RADIO TEST REPORT

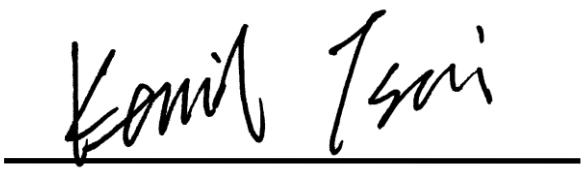
FCC 47 CFR PART 15 SUBPART E
INDUSTRY CANADA RSS-247

Test Standard	**FCC Part 15.247 + IC RSS-247 issue 2 and IC RSS-GEN issue 5**
Brand name	**Getac**
Applicant	**Getac Technology Corp.**
Product name	**Body Worn Camera**
Model No.	**BC-03**
Test Result	**Pass**

The test Result was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were given in ANSI C63.10: 2013 and compliance standards.

The test results of this report relate only to the tested sample (EUT) identified in this report.
The test Report of full or partial shall not copy. Without written approval of Compliance Certification Services Inc.(Wugu Laboratory)

Approved by: *Reviewed by:*



Kevin Tsai
Deputy Manager

Jerry Chuang
Engineer

Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	April 18, 2019	Initial Issue	ALL	May Lin

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1. GENERAL INFORMATION

1.1 EUT INFORMATION

Applicant	Getac Technology Corp. 5F, Building A2, No.209, Sec.1, Nangang Rd., Nangang Dist., Taipei City 11568, Taiwan.
Manufacturer	Getac Technology Corp. 4F., NO.1, R&D ROAD 2, SCIENCE PARK, HSINCHU, TAIWAN, R.O.C.
Equipment	Body Worn Camera
Model Name	BC-03
Model Discrepancy	N/A
Received Date	December 22, 2018
Date of Test	January 14 ~ February 20, 2019
Power Operation	1. Powered from battery: DC 5V 2. Powered from docking
HW Version	PWA-BWC-BC-03
FW Version	4.0.

Output Power(W)

Band	Mode	Frequency Range (MHz)	Output Power (W)	EIRP Output Power (w)
U-NII-1	IEEE 802.11a	5180 ~ 5240	0.0069	0.0159
	IEEE 802.11n HT 20	5180 ~ 5240	0.0069	0.0159
	IEEE 802.11n HT 40	5190 ~ 5230	0.0037	0.0084
	IEEE 802.11ac VHT 80	5210	0.0031	0.0072
U-NII-2a	IEEE 802.11a	5260 ~ 5320	0.0076	0.0174
	IEEE 802.11n HT 20	5260 ~ 5320	0.0031	0.0071
	IEEE 802.11n HT 40	5270 ~ 5310	0.0041	0.0093
	IEEE 802.11ac VHT 80	5290	0.0035	0.0081
U-NII-2c	IEEE 802.11a	5500 ~ 5700	0.0126	0.0290
	IEEE 802.11n HT 20	5500 ~ 5700	0.0052	0.0121
	IEEE 802.11n HT 40	5510 ~ 5670	0.0075	0.0172
	IEEE 802.11ac VHT 80	5530 ~ 5610	0.0060	0.0137
U-NII-3	IEEE 802.11a	5745 ~ 5825	0.0104	0.0826
	IEEE 802.11n HT 20	5745 ~ 5825	0.0046	0.0979
	IEEE 802.11n HT 40	5755 ~ 5795	0.0064	0.0841
	IEEE 802.11ac VHT 80	5775	0.0060	0.0320

1.2 EUT CHANNEL INFORMATION

Frequency Range	**UNII-1** IEEE 802.11a: 5180 ~ 5240 MHz IEEE 802.11n HT 20 MHz: 5180 ~ 5240 MHz IEEE 802.11n HT 40 MHz: 5190 ~ 5230 MHz IEEE 802.11ac VHT 80 MHz: 5210 MHz **UNII-2a** IEEE 802.11a: 5260 ~ 5320 MHz IEEE 802.11n HT 20 MHz: 5260 ~ 5320 MHz IEEE 802.11n HT 40 MHz: 5270 ~ 5310 MHz IEEE 802.11ac VHT 80 MHz: 5290 MHz **UNII-2c** IEEE 802.11a: 5500 ~ 5700 MHz IEEE 802.11n HT 20 MHz: 5500 ~ 5700 MHz IEEE 802.11n HT 40 MHz: 5510 ~ 5670 MHz IEEE 802.11ac VHT 80 MHz: 5530 ~ 5610 MHz **UNII-3** IEEE 802.11a: 5745 ~ 5825 MHz IEEE 802.11n HT 20 MHz: 5745 ~ 5825 MHz IEEE 802.11n HT 40 MHz: 5755 ~ 5795 MHz IEEE 802.11ac VHT 80 MHz: 5775 MHz
Modulation Type	1. IEEE 802.11a mode: OFDM 2. IEEE 802.11n HT 20 MHz mode: OFDM 3. IEEE 802.11n HT 40 MHz mode: OFDM 4. IEEE 802.11ac VHT 80 MHz mode: OFDM

Remark:
Refer as ANSI C63.10: 2013 clause 5.6.1 Table 4 for test channels

Number of frequencies to be tested		
Frequency range in which device operates	**Number of frequencies**	**Location in frequency range of operation**
☐ 1 MHz or less	1	Middle
☐ 1 MHz to 10 MHz	2	1 near top and 1 near bottom
☒ More than 10 MHz	3	1 near top, 1 near middle, and 1 near bottom

1.3 ANTENNA INFORMATION

Antenna Type	☒ PIFA ☐ PCB ☐ Dipole ☐ Coils
Antenna Gain	3.62 dBi

1.4 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
AC Powerline Conducted Emission	+/- 2.96
Emission bandwidth, 20dB bandwidth	+/- 1.4003
RF output power, conducted	+/- 1.1372
Power density, conducted	+/- 1.4003
3M Semi Anechoic Chamber / 30M~200M	+/- 4.0138
3M Semi Anechoic Chamber / 200M~1000M	+/- 3.9483
3M Semi Anechoic Chamber / 1G~8G	+/- 2.5975
3M Semi Anechoic Chamber / 8G~18G	+/- 2.6112
3M Semi Anechoic Chamber / 18G~26G	+/- 2.7389
3M Semi Anechoic Chamber / 26G~40G	+/- 2.9683

***Remark**:*
1.This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2
2. ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report.

1.5 FACILITIES AND TEST LOCATION

All measurement facilities used to collect the measurement data are located at

No.11, Wugong 6th Rd., Wugu Dist., New Taipei City 24891, Taiwan. (R.O.C.)

Test site	Test Engineer	Remark
AC Conduction Room	Dally Hong	-
Radiation	Jerry Chuang	-
RF Conducted	Jerry Chuang	-

Remark: *The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.*

1.6 INSTRUMENT CALIBRATION

RF Conducted Test Site					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal Date**	**Cal Due**
Coaxial Cable	Woken	WC12	CC002	06/29/2018	06/28/2019
Power Meter	Anritsu	ML2495A	1149001	02/06/2018	02/05/2019
Power Meter	Anritsu	ML2495A	1149001	02/12/2019	02/11/2020
Power Seneor	Anritsu	MA2491A	030982	02/07/2018	02/06/2019
Power Seneor	Anritsu	MA2491A	030982	02/12/2019	02/11/2020
Signal Analyzer	R&S	FSV 40	101073	09/27/2018	09/26/2019

3M 966 Chamber Test Site					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal Date**	**Cal Due**
Bilog Antenna	Sunol Sciences	JB3	A030105	07/13/2018	07/12/2019
Cable	HUBER SUHNER	SUCOFLEX 104PEA	25157	06/29/2018	06/28/2019
Cable	HUBER SUHNER	SUCOFLEX 104PEA	20995	06/29/2018	06/28/2019
Digital Thermo-Hygro Meter	WISEWIND	1206	D07	01/30/2019	01/29/2020
Digital Thermo-Hygro Meter	WISEWIND	1206	D07	02/08/2018	02/07/2019
double Ridged Guide Horn Antenna	ETC	MCTD 1209	DRH13M02003	08/20/2018	08/19/2019
High Pass Filters	MICRO TRONICS	HPM13195	003	05/14/2018	05/13/2019
Horn Antenna	ETS LINDGREN	3116	00026370	12/26/2018	12/25/2019
Loop Ant	COM-POWER	AL-130	121051	03/21/2018	03/20/2019
Pre-Amplifier	EMEC	EM330	060609	06/29/2018	06/28/2019
Pre-Amplifier	MITEQ	AMF-6F-260400-40-8P	985646	06/21/2018	06/20/2019
Pre-Amplifier	HP	8449B	3008A00965	06/29/2018	06/28/2019
PSA Series Spectrum Analyzer	Agilent	E4446A	MY46180323	05/31/2018	05/30/2019
Antenna Tower	CCS	CC-A-1F	N/A	N.C.R	N.C.R
Controller	CCS	CC-C-1F	N/A	N.C.R	N.C.R
Turn Table	CCS	CC-T-1F	N/A	N.C.R	N.C.R

Remark: *Each piece of equipment is scheduled for calibration once a year.*

AC Conducted Emissions Test Site					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal Date**	**Cal Due**
CABLE	EMCI	CFD300-NL	CERF	06/29/2018	06/28/2019
EMI Test Receiver	R&S	ESCI	100064	07/24/2018	07/23/2019
LISN	SCHWARZBECK	NSLK 8127	8127-541	01/31/2019	01/30/2020
LISN	SCHAFFNER	NNB 41	03/10013	02/13/2019	02/12/2020

DFS Test Site					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal Date**	**Cal Due**
Attenuator	E-INSTRUMENT	EPA-600H	EC1400050	07/25/2018	07/24/2019
Coaxial Cable	Woken	SS402	DC001	06/29/2018	06/28/2019
Coaxial Cable	Woken	SS402	DC002	06/29/2018	06/28/2019
Coaxial Cable	Woken	SS402	DC003	06/29/2018	06/28/2019
Coaxial Cable	Woken	WC12	DC004	06/29/2018	06/28/2019
Coaxial Cable	Woken	WC12	DC005	06/29/2018	06/28/2019
Power Divider	Solvang Technology	STI08-0015	008	07/27/2018	07/26/2019
Power Divider	Marvelous Microwave	MVE8586	16011206	07/27/2018	07/26/2019
Spectrum Analyzer	R&S	FSU 26	100258	06/25/2018	06/24/2019
Vector Signal Generator	R&S	SMU 200A	101480	04/10/2018	04/09/2019

Remark: *Each piece of equipment is scheduled for calibration once a year.*

1.7 SUPPORT AND EUT ACCESSORIES EQUIPMENT

EUT Accessories Equipment					
No.	**Equipment**	**Brand**	**Model**	**Series No.**	**FCC ID**
	N/A				

Support Equipment					
No.	**Equipment**	**Brand**	**Model**	**Series No.**	**FCC ID**
1	NB(B)	Toshiba	PORTEGE R30-A	N/A	PD97260H

1.8 TEST METHODOLOGY AND APPLIED STANDARDS

The test methodology, setups and results comply with all requirements in accordance with ANSI C63.10:2013, FCC Part 2, FCC Part 15.407, KDB 662911 D01, KDB 789033 D02, KDB 905462 D02.

2. TEST SUMMERY

FCC Standard Sec.	IC Standard Sec.	Chapter	Test Item	Result
15.203	-	1.3	Antenna Requirement	Pass
15.207	RSS-Gen(8.8)	4.1	AC Conducted Emission	Pass
15.403(i)	-	4.2	26dB Bandwidth	Pass
15.407(e)	RSS-247(6.2.4)	4.2	6dB Bandwidth	Pass
15.403(i)	RSS-Gen(6.6)	4.2	Occupied Bandwidth (99%)	Pass
15.407(a)	RSS-247(6.2.1.1) RSS-247(6.2.2.1) RSS-247(6.2.3.1) RSS-247(6.2.4.1)	4.3	Output Power Measurement	Pass
15.407(a)	RSS-247(6.2.1.1) RSS-247(6.2.2.1) RSS-247(6.2.3.1) RSS-247(6.2.4.1)	4.4	Power Spectral Density	Pass
15.407(b)	RSS-247(6.2.1.2) RSS-247(6.2.2.2) RSS-247(6.2.3.2) RSS-247(6.2.4.2)	4.5	Radiation Band Edge	Pass
15.407(b)	RSS-247(6.2.1.2) RSS-247(6.2.2.2) RSS-247(6.2.3.2) RSS-247(6.2.4.2)	4.5	Radiation Spurious Emission	Pass
15.407(g)	RSS-Gen(6.11)	4.6	Frequency Stability	Pass
15.407(h)	RSS-247(6.3)	4.7	Dynamic Frequency Selection	Pass

3. DESCRIPTION OF TEST MODES

3.1 THE WORST MODE OF OPERATING CONDITION

<table>
<tr><td>Operation mode</td><td>1. IEEE 802.11a mode: 6Mbps
2. IEEE 802.11n HT 20 MHz mode: MCS0
3. IEEE 802.11n HT 40 MHz mode: MCS0
4. IEEE 802.11ac VHT 80 MHz mode: MCS0</td></tr>
<tr><td>Operating Frequency Range &
Number of Channels</td><td>
<table>
<tr><th></th><th>Mode</th><th>Frequency Range (MHz)</th><th>Number of Channels</th></tr>
<tr><td rowspan="4">U-NII-1</td><td>IEEE 802.11a</td><td>5180 ~ 5240</td><td>4 Channels</td></tr>
<tr><td>IEEE 802.11n HT 20 MHz</td><td>5180 ~ 5240</td><td>4 Channels</td></tr>
<tr><td>IEEE 802.11n HT 40 MHz</td><td>5190 ~ 5230</td><td>2 Channels</td></tr>
<tr><td>IEEE 802.11ac VHT 80 MHz</td><td>5210</td><td>1 Channels</td></tr>
<tr><td rowspan="4">U-NII-2a</td><td>IEEE 802.11a</td><td>5260 ~ 5320</td><td>4 Channels</td></tr>
<tr><td>IEEE 802.11n HT 20 MHz</td><td>5260 ~ 5320</td><td>4 Channels</td></tr>
<tr><td>IEEE 802.11n HT 40 MHz</td><td>5270 ~ 5310</td><td>2 Channels</td></tr>
<tr><td>IEEE 802.11ac VHT 80 MHz</td><td>5290</td><td>1 Channels</td></tr>
<tr><td rowspan="4">U-NII-2c</td><td>IEEE 802.11a</td><td>5500 ~ 5700</td><td>11 Channels</td></tr>
<tr><td>IEEE 802.11n HT 20 MHz</td><td>5500 ~ 5700</td><td>11 Channels</td></tr>
<tr><td>IEEE 802.11n HT 40 MHz</td><td>5510 ~ 5670</td><td>5 Channels</td></tr>
<tr><td>IEEE 802.11ac VHT 80 MHz</td><td>5530 ~ 5610</td><td>1 Channels</td></tr>
<tr><td rowspan="4">U-NII-3</td><td>IEEE 802.11a</td><td>5745 ~ 5825</td><td>5 Channels</td></tr>
<tr><td>IEEE 802.11n HT 20 MHz</td><td>5745 ~ 5825</td><td>5 Channels</td></tr>
<tr><td>IEEE 802.11n HT 40 MHz</td><td>5755 ~ 5795</td><td>2 Channels</td></tr>
<tr><td>IEEE 802.11ac VHT 80 MHz</td><td>5775</td><td>1 Channels</td></tr>
</table>
</td></tr>
</table>

Remark: For Canada the EUT Frequency Range 5600~5650MHz will be disabled.

3.2 THE WORST MODE OF MEASUREMENT

AC Power Line Conducted Emission	
Test Condition	**AC Power line conducted emission for line and neutral**
Power supply Mode	**Mode 1: EUT power by Docking (MD-03_8 Port)** **Mode 2: EUT power by Docking (VD-03_1 Port)**
Worst Mode	☐ **Mode 1** ☒ **Mode 2** ☐ **Mode 3** ☐ **Mode 4**

Radiated Emission Measurement Above 1G	
Test Condition	**Band edge, Emission for Unwanted and Fundamental**
Power supply Mode	**Mode 1: EUT power by Battery** **Mode 2: EUT power by Docking (MD-03_8 Port)** **Mode 3: EUT power by Docking (VD-03_1 Port)**
Worst Mode	☒ **Mode 1** ☐ **Mode 2** ☐ **Mode 3** ☐ **Mode 4**
Worst Position	☐ **Placed in fixed position.** ☐ **Placed in fixed position at X-Plane (E2-Plane)** ☐ **Placed in fixed position at Y-Plane (E1-Plane)** ☒ **Placed in fixed position at Z-Plane (H-Plane)**
Worst Polarity	☐ **Horizontal** ☒ **Vertical**

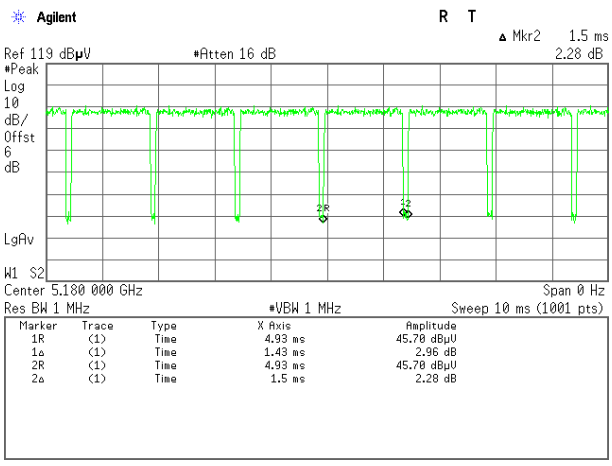
Radiated Emission Measurement Below 1G	
Test Condition	**Radiated Emission Below 1G**
Power supply Mode	**Mode 1: EUT power by Battery** **Mode 2: EUT power by Docking (MD-03_8 Port)** **Mode 3: EUT power by Docking (VD-03_1 Port)**
Worst Mode	☒ **Mode 1** ☐ **Mode 2** ☐ **Mode 3** ☐ **Mode 4**

Remark:
1. The worst mode was record in this test report.
2. EUT pre-scanned in three axis, X, Y, Z and two polarity, Horizontal and Vertical for radiated measurement. The worst case (Z-Plane and Vertical) were recorded in this report

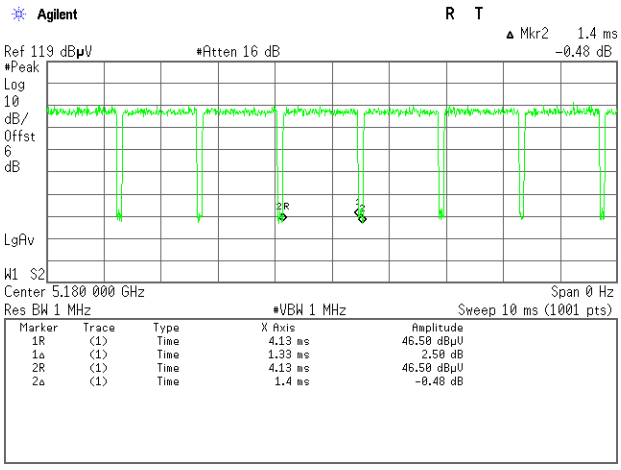
3.3 EUT DUTY CYCLE

Duty Cycle				
Configuration	TX ON (ms)	TX ALL (ms)	Duty Cycle (%)	Duty Factor(dB)
802.11a	1.4300	1.5000	95.33%	-0.21
802.11n HT20	1.3300	1.4000	95.00%	0.22
802.11n HT40	670.0000	750.0000	89.33%	-0.49
802.11ac VHT80	350.0000	420.0000	83.33%	-0.79

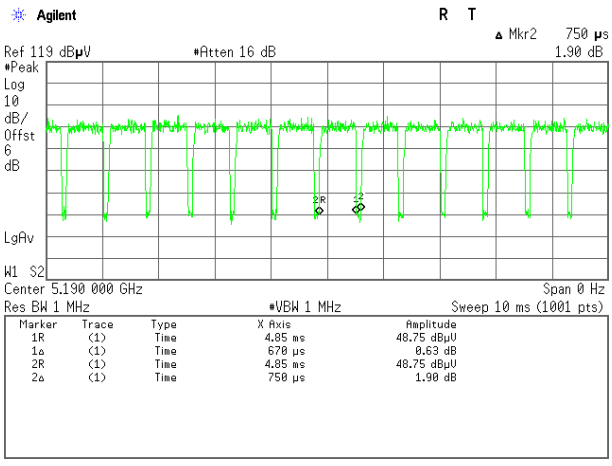
802.11a



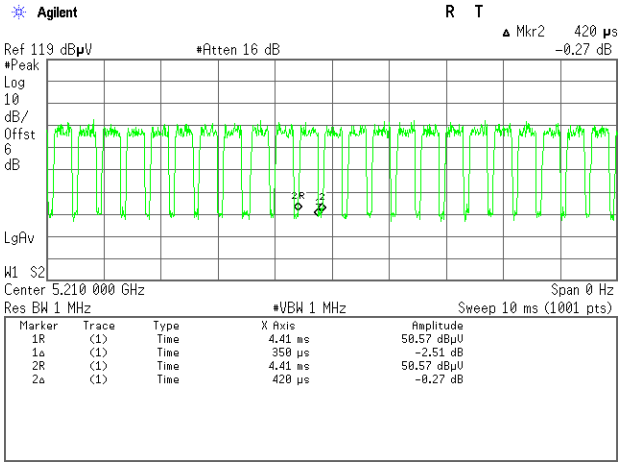
802.11n HT20



802.11n HT40



802.11ac VHT80



4. TEST RESULT

4.1 AC POWER LINE CONDUCTED EMISSION

4.1.1 Test Limit

According to §15.207(a) and RSS-GEN section 8.8,

Frequency Range (MHz)	Limits(dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56*	56 to 46*
0.50 to 5	56	46
5 to 30	60	50

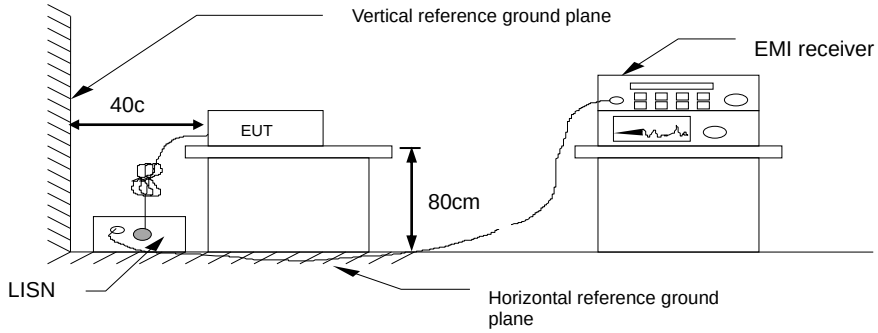
* Decreases with the logarithm of the frequency.

4.1.2 Test Procedure

Test method Refer as ANSI C63.10: 2013 clause 6.2,

1. The EUT was placed on a non-conducted table, which is 0.8m above horizontal ground plane and 0.4m above vertical ground plane.
2. EUT connected to the line impedance stabilization network (LISN)
3. Receiver set RBW of 9kHz and Detector Peak, and note as quasi-peak and average.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. Recorded Line for Neutral and Line.

4.1.3 Test Setup

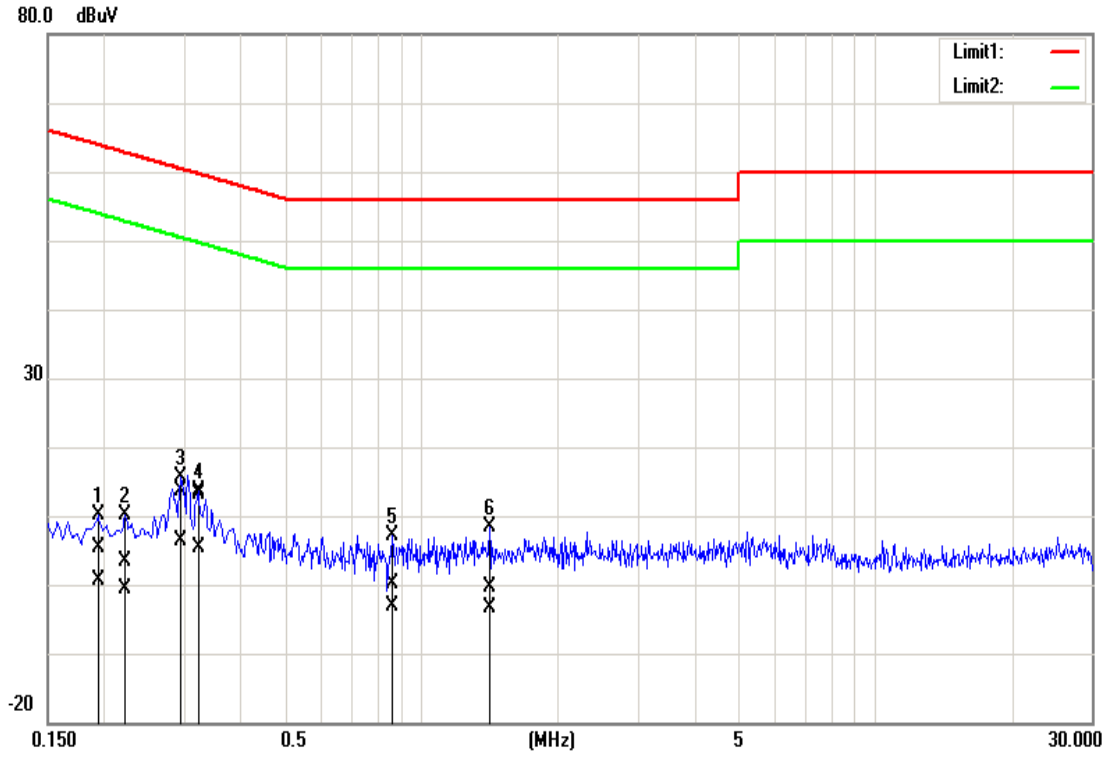


4.1.4 Test Result

Pass.

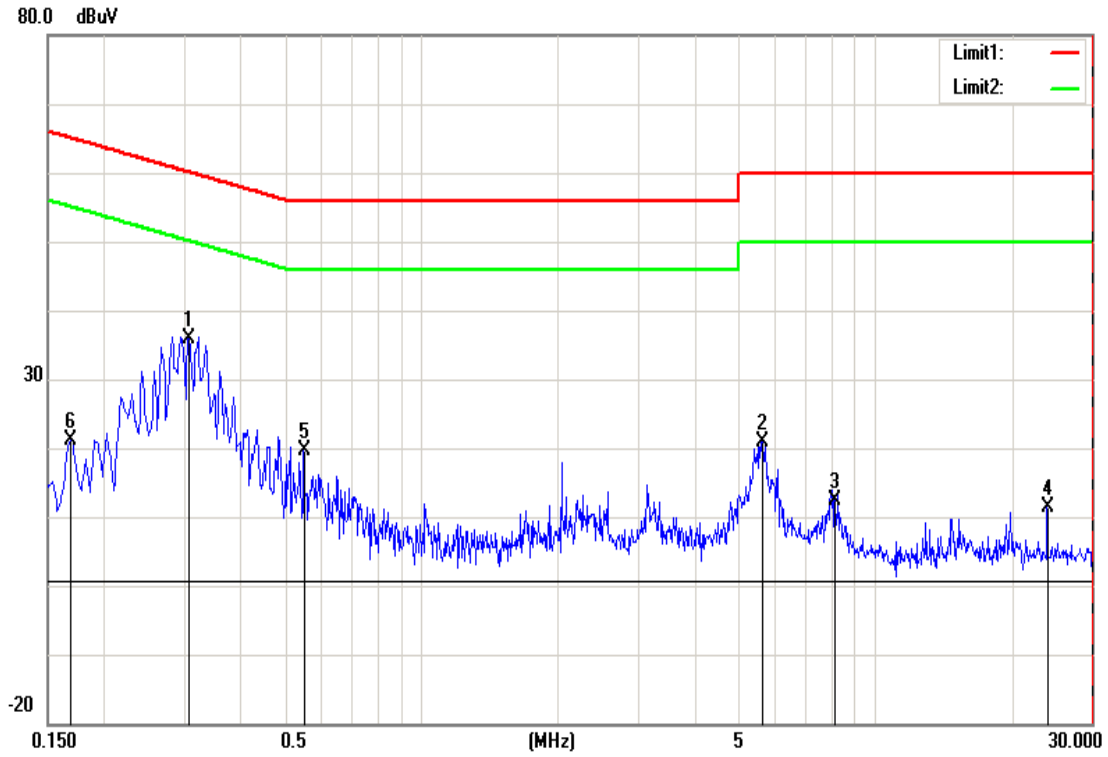
Test Data

Test Mode:	Mode 2	Temp/Hum	24(℃)/ 50%RH
Phase:	Line	Test Date	February 20, 2019
		Test Engineer	Dally Hong



Frequency (MHz)	Quasi Peak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	Quasi Peak result (dBuV)	Average result (dBuV)	Quasi Peak limit (dBuV)	Average limit (dBuV)	Quasi Peak margin (dB)	Average margin (dB)	Remark
0.1924	5.16	0.51	0.16	5.32	0.67	63.93	53.93	-58.61	-53.26	Pass
0.2220	3.20	-0.87	0.16	3.36	-0.71	62.74	52.74	-59.38	-53.45	Pass
0.2940	13.43	6.26	0.16	13.59	6.42	60.41	50.41	-46.82	-43.99	Pass
0.3200	12.83	5.24	0.18	13.01	5.42	59.71	49.71	-46.70	-44.29	Pass
0.8660	-0.12	-3.44	0.20	0.08	-3.24	56.00	46.00	-55.92	-49.24	Pass
1.4180	-0.50	-3.68	0.21	-0.29	-3.47	56.00	46.00	-56.29	-49.47	Pass

Test Mode:	Mode 2	Temp/Hum	24(℃)/ 50%RH
Phase:	Neutral	Test Date	February 20, 2019
		Test Engineer	Dally Hong



Frequency (MHz)	Quasi Peak reading (dBuV)	Average reading (dBu)	Correction factor (dB)	Quasi Peak result (dBuV)	Average result (dBuV)	Quasi Peak limit (dBuV)	Average limit (dBuV)	Quasi Peak margin (dB)	Average margin (dB)	Remark
0.1685	19.86	13.99	0.19	20.05	14.18	65.03	55.03	-44.98	-40.85	Pass
0.3067	35.65	27.76	0.19	35.84	27.95	60.06	50.06	-24.22	-22.11	Pass
0.5500	13.26	6.62	0.19	13.45	6.81	56.00	46.00	-42.55	-39.19	Pass
5.6060	12.81	4.92	0.35	13.16	5.27	60.00	50.00	-46.84	-44.73	Pass
8.1340	5.35	-2.92	0.41	5.76	-2.51	60.00	50.00	-54.24	-52.51	Pass
23.9180	6.74	3.67	0.74	7.48	4.41	60.00	50.00	-52.52	-45.59	Pass

4.2 26dB BANDWIDTH, 6dB BANDWIDTH AND OCCUPIED BANDWIDTH (99%)

4.2.1 Test Limit

26 dB Bandwidth ：For reporting purposes only.

6 dB Bandwidth ：Least 500kHz.

Occupied Bandwidth(99%) ： For reporting purposes only.

4.2.2 Test Procedure

Test method Refer as KDB 789033 D02 and ANSI C63.10: 2013 clause 6.9.2,

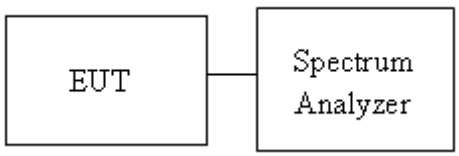
1. The EUT RF output connected to the spectrum analyzer by RF cable.
2. Setting maximum power transmit of EUT
3. UNII-1, UNII-2a and UNII-2c,

   (1) BW=20MHz : SA set RBW = 300kHz, VBW = 1MHz and Detector = Peak, to measurement 26 dB Bandwidth and 99% Bandwidth

   (2) BW=40MHz : SA set RBW = 1MHz, VBW = 3MHz and Detector = Peak, to measurement 26 dB Bandwidth and 99% Bandwidth

   (3) BW=80MHz : SA set RBW = 1MHz, VBW = 3MHz and Detector = Peak, to measurement 26 dB Bandwidth and 99% Bandwidth
4. UNII-3, SA set RBW = 100kHz, VBW = 300kHz and Detector = Peak, to measurement 26 dB Bandwidth and 99% Bandwidth
5. Measure and record the result of 6 dB Bandwidth and 99% Bandwidth. in the test report.

4.2.3 Test Setup



4.2.4 Test Result

UNII-1 5150-5250 MHz			
Test mode: IEEE 802.11a mode			
Channel	**Frequency (MHz)**	**OBW (99%) (MHz)**	**26dB BW (MHz)**
Low	5180	16.7149	21.8841
Mid	5220	16.7149	21.8116
High	5240	16.7149	21.6667
Test mode: IEEE 802.11n HT20 mode			
Channel	**Frequency (MHz)**	**OBW (99%) (MHz)**	**26dB BW (MHz)**
Low	5180	17.8002	21.5217
Mid	5220	17.8002	21.5217
High	5240	17.8002	21.4493
Test mode: IEEE 802.11n HT40 mode			
Channel	**Frequency (MHz)**	**OBW (99%) (MHz)**	**26dB BW (MHz)**
Low	5190	36.3531	40.812
High	5230	36.3531	40.696
Test mode: IEEE 802.11ac VHT80 mode			
Channel	**Frequency (MHz)**	**OBW (99%) (MHz)**	**26dB BW (MHz)**
Mid	5210	75.9479	82.319

UNII-2a 5250-5350 MHz			
Test mode: IEEE 802.11a mode			
Channel	**Frequency (MHz)**	**OBW (99%) (MHz)**	**26dB BW (MHz)**
Low	5260	16.7149	21.7391
Mid	5280	16.7149	21.7391
High	5320	16.7149	21.8116
Test mode: IEEE 802.11n HT20 mode			
Channel	**Frequency (MHz)**	**OBW (99%) (MHz)**	**26dB BW (MHz)**
Low	5260	17.8002	21.4493
Mid	5280	17.8002	21.5217
High	5320	17.8002	21.5942
Test mode: IEEE 802.11n HT40 mode			
Channel	**Frequency (MHz)**	**OBW (99%) (MHz)**	**26dB BW (MHz)**
Low	5270	36.3531	40.696
High	5310	36.3531	40.696
Test mode: IEEE 802.11ac VHT80 mode			
Channel	**Frequency (MHz)**	**OBW (99%) (MHz)**	**26dB BW (MHz)**
Mid	5290	76.1794	82.087

UNII-2c 5475-5725 MHz			
Test mode: IEEE 802.11a mode			
Channel	**Frequency (MHz)**	**OBW (99%) (MHz)**	**26dB BW (MHz)**
Low	5500	16.7872	21.8841
Mid	5580	16.7149	21.8841
High	5700	16.7826	21.8841
Test mode: IEEE 802.11n HT20 mode			
Channel	**Frequency (MHz)**	**OBW (99%) (MHz)**	**26dB BW (MHz)**
Low	5500	17.8002	21.5217
Mid	5580	17.8002	21.5942
High	5700	17.8002	21.5217
Test mode: IEEE 802.11n HT40 mode			
Channel	**Frequency (MHz)**	**OBW (99%) (MHz)**	**26dB BW (MHz)**
Low	5510	36.2373	40.58
Mid	5500	36.3531	40.696
High	5670	36.3531	40.58
Test mode: IEEE 802.11ac VHT80 mode			
Channel	**Frequency (MHz)**	**OBW (99%) (MHz)**	**26dB BW (MHz)**
Mid	5530	75.7163	82.087

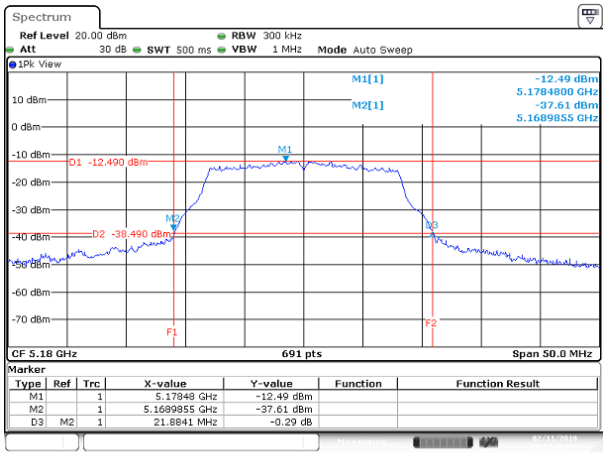
UNII-3 5725-5825MHz			
Test mode: IEEE 802.11a mode			
Channel	**Frequency (MHz)**	**OBW (99%) (MHz)**	**6dB BW (MHz)**
Low	5745	16.7872	16.3478
Mid	5785	16.7149	16.3478
High	5825	16.7872	16.3478
Test mode: IEEE 802.11n HT20 mode			
Channel	**Frequency (MHz)**	**OBW (99%) (MHz)**	**6dB BW (MHz)**
Low	5745	17.8002	17.7391
Mid	5785	17.7279	17.6957
High	5825	17.8002	17.6957
Test mode: IEEE 802.11n HT40 mode			
Channel	**Frequency (MHz)**	**OBW (99%) (MHz)**	**6dB BW (MHz)**
Low	5755	36.2373	36.406
High	5795	36.3531	36.406
Test mode: IEEE 802.11ac VHT80 mode			
Channel	**Frequency (MHz)**	**OBW (99%) (MHz)**	**6dB BW (MHz)**
Mid	5775	75.9479	75.362

26dB BANDWIDTH

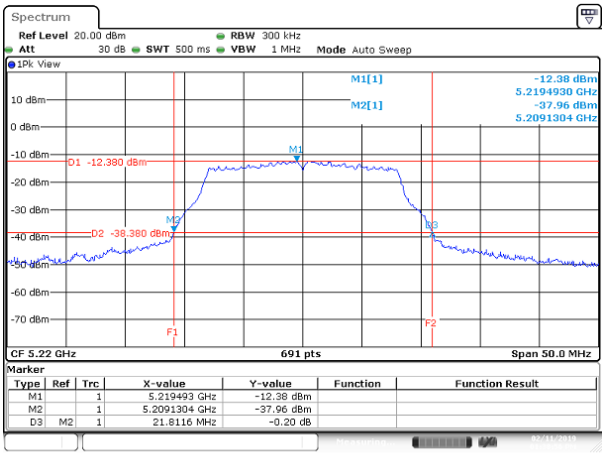
Test Data

UNII-1 IEEE 802.11a mode

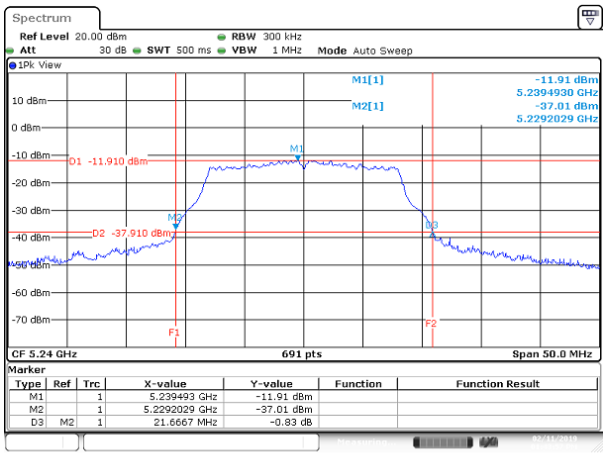
Low CH



Mid CH

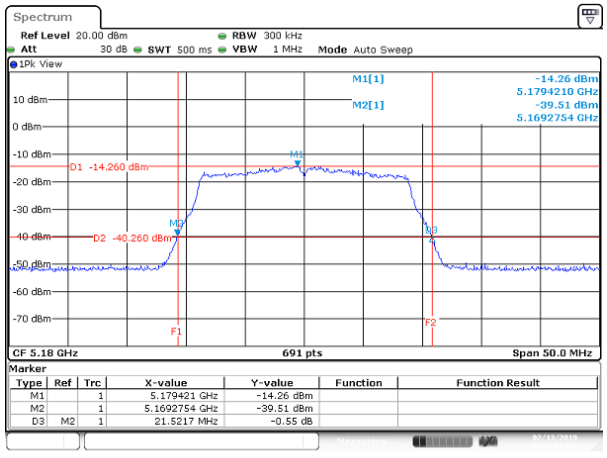


High CH

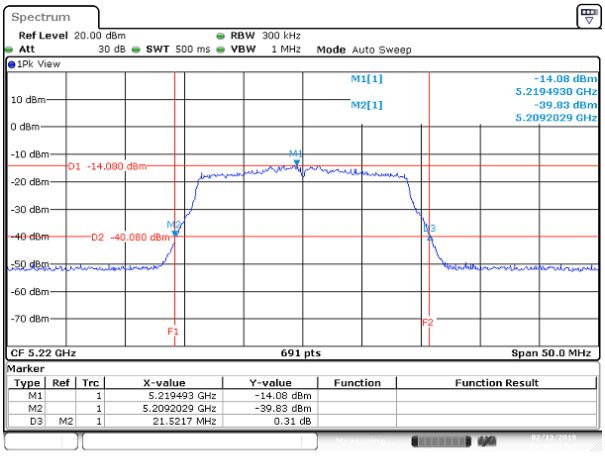


UNII-1 IEEE 802.11n HT20 mode

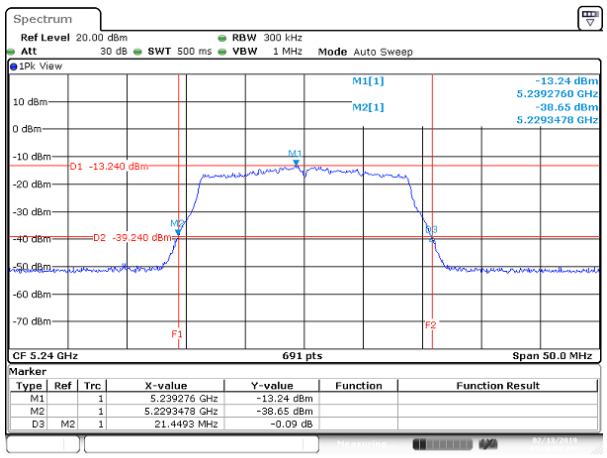
Low CH

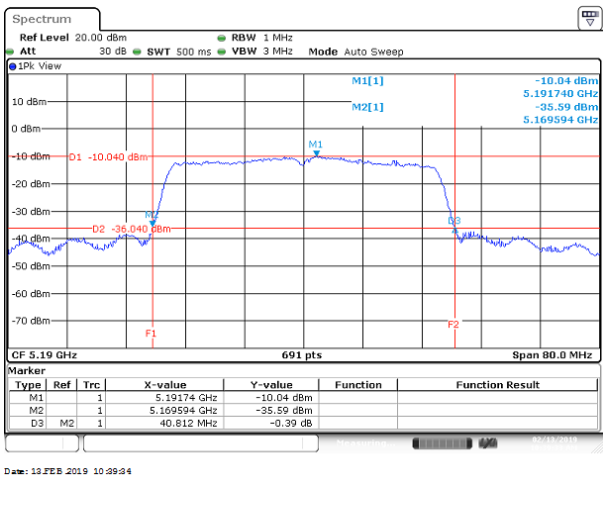
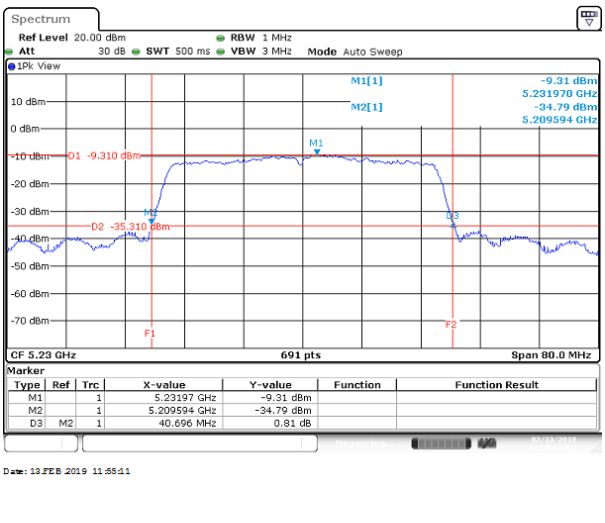


Mid CH

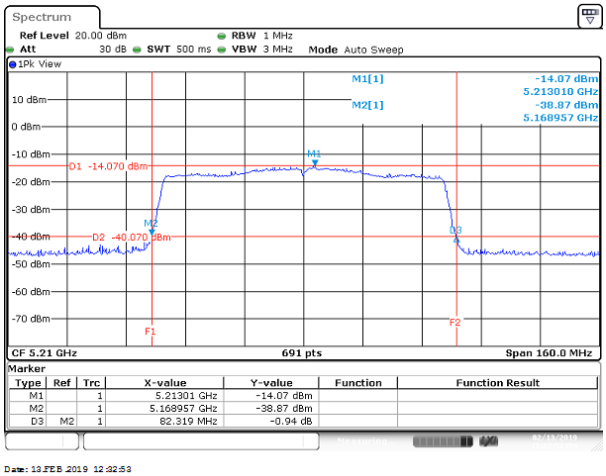


High CH



UNII-1 IEEE 802.11n HT40 mode	
Low CH	**High CH**
	

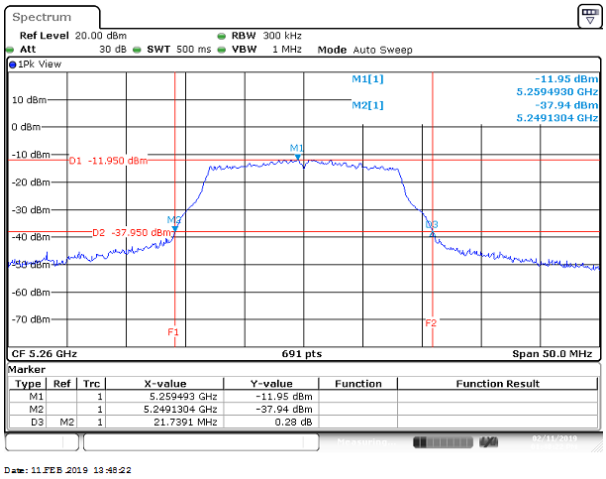
UNII-1 IEEE 802.11ac VHT80 mode
Mid CH



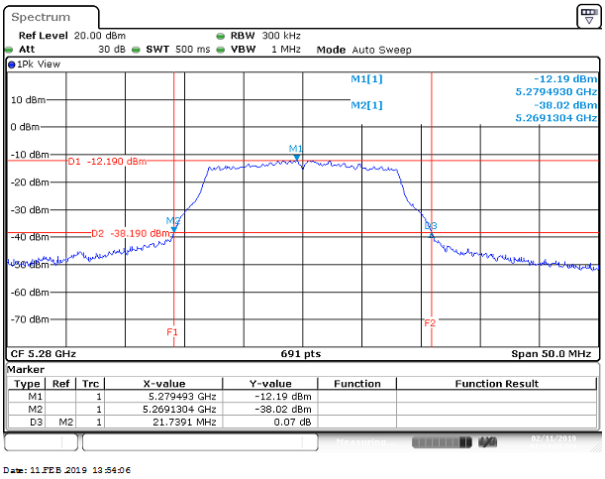
Test Data

UNII-2a IEEE 802.11a mode

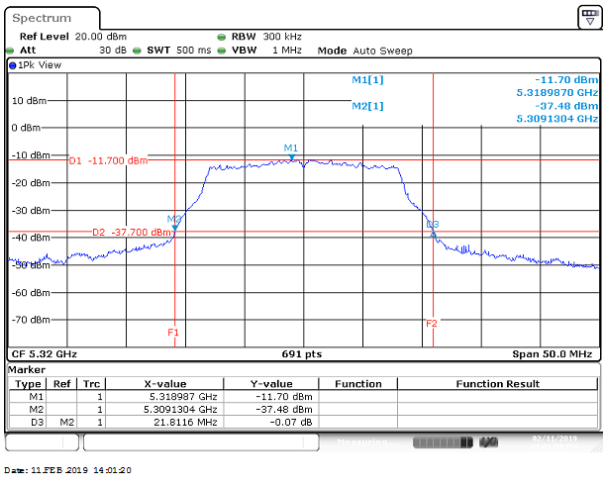
Low CH



Mid CH

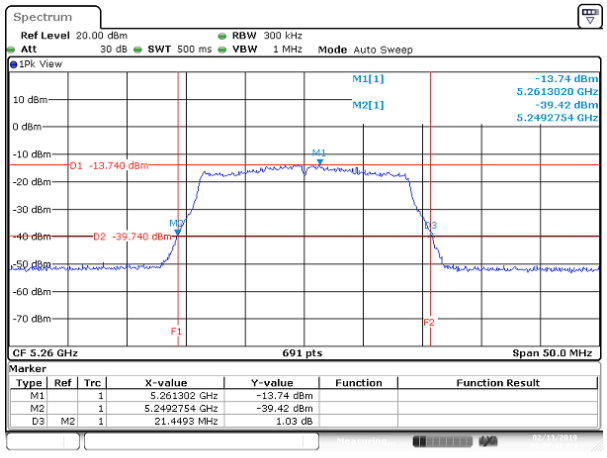


High CH

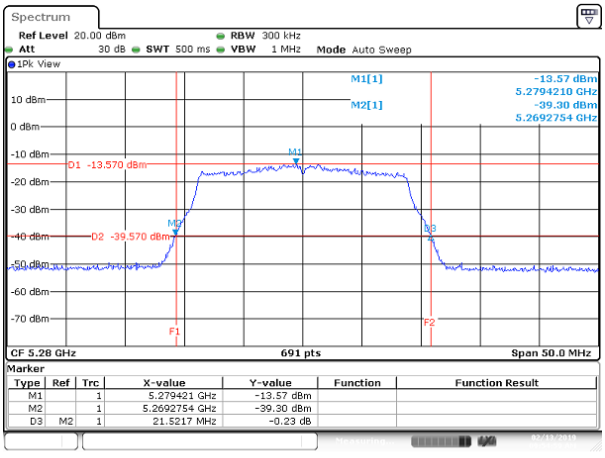


UNII-2a IEEE 802.11n HT20 mode

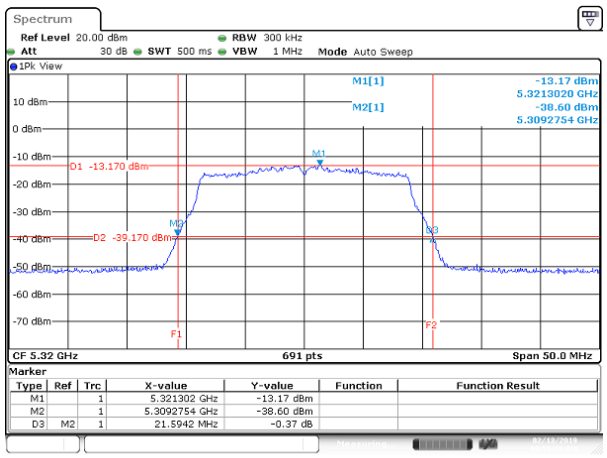
Low CH

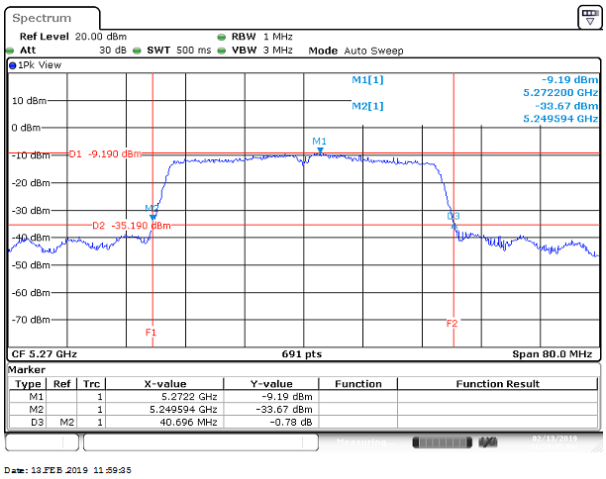
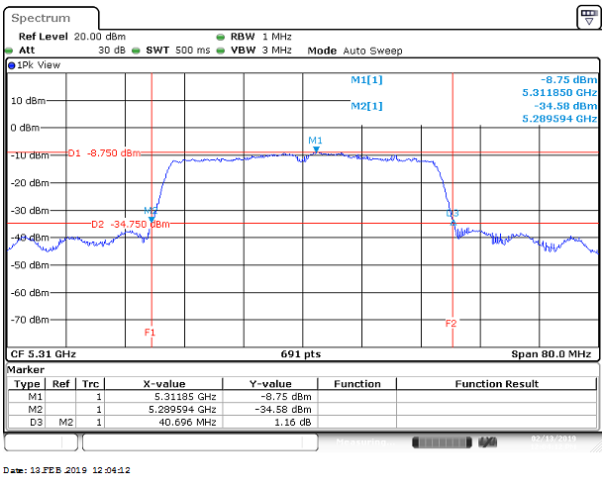


Mid CH

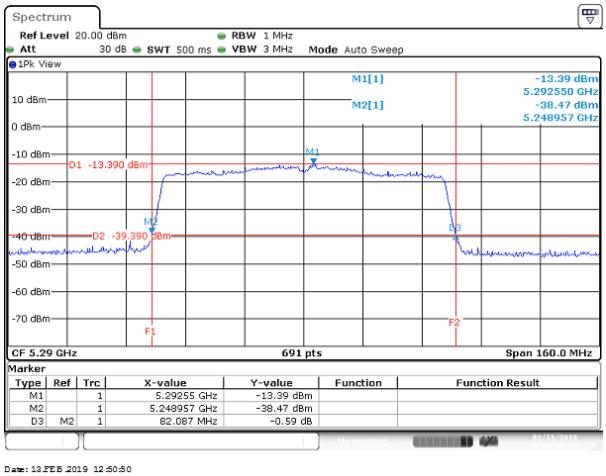


High CH



UNII-2a IEEE 802.11n HT40 mode	
Low CH	**High CH**
	

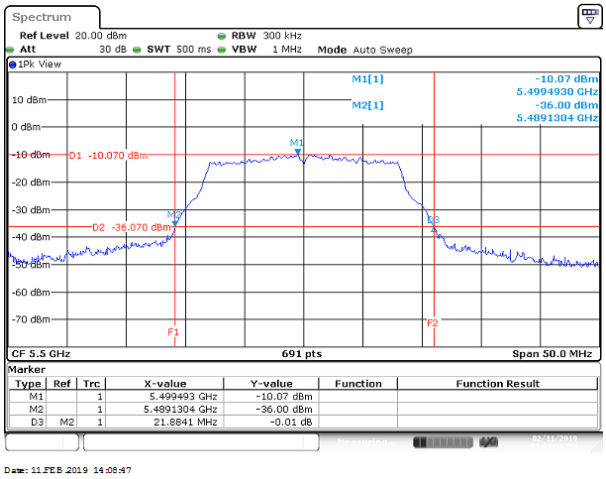
UNII-2a IEEE 802.11ac VHT80 mode
Mid CH



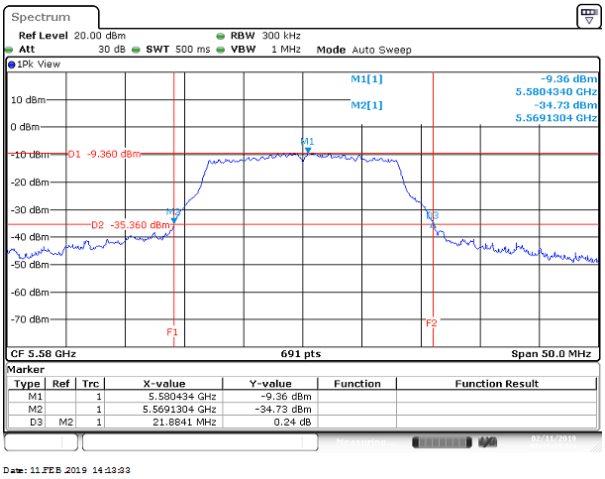
Test Data

UNII-2c IEEE 802.11a mode

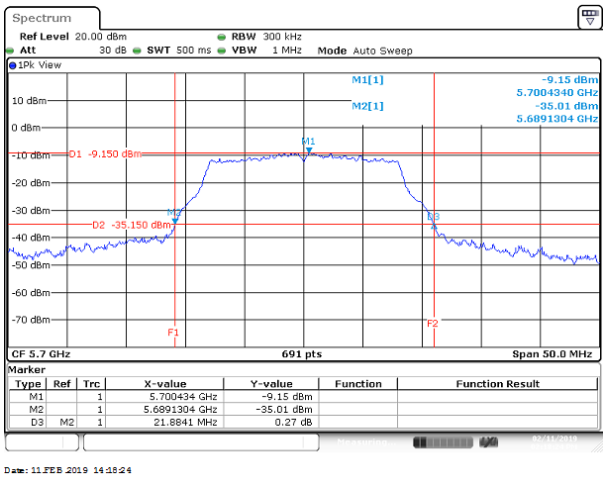
Low CH



Mid CH

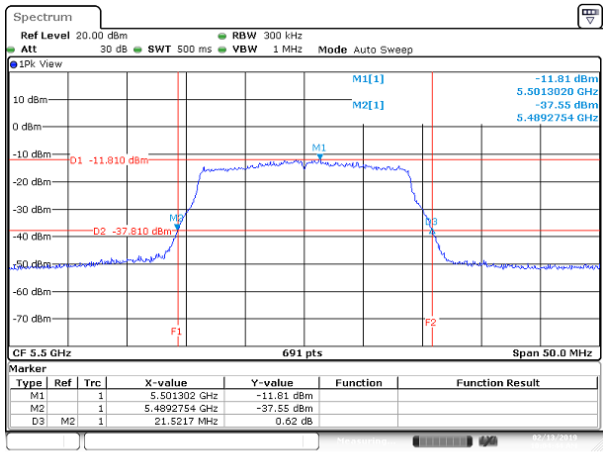


High CH

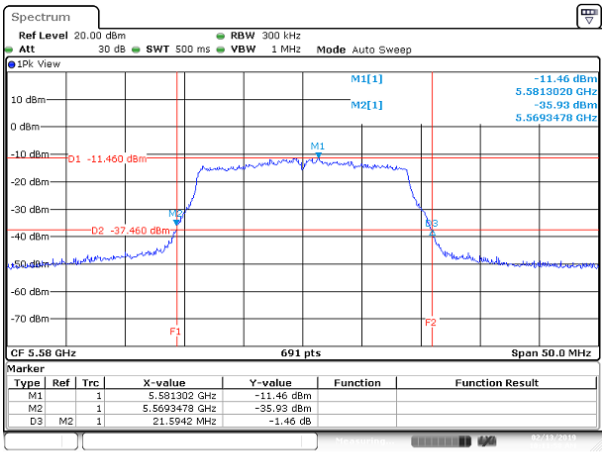


UNII-2c IEEE 802.11n HT20 mode

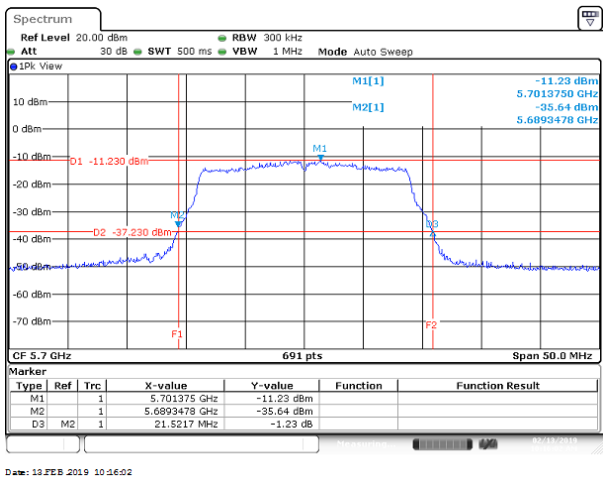
Low CH



Mid CH

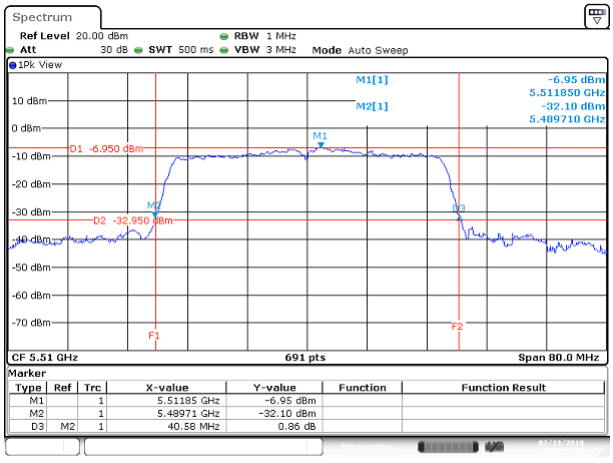


High CH



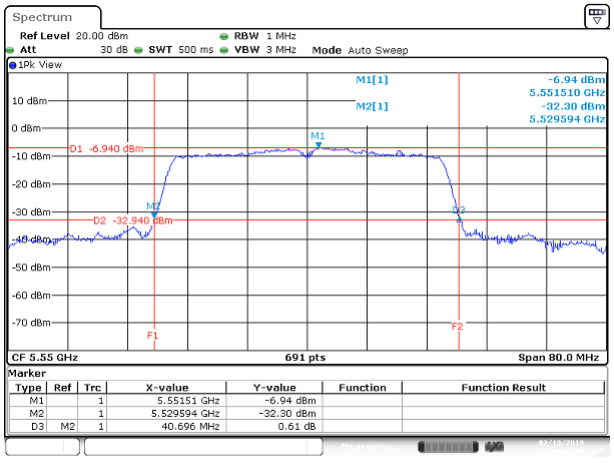
UNII-2c IEEE 802.11n HT40 mode

Low CH



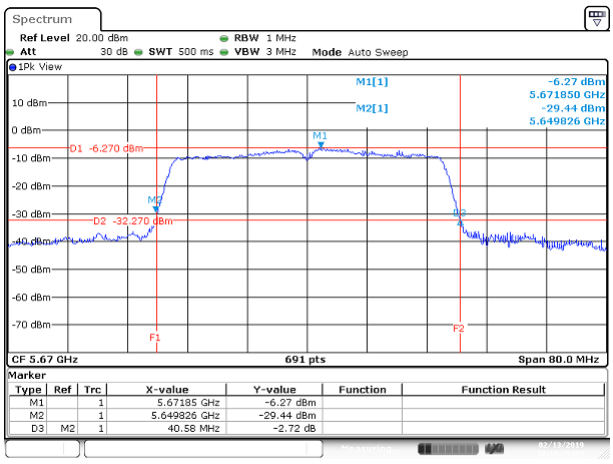
Date: 13.FEB.2019 12:09:21

Mid CH

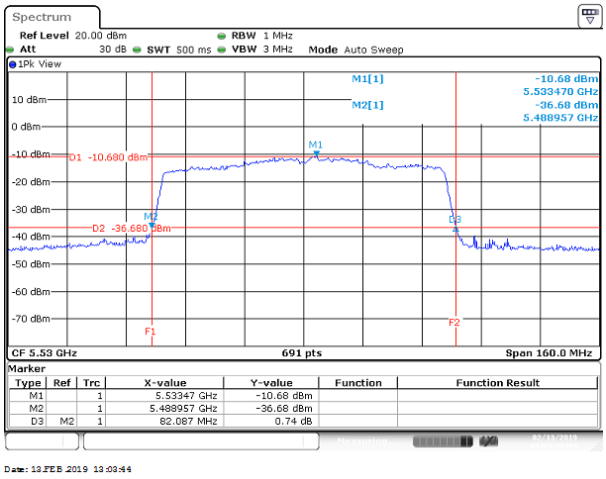


Date: 13.FEB.2019 12:14:16

High CH



Date: 13.FEB.2019 12:17:35

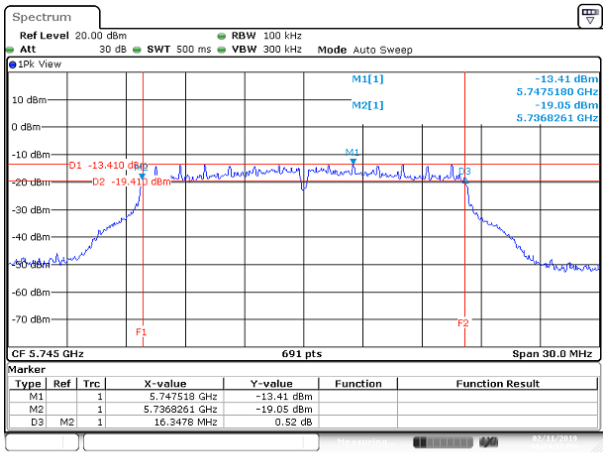
UNII-2c IEEE 802.11ac VHT80 mode	
Mid CH	
	

6dB BANDWIDTH

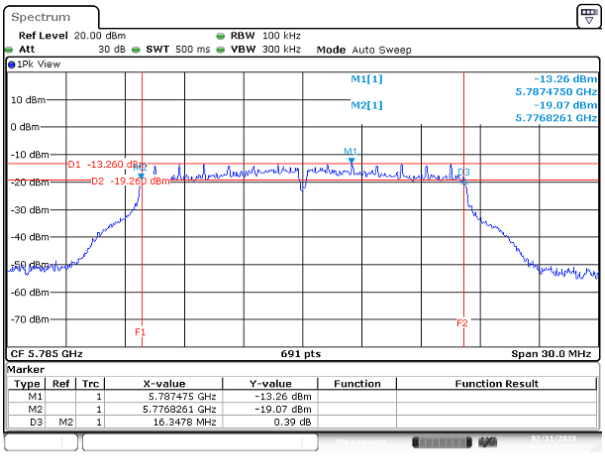
Test Data

UNII-3 IEEE 802.11a mode

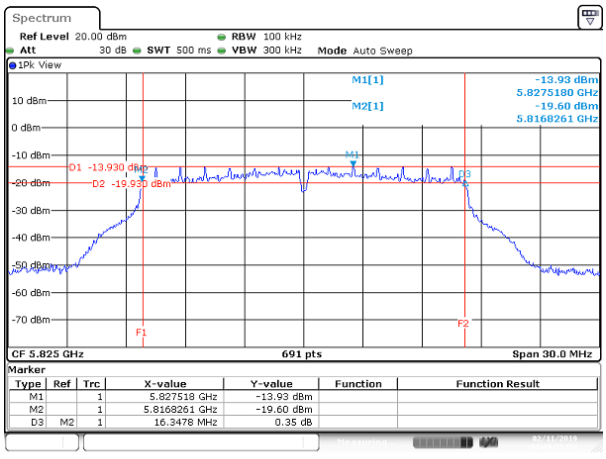
Low CH



Mid CH

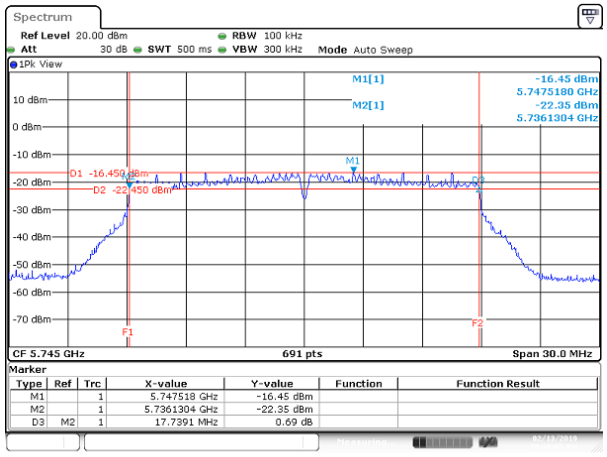


High CH



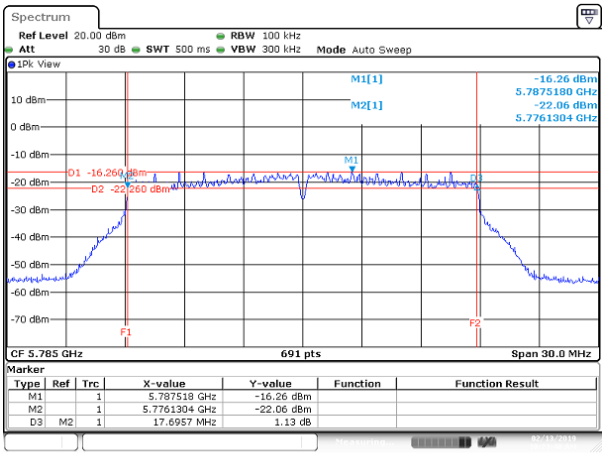
UNII-3 IEEE 802.11n HT20 mode

Low CH



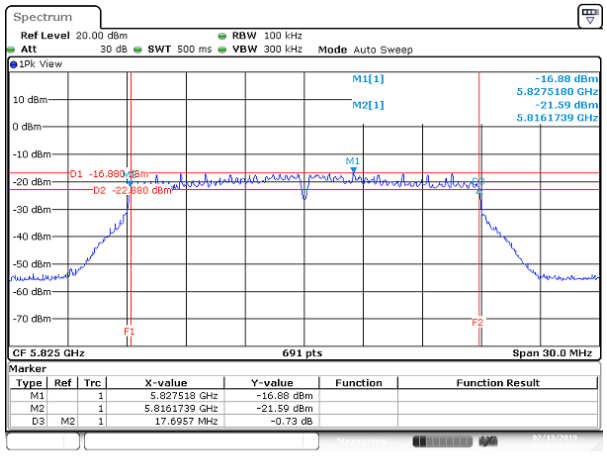
Date: 13.FEB.2019 10:20:05

Mid CH

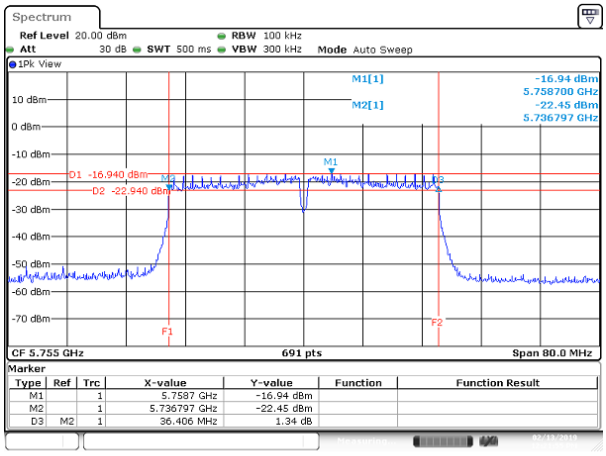
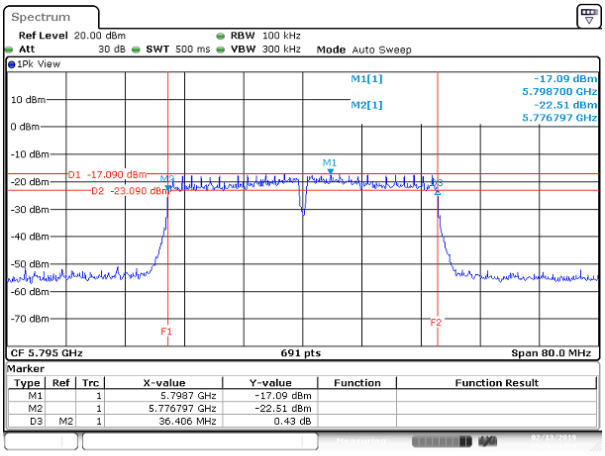


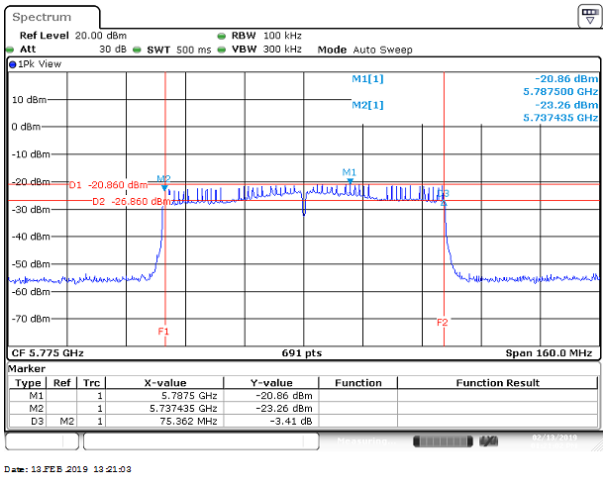
Date: 13.FEB.2019 10:23:40

High CH



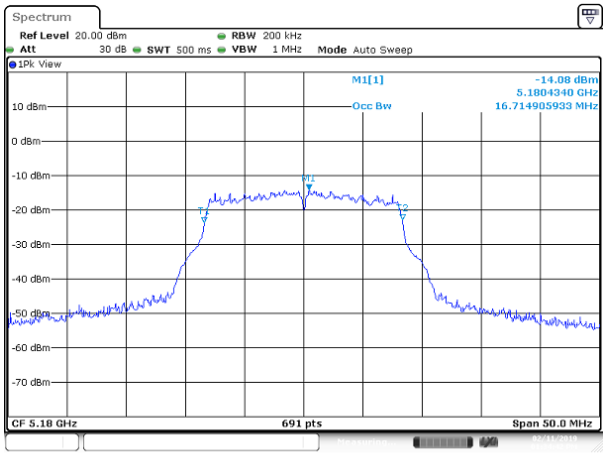
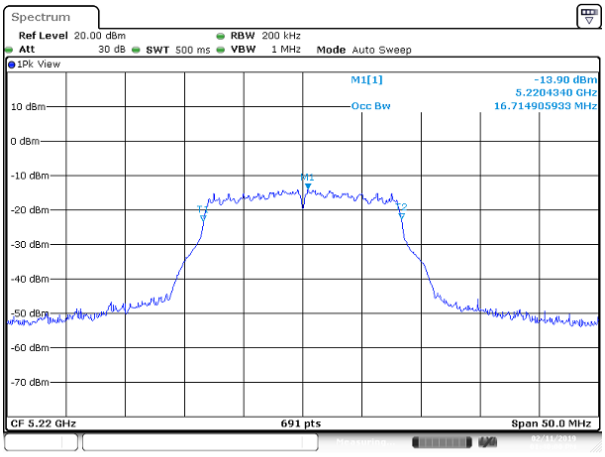
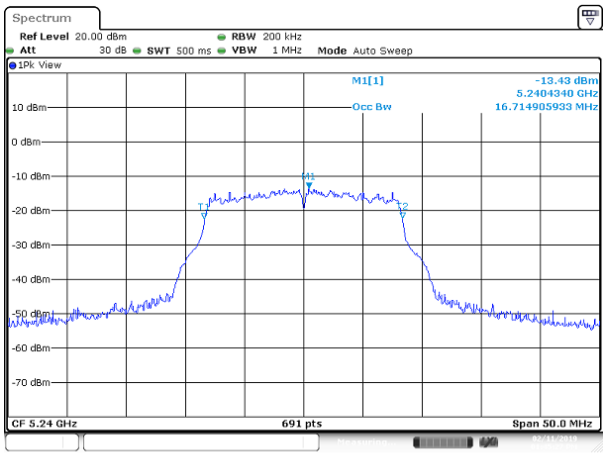
Date: 13.FEB.2019 10:30:31

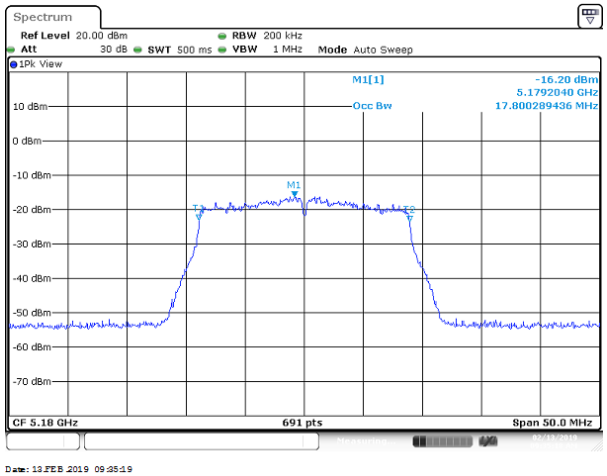
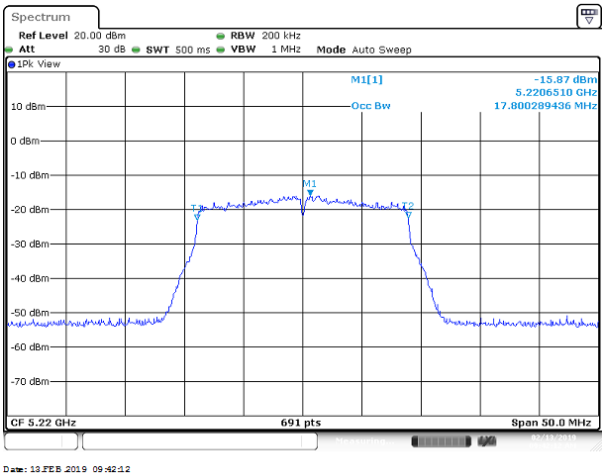
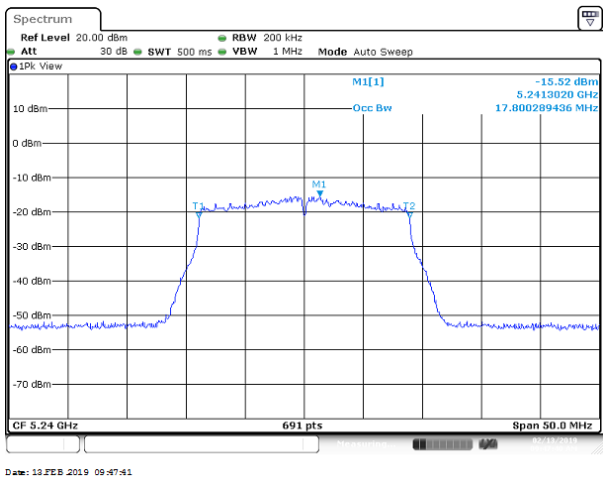
UNII-3 IEEE 802.11n HT40 mode	
Low CH	**High CH**
	

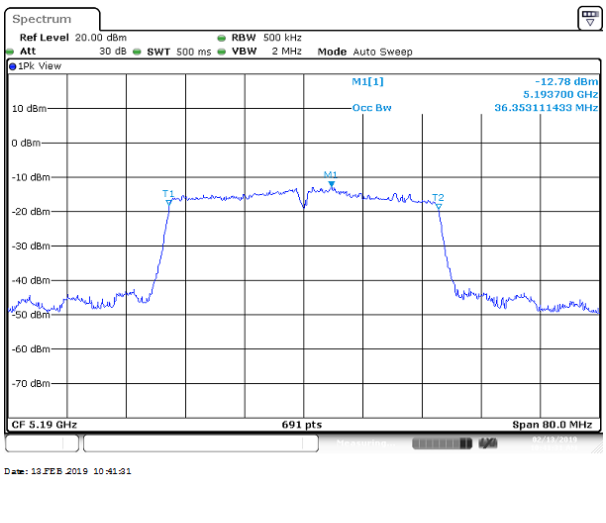
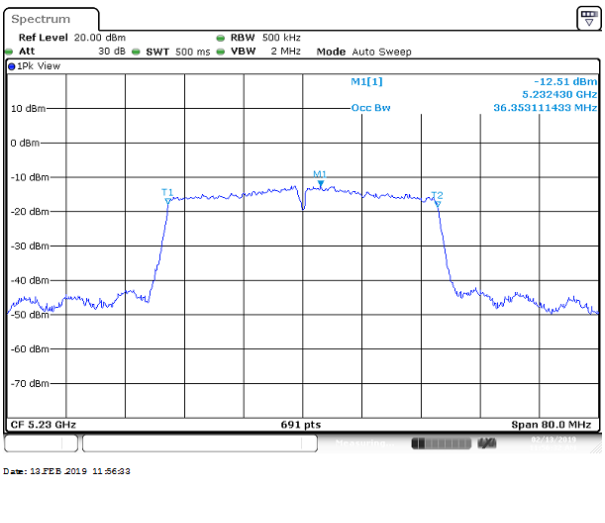
UNII-3 IEEE 802.11ac VHT80 mode	
Mid CH	
	

BANDWIDTH 99%

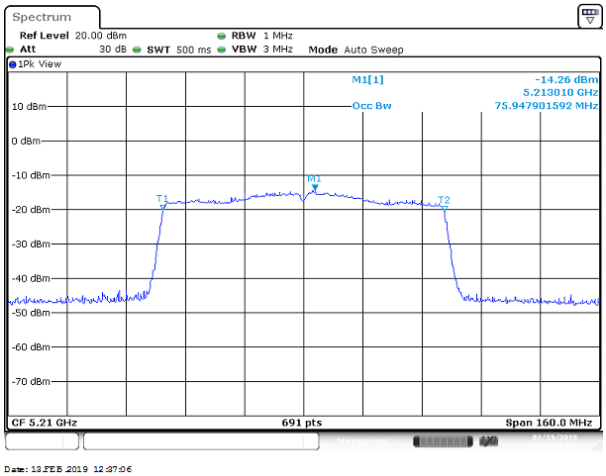
Test Data

UNII-1 IEEE 802.11a mode	
Low CH	**Mid CH**
	
High CH	
	

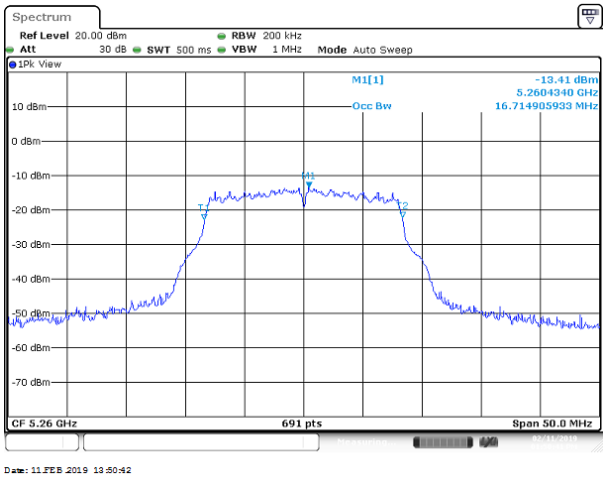
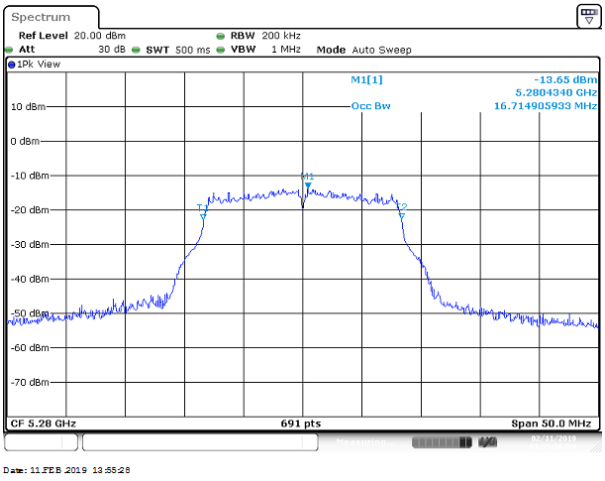
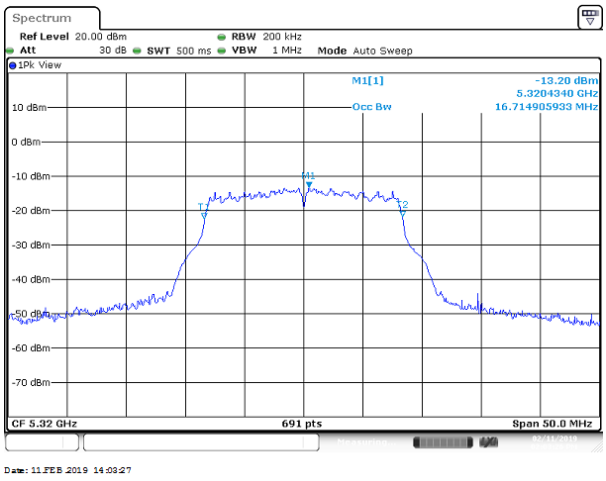
UNII-1 IEEE 802.11n HT20 mode	
Low CH	**Mid CH**
	
High CH	
	

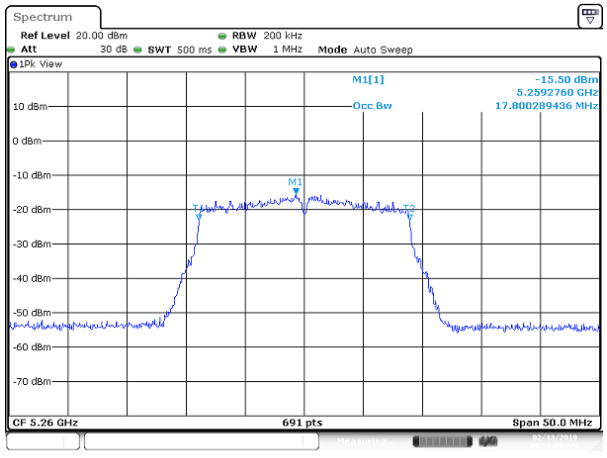
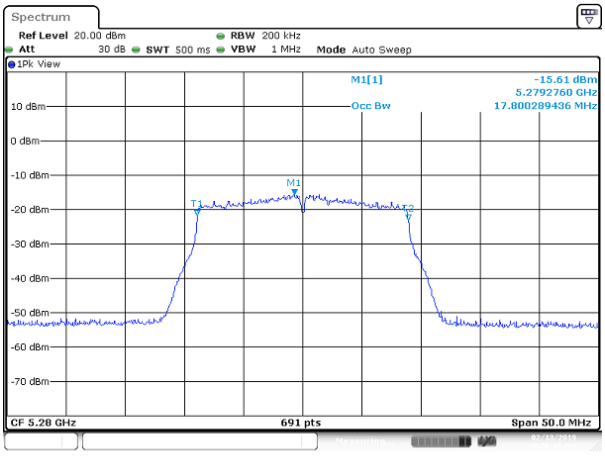
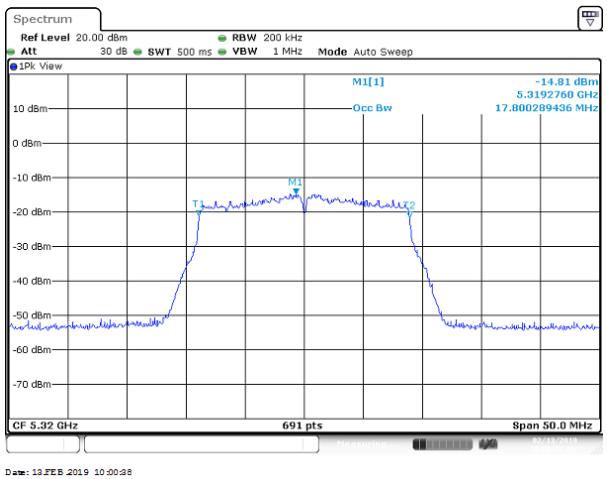
UNII-1 IEEE 802.11n HT40 mode	
Low CH	**High CH**
	

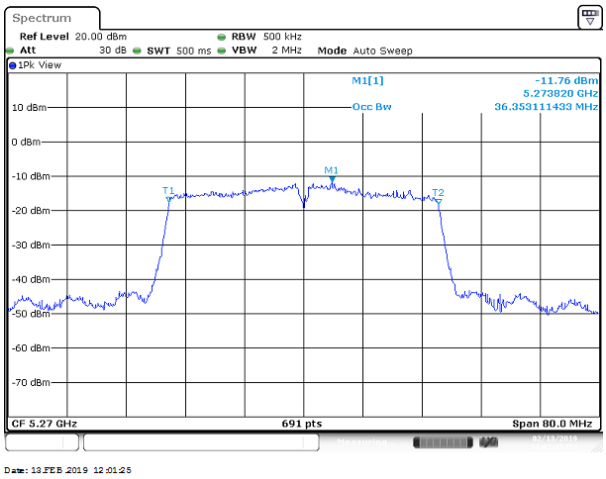
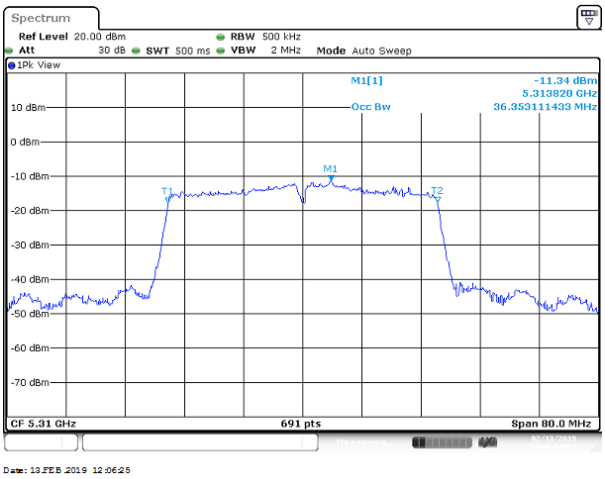
UNII-1 IEEE 802.11ac VHT80 mode
Mid CH



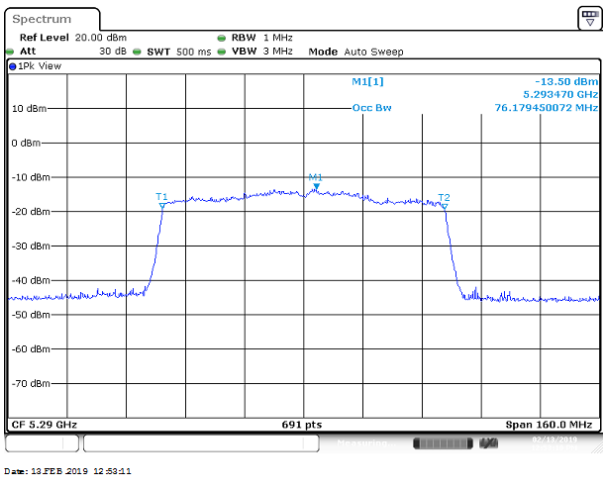
Test Data

UNII-2a IEEE 802.11a mode	
Low CH	**Mid CH**
	
High CH	
	

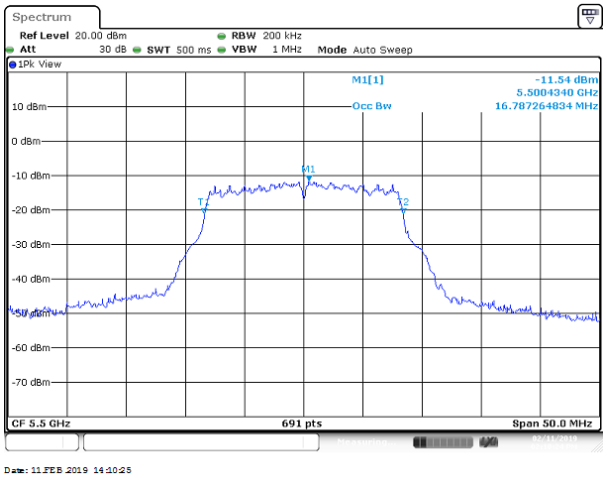
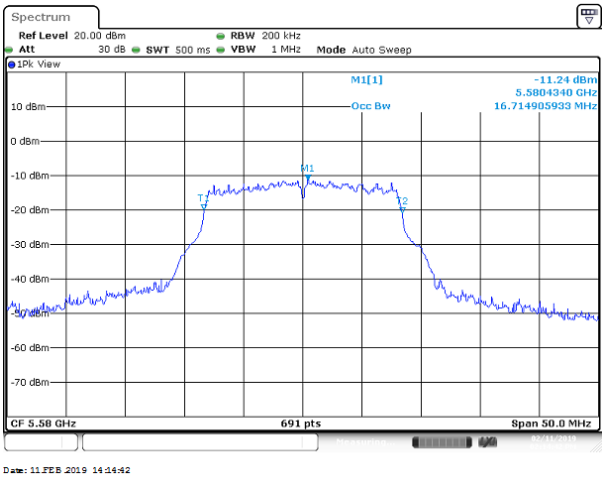
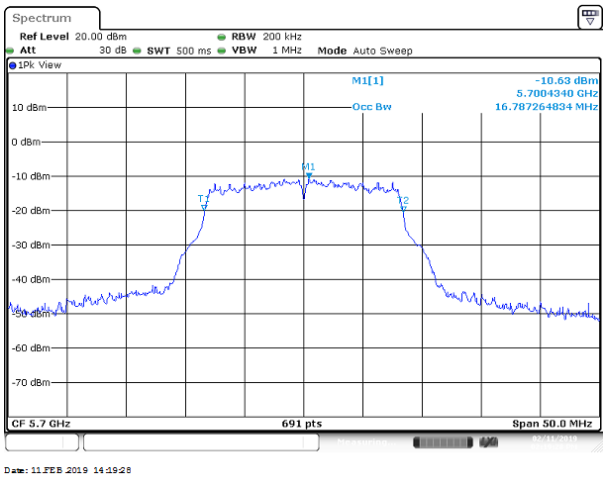
UNII-2a IEEE 802.11n HT20 mode	
Low CH	**Mid CH**
	
High CH	
	

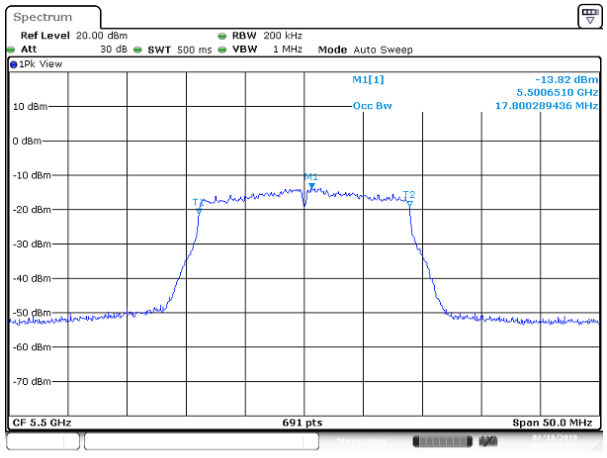
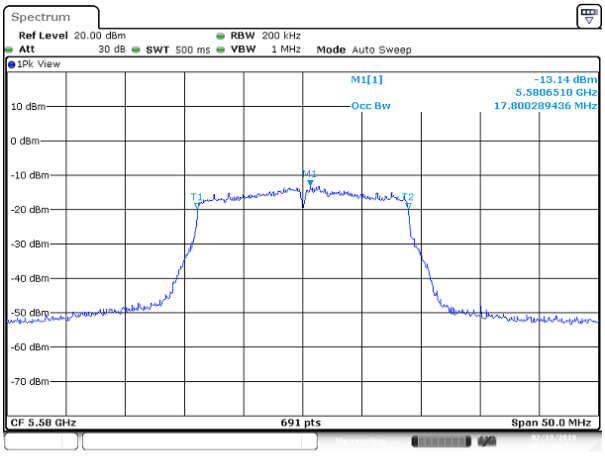
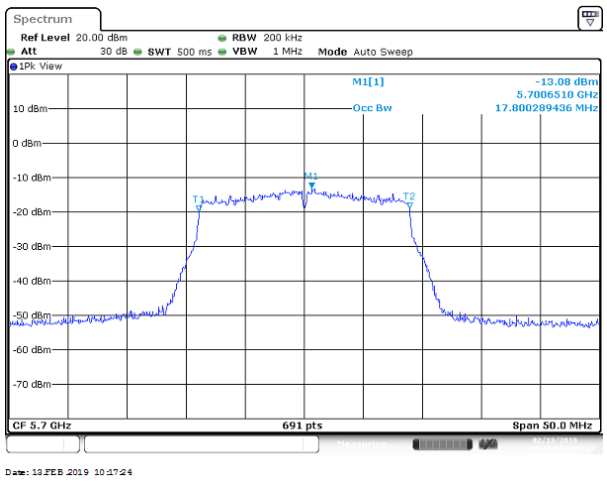
UNII-2a IEEE 802.11n HT40 mode	
Low CH	**High CH**
	

UNII-2a IEEE 802.11ac VHT80 mode
Mid CH



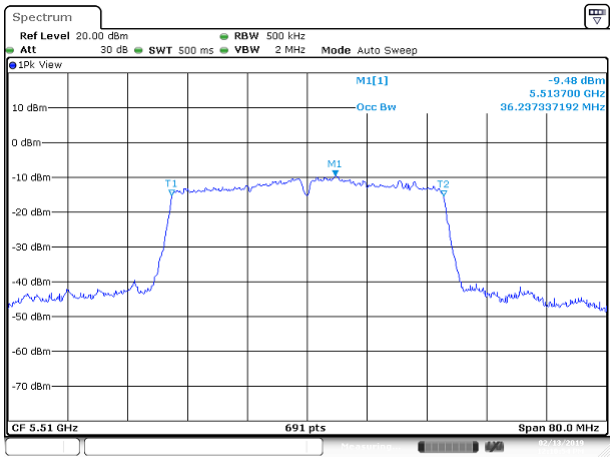
Test Data

UNII-2c IEEE 802.11a mode	
Low CH	**Mid CH**
	
High CH	
	

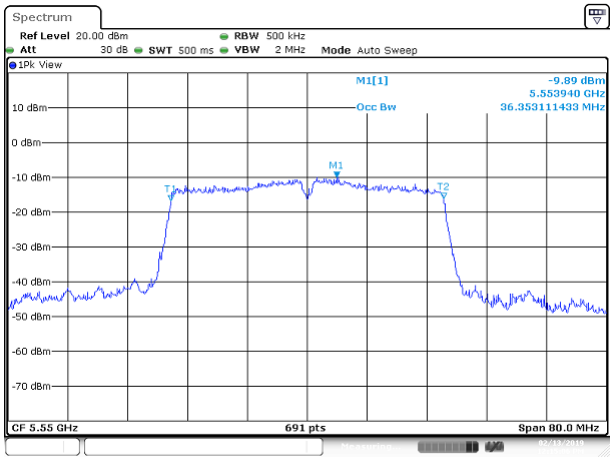
UNII-2c IEEE 802.11n HT20 mode	
Low CH	**Mid CH**
	
High CH	
	

UNII-2c IEEE 802.11n HT40 mode

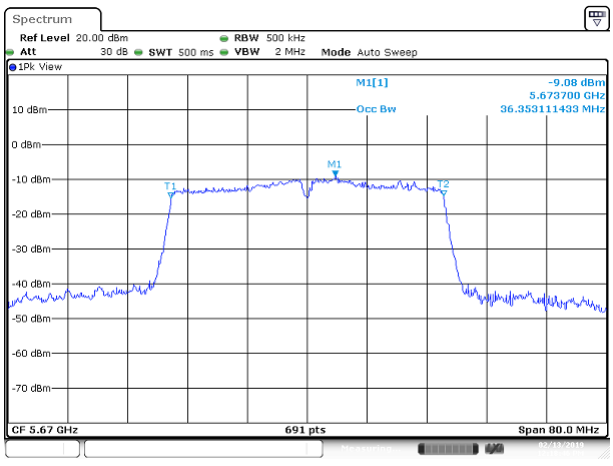
Low CH

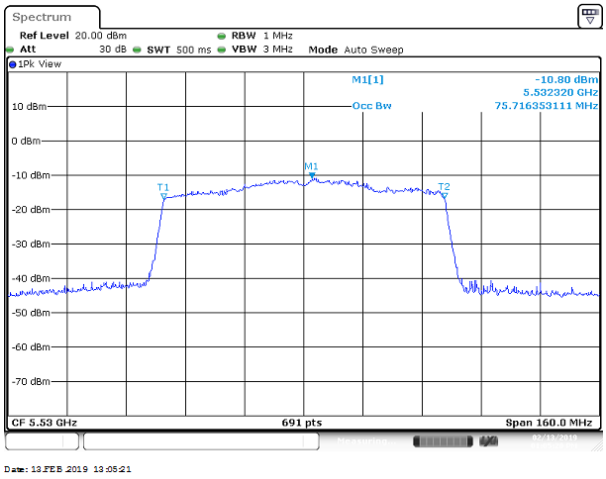


Mid CH

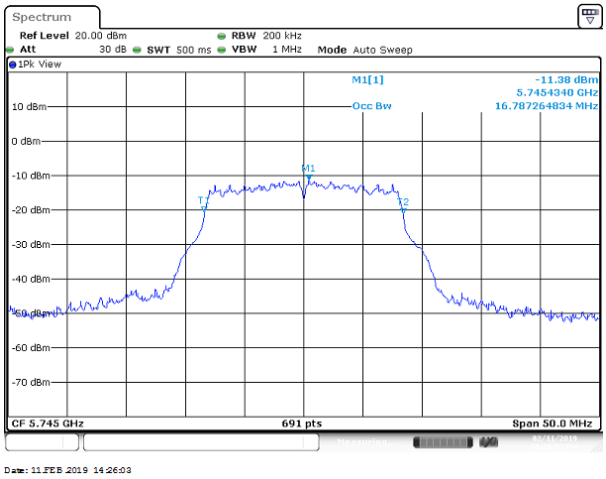
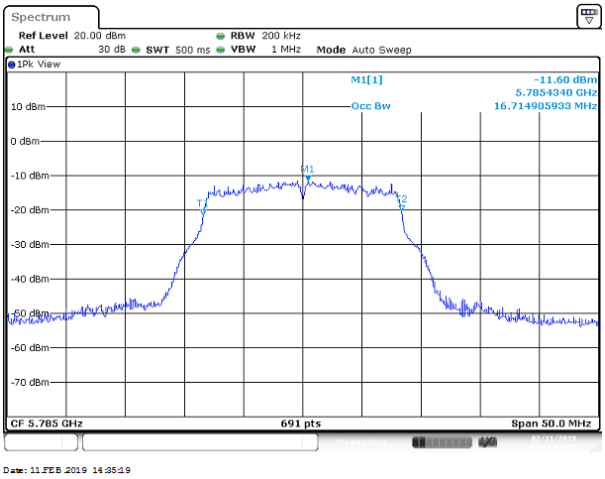
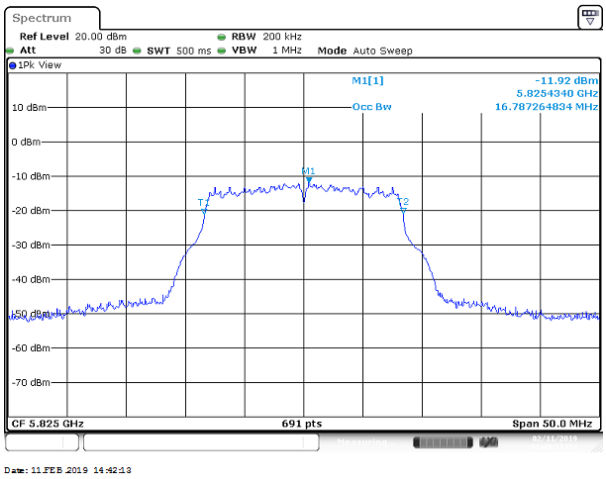


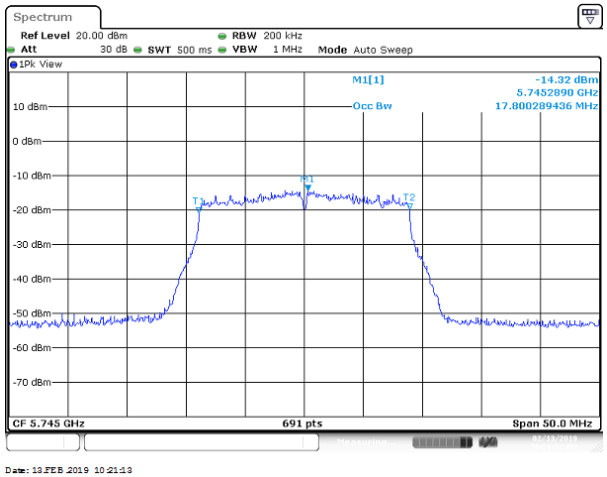
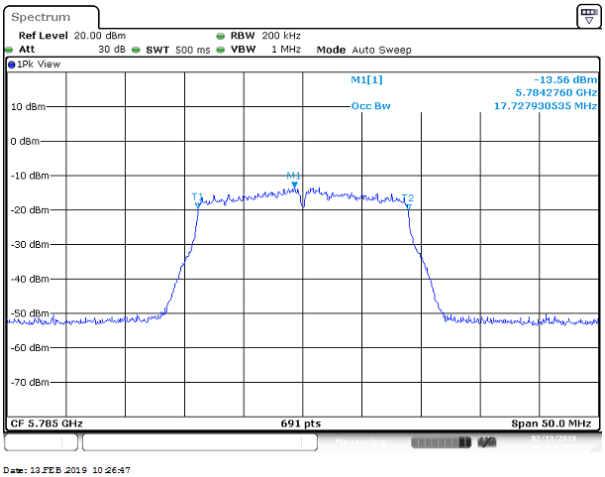
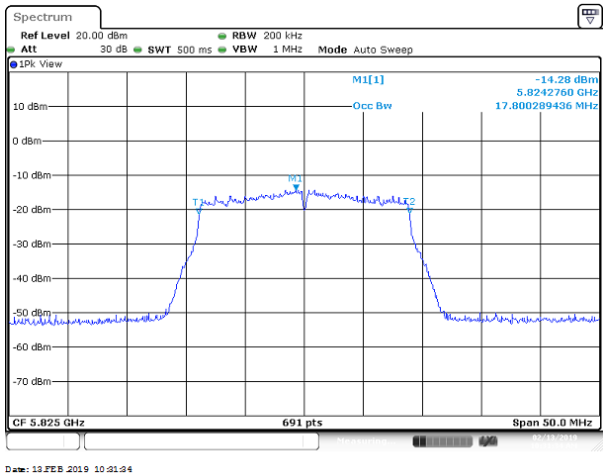
High CH

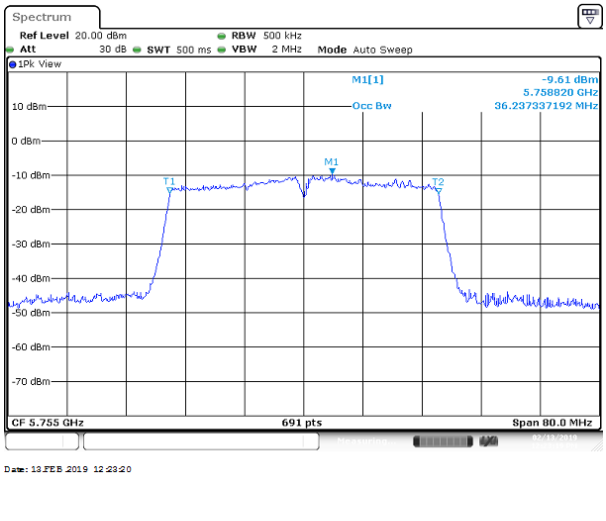
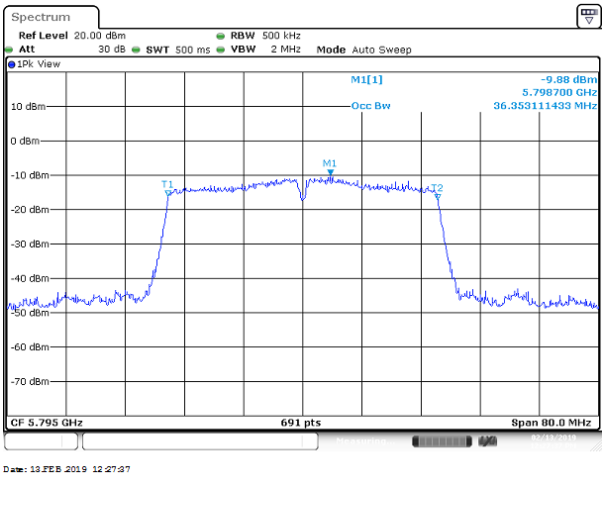


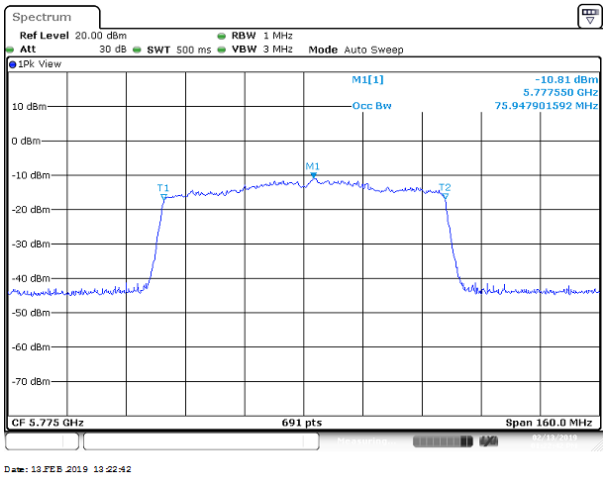
UNII-2c IEEE 802.11ac VHT80 mode	
Mid CH	
	

Test Data

UNII-3 IEEE 802.11a mode	
Low CH	**Mid CH**
	
High CH	
	

UNII-3 IEEE 802.11n HT20 mode	
Low CH	**Mid CH**
	
High CH	
	

UNII-3 IEEE 802.11n HT40 mode	
Low CH	**High CH**
	

UNII-3 IEEE 802.11ac VHT80 mode	
Mid CH	
	

4.3 OUTPUT POWER MEASUREMENT

4.3.1 Test Limit

According to §15.407 (a)(1), 15.407(a)(2) and 15.407(a)(3) and RSS-247 section 6.2.1.1, section 6.2.2.1, section 6.2.3.1 and section 6.2.4.1

UNII-1 :

For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW(24 dBm) and The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10B, dBm, whichever power is less. B is the 99% emission bandwidth in megahertz ,provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

UNII-2a and 2c:

the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. and The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 Log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

UNII-3:

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

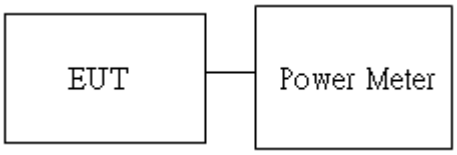
UNII-1 Limit	☒ Antenna not exceed 6 dBi：24dBm (EIRP : 23dBm) ☐ Antenna with DG greater than 6 dBi： [Limit = 24 – (DG – 6)]
UNII-2a/2c Limit	☒ Antenna not exceed 6 dBi：24dBm (EIRP : 30dBm) ☐ Antenna with DG greater than 6 dBi： [Limit = 24 – (DG – 6)]
UNII-3 Limit	☒ Antenna not exceed 6 dBi：30dBm ☐ Antenna with DG greater than 6 dBi： [Limit = 30 – (DG – 6)]

4.3.2 Test Procedure

Test method Refer as KDB 789033 D02.

1. The EUT RF output connected to the power meter by RF cable.
2. Setting maximum power transmit of EUT.
3. The path loss was compensated to the results for each measurement.
4. Measure and record the result of Average output power. in the test report.

4.3.3 Test Setup



4.3.4 Test Result

Conducted output power：

UNII-1										
Config	**CH**	**Freq. (MHz)**	**Power Set**	**AV Power (dBm)**	**EIRP AV Power (dBm)**	**AV Power (W)**	**EIRP AV Power (W)**	**DG (dBi)**	**Limit (dBm)**	**EIRP Limit (dBm)**
IEEE 802.11a Data rate: 6Mbps	36	5180	Default	7.47	11.09	0.0056	0.0129	3.62	24	23
	44	5220	Default	7.56	11.18	0.0057	0.0131			
	48	5240	Default	8.40	12.02	0.0069	0.0159			
IEEE 802.11n HT20 Data rate: MCS0	36	5180	Default	6.06	9.68	0.0040	0.0093			
	44	5220	Default	7.56	11.18	0.0057	0.0131			
	48	5240	Default	8.40	12.02	0.0069	0.0159			
IEEE 802.11n HT40 Data rate: MCS0	38	5190	Default	5.14	8.76	0.0033	0.0075			
	46	5230	Default	5.64	9.26	0.0037	0.0084			
IEEE 802.11ac VHT80 Data rate: MCS0	42	5210	Default	4.96	8.58	0.0031	0.0072			

UNII-2a										
Config	**CH**	**Freq. (MHz)**	**Power Set**	**AV Power (dBm)**	**EIRP AV Power (dBm)**	**AV Power (W)**	**EIRP AV Power (W)**	**DG (dBi)**	**Limit (dBm)**	**EIRP Limit (dBm)**
IEEE 802.11a Data rate: 6Mbps	52	5260	Default	8.03	11.65	0.0064	0.0146	3.62	24	30
	56	5280	Default	7.96	11.58	0.0063	0.0144			
	64	5320	Default	8.79	12.41	0.0076	0.0174			
IEEE 802.11n HT20 Data rate: MCS0	52	5260	Default	4.64	8.26	0.0029	0.0067			
	56	5280	Default	4.65	8.27	0.0029	0.0067			
	64	5320	Default	4.89	8.51	0.0031	0.0071			
IEEE 802.11n HT40 Data rate: MCS0	54	5270	Default	5.68	9.30	0.0037	0.0085			
	62	5310	Default	6.05	9.67	0.0040	0.0093			
IEEE 802.11ac VHT80 Data rate: MCS0	58	5290	Default	5.49	9.11	0.0035	0.0081			

UNII-2c										
Config	**CH**	**Freq. (MHz)**	**Power Set**	**AV Power (dBm)**	**EIRP AV Power (dBm)**	**AV Power (W)**	**EIRP AV Power (W)**	**DG (dBi)**	**Limit (dBm)**	**EIRP Limit (dBm)**
IEEE 802.11a Data rate: 6Mbps	100	5500	Default	10.33	13.95	0.0108	0.0248	3.62	24	30
	116	5580	Default	10.91	14.53	0.0123	0.0284			
	140	5700	Default	11.00	14.62	0.0126	0.0290			
IEEE 802.11n HT20 Data rate: MCS0	100	5500	Default	6.37	9.99	0.0043	0.0100			
	116	5580	Default	6.96	10.58	0.0050	0.0114			
	140	5700	Default	7.20	10.82	0.0052	0.0121			
IEEE 802.11n HT40 Data rate: MCS0	102	5510	Default	8.08	11.70	0.0064	0.0148			
	110	5550	Default	8.16	11.78	0.0065	0.0151			
	134	5670	Default	8.73	12.35	0.0075	0.0172			
IEEE 802.11ac VHT80 Data rate: MCS0	106	5530	Default	7.76	11.38	0.0060	0.0137			

UNII-3									
Config	**CH**	**Freq. (MHz)**	**Power Set**	**AV Power (dBm)**	**EIRP AV Total Power (dBm)**	**AV Power (W)**	**EIRP AV Total Power (W)**	**DG (dBi)**	**Limit (dBm)**
IEEE 802.11a Data rate: 6Mbps	149	5745	Default	10.01	19.14	0.0100	0.0820	3.62	30
	157	5785	Default	10.17	19.17	0.0104	0.0826		
	165	5825	Default	9.80	20.33	0.0095	0.1079		
IEEE 802.11n HT20 Data rate: MCS0	149	5745	Default	6.44	20.20	0.0044	0.1047		
	157	5785	Default	6.59	19.91	0.0046	0.0979		
	165	5825	Default	6.12	18.95	0.0041	0.0785		
IEEE 802.11n HT40 Data rate: MCS0	151	5755	Default	8.03	19.25	0.0064	0.0841		
	159	5795	Default	8.01	19.19	0.0063	0.0830		
IEEE 802.11ac VHT80 Data rate: MCS0	155	5775	Default	7.79	15.05	0.0060	0.0320		

4.4 POWER SPECTRAL DENSITY

4.4.1 Test Limit

According to §15.407 (a)(1), 15.407(a)(2) and 15.407(a)(3) and RSS-247 section 6.2.1(1), section 6.2.2(1), section 6.2.3(1) and section 6.2.4(1)

UNII-1 :

FCC: The maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.

IC: The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

UNII-2a and 2c:

The maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.

If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

UNII-3:

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.i.

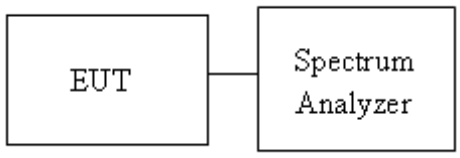
UNII-1 Limit	☒ Antenna not exceed 6 dBi：11 dBm ☐ Antenna with DG greater than 6 dBi： [Limit = 11 – (DG – 6)]
UNII-2a Limit	☒ Antenna not exceed 6 dBi：11 dBm ☐ Antenna with DG greater than 6 dBi： [Limit = 11 – (DG – 6)]
UNII-2c Limit	☒ Antenna not exceed 6 dBi：11 dBm ☐ Antenna with DG greater than 6 dBi： [Limit = 11 – (DG – 6)]
UNII-3 Limit	☒ Antenna not exceed 6 dBi：30 dBm ☐ Antenna with DG greater than 6 dBi： [Limit = 30 – (DG – 6)]

4.4.2 Test Procedure

Test method Refer as KDB 789033 D02.

1. The EUT RF output connected to the spectrum analyzer by RF cable.
2. Setting maximum power transmit of EUT
3. UNII-1, UNII-2a and UNII-2c, SA set RBW = 1MHz, VBW = 3MHz and Detector = RMS, to measurement Power Density.
4. UNII-3, SA set RBW = 500kHz, VBW = 2MHz and Detector = RMS, to measurement Power Density
5. The path loss and Duty Factor were compensated to the results for each measurement by SA.
6. Mark the maximum level.
7. Measure and record the result of power spectral density. in the test report.

4.4.3 Test Setup



4.4.4 Test Result

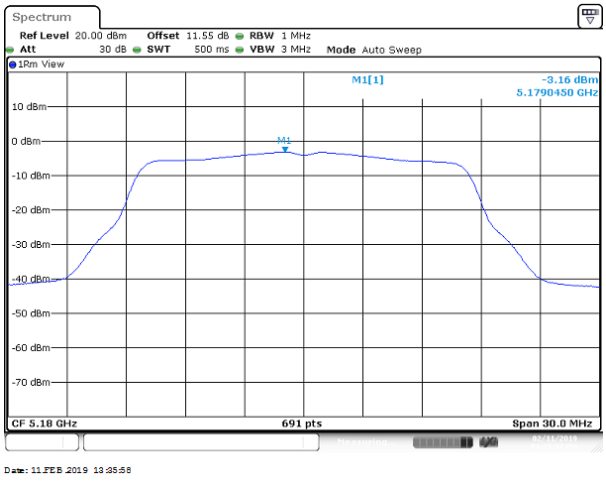
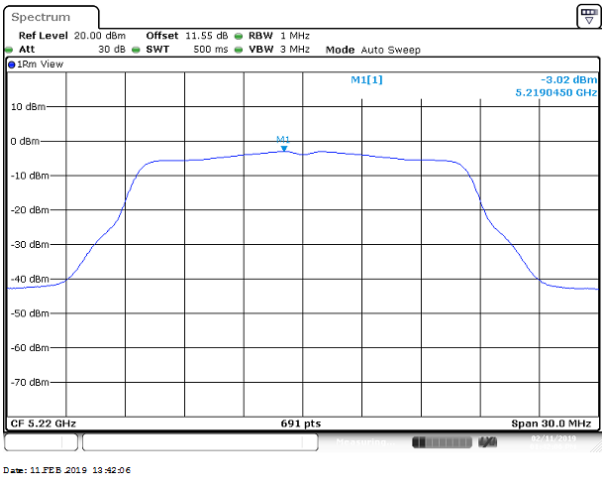
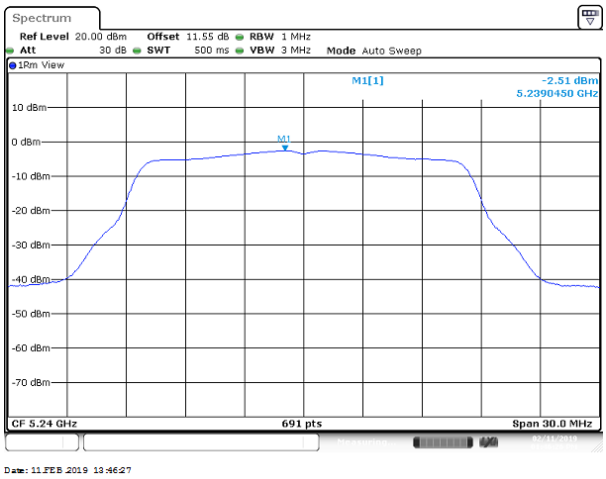
UNII-1 5150-5250 MHz				
Test mode: IEEE 802.11a mode				
Channel	**Frequency (MHz)**	**PPSD (dBm)**	**Limit (dBm)**	**IC Limit (dBm)**
Low	5180	-3.16	11	10
Mid	5220	-3.02		
High	5240	-2.51		
Test mode: IEEE 802.11n HT20 mode				
Channel	**Frequency (MHz)**	**PPSD (dBm)**	**Limit (dBm)**	**IC Limit (dBm)**
Low	5180	-8.11	11	10
Mid	5220	-8.13		
High	5240	-7.83		
Test mode: IEEE 802.11n HT40 mode				
Channel	**Frequency (MHz)**	**PPSD (dBm)**	**Limit (dBm)**	**IC Limit (dBm)**
Low	5190	-10.74	11	10
High	5230	-9.71		
Test mode: IEEE 802.11ac VHT80 mode				
Channel	**Frequency (MHz)**	**PPSD (dBm)**	**Limit (dBm)**	**IC Limit (dBm)**
Mid	5210	-12.61	11	10

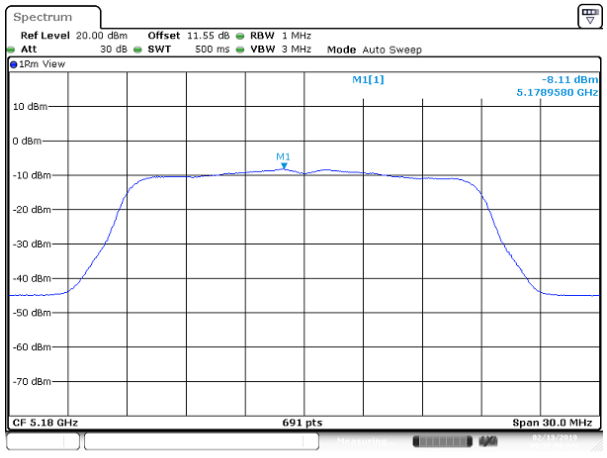
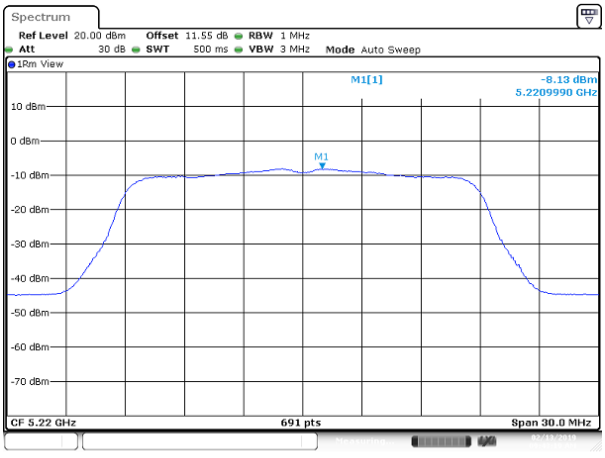
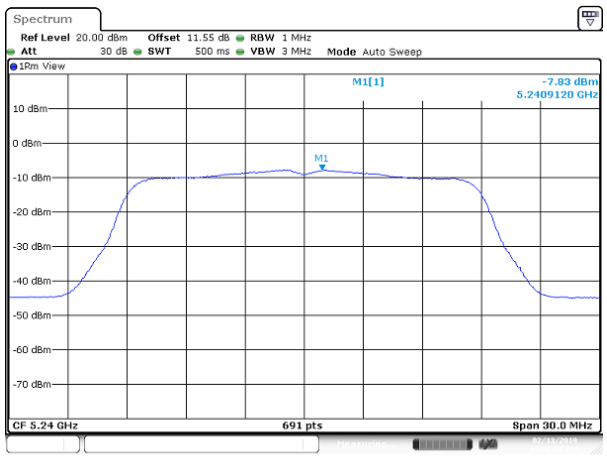
UNII-2a 5250-5350 MHz			
Test mode: IEEE 802.11a mode			
Channel	**Frequency (MHz)**	**PPSD (dBm)**	**Limit (dBm)**
Low	5260	-2.51	11
Mid	5280	-2.80	
High	5320	-2.36	
Test mode: IEEE 802.11n HT20 mode			
Channel	**Frequency (MHz)**	**PPSD (dBm)**	**Limit (dBm)**
Low	5260	-7.53	11
Mid	5280	-7.73	
High	5320	-6.82	
Test mode: IEEE 802.11n HT40 mode			
Channel	**Frequency (MHz)**	**PPSD (dBm)**	**Limit (dBm)**
Low	5270	-9.74	11
High	5310	-9.35	
Test mode: IEEE 802.11ac VHT80 mode			
Channel	**Frequency (MHz)**	**PPSD (dBm)**	**Limit (dBm)**
Mid	5290	-12.04	11

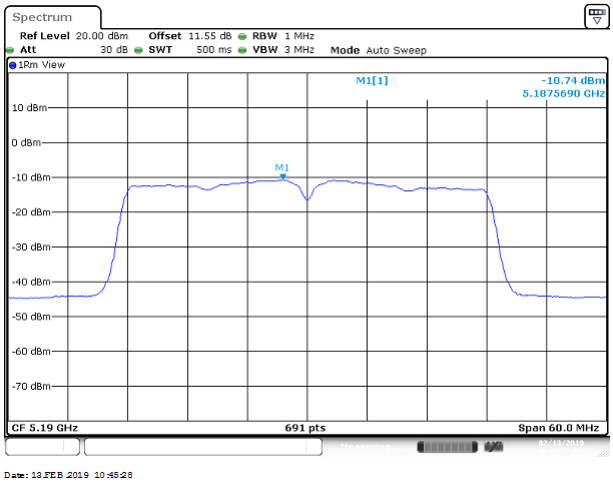
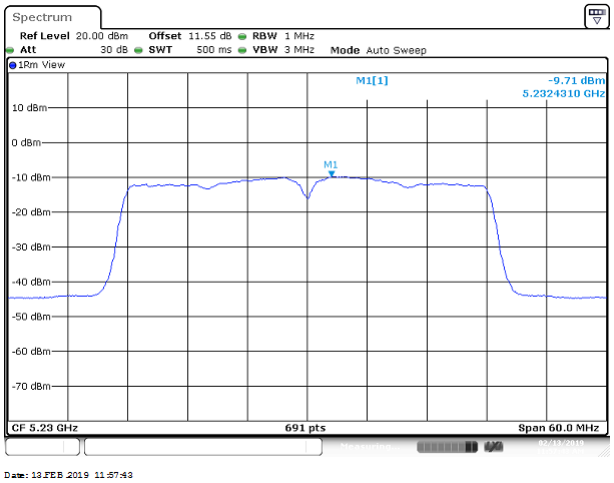
UNII-2c 5470-5725 MHz			
Test mode: IEEE 802.11a mode			
Channel	**Frequency (MHz)**	**PPSD (dBm)**	**Limit (dBm)**
Low	5500	-0.74	11
Mid	5580	-0.06	
High	5700	0.16	
Test mode: IEEE 802.11n HT20 mode			
Channel	**Frequency (MHz)**	**PPSD (dBm)**	**Limit (dBm)**
Low	5500	-5.89	11
Mid	5580	-5.16	
High	5700	-5.28	
Test mode: IEEE 802.11n HT40 mode			
Channel	**Frequency (MHz)**	**PPSD (dBm)**	**Limit (dBm)**
Low	5510	-7.49	11
Mid	5500	-7.30	
High	5670	-6.97	
Test mode: IEEE 802.11ac VHT80 mode			
Channel	**Frequency (MHz)**	**PPSD (dBm)**	**Limit (dBm)**
Mid	5530	-9.36	11

UNII-3 5725-5825 MHz			
Test mode: IEEE 802.11a mode			
Channel	**Frequency (MHz)**	**PPSD (dBm)**	**Limit (dBm)**
Low	5745	4.09	30
Mid	5785	4.29	
High	5825	3.55	
Test mode: IEEE 802.11n HT20 mode			
Channel	**Frequency (MHz)**	**PPSD (dBm)**	**Limit (dBm)**
Low	5745	2.37	30
Mid	5785	2.57	
High	5825	2.00	
Test mode: IEEE 802.11n HT40 mode			
Channel	**Frequency (MHz)**	**PPSD (dBm)**	**Limit (dBm)**
Low	5755	1.98	30
High	5795	2.02	
Test mode: IEEE 802.11ac VHT80 mode			
Channel	**Frequency (MHz)**	**PPSD (dBm)**	**Limit (dBm)**
Mid	5775	-3.01	30

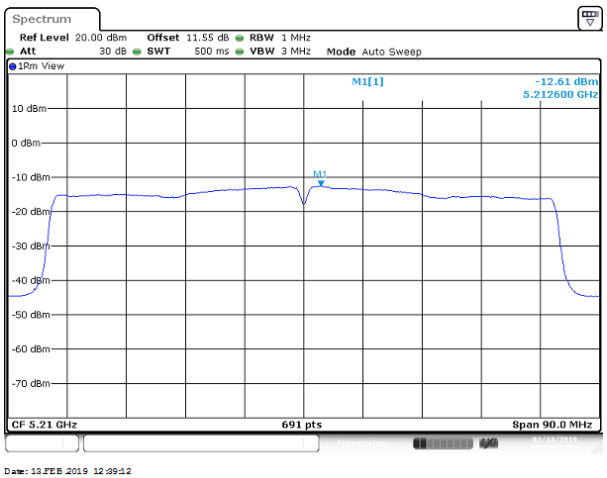
Test Data

UNII-1 IEEE 802.11a mode	
Low CH	**Mid CH**
	
High CH	
	

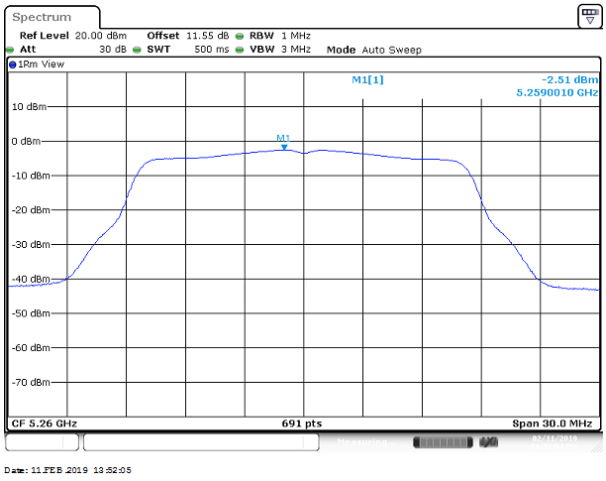
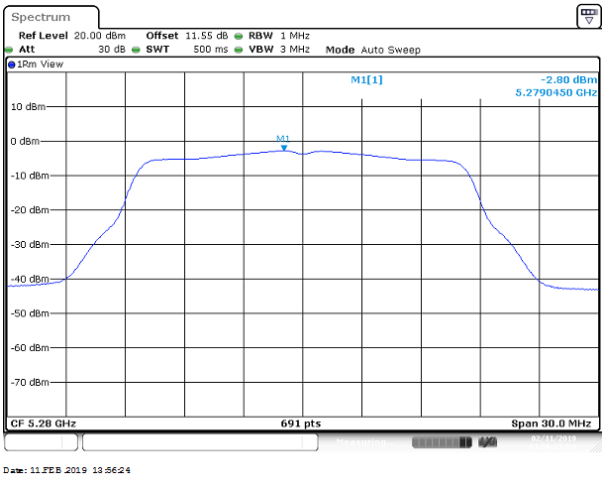
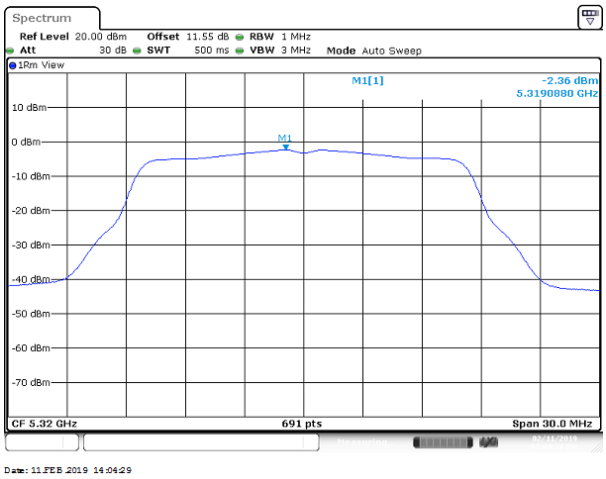
UNII-1 IEEE 802.11n HT20 mode-	
Low CH	**Mid CH**
	
High CH	
	

UNII-1 IEEE 802.11n HT40 mode	
Low CH	**High CH**
	

UNII-1 IEEE 802.11ac VHT80 mode
Mid CH

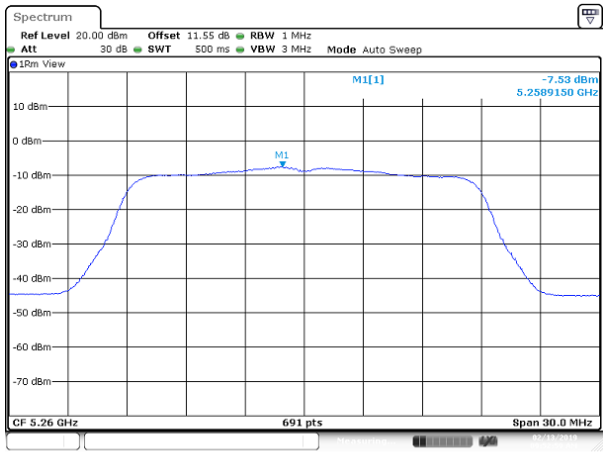


Test Data

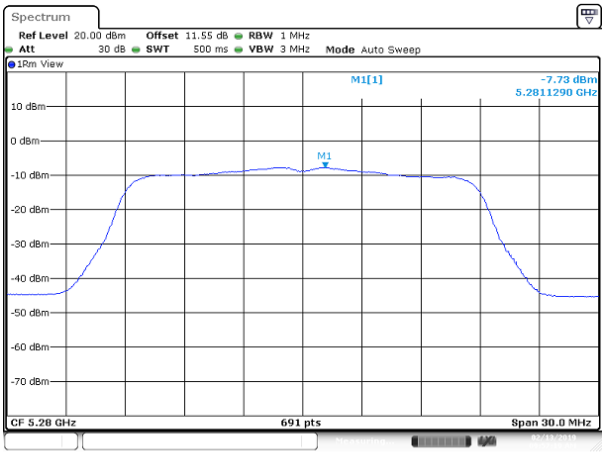
UNII-2a IEEE 802.11a mode	
Low CH	**Mid CH**
	
High CH	
	

UNII-2a IEEE 802.11n HT20 mode

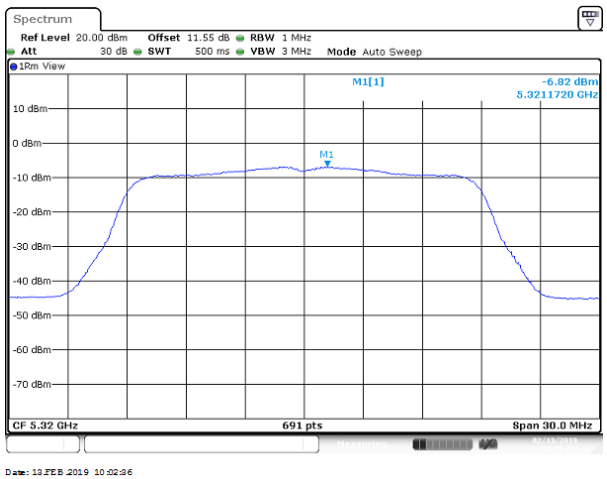
Low CH

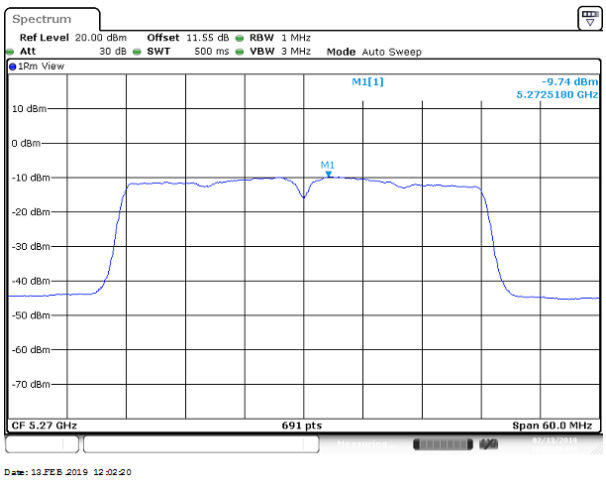
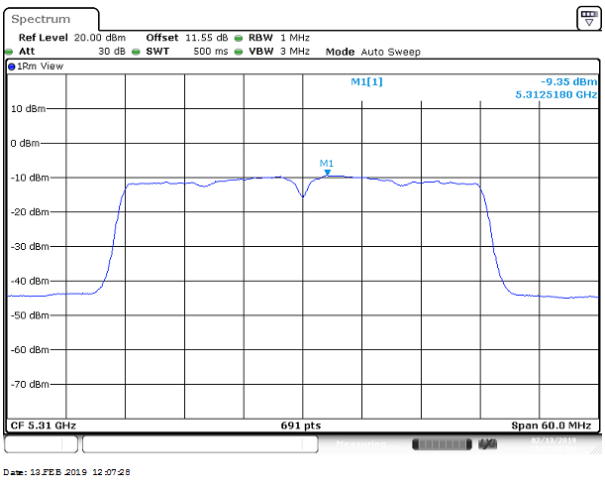


Mid CH



High CH



UNII-2a IEEE 802.11n HT40 mode	
Low CH	**High CH**
	

UNII-2a IEEE 802.11ac VHT80 mode
Mid CH