FCC RF Test Report

APPLICANT	:	TP-LINK TECHNOLOGIES CO., LTD.
EQUIPMENT	:	AC1200 Wireless Dual Band DOCSIS 3.0 Cable Modem Router
BRAND NAME	:	TP-LINK
MODEL NAME	:	Archer CR500
MARKETING NAME	:	AC1200 Wireless Dual Band DOCSIS 3.0 Cable Modem Router
FCC ID	:	TE7CR500V1
STANDARD	:	FCC Part 15 Subpart E §15.407
CLASSIFICATION	:	(NII) Unlicensed National Information Infrastructure

The product testing was completed on Jun. 08, 2016. 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.

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Approved by: Jones Tsai / Manager

Testing Laboratory 2353

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR631009-01C	Rev. 01	This project is FCC change ID application; The difference between previous and current is changing the FCC ID: TE7CR700V2 to TE7CR500V1, equipment name and model name. Based on the similarity between two products, the test result is not affected; all test cases were leveraged from original report (Sporton Report Number FR631009C).	Sep. 27, 2016

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.403(i)	6dB 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 0.03 dB at 11570.000 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 0.68 dB at 0.640 MHz
3.6	15.407(g)	Frequency Stability	Within Operation Band	Pass	-
3.7	15.407(c)	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
3.8	15.203 & 15.407(a)	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

TP-LINK TECHNOLOGIES CO., LTD.
Building 24 (floors 1,3,4,5) and 28 (floors1-4) Central Science and Technology Park, Shennan Rd., Nanshan, Shenzhen, China

1.2 Manufacturer

TP-LINK TECHNOLOGIES CO., LTD.
Building 24 (floors 1,3,4,5) and 28 (floors1-4) Central Science and Technology Park, Shennan Rd., Nanshan, Shenzhen, China

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	AC1200 Wireless Dual Band DOCSIS 3.0 Cable Modem Router
Brand Name	TP-LINK
Model Name	Archer CR500
Marketing Name	AC1200 Wireless Dual Band DOCSIS 3.0 Cable Modem Router
FCC ID	TE7CR500V1
EUT supports Radios application	WLAN2.4GHz 802.11b/g/n HT20/HT40/ WLAN5GHz 802.11a/n HT20/HT40/ WLAN5GHz 802.11ac VHT20/VHT40/VHT80
EUT Stage	Identical Prototype

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Channel Frequency Range	5745 MHz ~ 5825 MHz
Maximum Output Power For CDD Mode	**<5745 MHz ~ 5825 MHz>** 802.11a : 28.22 dBm / 0.6637 W 802.11n HT20 : 28.14 dBm / 0.6516 W 802.11n HT40 : 28.01 dBm / 0.6324 W 802.11ac VHT20: 28.06 dBm / 0.6397 W 802.11ac VHT40: 28.04 dBm / 0.6368 W 802.11ac VHT80: 27.90 dBm / 0.6166 W
Maximum Output Power For Beamforming Mode	**<5745 MHz ~ 5825 MHz>** 802.11a : 26.35 dBm / 0.4315 W 802.11n HT20 : 26.65 dBm / 0.4624 W 802.11n HT40 : 26.86 dBm / 0.4853 W 802.11ac VHT20: 26.64 dBm / 0.4613 W 802.11ac VHT40: 26.84 dBm / 0.4831 W 802.11ac VHT80: 26.75 dBm / 0.4732 W
99% Occupied Bandwidth	802.11a : 25.80 MHz 802.11n HT20 : 24.40 MHz 802.11n HT40 : 41.80 MHz 802.11ac VHT20 : 24.40 MHz 802.11ac VHT40 : 44.30 MHz 802.11ac VHT80 : 76.92 MHz
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)
Antenna Type	Chain Port 1 : Omni directional Antenna Chain Port 2 : Omni directional Antenna Chain Port 3 : Omni directional Antenna
Antenna Gain	Chain Port 1 : 4.4 dBi Chain Port 2 : 2.8 dBi Chain Port 3 : 5.0 dBi
Antenna Function Description	<table><tr><td></td><td>Chain Port 1</td><td>Chain Port 2</td><td>Chain Port 3</td></tr><tr><td>802.11a/n/ac MIMO</td><td>V</td><td>V</td><td>V</td></tr></table>

1.5 Modification of EUT

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

1.6 Testing Location

Test Site	SPORTON INTERNATIONAL (SHENZHEN) INC.	
Test Site Location	1F & 2F, Building A, Morning Business Center, No. 4003 ShiGu Rd., Xili Town, Nanshan District, Shenzhen, Guangdong, P. R. China TEL: +86-755-8637-9589 FAX: +86-755-8637-9595	
Test Site No.	**Sporton Site No.**	
	TH01-SZ	CO01-SZ

Test Site	SPORTON INTERNATIONAL (SHENZHEN) INC.	
Test Site Location	No. 3 Building, the third floor of south, Shahe River west, Fengzeyuan warehouse, Nanshan District, Shenzhen, Guangdong, P. R. China TEL: +86-755- 3320-2398	
Test Site No.	**Sporton Site No.**	**FCC Registration No.**
	03CH03-SZ	565805

Note: The test site complies with ANSI C63.4 2014 requirement.

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 v01r02
- FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ANSI C63.10-2013

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

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: conducted emission (150 kHz to 30 MHz) and radiated emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

The final configuration from all the combinations and the worst-case data rates were investigated by measuring the maximum power across all the data rates and modulation modes under section 2.2.

Based on the worst configuration found above, the RF power setting is set individually to meet FCC compliance limit for the final conducted and radiated tests shown in section 2.3.

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: The above Frequency and Channel in boldface were 802.11n HT40.

2.2 Test Mode

Below worst test mode of conducted test items and radiated spurious emissions are considering all the possible combinations, modulation, data rates

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

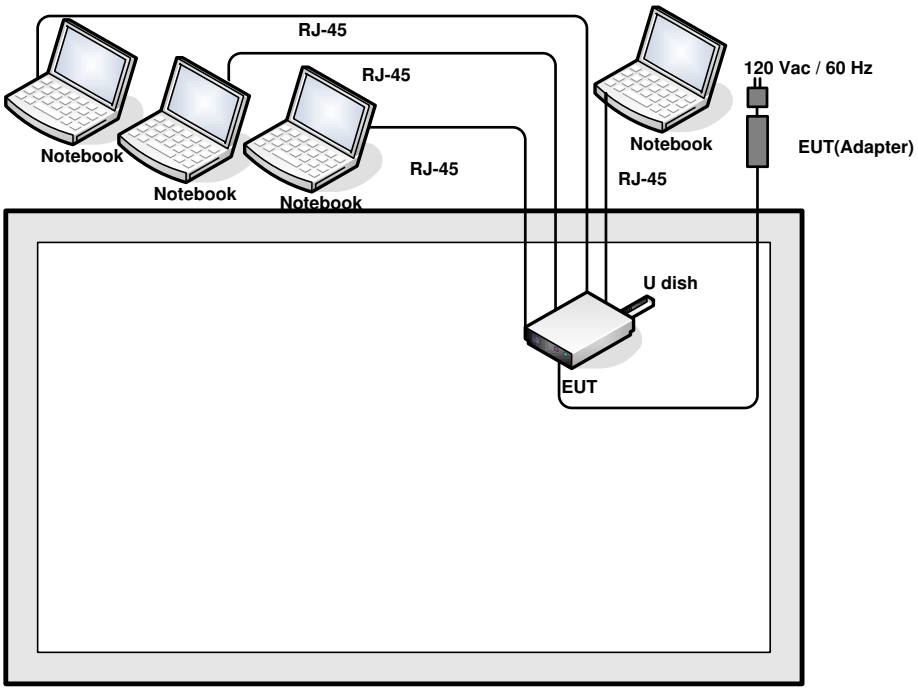
AC Conducted Emission	Mode 1 : WLAN (5G) Link + Cable Link with Coaxial line port + LAN Link with Notebook + LAN Load + USB Link with U-dish + Adapter
Remark: For Radiated TCs, the tests were performed with adapter, U- dish and Notebook.	

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

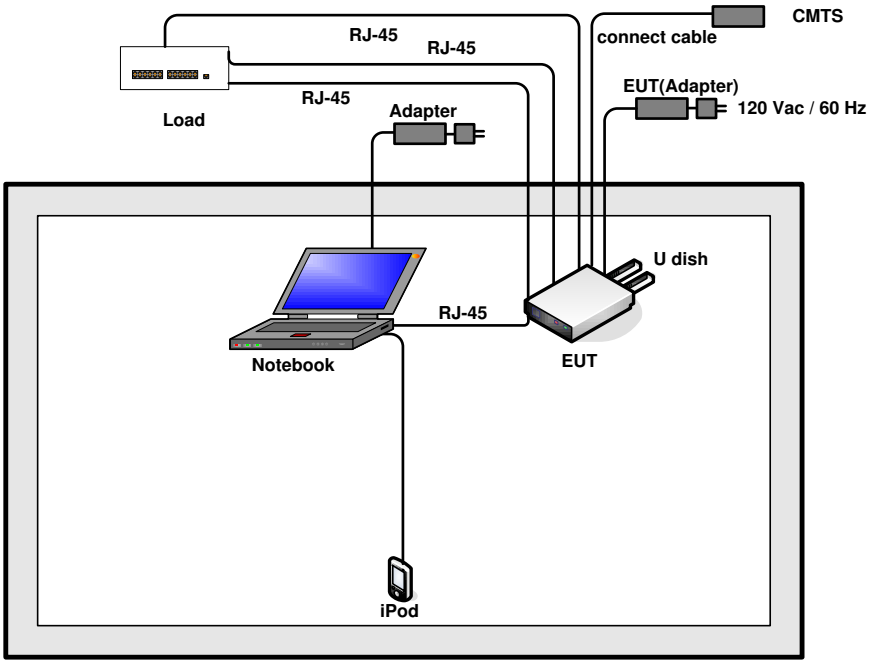
Ch. #		Band IV：5725-5850 MHz		
		802.11ac VHT20	802.11ac VHT40	802.11ac VHT80
L	Low	149	151	-
M	Middle	157	-	155
H	High	165	159	-

2.3 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	CMTS	TOPVISION	CC8800	N/A	N/A	N/A
2.	Notebook	Lenovo	E540	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
3.	Notebook	Lenovo	G480	N/A	N/A	AC I/P: Unshielded, 0.8 m DC O/P: Shielded, 1.8 m
4.	Notebook	DELL	P08S	QDS-BRCM1030	N/A	AC I/P: Unshielded, 0.9 m DC O/P: Shielded, 1.8 m
5.	Notebook	DELL	Vostro1440	FCC DoC	N/A	AC I/P: Unshielded, 1.2m DC O/P: Shielded, 1.8 m
6.	U dish	Kingston	DT101G2	FCC DoC	N/A	N/A
7.	U dish	Kingston	N/A	N/A	N/A	N/A
8.	Load	N/A	N/A	N/A	N/A	N/A
9.	SD Card	SanDisk	4G Class 4	FCC DoC	N/A	N/A
10.	iPod nano 8GB	Apple	MC690ZP/A	FCC DoC	Shielded, 1.2 m	N/A
11.	connect cable	N/A	N/A	N/A	N/A	N/A

2.5 EUT Operation Test Setup

For WLAN RF test items, an engineering test program was provided and enabled to make EUT continuously transmit/receive.

For AC power line conducted emissions, the EUT was set to connect with the Notebook under large package sizes transmission.

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 6.5 dB and 10dB attenuator.

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 6.5 + 10 = 16.5 (dB)

3 Test Result

3.1 6dB and 99% Occupied Bandwidth Measurement

3.1.1 Description of 6dB and 99% Occupied Bandwidth

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

99% Occupied bandwidth are reporting only.

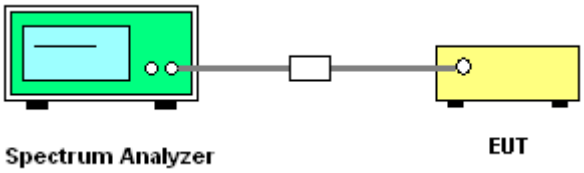
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

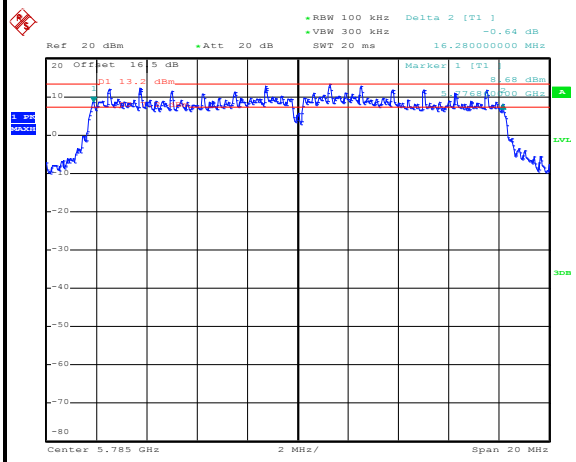
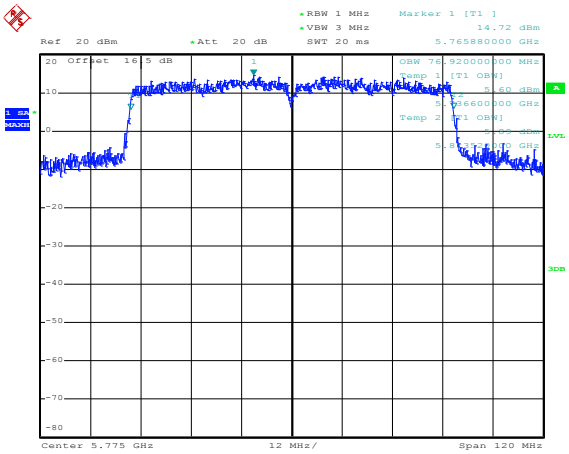
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02. Section C) Emission bandwidth for the band 5.725-5.85GHz
2. Set RBW = 100kHz.
3. Set the VBW ≥ 3 x RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 6 dB down 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.

Minimum 6dB Bandwidth	Maximum 99% Occupied Bandwidth
	

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 an indoor access point operating in the band 5.15–5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1W.

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.

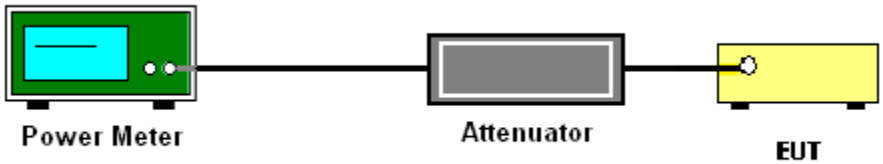
3.2.3 Test Procedures

The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02.

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 v01r02. 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).

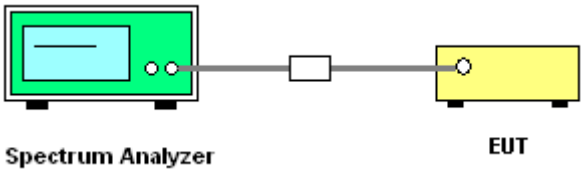
1. The testing follows Method SA-2 of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02.
   - Measure the duty cycle.
   - Set span to encompass the entire emission bandwidth (EBW) of the signal.
   - Set RBW = 300 kHz.
   - Set VBW ≥ 1 MHz.
   - Number of points in sweep ≥ 2 Span / RBW.
   - Sweep time = auto.
   - Detector = RMS
   - Trace average at least 100 traces in power averaging mode.
   - Add 10 log(500kHz/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.

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

   Method (a): Measure and sum the spectra across the outputs.

   The total final Power Spectral Density is from a device with 2 transmitter outputs. The spectrum measurements of the individual outputs are all performed with the same span and number of points, the spectrum value in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 to obtain the value for the first frequency bin of the summed spectrum.

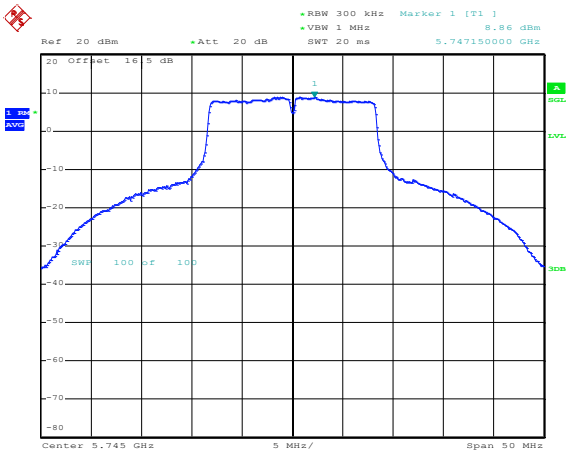
3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

Worst Case Power Density (dBm/300kHz)



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3.4 Unwanted Emissions Measurement

This section as specified in FCC Part 15.407(b) is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement. The unwanted emissions shall comply with 15.407(b)(1) to (6), and restricted bands per FCC Part15.205.

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) For transmitters operating in the 5725-5850 MHz band:
all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an EIRP of -17 dBm/MHz (78.3dBμV/m); for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an EIRP of -27 dBm/MHz (68.3dBμV/m).

(3) Unwanted spurious emissions fallen in restricted bands per FCC Part15.205 shall comply with the general field strength limits set forth in § 15.209 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

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

$$E=\frac{1000000\sqrt{30P}}{3}$$ μV/m, where P is the eirp (Watts)

EIRP (dBm)	Field Strength at 3m (dBμV/m)
-17	78.3
- 27	68.3

(4) KDB 789033 D02 General UNII Test Procedures New Rules v01r02 G)2)c) As specified in 15.407(b), emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz (or -17 dBm/MHz as specified in 15.407(b)(4)). However, an out-of-band emission that complies with both the average and peak limits of 15.209 is not required to satisfy the -27 dBm/MHz or -17 dBm/MHz peak emission limit.

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 v01r02. 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 ≥ 3 MHz
   - Detector = Peak
   - Sweep time = auto
   - Trace mode = max hold

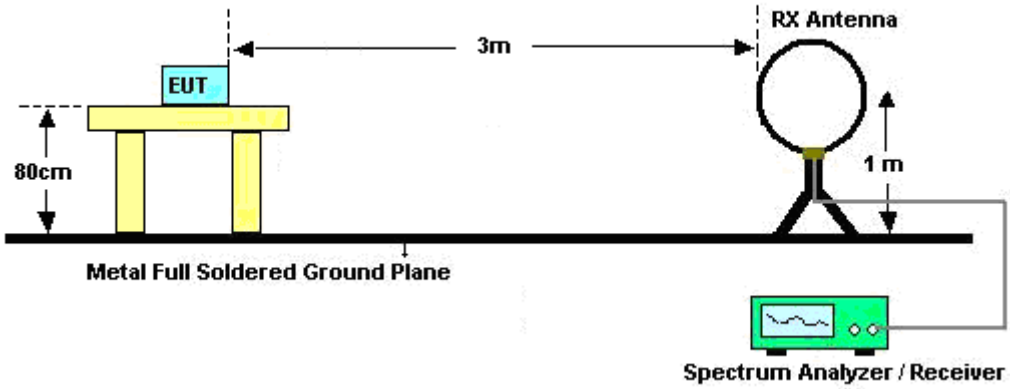
   (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz
   - RBW = 1 MHz
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting 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.

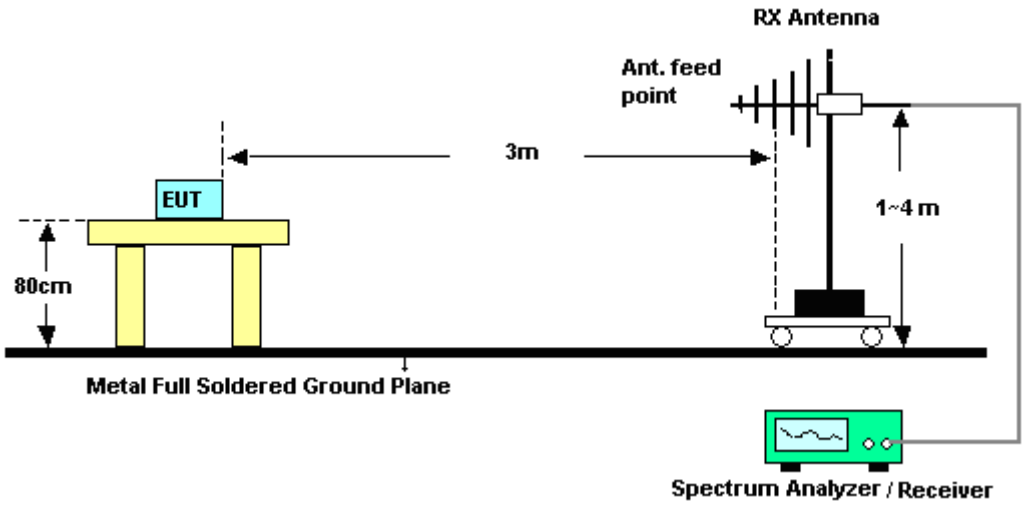
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

3.4.4 Test Setup

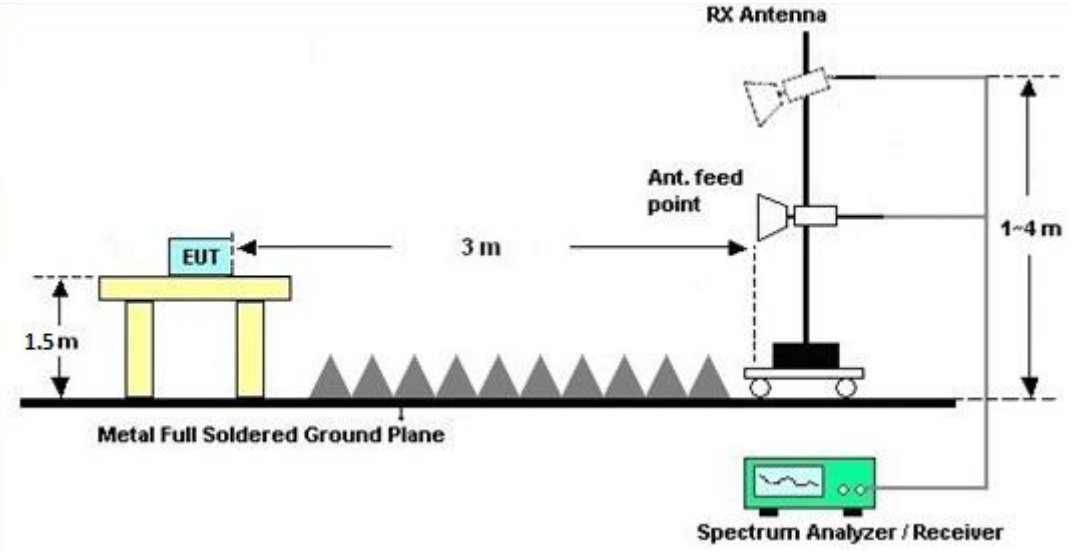
For radiated emissions below 30MHz



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 per 15.31(o) was not reported.

3.4.6 Test Result of Radiated Band Edges

Please refer to Appendix B.

3.4.7 Duty Cycle

Please refer to Appendix C.

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

Please refer to Appendix B.

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.

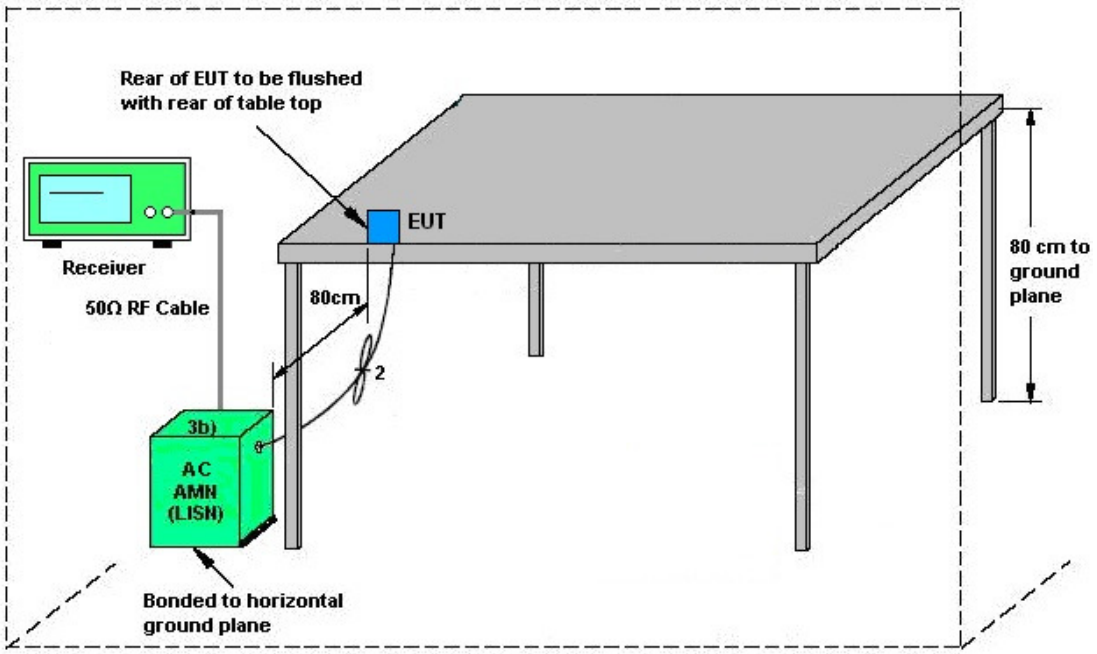
3.5.2 Measuring Instruments

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.

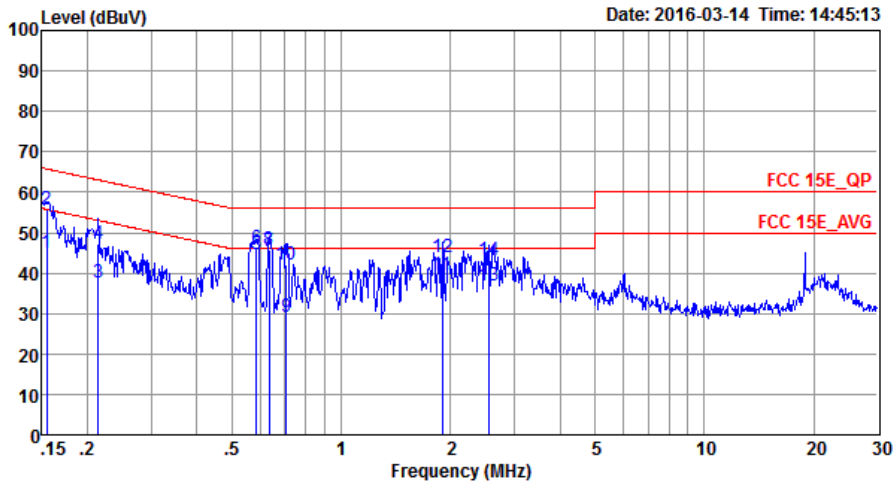
3.5.4 Test Setup



AMN = Artificial mains network (LISN)
AE = Associated equipment
EUT = Equipment under test
ISN = Impedance stabilization network

3.5.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	**Temperature :**	21~23℃
Test Engineer :	Jacky Yang	**Relative Humidity :**	41~43%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	WLAN (5G) Link + Cable Link with Coaxial line port + LAN Link with Notebook + LAN Load + USB Link with U-dish + Adapter		

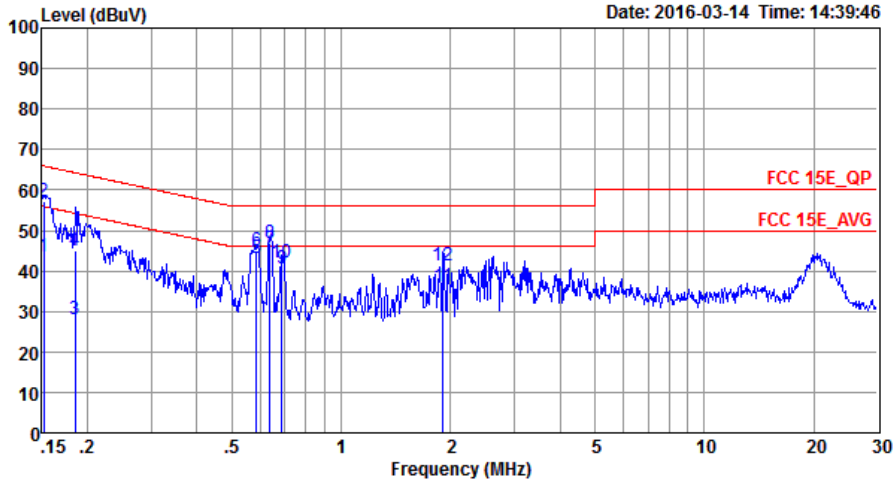


Site : CO01-SZ
Condition: FCC 15E_QP LISN_L_20160112 LINE

Mode : Mode 1
IMEI : N/A

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.15	45.09	-10.65	55.74	34.30	0.44	10.35	Average
2		0.15	55.79	-9.95	65.74	45.00	0.44	10.35	QP
3		0.21	37.61	-15.44	53.05	26.80	0.53	10.28	Average
4		0.21	47.11	-15.94	63.05	36.30	0.53	10.28	QP
5		0.59	44.76	-1.24	46.00	34.00	0.61	10.15	Average
6		0.59	46.06	-9.94	56.00	35.30	0.61	10.15	QP
7	*	0.63	45.23	-0.77	46.00	34.50	0.58	10.15	Average
8		0.63	45.83	-10.17	56.00	35.10	0.58	10.15	QP
9		0.70	29.29	-16.71	46.00	18.60	0.54	10.15	Average
10		0.70	42.19	-13.81	56.00	31.50	0.54	10.15	QP
11		1.90	39.45	-6.55	46.00	28.80	0.46	10.19	Average
12		1.90	43.95	-12.05	56.00	33.30	0.46	10.19	QP
13		2.54	36.91	-9.09	46.00	26.20	0.51	10.20	Average
14		2.54	43.21	-12.79	56.00	32.50	0.51	10.20	QP

Test Mode :	Mode 1	**Temperature :**	21~23℃
Test Engineer :	Jacky Yang	**Relative Humidity :**	41~43%
Test Voltage :	120Vac / 60Hz	**Phase :**	Neutral
Function Type :	WLAN (5G) Link + Cable Link with Coaxial line port + LAN Link with Notebook + LAN Load + USB Link with U-dish + Adapter		



Site : CO01-SZ
Condition: FCC 15E_QP LISN_N_20160112 NEUTRAL

Mode : Mode 1
IMEI : N/A

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.15	43.71	-12.20	55.91	32.90	0.45	10.36	Average
2		0.15	57.11	-8.80	65.91	46.30	0.45	10.36	QP
3		0.19	27.91	-26.33	54.24	17.11	0.49	10.31	Average
4		0.19	45.01	-19.23	64.24	34.21	0.49	10.31	QP
5		0.59	43.23	-2.77	46.00	32.50	0.58	10.15	Average
6		0.59	45.13	-10.87	56.00	34.40	0.58	10.15	QP
7	*	0.64	45.32	-0.68	46.00	34.60	0.57	10.15	Average
8		0.64	46.82	-9.18	56.00	36.10	0.57	10.15	QP
9		0.69	40.70	-5.30	46.00	30.00	0.55	10.15	Average
10		0.69	42.20	-13.80	56.00	31.50	0.55	10.15	QP
11		1.91	36.26	-9.74	46.00	25.50	0.57	10.19	Average
12		1.91	41.46	-14.54	56.00	30.70	0.57	10.19	QP

3.6 Frequency Stability Measurement

3.6.1 Limit of Frequency Stability

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

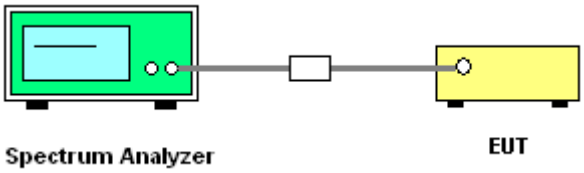
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

1. To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.
2. The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10dB lower than the measured peak value.
3. The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

3.6.4 Test Setup



3.6.5 Test Result of Frequency Stability

Please refer to Appendix A.

3.7 Automatically Discontinue Transmission

3.7.1 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.

3.7.2 Measuring Instruments

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

3.7.3 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.

3.8 Antenna Requirements

3.8.1 Standard Applicable

According to FCC 47 CFR Section 15.407(a)(1)(2) ,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.

3.8.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.8.3 Antenna Gain

For CDD Mode

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

Directional gain = G_{ANT} + Array Gain, where Array Gain is as follows.

For power spectral density (PSD) measurements on all devices,

Array Gain = 10 log(N_{ANT}/N_{SS}=1) dB.

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$.

The EUT supports CDD mode.

The power and PSD limit should be modified if the directional gain of EUT is over 6 dBi,

The directional gain "DG" is calculated as following table.

5.8G Band Antenna	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
1	4.40	4.40	0.00	0.00
2	2.80	2.80	0.00	0.00
3	5.00	5.00	0.00	0.00
1+2	4.40	6.65	0.00	0.65
1+3	5.00	7.72	0.00	1.72
2+3	5.00	6.98	0.00	0.98
1+2+3	5.00	8.89	0.00	2.89

Power limit reduction = Composite gain – 6dBi, (min = 0)

PSD limit reduction = Composite gain + PSD Array gain – 6dBi, (min = 0)

For Beamforming Mode

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$

where

Each antenna is driven by no more than one spatial stream;

N_{SS} = the number of independent spatial streams of data;

N_{ANT} = the total number of antennas

$g_{j,k} = 10^{G_k/20}$ if the kth antenna is being fed by spatial stream j, or zero if it is not;

G_k is the gain in dBi of the kth antenna.

The EUT supports beamforming.

The power and PSD limit should be modified if the directional gain of EUT is over 6 dBi,

The directional gain "DG" is calculated as following table.

5.8G Band Antenna	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
1	4.40	4.40	0.00	0.00
2	2.80	2.80	0.00	0.00
3	5.00	5.00	0.00	0.00
1+2	6.65	6.65	0.65	0.65
1+3	7.72	7.72	1.72	1.72
2+3	6.98	6.98	0.98	0.98
1+2+3	8.89	8.89	2.89	2.89

Power Limit Reduction = DG(Power) – 6dBi, (min = 0)

PSD Limit Reduction = DG(PSD) – 6dBi, (min = 0)

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSP30	101400	9kHz~40GHz	Jan. 12, 2016	Jun. 07, 2016	Jan. 11, 2017	Conducted (TH01-SZ)
Pulse Power Senor	Anritsu	MA2411B	1207253	30MHz~40GHz	Jan. 12, 2016	Jun. 07, 2016	Jan. 11, 2017	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	50MHz Bandwidth	Jan. 12, 2016	Jun. 07, 2016	Jan. 11, 2017	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Aug. 07, 2015	Jun. 07, 2016	Aug. 06, 2016	Conducted (TH01-SZ)
EMI Test Receiver&SA	KEYSIGHT	N9038A	MY54450083	20Hz~8.4GHz	May 07, 2016	Jun. 08, 2016	May 06, 2017	Radiation (03CH03-SZ)
EXA Spectrum Anaiyzer	KEYSIGHT	N9010A	MY55150246	10Hz~44GHz;	May 07, 2016	Jun. 08, 2016	May 06, 2017	Radiation (03CH03-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	May 07, 2016	Jun. 08, 2016	May 06, 2017	Radiation (03CH03-SZ)
Bilog Antenna	TeseQ	CBL6112D	35408	30MHz~2GHz	May 21, 2016	Jun. 08, 2016	May 20, 2017	Radiation (03CH03-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120 D	9120D-1355	1GHz~18GHz	May 07, 2016	Jun. 08, 2016	May 06, 2017	Radiation (03CH03-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18GHz~40GHz	Aug. 19, 2015	Jun. 08, 2016	Aug. 18, 2016	Radiation (03CH03-SZ)
Amplifier	PREAMP LIFIER	BPA-530	102210	0.01Hz ~3000MHz	Oct. 20, 2015	Jun. 08, 2016	Oct. 19, 2016	Radiation (03CH03-SZ)
Amplifier	Agilent Technologies	83017A	MY39501302	500MHz~26.5G Hz	Jan. 12, 2016	Jun. 08, 2016	Jan. 11, 2017	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	TTA1840-3 5-HG	1871923	18GHz~40GHz	Jul. 18, 2015	Jun. 08, 2016	Jul. 17, 2016	Radiation (03CH03-SZ)
AC Power Source	Chroma	61601	616010001985	N/A	NCR	Jun. 08, 2016	NCR	Radiation (03CH03-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Jun. 08, 2016	NCR	Radiation (03CH03-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Jun. 08, 2016	NCR	Radiation (03CH03-SZ)
EMI Test Receiver	R&S	ESR7	101404	9kHz~7GHz; Max 30dBm	Oct. 20, 2015	Mar. 14, 2016	Oct. 19, 2016	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103892	9kHz~30MHz	Jan.12, 2016	Mar. 14, 2016	Jan. 11, 2017	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	MessTec	3816/2SH	00103912	9kHz~30MHz	Jan. 12, 2016	Mar. 14, 2016	Jan. 11, 2017	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Vac	Aug. 07, 2015	Mar. 14, 2016	Aug. 06, 2016	Conduction (CO01-SZ)

NCR: No Calibration Required

5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.3 dB**

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.0 dB**

Appendix A. Conducted test results

Test Engineer:	Tiny You	Temperature:	24~26	°C
Test Date:	2016/6/7	Relative Humidity:	50~53	%

TEST RESULTS DATA
6dB and 99% OBW

Band IV															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)			6 dB Bandwidth (MHz)			6 dB Bandwidth Min. Limit (MHz)			Pass/Fail
					Ant 1	Ant 2	Ant 3	Ant 1	Ant 2	Ant 3	Ant 1	Ant 2	Ant 3	
11a	6Mbps	3	149	5745	25.80	19.50	22.55	16.36	16.36	16.36	0.5			Pass
11a	6Mbps	3	157	5785	25.00	20.50	22.3	16.36	16.28	16.36	0.5			Pass
11a	6Mbps	3	165	5825	18.90	18.90	17.85	16.36	16.36	16.4	0.5			Pass
HT20	MCS0	3	149	5745	23.05	19.60	22.15	17.56	17.60	17.62	0.5			Pass
HT20	MCS0	3	157	5785	23.30	20.30	24.4	17.56	17.60	17.62	0.5			Pass
HT20	MCS0	3	165	5825	18.80	18.70	18.9	17.56	17.60	17.6	0.5			Pass
HT40	MCS0	3	151	5755	41.80	37.40	38.6	36.32	36.32	36.38	0.5			Pass
HT40	MCS0	3	159	5795	41.00	37.70	40.4	36.32	36.28	36.38	0.5			Pass
VHT20	MCS0	3	149	5745	24.40	19.45	22.8	17.32	17.56	17.58	0.5			Pass
VHT20	MCS0	3	157	5785	24.20	20.00	23.95	17.32	17.60	17.64	0.5			Pass
VHT20	MCS0	3	165	5825	18.65	18.65	18.8	17.56	17.60	17.62	0.5			Pass
VHT40	MCS0	3	151	5755	44.10	37.50	42.1	36.40	36.40	36.36	0.5			Pass
VHT40	MCS0	3	159	5795	44.30	38.00	42.4	36.40	36.34	36.38	0.5			Pass
VHT80	MCS0	3	155	5775	76.92	76.08	76.56	75.36	75.68	75.2	0.5			Pass

TEST RESULTS DATA
Average Power Table
For CDD Mode

Band IV																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power with duty factor (dBm)				FCC Conducted Power Limit (dBm)			DG (dBi)			Pass/Fail
					Ant 1	Ant 2	Ant 3	SUM	Ant 1	Ant 2	Ant 3	Ant 1	Ant 2	Ant 3	
11a	6Mbps	3	149	5745	23.47	22.35	24.31	28.22	30.00			5.00			Pass
11a	6Mbps	3	157	5785	23.20	22.32	24.27	28.11	30.00			5.00			Pass
11a	6Mbps	3	165	5825	20.14	20.68	21.16	25.45	30.00			5.00			Pass
HT20	MCS0	3	149	5745	23.42	22.39	24.12	28.14	30.00			5.00			Pass
HT20	MCS0	3	157	5785	23.13	22.33	23.93	27.95	30.00			5.00			Pass
HT20	MCS0	3	165	5825	19.87	20.62	21.09	25.33	30.00			5.00			Pass
HT40	MCS0	3	151	5755	23.34	22.17	22.13	27.36	30.00			5.00			Pass
HT40	MCS0	3	159	5795	23.31	22.12	24.06	28.01	30.00			5.00			Pass
VHT20	MCS0	3	149	5745	23.48	22.27	23.94	28.06	30.00			5.00			Pass
VHT20	MCS0	3	157	5785	22.87	22.08	23.8	27.75	30.00			5.00			Pass
VHT20	MCS0	3	165	5825	19.42	19.67	21.12	24.91	30.00			5.00			Pass
VHT40	MCS0	3	151	5755	23.36	22.22	24.03	28.04	30.00			5.00			Pass
VHT40	MCS0	3	159	5795	23.27	22.12	23.96	27.95	30.00			5.00			Pass
VHT80	MCS0	3	155	5775	23.25	22.11	23.85	27.90	30.00			5.00			Pass

TEST RESULTS DATA
Average Power Table
For Beamforming
Mode

Band IV															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power with duty factor (dBm)				FCC Conducted Power Limit (dBm)			DG (dBi)			Pass/Fail
					Ant 1	Ant 2	Ant 3	SUM	Ant 1	Ant 2	Ant 3	Ant 1	Ant 2	Ant 3	
11a	6Mbps	3	149	5745	21.20	21.38	22.11	26.35	27.11			8.89			Pass
11a	6Mbps	3	157	5785	21.09	21.23	21.96	26.22	27.11			8.89			Pass
11a	6Mbps	3	165	5825	20.64	20.78	21.48	25.75	27.11			8.89			Pass
HT20	MCS0	3	149	5745	21.48	21.74	22.36	26.65	27.11			8.89			Pass
HT20	MCS0	3	157	5785	21.07	21.28	21.87	26.19	27.11			8.89			Pass
HT20	MCS0	3	165	5825	19.63	20.38	20.84	25.08	27.11			8.89			Pass
HT40	MCS0	3	151	5755	21.82	21.81	22.58	26.86	27.11			8.89			Pass
HT40	MCS0	3	159	5795	21.79	21.80	22.39	26.78	27.11			8.89			Pass
VHT20	MCS0	3	149	5745	21.46	21.74	22.36	26.64	27.11			8.89			Pass
VHT20	MCS0	3	157	5785	20.95	21.10	21.86	26.10	27.11			8.89			Pass
VHT20	MCS0	3	165	5825	19.34	19.53	21.12	24.85	27.11			8.89			Pass
VHT40	MCS0	3	151	5755	21.94	21.95	22.31	26.84	27.11			8.89			Pass
VHT40	MCS0	3	159	5795	21.73	21.79	22.38	26.75	27.11			8.89			Pass
VHT80	MCS0	3	155	5775	21.62	21.48	22.72	26.75	27.11			8.89			Pass

TEST RESULTS DATA
Power Spectral Density

FCC Band IV																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Power Density with RBW and duty factor (dBm/500kHz)				Average PSD Limit (dBm/500kHz)			DG (dBi)			Pass /Fail
					Ant 1	Ant 2	Ant 3	SUM	Ant 1	Ant 2	Ant 3	Ant 1	Ant 2	Ant 3	
11a	6Mbps	3	149	5745	9.95	9.65	11.32	16.09	27.11			8.89			Pass
11a	6Mbps	3	157	5785	9.80	9.43	11.28	16.05	27.11			8.89			Pass
11a	6Mbps	3	165	5825	6.80	7.58	7.97	12.74	27.11			8.89			Pass
HT20	MCS0	3	149	5745	10.00	9.47	10.69	15.46	27.11			8.89			Pass
HT20	MCS0	3	157	5785	10.01	9.60	11.10	15.87	27.11			8.89			Pass
HT20	MCS0	3	165	5825	6.47	7.45	7.67	12.44	27.11			8.89			Pass
HT40	MCS0	3	151	5755	7.56	6.50	7.43	12.33	27.11			8.89			Pass
HT40	MCS0	3	159	5795	7.12	7.10	7.40	12.17	27.11			8.89			Pass
VHT20	MCS0	3	149	5745	9.76	9.45	10.44	15.21	27.11			8.89			Pass
VHT20	MCS0	3	157	5785	9.86	9.27	10.48	15.25	27.11			8.89			Pass
VHT20	MCS0	3	165	5825	6.62	7.36	7.54	12.31	27.11			8.89			Pass
VHT40	MCS0	3	151	5755	7.01	6.32	7.60	12.37	27.11			8.89			Pass
VHT40	MCS0	3	159	5795	6.59	6.65	7.45	12.22	27.11			8.89			Pass
VHT80	MCS0	3	155	5775	3.73	4.47	4.40	9.24	27.11			8.89			Pass

TEST RESULTS DATA
Frequency Stability

Band IV										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stablility (ppm)	Temperature (˚C)	Voltage (V)	Note
11a	6Mbps	3	149	5745	5745.050	0.050	8.70	20	90	
11a	6Mbps	3	149	5745	5745.050	0.050	8.70	20	264	
11a	6Mbps	3	149	5745	5745.000	0.000	0.00	20	120	
11a	6Mbps	3	149	5745	5745.000	0.000	0.00	-30	120	
11a	6Mbps	3	149	5745	5745.050	0.050	8.70	50	120	

Appendix B. Radiated Spurious Emission

For CDD Mode

Band 4 - 5725~5850MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2+3		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 149 5745MHz		5643.4	50.02	-18.28	68.3	44.02	32.22	7.27	33.49	150	201	P	H
		5699	58.82	-45.74	104.56	52.67	32.3	7.36	33.51	150	201	P	H
		5718.8	69.85	-40.71	110.56	63.65	32.36	7.36	33.52	150	201	P	H
		5724	81.81	-38.21	120.02	75.61	32.36	7.36	33.52	150	201	P	H
		5745	112.47	-	-	106.2	32.39	7.41	33.53	150	201	P	H
		5745	104.91	-	-	98.64	32.39	7.41	33.53	150	201	A	H
		5648.6	52.51	-15.79	68.3	46.46	32.22	7.32	33.49	150	360	P	V
		5699.6	64.54	-40.47	105.01	58.39	32.3	7.36	33.51	150	360	P	V
		5719.8	74.52	-36.32	110.84	68.32	32.36	7.36	33.52	150	360	P	V
		5724	86.51	-33.51	120.02	80.31	32.36	7.36	33.52	150	360	P	V
		5745	117.16	-	-	110.89	32.39	7.41	33.53	150	360	P	V
		5745	109.5	-	-	103.23	32.39	7.41	33.53	150	360	A	V

WIFI Ant. 1+2+3	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		5624.6	53.61	-14.69	68.3	47.64	32.19	7.27	33.49	157	282	P	H
		5661	53.02	-23.45	76.47	46.95	32.25	7.32	33.5	157	282	P	H
		5710	52.25	-55.85	108.1	46.08	32.33	7.36	33.52	157	282	P	H
		5723	57.13	-60.61	117.74	50.93	32.36	7.36	33.52	157	282	P	H
		5785	114.87	-	-	108.52	32.44	7.45	33.54	157	282	P	H
		5785	107.28	-	-	100.93	32.44	7.45	33.54	157	282	A	H
		5855	51.52	-59.38	110.9	44.99	32.58	7.51	33.56	157	282	P	H
		5868.8	51.64	-55.39	107.03	45.11	32.58	7.51	33.56	157	282	P	H
		5880.8	51.36	-49.63	100.99	44.8	32.61	7.51	33.56	157	282	P	H
		5926.8	50.34	-17.96	68.3	43.67	32.69	7.56	33.58	157	282	P	H
		5647.2	51.19	-17.11	68.3	45.14	32.22	7.32	33.49	150	9	P	V
		5677.2	53.43	-35.04	88.47	47.33	32.28	7.32	33.5	150	9	P	V
		5709.2	53.51	-54.37	107.88	47.34	32.33	7.36	33.52	150	9	P	V
		5720.4	55.89	-55.92	111.81	49.69	32.36	7.36	33.52	150	9	P	V
		5785	117.18	-	-	110.83	32.44	7.45	33.54	150	9	P	V
		5785	108.26	-	-	101.91	32.44	7.45	33.54	150	9	A	V
		5851.8	52.65	-65.55	118.2	46.15	32.55	7.51	33.56	150	9	P	V
		5856.2	54.32	-56.24	110.56	47.79	32.58	7.51	33.56	150	9	P	V
		5910.6	53.77	-25.15	78.92	47.16	32.66	7.53	33.58	150	9	P	V
		5932.2	54.41	-13.89	68.3	47.74	32.69	7.56	33.58	150	9	P	V

WIFI Ant. 1+2+3	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	114.88	-	-	108.43	32.52	7.48	33.55	150	285	P	H
		5825	108.35	-	-	101.9	32.52	7.48	33.55	150	285	A	H
		5851	70.87	-49.15	120.02	64.37	32.55	7.51	33.56	150	285	P	H
		5856	71.02	-39.6	110.62	64.49	32.58	7.51	33.56	150	285	P	H
		5875.2	58.23	-46.92	105.15	51.67	32.61	7.51	33.56	150	285	P	H
		5936.8	50.56	-17.74	68.3	43.89	32.69	7.56	33.58	150	285	P	H
		5825	116.5	-	-	110.05	32.52	7.48	33.55	150	0	P	V
		5825	107.72	-	-	101.27	32.52	7.48	33.55	150	0	A	V
		5852.8	74.46	-41.46	115.92	67.96	32.55	7.51	33.56	150	0	P	V
		5858.8	72.86	-36.97	109.83	66.33	32.58	7.51	33.56	150	0	P	V
		5878	58.97	-44.1	103.07	52.41	32.61	7.51	33.56	150	0	P	V
		5934.6	52.57	-15.73	68.3	45.9	32.69	7.56	33.58	150	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1+2+3	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	58.36	-15.64	74	68	39.06	11.05	59.75	150	309	P	H
		11490	48.07	-5.93	54	57.71	39.06	11.05	59.75	150	309	A	H
		17235	50.27	-18.03	68.3	52.48	41.39	14.65	58.25	150	0	P	H
		11490	63.88	-10.12	74	73.52	39.06	11.05	59.75	156	252	P	V
		11490	52.5	-1.5	54	62.14	39.06	11.05	59.75	156	252	A	V
		17235	49.96	-18.34	68.3	52.17	41.39	14.65	58.25	150	0	P	V
802.11a CH 157 5785MHz		11570	56.3	-17.7	74	66.14	38.98	11.01	59.83	150	309	P	H
		11570	49.13	-4.87	54	58.97	38.98	11.01	59.83	150	309	A	H
		17355	63.15	-5.15	68.3	63.99	42.18	14.78	57.8	150	0	P	H
		11570	64.35	-9.65	74	74.19	38.98	11.01	59.83	150	268	P	V
		11570	53.97	-0.03	54	63.81	38.98	11.01	59.83	150	268	A	V
		17355	57.05	-11.25	68.3	57.89	42.18	14.78	57.8	150	0	P	V
802.11a CH 165 5825MHz		11650	57.98	-16.02	74	67.99	38.92	10.97	59.9	150	265	P	H
		11650	46.76	-7.24	54	56.77	38.92	10.97	59.9	150	265	A	H
		17475	62.31	-5.99	68.3	61.78	42.98	14.9	57.35	150	0	P	H
		11650	63.54	-10.46	74	73.55	38.92	10.97	59.9	150	262	P	V
		11650	52.98	-1.02	54	62.99	38.92	10.97	59.9	150	262	P	V
		17475	58.27	-10.03	68.3	57.74	42.98	14.9	57.35	150	0	A	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+3	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		5635	53.87	-14.43	68.3	47.87	32.22	7.27	33.49	150	280	P	H
		5700	63.03	-42.27	105.3	56.88	32.3	7.36	33.51	150	280	P	H
		5720	75.36	-35.54	110.9	69.16	32.36	7.36	33.52	150	280	P	H
		5721.8	84.8	-30.2	115	78.6	32.36	7.36	33.52	150	280	P	H
		5745	117.34	-	-	111.07	32.39	7.41	33.53	150	280	P	H
		5745	108.51	-	-	102.24	32.39	7.41	33.53	150	280	A	H
		5629	53.2	-15.1	68.3	47.23	32.19	7.27	33.49	150	360	P	V
		5699.8	65.35	-39.8	105.15	59.2	32.3	7.36	33.51	150	360	P	V
		5719.2	80.72	-29.96	110.68	74.52	32.36	7.36	33.52	150	360	P	V
		5724	91.51	-28.51	120.02	85.31	32.36	7.36	33.52	150	360	P	V
		5745	117.34	-	-	111.07	32.39	7.41	33.53	150	360	P	V
		5745	108.51	-	-	102.24	32.39	7.41	33.53	150	360	A	V

WIFI Ant. 1+2+3	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		5640	52.77	-15.53	68.3	46.77	32.22	7.27	33.49	150	281	P	H
		5688	53.71	-42.74	96.45	47.56	32.3	7.36	33.51	150	281	P	H
		5707	55.04	-52.22	107.26	48.87	32.33	7.36	33.52	150	281	P	H
		5725	56.23	-66.07	122.3	50.03	32.36	7.36	33.52	150	281	P	H
		5785	117.35	-	-	111	32.44	7.45	33.54	150	281	P	H
		5785	109.2	-	-	102.85	32.44	7.45	33.54	150	281	A	H
		5852.8	57.08	-58.84	115.92	50.58	32.55	7.51	33.56	150	281	P	H
		5870.6	51.81	-54.72	106.53	45.25	32.61	7.51	33.56	150	281	P	H
		5897.4	51.39	-37.3	88.69	44.8	32.63	7.53	33.57	150	281	P	H
		5938.6	51.24	-17.06	68.3	44.54	32.72	7.56	33.58	150	281	P	H
		5634.8	52.94	-15.36	68.3	46.94	32.22	7.27	33.49	150	360	P	V
		5687.6	54.99	-41.16	96.15	48.84	32.3	7.36	33.51	150	360	P	V
		5718.8	56.01	-54.55	110.56	49.81	32.36	7.36	33.52	150	360	P	V
		5724.6	58.5	-62.89	121.39	52.3	32.36	7.36	33.52	150	360	P	V
		5785	116.44	-	-	110.09	32.44	7.45	33.54	150	360	P	V
		5785	108.46	-	-	102.11	32.44	7.45	33.54	150	360	A	V
		5853.8	58.26	-55.38	113.64	51.73	32.58	7.51	33.56	150	360	P	V
		5864.2	56.95	-51.37	108.32	50.42	32.58	7.51	33.56	150	360	P	V
		5890.6	54.27	-39.45	93.72	47.68	32.63	7.53	33.57	150	360	P	V
		5943.6	53.72	-14.58	68.3	47.02	32.72	7.56	33.58	150	360	P	V

WIFI Ant. 1+2+3	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	116.02	-	-	109.57	32.52	7.48	33.55	151	287	P	H
		5825	108.71	-	-	102.26	32.52	7.48	33.55	151	287	A	H
		5850.8	80.18	-40.3	120.48	73.68	32.55	7.51	33.56	151	287	P	H
		5855.2	72.96	-37.88	110.84	66.43	32.58	7.51	33.56	151	287	P	H
		5875	62.74	-42.56	105.3	56.18	32.61	7.51	33.56	151	287	P	H
		5931.4	52.44	-15.86	68.3	45.77	32.69	7.56	33.58	151	287	P	H
		5825	117.45	-	-	111	32.52	7.48	33.55	151	0	P	V
		5825	108.95	-	-	102.5	32.52	7.48	33.55	151	0	A	V
		5850.2	77.29	-44.55	121.84	70.79	32.55	7.51	33.56	151	0	P	V
		5855.8	74.27	-36.41	110.68	67.74	32.58	7.51	33.56	151	0	P	V
		5878.6	65.01	-37.62	102.63	58.45	32.61	7.51	33.56	151	0	P	V
		5925.2	52.77	-15.53	68.3	46.13	32.69	7.53	33.58	151	0	A	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+3	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	59.46	-14.54	74	69.1	39.06	11.05	59.75	150	260	P	H
		11490	49.12	-4.88	54	58.76	39.06	11.05	59.75	150	260	A	H
		17235	60.4	-7.9	68.3	62.61	41.39	14.65	58.25	150	0	P	H
		11490	63.58	-10.42	74	73.22	39.06	11.05	59.75	150	267	P	V
		11490	52.29	-1.71	54	61.93	39.06	11.05	59.75	150	267	A	V
		17235	55.49	-12.81	68.3	57.7	41.39	14.65	58.25	150	0	P	V
802.11n HT20 CH 157 5785MHz		11570	58.94	-15.06	74	68.78	38.98	11.01	59.83	150	260	P	H
		11570	48.04	-5.96	54	57.88	38.98	11.01	59.83	150	260	A	H
		17355	61.96	-6.34	68.3	62.8	42.18	14.78	57.8	150	0	P	H
		11570	62.69	-11.31	74	72.53	38.98	11.01	59.83	150	268	P	V
		11570	53.61	-0.39	54	63.45	38.98	11.01	59.83	150	268	A	V
		17355	57.2	-11.1	68.3	58.04	42.18	14.78	57.8	150	0	P	V
802.11n HT20 CH 165 5825MHz		11650	58.98	-15.02	74	68.99	38.92	10.97	59.9	150	280	P	H
		11650	46.79	-7.21	54	56.8	38.92	10.97	59.9	150	280	A	H
		17475	60.67	-7.63	68.3	60.14	42.98	14.9	57.35	150	0	P	H
		11650	63.54	-10.46	74	73.55	38.92	10.97	59.9	150	271	P	H
		11650	53.04	-0.96	54	63.05	38.92	10.97	59.9	150	271	A	V
		17475	58.46	-9.84	68.3	57.93	42.98	14.9	57.35	150	0	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 HT40 (Band Edge @ 3m)

WIFI Ant. 1+2+3	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		5636.4	57.54	-10.76	68.3	51.54	32.22	7.27	33.49	150	281	P	H
		5695.2	71.01	-30.75	101.76	64.86	32.3	7.36	33.51	150	281	P	H
		5719.8	86.91	-23.93	110.84	80.71	32.36	7.36	33.52	150	281	P	H
		5720.4	89.07	-22.74	111.81	82.87	32.36	7.36	33.52	150	281	P	H
		5755	115.24	-	-	108.95	32.41	7.41	33.53	150	281	P	H
		5755	107.59	-	-	101.3	32.41	7.41	33.53	150	281	A	H
		5851.4	59.55	-59.56	119.11	53.05	32.55	7.51	33.56	150	281	P	H
		5860.4	60.87	-48.52	109.39	54.34	32.58	7.51	33.56	150	281	P	H
		5875.8	54.55	-50.16	104.71	47.99	32.61	7.51	33.56	150	281	P	H
		5925.2	51.83	-16.47	68.3	45.19	32.69	7.53	33.58	150	281	P	H
		5650	59.49	-8.81	68.3	53.41	32.25	7.32	33.49	150	360	P	V
		5699.4	72.65	-32.21	104.86	66.5	32.3	7.36	33.51	150	360	P	V
		5718.4	89.88	-20.57	110.45	83.68	32.36	7.36	33.52	150	360	P	V
		5724.6	91.59	-29.8	121.39	85.39	32.36	7.36	33.52	150	360	P	V
		5755	115.84	-	-	109.55	32.41	7.41	33.53	150	360	P	V
		5755	106.85	-	-	100.56	32.41	7.41	33.53	150	360	A	V
		5850	62.58	-59.72	122.3	56.08	32.55	7.51	33.56	150	360	P	V
		5856.8	63.95	-46.45	110.4	57.42	32.58	7.51	33.56	150	360	P	V
		5875.2	58.05	-47.1	105.15	51.49	32.61	7.51	33.56	150	360	P	V
		5942.4	54.06	-14.24	68.3	47.36	32.72	7.56	33.58	150	360	P	V

WIFI Ant. 1+2+3	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		5633.2	53.18	-15.12	68.3	47.18	32.22	7.27	33.49	150	283	P	H
		5692	60.26	-39.14	99.4	54.11	32.3	7.36	33.51	150	283	P	H
		5716.2	66.08	-43.76	109.84	59.91	32.33	7.36	33.52	150	283	P	H
		5721.8	66.66	-48.34	115	60.46	32.36	7.36	33.52	150	283	P	H
		5795	115.04	-	-	108.66	32.47	7.45	33.54	150	283	P	H
		5795	107.23	-	-	100.85	32.47	7.45	33.54	150	283	A	H
		5851	70.4	-49.62	120.02	63.9	32.55	7.51	33.56	150	283	P	H
		5856	70.62	-40	110.62	64.09	32.58	7.51	33.56	150	283	P	H
		5876.4	67.21	-37.05	104.26	60.65	32.61	7.51	33.56	150	283	P	H
		5935.2	52.45	-15.85	68.3	45.78	32.69	7.56	33.58	150	283	P	H
		5646.8	52.96	-15.34	68.3	46.91	32.22	7.32	33.49	150	2	P	V
		5695.4	61.82	-40.09	101.91	55.67	32.3	7.36	33.51	150	2	P	V
		5715	67.7	-41.8	109.5	61.53	32.33	7.36	33.52	150	2	P	V
		5724	67.87	-52.15	120.02	61.67	32.36	7.36	33.52	150	2	P	V
		5795	116.03	-	-	109.65	32.47	7.45	33.54	150	2	P	V
		5795	107.47	-	-	101.09	32.47	7.45	33.54	150	2	A	V
		5853.2	73.09	-41.91	115	66.59	32.55	7.51	33.56	150	2	P	V
		5855.2	72.83	-38.01	110.84	66.3	32.58	7.51	33.56	150	2	P	V
		5879.4	63.98	-38.05	102.03	57.42	32.61	7.51	33.56	150	2	P	V
		5925.2	53.95	-14.35	68.3	47.31	32.69	7.53	33.58	150	2	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 HT40 (Harmonic @ 3m)

WIFI Ant. 1+2+3	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	53.64	-20.36	74	63.31	39.04	11.05	59.76	250	0	P	H
		11510	48.98	-5.02	54	58.65	39.04	11.05	59.76	150	308	A	H
		17265	58.64	-9.66	68.3	60.46	41.62	14.69	58.13	150	0	P	H
		11510	61.18	-12.82	74	70.85	39.04	11.05	59.76	250	0	P	V
		11510	53	-1	54	62.67	39.04	11.05	59.76	150	268	A	V
		17265	48.39	-19.91	68.3	50.21	41.62	14.69	58.13	150	0	P	V
802.11n HT40 CH 159 5795MHz		11590	53.28	-20.72	74	63.15	38.97	11.01	59.85	250	0	P	H
		11590	48.41	-5.59	54	58.28	38.97	11.01	59.85	150	308	A	H
		17385	60.44	-7.86	68.3	60.88	42.41	14.82	57.67	150	0	P	H
		11590	58.88	-15.12	74	68.75	38.97	11.01	59.85	250	0	P	V
		11590	53.63	-0.37	54	63.5	38.97	11.01	59.85	150	270	A	V
		17388	49.55	-18.75	68.3	49.99	42.41	14.82	57.67	150	232	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1+2+3	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)
802.11ac VHT80 CH 155 5775MHz		5647	65.81	-2.49	68.3	59.76	32.22	7.32	33.49	150	282	P	H
		5691.8	81.03	-18.22	99.25	74.88	32.3	7.36	33.51	150	282	P	H
		5716.8	85.33	-24.68	110.01	79.16	32.33	7.36	33.52	150	282	P	H
		5721.4	86.63	-27.46	114.09	80.43	32.36	7.36	33.52	150	282	P	H
	*	5775	111.73	-	-	105.37	32.44	7.45	33.53	150	282	P	H
	*	5775	103.75	-	-	97.39	32.44	7.45	33.53	150	282	A	H
		5851.6	81.89	-36.76	118.65	75.39	32.55	7.51	33.56	150	282	P	H
		5856.4	79.62	-30.89	110.51	73.09	32.58	7.51	33.56	150	282	P	H
		5876	74.66	-29.9	104.56	68.1	32.61	7.51	33.56	150	282	P	H
		5928.6	61.44	-6.86	68.3	54.77	32.69	7.56	33.58	150	282	P	H
		5649.2	66.71	-1.59	68.3	60.66	32.22	7.32	33.49	150	360	P	V
		5694.4	83.29	-17.88	101.17	77.14	32.3	7.36	33.51	150	360	P	V
		5713.6	90.05	-19.06	109.11	83.88	32.33	7.36	33.52	150	360	P	V
		5724.8	87	-34.84	121.84	80.8	32.36	7.36	33.52	150	360	P	V
	*	5775	112.63	-	-	106.27	32.44	7.45	33.53	150	360	P	V
	*	5775	104.62	-	-	98.26	32.44	7.45	33.53	150	360	A	V
		5854.6	85.04	-26.77	111.81	78.51	32.58	7.51	33.56	150	360	P	V
		5859.4	82.84	-26.83	109.67	76.31	32.58	7.51	33.56	150	360	P	V
		5875	79.14	-26.16	105.3	72.58	32.61	7.51	33.56	150	360	P	V
		5928.4	62.61	-5.69	68.3	55.94	32.69	7.56	33.58	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 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1+2+3	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)
802.11ac VHT80 CH 155 5775MHz		11550	49.08	-24.92	74	58.86	39	11.03	59.81	250	0	P	H
		17325	50.45	-17.85	68.3	51.64	41.96	14.78	57.93	150	0	P	H
		11510	51.28	-22.72	74	60.95	39.04	11.05	59.76	250	0	P	V
		11510	46.73	-7.27	54	56.4	39.04	11.05	59.76	149	271	A	V
		17325	49.41	-18.89	68.3	50.6	41.96	14.78	57.93	150	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

5GHz WIFI 802.11a (LF @ 3m)

WIFI Ant. 1+2+3	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)
5GHz 802.11a LF		199.75	27.02	-16.48	43.5	46.6	10.1	1.57	31.25	-	-	P	H
		337.49	27.2	-18.8	46	41.64	14.82	2.04	31.3	-	-	P	H
		394.72	27.81	-18.19	46	40.56	16.37	2.12	31.24	-	-	P	H
		624.61	26.23	-19.77	46	35.86	18.97	2.64	31.24	-	-	P	H
		801.15	35.18	-10.82	46	43.3	20.21	2.91	31.24	-	-	P	H
		874.87	35.89	-10.11	46	43.26	20.87	3.03	31.27	150	302	P	H
		36.79	24.53	-15.47	40	40.81	14.49	1	31.77	-	-	P	V
		47.46	27.16	-12.84	40	47.9	9.99	1	31.73	-	-	P	V
		73.65	24.71	-15.29	40	47.09	8.16	1.14	31.68	-	-	P	V
		179.38	24.97	-18.53	43.5	44.17	10.55	1.57	31.32	-	-	P	V
		801.15	31.93	-14.07	46	40.05	20.21	2.91	31.24	-	-	P	V
		874.87	37.59	-8.41	46	44.96	20.87	3.03	31.27	150	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

For Beamforming Mode

Band 4 - 5725~5850MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2+3		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 149 5745MHz		5644.4	52.98	-15.32	68.3	46.6	32.22	7.65	33.49	150	108	P	H
		5696	59.01	-43.34	102.35	52.54	32.3	7.68	33.51	150	108	P	H
		5718.4	69.94	-40.51	110.45	63.42	32.36	7.68	33.52	150	108	P	H
		5724.8	81.51	-40.33	121.84	74.99	32.36	7.68	33.52	150	108	P	H
		5745	116.24	-	-	109.64	32.39	7.74	33.53	150	108	P	H
		5745	108.14	-	-	101.54	32.39	7.74	33.53	150	108	A	H
		5649.2	53.48	-14.82	68.3	47.08	32.22	7.67	33.49	150	190	P	V
		5699.2	59.07	-45.64	104.71	52.6	32.3	7.68	33.51	150	190	P	V
		5718.6	72.12	-38.39	110.51	65.6	32.36	7.68	33.52	150	190	P	V
		5724.8	84.35	-37.49	121.84	77.83	32.36	7.68	33.52	150	190	P	V
		5745	117.43	-	-	110.83	32.39	7.74	33.53	150	190	P	V
		5745	108.6	-	-	102	32.39	7.74	33.53	150	190	A	V

WIFI Ant. 1+2+3	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		5631.2	52.42	-15.88	68.3	46.07	32.19	7.65	33.49	174	113	P	H
		5691	53.58	-45.08	98.66	47.11	32.3	7.68	33.51	174	113	P	H
		5705.8	52.72	-54.21	106.93	46.23	32.33	7.68	33.52	174	113	P	H
		5724	53.59	-66.43	120.02	47.07	32.36	7.68	33.52	174	113	P	H
		5785	116.34	-	-	109.64	32.44	7.8	33.54	174	113	P	H
		5785	108.24	-	-	101.54	32.44	7.8	33.54	174	113	A	H
		5853.2	51.55	-63.45	115	44.69	32.55	7.87	33.56	174	113	P	H
		5866.2	53.46	-54.3	107.76	46.57	32.58	7.87	33.56	174	113	P	H
		5881.4	51.17	-49.38	100.55	44.25	32.61	7.87	33.56	174	113	P	H
		5948	51.17	-17.13	68.3	44.08	32.72	7.95	33.58	174	113	P	H
		5644	52.21	-16.09	68.3	45.83	32.22	7.65	33.49	150	192	P	V
		5665.6	54.21	-25.67	79.88	47.79	32.25	7.67	33.5	150	192	P	V
		5715.6	54.18	-55.49	109.67	47.69	32.33	7.68	33.52	150	192	P	V
		5722.2	52.33	-63.59	115.92	45.81	32.36	7.68	33.52	150	192	P	V
		5785	116.75	-	-	110.05	32.44	7.8	33.54	150	192	P	V
		5785	108.48	-	-	101.78	32.44	7.8	33.54	150	192	A	V
		5850.2	54.81	-67.03	121.84	47.95	32.55	7.87	33.56	150	192	P	V
		5868.4	53.89	-53.26	107.15	47	32.58	7.87	33.56	150	192	P	V
		5906.2	54.1	-28.08	82.18	47.1	32.66	7.91	33.57	150	192	P	V
		5949.8	54.32	-13.98	68.3	47.23	32.72	7.95	33.58	150	192	P	V

WIFI Ant. 1+2+3	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	116.8	-	-	109.99	32.52	7.84	33.55	150	105	P	H
		5825	109.12	-	-	102.31	32.52	7.84	33.55	150	105	A	H
		5852.6	69.6	-46.77	116.37	62.74	32.55	7.87	33.56	150	105	P	H
		5856.6	68.06	-42.39	110.45	61.17	32.58	7.87	33.56	150	105	P	H
		5876.2	57.24	-47.17	104.41	50.32	32.61	7.87	33.56	150	105	P	H
		5937.6	49.75	-18.55	68.3	42.69	32.69	7.95	33.58	150	105	P	H
		5825	118.12	-	-	111.31	32.52	7.84	33.55	150	191	P	V
		5825	110.41	-	-	103.6	32.52	7.84	33.55	150	191	A	V
		5853.6	75.02	-39.07	114.09	68.13	32.58	7.87	33.56	150	191	P	V
		5857.8	66.82	-43.29	110.11	59.93	32.58	7.87	33.56	150	191	P	V
		5878.8	57.18	-45.3	102.48	50.26	32.61	7.87	33.56	150	191	P	V
		5931.8	52.59	-15.71	68.3	45.53	32.69	7.95	33.58	150	191	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1+2+3	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	55.35	-18.65	74	64.94	39.06	11.1	59.75	250	360	P	H
		11490	46	-8	54	55.59	39.06	11.1	59.75	250	360	A	H
		17235	59.37	-8.93	68.3	61.34	41.39	14.89	58.25	150	4	P	H
		11490	59.77	-14.23	74	69.36	39.06	11.1	59.75	250	0	P	V
		11490	53.27	-0.73	54	62.86	39.06	11.1	59.75	149	95	A	V
		17232	53.82	-14.48	68.3	55.79	41.39	14.89	58.25	150	0	P	V
802.11a CH 157 5785MHz		11570	59.31	-14.69	74	68.99	38.98	11.17	59.83	150	62	P	H
		11570	47.61	-6.39	54	57.29	38.98	11.17	59.83	150	62	A	H
		17355	60.15	-8.15	68.3	60.99	42.18	14.78	57.8	150	0	P	H
		11570	63.64	-10.36	74	73.32	38.98	11.17	59.83	150	96	P	V
		11570	53.28	-0.72	54	62.96	38.98	11.17	59.83	150	96	A	V
		17355	56.44	-11.86	68.3	57.28	42.18	14.78	57.8	150	0	P	V
802.11a CH 165 5825MHz		11650	59.59	-14.41	74	69.34	38.92	11.23	59.9	150	63	P	H
		11650	47	-7	54	56.75	38.92	11.23	59.9	150	63	A	H
		17475	59.92	-8.38	68.3	59.62	42.98	14.67	57.35	150	0	P	H
		11650	64.63	-9.37	74	74.38	38.92	11.23	59.9	150	99	P	V
		11650	53.96	-0.04	54	63.71	38.92	11.23	59.9	150	99	A	V
		17475	58.26	-10.04	68.3	57.96	42.98	14.67	57.35	150	0	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+3	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		5635.6	52.84	-15.46	68.3	46.46	32.22	7.65	33.49	150	105	P	H
		5699.8	62	-43.15	105.15	55.53	32.3	7.68	33.51	150	105	P	H
		5716.2	74.26	-35.58	109.84	67.77	32.33	7.68	33.52	150	105	P	H
		5722.2	82.32	-33.6	115.92	75.8	32.36	7.68	33.52	150	105	P	H
		5745	116.94	-	-	110.34	32.39	7.74	33.53	150	105	P	H
		5745	108.93	-	-	102.33	32.39	7.74	33.53	150	105	A	H
		5646.6	54.11	-14.19	68.3	47.71	32.22	7.67	33.49	150	199	P	V
		5699.8	63.69	-41.46	105.15	57.22	32.3	7.68	33.51	150	199	P	V
		5719.6	78.54	-32.25	110.79	72.02	32.36	7.68	33.52	150	199	P	V
		5724.6	89.19	-32.2	121.39	82.67	32.36	7.68	33.52	150	199	P	V
		5745	118.24	-	-	111.64	32.39	7.74	33.53	150	199	P	V
		5745	110	-	-	103.4	32.39	7.74	33.53	150	199	A	V

WIFI Ant. 1+2+3	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		5633.8	51.49	-16.81	68.3	45.11	32.22	7.65	33.49	150	110	P	H
		5698.8	52.96	-51.46	104.42	46.49	32.3	7.68	33.51	150	110	P	H
		5702	52.19	-53.67	105.86	45.69	32.33	7.68	33.51	150	110	P	H
		5723.4	54.05	-64.6	118.65	47.53	32.36	7.68	33.52	150	110	P	H
		5785	116	-	-	109.3	32.44	7.8	33.54	150	110	P	H
		5785	107.72	-	-	101.02	32.44	7.8	33.54	150	110	A	H
		5852.2	51.44	-65.84	117.28	44.58	32.55	7.87	33.56	150	110	P	H
		5855.6	52.25	-58.48	110.73	45.36	32.58	7.87	33.56	150	110	P	H
		5897	51.86	-37.12	88.98	44.89	32.63	7.91	33.57	150	110	P	H
		5928.6	52.26	-16.04	68.3	45.2	32.69	7.95	33.58	150	110	P	H
		5624	51.74	-16.56	68.3	45.39	32.19	7.65	33.49	150	196	P	V
		5677	54.04	-34.28	88.32	47.59	32.28	7.67	33.5	150	196	P	V
		5713.6	54.37	-54.74	109.11	47.88	32.33	7.68	33.52	150	196	P	V
		5720.8	54.88	-57.84	112.72	48.36	32.36	7.68	33.52	150	196	P	V
		5785	117.93	-	-	111.23	32.44	7.8	33.54	150	196	P	V
		5785	109.31	-	-	102.61	32.44	7.8	33.54	150	196	A	V
		5851.6	54.63	-64.02	118.65	47.77	32.55	7.87	33.56	150	196	P	V
		5864.2	55.42	-52.9	108.32	48.53	32.58	7.87	33.56	150	196	P	V
		5887.4	53.63	-42.46	96.09	46.68	32.61	7.91	33.57	150	196	P	V
		5929	53.8	-14.5	68.3	46.74	32.69	7.95	33.58	150	196	P	V

WIFI Ant. 1+2+3	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	115.51	-	-	108.7	32.52	7.84	33.55	150	117	P	H
		5825	106.71	-	-	99.9	32.52	7.84	33.55	150	117	A	H
		5850.6	72.52	-48.41	120.93	65.66	32.55	7.87	33.56	150	117	P	H
		5855.2	66.25	-44.59	110.84	59.36	32.58	7.87	33.56	150	117	P	H
		5875.8	54.81	-49.9	104.71	47.89	32.61	7.87	33.56	150	117	P	H
		5927.6	50.14	-18.16	68.3	43.08	32.69	7.95	33.58	150	117	P	H
		5825	116.92	-	-	110.11	32.52	7.84	33.55	150	195	P	V
		5825	108.81	-	-	102	32.52	7.84	33.55	150	195	A	V
		5850.2	72.06	-49.78	121.84	65.2	32.55	7.87	33.56	150	195	P	V
		5855	67.61	-43.29	110.9	60.72	32.58	7.87	33.56	150	195	P	V
		5878.6	55.59	-47.04	102.63	48.67	32.61	7.87	33.56	150	195	P	V
		5944.2	52.66	-15.64	68.3	45.57	32.72	7.95	33.58	150	195	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 (Harmonic @ 3m)

WIFI Ant. 1+2+3	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	58.45	-15.55	74	68.04	39.06	11.1	59.75	150	135	P	H
		11490	47.66	-6.34	54	57.25	39.06	11.1	59.75	150	135	A	H
		17235	58.81	-9.49	68.3	60.78	41.39	14.89	58.25	150	0	P	H
		11490	62.09	-11.91	74	71.68	39.06	11.1	59.75	150	98	P	V
		11490	53.1	-0.9	54	62.69	39.06	11.1	59.75	150	98	A	V
		17235	54.43	-13.87	68.3	56.4	41.39	14.89	58.25	150	0	P	V
802.11n HT20 CH 157 5785MHz		11570	56.2	-17.8	74	65.88	38.98	11.17	59.83	150	52	P	H
		11570	48.2	-5.8	54	57.88	38.98	11.17	59.83	150	52	A	H
		17355	58.96	-9.34	68.3	59.8	42.18	14.78	57.8	150	0	P	H
		11570	63.67	-10.33	74	73.35	38.98	11.17	59.83	150	100	P	V
		11570	53.82	-0.18	54	63.5	38.98	11.17	59.83	150	100	A	V
		17355	56.08	-12.22	68.3	56.92	42.18	14.78	57.8	150	0	P	V
802.11n HT20 CH 165 5825MHz		11650	56.66	-17.34	74	66.41	38.92	11.23	59.9	150	356	P	H
		11650	45.44	-8.56	54	55.19	38.92	11.23	59.9	150	356	A	H
		17475	59.63	-8.67	68.3	59.33	42.98	14.67	57.35	150	0	P	H
		11650	63.64	-10.36	74	73.39	38.92	11.23	59.9	150	100	P	V
		11650	53.52	-0.48	54	63.27	38.92	11.23	59.9	150	100	A	V
		17475	58.31	-9.99	68.3	58.01	42.98	14.67	57.35	150	0	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 HT40 (Band Edge @ 3m)

WIFI Ant. 1+2+3	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		5645.2	58.24	-10.06	68.3	51.86	32.22	7.65	33.49	150	112	P	H
		5696	71.74	-30.61	102.35	65.27	32.3	7.68	33.51	150	112	P	H
		5716	84.81	-24.97	109.78	78.32	32.33	7.68	33.52	150	112	P	H
		5725	87.69	-34.61	122.3	81.17	32.36	7.68	33.52	150	112	P	H
		5755	117.04	-	-	110.42	32.41	7.74	33.53	150	112	P	H
		5755	107.34	-	-	100.72	32.41	7.74	33.53	150	112	A	H
		5853.4	59.88	-54.67	114.55	53.02	32.55	7.87	33.56	150	112	P	H
		5859.4	56.67	-53	109.67	49.78	32.58	7.87	33.56	150	112	P	H
		5877.2	56.85	-46.82	103.67	49.93	32.61	7.87	33.56	150	112	P	H
		5927.8	51.48	-16.82	68.3	44.42	32.69	7.95	33.58	150	112	P	H
		5636.6	55.84	-12.46	68.3	49.46	32.22	7.65	33.49	150	192	P	V
		5694.2	72.02	-29	101.02	65.55	32.3	7.68	33.51	150	192	P	V
		5719.2	88.98	-21.7	110.68	82.46	32.36	7.68	33.52	150	192	P	V
		5724.4	89.59	-31.34	120.93	83.07	32.36	7.68	33.52	150	192	P	V
		5755	117.14	-	-	110.52	32.41	7.74	33.53	150	192	P	V
		5755	108.46	-	-	101.84	32.41	7.74	33.53	150	192	A	V
		5854.2	59.45	-53.27	112.72	52.56	32.58	7.87	33.56	150	192	P	V
		5855	59.05	-51.85	110.9	52.16	32.58	7.87	33.56	150	192	P	V
		5877.6	56.1	-47.27	103.37	49.18	32.61	7.87	33.56	150	192	P	V
		5926.8	53.46	-14.84	68.3	46.4	32.69	7.95	33.58	150	192	P	V

WIFI Ant. 1+2+3	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		5638.6	55.37	-12.93	68.3	48.99	32.22	7.65	33.49	171	111	P	H
		5696.4	65.11	-37.54	102.65	58.64	32.3	7.68	33.51	171	111	P	H
		5715.8	64.83	-44.9	109.73	58.34	32.33	7.68	33.52	171	111	P	H
		5721	64.67	-48.51	113.18	58.15	32.36	7.68	33.52	171	111	P	H
		5795	116.78	-	-	110.05	32.47	7.8	33.54	171	111	P	H
		5795	106.92	-	-	100.19	32.47	7.8	33.54	171	111	A	H
		5851.2	71.73	-47.83	119.56	64.87	32.55	7.87	33.56	171	111	P	H
		5858.8	67.45	-42.38	109.83	60.56	32.58	7.87	33.56	171	111	P	H
		5884	63.05	-35.57	98.62	56.14	32.61	7.87	33.57	171	111	P	H
		5946.6	53.14	-15.16	68.3	46.05	32.72	7.95	33.58	171	111	P	H
		5610.4	53.56	-14.74	68.3	47.23	32.17	7.65	33.49	150	191	P	V
		5698.8	60.66	-43.76	104.42	54.19	32.3	7.68	33.51	150	191	P	V
		5714.4	66.58	-42.75	109.33	60.09	32.33	7.68	33.52	150	191	P	V
		5724.6	66.26	-55.13	121.39	59.74	32.36	7.68	33.52	150	191	P	V
		5795	117.26	-	-	110.53	32.47	7.8	33.54	150	191	P	V
		5795	109.07	-	-	102.34	32.47	7.8	33.54	150	191	A	V
		5855	70.74	-40.16	110.9	63.85	32.58	7.87	33.56	150	191	P	V
		5859.2	71.77	-37.95	109.72	64.88	32.58	7.87	33.56	150	191	P	V
		5878.6	64.98	-37.65	102.63	58.06	32.61	7.87	33.56	150	191	P	V
		5925.4	54.91	-13.39	68.3	47.89	32.69	7.91	33.58	150	191	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 HT40 (Harmonic @ 3m)

WIFI Ant. 1+2+3	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	54.76	-19.24	74	64.38	39.04	11.1	59.76	150	99	P	H
		11510	48.17	-5.83	54	57.79	39.04	11.1	59.76	150	99	A	H
		17235	57.22	-11.08	68.3	59.19	41.39	14.89	58.25	150	0	P	H
		11510	62.05	-11.95	74	71.67	39.04	11.1	59.76	150	98	P	V
		11510	53.1	-0.9	54	62.72	39.04	11.1	59.76	150	98	A	V
		17265	54.98	-13.32	68.3	56.64	41.62	14.85	58.13	150	0	P	V
802.11n HT40 CH 159 5795MHz		11590	54.92	-19.08	74	64.63	38.97	11.17	59.85	226	136	P	H
		11590	48.59	-5.41	54	58.3	38.97	11.17	59.85	226	136	A	H
		17385	58.9	-9.4	68.3	59.42	42.41	14.74	57.67	150	0	P	H
		11590	62.07	-11.93	74	71.78	38.97	11.17	59.85	150	101	P	V
		11590	53.85	-0.15	54	63.56	38.97	11.17	59.85	150	101	A	V
		17385	56.81	-11.49	68.3	57.33	42.41	14.74	57.67	150	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1+2+3	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)
802.11ac VHT80 CH 155 5775MHz		5643	64.18	-4.12	68.3	57.8	32.22	7.65	33.49	173	99	P	H
		5695.8	81.92	-20.28	102.2	75.45	32.3	7.68	33.51	173	99	P	H
		5716.4	87.34	-22.55	109.89	80.85	32.33	7.68	33.52	173	99	P	H
		5721.4	84.21	-29.88	114.09	77.69	32.36	7.68	33.52	173	99	P	H
		5775	110.92	-	-	104.21	32.44	7.8	33.53	173	99	P	H
		5775	108.21	-	-	101.5	32.44	7.8	33.53	173	99	A	H
		5851	78.91	-41.11	120.02	72.05	32.55	7.87	33.56	173	99	P	H
		5862	78.91	-30.03	108.94	72.02	32.58	7.87	33.56	173	99	P	H
		5877	69.51	-34.3	103.81	62.59	32.61	7.87	33.56	173	99	P	H
		5933.4	59.48	-8.82	68.3	52.42	32.69	7.95	33.58	173	99	P	H
		5639.8	67.7	-0.6	68.3	61.32	32.22	7.65	33.49	223	180	P	V
		5699.6	84.47	-20.54	105.01	78	32.3	7.68	33.51	223	180	P	V
		5714.8	88.5	-20.95	109.45	82.01	32.33	7.68	33.52	223	180	P	V
		5723.4	90.59	-28.06	118.65	84.07	32.36	7.68	33.52	223	180	P	V
		5775	113.45	-	-	106.74	32.44	7.8	33.53	223	180	P	V
		5775	109.91	-	-	103.2	32.44	7.8	33.53	223	180	A	V
		5854	89.95	-23.23	113.18	83.06	32.58	7.87	33.56	223	180	P	V
		5859	82.75	-27.03	109.78	75.86	32.58	7.87	33.56	223	180	P	V
		5879	77.64	-24.69	102.33	70.72	32.61	7.87	33.56	223	180	P	V
		5930.2	66.49	-1.81	68.3	59.43	32.69	7.95	33.58	223	180	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1+2+3	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)
802.11ac VHT80 CH 155 5775MHz		11550	55.24	-18.76	74	64.92	39	11.13	59.81	150	230	P	H
		11550	47.09	-6.91	54	56.77	39	11.13	59.81	150	230	A	H
		17328	56.48	-11.82	68.3	57.67	41.96	14.78	57.93	150	0	P	H
		11550	62.23	-11.77	74	71.91	39	11.13	59.81	150	106	P	V
		11550	52.41	-1.59	54	62.09	39	11.13	59.81	150	106	A	V
		17325	55.37	-12.93	68.3	56.56	41.96	14.78	57.93	150	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

5GHz WIFI 802.11a (LF @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2+3		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
5GHz 802.11a LF		52.31	32.05	-7.95	40	50.19	14.38	0.83	33.35	-	-	P	H
		70.74	32.79	-7.21	40	51.74	13.59	0.83	33.37	-	-	P	H
		138.64	34.47	-9.03	43.5	49.13	17.45	1.15	33.26	-	-	P	H
		174.53	33.76	-9.74	43.5	49.02	16.66	1.28	33.2	-	-	P	H
		624.61	35.53	-10.47	46	40.33	24.97	2.3	32.07	-	-	P	H
		874.87	41.7	-4.3	46	43.46	26.87	2.71	31.34	100	0	P	H
		30.97	32.02	-7.98	40	41.09	23.67	0.62	33.36	100	130	QP	V
		42.61	33.73	-6.27	40	48.69	17.81	0.62	33.39	100	150	QP	V
		52.31	39.34	-0.66	40	57.48	14.38	0.83	33.35	100	0	QP	V
		64.92	39.92	-0.08	40	59.59	12.85	0.83	33.35	100	10	QP	V
		86.26	39.58	-0.42	40	55.92	16.22	0.83	33.39	100	0	QP	V
		100.81	38.65	-4.85	43.5	52.74	18.28	0.99	33.36	100	0	QP	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

Note symbol

*	**Fundamental Frequency** which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is **over limit** line.
P/A	**P**eak or **A**verage
H/V	**H**orizontal or **V**ertical

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		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Level(dBμV/m) =

Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

2. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. 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)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. 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)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

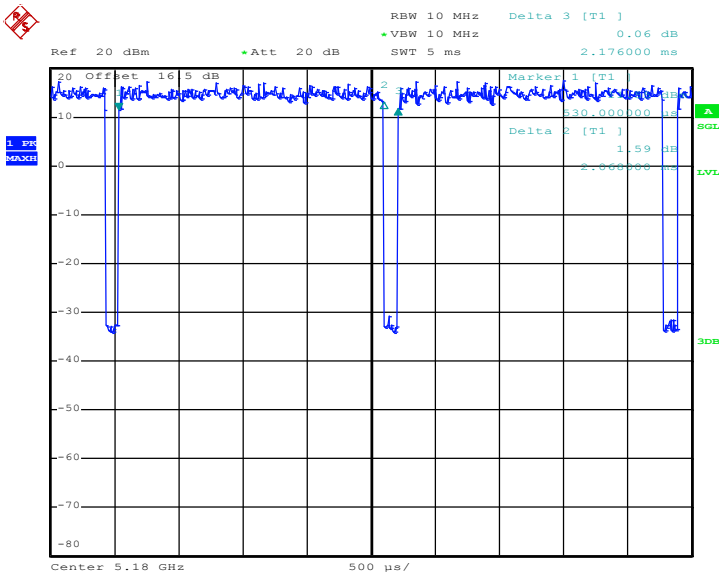
= -10.46(dB)

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

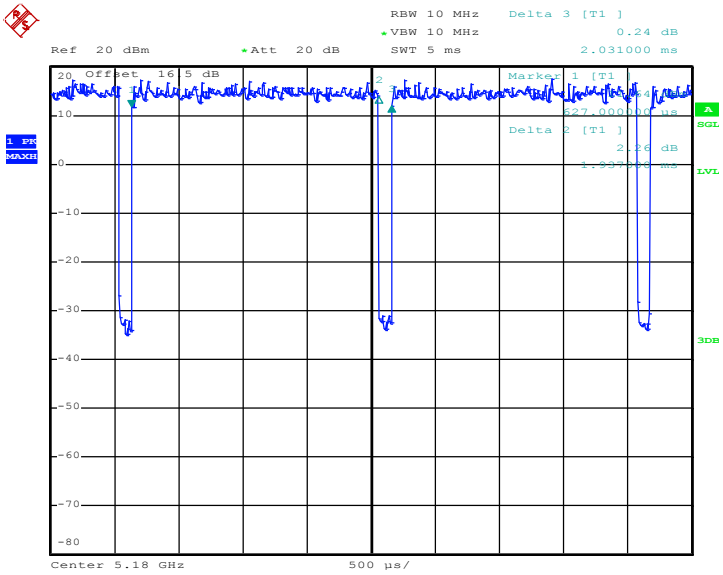
Appendix C. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
1+2+3	802.11a	95.037	2.068	0.484	1kHz
1+2+3	802.11n HT20	95.372	1.937	0.516	1kHz
1+2+3	802.11n HT40	90.476	0.950	1.053	3kHz
1+2+3	802.11ac VHT20	98.980	-	-	10Hz
1+2+3	802.11ac VHT40	96.976	0.962	1.040	3kHz
1+2+3	802.11ac VHT80	93.737	0.464	2.155	3kHz

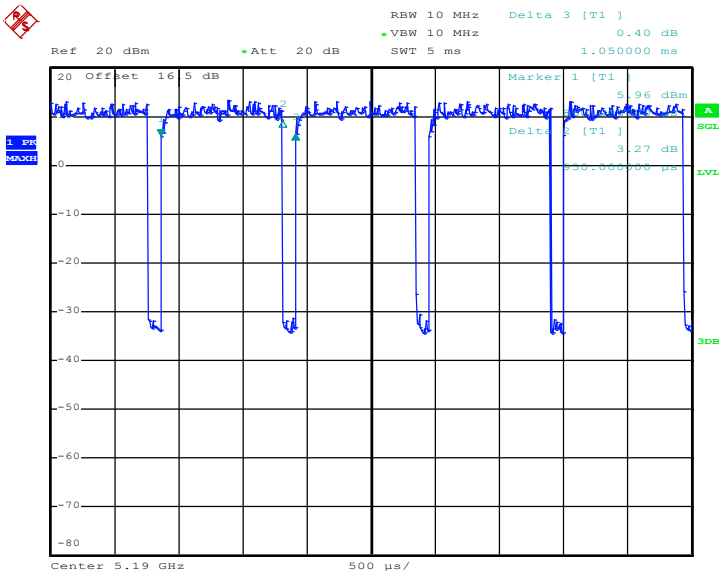
802.11a



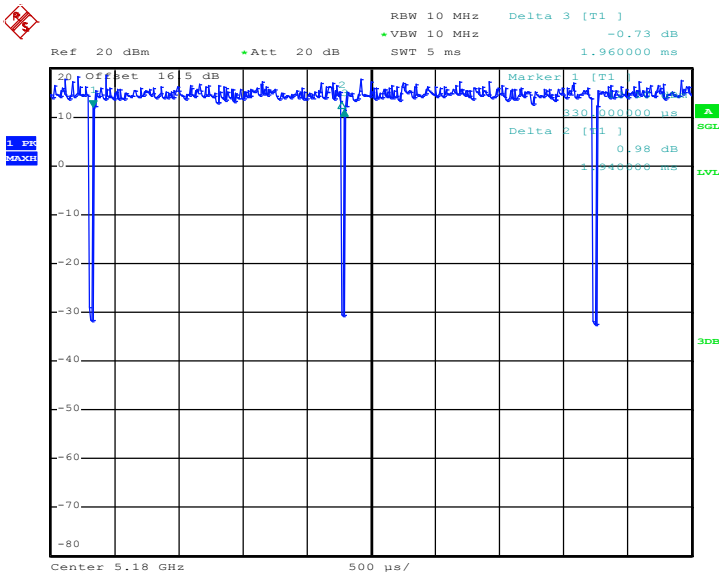
802.11n HT20



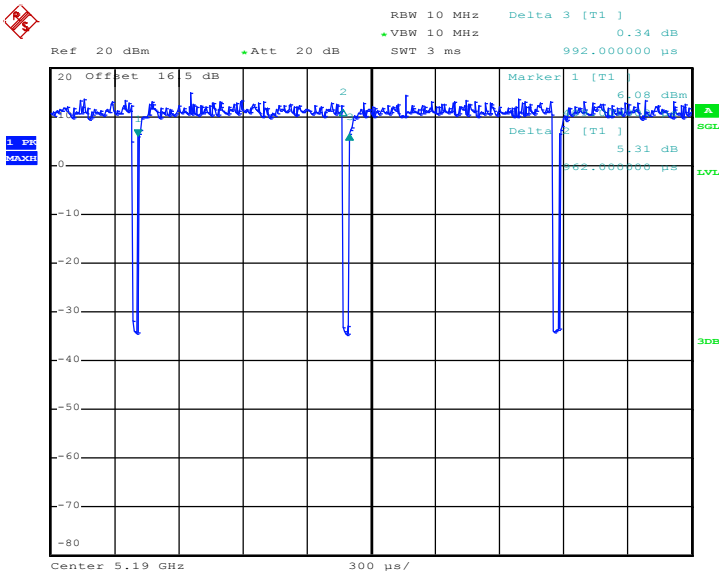
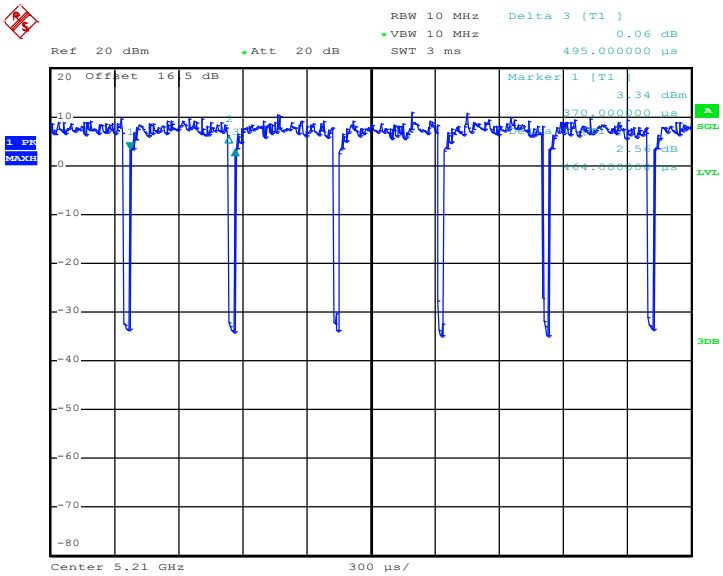
802.11n HT40



802.11ac VHT20



802.11ac VHT40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