FCC REPORT

(UNII)

Applicant:	APRIX LATINOAMERICA S.A.
Address of Applicant:	ADVANCED 099 BLDG SUITE 4 C CALLE BEATRIZ M DE CABAL PANAMA

Equipment Under Test (EUT)

Product Name:	Tablet PC
Model No.:	Aprix Tab64C, Aprix Tab64A, Aprix Tab64B, Aprix Tab64D, Aprix Tab64E, 64A, 64B, 64C, 64D, 64E, A10, A101, B10, B101, APT10, APT101, AX10, BX10
Trade mark:	APRIX
FCC ID:	2AHJQ-APT67A
Applicable standards:	FCC CFR Title 47 Part 15 Subpart E Section 15.407
Date of sample receipt:	12 June, 2017
Date of Test:	12 June, to 05 July, 2017
Date of report issued:	06 July, 2017
Test Result:	PASS*

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

Authorized Signature:

Bruce Zhang
Laboratory Manager

2 Version

Version No.	Date	Description
00	*06 July, 2017*	*Original*

Tested by: YT Yang ***Date:*** *06 July, 2017*

Test Engineer

Reviewed by: RYan.Lee ***Date:*** *06 July, 2017*

Project Engineer

3 Contents

4 Test Summary

Test Item	Section in CFR 47
Antenna requirement	15.203/15.407 (g)
AC Power Line Conducted Emission	15.207
Conducted Peak Output Power	15.407 (a) (1) (iv) & (a) (3)
26dB Occupied Bandwidth	15.407 (a) (5)
6dB Emission Bandwidth	15.407(e)
Power Spectral Density	15.407 (a) (1) (iv) &(a) (3)
Band Edge	15.407(b)
Spurious Emission	15.205/15.209
Frequency Stability	15.407(g)

Pass: The EUT complies with the essential requirements in the standard.

5 General Information

5.1 Client Information

Applicant:	APRIX LATINOAMERICA S.A.
Address of Applicant:	ADVANCED 099 BLDG SUITE 4 C CALLE BEATRIZ M DE CABAL PANAMA
Manufacturer:	Todos industrial limited
Address of Manufacturer:	Room 308, Building #5, Cofoc (Fuan) Robotics Industrial Park, No.90, Dayang Road, Fuyong Street, Shenzhen City, P.R. China

5.2 General Description of E.U.T.

Product Name:	Tablet PC
Model No.:	Aprix Tab64C, Aprix Tab64A, Aprix Tab64B, Aprix Tab64D, Aprix Tab64E, 64A, 64B, 64C, 64D, 64E, A10, A101, B10, B101, APT10, APT101, AX10, BX10
Operation Frequency:	Band 1: 5180MHz-5240MHz
Channel numbers:	Band 1: 802.11a/802.11n20: 4,802.11n40: 2,802.11ac:1
Channel separation:	802.11a/802.11n20:20MHz, 802.11n40:40MHz, 802.11ac : 80MHz
Modulation technology: (IEEE 802.11a)	BPSK, QPSK, 16-QAM, 64-QAM
Modulation technology: (IEEE 802.11n)	BPSK, QPSK, 16-QAM, 64-QAM
Modulation technology: (IEEE 802.11ac)	BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM
Data speed(IEEE 802.11a)	6Mbps, 9Mbps,12Mbps,18Mbps,24Mbps,36Mbps,48Mbps,54Mbps
Data speed (IEEE 802.11n20):	MCS0: 6.5Mbps,MCS1:13Mbps,MCS2:19.5Mbps,MCS3:26Mbps, MCS4:39Mbps,MCS5:52Mbps,MCS6:58.5Mbps,MCS7:65Mbps
Data speed (IEEE 802.11n40):	MCS0:15Mbps,MCS1:30Mbps,MCS2:45Mbps,MCS3:60Mbps, MCS4:90Mbps,MCS5:120Mbps,MCS6:135Mbps,MCS7:150Mbps
Data speed (IEEE 802.11ac):	Up to 433.3Mbps
Antenna Type:	Internal Antenna
Antenna gain:	0 dBi
Power supply:	Rechargeable Li-ion Battery DC3.7V-7000mAh
AC adapter :	Model: BY120502000 Input: AC100-240V 50/60Hz 0.3A Output: DC 5.0V, 2A
Remark:	The No.: Aprix Tab64C,Aprix Tab64A,Aprix Tab64B,Aprix Tab64D, AprixTab64E,64A,64B,64C,64D,64E,A10,A101,B10,B101,APT10,APT 101, AX10,BX10 etc. were identical inside, the electrical circuit design, layout, components used and internal wiring, with only difference being model name.

Operation Frequency each of channel

Band 1					
802.11a/802.11n20		802.11n40		802.11ac	
Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180MHz	38	5190MHz	42	5210MHz
40	5200MHz	46	5230MHz		
44	5220MHz				
48	5240MHz				

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

Band 1					
802.11a/802.11n20		802.11n40		802.11ac	
Channel	Frequency	Channel	Frequency	Channel	Frequency
Lowest channel	5180MHz	Lowest channel	5190MHz	Middle channel	5210MHz
Middle channel	5200MHz	Highest channel	5230MHz		
Highest channel	5240MHz				

5.3 Test environment andmode

Operating Environment:	
Temperature:	24.0 °C
Humidity:	54 % RH
Atmospheric Pressure:	1010 mbar
Test mode:	
Continuously transmitting mode	Keep the EUT in 100% duty cycle transmitting with modulation.

We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:	
Per-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.	
Mode	Data rate
802.11a	6 Mbps
802.11n20	6.5 Mbps
802.11n40	13 Mbps
802.11ac	23.9 Mbps
Final Test Mode:	
According to ANSI C63.4 standards, the test results are both the “worst case” and “worst setup” 6 Mbps for 802.11a, 6.5 Mbps for 802.11n20, 13 Mbps for 802.11n40 and 29.3Mbps for 802.11ac. All test items for 802.11a, 802.11ac and 802.11n were performed with duty cycle above 98%, meet the requirements of KDB789033.	

5.4 Description of Support Units

Manufacturer	Description	Model	Serial Number	FCC ID/DoC
DELL	PC	OPTIPLEX745	N/A	DoC
DELL	MONITOR	E178FPC	N/A	DoC
DELL	KEYBOARD	SK-8115	N/A	DoC
DELL	MOUSE	MOC5UO	N/A	DoC
FLY POWER	Switching Adapter	PS24A120K2000UD	N/A	N/A

5.5 Laboratory Facility

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

●FCC- Registration No.: 817957

Shenzhen Zhongjian Nanfang Testing Co., Ltd. EMC Laboratory has been registered andfully describedin a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in out files. Registration 817957, February 27, 2012.

●IC - Registration No.: 10106A-1

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

●CNAS - Registration No.: CNAS L6048

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

5.6 Laboratory Location

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

5.7 Measurement Uncertainty

Items	Expanded Uncertainty (Confidence of 95%)
Conducted Emission (9kHz ~ 30MHz)	2.14 dB (k=2)
Radiated Emission (9kHz ~ 30MHz)	4.24 dB (k=2)
Radiated Emission (30MHz ~ 1000MHz)	4.35 dB (k=2)
Radiated Emission (1GHz ~ 18GHz)	4.44 dB (k=2)
Radiated Emission (18GHz ~ 26.5GHz)	4.56 dB (k=2)

5.8 Test Instruments list

Radiated Emission:

Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
1	3m SAC	SAEMC	9(L)*6(W)* 6(H)	CCIS0001	08-23-2014	08-22-2017
2	BiConiLog Antenna	SCHWARZBECK	VULB9163	CCIS0005	02-25-2017	02-24-2018
3	Horn Antenna	SCHWARZBECK	BBHA9120D	CCIS0006	02-25-2017	02-24-2018
4	Pre-amplifier (10kHz-1.3GHz)	HP	8447D	CCIS0003	02-25-2017	02-24-2018
5	Pre-amplifier (1GHz-18GHz)	Compliance Direction Systems Inc.	PAP-1G18	CCIS0011	02-25-2017	02-24-2018
6	Pre-amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	02-25-2017	02-24-2018
7	Horn Antenna	ETS-LINDGREN	3160	GTS217	02-25-2017	02-24-2018
8	Spectrum analyzer 9k-30GHz	Rohde & Schwarz	FSP30	CCIS0023	02-25-2017	02-24-2018
9	EMI Test Receiver	Rohde & Schwarz	ESRP7	CCIS0167	02-25-2017	02-24-2018
10	Loop antenna	Laplace instrument	RF300	EMC0701	02-25-2017	02-24-2018
11	EMI Test Software	AUDIX	E3	N/A	N/A	N/A

Conducted Emission:

Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
1	Shielding Room	ZhongShuo Electron	11.0(L)x4.0(W)x3.0(H)	CCIS0061	08-23-2014	08-22-2017
2	EMI Test Receiver	Rohde & Schwarz	ESCI	CCIS0002	02-25-2017	02-24-2018
3	LISN	CHASE	MN2050D	CCIS0074	02-25-2017	02-24-2018
4	Coaxial Cable	CCIS	N/A	CCIS0086	02-25-2017	02-24-2018
5	EMI Test Software	AUDIX	E3	N/A	N/A	N/A

6 Test results andMeasurement Data

6.1 Antenna requirement

Standard requirement:	FCC Part15 E Section 15.203 /407(a)

15.203 requirement:

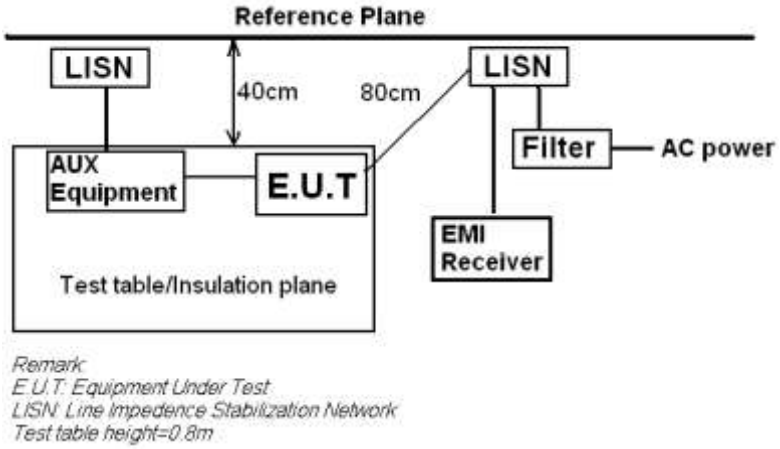
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

This requirementdoes not apply to carrier currentdevices or to devices operated underthe provisions of §15.211, § 15.213,§ 15.217, § 15.219, or § 15.221. Further, thisrequirement does not apply to intentionalradiators that must be professionallyinstalled, such as perimeterprotection systems and some field disturbancesensors, or to other intentionalradiators which, in accordancewith § 15.31(d), must be measured at theinstallation site. However, the installershall be responsible for ensuring thatthe proper antenna is employed so thatthe limits in this part are not exceeded.

E.U.T Antenna:	

The WiFi antenna is an internal antenna which cannot replace by end-user, the best case gain of the antenna is 0 dBi.

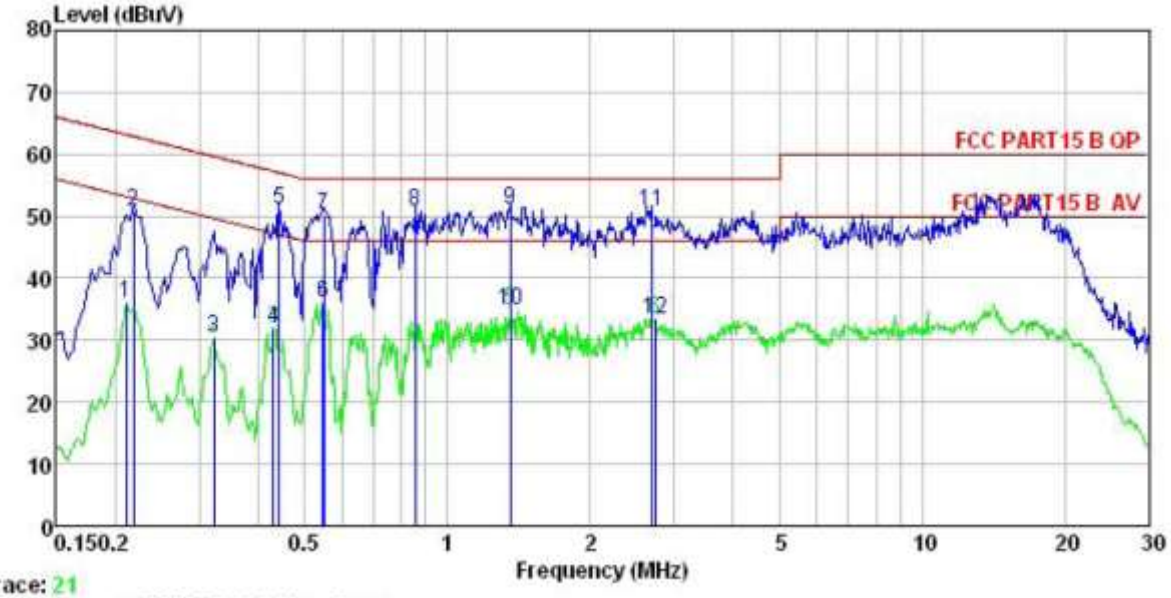
6.2 Conducted Emission

<table>
<tr><td>Test Requirement:</td><td colspan="3">FCC Part15 C Section 15.207</td></tr>
<tr><td>Test Method:</td><td colspan="3">ANSI C63.10: 2013</td></tr>
<tr><td>TestFrequencyRange:</td><td colspan="3">150kHz to 30MHz</td></tr>
<tr><td>Class / Severity:</td><td colspan="3">Class B</td></tr>
<tr><td>Receiver setup:</td><td colspan="3">RBW=9kHz, VBW=30kHz</td></tr>
<tr><td>Limit:</td><td rowspan="2">Frequency range (MHz)</td><td colspan="2">Limit (dBuV)</td></tr>
<tr><td>Quasi-peak</td><td></td></tr>
<tr><td></td><td>0.15-0.5</td><td>66 to 56*</td><td>0.15-0.5</td></tr>
<tr><td></td><td>0.5-5</td><td>56</td><td>0.5-5</td></tr>
<tr><td></td><td>5-30</td><td>60</td><td>5-30</td></tr>
<tr><td></td><td colspan="3">* Decreases with the logarithm of the frequency.</td></tr>
<tr><td>Test procedure</td><td colspan="3">1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). Itprovides a 50ohm/50uH coupling impedance for the measuring equipment.
2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).
3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement.</td></tr>
<tr><td>Test setup:</td><td colspan="3"> 

Remark:
E.U.T: Equipment Under Test
LISN: Line Impedence Stabilization Network
Test table height=0.8m</td></tr>
<tr><td>Test Instruments:</td><td colspan="3">Refer to section 5.6 for details</td></tr>
<tr><td>Test mode:</td><td colspan="3">Refer to section 5.3 for details.</td></tr>
<tr><td>Test results:</td><td colspan="3">Passed</td></tr>
</table>

Measurement Data:

Line:

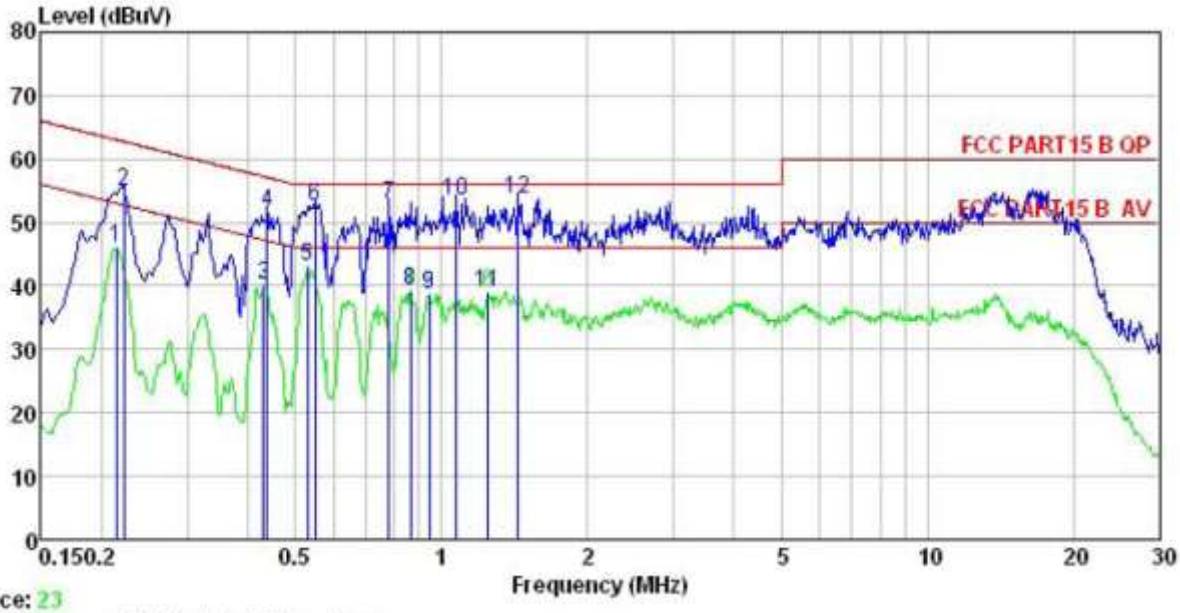


Trace: 21

Site : CCIS Shielding Room
Condition : FCC PART15 B QP LISN LINE
EUT : Tablet PC
Model : Aprix Tab64C
Test Mode : 5GWIFI mode
Power Rating : AC120V/60Hz
Environment : Temp: 23 'C Huni:56% Atmos:101KPa
Test Engineer: YT
Remark :

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.211	25.18	0.15	10.76	36.09	53.18	-17.09	Average
2	0.219	39.79	0.15	10.76	50.70	62.88	-12.18	QP
3	0.322	19.50	0.18	10.73	30.41	49.66	-19.25	Average
4	0.431	21.05	0.24	10.73	32.02	47.24	-15.22	Average
5	0.442	39.98	0.24	10.74	50.96	57.02	-6.06	QP
6	0.546	24.86	0.26	10.76	35.88	46.00	-10.12	Average
7	0.549	39.29	0.26	10.77	50.32	56.00	-5.68	QP
8	0.857	39.66	0.29	10.83	50.78	56.00	-5.22	QP
9	1.359	39.89	0.29	10.91	51.09	56.00	-4.91	QP
10	1.359	23.49	0.29	10.91	34.69	46.00	-11.31	Average
11	2.692	39.53	0.33	10.93	50.79	56.00	-5.21	QP
12	2.736	22.06	0.33	10.93	33.32	46.00	-12.68	Average

Neutral:



Trace: 23

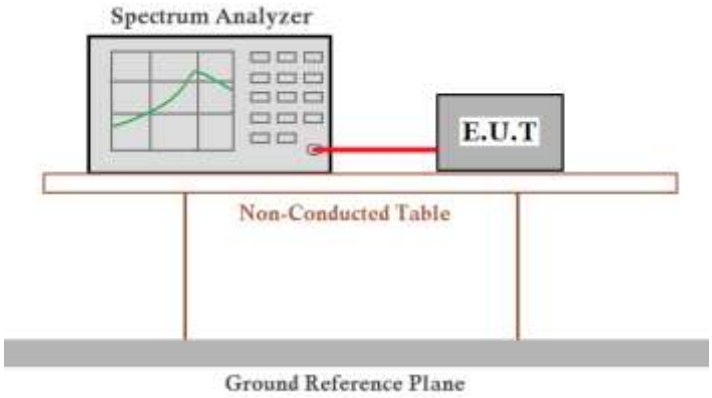
Site : CCIS Shielding Room
Condition : FCC PART15 B QP LISN NEUTRAL
EUT : Tablet PC
Model : Aprix Tab64C
Test Mode : 5GWIFI mode
Power Rating : AC120V/60Hz
Environment : Temp: 23 'C Huni:56% Atmos:101KPa
Test Engineer: YT
Remark :

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.214	35.00	0.16	10.76	45.92	53.05	-7.13	Average
2	0.222	43.85	0.16	10.75	54.76	62.74	-7.98	QP
3	0.431	29.11	0.23	10.73	40.07	47.24	-7.17	Average
4	0.437	40.55	0.23	10.74	51.52	57.11	-5.59	QP
5	0.529	32.04	0.25	10.76	43.05	46.00	-2.95	Average
6	0.549	41.63	0.27	10.77	52.67	56.00	-3.33	QP
7	0.779	41.61	0.31	10.80	52.72	56.00	-3.28	QP
8	0.862	28.19	0.29	10.83	39.31	46.00	-6.69	Average
9	0.943	27.59	0.27	10.85	38.71	46.00	-7.29	Average
10	1.071	42.27	0.26	10.88	53.41	56.00	-2.59	QP
11	1.249	27.93	0.26	10.90	39.09	46.00	-6.91	Average
12	1.441	42.52	0.26	10.92	53.70	56.00	-2.30	QP

Notes:

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

6.3 Conducted Output Power

Test Requirement:	FCC Part15 E Section 15.407 (a) (1) (ii) & (a) (3)
Test Method:	ANSI C63.10: 2013, KDB789033
Limit:	Band 1: 24dBm
Test setup:	
Test Instruments:	Refer to section 5.6 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

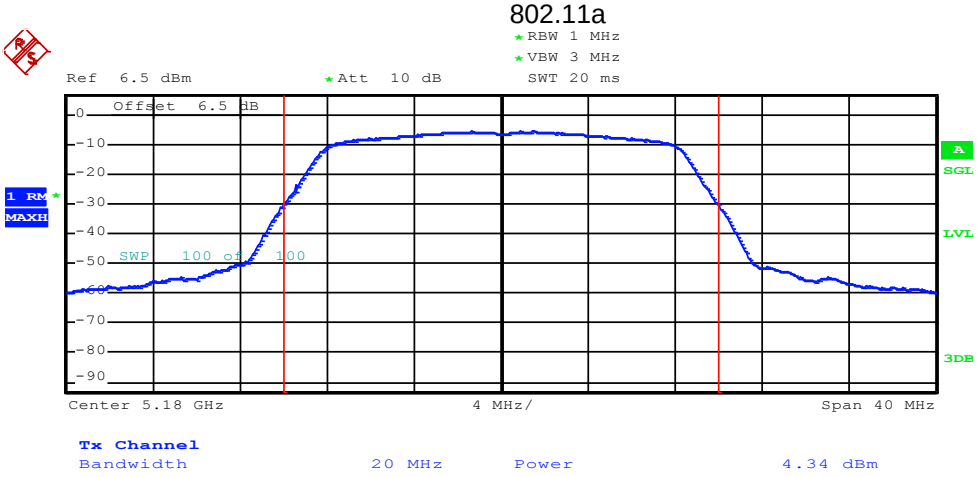
Measurement Data:

Band 1				
Mode	Test CH	Conducted Output power (dBm)	Limit (dBm)	Result
802.11a	Lowest	4.34	24.00	Pass
	Middle	4.33	24.00	Pass
	Highest	4.04	24.00	Pass
802.11n20	Lowest	3.19	24.00	Pass
	Middle	3.12	24.00	Pass
	Highest	3.90	24.00	Pass
802.11n40	Lowest	3.99	24.00	Pass
	Highest	3.64	24.00	Pass
802.11ac	Middle	3.91	24.00	Pass

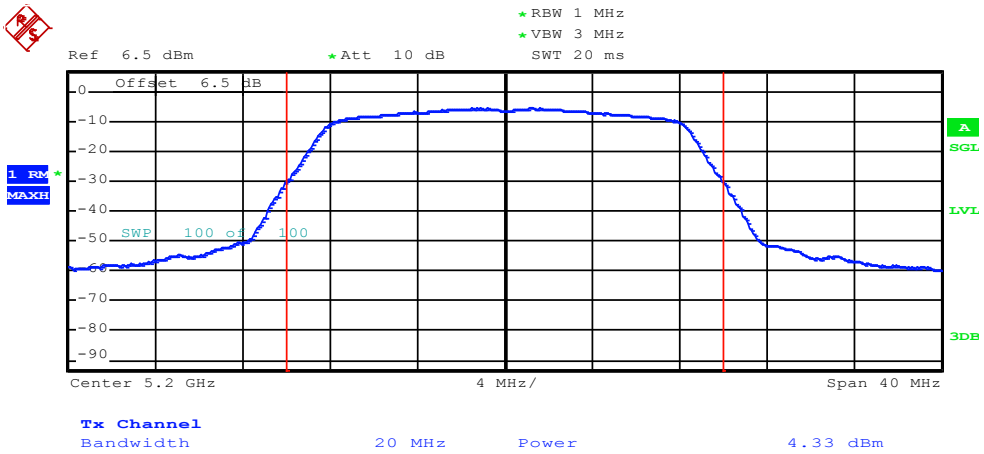
Test plot as follows:

Band 1

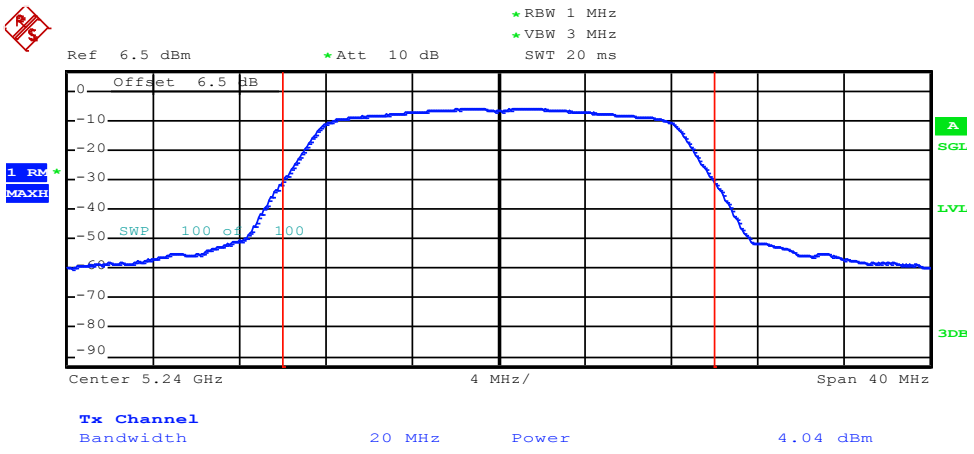
802.11a



Lowest channel

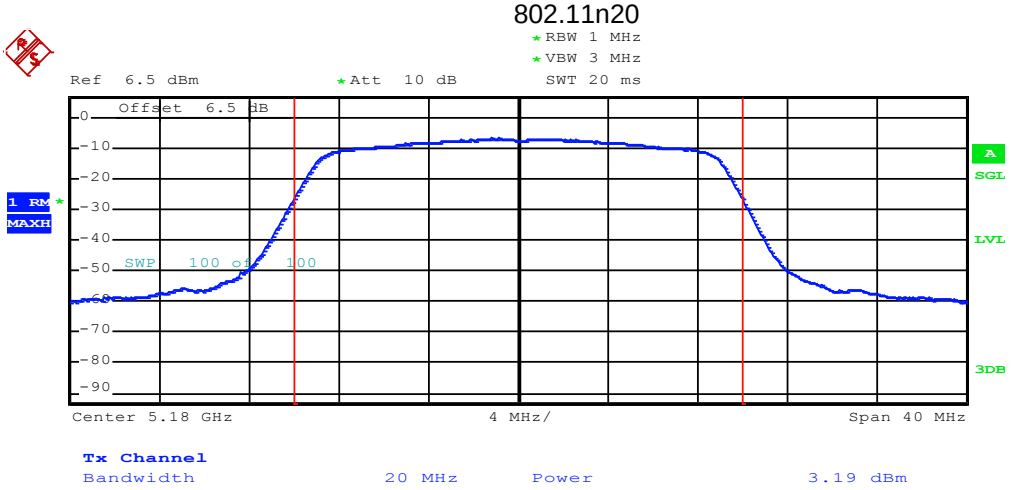


Middle channel

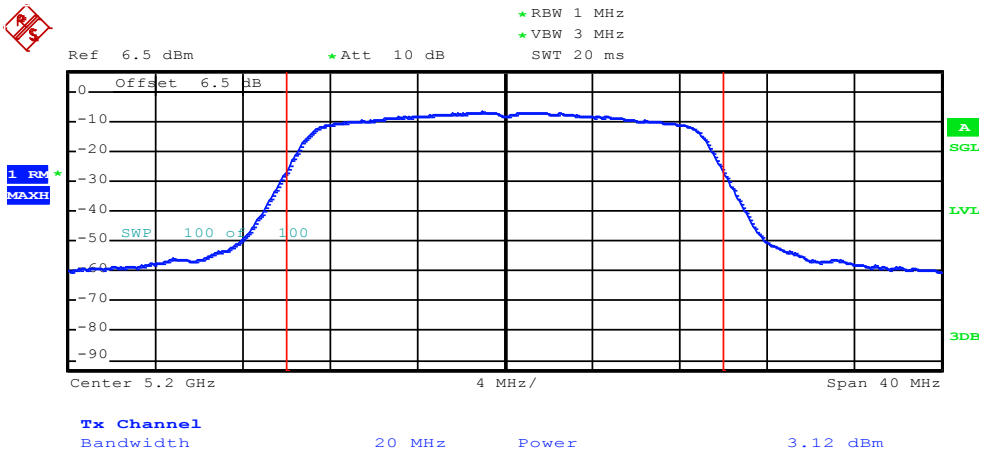


Highest channel

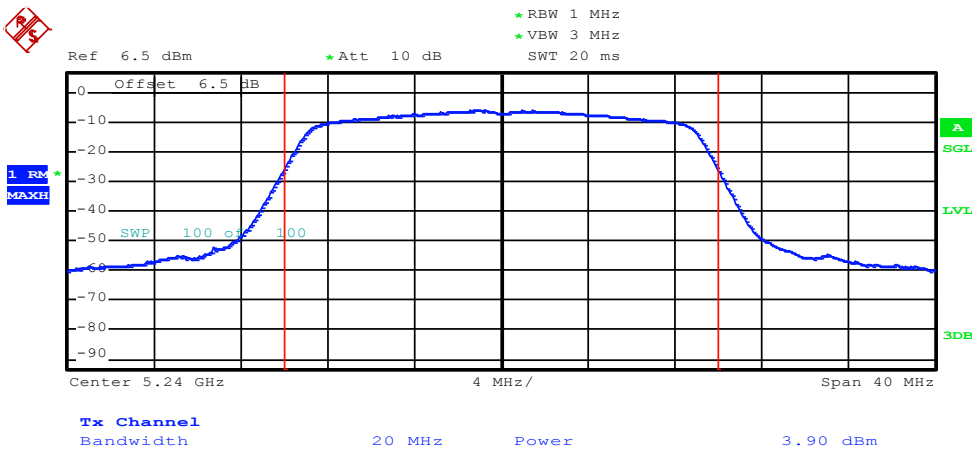
802.11n20



Lowest channel

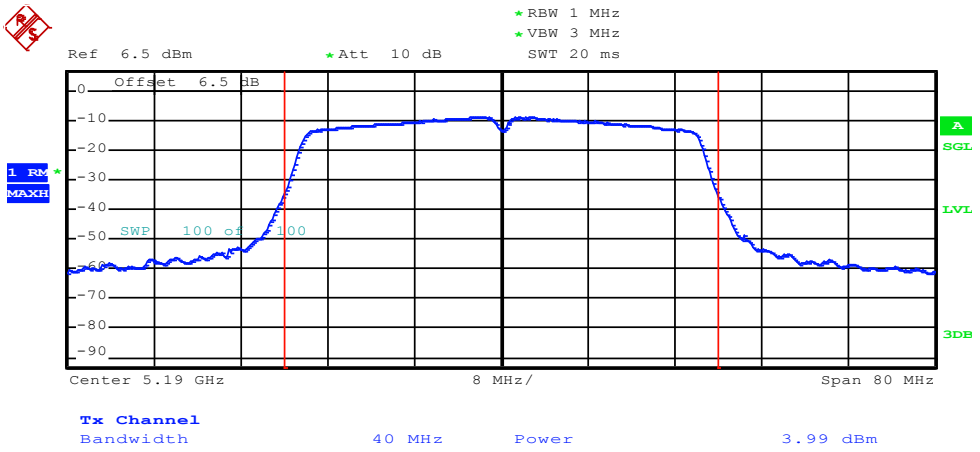


Middle channel

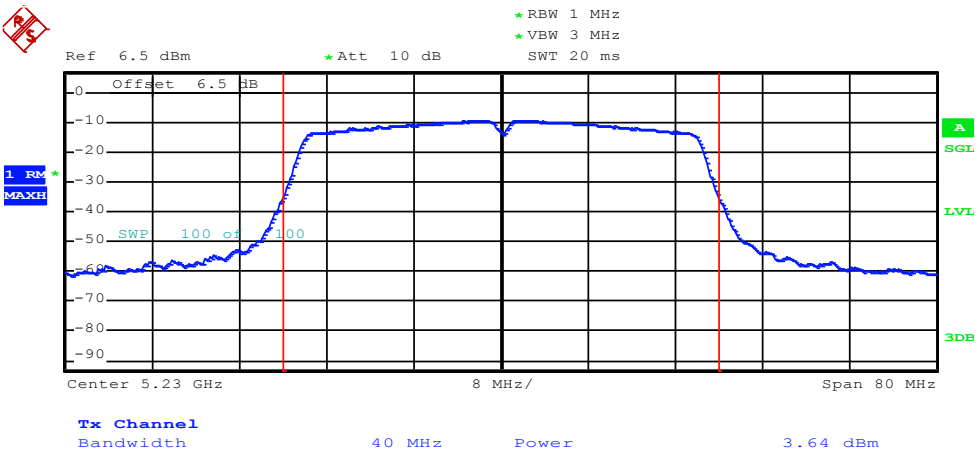


Highest channel

802.11n40

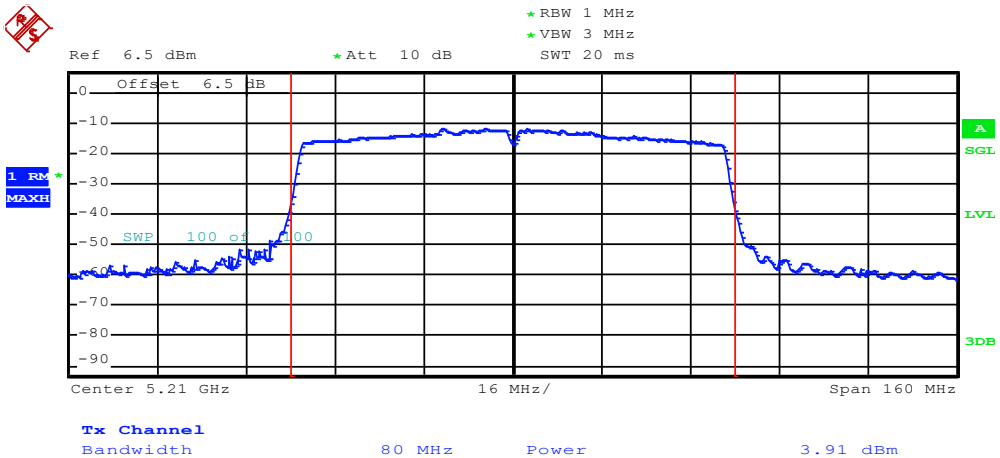


Lowest channel



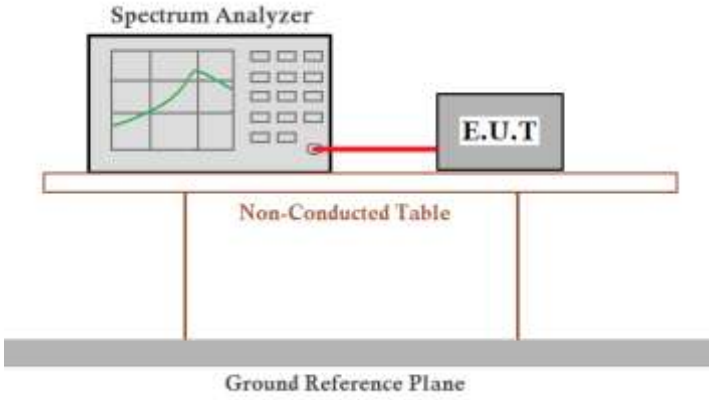
Highest channel

802.11ac



Lowest channel

6.4 Occupy Bandwidth

Test Requirement:	FCC Part15 E Section 15.407 (a) (5) and Section 15.407 (e)
Test Method:	ANSI C63.10:2013 and KDB 789033
Limit:	Band 1: N/A(26dB Emission Bandwidth and 99% Occupy Bandwidth)
Test setup:	
Test Instruments:	Refer to section 5.6 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

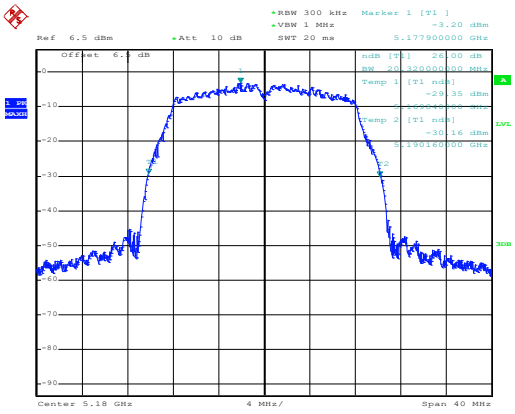
Measurement Data:

Band 1:

Test Channel	26dB Emission Bandwidth (MHz)				Limit	Result
	802.11a	802.11n20	802.11n40	802.11ac		
Lowest	20.32	20.36	40.08	---	N/A	N/A
Middle	19.98	20.28	---	79.52		
Highest	19.62	19.86	39.84	---		
Test Channel	99% Occupy Bandwidth (MHz)				Limit	Result
	802.11a	802.11n20	802.11n40	802.11ac		
Lowest	16.82	17.62	35.84	---	N/A	N/A
Middle	16.80	17.64	---	75.12		
Highest	16.84	17.62	35.88	---		

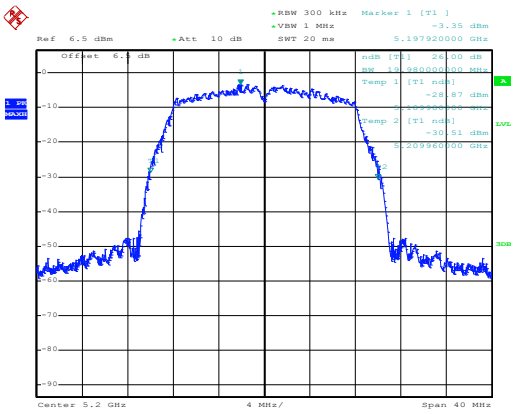
Test plot as follows:
Band 1:

26 dB EBW - 802.11a



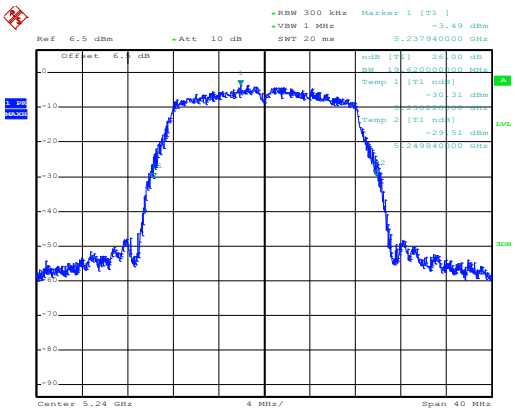
Date: 30.JUN.2017 16:08:29

Lowest channel



Date: 30.JUN.2017 16:09:26

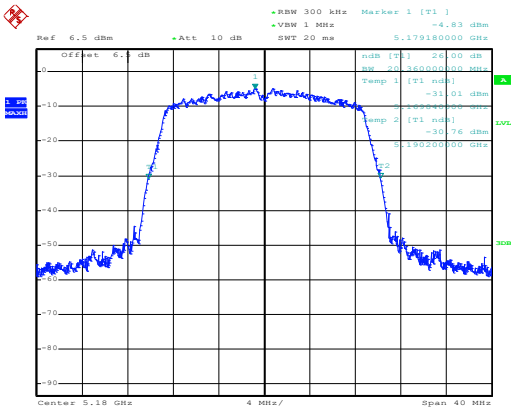
Middle channel



Date: 30.JUN.2017 16:10:00

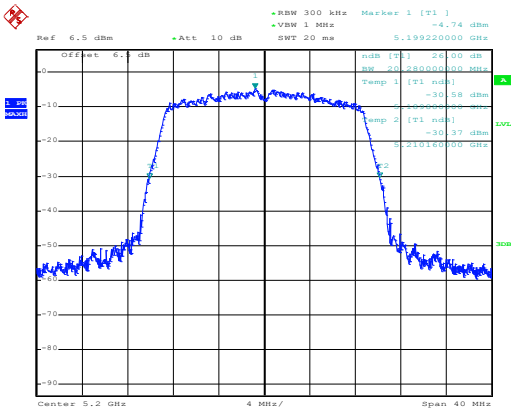
Highest channel

802.11n20



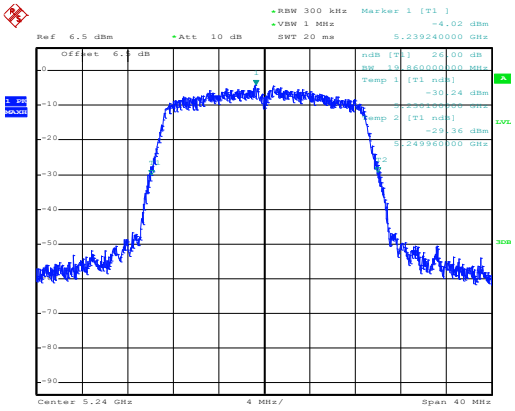
Date: 30.JUN.2017 16:11:12

Lowest channel



Date: 30.JUN.2017 16:11:40

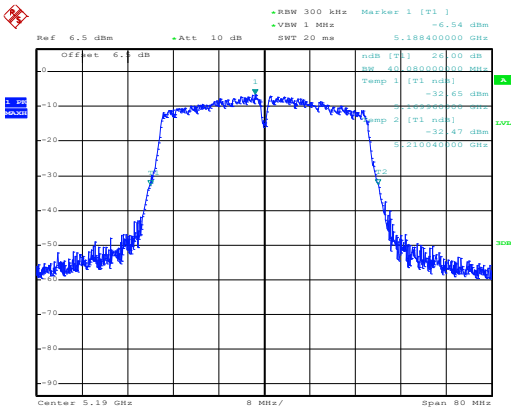
Middle channel



Date: 30.JUN.2017 16:13:06

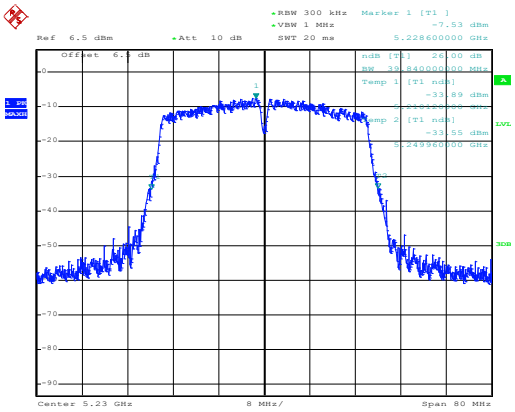
Highest channel

802.11n40



Date: 30.JUN.2017 16:13:59

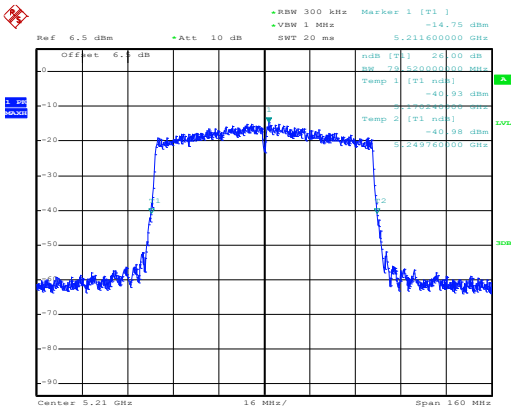
Lowest channel



Date: 30.JUN.2017 16:14:58

Highest channel

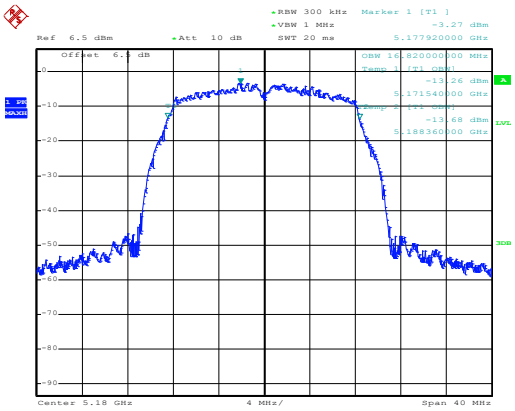
802.11ac



Date: 30.JUN.2017 16:16:35

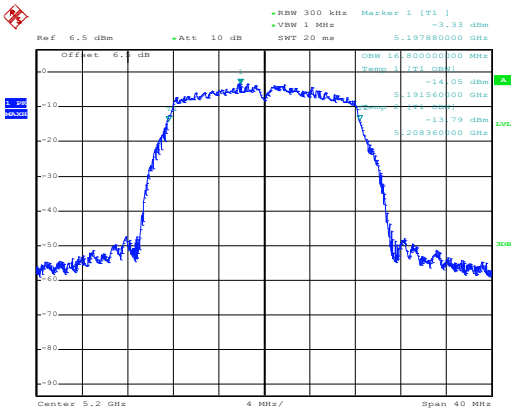
Middle channel

99% OBW - 802.11a



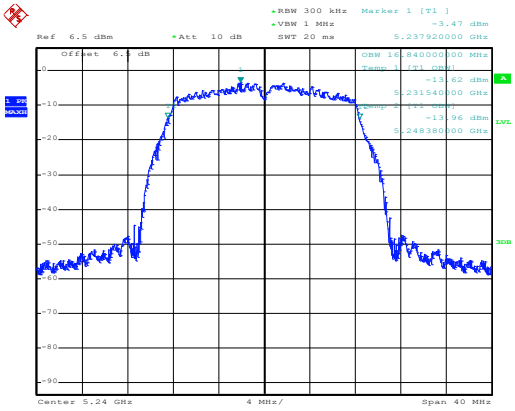
Date: 30.JUN.2017 16:08:44

Lowest channel



Date: 30.JUN.2017 16:09:17

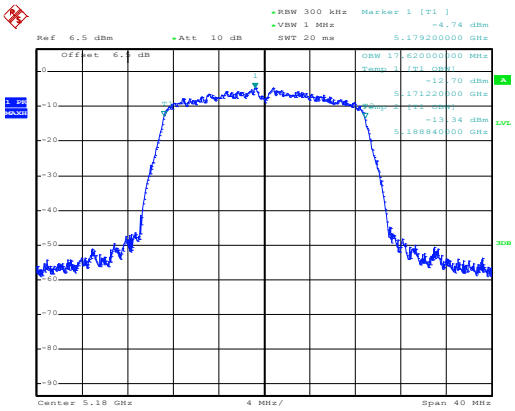
Middle channel



Date: 30.JUN.2017 16:10:22

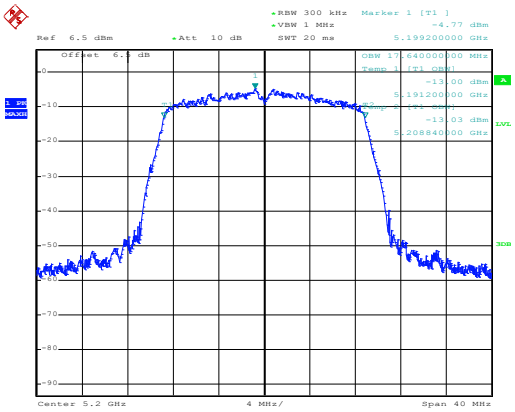
Highest channel

802.11n20



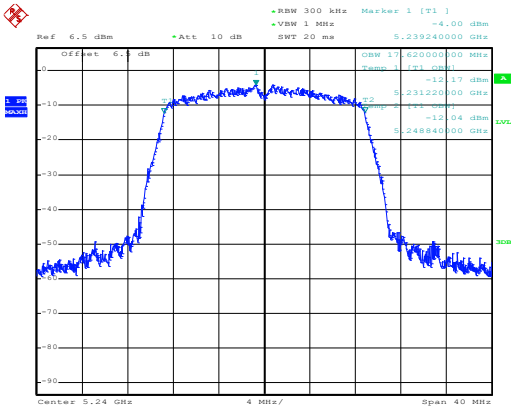
Date: 30.JUN.2017 16:10:51

Lowest channel



Date: 30.JUN.2017 16:11:51

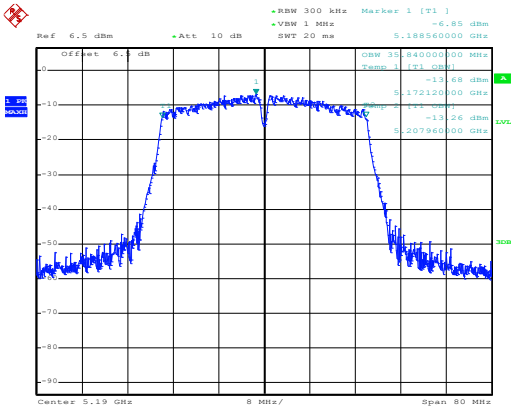
Middle channel



Date: 30.JUN.2017 16:12:12

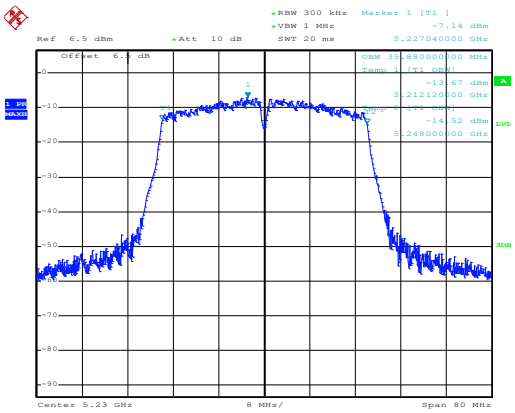
Highest channel

802.11n40



Date: 30.JUN.2017 16:14:08

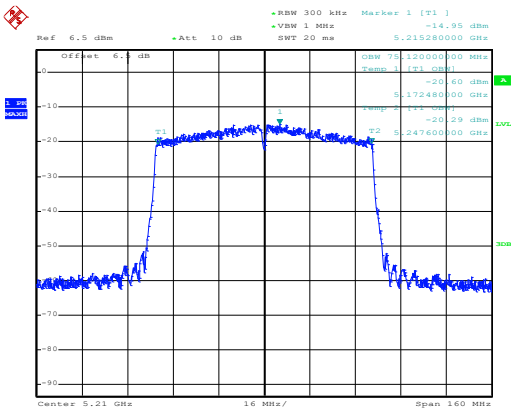
Lowest channel



Date: 30.JUN.2017 16:14:37

Highest channel

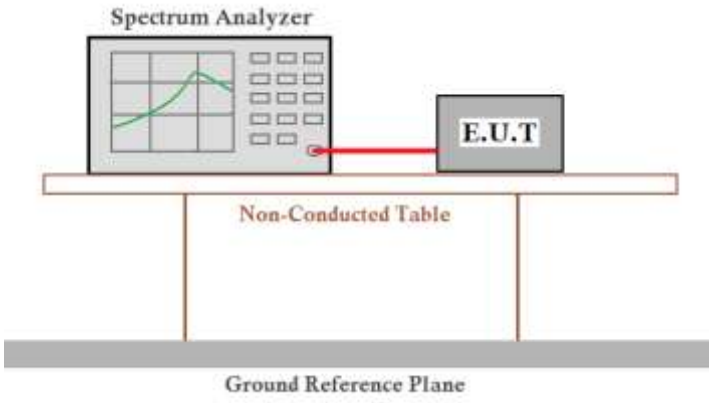
802.11ac



Date: 30.JUN.2017 16:16:46

Middle channel

6.5 Power Spectral Density

Test Requirement:	FCC Part15 E Section 15.407 (a) (1) (ii) &(a) (3)
Test Method:	ANSI C63.10:2013, KDB 789033
Limit:	Band 1: 11 dBm/MHz
Test setup:	
Test Instruments:	Refer to section 5.6 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

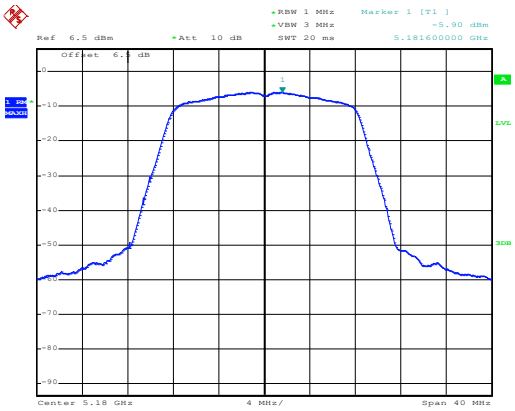
Measurement Data:

Band 1				
Mode	Test CH	PSD (dBm)	Limit (dBm)	Result
802.11a	Lowest	-5.90	11.00	Pass
	Middle	-5.96	11.00	Pass
	Highest	-6.25	11.00	Pass
802.11n20	Lowest	-6.72	11.00	Pass
	Middle	-6.92	11.00	Pass
	Highest	-7.22	11.00	Pass
802.11n40	Lowest	-10.18	11.00	Pass
	Highest	-10.46	11.00	Pass
802.11ac	Middle	-17.38	11.00	Pass

Test plot as follows:

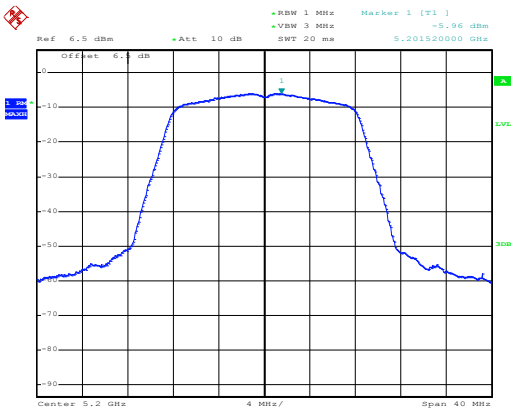
Band 1:

Test mode:802.11a



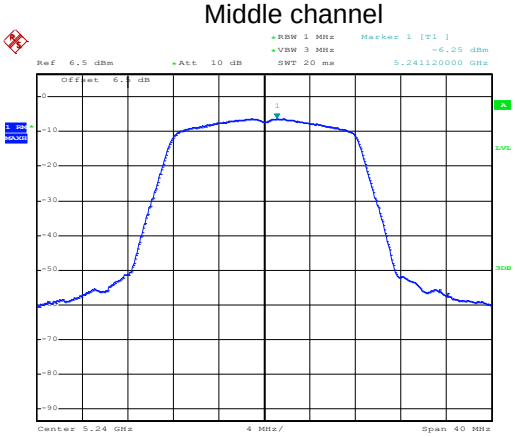
Date: 30.JUN.2017 16:18:47

Lowest channel



Date: 30.JUN.2017 16:19:06

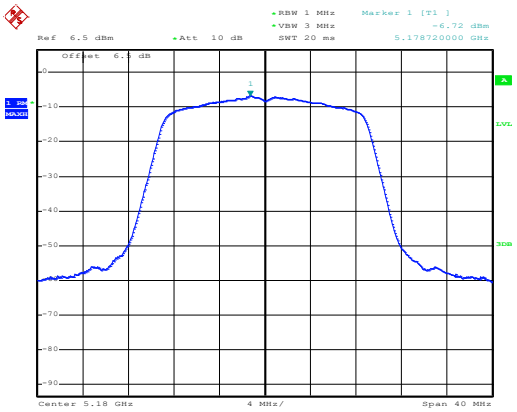
Middle channel



Date: 30.JUN.2017 16:19:24

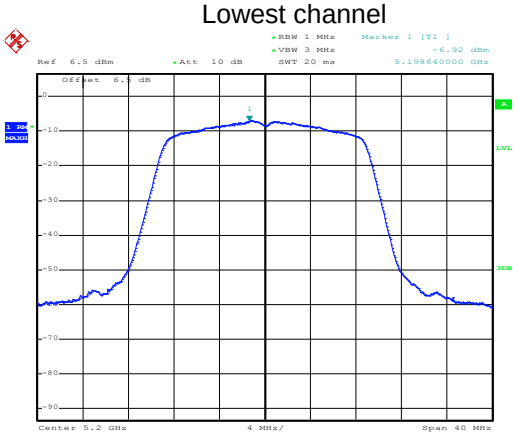
Highest channel

Test mode:802.11n20



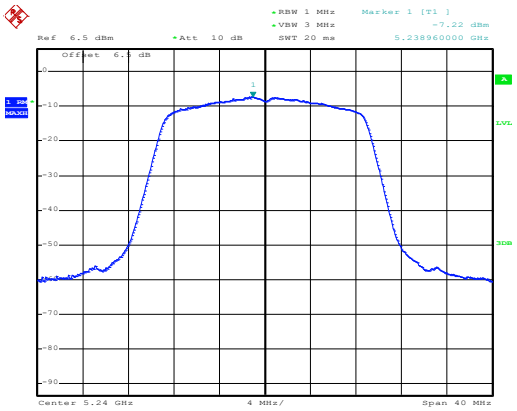
Date: 30.JUN.2017 16:20:05

Lowest channel



Date: 30.JUN.2017 16:20:25

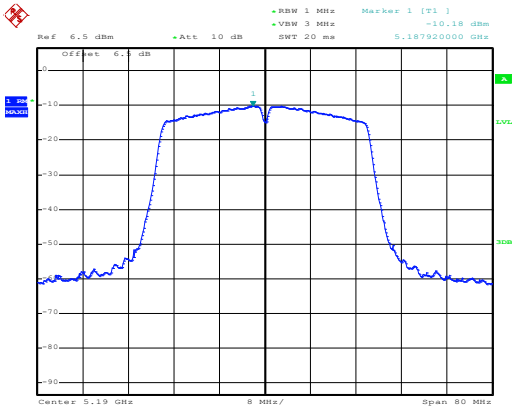
Middle channel



Date: 30.JUN.2017 16:20:43

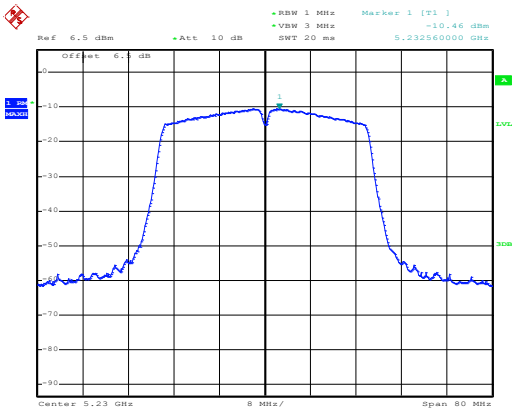
Highest channel

Test mode:802.11n40



Date: 30.JUN.2017 16:21:24

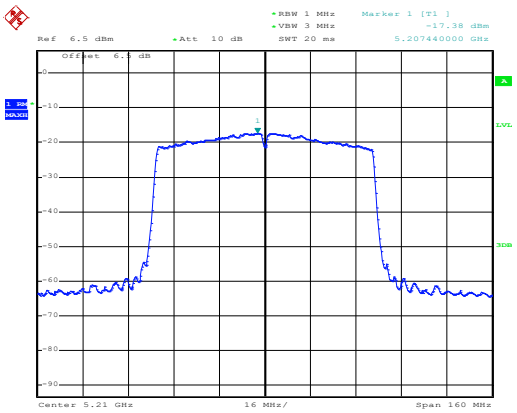
Lowest channel



Date: 30.JUN.2017 16:21:43

Highest channel

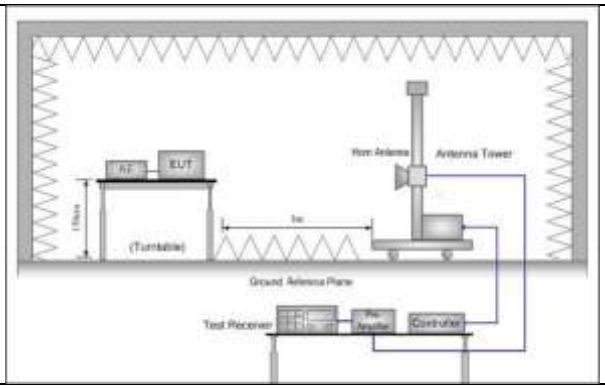
Test mode:802.11ac



Date: 30.JUN.2017 16:22:25

Middle channel

6.6 Band Edge

<table>
<tr><td>Test Requirement:</td><td colspan="4">FCC Part15 E Section 15.407 (b)</td></tr>
<tr><td>Test Method:</td><td colspan="4">ANSI C63.10:2013 , KDB 789033</td></tr>
<tr><td>Receiver setup:</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Remark</td></tr>
<tr><td></td><td>Quasi-peak</td><td>120kHz</td><td>300kHz</td><td>Quasi-peak Value</td></tr>
<tr><td></td><td>RMS</td><td>1MHz</td><td>3MHz</td><td>Average Value</td></tr>
<tr><td>Limit:</td><td colspan="2">Band</td><td>Limit (dBuV/m @3m)</td><td>Remark</td></tr>
<tr><td></td><td colspan="2" rowspan="2">Band 1</td><td>68.20</td><td>Peak Value</td></tr>
<tr><td></td><td>54.00</td><td>Average Value</td></tr>
<tr><td></td><td colspan="4">Remark:
1. Band 1 limit:
E[dBμV/m] = EIRP[dBm] + 95.2=68.2 dBuV/m,for EIPR[dBm]=-27dBm.</td></tr>
<tr><td>Test Procedure:</td><td colspan="4">1. The EUT was placed on the top of a rotating table 0.8 meters above the groundat a 3 meter camber. The table was rotated 360 degrees todetermine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, whichwas mounted on the top of a variable-height antenna tower.
3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and thenthe antenna was tuned to heights from 1 meter to 4 meters and the rotatablewas turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and SpecifiedBandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.</td></tr>
<tr><td>Test setup:</td><td colspan="4">  </td></tr>
<tr><td>Test Instruments:</td><td colspan="4">Refer to section 5.6 for details</td></tr>
<tr><td>Test mode:</td><td colspan="4">Refer to section 5.3 for details</td></tr>
<tr><td>Test results:</td><td colspan="4">Passed</td></tr>
</table>

Band 1:

802.11a								
Test channel		Lowest			Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	43.14	36.23	7.05	41.93	44.49	68.20	-23.71	Horizontal
5150.00	42.26	36.23	7.05	41.93	43.61	68.20	-24.59	Vertical
802.11a								
Test channel		Lowest			Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	32.26	36.23	7.05	41.93	33.61	54.00	-20.39	Horizontal
5150.00	31.26	36.23	7.05	41.93	32.61	54.00	-21.39	Vertical
802.11a								
Test channel		Lowest			Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	42.25	35.37	7.11	41.89	42.84	68.20	-25.36	Horizontal
5350.00	43.67	35.37	7.11	41.89	44.26	68.20	-23.94	Vertical
802.11a								
Test channel		Lowest			Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	31.24	35.37	7.11	41.89	31.83	54.00	-22.17	Horizontal
5350.00	30.26	35.37	7.11	41.89	30.85	54.00	-23.15	Vertical

Remark:

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

802.11n-HT20								
Test channel		Lowest			Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	43.26	36.23	7.05	41.93	44.61	68.20	-23.59	Horizontal
5150.00	42.12	36.23	7.05	41.93	43.47	68.20	-24.73	Vertical
802.11n-HT20								
Test channel		Lowest			Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	33.27	36.23	7.05	41.93	34.62	54.00	-19.38	Horizontal
5150.00	32.26	36.23	7.05	41.93	33.61	54.00	-20.39	Vertical
802.11n-HT20								
Test channel		Lowest			Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	43.22	35.37	7.11	41.89	43.81	68.20	-24.39	Horizontal
5350.00	41.75	35.37	7.11	41.89	42.34	68.20	-25.86	Vertical
802.11n-HT20								
Test channel		Lowest			Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	33.26	35.37	7.11	41.89	33.85	54.00	-20.15	Horizontal
5350.00	31.47	35.37	7.11	41.89	32.06	54.00	-21.94	Vertical

Remark:

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

802.11n-HT40								
Test channel		Lowest			Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	43.56	7.05	41.93	5158.68	-5066.14	68.20	-5134.34	Horizontal
5150.00	42.75	7.05	41.93	5157.87	-5066.14	68.20	-5134.34	Vertical
802.11n-HT40								
Test channel		Lowest			Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	31.27	7.05	41.93	5146.39	-5066.14	54.00	-5120.14	Horizontal
5150.00	32.29	7.05	41.93	5147.41	-5066.14	54.00	-5120.14	Vertical
802.11n-HT40								
Test channel		Lowest			Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	43.67	35.37	35.37	7.11	41.89	68.20	-26.31	Horizontal
5350.00	43.16	35.37	35.37	7.11	41.89	68.20	-26.31	Vertical
802.11n-HT40								
Test channel		Lowest			Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	31.42	35.37	7.11	41.89	32.01	54.00	-21.99	Horizontal
5350.00	32.26	35.37	7.11	41.89	32.85	54.00	-21.15	Vertical

Remark:

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

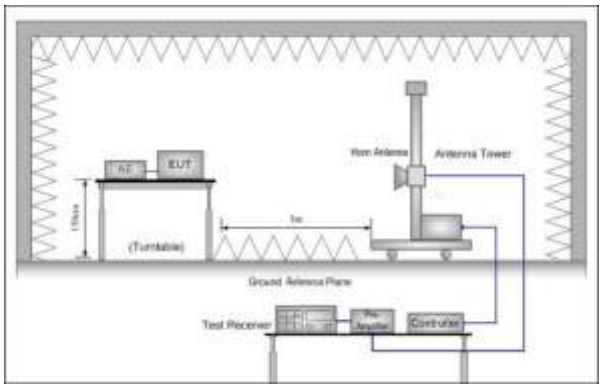
802.11ac-HT80								
Test channel		Lowest			Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	42.56	36.23	10.96	40.06	49.69	68.20	-18.51	Horizontal
5150.00	41.72	36.23	10.96	40.06	48.85	68.20	-19.35	Vertical
802.11ac-HT80								
Test channel		Lowest			Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	32.26	36.23	10.96	40.06	39.39	54.00	-14.61	Horizontal
5150.00	31.25	36.23	10.96	40.06	38.38	54.00	-15.62	Vertical
802.11ac-HT80								
Test channel		Lowest			Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	41.75	35.37	11.19	40.18	48.13	68.20	-20.07	Horizontal
5350.00	42.26	35.37	11.19	40.18	48.64	68.20	-19.56	Vertical
802.11ac-HT80								
Test channel		Lowest			Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	32.26	35.37	11.19	40.18	38.64	54.00	-15.36	Horizontal
5350.00	31.58	35.37	11.19	40.18	37.96	54.00	-16.04	Vertical

Remark:

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

6.7 Spurious Emission

6.7.1 Restricted Band

Test Requirement:	FCC Part15 E Section 15.407(b)				
Test Method:	ANSI C63.10: 2013				
TestFrequencyRange:	Band 1: 4.5 GHz to 5.15 GHz and 5.35GHz to 5.46GHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		RMS	1MHz	3MHz	Average Value
Limit:	Frequency	Limit (dBuV/m @3m)		Remark	
	Above 1GHz	74.00		Peak Value	
		54.00		Average Value	
Test Procedure:	1. The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, whichwas mounted on the top of a variable-height antenna tower. 3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. 4. For each suspected emission, the EUT was arranged to its worst case and thenthe antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. If the emission level of the EUT in peak mode was 10dB lower than the limitspecified, then testing could be stopped and the peak values of the EUT wouldbe reported. Otherwise the emissions that did not have 10dB margin would bere-tested one by one using peak, quasi-peak or average method as specified andthen reported in a data sheet.				
Test setup:					
Test Instruments:	Refer to section 5.6 for details				
Test mode:	Refer to section 5.3 for details				
Test results:	Passed				

Band 1:

802.11a

Test channel		Lowest			Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4500.00	44.26	34.50	6.80	42.05	43.51	74.00	-30.49	Horizontal
4500.00	43.21	34.50	6.80	42.05	42.46	74.00	-31.54	Vertical
Test channel		Lowest			Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4500.00	32.21	34.50	6.80	42.05	31.46	54.00	-22.54	Horizontal
4500.00	30.26	34.50	6.80	42.05	29.51	54.00	-24.49	Vertical
Test channel		Highest			Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5460.00	42.15	34.90	7.18	41.85	42.38	74.00	-31.62	Horizontal
5460.00	43.79	34.90	7.18	41.85	44.02	74.00	-29.98	Vertical
Test channel		Highest			Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5460.00	32.12	34.90	7.18	41.85	32.35	54.00	-21.65	Horizontal
5460.00	32.26	34.90	7.18	41.85	32.49	54.00	-21.51	Vertical

Remark:

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

802.11n-HT20

Test channel		Lowest			Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4500.00	45.27	34.50	6.80	42.05	44.52	74.00	-29.48	Horizontal
4500.00	43.30	34.50	6.80	42.05	42.55	74.00	-31.45	Vertical
Test channel		Lowest			Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4500.00	30.23	34.50	6.80	42.05	29.48	54.00	-24.52	Horizontal
4500.00	32.26	34.50	6.80	42.05	31.51	54.00	-22.49	Vertical
Test channel		Highest			Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5460.00	42.52	34.90	7.18	41.85	42.75	74.00	-31.25	Horizontal
5460.00	43.26	34.90	7.18	41.85	43.49	74.00	-30.51	Vertical
Test channel		Highest			Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5460.00	32.21	34.90	7.18	41.85	32.44	54.00	-21.56	Horizontal
5460.00	31.75	34.90	7.18	41.85	31.98	54.00	-22.02	Vertical

Remark:

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

802.11n-HT40

Test channel		Lowest			Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4500.00	43.26	34.50	6.80	42.05	42.51	74.00	-31.49	Horizontal
4500.00	41.75	34.50	6.80	42.05	41.00	74.00	-33.00	Vertical
Test channel		Lowest			Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4500.00	32.22	34.50	6.80	42.05	31.47	54.00	-22.53	Horizontal
4500.00	32.21	34.50	6.80	42.05	31.46	54.00	-22.54	Vertical
Test channel		Highest			Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5460.00	42.26	34.90	7.18	41.85	42.49	74.00	-31.51	Horizontal
5460.00	41.72	34.90	7.18	41.85	41.95	74.00	-32.05	Vertical
Test channel		Highest			Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5460.00	32.23	34.90	7.18	41.85	32.46	54.00	-21.54	Horizontal
5460.00	31.67	34.90	7.18	41.85	31.90	54.00	-22.10	Vertical

Remark:

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

802.11ac-HT80

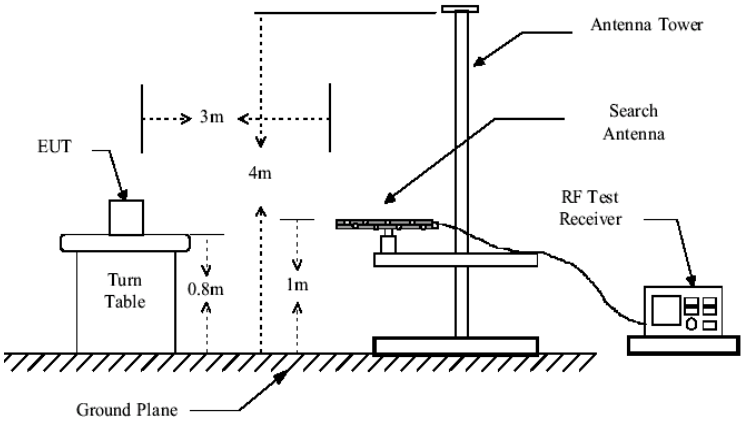
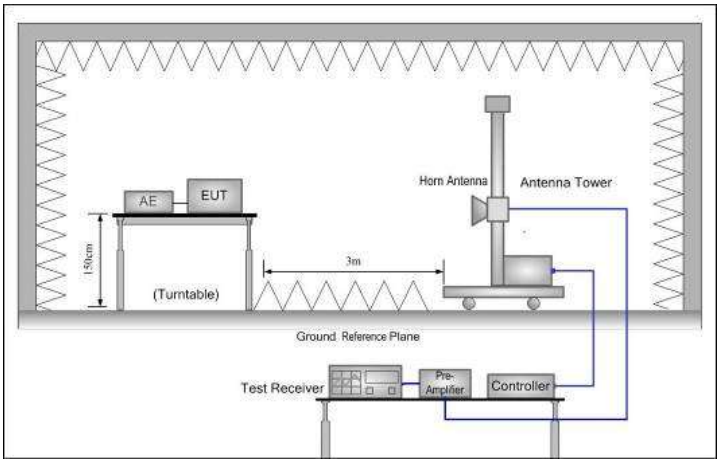
Test channel		Lowest			Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4500.00	42.56	34.50	10.22	40.67	46.61	74.00	-27.39	Horizontal
4500.00	41.78	34.50	10.22	40.67	45.83	74.00	-28.17	Vertical
Test channel		Lowest			Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4500.00	32.26	34.50	10.22	40.67	36.31	54.00	-17.69	Horizontal
4500.00	42.27	34.50	10.22	40.67	46.32	54.00	-7.68	Vertical
Test channel		Highest			Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5460.00	42.59	34.90	11.32	40.23	48.58	74.00	-25.42	Horizontal
5460.00	41.77	34.90	11.32	40.23	47.76	74.00	-26.24	Vertical
Test channel		Highest			Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5460.00	32.02	34.90	11.32	40.23	38.01	54.00	-15.99	Horizontal
5460.00	31.24	34.90	11.32	40.23	37.23	54.00	-16.77	Vertical

Remark:

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

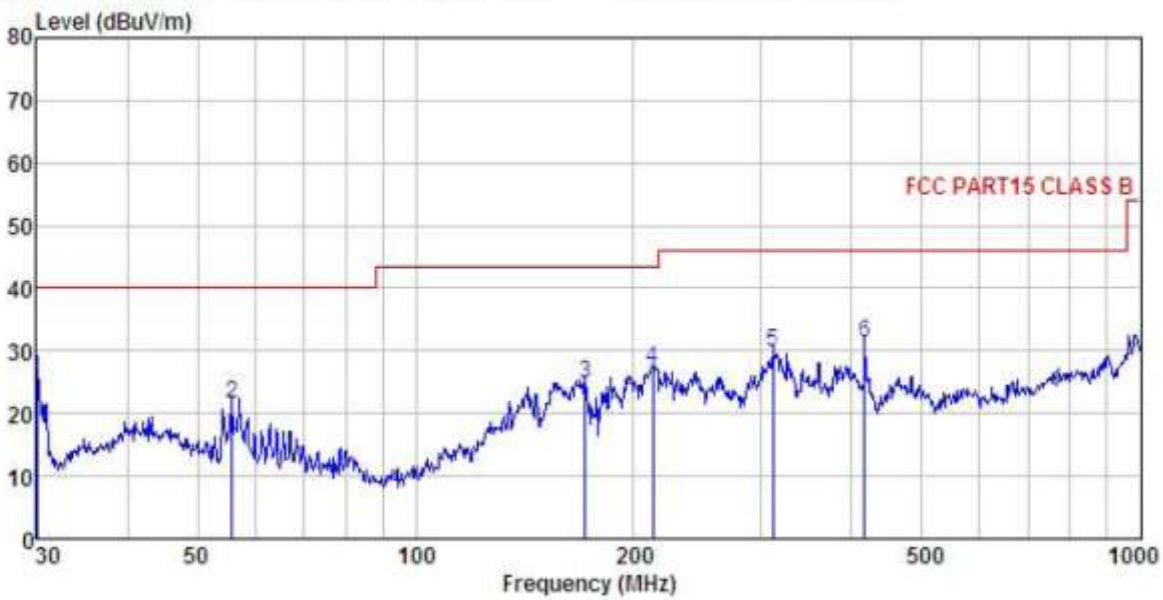
6.7.2 Unwanted Emissions out of the Restricted Bands

<table>
<tr><td>Test Requirement:</td><td colspan="5">FCC Part15 C Section 15.209 and 15.205</td></tr>
<tr><td>Test Method:</td><td colspan="5">ANSI C63.10:2013</td></tr>
<tr><td>TestFrequencyRange:</td><td colspan="5">30MHz to 40GHz</td></tr>
<tr><td>Test site:</td><td colspan="5">Measurement Distance: 3m</td></tr>
<tr><td rowspan="5">Receiver setup:</td><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Remark</td></tr>
<tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>100kHz</td><td>300kHz</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr>
<tr><td>RMS</td><td>1MHz</td><td>3MHz</td><td>Average Value</td></tr>
<tr><td></td><td colspan="4"></td></tr>
<tr><td rowspan="9">Limit:</td><td colspan="2">Frequency</td><td colspan="2">Limit (dBuV/m @3m)</td><td>Remark</td></tr>
<tr><td colspan="2">30MHz-88MHz</td><td colspan="2">40.0</td><td>Quasi-peak Value</td></tr>
<tr><td colspan="2">88MHz-216MHz</td><td colspan="2">43.5</td><td>Quasi-peak Value</td></tr>
<tr><td colspan="2">216MHz-960MHz</td><td colspan="2">46.0</td><td>Quasi-peak Value</td></tr>
<tr><td colspan="2">960MHz-1GHz</td><td colspan="2">54.0</td><td>Quasi-peak Value</td></tr>
<tr><td colspan="2" rowspan="2">Above 1GHz</td><td colspan="2">68.20</td><td>Peak Value</td></tr>
<tr><td colspan="2">54.00</td><td>Average Value</td></tr>
<tr><td colspan="5">Remark:
Above 1GHz limit:
E[dBμV/m] = EIRP[dBm] + 95.2=68.2 dBuV/m,for EIPR[dBm]=-27dBm.</td></tr>
<tr><td>Test Procedure:</td><td colspan="5">1. The EUT was placed on the top of a rotating table 0.8m(below 1GHz)/1.5m(above 1GHz) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, whichwas mounted on the top of a variable-height antenna tower.
3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and thenthe antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode was 10dB lower than the limitspecified, then testing could be stopped and the peak values of the EUT wouldbe reported. Otherwise the emissions that did not have 10dB margin would bere-tested one by one using peak, quasi-peak or average method as specified andthen reported in a data sheet.</td></tr>
</table>

Test setup:	Below 1GHz  Above 1GHz 
Test Instruments:	Refer to section 5.6 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Below 1GHz

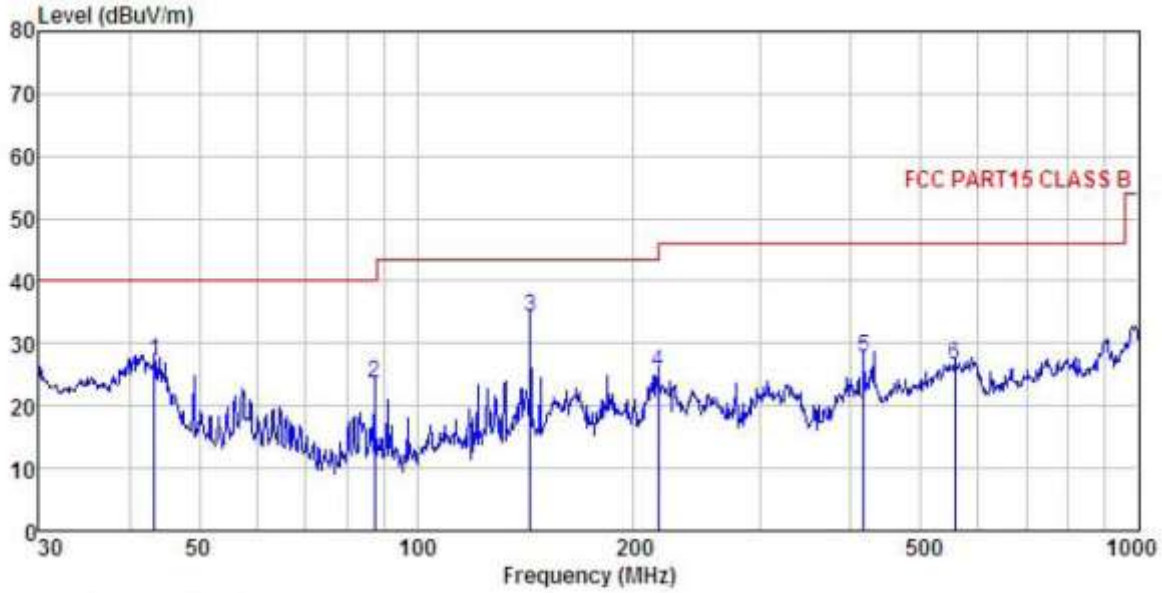
Horizontal:



Site : 3m chamber
Condition : FCC PART15 CLASS B 3m VULB9163(30M3G) HORIZONTAL
EUT : Tablet PC
Model : Aprix Tab64C
Test mode : 5GWIIF Mode
Power Rating : AC120V/60Hz
Environment : Temp:25.5℃ Huni:55% 101KPa
Test Engineer: YT
REMARK :

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	30.000	43.16	11.80	0.72	29.98	25.70	40.00	-14.30	QP
2	55.805	37.69	12.24	1.36	29.80	21.49	40.00	-18.51	QP
3	171.393	41.50	9.75	2.66	29.04	24.87	43.50	-18.63	QP
4	212.270	42.05	10.86	2.86	28.75	27.02	43.50	-16.48	QP
5	311.087	42.28	13.04	2.97	28.48	29.81	46.00	-16.19	QP
6	416.179	40.84	16.00	3.12	28.81	31.15	46.00	-14.85	QP

Vertical:



Site : 3m chamber
Condition : FCC PART15 CLASS B 3m VULB9163(30M3G) VERTICAL
EUT : Tablet PC
Model : Aprix Tab64C
Test mode : 5GWIIF Mode
Power Rating : AC120V/60Hz
Environment : Temp:25.5℃ Huni:55% 101KPa
Test Engineer: YT
REMARK :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	43.353	38.40	17.48	1.26	29.87	27.27	40.00	-12.73	QP
2	87.418	43.42	7.82	1.96	29.58	23.62	40.00	-16.38	QP
3	143.830	49.78	11.34	2.44	29.25	34.31	43.50	-9.19	QP
4	216.024	39.97	11.18	2.85	28.73	25.27	46.00	-20.73	QP
5	416.179	37.40	16.00	3.12	28.81	27.71	46.00	-18.29	QP
6	556.774	33.74	18.14	3.90	29.08	26.70	46.00	-19.30	QP

Above 1GHz:

Band 1:

802.11a mode Lowest channel (Peak Value)								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.00	48.26	40.10	9.82	41.97	56.21	68.20	-11.99	Vertical
10360.00	47.21	40.10	9.82	41.97	55.16	68.20	-13.04	Horizontal
802.11a mode Lowest channel (AverageValue)								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.00	38.26	40.10	9.82	41.97	46.21	54.00	-7.79	Vertical
10360.00	37.66	40.10	9.82	41.97	45.61	54.00	-8.39	Horizontal

802.11a mode Middle channel (Peak Value)								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10400.00	49.26	40.00	9.85	41.95	57.16	68.20	-11.04	Vertical
10400.00	48.22	40.00	9.85	41.95	56.12	68.20	-12.08	Horizontal
802.11a mode Middle channel (AverageValue)								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10400.00	39.61	40.00	9.85	41.95	47.51	54.00	-6.49	Vertical
10400.00	40.20	40.00	9.85	41.95	48.10	54.00	-5.90	Horizontal

802.11a mode Highest channel (Peak Value)								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10480.00	50.55	39.70	9.96	41.88	58.33	68.20	-9.87	Vertical
10480.00	49.63	39.70	9.96	41.88	57.41	68.20	-10.79	Horizontal
802.11a mode Highest channel (AverageValue)								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10480.00	40.12	39.70	9.96	41.88	47.90	54.00	-6.10	Vertical
10480.00	40.78	39.70	9.96	41.88	48.56	54.00	-5.44	Horizontal

Remark:

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

802.11n20 mode Lowest channel (Peak Value)								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.00	49.56	40.10	9.82	41.97	57.51	68.20	-10.69	Vertical
10360.00	50.23	40.10	9.82	41.97	58.18	68.20	-10.02	Horizontal
802.11n20 mode Lowest channel (AverageValue)								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.00	40.77	40.10	9.82	41.97	48.72	54.00	-5.28	Vertical
10360.00	41.56	40.10	9.82	41.97	49.51	54.00	-4.49	Horizontal

802.11n20 mode Middle channel (Peak Value)								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10400.00	49.60	40.00	9.85	41.95	57.50	68.20	-10.70	Vertical
10400.00	50.42	40.00	9.85	41.95	58.32	68.20	-9.88	Horizontal
802.11n20 mode Middle channel (AverageValue)								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10400.00	41.24	40.00	9.85	41.95	49.14	54.00	-4.86	Vertical
10400.00	40.74	40.00	9.85	41.95	48.64	54.00	-5.36	Horizontal

802.11n20 mode Highest channel (Peak Value)								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10480.00	50.23	39.70	9.96	41.88	58.01	68.20	-10.19	Vertical
10480.00	50.59	39.70	9.96	41.88	58.37	68.20	-9.83	Horizontal
802.11n20 mode Highest channel (AverageValue)								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10480.00	41.21	39.70	9.96	41.88	48.99	54.00	-5.01	Vertical
10480.00	40.79	39.70	9.96	41.88	48.57	54.00	-5.43	Horizontal

Remark:

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

802.11n40 mode Lowest channel (Peak Value)								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10380.00	48.69	40.00	9.85	41.95	56.59	68.20	-11.61	Vertical
10380.00	48.75	40.00	9.85	41.95	56.65	68.20	-11.55	Horizontal
802.11n40 mode Lowest channel (AverageValue)								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10380.00	39.62	40.00	9.85	41.95	47.52	54.00	-6.48	Vertical
10380.00	38.81	40.00	9.85	41.95	46.71	54.00	-7.29	Horizontal

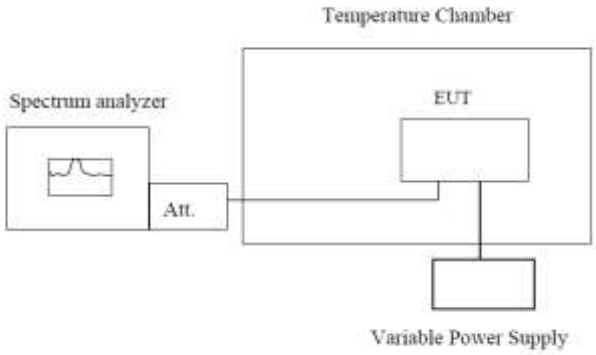
802.11n40 mode Highest channel (Peak Value)								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10460.00	49.96	39.80	9.92	41.90	57.78	68.20	-10.42	Vertical
10460.00	50.04	39.80	9.92	41.90	57.86	68.20	-10.34	Horizontal
802.11n40 mode Highest channel (AverageValue)								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10460.00	39.69	39.80	9.92	41.90	47.51	54.00	-6.49	Vertical
10460.00	40.15	39.80	9.92	41.90	47.97	54.00	-6.03	Horizontal

802.11ac-HT80MHz mode Middle channel (Peak Value)								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10420.00	43.26	39.90	15.46	41.24	57.38	68.20	-10.82	Vertical
10420.00	41.75	39.90	15.46	41.24	55.87	68.20	-12.33	Horizontal
802.11ac-HT80MHz mode Middle channel (AverageValue)								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10420.00	32.69	39.90	15.46	41.24	46.81	54.00	-7.19	Vertical
10420.00	31.24	39.90	15.46	41.24	45.36	54.00	-8.64	Horizontal

Remark:

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

6.8 Frequency stability

Test Requirement:	FCC Part15 E Section 15.407 (g)
Limit:	Manufacturers of U-NII devices are responsible for ensuringfrequency stability such that anemission is maintained within the band of operation under all conditions of normal operation asspecified in the user's manual.
Test setup:	 **Note :** Measurement setup for testing on Antenna connector
Test procedure:	1. The EUT is installed in an environment test chamber with external power source. 2. Set the chamber to operate at 50 centigrade and external power source to output at nominal voltage ofEUT. 3. A sufficient stabilization period at each temperature is used prior to each frequency measurement. 4. When temperature is stabled, measure the frequency stability. 5. The test shall be performed under -30 to 50 centigrade and 85 to 115 percent of the nominal voltage.Change setting of chamber and external power source to complete all conditions.
Test Instruments:	Refer to section 5.6 for details
Test mode:	Refer to section 5.3 for details, and all channels have been tested, only shows the worst channel data in this report.
Test results:	Passed

Measurement Data (the worst channel):

Band 1:

Voltage vs. Frequency Stability (Lowest channel=5180MHz)

Test conditions		Frequency(MHz)	Max. Deviation (ppm)
Temp(℃)	Voltage(ac)		
20	4.2V	5179.999620	0.07
	3.7V	5179.977485	4.35
	3.5V	5179.966392	6.49

Temperature vs. Frequency Stability (Lowest channel=5180MHz)

Test conditions		Frequency(MHz)	Max. Deviation (ppm)
Voltage(ac)	Temp(℃)		
3.7V	-20	5179.986920	2.53
	-10	5179.997490	0.48
	0	5179.966298	6.51
	10	5179.986385	2.63
	20	5179.997845	0.42
	30	5179.979985	3.86
	40	5179.967784	6.22
	50	5179.976259	4.58