Pass	
VHT40	MCS0	2	151	5755	0.12	0.12	2.22				-7.19	30.00	1.28		Pass	
VHT40	MCS0	2	159	5795	0.12	0.12	2.22				-6.88	30.00	1.28		Pass	
VHT80	MCS0	2	155	5775	0.26	0.24	2.22				-12.66	30.00	1.28		Pass	



## Appendix B. AC Conducted Emission Test Results

Test Engineer :	ZhangXu	Temperature :	22~25°C
		Relative Humidity :	50~55.%
Test Voltage :	120Vac / 60Hz	Phase :	Line

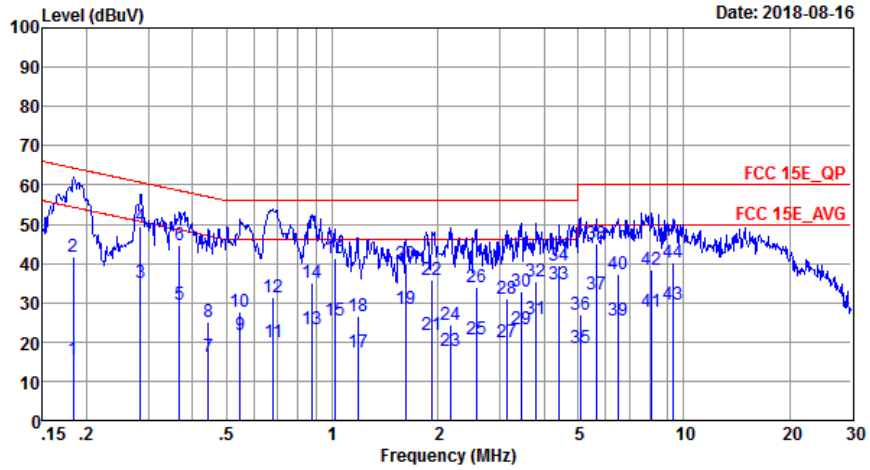


Site : CO01-SZ  
 Condition: FCC 15E\_QP LISN\_20170907\_L LINE  
 Project : (FR)880204  
 Mode : Mode 2  
 IMEI : 869410030016506/869410030017801

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.18	15.40	-38.93	54.33	5.30	0.03	10.07	Average
2	0.18	41.80	-22.53	64.33	31.70	0.03	10.07	QP
3	0.28	35.21	-15.47	50.68	25.10	0.03	10.08	Average
4	0.28	49.31	-11.37	60.68	39.20	0.03	10.08	QP
5	0.37	29.61	-18.95	48.56	19.50	0.03	10.08	Average
6	0.37	44.61	-13.95	58.56	34.50	0.03	10.08	QP
7	0.44	16.11	-30.87	46.98	6.00	0.03	10.08	Average
8	0.44	25.11	-31.87	56.98	15.00	0.03	10.08	QP
9	0.55	21.70	-24.30	46.00	11.60	0.02	10.08	Average
10	0.55	27.50	-28.50	56.00	17.40	0.02	10.08	QP
11	0.68	19.90	-26.10	46.00	9.80	0.02	10.08	Average
12	0.68	31.50	-24.50	56.00	21.40	0.02	10.08	QP
13	0.88	23.14	-22.86	46.00	13.00	0.05	10.09	Average
14	0.88	35.04	-20.96	56.00	24.90	0.05	10.09	QP
15	1.02	25.36	-20.64	46.00	15.20	0.07	10.09	Average
16	1.02	41.36	-14.64	56.00	31.20	0.07	10.09	QP
17	1.18	17.48	-28.52	46.00	7.31	0.08	10.09	Average
18	1.18	26.57	-29.43	56.00	16.40	0.08	10.09	QP
19	1.62	28.50	-17.50	46.00	18.30	0.10	10.10	Average
20	1.62	40.00	-16.00	56.00	29.80	0.10	10.10	QP
21	1.93	21.92	-24.08	46.00	11.70	0.11	10.11	Average
22	1.93	35.82	-20.18	56.00	25.60	0.11	10.11	QP
23	2.17	17.64	-28.36	46.00	7.40	0.12	10.12	Average
24	2.17	24.44	-31.56	56.00	14.20	0.12	10.12	QP
25	2.57	20.67	-25.33	46.00	10.40	0.14	10.13	Average
26	2.57	34.07	-21.93	56.00	23.80	0.14	10.13	QP
27	3.16	19.81	-26.19	46.00	9.51	0.16	10.14	Average
28	3.16	31.11	-24.89	56.00	20.81	0.16	10.14	QP
29	3.45	23.12	-22.88	46.00	12.80	0.17	10.15	Average



Test Engineer :	ZhangXu	Temperature :	22~25°C
		Relative Humidity :	50~55.%
Test Voltage :	120Vac / 60Hz	Phase :	Line

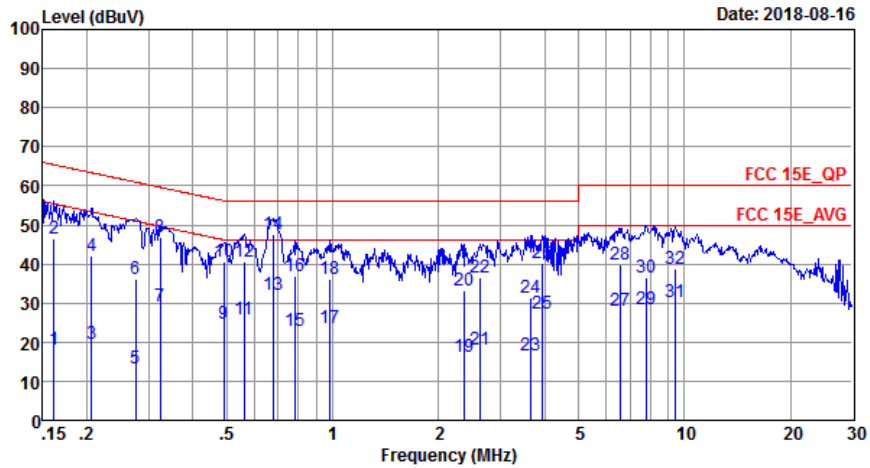


Site : CO01-SZ  
 Condition: FCC 15E\_QP LISN\_20170907\_L LINE  
 Project : (FR)880204  
 Mode : Mode 2  
 IMEI : 869410030016506/869410030017801

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
30	3.45	33.02	-22.98	56.00	22.70	0.17	10.15	QP
31	3.80	25.73	-20.27	46.00	15.40	0.17	10.16	Average
32	3.80	35.43	-20.57	56.00	25.10	0.17	10.16	QP
33 *	4.43	34.76	-11.24	46.00	24.40	0.18	10.18	Average
34	4.43	39.66	-16.34	56.00	29.30	0.18	10.18	QP
35	5.08	18.38	-31.62	50.00	8.00	0.19	10.19	Average
36	5.08	27.08	-32.92	60.00	16.70	0.19	10.19	QP
37	5.62	32.21	-17.79	50.00	21.80	0.20	10.21	Average
38	5.62	45.11	-14.89	60.00	34.70	0.20	10.21	QP
39	6.49	25.56	-24.44	50.00	15.11	0.22	10.23	Average
40	6.49	37.36	-22.64	60.00	26.91	0.22	10.23	QP
41	8.11	27.77	-22.23	50.00	17.21	0.28	10.28	Average
42	8.11	38.47	-21.53	60.00	27.91	0.28	10.28	QP
43	9.35	29.35	-20.65	50.00	18.70	0.33	10.32	Average
44	9.35	40.15	-19.85	60.00	29.50	0.33	10.32	QP



Test Engineer :	ZhangXu	Temperature :	22~25°C
		Relative Humidity :	50~55.%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral

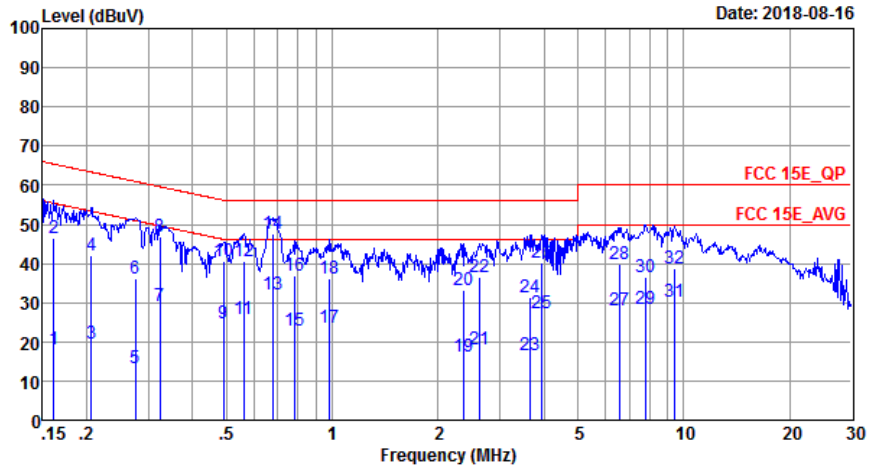


Site : C001-SZ  
 Condition: FCC 15E\_QP LISN\_20170907\_N NEUTRAL  
 Project : (FR)880204  
 Mode : Mode 2  
 IMEI : 869410030016506/869410030017801

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.16	18.09	-37.29	55.38	8.00	0.03	10.06	Average
2	0.16	46.39	-18.99	65.38	36.30	0.03	10.06	QP
3	0.21	19.50	-33.86	53.36	9.40	0.03	10.07	Average
4	0.21	42.00	-21.36	63.36	31.90	0.03	10.07	QP
5	0.28	13.31	-37.63	50.94	3.20	0.03	10.08	Average
6	0.28	36.01	-24.93	60.94	25.90	0.03	10.08	QP
7	0.32	29.31	-20.31	49.62	19.20	0.03	10.08	Average
8	0.32	47.01	-12.61	59.62	36.90	0.03	10.08	QP
9	0.49	24.70	-21.44	46.14	14.60	0.02	10.08	Average
10	0.49	40.70	-15.44	56.14	30.60	0.02	10.08	QP
11	0.56	26.00	-20.00	46.00	15.90	0.02	10.08	Average
12	0.56	40.70	-15.30	56.00	30.60	0.02	10.08	QP
13	0.68	32.10	-13.90	46.00	22.00	0.02	10.08	Average
14 *	0.68	47.60	-8.40	56.00	37.50	0.02	10.08	QP
15	0.78	22.81	-23.19	46.00	12.70	0.03	10.08	Average
16	0.78	36.91	-19.09	56.00	26.80	0.03	10.08	QP
17	0.98	23.44	-22.56	46.00	13.30	0.05	10.09	Average
18	0.98	36.14	-19.86	56.00	26.00	0.05	10.09	QP
19	2.36	16.16	-29.84	46.00	6.00	0.04	10.12	Average
20	2.36	33.06	-22.94	56.00	22.90	0.04	10.12	QP
21	2.64	17.97	-28.03	46.00	7.80	0.04	10.13	Average
22	2.64	36.57	-19.43	56.00	26.40	0.04	10.13	QP
23	3.66	16.60	-29.40	46.00	6.39	0.05	10.16	Average
24	3.66	31.30	-24.70	56.00	21.09	0.05	10.16	QP
25	3.94	27.42	-18.58	46.00	17.21	0.05	10.16	Average
26	3.94	40.22	-15.78	56.00	30.01	0.05	10.16	QP
27	6.59	28.11	-21.89	50.00	17.80	0.07	10.24	Average
28	6.59	39.81	-20.19	60.00	29.50	0.07	10.24	QP
29	7.77	28.47	-21.53	50.00	18.11	0.09	10.27	Average



Test Engineer :	ZhangXu	Temperature :	22~25°C
		Relative Humidity :	50~55.%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral



Site : C001-SZ  
 Condition: FCC 15E\_QP LISN\_20170907\_N NEUTRAL  
 Project : (FR)880204  
 Mode : Mode 2  
 IMEI : 869410030016506/869410030017801

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
30	7.77	36.67	-23.33	60.00	26.31	0.09	10.27	QP
31	9.45	30.27	-19.73	50.00	19.80	0.15	10.32	Average
32	9.45	38.67	-21.33	60.00	28.20	0.15	10.32	QP



### Appendix C. Radiated Spurious Emission

Test Engineer :	Xiaoshi Tan	Temperature :	24~25°C
		Relative Humidity :	48~49%

**Band 4 - 5725~5850MHz**

**WIFI 802.11a (Band Edge @ 3m)**

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.	
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.		
1+2		( MHz )	( dBµV/m )	( dB )	( dBµV/m )	( dBµV )	( dB/m )	( dB )	( dB )	( cm )	( deg )	( P/A )	( H/V )	
802.11a CH 149 5745MHz		5614.6	51.52	-16.68	68.2	38.07	34.46	12.09	33.1	100	40	P	H	
		5670.8	52.31	-31.32	83.63	38.56	34.48	12.37	33.1	100	40	P	H	
		5716	51.1	-58.58	109.68	37.22	34.47	12.51	33.1	100	40	P	H	
		5721.6	51.23	-63.22	114.45	37.36	34.46	12.51	33.1	100	40	P	H	
	*	5745	92.69	-	-	78.69	34.45	12.65	33.1	100	40	P	H	
	*	5745	87.27	-	-	73.27	34.45	12.65	33.1	100	40	A	H	
														H
														H
			5618.4	50.76	-17.44	68.2	37.29	34.48	12.09	33.1	229	44	P	V
			5693.2	52.1	-48.09	100.19	38.35	34.48	12.37	33.1	229	44	P	V
			5700.6	51.66	-53.71	105.37	37.78	34.47	12.51	33.1	229	44	P	V
			5722.6	59.46	-57.27	116.73	45.59	34.46	12.51	33.1	229	44	P	V
	*		5740	97.41	-	-	83.41	34.45	12.65	33.1	229	44	P	V
	*		5745	91.44	-	-	77.44	34.45	12.65	33.1	229	44	A	V
													V	
													V	



WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. ( P/A )	Pol. ( H/V )	
802.11a CH 157 5785MHz		5616	51.05	-17.15	68.2	37.58	34.48	12.09	33.1	119	36	P	H	
		5685.6	51.2	-43.38	94.58	37.45	34.48	12.37	33.1	119	36	P	H	
		5716.4	50.89	-58.9	109.79	37.01	34.47	12.51	33.1	119	36	P	H	
		5724	50.48	-69.44	119.92	36.61	34.46	12.51	33.1	119	36	P	H	
	*	5785	93.33	-	-	79.2	34.44	12.79	33.1	119	36	P	H	
	*	5785	86.69	-	-	72.56	34.44	12.79	33.1	119	36	A	H	
		5851.4	50.44	-68.57	119.01	36.25	34.41	12.88	33.1	119	36	P	H	
		5874.6	51.53	-53.78	105.31	37.25	34.41	12.97	33.1	119	36	P	H	
		5889	51.75	-43.06	94.81	37.46	34.42	12.97	33.1	119	36	P	H	
		5942.6	52.11	-16.09	68.2	37.61	34.46	13.14	33.1	119	36	P	H	
														H
														H
			5637.2	51.59	-16.61	68.2	37.96	34.5	12.23	33.1	225	39	P	V
			5681.2	53.71	-37.62	91.33	39.96	34.48	12.37	33.1	225	39	P	V
			5701.6	50.88	-54.77	105.65	37	34.47	12.51	33.1	225	39	P	V
			5722.6	51.55	-65.18	116.73	37.68	34.46	12.51	33.1	225	39	P	V
	*		5785	97.54	-	-	83.41	34.44	12.79	33.1	225	39	P	V
	*		5785	91.48	-	-	77.35	34.44	12.79	33.1	225	39	A	V
			5850	49.82	-72.38	122.2	35.63	34.41	12.88	33.1	225	39	P	V
			5874.2	51.15	-54.27	105.42	36.87	34.41	12.97	33.1	225	39	P	V
		5920.8	51.74	-19.56	71.3	37.35	34.44	13.05	33.1	225	39	P	V	
		5926	51.27	-16.93	68.2	36.87	34.45	13.05	33.1	225	39	P	V	
													V	
													V	



WiFi Ant. 1+2	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. ( P/A )	Pol. ( H/V )	
802.11a CH 165 5825MHz	*	5825	91.76	-	-	77.56	34.42	12.88	33.1	119	41	P	H	
	*	5825	86.09	-	-	71.89	34.42	12.88	33.1	119	41	A	H	
		5851	51.36	-68.56	119.92	37.17	34.41	12.88	33.1	119	41	P	H	
		5875	52.36	-52.84	105.2	38.08	34.41	12.97	33.1	119	41	P	H	
		5909	52.42	-27.59	80.01	38.03	34.44	13.05	33.1	119	41	P	H	
		5939	51.51	-16.69	68.2	37.01	34.46	13.14	33.1	119	41	P	H	
														H
														H
	*	5825	97.23	-	-	83.03	34.42	12.88	33.1	211	14	14	P	V
	*	5825	91.07	-	-	76.87	34.42	12.88	33.1	211	14	14	A	V
		5855	51.3	-59.5	110.8	37.12	34.4	12.88	33.1	211	14	14	P	V
		5859.8	51.78	-57.67	109.45	37.51	34.4	12.97	33.1	211	14	14	P	V
		5899.2	51.85	-35.4	87.25	37.48	34.42	13.05	33.1	211	14	14	P	V
		5941.2	52.47	-15.73	68.2	37.97	34.46	13.14	33.1	211	14	14	P	V
														V
														V
													V	
<b>Remark</b>	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.													





**Band 4 5725~5850MHz**  
**WIFI 802.11a (Harmonic @ 3m)**

WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. ( P/A )	Pol. ( H/V )
802.11a CH 149 5745MHz		11490	52.4	-21.6	74	55.19	37.69	14.88	55.36	147	78	P	H
		11490	43.33	-10.67	54	46.12	37.69	14.88	55.36	147	78	A	H
		17235	58.56	-9.64	68.2	53.12	43.89	18.04	56.49	170	341	P	H
													H
		11490	51.43	-22.57	74	54.22	37.69	14.88	55.36	160	360	P	V
		11490	43.66	-10.34	54	46.45	37.69	14.88	55.36	160	360	A	V
		17235	57.36	-10.84	68.2	51.92	43.89	18.04	56.49	170	360	P	V
802.11a CH 157 5785MHz		11570	52.33	-21.67	74	54.86	37.81	14.9	55.24	173	94	P	H
		11570	43.33	-10.67	54	45.86	37.81	14.9	55.24	173	94	A	H
		17355	57.6	-10.6	68.2	52.47	43.53	18.18	56.58	189	185	P	H
													H
		11570	52.46	-21.54	74	54.99	37.81	14.9	55.24	175	198	P	V
		11570	43.52	-10.48	54	46.05	37.81	14.9	55.24	175	198	A	V
		17355	57.87	-10.33	68.2	52.74	43.53	18.18	56.58	189	185	P	V
802.11a CH 165 5825MHz		11650	52.25	-21.75	74	54.54	37.92	14.92	55.13	154	314	P	H
		11650	43.73	-10.27	54	46.02	37.92	14.92	55.13	154	314	A	H
		17475	56.54	-11.66	68.2	51.73	43.18	18.31	56.68	142	157	P	H
													H
		11650	52.57	-21.43	74	54.86	37.92	14.92	55.13	145	347	P	V
		11650	43.66	-10.34	54	45.95	37.92	14.92	55.13	145	347	A	V
		17475	57.94	-10.26	68.2	53.13	43.18	18.31	56.68	150	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**Band 4 5725~5850MHz**  
**WIFI 802.11n HT20 (Band Edge @ 3m)**

WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. ( P/A )	Pol. ( H/V )	
802.11n HT20 CH 149 5745MHz		5637	51.51	-16.69	68.2	37.88	34.5	12.23	33.1	129	39	P	H	
		5657.8	52.06	-21.93	73.99	38.44	34.49	12.23	33.1	129	39	P	H	
		5701.2	50.63	-54.91	105.54	36.75	34.47	12.51	33.1	129	39	P	H	
		5722.4	49.97	-66.3	116.27	36.1	34.46	12.51	33.1	129	39	P	H	
	*	5745	92.18	-	-	78.18	34.45	12.65	33.1	129	39	P	H	
	*	5745	85.09	-	-	71.09	34.45	12.65	33.1	129	39	A	H	
														H
														H
			5646	51.85	-16.35	68.2	38.22	34.5	12.23	33.1	207	38	P	V
			5691.8	51.37	-47.78	99.15	37.62	34.48	12.37	33.1	207	38	P	V
			5709.4	51.58	-56.25	107.83	37.7	34.47	12.51	33.1	207	38	P	V
			5722.8	51.05	-66.13	117.18	37.18	34.46	12.51	33.1	207	38	P	V
	*		5745	96.71	-	-	82.71	34.45	12.65	33.1	207	38	P	V
	*		5745	90.57	-	-	76.57	34.45	12.65	33.1	207	38	A	V
														V
													V	



WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. ( P/A )	Pol. ( H/V )	
802.11n HT20 CH 157 5785MHz		5631.4	52.85	-15.35	68.2	39.24	34.48	12.23	33.1	115	47	P	H	
		5692.2	53.01	-46.44	99.45	39.26	34.48	12.37	33.1	115	47	P	H	
		5712.6	51.73	-57	108.73	37.85	34.47	12.51	33.1	115	47	P	H	
		5724.4	50.65	-70.18	120.83	36.78	34.46	12.51	33.1	115	47	P	H	
	*	5785	91.31	-	-	77.18	34.44	12.79	33.1	115	47	P	H	
	*	5785	84.22	-	-	70.09	34.44	12.79	33.1	115	47	A	H	
		5853	50.27	-65.09	115.36	36.08	34.41	12.88	33.1	115	47	P	H	
		5862.6	51.03	-57.64	108.67	36.76	34.4	12.97	33.1	115	47	P	H	
		5905.2	51.53	-31.28	82.81	37.14	34.44	13.05	33.1	115	47	P	H	
		5932	52.16	-16.04	68.2	37.76	34.45	13.05	33.1	115	47	P	H	
														H
														H
			5617.8	51.56	-16.64	68.2	38.09	34.48	12.09	33.1	203	17	P	V
			5672.2	52.02	-32.65	84.67	38.27	34.48	12.37	33.1	203	17	P	V
			5703.8	50.89	-55.38	106.27	37.01	34.47	12.51	33.1	203	17	P	V
			5720.2	51.02	-60.24	111.26	37.15	34.46	12.51	33.1	203	17	P	V
	*		5785	97.03	-	-	82.9	34.44	12.79	33.1	203	17	P	V
	*		5785	89.39	-	-	75.26	34.44	12.79	33.1	203	17	A	V
			5850.2	51.66	-70.08	121.74	37.47	34.41	12.88	33.1	203	17	P	V
			5860.6	52.46	-56.77	109.23	38.19	34.4	12.97	33.1	203	17	P	V
		5884	51.42	-47.1	98.52	37.14	34.41	12.97	33.1	203	17	P	V	
		5946	53.42	-14.78	68.2	38.92	34.46	13.14	33.1	203	17	P	V	
													V	
													V	



WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. ( P/A )	Pol. ( H/V )	
802.11n HT20 CH 165 5825MHz	*	5825	92.74	-	-	78.54	34.42	12.88	33.1	133	39	P	H	
	*	5825	84.76	-	-	70.56	34.42	12.88	33.1	133	39	A	H	
		5851.4	50.41	-68.6	119.01	36.22	34.41	12.88	33.1	133	39	P	H	
		5873.6	50.89	-54.7	105.59	36.61	34.41	12.97	33.1	133	39	P	H	
		5890.2	51.79	-42.13	93.92	37.5	34.42	12.97	33.1	133	39	P	H	
		5930.4	52.63	-15.57	68.2	38.23	34.45	13.05	33.1	133	39	P	H	
														H
														H
	*	5825	96.39	-	-	82.19	34.42	12.88	33.1	210	32	32	P	V
	*	5825	89.05	-	-	74.85	34.42	12.88	33.1	210	32	32	A	V
		5850	52.97	-69.23	122.2	38.78	34.41	12.88	33.1	210	32	32	P	V
		5860	51.84	-57.56	109.4	37.57	34.4	12.97	33.1	210	32	32	P	V
		5893.6	52.15	-39.25	91.4	37.86	34.42	12.97	33.1	210	32	32	P	V
		5946	51.9	-16.3	68.2	37.4	34.46	13.14	33.1	210	32	32	P	V
														V
														V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.													



**Band 4 5725~5850MHz**  
**WIFI 802.11n HT20 (Harmonic @ 3m)**

WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. ( P/A )	Pol. ( H/V )
802.11n HT20 CH 149 5745MHz		11490	51.62	-22.38	74	54.41	37.69	14.88	55.36	158	314	P	H
		11490	44.06	-9.94	54	46.85	37.69	14.88	55.36	158	314	A	H
		17235	57.86	-10.34	68.2	52.42	43.89	18.04	56.49	170	312	P	H
													H
		11490	51.44	-22.56	74	54.23	37.69	14.88	55.36	160	360	P	V
		11490	43.57	-10.43	54	46.36	37.69	14.88	55.36	160	360	A	V
		17235	57.73	-10.47	68.2	52.29	43.89	18.04	56.49	196	360	P	V
													V
802.11n HT20 CH 157 5785MHz		11570	52.14	-21.86	74	54.67	37.81	14.9	55.24	172	198	P	H
		11570	43.35	-10.65	54	45.88	37.81	14.9	55.24	172	198	A	H
		17355	57.93	-10.27	68.2	52.8	43.53	18.18	56.58	189	65	P	H
													H
		11570	52.86	-21.14	74	55.39	37.81	14.9	55.24	175	198	P	V
		11570	43.81	-10.19	54	46.34	37.81	14.9	55.24	175	198	A	V
		17355	57.88	-10.32	68.2	52.75	43.53	18.18	56.58	189	185	P	V
													V
802.11n HT20 CH 165 5825MHz		11650	52.29	-21.71	74	54.58	37.92	14.92	55.13	174	38	P	H
		11650	43.69	-10.31	54	45.98	37.92	14.92	55.13	174	38	A	H
		17475	56.96	-11.24	68.2	52.15	43.18	18.31	56.68	178	36	P	H
													H
		11650	53.03	-20.97	74	55.32	37.92	14.92	55.13	156	347	P	V
		11650	43.78	-10.22	54	46.07	37.92	14.92	55.13	156	347	A	V
		17475	56.63	-11.57	68.2	51.82	43.18	18.31	56.68	174	45	P	V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**Band 4 5725~5850MHz  
WIFI 802.11n HT40 (Band Edge @ 3m)**

WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. ( P/A )	Pol. ( H/V )
		5612.4	50.8	-17.4	68.2	37.35	34.46	12.09	33.1	138	37	P	H
		5656.4	51.76	-21.19	72.95	38.14	34.49	12.23	33.1	138	37	P	H
		5710.4	52.46	-55.65	108.11	38.58	34.47	12.51	33.1	138	37	P	H
		5723.6	52	-67.01	119.01	38.13	34.46	12.51	33.1	138	37	P	H
	*	5755	88.54	-	-	74.54	34.45	12.65	33.1	138	37	P	H
	*	5755	81.85	-	-	67.85	34.45	12.65	33.1	138	37	A	H
		5850.2	51.63	-70.11	121.74	37.44	34.41	12.88	33.1	138	37	P	H
		5856.4	50.71	-59.7	110.41	36.44	34.4	12.97	33.1	138	37	P	H
		5877.6	52.92	-50.35	103.27	38.64	34.41	12.97	33.1	138	37	P	H
		5949	51.46	-16.74	68.2	36.96	34.46	13.14	33.1	138	37	P	H
<b>802.11n</b>													H
<b>HT40</b>													H
<b>CH 151</b>		5600.8	51.35	-16.85	68.2	37.9	34.46	12.09	33.1	214	9	P	V
<b>5755MHz</b>		5698.2	52.79	-51.08	103.87	39.04	34.48	12.37	33.1	214	9	P	V
		5718.2	51.81	-58.49	110.3	37.94	34.46	12.51	33.1	214	9	P	V
		5725	54.12	-68.08	122.2	40.25	34.46	12.51	33.1	214	9	P	V
	*	5755	93.38	-	-	79.38	34.45	12.65	33.1	214	9	P	V
	*	5755	86.15	-	-	72.15	34.45	12.65	33.1	214	9	A	V
		5852.8	49.97	-65.85	115.82	35.78	34.41	12.88	33.1	214	9	P	V
		5865.2	51.45	-56.49	107.94	37.18	34.4	12.97	33.1	214	9	P	V
		5885	52.78	-44.99	97.77	38.5	34.41	12.97	33.1	214	9	P	V
		5935.4	51.86	-16.34	68.2	37.37	34.45	13.14	33.1	214	9	P	V
													V
													V



WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. ( P/A )	Pol. ( H/V )	
802.11n HT40 CH 159 5795MHz		5644.4	50.83	-17.37	68.2	37.2	34.5	12.23	33.1	144	41	P	H	
		5651.6	51.66	-17.73	69.39	38.04	34.49	12.23	33.1	144	41	P	H	
		5717.8	50.66	-59.52	110.18	36.79	34.46	12.51	33.1	144	41	P	H	
		5722.6	51.68	-65.05	116.73	37.81	34.46	12.51	33.1	144	41	P	H	
	*	5795	88.64	-	-	74.52	34.43	12.79	33.1	144	41	P	H	
	*	5795	80.65	-	-	66.53	34.43	12.79	33.1	144	41	A	H	
		5853.4	49.9	-64.55	114.45	35.71	34.41	12.88	33.1	144	41	P	H	
		5867.2	51.83	-55.55	107.38	37.56	34.4	12.97	33.1	144	41	P	H	
		5915	51.83	-23.74	75.57	37.44	34.44	13.05	33.1	144	41	P	H	
		5945.4	51	-17.2	68.2	36.5	34.46	13.14	33.1	144	41	P	H	
														H
														H
			5638.6	51.49	-16.71	68.2	37.86	34.5	12.23	33.1	227	27	P	V
			5684.4	51.59	-42.1	93.69	37.84	34.48	12.37	33.1	227	27	P	V
			5707	51.09	-56.07	107.16	37.21	34.47	12.51	33.1	227	27	P	V
			5722	50.09	-65.27	115.36	36.22	34.46	12.51	33.1	227	27	P	V
	*		5795	91.81	-	-	77.69	34.43	12.79	33.1	227	27	P	V
	*		5795	85.16	-	-	71.04	34.43	12.79	33.1	227	27	A	V
			5852.8	50.38	-65.44	115.82	36.19	34.41	12.88	33.1	227	27	P	V
			5859.4	51.75	-57.82	109.57	37.48	34.4	12.97	33.1	227	27	P	V
		5877.8	51.8	-51.32	103.12	37.52	34.41	12.97	33.1	227	27	P	V	
		5941	51.95	-16.25	68.2	37.45	34.46	13.14	33.1	227	27	P	V	
													V	
													V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.													



**Band 4 5725~5850MHz**  
**WIFI 802.11n HT40 (Harmonic @ 3m)**

WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 151 5755MHz		11510	51.48	-22.52	74	54.24	37.7	14.88	55.34	179	45	P	H
		11510	43.69	-10.31	54	46.45	37.7	14.88	55.34	179	45	A	H
		17265	57.49	-10.71	68.2	52.13	43.79	18.09	56.52	170	147	P	H
													H
		11510	51.9	-22.1	74	54.66	37.7	14.88	55.34	175	63	P	V
		11510	43.44	-10.56	54	46.2	37.7	14.88	55.34	175	63	A	V
		17265	57.85	-10.35	68.2	52.49	43.79	18.09	56.52	170	360	P	V
													V
802.11n HT40 CH 159 5795MHz		11590	52.6	-21.4	74	55.06	37.84	14.91	55.21	208	275	P	H
		11590	43.32	-10.68	54	45.78	37.84	14.91	55.21	208	275	A	H
		17385	55.38	-12.82	68.2	50.34	43.43	18.22	56.61	150	200	P	H
													H
		11590	53.44	-20.56	74	55.9	37.84	14.91	55.21	139	248	P	V
		11590	43.22	-10.78	54	45.68	37.84	14.91	55.21	139	248	A	V
		17385	54.72	-13.48	68.2	49.68	43.43	18.22	56.61	150	200	P	V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												





**Band 4 5725~5850MHz**  
**WIFI 802.11ac VHT80 (Band Edge @ 3m)**

WIFI Ant. 1	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. ( P/A )	Pol. ( H/V )
		5611.8	51.98	-16.22	68.2	38.53	34.46	12.09	33.1	165	34	P	H
		5689	51.1	-45.99	97.09	37.35	34.48	12.37	33.1	165	34	P	H
		5719.4	51.58	-59.05	110.63	37.71	34.46	12.51	33.1	165	34	P	H
		5724.6	51.02	-70.27	121.29	37.15	34.46	12.51	33.1	165	34	P	H
	*	5775	84.91	-	-	70.92	34.44	12.65	33.1	165	34	P	H
	*	5775	79.45	-	-	65.46	34.44	12.65	33.1	165	34	A	H
		5851.8	50.68	-67.42	118.1	36.49	34.41	12.88	33.1	165	34	P	H
		5869.2	51.76	-55.06	106.82	37.49	34.4	12.97	33.1	165	34	P	H
		5882.8	52.05	-47.36	99.41	37.77	34.41	12.97	33.1	165	34	P	H
		5948	51.36	-16.84	68.2	36.86	34.46	13.14	33.1	165	34	P	H
<b>802.11ac</b>													H
<b>VHT80</b>													H
<b>CH 155</b>		5601.2	51.38	-16.82	68.2	37.93	34.46	12.09	33.1	240	24	P	V
<b>5775MHz</b>		5662.2	51.69	-25.57	77.26	37.93	34.49	12.37	33.1	240	24	P	V
		5713.4	52.02	-56.93	108.95	38.14	34.47	12.51	33.1	240	24	P	V
		5724.2	51.31	-69.07	120.38	37.44	34.46	12.51	33.1	240	24	P	V
	*	5775	88.94	-	-	74.95	34.44	12.65	33.1	240	24	P	V
	*	5775	82.25	-	-	68.26	34.44	12.65	33.1	240	24	A	V
		5854.2	51.85	-60.77	112.62	37.67	34.4	12.88	33.1	240	24	P	V
		5858.2	51.26	-58.64	109.9	36.99	34.4	12.97	33.1	240	24	P	V
		5879.4	53.01	-48.92	101.93	38.73	34.41	12.97	33.1	240	24	P	V
		5926.2	51.37	-16.83	68.2	36.97	34.45	13.05	33.1	240	24	P	V
													V
													V
<b>Remark</b>	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz
WIFI 802.11ac VHT80 (Harmonic @ 3m)

Table with 14 columns: WIFI Ant. 1, Note, Frequency (MHz), Level (dBµV/m), Over Limit (dB), Limit Line (dBµV/m), Read Level (dBµV), Antenna Factor (dB/m), Cable Loss (dB), Preamp Factor (dB), Ant Pos (cm), Table Pos (deg), Peak Avg. (P/A), Pol. (H/V). Rows include test data for 802.11ac VHT80 CH 155 5775MHz and a Remark section.



Emission below 1GHz

5GHz WIFI 802.11n HT20 (LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.	
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.		
1+2		( MHz )	( dBμV/m )	( dB )	( dBμV/m )	( dBμV )	( dB/m )	( dB )	( dB )	( cm )	( deg )	( P/A )	( H/V )	
5GHz 802.11n HT20 LF		30	25.15	-14.85	40	32.22	24.3	0.23	31.6	-	-	P	H	
		97.9	27.46	-16.04	43.5	41.77	16.36	0.83	31.5	-	-	P	H	
		174.53	21.43	-22.07	43.5	35.84	15.43	1.45	31.29	-	-	P	H	
		413.15	25.09	-20.91	46	31.81	21.94	2.44	31.1	-	-	P	H	
		709.97	30.2	-15.8	46	32.9	25.21	3.31	31.22	-	-	P	H	
		881.66	31.26	-14.74	46	32.18	26.61	3.77	31.3	120	131	P	H	
														H
														H
														H
														H
														H
														H
			30	26.59	-13.41	40	33.66	24.3	0.23	31.6	150	147	P	V
			96.93	25.36	-18.14	43.5	39.91	16.14	0.81	31.5	-	-	P	V
			176.47	25.48	-18.02	43.5	39.96	15.35	1.46	31.29	-	-	P	V
			477.17	26.58	-19.42	46	31.95	23.08	2.65	31.1	-	-	P	V
			647.89	28.4	-17.6	46	31.57	24.89	3.14	31.2	-	-	P	V
			956.35	30.35	-15.65	46	30.65	27.04	3.98	31.32	-	-	P	V
													V	
													V	
													V	
													V	
													V	
													V	
Remark	1. No other spurious found. 2. All results are PASS against limit line.													



**Note symbol**

*	<b>Fundamental Frequency</b> which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is <b>over limit</b> line.
P/A	<b>Peak</b> or <b>Average</b>
H/V	<b>Horizontal</b> or <b>Vertical</b>



A calculation example for radiated spurious emission is shown as below:

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		( MHz )	( dBμV/m )	( dB )	( dBμV/m )	( dBμV )	( dB/m )	( dB )	( dB )	( cm )	( deg )	( P/A )	( H/V )
802.11b		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
CH 01													
2412MHz		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

- Level(dBμV/m) =  
Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
- Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

**For Peak Limit @ 2390MHz:**

- Level(dBμV/m)  
= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)  
= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)  
= 55.45 (dBμV/m)
- Over Limit(dB)  
= Level(dBμV/m) – Limit Line(dBμV/m)  
= 55.45(dBμV/m) – 74(dBμV/m)  
= -18.55(dB)

**For Average Limit @ 2390MHz:**

- Level(dBμV/m)  
= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)  
= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)  
= 43.54 (dBμV/m)
- Over Limit(dB)  
= Level(dBμV/m) – Limit Line(dBμV/m)  
= 43.54(dBμV/m) – 54(dBμV/m)  
= -10.46(dB)

Both peak and average measured complies with the limit line, so test result is “PASS”.



## Appendix D. Radiated Spurious Emission Plots

Test Engineer :	Xiaoshi Tan	Temperature :	24~25°C
		Relative Humidity :	48~49%

Note symbol

-L	Low channel location
-R	High channel location

### Band 4 - 5725~5850MHz WIFI 802.11a (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
1+2	Horizontal	Fundamental
Peak	<p>Site : 03CH01-S2 Condition : PEAK_BE(84)_16-24 3m HF_ANT(1317)_119436 HORIZONTAL Product : 88804 Mode : Mode 32 IMEI : 895120030016458/669410030017793 Plane : Y with Accessory (adapter-usb cable) Data Rate : 0M</p>	<p>Site : 03CH01-S2 Condition : PEAK(FUN) 3m HF_ANT(1317)_119436 HORIZONTAL Product : 88804 Mode : Mode 32 IMEI : 895120030016458/669410030017793 Plane : Y with Accessory (adapter-usb cable) Data Rate : 0M</p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
1+2	Vertical	Fundamental
Peak	<p>Date: 3 Date: 2018.08.17 PEAK_BE (84)_16-24</p> <p>Site : 030M1-62 Condition : PEAK_BE (84)_16-24 3m HF_ANT (3117)_119436 VERTICAL Project : 080204 Mode : Mode 32 SPEI : 009410000004698/0094100000017793 Plane : V with Accessory (adapter+usb cable) Data Rate : 6M</p>	<p>Date: 4 Date: 2018.08.19 PEAK (UM1)</p> <p>Site : 030M1-62 Condition : PEAK (UM1) 3m HF_ANT (3117)_119436 VERTICAL Project : 080204 Mode : Mode 32 SPEI : 009410000004698/0094100000017793 Plane : V with Accessory (adapter+usb cable) Data Rate : 6M</p>



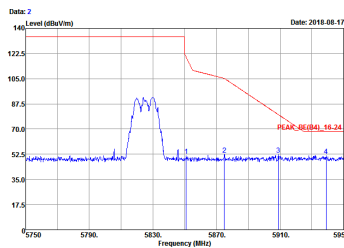
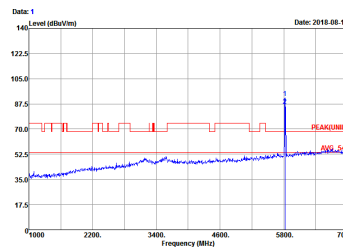
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
1+2	Horizontal	Fundamental
<p><b>Peak</b></p>	<p>Date: 1 Date: 2018.08.17 PEAK: 8E (84)_16-24</p> <p>Site : 83C8M1-52 Condition : PEAK_8E (84)_16-24 3m HF_ANT (3117)_119436 HORIZONTAL Project : 880204 Mode : Mode 33 IMEI : 869418038016458/869418038017793 Plane : Y with Accessory (adapter+usb cable) Data Rate : 6M</p>	<p>Date: 2 Date: 2018.08.17 PEAK: 00M1</p> <p>Site : 83C8M1-52 Condition : PEAK (UM1) 3m HF_ANT (3117)_119436 HORIZONTAL Project : 880204 Mode : Mode 33 IMEI : 869418038016458/869418038017793 Plane : Y with Accessory (adapter+usb cable) Data Rate : 6M</p>
<p><b>Peak</b></p>	<p>Date: 3 Date: 2018.08.17 PEAK: 8E (84)_16-24</p> <p>Site : 83C8M1-52 Condition : PEAK_8E (84)_16-24 3m HF_ANT (3117)_119436 HORIZONTAL Project : 880204 Mode : Mode 33 IMEI : 869418038016458/869418038017793 Plane : Y with Accessory (adapter+usb cable) Data Rate : 6M</p>	<p><b>Left blank</b></p>





WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
1+2	Vertical	Fundamental
Peak	<p>Date: 4 Date: 2018.08.17 PEAK_0E(04)_16-24</p> <p>Site : 830M1-52 Condition : PEAK_0E(04)_16-24 3m HF_ANT(3117)_119436 VERTICAL Project : 880204 Mode : Mode 33 IMEI : 869410030016458/869410030017793 Plane : Y with Accessory (adapter+usb cable) Data Rate : 6M</p>	<p>Date: 5 Date: 2018.08.17 PEAK(UM1)</p> <p>Site : 830M1-52 Condition : PEAK(UM1) 3m HF_ANT(3117)_119436 VERTICAL Project : 880204 Mode : Mode 33 IMEI : 869410030016458/869410030017793 Plane : Y with Accessory (adapter+usb cable) Data Rate : 6M</p>
Peak	<p>Date: 6 Date: 2018.08.17 PEAK_0E(04)_16-24</p> <p>Site : 830M1-52 Condition : PEAK_0E(04)_16-24 3m HF_ANT(3117)_119436 VERTICAL Project : 880204 Mode : Mode 33 IMEI : 869410030016458/869410030017793 Plane : Y with Accessory (adapter+usb cable) Data Rate : 6M</p>	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
1+2	Horizontal	Fundamental
Peak	 <p>Site : 030M1-62          Condition : PEAK_BE(B4)_16-24 3m HF_ANT(3117)_119436 HORIZONTAL          Project : 088204          Mode : Mode 34          SMC : 005108030816498/005108030817793          Plane : V with Accessory (adapter+usb cable)          Data Rate : 6M</p>	 <p>Site : 030M1-62          Condition : PEAK(FUN1) 3m HF_ANT(3117)_119436 HORIZONTAL          Project : 088204          Mode : Mode 34          SMC : 005108030816498/005108030817793          Plane : V with Accessory (adapter+usb cable)          Data Rate : 6M</p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
1+2	Vertical	Fundamental
Peak	<p>             Date: 4              Level (dBuV/m)              Date: 2018.08.17              Frequency (MHz)              PEAK_06(B4)_16-24              Site : 030M01-62              Condition : PEAK_06(B4)_16-24 3m HF_ANT(3117)_119436 VERTICAL              Project : 088204              Mode : Mode 34              SMC : 005126030016498/005126030017793              Plane : V with Accessory (adapter+usb cable)              Data Rate : 6M           </p>	<p>             Date: 3              Level (dBuV/m)              Date: 2018.08.17              Frequency (MHz)              PEAK_06(B4)_16-24              Site : 030M01-62              Condition : PEAK_06(B4)_16-24 3m HF_ANT(3117)_119436 VERTICAL              Project : 088204              Mode : Mode 34              SMC : 005126030016498/005126030017793              Plane : V with Accessory (adapter+usb cable)              Data Rate : 6M           </p>



**Band 4 5725~5850MHz**  
**WIFI 802.11n HT20 (Band Edge @ 3m)**

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1+2	Horizontal	Fundamental
<b>Peak</b>	<p>           Date: 1            Level (dBuV/m)            Date: 2016-08-17            PEAK_BE(84)_16-24            Frequency (MHz)         </p> <p>           Site : 83CR01-02            Condition : PEAK_BE(84)_16-24 3m HF_ANT(2117)_119436 HORIZONTAL            Project : 880204            Mode : IS            INET : 069410010016498/069410010017793            Plane : Y axis Accessory (adapter+usb cable)            Data Rate : MCS8         </p>	<p>           Date: 2            Level (dBuV/m)            Date: 2016-08-17            PEAK(FUN)            AVG_54            Frequency (MHz)         </p> <p>           Site : 83CR01-02            Condition : PEAK(FUN) 3m HF_ANT(2117)_119436 HORIZONTAL            Project : 880204            Mode : IS            INET : 069410010016498/069410010017793            Plane : Y axis Accessory (adapter+usb cable)            Data Rate : MCS8         </p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1+2	Vertical	Fundamental
Peak	<p>             Date: 3              Date: 2018.08.17              PEAK_BE (84) 76-25              Site : 030M1-62              Condition : PEAK_BE (84)_16-24 3m HF_ANT (3117)_119436 VERTICAL              Project : 088204              Mode : Mode 35              SMC : 005128038016498/005128038017793              Plane : V with Accessory (adapter+usb cable)              Data Rate : MCS8           </p>	<p>             Date: 4              Date: 2018.08.17              PEAK (UM) 21              Site : 030M1-62              Condition : PEAK (UM) 3m HF_ANT (3117)_119436 VERTICAL              Project : 088204              Mode : Mode 35              SMC : 005128038016498/005128038017793              Plane : V with Accessory (adapter+usb cable)              Data Rate : MCS8           </p>

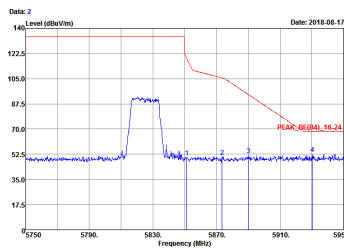
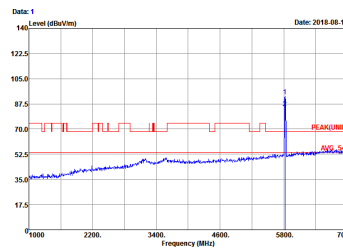


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1+2	Horizontal	Fundamental
Peak	<p>Date: 1 Date: 2018.08.17</p> <p>Site : 8020M1-52 Condition : PEAK_0E(04)_16-24 3m HF_ANT(3117)_119436 HORIZONTAL Project : 880204 Mode : Mode 36 SWEI : 809410030816458/809410030817793 Plane : Y with Accessory (adapter+usb cable) Data Rate : MCS8</p>	<p>Date: 2 Date: 2018.08.17</p> <p>Site : 8020M1-52 Condition : PEAK_0E(04)_16-24 3m HF_ANT(3117)_119436 HORIZONTAL Project : 880204 Mode : Mode 36 SWEI : 809410030816458/809410030817793 Plane : Y with Accessory (adapter+usb cable) Data Rate : MCS8</p>
Peak	<p>Date: 3 Date: 2018.08.17</p> <p>Site : 8020M1-52 Condition : PEAK_0E(04)_16-24 3m HF_ANT(3117)_119436 HORIZONTAL Project : 880204 Mode : Mode 36 SWEI : 809410030816458/809410030817793 Plane : Y with Accessory (adapter+usb cable) Data Rate : MCS8</p>	Left blank



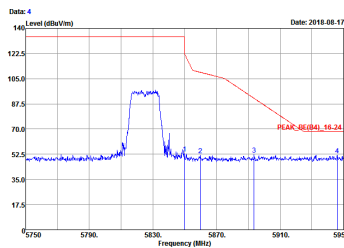
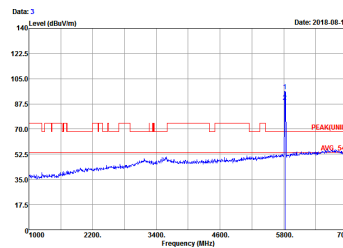
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1+2	Vertical	Fundamental
Peak	<p>Site : 830M1-52            Condition : PEAK_8E(84)_16-24 3m HF_ANT(3117)_119436 VERTICAL            Project : 880204            Mode : Mode 36            SWEI : 809410030816458/809410030817793            Plane : Y with Accessory (adapter+usb cable)            Data Rate : MCS8</p>	<p>Site : 830M1-52            Condition : PEAK_8E(84)_16-24 3m HF_ANT(3117)_119436 VERTICAL            Project : 880204            Mode : Mode 36            SWEI : 809410030816458/809410030817793            Plane : Y with Accessory (adapter+usb cable)            Data Rate : MCS8</p>
Peak	<p>Site : 830M1-52            Condition : PEAK_8E(84)_16-24 3m HF_ANT(3117)_119436 VERTICAL            Project : 880204            Mode : Mode 36            SWEI : 809410030816458/809410030817793            Plane : Y with Accessory (adapter+usb cable)            Data Rate : MCS8</p>	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1+2	Horizontal	Fundamental
Peak	 <p>             Date: 2              Date: 2018.08.17              Site : 030M01-02              Condition : PEAK_BE(B4)_16-24 3m HF_ANT(3117)_119436 HORIZONTAL              Project : 088204              Mode : Mode 37              SWE : 005120030016498;005410030017793              Plane : V with Accessory (adapter+usb cable)              Data Rate : MCS8           </p>	 <p>             Date: 1              Date: 2018.08.17              Site : 030M01-02              Condition : PEAK(UN1) 3m HF_ANT(3117)_119436 HORIZONTAL              Project : 088204              Mode : Mode 37              SWE : 005120030016498;005410030017793              Plane : V with Accessory (adapter+usb cable)              Data Rate : MCS8           </p>





WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1+2	Vertical	Fundamental
Peak	 <p>             Date: 4              Level (dBuV/m)              Date: 2018.08.17              Frequency (MHz)              PEAK_06(B4)_16-24           </p> <p>             Site : 030M01-02              Condition : PEAK_06(B4)_16-24 3m HF_ANT(3117)_119436 VERTICAL              Project : 088204              Mode : Mode 37              SMC : 005120030016498/005120030017793              Plane : V with Accessory (adapter+usb cable)              Data Rate : MCS8           </p>	 <p>             Date: 3              Level (dBuV/m)              Date: 2018.08.17              Frequency (MHz)              PEAK_06(B4)_16-24           </p> <p>             Site : 030M01-02              Condition : PEAK_06(B4)_16-24 3m HF_ANT(3117)_119436 VERTICAL              Project : 088204              Mode : Mode 37              SMC : 005120030016498/005120030017793              Plane : V with Accessory (adapter+usb cable)              Data Rate : MCS8           </p>



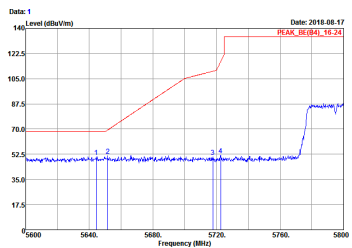
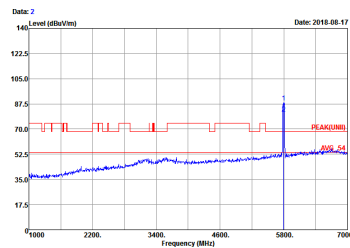
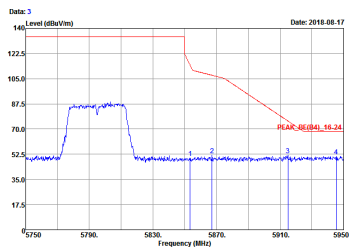
**Band 4 5725~5850MHz**  
**WIFI 802.11n HT40 (Band Edge @ 3m)**

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1+2	Horizontal	Fundamental
Peak	<p>Site : 83C801-S2            Condition : PEAK_BE(B4)_16-24 3m HF_ANT(3117)_119436 HORIZONTAL            Project : 880204            Mode : Mode 2B            IMEI : 869410010016498/869410010017793            Plane : Y with Accessory (adapter+usb cable)            Data Rate : MCS8</p>	<p>Site : 83C801-S2            Condition : PEAK(FUN) 3m HF_ANT(3117)_119436 HORIZONTAL            Project : 880204            Mode : Mode 2B            IMEI : 869410010016498/869410010017793            Plane : Y with Accessory (adapter+usb cable)            Data Rate : MCS8</p>
Peak	<p>Site : 83C801-S2            Condition : PEAK_BE(B4)_16-24 3m HF_ANT(3117)_119436 HORIZONTAL            Project : 880204            Mode : Mode 2B            IMEI : 869410010016498/869410010017793            Plane : Y with Accessory (adapter+usb cable)            Data Rate : MCS8</p>	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1+2	Vertical	Fundamental
Peak	<p>Date: 4 Date: 2018.08.17</p> <p>Site : 83C0M1-52 Condition : PEAK_BE(B4)_16-24 3m HF_ANT(3117)_119436 VERTICAL Project : 880204 Mode : Mode 38 IMEI : 869410030016458/869410030017793 Plane : V with Accessory (adapter+usb cable) Data Rate : MCS8</p>	<p>Date: 5 Date: 2018.08.17</p> <p>Site : 83C0M1-52 Condition : PEAK(UM1) 3m HF_ANT(3117)_119436 VERTICAL Project : 880204 Mode : Mode 38 IMEI : 869410030016458/869410030017793 Plane : V with Accessory (adapter+usb cable) Data Rate : MCS8</p>
Peak	<p>Date: 6 Date: 2018.08.17</p> <p>Site : 83C0M1-52 Condition : PEAK_BE(B4)_16-24 3m HF_ANT(3117)_119436 VERTICAL Project : 880204 Mode : Mode 38 IMEI : 869410030016458/869410030017793 Plane : V with Accessory (adapter+usb cable) Data Rate : MCS8</p>	Left blank



WIFI	<b>Band 4 5725~5850MHz Band Edge @ 3m</b>	
ANT	<b>802.11n HT40 CH159 5795MHz</b>	
1+2	<b>Horizontal</b>	<b>Fundamental</b>
<b>Peak</b>	 <p> <small>Date: 1</small>  <small>Level (dBuV/m)</small>  <small>Frequency (MHz)</small>  <small>Site : 83C0M1-52</small>  <small>Condition : PEAK_BE(B4)_16-24 3m HF_ANT(3117)_119436 HORIZONTAL</small>  <small>Project : 880204</small>  <small>Mode : Mode 39</small>  <small>FREQ : 809410030816458/809410030817793</small>  <small>Plane : Y with Accessory (adapter+usb cable)</small>  <small>Data Rate : MCS8</small> </p>	 <p> <small>Date: 2</small>  <small>Level (dBuV/m)</small>  <small>Frequency (MHz)</small>  <small>Site : 83C0M1-52</small>  <small>Condition : PEAK(UN1) 3m HF_ANT(3117)_119436 HORIZONTAL</small>  <small>Project : 880204</small>  <small>Mode : Mode 39</small>  <small>FREQ : 809410030816458/809410030817793</small>  <small>Plane : Y with Accessory (adapter+usb cable)</small>  <small>Data Rate : MCS8</small> </p>
<b>Peak</b>	 <p> <small>Date: 3</small>  <small>Level (dBuV/m)</small>  <small>Frequency (MHz)</small>  <small>Site : 83C0M1-52</small>  <small>Condition : PEAK_BE(B4)_16-24 3m HF_ANT(3117)_119436 HORIZONTAL</small>  <small>Project : 880204</small>  <small>Mode : Mode 39</small>  <small>FREQ : 809410030816458/809410030817793</small>  <small>Plane : Y with Accessory (adapter+usb cable)</small>  <small>Data Rate : MCS8</small> </p>	<b>Left blank</b>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1+2	Vertical	Fundamental
Peak	<p>Date: 4 Date: 2018.08.17</p> <p>Site : 830M1-52 Condition : PEAK_8E(84)_16-24 3m HF_ANT(3117)_119436 VERTICAL Project : 880204 Mode : Mode 39 SWE : 809410030816458/809410030817793 Plane : Y with Accessory (adapter+usb cable) Data Rate : MCS8</p>	<p>Date: 5 Date: 2018.08.17</p> <p>Site : 830M1-52 Condition : PEAK_8E(84)_16-24 3m HF_ANT(3117)_119436 VERTICAL Project : 880204 Mode : Mode 39 SWE : 809410030816458/809410030817793 Plane : Y with Accessory (adapter+usb cable) Data Rate : MCS8</p>
Peak	<p>Date: 6 Date: 2018.08.17</p> <p>Site : 830M1-52 Condition : PEAK_8E(84)_16-24 3m HF_ANT(3117)_119436 VERTICAL Project : 880204 Mode : Mode 39 SWE : 809410030816458/809410030817793 Plane : Y with Accessory (adapter+usb cable) Data Rate : MCS8</p>	Left blank



**Band 4 5725~5850MHz**  
**WIFI 802.11ac VHT80 (Band Edge @ 3m)**

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
1+2	Horizontal	Fundamental
<b>Peak</b>	<p>Site : 83CR01-SZ Condition : PEAK_B4_16-24 3m HF_ANT(3117)_119436 HORIZONTAL Project : 880204 Node : Node 48 IMEI : 869410030016498/869410030017793 Plane : Y with Accessory (adapter+usb cable) Data Rate : MCS8</p>	<p>Site : 83CR01-SZ Condition : PEAK(UWB1) 3m HF_ANT(3117)_119436 HORIZONTAL Project : 880204 Node : Node 48 IMEI : 869410030016498/869410030017793 Plane : Y with Accessory (adapter+usb cable) Data Rate : MCS8</p>
<b>Peak</b>	<p>Site : 83CR01-SZ Condition : PEAK_B4_16-24 3m HF_ANT(3117)_119436 HORIZONTAL Project : 880204 Node : Node 48 IMEI : 869410030016498/869410030017793 Plane : Y with Accessory (adapter+usb cable) Data Rate : MCS8</p>	<b>Left blank</b>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHZ	
1+2	Vertical	Fundamental
Peak	<p>           Date: 4            Date: 2018.08.17            PEAK_BE (84)_16-24            Site : 83C0M1-52            Condition : PEAK_BE (84)_16-24 3m HF_ANT (3117)_119436 VERTICAL            Project : 880204            Mode : 40            SWE : 609410030816458/609410030817793            Plane : V with Accessory (adapter+usb cable)            Data Rate : MCS8         </p>	<p>           Date: 5            Date: 2018.08.17            PEAK (UM1)            Site : 83C0M1-52            Condition : PEAK (UM1) 3m HF_ANT (3117)_119436 VERTICAL            Project : 880204            Mode : 40            SWE : 609410030816458/609410030817793            Plane : V with Accessory (adapter+usb cable)            Data Rate : MCS8         </p>
Peak	<p>           Date: 6            Date: 2018.08.17            PEAK_BE (84)_16-24            Site : 83C0M1-52            Condition : PEAK_BE (84)_16-24 3m HF_ANT (3117)_119436 VERTICAL            Project : 880204            Mode : 40            SWE : 609410030816458/609410030817793            Plane : V with Accessory (adapter+usb cable)            Data Rate : MCS8         </p>	Left blank



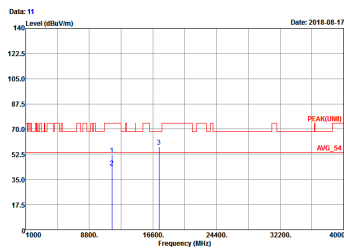
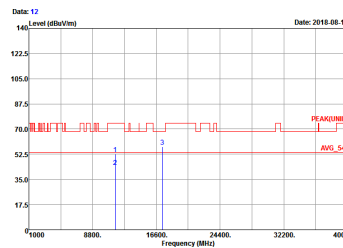
Band 4 - 5725~5850MHz

WIFI 802.11a (Harmonic @ 3m)

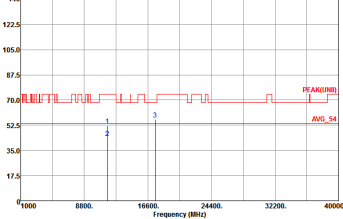
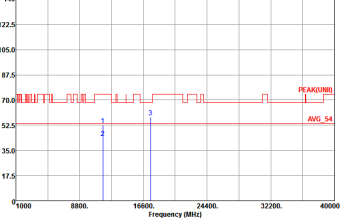
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH149 5745MHz	
1+2	Horizontal	Vertical
<p><b>Peak</b></p> <p><b>Avg.</b></p>	<p>Site : 0308E1-52            Condition : PEAK(UNI) 3m HF_ANT(3117)_119436 HORIZONTAL            Project : 080404            Mode : Mode 32            SWE : 0004100100010400/0004100100017703            Plane : Y with Accessory (adapter+usb cable)            Data Rate : 0N</p>	<p>Site : 0308E1-52            Condition : PEAK(UNI) 3m HF_ANT(3117)_119436 VERTICAL            Project : 080404            Mode : Mode 32            SWE : 0004100100010400/0004100100017703            Plane : Y with Accessory (adapter+usb cable)            Data Rate : 0N</p>





WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH157 5785MHz	
1+2	Horizontal	Vertical
Peak Avg.	 <p>Site : 030M01-02 Condition : PEAK (UNI1) 3m HF_ANT(3117)_119436 HORIZONTAL Product : 8080M Mode : Mode 33 SPEI : 009410000004698/009410000017793 Plane : V with Accessory (adapter+usb cable) Data Rate : 6M</p>	 <p>Site : 030M01-02 Condition : PEAK (UNI1) 3m HF_ANT(3117)_119436 VERTICAL Product : 8080M Mode : Mode 33 SPEI : 009410000004698/009410000017793 Plane : V with Accessory (adapter+usb cable) Data Rate : 6M</p>



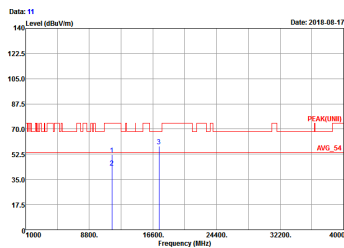
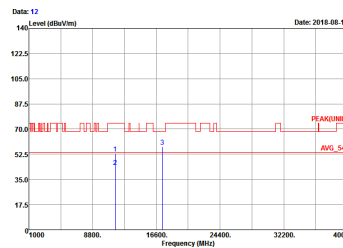
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH165 5825MHz	
1+2	Horizontal	Vertical
Peak Avg.	<div style="display: flex; justify-content: space-around;"> <div style="width: 45%;"> <p data-bbox="451 488 794 510">Date: 9 Date: 2018.08.17</p>  <p data-bbox="432 734 678 795">Site : 030M01-02 Condition : PEAK (UNI1) 3m HF_ANT(3117)_119436 HORIZONTAL Product : S08204 Mode : Mode 3d IMEI : 009410000004698/009410000017793 Plane : V with Accessory (adapter+usb cable) Data Rate : 0M</p> </div> <div style="width: 45%;"> <p data-bbox="930 488 1273 510">Date: 10 Date: 2018.08.17</p>  <p data-bbox="911 734 1157 795">Site : 030M01-02 Condition : PEAK (UNI1) 3m HF_ANT(3117)_119436 VERTICAL Product : S08204 Mode : Mode 3d IMEI : 009410000004698/009410000017793 Plane : V with Accessory (adapter+usb cable) Data Rate : 0M</p> </div> </div>	



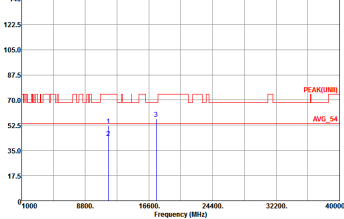
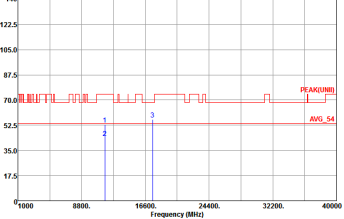
**Band 4 5725~5850MHz**  
**WIFI 802.11n HT20 (Harmonic @ 3m)**

<b>WIFI</b>	<b>Band 4 5725~5850MHz Harmonic @ 3m</b>	
<b>ANT</b>	<b>802.11n HT20 CH149 5745MHz</b>	
<b>1+2</b>	<b>Horizontal</b>	<b>Vertical</b>
<b>Peak</b> <b>Avg.</b>	<p>Site : 85CR01-52          Condition : PEAK(FREQ) 3m HF_ANT(2117)_119436 HORIZONTAL          Project : 880204          Mode : IS          INET : 069410010016498/069410010017793          Plane : Y with Accessory (adapter+usb cable)          Data Rate : MCS8</p>	<p>Site : 85CR01-52          Condition : PEAK(FREQ) 3m HF_ANT(2117)_119436 VERTICAL          Project : 880204          Mode : IS          INET : 069410010016498/069410010017793          Plane : Y with Accessory (adapter+usb cable)          Data Rate : MCS8</p>



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1+2	Horizontal	Vertical
Peak Avg.	 <p>           Date: 11            Level (dBuV/m)            Date: 2018.08.17            Frequency (MHz)            PEAK (UMI)            AVG_54         </p> <pre>           Site      : 030M1-52           Condition : PEAK (UMI) 3m HF_ANT(3117)_119436 HORIZONTAL           Product  : 888204           Mode     : Mode 36           SMC1    : 005110030016495/005110030017793           Plane   : V with Accessory (adapter+usb cable)           Data Rate : MCS5         </pre>	 <p>           Date: 12            Level (dBuV/m)            Date: 2018.08.17            Frequency (MHz)            PEAK (UMI)            AVG_54         </p> <pre>           Site      : 030M1-52           Condition : PEAK (UMI) 3m HF_ANT(3117)_119436 VERTICAL           Product  : 888204           Mode     : Mode 36           SMC1    : 005110030016495/005110030017793           Plane   : V with Accessory (adapter+usb cable)           Data Rate : MCS5         </pre>



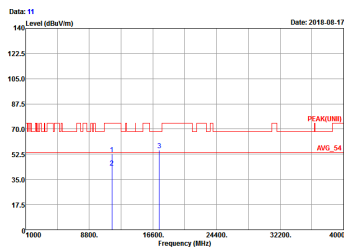
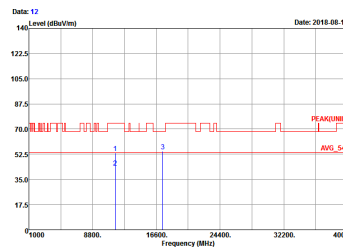
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1+2	Horizontal	Vertical
Peak Avg.	<div style="display: flex; justify-content: space-around;"> <div style="width: 45%;"> <p data-bbox="450 488 794 510">Date: 9 Date: 2018.08.17</p>  <p data-bbox="430 734 678 795">Site : 030M1-52 Condition : PEAK (UNI1) 3m HF_ANT(3117)_119436 HORIZONTAL Product : S8804 Mode : Mode 37 SMEI : 00541000016498/00541000017793 Plane : V with Accessory (adapter+usb cable) Data Rate : MCS6</p> </div> <div style="width: 45%;"> <p data-bbox="928 488 1273 510">Date: 10 Date: 2018.08.17</p>  <p data-bbox="909 734 1141 795">Site : 030M1-52 Condition : PEAK (UNI1) 3m HF_ANT(3117)_119436 VERTICAL Product : S8804 Mode : Mode 37 SMEI : 00541000016498/00541000017793 Plane : V with Accessory (adapter+usb cable) Data Rate : MCS6</p> </div> </div>	



**Band 4 5725~5850MHz**  
**WIFI 802.11n HT40 (Harmonic @ 3m)**

<b>WIFI</b>	<b>Band 4 5725~5850MHz Harmonic @ 3m</b>	
<b>ANT</b>	<b>802.11n HT40 CH151 5755MHz</b>	
<b>1+2</b>	<b>Horizontal</b>	<b>Vertical</b>
<b>Peak</b> <b>Avg.</b>	<p>Site : 85C801-52          Condition : PEAK(ONE1) 3m HF_ANT(2117)_119436 HORIZONTAL          Project : 880204          Mode : IS          INET : 069410010016498/069410010017793          Plane : Y with Accessory (adapter+usb cable)          Data Rate : MCS8</p>	<p>Site : 85C801-52          Condition : PEAK(ONE1) 3m HF_ANT(2117)_119436 VERTICAL          Project : 880204          Mode : IS          INET : 069410010016498/069410010017793          Plane : Y with Accessory (adapter+usb cable)          Data Rate : MCS8</p>



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1+2	Horizontal	Vertical
Peak Avg.	 <p>Site : 030M01-02 Condition : PEAK(UNI) 3m HF_ANT(3117)_119436 HORIZONTAL Product : 888204 Mode : Mode 38 SPEI : 0054108030816498/0054108030817793 Plane : V with Accessory (adapter+usb cable) Data Rate : MCS6</p>	 <p>Site : 030M01-02 Condition : PEAK(UNI) 3m HF_ANT(3117)_119436 VERTICAL Product : 888204 Mode : Mode 38 SPEI : 0054108030816498/0054108030817793 Plane : V with Accessory (adapter+usb cable) Data Rate : MCS6</p>



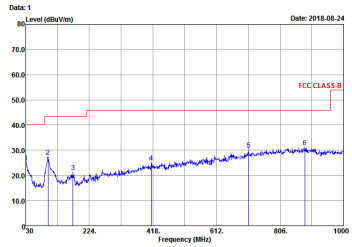
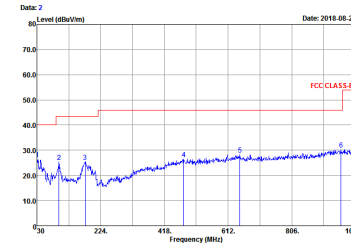
**Band 4 5725~5850MHz**  
**WIFI 802.11ac VHT80 (Harmonic @ 3m)**

<b>WIFI</b>	<b>Band 4 5725~5850MHz Harmonic @ 3m</b>	
<b>ANT</b>	<b>802.11ac VHT80 CH155 5775MHz</b>	
<b>1+2</b>	<b>Horizontal</b>	<b>Vertical</b>
<b>Peak</b> <b>Avg.</b>	<p>Site : 85CR01-52          Condition : PEAK(FREQ) 3m HF_ANT(2117)_119436 HORIZONTAL          Project : 888204          Mode : 40          FREQ : 802.11ac VHT80 CH155 5775          Plane : Y with Accessory (adapter+usb cable)          Data Rate : MCS8</p>	<p>Site : 85CR01-52          Condition : PEAK(FREQ) 3m HF_ANT(2117)_119436 VERTICAL          Project : 888204          Mode : 40          FREQ : 802.11ac VHT80 CH155 5775          Plane : Y with Accessory (adapter+usb cable)          Data Rate : MCS8</p>





Emission below 1GHz  
5GHz WIFI 802.11n HT20 (LF)

WIFI	5GHz 5725~5850MHz	
ANT	802.11n HT20 LF	
1+2	Horizontal	Vertical
QP / Peak	 <p> <small>           Date: 1            Date: 2018-08-24            Site : 030901-02            Condition : FCC CLASS-B 3m LF_ANT(35487)_6 HORIZONTAL            Project : 888046            Mode : Mode 36            SMI : 0004100100010400/0004100100017703            Plane : Y with Accessory (adapter+usb cable)            Data Rate : MCS8         </small> </p>	 <p> <small>           Date: 2            Date: 2018-08-24            Site : 030901-02            Condition : FCC CLASS-B 3m LF_ANT(35487)_6 VERTICAL            Project : 888046            Mode : Mode 36            SMI : 0004100100010400/0004100100017703            Plane : Y with Accessory (adapter+usb cable)            Data Rate : MCS8         </small> </p>



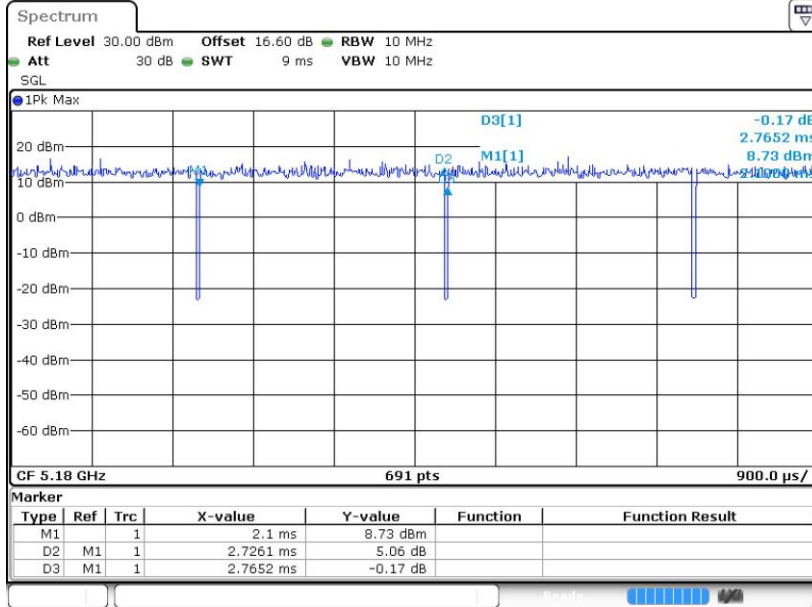
### Appendix E. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting	Duty Factor(dB)
1+2	802.11a for antenna 1	98.59	2.73	0.37	10Hz	0.06
1+2	802.11a for antenna 2	98.80	2.73	0.37	10Hz	0.05
1+2	5GHz 802.11n HT20 for antenna 1	96.95	1.29	0.77	1KHz	0.13
1+2	5GHz 802.11n HT20 for antenna 2	96.74	1.29	0.77	1KHz	0.14
1+2	5GHz 802.11n HT40 for antenna 1	97.44	0.66	1.51	3KHz	0.11
1+2	5GHz 802.11n HT40 for antenna 2	94.47	0.64	1.55	3KHz	0.25
1+2	5GHz 802.11ac VHT20 for antenna 1	98.65	2.55	0.39	10Hz	0.06
1+2	5GHz 802.11ac VHT20 for antenna 2	98.33	2.56	0.39	10Hz	0.07
1+2	5GHz 802.11ac VHT40 for antenna 1	97.29	1.25	0.80	1KHz	0.12
1+2	5GHz 802.11ac VHT40 for antenna 2	97.29	1.25	0.80	1KHz	0.12
1+2	5GHz 802.11ac VHT80 for antenna 1	94.10	0.60	1.66	3KHz	0.26
1+2	5GHz 802.11ac VHT80 for antenna 2	94.53	0.60	1.66	3KHz	0.24



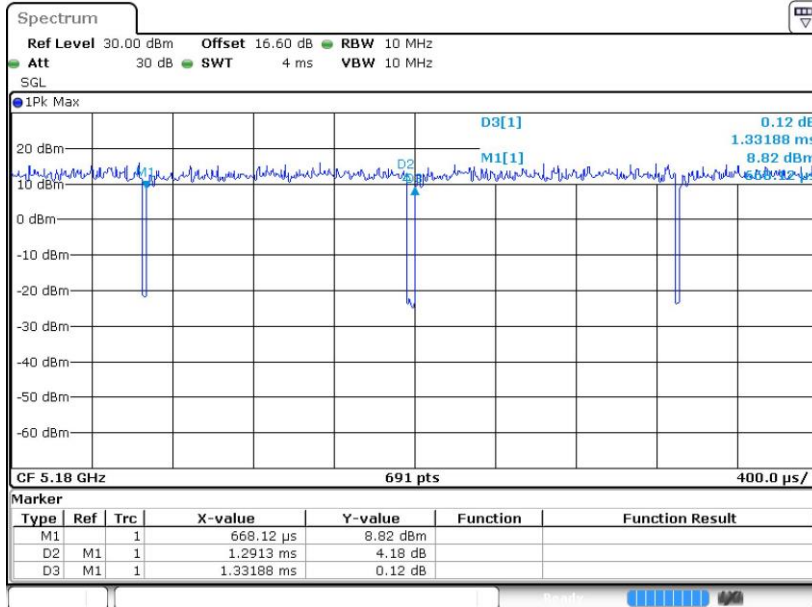
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802.11a



Date: 8.AUG.2018 19:30:34

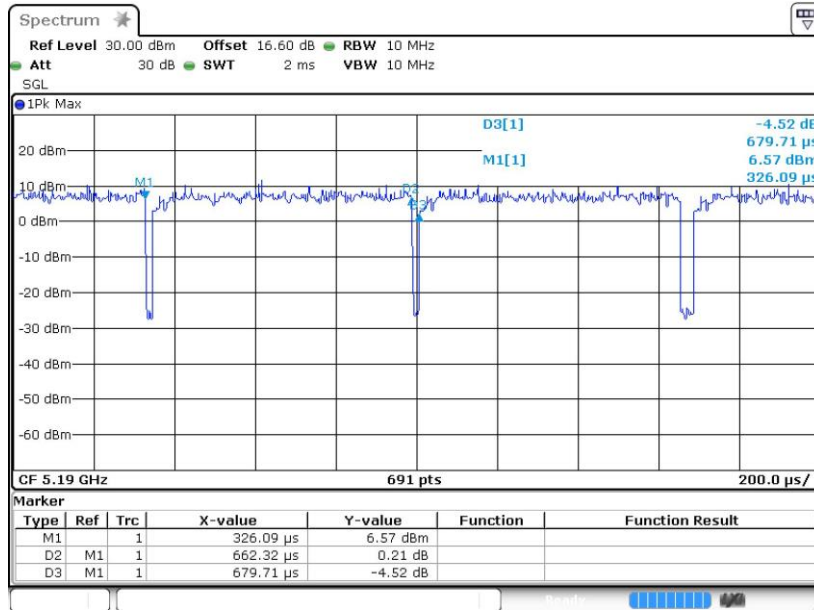
802.11n HT20



Date: 8.AUG.2018 20:02:13

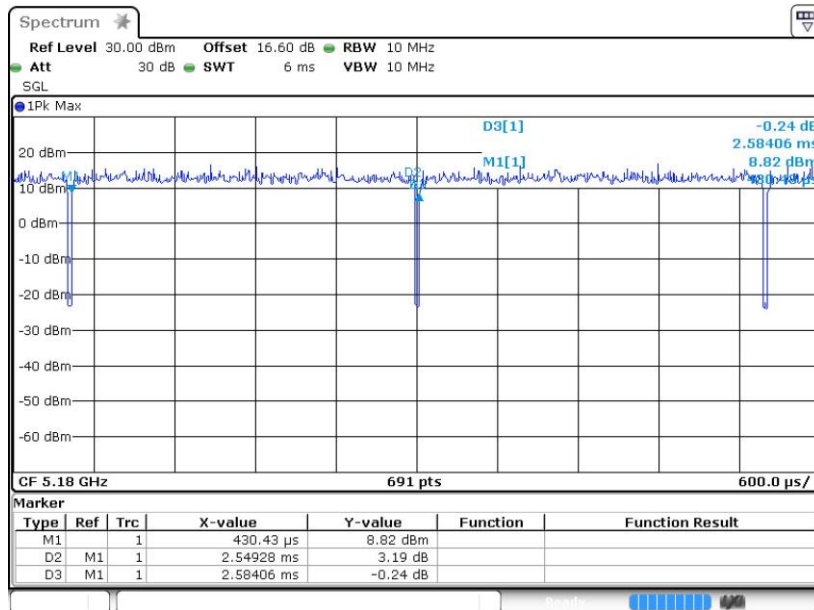


802.11n HT40



Date: 8.AUG.2018 20:09:17

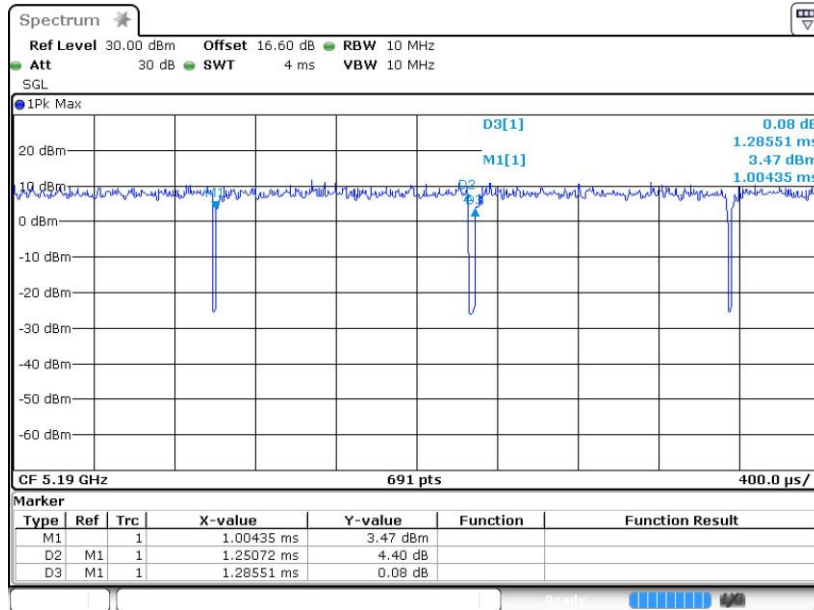
802.11ac VHT20



Date: 8.AUG.2018 20:16:43

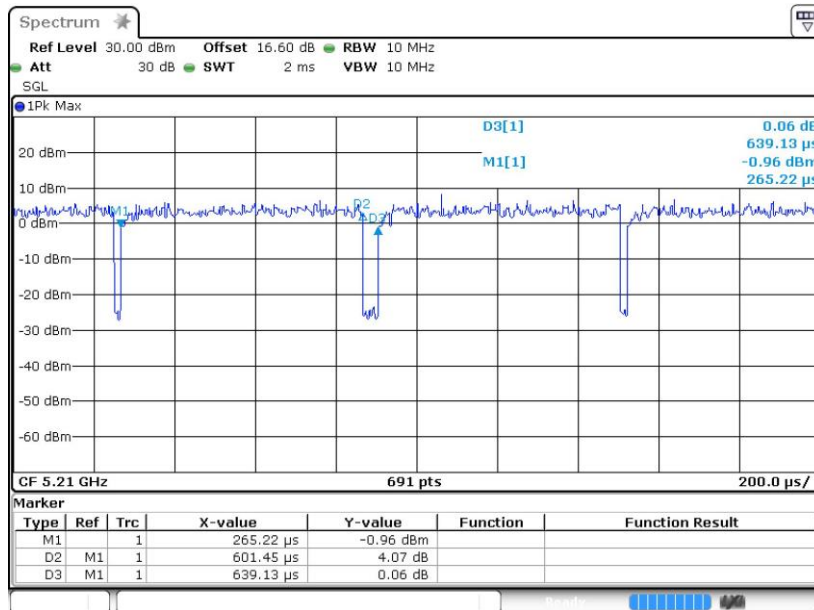


802.11ac VHT40



Date: 8.AUG.2018 20:23:55

802.11ac VHT80

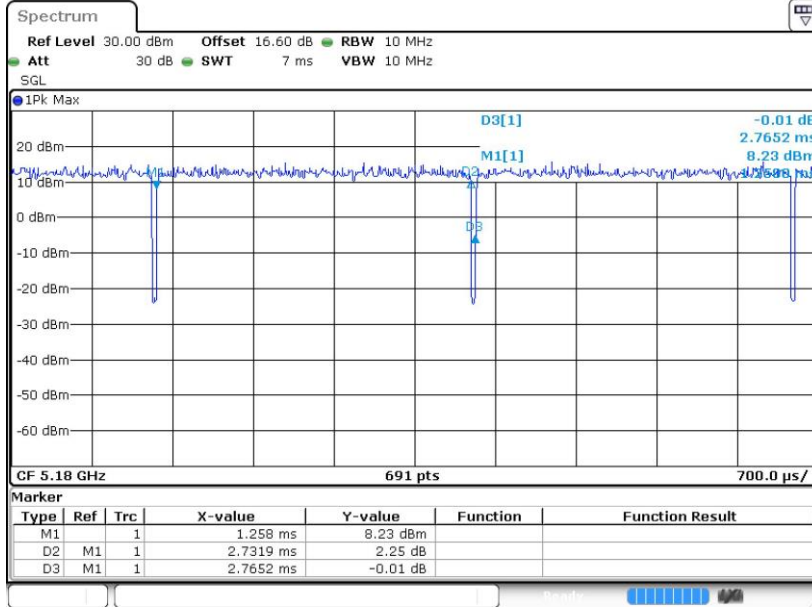


Date: 8.AUG.2018 20:30:00



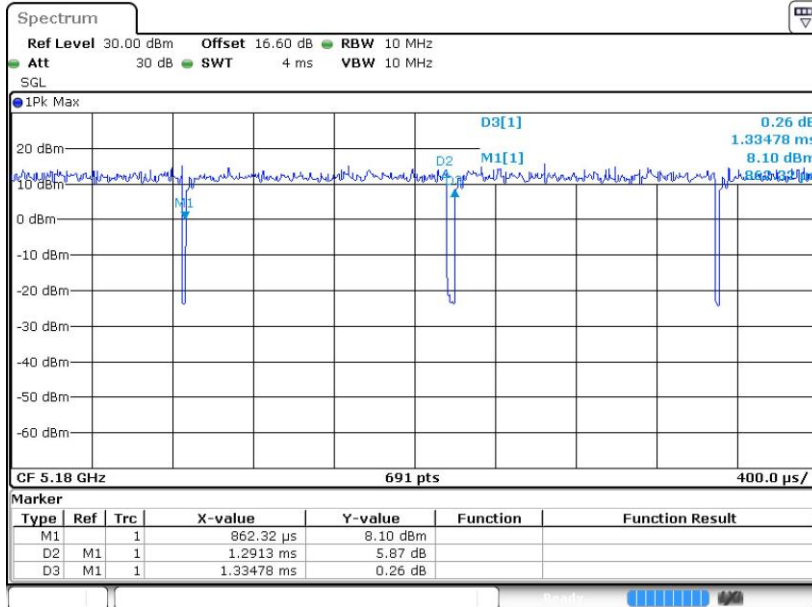
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802.11a



Date: 8.AUG.2018 21:11:18

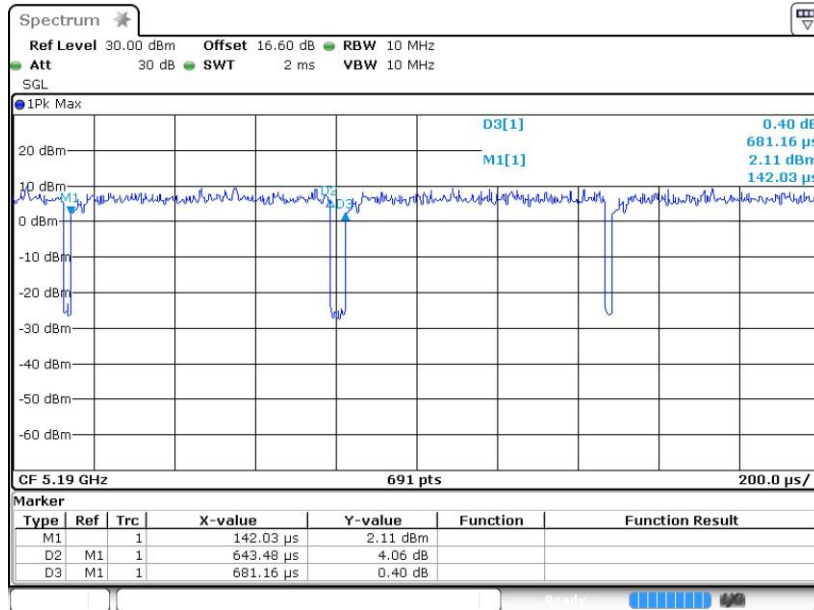
802.11n HT20



Date: 8.AUG.2018 21:06:54

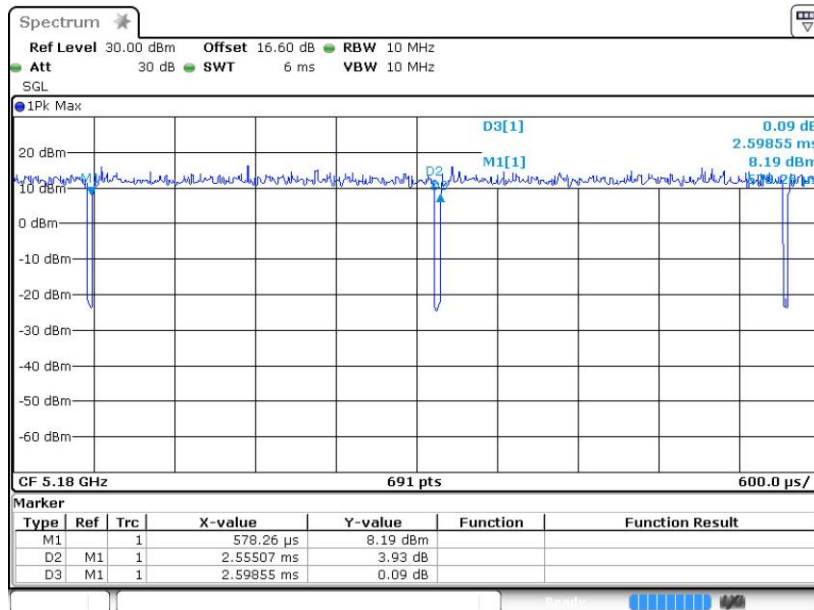


802.11n HT40



Date: 8.AUG.2018 21:15:56

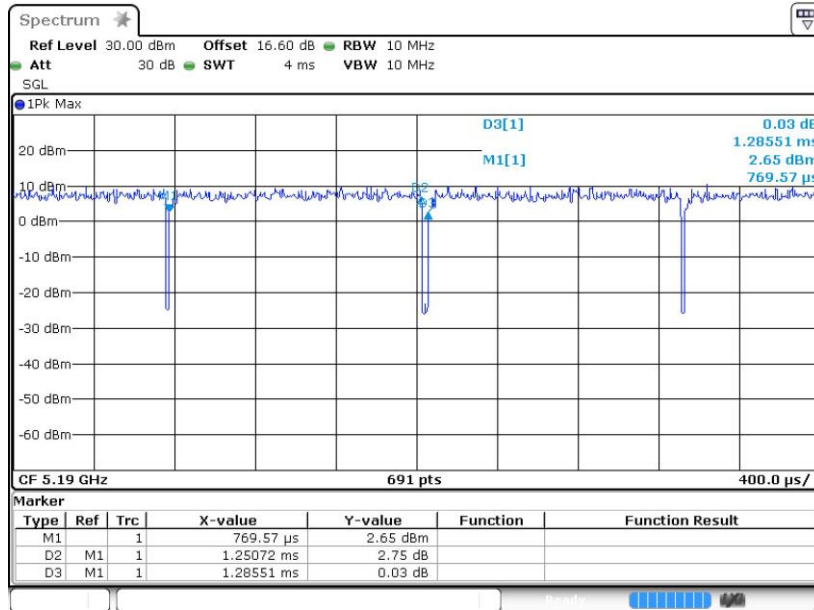
802.11ac VHT20



Date: 8.AUG.2018 20:44:17

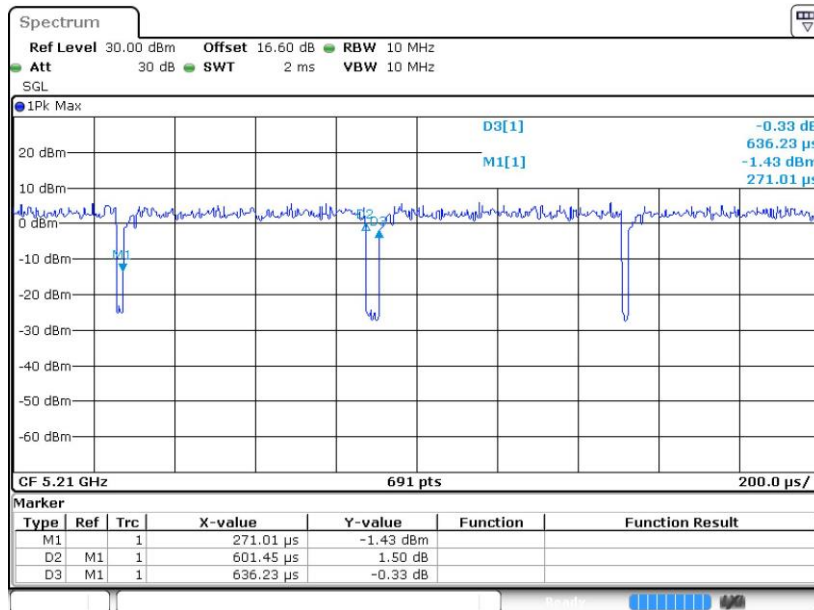


802.11ac VHT40



Date: 8.AUG.2018 20:38:49

802.11ac VHT80



Date: 8.AUG.2018 20:34:02