FCC RF Test Report

APPLICANT	:	Motorola Mobility LLC
EQUIPMENT	:	Mobile Cellular Phone
BRAND NAME	:	Motorola
MODEL NAME	:	XT1922-6, XT1922-7, XT1922-9
FCC ID	:	IHDT56XB1
STANDARD	:	FCC Part 15 Subpart E §15.407
CLASSIFICATION	:	(NII) Unlicensed National Information Infrastructure

The product was received on Dec. 13, 2017 and testing was completed on Dec. 29, 2017. 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.

Eric Shih

Approved by: Eric Shih / Manager

TESTING
NVLAP LAB CODE 600156-0

Sporton International (Shenzhen) Inc.
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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR7D1310D	Rev. 01	Initial issue of report	Feb. 12, 2018

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	2.1049 15.403(i)	26dB & 99% Bandwidth	-	Pass	-
3.2	15.407(a)	Maximum Conducted Output Power	FCC ≤ 24 dBm (depend on band)	Pass	-
3.3	15.407(a)	Power Spectral Density	FCC ≤ 11 dBm (depend on band)	Pass	-
3.4	15.407(b)	Unwanted Emissions	15.407(b) 15.209(a)	Pass	Under limit 4.19 dB at 5725.00 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 15.80 dB at 0.60 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

Motorola Mobility LLC
222 W, Merchandise Mart Plaza, Chicago IL 60654 USA

1.2 Manufacturer

Motorola Mobility LLC
222 W, Merchandise Mart Plaza, Chicago IL 60654 USA

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT1922-6, XT1922-7, XT1922-9
FCC ID	IHDT56XB1
EUT supports Radios application	CDMA/EVDO/GSM/GPRS/EGPRS/WCDMA/HSPA/ DC-HSDPA/HSPA+(16QAM uplink is not supported)/LTE/ WLAN 2.4GHz 802.11b/g/n HT20 WLAN 5GHz 802.11a/n HT20/HT40 Bluetooth v3.0+EDR/ Bluetooth v4.0 LE Bluetooth v4.1 LE/Bluetooth v4.2 LE
IMEI Code	Conducted: N/A Conduction: 351864090024229 Radiation: 351864090024633
HW Version	DVT1B
SW Version	jeter_oem_userdebug_8.0.0_OPP27.34_970_intcfg-test-keys_oem
EUT Stage	Identical Prototype

Remark:

1. For XT1922-6, XT1922-7, XT1922-9, they are the same product except model name different for market segment.
2. 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 Frequency Range	5180 MHz ~ 5240 MHz 5260 MHz ~ 5320 MHz 5500 MHz ~ 5700 MHz
Maximum Output Power to Antenna	**<5180 MHz ~ 5240 MHz>** 802.11a : 18.17 dBm / 0.0656 W 802.11n HT20 : 18.16 dBm / 0.0655 W 802.11n HT40 : 17.36 dBm / 0.0545 W **<5260 MHz ~ 5320 MHz>** 802.11a : 18.22 dBm / 0.0664 W 802.11n HT20 : 18.21 dBm / 0.0662 W 802.11n HT40 : 17.48 dBm / 0.0560 W **<5500 MHz ~ 5700 MHz >** 802.11a : 18.19 dBm / 0.0659 W 802.11n HT20 : 18.26 dBm / 0.0670 W 802.11n HT40 : 17.24 dBm / 0.0530 W
99% Occupied Bandwidth	**<5180 MHz ~ 5240 MHz>** 802.11a : 19.33 MHz 802.11n HT20 : 19.93 MHz 802.11n HT40 : 37.16 MHz **<5260 MHz ~ 5320 MHz >** 802.11a : 19.33 MHz 802.11n HT20 : 19.98 MHz 802.11n HT40 : 37.36 MHz **<5500 MHz ~ 5700 MHz >** 802.11a : 19.08 MHz 802.11n HT20 : 19.83 MHz 802.11n HT40 : 37.16 MHz
Antenna Gain / Gain	**<5180 MHz ~ 5240 MHz>** IFA Antenna with gain -3.00 dBi **<5260 MHz ~ 5320 MHz>** IFA Antenna with gain -3.00 dBi **<5500 MHz ~ 5700 MHz>** IFA Antenna with gain -3.00 dBi
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)

Note: WLAN operation in 5600 MHz ~ 5650 MHz is notched.

1.5 Specification of Accessory

Specification of Accessory				
AC Adapter 1	**Brand Name**	Motorola (Acbel)	**Model Name**	C-P35 SPN5945A
	Power Rating	I/P: 100-240 Vac, 300mA, O/P: 5.2Vdc,2000mA		
AC Adapter 2	**Brand Name**	Motorola (Salom)	**Model Name**	SSW-2919UMTJ C-P35 SPN5945A
	Power Rating	I/P: 100-240 Vac, 300mA, O/P: 5.2Vdc,2000mA		
Battery	**Brand Name**	Motorola (SCUD)	**Model Name**	BL270
	Power Rating	3.85Vdc,4000mAh	**Type**	Li-ion, ATL426580
USB Cable	**Brand Name**	Motorola (Saibao)	**Model Name**	SLQ-A077A
	Signal Line Type	1.0 meter, shielded cable, without ferrite core		

1.6 Modification of EUT

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

1.7 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.

Test Site	Sporton International (Shenzhen) Inc.		
Test Site Location	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		
Test Site No.	**Sporton Site No.**		**FCC Test Firm Registration No.**
	TH01-SZ	CO01-SZ	251365

Test Site	Sporton International (Shenzhen) Inc.	
Test Site Location	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	
Test Site No.	**Sporton Site No.**	**FCC Test Firm Registration No.**
	03CH04-SZ	577730

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

1.8 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
- 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). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases were recorded in this report.

2.1 Carrier Frequency Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5180-5240 MHz Band 1 (U-NII-1)	36	5180	44	5220
	38*	5190	46*	5230
	40	5200	48	5240
	-	-	-	-

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5260-5320 MHz Band 2 (U-NII-2A)	52	5260	60	5300
	54*	5270	62*	5310
	56	5280	64	5320
	-	-	-	-

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5500-5700 MHz Band 3 (U-NII-2C)	100	5500	112	5560
	102*	5510	116	5580
	104	5520	132	5660
	-	-	134*	5670
	108	5540	136	5680
	110*	5550	140	5700

Note: The above Frequency and Channel in "*" were 802.11n HT40.

2.2 Test Mode

Final test mode of conducted test items and radiated spurious emissions are considering the modulation and worse data rates as below table.

Modulation	Data Rate
802.11a	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0

Test Cases	
AC Conducted Emission	Mode 1 : WCDMA Band II Idle + Bluetooth Link + WLAN Link (5G) + USB Cable (Charging from Adapter 2) + Earphone + Camera(Front)
Remark: For Radiated Test Cases, The tests were performed with Earphone, Adapter 1 and USB Cable.	

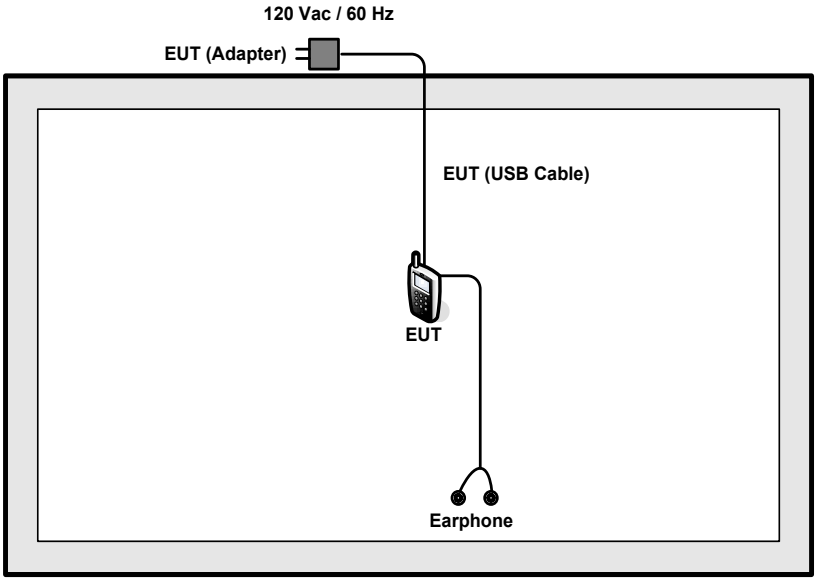
Ch. #		Band I：5180-5240 MHz	Band II：5260-5320 MHz	Band III：5500-5700MHz
		802.11a	802.11a	802.11a
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140

Ch. #		Band I：5180-5240 MHz	Band II：5260-5320 MHz	Band III：5500-5700MHz
		802.11n HT20	802.11n HT20	802.11n HT20
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140

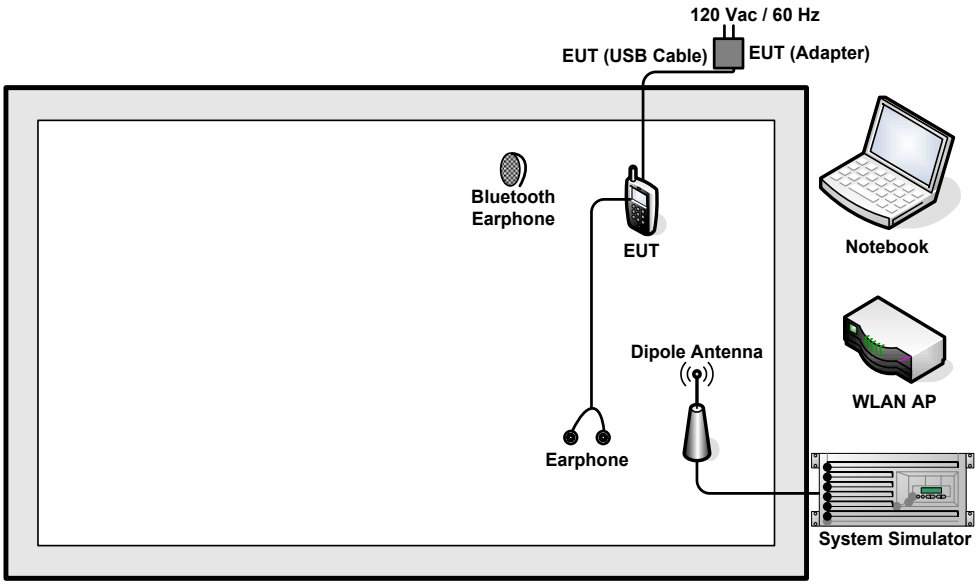
Ch. #		Band I：5180-5240 MHz	Band II：5260-5320 MHz	Band III：5500-5700MHz
		802.11n HT40	802.11n HT40	802.11n HT40
L	Low	38	54	102
M	Middle	-	-	110
H	High	46	62	134

2.3 Connection Diagram of Test System

<Radiated Emission 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.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
2.	WLAN AP	D-Link	DIR-820L	KA2IR820LA1	N/A	Unshielded, 1.8 m
3.	Notebook	Lenovo	E540	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	Bluetooth Earphone	Samsung	EO-MG900	PYAHS-107W	N/A	N/A
5.	Earphone	Ashley ROW	N/A	N/A	Unshielded,1.2m	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 WLAN AP 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 6.3 dB and 10dB attenuator.

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

= 6.3 + 10 = 16.3 (dB)

3 Test Result

3.1 26dB & 99% Occupied Bandwidth Measurement

3.1.1 Description of 26dB & 99% Occupied Bandwidth

This section is for reporting purpose only.

There is no restriction limits for bandwidth.

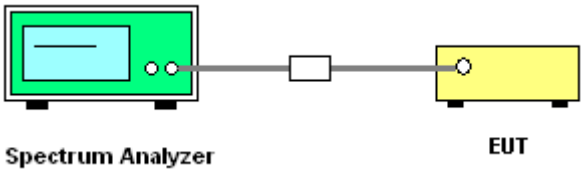
3.1.2 Measuring Instruments

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
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.
7. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1MHz and set the Video bandwidth (VBW) ≥ 3 * RBW.
8. Measure and record the results in the test report.

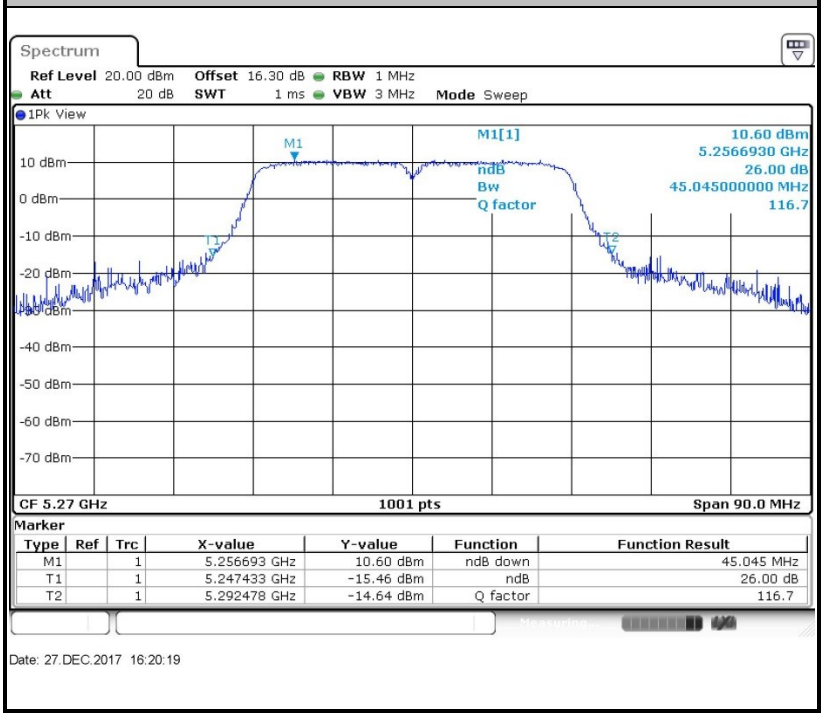
3.1.4 Test Setup



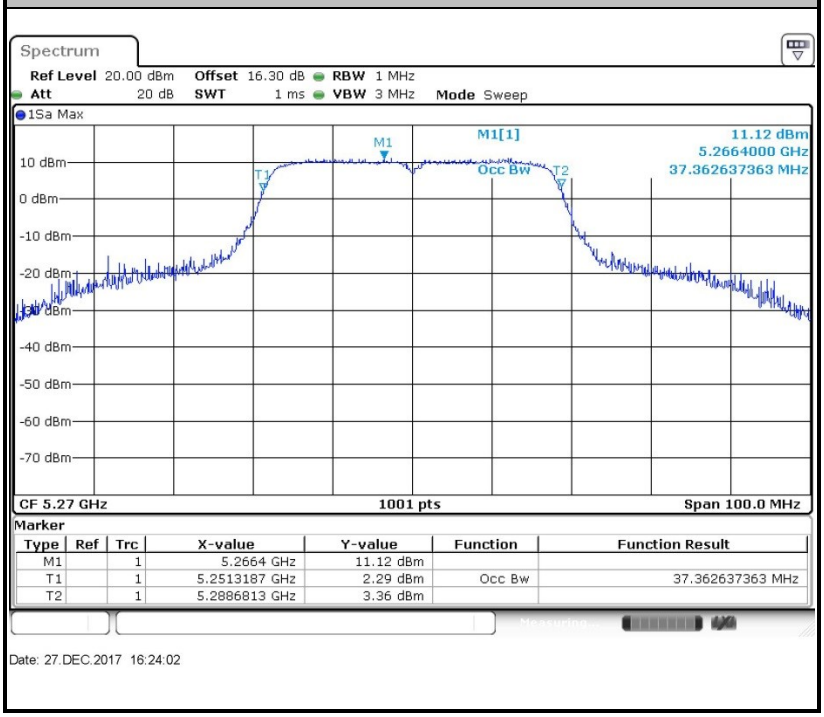
3.1.5 Test Result of 26dB & 99% Occupied Bandwidth Plots

Please refer to Appendix A.

Maximum 26dB 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

<FCC 14-30 CFR 15.407>

For mobile and portable client devices in the 5.15–5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW.

For the 5.25–5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm 10 log B, where B is the 26 dB emission bandwidth in megahertz.

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.

Note that U-NII-2 band, devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

3.2.2 Measuring Instruments

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

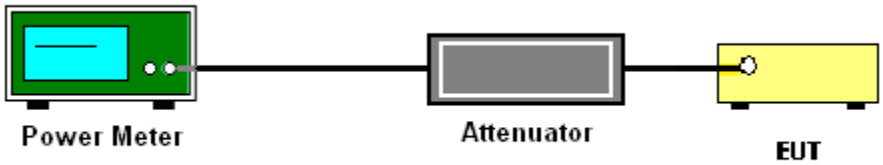
3.2.3 Test Procedures

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

<FCC 14-30 CFR 15.407>

For mobile and portable client devices in the 5.15–5.25 GHz band, the maximum power spectral density shall not exceed 11dBm in any 1 megahertz band.

For the 5.25–5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz 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

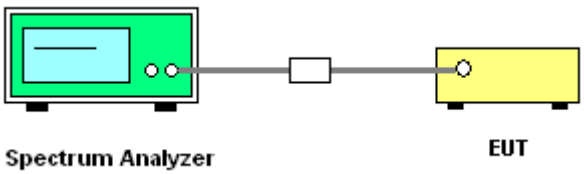
The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section F) Maximum power spectral density.

 # Method SA-2 #

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

1. The testing follows Method SA-2 of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
   - Measure the duty cycle.
   - Set span to encompass the entire emission bandwidth (EBW) of the signal.
   - Set RBW = 1 MHz.
   - Set VBW ≥ 3 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(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.

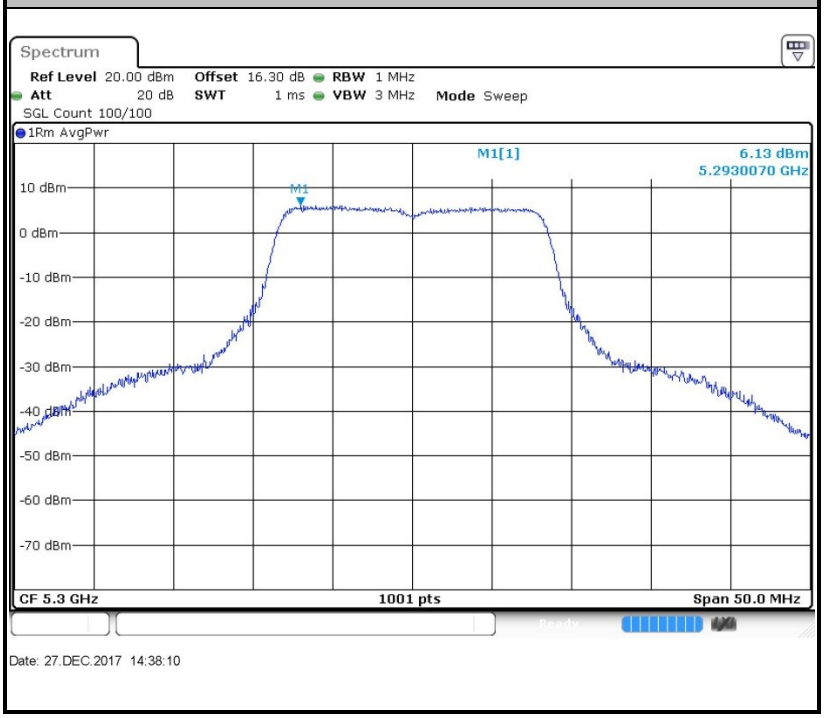
3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

Worst Case Power Spectral Density(dBm/MHz)



Note: Average Power Density (dB) = Measured value + Duty Factor

3.4 Unwanted Radiated Emission 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 5150-5250 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of –27dBm/MHz.

For transmitters operating in the 5250-5350 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5250-5350 MHz band that generate emissions in the 5150-5250 MHz band must meet all applicable technical requirements for operation in the 5150-5250 MHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5150-5250 MHz band.

For transmitters operating in the 5470-5725MHz band: all emissions outside of the 5470-5725MHz band shall not exceed an EIRP of -27 dBm/MHz.

(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

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)
- 27	68.3

(3) KDB789033 D01 v02r01 G)2)c)

(i) Section 15.407(b)(1) to (b)(3) specify the unwanted emission limits for the U-NII-1 and U-NII-2 bands. As specified, emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz.[3]

(ii) Section 15.407(b)(4) specifies the unwanted emission limit for the U-NII-3 band. A band emissions mask is specified in Section 15.407(b)(4)(i). The emission limits are in terms of a Peak detector. An alternative to the band emissions mask is specified in Section 15.407(b)(4)(ii). The alternative limits are based on the highest antenna gain specified in the filing. There are also marketing and importation restrictions for the devices using the alternative limit.[4]

Note 3: An out-of-band emission that complies with both the average and peak limits of Section 15.209 is not required to satisfy the -27 dBm/MHz peak emission limit.

Note 4: Only devices with antenna gains of 10 dBi or less may be approved using the emission limits specified in Section 15.247(d) till March 2, 2018; all other devices operating in this band must use the mask specified in Section 15.407(b)(4)(i).

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

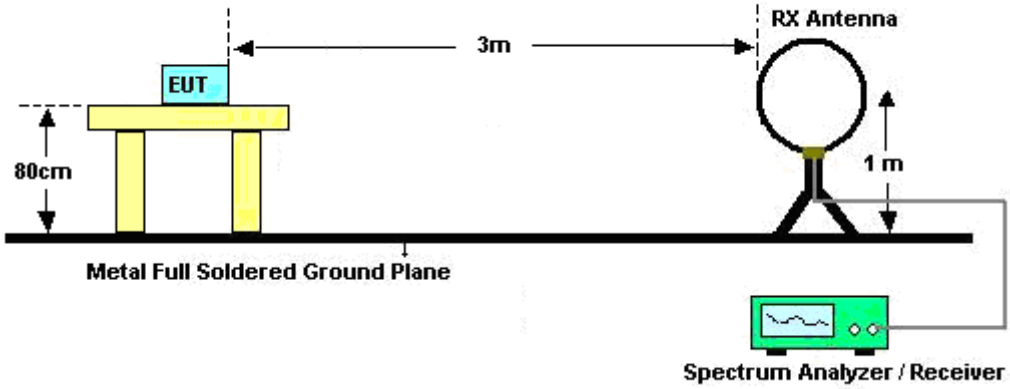
   (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

   - 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.

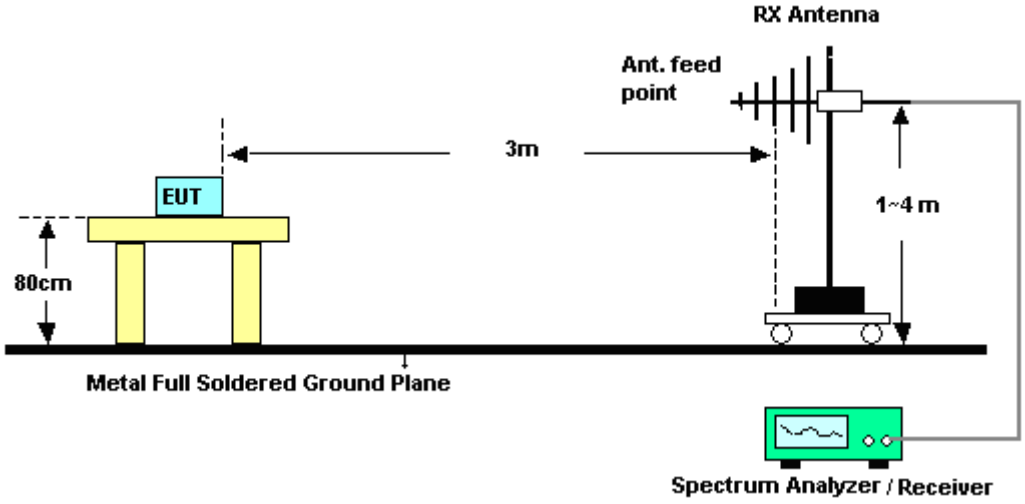
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband 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

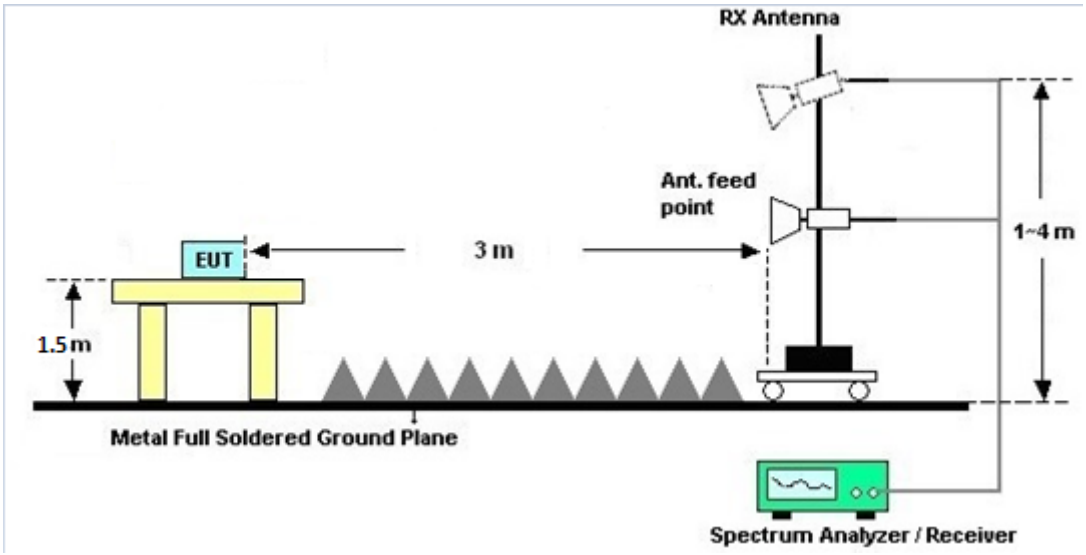
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.4.5 Test Results of Radiated Spurious 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.

3.4.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix B.

3.4.7 Duty Cycle

Please refer to Appendix C.

3.4.8 Test Result of Radiated Spurious 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.

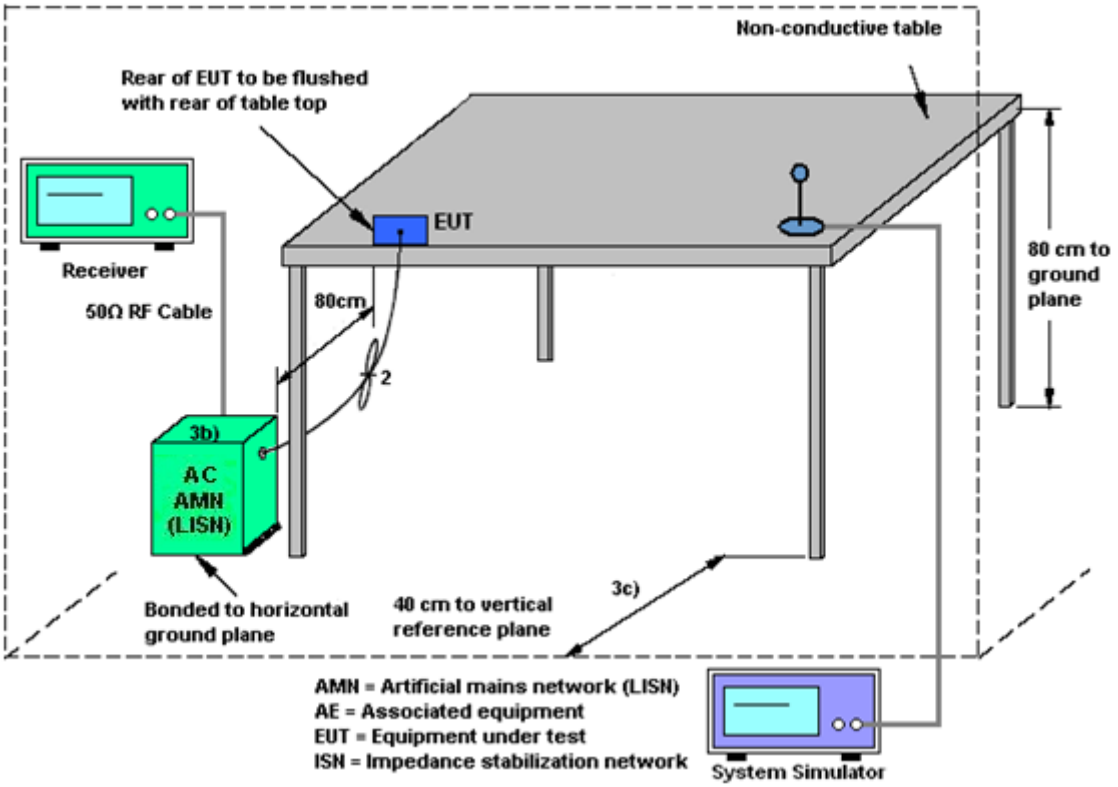
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

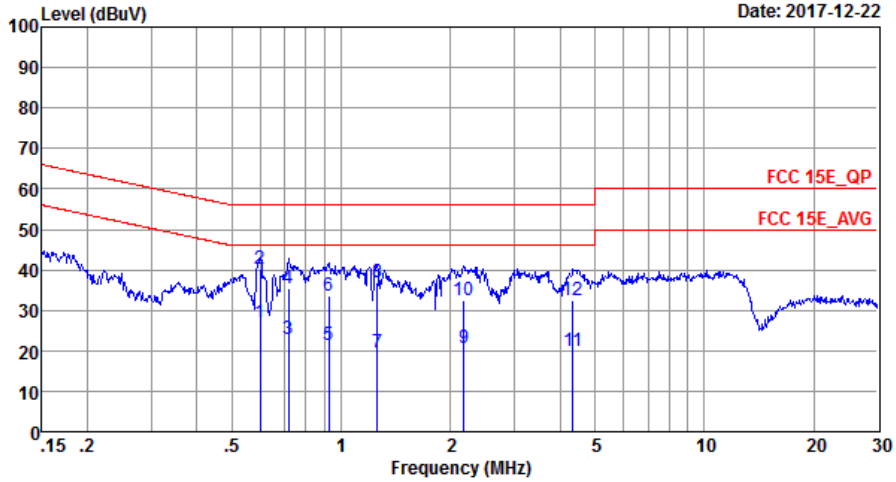
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
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



3.5.5 Test Result of AC Conducted Emission

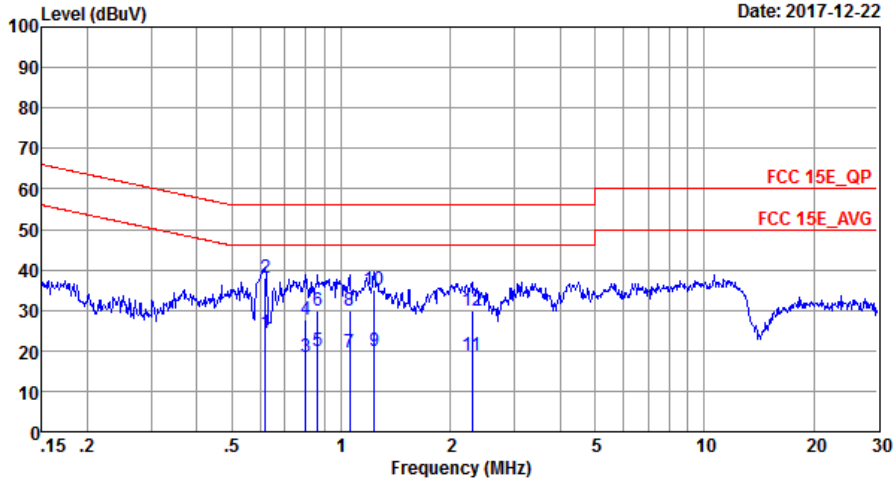
Test Mode :	Mode 1	**Temperature :**	22~25℃
Test Engineer :	Peng Wang	**Relative Humidity :**	50~55%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	WCDMA Band II Idle + Bluetooth Link + WLAN Link (5G) + USB Cable (Charging from Adapter 2) + Earphone + Camera(Front)		



Site : CO01-SZ
Condition: FCC 15E_QP LISN_20170907_L LINE
Project : 7D1310
Mode : Mode 1
IMEI : 351864090024229

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.60	27.10	-18.90	46.00	17.00	0.02	10.08	Average
2	*	0.60	40.20	-15.80	56.00	30.10	0.02	10.08	QP
3		0.72	23.00	-23.00	46.00	12.90	0.02	10.08	Average
4		0.72	35.40	-20.60	56.00	25.30	0.02	10.08	QP
5		0.92	21.45	-24.55	46.00	11.30	0.06	10.09	Average
6		0.92	33.65	-22.35	56.00	23.50	0.06	10.09	QP
7		1.26	19.68	-26.32	46.00	9.50	0.08	10.10	Average
8		1.26	36.78	-19.22	56.00	26.60	0.08	10.10	QP
9		2.18	20.64	-25.36	46.00	10.40	0.12	10.12	Average
10		2.18	32.64	-23.36	56.00	22.40	0.12	10.12	QP
11		4.34	20.06	-25.94	46.00	9.71	0.18	10.17	Average
12		4.34	32.66	-23.34	56.00	22.31	0.18	10.17	QP

Test Mode :	Mode 1	Temperature :	22~25℃
Test Engineer :	Peng Wang	Relative Humidity :	50~55%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WCDMA Band II Idle + Bluetooth Link + WLAN Link (5G) + USB Cable (Charging from Adapter 2) + Earphone + Camera(Front)		



Site : CO01-SZ
Condition: FCC 15E_QP LISN_20170907_N NEUTRAL
Project : 7D1310
Mode : Mode 1
IMEI : 351864090024229

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.62	24.20	-21.80	46.00	14.10	0.02	10.08	Average
2	*	0.62	38.00	-18.00	56.00	27.90	0.02	10.08	QP
3		0.80	18.31	-27.69	46.00	8.20	0.03	10.08	Average
4		0.80	27.81	-28.19	56.00	17.70	0.03	10.08	QP
5		0.86	19.82	-26.18	46.00	9.69	0.04	10.09	Average
6		0.86	29.72	-26.28	56.00	19.59	0.04	10.09	QP
7		1.05	19.64	-26.36	46.00	9.50	0.05	10.09	Average
8		1.05	29.74	-26.26	56.00	19.60	0.05	10.09	QP
9		1.24	20.04	-25.96	46.00	9.90	0.05	10.09	Average
10		1.24	34.94	-21.06	56.00	24.80	0.05	10.09	QP
11		2.30	18.86	-27.14	46.00	8.70	0.04	10.12	Average
12		2.30	29.76	-26.24	56.00	19.60	0.04	10.12	QP

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

4 List of Measuring Equipments

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 20, 2017	Dec. 21, 2017~ Dec. 27, 2017	Apr. 19, 2018	Conducted (TH01-SZ)
Pulse Power Senor	Anritsu	MA2411B	1207253	30MHz~40GHz	Jan. 06, 2017	Dec. 21, 2017~ Dec. 27, 2017	Jan. 05, 2018	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	50MHz Bandwidth	Jan. 06, 2017	Dec. 21, 2017~ Dec. 27, 2017	Jan. 05, 2018	Conducted (TH01-SZ)
DC Power Supply	GWINSTEK	AnritsuGPS-3030D	EM882636	Max 30V	May 13, 2017	Dec. 21, 2017~ Dec. 27, 2017	May 12, 2018	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 20, 2017	Dec. 21, 2017~ Dec. 27, 2017	Jul. 19, 2018	Conducted (TH01-SZ)
EMI Test Receiver	R&S	ESR7	101404	9kHz~7GHz	Apr. 20, 2017	Dec. 21, 2017~ Dec. 29, 2017	Apr. 19, 2018	Radiation (03CH04-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Apr. 20, 2017	Dec. 21, 2017~ Dec. 29, 2017	Apr. 19, 2018	Radiation (03CH04-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	May 14, 2017	Dec. 21, 2017~ Dec. 29, 2017	May 13, 2018	Radiation (03CH04-SZ)
Bilog Antenna	TeseQ	CBL6111D	41909	30MHz~1GHz	May 16, 2017	Dec. 21, 2017~ Dec. 29, 2017	May 15, 2018	Radiation (03CH04-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1285	1GHz~18GHz	Dec. 13, 2017	Dec. 21, 2017~ Dec. 29, 2017	Dec. 12, 2018	Radiation (03CH04-SZ)
Horn Antenna	SCHWARZBECK	BBHA9170	9170#679	15GHz~40GHz	May 17, 2017	Dec. 21, 2017~ Dec. 29, 2017	May 16, 2018	Radiation (03CH04-SZ)
Amplifier	Burgeon	BPA-530	102211	0.01Hz ~3000MHz	Oct. 19, 2017	Dec. 21, 2017~ Dec. 29, 2017	Oct. 18, 2018	Radiation (03CH04-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1989346	1GHz~18GHz	Jul. 27, 2017	Dec. 21, 2017~ Dec. 29, 2017	Jul. 26, 2018	Radiation (03CH04-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1988315	18GHz~40GHz	Jul. 27, 2017	Dec. 21, 2017~ Dec. 29, 2017	Jul. 26, 2018	Radiation (03CH04-SZ)
Amplifier	Agilent Technologies	83017A	MY53270156	500MHz~26.5GHz	Apr. 20, 2017	Dec. 21, 2017~ Dec. 29, 2017	Apr. 19, 2018	Radiation (03CH04-SZ)
AC Power Source	Chroma	61601	N/A	N/A	NCR	Dec. 21, 2017~ Dec. 29, 2017	NCR	Radiation (03CH04-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Dec. 21, 2017~ Dec. 29, 2017	NCR	Radiation (03CH04-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Dec. 21, 2017~ Dec. 29, 2017	NCR	Radiation (03CH04-SZ)
EMI Receiver	R&S	ESR7	101630	9kHz~7GHz;	Jan. 06, 2017	Dec. 22, 2017	Jan. 05, 2018	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103912	9kHz~30MHz	Jan. 05, 2017	Dec. 22, 2017	Jan. 04, 2018	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	MessTec	3816/2SH	00103892	9kHz~30MHz	Nov. 01, 2017	Dec. 22, 2017	Oct. 31, 2018	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Vac	Jul. 19, 2017	Dec. 22, 2017	Jul. 18, 2018	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))	2.6dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.1dB

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.8dB

Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.1dB

Appendix A. Conducted Test Results

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Tom Ye	Temperature:	24~26	°C
Test Date:	2017/12/21~2017/12/27	Relative Humidity:	50~53	%

Report Number : FR7D1310D

TEST RESULTS DATA
26dB and 99% OBW

Band I								
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)		
11a	6Mbps	1	36	5180	19.13	23.78		
11a	6Mbps	1	44	5220	19.33	23.73		
11a	6Mbps	1	48	5240	19.28	23.53		
HT20	MCS0	1	36	5180	19.88	24.08		
HT20	MCS0	1	44	5220	19.93	24.73		
HT20	MCS0	1	48	5240	19.88	23.78		
HT40	MCS0	1	38	5190	37.16	44.69		
HT40	MCS0	1	46	5230	37.16	44.69		

Report Number : FR7D1310D

TEST RESULTS DATA
Average Power Table

FCC Band I										
Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)		Pass/Fail
11a	6Mbps	1	36	5180	0.58	18.17	24.00	-3.00		Pass
11a	6Mbps	1	44	5220	0.58	18.08	24.00	-3.00		Pass
11a	6Mbps	1	48	5240	0.58	18.10	24.00	-3.00		Pass
HT20	MCS0	1	36	5180	0.62	18.04	24.00	-3.00		Pass
HT20	MCS0	1	44	5220	0.62	18.11	24.00	-3.00		Pass
HT20	MCS0	1	48	5240	0.62	18.16	24.00	-3.00		Pass
HT40	MCS0	1	38	5190	1.19	17.20	24.00	-3.00		Pass
HT40	MCS0	1	46	5230	1.19	17.36	24.00	-3.00		Pass

Report Number : FR7D1310D

TEST RESULTS DATA
Power Spectral Density

FCC Band I										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)	-	Pass/Fail
11a	6Mbps	1	36	5180	0.58	6.37	11.00	-3.00		Pass
11a	6Mbps	1	44	5220	0.58	6.32	11.00	-3.00		Pass
11a	6Mbps	1	48	5240	0.58	6.31	11.00	-3.00		Pass
HT20	MCS0	1	36	5180	0.62	6.02	11.00	-3.00		Pass
HT20	MCS0	1	44	5220	0.62	6.04	11.00	-3.00		Pass
HT20	MCS0	1	48	5240	0.62	5.94	11.00	-3.00		Pass
HT40	MCS0	1	38	5190	1.19	2.40	11.00	-3.00		Pass
HT40	MCS0	1	46	5230	1.19	2.33	11.00	-3.00		Pass

Report Number : FR7D1310D

TEST RESULTS DATA
26dB and 99% OBW

Band II								
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)	FCC 26dB Bandwidth Power Limit (dBm)	Note
11a	6M bps	1	52	5260	19.28	24.38	23.98	
11a	6M bps	1	60	5300	19.33	23.88	23.98	
11a	6M bps	1	64	5320	19.33	23.98	23.98	
HT20	MCS 0	1	52	5260	19.98	23.98	23.98	
HT20	MCS 0	1	60	5300	19.93	24.38	23.98	
HT20	MCS 0	1	64	5320	19.93	24.08	23.98	
HT40	MCS 0	1	54	5270	37.36	45.05	23.98	
HT40	MCS 0	1	62	5310	37.16	44.87	23.98	

Report Number : FR7D1310D

TEST RESULTS DATA
Average Power Table

FCC Band II										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail
11a	6M bps	1	52	5260	0.58	18.12	23.98	-3.00	26.99	Pass
11a	6M bps	1	60	5300	0.58	18.15	23.98	-3.00	26.99	Pass
11a	6M bps	1	64	5320	0.58	18.22	23.98	-3.00	26.99	Pass
HT20	MCS 0	1	52	5260	0.62	18.21	23.98	-3.00	26.99	Pass
HT20	MCS 0	1	60	5300	0.62	18.17	23.98	-3.00	26.99	Pass
HT20	MCS 0	1	64	5320	0.62	18.19	23.98	-3.00	26.99	Pass
HT40	MCS 0	1	54	5270	1.19	17.48	23.98	-3.00	26.99	Pass
HT40	MCS 0	1	62	5310	1.19	17.43	23.98	-3.00	26.99	Pass

Report Number : FR7D1310D

TEST RESULTS DATA
Power Spectral Density

Band II										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)		Pass/Fail
11a	6M bps	1	52	5260	0.58	6.52	11.00	-3.00		Pass
11a	6M bps	1	60	5300	0.58	6.71	11.00	-3.00		Pass
11a	6M bps	1	64	5320	0.58	6.43	11.00	-3.00		Pass
HT20	MCS 0	1	52	5260	0.62	6.21	11.00	-3.00		Pass
HT20	MCS 0	1	60	5300	0.62	6.04	11.00	-3.00		Pass
HT20	MCS 0	1	64	5320	0.62	6.02	11.00	-3.00		Pass
HT40	MCS 0	1	54	5270	1.19	2.81	11.00	-3.00		Pass
HT40	MCS 0	1	62	5310	1.19	2.64	11.00	-3.00		Pass

Report Number : FR7D1310D

TEST RESULTS DATA
26dB and 99% OBW

Band III								
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)	FCC 26dB Bandwidth Power Limit (dBm)	Note
11a	6M bps	1	100	5500	19.03	23.48	23.98	
11a	6M bps	1	116	5580	19.08	23.23	23.98	
11a	6M bps	1	140	5700	19.03	23.63	23.98	
HT20	MCS 0	1	100	5500	19.68	23.73	23.98	
HT20	MCS 0	1	116	5580	19.73	23.83	23.98	
HT20	MCS 0	1	140	5700	19.83	23.78	23.98	
HT40	MCS 0	1	102	5510	37.06	44.78	23.98	
HT40	MCS 0	1	110	5550	37.06	44.51	23.98	
HT40	MCS 0	1	134	5670	37.16	44.87	23.98	

Report Number : FR7D1310D

TEST RESULTS DATA
Average Power Table

FCC Band III										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail
11a	6M bps	1	100	5500	0.58	17.95	23.98	-3.00	26.99	Pass
11a	6M bps	1	116	5580	0.58	17.84	23.98	-3.00	26.99	Pass
11a	6M bps	1	140	5700	0.58	18.19	23.98	-3.00	26.99	Pass
HT20	MCS 0	1	100	5500	0.62	17.85	23.98	-3.00	26.99	Pass
HT20	MCS 0	1	116	5580	0.62	17.82	23.98	-3.00	26.99	Pass
HT20	MCS 0	1	140	5700	0.62	18.26	23.98	-3.00	26.99	Pass
HT40	MCS 0	1	102	5510	1.19	16.77	23.98	-3.00	26.99	Pass
HT40	MCS 0	1	110	5550	1.19	16.80	23.98	-3.00	26.99	Pass
HT40	MCS 0	1	134	5670	1.19	17.24	23.98	-3.00	26.99	Pass

Report Number : FR7D1310D

TEST RESULTS DATA
Power Spectral Density

Band III										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)		Pass/Fail
11a	6M bps	1	100	5500	0.58	6.04	11.00	-3.00		Pass
11a	6M bps	1	116	5580	0.58	5.91	11.00	-3.00		Pass
11a	6M bps	1	140	5700	0.58	6.07	11.00	-3.00		Pass
HT20	MCS 0	1	100	5500	0.62	5.63	11.00	-3.00		Pass
HT20	MCS 0	1	116	5580	0.62	5.73	11.00	-3.00		Pass
HT20	MCS 0	1	140	5700	0.62	5.96	11.00	-3.00		Pass
HT40	MCS 0	1	102	5510	1.19	1.91	11.00	-3.00		Pass
HT40	MCS 0	1	110	5550	1.19	1.45	11.00	-3.00		Pass
HT40	MCS 0	1	134	5670	1.19	1.47	11.00	-3.00		Pass

Appendix B. Radiated Spurious Emission

Band 1 - 5150~5250MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 36 5180MHz		5149.76	55.18	-18.82	74	46.23	31.96	6.04	29.05	100	14	P	H
		5150	44.99	-9.01	54	36.04	31.96	6.04	29.05	100	14	A	H
	*	5180	102.73	-	-	93.77	31.97	6.04	29.05	100	14	P	H
	*	5180	96.36	-	-	87.4	31.97	6.04	29.05	100	14	A	H
		5030.94	50.7	-23.3	74	41.74	31.91	6.06	29.01	100	93	P	V
		5149.76	41.91	-12.09	54	32.96	31.96	6.04	29.05	100	93	A	V
	*	5180	98	-	-	89.04	31.97	6.04	29.05	100	93	P	V
	*	5180	91.26	-	-	82.3	31.97	6.04	29.05	100	93	A	V
802.11a CH 44 5220MHz		5139.1	50.01	-23.99	74	41.06	31.95	6.04	29.04	100	121	P	H
		5023.66	41.68	-12.32	54	32.72	31.91	6.06	29.01	100	121	A	H
	*	5220	103.14	-	-	94.18	31.99	6.03	29.06	100	121	P	H
	*	5220	96.94	-	-	87.98	31.99	6.03	29.06	100	121	A	H
		5456.92	49.65	-24.35	74	40.65	32.08	6.06	29.14	100	121	P	H
		5445.44	40.64	-13.36	54	31.64	32.07	6.06	29.13	100	121	A	H
		5019.24	52.13	-21.87	74	43.17	31.91	6.06	29.01	317	7	P	V
		5057.2	41.41	-12.59	54	32.45	31.93	6.05	29.02	317	7	A	V
	*	5220	98.33	-	-	89.37	31.99	6.03	29.06	317	7	P	V
	*	5220	91.72	-	-	82.76	31.99	6.03	29.06	317	7	A	V
		5454.96	48.75	-25.25	74	39.75	32.08	6.06	29.14	317	7	P	V
		5447.4	40.4	-13.6	54	31.39	32.08	6.06	29.13	317	7	A	V

802.11a CH 48 5240MHz		5012.22	50.39	-23.61	74	41.42	31.91	6.06	29	100	301	P	H
		5008.06	41.29	-12.71	54	32.32	31.91	6.06	29	100	301	A	H
	*	5240	102.66	-	-	93.71	31.99	6.03	29.07	100	301	P	H
	*	5240	96.9	-	-	87.95	31.99	6.03	29.07	100	301	A	H
		5431.16	49.96	-24.04	74	40.96	32.07	6.06	29.13	100	301	P	H
		5449.64	40.44	-13.56	54	31.43	32.08	6.06	29.13	100	301	A	H
		5024.18	50.35	-23.65	74	41.39	31.91	6.06	29.01	100	4	P	V
		5001.82	41.27	-12.73	54	32.31	31.9	6.06	29	100	4	A	V
	*	5240	98.65	-	-	89.7	31.99	6.03	29.07	100	4	P	V
	*	5240	91.51	-	-	82.56	31.99	6.03	29.07	100	4	A	V
		5426.96	49.15	-24.85	74	40.15	32.07	6.06	29.13	100	4	P	V
		5458.04	40.48	-13.52	54	31.48	32.08	6.06	29.14	100	4	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI	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 36 5180MHz		10360	48.99	-25.01	74	56.92	38.69	9.23	55.85	152	260	P	H
		15540	50.03	-23.97	74	55.95	38.88	11.93	56.73	189	238	P	H
		10360	49.95	-24.05	74	57.88	38.69	9.23	55.85	152	260	P	V
		15540	49.76	-24.24	74	55.68	38.88	11.93	56.73	189	238	P	V
802.11a CH 44 5220MHz		10440	47.13	-26.87	74	55.01	38.75	9.25	55.88	150	230	P	H
		15660	48.32	-25.68	74	53.93	38.81	12.07	56.49	160	225	P	H
		10440	47.95	-26.05	74	55.83	38.75	9.25	55.88	150	230	P	V
		15660	49.19	-24.81	74	54.8	38.81	12.07	56.49	160	225	P	V
802.11a CH 48 5240MHz		10480	49.16	-24.84	74	57.01	38.79	9.26	55.9	150	289	P	H
		15720	48.42	-25.58	74	53.89	38.77	12.11	56.35	150	291	P	H
		10480	48.7	-25.3	74	56.55	38.79	9.26	55.9	150	289	P	V
		15720	49.64	-24.36	74	55.11	38.77	12.11	56.35	150	291	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI	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 36 5180MHz		5148.72	54.48	-19.52	74	45.53	31.96	6.04	29.05	100	14	P	H
		5150	45.33	-8.67	54	36.38	31.96	6.04	29.05	100	14	A	H
	*	5180	102.41	-	-	93.45	31.97	6.04	29.05	100	14	P	H
	*	5180	95.8	-	-	86.84	31.97	6.04	29.05	100	14	A	H
		5149.76	52.55	-21.45	74	43.6	31.96	6.04	29.05	147	72	P	V
		5150	44.07	-9.93	54	35.12	31.96	6.04	29.05	147	72	A	V
	*	5180	99.35	-	-	90.39	31.97	6.04	29.05	147	72	P	V
	*	5180	92.44	-	-	83.48	31.97	6.04	29.05	147	72	A	V
802.11n HT20 CH 44 5220MHz		5088.4	50.98	-23.02	74	42.02	31.93	6.05	29.02	101	15	P	H
		5005.2	41.51	-12.49	54	32.54	31.91	6.06	29	101	15	A	H
	*	5220	101.87	-	-	92.91	31.99	6.03	29.06	101	15	P	H
	*	5220	95.28	-	-	86.32	31.99	6.03	29.06	101	15	A	H
		5459.76	48.71	-25.29	74	39.71	32.08	6.06	29.14	101	15	P	H
		5446.56	40.55	-13.45	54	31.54	32.08	6.06	29.13	101	15	A	H
		5037.18	50.81	-23.19	74	41.86	31.91	6.05	29.01	147	72	P	V
		5002.34	41.87	-12.13	54	32.91	31.9	6.06	29	147	72	A	V
	*	5220	99.22	-	-	90.26	31.99	6.03	29.06	147	72	P	V
	*	5220	92.41	-	-	83.45	31.99	6.03	29.06	147	72	A	V
		5437.44	49.13	-24.87	74	40.13	32.07	6.06	29.13	147	72	P	V
		5455.2	40.62	-13.38	54	31.62	32.08	6.06	29.14	147	72	A	V

802.11n HT20 CH 48 5240MHz		5080.6	49.8	-24.2	74	40.84	31.93	6.05	29.02	101	15	P	H
		5026.78	41.56	-12.44	54	32.6	31.91	6.06	29.01	101	15	A	H
	*	5240	102.06	-	-	93.11	31.99	6.03	29.07	101	15	P	H
	*	5240	95.29	-	-	86.34	31.99	6.03	29.07	101	15	A	H
		5399.52	48.96	-25.04	74	40.01	32.06	6.01	29.12	101	15	P	H
		5450.64	40.51	-13.49	54	31.51	32.08	6.06	29.14	101	15	A	H
		5066.3	51.86	-22.14	74	42.9	31.93	6.05	29.02	126	55	P	V
		5001.04	41.62	-12.38	54	32.66	31.9	6.06	29	126	55	A	V
	*	5240	99.44	-	-	90.49	31.99	6.03	29.07	126	55	P	V
	*	5240	92.84	-	-	83.89	31.99	6.03	29.07	126	55	A	V
		5417.76	48.25	-25.75	74	39.29	32.07	6.01	29.12	126	55	P	V
		5453.76	40.53	-13.47	54	31.53	32.08	6.06	29.14	126	55	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	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 36 5180MHz		10360	48.2	-25.8	74	56.13	38.69	9.23	55.85	152	260	P	H
		15540	49.81	-24.19	74	55.73	38.88	11.93	56.73	189	238	P	H
		10360	48.26	-25.74	74	56.19	38.69	9.23	55.85	152	260	P	V
		15540	49.83	-24.17	74	55.75	38.88	11.93	56.73	189	238	P	V
802.11n HT20 CH 44 5220MHz		10440	48.23	-25.77	74	56.11	38.75	9.25	55.88	150	230	P	H
		15660	49.65	-24.35	74	55.26	38.81	12.07	56.49	160	225	P	H
		10440	48.77	-25.23	74	56.65	38.75	9.25	55.88	150	230	P	V
		15660	48.82	-25.18	74	54.43	38.81	12.07	56.49	160	225	P	V
802.11n HT20 CH 48 5240MHz		10480	48.32	-25.68	74	56.17	38.79	9.26	55.9	150	289	P	H
		15720	49.55	-24.45	74	55.02	38.77	12.11	56.35	150	291	P	H
		10480	47.95	-26.05	74	55.8	38.79	9.26	55.9	150	289	P	V
		15720	50.07	-23.93	74	55.54	38.77	12.11	56.35	150	291	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI	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 38 5190MHz		5146.38	58.62	-15.38	74	49.67	31.96	6.04	29.05	100	13	P	H
		5148.2	48.92	-5.08	54	39.97	31.96	6.04	29.05	100	13	A	H
	*	5190	98.49	-	-	89.53	31.97	6.04	29.05	100	13	P	H
	*	5190	91.2	-	-	82.24	31.97	6.04	29.05	100	13	A	H
		5430.88	49.38	-24.62	74	40.38	32.07	6.06	29.13	100	13	P	H
		5439.56	40.95	-13.05	54	31.95	32.07	6.06	29.13	100	13	A	H
		5146.64	52.94	-21.06	74	43.99	31.96	6.04	29.05	104	52	P	V
		5149.24	45.65	-8.35	54	36.7	31.96	6.04	29.05	104	52	A	V
	*	5190	95.45	-	-	86.49	31.97	6.04	29.05	104	52	P	V
	*	5190	89.1	-	-	80.14	31.97	6.04	29.05	104	52	A	V
		5406.8	49.47	-24.53	74	40.52	32.06	6.01	29.12	104	52	P	V
		5440.96	41.23	-12.77	54	32.23	32.07	6.06	29.13	104	52	A	V
802.11n HT40 CH 46 5230MHz		5114.4	50.39	-23.61	74	41.42	31.95	6.05	29.03	100	13	P	H
		5127.14	42.18	-11.82	54	33.23	31.95	6.04	29.04	100	13	A	H
	*	5230	98.62	-	-	89.67	31.99	6.03	29.07	100	13	P	H
	*	5230	91.26	-	-	82.31	31.99	6.03	29.07	100	13	A	H
		5361.36	48.56	-25.44	74	39.61	32.05	6.01	29.11	100	13	P	H
		5448.48	41.16	-12.84	54	32.15	32.08	6.06	29.13	100	13	A	H
		5043.16	50.42	-23.58	74	41.47	31.92	6.05	29.02	104	52	P	V
		5050.18	42.2	-11.8	54	33.25	31.92	6.05	29.02	104	52	A	V
	*	5230	94.24	-	-	85.29	31.99	6.03	29.07	104	52	P	V
	*	5230	88.52	-	-	79.57	31.99	6.03	29.07	104	52	A	V
		5413.44	48.46	-25.54	74	39.5	32.07	6.01	29.12	104	52	P	V
		5454	41.03	-12.97	54	32.03	32.08	6.06	29.14	104	52	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI	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 38 5190MHz		10380	47.89	-26.11	74	55.8	38.71	9.24	55.86	150	360	P	H
		15570	50.16	-23.84	74	55.98	38.86	11.98	56.66	155	360	P	H
		10380	48.48	-25.52	74	56.39	38.71	9.24	55.86	150	360	P	V
		15570	48.88	-25.12	74	54.7	38.86	11.98	56.66	155	360	P	V
802.11n HT40 CH 46 5230MHz		10460	48.72	-25.28	74	56.58	38.76	9.26	55.88	150	360	P	H
		15690	49.23	-24.77	74	54.75	38.79	12.11	56.42	150	225	P	H
		10460	48.43	-25.57	74	56.29	38.76	9.26	55.88	150	360	P	V
		15690	49.61	-24.39	74	55.13	38.79	12.11	56.42	150	225	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 - 5250~5350MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 52 5260MHz		5067.9	50.6	-23.4	74	41.64	31.93	6.05	29.02	104	120	P	H
		5004.2	41.49	-12.51	54	32.52	31.91	6.06	29	104	120	A	H
	*	5260	103.74	-	-	94.78	32.01	6.03	29.08	104	120	P	H
	*	5260	97.08	-	-	88.12	32.01	6.03	29.08	104	120	A	H
		5460	49.04	-24.96	74	40.04	32.08	6.06	29.14	104	120	P	H
		5455.44	40.94	-13.06	54	31.94	32.08	6.06	29.14	104	120	A	H
		5051.1	50.26	-23.74	74	41.31	31.92	6.05	29.02	100	4	P	V
		5000.7	41.48	-12.52	54	32.52	31.9	6.06	29	100	4	A	V
	*	5260	98.57	-	-	89.61	32.01	6.03	29.08	100	4	P	V
	*	5260	91.63	-	-	82.67	32.01	6.03	29.08	100	4	A	V
		5402.16	49.43	-24.57	74	40.48	32.06	6.01	29.12	100	4	P	V
		5456.16	40.65	-13.35	54	31.65	32.08	6.06	29.14	100	4	A	V
802.11a CH 60 5300MHz		5129.85	50.75	-23.25	74	41.8	31.95	6.04	29.04	100	14	P	H
		5000.35	41.63	-12.37	54	32.67	31.9	6.06	29	100	14	A	H
	*	5300	103.45	-	-	94.5	32.02	6.02	29.09	100	14	P	H
	*	5300	96.51	-	-	87.56	32.02	6.02	29.09	100	14	A	H
		5354.16	50.65	-23.35	74	41.71	32.04	6.01	29.11	100	14	P	H
		5352.48	45.8	-8.2	54	36.86	32.04	6.01	29.11	100	14	A	H
		5099.75	50.03	-23.97	74	41.07	31.94	6.05	29.03	100	3	P	V
		5022.05	41.44	-12.56	54	32.48	31.91	6.06	29.01	100	3	A	V
	*	5300	98.68	-	-	89.73	32.02	6.02	29.09	100	3	P	V
	*	5300	91.93	-	-	82.98	32.02	6.02	29.09	100	3	A	V
		5372.64	49.28	-24.72	74	40.33	32.05	6.01	29.11	100	3	P	V
		5352.48	42.01	-11.99	54	33.07	32.04	6.01	29.11	100	3	A	V

802.11a CH 64 5320MHz	*	5320	103.76	-	-	94.8	32.03	6.02	29.09	100	121	P	H
	*	5320	97.18	-	-	88.22	32.03	6.02	29.09	100	121	A	H
		5350.08	53.99	-20.01	74	45.05	32.04	6.01	29.11	100	121	P	H
		5372.32	44.28	-9.72	54	35.33	32.05	6.01	29.11	100	121	A	H
	*	5320	98.47	-	-	89.51	32.03	6.02	29.09	100	2	P	V
	*	5320	91.79	-	-	82.83	32.03	6.02	29.09	100	2	A	V
		5352.48	50.46	-23.54	74	41.52	32.04	6.01	29.11	100	2	P	V
		5372.8	41.72	-12.28	54	32.77	32.05	6.01	29.11	100	2	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI	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 52 5260MHz		10520	49.83	-24.17	74	57.64	38.83	9.27	55.91	150	220	P	H
		15780	50.16	-23.84	74	55.48	38.73	12.2	56.25	159	345	P	H
		10520	49.45	-24.55	74	57.26	38.83	9.27	55.91	150	220	P	V
		15780	50.08	-23.92	74	55.4	38.73	12.2	56.25	159	345	P	V
802.11a CH 60 5300MHz		10600	48.84	-25.16	74	56.48	39.01	9.29	55.94	185	215	P	H
		15900	48.85	-25.15	74	53.86	38.66	12.34	56.01	196	190	P	H
		10600	50.1	-23.9	74	57.74	39.01	9.29	55.94	185	215	P	V
		15900	50.36	-23.64	74	55.37	38.66	12.34	56.01	196	190	P	V
802.11a CH 64 5320MHz		10640	47.93	-26.07	74	55.51	39.08	9.3	55.96	152	135	P	H
		15960	48.59	-25.41	74	53.41	38.62	12.43	55.87	173	245	P	H
		10640	48.24	-25.76	74	55.82	39.08	9.3	55.96	152	135	P	V
		15960	48.78	-25.22	74	53.6	38.62	12.43	55.87	173	245	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI	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 52 5260MHz		5001.82	50.56	-23.44	74	41.6	31.9	6.06	29	101	15	P	H
		5062.66	41.48	-12.52	54	32.52	31.93	6.05	29.02	101	15	A	H
	*	5260	102.85	-	-	93.89	32.01	6.03	29.08	101	15	P	H
	*	5260	95.52	-	-	86.56	32.01	6.03	29.08	101	15	A	H
		5444.4	49.38	-24.62	74	40.38	32.07	6.06	29.13	101	15	P	H
		5454.24	40.67	-13.33	54	31.67	32.08	6.06	29.14	101	15	A	H
		5114.4	51.03	-22.97	74	42.06	31.95	6.05	29.03	126	55	P	V
		5009.1	41.63	-12.37	54	32.66	31.91	6.06	29	126	55	A	V
	*	5260	99.5	-	-	90.54	32.01	6.03	29.08	126	55	P	V
	*	5260	92.97	-	-	84.01	32.01	6.03	29.08	126	55	A	V
		5443.44	48.65	-25.35	74	39.65	32.07	6.06	29.13	126	55	P	V
		5443.2	40.54	-13.46	54	31.54	32.07	6.06	29.13	126	55	A	V
802.11n HT20 CH 60 5300MHz		5040.95	50.26	-23.74	74	41.3	31.92	6.05	29.01	102	14	P	H
		5014.7	41.66	-12.34	54	32.69	31.91	6.06	29	102	14	A	H
	*	5300	102.26	-	-	93.31	32.02	6.02	29.09	102	14	P	H
	*	5300	95.51	-	-	86.56	32.02	6.02	29.09	102	14	A	H
		5352	51.36	-22.64	74	42.42	32.04	6.01	29.11	102	14	P	H
		5351.76	45.49	-8.51	54	36.55	32.04	6.01	29.11	102	14	A	H
		5005.95	51.08	-22.92	74	42.11	31.91	6.06	29	126	55	P	V
		5019.95	41.61	-12.39	54	32.65	31.91	6.06	29.01	126	55	A	V
	*	5300	99.14	-	-	90.19	32.02	6.02	29.09	126	55	P	V
	*	5300	92.95	-	-	84	32.02	6.02	29.09	126	55	A	V
		5352.24	49.72	-24.28	74	40.78	32.04	6.01	29.11	126	55	P	V
		5352	43.87	-10.13	54	34.93	32.04	6.01	29.11	126	55	A	V

802.11n HT20 CH 64 5320MHz	*	5320	102.67	-	-	93.71	32.03	6.02	29.09	102	14	P	H
	*	5320	95.58	-	-	86.62	32.03	6.02	29.09	102	14	A	H
		5350.08	57.24	-16.76	74	48.3	32.04	6.01	29.11	102	14	P	H
		5371.68	45.3	-8.7	54	36.35	32.05	6.01	29.11	102	14	A	H
	*	5320	100.6	-	-	91.64	32.03	6.02	29.09	126	55	P	V
	*	5320	93.12	-	-	84.16	32.03	6.02	29.09	126	55	A	V
		5352.96	51.86	-22.14	74	42.92	32.04	6.01	29.11	126	55	P	V
		5371.68	43.46	-10.54	54	34.51	32.05	6.01	29.11	126	55	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	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 52 5260MHz		10520	47.93	-26.07	74	55.74	38.83	9.27	55.91	150	220	P	H
		15780	49.66	-24.34	74	54.98	38.73	12.2	56.25	159	345	P	H
		10520	48	-26	74	55.81	38.83	9.27	55.91	150	220	P	V
		15780	50.21	-23.79	74	55.53	38.73	12.2	56.25	159	345	P	V
802.11n HT20 CH 60 5300MHz		10600	49.23	-24.77	74	56.87	39.01	9.29	55.94	185	215	P	H
		15900	49.77	-24.23	74	54.78	38.66	12.34	56.01	196	190	P	H
		10600	48.47	-25.53	74	56.11	39.01	9.29	55.94	185	215	P	V
		15900	49.72	-24.28	74	54.73	38.66	12.34	56.01	196	190	P	V
802.11n HT20 CH 64 5320MHz		10640	48.07	-25.93	74	55.65	39.08	9.3	55.96	152	135	P	H
		15960	48.41	-25.59	74	53.23	38.62	12.43	55.87	173	245	P	H
		10640	47.7	-26.3	74	55.28	39.08	9.3	55.96	152	135	P	V
		15960	49.35	-24.65	74	54.17	38.62	12.43	55.87	173	245	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI	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 54 5270MHz		5053.82	50.17	-23.83	74	41.22	31.92	6.05	29.02	100	13	P	H
		5006.5	42.21	-11.79	54	33.24	31.91	6.06	29	100	13	A	H
	*	5270	99.07	-	-	90.11	32.01	6.03	29.08	100	13	P	H
	*	5270	91.37	-	-	82.41	32.01	6.03	29.08	100	13	A	H
		5364	49.84	-24.16	74	40.89	32.05	6.01	29.11	100	13	P	H
		5373.36	41.99	-12.01	54	33.05	32.05	6.01	29.12	100	13	A	H
		5027.04	50.76	-23.24	74	41.8	31.91	6.06	29.01	104	52	P	V
		5005.46	42.05	-11.95	54	33.08	31.91	6.06	29	104	52	A	V
	*	5270	95.54	-	-	86.58	32.01	6.03	29.08	104	52	P	V
	*	5270	90.85	-	-	81.89	32.01	6.03	29.08	104	52	A	V
		5422.8	49.01	-24.99	74	40.05	32.07	6.01	29.12	104	52	P	V
		5372.88	41.15	-12.85	54	32.2	32.05	6.01	29.11	104	52	A	V
802.11n HT40 CH 62 5310MHz		5079.1	50.28	-23.72	74	41.32	31.93	6.05	29.02	100	13	P	H
		5006.65	42.57	-11.43	54	33.6	31.91	6.06	29	100	13	A	H
	*	5310	98.97	-	-	90.01	32.03	6.02	29.09	100	13	P	H
	*	5310	91.46	-	-	82.5	32.03	6.02	29.09	100	13	A	H
		5350.08	57.55	-16.45	74	48.61	32.04	6.01	29.11	100	13	P	H
		5350.8	47.58	-6.42	54	38.64	32.04	6.01	29.11	100	13	A	H
		5051.45	49.87	-24.13	74	40.92	31.92	6.05	29.02	104	52	P	V
		5114.8	42.12	-11.88	54	33.16	31.95	6.04	29.03	104	52	A	V
	*	5310	95.73	-	-	86.77	32.03	6.02	29.09	104	52	P	V
	*	5310	90.86	-	-	81.9	32.03	6.02	29.09	104	52	A	V
		5353.92	51.33	-22.67	74	42.39	32.04	6.01	29.11	104	52	P	V
		5352.48	44.49	-9.51	54	35.55	32.04	6.01	29.11	104	52	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI	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 54 5270MHz		10540	48.84	-25.16	74	56.61	38.87	9.28	55.92	150	220	P	H
		15810	49.86	-24.14	74	55.08	38.71	12.25	56.18	168	345	P	H
		10540	47.94	-26.06	74	55.71	38.87	9.28	55.92	150	220	P	V
		15810	49.77	-24.23	74	54.99	38.71	12.25	56.18	168	345	P	V
802.11n HT40 CH 62 5310MHz		10620	48.84	-25.16	74	56.45	39.04	9.3	55.95	150	220	P	H
		15930	48.92	-25.08	74	53.84	38.64	12.38	55.94	160	100	P	H
		10620	49.27	-24.73	74	56.88	39.04	9.3	55.95	150	220	P	V
		15930	48.06	-25.94	74	52.98	38.64	12.38	55.94	160	100	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 100 5500MHz		5469.52	54.01	-19.99	74	44.95	32.09	6.11	29.14	109	121	P	H
		5447.76	46.12	-7.88	54	37.11	32.08	6.06	29.13	109	121	A	H
	*	5500	103.62	-	-	94.56	32.1	6.11	29.15	109	121	P	H
	*	5500	97.31	-	-	88.25	32.1	6.11	29.15	109	121	A	H
		5446	50.59	-23.41	74	41.58	32.08	6.06	29.13	100	4	P	V
		5447.44	43.18	-10.82	54	34.17	32.08	6.06	29.13	100	4	A	V
	*	5500	98.26	-	-	89.2	32.1	6.11	29.15	100	4	P	V
	*	5500	91.63	-	-	82.57	32.1	6.11	29.15	100	4	A	V
802.11a CH 116 5580MHz		5466.64	49.88	-24.12	74	40.82	32.09	6.11	29.14	111	130	P	H
		5449.84	40.87	-13.13	54	31.87	32.08	6.06	29.14	111	130	A	H
	*	5580	103.23	-	-	93.95	32.24	6.22	29.18	111	130	P	H
	*	5580	97.13	-	-	87.85	32.24	6.22	29.18	111	130	A	H
		5746.415	48.98	-25.02	74	39.42	32.58	6.2	29.22	111	130	P	H
		5747.36	41.14	-12.86	54	31.58	32.58	6.2	29.22	111	130	A	H
		5456.56	49.48	-24.52	74	40.48	32.08	6.06	29.14	314	243	P	V
		5465.68	40.7	-13.3	54	31.64	32.09	6.11	29.14	314	243	A	V
	*	5580	99.52	-	-	90.24	32.24	6.22	29.18	314	243	P	V
	*	5580	92.52	-	-	83.24	32.24	6.22	29.18	314	243	A	V
		5735.075	49.66	-24.34	74	40.08	32.58	6.22	29.22	314	243	P	V
		5743.58	41.01	-12.99	54	31.45	32.58	6.2	29.22	314	243	A	V

802.11a CH 140 5700MHz	*	5700	104.12	-	-	94.63	32.48	6.22	29.21	100	131	P	H
	*	5700	98.06	-	-	88.57	32.48	6.22	29.21	100	131	A	H
		5728.44	56.42	-17.58	74	46.87	32.55	6.22	29.22	100	131	P	H
		5725	48.59	-5.41	54	39.04	32.55	6.22	29.22	100	131	A	H
	*	5700	100.04	-	-	90.55	32.48	6.22	29.21	100	102	P	V
	*	5700	93.63	-	-	84.14	32.48	6.22	29.21	100	102	A	V
		5727.8	52.27	-21.73	74	42.72	32.55	6.22	29.22	100	102	P	V
		5725	45.61	-8.39	54	36.06	32.55	6.22	29.22	100	102	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI	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 100 5500MHz		11000	49.44	-24.56	74	56.36	39.8	9.38	56.1	163	230	P	H
		16500	49.71	-24.29	74	53.85	38.5	13.41	56.05	178	296	P	H
		11000	48.8	-25.2	74	55.72	39.8	9.38	56.1	163	230	P	V
		16500	49.6	-24.4	74	53.74	38.5	13.41	56.05	178	296	P	V
802.11a CH 116 5580MHz		11160	49	-25	74	55.82	39.6	9.43	55.85	170	200	P	H
		16740	50.3	-23.7	74	53.3	39.22	13.95	56.17	156	350	P	H
		11160	48.12	-25.88	74	54.94	39.6	9.43	55.85	170	200	P	V
		16740	50.53	-23.47	74	53.53	39.22	13.95	56.17	156	350	P	V
802.11a CH 140 5700MHz		11400	49.67	-24.33	74	56.36	39.32	9.48	55.49	157	285	P	H
		17100	50.49	-23.51	74	51.57	40.64	14.66	56.38	165	246	P	H
		11400	49.51	-24.49	74	56.2	39.32	9.48	55.49	157	285	P	V
		17100	50.3	-23.7	74	51.38	40.64	14.66	56.38	165	246	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI	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 100 5500MHz		5466.16	54.59	-19.41	74	45.53	32.09	6.11	29.14	100	133	P	H
		5448.08	46.66	-7.34	54	37.65	32.08	6.06	29.13	100	133	A	H
	*	5500	102.75	-	-	93.69	32.1	6.11	29.15	100	133	P	H
	*	5500	94.52	-	-	85.46	32.1	6.11	29.15	100	133	A	H
		5448.08	50.78	-23.22	74	41.77	32.08	6.06	29.13	126	55	P	V
		5448.56	44.39	-9.61	54	35.38	32.08	6.06	29.13	126	55	A	V
	*	5500	99.74	-	-	90.68	32.1	6.11	29.15	126	55	P	V
	*	5500	92.97	-	-	83.91	32.1	6.11	29.15	126	55	A	V
802.11n HT20 CH 116 5580MHz		5395.84	49.07	-24.93	74	40.12	32.06	6.01	29.12	100	133	P	H
		5441.44	40.69	-13.31	54	31.69	32.07	6.06	29.13	100	133	A	H
	*	5580	102.16	-	-	92.88	32.24	6.22	29.18	100	133	P	H
	*	5580	94.6	-	-	85.32	32.24	6.22	29.18	100	133	A	H
		5737.28	48.61	-25.39	74	39.03	32.58	6.22	29.22	100	133	P	H
		5745.155	40.83	-13.17	54	31.27	32.58	6.2	29.22	100	133	A	H
		5440.96	49.34	-24.66	74	40.34	32.07	6.06	29.13	126	55	P	V
		5460.88	40.68	-13.32	54	31.68	32.08	6.06	29.14	126	55	A	V
	*	5580	99.49	-	-	90.21	32.24	6.22	29.18	126	55	P	V
	*	5580	93.03	-	-	83.75	32.24	6.22	29.18	126	55	A	V
		5737.28	49.36	-24.64	74	39.78	32.58	6.22	29.22	126	55	P	V
		5728.46	40.89	-13.11	54	31.34	32.55	6.22	29.22	126	55	A	V

802.11n HT20 CH 140 5700MHz	*	5700	103.03	-	-	93.54	32.48	6.22	29.21	100	133	P	H
	*	5700	94.92	-	-	85.43	32.48	6.22	29.21	100	133	A	H
		5725.08	62.62	-11.38	74	53.07	32.55	6.22	29.22	100	133	P	H
		5725	49.81	-4.19	54	40.26	32.55	6.22	29.22	100	133	A	H
	*	5700	99.41	-	-	89.92	32.48	6.22	29.21	126	55	P	V
	*	5700	93.05	-	-	83.56	32.48	6.22	29.21	126	55	A	V
		5725.72	57.22	-16.78	74	47.67	32.55	6.22	29.22	126	55	P	V
		5725	49.56	-4.44	54	40.01	32.55	6.22	29.22	126	55	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	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 100 5500MHz		11000	48.89	-25.11	74	55.81	39.8	9.38	56.1	163	230	P	H
		16500	46.02	-27.98	74	50.16	38.5	13.41	56.05	178	296	P	H
		11000	49.57	-24.43	74	56.49	39.8	9.38	56.1	163	230	P	V
		16500	46.01	-27.99	74	50.15	38.5	13.41	56.05	178	296	P	V
802.11n HT20 CH 116 5580MHz		11160	48.95	-25.05	74	55.77	39.6	9.43	55.85	170	200	P	H
		16740	47.68	-26.32	74	50.68	39.22	13.95	56.17	156	350	P	H
		11160	49.51	-24.49	74	56.33	39.6	9.43	55.85	170	200	P	V
		16740	47.4	-26.6	74	50.4	39.22	13.95	56.17	156	350	P	V
802.11n HT20 CH 140 5700MHz		11400	49.81	-24.19	74	56.5	39.32	9.48	55.49	157	285	P	H
		17100	50.81	-23.19	74	51.89	40.64	14.66	56.38	165	246	P	H
		11400	49.73	-24.27	74	56.42	39.32	9.48	55.49	157	285	P	V
		17100	50.92	-23.08	74	52	40.64	14.66	56.38	165	246	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI	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 102 5510MHz		5467.84	53.49	-20.51	74	44.43	32.09	6.11	29.14	100	17	P	H
		5469.76	45.23	-8.77	54	36.17	32.09	6.11	29.14	100	17	A	H
	*	5510	98.23	-	-	89.11	32.1	6.17	29.15	100	17	P	H
	*	5510	91.46	-	-	82.34	32.1	6.17	29.15	100	17	A	H
		5752.085	49.46	-24.54	74	39.86	32.62	6.2	29.22	100	17	P	H
		5747.99	41.37	-12.63	54	31.81	32.58	6.2	29.22	100	17	A	H
		5466.64	52.95	-21.05	74	43.89	32.09	6.11	29.14	104	52	P	V
		5467.36	43.85	-10.15	54	34.79	32.09	6.11	29.14	104	52	A	V
	*	5510	95.35	-	-	86.23	32.1	6.17	29.15	104	52	P	V
	*	5510	91.06	-	-	81.94	32.1	6.17	29.15	104	52	A	V
		5757.755	48.93	-25.07	74	39.34	32.62	6.2	29.23	104	52	P	V
		5750.195	41.31	-12.69	54	31.75	32.58	6.2	29.22	104	52	A	V
802.11n HT40 CH 134 5670MHz		5442.4	49.27	-24.73	74	40.27	32.07	6.06	29.13	100	132	P	H
		5463.75	41.28	-12.72	54	32.27	32.09	6.06	29.14	100	132	A	H
	*	5670	98.49	-	-	89.02	32.44	6.23	29.2	100	132	P	H
	*	5670	91.62	-	-	82.15	32.44	6.23	29.2	100	132	A	H
		5753.8	50.28	-23.72	74	40.68	32.62	6.2	29.22	100	132	P	H
		5726.325	41.6	-12.4	54	32.05	32.55	6.22	29.22	100	132	A	H
		5450.8	49.12	-24.88	74	40.12	32.08	6.06	29.14	104	52	P	V
		5447.65	41.14	-12.86	54	32.13	32.08	6.06	29.13	104	52	A	V
	*	5670	96.02	-	-	86.55	32.44	6.23	29.2	104	52	P	V
	*	5670	89.48	-	-	80.01	32.44	6.23	29.2	104	52	A	V
		5738.4	49.46	-24.54	74	39.88	32.58	6.22	29.22	104	52	P	V
		5749.075	41.47	-12.53	54	31.91	32.58	6.2	29.22	104	52	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI	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 102 5510MHz		11020	49.71	-24.29	74	56.61	39.78	9.39	56.07	170	230	P	H
		16530	49.48	-24.52	74	53.47	38.6	13.48	56.07	160	300	P	H
		11020	50.45	-23.55	74	57.35	39.78	9.39	56.07	170	230	P	V
		16530	49.46	-24.54	74	53.45	38.6	13.48	56.07	160	300	P	V
802.11n HT40 CH 134 5670MHz		11340	49.11	-24.89	74	55.84	39.4	9.46	55.59	200	360	P	H
		17010	50.69	-23.31	74	52.39	40.11	14.5	56.31	200	360	P	H
		11340	49.23	-24.77	74	55.96	39.4	9.46	55.59	200	360	P	V
		17010	50.06	-23.94	74	51.76	40.11	14.5	56.31	200	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

WIFI 802.11n HT20 (LF @ 3m)

WIFI	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 LF		30	24.1	-15.9	40	30.92	24.9	0.25	31.97	-	-	P	H
		258.92	24.7	-21.3	46	33.95	20.26	1.73	31.24	-	-	P	H
		536.34	26.95	-19.05	46	31.02	24.65	2.52	31.24	-	-	P	H
		608.12	29.11	-16.89	46	31.78	25.87	2.72	31.26	-	-	P	H
		794.36	31.6	-14.4	46	31.23	28.4	3.14	31.17	-	-	P	H
		886.51	33.2	-12.8	46	31.83	29.19	3.35	31.17	100	0	P	H
		41.64	25.88	-14.12	40	38.25	19.16	0.44	31.97	-	-	P	V
		99.84	21.42	-22.08	43.5	35.78	16.3	1.06	31.72	-	-	P	V
		345.25	22.9	-23.1	46	31.49	20.54	2.08	31.21	-	-	P	V
		617.82	28.94	-17.06	46	31.5	25.96	2.74	31.26	-	-	P	V
		872.93	32.03	-13.97	46	30.82	29.08	3.31	31.18	100	0	P	V
		973.81	34.3	-19.7	54	31.94	30.19	3.51	31.34	-	-	P	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.	
2		(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)

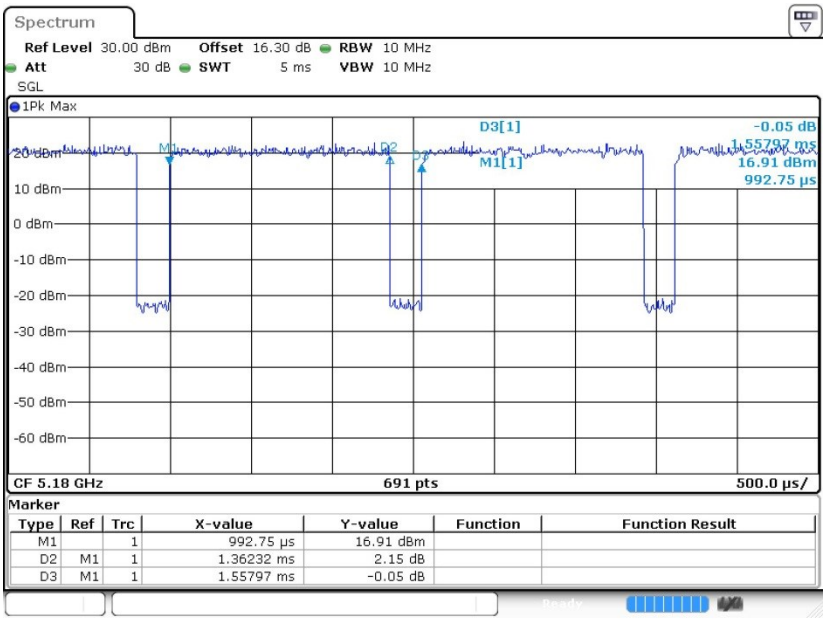
= -10.46(dB)

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

Appendix C. Duty Cycle Plots

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11a	87.44	1.362	0.734	1kHz
802.11n HT20	86.76	1.283	0.779	1kHz
802.11n HT40	75.99	0.638	1.567	3kHz

802.11a



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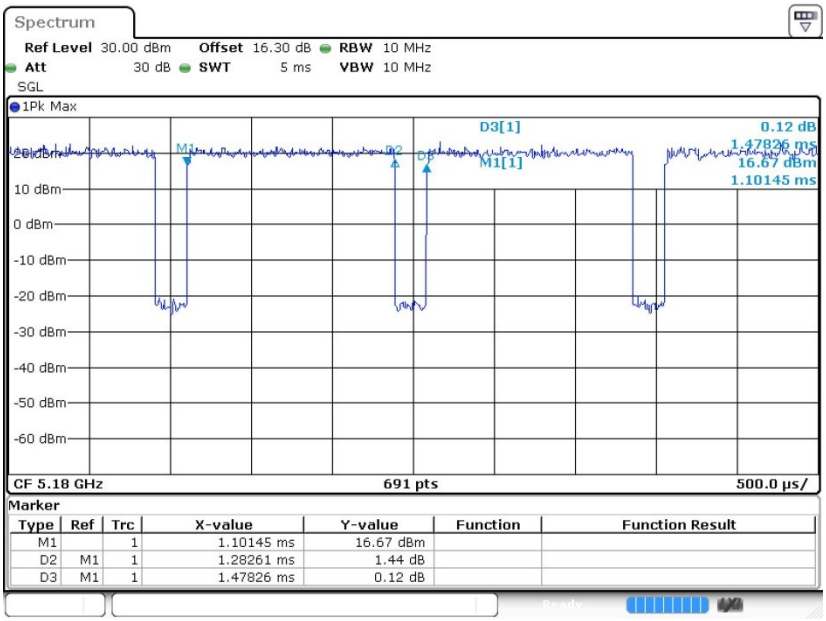
802.11n HT20



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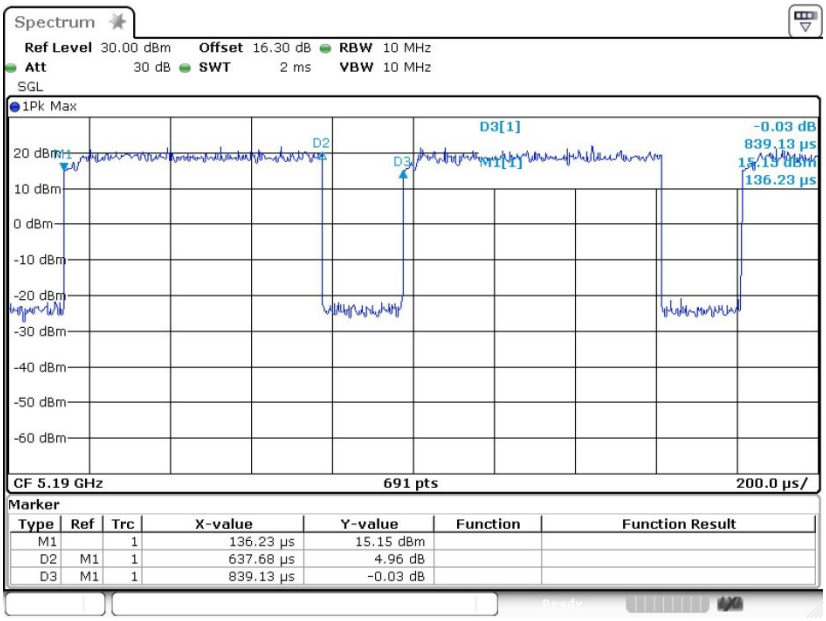
802.11n HT40



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