TEST REPORT

Report Reference No. ..... :	**171025006RFC-1**
FCC ID ..... :	**SS4RT080**
Applicant's name ..... :	**BLUEBIRD INC.**
Address ..... :	(Dogok-dong, SEI Tower 13,14) 39, Eonjuro30-gil, Gangnam-gu, Seoul, South Korea
Manufacturer..... :	BLUEBIRD INC.
Address..... :	(Dogok-dong, SEI Tower 13,14) 39, Eonjuro30-gil, Gangnam-gu, Seoul, South Korea
Test item description..... :	**Smart Rugged Tablet Computer**
Trade Mark..... :	BLUEBIRD
Model/Type reference ..... :	RT080
Listed Model(s) ..... :	-
Standard..... :	**FCC CFR Title 47 Part 15 Subpart E Section 15.407**
Date of receipt of test sample..... :	Sep.28, 2017
Date of testing..... :	Sep.29, 2017 - Oct.31, 2017
Date of issue..... :	Nov.1, 2017
Result ..... :	**PASS**

Compiled by ..... :	File administrators	Kevin Liang
Supervised by ..... :	Project Engineer	Jim Long
Approved by..... :	RF Manager	

Testing Laboratory Name..... :	**Shenzhen UnionTrust Quality and Technology Co., Ltd.**
Address ..... :	16/F, Block A, Building 6, Baoneng Science and Technology Park, Qingxiang Road No.1, Longhua New District, Shenzhen, China

Contents

1. APPLICABLE STANDARDS ANDTEST DESCRIPTION

1.1. Applicable Standards

The tests were performed according to following standards:
FCC Rules Part 15.407: General technical requirements.

ANSI C63.10-2013: American National Standard for Testing Unlicensed Wireless Devices

KDB789033 D02 v01r04: GUIDELINES FOR COMPLIANCE TESTING OF UNLICENSED NATIONAL INFORMATION INFRASTRUCTURE (U-NII) DEVICES PART 15, SUBPART E

1.2. Report Version

Version No.	Date of issue	Description
00	Nov. 01, 2017	Original

2. TEST DESCRIPTION

Test Item	FCC Rule	Result	Test Engineer
Antenna Requirement	15.203	Pass	Kevin Liang
Line Conducted Emissions (AC Main)	15.207	Pass	Bessy Xu
Maximum Conducted Output Power	15.407 (a.1)(a.3)	Pass	Kevin Liang
Maximum Power Spectral Density	15.407 (a.1)(a.3)	Pass	Kevin Liang
6dB&26dB Bandwidth	15.407(a.5)	Pass	Kevin Liang
Radiated Emissions & Band edge	15.407(b.6) &(b.1)(b.4)	Pass	Kevin Liang
Frequency Stability	15.407(g)	Pass	Kevin Liang
DFS	15.407(h)	Pass	Kevin Liang

Remark: 1.The measurement uncertainty is not included in the test result.
2.The EUT is a client device without radar detection.a TPC mechanism is not required for systems with an e.i.r.p. of less than 500mW.

3. SUMMARY

3.1. Client Information

Applicant:	BLUEBIRD INC.
Address:	(Dogok-dong, SEI Tower 13,14) 39, Eonjuro30-gil, Gangnam-gu, Seoul, South Korea
Manufacturer:	BLUEBIRD INC.
Address:	(Dogok-dong, SEI Tower 13,14) 39, Eonjuro30-gil, Gangnam-gu, Seoul, South Korea

3.2. Product Description

Name of EUT:	Smart Rugged Tablet Computer		
Trade Mark:	BLUEBIRD		
Model No.:	RT080		
Listed Model(s):	-		
IMEI 1:	865006020017332		
Power supply:	DC 3.8V From exchange battery		
Adapter information:	Input: 100-240Va.c., 50/60Hz, 0.5A Output: 5Vd.c.,2.0A		
Hardware version:	V0.3		
Software version:	20171011_R1.02		
5G WIFI			
Supported type:	☒ 802.11a	☒ 802.11n(HT20)	☒ 802.11n(HT40)
	☒ 802.11ac(HT20)	☒ 802.11ac(HT40)	☒ 802.11ac(HT80)
Modulation:	BPSK, QPSK, 16QAM, 64QAM		
Operation frequency:	☒ Band I:	5150MHz~5250MHz	
	☒ Band II:	5250MHz~5350MHz	
	☒ Band III:	5470MHz~5725MHz	
	☒ Band IV:	5725MHz~5850MHz	
Supported Bandwidth	20MHz:	802.11ac, 802.11n, 802.11a	
	40MHz:	802.11ac, 802.11n	
	80MHz:	802.11ac	
Antenna type:	PIFA Antenna		
Antenna gain:	-3dBi		

3.3. Operation state

◆ **Frequency list**

According to section 15.31(m), regards to the operating frequency range over 10 MHz, must select three channel which were tested. the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, please see the above gray bottom.

Band	Test Channel	20MHz		40MHz		80MHz	
		Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
I	CH_L	36	5180	38	5190	-	-
	CH_M	40	5200	-	-	42	5210
	CH_H	48	5240	46	5230	-	-
II	CH_L	52	5260	54	5270	-	-
	CH_M	56	5280	-	-	58	5290
	CH_H	64	5320	62	5310	-	-
III	CH_L	100	5500	102	5510	106	5530
	CH_M	120	5600	118	5590	-	-
	CH_H	140	5700	134	5670	122	5610
IV	CH_L	149	5745	151	5755	-	-
	CH_M	157	5785	-	-	155	5775
	CH_H	165	5825	159	5795	-	-

◆ **Data Rated**

Preliminary tests were performed in different data rate, and found which the below bit rate is worst case mode, so only show data which it is a worst case mode.

Mode	Data rate (worst mode)
802.11a	6Mbps
802.11n(HT20)	MCS0
802.11n(HT40)	MCS0
802.11ac(HT80)	MCS0

◆ **Test mode**

For RF test items:

the engineering test program was provided and enabled to make EUT continuous transmit/receive. The EUT was programmed to be in continuously transmitting mode and the transmit duty cycle is not less than 98%.

For AC power line conducted emissions:

the EUT was set to connect with the WLAN AP under large package sizes transmission.

3.4. EUT configuration

The following peripheral devices and interface cables were connected during the measurement:

- ● - supplied by the manufacturer
- ○ - supplied by the lab

○	N/A	Manufacturer :	N/A
		Model No. :	N/A
○	N/A	Manufacturer :	N/A
		Model No. :	N/A

3.5. Modifications

No modifications were implemented to meet testing criteria.

4. TEST ENVIRONMENT

4.1. Address of the test laboratory

Shenzhen UnionTrust Quality and Technology Co., Ltd..
Address: 16/F, Block A, Building 6, Baoneng Science and Technology Park, Qingxiang Road No.1, Longhua New District, Shenzhen, China 518109
Telephone: +86 (0) 755 2823 0888
Fax: +86 (0) 755 2823 0886

4.2. Test Facility

CNAS-Lab Code: L906
The measuring equipment utilized to perform the tests documented in this report has been calibrated once a year or in accordance with the manufacturer's recommendations, and is traceable under the ISO/IEC/EN 17025 to international or national standards. Equipment has been calibrated by accredited calibration laboratories.

IC-Registration No.: 21600-1
The 3m Semi-anechoic chamber of Shenzhen UnionTrust Quality and Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 21600-1.

A2LA-Lab Certificate No.: 4312.01
Shenzhen UnionTrust Quality and Technology Co., Ltd. has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

FCC Accredited Lab
Designation Number: CN1194
Test Firm Registration Number: 25948

4.3. Equipments Used during the Test

Radiated Emission Test Equipment List						
Used	**Equipment**	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. date (mm dd, yyyy)**	**Cal. Due date (mm dd, yyyy)**
☑	3M Chamber & Accessory Equipment	ETS-LINDGREN	3M	N/A	Dec. 20, 2015	Dec. 19, 2018
☑	Receiver	R&S	ESIB26	100114	Dec. 22, 2016	Dec. 22, 2017
☑	EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY51440197	Dec. 22, 2016	Dec. 22, 2017
☑	Loop Antenna	ETS-LINDGREN	6502	00202525	Jun. 24, 2015	Jun. 23, 2018
☑	Broadband Antenna	ETS-LINDGREN	3142E	00201566	Jul. 24, 2015	Jul. 23, 2018
☑	Preamplifier	HP	8447F	2805A02960	Dec. 22, 2016	Dec. 22, 2017
☑	Broadband Antenna (Pre-amplifier)	ETS-LINDGREN	3142E-PA	00201891	Dec. 30, 2016	Dec. 30, 2017
☐	Horn Antenna	ETS-LINDGREN	3117	00164202	Jul. 24, 2015	Jul. 23, 2018
☑	Horn Antenna (Pre-amplifier)	ETS-LINDGREN	3117-PA	00201874	Dec. 30, 2016	Dec. 30, 2017
☐	Horn Antenna	ETS-LINDGREN	3116C	00200180	Jul. 28, 2015	Jul. 27, 2018
☑	Horn Antenna (Pre-amplifier)	ETS-LINDGREN	3116C-PA	00202652	Jul. 29, 2015	Jul. 28, 2018
☑	Multi device Controller	ETS-LINDGREN	7006-001	00160105	N/A	N/A
☐	Band Rejection Filter (2400MHz~2500MHz)	Micro-Tronics	BRM50702	G248	Jun. 21, 2017	Jun. 20, 2018
☑	Band Rejection Filter (5150MHz~5880MHz)	Micro-Tronics	BRM50716	G1868	Jun. 15, 2017	Jun. 14, 2018
☑	Test Software	Audix	e3	Software Version: 9.160323		

Conducted RF test Equipment List						
Used	**Equipment**	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. date (mm dd, yyyy)**	**Cal. Due date (mm dd, yyyy)**
☑	EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY51440197	Dec. 22, 2016	Dec. 22, 2017
☑	Receiver	R&S	ESR7	1316.3003K07 -101181-K3	Dec. 22, 2016	Dec. 22, 2017
☑	USB Wideband Power Sensor	KEYSIGHT	U2021XA	MY55430035	Dec. 22, 2016	Dec. 22, 2017
☑	USB Wideband Power Sensor	KEYSIGHT	U2021XA	MY55430023	Dec. 22, 2016	Dec. 22, 2017
☐	EXG-B RF Analog Signal Generator	KEYSIGHT	N5171B	MY53051777	Jan. 09, 2016	Jan. 08, 2018
☑	MXG X-Series RF Vector Signal Generator	KEYSIGHT	N5182B	MY51350267	Jan. 08, 2016	Jan. 07, 2018
☑	DC Source	KIKUSUI	PWR400L	LK003024	Sep. 21, 2016	Sep. 20, 2017
☑	Temp & Humidity chamber	Votisch	VT4002	58566133290 020	Jun. 19, 2017	Jun. 18, 2018

Conducted Emission Test Equipment List						
Used	**Equipment**	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. date (mm dd, yyyy)**	**Cal. Due date (mm dd, yyyy)**
☑	Receiver	R&S	ESR7	1316.3003K07 -101181-K3	Dec. 22, 2016	Dec. 22, 2017
☑	Pulse Limiter	R&S	ESH3-Z2	0357.8810.54	Dec. 22, 2016	Dec. 22, 2017

☑	LISN	R&S	ESH2-Z5	860014/024	Dec. 22, 2016	Dec. 22, 2017
☑	Test Software	Audix	e3	Software Version: 9.160323		

4.4. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15~35°C
lative Humidity:	30~60 %
Air Pressure:	950~1050mba

4.5. Statement of the measurement uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

No.	Item	Measurement Uncertainty
1	Conducted emission 9KHz-150KHz	±3.8 dB
2	Conducted emission 150KHz-30MHz	±3.4 dB
3	Radiated emission 9KHz-30MHz	±4.9 dB
4	Radiated emission 30MHz-1GHz	±4.7 dB
5	Radiated emission 1GHz-18GHz	±5.1 dB
6	Radiated emission 18GHz-26GHz	±5.2 dB
7	Radiated emission 26GHz-40GHz	±5.2 dB

5. TEST CONDITIONS AND RESULTS

5.1. Antenna requirement

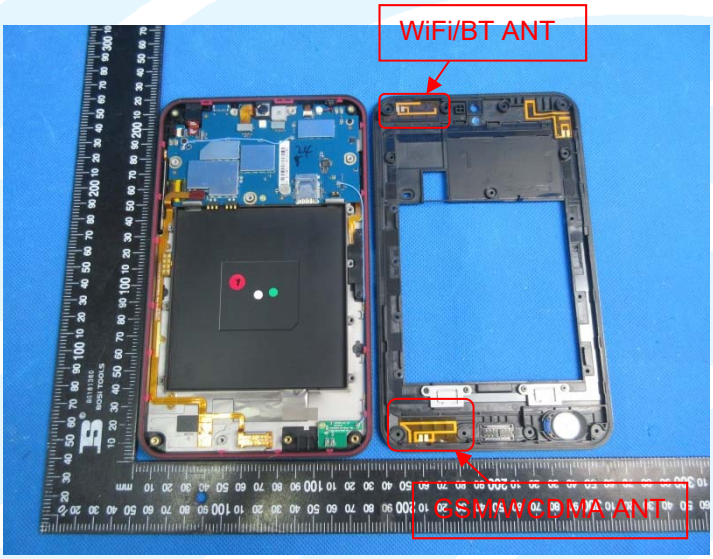
Requirement

FCC CFR Title 47 Part 15 Subpart C Section 15.203:

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 anantenna 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.

Test Result:

The directional gain of the antenna less than 6 dBi, please refer to the below antenna photo.



5.2. Conducted Emissions (AC Main)

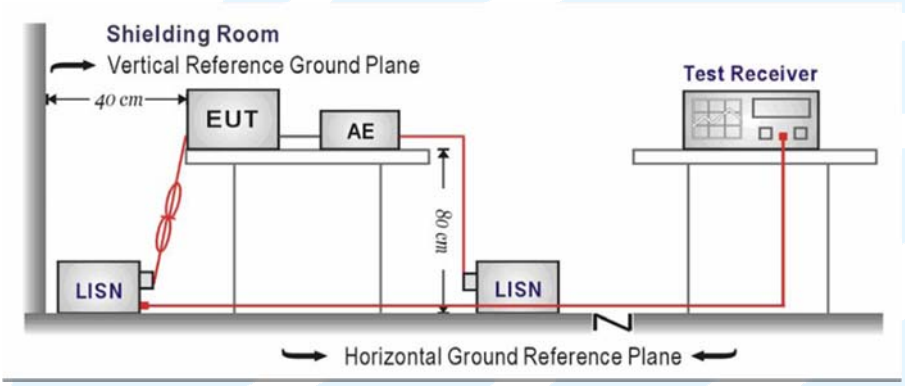
LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.207:

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 CONFIGURATION



TEST PROCEDURE

1. The EUT was setup according to ANSI C63.10:2013 requirements.
2. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface.
3. The EUT and simulators are connected to the main power through a line impedances stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment.
4. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs)
5. Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor,was individually connected through a LISN to the input power source.
6. The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
7. Conducted Emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.
8. During the above scans, the emissions were maximized by cable manipulation.

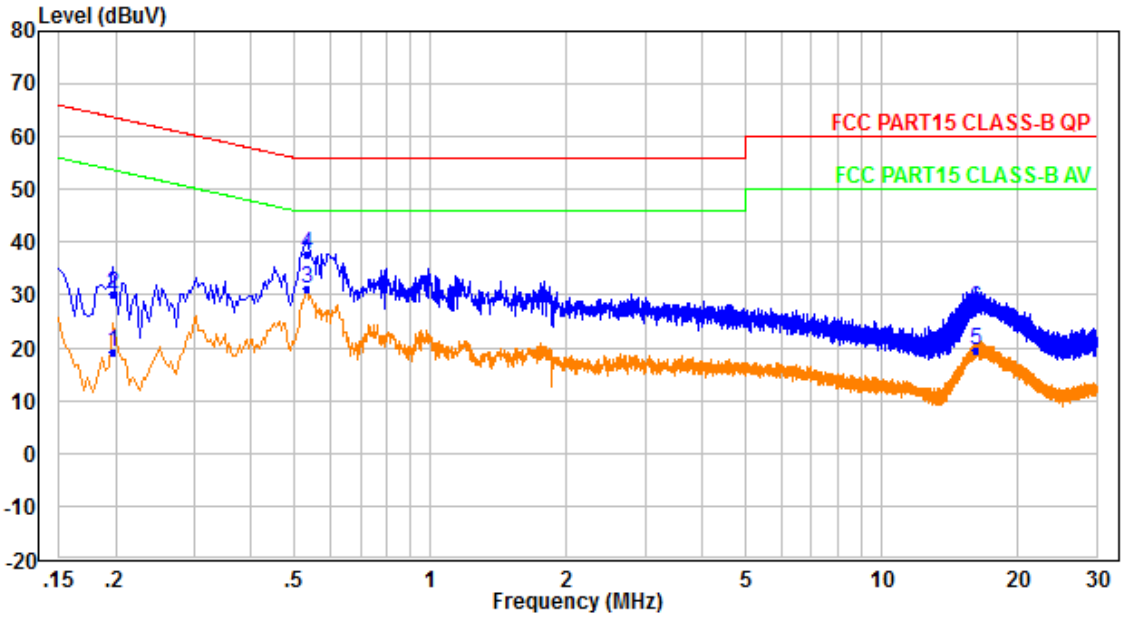
TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

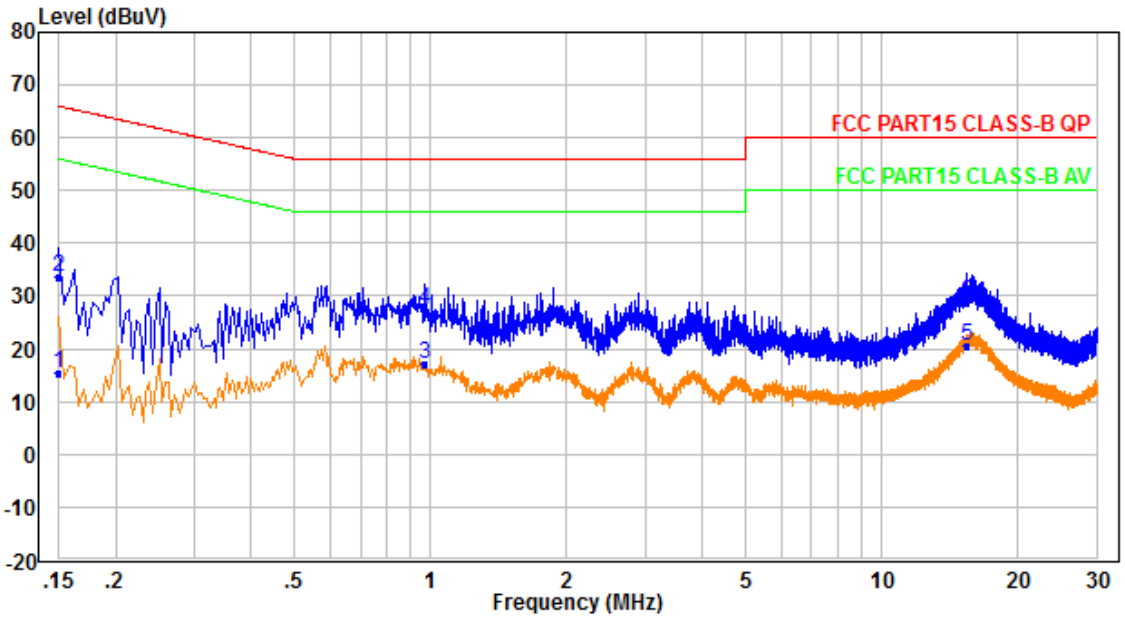
☒ **Passed** ☐ **Not Applicable**

Test Line:	L



No.	Frequency (MHz)	Reading (dBuV)	Correction factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.198	9.00	10.20	19.20	53.70	34.50	Average
2	0.198	19.90	10.20	30.10	63.70	33.60	QP
3	0.530	21.00	10.20	31.20	46.00	14.80	Average
4	0.530	27.50	10.20	37.70	56.00	18.30	QP
5	16.169	7.60	12.10	19.70	50.00	30.30	Average
6	16.169	15.20	12.10	27.30	60.00	32.70	QP

Test Line:	N



No.	Frequency (MHz)	Reading (dBuV)	Correction factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.150	5.30	10.20	15.50	56.00	40.50	Average
2	0.150	23.30	10.20	33.50	66.00	32.50	QP
3	0.966	6.70	10.40	17.10	46.00	28.90	Average
4	0.966	16.90	10.40	27.30	56.00	28.70	QP
5	15.501	8.40	12.10	20.50	50.00	29.50	Average
6	15.501	16.60	12.10	28.70	60.00	31.30	QP

Remark:

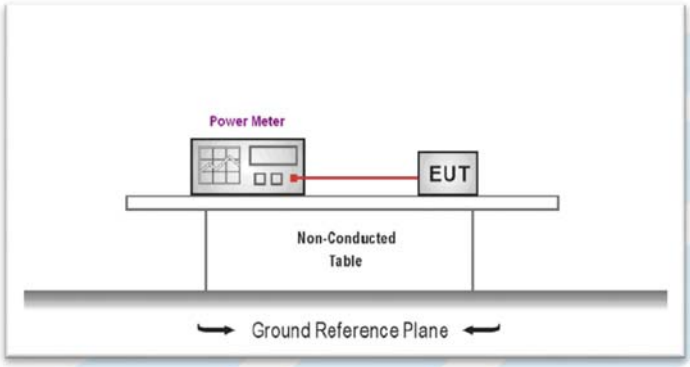
1. An initial pre-scan was performed on the Phase and neutral lines with peak detector. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

5.3. Maximum Conducted Output Power

LIMIT

FCC CFR Title 47 Part 15 Subpart E Section 15.407:
In the 5.15 – 5.25GHz band, the maximum permissible conducted output power is 250mW (23.98dBm)
In the 5.25 – 5.35GHz and 5.47 -5.725GHz band, the maximum permissible conducted output power is 250mW (23.98dBm)
In the 5.725 – 5.850GHz band, the maximum permissible conducted output power is 1W (30dBm).

TEST CONFIGURATION



TEST PROCEDURE

1. The EUT was tested according to KDB789033 requirements.
2. The maximum conducted output power may be measured using a broadband AVG RF power meter.
3. Average power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter. The trace was averaged over 100 traces to obtain the final measured average power
4. Record the measurement data.

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

☒ **Passed** ☐ **Not Applicable**

Band	Bandwidth (MHz)	Type	Channel	Output power (dBm)	Limit (dBm)	Result
I	20	802.11ac	CH_L	18.92	23.98	Pass
			CH_M	18.35		
			CH_H	18.95		
		802.11n	CH_L	19.14	23.98	Pass
			CH_M	18.13		
			CH_H	19.07		
		802.11a	CH_L	18.91	23.98	Pass
			CH_M	18.24		
			CH_H	19.09		
	40	802.11ac	CH_L	18.23	23.98	Pass
			CH_H	18.65		
		802.11n	CH_L	19.09	23.98	Pass
			CH_H	19.04		
	80	802.11ac	CH_M	18.06	23.98	Pass

Band	Bandwidth (MHz)	Type	Channel	Output power (dBm)	Limit (dBm)	Result
II	20	802.11ac	CH_L	19.87	23.98	Pass
			CH_M	18.42		
			CH_H	18.43		
		802.11n	CH_L	19.45	23.98	Pass
			CH_M	18.28		
			CH_H	18.02		
		802.11a	CH_L	19.95	23.98	Pass
			CH_M	18.40		
			CH_H	18.14		
	40	802.11ac	CH_L	18.84	23.98	Pass
			CH_H	17.45		
		802.11n	CH_L	19.48	23.98	Pass
			CH_H	18.29		
	80	802.11ac	CH_M	16.86	23.98	Pass

Band	Bandwidth (MHz)	Type	Channel	Output power (dBm)	Limit (dBm)	Result
III	20	802.11ac	CH_L	13.15	23.98	Pass
			CH_M	12.90		
			CH_H	13.46		
		802.11n	CH_L	12.74	23.98	Pass
			CH_M	12.94		
			CH_H	12.96		
		802.11a	CH_L	14.62	23.98	Pass
			CH_M	14.12		
			CH_H	14.59		
	40	802.11ac	CH_L	12.12	23.98	Pass
			CH_M	12.97		
			CH_H	12.79		
		802.11n	CH_L	13.44	23.98	Pass
			CH_M	13.53		
			CH_H	13.79		
	80	802.11ac	CH_L	11.44	23.98	Pass
			CH_H	12.00		

Band	Bandwidth (MHz)	Type	Channel	Output power (dBm)	Limit (dBm)	Result
IV	20	802.11ac	CH_L	18.64	30.00	Pass
			CH_M	18.35		
			CH_H	17.77		
		802.11n	CH_L	17.87	30.00	Pass
			CH_M	17.73		
			CH_H	17.57		
		802.11a	CH_L	18.93	30.00	Pass
			CH_M	18.43		
			CH_H	18.58		
	40	802.11ac	CH_L	17.18	30.00	Pass
			CH_H	17.22		
		802.11n	CH_L	17.10	30.00	Pass
			CH_H	16.93		
	80	802.11ac	CH_M	16.42	30.00	Pass

5.4. Maximum Power Spectral Density

LIMIT

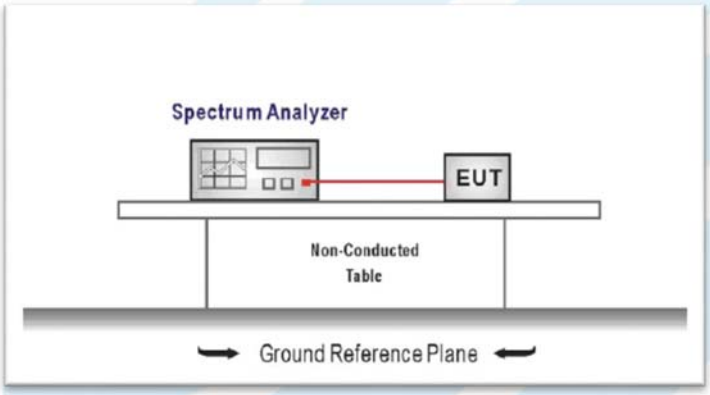
FCC CFR Title 47 Part 15 Subpart E Section 15.407:

For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.

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

For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.

TEST CONFIGURATION



TEST PROCEDURE

According KDB 789033 D02 – Section F
1. Analyzer was set to the center frequency of the UNII channel under investigation
2. Span was set to encompass the entire emission bandwidth of the signal
3. For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth
   For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 500 kHz.
4. Set VBW ≥ 3 RBW.Number of sweep points > 2 x (span/RBW)
5. Sweep time = auto
6. Detector = power averaging (RMS)
7. Trigger was set to free run for all modes
8. Trace was averaged over 100 sweeps
9. The peak search function of the spectrum analyzer was used to find the peak of the spectrum.

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

☒ **Passed** ☐ **Not Applicable**

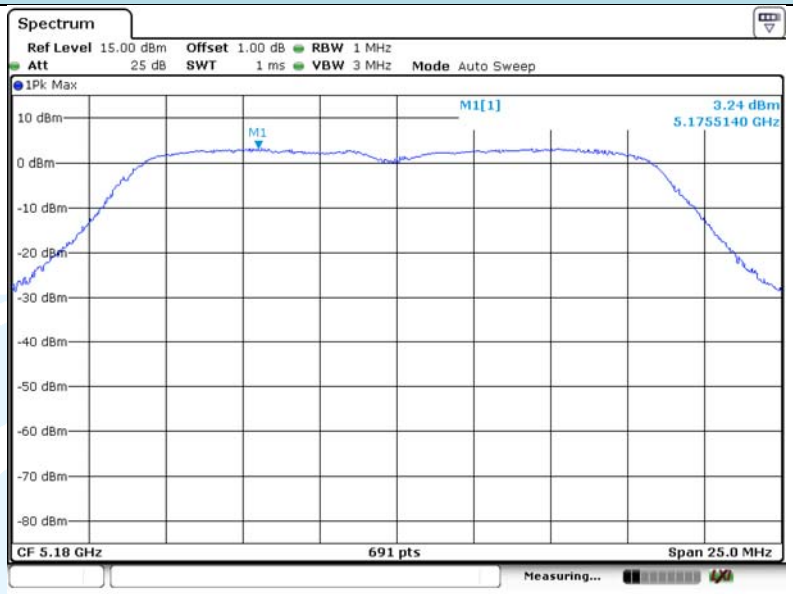
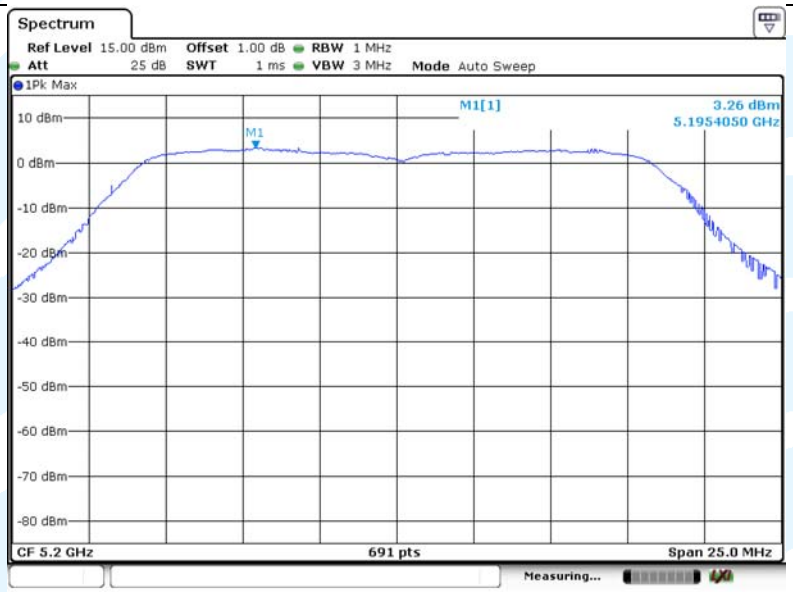
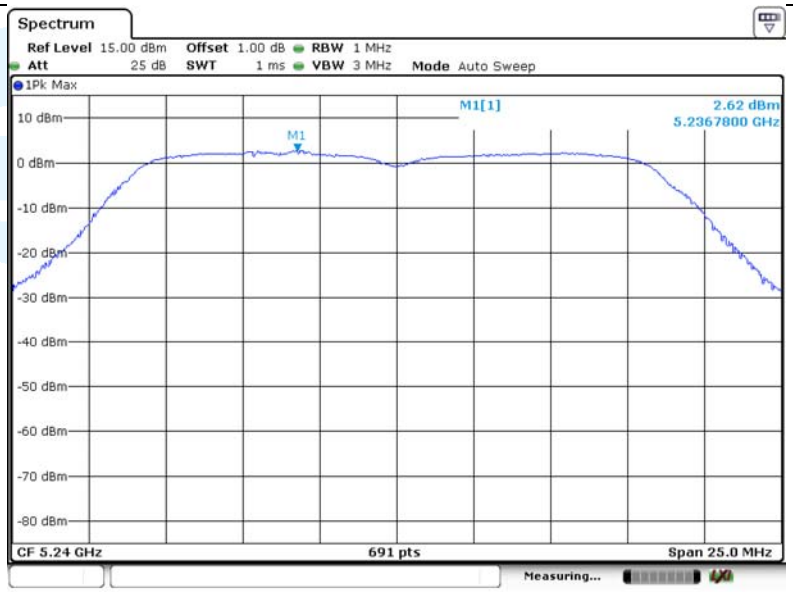
Band	Bandwidth (MHz)	Type	Channel	Power Spectral Density (dBm/1MHz)	Limit (dBm/1MHz)	Result
I	20	802.11ac	CH_L	3.24	11.00	Pass
			CH_M	3.26		
			CH_H	2.62		
		802.11n	CH_L	3.06	11.00	Pass
			CH_M	3.25		
			CH_H	2.56		
		802.11a	CH_L	3.74	11.00	Pass
			CH_M	3.33		
			CH_H	3.38		
	40	802.11ac	CH_L	-0.83	11.00	Pass
			CH_H	0.00		
		802.11n	CH_L	-0.64	11.00	Pass
			CH_H	-1.41		
	80	802.11ac	CH_M	-3.17	11.00	Pass

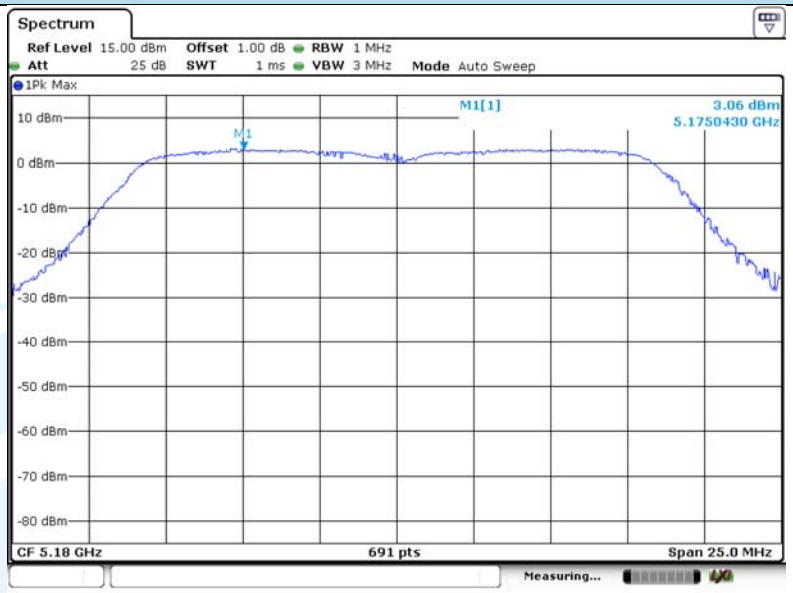
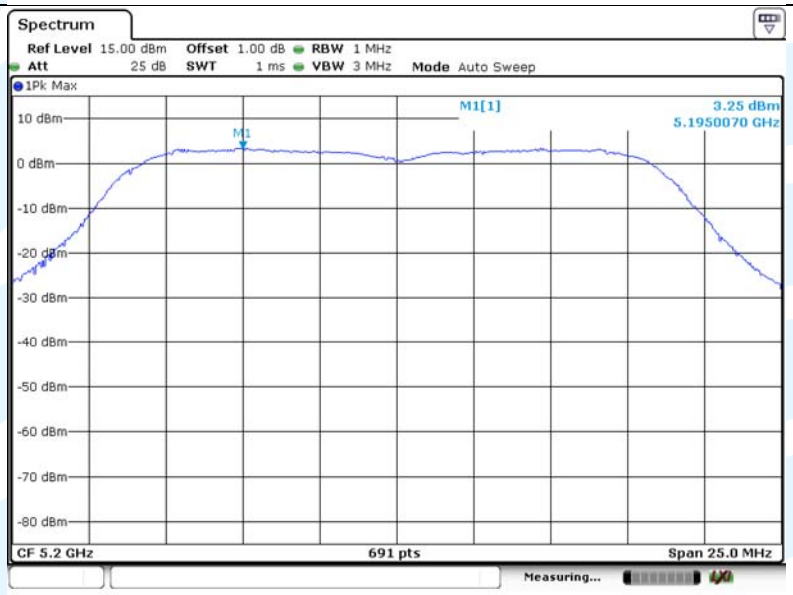
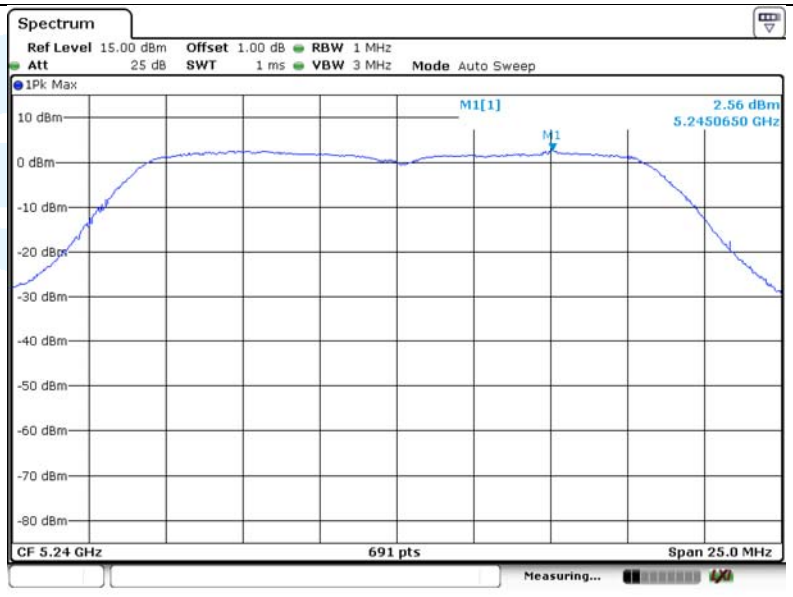
Band	Bandwidth (MHz)	Type	Channel	Power Spectral Density (dBm/1MHz)	Limit (dBm/1MHz)	Result
II	20	802.11ac	CH_L	2.23	11.00	Pass
			CH_M	1.77		
			CH_H	0.97		
		802.11n	CH_L	2.12	11.00	Pass
			CH_M	2.01		
			CH_H	1.09		
		802.11a	CH_L	3.04	11.00	Pass
			CH_M	2.61		
			CH_H	1.36		
	40	802.11ac	CH_L	-0.82	11.00	Pass
			CH_H	-1.49		
		802.11n	CH_L	-2.04	11.00	Pass
			CH_H	-1.69		
	80	802.11ac	CH_M	-4.83	11.00	Pass

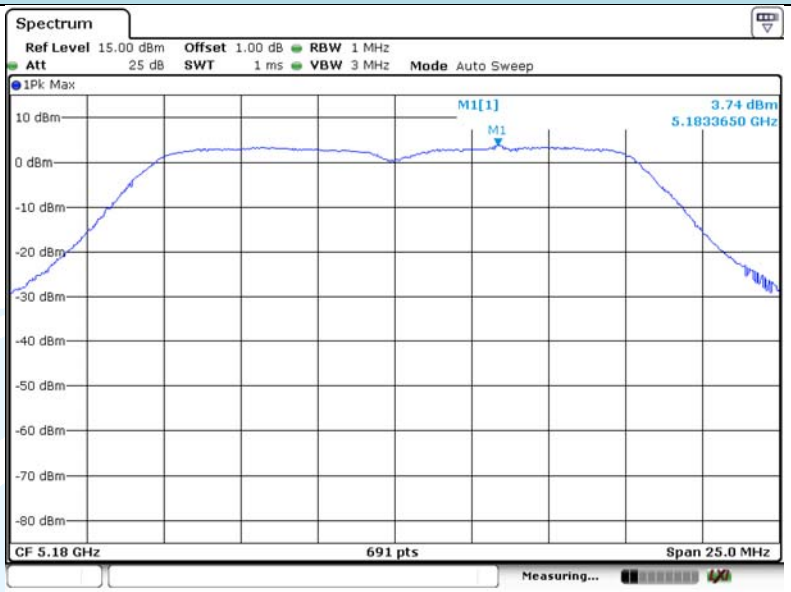
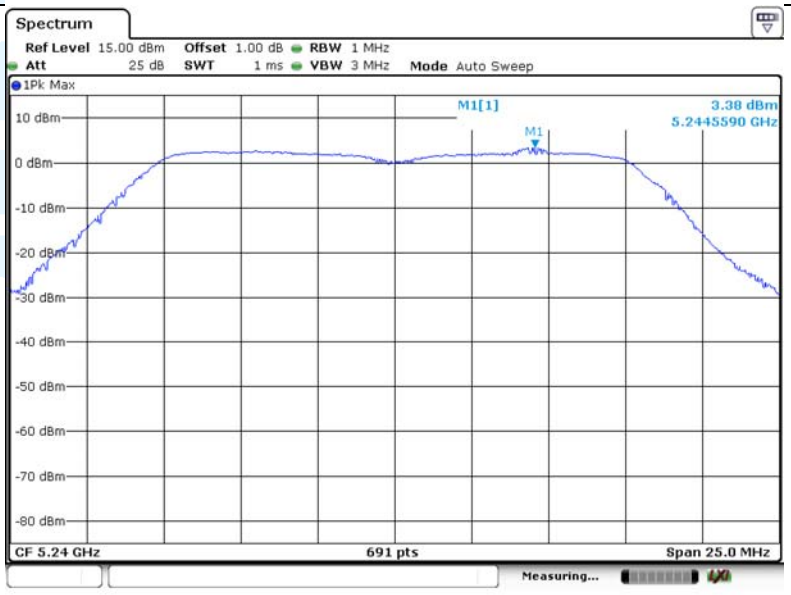
Band	Bandwidth (MHz)	Type	Channel	Power Spectral Density (dBm/1MHz)	Limit (dBm/1MHz)	Result
III	20	802.11ac	CH_L	1.63	11.00	Pass
			CH_M	2.54		
			CH_H	1.45		
		802.11n	CH_L	1.91	11.00	Pass
			CH_M	2.66		
			CH_H	2.24		
		802.11a	CH_L	2.02	11.00	Pass
			CH_M	2.77		
			CH_H	1.74		
	40	802.11ac	CH_L	-1.99	11.00	Pass
			CH_M	-1.45		
			CH_H	-0.81		
		802.11n	CH_L	-2.17	11.00	Pass
			CH_M	-1.39		
			CH_H	-1.82		
	80	802.11ac	CH_L	-3.42	11.00	Pass
			CH_H	-4.05		

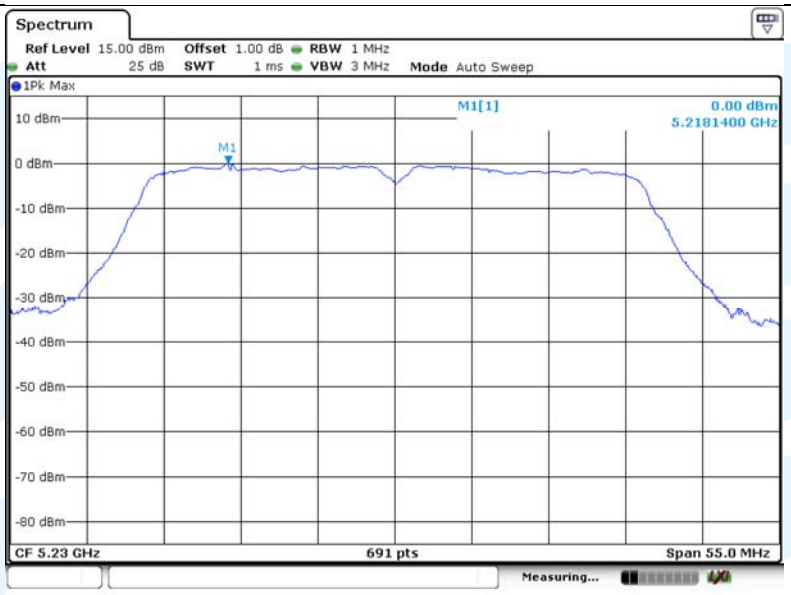
Band	Bandwidth (MHz)	Type	Channel	Power Spectral Density (dBm/500kHz)	Limit (dBm/500kHz)	Result
IV	20	802.11ac	CH_L	-1.36	30.00	Pass
			CH_M	-2.41		
			CH_H	-3.30		
		802.11n	CH_L	-2.18	30.00	Pass
			CH_M	-2.36		
			CH_H	-3.35		
		802.11a	CH_L	-2.05	30.00	Pass
			CH_M	-2.14		
			CH_H	-2.72		
	40	802.11ac	CH_L	-6.14	30.00	Pass
			CH_H	-6.55		
		802.11n	CH_L	-4.89	30.00	Pass
			CH_H	-6.44		
	80	802.11ac	CH_M	-8.63	30.00	Pass

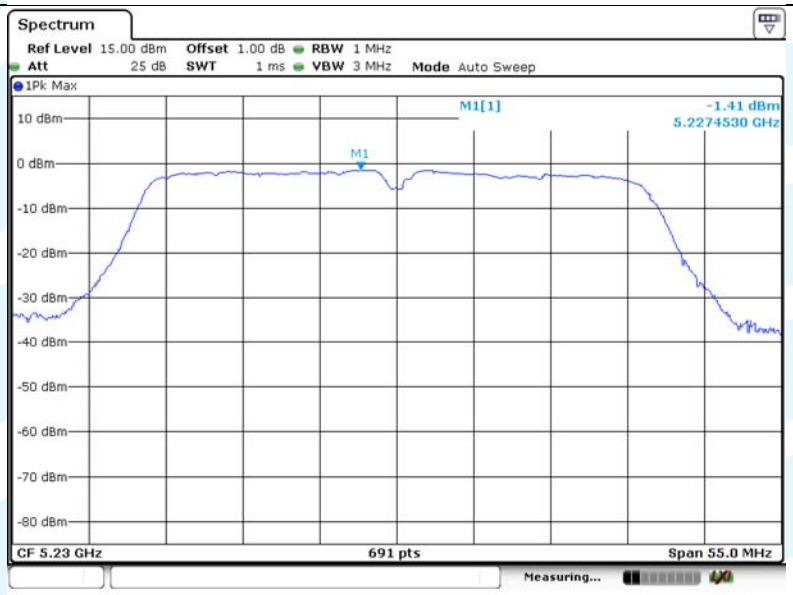
Test plot as follows:

Band I	
802.11ac (HT20)	
CH_L	
CH_M	
CH_H	

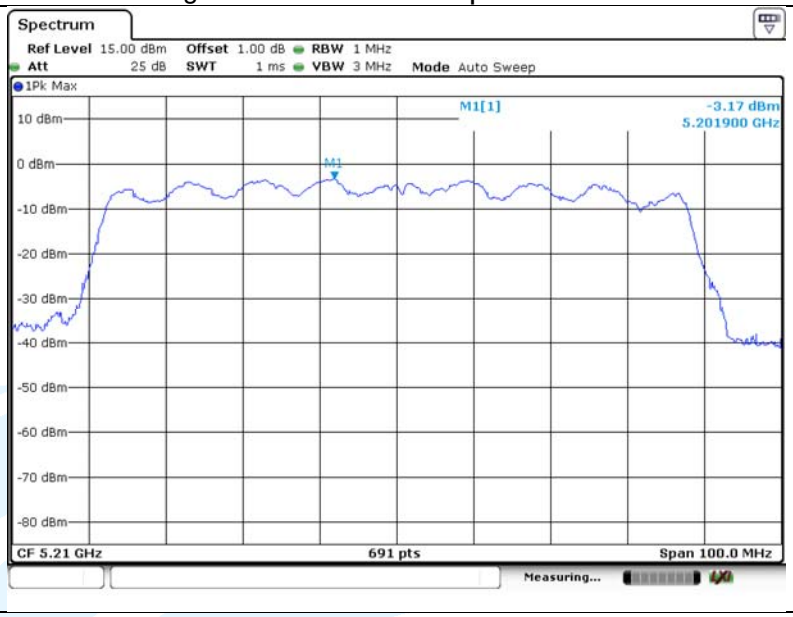
802.11n (HT20)	
CH_L	
CH_M	
CH_H	

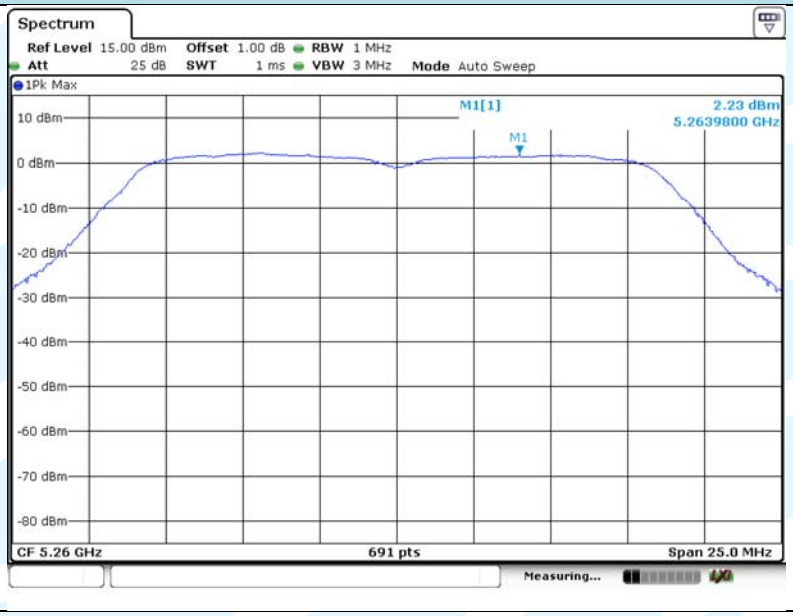
802.11a	
CH_L	
CH_M	
CH_H	

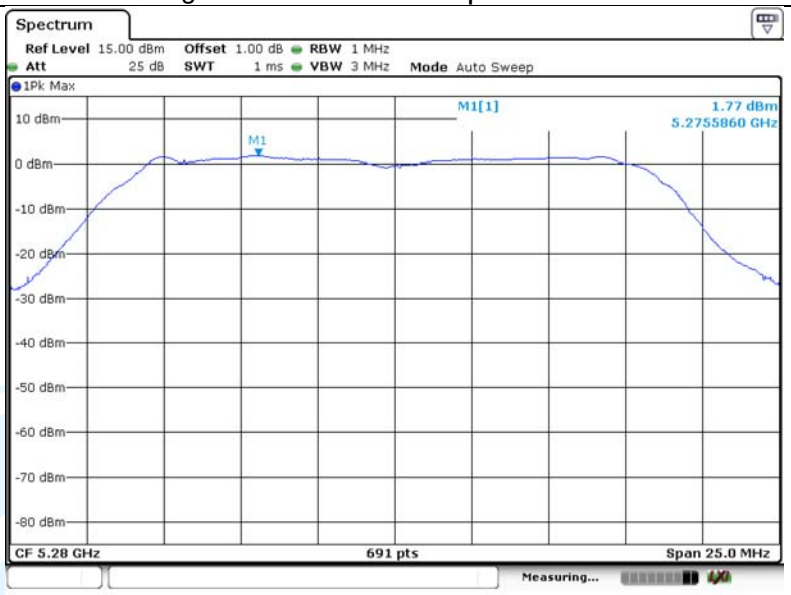
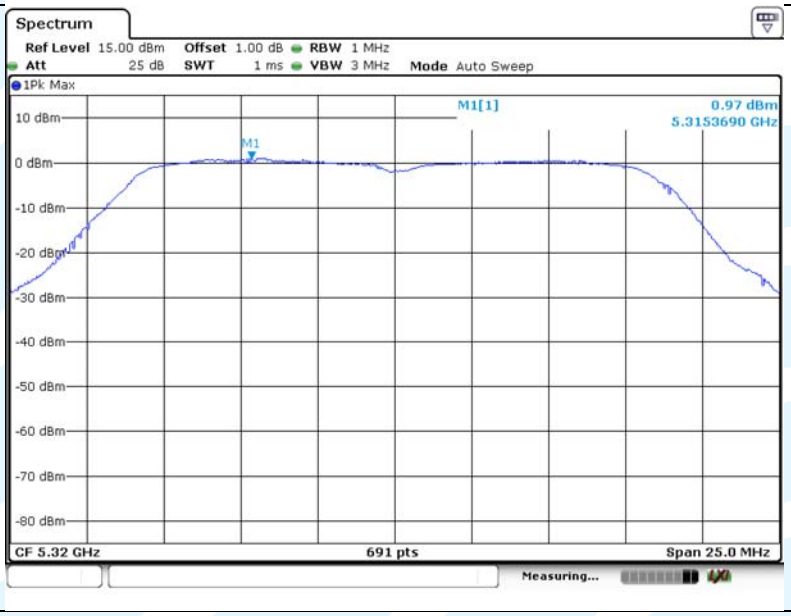
802.11ac (HT40)	
CH_L	
CH_H	

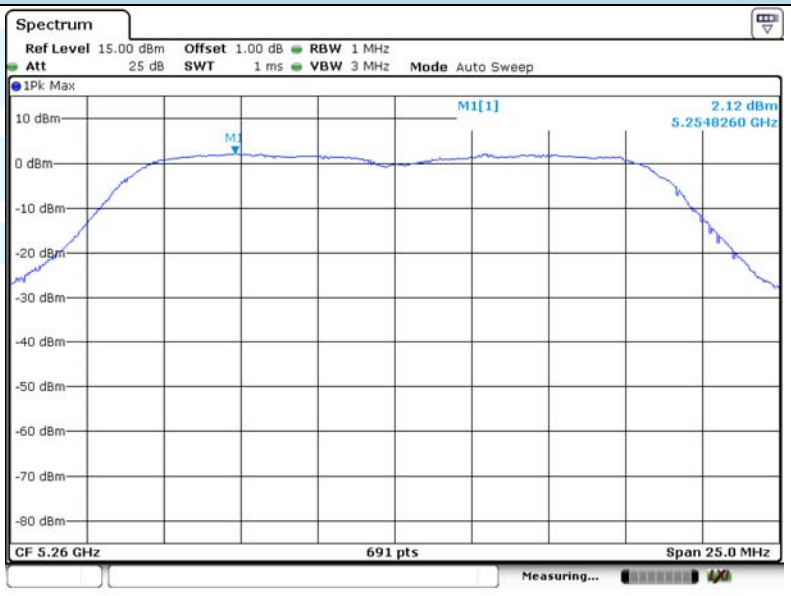
802.11n (HT40)	
CH_L	
CH_H	

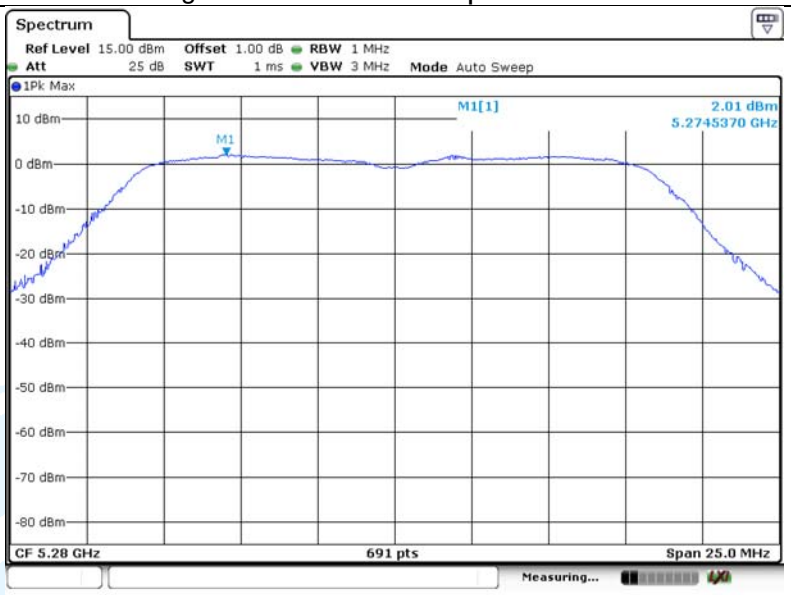
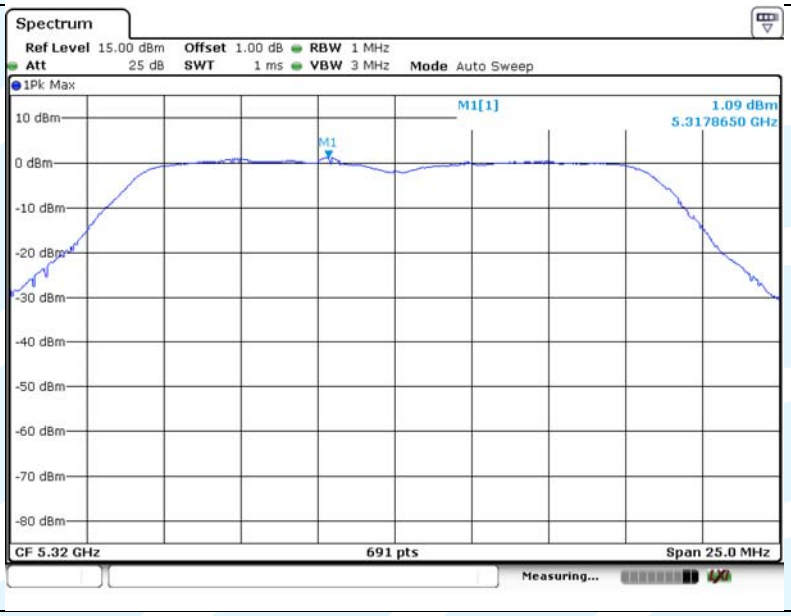
802.11ac (HT80)

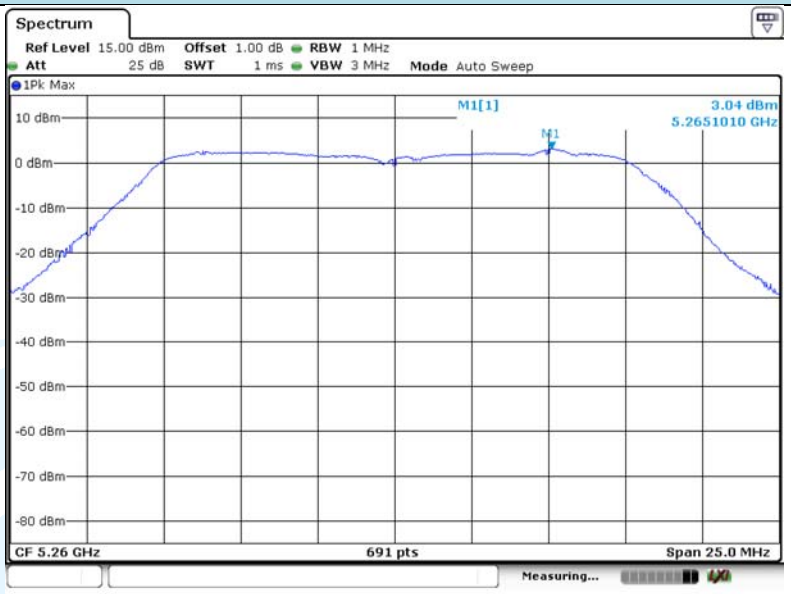
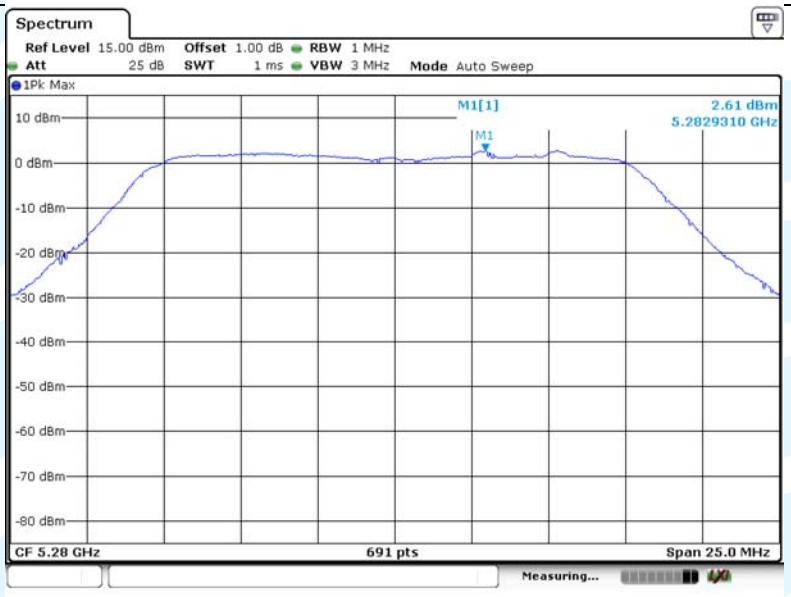
CH_M	

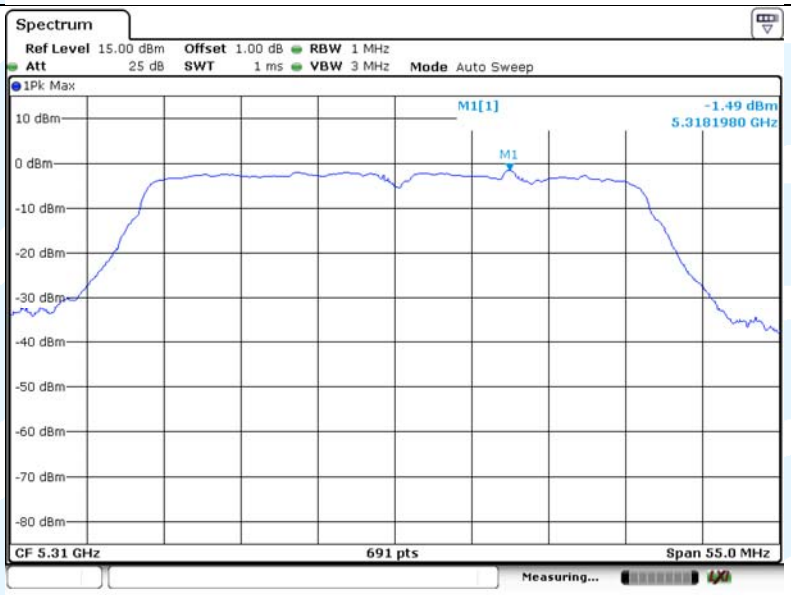
Band II	
802.11ac (HT20)	
CH_L	

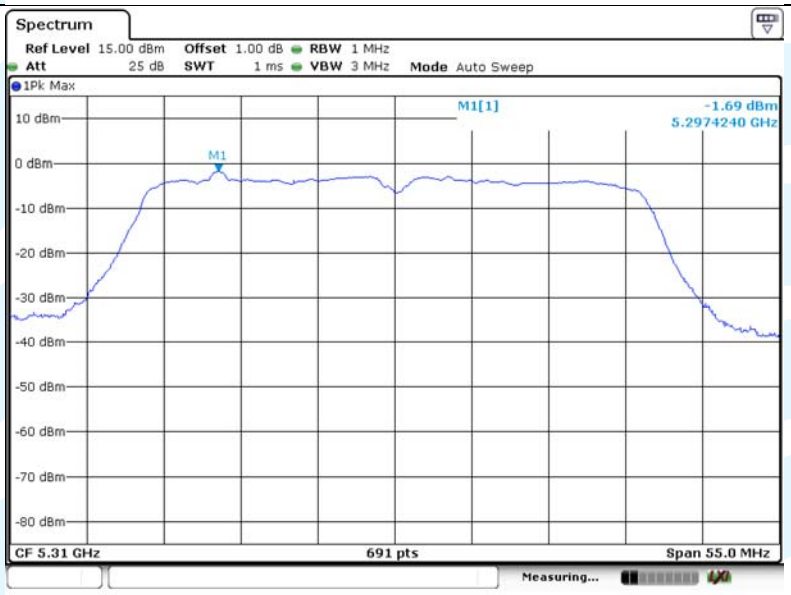
CH_M	
CH_H	

802.11n (HT20)	
CH_L	

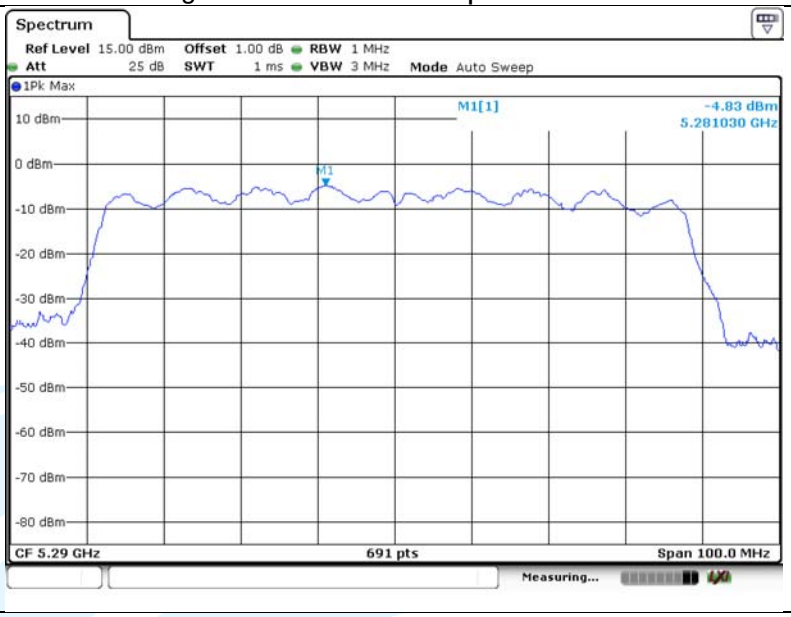
CH_M	 Spectrum Ref Level 15.00 dBm Offset 1.00 dB RBW 1 MHz Att 25 dB SWT 1 ms VBW 3 MHz Mode Auto Sweep 1Pk Max M1[1] 2.01 dBm 5.2745370 GHz M1 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm -80 dBm CF 5.28 GHz 691 pts Span 25.0 MHz Measuring...
CH_H	 Spectrum Ref Level 15.00 dBm Offset 1.00 dB RBW 1 MHz Att 25 dB SWT 1 ms VBW 3 MHz Mode Auto Sweep 1Pk Max M1[1] 1.09 dBm 5.3178650 GHz M1 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm -80 dBm CF 5.32 GHz 691 pts Span 25.0 MHz Measuring...

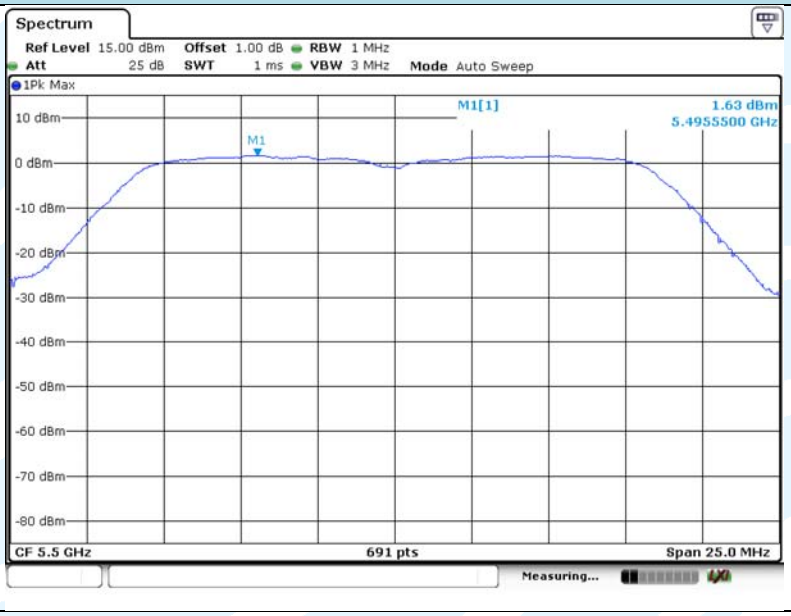
802.11a	
CH_L	
CH_M	
CH_H	

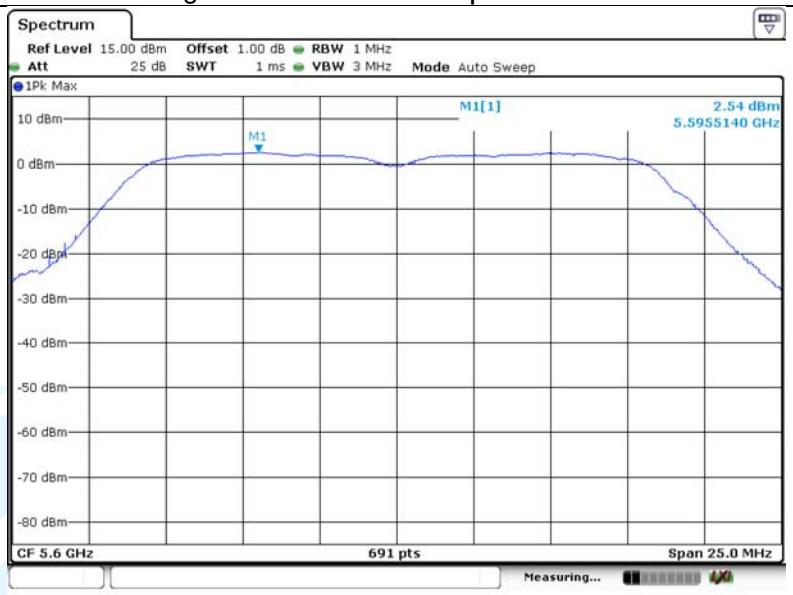
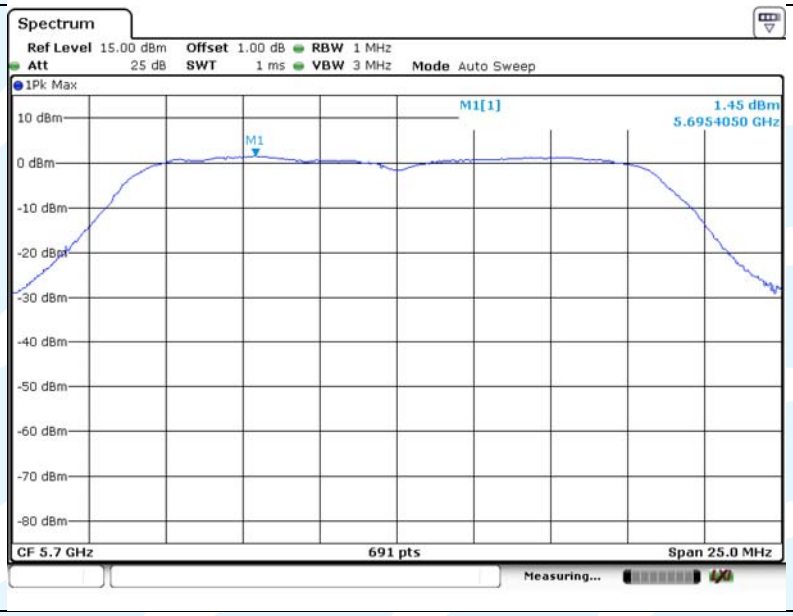
802.11ac (HT40)	
CH_L	
CH_H	

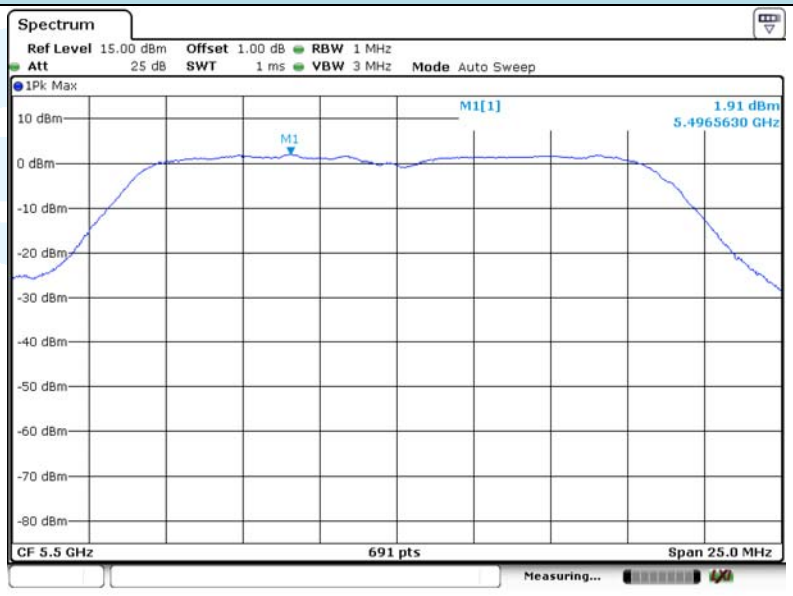
802.11n (HT40)	
CH_L	
CH_H	

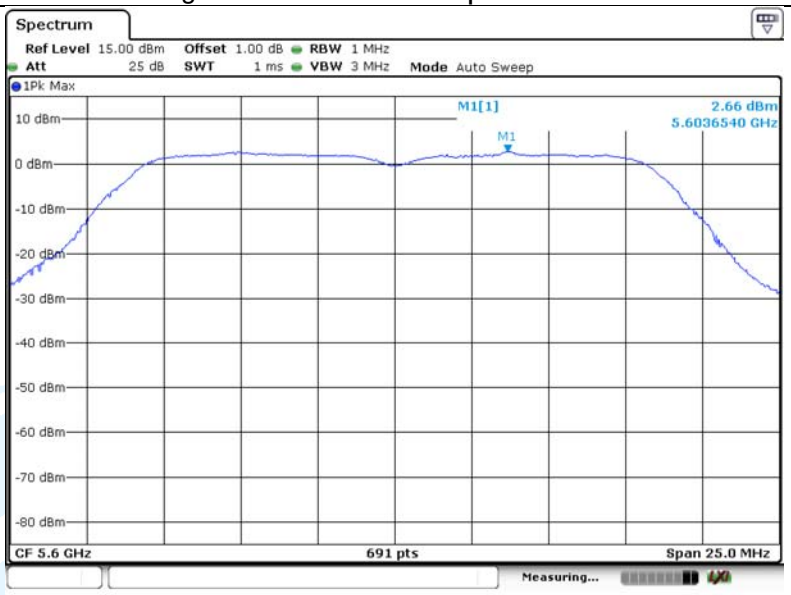
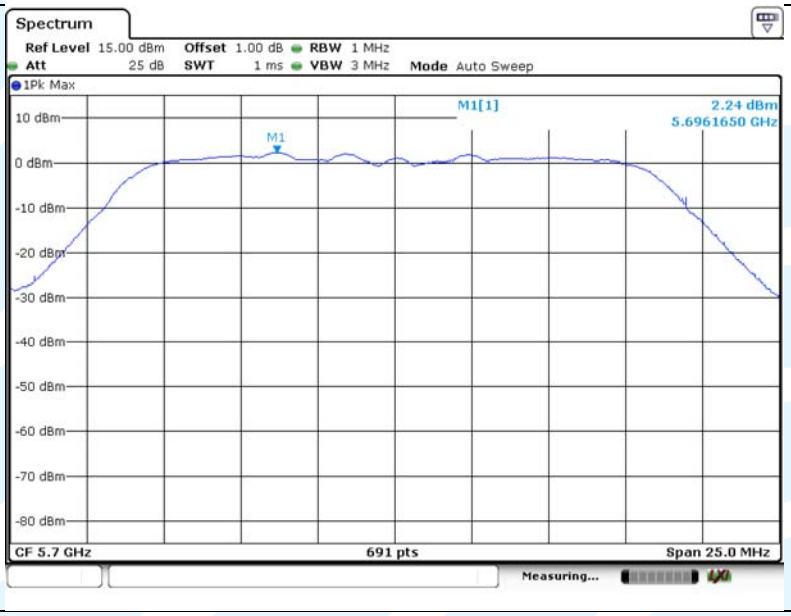
802.11ac (HT80)

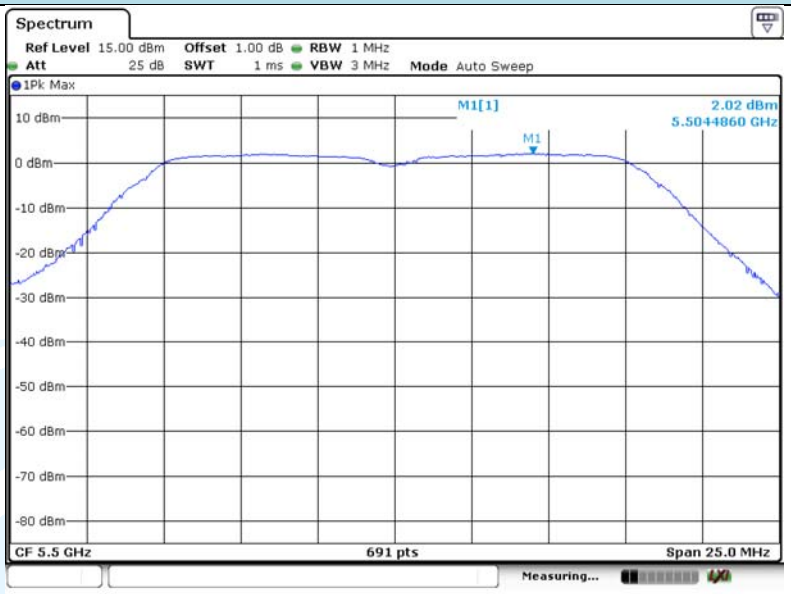
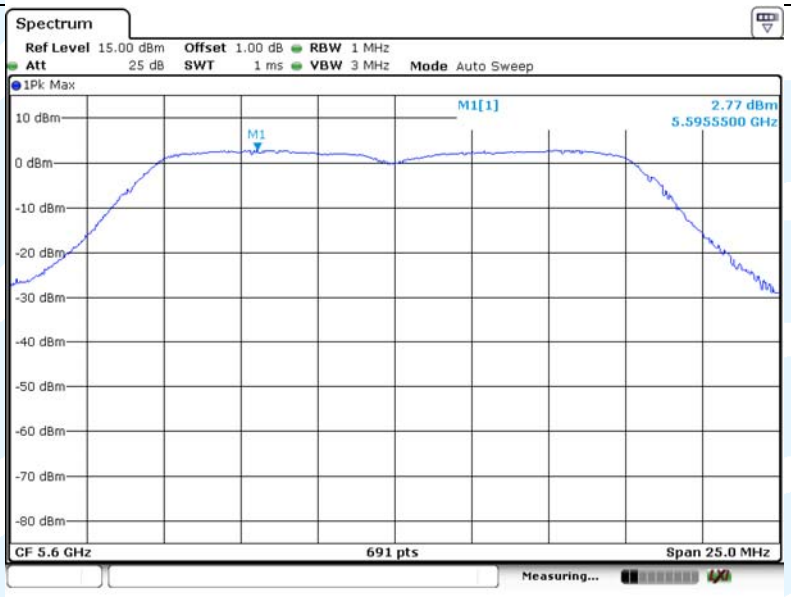
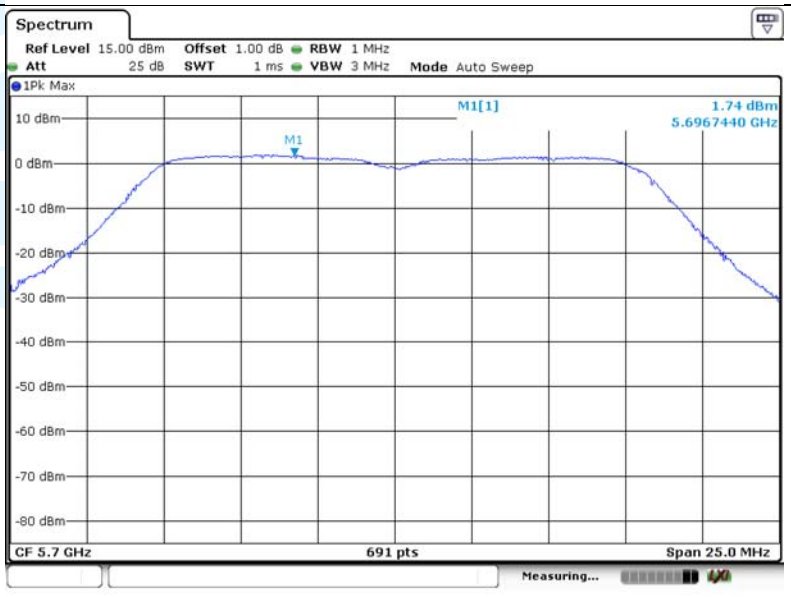
CH_M	

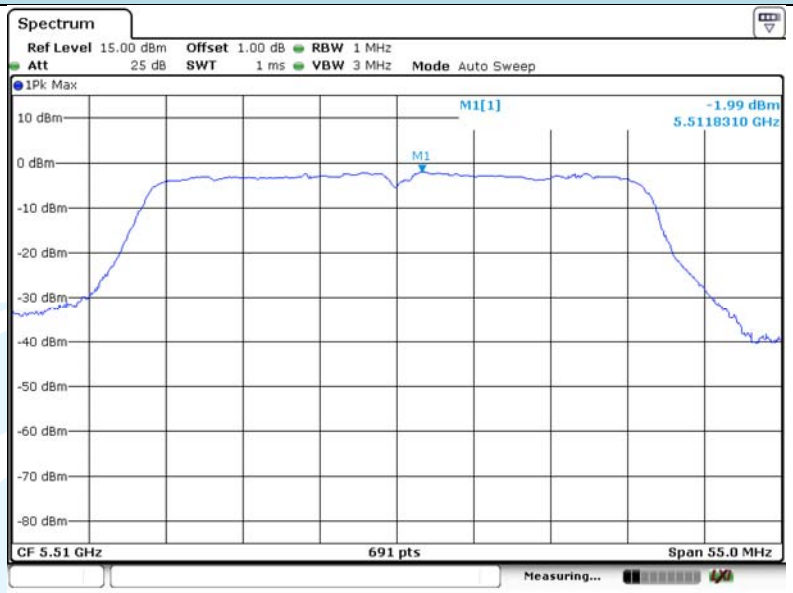
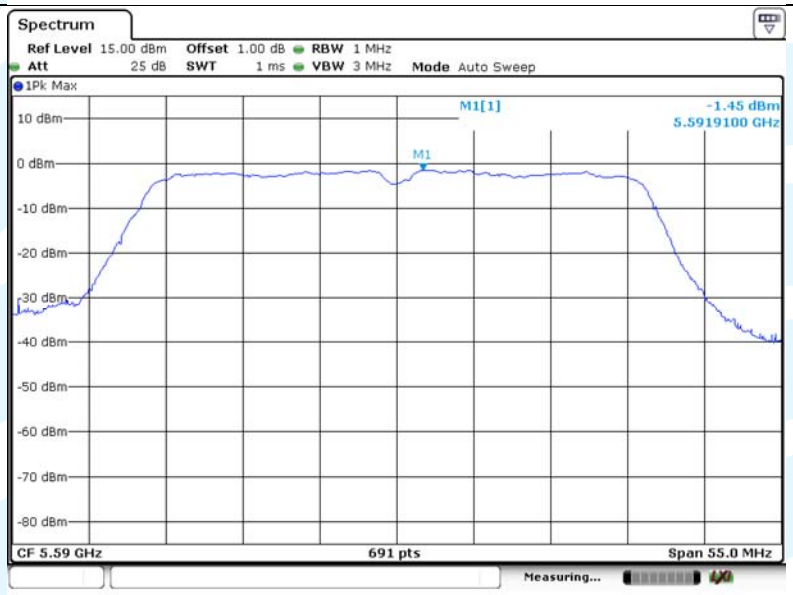
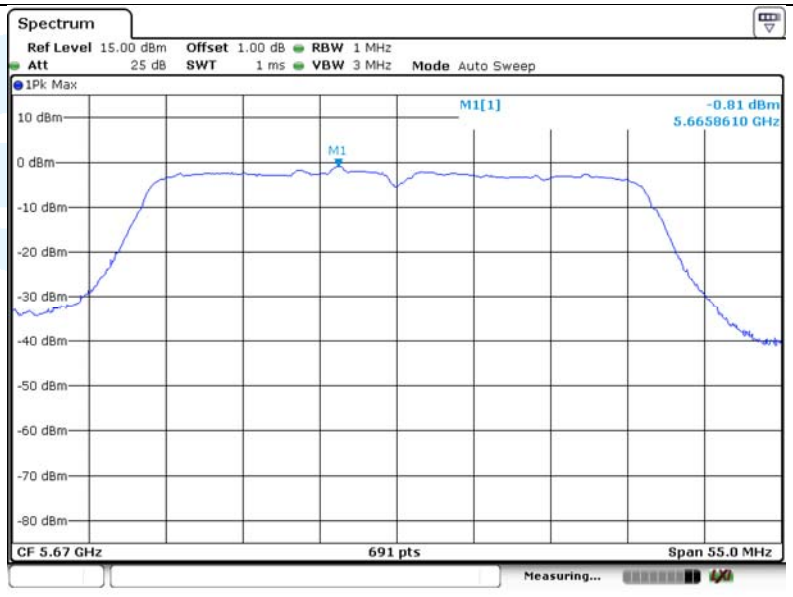
Band III	
802.11ac (HT20)	
CH_L	

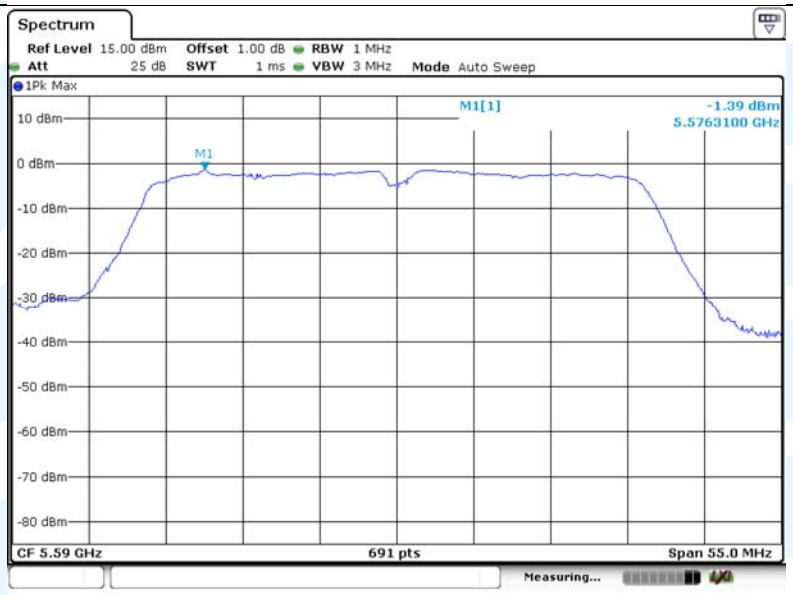
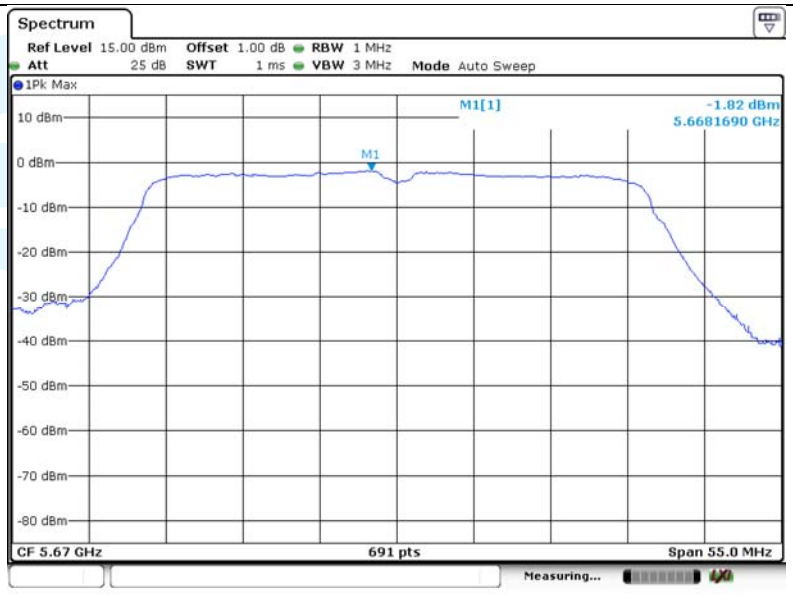
CH_M	
CH_H	

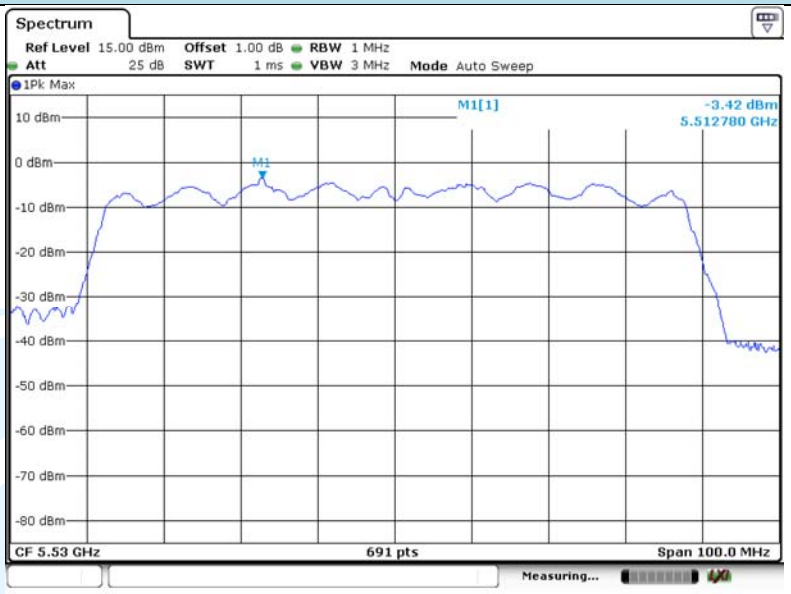
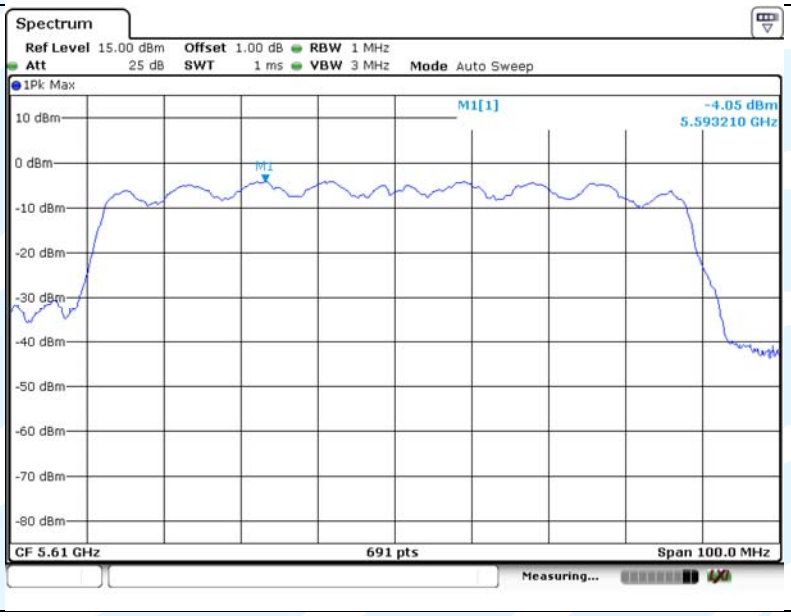
802.11n (HT20)	
CH_L	

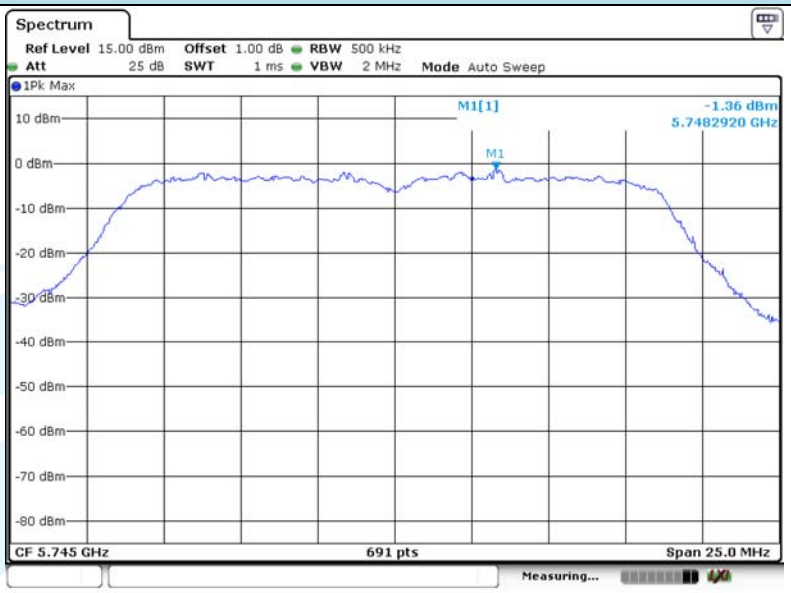
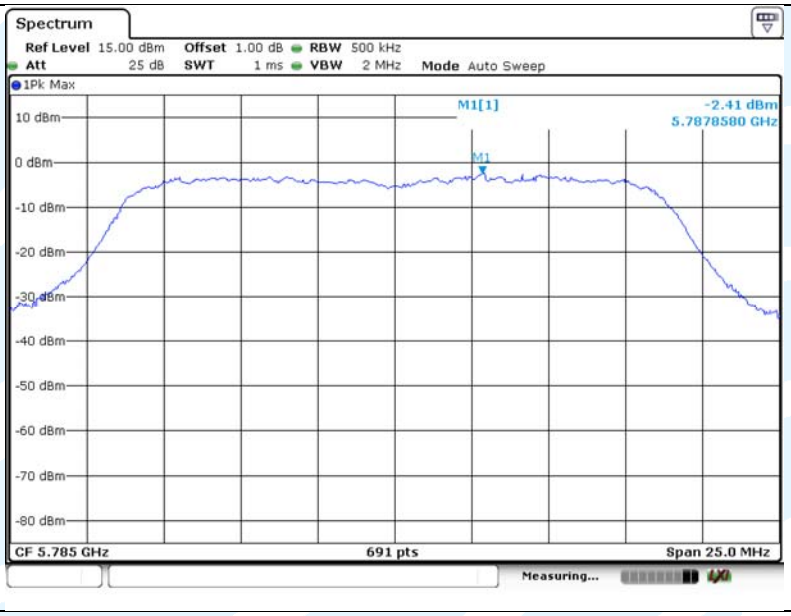
CH_M	 Spectrum Ref Level 15.00 dBm Offset 1.00 dB RBW 1 MHz Att 25 dB SWT 1 ms VBW 3 MHz Mode Auto Sweep 1Pk Max M1[1] 2.66 dBm 5.6036540 GHz M1 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm -80 dBm CF 5.6 GHz 691 pts Span 25.0 MHz Measuring...
CH_H	 Spectrum Ref Level 15.00 dBm Offset 1.00 dB RBW 1 MHz Att 25 dB SWT 1 ms VBW 3 MHz Mode Auto Sweep 1Pk Max M1[1] 2.24 dBm 5.6961650 GHz M1 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm -80 dBm CF 5.7 GHz 691 pts Span 25.0 MHz Measuring...

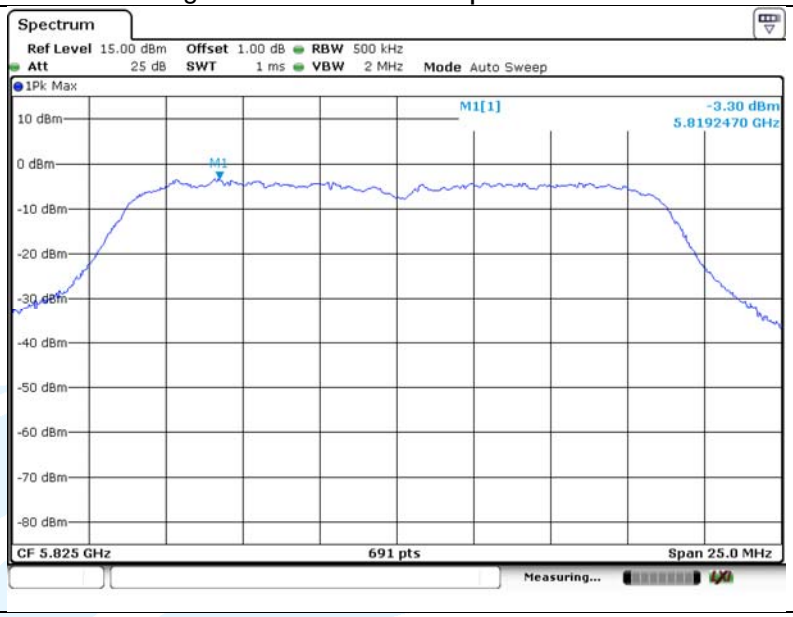
802.11a	
CH_L	
CH_M	
CH_H	

802.11ac (HT40)	
CH_L	
CH_M	
CH_H	

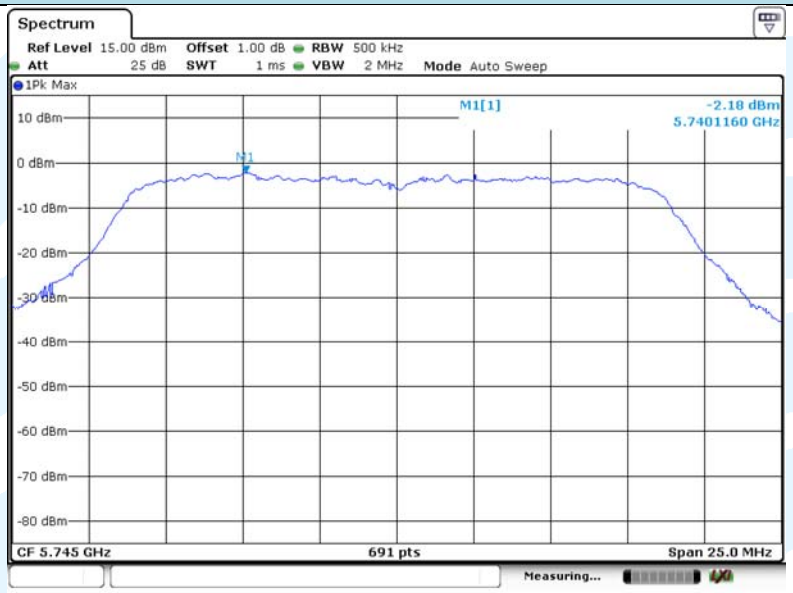
802.11n (HT40)	
CH_L	
CH_M	
CH_H	

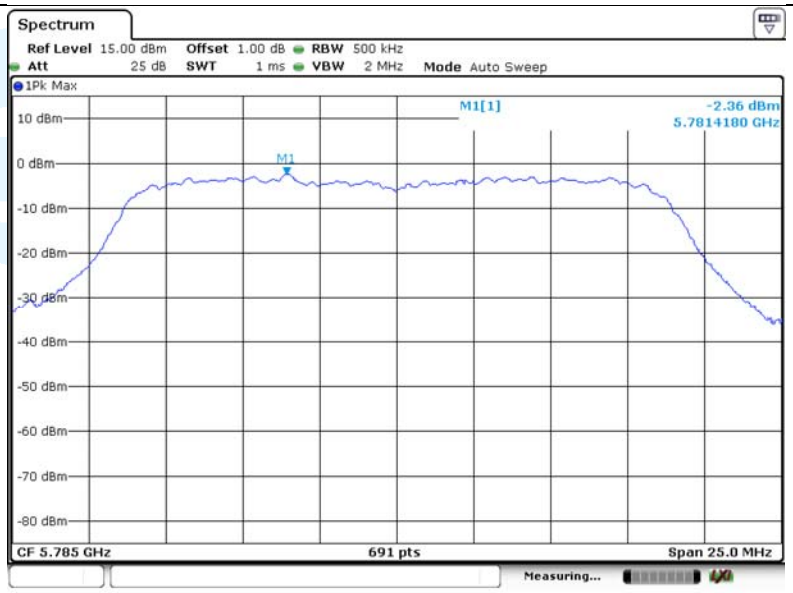
802.11ac (HT80)	
CH_L	
CH_H	

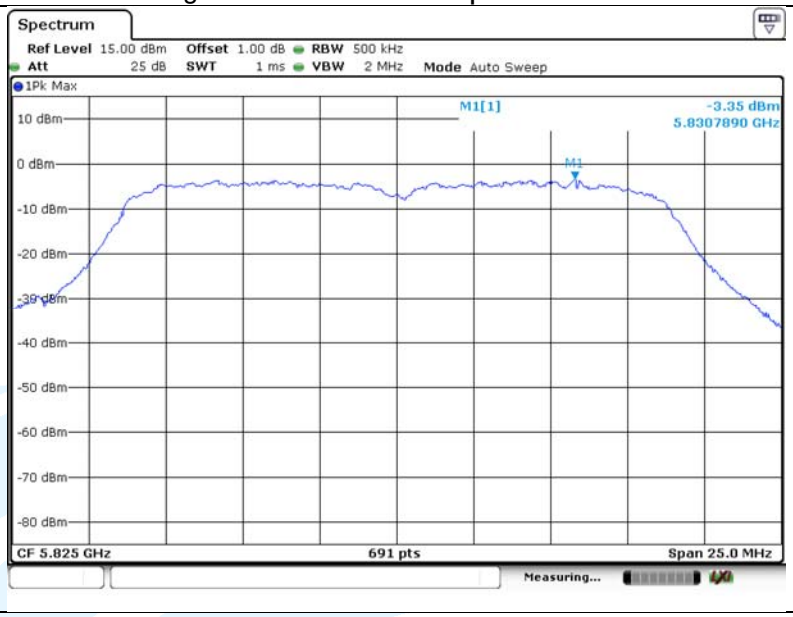
Band IV	
802.11ac (HT20)	
CH_L	
CH_M	

CH_H	

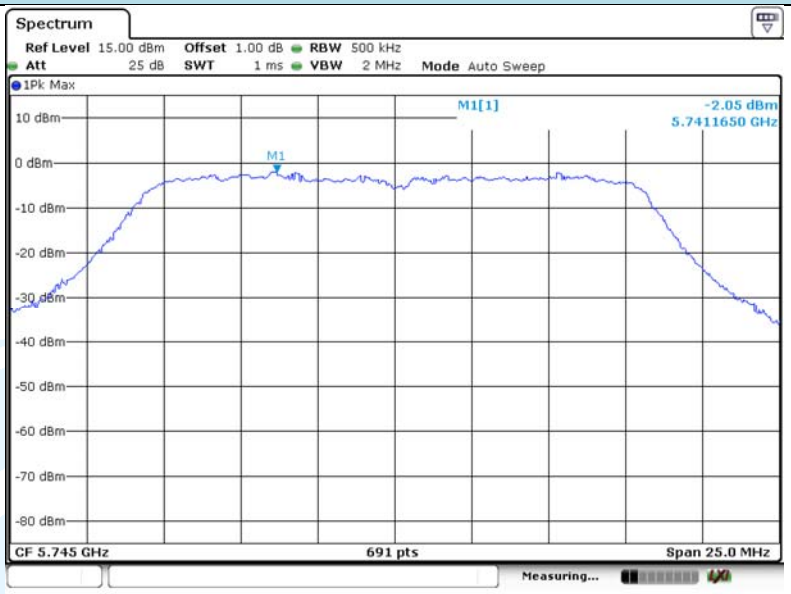
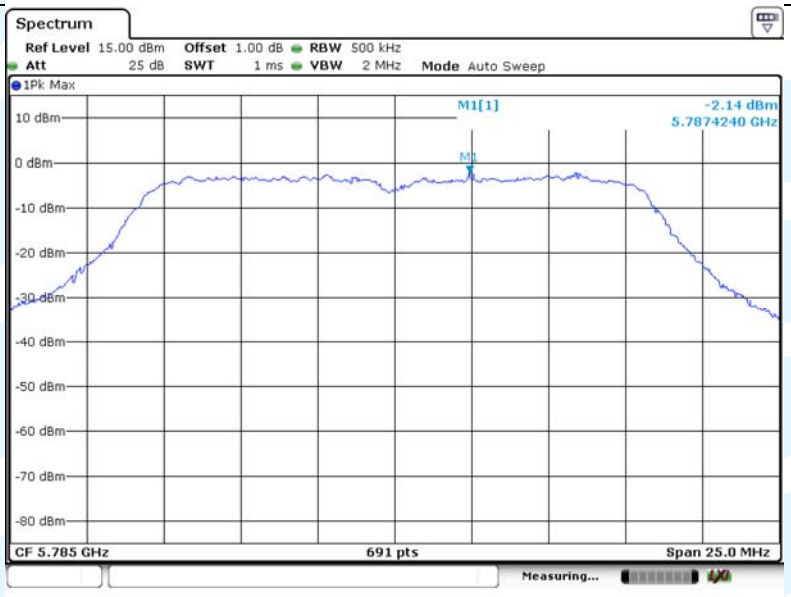
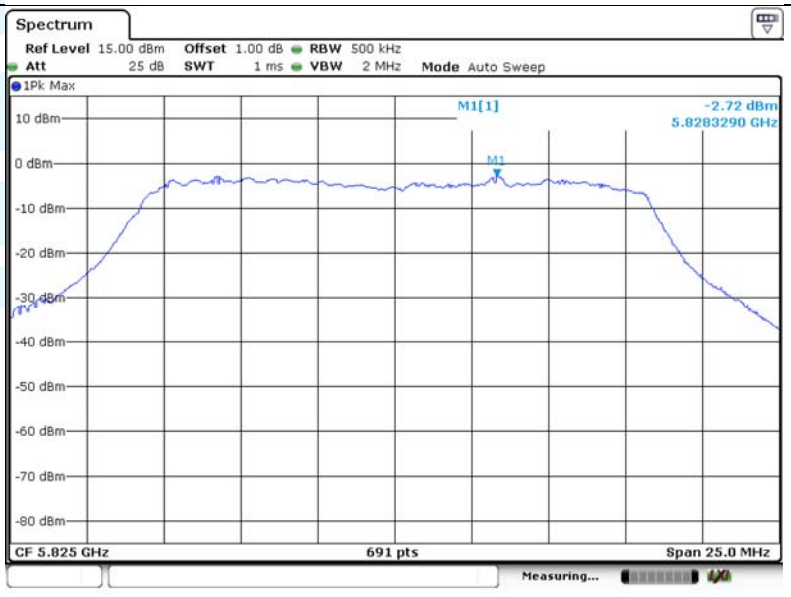
802.11n (HT20)

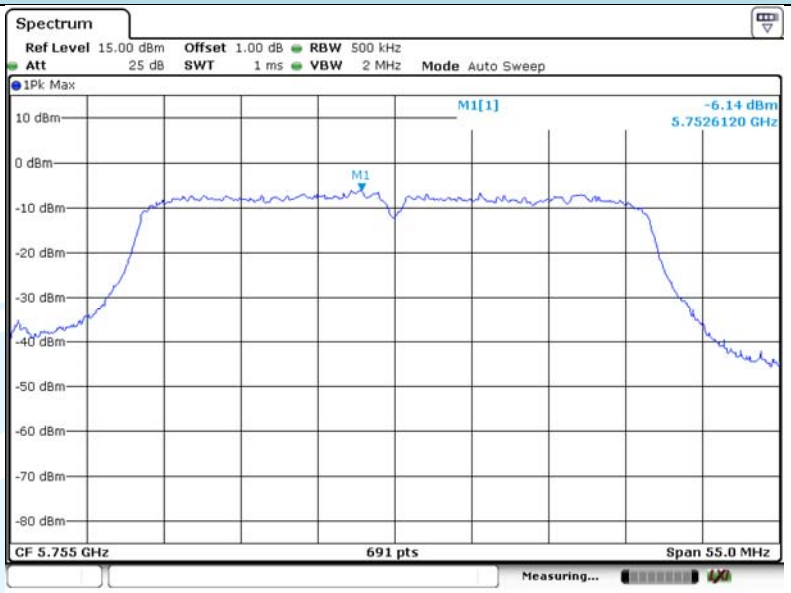
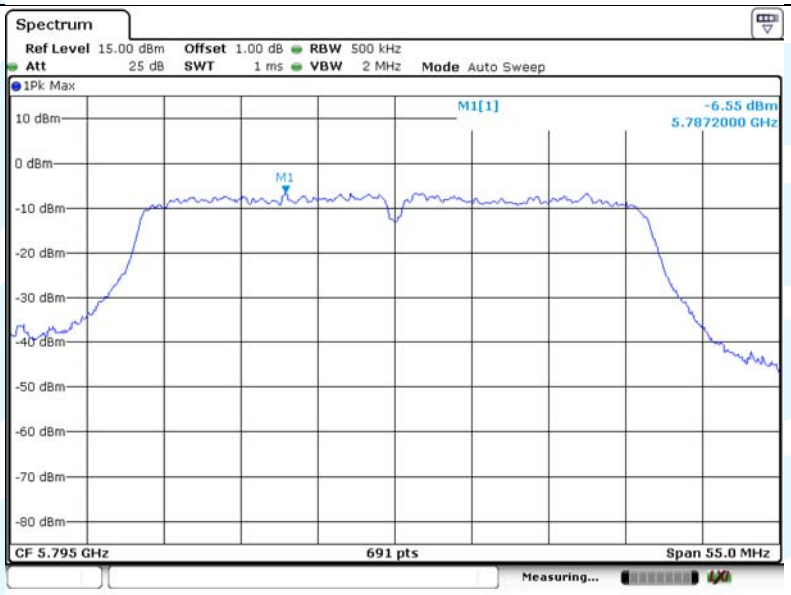
CH_L	

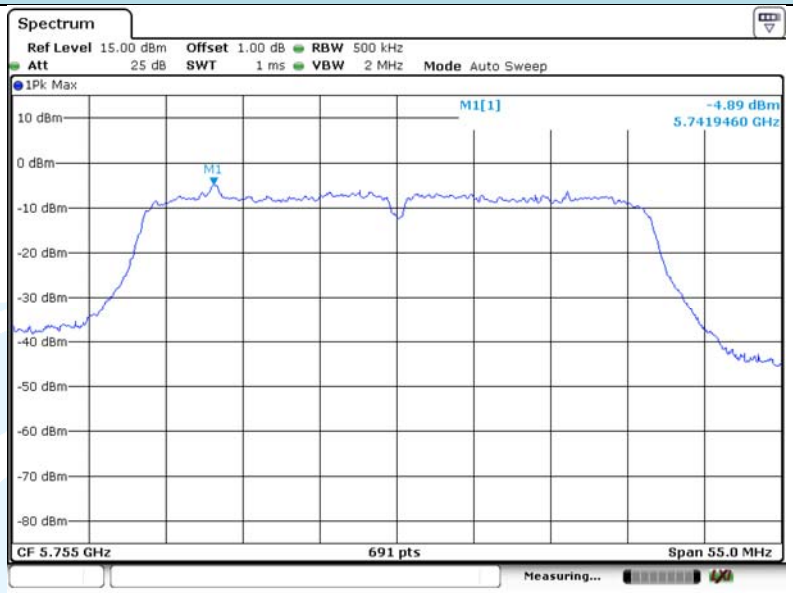
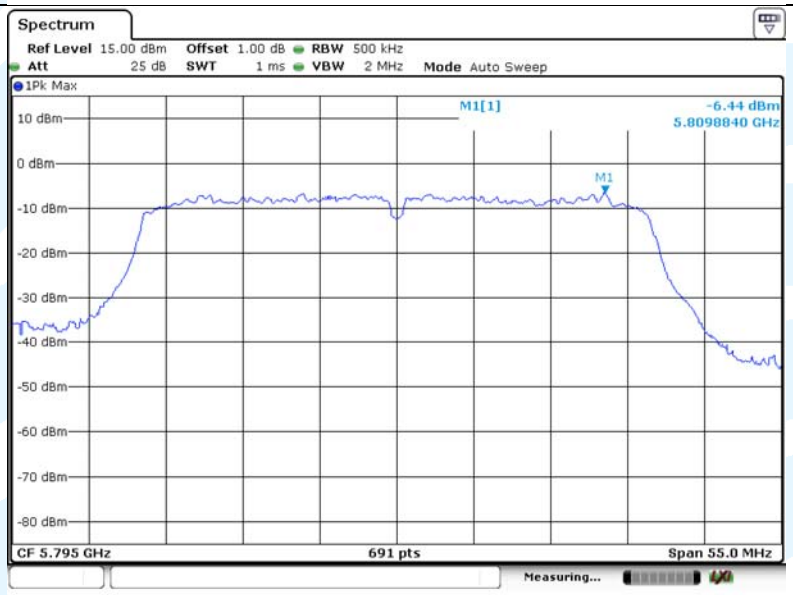
CH_M	

CH_H	

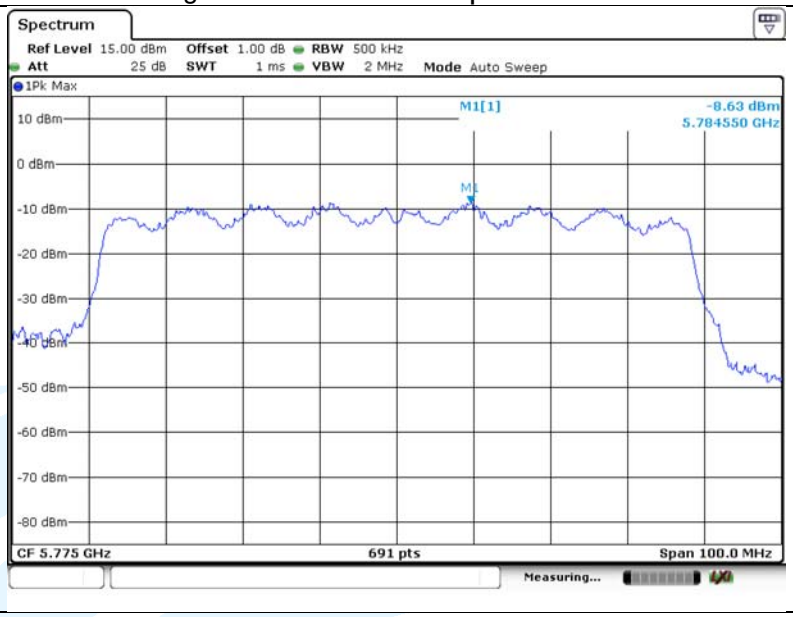
Spectrum
Ref Level 15.00 dBm Offset 1.00 dB RBW 500 kHz
Att 25 dB SWT 1 ms VBW 2 MHz Mode Auto Sweep
1Pk Max
M1[1] -3.35 dBm
5.8307890 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
M1
CF 5.825 GHz
691 pts
Span 25.0 MHz
Measuring...

802.11a	
CH_L	
CH_M	
CH_H	

802.11ac (HT40)	
CH_L	
CH_H	

802.11n (HT40)	
CH_L	
CH_H	

802.11ac (HT80)

CH_M	

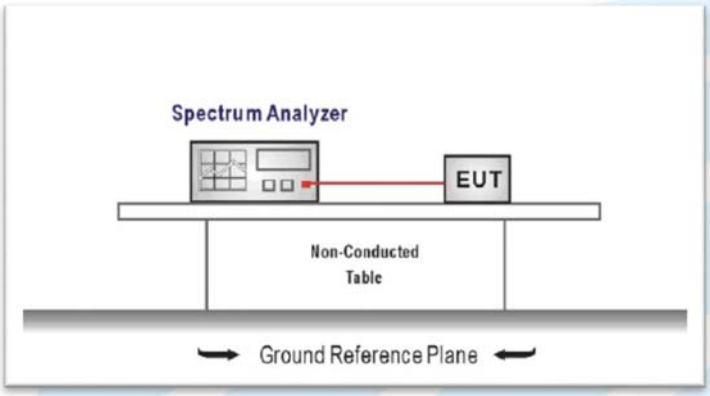
Spectrum
Ref Level 15.00 dBm Offset 1.00 dB RBW 500 kHz
Att 25 dB SWT 1 ms VBW 2 MHz Mode Auto Sweep
1Pk Max
M1[1] -8.63 dBm
5.784550 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
M1
CF 5.775 GHz
691 pts
Span 100.0 MHz
Measuring...

5.5. 99% Occupy bandwidth & 26dB bandwidth

LIMIT

The bandwidth at 26dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating at its maximum duty cycle, at its maximum power control level, as defined in KDB 789033 D02 , and at the appropriate frequencies. The spectrum analyzer's bandwidth measurement function is configured to measure the 26dB bandwidth.

TEST CONFIGURATION



TEST PROCEDURE

According KDB 789033 D02 – Section C
1. The signal analyzers' automatic bandwidth measurement capability was used to perform the 26dB bandwidth measurement. The "X" dB bandwidth parameter was set to X = 26. The automatic bandwidth measurement function also has the capability of simultaneously measuring the 99% occupied bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW = approximately 1% of the emission bandwidth
3. VBW > 3 x RBW
4. Detector = Peak
5. Trace mode = max hold

TEST MODE:

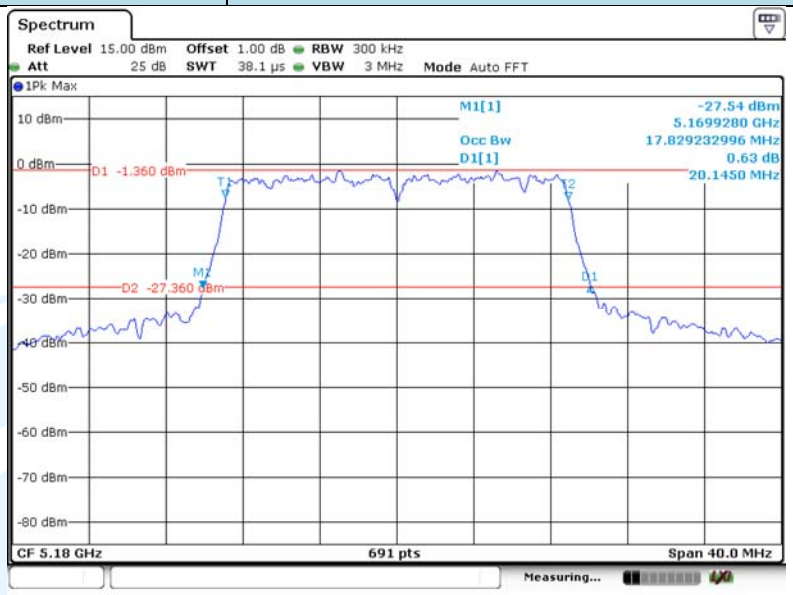
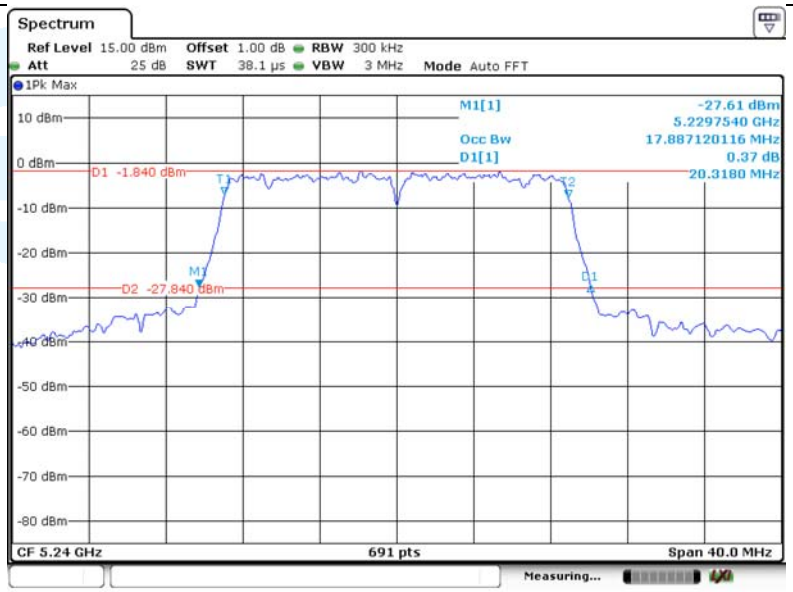
Please refer to the clause 3.3

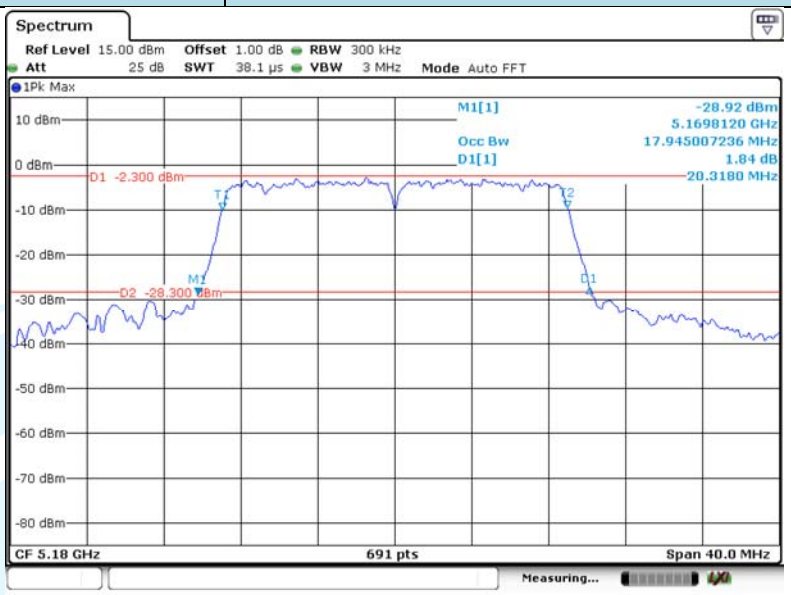
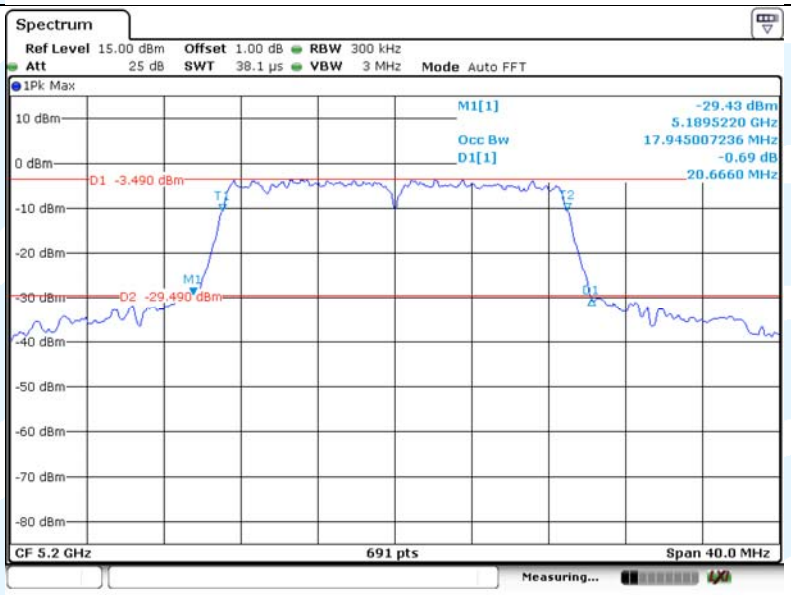
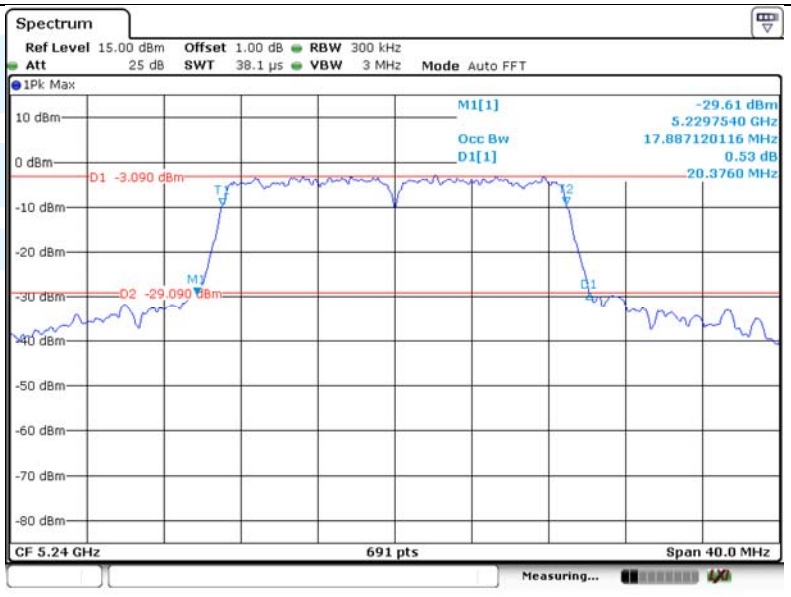
TEST RESULTS

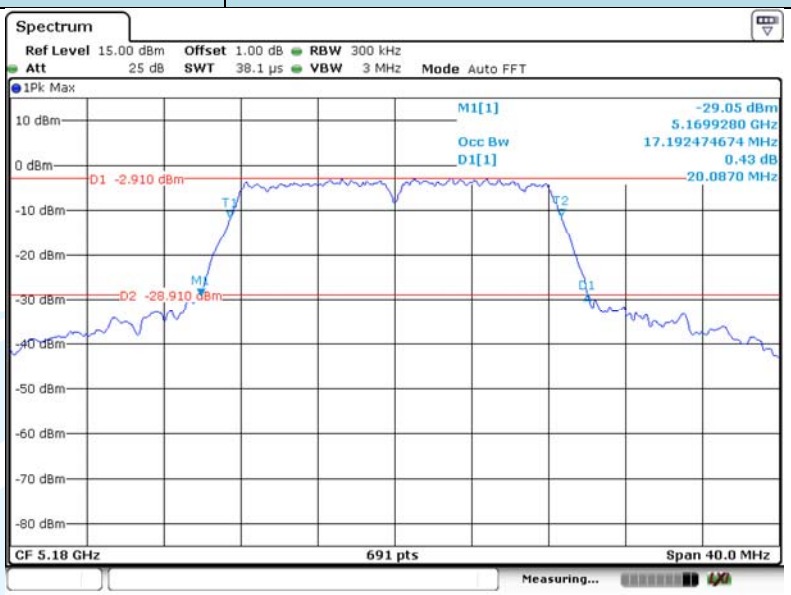
☒ **Passed** ☐ **Not Applicable**

Band	Bandwidth (MHz)	Type	Channel	99% Occupy bandwidth (MHz)	26dB bandwidth (MHz)	Result
I	20	802.11ac	CH_L	17.8292	20.1450	Pass
			CH_M	17.8871	20.0870	
			CH_H	17.8871	20.3180	
		802.11n	CH_L	17.9450	20.3180	Pass
			CH_M	17.9450	20.6660	
			CH_H	17.8871	20.3760	
		802.11a	CH_L	17.1925	20.0870	Pass
			CH_M	17.1925	20.7810	
			CH_H	17.0767	20.0290	
	40	802.11ac	CH_L	36.5847	40.8700	Pass
			CH_H	36.7004	40.9800	
		802.11n	CH_L	36.8162	40.8700	Pass
			CH_H	36.9320	41.1000	
	80	802.11ac	CH_M	75.2533	82.8900	Pass
II	20	802.11ac	CH_L	17.8292	20.0870	Pass
			CH_M	17.8292	20.0290	
			CH_H	17.8871	20.2600	
		802.11n	CH_L	17.9450	20.7810	Pass
			CH_M	17.8871	20.2600	
			CH_H	18.0029	21.7660	
		802.11a	CH_L	17.0188	19.9710	Pass
			CH_M	17.0767	20.3180	
			CH_H	17.0767	20.3180	
	40	802.11ac	CH_L	36.7004	41.1000	Pass
			CH_H	36.7004	41.1000	
		802.11n	CH_L	36.7004	41.1000	Pass
			CH_H	36.9320	41.2200	
	80	802.11ac	CH_M	75.2533	82.6600	Pass

Band	Bandwidth (MHz)	Type	Channel	99% Occupy bandwidth (MHz)	26dB bandwidth (MHz)	Result
III	20	802.11ac	CH_L	17.9450	20.3180	Pass
			CH_M	17.8871	20.1450	
			CH_H	17.8292	20.2030	
		802.11n	CH_L	18.0029	20.4340	Pass
			CH_M	18.0029	20.3760	
			CH_H	17.8871	20.3760	
		802.11a	CH_L	17.0767	20.0870	Pass
			CH_M	17.0767	20.0868	
			CH_H	17.0767	20.2026	
	40	802.11ac	CH_L	36.8162	41.3300	Pass
			CH_M	37.0478	40.9800	
			CH_H	36.5847	40.8700	
		802.11n	CH_L	37.0478	41.4500	Pass
			CH_M	37.1635	41.4500	
			CH_H	36.8162	40.9800	
	80	802.11ac	CH_L	75.2532	82.8900	Pass
			CH_H	75.2532	82.8900	

Band I	
99% Occupy bandwidth	**802.11ac (HT20)**
CH_L	
CH_M	
CH_H	

99% Occupy bandwidth	802.11n (HT20)
CH_L	
CH_M	
CH_H	

99% Occupy bandwidth	802.11a
CH_L	
CH_M	
CH_H