FCC RADIO TEST REPORT
FCC 47 CFR PART 15 SUBPART E

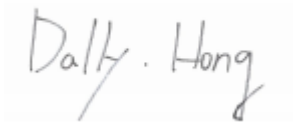
Test Standard	**FCC Part 15.407**
Brand name	**ADT**
Product name	**FHD Wireless Indoor Camera**
Model No.	**RC845xxxxxxxx (the 1st x should be "blank" or "-"; the rest x could be 0 to 9, A to Z, a to z, "blank" or "-", for marketing purpose)**
Test Result	**Pass**
Statements of Conformity	**Determination of compliance is based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.**

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: *Tested by:*

Kevin Tsai
Deputy Manager



Dally Hong
Engineer

Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	July 26, 2019	Initial Issue	ALL	May Lin
01	August 14, 2019	See the following Note Rev. (01)	P.4, P.11, P.18, P.43, P.46, P.115-118	May Lin

Rev (01):

1. Revised the EUT information、the worst mode of operating condition and test result.

Table of contents

1. GENERAL INFORMATION

1.1 EUT INFORMATION

<table>
<tr><td>Applicant</td><td>Sercomm Corporation
8F, No. 3-1, YuanQu St., NanKang, Taipei 115, Taiwan.</td></tr>
<tr><td>Manufacturer</td><td>Sercomm Corporation
8F, No. 3-1, YuanQu St., NanKang, Taipei 115, Taiwan.</td></tr>
<tr><td>Equipment</td><td>FHD Wireless Indoor Camera</td></tr>
<tr><td>Model Name</td><td>RC845xxxxxxxx (the 1st x should be "blank" or "-"; the rest x could be 0 to 9, A to Z, a to z, "blank" or "-", for marketing purpose)</td></tr>
<tr><td>Model Discrepancy</td><td>All the above models are identical except for the designation of model numbers. The suffix of (The 1st x should be "blank" or "-"; t he rest x could be 0 to 9, A to Z, a to z, "blank" or "-") on model number is just for marketing purpose only.</td></tr>
<tr><td>Trade Name</td><td>ADT</td></tr>
<tr><td>Received Date</td><td>May 03, 2019</td></tr>
<tr><td>Date of Test</td><td>May 10 ~ 28, 2019</td></tr>
<tr><td>Power Supply</td><td>VDC from Power Adapter
APD / WB-12G12FU
I/P: 100-240V~, 50-60Hz, 0.3A Max
O/P: 12VDC, 1A</td></tr>
<tr><td>Output Power(W)</td><td>
<table>
<tr><th>Band</th><th>Mode</th><th>Frequency Range (MHz)</th><th>Output Power (W)</th></tr>
<tr><td rowspan="4">U-NII-1</td><td>IEEE 802.11a</td><td>5180 ~ 5240</td><td>0.0067</td></tr>
<tr><td>IEEE 802.11n HT 20 MHz</td><td>5180 ~ 5240</td><td>0.0522</td></tr>
<tr><td>IEEE 802.11n HT 40 MHz</td><td>5190 ~ 5230</td><td>0.0486</td></tr>
<tr><td>IEEE 802.11ac VHT 80 MHz</td><td>5210</td><td>0.0369</td></tr>
<tr><td rowspan="4">U-NII-3</td><td>IEEE 802.11a</td><td>5745 ~ 5825</td><td>0.1866</td></tr>
<tr><td>IEEE 802.11n HT 20 MHz</td><td>5745 ~ 5825</td><td>0.2009</td></tr>
<tr><td>IEEE 802.11n HT 40 MHz</td><td>5755 ~ 5795</td><td>0.1750</td></tr>
<tr><td>IEEE 802.11ac VHT 80 MHz</td><td>5775</td><td>0.1482</td></tr>
</table>
</td></tr>
</table>

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 20 MHz	5180 ~ 5240 MHz
IEEE 802.11ac VHT 40 MHz	5190 ~ 5230 MHz
IEEE 802.11ac VHT 80 MHz	5210 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 20 MHz	5745 ~ 5825 MHz
IEEE 802.11ac VHT 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	Antenna 1: Gain: 4.97 dBi Antenna 2: Gain: 4.24 dBi Power Directional Gain: 4.62

Notes:
1. Power Directional Gain: 10LOG(((10^(Ant1/10)+10^(Ant2/10))/2))

1.4 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
AC Powerline Conducted Emission	+/- 1.2575
Emission bandwidth, 20dB bandwidth	+/- 0.0014
RF output power, conducted	+/- 1.14
Power density, conducted	+/- 1.40
3M Semi Anechoic Chamber / 30M~200M	+/- 4.12
3M Semi Anechoic Chamber / 200M~1000M	+/- 4.68
3M Semi Anechoic Chamber / 1G~8G	+/- 5.18
3M Semi Anechoic Chamber / 8G~18G	+/- 5.47
3M Semi Anechoic Chamber / 18G~26G	+/- 3.81
3M Semi Anechoic Chamber / 26G~40G	+/- 3.87

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	Dally Hong	
RF Conducted	Dally Hong	

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	CC001	06/29/2018	06/28/2019
Power Meter	Anritsu	ML2495A	1149001	02/12/2019	02/11/2020
Power Seneor	Anritsu	MA2491A	030982	02/12/2019	02/11/2020
Signal Analyzer	R&S	FSV 40	101073	09/27/2018	09/26/2019
Software	N/A				

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	02/26/2019	02/25/2020
Cable	HUBER SUHNER	SUCOFLEX 104PEA	20995	02/26/2019	02/25/2020
Digital Thermo-Hygro Meter	WISEWIND	1206	D07	01/30/2019	01/29/2020
double Ridged Guide Horn Antenna	ETC	MCTD 1209	DRH13M02003	08/20/2018	08/19/2019
High Pass Filters	MICRO TRONICS	HPM13195	003	02/26/2019	02/25/2020
Horn Antenna	ETS LINDGREN	3116	00026370	12/26/2018	12/25/2019
Loop Ant	COM-POWER	AL-130	121051	03/22/2019	03/21/2020
Pre-Amplifier	EMEC	EM330	060609	02/26/2019	02/25/2020
Pre-Amplifier	HP	8449B	3008A00965	02/26/2019	02/25/2020
Pre-Amplifier	MITEQ	AMF-6F-260400-40-8P	985646	02/26/2019	02/25/2020
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
Software	e3 6.11-20180413				

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
Software	EZ-EMC(CCS-3A1-CE)				

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(L)	Toshiba	PORTEGE R30-A	N/A	N/A

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.

2. TEST SUMMERY

FCC Standard Sec.	Chapter	Test Item	Result
15.203	1.4	Antenna Requirement	Pass
15.207	4.1	AC Conducted Emission	Pass
15.403(i)	4.2	26dB Bandwidth	Pass
15.403(i)	4.2	6dB Bandwidth	Pass
15.403(i)	4.2	Occupied Bandwidth (99%)	Pass
15.407(a)	4.3	Output Power Measurement	Pass
15.407(a)	4.4	Power Spectral Density	Pass
15.407(b)	4.5	Radiation Band Edge	Pass
15.407(b)	4.5	Radiation Spurious Emission	Pass
15.407(g)	4.6	Frequency Stability	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: MCS8</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="6">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 20 MHz</td><td>5180 ~ 5240</td><td>4 Channels</td></tr>
<tr><td>IEEE 802.11ac VHT 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="6">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 20 MHz</td><td>5745 ~ 5825</td><td>5 Channels</td></tr>
<tr><td>IEEE 802.11ac VHT 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:
1. EUT pre-scanned data rate of output power for each mode, the worst data rate were recorded in this report.
2. The mode IEEE 802.11ac VHT20 and VHT40 are only different in control messages with IEEE 802.11n HT20 and HT40, and have same power setting. Therefore, the highest power(IEEE 802.11n HT20 and HT40) were test conducted and radiated measurement and recorded in this report.

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 Adapter
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 Adapter
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

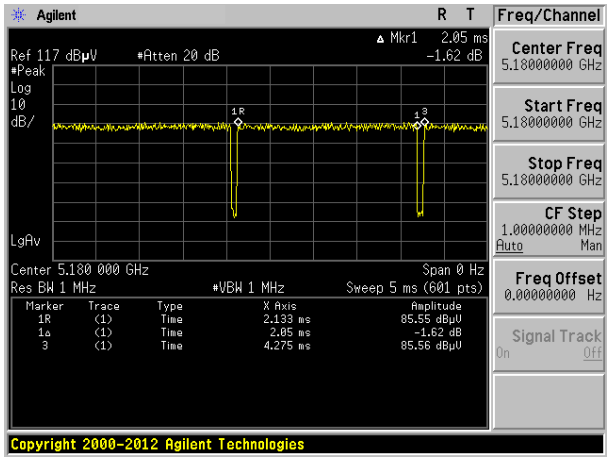
Radiated Emission Measurement Below 1G	
Test Condition	Radiated Emission Below 1G
Power supply Mode	Mode 1: EUT power by Adapter
Worst Mode	☒ Mode 1 ☐ Mode 2 ☐ Mode 3 ☐ Mode 4

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 (Y-Plane and Vertical) were recorded in this report
3. AC power line conducted emission and for below 1G radiation emission were performed the EUT transmit at the highest output power channel as worse case.

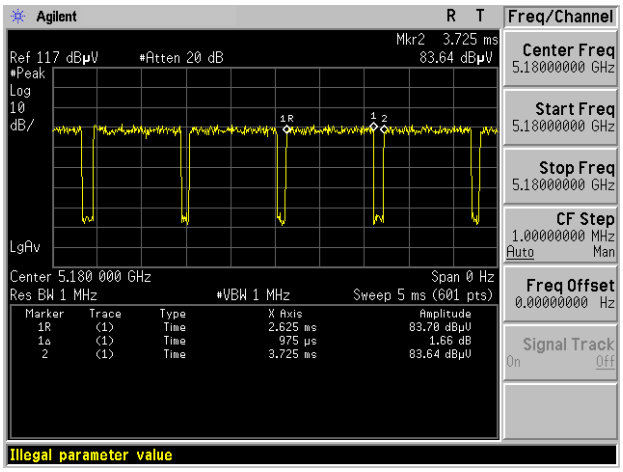
3.3 EUT DUTY CYCLE

Duty Cycle			
Configuration	TX ON (ms)	TX ALL (ms)	Duty Cycle (%)
802.11a	2.0500	2.1420	95.70%
802.11n HT20	0.9750	1.1000	88.64%
802.11n HT40	0.4600	0.6603	69.67%
802.11ac VHT80	0.0833	0.2117	39.35%

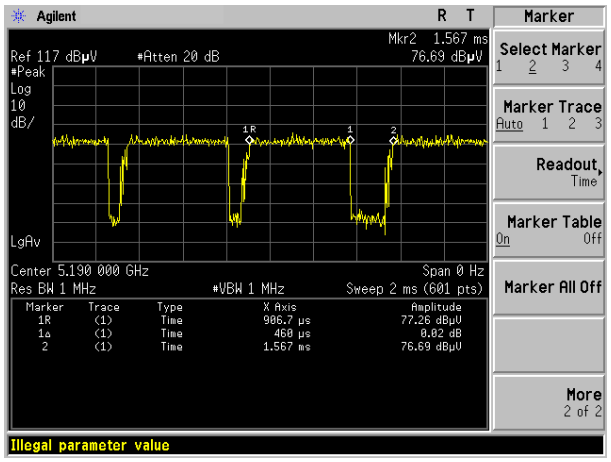
802.11a



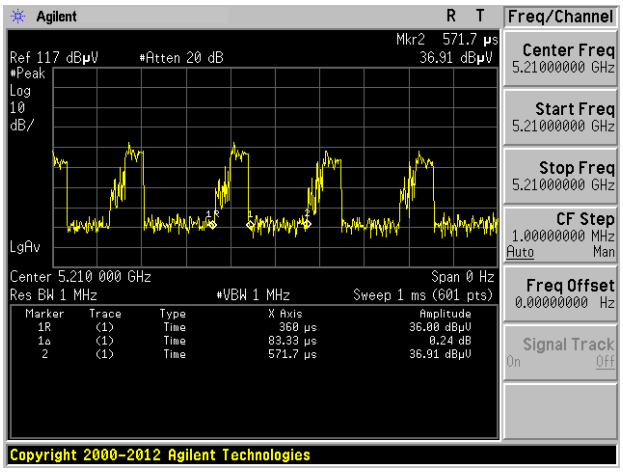
802.11n HT20



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),

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

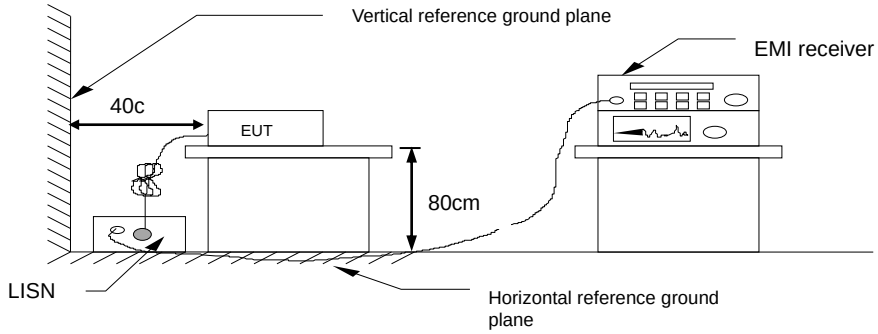
* Decreases with the logarithm of the frequency.

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

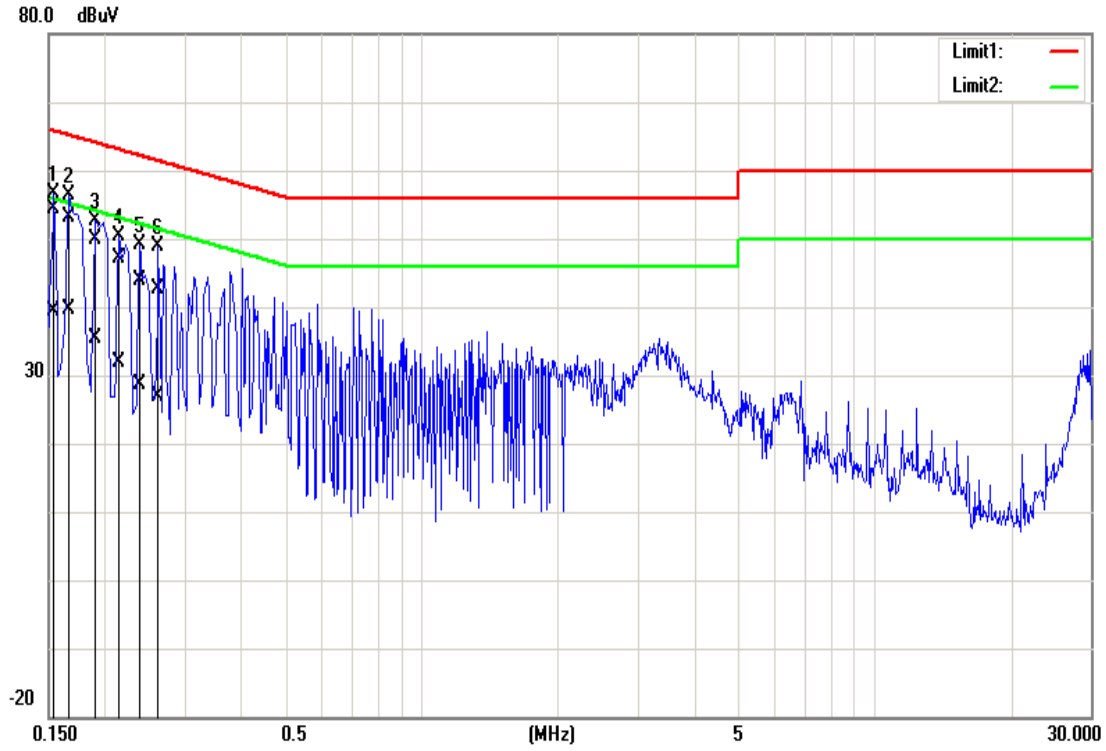


4.1.4 Test Result

Pass.

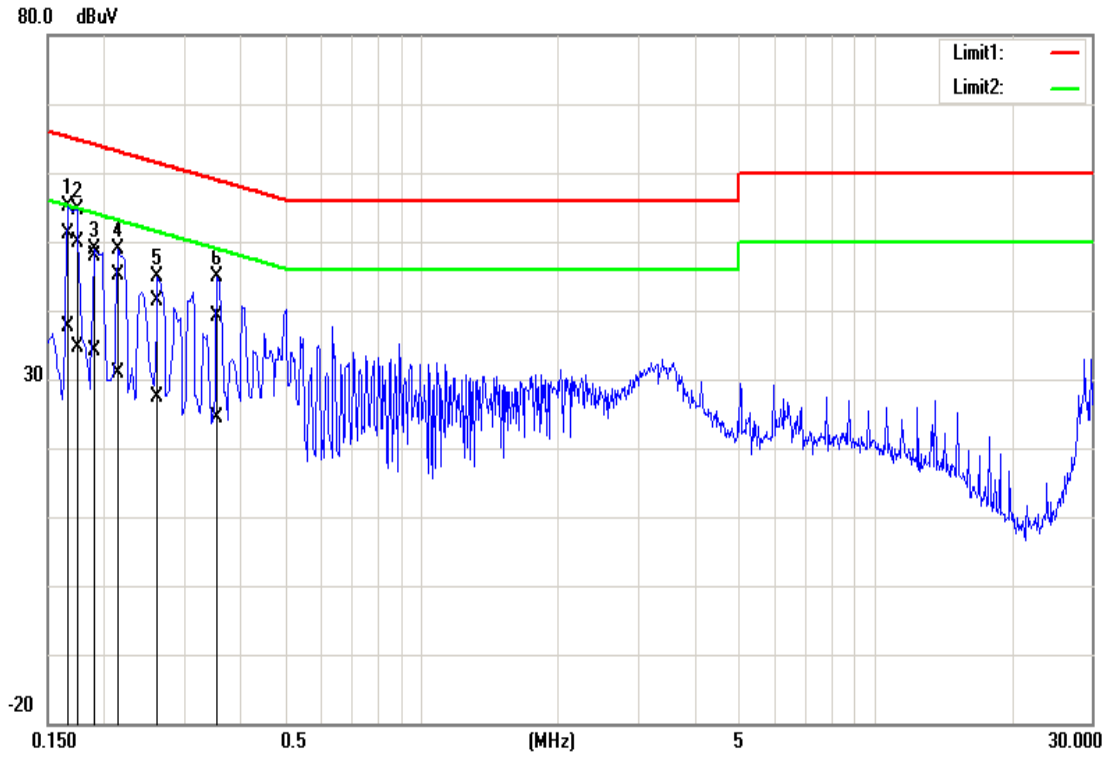
Test Data

Test Mode	Mode 1	Temp/Hum	24(℃)/ 50%RH
Test Voltage	120Vac / 60Hz	Test Date	May 13, 2019
Phase	Line	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
0.1540	54.19	39.16	0.16	54.35	39.32	65.78	55.78	-11.43	-16.46	Pass
0.1660	52.88	39.39	0.16	53.04	39.55	65.16	55.16	-12.12	-15.61	Pass
0.1900	49.70	35.23	0.15	49.85	35.38	64.04	54.04	-14.19	-18.66	Pass
0.2140	46.92	31.75	0.15	47.07	31.90	63.05	53.05	-15.98	-21.15	Pass
0.2380	43.85	28.60	0.15	44.00	28.75	62.17	52.17	-18.17	-23.42	Pass
0.2620	42.46	26.66	0.15	42.61	26.81	61.37	51.37	-18.76	-24.56	Pass

Test Mode	Mode 1	Temp/Hum	24(℃)/ 50%RH
Test Voltage	120Vac / 60Hz	Test Date	May 13, 2019
Phase	Neutral	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
0.1660	50.96	37.62	0.10	51.06	37.72	65.16	55.16	-14.10	-17.44	Pass
0.1740	49.81	34.48	0.10	49.91	34.58	64.77	54.77	-14.86	-20.19	Pass
0.1900	47.78	34.12	0.10	47.88	34.22	64.04	54.04	-16.16	-19.82	Pass
0.2140	45.11	30.68	0.10	45.21	30.78	63.05	53.05	-17.84	-22.27	Pass
0.2620	41.26	27.30	0.10	41.36	27.40	61.37	51.37	-20.01	-23.97	Pass
0.3540	38.99	24.16	0.11	39.10	24.27	58.87	48.87	-19.77	-24.60	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,

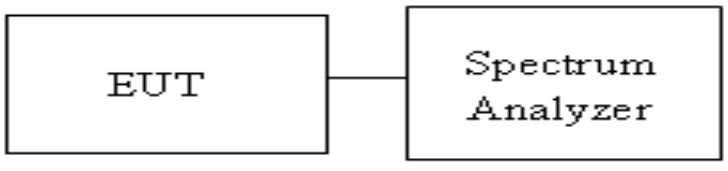
1. The EUT RF output connected to the spectrum analyzer by RF cable.
2. Setting maximum power transmit of EUT
3. UNII-1, UNII-2a and UNII-2c,

   (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 6 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

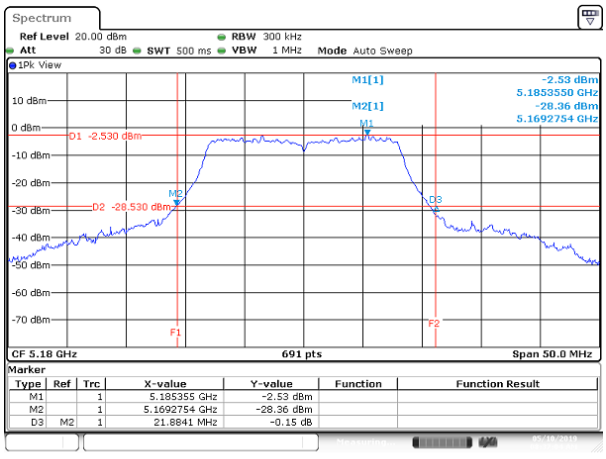
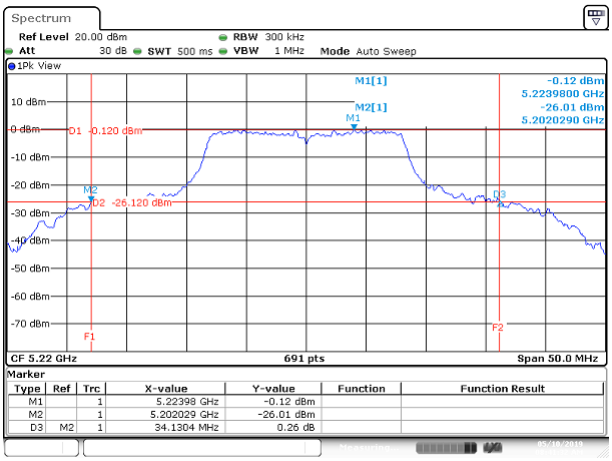
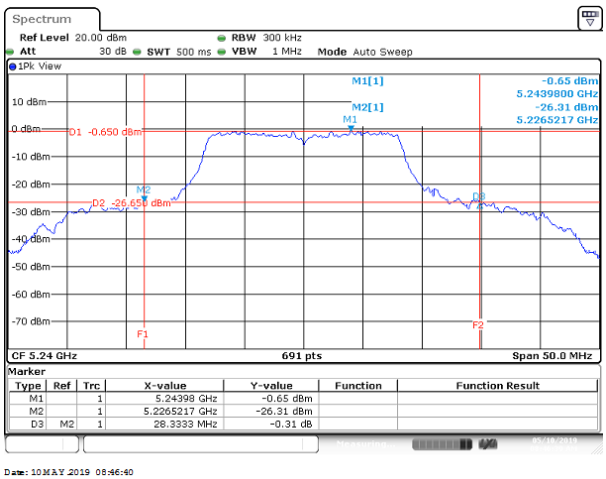


4.2.4 Test Result

UNII-1					
Test mode: IEEE 802.11a mode					
Channel	**Frequency (MHz)**	**Chain 0 OBW(99%) (MHz)**	**Chain 1 OBW(99%) (MHz)**	**Chain 0 26dB BW (MHz)**	**Chain 1 26dB BW (MHz)**
Low	5180	16.7149	-	21.8841	-
Mid	5220	17.2937	-	34.1304	-
High	5240	16.9319	-	28.3333	-
Test mode: IEEE 802.11n HT20 mode					
Channel	**Frequency (MHz)**	**Chain 0 OBW(99%) (MHz)**	**Chain 1 OBW(99%) (MHz)**	**Chain 0 26dB BW (MHz)**	**Chain 1 26dB BW (MHz)**
Low	5180	17.7279	17.6555	21.9565	21.3043
Mid	5220	17.8726	17.7279	22.2464	21.7391
High	5240	17.7279	17.6555	21.8116	21.4493
Test mode: IEEE 802.11n HT40 mode					
Channel	**Frequency (MHz)**	**Chain 0 OBW(99%) (MHz)**	**Chain 1 OBW(99%) (MHz)**	**Chain 0 26dB BW (MHz)**	**Chain 1 26dB BW (MHz)**
Low	5190	36.8162	36.3531	45.333	43.71
High	5230	36.5846	36.3531	44.986	44.986
Test mode: IEEE 802.11ac VHT80 mode					
Channel	**Frequency (MHz)**	**Chain 0 OBW(99%) (MHz)**	**Chain 1 OBW(99%) (MHz)**	**Chain 0 26dB BW (MHz)**	**Chain 1 26dB BW (MHz)**
Mid	5210	75.7163	75.2532	82.551	80.696

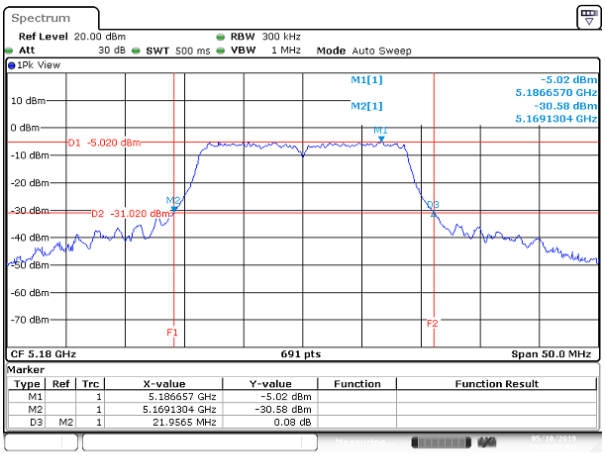
UNII-3					
Test mode: IEEE 802.11a mode					
Channel	**Frequency (MHz)**	**Chain 0 OBW(99%) (MHz)**	**Chain 1 OBW(99%) (MHz)**	**Chain 0 6dB BW (MHz)**	**Chain 1 6dB BW (MHz)**
Low	5745	34.7322	-	16.3043	-
Mid	5785	34.4428	-	16.3478	-
High	5825	34.4428	-	16.3478	-
Test mode: IEEE 802.11n HT20 mode					
Channel	**Frequency (MHz)**	**Chain 0 OBW(99%) (MHz)**	**Chain 1 OBW(99%) (MHz)**	**Chain 0 6dB BW (MHz)**	**Chain 1 6dB BW (MHz)**
Low	5745	17.8726	18.4515	17.5652	17.5652
Mid	5785	17.7279	19.2474	17.5217	17.5652
High	5825	17.8002	18.4515	17.3043	17.5652
Test mode: IEEE 802.11n HT40 mode					
Channel	**Frequency (MHz)**	**Chain 0 OBW(99%) (MHz)**	**Chain 1 OBW(99%) (MHz)**	**Chain 0 6dB BW (MHz)**	**Chain 1 6dB BW (MHz)**
Low	5755	36.7004	36.4688	35.942	36.406
High	5795	36.8162	36.9319	36.058	36.29
Test mode: IEEE 802.11ac VHT80 mode					
Channel	**Frequency (MHz)**	**Chain 0 OBW(99%) (MHz)**	**Chain 1 OBW(99%) (MHz)**	**Chain 0 6dB BW (MHz)**	**Chain 1 6dB BW (MHz)**
Mid	5775	76.1794	88.4515	75.13	75.13

Test Data

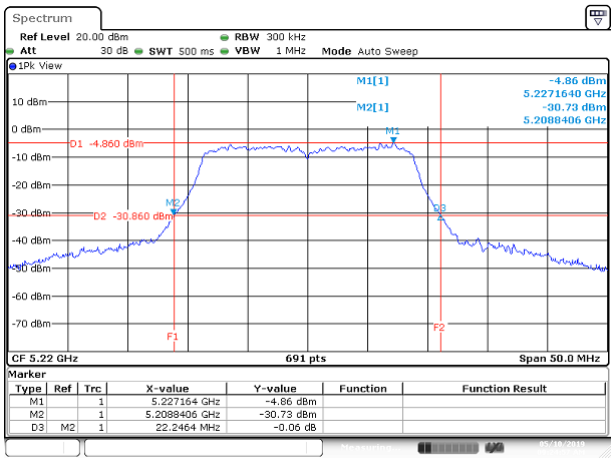
UNII-1 IEEE 802.11a mode- chain 0 26 BANDWIDTH	
Low CH	**Mid CH**
	
High CH	
	

UNII-1 IEEE 802.11n HT20 mode- chain 0
26 BANDWIDTH

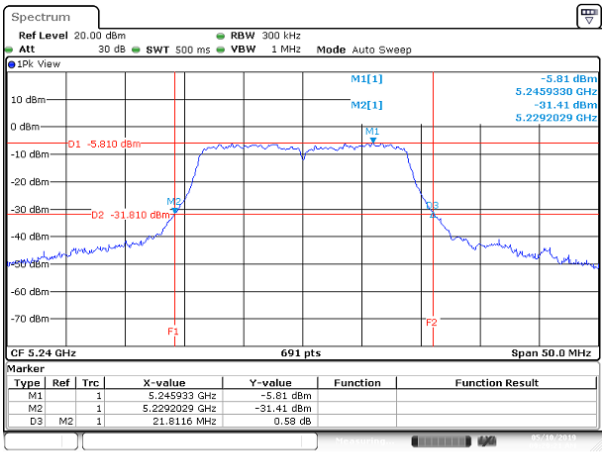
Low CH



Mid CH

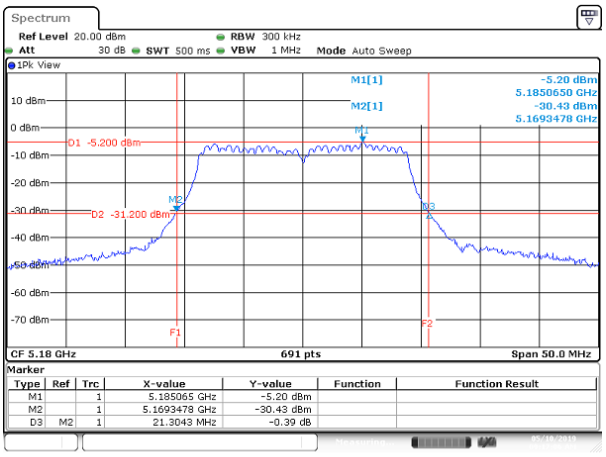


High CH

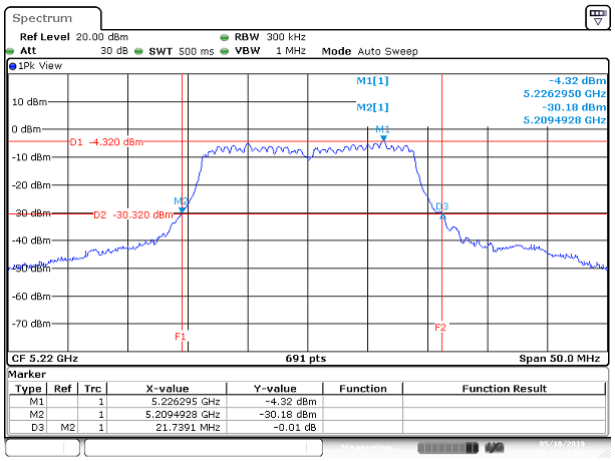


UNII-1 IEEE 802.11n HT20 mode- chain 1
26 BANDWIDTH

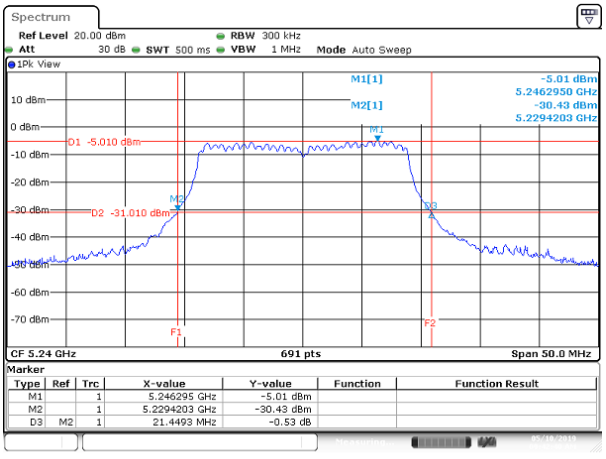
Low CH

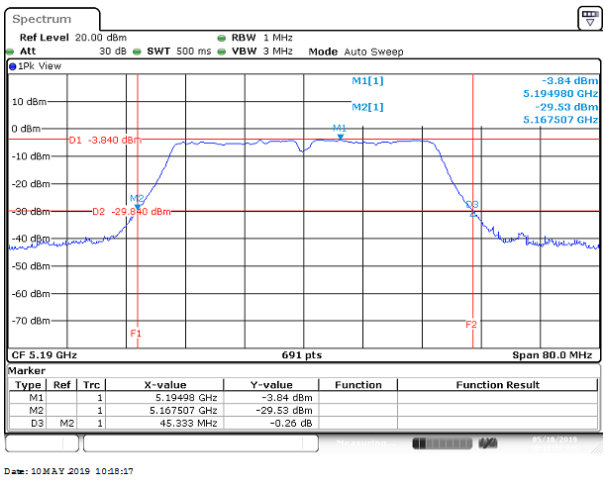
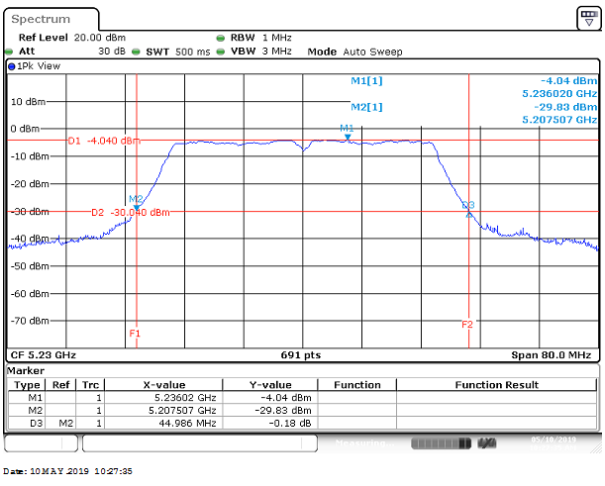


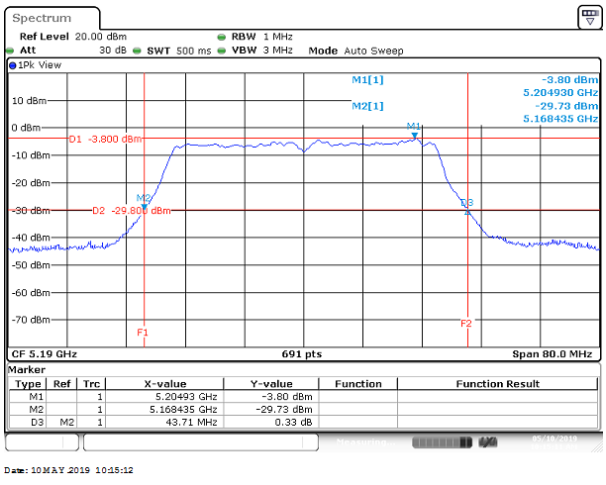
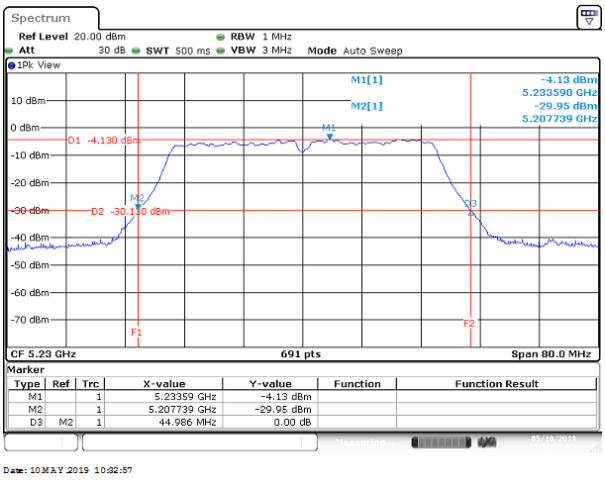
Mid CH

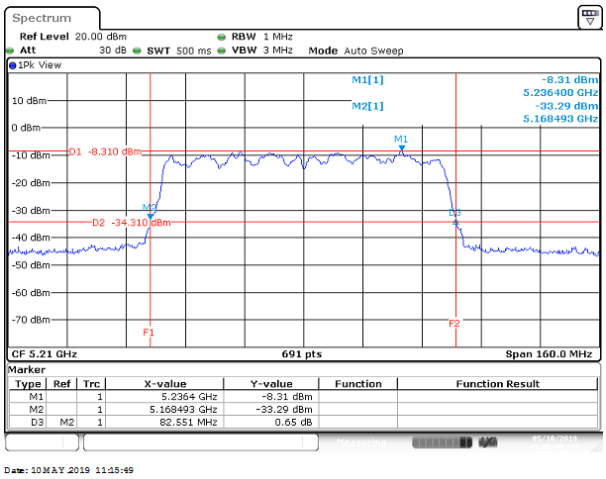
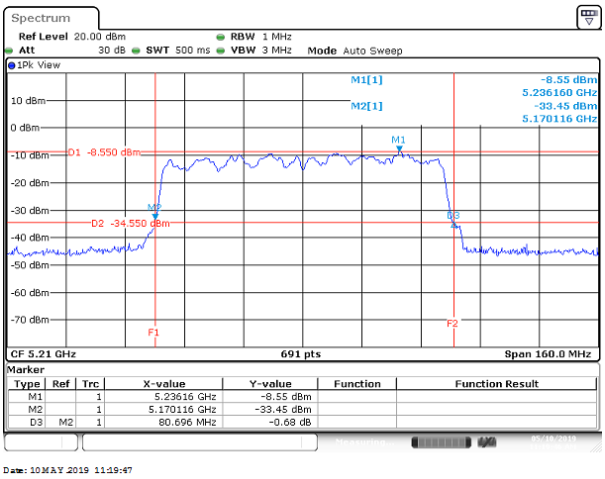


High CH



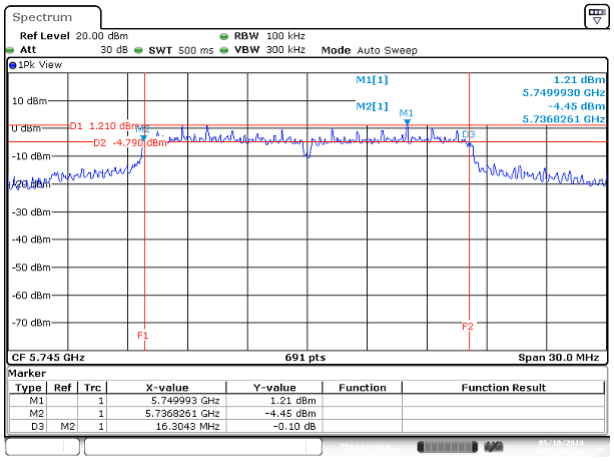
UNII-1 IEEE 802.11n HT40 mode- chain 0 26 BANDWIDTH	
Low CH	**High CH**
	

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

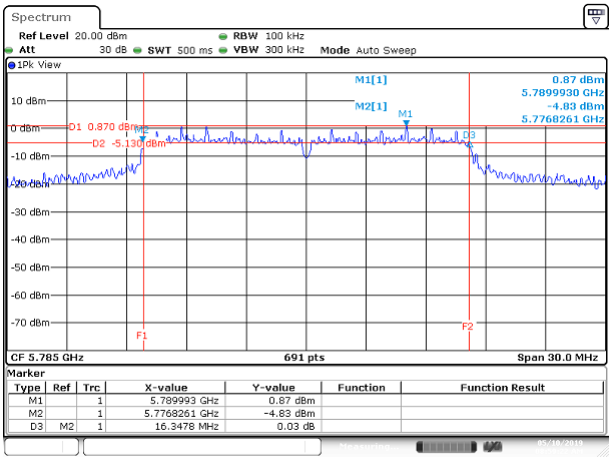
UNII-1 IEEE 802.11ac VHT80 mode 26 BANDWIDTH	
Mid CH- chain 0	**Mid CH- chain 1**
	

UNII-3 IEEE 802.11a mode- chain 0
6 BANDWIDTH

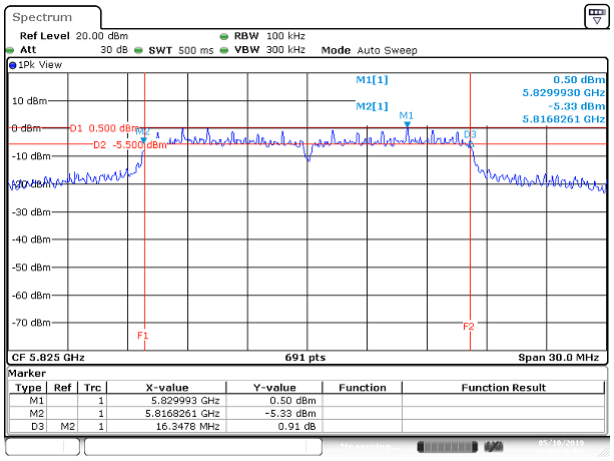
Low CH



Mid CH

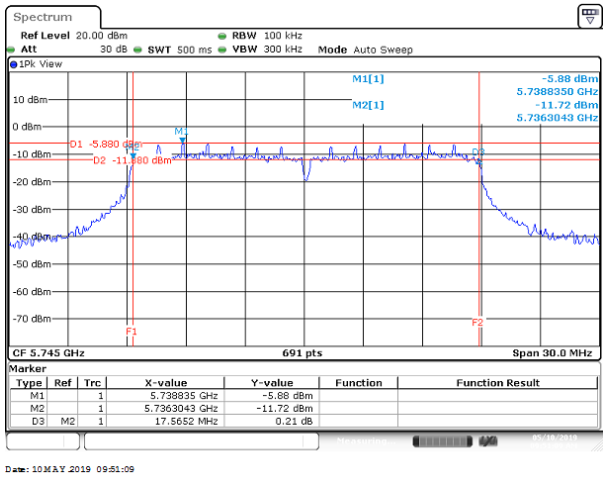


High CH

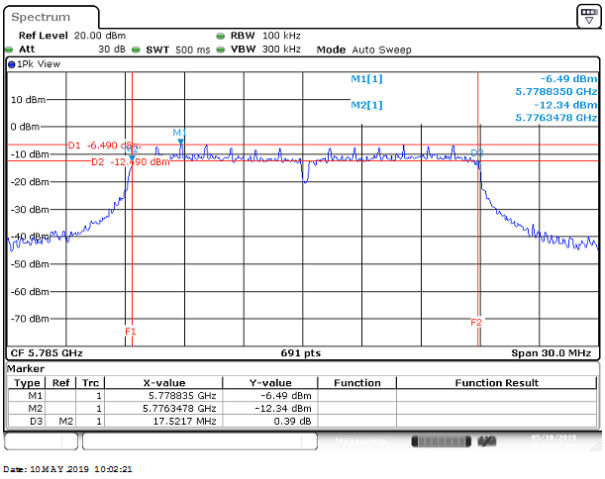


UNII-3 IEEE 802.11n HT20 mode- chain 0
6 BANDWIDTH

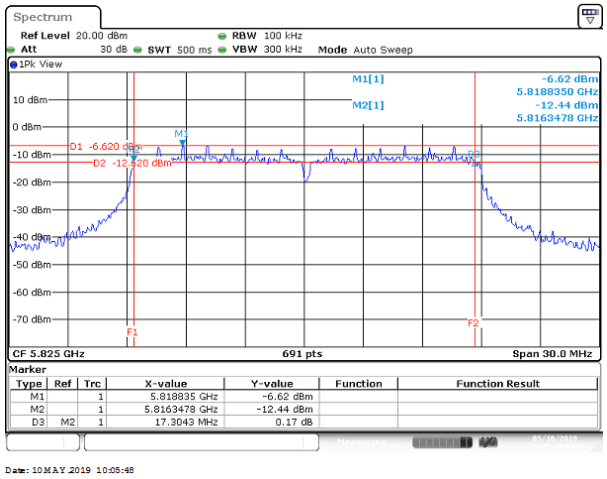
Low CH



Mid CH

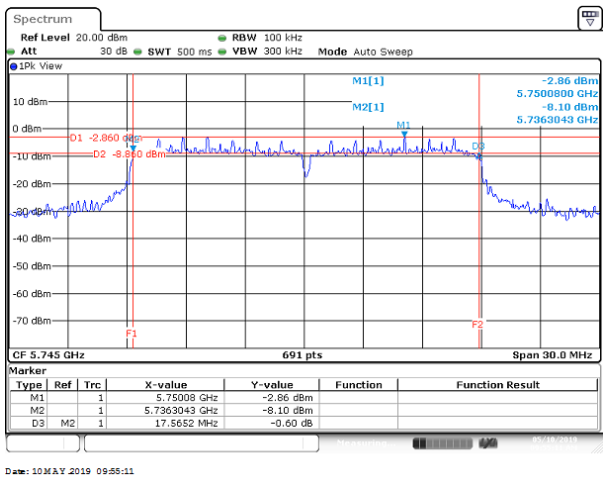


High CH

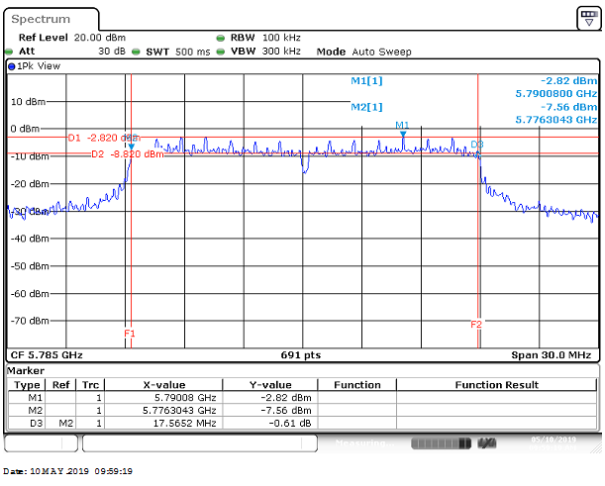


UNII-3 IEEE 802.11n HT20 mode- chain 1
6 BANDWIDTH

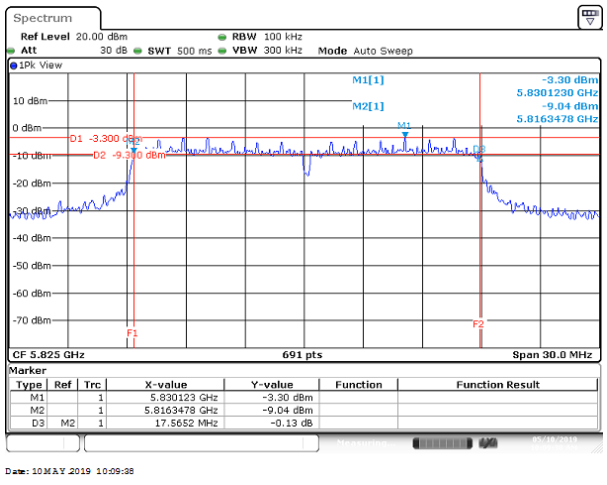
Low CH

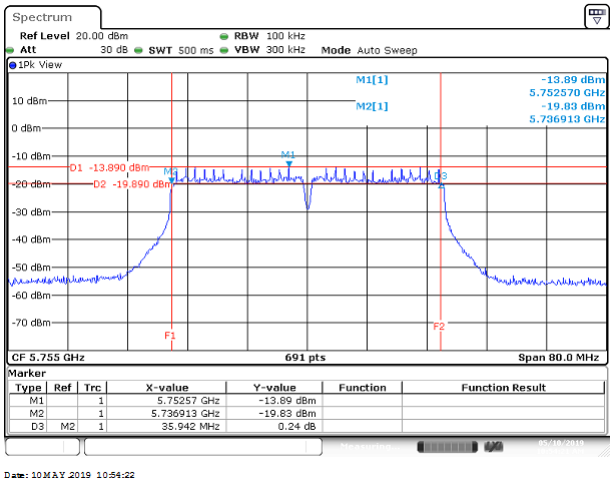
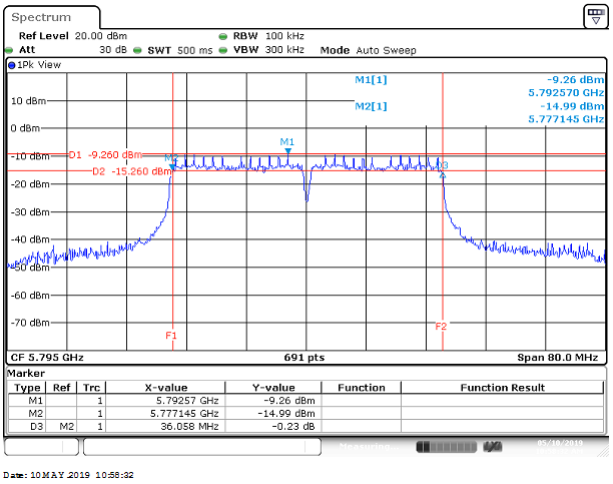


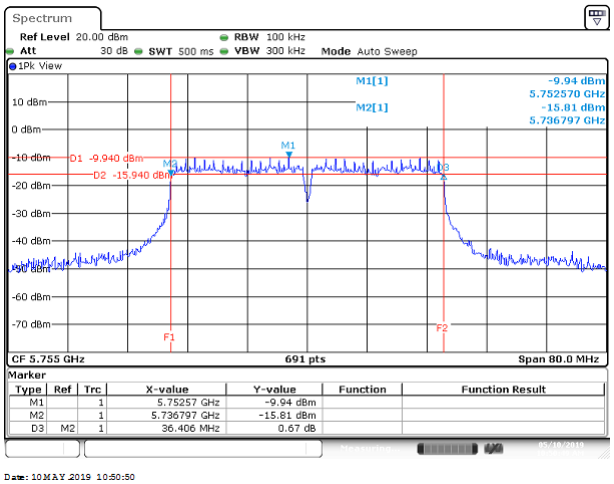
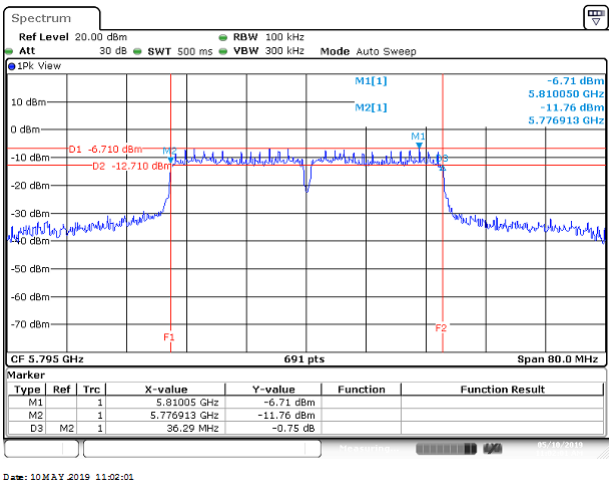
Mid CH

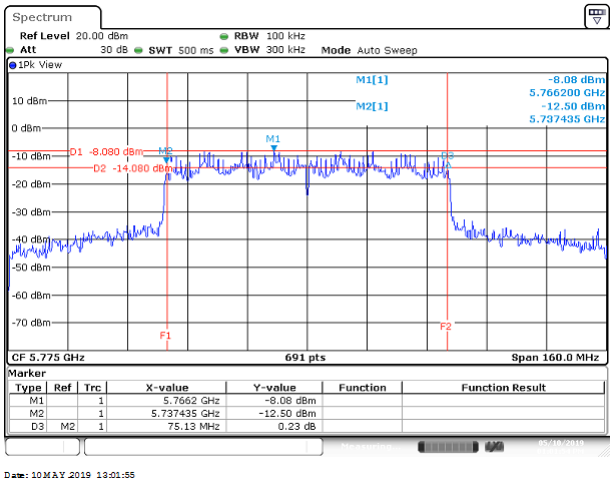
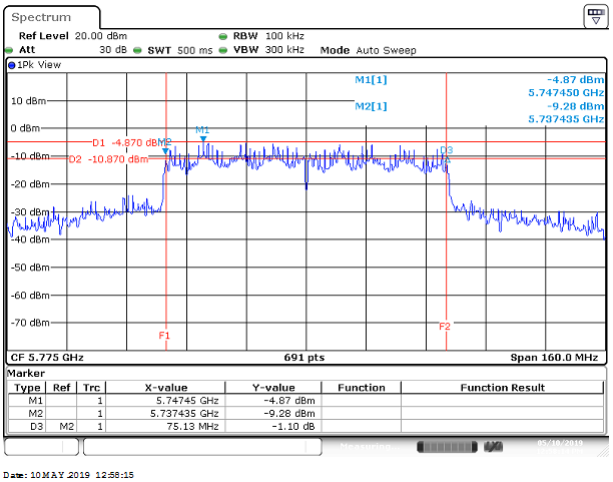


High CH



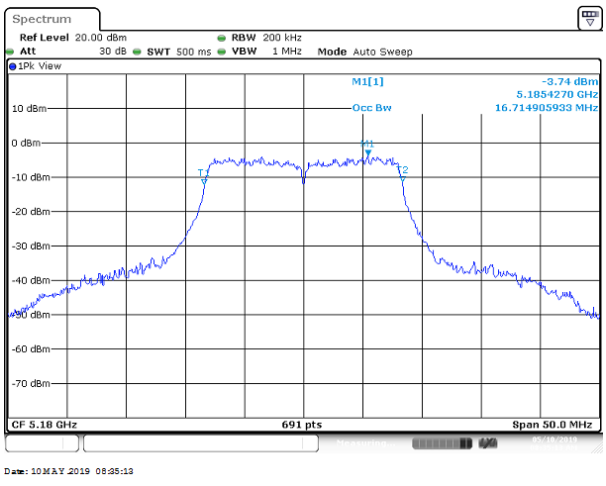
UNII-3 IEEE 802.11n HT40 mode- chain 0 6 BANDWIDTH	
Low CH	**High CH**
	

UNII-3 IEEE 802.11n HT40 mode- chain 1 6 BANDWIDTH	
Low CH	**High CH**
	

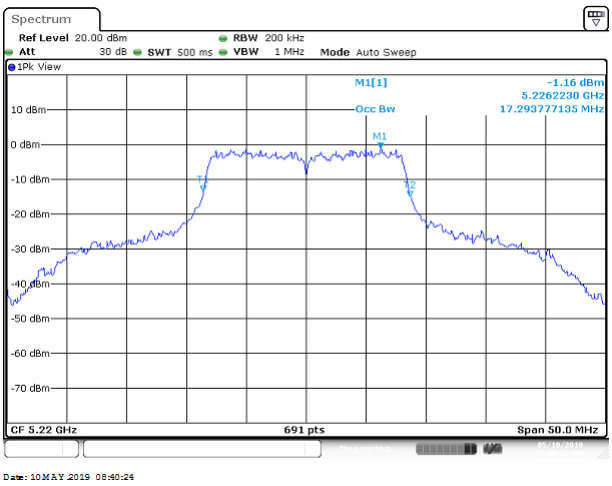
UNII-3 IEEE 802.11ac VHT80 mode 6 BANDWIDTH	
Mid CH- chain 0	**Mid CH- chain 1**
	

UNII-1 IEEE 802.11a mode- chain 0
BANDWIDTH (99%)

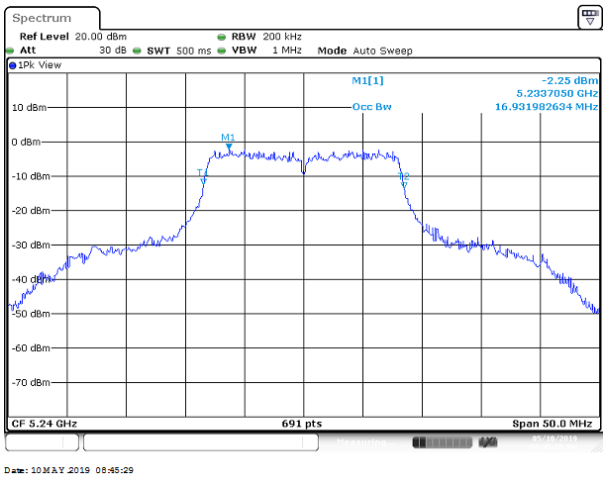
Low CH



Mid CH

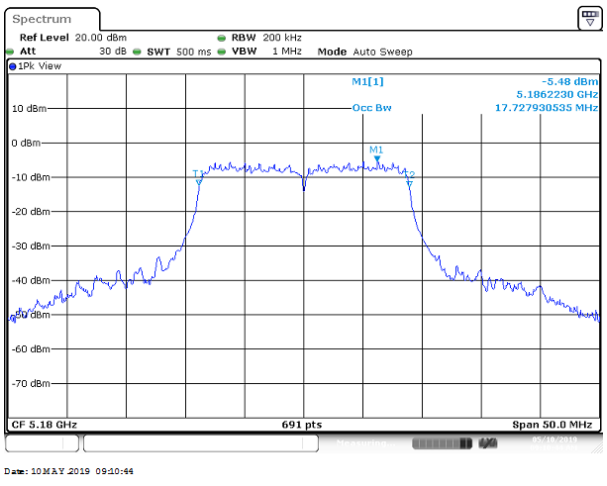


High CH

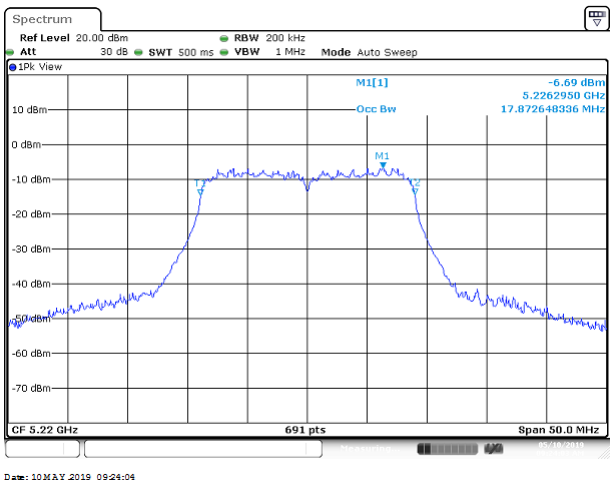


UNII-1 IEEE 802.11n HT20 mode- chain 0
BANDWIDTH (99%)

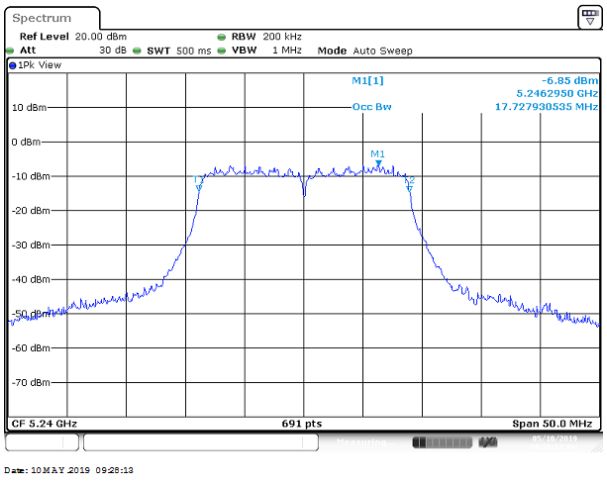
Low CH



Mid CH

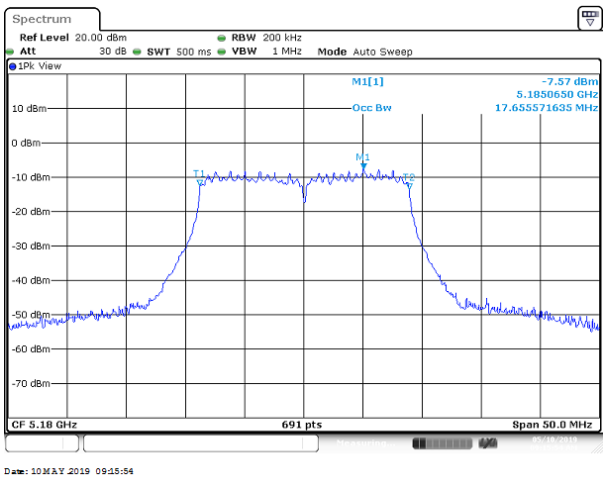


High CH

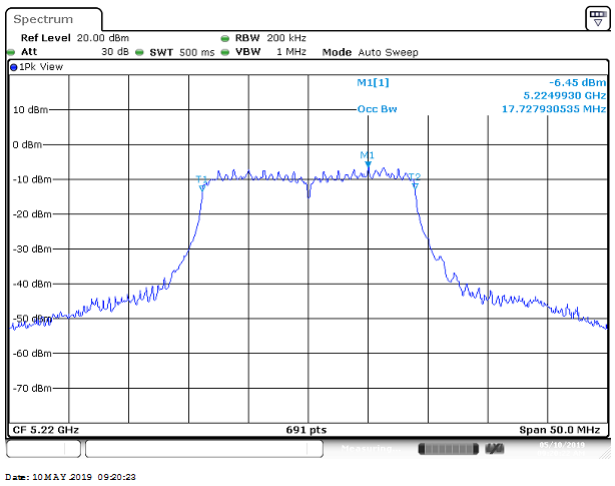


UNII-1 IEEE 802.11n HT20 mode- chain 1
BANDWIDTH (99%)

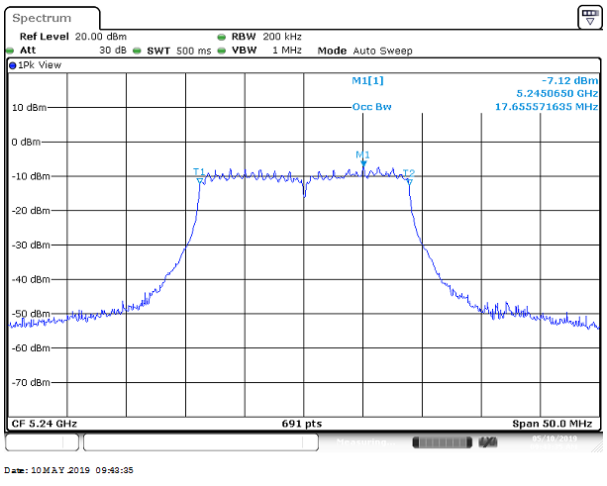
Low CH

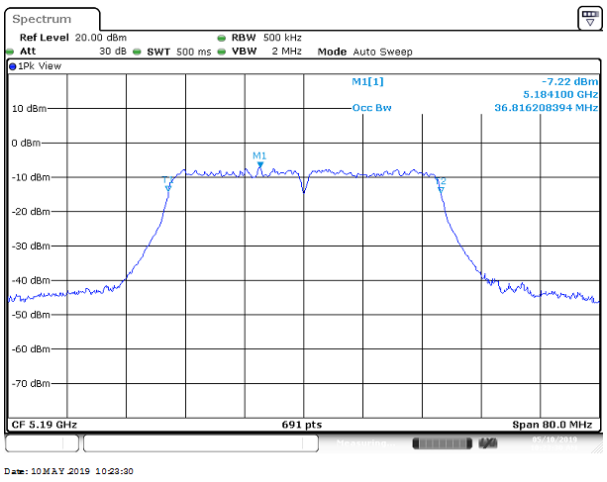
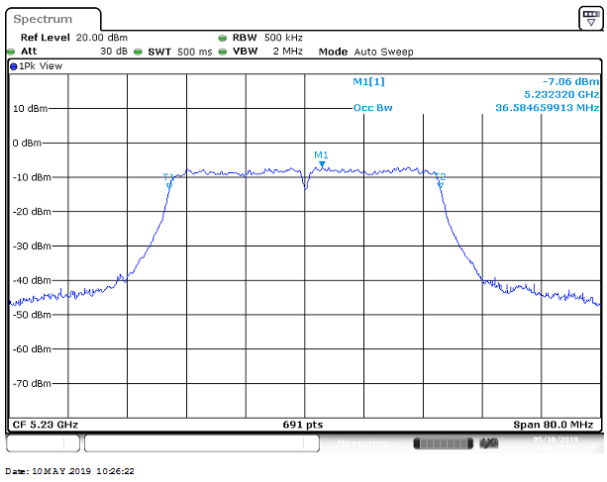


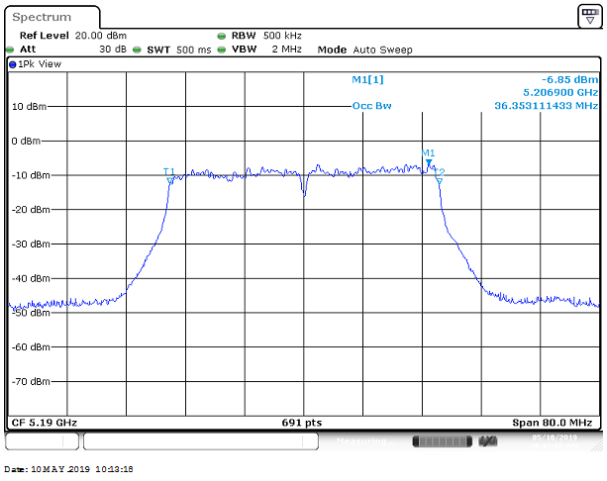
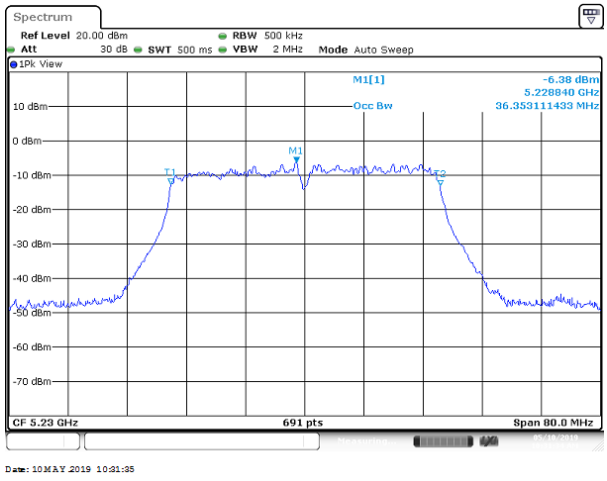
Mid CH

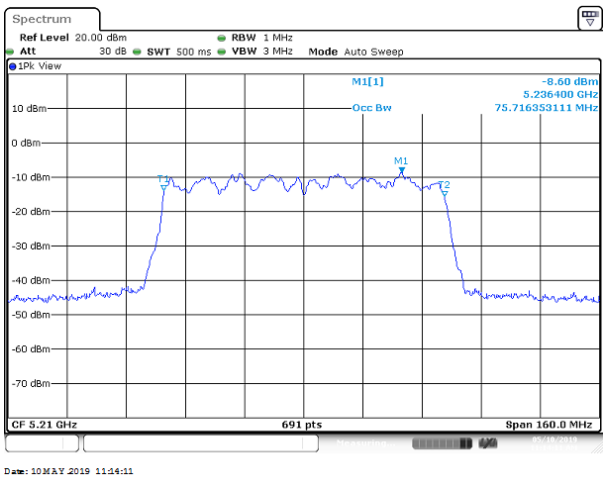
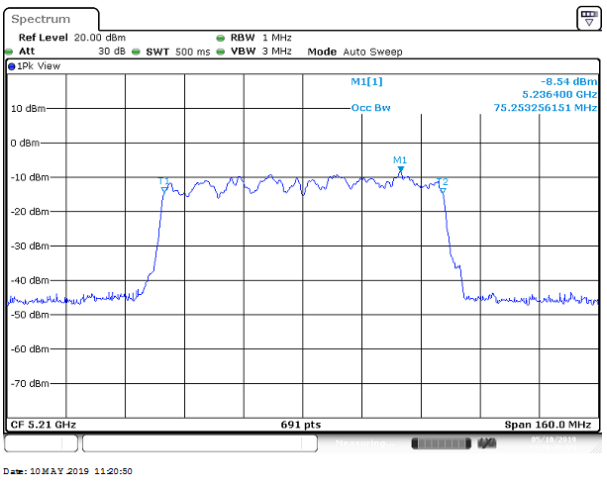


High CH



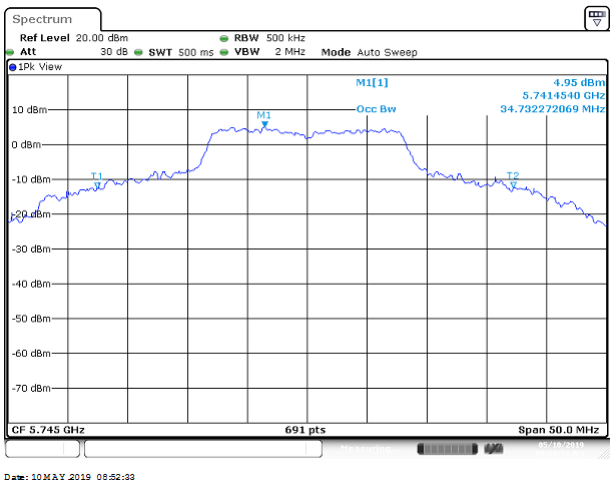
UNII-1 IEEE 802.11n HT40 mode- chain 0 BANDWIDTH (99%)	
Low CH	**High CH**
	

UNII-1 IEEE 802.11n HT40 mode- chain 1 BANDWIDTH (99%)	
Low CH	**High CH**
	

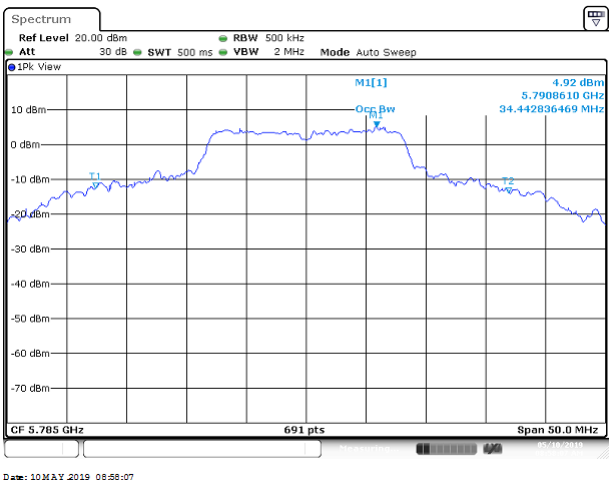
UNII-2c IEEE 802.11ac VHT80 mode BANDWIDTH (99%)	
Mid CH-chain 0	**Mid CH-chain 1**
	

UNII-3 IEEE 802.11a mode- chain 0
BANDWIDTH (99%)

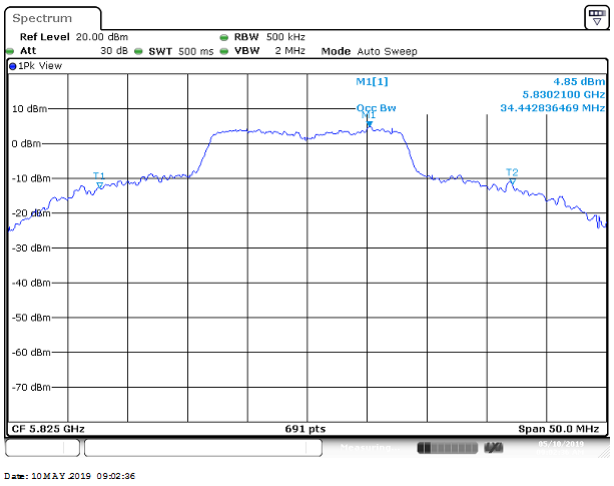
Low CH

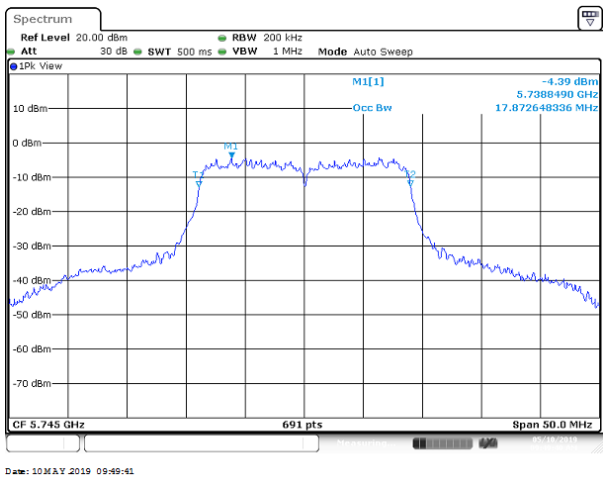
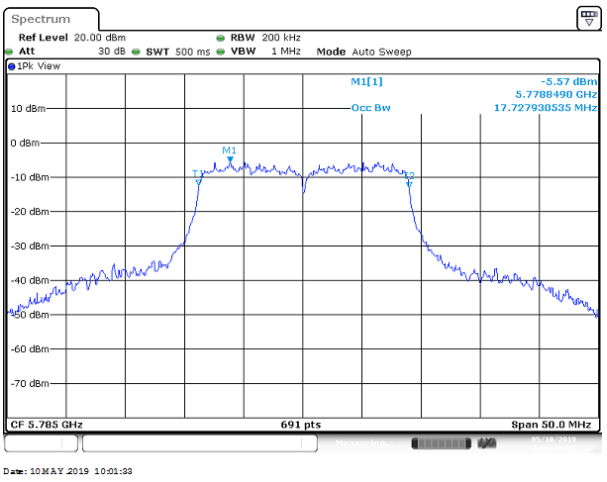
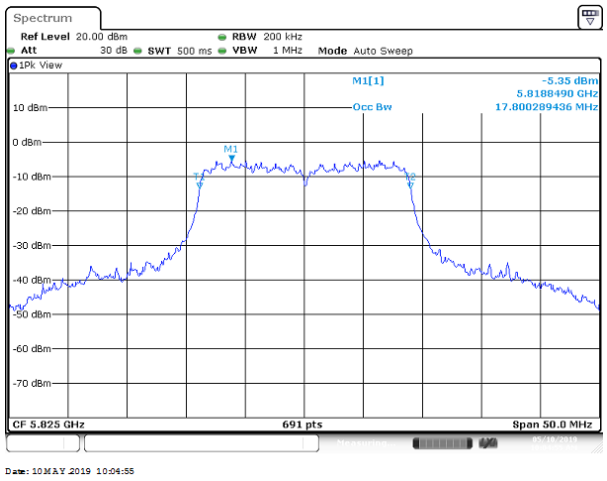


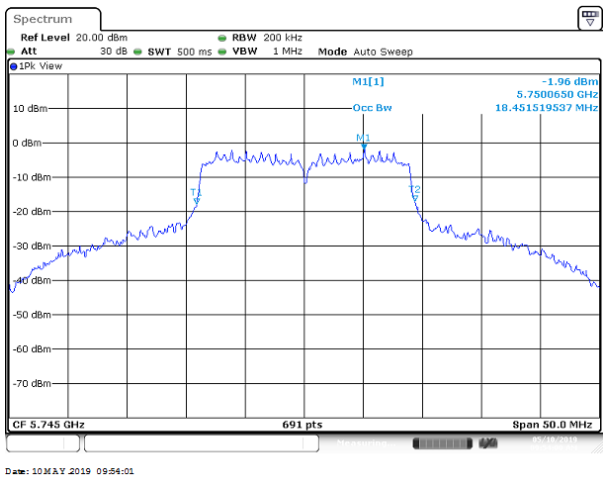
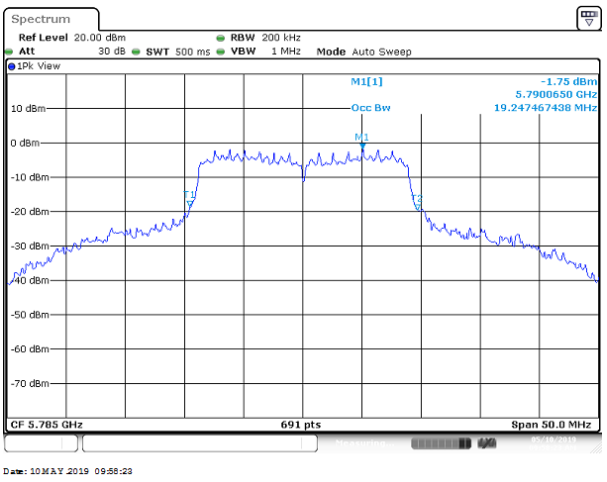
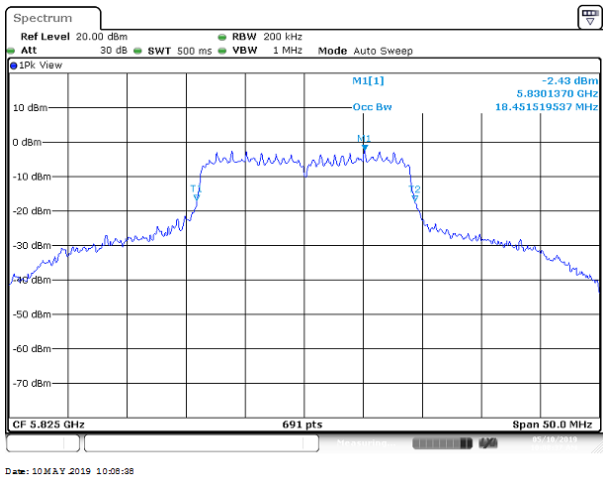
Mid CH

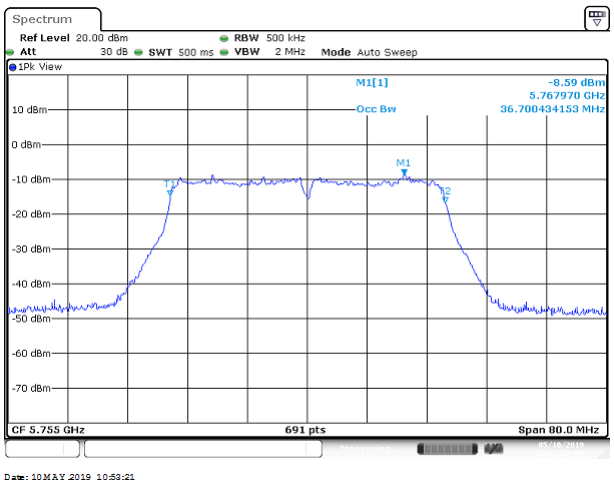
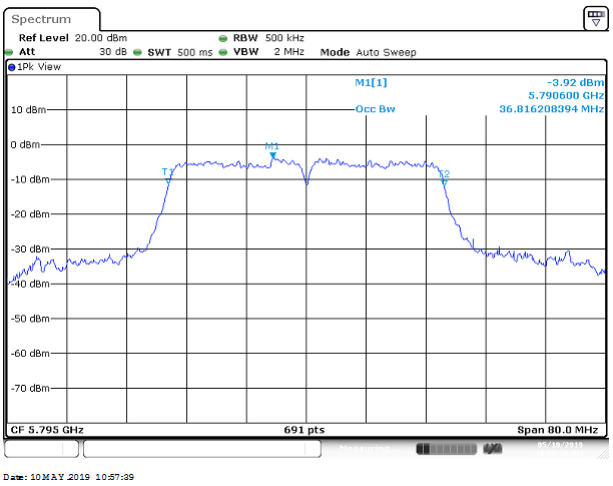


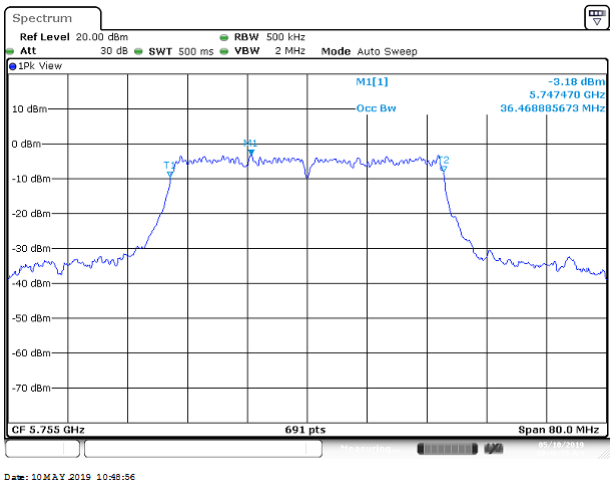
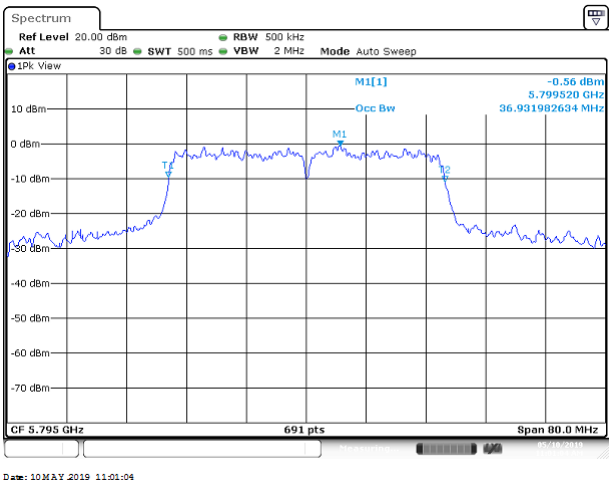
High CH

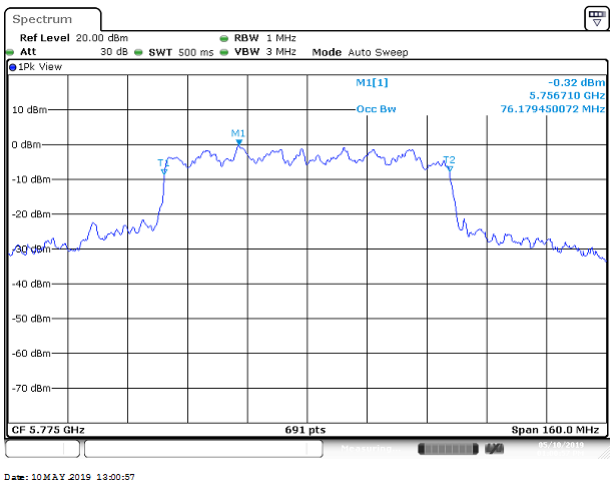
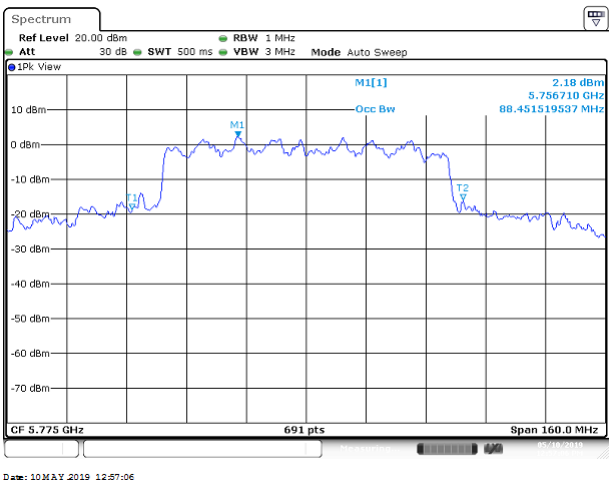


UNII-3 IEEE 802.11n HT20 mode- chain 0 BANDWIDTH (99%)	
Low CH	**Mid CH**
	
High CH	
	

UNII-3 IEEE 802.11n HT20 mode- chain 1 BANDWIDTH (99%)	
Low CH	**Mid CH**
	
High CH	
	

UNII-3 IEEE 802.11n HT40 mode- chain 0 BANDWIDTH (99%)	
Low CH	**High CH**
	

UNII-3 IEEE 802.11n HT40 mode- chain 1 BANDWIDTH (99%)	
Low CH	**High CH**
	

UNII-3 IEEE 802.11ac VHT80 mode BANDWIDTH (99%)	
Mid CH- chain 0	**Mid CH- chain 1**
	

4.3 OUTPUT POWER MEASUREMENT

4.3.1 Test Limit

According to §15.407 (a)(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 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-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.

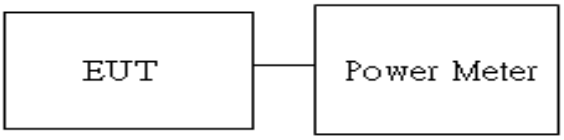
UNII-1 Limit	☒ Antenna not exceed 6 dBi：24dBm ☐ Antenna with DG greater than 6 dBi： [Limit = 24 – (DG – 6)]
UNII-3 Limit	☒ Antenna not exceed 6 dBi：30dBm ☐ Antenna with DG greater than 6 dBi： [Limit = 24 – (DG – 6)]

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)		AV Total Power (dBm)	AV Total Power (W)	Limit (dBm)
			chain0	chain1	chain0	chain1			
IEEE 802.11a Data rate: 6Mbps	36	5180	29	-	8.23	-	8.23	0.0067	24
	44	5220	28	-	8.28	-	8.28	0.0067	
	48	5240	27	-	8.20	-	8.20	0.0066	
IEEE 802.11n HT20 Data rate: MCS 0	36	5180	42	42	14.67	13.47	17.12	0.0515	
	44	5220	41	41	14.35	13.98	17.18	0.0522	
	48	5240	40	40	14.01	13.93	16.98	0.0499	
IEEE 802.11n HT40 Data rate: MCS 0	38	5190	43	43	13.94	12.80	16.42	0.0438	
	46	5230	42	42	14.03	13.67	16.86	0.0486	
IEEE 802.11ac VHT80 Data rate: MCS8	42	5210	53	53	13.52	11.58	15.67	0.0369	

UNII-3									
Config	CH	Freq. (MHz)	Power Set		AV Power(dBm)		AV Total Power (dBm)	AV Total Power (W)	Limit (dBm)
			chain0	chain1	chain0	chain1			
IEEE 802.11a Data rate: 6Mbps	149	5745	63	-	22.71	-	22.71	0.1866	30
	157	5785	63	-	22.52	-	22.52	0.1786	
	165	5825	63	-	22.57	-	22.57	0.1807	
IEEE 802.11n HT20 Data rate: MCS0	149	5745	50	50	19.01	20.34	22.74	0.1878	
	157	5785	50	50	18.49	21.15	23.03	0.2009	
	165	5825	50	50	18.43	20.46	22.57	0.1808	
IEEE 802.11n HT40 Data rate: MCS0	151	5755	50	50	18.07	20.01	22.16	0.1644	
	159	5795	50	50	17.91	20.54	22.43	0.1750	
IEEE 802.11ac VHT80 Data rate: MCS8	155	5775	63	63	18.01	19.29	21.71	0.1482	

G

4.4 POWER SPECTRAL DENSITY

4.4.1 Test Limit

According to §15.407 (a)(1)

UNII-1 :

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

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.

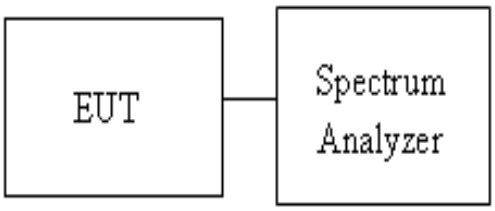
UNII-1 Limit	☒ Antenna not exceed 6 dBi：11 dBm ☐ Antenna with DG greater than 6 dBi： [Limit = 11 – (DG – 6)]
UNII-3 Limit	☒ Antenna not exceed 6 dBi：30 dBm ☐ Antenna with DG greater than 6 dBi： [Limit = 30 – (DG – 6)]

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

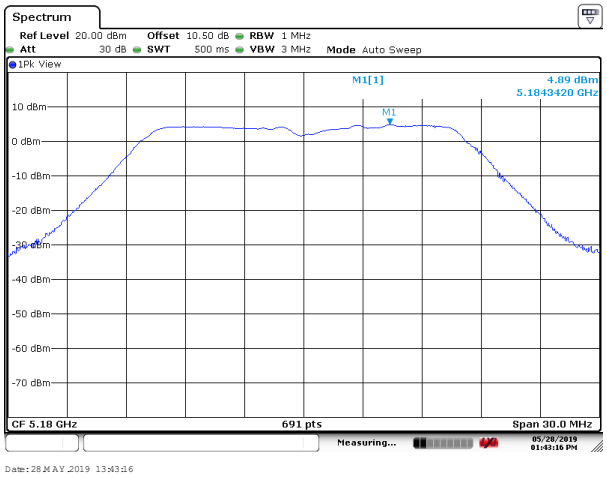
UNII-1					
Test mode: IEEE 802.11a mode					
Channel	**Frequency (MHz)**	**chain 0 PPSD (dBm)**	**chain 1 PPSD (dBm)**	**Total PPSD (dBm)**	**Limit (dBm)**
Low	5180	4.89	-	4.89	11
Mid	5220	4.98	-	4.98	
High	5240	5.01	-	5.01	
Test mode: IEEE 802.11n HT20 mode					
Channel	**Frequency (MHz)**	**chain 0 PPSD (dBm)**	**chain 1 PPSD (dBm)**	**Total PPSD (dBm)**	**Limit (dBm)**
Low	5180	2.94	1.48	5.28	11
Mid	5220	2.54	1.93	5.26	
High	5240	1.81	1.85	4.84	
Test mode: IEEE 802.11n HT40 mode					
Channel	**Frequency (MHz)**	**chain 0 PPSD (dBm)**	**chain 1 PPSD (dBm)**	**Total PPSD (dBm)**	**Limit (dBm)**
Low	5190	-1.96	-3.07	0.53	11
High	5230	-2.17	-2.57	0.64	
Test mode: IEEE 802.11ac VHT80 mode					
Channel	**Frequency (MHz)**	**chain 0 PPSD (dBm)**	**chain 1 PPSD (dBm)**	**Total PPSD (dBm)**	**Limit (dBm)**
Mid	5210	-2.9	-2.73	0.20	11

UNII-3					
Test mode: IEEE 802.11a mode					
Channel	**Frequency (MHz)**	**chain 0 PPSD (dBm)**	**chain 1 PPSD (dBm)**	**Total PPSD (dBm)**	**Limit (dBm)**
Low	5745	15.41	-	15.41	30
Mid	5785	15.89	-	15.89	
High	5825	15.24	-	15.24	
Test mode: IEEE 802.11n HT20 mode					
Channel	**Frequency (MHz)**	**chain 0 PPSD (dBm)**	**chain 1 PPSD (dBm)**	**Total PPSD (dBm)**	**Limit (dBm)**
Low	5745	9.08	13.39	14.76	30
Mid	5785	8.62	13.14	14.45	
High	5825	8.41	13.03	14.32	
Test mode: IEEE 802.11n HT40 mode					
Channel	**Frequency (MHz)**	**chain 0 PPSD (dBm)**	**chain 1 PPSD (dBm)**	**Total PPSD (dBm)**	**Limit (dBm)**
Low	5755	5.29	10.24	11.45	30
High	5795	5.46	9.95	11.27	
Test mode: IEEE 802.11ac VHT80 mode					
Channel	**Frequency (MHz)**	**chain 0 PPSD (dBm)**	**chain 1 PPSD (dBm)**	**Total PPSD (dBm)**	**Limit (dBm)**
Mid	5775	7.08	9.83	11.68	30

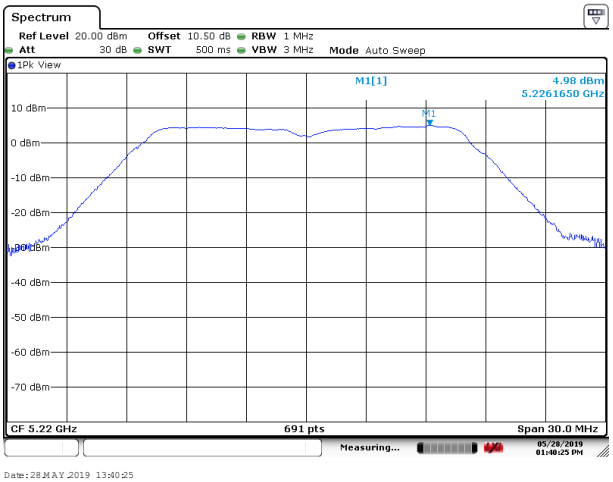
Test Data

UNII-1 IEEE 802.11a mode- chain 0

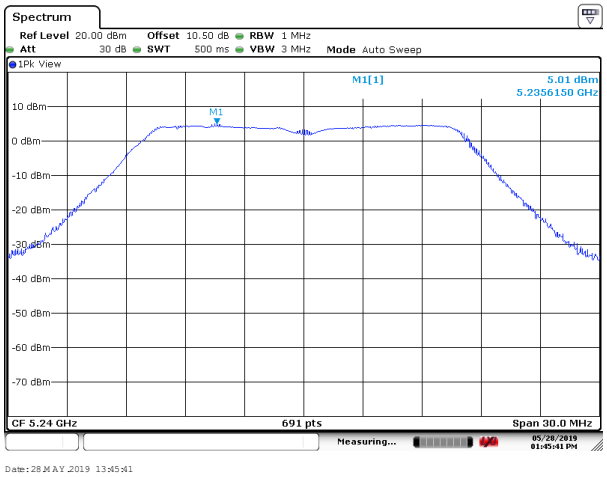
Low CH

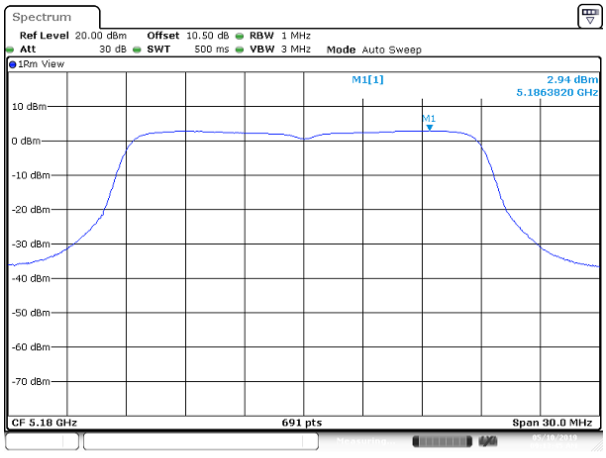
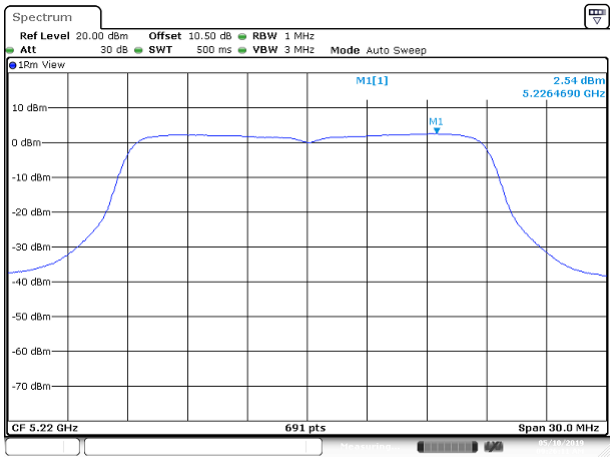
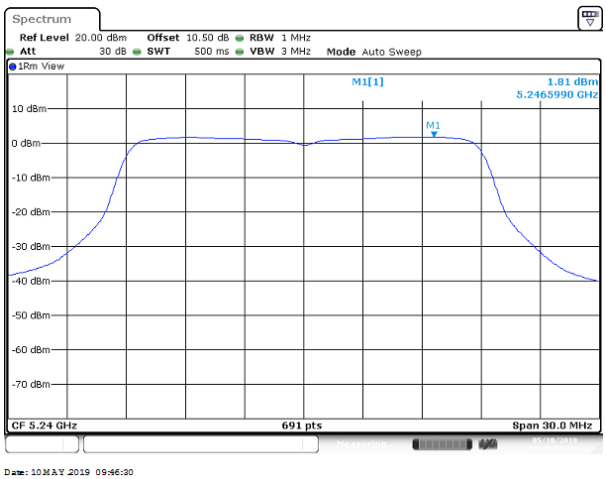


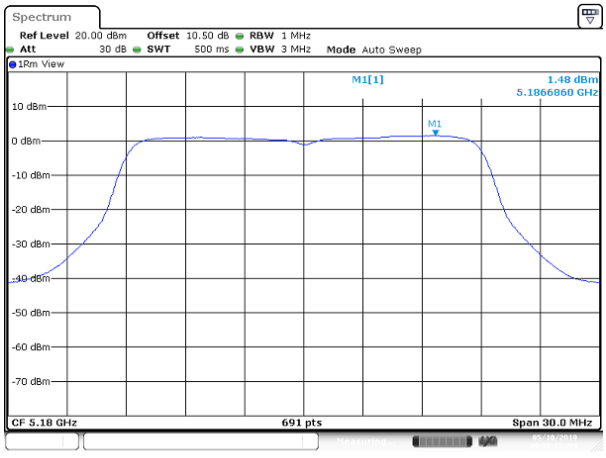
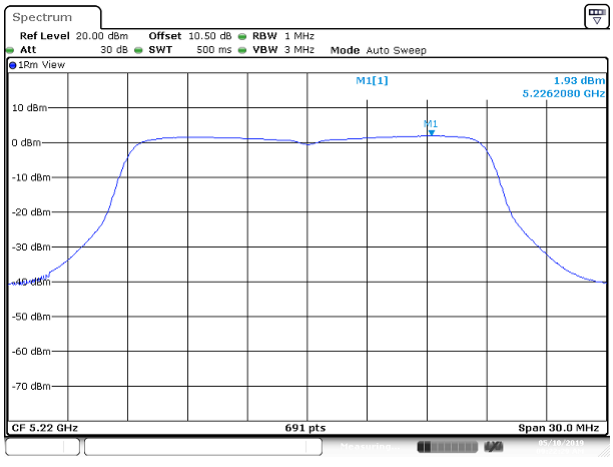
Mid CH



High CH



UNII-1 IEEE 802.11n HT20 mode- chain 0	
Low CH	**Mid CH**
	
High CH	
	

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