



FCC RF Test Report

APPLICANT : TCL Communication Ltd.
EQUIPMENT : HSUPA/HSDPA/UMTS Tri Band/GSM Quad Band/LTE
7 band mobile phone
BRAND NAME : Vodafone
MODEL NAME : VFD 900
FCC ID : 2ACCJN007
STANDARD : FCC Part 15 Subpart E §15.407
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure

The product was received on Dec. 14, 2015 and testing was completed on Mar. 25, 2016. We, SPORTON INTERNATIONAL (KUNSHAN) 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 (KUNSHAN) INC., the test report shall not be reproduced except in full.

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR5D1401E	Rev. 01	Initial issue of report	Apr. 14, 2016



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	$\leq -17, -27$ dBm (depend on band)&15.209(a)	Pass	Under limit 3.38 dB at 5350.350 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 4.53 dB at 26.140 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

TCL Communication Ltd.

5F, C building, No. 232, Liang Jing Road ZhangJiang High-Tech Park, Pudong Area Shanghai, P.R. China. 201203

1.2 Manufacturer

TCL Communication Ltd.

5F, C building, No. 232, Liang Jing Road ZhangJiang High-Tech Park, Pudong Area Shanghai, P.R. China. 201203

1.3 Feature of Equipment Under Test

Product Feature & Specification	
Equipment	HSUPA/HSDPA/UMTS Tri Band/GSM Quad Band/LTE 7 band mobile phone
Brand Name	Vodafone
Model Name	VFD 900
FCC ID	2ACCJN007
EUT supports Radios application	GSM/GPRS/EGPRS/WCDMA/HSPA/DC-HSDPA/ HSPA+(16QAM uplink is not supported)/LTE/NFC/ WLAN 2.4GHz 802.11b/g/n HT20/ WLAN 5GHz 802.11a/n HT20/HT40/ WLAN 5GHz 802.11ac VHT20/VHT40/VHT80/ Bluetooth v3.0+EDR/ Bluetooth v4.0 LE/ Bluetooth v4.2 LE
IMEI Code	Conducted: 357066070004866 Radiation: 357066070005020 Conduction: 357066070004395
HW Version	PIO
SW Version	V3HT1
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

Product Specification subjective to this standard	
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 : 11.97 dBm / 0.0157 W 802.11n HT20 : 10.36 dBm / 0.0109 W 802.11n HT40 : 9.15 dBm / 0.0082 W 802.11ac VHT20 : 10.04 dBm / 0.0101 W 802.11ac VHT40 : 9.26 dBm / 0.0084 W 802.11ac VHT80 : 8.85 dBm / 0.0077 W <5260 MHz ~ 5320 MHz> 802.11a : 11.23 dBm / 0.0133 W 802.11n HT20 : 9.77 dBm / 0.0095 W 802.11n HT40 : 8.59 dBm / 0.0072 W 802.11ac VHT20 : 9.41 dBm / 0.0087 W 802.11ac VHT40 : 8.69 dBm / 0.0074 W 802.11ac VHT80 : 8.31 dBm / 0.0068 W <5500 MHz ~ 5700 MHz> 802.11a : 9.90 dBm / 0.0098 W 802.11n HT20 : 8.68 dBm / 0.0074 W 802.11n HT40 : 9.38 dBm / 0.0087 W 802.11ac VHT20 : 9.81 dBm / 0.0096 W 802.11ac VHT40 : 9.57 dBm / 0.0091 W 802.11ac VHT80 : 8.88 dBm / 0.0076 W
99% Occupied Bandwidth	<5180 MHz ~ 5240 MHz> 802.11a : 18.68 MHz 802.11n HT20 : 19.38 MHz 802.11n HT40 : 36.66 MHz 802.11ac VHT20 : 19.28 MHz 802.11ac VHT40 : 36.76 MHz 802.11ac VHT80 : 74.69 MHz <5260 MHz ~ 5320 MHz> 802.11a : 18.58 MHz 802.11n HT20 : 19.43 MHz 802.11n HT40 : 36.66 MHz 802.11ac VHT20 : 19.33 MHz 802.11ac VHT40 : 36.86 MHz 802.11ac VHT80 : 74.81 MHz <5500 MHz ~ 5700 MHz> 802.11a : 18.93 MHz 802.11n HT20 : 19.33 MHz 802.11n HT40 : 36.66 MHz 802.11ac VHT20 : 19.33 MHz 802.11ac VHT40 : 36.86 MHz 802.11ac VHT80 : 74.69 MHz



Antenna Type	LDS Antenna
Antenna Gain	<5150 MHz ~ 5250 MHz>: -0.40 dBi <5250 MHz ~ 5350 MHz>: -0.40 dBi <5470 MHz ~ 5725 MHz>: -0.40 dBi
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)

1.5 Specification of Accessory

Specification of Accessory				
AC Adapter	Brand Name	N/A	Model Name	QC10US
	Power Rating	I/P: 100-240Vac, 500mA, O/P: 5.0Vdc, 2A, / 9.0Vdc, 1.67A		
	Manufacturer	BYD	P/N	CBA0060AG1C1
Battery	Brand Name	ALCATEL ONETOUCH	Model Name	TLp030F2
	Power Rating	3.84Vdc, 3000mAh		
	Manufacturer	SCUD	P/N	CAC3000013C2
USB Cable 1	Brand Name	N/A	Model Name	CDA0000043C8
	Signal Line Type	1.01m shielded without core		
	Manufacturer	PUAN	P/N	N/A
USB Cable 2	Brand Name	N/A	Model Name	CDA0000043C2 CDA0000087C2
	Signal Line Type	1.00m shielded without core		
	Manufacturer	Shenghua	P/N	N/A
Earphone	Brand Name	N/A	Model Name	WH60
	Signal Line Type	1.24m non-shielded without core		
	Manufacturer	Lianchuang	P/N	N/A

1.6 Modification of EUT

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

1.7 Testing Location

Test Site	SPORTON INTERNATIONAL (KUNSHAN) INC.			
Test Site Location	No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P. R. China TEL: +86-0512-5790-0158 FAX: +86-0512-5790-0958			
Test Site No.	Sporton Site No.			FCC Registration No.
	TH01-KS	CO01-KS	03CH03-KS	306251

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 v01r02
- ♦ FCC KDB 644545 D03 Guidance for IEEE 802.11ac New Rules v01
- ♦ 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 (X plane) were recorded in this report.

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 Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5150- 5250 MHz Band 1 (U-NII-1)	36	5180	44	5220
	38	5190	46	5230
	40	5200	48	5240
	42	5210		

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5250-5350 MHz Band 2 (U-NII-2A)	52	5260	60	5300
	54	5270	62	5310
	56	5280	64	5320
	58	5290		

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5470-5725 MHz Band 3 (U-NII-2C)	100	5500	120	5600
	102	5510	122	5610
	104	5520	124	5620
	106	5530	126	5630
	108	5540	128	5640
	110	5550	132	5660
	112	5560	134	5670
	116	5580	136	5680
	118	5590	140	5700

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
Straddle Channel	144	5720	142	5710
	138	5690		

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



2.2 Pre-Scanned RF Power

Preliminary tests were performed in different data rate and data rate associated with the highest power were chosen for full test in the following tables.

WLAN 5GHz 802.11a Average Power (dBm)										
Power vs. Channel			Power vs. Data Rate							
Channel	Frequency (MHz)	Data Rate 6Mbps	Channel	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
CH 36	5180	11.97	CH 36	11.79	11.86	11.85	11.91	11.97	11.94	11.95
CH 44	5220	11.41								
CH 48	5240	11.17								
CH 52	5260	11.23	CH 52	11.00	10.91	10.88	10.78	10.80	10.71	10.69
CH 60	5300	10.89								
CH 64	5320	10.83								
CH 100	5500	9.26	CH 140	9.77	9.86	9.85	9.87	9.84	9.89	9.88
CH 116	5580	9.67								
CH 140	5700	9.90								

WLAN 5GHz 802.11n-HT20 Average Power (dBm)										
Power vs. Channel			Power vs. Data Rate							
Channel	Frequency (MHz)	MCS Index MCS0	Channel	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH 36	5180	10.36	CH 36	10.32	10.26	10.22	10.24	10.27	10.34	10.30
CH 44	5220	9.77								
CH 48	5240	9.53								
CH 52	5260	9.77	CH 52	9.69	9.63	9.59	9.54	9.76	9.72	9.71
CH 60	5300	9.23								
CH 64	5320	9.15								
CH 100	5500	7.91	CH 140	8.65	8.60	8.59	8.55	8.66	8.63	8.65
CH 116	5580	8.26								
CH 140	5700	8.68								

WLAN 5GHz 802.11n-HT40 Average Power (dBm)										
Power vs. Channel			Power vs. Data Rate							
Channel	Frequency (MHz)	MCS Index MCS0	Channel	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH 38	5190	9.15	CH 38	9.08	9.02	9.07	9.04	9.12	9.13	9.14
CH 46	5230	8.37								
CH 54	5270	8.59	CH 54	8.53	8.34	8.48	8.58	8.56	8.54	8.47
CH 62	5310	7.92								
CH 102	5510	8.19	CH 134	9.28	9.22	9.25	9.23	9.27	9.33	9.36
CH 110	5550	8.60								
CH 134	5670	9.38								



WLAN 5GHz 802.11ac VHT20 Average Power (dBm)											
Power vs. Channel			Power vs. Data Rate								
Channel	Frequency (MHz)	MCS Index MCS0	Channel	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8
CH 36	5180	10.04	CH 36	10.01	9.79	9.76	9.85	10.00	9.94	9.90	9.87
CH 44	5220	9.34									
CH 48	5240	9.11									
CH 52	5260	9.41	CH 52	9.29	9.35	9.17	9.28	9.38	9.37	9.36	9.40
CH 60	5300	8.84									
CH 64	5320	8.68									
CH 100	5500	8.98	CH 140	9.66	9.65	9.61	9.79	9.80	9.78	9.75	9.72
CH 116	5580	9.47									
CH 140	5700	9.81									

WLAN 5GHz 802.11ac VHT40 Average Power (dBm)												
Power vs. Channel			Power vs. Data Rate									
Channel	Frequency (MHz)	MCS Index MCS0	Channel	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9
CH 38	5190	9.26	CH 38	9.19	9.10	9.08	9.06	9.10	9.20	9.17	9.19	9.22
CH 46	5230	8.46										
CH 54	5270	8.69	CH 54	8.44	8.47	8.46	8.53	8.51	8.61	8.65	8.67	8.65
CH 62	5310	7.93										
CH 102	5510	8.61	CH 134	9.34	9.35	9.42	9.36	9.45	9.41	9.52	9.48	9.49
CH 110	5550	8.90										
CH 134	5670	9.57										

WLAN 5GHz 802.11ac VHT80 Average Power (dBm)												
Power vs. Channel			Power vs. Data Rate									
Channel	Frequency (MHz)	MCS Index MCS0	Channel	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9
CH 42	5210	8.85	CH 42	8.64	8.67	8.74	8.78	8.82	8.79	8.80	8.69	8.81
CH 58	5290	8.31	CH 58	8.11	8.14	8.17	8.27	8.29	8.24	8.26	8.23	8.28
CH 106	5530	8.43	CH 122	8.67	8.69	8.77	8.68	8.85	8.82	8.80	8.71	8.86
CH 122	5610	8.88										

2.3 Test Mode

Final test mode of conducted test items and radiated spurious emissions are considering the modulation and worse data rates from the power table described in section 2.2.

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

Test Cases	
AC Conducted Emission	Mode 1 : GSM850 Idle + Bluetooth Link + WLAN (5GHz) Link + Earphone + USB Cable 1 (Charging from Adapter)
Remark: 1. For Radiated TCs, the tests were performed with adapter, earphone and USB cable 1.	



Ch. #		Band I : 5180-5240 MHz	Band II : 5260-5320 MHz	Band III : 5500-5720MHz
		802.11a	802.11a	802.11a
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140
Straddle Channel		-	-	144

Ch. #		Band I : 5180-5240 MHz	Band II : 5260-5320 MHz	Band III : 5500-5720MHz
		802.11n HT20	802.11n HT20	802.11n HT20
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140
Straddle Channel		-	-	144

Ch. #		Band I : 5180-5240 MHz	Band II : 5260-5320 MHz	Band III : 5500-5720MHz
		802.11n HT40	802.11n HT40	802.11n HT40
L	Low	38	54	102
M	Middle	-	-	110
H	High	46	62	134
Straddle Channel		-	-	142

Ch. #		Band I : 5180-5240 MHz	Band II : 5260-5320 MHz	Band III : 5500-5720MHz
		802.11ac VHT20	802.11ac VHT20	802.11ac VHT20
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140
Straddle Channel		-	-	144

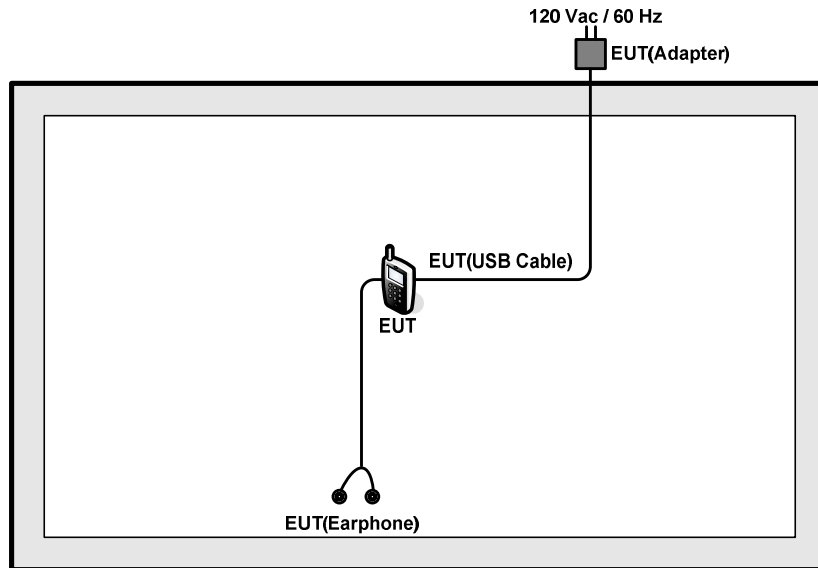


Ch. #		Band I : 5180-5240 MHz	Band II : 5260-5320 MHz	Band III : 5500-5720MHz
		802.11ac VHT40	802.11ac VHT40	802.11ac VHT40
L	Low	38	54	102
M	Middle	-	-	110
H	High	46	62	134
Straddle Channel		-	-	142

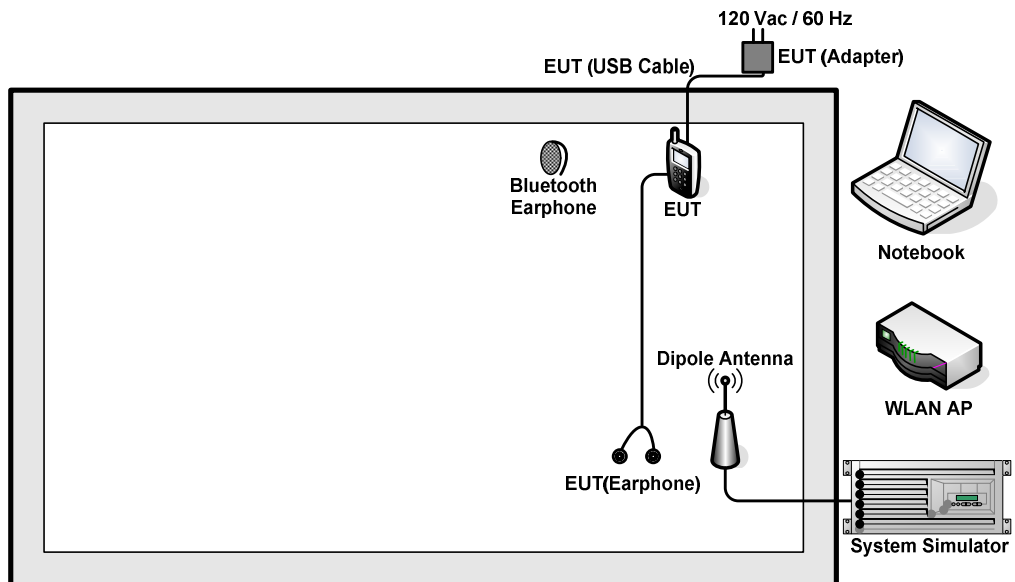
Ch. #		Band I : 5180-5240 MHz	Band II : 5260-5320 MHz	Band III : 5500-5720MHz
		802.11ac VHT80	802.11ac VHT80	802.11ac VHT80
L	Low	-	-	106
M	Middle	42	58	-
H	High	-	-	122
Straddle Channel		-	-	138

2.4 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



2.5 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Notebook	Lenovo	G480	N/A	N/A	AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m
2.	WLAN AP	LINKSYS	WRT600N	Q87-WRT600NV11	N/A	Unshielded, 1.8 m
3.	System Simulator	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
4.	Bluetooth Earphone	Nokia	BH-102	PYAHS-107W	N/A	N/A
5.	DC Power Supply	GW INSTRON	GPD-2303S	N/A	N/A	Unshielded, 1.8 m

2.6 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.

2.7 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss 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.

Offset = RF cable loss.

Following shows an offset computation example with cable loss 6.2 dB.

Offset (dB) = RF cable loss(dB).

= 6.2 (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.

For Straddle Channel, U-NII procedures were applied for operations in the frequency band in accordance with FCC KDB 644545 D03.

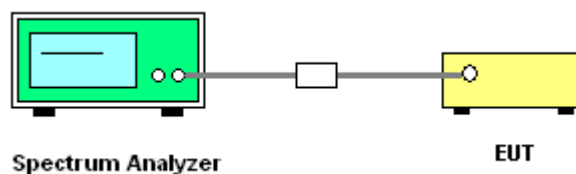
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

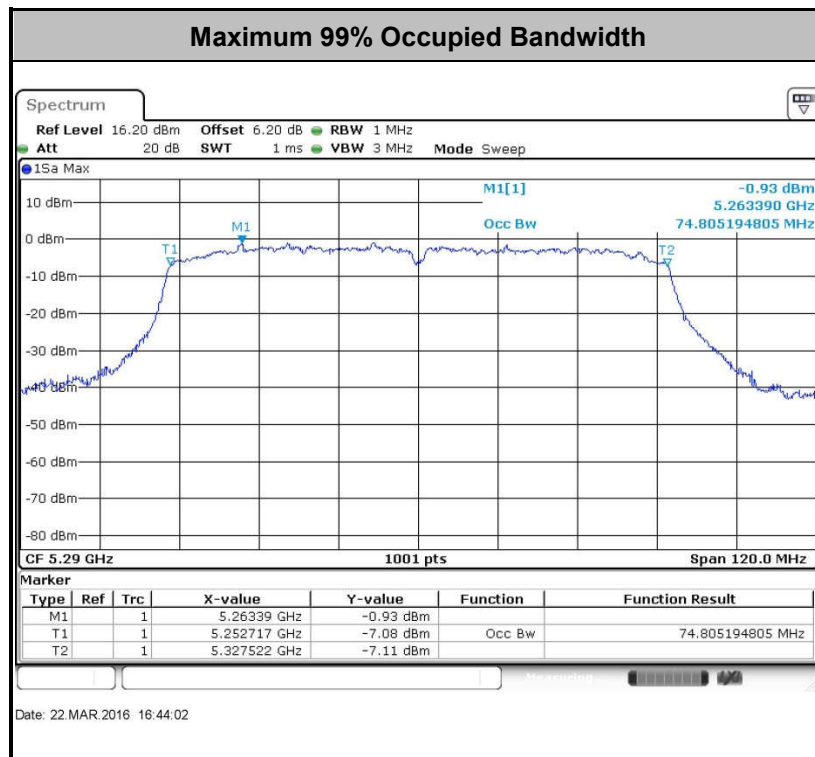
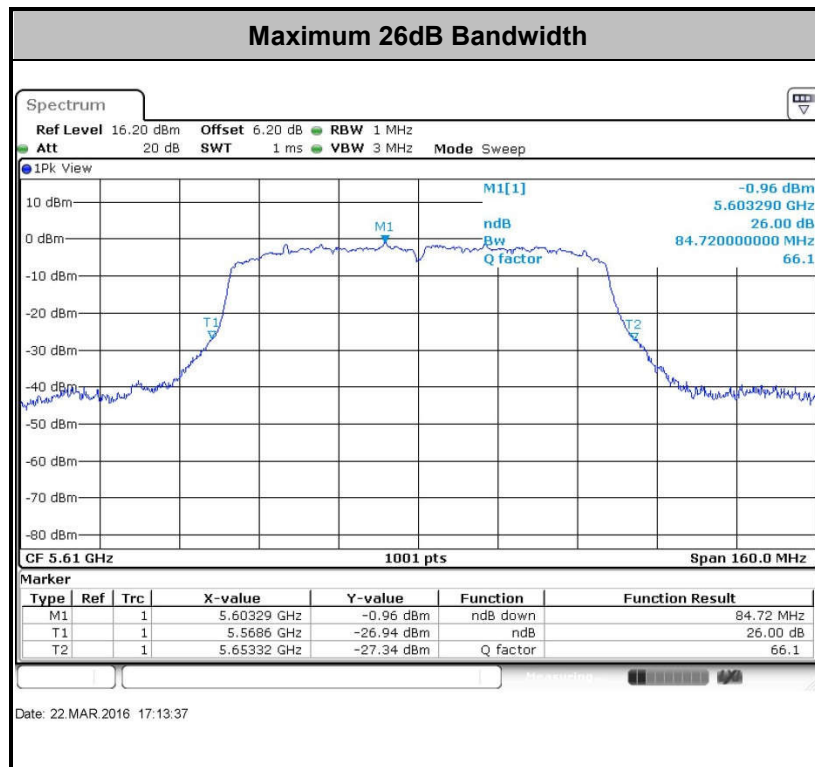
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02. Section C) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB 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) $\geq 3 * \text{RBW}$.
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.



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 5.25–5.35 GHz and 5.47–5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz.

For Straddle Channel, U-NII procedures and limits were applied for operations in the frequency band in accordance with FCC KDB 644545 D03.

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 v01r02.

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

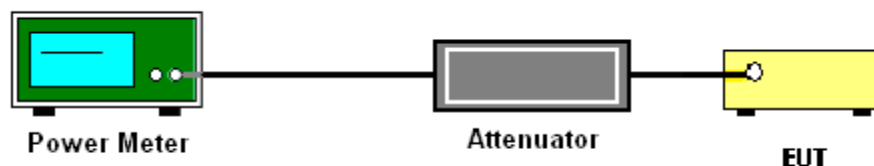
1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit continuously with a consistent duty cycle at its maximum power control level.
3. Measure the average power of the transmitter, and the average power is corrected with duty factor, $10 \log(1/x)$, where x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

For straddle channel, the testing follows Method SA-3 (RMS detection with max hold) of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02.

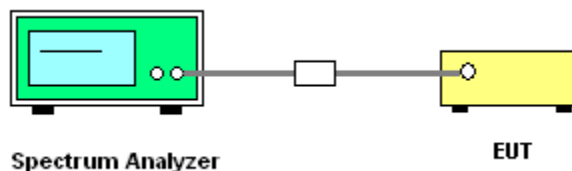
Compute power by integrating the spectrum across the 99% occupied bandwidth of the signal using the instrument's band power measurement function.

3.2.4 Test Setup

For normal channel:



For straddle channel:



3.2.5 Test Result of Maximum Conducted Output Power

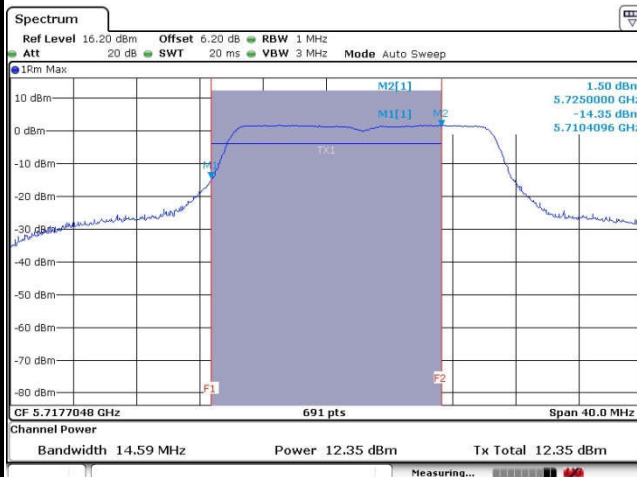
Please refer to Appendix A.



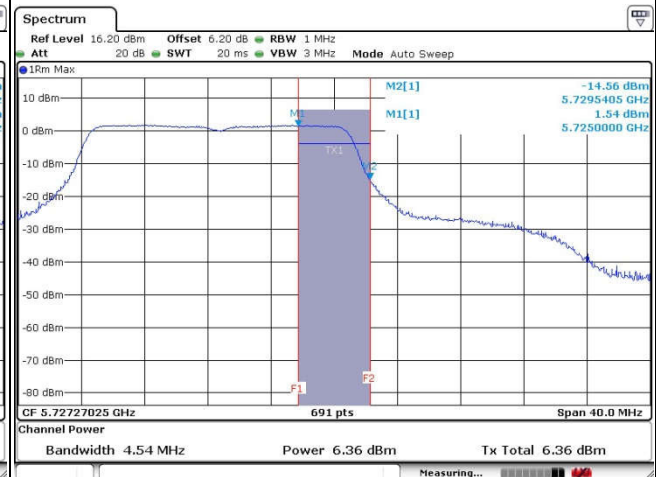
Maximum Straddle Channel Power

802.11a

NII-2C Band

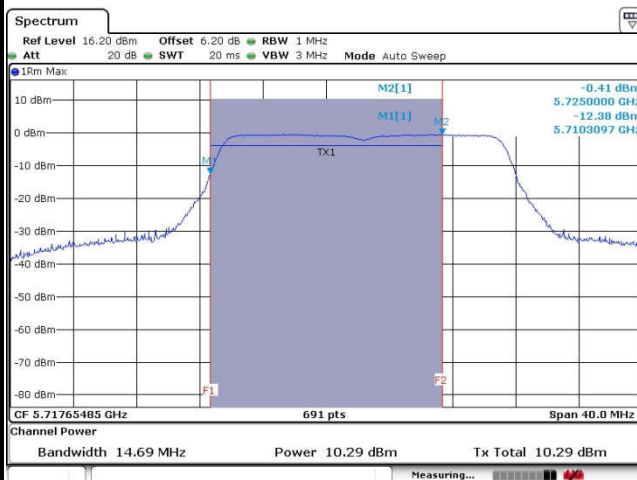


NII-3 Band

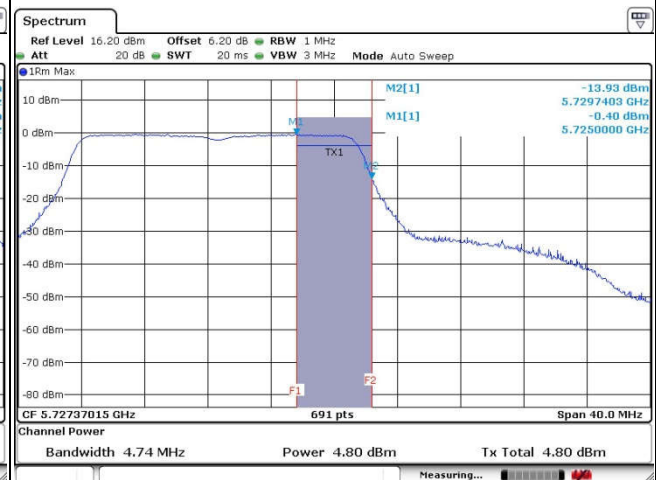


802.11n-HT20

NII-2C Band



NII-3 Band

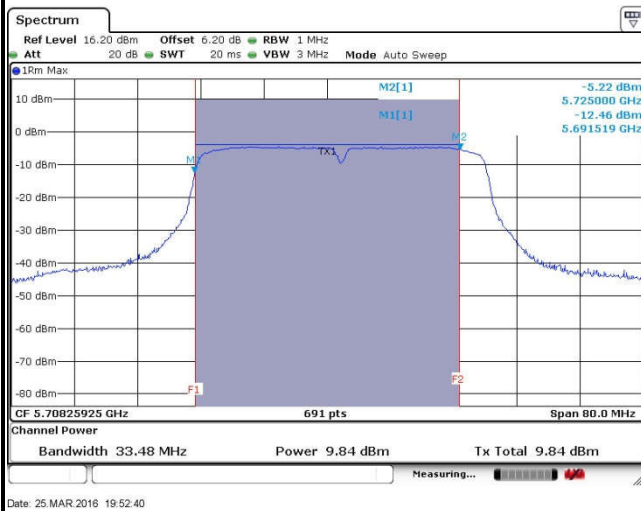




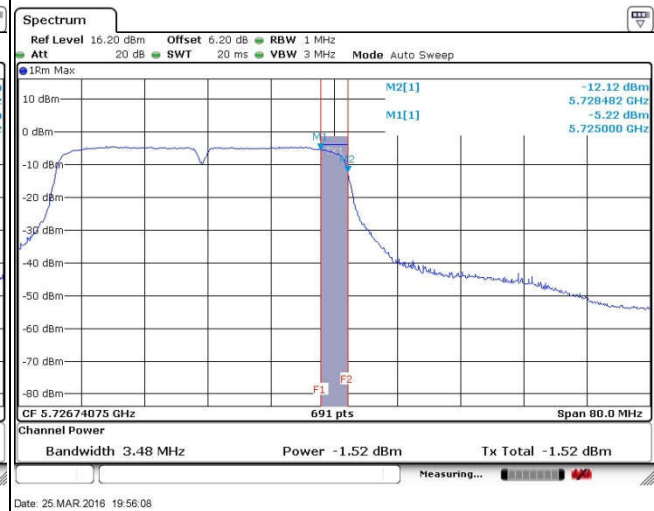
Maximum Straddle Channel Power

802.11n-HT40

NII-2C Band

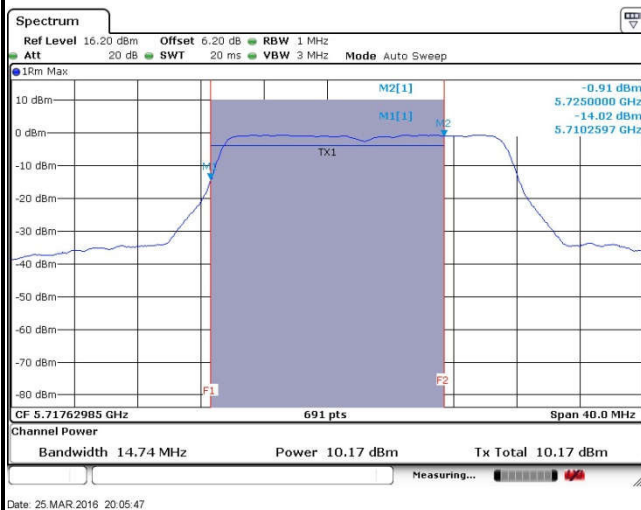


NII-3 Band

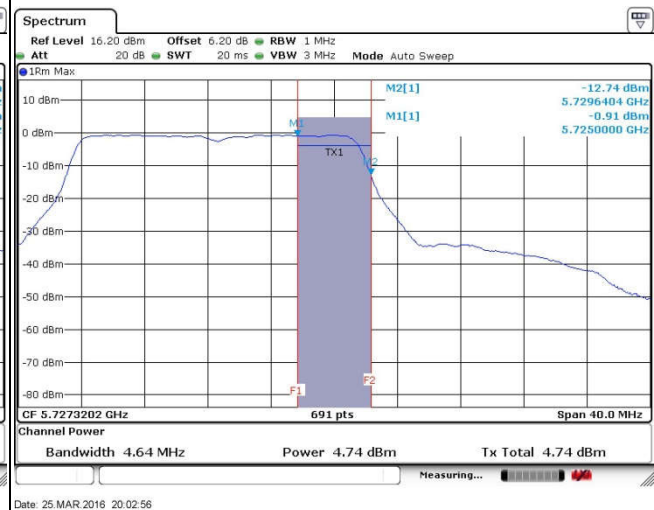


802.11ac VHT20

NII-2C Band



NII-3 Band

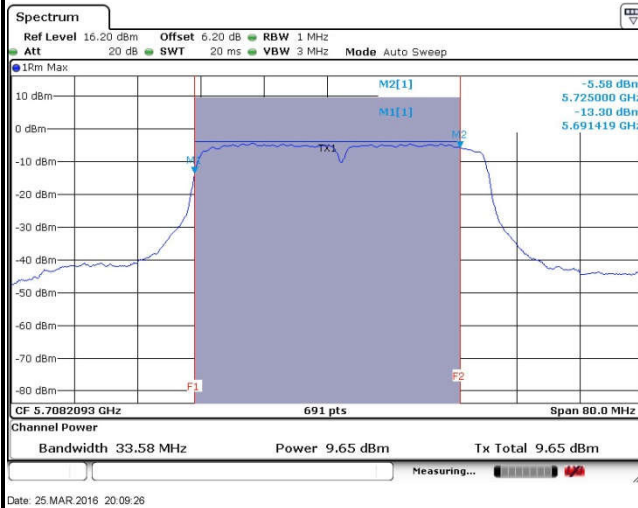




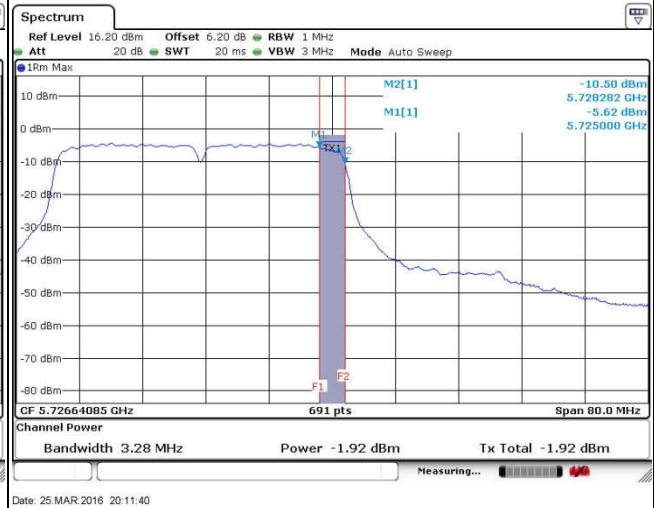
Maximum Straddle Channel Power

802.11ac VHT40

NII-2C Band

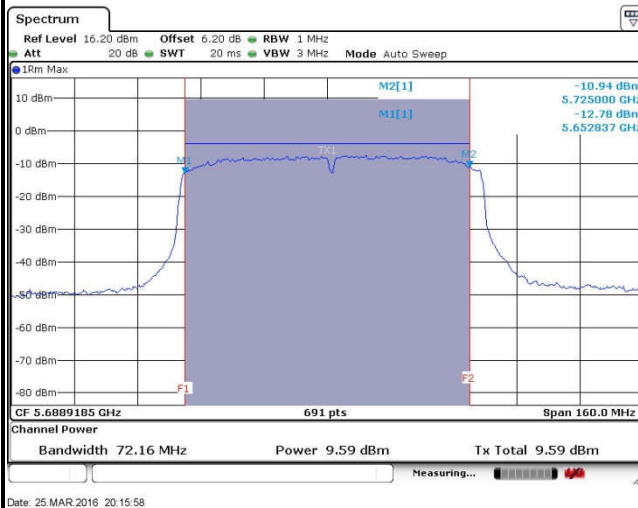


NII-3 Band

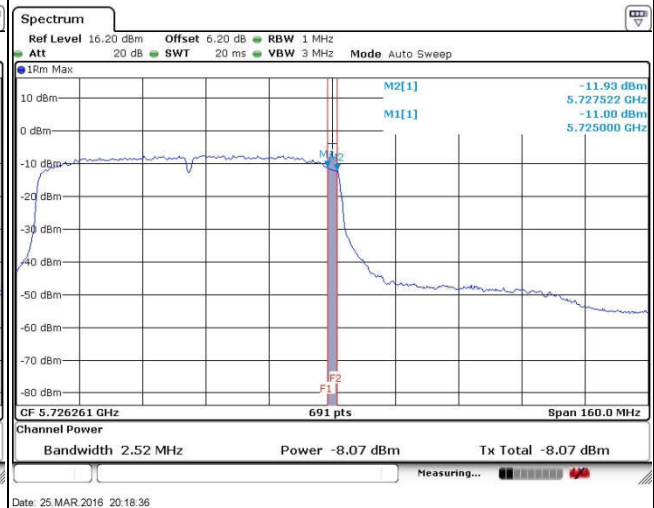


802.11ac VHT80

NII-2C Band



NII-3 Band





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 5.25–5.35 GHz and 5.47–5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.

For Straddle Channel, U-NII procedures and limits were applied for operations in the frequency band in accordance with FCC KDB 644545 D03.

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.

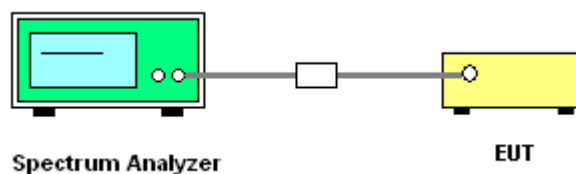
Section F) Maximum power spectral density.

Method SA-2

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

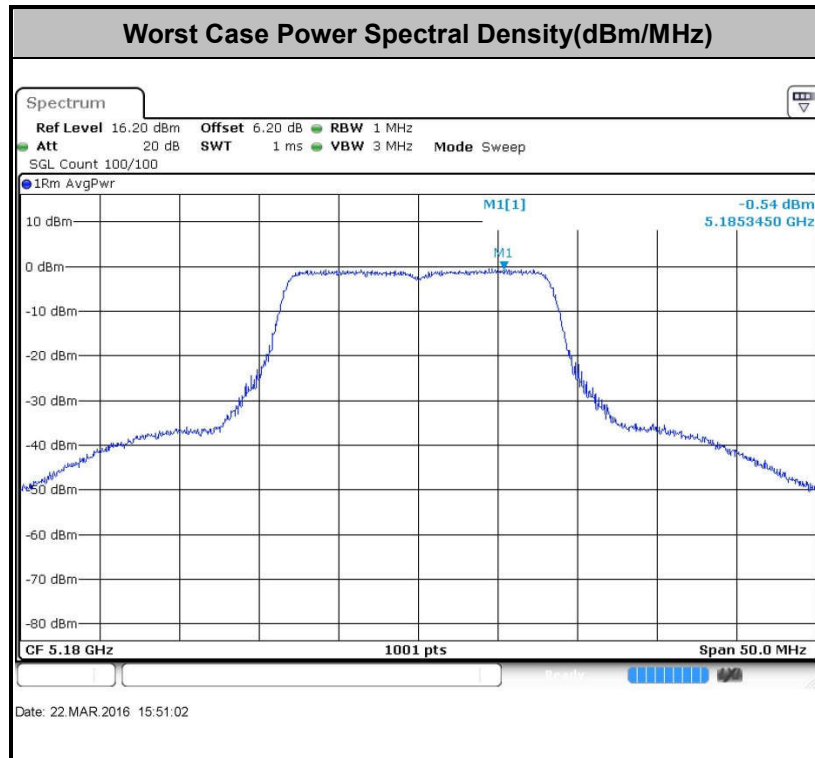
1. The testing follows Method SA-2 of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02.
 - Measure the duty cycle.
 - Set span to encompass the entire emission bandwidth (EBW) of the signal.
 - Set RBW = 1 MHz.
 - Set VBW $\geq$ 3 MHz.
 - Number of points in sweep $\geq$ 2 Span / RBW.
 - Sweep time = auto.
 - Detector = RMS
 - Trace average at least 100 traces in power averaging mode.
 - Add $10 \log(1/x)$, 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.



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

3.4 Unwanted Radiated Emission 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 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 5470-5600 MHz and 5650-5725MHz band: all emissions outside of the 5470-5600 MHz and 5650-5725MHz band shall not exceed an EIRP of -27 dBm/MHz.

- (2) 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.

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

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

- (3) KDB789033 D02 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

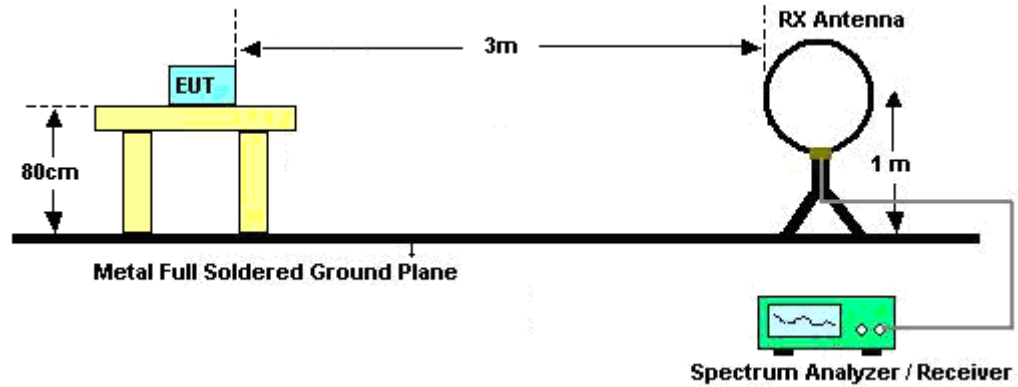
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02. Section G) Unwanted emissions measurement.
 - (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
 - RBW = 120 kHz
 - VBW = 300 kHz
 - Detector = Peak
 - Trace mode = max hold
 - (2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz
 - RBW = 1 MHz
 - VBW $\geq$ 3 MHz
 - Detector = Peak
 - Sweep time = auto
 - Trace mode = max hold
 - (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz
 - RBW = 1 MHz
 - VBW = 10 Hz, when duty cycle is no less than 98 percent.
 - VBW $\geq$ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11a	87.500	1.370	0.730	1kHz
802.11n HT20	86.092	1.274	0.785	1kHz
802.11n HT40	76.522	0.638	1.568	3kHz
802.11ac VHT20	83.333	0.978	1.022	3kHz
802.11ac VHT40	70.418	0.490	2.041	3kHz
802.11ac VHT80	55.484	0.249	4.012	10kHz

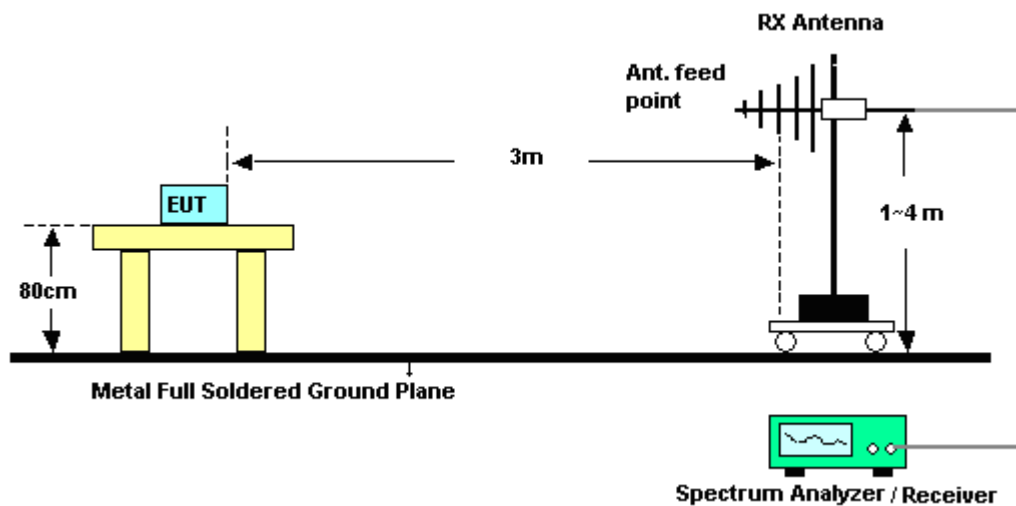
- The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
- The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
- The antenna is a broadband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

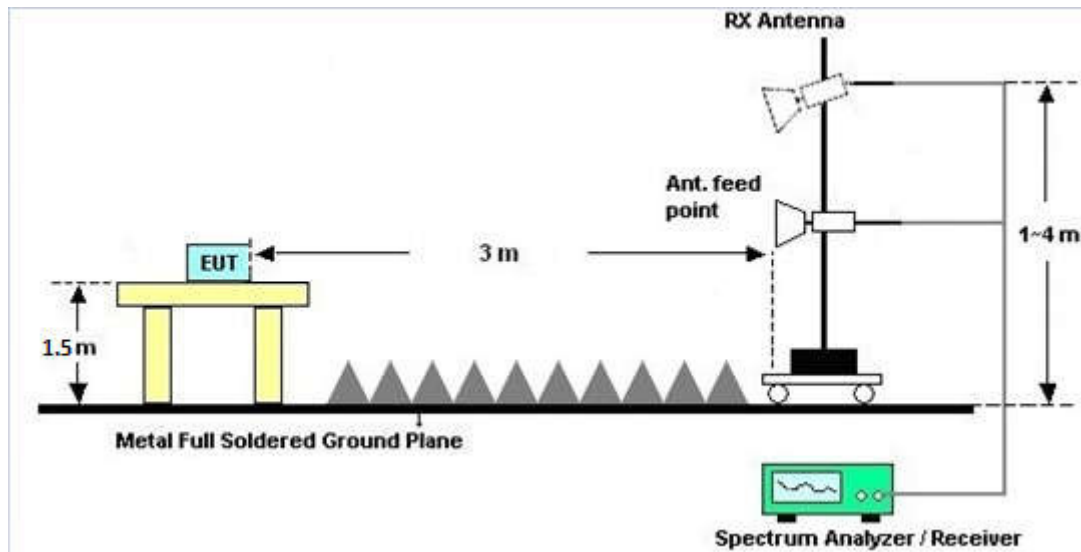
For radiated emissions below 30MHz



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 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 (dB μ V)	
	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.

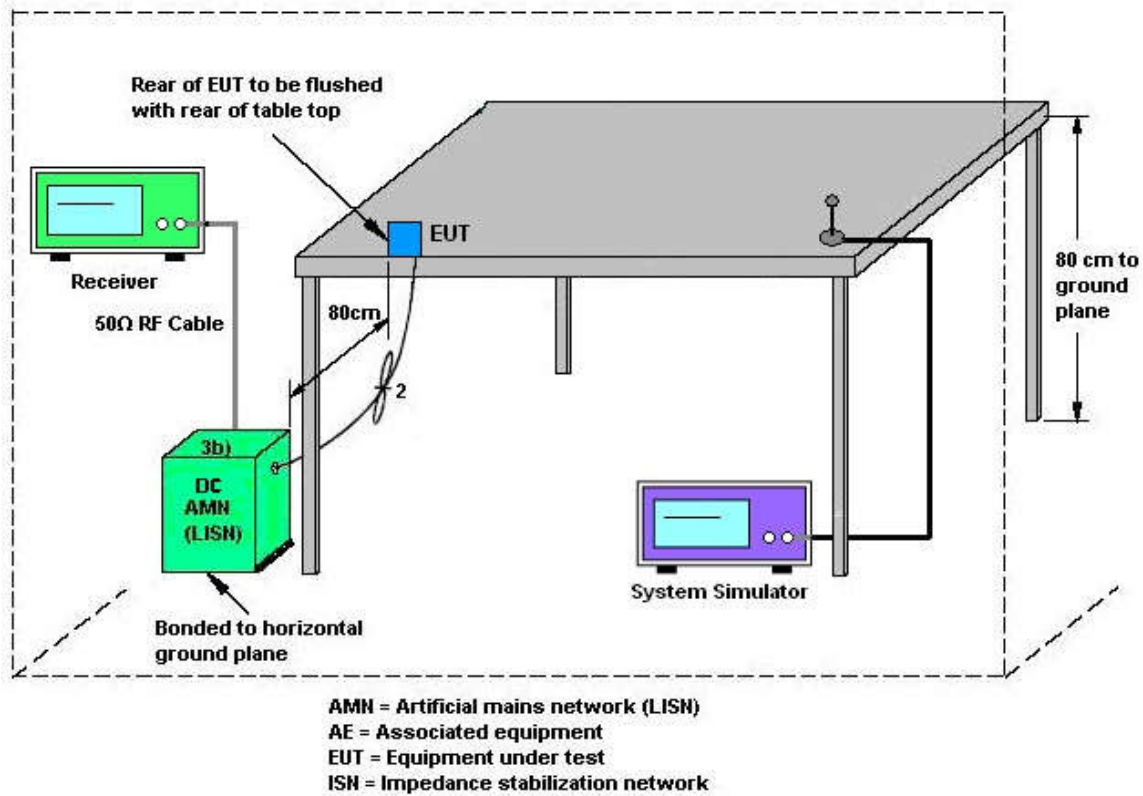
3.5.2 Measuring Instruments

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.

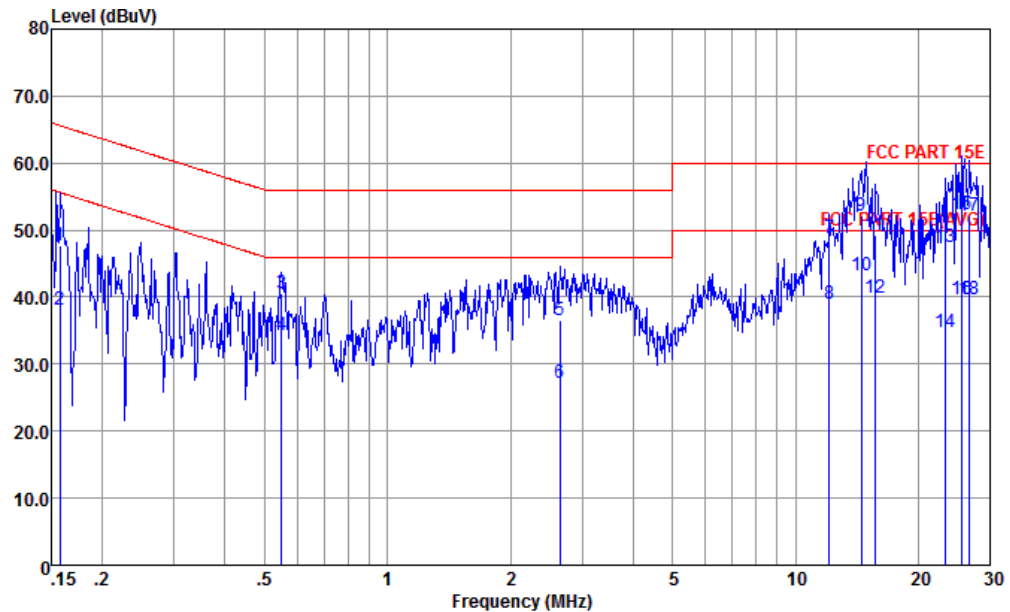
3.5.4 Test Setup





3.5.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	22~24℃
Test Engineer :	Amos Zhang	Relative Humidity :	44~46%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GSM850 Idle + Bluetooth Link + WLAN (5GHz) Link + Earphone + USB Cable 1 (Charging from Adapter)		

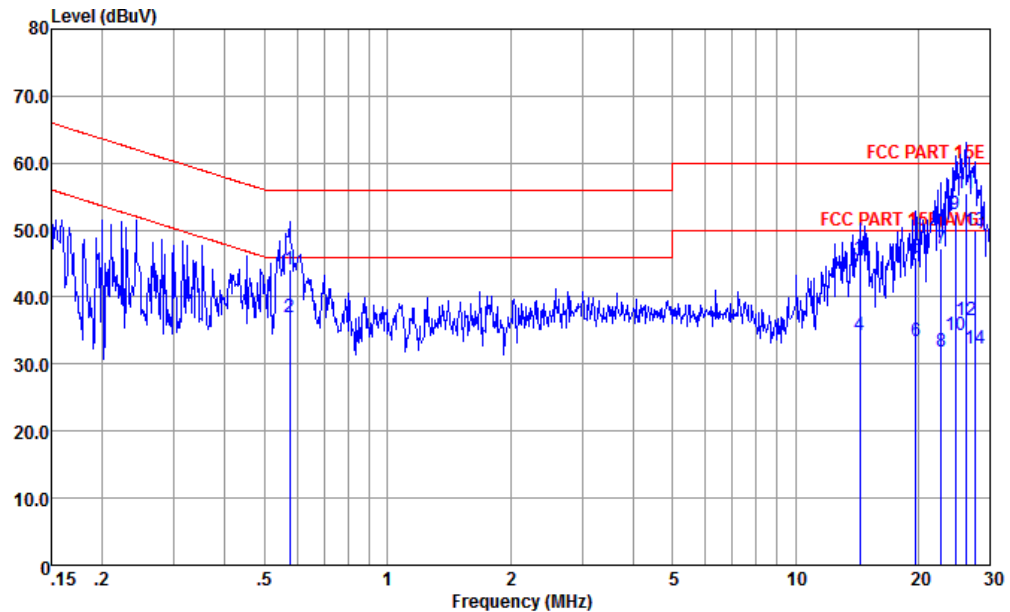


Site : CO01-KS
Condition : FCC PART 15E LISN-L-20151024 LINE
mode : Mode 1

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.16	47.79	-17.81	65.60	37.20	0.48	10.11	QP
2	0.16	38.09	-17.51	55.60	27.50	0.48	10.11	Average
3	0.55	40.49	-15.51	56.00	30.10	0.23	10.16	QP
4	0.55	34.29	-11.71	46.00	23.90	0.23	10.16	Average
5	2.65	36.53	-19.47	56.00	26.20	0.18	10.15	QP
6	2.65	27.23	-18.77	46.00	16.90	0.18	10.15	Average
7	12.12	48.77	-11.23	60.00	38.20	0.25	10.32	QP
8	12.12	39.07	-10.93	50.00	28.50	0.25	10.32	Average
9	14.52	52.23	-7.77	60.00	41.60	0.26	10.37	QP
10 *	14.52	43.13	-6.87	50.00	32.50	0.26	10.37	Average
11	15.63	49.27	-10.73	60.00	38.60	0.26	10.41	QP
12	15.63	39.87	-10.13	50.00	29.20	0.26	10.41	Average
13	23.26	47.37	-12.63	60.00	36.50	0.24	10.63	QP
14	23.26	34.77	-15.23	50.00	23.90	0.24	10.63	Average
15	25.46	52.42	-7.58	60.00	41.50	0.22	10.70	QP
16	25.46	39.72	-10.28	50.00	28.80	0.22	10.70	Average
17	26.70	52.17	-7.83	60.00	41.20	0.22	10.75	QP
18	26.70	39.57	-10.43	50.00	28.60	0.22	10.75	Average



Test Mode :	Mode 1	Temperature :	22~24℃
Test Engineer :	Amos Zhang	Relative Humidity :	44~46%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	GSM850 Idle + Bluetooth Link + WLAN (5GHz) Link + Earphone + USB Cable 1 (Charging from Adapter)		



Site : CO01-KS
Condition : FCC PART 15E LISN-N-20151024 NEUTRAL

mode : Mode 1

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.58	44.09	-11.91	56.00	33.60	0.33	10.16	QP
2	0.58	37.09	-8.91	46.00	26.60	0.33	10.16	Average
3	14.36	45.54	-14.46	60.00	34.90	0.27	10.37	QP
4	14.36	34.24	-15.76	50.00	23.60	0.27	10.37	Average
5	19.74	45.88	-14.12	60.00	35.10	0.25	10.53	QP
6	19.74	33.38	-16.62	50.00	22.60	0.25	10.53	Average
7	22.78	47.16	-12.84	60.00	36.30	0.24	10.62	QP
8	22.78	31.76	-18.24	50.00	20.90	0.24	10.62	Average
9	24.66	52.42	-7.58	60.00	41.50	0.24	10.68	QP
10	24.66	34.22	-15.78	50.00	23.30	0.24	10.68	Average
11 *	26.14	55.47	-4.53	60.00	44.50	0.24	10.73	QP
12	26.14	36.47	-13.53	50.00	25.50	0.24	10.73	Average
13	27.56	49.92	-10.08	60.00	38.90	0.24	10.78	QP
14	27.56	32.32	-17.68	50.00	21.30	0.24	10.78	Average

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.

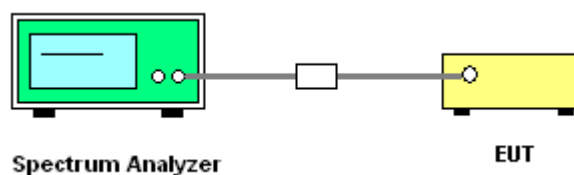
3.6.2 Measuring Instruments

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

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



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV30	101338	9kHz~30GHz	May 04, 2015	Mar. 22, 2016~ Mar. 25, 2016	May 03, 2016	Conducted (TH01-KS)
Pulse Power Sensor	Anritsu	MA2411B	0917070	30MHz~40GHz	Jan. 20, 2016	Mar. 22, 2016~ Mar. 25, 2016	Jan. 19, 2017	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Jan. 20, 2016	Mar. 22, 2016~ Mar. 25, 2016	Jan. 19, 2017	Conducted (TH01-KS)
Thermal Chamber	Ten Billion	TTC-B3S	TBN-960502	-40~+150°C	Oct. 24, 2015	Mar. 22, 2016~ Mar. 25, 2016	Oct. 23, 2016	Conducted (TH01-KS)
EMI Test Receiver	R&S	ESR7	101403	9kHz~7GHz; Max 30dBm	Sep. 10, 2015	Mar. 23, 2016	Sep. 09, 2016	Radiation (03CH03-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz~44GHz	Jun. 05, 2015	Mar. 23, 2016	Jun. 04, 2016	Radiation (03CH03-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Nov. 07, 2015	Mar. 23, 2016	Nov. 06, 2016	Radiation (03CH03-KS)
Bilog Antenna	TeseQ	CBL6112D	23182	25MHz~2GHz	Mar. 12, 2016	Mar. 23, 2016	Mar. 11, 2017	Radiation (03CH03-KS)
Horn Antenna	Schwarzbeck	BBHA9120 D	9120D-1356	1GHz~18GHz	Jun. 25, 2015	Mar. 23, 2016	Jun. 24, 2016	Radiation (03CH03-KS)
SHF-EHF Horn	com-power	AH-840	101070	18Ghz~40Ghz	Oct. 10, 2015	Mar. 23, 2016	Oct. 09, 2016	Radiation (03CH03-KS)
Amplifier	Burgeon	BPA-530	102212	0.01MHz~3000M Hz	Aug. 10, 2015	Mar. 23, 2016	Aug. 09, 2016	Radiation (03CH03-KS)
Amplifier	Agilent	8449B	3008A02370	1GHz~26.5GHz	Oct. 24, 2015	Mar. 23, 2016	Oct. 23, 2016	Radiation (03CH03-KS)
Amplifier	MITEQ	TTA1840-35-HG	1887435	18GHz~40GHz	Aug. 27, 2015	Mar. 23, 2016	Aug. 26, 2016	Radiation (03CH03-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Mar. 23, 2016	NCR	Radiation (03CH03-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Mar. 23, 2016	NCR	Radiation (03CH03-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Mar. 23, 2016	NCR	Radiation (03CH03-KS)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz	May 04, 2015	Mar. 14, 2016	May 03, 2016	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060103	9kHz~30MHz	Oct. 24, 2015	Mar. 14, 2016	Oct. 23, 2016	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060105	9kHz~30MHz	Oct. 24, 2015	Mar. 14, 2016	Oct. 23, 2016	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP000000811	AC 0V~300V, 45Hz~1000Hz	Oct. 24, 2015	Mar. 14, 2016	Oct. 23, 2016	Conduction (CO01-KS)

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.5 dB
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Appendix A. Conducted Test Results

Test Engineer:	Issac Song	Temperature:	24~25	°C
Test Date:	2016/3/22~2016/3/25	Relative Humidity:	49~51	%

TEST RESULTS DATA
26dB and 99% OBW

Band I										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)	IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)		
11a	6Mbps	1	36	5180	18.48	23.53	-	22.67		
11a	6Mbps	1	44	5220	18.68	23.78	-	22.71		
11a	6Mbps	1	48	5240	18.63	23.68	-	22.70		
HT20	MCS0	1	36	5180	19.18	23.73	-	22.83		
HT20	MCS0	1	44	5220	19.38	23.78	-	22.87		
HT20	MCS0	1	48	5240	19.28	23.83	-	22.85		
HT40	MCS0	1	38	5190	36.66	44.78	-	23.01		
HT40	MCS0	1	46	5230	36.66	44.60	-	23.01		
VHT20	MCS0	1	36	5180	19.23	23.98	-	22.84		
VHT20	MCS0	1	44	5220	19.28	24.03	-	22.85		
VHT20	MCS0	1	48	5240	19.28	23.98	-	22.85		
VHT40	MCS0	1	38	5190	36.66	44.69	-	23.01		
VHT40	MCS0	1	46	5230	36.76	44.69	-	23.01		
VHT80	MCS0	1	42	5210	74.69	84.56	-	23.01		

TEST RESULTS DATA
Average Power Table

FCC Band I										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)		Pass/Fail
11a	6Mbps	1	36	5180	87.50	11.97	24.00	-0.40		Pass
11a	6Mbps	1	44	5220	87.50	11.41	24.00	-0.40		Pass
11a	6Mbps	1	48	5240	87.50	11.17	24.00	-0.40		Pass
HT20	MCS0	1	36	5180	86.09	10.36	24.00	-0.40		Pass
HT20	MCS0	1	44	5220	86.09	9.77	24.00	-0.40		Pass
HT20	MCS0	1	48	5240	86.09	9.53	24.00	-0.40		Pass
HT40	MCS0	1	38	5190	76.52	9.15	24.00	-0.40		Pass
HT40	MCS0	1	46	5230	76.52	8.37	24.00	-0.40		Pass
VHT20	MCS0	1	36	5180	83.33	10.04	24.00	-0.40		Pass
VHT20	MCS0	1	44	5220	83.33	9.34	24.00	-0.40		Pass
VHT20	MCS0	1	48	5240	83.33	9.11	24.00	-0.40		Pass
VHT40	MCS0	1	38	5190	70.42	9.26	24.00	-0.40		Pass
VHT40	MCS0	1	46	5230	70.42	8.46	24.00	-0.40		Pass
VHT80	MCS0	1	42	5210	55.48	8.85	24.00	-0.40		Pass

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	0.04	11.00	-0.40		Pass
11a	6Mbps	1	44	5220	0.58	0.00	11.00	-0.40		Pass
11a	6Mbps	1	48	5240	0.58	-0.27	11.00	-0.40		Pass
HT20	MCS0	1	36	5180	0.65	-2.10	11.00	-0.40		Pass
HT20	MCS0	1	44	5220	0.65	-1.95	11.00	-0.40		Pass
HT20	MCS0	1	48	5240	0.65	-2.53	11.00	-0.40		Pass
HT40	MCS0	1	38	5190	1.16	-5.66	11.00	-0.40		Pass
HT40	MCS0	1	46	5230	1.16	-6.36	11.00	-0.40		Pass
VHT20	MCS0	1	36	5180	0.79	-1.97	11.00	-0.40		Pass
VHT20	MCS0	1	44	5220	0.79	-1.64	11.00	-0.40		Pass
VHT20	MCS0	1	48	5240	0.79	-2.44	11.00	-0.40		Pass
VHT40	MCS0	1	38	5190	1.52	-5.58	11.00	-0.40		Pass
VHT40	MCS0	1	46	5230	1.52	-6.28	11.00	-0.40		Pass
VHT80	MCS0	1	42	5210	2.56	-8.30	11.00	-0.40		Pass

TEST RESULTS DATA
26dB and 99% OBW

Band II										
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)	IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)	FCC 26dB Bandwidth Power Limit (dBm)	Note
11a	6M bps	1	52	5260	18.58	23.626	23.69	29.69	23.98	
11a	6M bps	1	60	5300	18.58	23.726	23.69	29.69	23.98	
11a	6M bps	1	64	5320	18.58	23.576	23.69	29.69	23.98	
HT20	MCS 0	1	52	5260	19.33	23.726	23.86	29.86	23.98	
HT20	MCS 0	1	60	5300	19.43	23.876	23.88	29.88	23.98	
HT20	MCS 0	1	64	5320	19.23	23.826	23.84	29.84	23.98	
HT40	MCS 0	1	54	5270	36.56	44.146	23.98	30.00	23.98	
HT40	MCS 0	1	62	5310	36.66	44.955	23.98	30.00	23.98	
VHT20	MCS 0	1	52	5260	19.28	23.976	23.85	29.85	23.98	
VHT20	MCS 0	1	60	5300	19.33	24.026	23.86	29.86	23.98	
VHT20	MCS 0	1	64	5320	19.23	23.976	23.84	29.84	23.98	
VHT40	MCS 0	1	54	5270	36.66	44.416	23.98	30.00	23.98	
VHT40	MCS 0	1	62	5310	36.86	44.505	23.98	30.00	23.98	
VHT80	MCS 0	1	58	5290	74.81	83.92	23.98	30.00	23.98	

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)		Pass/Fail
11a	6M bps	1	52	5260	87.50	11.23	23.98	-0.40		Pass
11a	6M bps	1	60	5300	87.50	10.89	23.98	-0.40		Pass
11a	6M bps	1	64	5320	87.50	10.83	23.98	-0.40		Pass
HT20	MCS 0	1	52	5260	86.09	9.77	23.98	-0.40		Pass
HT20	MCS 0	1	60	5300	86.09	9.23	23.98	-0.40		Pass
HT20	MCS 0	1	64	5320	86.09	9.15	23.98	-0.40		Pass
HT40	MCS 0	1	54	5270	76.52	8.59	23.98	-0.40		Pass
HT40	MCS 0	1	62	5310	76.52	7.92	23.98	-0.40		Pass
VHT20	MCS 0	1	52	5260	83.33	9.41	23.98	-0.40		Pass
VHT20	MCS 0	1	60	5300	83.33	8.84	23.98	-0.40		Pass
VHT20	MCS 0	1	64	5320	83.33	8.68	23.98	-0.40		Pass
VHT40	MCS 0	1	54	5270	70.42	8.69	23.98	-0.40		Pass
VHT40	MCS 0	1	62	5310	70.42	7.93	23.98	-0.40		Pass
VHT80	MCS 0	1	58	5290	55.48	8.31	23.98	-0.40		Pass

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	-0.19	11.00	-0.40		Pass
11a	6M bps	1	60	5300	0.58	-0.50	11.00	-0.40		Pass
11a	6M bps	1	64	5320	0.58	-0.87	11.00	-0.40		Pass
HT20	MCS 0	1	52	5260	0.65	-1.82	11.00	-0.40		Pass
HT20	MCS 0	1	60	5300	0.65	-2.71	11.00	-0.40		Pass
HT20	MCS 0	1	64	5320	0.65	-3.06	11.00	-0.40		Pass
HT40	MCS 0	1	54	5270	1.16	-6.53	11.00	-0.40		Pass
HT40	MCS 0	1	62	5310	1.16	-6.61	11.00	-0.40		Pass
VHT20	MCS 0	1	52	5260	0.79	-1.79	11.00	-0.40		Pass
VHT20	MCS 0	1	60	5300	0.79	-2.58	11.00	-0.40		Pass
VHT20	MCS 0	1	64	5320	0.79	-2.36	11.00	-0.40		Pass
VHT40	MCS 0	1	54	5270	1.52	-5.91	11.00	-0.40		Pass
VHT40	MCS 0	1	62	5310	1.52	-6.19	11.00	-0.40		Pass
VHT80	MCS 0	1	58	5290	2.56	-8.58	11.00	-0.40		Pass

TEST RESULTS DATA
26dB and 99% OBW

Band III										
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)	IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)	FCC 26dB Bandwidth Power Limit (dBm)	Note
11a	6M bps	1	100	5500	18.73	23.676	23.73	29.73	23.98	
11a	6M bps	1	116	5580	18.88	23.726	23.76	29.76	23.98	
11a	6M bps	1	140	5700	18.93	23.976	23.77	29.77	23.98	
HT20	MCS 0	1	100	5500	19.33	23.976	23.86	29.86	23.98	
HT20	MCS 0	1	116	5580	19.33	23.826	23.86	29.86	23.98	
HT20	MCS 0	1	140	5700	19.28	23.626	23.85	29.85	23.98	
HT40	MCS 0	1	102	5510	36.66	44.595	23.98	30.00	23.98	
HT40	MCS 0	1	110	5550	36.66	45.045	23.98	30.00	23.98	
HT40	MCS 0	1	134	5670	36.66	44.865	23.98	30.00	23.98	
VHT20	MCS 0	1	100	5500	19.28	23.926	23.85	29.85	23.98	
VHT20	MCS 0	1	116	5580	19.28	24.026	23.85	29.85	23.98	
VHT20	MCS 0	1	140	5700	19.33	24.076	23.86	29.86	23.98	
VHT40	MCS 0	1	102	5510	36.66	44.595	23.98	30.00	23.98	
VHT40	MCS 0	1	110	5550	36.86	44.775	23.98	30.00	23.98	
VHT40	MCS 0	1	134	5670	36.86	45.045	23.98	30.00	23.98	
VHT80	MCS 0	1	106	5530	74.57	83.44	23.98	30.00	23.98	
VHT80	MCS 0	1	122	5610	74.69	84.72	23.98	30.00	23.98	

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)		Pass/Fail
11a	6M bps	1	100	5500	87.50	9.26	23.98	-0.40		Pass
11a	6M bps	1	116	5580	87.50	9.67	23.98	-0.40		Pass
11a	6M bps	1	140	5700	87.50	9.90	23.98	-0.40		Pass
HT20	MCS 0	1	100	5500	11.00	7.91	23.98	-0.40		Pass
HT20	MCS 0	1	116	5580	11.00	8.26	23.98	-0.40		Pass
HT20	MCS 0	1	140	5700	11.00	8.68	23.98	-0.40		Pass
HT40	MCS 0	1	102	5510	76.52	8.19	23.98	-0.40		Pass
HT40	MCS 0	1	110	5550	76.52	8.60	23.98	-0.40		Pass
HT40	MCS 0	1	134	5670	76.52	9.38	23.98	-0.40		Pass
VHT20	MCS 0	1	100	5500	83.33	8.98	23.98	-0.40		Pass
VHT20	MCS 0	1	116	5580	83.33	9.47	23.98	-0.40		Pass
VHT20	MCS 0	1	140	5700	83.33	9.81	23.98	-0.40		Pass
VHT40	MCS 0	1	102	5510	70.42	8.61	23.98	-0.40		Pass
VHT40	MCS 0	1	110	5550	70.42	8.90	23.98	-0.40		Pass
VHT40	MCS 0	1	134	5670	70.42	9.57	23.98	-0.40		Pass
VHT80	MCS 0	1	106	5530	55.48	8.43	23.98	-0.40		Pass
VHT80	MCS 0	1	122	5610	55.48	8.88	23.98	-0.40		Pass

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	-0.40	11.00	-0.40		Pass
11a	6M bps	1	116	5580	0.58	-0.29	11.00	-0.40		Pass
11a	6M bps	1	140	5700	0.58	-0.16	11.00	-0.40		Pass
HT20	MCS 0	1	100	5500	0.65	-2.59	11.00	-0.40		Pass
HT20	MCS 0	1	116	5580	0.65	-2.18	11.00	-0.40		Pass
HT20	MCS 0	1	140	5700	0.65	-2.42	11.00	-0.40		Pass
HT40	MCS 0	1	102	5510	1.16	-5.89	11.00	-0.40		Pass
HT40	MCS 0	1	110	5550	1.16	-6.69	11.00	-0.40		Pass
HT40	MCS 0	1	134	5670	1.16	-5.81	11.00	-0.40		Pass
VHT20	MCS 0	1	100	5500	0.79	-2.40	11.00	-0.40		Pass
VHT20	MCS 0	1	116	5580	0.79	-2.68	11.00	-0.40		Pass
VHT20	MCS 0	1	140	5700	0.79	-2.18	11.00	-0.40		Pass
VHT40	MCS 0	1	102	5510	1.52	-5.79	11.00	-0.40		Pass
VHT40	MCS 0	1	110	5550	1.52	-6.53	11.00	-0.40		Pass
VHT40	MCS 0	1	134	5670	1.52	-5.28	11.00	-0.40		Pass
VHT80	MCS 0	1	106	5530	2.56	-8.75	11.00	-0.40		Pass
VHT80	MCS 0	1	122	5610	2.56	-8.61	11.00	-0.40		Pass

TEST RESULTS DATA
26dB and 99% OBW

Straddle Channel											
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)	6dB Bandwidth (MHz)	IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)	FCC 26dB Bandwidth Power Limit (dBm)	Note
11a	6Mbps	1	144	5720	19.13	25.23	16.36	-	-	-	
				NII-2C	14.5904	17.787	13.192	22.64	28.64	22.20	
				NII-3	4.5405	7.438	3.1716	23.57	29.57	-	
HT20	MCS0	1	144	5720	19.43	24.28	17.56	-	-	-	
				NII-2C	14.6903	17.138	13.791	22.67	28.67	22.40	
				NII-3	4.7403	7.138	3.7714	23.76	29.76	-	
HT40	MCS0	1	142	5710	36.96	44.87	35.32	-	-	-	
				NII-2C	33.4815	37.388	32.742	23.98	30.00	23.98	
				NII-3	3.4815	7.478	2.5827	22.42	28.42	-	
VHT20	MCS0	1	144	5720	19.38	23.98	17.56	-	-	-	
				NII-2C	14.7403	16.988	13.791	22.69	28.69	22.40	
				NII-3	4.6404	6.988	3.7714	23.67	29.67	-	
VHT40	MCS0	1	142	5710	36.86	44.78	35.17	-	-	-	
				NII-2C	33.5814	37.567	32.582	23.98	30.00	23.98	
				NII-3	3.2817	7.208	2.583	22.16	28.16	-	
VHT80	MCS0	1	138	5690	74.69	84.88	75.13	-	-	-	
				NII-2C	72.163	76.56	72.562	23.98	30.00	23.98	
				NII-3	2.522	8.32	2.563	21.02	27.02	-	

TEST RESULTS DATA
Average Power Table

FCC Straddle Channel										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)		Pass/Fail
11a	6Mbps	1	144	5720	0.58	13.33	-	-0.40		Pass
				NII-2C	0.58	12.35	22.20	-0.40		Pass
				NII-3	0.58	6.36	30.00	-0.40		Pass
HT20	MCS0	1	144	5720	0.65	11.37	-	-0.40		Pass
				NII-2C	0.65	10.29	22.40	-0.40		Pass
				NII-3	0.65	4.80	30.00	-0.40		Pass
HT40	MCS0	1	142	5710	1.16	10.15	-	-0.40		Pass
				NII-2C	1.16	9.84	23.98	-0.40		Pass
				NII-3	1.16	-1.52	30.00	-0.40		Pass
VHT20	MCS0	1	144	5720	0.79	11.26	-	-0.40		Pass
				NII-2C	0.79	10.17	22.40	-0.40		Pass
				NII-3	0.79	4.74	30.00	-0.40		Pass
VHT40	MCS0	1	142	5710	1.52	9.94	-	-0.40		Pass
				NII-2C	1.52	9.65	23.98	-0.40		Pass
				NII-3	1.52	-1.92	30.00	-0.40		Pass
VHT80	MCS0	1	138	5690	2.56	9.66	-	-0.40		Pass
				NII-2C	2.56	9.59	23.98	-0.40		Pass
				NII-3	2.56	-8.07	30.00	-0.40		Pass

TEST RESULTS DATA
Power Spectral Density

Straddle Channel										
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	144	NII-2C	0.58	1.73	11.00	-0.40		Pass
				NII-3	0.58	1.73	30.00	-0.40		Pass
HT20	MCS0	1	144	NII-2C	0.65	-0.62	11.00	-0.40		Pass
				NII-3	0.65	-0.62	30.00	-0.40		Pass
HT40	MCS0	1	142	NII-2C	1.16	-4.92	11.00	-0.40		Pass
				NII-3	1.16	-4.92	30.00	-0.40		Pass
VHT20	MCS0	1	144	NII-2C	0.79	-0.50	11.00	-0.40		Pass
				NII-3	0.79	-0.50	30.00	-0.40		Pass
VHT40	MCS0	1	142	NII-2C	1.52	-4.63	11.00	-0.40		Pass
				NII-3	1.52	-4.63	30.00	-0.40		Pass
VHT80	MCS0	1	138	NII-2C	2.56	-8.11	11.00	-0.40		Pass
				NII-3	2.56	-8.11	30.00	-0.40		Pass

TEST RESULTS DATA
Frequency Stability

Band I										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stability (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	20	3.5	
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	20	4.4	
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	20	3.8	
11a	6Mbps	1	36	5180	5180.050	0.050	9.65	-30	3.8	
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	50	3.8	

Band II										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stability (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	20	3.5	
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	20	4.4	
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	20	3.8	
11a	6Mbps	1	64	5320	5320.025	0.025	4.70	-30	3.8	
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	50	3.8	

Band III										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stability (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	100	5500	5500.000	0.000	0.00	20	3.5	
11a	6Mbps	1	100	5500	5500.000	0.000	0.00	20	4.4	
11a	6Mbps	1	100	5500	5500.000	0.000	0.00	20	3.8	
11a	6Mbps	1	100	5500	5500.050	0.050	9.09	-30	3.8	
11a	6Mbps	1	100	5500	5500.000	0.000	0.00	50	3.8	



Appendix B. Radiated Test Results

15E Band 1 - 5150~5250MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 36 5180MHz		5148.45	56.26	-17.74	74	52.82	31.84	8.13	36.53	100	128	P	H
		5149.95	41.19	-12.81	54	37.75	31.84	8.13	36.53	100	128	A	H
	*	5186	97.47	-	-	93.96	31.85	8.17	36.51	100	128	P	H
	*	5186	90.42	-	-	86.91	31.85	8.17	36.51	100	128	A	H
		5148.85	55.09	-18.91	74	51.65	31.84	8.13	36.53	337	71	P	V
		5149.45	39.45	-14.55	54	36.01	31.84	8.13	36.53	337	71	A	V
	*	5186	96.69	-	-	93.18	31.85	8.17	36.51	337	71	P	V
	*	5186	89.29	-	-	85.78	31.85	8.17	36.51	337	71	A	V
802.11a CH 44 5220MHz	*	5226	97.75	-	-	94.17	31.87	8.21	36.5	100	123	P	H
	*	5226	90.51	-	-	86.93	31.87	8.21	36.5	100	123	A	H
	*	5228	97.19	-	-	93.61	31.87	8.21	36.5	316	82	P	V
	*	5226	90.21	-	-	86.63	31.87	8.21	36.5	316	82	A	V
802.11a CH 48 5240MHz	*	5246	99.95	-	-	96.35	31.88	8.22	36.5	100	127	P	H
	*	5246	92.54	-	-	88.94	31.88	8.22	36.5	100	127	A	H
		5392.8	46.24	-27.76	74	42.5	31.92	8.32	36.5	100	127	P	H
		5388.15	36.65	-17.35	54	32.91	31.92	8.32	36.5	100	127	A	H
	*	5234	97.21	-	-	93.63	31.87	8.21	36.5	331	64	P	V
	*	5236	90.22	-	-	86.64	31.87	8.21	36.5	331	64	A	V
		5380.15	45.94	-28.06	74	42.2	31.92	8.32	36.5	331	64	P	V
		5395.15	36.56	-17.44	54	32.81	31.92	8.33	36.5	331	64	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 1 5150~5250MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a		10359	43.61	-30.39	74	53.15	38.02	13.54	61.1	100	0	P	H
CH 36		10359	45.52	-28.48	74	55.06	38.02	13.54	61.1	100	360	P	V
5180MHz													
802.11a		10440	43.78	-30.22	74	53.21	38.06	13.58	61.07	100	0	P	H
CH 44		10440	44.06	-29.94	74	53.49	38.06	13.58	61.07	100	360	P	V
5220MHz													
802.11a		10479	44.83	-29.17	74	54.17	38.09	13.61	61.04	100	0	P	H
CH 48		10479	46.15	-27.85	74	55.49	38.09	13.61	61.04	100	360	P	V
5240MHz													
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 1 5150~5250MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 36 5180MHz		5149.55	52.11	-21.89	74	48.67	31.84	8.13	36.53	300	121	P	H
		5149.9	38.4	-15.6	54	34.96	31.84	8.13	36.53	300	121	A	H
	*	5188	95.42	-	-	91.91	31.85	8.17	36.51	300	121	P	H
	*	5188	87.93	-	-	84.42	31.85	8.17	36.51	300	121	A	H
		5144.85	52.63	-21.37	74	49.19	31.84	8.13	36.53	300	81	P	V
		5149.65	38.68	-15.32	54	35.24	31.84	8.13	36.53	300	81	A	V
	*	5186	95.29	-	-	91.78	31.85	8.17	36.51	300	81	P	V
	*	5186	88.07	-	-	84.56	31.85	8.17	36.51	300	81	A	V
802.11n HT20 CH 44 5220MHz	*	5228	96.84	-	-	93.26	31.87	8.21	36.5	100	120	P	H
	*	5226	89.58	-	-	86	31.87	8.21	36.5	100	120	A	H
	*	5222	95.67	-	-	92.11	31.86	8.2	36.5	300	78	P	V
	*	5226	88.73	-	-	85.15	31.87	8.21	36.5	300	78	A	V
802.11n HT20 CH 48 5240MHz	*	5244	96.21	-	-	92.61	31.88	8.22	36.5	100	128	P	H
	*	5248	89.23	-	-	85.63	31.88	8.22	36.5	100	128	A	H
		5380.45	45.41	-28.59	74	41.67	31.92	8.32	36.5	100	128	P	H
		5390.95	36.8	-17.2	54	33.06	31.92	8.32	36.5	100	128	A	H
	*	5234	97.09	-	-	93.51	31.87	8.21	36.5	298	88	P	V
	*	5244	88.86	-	-	85.26	31.88	8.22	36.5	298	88	A	V
		5389	45.05	-28.95	74	41.31	31.92	8.32	36.5	298	88	P	V
		5393.2	36.75	-17.25	54	33.01	31.92	8.32	36.5	298	88	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 1 5150~5250MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 36 5180MHz		10359	44.24	-29.76	74	53.78	38.02	13.54	61.1	100	0	P	H
		10359	44.84	-29.16	74	54.38	38.02	13.54	61.1	100	360	P	V
802.11n HT20 CH 44 5220MHz		10440	43.68	-30.32	74	53.11	38.06	13.58	61.07	100	0	P	H
		10440	44.3	-29.7	74	53.73	38.06	13.58	61.07	100	360	P	V
802.11n HT20 CH 48 5240MHz		10479	43.95	-30.05	74	53.29	38.09	13.61	61.04	100	0	P	H
		10479	45.63	-28.37	74	54.97	38.09	13.61	61.04	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 1 5150~5250MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT40 CH 38 5190MHz		5144.5	48.42	-25.58	74	44.98	31.84	8.13	36.53	100	127	P	H
		5149.7	39.97	-14.03	54	36.53	31.84	8.13	36.53	100	127	A	H
	*	5202	91.59	-	-	88.04	31.86	8.19	36.5	100	127	P	H
	*	5202	84.51	-	-	80.96	31.86	8.19	36.5	100	127	A	H
		5135.55	47.18	-26.82	74	43.77	31.84	8.11	36.54	336	95	P	V
		5149.1	38.45	-15.55	54	35.01	31.84	8.13	36.53	336	95	A	V
	*	5202	89.87	-	-	86.32	31.86	8.19	36.5	336	94	P	V
	*	5202	82.71	-	-	79.16	31.86	8.19	36.5	336	95	A	V
802.11n HT40 CH 46 5230MHz	*	5240	93.26	-	-	89.68	31.87	8.21	36.5	100	122	P	H
	*	5242	86.19	-	-	82.59	31.88	8.22	36.5	100	122	A	H
		5392.25	46.24	-27.76	74	42.5	31.92	8.32	36.5	100	122	P	H
		5356.95	37.53	-16.47	54	33.83	31.91	8.29	36.5	100	122	A	H
	*	5242	91.68	-	-	88.08	31.88	8.22	36.5	301	98	P	V
	*	5242	84.43	-	-	80.83	31.88	8.22	36.5	301	98	A	V
		5398.8	46.45	-27.55	74	42.7	31.92	8.33	36.5	301	98	P	V
		5387.65	37.51	-16.49	54	33.77	31.92	8.32	36.5	301	98	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 1 5150~5250MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT40 CH 38 5190MHz		10380	44.55	-29.45	74	54.07	38.03	13.55	61.1	100	0	P	H
		10380	45.66	-28.34	74	55.18	38.03	13.55	61.1	100	360	P	V
802.11n HT40 CH 46 5230MHz		10461	44.23	-29.77	74	53.6	38.08	13.6	61.05	100	0	P	H
		10461	46.01	-27.99	74	55.38	38.08	13.6	61.05	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 1 5150~5250MHz
WIFI 802.11ac VHT20 (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac VHT20 CH 36 5180MHz		5144.5	51.78	-22.22	74	48.34	31.84	8.13	36.53	100	129	P	H
		5149.95	39.68	-14.32	54	36.24	31.84	8.13	36.53	100	129	A	H
	*	5176	95.92	-	-	92.41	31.85	8.17	36.51	100	129	P	H
	*	5188	89.24	-	-	85.73	31.85	8.17	36.51	100	129	A	H
		5149.15	49.52	-24.48	74	46.08	31.84	8.13	36.53	301	104	P	V
		5149.85	38.8	-15.2	54	35.36	31.84	8.13	36.53	301	104	A	V
	*	5186	95.09	-	-	91.58	31.85	8.17	36.51	301	104	P	V
	*	5188	88.03	-	-	84.52	31.85	8.17	36.51	301	104	A	V
802.11ac VHT20 CH 44 5220MHz	*	5218	97.3	-	-	93.74	31.86	8.2	36.5	100	124	P	H
	*	5226	89.86	-	-	86.28	31.87	8.21	36.5	100	124	A	H
	*	5226	95.7	-	-	92.12	31.87	8.21	36.5	331	102	P	V
	*	5226	88.28	-	-	84.7	31.87	8.21	36.5	331	102	A	V
802.11ac VHT20 CH 48 5240MHz	*	5248	96.88	-	-	93.28	31.88	8.22	36.5	100	127	P	H
	*	5248	89.87	-	-	86.27	31.88	8.22	36.5	100	127	A	H
		5379.05	46.15	-27.85	74	42.41	31.92	8.32	36.5	100	127	P	H
		5389.75	37.48	-16.52	54	33.74	31.92	8.32	36.5	100	127	A	H
	*	5246	96.31	-	-	92.71	31.88	8.22	36.5	313	104	P	V
	*	5248	89.31	-	-	85.71	31.88	8.22	36.5	313	104	A	V
		5390.05	46.2	-27.8	74	42.46	31.92	8.32	36.5	313	104	P	V
		5387.1	37.55	-16.45	54	33.81	31.92	8.32	36.5	313	104	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 1 5150~5250MHz

WIFI 802.11ac VHT20 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac		10359	44.71	-29.29	74	54.25	38.02	13.54	61.1	100	0	P	H
VHT20													
CH 36		10359	44.25	-29.75	74	53.79	38.02	13.54	61.1	100	360	P	V
5180MHz													
802.11ac		10440	43.51	-30.49	74	52.94	38.06	13.58	61.07	100	0	P	H
VHT20													
CH 44		10440	44.34	-29.66	74	53.77	38.06	13.58	61.07	100	360	P	V
5220MHz													
802.11ac		10479	44.3	-29.7	74	53.64	38.09	13.61	61.04	100	0	P	H
VHT20													
CH 48		10479	43.68	-30.32	74	53.02	38.09	13.61	61.04	100	360	P	V
5240MHz													
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 1 5150~5250MHz
WIFI 802.11ac VHT40 (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac VHT40 CH 38 5190MHz		5148.65	49.38	-24.62	74	45.94	31.84	8.13	36.53	100	131	P	H
		5149.35	40.25	-13.75	54	36.81	31.84	8.13	36.53	100	131	A	H
	*	5202	92.05	-	-	88.5	31.86	8.19	36.5	100	131	P	H
	*	5202	84.98	-	-	81.43	31.86	8.19	36.5	100	131	A	H
		5147.7	49.36	-24.64	74	45.92	31.84	8.13	36.53	311	75	P	V
		5149.45	40.17	-13.83	54	36.73	31.84	8.13	36.53	311	75	A	V
	*	5202	91.74	-	-	88.19	31.86	8.19	36.5	311	75	P	V
	*	5198	84.58	-	-	81.03	31.86	8.19	36.5	311	75	A	V
802.11ac VHT40 CH 46 5230MHz	*	5242	92.38	-	-	88.78	31.88	8.22	36.5	103	124	P	H
	*	5242	85.2	-	-	81.6	31.88	8.22	36.5	103	124	A	H
		5351	45.99	-28.01	74	42.29	31.91	8.29	36.5	103	124	P	H
		5366.45	37.56	-16.44	54	33.84	31.91	8.31	36.5	103	124	A	H
	*	5240	92.13	-	-	88.55	31.87	8.21	36.5	304	73	P	V
	*	5242	84.93	-	-	81.33	31.88	8.22	36.5	304	73	A	V
		5370.95	45.99	-28.01	74	42.27	31.91	8.31	36.5	304	73	P	V
		5367.25	37.59	-16.41	54	33.87	31.91	8.31	36.5	304	73	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 1 5150~5250MHz

WIFI 802.11ac VHT40 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preampl	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)
802.11ac VHT40 CH 38 5190MHz		10380	44.5	-29.5	74	54.02	38.03	13.55	61.1	100	0	P	H
		10380	44.93	-29.07	74	54.45	38.03	13.55	61.1	100	360	P	V
802.11ac VHT40 CH 46 5230MHz		10461	45.54	-28.46	74	54.91	38.08	13.6	61.05	100	0	P	H
		10461	45.21	-28.79	74	54.58	38.08	13.6	61.05	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 1 5150~5250MHz
WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac VHT80 CH 42 5210MHz		5124.9	53.76	-20.24	74	50.35	31.84	8.11	36.54	100	126	P	H
		5130	45.64	-8.36	54	42.23	31.84	8.11	36.54	100	126	A	H
	*	5236	89.4	-	-	85.82	31.87	8.21	36.5	100	126	P	H
	*	5232	82.7	-	-	79.12	31.87	8.21	36.5	100	126	A	H
		5375.7	46.09	-27.91	74	42.37	31.91	8.31	36.5	100	126	P	H
		5372.6	38.65	-15.35	54	34.93	31.91	8.31	36.5	100	126	A	H
		5140.9	48.37	-25.63	74	44.93	31.84	8.13	36.53	300	104	P	V
		5149.95	40.09	-13.91	54	36.65	31.84	8.13	36.53	300	104	A	V
	*	5238	87.19	-	-	83.61	31.87	8.21	36.5	300	104	P	V
	*	5214	80.26	-	-	76.7	31.86	8.2	36.5	300	104	A	V
		5359.75	45.71	-28.29	74	42.01	31.91	8.29	36.5	300	104	P	V
		5395.45	38.29	-15.71	54	34.54	31.92	8.33	36.5	300	104	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 1 5150~5250MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac VHT80 CH 42 5210MHz		10419	43.67	-30.33	74	53.13	38.05	13.57	61.08	100	0	P	H
		10419	43.35	-30.65	74	52.81	38.05	13.57	61.08	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E Band 2 - 5250~5350MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 52 5260MHz		5111.85	46.98	-27.02	74	43.6	31.83	8.1	36.55	100	123	P	H
		5113.15	36.9	-17.1	54	33.52	31.83	8.1	36.55	100	123	A	H
	*	5266	99.46	-	-	95.85	31.88	8.23	36.5	100	123	P	H
	*	5266	92.03	-	-	88.42	31.88	8.23	36.5	100	123	A	H
		5128	46.75	-27.25	74	43.34	31.84	8.11	36.54	300	70	P	V
		5133.75	36.97	-17.03	54	33.56	31.84	8.11	36.54	300	70	A	V
	*	5258	97.68	-	-	94.08	31.88	8.22	36.5	300	70	P	V
	*	5256	90.66	-	-	87.06	31.88	8.22	36.5	300	70	A	V
802.11a CH 60 5300MHz	*	5294	99.34	-	-	95.69	31.89	8.26	36.5	100	126	P	H
	*	5294	92.11	-	-	88.46	31.89	8.26	36.5	100	126	A	H
	*	5304	99.31	-	-	95.66	31.89	8.26	36.5	314	82	P	V
	*	5296	92.14	-	-	88.49	31.89	8.26	36.5	314	82	A	V
802.11a CH 64 5320MHz	*	5326	100.14	-	-	96.47	31.9	8.27	36.5	100	128	P	H
	*	5326	92.69	-	-	89.02	31.9	8.27	36.5	100	128	A	H
		5350.85	58.16	-15.84	74	54.46	31.91	8.29	36.5	100	128	P	H
		5350.25	44.4	-9.6	54	40.7	31.91	8.29	36.5	100	128	A	H
	*	5328	98.84	-	-	95.16	31.9	8.28	36.5	300	89	P	V
	*	5324	91.49	-	-	87.82	31.9	8.27	36.5	300	89	A	V
		5358.3	56.96	-17.04	74	53.26	31.91	8.29	36.5	300	89	P	V
		5350.05	44.57	-9.43	54	40.87	31.91	8.29	36.5	300	89	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 2 5250~5350MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a		10521	43.87	-30.13	74	53.16	38.11	13.63	61.03	100	0	P	H
CH 52		10521	44.95	-29.05	74	54.24	38.11	13.63	61.03	100	360	P	V
5260MHz													
802.11a		10599	44.08	-29.92	74	53.22	38.16	13.68	60.98	100	0	P	H
CH 60		10599	45.16	-28.84	74	54.3	38.16	13.68	60.98	100	360	P	V
5300MHz													
802.11a		10641	43.64	-30.36	74	52.73	38.18	13.7	60.97	100	0	P	H
CH 64		10641	45.74	-28.26	74	54.83	38.18	13.7	60.97	100	360	P	V
5320MHz													
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 2 5250~5350MHz
WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 52 5260MHz		5126.65	46.81	-27.19	74	43.4	31.84	8.11	36.54	104	121	P	H
		5124.8	37.03	-16.97	54	33.62	31.84	8.11	36.54	104	121	A	H
	*	5264	99	-	-	95.39	31.88	8.23	36.5	104	121	P	H
	*	5266	90.92	-	-	87.31	31.88	8.23	36.5	104	121	A	H
		5105.65	46.77	-27.23	74	43.39	31.83	8.1	36.55	333	84	P	V
		5103.55	37.18	-16.82	54	33.83	31.83	8.08	36.56	333	84	A	V
	*	5268	96.19	-	-	92.58	31.88	8.23	36.5	333	84	P	V
	*	5268	89.2	-	-	85.59	31.88	8.23	36.5	333	84	A	V
802.11n HT20 CH 60 5300MHz	*	5308	99.02	-	-	95.37	31.89	8.26	36.5	100	130	P	H
	*	5308	91.58	-	-	87.93	31.89	8.26	36.5	100	130	A	H
	*	5302	97.55	-	-	93.9	31.89	8.26	36.5	342	85	P	V
	*	5296	90.42	-	-	86.77	31.89	8.26	36.5	342	85	A	V
802.11n HT20 CH 64 5320MHz	*	5316	99.93	-	-	96.26	31.9	8.27	36.5	100	130	P	H
	*	5324	92.81	-	-	89.14	31.9	8.27	36.5	100	130	A	H
		5351.1	54.81	-19.19	74	51.11	31.91	8.29	36.5	100	130	P	H
		5371.85	42.4	-11.6	54	38.68	31.91	8.31	36.5	100	130	A	H
	*	5314	98.17	-	-	94.5	31.9	8.27	36.5	305	62	P	V
	*	5328	90.72	-	-	87.04	31.9	8.28	36.5	305	62	A	V
		5352.3	52.81	-21.19	74	49.11	31.91	8.29	36.5	305	62	P	V
		5372.1	40.73	-13.27	54	37.01	31.91	8.31	36.5	305	62	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 2 5250~5350MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 52 5260MHz		10521	44.55	-29.45	74	53.84	38.11	13.63	61.03	100	0	P	H
		10521	44.31	-29.69	74	53.6	38.11	13.63	61.03	100	360	P	V
802.11n HT20 CH 60 5300MHz		10599	43.31	-30.69	74	52.45	38.16	13.68	60.98	100	0	P	H
		10599	43.66	-30.34	74	52.8	38.16	13.68	60.98	100	360	P	V
802.11n HT20 CH 64 5320MHz		10641	43.84	-30.16	74	52.93	38.18	13.7	60.97	100	0	P	H
		10641	45.93	-28.07	74	55.02	38.18	13.7	60.97	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 2 5250~5350MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT40 CH 54 5270MHz		5111.2	46.95	-27.05	74	43.57	31.83	8.1	36.55	100	133	P	H
		5113.9	37.75	-16.25	54	34.37	31.83	8.1	36.55	100	133	A	H
	*	5284	94.08	-	-	90.44	31.89	8.25	36.5	100	133	P	H
	*	5282	86.99	-	-	83.35	31.89	8.25	36.5	100	133	A	H
		5137.85	47.06	-26.94	74	43.65	31.84	8.11	36.54	332	79	P	V
		5131.95	37.71	-16.29	54	34.3	31.84	8.11	36.54	332	79	A	V
	*	5260	94.18	-	-	90.57	31.88	8.23	36.5	332	79	P	V
	*	5282	87.28	-	-	83.64	31.89	8.25	36.5	332	79	A	V
802.11n HT40 CH 62 5310MHz	*	5324	94.61	-	-	90.94	31.9	8.27	36.5	100	132	P	H
	*	5322	87.44	-	-	83.77	31.9	8.27	36.5	100	132	A	H
		5350.2	60.22	-13.78	74	56.52	31.91	8.29	36.5	100	132	P	H
	!	5350.45	48.57	-5.43	54	44.87	31.91	8.29	36.5	100	132	A	H
	*	5322	93.91	-	-	90.24	31.9	8.27	36.5	316	71	P	V
	*	5322	86.96	-	-	83.29	31.9	8.27	36.5	316	71	A	V
		5350.95	64.44	-9.56	74	60.74	31.91	8.29	36.5	316	71	P	V
	!	5350.45	49.65	-4.35	54	45.95	31.91	8.29	36.5	316	71	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 2 5250~5350MHz
WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT40 CH 54 5270MHz		10539	44.5	-29.5	74	53.76	38.12	13.64	61.02	100	0	P	H
		10539	44.56	-29.44	74	53.82	38.12	13.64	61.02	100	360	P	V
802.11n HT40 CH 62 5310MHz		10620	42.44	-31.56	74	51.56	38.17	13.69	60.98	100	0	P	H
		10620	42.92	-31.08	74	52.04	38.17	13.69	60.98	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 2 5250~5350MHz
WIFI 802.11ac VHT20 (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac VHT20 CH 52 5260MHz		5103.3	47.33	-26.67	74	43.98	31.83	8.08	36.56	100	126	P	H
		5103.9	37.75	-16.25	54	34.4	31.83	8.08	36.56	100	126	A	H
	*	5268	97.33	-	-	93.72	31.88	8.23	36.5	100	126	P	H
	*	5268	90.53	-	-	86.92	31.88	8.23	36.5	100	126	A	H
		5133.65	47.59	-26.41	74	44.18	31.84	8.11	36.54	329	104	P	V
		5142.2	37.78	-16.22	54	34.34	31.84	8.13	36.53	329	104	A	V
	*	5252	96.58	-	-	92.98	31.88	8.22	36.5	329	104	P	V
	*	5264	89.72	-	-	86.11	31.88	8.23	36.5	329	104	A	V
802.11ac VHT20 CH 60 5300MHz	*	5308	97.9	-	-	94.25	31.89	8.26	36.5	100	130	P	H
	*	5308	90.83	-	-	87.18	31.89	8.26	36.5	100	130	A	H
	*	5308	98.35	-	-	94.7	31.89	8.26	36.5	293	85	P	V
	*	5308	91.26	-	-	87.61	31.89	8.26	36.5	293	85	A	V
802.11ac VHT20 CH 64 5320MHz	*	5312	98.37	-	-	94.7	31.9	8.27	36.5	100	123	P	H
	*	5324	91.59	-	-	87.92	31.9	8.27	36.5	100	123	A	H
		5352.5	52.54	-21.46	74	48.84	31.91	8.29	36.5	100	123	P	H
		5371.75	41.94	-12.06	54	38.22	31.91	8.31	36.5	100	123	A	H
	*	5328	98.9	-	-	95.22	31.9	8.28	36.5	307	77	P	V
	*	5328	91.75	-	-	88.07	31.9	8.28	36.5	307	77	A	V
		5351.9	52.86	-21.14	74	49.16	31.91	8.29	36.5	307	77	P	V
		5371.85	41.67	-12.33	54	37.95	31.91	8.31	36.5	307	77	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 2 5250~5350MHz

WIFI 802.11ac VHT20 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac		10520	43.95	-30.05	74	53.24	38.11	13.63	61.03	100	0	P	H
VHT20													
CH 52		10521	44.26	-29.74	74	53.55	38.11	13.63	61.03	100	360	P	V
5260MHz													
802.11ac		10599	43.3	-30.7	74	52.44	38.16	13.68	60.98	100	0	P	H
VHT20													
CH 60		10599	43.31	-30.69	74	52.45	38.16	13.68	60.98	100	360	P	V
5300MHz													
802.11ac		10641	43.14	-30.86	74	52.23	38.18	13.7	60.97	100	0	P	H
VHT20													
CH 64		10641	45.58	-28.42	74	54.67	38.18	13.7	60.97	100	360	P	V
5320MHz													
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 2 5250~5350MHz
WIFI 802.11ac VHT40 (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac VHT40 CH 54 5270MHz		5147.45	46.87	-27.13	74	43.43	31.84	8.13	36.53	103	123	P	H
		5106.85	37.86	-16.14	54	34.48	31.83	8.1	36.55	103	123	A	H
	*	5282	94.68	-	-	91.04	31.89	8.25	36.5	103	123	P	H
	*	5282	87.28	-	-	83.64	31.89	8.25	36.5	103	123	A	H
		5124.4	47	-27	74	43.59	31.84	8.11	36.54	311	79	P	V
		5102.05	37.66	-16.34	54	34.31	31.83	8.08	36.56	311	79	A	V
	*	5284	94.62	-	-	90.98	31.89	8.25	36.5	311	79	P	V
	*	5282	87.33	-	-	83.69	31.89	8.25	36.5	311	79	A	V
802.11ac VHT40 CH 62 5310MHz	*	5324	95.67	-	-	92	31.9	8.27	36.5	100	126	P	H
	*	5322	88.36	-	-	84.69	31.9	8.27	36.5	100	126	A	H
		5351.4	62.23	-11.77	74	58.53	31.91	8.29	36.5	100	126	P	H
	!	5350	49.92	-4.08	54	46.22	31.91	8.29	36.5	100	126	A	H
	*	5324	94.13	-	-	90.46	31.9	8.27	36.5	300	68	P	V
	*	5322	86.81	-	-	83.14	31.9	8.27	36.5	300	68	A	V
		5351.8	61.02	-12.98	74	57.32	31.91	8.29	36.5	300	68	P	V
	!	5350.15	48.4	-5.6	54	44.7	31.91	8.29	36.5	300	68	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 2 5250~5350MHz

WIFI 802.11ac VHT40 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac VHT40 CH 54 5270MHz		10539	45.14	-28.86	74	54.4	38.12	13.64	61.02	100	0	P	H
		10539	45.62	-28.38	74	54.88	38.12	13.64	61.02	100	360	P	V
802.11ac VHT40 CH 62 5310MHz		10620	43.89	-30.11	74	53.01	38.17	13.69	60.98	100	0	P	H
		10620	44.93	-29.07	74	54.05	38.17	13.69	60.98	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 2 5250~5350MHz
WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac VHT80 CH 58 5290MHz		5112.55	47.11	-26.89	74	43.73	31.83	8.1	36.55	100	127	P	H
		5104.2	38.63	-15.37	54	35.28	31.83	8.08	36.56	100	127	A	H
	*	5304	92.14	-	-	88.49	31.89	8.26	36.5	100	127	P	H
	*	5312	85.07	-	-	81.4	31.9	8.27	36.5	100	127	A	H
		5354.7	59.58	-14.42	74	55.88	31.91	8.29	36.5	100	127	P	H
	!	5350.35	50.62	-3.38	54	46.92	31.91	8.29	36.5	100	127	A	H
		5114.5	46.78	-27.22	74	43.4	31.83	8.1	36.55	300	69	P	V
		5136.05	38.55	-15.45	54	35.14	31.84	8.11	36.54	300	69	A	V
	*	5316	90.22	-	-	86.55	31.9	8.27	36.5	300	69	P	V
	*	5294	83.46	-	-	79.81	31.89	8.26	36.5	300	69	A	V
		5372.95	57.86	-16.14	74	54.14	31.91	8.31	36.5	300	69	P	V
	!	5355.25	49.65	-4.35	54	45.95	31.91	8.29	36.5	300	69	A	V
Remark		1. No other spurious found. 2. All results are PASS against Peak and Average limit line.											



15E band 2 5250~5350MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preampl	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)
802.11ac		10581	42.93	-31.07	74	52.1	38.15	13.67	60.99	100	0	P	H
VHT80													
CH 58		10581	43.47	-30.53	74	52.64	38.15	13.67	60.99	100	360	P	V
5290MHz													
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E Band 3 - 5470~5725MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 100 5500MHz		5469.2	49.61	-24.39	74	45.68	31.95	8.38	36.4	330	117	P	H
		5469.36	40.35	-13.65	54	36.42	31.95	8.38	36.4	330	117	A	H
	*	5498	98.93	-	-	94.92	31.96	8.4	36.35	330	117	P	H
	*	5504	91.83	-	-	87.82	31.96	8.4	36.35	330	117	A	H
		5447.76	50.74	-23.26	74	46.85	31.94	8.37	36.42	300	85	P	V
		5470	42.09	-11.91	54	38.16	31.95	8.38	36.4	300	85	A	V
	*	5506	101.87	-	-	97.86	31.96	8.4	36.35	300	85	P	V
	*	5504	94.55	-	-	90.54	31.96	8.4	36.35	300	85	A	V
802.11a CH 116 5580MHz	*	5586	99.92	-	-	95.7	31.98	8.47	36.23	300	126	P	H
	*	5576	92.6	-	-	88.42	31.98	8.45	36.25	300	126	A	H
	*	5586	101.32	-	-	97.1	31.98	8.47	36.23	300	82	P	V
	*	5586	93.97	-	-	89.75	31.98	8.47	36.23	300	82	A	V
802.11a CH 140 5700MHz	*	5706	101.15	-	-	96.84	32.03	8.55	36.27	295	115	P	H
	*	5706	94.07	-	-	89.76	32.03	8.55	36.27	295	115	A	H
		5726.04	57.31	-16.69	74	52.98	32.04	8.57	36.28	295	115	P	H
		5725.24	44.89	-9.11	54	40.56	32.04	8.57	36.28	295	115	A	H
	*	5694	101.55	-	-	97.24	32.02	8.54	36.25	300	67	P	V
	*	5692	94.37	-	-	90.06	32.02	8.54	36.25	300	67	A	V
		5726.36	56.19	-17.81	74	51.86	32.04	8.57	36.28	300	67	P	V
		5725	45.65	-8.35	54	41.32	32.04	8.57	36.28	300	67	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 3 - 5470~5725MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a		11001	46.23	-27.77	74	54.71	38.4	13.91	60.79	100	0	P	H
CH 100		11001	46.43	-27.57	74	54.91	38.4	13.91	60.79	100	360	P	V
5500MHz													
802.11a		11160	44.81	-29.19	74	53.04	38.47	14.01	60.71	100	0	P	H
CH 116		11160	45.33	-28.67	74	53.56	38.47	14.01	60.71	100	360	P	V
5580MHz													
802.11a		11400	42.39	-31.61	74	50.27	38.56	14.15	60.59	100	0	P	H
CH 140		11400	44.25	-29.75	74	52.13	38.56	14.15	60.59	100	360	P	V
5700MHz													
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 3 - 5470~5725MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 100 5500MHz		5469.68	50	-24	74	46.07	31.95	8.38	36.4	100	121	P	H
		5447.92	41.36	-12.64	54	37.47	31.94	8.37	36.42	100	121	A	H
	*	5494	98.6	-	-	94.64	31.95	8.39	36.38	100	121	P	H
	*	5504	91.6	-	-	87.59	31.96	8.4	36.35	100	121	A	H
		5469.68	49.85	-24.15	74	45.92	31.95	8.38	36.4	288	69	P	V
		5448.4	41.68	-12.32	54	37.79	31.94	8.37	36.42	288	69	A	V
	*	5496	100.06	-	-	96.1	31.95	8.39	36.38	288	69	P	V
	*	5494	92.23	-	-	88.27	31.95	8.39	36.38	288	69	A	V
802.11n HT20 CH 116 5580MHz	*	5584	98.35	-	-	94.13	31.98	8.47	36.23	101	123	P	H
	*	5588	91.19	-	-	86.97	31.98	8.47	36.23	101	123	A	H
	*	5588	99.49	-	-	95.27	31.98	8.47	36.23	294	82	P	V
	*	5588	92.22	-	-	88	31.98	8.47	36.23	294	82	A	V
802.11n HT20 CH 140 5700MHz	*	5706	98.25	-	-	93.94	32.03	8.55	36.27	100	126	P	H
	*	5704	91	-	-	86.69	32.03	8.55	36.27	100	126	A	H
		5725.72	51.13	-22.87	74	46.8	32.04	8.57	36.28	100	126	P	H
		5725.08	42.16	-11.84	54	37.83	32.04	8.57	36.28	100	126	A	H
	*	5704	99.49	-	-	95.18	32.03	8.55	36.27	297	88	P	V
	*	5706	92.11	-	-	87.8	32.03	8.55	36.27	297	88	A	V
		5725.32	53.86	-20.14	74	49.53	32.04	8.57	36.28	297	88	P	V
		5725	42.77	-11.23	54	38.44	32.04	8.57	36.28	297	88	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 3 - 5470~5725MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 100 5500MHz		11001	44.85	-29.15	74	53.33	38.4	13.91	60.79	100	0	P	H
		11001	47.2	-26.8	74	55.68	38.4	13.91	60.79	100	360	P	V
802.11n HT20 CH 116 5580MHz		11601	43.07	-30.93	74	50.45	38.83	14.27	60.48	100	0	P	H
		11601	42.82	-31.18	74	50.2	38.83	14.27	60.48	100	360	P	V
802.11n HT20 CH 140 5700MHz		11400	42.83	-31.17	74	50.71	38.56	14.15	60.59	100	0	P	H
		11400	43.44	-30.56	74	51.32	38.56	14.15	60.59	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 3 - 5470~5725MHz
WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT40 CH 102 5510MHz		5469.04	54.65	-19.35	74	50.72	31.95	8.38	36.4	100	128	P	H
		5469.84	45.94	-8.06	54	42.01	31.95	8.38	36.4	100	128	A	H
	*	5500	94.33	-	-	90.32	31.96	8.4	36.35	100	128	P	H
	*	5500	87.41	-	-	83.4	31.96	8.4	36.35	100	128	A	H
		5463.92	55.88	-18.12	74	51.95	31.95	8.38	36.4	337	76	P	V
		5470	46.21	-7.79	54	42.28	31.95	8.38	36.4	337	76	A	V
	*	5508	95.65	-	-	91.64	31.96	8.4	36.35	337	76	P	V
	*	5508	88.6	-	-	84.59	31.96	8.4	36.35	337	76	A	V
802.11n HT40 CH 110 5550MHz	*	5564	94.54	-	-	90.41	31.97	8.44	36.28	100	127	P	H
	*	5562	87.64	-	-	83.51	31.97	8.44	36.28	100	127	A	H
	*	5564	96.13	-	-	92	31.97	8.44	36.28	296	67	P	V
	*	5562	88.13	-	-	84	31.97	8.44	36.28	296	67	A	V
802.11n HT40 CH 134 5670MHz	*	5680	95.03	-	-	90.72	32.02	8.53	36.24	100	123	P	H
	*	5682	88.07	-	-	83.76	32.02	8.53	36.24	100	123	A	H
		5725.88	48.81	-25.19	74	44.48	32.04	8.57	36.28	100	123	P	H
		5727.96	39.8	-14.2	54	35.47	32.04	8.57	36.28	100	123	A	H
	*	5680	95.94	-	-	91.63	32.02	8.53	36.24	297	64	P	V
	*	5674	88.75	-	-	84.44	32.02	8.53	36.24	297	64	A	V
		5725.8	49.03	-24.97	74	44.7	32.04	8.57	36.28	297	64	P	V
		5725.64	40.33	-13.67	54	36	32.04	8.57	36.28	297	64	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 3 - 5470~5725MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT40 CH 102 5510MHz		11019	44.01	-29.99	74	52.46	38.41	13.92	60.78	100	0	P	H
		11019	45.31	-28.69	74	53.76	38.41	13.92	60.78	100	360	P	V
802.11n HT40 CH 110 5550MHz		11100	44.82	-29.18	74	53.15	38.44	13.97	60.74	100	0	P	H
		11100	45.06	-28.94	74	53.39	38.44	13.97	60.74	100	360	P	V
		11340	42.6	-31.4	74	50.58	38.53	14.11	60.62	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 3 - 5470~5725MHz

WIFI 802.11ac VHT20 (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac VHT20 CH 100 5500MHz		5464.56	48.94	-25.06	74	45.01	31.95	8.38	36.4	100	127	P	H
		5448.24	41.43	-12.57	54	37.54	31.94	8.37	36.42	100	127	A	H
	*	5508	99.12	-	-	95.11	31.96	8.4	36.35	100	127	P	H
	*	5504	91.65	-	-	87.64	31.96	8.4	36.35	100	127	A	H
		5463.28	49.91	-24.09	74	45.98	31.95	8.38	36.4	318	67	P	V
		5448.08	41.64	-12.36	54	37.75	31.94	8.37	36.42	318	67	A	V
	*	5508	99.08	-	-	95.07	31.96	8.4	36.35	318	67	P	V
	*	5504	92.42	-	-	88.41	31.96	8.4	36.35	318	67	A	V
802.11ac VHT20 CH 116 5580MHz	*	5588	98.08	-	-	93.86	31.98	8.47	36.23	100	129	P	H
	*	5588	91.3	-	-	87.08	31.98	8.47	36.23	100	129	A	H
	*	5588	98.51	-	-	94.29	31.98	8.47	36.23	328	75	P	V
	*	5588	91.54	-	-	87.32	31.98	8.47	36.23	328	75	A	V
802.11ac VHT20 CH 140 5700MHz	*	5706	97.5	-	-	93.19	32.03	8.55	36.27	100	121	P	H
	*	5704	90.06	-	-	85.75	32.03	8.55	36.27	100	121	A	H
		5728.12	51.44	-22.56	74	47.11	32.04	8.57	36.28	100	121	P	H
		5725	42.45	-11.55	54	38.12	32.04	8.57	36.28	100	121	A	H
	*	5706	99.02	-	-	94.71	32.03	8.55	36.27	318	77	P	V
	*	5708	91.87	-	-	87.56	32.03	8.55	36.27	318	77	A	V
		5725	53.63	-20.37	74	49.3	32.04	8.57	36.28	318	77	P	V
		5725	43.13	-10.87	54	38.8	32.04	8.57	36.28	318	77	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 3 - 5470~5725MHz

WIFI 802.11ac VHT20 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac		11001	44.65	-29.35	74	53.13	38.4	13.91	60.79	100	0	P	H
VHT20													
CH 100		11001	46.13	-27.87	74	54.61	38.4	13.91	60.79	100	360	P	V
5500MHz													
802.11ac		11160	43.67	-30.33	74	51.9	38.47	14.01	60.71	100	0	P	H
VHT20													
CH 116		11160	43.66	-30.34	74	51.89	38.47	14.01	60.71	100	360	P	V
5580MHz													
802.11ac		11400	43.44	-30.56	74	51.32	38.56	14.15	60.59	100	0	P	H
VHT20													
CH 140		11400	43.28	-30.72	74	51.16	38.56	14.15	60.59	100	360	P	V
5700MHz													
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 3 - 5470~5725MHz

WIFI 802.11ac VHT40 (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac VHT40 CH 102 5510MHz		5468.72	54.72	-19.28	74	50.79	31.95	8.38	36.4	100	125	P	H
		5470	45.68	-8.32	54	41.75	31.95	8.38	36.4	100	125	A	H
	*	5524	94.46	-	-	90.41	31.96	8.42	36.33	100	125	P	H
	*	5518	87.61	-	-	83.56	31.96	8.42	36.33	100	125	A	H
		5468.08	53.19	-20.81	74	49.26	31.95	8.38	36.4	300	81	P	V
		5469.04	44.49	-9.51	54	40.56	31.95	8.38	36.4	300	81	A	V
	*	5520	94.09	-	-	90.04	31.96	8.42	36.33	300	81	P	V
	*	5518	87.05	-	-	83	31.96	8.42	36.33	300	81	A	V
802.11ac VHT40 CH 110 5550MHz	*	5562	94.54	-	-	90.41	31.97	8.44	36.28	100	124	P	H
	*	5562	87.41	-	-	83.28	31.97	8.44	36.28	100	124	A	H
	*	5538	94.42	-	-	90.32	31.97	8.43	36.3	300	87	P	V
	*	5562	87.34	-	-	83.21	31.97	8.44	36.28	300	87	A	V
802.11ac VHT40 CH 134 5670MHz	*	5680	94.58	-	-	90.27	32.02	8.53	36.24	100	121	P	H
	*	5682	87.57	-	-	83.26	32.02	8.53	36.24	100	121	A	H
		5725.24	49.15	-24.85	74	44.82	32.04	8.57	36.28	100	121	P	H
		5727.64	39.83	-14.17	54	35.5	32.04	8.57	36.28	100	121	A	H
	*	5680	95.22	-	-	90.91	32.02	8.53	36.24	300	79	P	V
	*	5678	88.09	-	-	83.78	32.02	8.53	36.24	300	79	A	V
		5726.04	48.41	-25.59	74	44.08	32.04	8.57	36.28	300	79	P	V
		5725.72	39.84	-14.16	54	35.51	32.04	8.57	36.28	300	79	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 3 - 5470~5725MHz

WIFI 802.11ac VHT40 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac		11019	45.13	-28.87	74	53.58	38.41	13.92	60.78	100	0	P	H
VHT40													
CH 102		11019	46.22	-27.78	74	54.67	38.41	13.92	60.78	100	360	P	V
5510MHz													
802.11ac		11100	45.32	-28.68	74	53.65	38.44	13.97	60.74	100	0	P	H
VHT40													
CH 110		11100	46.84	-27.16	74	55.17	38.44	13.97	60.74	100	360	P	V
5550MHz													
802.11ac		11340	44.61	-29.39	74	52.59	38.53	14.11	60.62	100	0	P	H
VHT40													
CH 134		11340	43.01	-30.99	74	50.99	38.53	14.11	60.62	100	360	P	V
5670MHz													
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 3 5470~5725MHz
WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac VHT80 CH 106 5530MHz		5463.28	53.82	-20.18	74	49.89	31.95	8.38	36.4	100	129	P	H
		5467.28	46.84	-7.16	54	42.91	31.95	8.38	36.4	100	129	A	H
	*	5524	91.09	-	-	87.04	31.96	8.42	36.33	100	129	P	H
	*	5534	84.76	-	-	80.66	31.97	8.43	36.3	100	129	A	H
		5755.08	45.86	-28.14	74	41.52	32.05	8.59	36.3	100	129	P	H
		5754.52	39.03	-14.97	54	34.69	32.05	8.59	36.3	100	129	A	H
		5469.84	52.81	-21.19	74	48.88	31.95	8.38	36.4	300	79	P	V
		5467.6	45.12	-8.88	54	41.19	31.95	8.38	36.4	300	79	A	V
	*	5510	91.78	-	-	87.77	31.96	8.4	36.35	300	79	P	V
	*	5534	84.57	-	-	80.47	31.97	8.43	36.3	300	79	A	V
		5752.84	46.17	-27.83	74	41.83	32.05	8.59	36.3	300	79	P	V
		5740.92	39.36	-14.64	54	35.02	32.05	8.58	36.29	300	79	A	V
802.11ac VHT80 CH 122 5610MHz		5451.76	46.25	-27.75	74	42.36	31.94	8.37	36.42	100	128	P	H
		5448.88	39.13	-14.87	54	35.24	31.94	8.37	36.42	100	128	A	H
	*	5592	91.94	-	-	87.72	31.98	8.47	36.23	100	128	P	H
	*	5590	84.36	-	-	80.14	31.98	8.47	36.23	100	128	A	H
		5727.48	46.66	-27.34	74	42.33	32.04	8.57	36.28	100	128	P	H
		5734.36	39.91	-14.09	54	35.58	32.04	8.57	36.28	100	128	A	H
		5420.72	46.97	-27.03	74	43.17	31.93	8.34	36.47	300	77	P	V
		5464.4	38.84	-15.16	54	34.91	31.95	8.38	36.4	300	77	A	V
	*	5630	91.8	-	-	87.53	31.99	8.49	36.21	300	77	P	V
	*	5632	85.25	-	-	80.98	31.99	8.49	36.21	300	77	A	V
		5744.2	46.97	-27.03	74	42.63	32.05	8.58	36.29	300	77	P	V
		5728.04	39.85	-14.15	54	35.52	32.04	8.57	36.28	300	77	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 3 5470~5725MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac VHT80 CH 106 5530MHz		11061	43.73	-30.27	74	52.11	38.43	13.95	60.76	100	0	P	H
		11061	44.76	-29.24	74	53.14	38.43	13.95	60.76	100	360	P	V
802.11ac VHT80 CH 122 5610MHz		11220	43.33	-30.67	74	51.48	38.49	14.04	60.68	100	0	P	H
		11220	43.96	-30.04	74	52.11	38.49	14.04	60.68	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E Band 3 - Straddle Channel

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 144 5720MHz	*	5718	104.51	-	-	100.18	32.04	8.57	36.28	100	118	P	H
	*	5716	97.38	-	-	93.07	32.03	8.55	36.27	100	118	A	H
	*	5724	103.34	-	-	99.01	32.04	8.57	36.28	312	77	P	V
	*	5716	96.37	-	-	92.06	32.03	8.55	36.27	312	77	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												


15E band 3 - Straddle Channel
WIFI 802.11a (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a		11439	43.14	-30.86	74	50.97	38.57	14.17	60.57	100	0	P	H
CH 144		11439	45.5	-28.5	74	53.33	38.57	14.17	60.57	100	360	P	V
5720MHz													
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 3 - Straddle Channel
WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preampl	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)
802.11n	*	5716	104.43	-	-	100.12	32.03	8.55	36.27	110	122	P	H
HT20	*	5716	97.24	-	-	92.93	32.03	8.55	36.27	110	122	A	H
CH 144	*	5718	103.98	-	-	99.65	32.04	8.57	36.28	312	74	P	V
5720MHz	*	5716	96.56	-	-	92.25	32.03	8.55	36.27	312	74	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 3 - Straddle Channel
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n		11439	44.32	-29.68	74	52.15	38.57	14.17	60.57	100	0	P	H
HT20													
CH 144		11439	44.29	-29.71	74	52.12	38.57	14.17	60.57	100	360	P	V
5720MHz													
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 3 - Straddle Channel
WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n	*	5720	99.16	-	-	94.83	32.04	8.57	36.28	100	117	P	H
HT40	*	5718	91.99	-	-	87.66	32.04	8.57	36.28	100	117	A	H
CH 142	*	5718	99.19	-	-	94.86	32.04	8.57	36.28	303	73	P	V
5710MHz	*	5720	91.19	-	-	86.86	32.04	8.57	36.28	303	73	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 3 - Straddle Channel
WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT40 CH 142 5710MHz		11421	44.53	-29.47	74	52.38	38.57	14.16	60.58	100	0	P	H
		11421	44.37	-29.63	74	52.22	38.57	14.16	60.58	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 3 - Straddle Channel
WIFI 802.11n VHT20 (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n	*	5724	102.21	-	-	97.88	32.04	8.57	36.28	109	124	P	H
VHT20	*	5714	95.44	-	-	91.13	32.03	8.55	36.27	109	124	A	H
CH 144	*	5714	101.04	-	-	96.73	32.03	8.55	36.27	328	74	P	V
5720MHz	*	5714	94.16	-	-	89.85	32.03	8.55	36.27	328	74	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 3 - Straddle Channel
WIFI 802.11n VHT20 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n VHT20 CH 144 5720MHz		11439	43.43	-30.57	74	51.26	38.57	14.17	60.57	100	0	P	H
		11439	44.1	-29.9	74	51.93	38.57	14.17	60.57	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 3 - Straddle Channel
WIFI 802.11n VHT40 (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n	*	5722	98.13	-	-	93.8	32.04	8.57	36.28	100	121	P	H
VHT40	*	5722	91.2	-	-	86.87	32.04	8.57	36.28	100	121	A	H
CH 142	*	5720	96.85	-	-	92.52	32.04	8.57	36.28	324	75	P	V
5710MHz	*	5718	89.85	-	-	85.52	32.04	8.57	36.28	324	75	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 3 - Straddle Channel

WIFI 802.11n VHT40 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n		11421	44.76	-29.24	74	52.61	38.57	14.16	60.58	100	0	P	H
VHT40													
CH 142		11421	44.19	-29.81	74	52.04	38.57	14.16	60.58	100	360	P	V
5710MHz													
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 3 - Straddle Channel
WIFI 802.11n VHT80 (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n	*	5704	94.72	-	-	90.41	32.03	8.55	36.27	114	123	P	H
VHT80	*	5712	88.09	-	-	83.78	32.03	8.55	36.27	114	123	A	H
CH 138	*	5684	93.34	-	-	89.03	32.02	8.54	36.25	369	84	P	V
5690MHz	*	5688	86.54	-	-	82.23	32.02	8.54	36.25	369	84	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 3 - Straddle Channel
WIFI 802.11n VHT80 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n VHT80 CH 138 5690MHz		11379	43.05	-30.95	74	50.96	38.55	14.14	60.6	100	0	P	H
		11379	43.16	-30.84	74	51.07	38.55	14.14	60.6	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E Emission below 1GHz

WIFI 802.11ac VHT80 (LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac VHT80 LF		31.94	29.72	-10.28	40	41.74	18.32	0.68	31.02	100	188	P	H
		159.98	21.96	-21.54	43.5	37.64	13.19	1.53	30.4	-	-	P	H
		323.91	18.59	-27.41	46	31.6	15.33	2.21	30.55	-	-	P	H
		526.64	18.24	-27.76	46	27.26	18.46	2.87	30.35	-	-	P	H
		674.08	21.05	-24.95	46	28.2	19.93	3.27	30.35	-	-	P	H
		842.86	23.11	-22.89	46	27.6	22.22	3.7	30.41	-	-	P	H
	!	30.97	36.59	-3.41	40	48.53	18.46	0.66	31.06	100	265	QP	V
	!	79.47	36.1	-3.9	40	56.25	9.27	1.08	30.5	-	-	P	V
		288.02	22.71	-23.29	46	36.67	14.5	2.04	30.5	-	-	P	V
		323.91	24.81	-21.19	46	37.82	15.33	2.21	30.55	-	-	P	V
		737.13	20.69	-25.31	46	27.02	20.7	3.44	30.47	-	-	P	V
		810.85	22.98	-23.02	46	28.02	21.83	3.61	30.48	-	-	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 per 15.209(c).
!	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		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
CH 01													
2412MHz		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

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”.