FCC REPORT
(WIFI)

Applicant:	Shenzhen Gotron Electronic CO., LTD.
Address of Applicant:	518, 5F, R&D building, Tsinghua Hi-Tech park, Nanshan district, Shenzhen 518057 P.R. China

Equipment Under Test (EUT)

Product Name:	Mobile Phone
Model No.:	GQ3060
Trade mark:	ulefone
FCC ID:	2AOWK3060
Applicable standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.247
Date of sample receipt:	01 Jun., 2018
Date of Test:	05 Jun., to 26 Jul., 2018
Date of report issued:	30 Jul., 2018
Test Result:	PASS*

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

Authorized Signature:

Bruce Zhang
Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the CCIS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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2 Version

Version No.	Date	Description
00	30 Jul., 2018	*Original*

Tested by: Carey Chen ***Date:*** *30 Jul., 2018*

Test Engineer

Reviewed by: Winner Zhang ***Date:*** *30 Jul., 2018*

Project Engineer

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4 Test Summary

Test Items	Section in CFR 47	Result
Antenna requirement	15.203 & 15.247 (c)	Pass
AC Power Line Conducted Emission	15.207	Pass
Conducted Peak Output Power	15.247 (b)(3)	Pass
6dB Emission Bandwidth 99% Occupied Bandwidth	15.247 (a)(2)	Pass
Power Spectral Density	15.247 (e)	Pass
Band Edge	15.247 (d)	Pass
Spurious Emission	15.205 & 15.209	Pass
Pass: The EUT complies with the essential requirements in the standard. *N/A: N/A: Not Applicable.*		

5 General Information

5.1 Client Information

Applicant:	Shenzhen Gotron Electronic CO., LTD.
Address:	518, 5F, R&D building, Tsinghua Hi-Tech park, Nanshan district, Shenzhen 518057 P.R. China
Manufacturer:	Shenzhen Gotron Electronic CO., LTD.
Address:	518, 5F, R&D building, Tsinghua Hi-Tech park, Nanshan district, Shenzhen 518057 P.R. China

5.2 General Description of E.U.T.

Product Name:	Mobile Phone
Model No.:	GQ3060
Operation Frequency:	2412MHz~2462MHz (802.11b/802.11g/802.11n(H20)) 2422MHz~2452MHz (802.11n(H40))
Channel numbers:	11 for 802.11b/802.11g/802.11(H20) 7 for 802.11n(H40)
Channel separation:	5MHz
Modulation technology: (IEEE 802.11b)	Direct Sequence Spread Spectrum (DSSS)
Modulation technology: (IEEE 802.11g/802.11n)	Orthogonal Frequency Division Multiplexing(OFDM)
Data speed (IEEE 802.11b):	1Mbps, 2Mbps, 5.5Mbps, 11Mbps
Data speed (IEEE 802.11g):	6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps, 54Mbps
Data speed (IEEE 802.11n):	Up to 150Mbps
Antenna Type:	Internal Antenna
Antenna gain:	-2dBi
Power supply:	Rechargeable Li-ion Battery DC3.8V10300mAh
AC adapter:	Model: APS-KI018WU-G Input: AC100-240V, 50/60Hz 0.5A MAX Output: DC 5V/7V/9V, 2.0A; 12V, 1.5A

Operation Frequency each of channel for 802.11b/g/n(H20)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2412MHz	4	2427MHz	7	2442MHz	10	2457MHz
2	2417MHz	5	2432MHz	8	2447MHz	11	2462MHz
3	2422MHz	6	2437MHz	9	2452MHz		

Note:
1. For 802.11n-HT40 mode, the channel number is from 3 to 9;
2. Channel 1, 6 & 11 selected for 802.11b/g/n-HT20 as Lowest, Middle and Highest channel, Channel; 3, 6 & 9 selected for 802.11n-HT40 as Lowest, Middle and Highest channel, Channel.

5.3 Test environment and test mode

Operating Environment:	
Temperature:	24.0 °C
Humidity:	54 % RH
Atmospheric Pressure:	1010 mbar
Test mode:	
Transmitting mode	Keep the EUT in continuous transmitting with modulation

The sample was placed 0.8m (below 1GHz)/1.5m (above 1GHz) above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.
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, the follow list were the worst case.

Mode	Data rate
802.11b	1Mbps
802.11g	6Mbps
802.11n(H20)	6.5Mbps
802.11n(H40)	13.5Mbps

5.4 Description of Support Units

The EUT has been tested as an independent unit.

5.5 Measurement Uncertainty

Parameters	Expanded Uncertainty
Conducted Emission (9kHz ~ 30MHz)	±2.22 dB (k=2)
Radiated Emission (9kHz ~ 30MHz)	±2.76 dB (k=2)
Radiated Emission (30MHz ~ 1000MHz)	±4.28 dB (k=2)
Radiated Emission (1GHz ~ 18GHz)	±5.72 dB (k=2)
Radiated Emission (18GHz ~ 40GHz)	±2.88 dB (k=2)

5.6 Laboratory Facility

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

- **FCC - Registration No.: 727551**

Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been accredited as a testing laboratory by FCC (Federal Communications Commission). The Registration No. is 727551.

- **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.

- **A2LA - Registration No.: 4346.01**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: https://portal.a2la.org/scopepdf/4346-01.pdf

5.7 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
Tel: +86-755-23118282, Fax: +86-755-23116366
Email: info@ccis-cb.com, Website: http://www.ccis-cb.com

5.8 Test Instruments list

Radiated Emission:

Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
3m SAC	SAEMC	9m*6m*6m	966	07-22-2017	07-21-2020
Loop Antenna	SCHWARZBECK	FMZB1519B	00044	03-16-2018	03-15-2019
BiConiLog Antenna	SCHWARZBECK	VULB9163	497	03-16-2018	03-15-2019
Horn Antenna	SCHWARZBECK	BBHA9120D	916	03-16-2018	03-15-2019
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170582	21-11-2017	20-11-2018
EMI Test Software	AUDIX	E3	6.110919b	N/A	N/A
Pre-amplifier	HP	8447D	2944A09358	03-07-2018	03-06-2019
Pre-amplifier	CD	PAP-1G18	11804	03-07-2018	03-06-2019
Spectrum analyzer	Rohde & Schwarz	FSP30	101454	03-07-2018	03-06-2019
Spectrum analyzer	Rohde & Schwarz	FSP40	100363	21-11-2017	20-11-2018
EMI Test Receiver	Rohde & Schwarz	ESRP7	101070	03-07-2018	03-06-2019
Cable	ZDECL	Z108-NJ-NJ-81	1608458	03-07-2018	03-06-2019
Cable	MICRO-COAX	MFR64639	K10742-5	03-07-2018	03-06-2019
Cable	SUHNER	SUCOFLEX100	58193/4PE	03-07-2018	03-06-2019

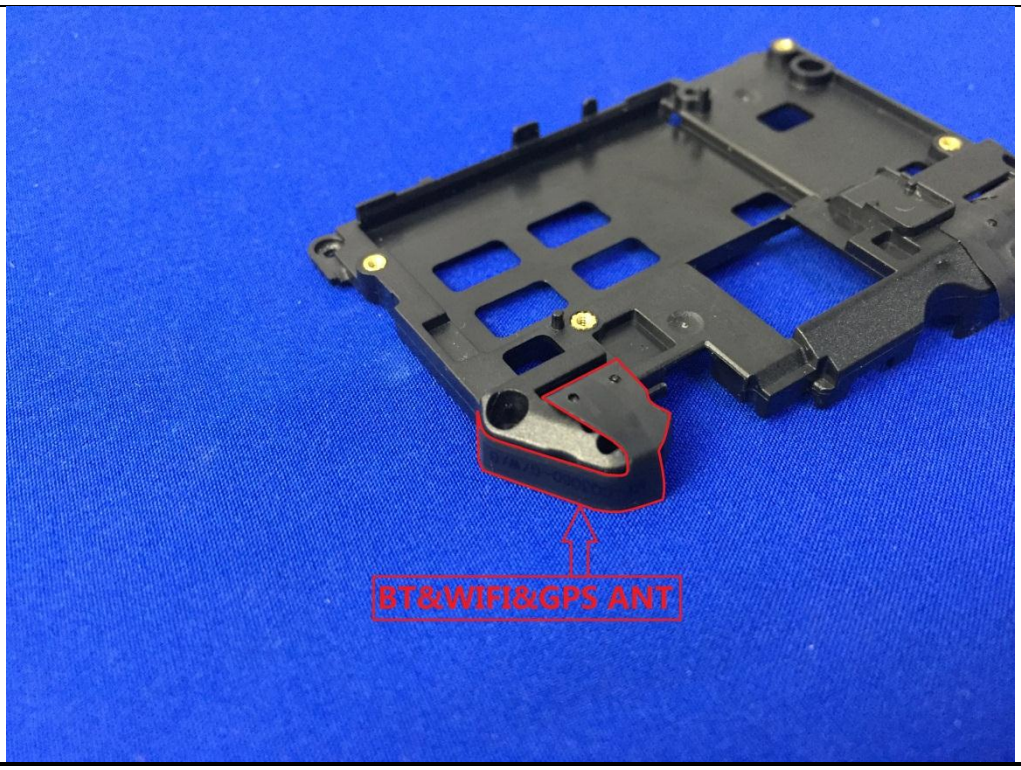
Conducted Emission:

Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
EMI Test Receiver	Rohde & Schwarz	ESCI	101189	03-07-2018	03-06-2019
Pulse Limiter	SCHWARZBECK	OSRAM 2306	9731	03-07-2018	03-06-2019
LISN	CHASE	MN2050D	1447	03-19-2018	03-18-2019
LISN	Rohde & Schwarz	ESH3-Z5	8438621/010	07-21-2017	07-20-2018
				07-20-2018	07-19-2019
Cable	HP	10503A	N/A	03-07-2018	03-06-2019
EMI Test Software	AUDIX	E3	6.110919b	N/A	N/A

6 Test results and Measurement Data

6.1 Antenna requirement

Standard requirement:	FCC Part 15 C Section 15.203 /247(c)
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. 15.247(c) (1)(i) requirement: (i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.	
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 -2dBi.	



6.2 Conducted Emission

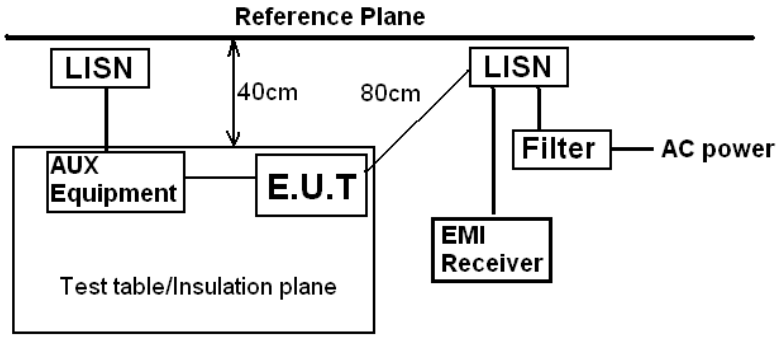
Test Requirement:	FCC Part 15 C Section 15.207
Test Method:	ANSI C63.10: 2013
Test Frequency Range:	150 kHz to 30 MHz
Class / Severity:	Class B
Receiver setup:	RBW=9 kHz, VBW=30 kHz
Limit:	

Frequency range (MHz)	Limit (dBuV)	
	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.		

Test procedure

1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.), which provides 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 C63.4: 2014 on conducted measurement.

Test setup:

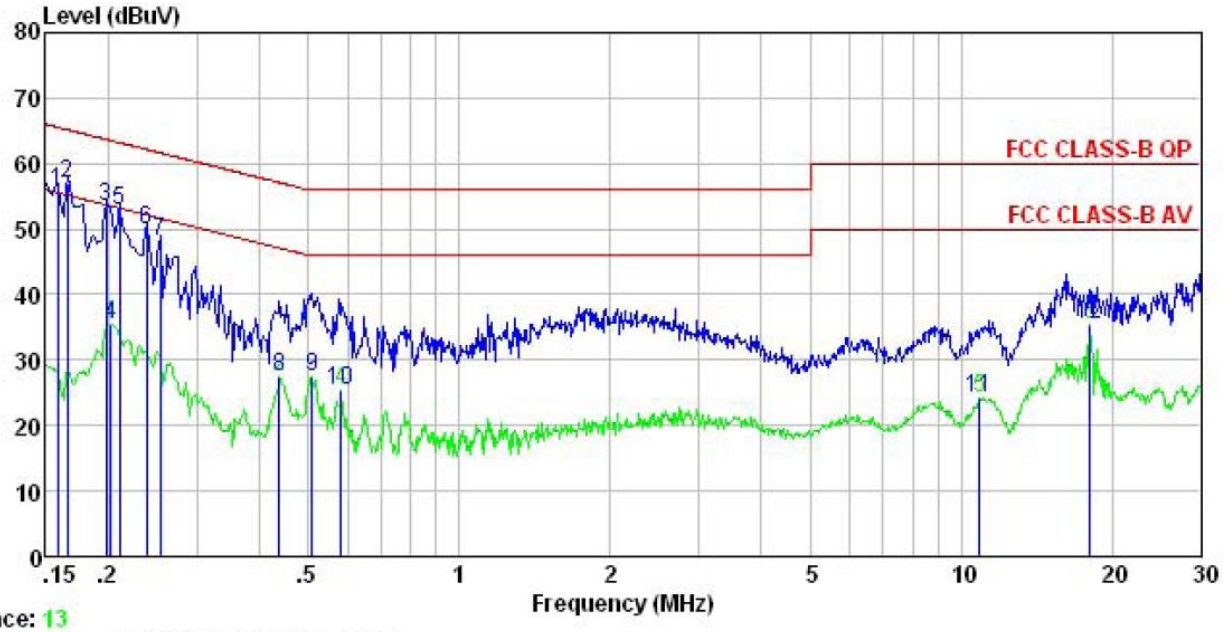


Remark:
E.U.T: Equipment Under Test
LISN: Line Impedence Stabilization Network
Test table height=0.8m

Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data:

Test Phase: Neutral



Trace: 13

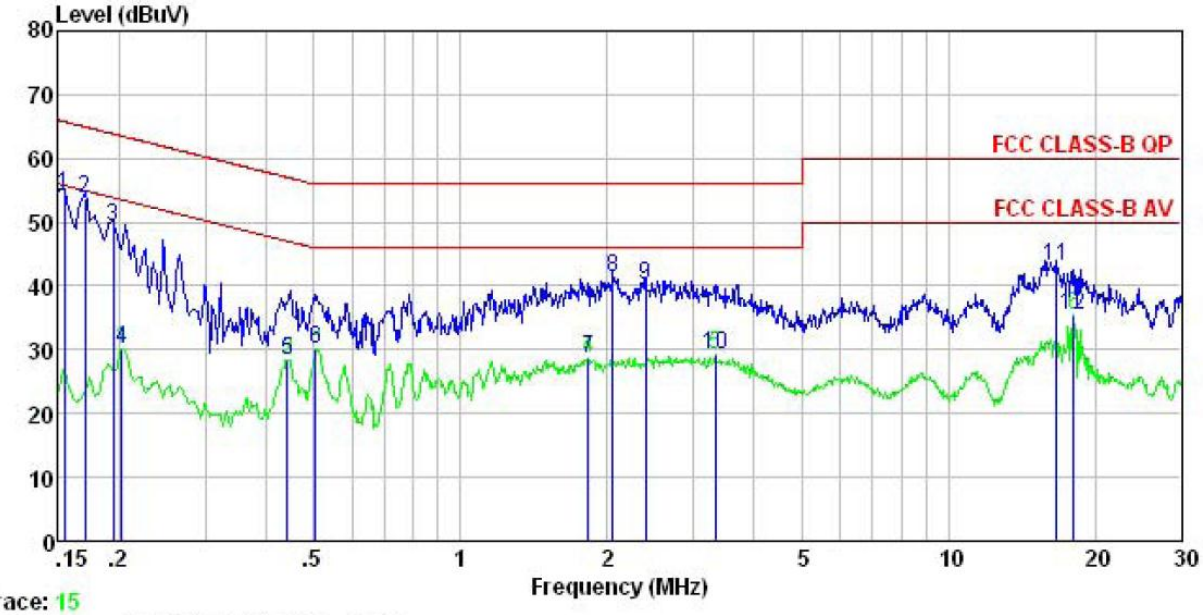
Site : CCIS Shielding Room
Condition : FCC CLASS-B QP LISN NEUTRAL
EUT : Mobile Phone
Model : GQ3060
Test Mode : WIFI mode
Power Rating : AC 120V/60Hz
Environment : Temp: 23 .5℃ Huni:57% Atmos:101KPa
Test Engineer: Carey
Remark :

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.158	44.17	0.98	10.77	55.92	65.56	-9.64	QP
2	0.166	45.14	0.97	10.77	56.88	65.16	-8.28	QP
3	0.198	41.67	0.92	10.76	53.35	63.71	-10.36	QP
4	0.202	23.88	0.92	10.76	35.56	53.54	-17.98	Average
5	0.211	41.21	0.93	10.76	52.90	63.18	-10.28	QP
6	0.238	38.24	0.94	10.75	49.93	62.17	-12.24	QP
7	0.253	36.38	0.95	10.75	48.08	61.64	-13.56	QP
8	0.437	15.76	0.97	10.74	27.47	47.11	-19.64	Average
9	0.510	15.69	0.97	10.76	27.42	46.00	-18.58	Average
10	0.582	13.78	0.97	10.76	25.51	46.00	-20.49	Average
11	10.905	12.29	1.00	10.93	24.22	50.00	-25.78	Average
12	18.039	23.75	0.77	10.92	35.44	50.00	-14.56	Average

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.*

Test Phase: **Line**



Trace: 15

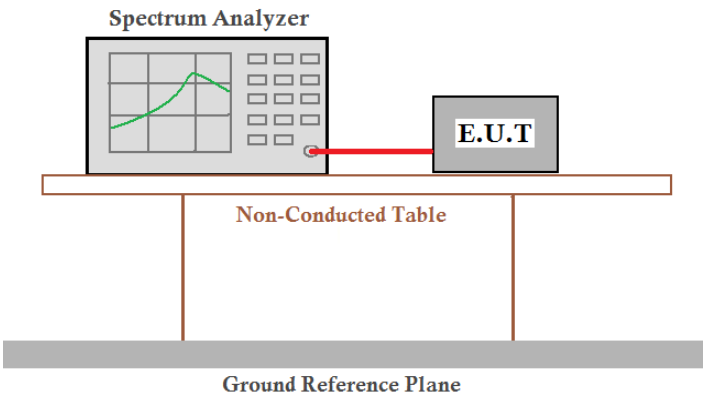
Site : CCIS Shielding Room
Condition : FCC CLASS-B QP LISN LINE
EUT : Mobile Phone
Model : GQ3060
Test Mode : WIFI mode
Power Rating : AC 120V/60Hz
Environment : Temp: 23 .5℃ Huni:57% Atmos:101KPa
Test Engineer: Carey
Remark :

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.154	43.29	0.18	10.78	54.25	65.78	-11.53	QP
2	0.170	42.73	0.17	10.77	53.67	64.94	-11.27	QP
3	0.194	38.33	0.15	10.76	49.24	63.84	-14.60	QP
4	0.202	19.20	0.15	10.76	30.11	53.54	-23.43	Average
5	0.442	17.57	0.12	10.74	28.43	47.02	-18.59	Average
6	0.505	19.27	0.12	10.76	30.15	46.00	-15.85	Average
7	1.829	17.69	0.14	10.95	28.78	46.00	-17.22	Average
8	2.055	30.15	0.14	10.96	41.25	56.00	-14.75	QP
9	2.396	29.12	0.15	10.94	40.21	56.00	-15.79	QP
10	3.328	18.16	0.17	10.91	29.24	46.00	-16.76	Average
11	16.573	31.86	0.30	10.91	43.07	60.00	-16.93	QP
12	18.039	24.20	0.29	10.92	35.41	50.00	-14.59	Average

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.*

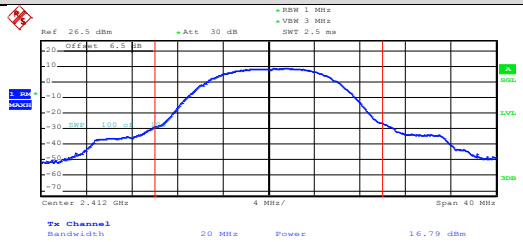
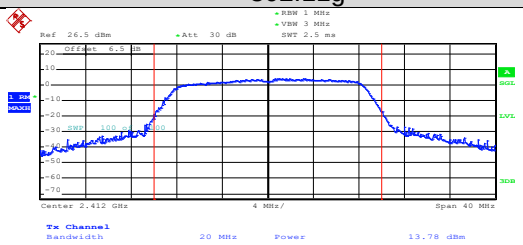
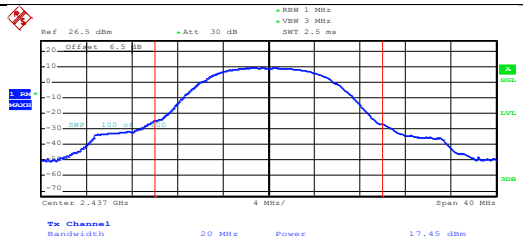
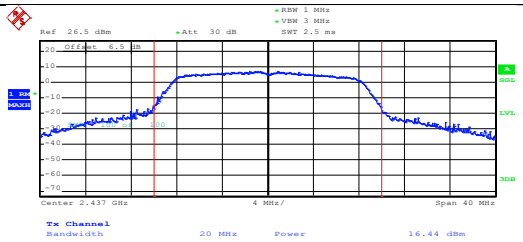
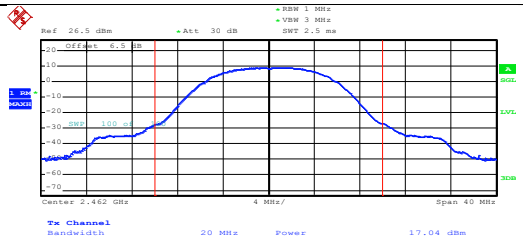
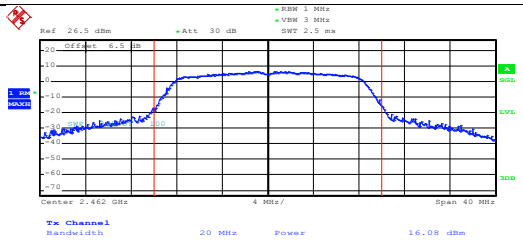
6.3 Conducted Output Power

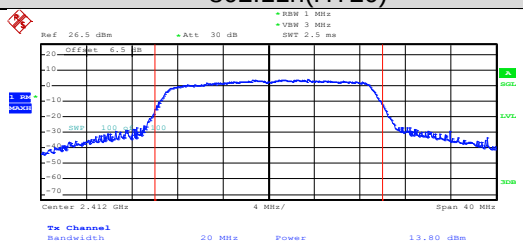
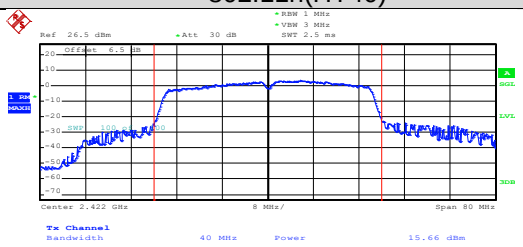
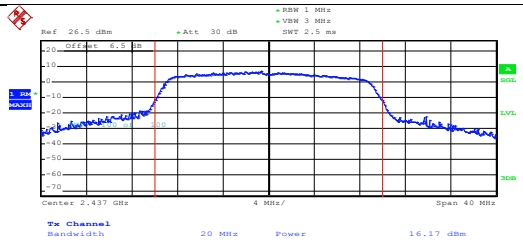
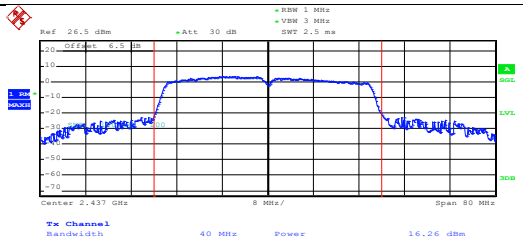
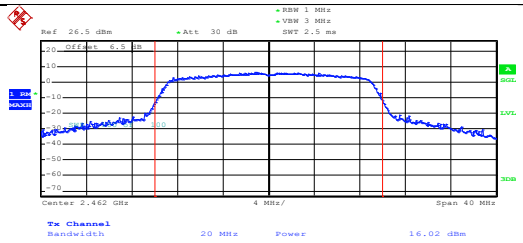
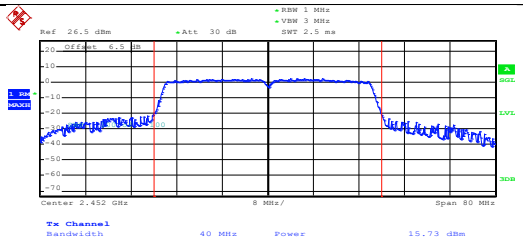
Test Requirement:	FCC Part 15 C Section 15.247 (b)(3)
Test Method:	ANSI C63.10:2013 and KDB 558074
Limit:	30dBm
Test setup:	
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data:

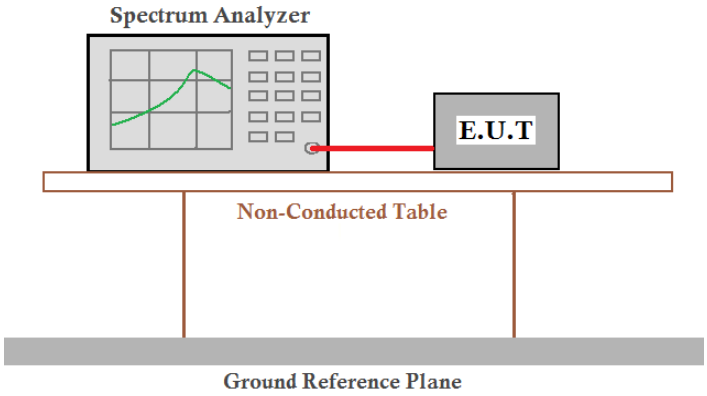
Test CH	Maximum Conducted Output Power (dBm)				Limit(dBm)	Result
	802.11b	802.11g	802.11n(H20)	802.11n(H40)		
Lowest	16.79	13.78	13.80	15.66	30.00	Pass
Middle	17.45	16.44	16.17	16.26		
Highest	17.04	16.08	16.02	15.73		

Test plot as follows:

802.11b	802.11g
 Date: 14.JUN.2018 20:52:31	 Date: 14.JUN.2018 20:52:46
Lowest channel	Lowest channel
 Date: 14.JUN.2018 20:52:10	 Date: 14.JUN.2018 20:52:59
Middle channel	Middle channel
 Date: 14.JUN.2018 20:51:57	 Date: 14.JUN.2018 20:53:20
Highest channel	

802.11n(HT20)	802.11n(HT40)
	
Date: 14.JUN.2018 20:53:33	Date: 14.JUN.2018 20:54:19
Lowest channel	Lowest channel
	
Date: 14.JUN.2018 20:53:44	Date: 14.JUN.2018 20:54:36
Middle channel	Middle channel
	
Date: 14.JUN.2018 20:53:55	Date: 14.JUN.2018 20:54:51
Highest channel	

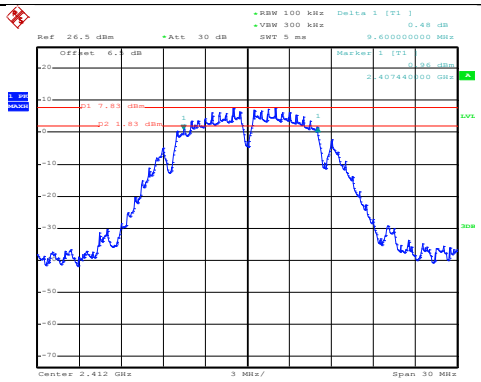
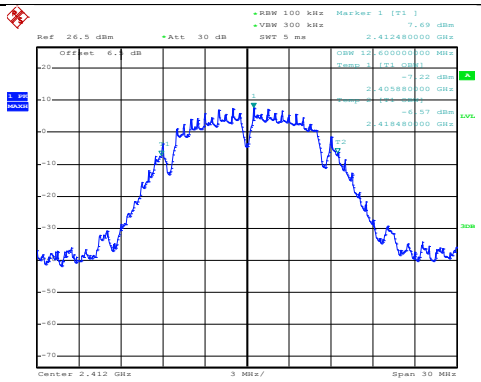
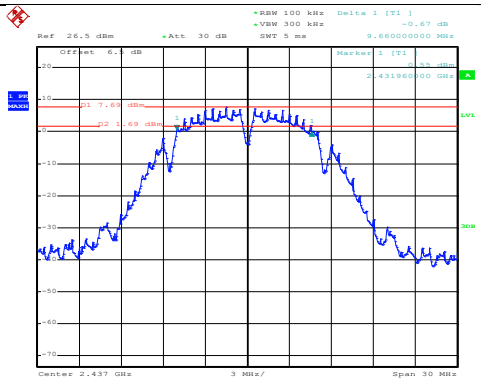
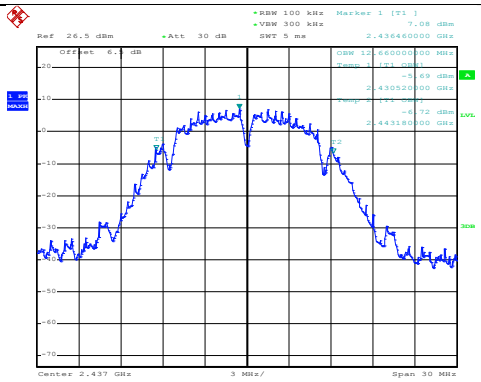
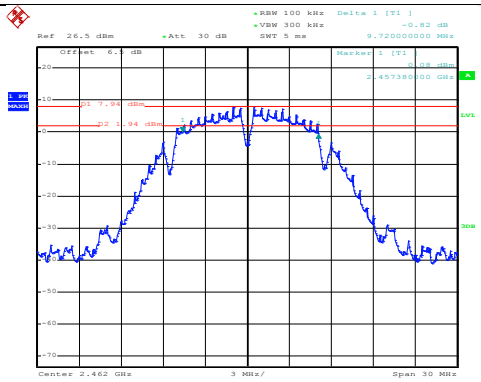
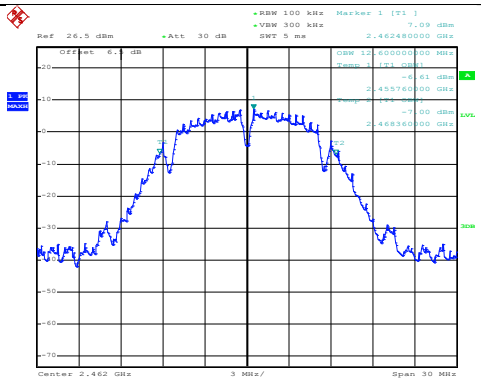
6.4 Occupy Bandwidth

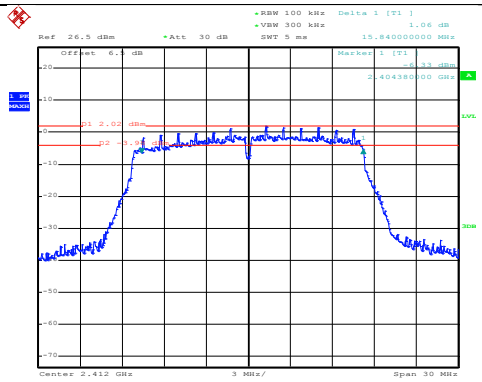
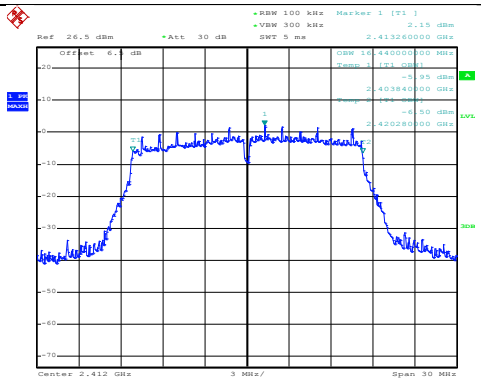
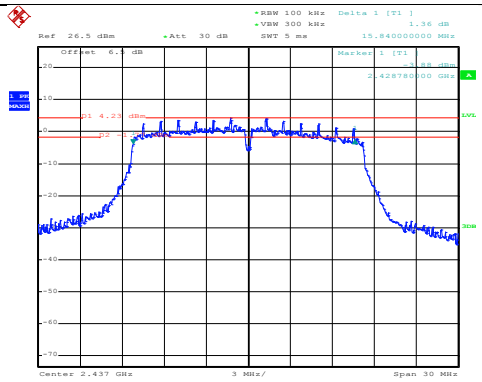
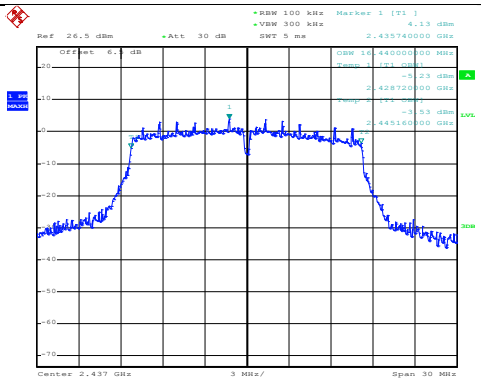
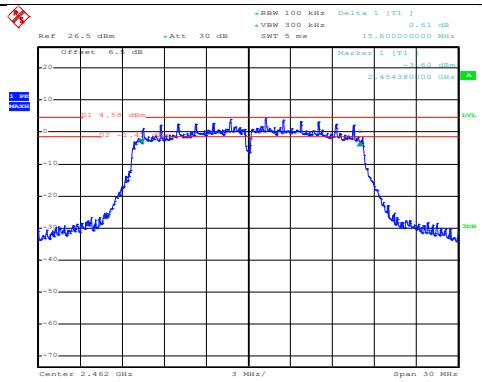
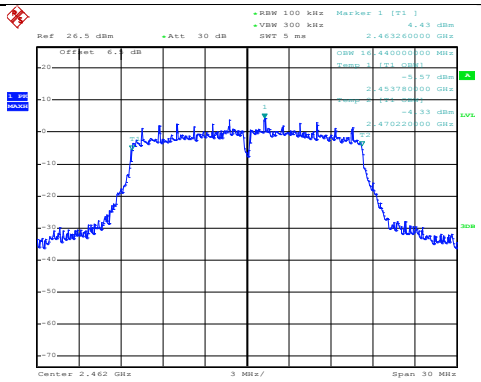
Test Requirement:	FCC Part 15 C Section 15.247 (a)(2)
Test Method:	ANSI C63.10:2013 and KDB 558074
Limit:	>500kHz
Test setup:	
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

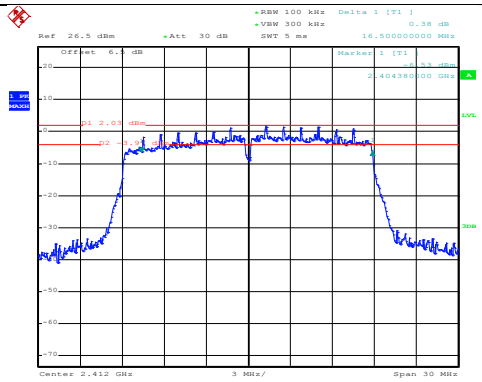
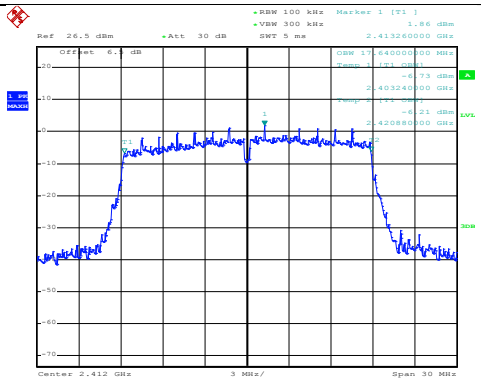
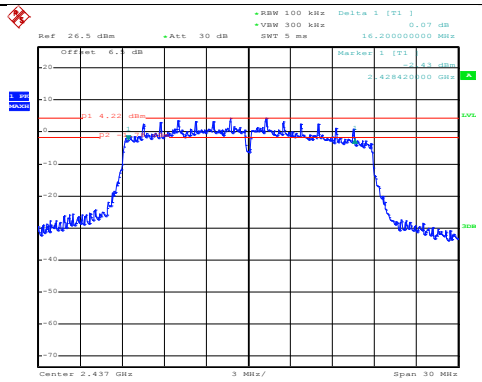
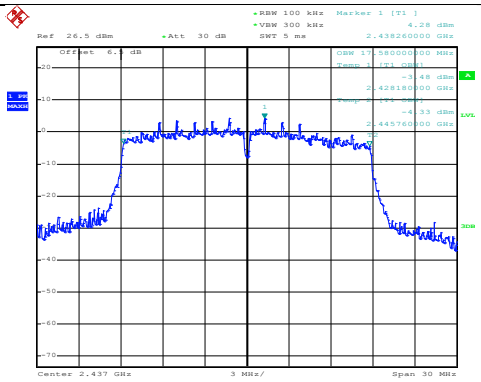
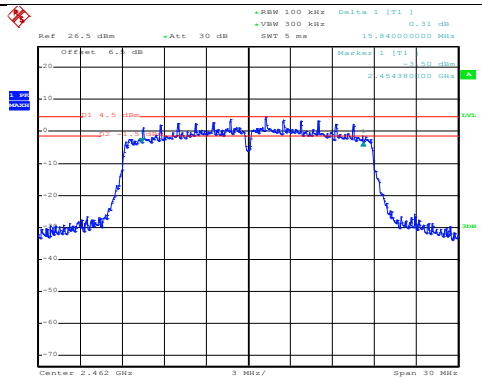
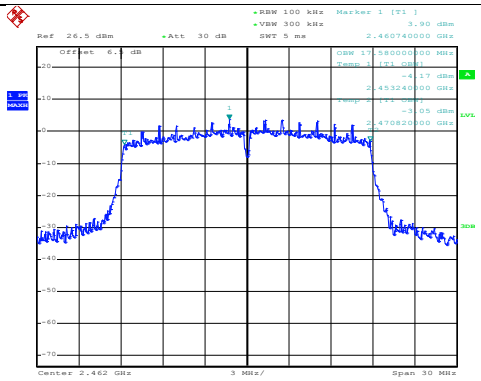
Measurement Data:

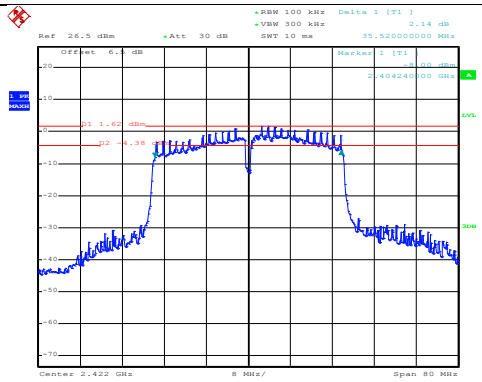
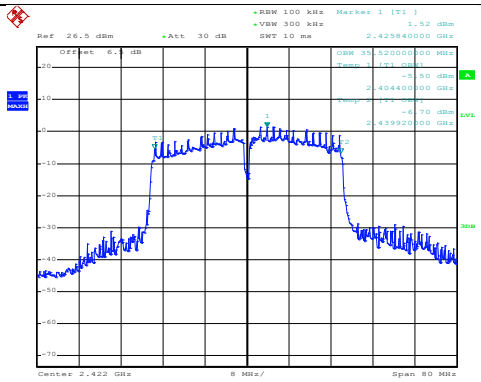
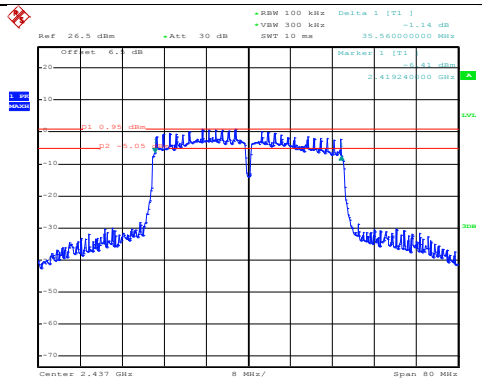
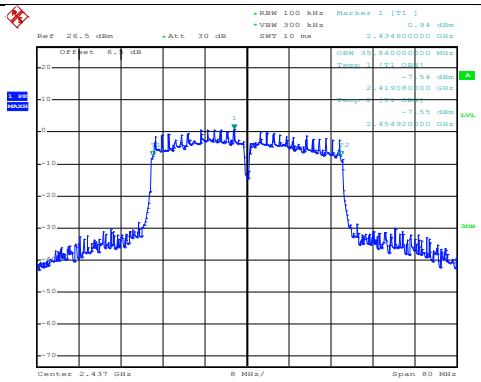
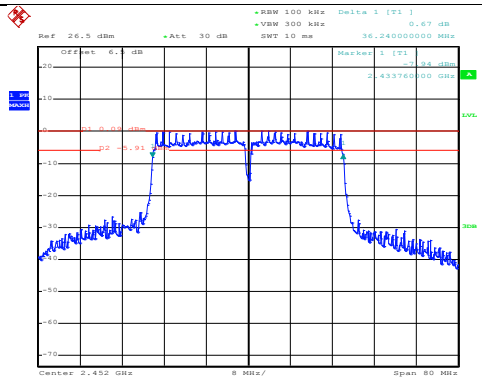
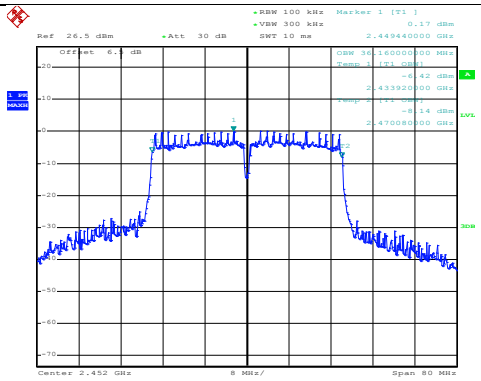
Test CH	6dB Emission Bandwidth (MHz)				Limit(kHz)	Result
	802.11b	802.11g	802.11n(H20)	802.11n(H40)		
Lowest	9.60	15.84	16.05	35.52	>500	Pass
Middle	9.66	15.84	16.20	35.56		
Highest	9.72	15.60	15.84	36.24		
Test CH	99% Occupy Bandwidth (MHz)				Limit(kHz)	Result
	802.11b	802.11g	802.11n(H20)	802.11n(H40)		
Lowest	12.60	16.44	17.64	35.52	N/A	N/A
Middle	12.66	16.44	17.58	35.84		
Highest	12.60	16.44	17.58	36.16		

Test plot as follows:

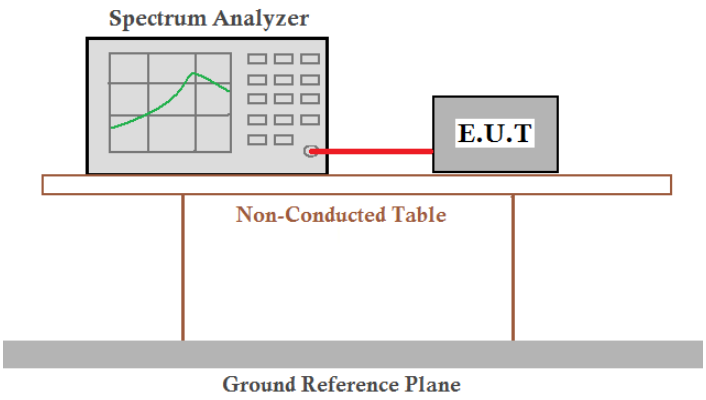
802.11b	
6dB EBW	**99% OBW**
	
Lowest channel	Lowest channel
	
Middle channel	Middle channel
	
Highest channel	Highest channel

802.11g	
6dB EBW	**99% OBW**
	
Lowest channel	Lowest channel
	
Middle channel	Middle channel
	
Highest channel	Highest channel

802.11n(H20)	
6dB EBW	**99% OBW**
	
Lowest channel	Lowest channel
	
Middle channel	Middle channel
	
Highest channel	Highest channel

802.11n(H40)	
6dB EBW	**99% OBW**
	
Lowest channel	Lowest channel
	
Middle channel	Middle channel
	
Highest channel	Highest channel

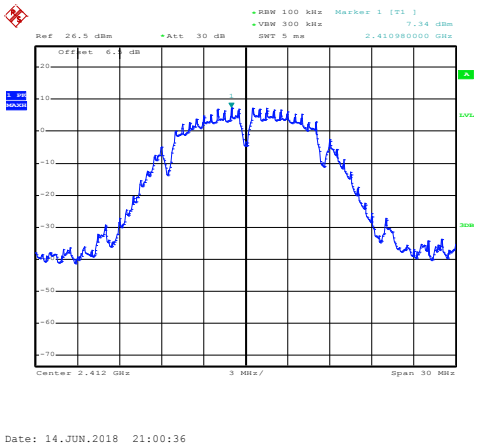
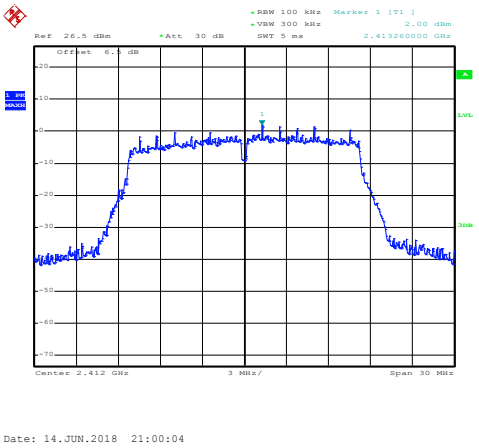
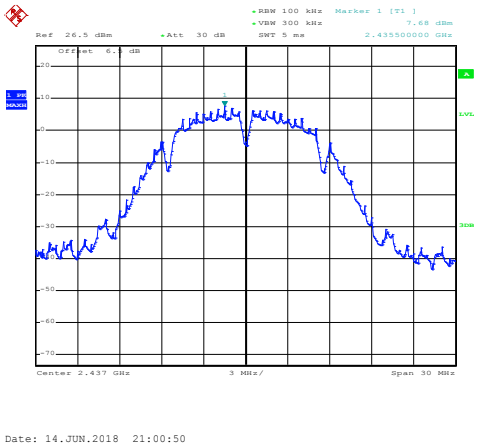
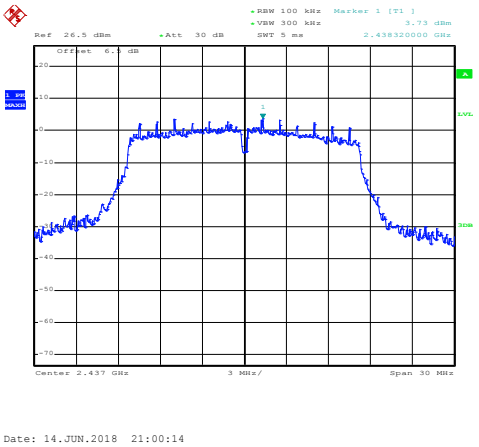
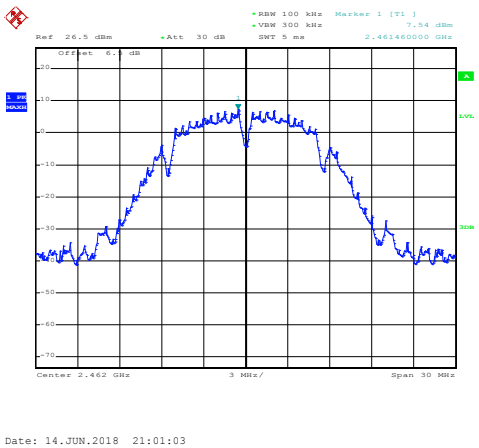
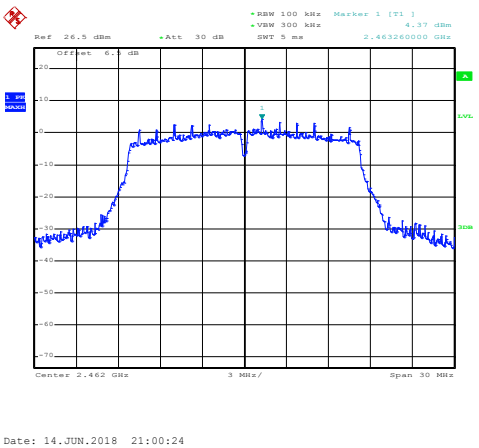
6.5 Power Spectral Density

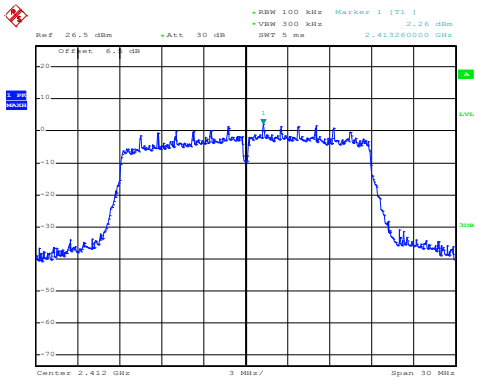
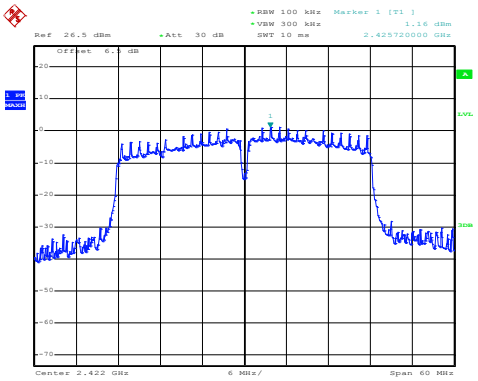
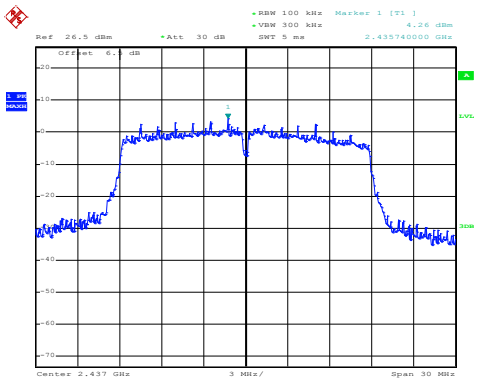
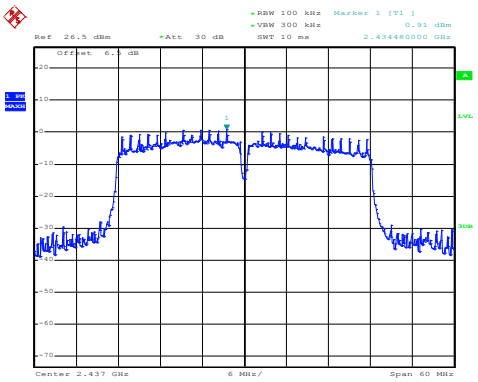
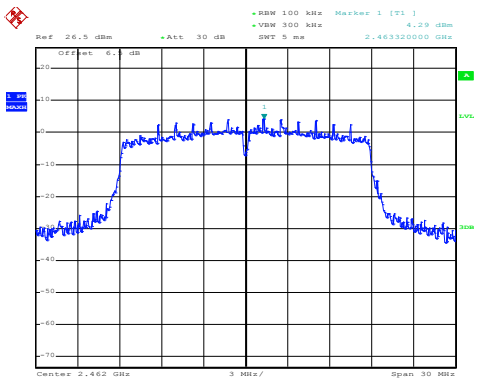
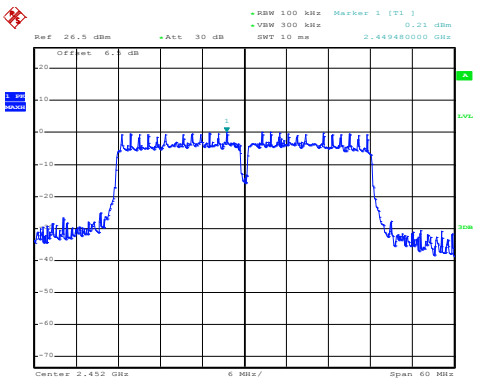
Test Requirement:	FCC Part 15 C Section 15.247 (e)
Test Method:	ANSI C63.10:2013 and KDB 558074
Limit:	8dBm/3kHz
Test setup:	
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data:

Test CH	Power Spectral Density (dBm)				Limit(dBm/3kHz)	Result
	802.11b	802.11g	802.11n(H20)	802.11n(H40)		
Lowest	7.34	2.00	2.26	1.16	8.00	Pass
Middle	7.68	3.73	4.26	0.91		
Highest	7.54	4.37	4.29	0.21		

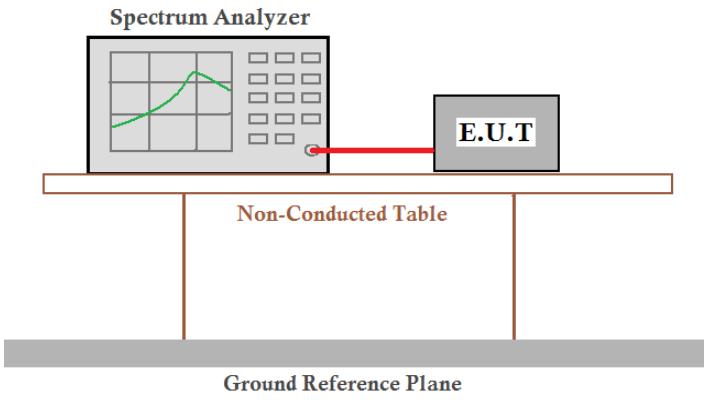
Test plot as follows:

Test mode: 802.11b	Test mode: 802.11g
	
Lowest channel	Lowest channel
	
Middle channel	Middle channel
	
Highest channel	Highest channel

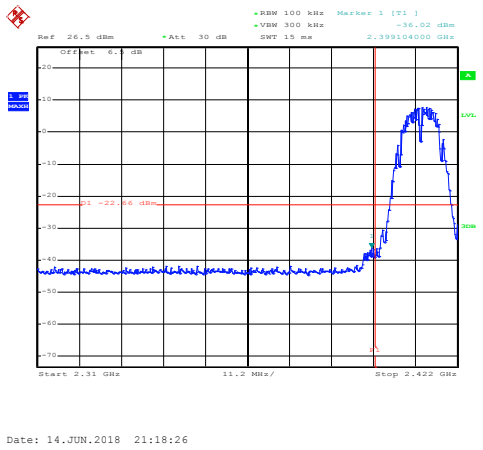
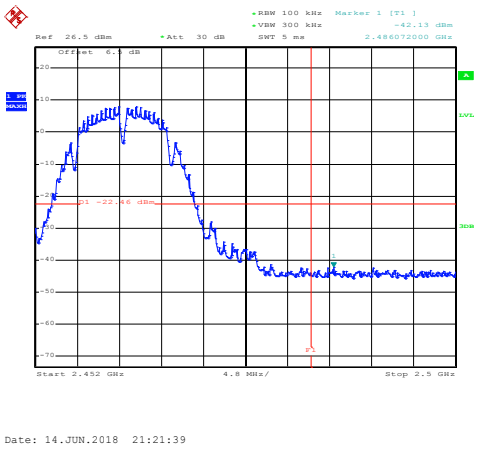
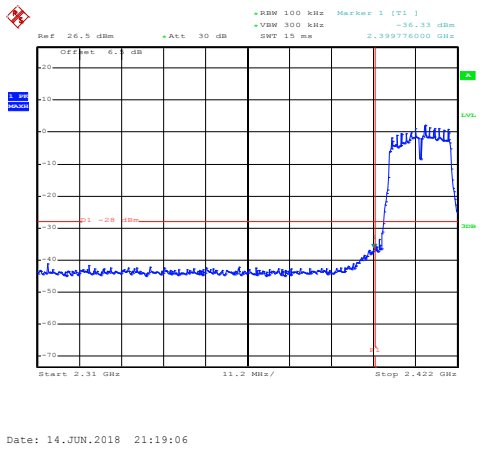
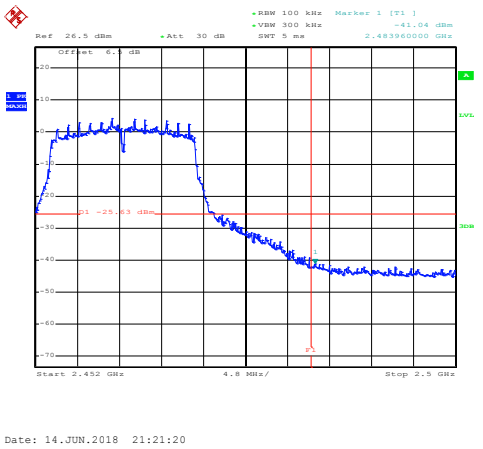
Test mode: 802.11n(H20)	Test mode: 802.11n(H40)
	
Lowest channel	Lowest channel
	
Middle channel	Middle channel
	
Highest channel	Highest channel

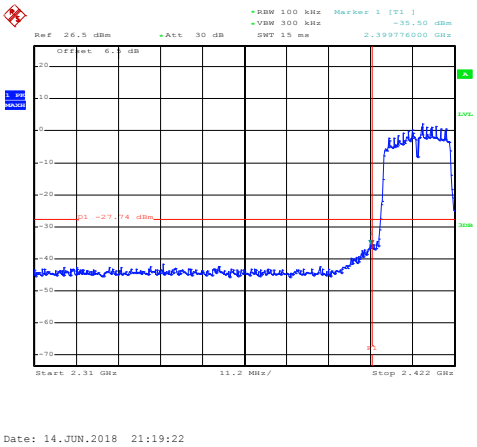
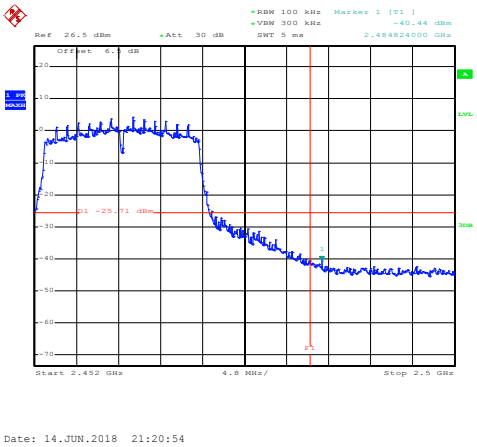
6.6 Band Edge

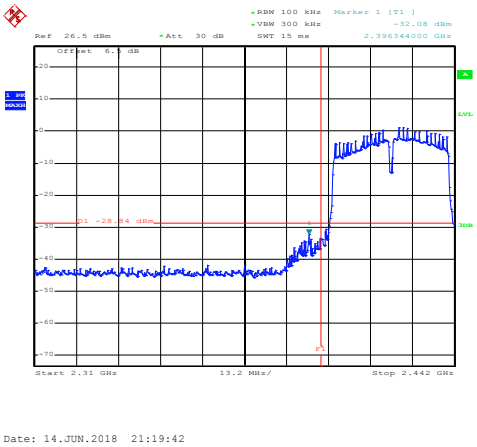
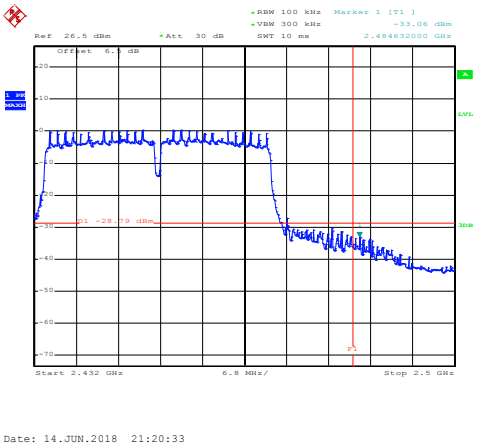
6.6.1 Conducted Emission Method

Test Requirement:	FCC Part 15 C Section 15.247 (d)
Test Method:	ANSI C63.10:2013 and KDB 558074
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 30 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test setup:	
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Test plot as follows:

802.11b	
	
Lowest channel	Highest channel
802.11g	
	
Lowest channel	Highest channel

802.11n(H20)	
	
Lowest channel	Highest channel

802.11n(H40)	
	
Lowest channel	Highest channel

6.6.2 Radiated Emission Method

Test Requirement:	FCC Part 15 C Section 15.209 and 15.205
Test Method:	ANSI C63.10: 2013 and KDB 558074
Test Frequency Range:	2.3GHz to 2.5GHz
Test Distance:	3m

Receiver setup:

Frequency	Detector	RBW	VBW	Remark
Above 1GHz	Peak	1MHz	3MHz	Peak Value
	RMS	1MHz	3MHz	Average Value

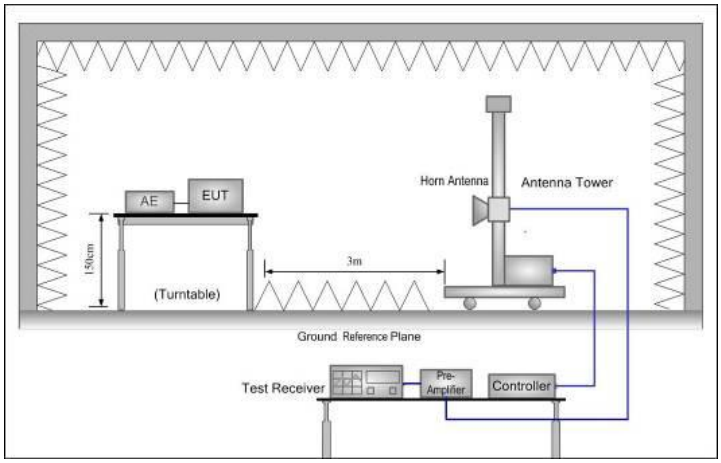
Limit:

Frequency	Limit (dBuV/m @3m)	Remark
Above 1GHz	54.00	Average Value
	74.00	Peak 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, which was 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 then the 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 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.

Test setup:

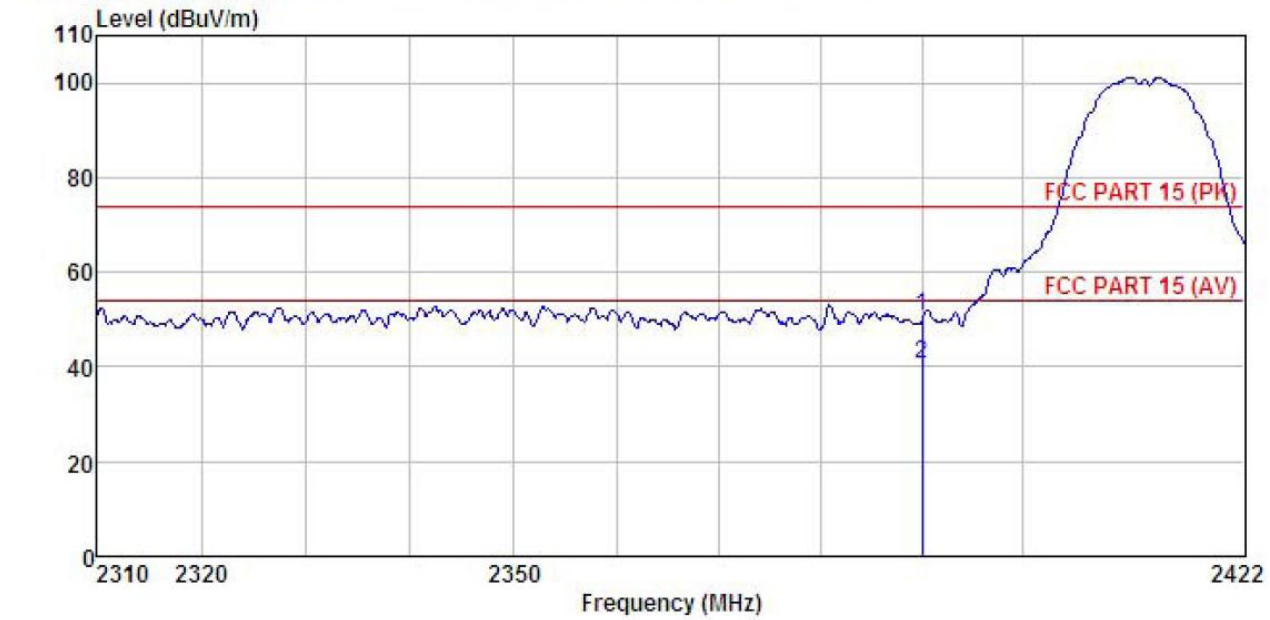


Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

802.11b

Test channel: Lowest channel

Test Polarization: Horizontal



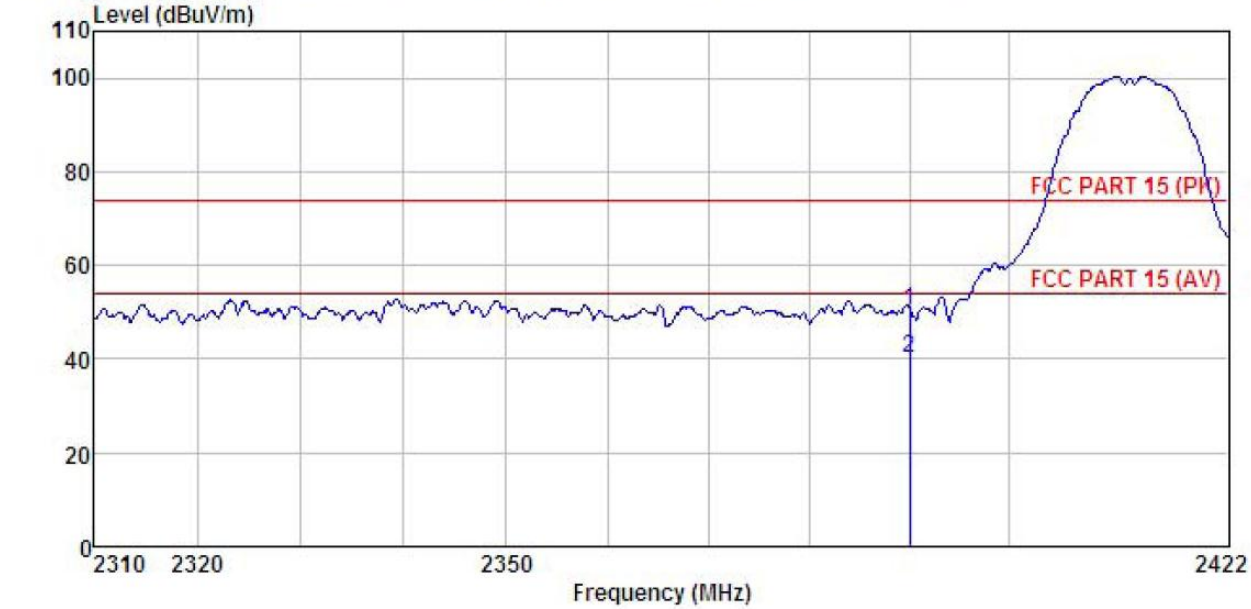

```
Site          : 3m chamber
Condition     : FCC PART 15 (PK) 3m BBHA9120(1G18G) HORIZONTAL
EUT           : Mobile Phone
Model         : GQ3060
Test mode     : 802.11b-L mode
Power Rating  : AC120V/60Hz
Environment   : Temp:25.5℃  Huni:55%
Test Engineer: Carey
Remark        :
                 ReadAntenna  Cable Preamp         Limit   Over
           Freq  Level Factor   Loss Factor  Level   Line  Limit Remark
        --------- ------ ------ ------ ------ ------ ------ ------ ----------
               MHz   dBuV   dB/m     dB     dB dBuV/m dBuV/m     dB

  1    2390.000  18.65  27.37   4.69   0.00  50.71  74.00 -23.29 Peak
  2    2390.000   8.53  27.37   4.69   0.00  40.59  54.00 -13.41 Average
```

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.*

Test Polarization: Vertical



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18G) VERTICAL
EUT : Mobile Phone
Model : GQ3060
Test mode : 802.11b-L mode
Power Rating : AC120V/60Hz
Environment : Temp:25.5℃ Huni:55%
Test Engineer: Carey
Remark :

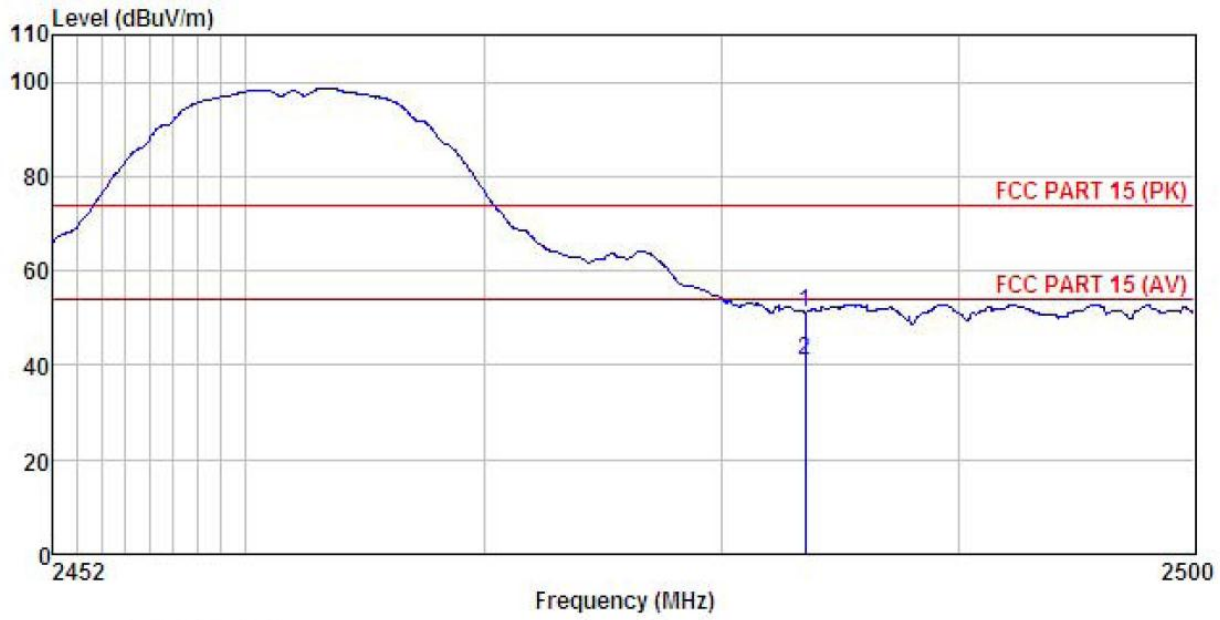
	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	18.38	27.37	4.69	0.00	50.44	74.00	-23.56	Peak
2	2390.000	7.93	27.37	4.69	0.00	39.99	54.00	-14.01	Average

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.*

Test channel: Highest channel

Test Polarization: Horizontal



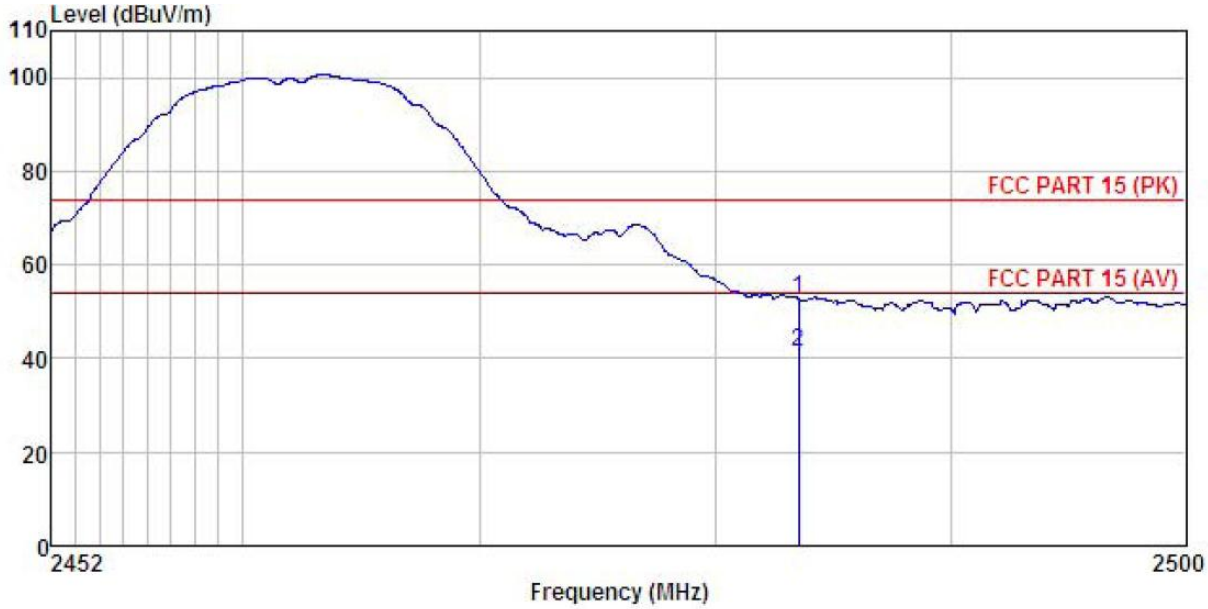

```
Site          : 3m chamber
Condition     : FCC PART 15 (PK) 3m BBHA9120(1G18G) HORIZONTAL
EUT           : Mobile Phone
Model         : GQ3060
Test mode     : 802.11b-H mode
Power Rating  : AC120V/60Hz
Environment   : Temp:25.5℃  Huni:55%
Test Engineer: Carey
Remark        :
```

	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	2483.500	18.95	27.57	4.81	0.00	51.33	74.00	-22.67	Peak
2	2483.500	8.79	27.57	4.81	0.00	41.17	54.00	-12.83	Average

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.*

Test Polarization: Vertical



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18G) VERTICAL
EUT : Mobile Phone
Model : GQ3060
Test mode : 802.11b-H mode
Power Rating : AC120V/60Hz
Environment : Temp:25.5℃ Huni:55%
Test Engineer: Carey
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	2483.500	20.36	27.57	4.81	0.00	52.74	74.00	-21.26	Peak
2	2483.500	9.20	27.57	4.81	0.00	41.58	54.00	-12.42	Average

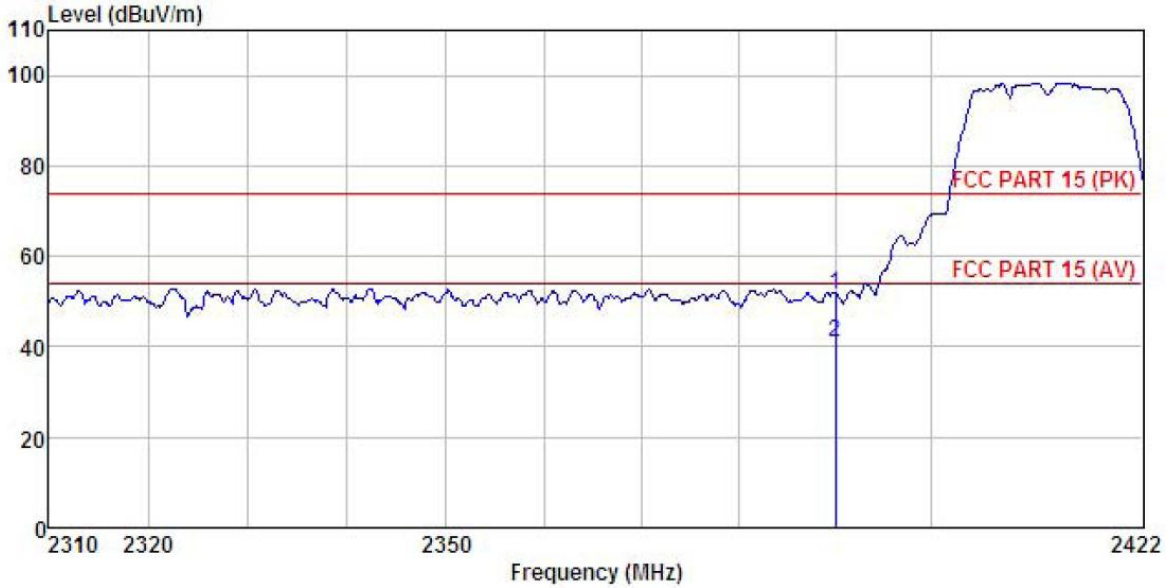
Remark:

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.*

802.11g

Test channel: Lowest channel

Test Polarization: Horizontal



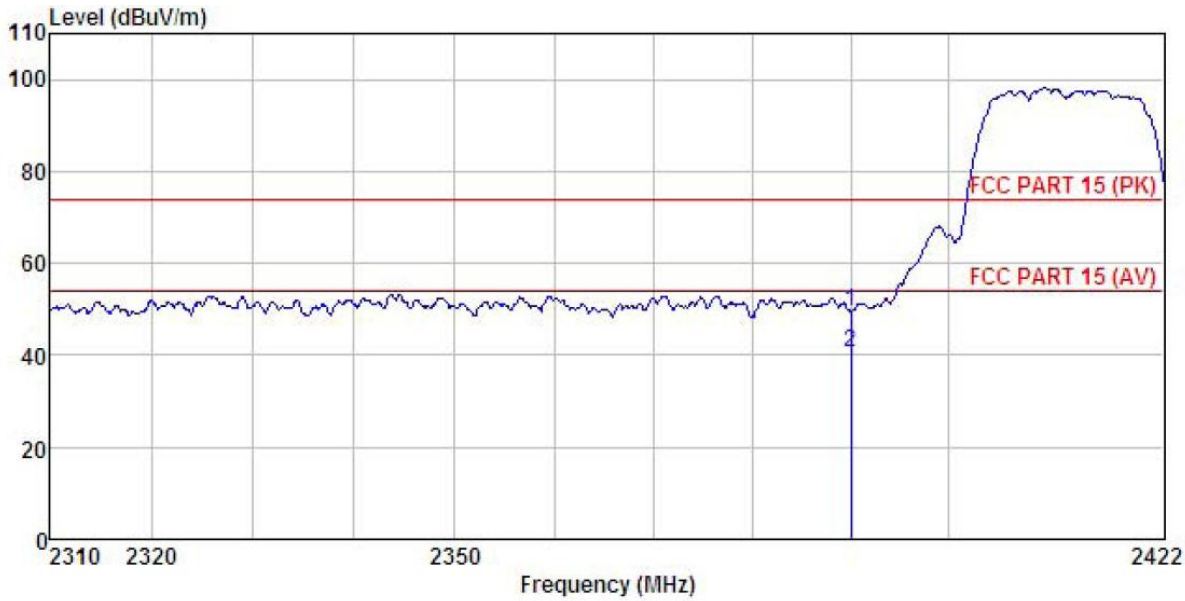

```
Site          : 3m chamber
Condition     : FCC PART 15 (PK) 3m BBHA9120(1G18G) HORIZONTAL
EUT           : Mobile Phone
Model         : GQ3060
Test mode     : 802.11g-L mode
Power Rating  : AC120V/60Hz
Environment   : Temp:25.5℃  Huni:55%
Test Engineer: Carey
Remark        :
                  ReadAntenna  Cable Preamp          Limit   Over
            Freq  Level Factor   Loss Factor  Level   Line  Limit Remark
         --------- ------ ------ ------ ------ ------ ------ ------ ----------
                MHz   dBuV   dB/m     dB     dB dBuV/m dBuV/m     dB

   1    2390.000  19.68  27.37   4.69   0.00  51.74  74.00 -22.26 Peak
   2    2390.000   8.98  27.37   4.69   0.00  41.04  54.00 -12.96 Average
```

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.*

Test Polarization: Vertical



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18G) VERTICAL
EUT : Mobile Phone
Model : GQ3060
Test mode : 802.11g-L mode
Power Rating : AC120V/60Hz
Environment : Temp:25.5℃ Huni:55%
Test Engineer: Carey
Remark :

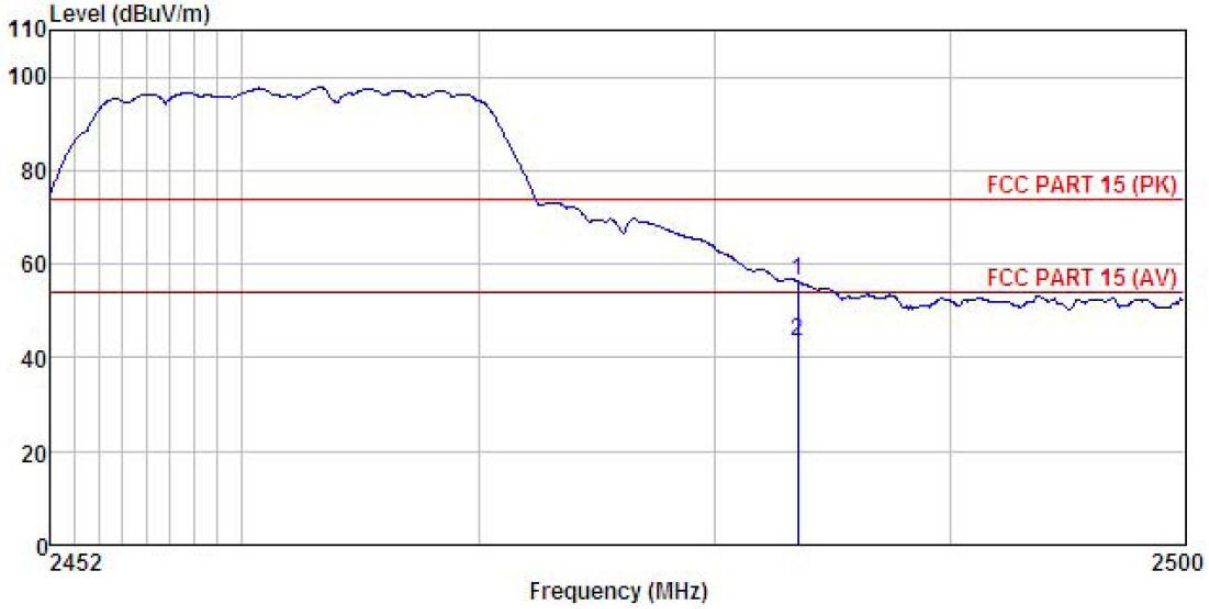
	Freq	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	17.49	27.37	4.69	0.00	49.55	74.00	-24.45	Peak
2	2390.000	8.66	27.37	4.69	0.00	40.72	54.00	-13.28	Average

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.*

Test channel: Highest channel

Test Polarization: Horizontal



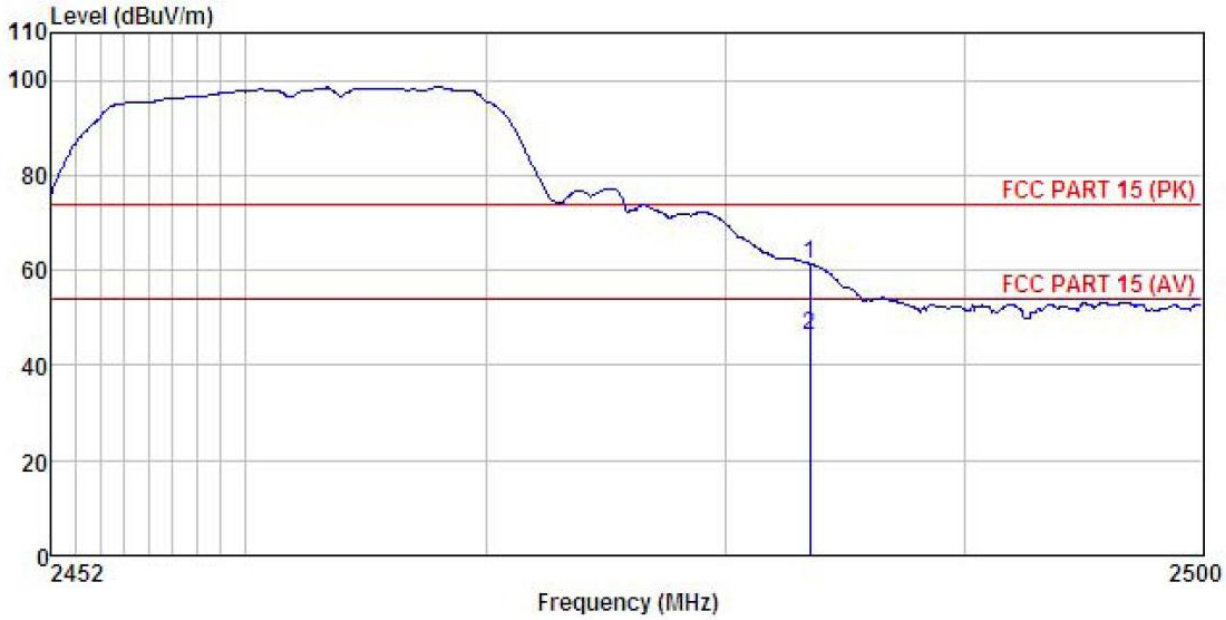
Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18G) HORIZONTAL
EUT : Mobile Phone
Model : GQ3060
Test mode : 802.11g-H mode
Power Rating : AC120V/60Hz
Environment : Temp:25.5℃ Huni:55%
Test Engineer: Carey
Remark :

	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	2483.500	23.95	27.57	4.81	0.00	56.33	74.00	-17.67	Peak
2	2483.500	10.87	27.57	4.81	0.00	43.25	54.00	-10.75	Average

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.*

Test Polarization: Vertical



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18G) VERTICAL
EUT : Mobile Phone
Model : GQ3060
Test mode : 802.11g-H mode
Power Rating : AC120V/60Hz
Environment : Temp:25.5℃ Huni:55%
Test Engineer: Carey
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	2483.500	28.99	27.57	4.81	0.00	61.37	74.00	-12.63	Peak
2	2483.500	13.97	27.57	4.81	0.00	46.35	54.00	-7.65	Average

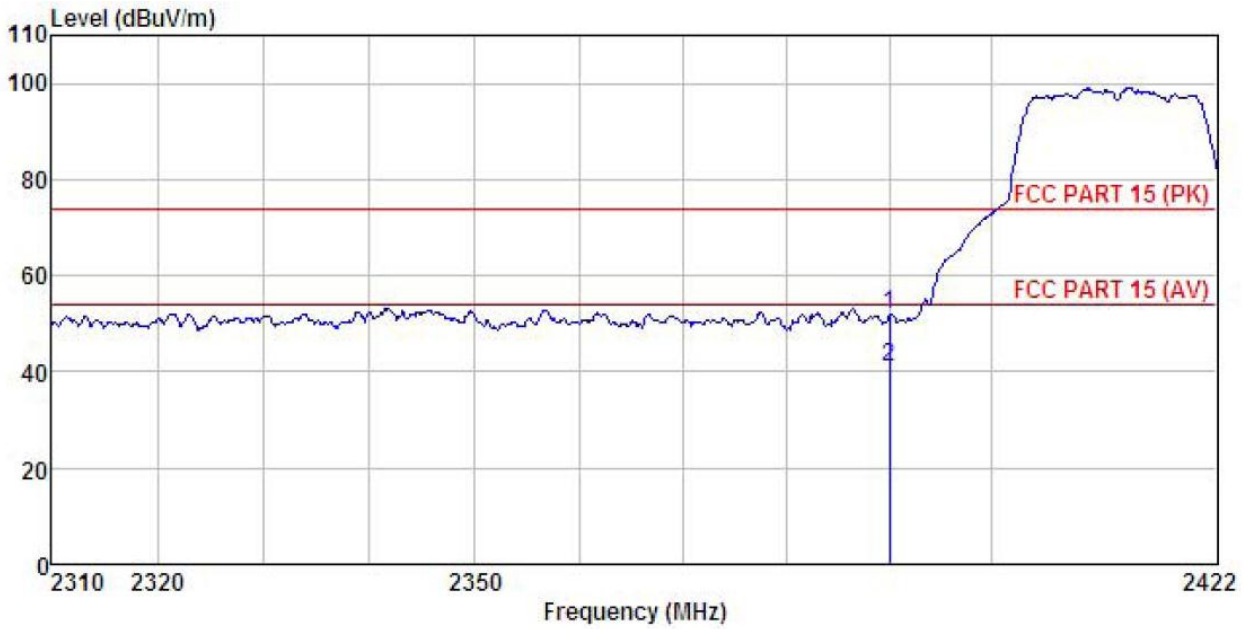
Remark:

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 (H20)

Test channel: Lowest channel

Test Polarization: Horizontal



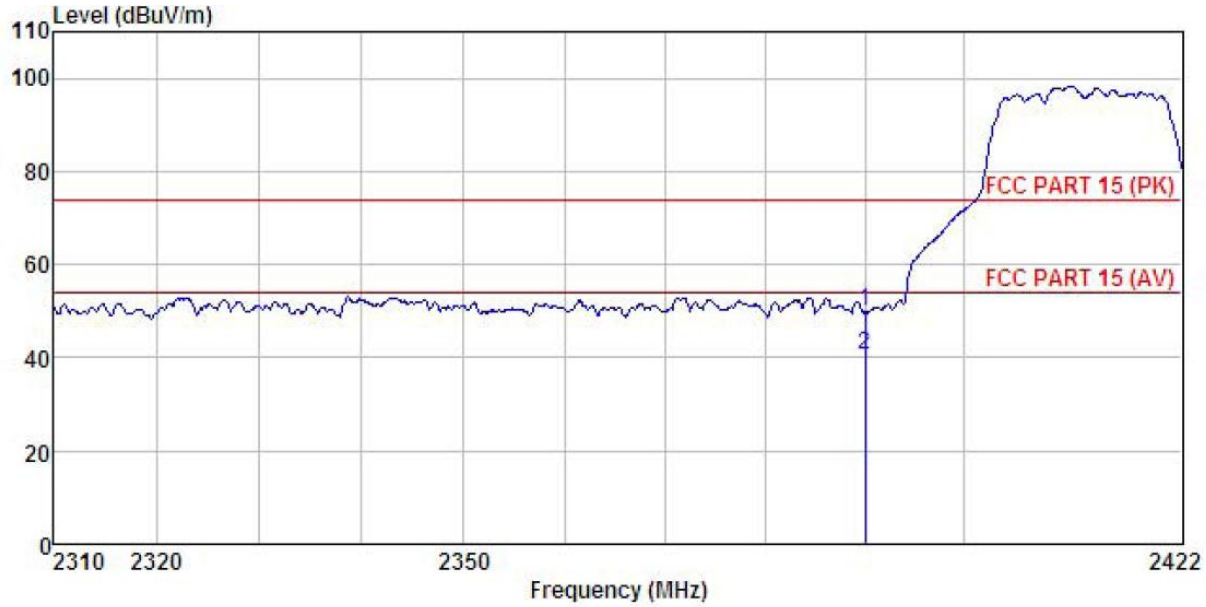
Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18G) HORIZONTAL
EUT : Mobile Phone
Model : GQ3060
Test mode : 802.11n20-L mode
Power Rating : AC120V/60Hz
Environment : Temp:25.5℃ Huni:55%
Test Engineer: Carey
Remark :

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	19.99	27.37	4.69	0.00	52.05	74.00	-21.95	Peak
2	2390.000	8.97	27.37	4.69	0.00	41.03	54.00	-12.97	Average

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.*

Test Polarization: Vertical



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18G) VERTICAL
EUT : Mobile Phone
Model : GQ3060
Test mode : 802.11n20-L mode
Power Rating : AC120V/60Hz
Environment : Temp:25.5℃ Huni:55%
Test Engineer: Carey
Remark :

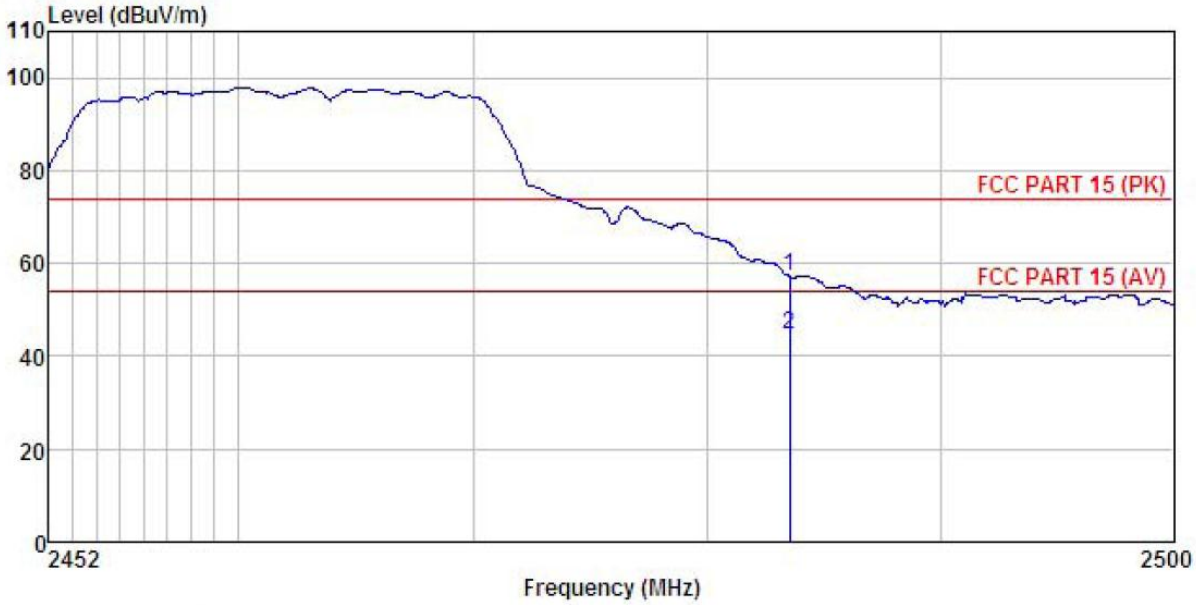
	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	17.79	27.37	4.69	0.00	49.85	74.00	-24.15	Peak
2	2390.000	8.72	27.37	4.69	0.00	40.78	54.00	-13.22	Average

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.*

Test channel: Highest channel

Test Polarization: Horizontal



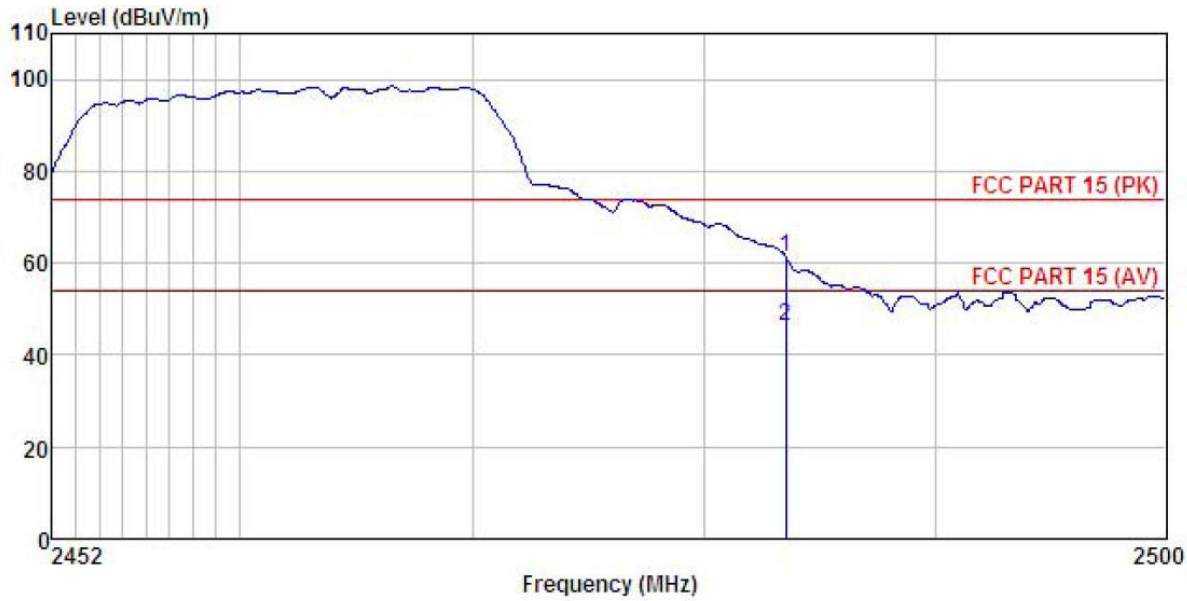

```
Site          : 3m chamber
Condition     : FCC PART 15 (PK) 3m BBHA9120(1G18G) HORIZONTAL
EUT           : Mobile Phone
Model         : GQ3060
Test mode     : 802.11n20-H mode
Power Rating  : AC120V/60Hz
Environment   : Temp:25.5℃  Huni:55%
Test Engineer: Carey
Remark        :
                 ReadAntenna  Cable Preamp         Limit   Over
          Freq  Level Factor   Loss Factor  Level   Line  Limit Remark
       --------- ------ ------ ------ ------ ------ ------ ------ ----------
             MHz   dBuV   dB/m     dB     dB dBuV/m dBuV/m     dB

   1   2483.500  24.75  27.57   4.81   0.00  57.13  74.00 -16.87 Peak
   2   2483.500  12.37  27.57   4.81   0.00  44.75  54.00  -9.25 Average
```

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.*

Test Polarization: Vertical



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18G) VERTICAL
EUT : Mobile Phone
Model : GQ3060
Test mode : 802.11n20-H mode
Power Rating : AC120V/60Hz
Environment : Temp:25.5℃ Huni:55%
Test Engineer: Carey
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	2483.500	28.95	27.57	4.81	0.00	61.33	74.00	-12.67	Peak
2	2483.500	13.98	27.57	4.81	0.00	46.36	54.00	-7.64	Average

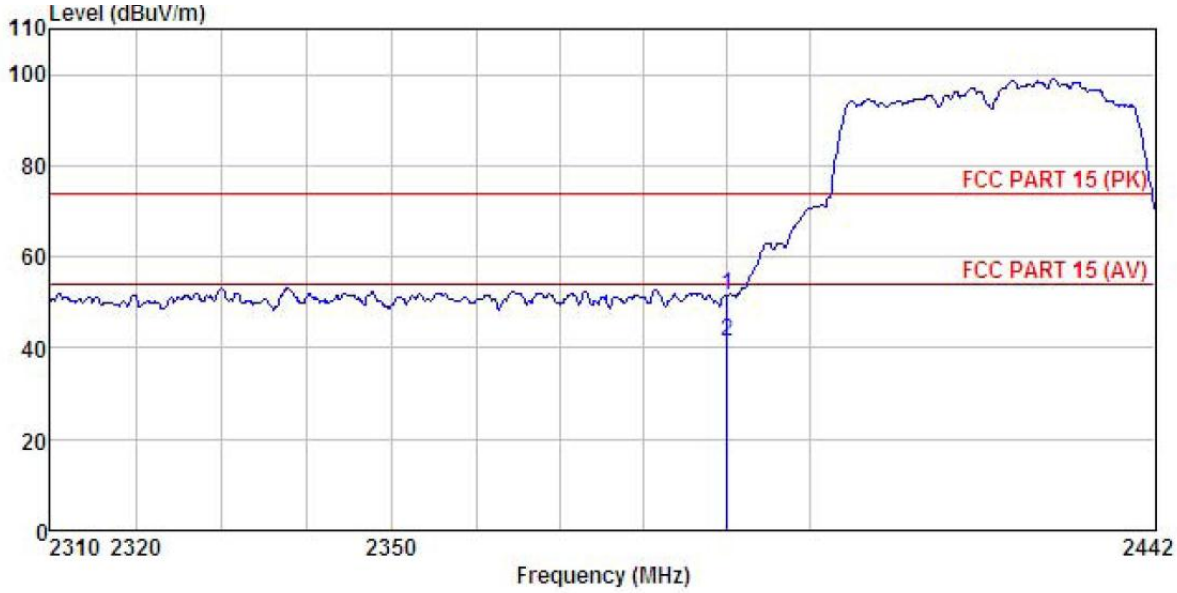
Remark:

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 (H40)

Test channel: Lowest channel

Test Polarization: Horizontal



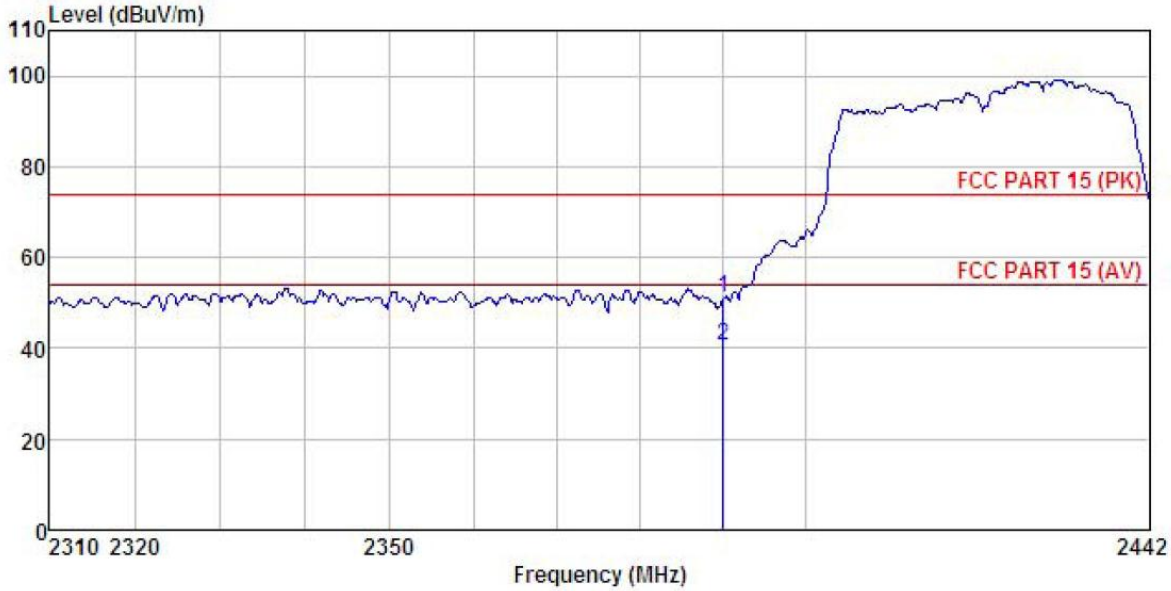

```
Site         : 3m chamber
Condition    : FCC PART 15 (PK) 3m BBHA9120(1G18G) HORIZONTAL
EUT          : Mobile Phone
Model        : GQ3060
Test mode    : 802.11n40-L mode
Power Rating : AC120V/60Hz
Environment  : Temp:25.5℃  Huni:55%
Test Engineer: Carey
Remark       :
                 ReadAntenna  Cable Preamp         Limit   Over
          Freq  Level Factor   Loss Factor  Level   Line  Limit Remark
     --------- ------ ------ ------ ------ ------ ------ ------ ----------
           MHz   dBuV   dB/m     dB     dB dBuV/m dBuV/m     dB

  1   2390.000  19.32  27.37   4.69   0.00  51.38  74.00 -22.62 Peak
  2   2390.000   9.20  27.37   4.69   0.00  41.26  54.00 -12.74 Average
```

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.*

Test Polarization: Vertical



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18G) VERTICAL
EUT : Mobile Phone
Model : GQ3060
Test mode : 802.11n40-L mode
Power Rating : AC120V/60Hz
Environment : Temp:25.5℃ Huni:55%
Test Engineer: Carey
Remark :

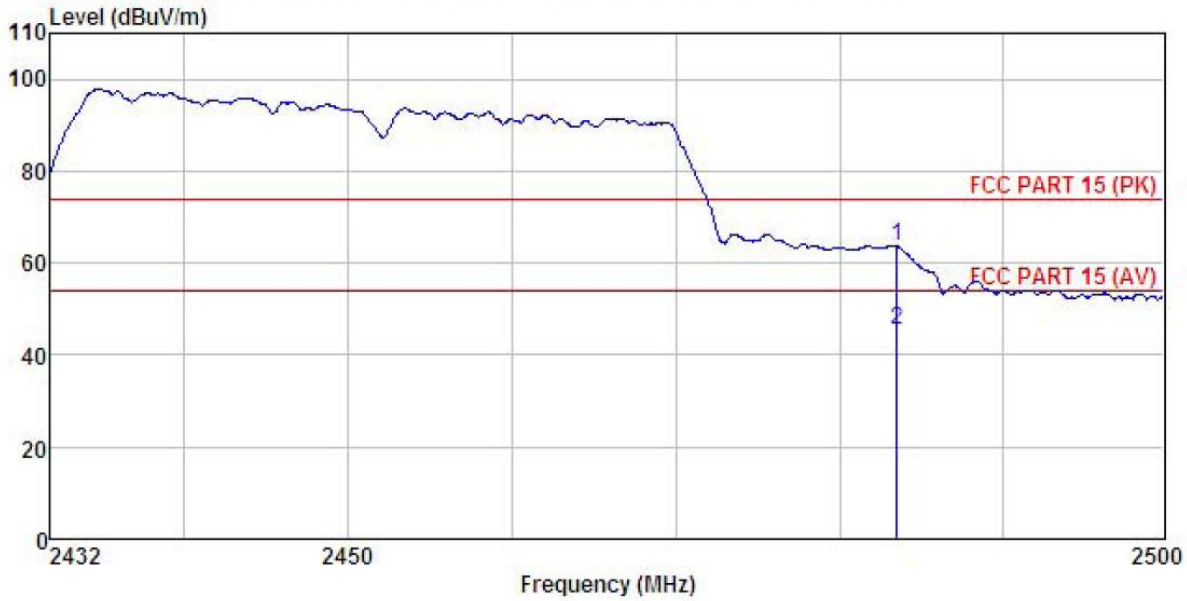
	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	19.18	27.37	4.69	0.00	51.24	74.00	-22.76	Peak
2	2390.000	8.68	27.37	4.69	0.00	40.74	54.00	-13.26	Average

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.*

Test channel: Highest channel

Test Polarization: Horizontal



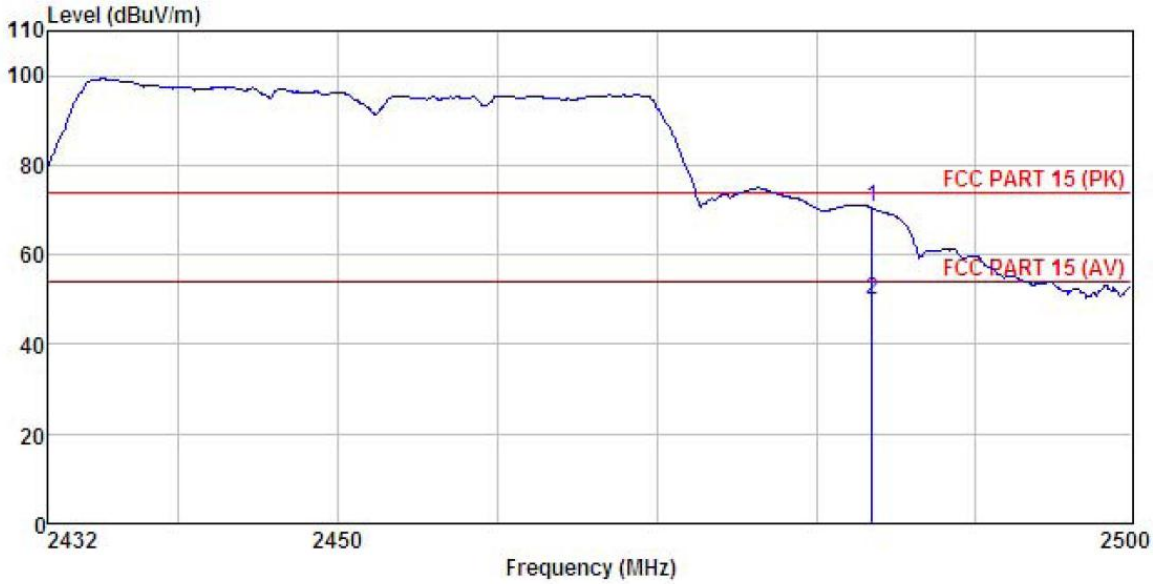

```
Site          : 3m chamber
Condition     : FCC PART 15 (PK) 3m BBHA9120(1G18G) HORIZONTAL
EUT           : Mobile Phone
Model         : GQ3060
Test mode     : 802.11n40-H mode
Power Rating  : AC120V/60Hz
Environment   : Temp:25.5℃  Huni:55%
Test Engineer: Carey
Remark        :
```

	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	2483.500	31.26	27.57	4.81	0.00	63.64	74.00	-10.36	Peak
2	2483.500	12.90	27.57	4.81	0.00	45.28	54.00	-8.72	Average

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.*

Test Polarization: Vertical



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18G) VERTICAL
EUT : Mobile Phone
Model : GQ3060
Test mode : 802.11n40-H mode
Power Rating : AC120V/60Hz
Environment : Temp:25.5℃ Huni:55%
Test Engineer: Carey
Remark :

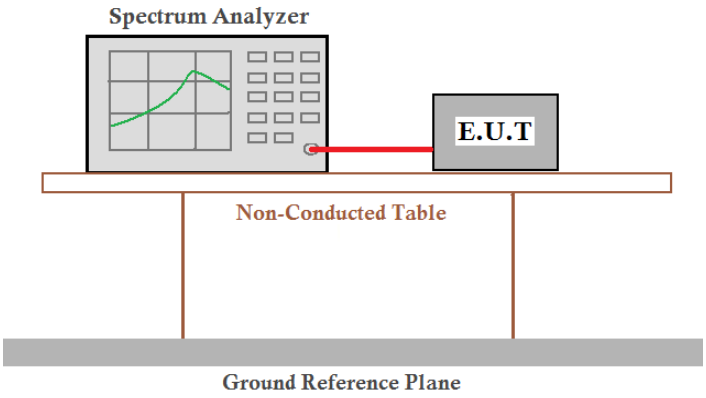
	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	38.14	27.57	4.81	0.00	70.52	74.00	-3.48	Peak
2	2483.500	17.57	27.57	4.81	0.00	49.95	54.00	-4.05	Average

Remark:

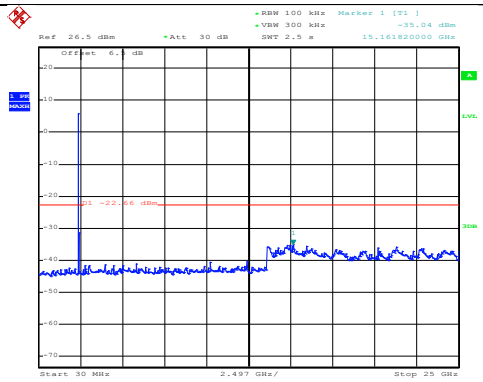
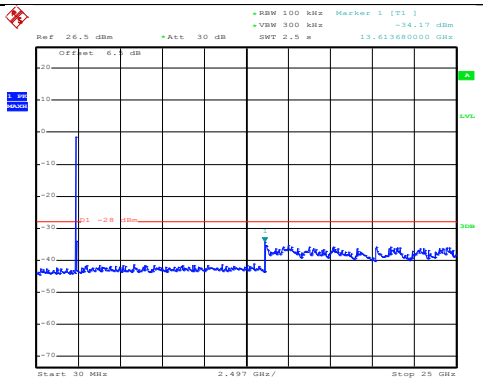
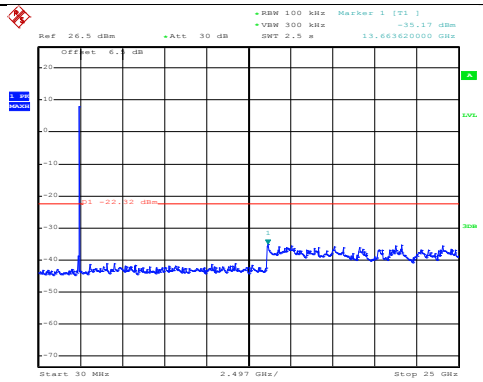
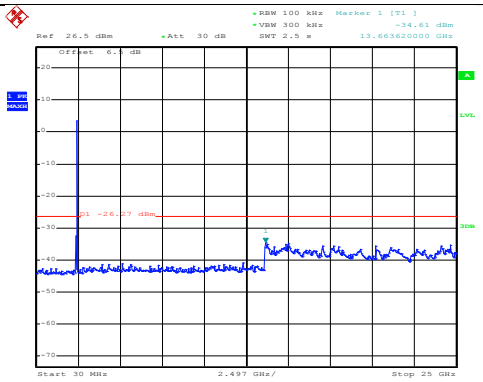
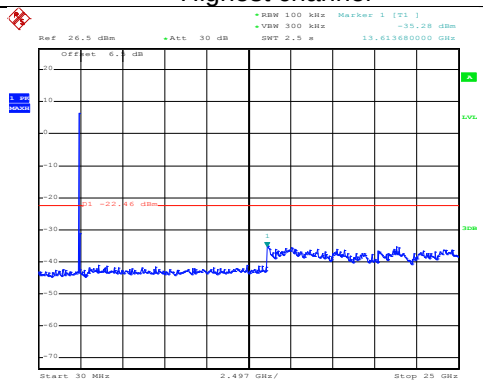
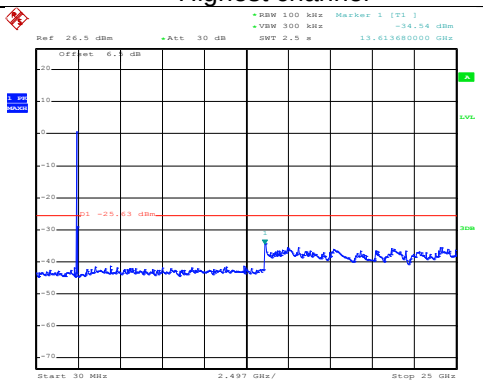
1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

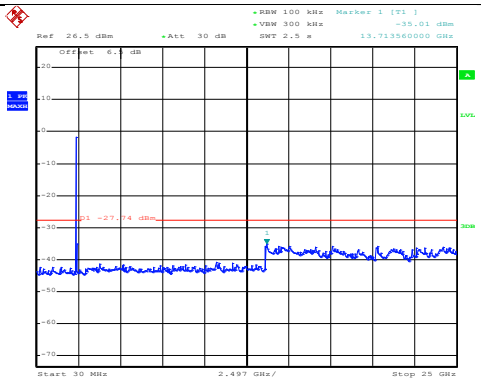
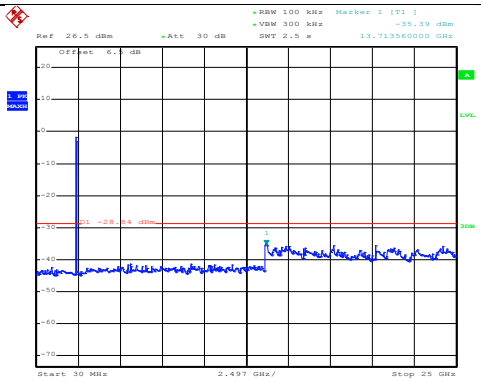
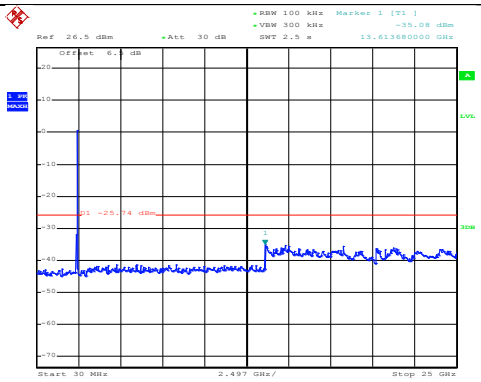
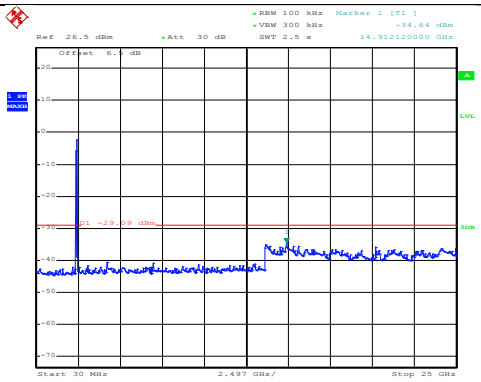
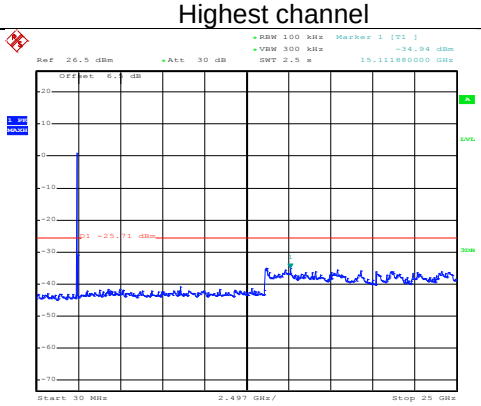
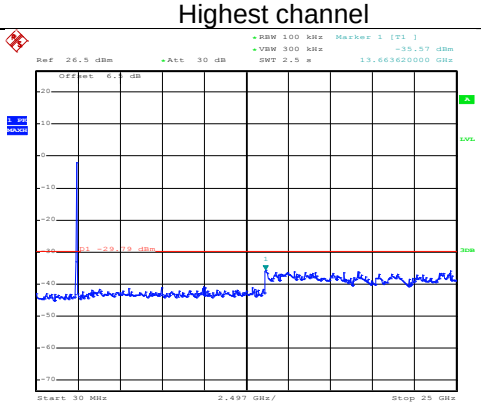
6.7 Spurious Emission

6.7.1 Conducted Emission Method

Test Requirement:	FCC Part 15 C Section 15.247 (d)
Test Method:	ANSI C63.10:2013 and KDB 558074
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph(b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.
Test setup:	
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Test plot as follows:

Test mode: 802.11b	Test mode: 802.11g
Lowest channel	Lowest channel
	
Date: 14.JUN.2018 21:22:50	Date: 14.JUN.2018 21:23:19
30MHz~25GHz	30MHz~25GHz
Middle channel	Middle channel
	
Date: 14.JUN.2018 21:22:32	Date: 14.JUN.2018 21:23:46
30MHz~25GHz	30MHz~25GHz
Highest channel	Highest channel
	
Date: 14.JUN.2018 21:22:11	Date: 14.JUN.2018 21:24:08
30MHz~25GHz	30MHz~25GHz

Test mode: 802.11n(H20)	Test mode: 802.11n(H40)
Lowest channel	Lowest channel
	
30MHz~25GHz	30MHz~25GHz
Middle channel	Middle channel
	
30MHz~25GHz	30MHz~25GHz
Highest channel	Highest channel
	
30MHz~25GHz	30MHz~25GHz

6.7.2 Radiated Emission Method

Test Requirement:	FCC Part 15 C Section 15.209 and 15.205
Test Method:	ANSI C63.10:2013
Test Frequency Range:	9kHz to 25GHz
Test Distance:	3m

Receiver setup:

Frequency	Detector	RBW	VBW	Remark
30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value
Above 1GHz	Peak	1MHz	3MHz	Peak Value
	RMS	1MHz	3MHz	Average Value

Limit:

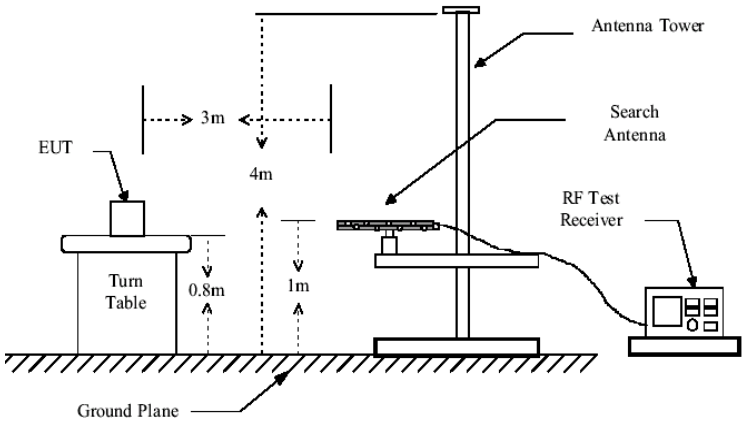
Frequency	Limit (dBuV/m @3m)	Remark
30MHz-88MHz	40.0	Quasi-peak Value
88MHz-216MHz	43.5	Quasi-peak Value
216MHz-960MHz	46.0	Quasi-peak Value
960MHz-1GHz	54.0	Quasi-peak Value
Above 1GHz	54.0	Average Value
	74.0	Peak Value

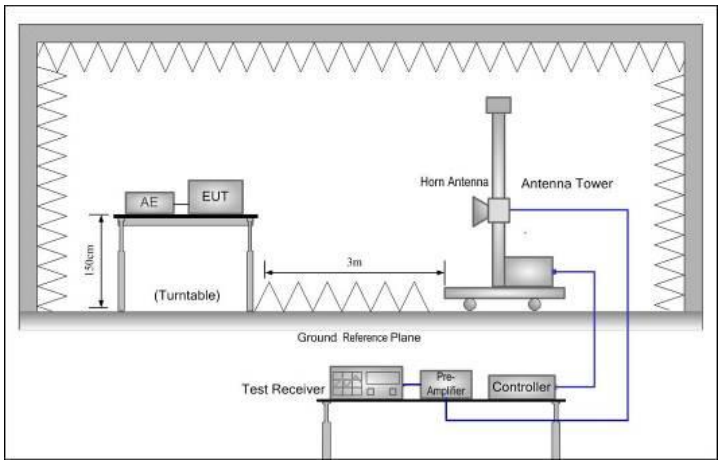
Test Procedure:

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 chamber. 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, which was 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 then the 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 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.

Test setup:

Below 1GHz

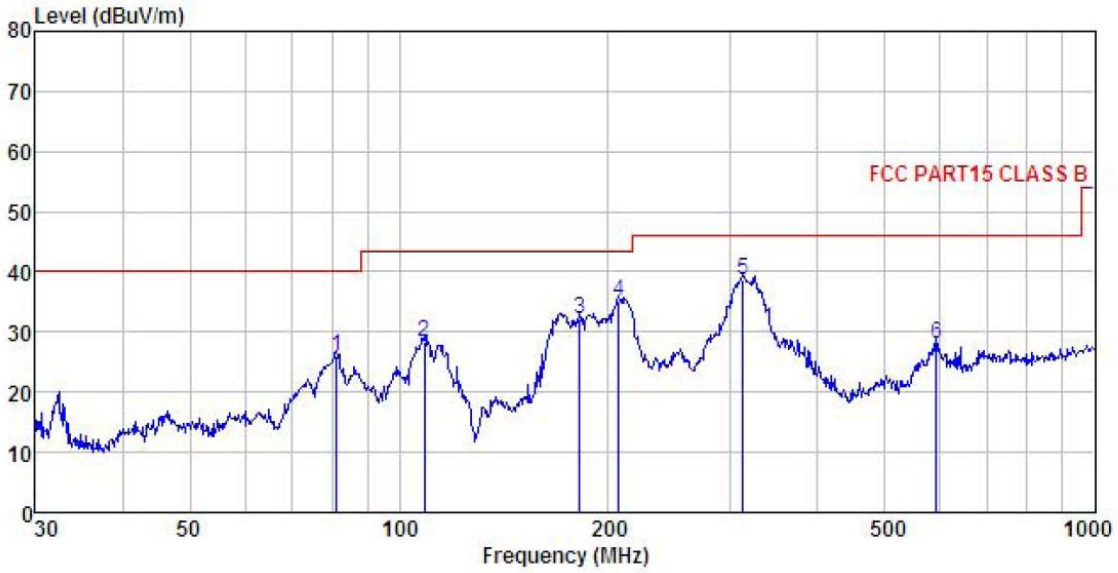


	Above 1GHz 
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed
Remark:	1. Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis is the worst case. 2. The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this part.

Measurement Data (worst case):

Below 1GHz:

Test Polarization: Horizontal



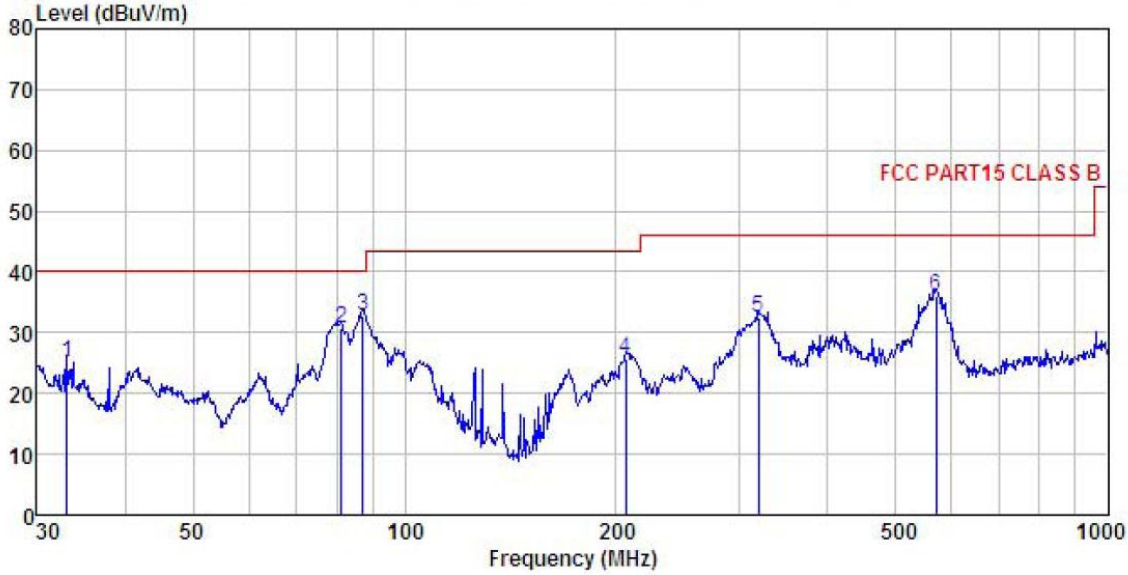
Site : 3m chamber
Condition : FCC PART15 CLASS B 3m VULB9163(30M2G) HORIZONTAL
EUT : Mobile Phone
Model : GQ3060
Test mode : WIFI mode
Power Rating : AC120V/60Hz
Environment : Temp:25.5℃ Huni:55%
Test Engineer: Carey
Remark :

	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	81.212	45.43	8.34	1.69	29.63	25.83	40.00	-14.17	QP
2	108.647	43.62	12.22	2.03	29.47	28.40	43.50	-15.10	QP
3	181.920	48.46	10.07	2.74	28.96	32.31	43.50	-11.19	QP
4	207.123	49.20	11.78	2.86	28.78	35.06	43.50	-8.44	QP
5	312.179	50.38	13.86	2.98	28.48	38.74	46.00	-7.26	QP
6	593.050	34.14	19.04	3.93	28.96	28.15	46.00	-17.85	QP

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this part*

Test Polarization: Vertical



Site : 3m chamber
Condition : FCC PART15 CLASS B 3m VULB9163(30M2G) VERTICAL
EUT : Mobile Phone
Model : GQ3060
Test mode : WIFI mode
Power Rating : AC120V/60Hz
Environment : Temp:25.5℃ Huni:55%
Test Engineer: Carey
Remark :

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	33.095	42.88	11.30	0.91	29.96	25.13	40.00	-14.87	QP
2	81.212	50.18	8.34	1.69	29.63	30.58	40.00	-9.42	QP
3	87.112	50.90	9.47	1.91	29.59	32.69	40.00	-7.31	QP
4	206.398	39.97	11.75	2.86	28.79	25.79	43.50	-17.71	QP
5	318.817	44.06	13.99	3.00	28.49	32.56	46.00	-13.44	QP
6	570.610	42.64	18.51	3.91	29.03	36.03	46.00	-9.97	QP

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this part.*

Above 1GHz

802.11b								
Test channel: Lowest channel								
Detector: 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
4824.00	46.22	36.06	6.81	41.82	47.27	74.00	-26.73	Vertical
4824.00	45.98	36.06	6.81	41.82	47.03	74.00	-26.97	Horizontal
Detector: Average 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
4824.00	36.27	36.06	6.81	41.82	37.32	54.00	-16.68	Vertical
4824.00	35.04	36.06	6.81	41.82	36.09	54.00	-17.91	Horizontal
Test channel: Middle channel								
Detector: 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
4874.00	46.53	36.32	6.85	41.84	47.86	74.00	-26.14	Vertical
4874.00	45.89	36.32	6.85	41.84	47.22	74.00	-26.78	Horizontal
Detector: Average 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
4874.00	36.24	36.32	6.85	41.84	37.57	54.00	-16.43	Vertical
4874.00	36.83	36.32	6.85	41.84	38.16	54.00	-15.84	Horizontal
Test channel: Highest channel								
Detector: 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
4924.00	46.23	36.58	6.89	41.86	47.84	74.00	-26.16	Vertical
4924.00	47.52	36.58	6.89	41.86	49.13	74.00	-24.87	Horizontal
Detector: Average 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
4924.00	36.63	36.58	6.89	41.86	38.24	54.00	-15.76	Vertical
4924.00	37.22	36.58	6.89	41.86	38.83	54.00	-15.17	Horizontal

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this part.*

802.11g								
Test channel: Lowest channel								
Detector: 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
4824.00	46.49	36.06	6.81	41.82	47.54	74.00	-26.46	Vertical
4824.00	46.31	36.06	6.81	41.82	47.36	74.00	-26.64	Horizontal
Detector: Average 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
4824.00	36.36	36.06	6.81	41.82	37.41	54.00	-16.59	Vertical
4824.00	36.27	36.06	6.81	41.82	37.32	54.00	-16.68	Horizontal
Test channel: Middle channel								
Detector: 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
4874.00	46.46	36.32	6.85	41.84	47.79	74.00	-26.21	Vertical
4874.00	46.63	36.32	6.85	41.84	47.96	74.00	-26.04	Horizontal
Detector: Average 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
4874.00	36.18	36.32	6.85	41.84	37.51	54.00	-16.49	Vertical
4874.00	36.36	36.32	6.85	41.84	37.69	54.00	-16.31	Horizontal
Test channel: Highest channel								
Detector: 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
4924.00	46.51	36.58	6.89	41.86	48.12	74.00	-25.88	Vertical
4924.00	47.03	36.58	6.89	41.86	48.64	74.00	-25.36	Horizontal
Detector: Average 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
4924.00	36.68	36.58	6.89	41.86	38.29	54.00	-15.71	Vertical
4924.00	36.93	36.58	6.89	41.86	38.54	54.00	-15.46	Horizontal

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this part.*

802.11n(HT20)								
Test channel: Lowest channel								
Detector: 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
4824.00	46.74	36.06	6.81	41.82	47.79	74.00	-26.21	Vertical
4824.00	46.54	36.06	6.81	41.82	47.59	74.00	-26.41	Horizontal
Detector: Average 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
4824.00	36.89	36.06	6.81	41.82	37.94	54.00	-16.06	Vertical
4824.00	36.13	36.06	6.81	41.82	37.18	54.00	-16.82	Horizontal
Test channel: Middle channel								
Detector: 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
4874.00	46.62	36.32	6.85	41.84	47.95	74.00	-26.05	Vertical
4874.00	46.17	36.32	6.85	41.84	47.50	74.00	-26.50	Horizontal
Detector: Average 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
4874.00	36.38	36.32	6.85	41.84	37.71	54.00	-16.29	Vertical
4874.00	36.45	36.32	6.85	41.84	37.78	54.00	-16.22	Horizontal
Test channel: Highest channel								
Detector: 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
4924.00	46.32	36.58	6.89	41.86	47.93	74.00	-26.07	Vertical
4924.00	46.44	36.58	6.89	41.86	48.05	74.00	-25.95	Horizontal
Detector: Average 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
4924.00	36.44	36.58	6.89	41.86	38.05	54.00	-15.95	Vertical
4924.00	36.12	36.58	6.89	41.86	37.73	54.00	-16.27	Horizontal

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this part.*

802.11n(HT40)								
Test channel: Lowest channel								
Detector: 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
4844.00	46.68	36.06	6.81	41.82	47.73	74.00	-26.27	Vertical
4844.00	46.69	36.06	6.81	41.82	47.74	74.00	-26.26	Horizontal
Detector: Average 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
4844.00	36.15	36.06	6.81	41.82	37.20	54.00	-16.80	Vertical
4844.00	36.86	36.06	6.81	41.82	37.91	54.00	-16.09	Horizontal
Test channel: Middle channel								
Detector: 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
4874.00	46.58	36.32	6.85	41.84	47.91	74.00	-26.09	Vertical
4874.00	46.21	36.32	6.85	41.84	47.54	74.00	-26.46	Horizontal
Detector: Average 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
4874.00	36.22	36.32	6.85	41.84	37.55	54.00	-16.45	Vertical
4874.00	36.36	36.32	6.85	41.84	37.69	54.00	-16.31	Horizontal
Test channel: Highest channel								
Detector: 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
4904.00	46.12	36.45	6.87	41.85	47.59	74.00	-26.41	Vertical
4904.00	46.74	36.45	6.87	41.85	48.21	74.00	-25.79	Horizontal
Detector: Average 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
4904.00	36.23	36.45	6.87	41.85	37.70	54.00	-16.30	Vertical
4904.00	36.51	36.45	6.87	41.85	37.98	54.00	-16.02	Horizontal

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this part.*