

TEST REPORT

KOSTEC CO., Ltd. 28(175-20, Annyeong-dong) 406-gil sejaro, Hwaseong-si, Gyeonggi-do, Korea Tel:031-222-4251, Fax:031-222-4252	Report No.: KST-FCR-200014	 KOSTEC Co., Ltd. http://www.kostec.org
1. Applicant • Name : IIRCADE, INC. • Address : No.A-627, 338 GwanggyoJungang-Ro, Suji-Gu, Yongin-Si, Gyeonggi-Do, 16942, Republic of KOREA 2. Test Item • Product Name: iiRcade Game Console Bartop • Model Name: IRORO1-128C19OGA • Brand: None • FCC ID: 2AXRR- IRORO1 3. Manufacturer • Name : IIRCADE, INC. • Address : No.A-627, 338 GwanggyoJungang-Ro, Suji-Gu, Yongin-Si, Gyeonggi-Do, 16942, Republic of KOREA 4. Date of Test : 2020. 09. 14. ~ 2020. 09. 23. 5. Test Method Used : FCC CFR 47, Part 15. Subpart E-15.407 ANSI C 63.10-2013 6. Test Result : Compliance 7. Note: Request for family model name by appearance and flash memory capacity change. Family model names: IRORO1-64C19OGA, IRORO1-128S19BLK, IRORO1-128S19DLA		
Supplementary Information The device bearing the brand name and FCC ID specified above has been shown to comply with the applicable technical standards as indicated in the measurement report and was tested in accordance with measurement procedures specified in <u>ANSI C 63.10-2013</u>. We attest to the accuracy of data and all measurements reported herein were performed by KOSTEC Co., Ltd. and were made under Chief Engineer's supervision. We assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.		
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report is not related to KOLAS accreditation.		
Affirmation	Tested by Name : Jung, Ho-cheol  (Signature)	Technical Manager Name : Park, Gyeong-Hyeon  (Signature)
2020 .09. 25. KOSTEC Co., Ltd.		

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1. GENERAL INFORMATION

1.1 Test Facility

Test laboratory and address

KOSTEC Co., Ltd.

28(175-20,Annyeong-dong)406-gil sejaro, Hwaseong-si Gyeonggi-do, Korea

Telephone Number: 82-31-222-4251

Facsimile Number: 82-31-222-4252

Registration information

KOLAS No.: KT232

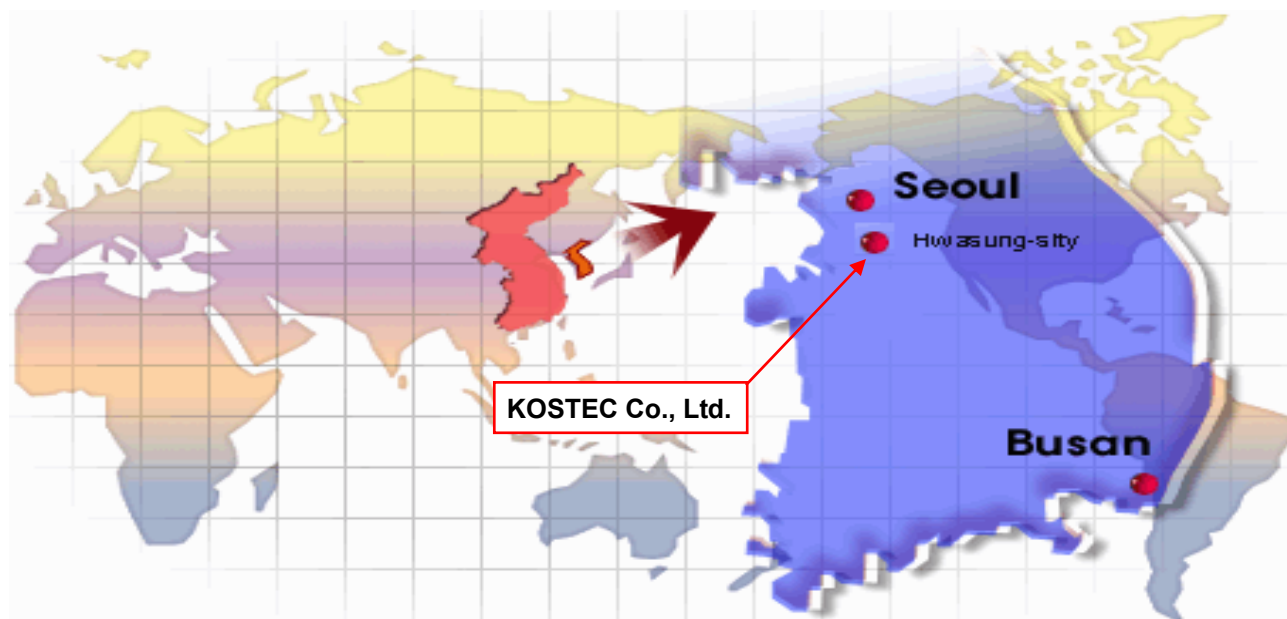
RRA (National Radio Research Agency): KR0041

FCC Designation No.: KR0041

IC Designation No.: KR0041

VCCI Membership No.: 2005

1.2 Location



1.3 Revision History of test report

Rev.	Revisions	Effect page	Reviewed	Date
-	Initial issue	All	Gyeong Hyeon, Park	2020 .09. 25.

2. EQUIPMENT DESCRIPTION

The product specification described herein was declared by manufacturer. And refer to user's manual for the details.

Equipment Name	iiRcade Game Console Bartop
Model No	IRORO1-128C19OGA (Family model names: IRORO1-64C19OGA, IRORO1-128S19BLK, IRORO1-128S19DLA)
Usage	iiRcade Game Console Bartop
Serial Number	Proto type
Modulation type	256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM
Emission Type	G1D, D1D
Maximum output power	5 180 ~ 5 240 MHz 802.11a : 18.34 dBm, 802.11n(HT20) : 17.26 dBm, 802.11n(HT40) : 17.35 dBm, 802.11ac(VHT20) : 14.67 dBm, 802.11ac(VHT40) : 14.85 dBm, 802.11ac(VHT80) : 14.59 dBm 5 260 ~ 5 320 MHz 802.11a : 19.69 dBm, 802.11n(HT20) : 18.90 dBm, 802.11n(HT40) : 18.83 dBm, 802.11ac(VHT20) : 16.42 dBm, 802.11ac(VHT40) : 16.45 dBm, 802.11ac(VHT80) : 15.66 dBm 5 500 ~ 5 720 MHz 802.11a : 18.77 dBm, 802.11n(HT20) : 17.87 dBm, 802.11n(HT40) : 16.81 dBm, 802.11ac(VHT20) : 15.53 dBm, 802.11ac(VHT40) : 14.37 dBm, 802.11ac(VHT80) : 14.35 dBm 5 745 ~ 5 825 MHz 802.11a : 16.84 dBm, 802.11n(HT20) : 15.84 dBm, 802.11n(HT40) : 16.00 dBm, 802.11ac(VHT20) : 15.92 dBm, 802.11ac(VHT40) : 16.01 dBm, 802.11ac(VHT80) : 13.43 dBm
Operated Frequency	5 180 ~ 5 240 MHz 802.11a/ n(HT20)/ ac(VHT20): 5 180 MHz ~ 5 240 MHz 802.11n(HT40)/ ac(VHT40): 5 190 MHz ~ 5 230 MHz 802.11ac(VHT80): 5 210 MHz 5 260 ~ 5 320 MHz 802.11a/ n(HT20)/ ac(VHT20): 5 260 MHz ~ 5 320 MHz 802.11n(HT40)/ ac(VHT40): 5 270 MHz ~ 5 310 MHz 802.11ac(VHT80): 5 290 MHz 5 500 ~ 5 720 MHz 802.11a/ n(HT20)/ ac(VHT20): 5 500 MHz ~ 5 720 MHz 802.11n(HT40)/ ac(VHT40): 5 510 MHz ~ 5 710 MHz 802.11ac(VHT80): 5 530 MHz ~ 5 690 MHz 5 745 ~ 5 825 MHz 802.11a/ n(HT20)/ ac(VHT20): 5 745 MHz ~ 5 825 MHz 802.11n(HT40)/ ac(VHT40): 5 755 MHz ~ 5 795 MHz 802.11ac(VHT80): 5 775 MHz

Channel Number	5 180 ~ 5 240 MHz: 4 for 802.11a, 802.11n(HT20), 802.11ac(VHT20) 2 for 802.11n(HT40), 802.11ac(VHT40) 1 for 802.11ac(VHT80) 5 260 ~ 5 320 MHz: 4 for 802.11a, 802.11n(HT20), 802.11ac(VHT20) 2 for 802.11n(HT40), 802.11ac(VHT40) 1 for 802.11ac(VHT80) 5 500 ~ 5 720 MHz: 12 for 802.11a, 802.11n(HT20), 802.11ac(VHT20) 6 for 802.11n(HT40), 802.11ac(VHT40) 3 for 802.11ac(VHT80) 5 745 ~ 5 825 MHz: 5 for 802.11a, 802.11n(HT20), 802.11ac(VHT20) 2 for 802.11n(HT40), 802.11ac(VHT40) 1 for 802.11ac(VHT80)
Operation temperature	-10 °C ~ 55 °C
Power Source	AC/DC Adaptor, output: DC 24 V
Antenna Description	Internal PCB pattern antenna, gain : 6 dBi
Remark	1. The device was operating at its maximum output power for all measurements. 2. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case (X) is shown in the report. 3. The above DUT's information was declared by manufacturer. Please refer to the specifications or user manual for more detailed description.
FCC ID	2AXRR- IRORO1

3. SYSTEM CONFIGURATION FOR TEST

3.1 Characteristics of equipment

The Equipment Under Test (EUT) contains the following capabilities: This equipment is GAME CONSOLE.
The detailed explanation is refer as user manual.

3.2 Used peripherals list

Description	Model No.	Serial No.	Manufacture	Remark
Notebook	BCM-1063	2Z7S1Z1	Dell Inc	-
Adapter	DA65NM111-00	None	Dell Inc	For notebook

3.3 Product Modification

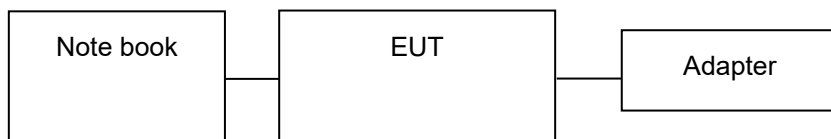
N/A

3.4 Operating Mode

Constantly transmitting with a modulated carrier at maximum power on the low, middle and high channels.

3.5 Test Setup of EUT

The measurements were taken in continuous transmit / receive mode using the TEST MODE.
For controlling the EUT as TEST MODE, the test program and the test cables were provided by the applicant.



3.6 Parameters of Test Software Setting

During testing, Channel & Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

■ TX Power setting value during test

Band	Mode	TX Power setting value		
		Low CH	Middle CH	High CH
5 GHz band	802.11a	Default	Default	Default
	802.11n(HT20)	Default	Default	Default
	802.11n(HT40)	Default	Default	Default
	802.11ac(VHT20)	Default	Default	Default
	802.11ac(VHT40)	Default	Default	Default
	802.11ac(VHT80)	Default	Default	Default

3.7 Table for Carrier Frequencies

5 180 ~ 5 240 MHz

Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5 180	40	5 200
44	5 220	48	5 240
38	5 190	46	5 230
42	5 210		

5 260 ~ 5 320 MHz

Channel	Frequency (MHz)	Channel	Frequency (MHz)
52	5 260	56	5 280
60	5 300	64	5 320
54	5 270	62	5 310
58	5 290		

5 500 ~ 5 720 MHz

Channel	Frequency (MHz)	Channel	Frequency (MHz)
100	5 500	104	5 520
108	5 540	112	5 560
116	5 580	120	5 600
124	5 620	128	5 640
132	5 660	136	5 680
140	5 700	144	5 720
102	5 510	110	5 550
118	5 590	126	5 630
134	5 670	142	5 710
106	5 530	122	5 610
138	5 690		

5 745 ~ 5 825 MHz

Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5 745	153	5 765
157	5 785	161	5 805
165	5 825		
151	5 755	159	5 795
155	5 775		

* For 20 MHz bandwidth, use ch 1 - 11, for 40 MHz bandwidth use ch 3 - 9

3.8 Duty Cycle Of Test signal

Duty cycle is < 98%, duty factor shall be considered. Duty cycle = Tx on/(Tx on+ Tx off), Duty factor = 10*log(1/duty cycle)

Band	Mode	Duty cycle	Note
5 GHz band	802.11a	100 %	
	802.11n(HT20)	100 %	
	802.11n(HT40)	100 %	
	802.11ac(VHT20)	100 %	
	802.11ac(VHT40)	100 %	
	802.11ac(VHT80)	100 %	

3.9 Used Test Equipment List

No.	Instrument	Model	S/N	Manufacturer	Next Cal Date	Cal interval	used
1	T & H Chamber	PL-3J	15003623	ESPEC CORP	2020.11.07	1 year	☐
2	T & H Chamber	SH-662	93000067	ESPEC CORP	2021.09.02	1 year	☐
3	T & H Chamber	SH-641	92006831	ESPEC CORP	2021.03.31	1 year	☐
4	Spectrum Analyzer	8563EC	3046A00527	Agilent Technology	2021.01.21	1 year	☐
5	Spectrum Analyzer	FSV30	104029	Rohde & Schwarz	2021.09.01	1 year	☐
6	Spectrum Analyzer	FSV30	20-353063	Rohde & Schwarz	2021.01.21	1 year	☒
7	Signal Analyzer	FSW43	101294	Rohde & Schwarz	2021.02.26	1 year	☐
8	Signal Analyzer	FSW85	101602	Rohde & Schwarz	2021.06.21	1 year	☐
9	EMI Test Receiver	ESCI7	100823	Rohde & Schwarz	2021.01.21	1 year	☐
10	EMI Test Receiver	ESI	837514/004	Rohde & Schwarz	2021.08.31	1 year	☒
11	Vector Signal Analyzer	89441A	3416A02620	Agilent Technology	2021.01.22	1 year	☐
12	Network Analyzer	8753ES	US39172348	AGILENT	2021.09.01	1 year	☐
13	EPM Series Power meter	E4418B	GB39512547	Agilent Technology	2021.01.22	1 year	☐
14	RF Power Sensor	E9300A	MY41496631	Agilent Technology	2021.01.22	1 year	☐
15	Microwave Frequency Counter	5352B	2908A00480	Agilent Technology	2021.01.22	1 year	☐
16	Audio Analyzer	8903B	3514A16919	Agilent Technology	2021.01.20	1 year	☐
17	Audio Telephone Analyzer	DD-5601CID	520010281	CREDIX	2021.01.20	1 year	☐
18	Modulation Analyzer	8901A	3041A05716	H.P	2021.01.22	1 year	☐
19	Digital storage Oscilloscope	TDS3052	B015962	Tektronix	2021.08.31	1 year	☐
20	ESG-D Series Signal Generator	E4436B	US39260458	Agilent Technology	2021.01.20	1 year	☐
21	Vector Signal Generator	SMBV100A	257557	Rohde & Schwarz	2021.01.20	1 year	☒
22	GNSS Signal Generator	TC-2800A	2800A000494	TESCOM CO., LTD.	2021.01.22	1 year	☐
23	Signal Generator	SMB100A	179628	Rohde & Schwarz	2021.05.13	1 year	☒
24	Signal Generator	N5173B	MY57280148	KEYSIGHT	2021.06.11	1 year	☐
25	SLIDAC	None	0207-4	Myoung sung Ele.	2021.01.20	1 year	☐
26	DC Power supply	DRP-5030	9028029	Digital Electronic Co.,Ltd	2021.01.20	1 year	☐
27	DC Power supply	E3610A	KR24104505	Agilent Technology	2021.01.20	1 year	☐
28	DC Power supply	UP-3005T	68	Unicon Co.,Ltd	2021.01.20	1 year	☒
29	DC Power Supply	SM 3004-D	114701000117	DELTAELEKTRONIKA	2021.01.20	1 year	☐
30	DC Power supply	6632B	MY43004005	Agilent Technology	2021.01.20	1 year	☐
31	DC Power Supply	6632B	MY43004137	Agilent Technology	2021.01.20	1 year	☐
32	Termination	1433-3	LM718	WEINSCHTEL	2021.07.17	1 year	☐
33	Termination	1432-3	QR946	AEROFLEX/WEINSCHTEL	2021.07.17	1 year	☐
34	Attenuator	24-30-34	BX5630	Aeroflex / Weinschel	2020.12.17	1 year	☐
35	Attenuator	8498A	3318A09485	HP	2021.01.22	1 year	☐
36	Step Attenuator	8494B	3308A32809	HP	2021.01.21	1 year	☐
37	RF Step Attenuator	RSP	100091	Rohde & Schwarz	2021.01.21	1 year	☐
38	Attenuator	18B50W-20F	64671	INMET	2021.01.22	1 year	☐
39	Attenuator	10 dB	1	Rohde & Schwarz	2021.05.13	1 year	☐
40	Attenuator	54A-10	74564	WEINSCHTEL	2021.09.02	1 year	☒
41	Attenuator	56-10	66920	WEINSCHTEL	2021.05.13	1 year	☒
42	Attenuator	48-20-11	BV2658	Aeroflex/Weinschel	2021.07.17	1 year	☐
43	Attenuator	48-30-33-LIM	BL5350	Weinschel Corp.	2021.07.17	1 year	☐
44	Power divider	11636B	51212	HP	2021.01.23	1 year	☐
45	3Way Power divider	KPDSU3W	00070365	KMW	2021.08.31	1 year	☐
46	4Way Power divider	70052651	173834	KRYTAR	2021.01.23	1 year	☐
47	3Way Power divider	1580	SQ361	WEINSCHTEL	2021.05.13	1 year	☐
48	OSP	OSP120	101577	Rohde & Schwarz	2021.05.14	1 year	☐
49	White noise audio filter	ST31EQ	101902	SoundTech	2021.08.31	1 year	☐

No.	Instrument	Model	S/N	Manufacturer	Next Cal Date	Cal interval	used
50	Dual directional coupler	778D	17693	HEWLETT PACKARD	2021.01.21	1 year	☐
51	Dual directional coupler	772D	2839A00924	HEWLETT PACKARD	2021.01.21	1 year	☐
52	Band rejection filter	3TNF-0006	26	DOVER Tech	2021.01.22	1 year	☐
53	Band rejection filter	3TNF-0007	311	DOVER Tech	2021.01.22	1 year	☐
54	Band rejection filter	WTR-BRF2442-84NN	09020001	WAVE TECH Co.,LTD	2021.01.22	1 year	☒
55	Band rejection filter	WRCJV12-5695-5725-5825-5855-50SS	1	Wainwright Instruments GmbH	2021.05.13	1 year	☐
56	Band rejection filter	WRCJV12-5120-5150-5350-5380-40SS	4	Wainwright Instruments GmbH	2021.05.13	1 year	☐
57	Band rejection filter	WRCGV10-2360-2400-2500-2540-50SS	2	Wainwright Instruments GmbH	2021.05.13	1 year	☐
58	Band rejection filter	CTF-155M-S1	001	RF One Electronics	2021.08.31	1 year	☐
59	Band rejection filter	CTF-435M-S1	001	RF One Electronics	2021.08.31	1 year	☐
60	Highpass Filter	WHJS1100-10EF	1	WAINWRIGHT	2021.01.22	1 year	☐
61	Highpass Filter	WHJS3000-10EF	1	WAINWRIGHT	2021.01.22	1 year	☐
62	Highpass Filter	WHNX6-5530-7000-26500-40CC	2	Wainwright Instruments GmbH	2021.05.13	1 year	☐
63	Highpass Filter	WHNX6-2370-3000-26500-40CC	4	Wainwright Instruments GmbH	2021.05.13	1 year	☐
64	WideBand Radio Communication Tester	CMW500	102276	Rohde & Schwarz	2021.01.21	1 year	☐
65	WideBand Radio Communication Tester	CMW500	117235	Rohde & Schwarz	2021.02.03	1 year	☐
66	WideBand Radio Communication Tester(with CMX500)	CMW500	167157	Rohde & Schwarz	2021.04.03	1 year	☐
67	Bluetooth Tester	TC-3000B	3000B6A0166	TESCOM CO., LTD.	2021.01.22	1 year	☐
68	Loop Antenna	6502	9203-0493	EMCO		2 year	☒
69	BiconiLog Antenna	3142B	1745	EMCO	2022.04.24	2 year	☐
70	Trilog-Broadband Antenna _(R)	VULB 9168	9168-606	SCHWARZBECK	2022.09.21	2 year	☒
71	Biconical Antenna _(T)	VUBA9117	9117-342	Schwarz beck	2022.03.24	2 year	☐
72	Horn Antenna	3115	9605-4834	EMCO	2022.03.06	2 year	☐
73	Horn Antenna _(R)	3117	00135191	ETS-LINDGREN	2022.04.29	2 year	☐
74	Horn Antenna _(T)	3115	2996	EMCO	2022.02.14	2 year	☒
75	Horn Antenna _(R)	BBHA 9170	9170-722	SCHWARZBECK	2022.05.12	2 year	☐
76	Horn Antenna _(T)	BBHA 9170	743	SCHWARZBECK	2021.01.22	2 year	☒
77	AMPLIFIER(A_10)	TK-PA6S	120009	TESTEK	2021.01.21	1 year	☒
78	AMPLIFIER(C_3)	8447D	2944A07881	H.P	2021.01.21	1 year	☐
79	PREAMPLIFIER(C_3)	8449B	3008A02577	Agilent	2021.01.20	1 year	☒
80	AMPLIFIER	TK-PA18	150003	TESTEK	2021.01.21	1 year	☐
81	AMPLIFIER	TK-PA1840H	160010-L	TESTEK	2021.01.28	1 year	☐
82	Horn Antenna	M19RH	T01	OML, Inc.	2022.05.29	2 year	☐
83	Horn Antenna	M19RH	R01	OML, Inc.	2022.05.29	2 year	☐
84	Horn Antenna	M12RH	T02	OML, Inc.	2022.05.29	2 year	☐
85	Horn Antenna	M12RH	R02	OML, Inc.	2022.05.29	2 year	☐
86	Horn Antenna	M08RH	T03	OML, Inc.	2022.05.29	2 year	☐
87	Horn Antenna	M08RH	R03	OML, Inc.	2022.05.29	2 year	☐
88	Horn Antenna	M05RH	T04	OML, Inc.	2022.05.29	2 year	☐
89	Horn Antenna	M05RH	R04	OML, Inc.	2022.05.29	2 year	☐
90	Horn Antenna	M03RH	T05	OML, Inc.	2022.05.29	2 year	☐
91	Horn Antenna	M03RH	R05	OML, Inc.	2022.05.29	2 year	☐
92	Harmonic Mixer	M12HWD	200529-1	OML, Inc.	2021.07.03	1 year	☐
93	Harmonic Mixer	M08HWD	200529-1	OML, Inc.	2021.07.03	1 year	☐
94	Harmonic Mixer	M05HWD	200529-1	OML, Inc.	2021.07.03	1 year	☐
95	Harmonic Mixer	M03HWD	200529-1	OML, Inc.	2021.07.03	1 year	☐
96	Source Module	S19MS-A	200529-1	OML, Inc.	2021.07.03	1 year	☐
97	Source Module	S12MS-A	200529-1	OML, Inc.	2021.07.03	1 year	☐
98	Source Module	S08MS-A	200529-1	OML, Inc.	2021.07.03	1 year	☐
99	Source Module	S05MS-A	200529-1	OML, Inc.	2021.07.03	1 year	☐
100	Source Module	S03MS-A	200529-1	OML, Inc.	2021.07.03	1 year	☐

*

3.10 Used Test Cable List

No.	Model	S/N	Manufacturer	Specifications	Next Cal Date	Cal interval	used
1	SMS112-GL200sD-SMS112-1M	None	GigaLane	9 kHz ~ 26.5 GHz(1 M)	2020.12.01	1 year	☐
2	SMS112-GL200sD-SMS112-1M	None	GigaLane	9 kHz ~ 26.5 GHz(1 M)	2020.12.01	1 year	☐
3	SMS112-GL200sD-SMS112-1M	None	GigaLane	9 kHz ~ 26.5 GHz(1 M)	2020.12.01	1 year	☐
4	L-502W	None	CANARE	9 kHz ~ 3 GHz(1 M)	2020.12.01	1 year	☐
5	L-502W	None	CANARE	9 kHz ~ 3 GHz(1 M)	2020.12.01	1 year	☐
6	L-502W	None	CANARE	9 kHz ~ 3 GHz(1 M)	2020.12.01	1 year	☐
7	SUCOFLEX 126E	MY2202/26E	SUHNER	9 kHz ~ 26.5 GHz(1 M)	2020.12.01	1 year	☐
8	SUCOFLEX 126E	MY2203/26E	SUHNER	9 kHz ~ 26.5 GHz(1 M)	2020.12.01	1 year	☐
9	SUCOFLEX 126E	MY2204/26E	SUHNER	9 kHz ~ 26.5 GHz(1 M)	2020.12.01	1 year	☐
10	SUCOFLEX 126E	MY2205/26E	SUHNER	9 kHz ~ 26.5 GHz(1 M)	2020.12.01	1 year	☒
11	SUCOFLEX 126E	MY2206/26E	SUHNER	9 kHz ~ 26.5 GHz(1 M)	2020.12.01	1 year	☒
12	SUCOFLEX 126E	MY2207/26E	SUHNER	9 kHz ~ 26.5 GHz(1 M)	2020.12.01	1 year	☐
13	SUCOFLEX 102	MY5433/2	SUHNER	9 kHz ~ 40 GHz(1 M)	2020.12.01	1 year	☐
14	SUCOFLEX 102	MY5434/2	SUHNER	9 kHz ~ 40 GHz(1 M)	2020.12.01	1 year	☐
15	SUCOFLEX 102	MY5435/2	SUHNER	9 kHz ~ 40 GHz(1 M)	2020.12.01	1 year	☐
16	SUCOFLEX 102	MY5436/2	SUHNER	9 kHz ~ 40 GHz(1 M)	2020.12.01	1 year	☐
17	SUCOFLEX100	None	SUHNER	9 kHz ~ 26.5 GHz(8 M)	2021.01.21	1 year	☐
18	SUCOFLEX102	MY2709/2	SUHNER	9 kHz ~ 40 GHz(5 M)	2021.01.21	1 year	☐
19	SUCOFLEX 102	801434/2	SUHNER	9 kHz ~ 40 GHz(2 M)	2020.12.01	1 year	☐
20	SUCOFLEX 102	801435/2	SUHNER	9 kHz ~ 40 GHz(2 M)	2020.12.01	1 year	☐
21	SUCOFLEX 102	801436/2	SUHNER	9 kHz ~ 40 GHz(2 M)	2020.12.01	1 year	☐
22	SUCOFLEX 102	801437/2	SUHNER	9 kHz ~ 40 GHz(2 M)	2020.12.01	1 year	☐
23	SF104/2*11N451/8000mm	None	None	9 kHz ~ 18 GHz	2021.02.08	1 year	☒
24	SF104/2*11N451/8000mm	None	None	9 kHz ~ 18 GHz	2021.02.08	1 year	☒
25	SF104/2*11N451/2500mm	None	None	9 kHz ~ 18 GHz	2021.02.08	1 year	☒
26	SF104/2*11N451/500mm	None	None	30 MHz ~ 18 GHz	2021.02.08	1 year	☒
27	SNMY2709/2	None	None	1 GHz ~ 40 GHz	2021.06.28	1 year	☒

4. SUMMARY TEST RESULTS

Description of Test	FCC Rule	Reference Clause	Used	Test Result
Transmit Power	15.407(a.1.iv),(a.2),(a.3)	Clause 5.1	☒	Compliance
Peak power spectral density	15.407(a.1.iv),(a.2),(a.3)	Clause 5.2	☒	Compliance
Emission Bandwidth	15.407(e)	Clause 5.3	☒	Compliance
Frequency Stability	15.407(g)	Clause 5.4	☒	Compliance
Spurious RF radiated emissions	15.407(b.1)~(b.4) / 15.209	Clause 5.5	☒	Compliance
Antenna requirement	15.203	Clause 5.6	☒	Compliance
AC Power Conducted emissions	15.407(b.8) / 15.207	Clause 5.7	☒	Compliance
Compliance/pass : The EUT complies with the essential requirements in the standard. Not Compliance : The EUT does not comply with the essential requirements in the standard. N/A : The test was not applicable in the standard.				

Procedure Reference

FCC CFR 47, Part 15. Subpart E-15.407

ANSI C 63.10-2013

5. MEASUREMENT RESULTS

5.1 Transmit Power

5.1.1 Standard Applicable [FCC §15.407(a.1.iv),(a.2),(a.3)]

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.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz.

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

5.1.2 Test Environment conditions

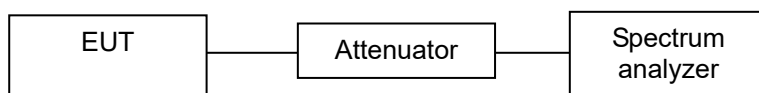
- Ambient temperature : (22 ~ 25) °C
- Relative Humidity : (51 ~ 57) % R.H.

5.1.3 Measurement Procedure

The transmitter output was connected to the power meter with an attenuator. The Transmit power was measured and recorded with the RF average power meter. EUT was programmed to be in continuously transmitting mode. Duty factor is not added to measured value.

All conducted power tests were performed using the power meter in accordance with FCC KDB 789033 D02 Section E.3.a Measurement Procedure Method PM.

5.1.4 Test setup



5.1.5 Measurement Result

5 180 ~ 5 240 MHz

802.11a

Channel	Frequency [MHz]	Conducted Power		Limit [dBm]	Test Results
		[dBm]	[mW]		
36	5 180	17.72	59.16	23.98	Compliance
44	5 220	18.32	67.92	23.98	Compliance
48	5 240	18.34	68.23	23.98	Compliance

802.11n(HT20)

Channel	Frequency [MHz]	Conducted Power		Limit [dBm]	Test Results
		[dBm]	[mW]		
36	5 180	16.61	45.81	23.98	Compliance
44	5 220	17.26	53.21	23.98	Compliance
48	5 240	17.18	52.24	23.98	Compliance

802.11n(HT40)

Channel	Frequency [MHz]	Conducted Power		Limit [dBm]	Test Results
		[dBm]	[mW]		
38	5 190	16.68	46.56	23.98	Compliance
46	5 230	17.35	54.33	23.98	Compliance

802.11ac(VHT20)

Channel	Frequency [MHz]	Conducted Power		Limit [dBm]	Test Results
		[dBm]	[mW]		
36	5 180	13.97	24.95	23.98	Compliance
44	5 220	14.67	29.31	23.98	Compliance
48	5 240	14.64	29.11	23.98	Compliance

802.11ac(VHT40)

Channel	Frequency [MHz]	Conducted Power		Limit [dBm]	Test Results
		[dBm]	[mW]		
38	5 190	14.22	26.42	23.98	Compliance
46	5 230	14.85	30.55	23.98	Compliance

802.11ac(VHT80)

Channel	Frequency [MHz]	Conducted Power		Limit [dBm]	Test Results
		[dBm]	[mW]		
42	5 210	14.59	28.77	23.98	Compliance

5 260 ~ 5 320 MHz

802.11a

Channel	Frequency [MHz]	Conducted Power		Limit [dBm]	Test Results
		[dBm]	[mW]		
52	5 260	18.64	73.11	23.82	Compliance
60	5 300	19.69	93.11	23.78	Compliance
64	5 320	19.64	92.04	23.82	Compliance

802.11n(HT20)

Channel	Frequency [MHz]	Conducted Power		Limit [dBm]	Test Results
		[dBm]	[mW]		
52	5 260	17.69	58.75	23.98	Compliance
60	5 300	18.90	77.62	23.98	Compliance
64	5 320	18.82	76.21	23.98	Compliance

802.11n(HT40)

Channel	Frequency [MHz]	Conducted Power		Limit [dBm]	Test Results
		[dBm]	[mW]		
54	5 270	17.63	57.94	23.98	Compliance
62	5 310	18.83	76.38	23.98	Compliance

802.11ac(VHT20)

Channel	Frequency [MHz]	Conducted Power		Limit [dBm]	Test Results
		[dBm]	[mW]		
52	5 260	15.28	33.73	23.70	Compliance
60	5 300	16.42	43.85	23.75	Compliance
64	5 320	16.26	42.27	23.73	Compliance

802.11ac(VHT40)

Channel	Frequency [MHz]	Conducted Power		Limit [dBm]	Test Results
		[dBm]	[mW]		
54	5 270	15.18	32.96	23.98	Compliance
62	5 310	16.45	44.16	23.98	Compliance

802.11ac(VHT80)

Channel	Frequency [MHz]	Conducted Power		Limit [dBm]	Test Results
		[dBm]	[mW]		
58	5 290	15.66	36.81	23.98	Compliance

5 500 ~ 5 720 MHz

802.11a

Channel	Frequency [MHz]	Conducted Power		Limit [dBm]	Test Results
		[dBm]	[mW]		
100	5 500	17.62	57.81	23.78	Compliance
116	5 580	17.24	52.97	23.73	Compliance
140	5 700	18.77	75.34	23.77	Compliance
*144 (UNII 2C Band)	5 720	16.74	47.21	23.98	Compliance
*144 (UNII 3 Band)	5 720	9.73	9.40	30.00	Compliance

802.11n(HT20)

Channel	Frequency [MHz]	Conducted Power		Limit [dBm]	Test Results
		[dBm]	[mW]		
100	5 500	16.67	46.45	23.98	Compliance
116	5 580	16.37	43.35	23.98	Compliance
140	5 700	17.87	61.24	23.98	Compliance
*144 (UNII 2C Band)	5 720	15.71	37.24	23.98	Compliance
*144 (UNII 3 Band)	5 720	9.73	9.40	30.00	Compliance

802.11n(HT40)

Channel	Frequency [MHz]	Conducted Power		Limit [dBm]	Test Results
		[dBm]	[mW]		
102	5 510	15.99	39.72	23.98	Compliance
110	5 550	16.01	39.90	23.98	Compliance
134	5 670	16.61	45.81	23.98	Compliance
*142 (UNII 2C Band)	5 710	16.81	47.97	23.98	Compliance
*142 (UNII 3 Band)	5 710	6.58	4.55	30.00	Compliance

802.11ac(VHT20)

Channel	Frequency [MHz]	Conducted Power		Limit [dBm]	Test Results
		[dBm]	[mW]		
100	5 500	14.19	26.24	23.74	Compliance
116	5 580	13.89	24.49	23.74	Compliance
140	5 700	15.53	35.73	23.74	Compliance
*144 (UNII 2C Band)	5 720	13.12	20.51	23.81	Compliance
*144 (UNII 3 Band)	5 720	7.02	5.04	30.00	Compliance

802.11ac(VHT40)

Channel	Frequency [MHz]	Conducted Power		Limit [dBm]	Test Results
		[dBm]	[mW]		
102	5 510	13.91	24.60	23.98	Compliance
110	5 550	13.29	21.33	23.98	Compliance
134	5 670	14.01	25.18	23.98	Compliance
*142 (UNII 2C Band)	5 710	14.37	27.35	23.98	Compliance
*142 (UNII 3 Band)	5 710	4.01	2.52	30.00	Compliance

802.11ac(VHT80)

Channel	Frequency [MHz]	Conducted Power		Limit [dBm]	Test Results
		[dBm]	[mW]		
106	5 530	13.66	23.23	23.98	Compliance
122	5 610	13.88	24.43	23.98	Compliance
*138 (UNII 2C Band)	5 690	14.35	27.23	23.98	Compliance
*138 (UNII 3 Band)	5 690	-0.92	0.81	30.00	Compliance

5 745 ~ 5 825 MHz

802.11a

Channel	Frequency [MHz]	Conducted Power		Limit [dBm]	Test Results
		[dBm]	[mW]		
149	5 745	16.31	42.76	30	Compliance
157	5 785	16.84	48.31	30	Compliance
165	5 825	16.26	42.27	30	Compliance

802.11n(HT20)

Channel	Frequency [MHz]	Conducted Power		Limit [dBm]	Test Results
		[dBm]	[mW]		
149	5 745	15.31	33.96	30	Compliance
157	5 785	15.84	38.37	30	Compliance
165	5 825	15.24	33.42	30	Compliance

802.11n(HT40)

Channel	Frequency [MHz]	Conducted Power		Limit [dBm]	Test Results
		[dBm]	[mW]		
151	5 755	15.53	35.73	30	Compliance
159	5 795	16.00	39.81	30	Compliance

802.11ac(VHT20)

Channel	Frequency [MHz]	Conducted Power		Limit [dBm]	Test Results
		[dBm]	[mW]		
149	5 745	15.39	34.59	30	Compliance
157	5 785	15.92	39.08	30	Compliance
165	5 825	15.36	34.36	30	Compliance

802.11ac(VHT40)

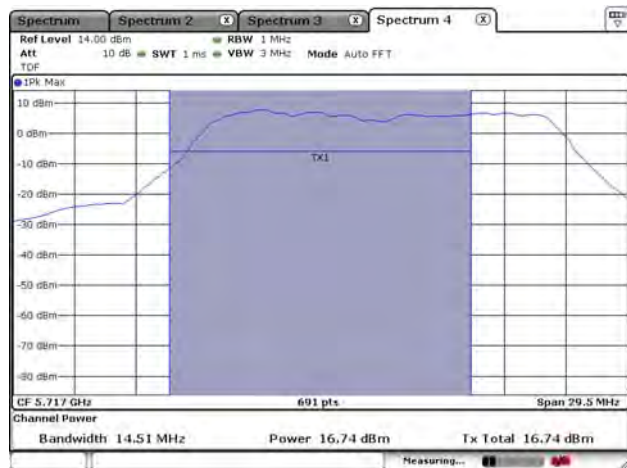
Channel	Frequency [MHz]	Conducted Power		Limit [dBm]	Test Results
		[dBm]	[mW]		
151	5 755	15.41	34.75	30	Compliance
159	5 795	16.01	39.90	30	Compliance

802.11ac(VHT80)

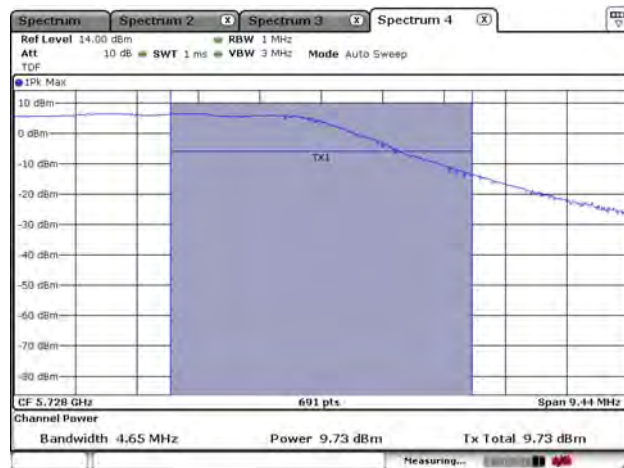
Channel	Frequency [MHz]	Conducted Power		Limit [dBm]	Test Results
		[dBm]	[mW]		
155	5 775	13.43	22.03	30	Compliance

5.1.6 Test Plot

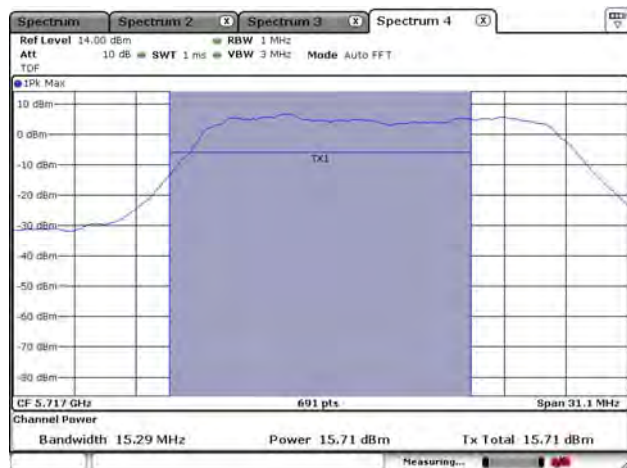
802.11a / UNII 2C Band



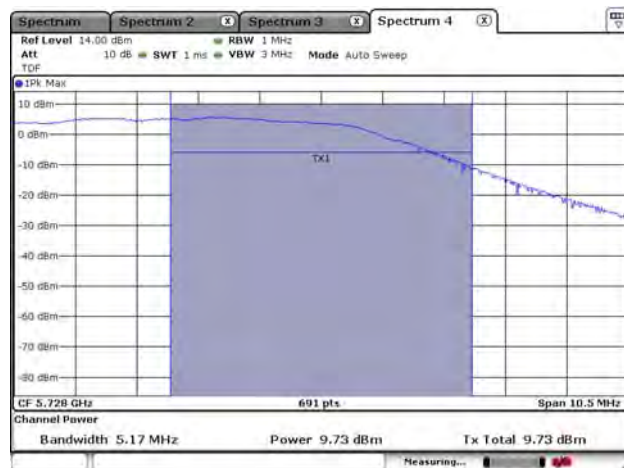
802.11a / UNII 3 Band



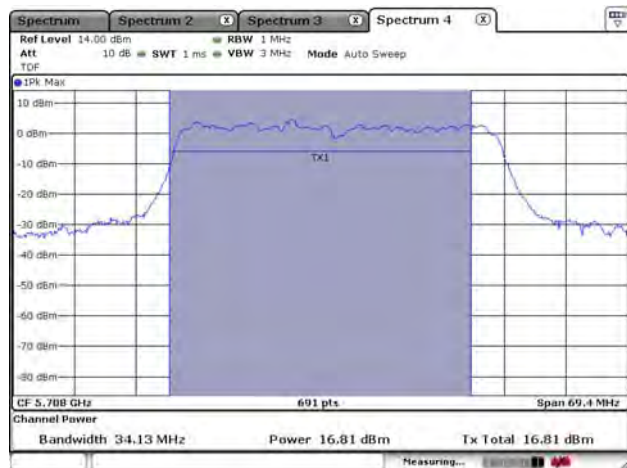
802.11n(HT20) / UNII 2C Band



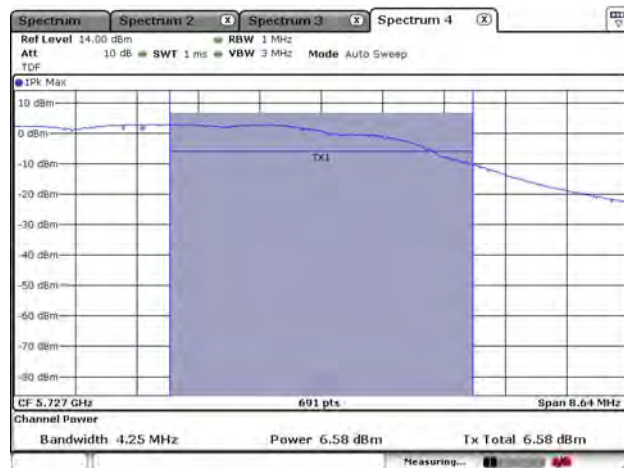
802.11n(HT20) / UNII 3 Band



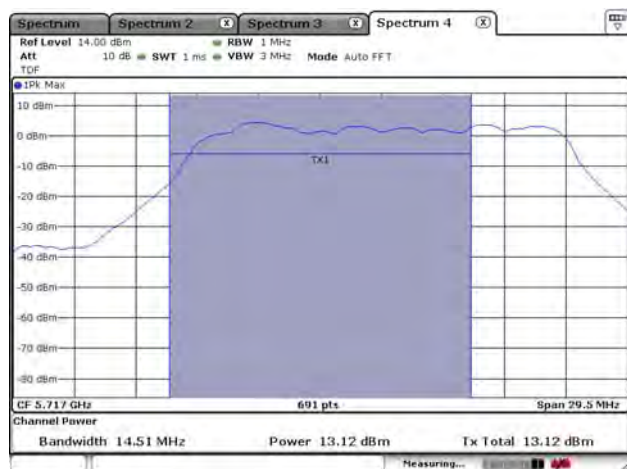
802.11n(HT40) / UNII 2C Band



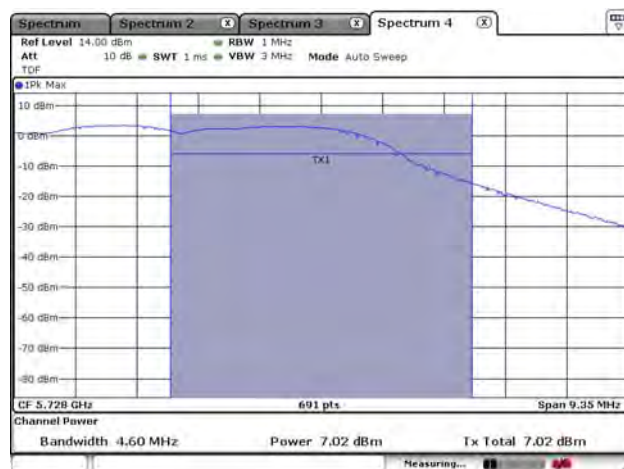
802.11n(HT40) / UNII 3 Band



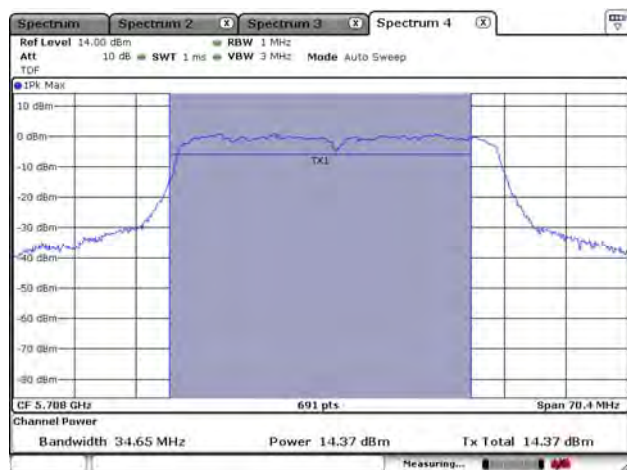
802.11ac(VHT20) / UNII 2C Band



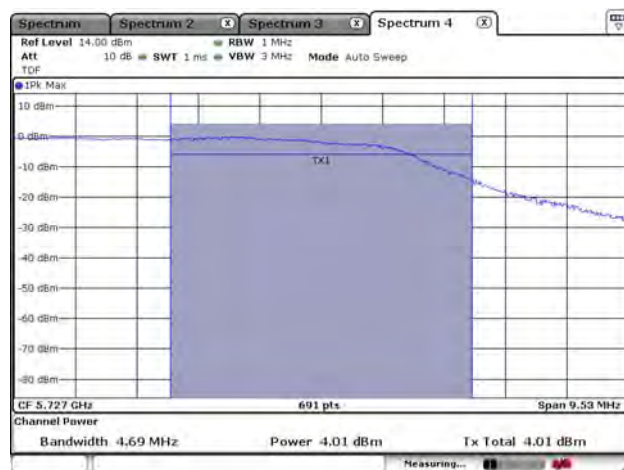
802.11ac(VHT20) / UNII 3 Band



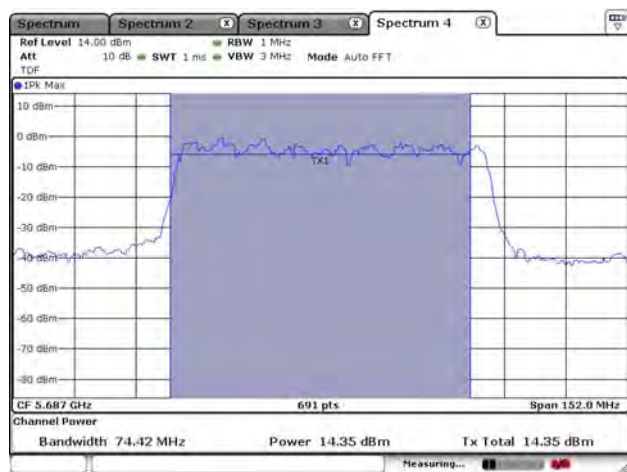
802.11ac(VHT40) / UNII 2C Band



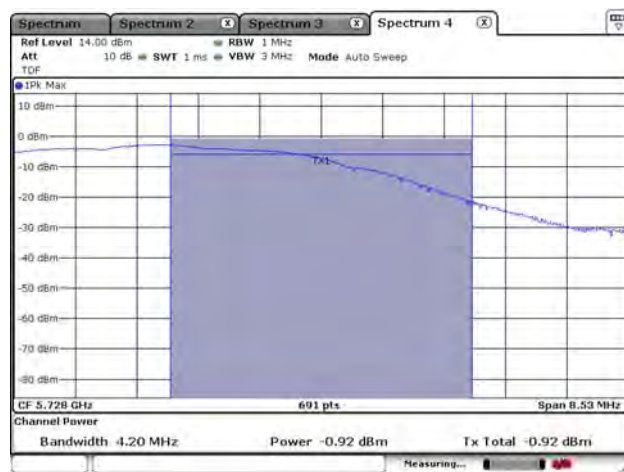
802.11ac(VHT40) / UNII 3 Band



802.11ac(VHT80) / UNII 2C Band



802.11ac(VHT80) / UNII 3 Band



5.2 Power spectral density

5.2.1 Standard Applicable [15.407(a.1.iv),(a.2),(a.3)]

For client devices in the 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.

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

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

5.2.2 Test Environment conditions

- Ambient temperature : (22 ~ 25) °C
- Relative Humidity : (51 ~ 57) % R.H.

5.2.3 Measurement Procedure

The power spectral density conducted from the intentional radiator was measured with a spectrum analyzer connected to the antenna terminal, while EUT had the highest, middle and the lowest available channels. After the trace being stable, Use the marker-to-peak function to set the marker to the peak of the emission. The indicated level is the peak power spectral density.

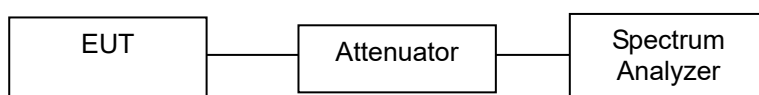
All conducted power tests were performed using a test receiver in accordance with FCC KDB 789033 D02 Section E.2 b Measurement Procedure Method SA-1.

The spectrum analyzer is set to the as follows :

- Span : set span to encompass the entire EBW of the signal
- RBW : 1 MHz
- VBW : ≥ 3 MHz
- number of point in sweep: ≥ 2 Span/RBW
- Sweep time : auto
- Detector function : RMS
- Trace : Free run

Trace average at least 100 traces in power averaging mode. And record the max value

5.2.4 Test setup



5.2.5 Measurement Result

5 180 ~ 5 240 MHz

*Below result value is converted to power in 1 MHz Vs 500 kHz RBW for clause 5.2.6 test plot

*Result Value(dBm/MHz)= Reading Value(dBm/500kHz)+BWCF(dB)

*BWCF=10log(1MHz/RBW)=10log(1000/500)=3.01(dB)

802.11a

Ch	Freq [MHz]	BWCF (dB)	Result Value		Limit [dBm/MHz]	Test Results
			Reading [dBm/500kHz]	Result [dBm/MHz]		
36	5 180	3.01	-6.98	-3.97	11	Compliance
44	5 220	3.01	-6.46	-3.45	11	Compliance
48	5 240	3.01	-6.47	-3.46	11	Compliance

802.11n(HT20)

Ch	Freq [MHz]	BWCF (dB)	Result Value		Limit [dBm/MHz]	Test Results
			Reading [dBm/500kHz]	Result [dBm/MHz]		
36	5 180	3.01	-8.43	-5.42	11	Compliance
44	5 220	3.01	-7.79	-4.78	11	Compliance
48	5 240	3.01	-7.90	-4.89	11	Compliance

802.11n(HT40)

Ch	Freq [MHz]	BWCF (dB)	Result Value		Limit [dBm/MHz]	Test Results
			Reading [dBm/500kHz]	Result [dBm/MHz]		
38	5 190	3.01	-10.48	-7.47	11	Compliance
46	5 230	3.01	-9.83	-6.82	11	Compliance

802.11ac(VHT20)

Ch	Freq [MHz]	BWCF (dB)	Result Value		Limit [dBm/MHz]	Test Results
			Reading [dBm/500kHz]	Result [dBm/MHz]		
36	5 180	3.01	-15.37	-12.36	11	Compliance
44	5 220	3.01	-14.61	-11.60	11	Compliance
48	5 240	3.01	-14.62	-11.61	11	Compliance

802.11ac(VHT40)

Ch	Freq [MHz]	BWCF (dB)	Result Value		Limit [dBm/MHz]	Test Results
			Reading [dBm/500kHz]	Result [dBm/MHz]		
38	5 190	3.01	-13.17	-10.16	11	Compliance
46	5 230	3.01	-12.60	-9.59	11	Compliance

802.11ac(VHT80)

Ch	Freq [MHz]	BWCF (dB)	Result Value		Limit [dBm/MHz]	Test Results
			Reading [dBm/500kHz]	Result [dBm/MHz]		
42	5 210	3.01	-12.71	-9.70	11	Compliance

5 260 ~ 5 320 MHz

*Below result value is converted to power in 1 MHz Vs 500 kHz RBW for clause 5.2.6 test plot

*Result Value(dBm/MHz)= Reading Value(dBm/500kHz)+BWCF(dB)

*BWCF=10log(1MHz/RBW)=10log(1000/500)=3.01(dB)

802.11a

Ch	Freq [MHz]	BWCF (dB)	Result Value		Limit [dBm/MHz]	Test Results
			Reading [dBm/500kHz]	Result [dBm/MHz]		
52	5 260	3.01	-6.09	-3.08	11	Compliance
60	5 300	3.01	-5.07	-2.06	11	Compliance
64	5 320	3.01	-5.11	-2.10	11	Compliance

802.11n(HT20)

Ch	Freq [MHz]	BWCF (dB)	Result Value		Limit [dBm/MHz]	Test Results
			Reading [dBm/500kHz]	Result [dBm/MHz]		
52	5 260	3.01	-7.50	-4.49	11	Compliance
60	5 300	3.01	-6.28	-3.27	11	Compliance
64	5 320	3.01	-6.44	-3.43	11	Compliance

802.11n(HT40)

Ch	Freq [MHz]	BWCF (dB)	Result Value		Limit [dBm/MHz]	Test Results
			Reading [dBm/500kHz]	Result [dBm/MHz]		
54	5 270	3.01	-9.63	-6.62	11	Compliance
62	5 310	3.01	-8.51	-5.50	11	Compliance

802.11ac(VHT20)

Ch	Freq [MHz]	BWCF (dB)	Result Value		Limit [dBm/MHz]	Test Results
			Reading [dBm/500kHz]	Result [dBm/MHz]		
52	5 260	3.01	-14.66	-11.65	11	Compliance
60	5 300	3.01	-12.97	-9.96	11	Compliance
64	5 320	3.01	-13.70	-10.69	11	Compliance

802.11ac(VHT40)

Ch	Freq [MHz]	BWCF (dB)	Result Value		Limit [dBm/MHz]	Test Results
			Reading [dBm/500kHz]	Result [dBm/MHz]		
54	5 270	3.01	-12.30	-9.29	11	Compliance
62	5 310	3.01	-11.05	-8.04	11	Compliance

802.11ac(VHT80)

Ch	Freq [MHz]	BWCF (dB)	Result Value		Limit [dBm/MHz]	Test Results
			Reading [dBm/500kHz]	Result [dBm/MHz]		
58	5 290	3.01	-11.51	-8.50	11	Compliance

5 500 ~ 5 720 MHz

*Below result value is converted to power in 1 MHz Vs 500 kHz RBW for clause 5.2.6 test plot

*Result Value(dBm/MHz)= Reading Value(dBm/500kHz)+BWCF(dB)

*BWCF=10log(1MHz/RBW)=10log(1000/500)=3.01(dB)

802.11a

Ch	Freq [MHz]	BWCF (dB)	Result Value		Limit [dBm/MHz]	Test Results
			Reading [dBm/500kHz]	Result [dBm/MHz]		
100	5 500	3.01	-6.95	-3.94	11	Compliance
116	5 580	3.01	-7.10	-4.09	11	Compliance
140	5 700	3.01	-5.84	-2.83	11	Compliance
*144 (UNII 2C Band)	5 720	3.01	-6.83	-3.82	11	Compliance
*144 (UNII 3 Band)	5 720	-	-6.83		30 dBm/500 kHz	Compliance

802.11n(HT20)

Ch	Freq [MHz]	BWCF (dB)	Result Value		Limit [dBm/MHz]	Test Results
			Reading [dBm/500kHz]	Result [dBm/MHz]		
100	5 500	3.01	-8.52	-5.51	11	Compliance
116	5 580	3.01	-8.42	-5.41	11	Compliance
140	5 700	3.01	-7.33	-4.32	11	Compliance
*144 (UNII 2C Band)	5 720	3.01	-8.23	-5.22	11	Compliance
*144 (UNII 3 Band)	5 720	-	-8.23		30 dBm/500 kHz	Compliance

802.11n(HT40)

Ch	Freq [MHz]	BWCF (dB)	Result Value		Limit [dBm/MHz]	Test Results
			Reading [dBm/500kHz]	Result [dBm/MHz]		
102	5 510	3.01	-10.86	-7.85	11	Compliance
110	5 550	3.01	-11.31	-8.30	11	Compliance
134	5 670	3.01	-10.85	-7.84	11	Compliance
*142 (UNII 2C Band)	5 710	3.01	-9.99	-6.98	11	Compliance
*142 (UNII 3 Band)	5 710	-	-9.99		30 dBm/500 kHz	Compliance

802.11ac(VHT20)

Ch	Freq [MHz]	BWCF (dB)	Result Value		Limit [dBm/MHz]	Test Results
			Reading [dBm/500kHz]	Result [dBm/MHz]		
100	5 500	3.01	-15.44	-12.43	11	Compliance
116	5 580	3.01	-15.32	-12.31	11	Compliance
140	5 700	3.01	-14.02	-11.01	11	Compliance
*144 (UNII 2C Band)	5 720	3.01	-14.98	-11.97	11	Compliance
*144 (UNII 3 Band)	5 720	-	-14.98		30 dBm/500 kHz	Compliance

802.11ac(VHT40)

Ch	Freq [MHz]	BWCF (dB)	Result Value		Limit [dBm/MHz]	Test Results
			Reading [dBm/500kHz]	Result [dBm/MHz]		
102	5 510	3.01	-13.70	-10.69	11	Compliance
110	5 550	3.01	-14.08	-11.07	11	Compliance
134	5 670	3.01	-13.20	-10.19	11	Compliance
*142 (UNII 2C Band)	5 710	3.01	-12.69	-9.68	11	Compliance
*142 (UNII 3 Band)	5 710	-	-12.69		30 dBm/500 kHz	Compliance

802.11ac(VHT80)

Ch	Freq [MHz]	BWCF (dB)	Result Value		Limit [dBm/MHz]	Test Results
			Reading [dBm/500kHz]	Result [dBm/MHz]		
106	5 530	3.01	-14.05	-11.04	11	Compliance
122	5 610	3.01	-13.48	-10.47	11	Compliance
*138 (UNII 2C Band)	5 690	3.01	-12.42	-9.41	11	Compliance
*138 (UNII 3 Band)	5 690	-	-12.42		30 dBm/500 kHz	Compliance

5 745 ~ 5 825 MHz

802.11a

Channel	Frequency [MHz]	Result Value[dBm/500kHz]	Limit [dBm/500kHz]	Test Results
149	5 745	-8.36	30	Compliance
157	5 785	-7.82	30	Compliance
165	5 825	-8.35	30	Compliance

802.11n(HT20)

Channel	Frequency [MHz]	Result Value[dBm/500kHz]	Limit [dBm/500kHz]	Test Results
149	5 745	-9.67	30	Compliance
157	5 785	-9.15	30	Compliance
165	5 825	-9.73	30	Compliance

802.11n(HT40)

Channel	Frequency [MHz]	Result Value[dBm/500kHz]	Limit [dBm/500kHz]	Test Results
151	5 755	-11.72	30	Compliance
159	5 795	-11.00	30	Compliance

802.11ac(VHT20)

Channel	Frequency [MHz]	Result Value[dBm/500kHz]	Limit [dBm/500kHz]	Test Results
149	5 745	-9.68	30	Compliance
157	5 785	-9.16	30	Compliance
165	5 825	-9.73	30	Compliance

802.11ac(VHT40)

Channel	Frequency [MHz]	Result Value[dBm/500kHz]	Limit [dBm/500kHz]	Test Results
151	5 755	-11.55	30	Compliance
159	5 795	-10.81	30	Compliance

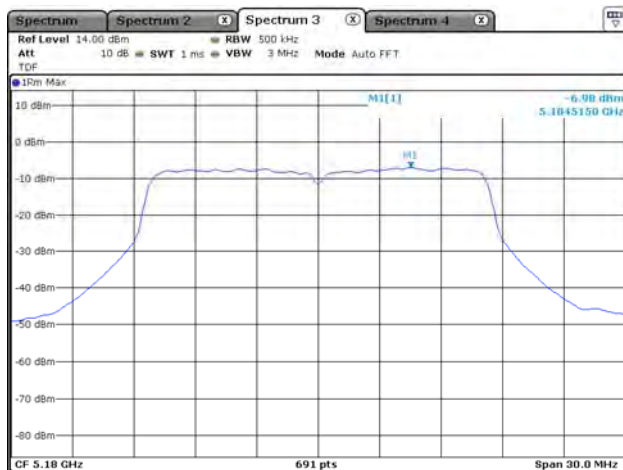
802.11ac(VHT80)

Channel	Frequency [MHz]	Result Value[dBm/500kHz]	Limit [dBm/500kHz]	Test Results
155	5 775	-13.65	30	Compliance

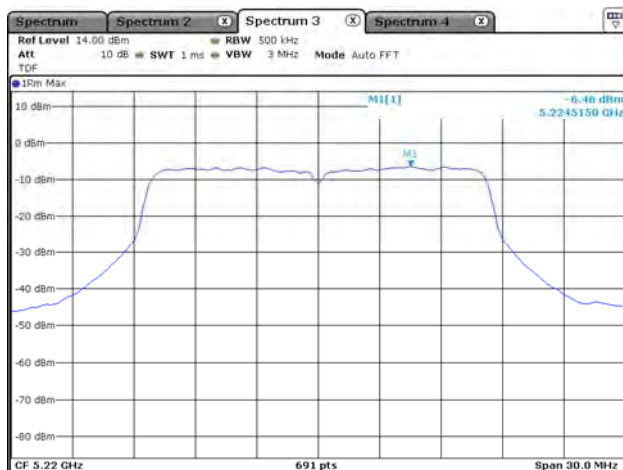
5.2.6 Test Plot

5 180 ~ 5 240 MHz

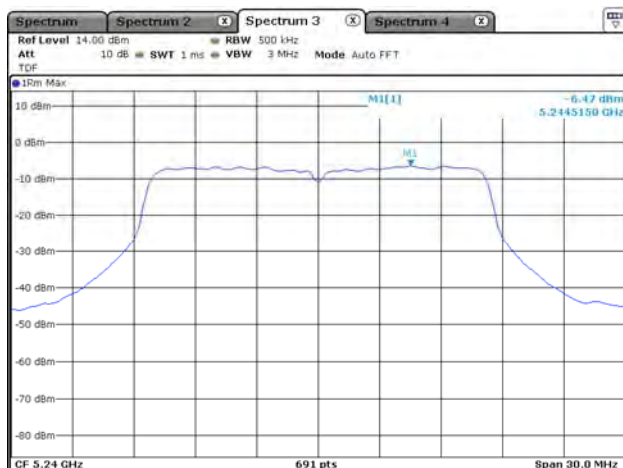
802.11a / CH Low



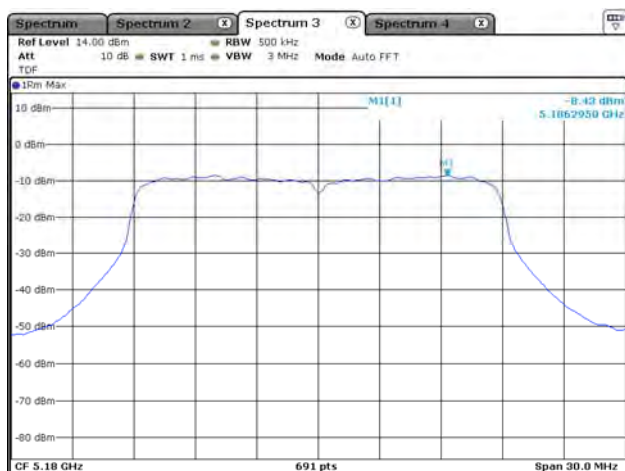
802.11a / CH Middle



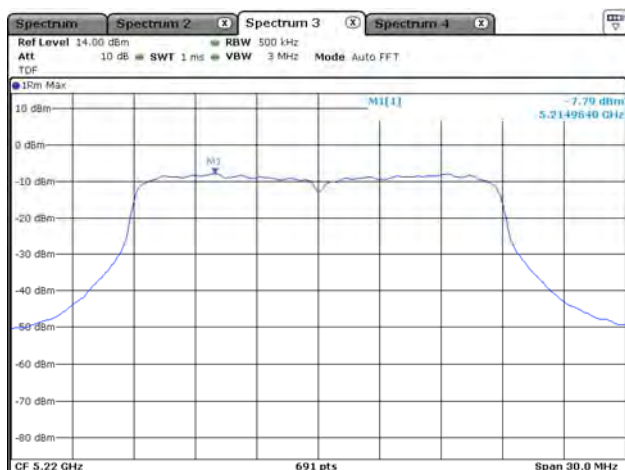
802.11a / CH High



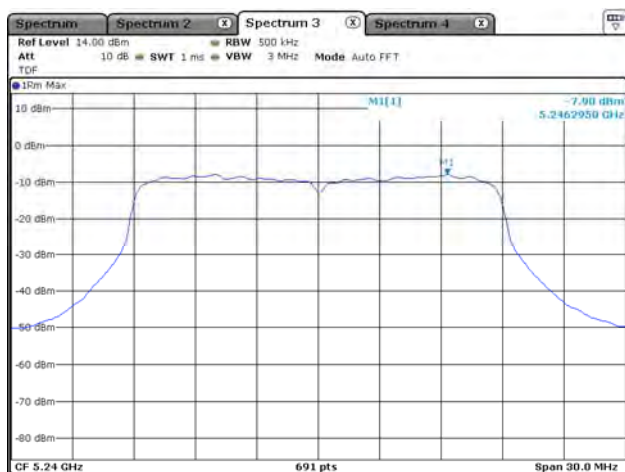
802.11n(HT20) / CH Low



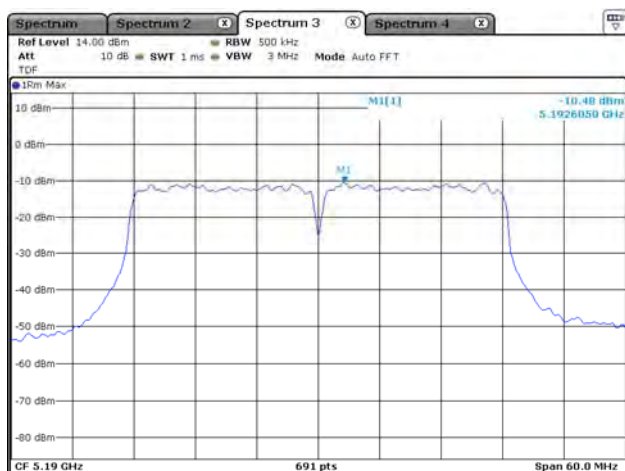
802.11n(HT20) / CH Middle



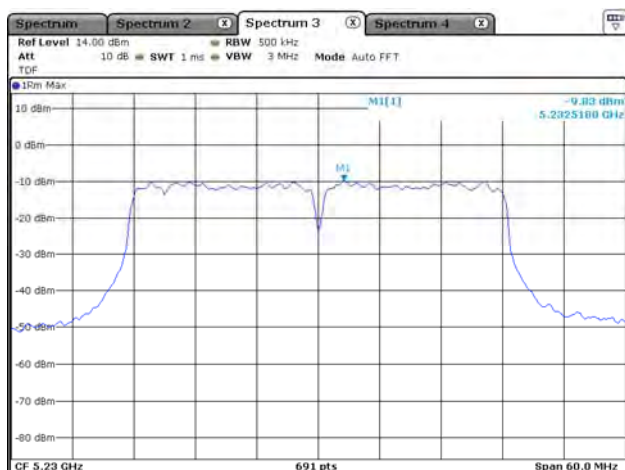
802.11n(HT20) / CH High



802.11n(HT40) / CH Low

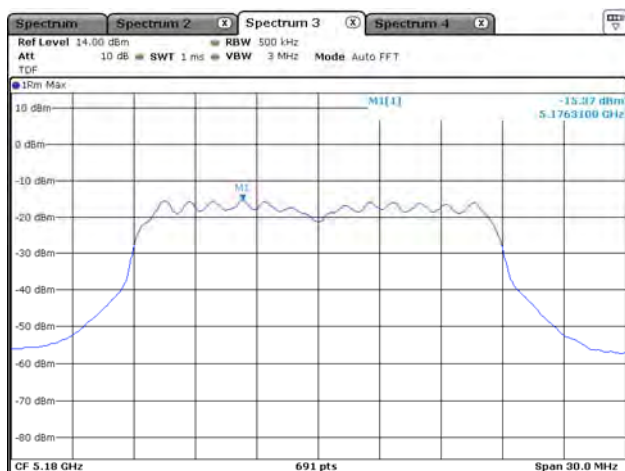


802.11n(HT40) / CH High

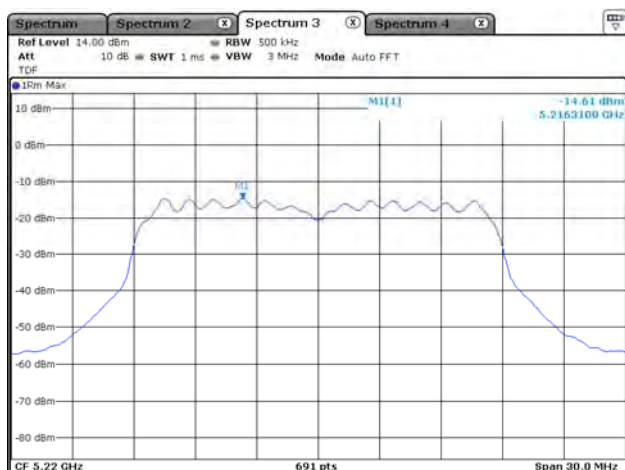


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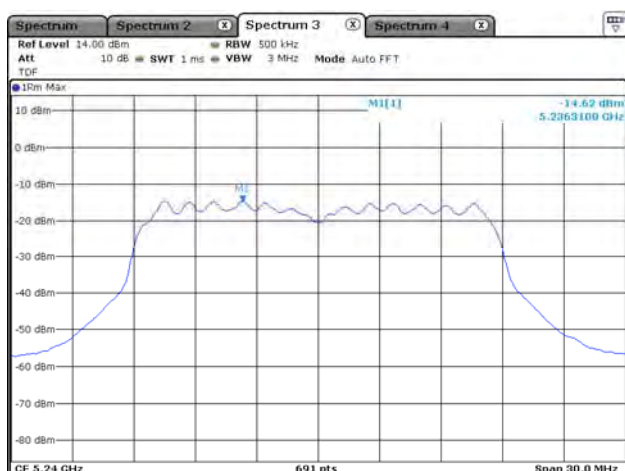
802.11ac(VHT20) / CH Low



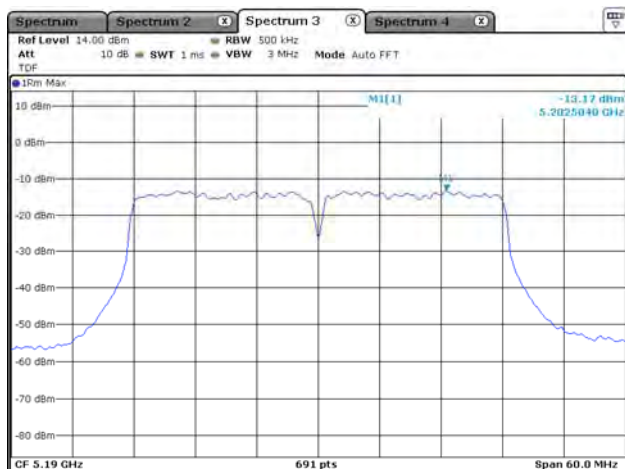
802.11ac(VHT20) / CH Middle



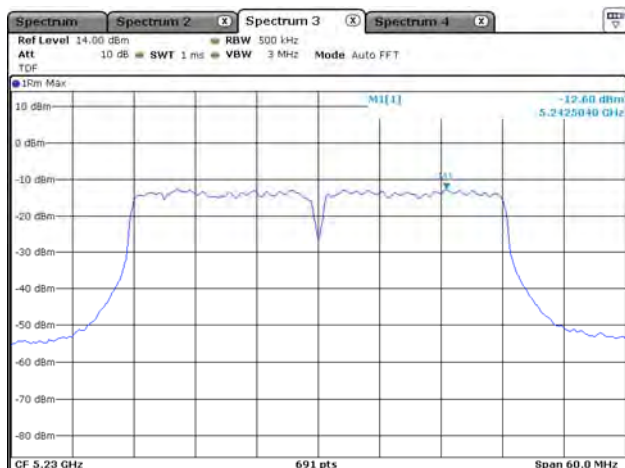
802.11ac(VHT20) / CH High



802.11ac(VHT40) / CH Low

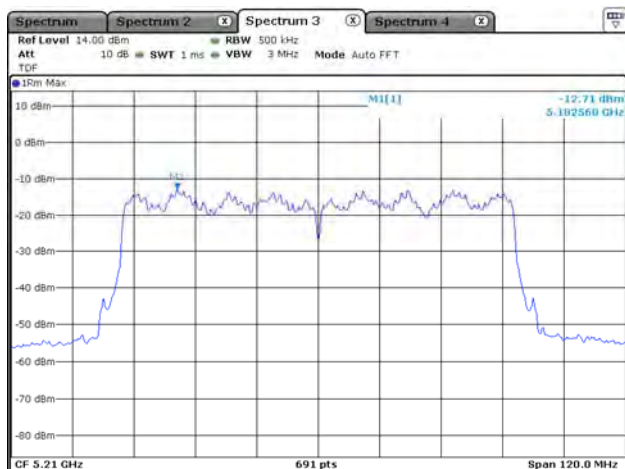


802.11ac(VHT40) / CH High



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802.11ac(VHT80) / CH Middle

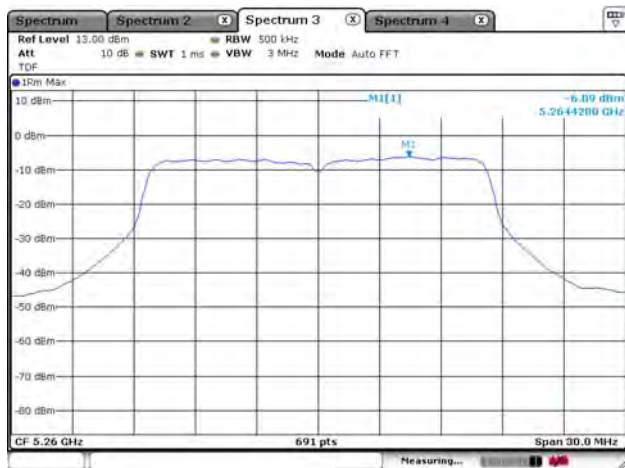


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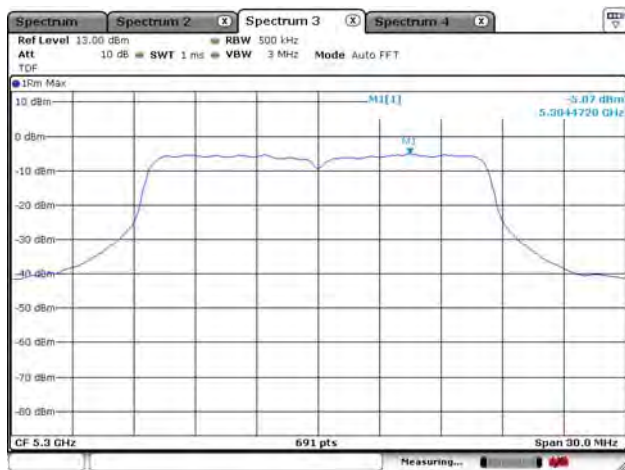
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5 260 ~ 5 320 MHz

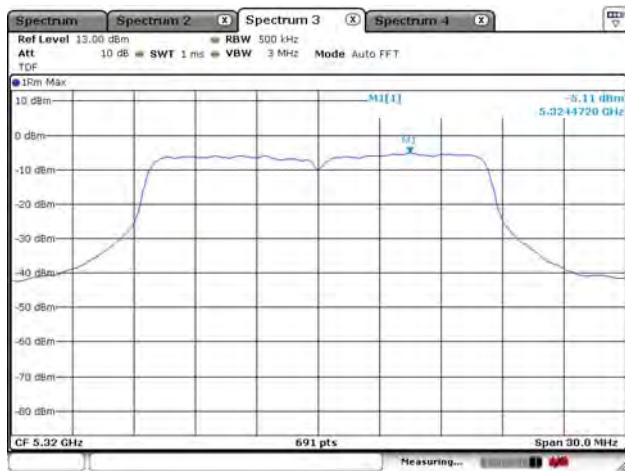
802.11a / CH Low



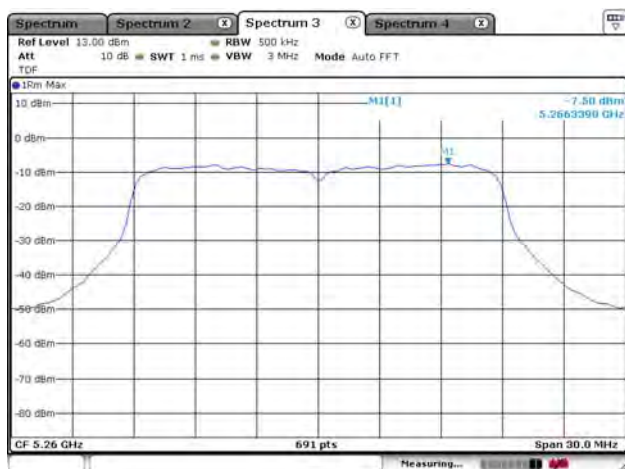
802.11a / CH Middle



802.11a / CH High



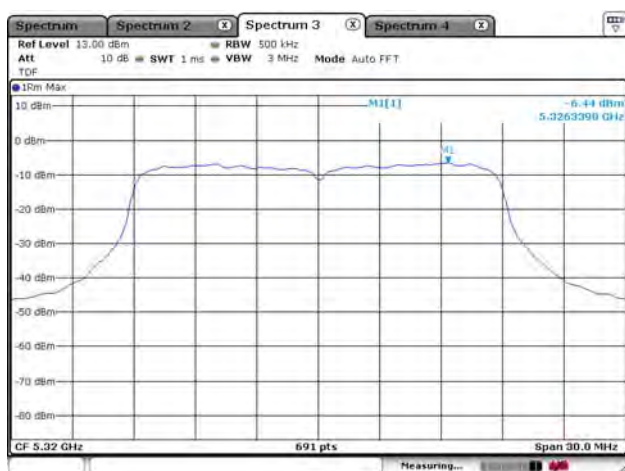
802.11n(HT20) / CH Low



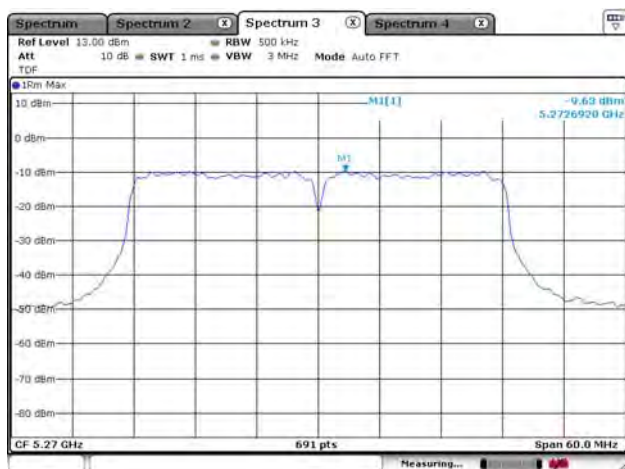
802.11n(HT20) / CH Middle



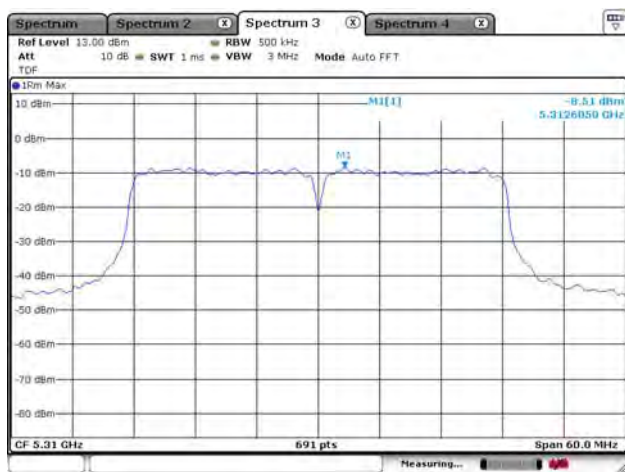
802.11n(HT20) / CH High



802.11n(HT40) / CH Low

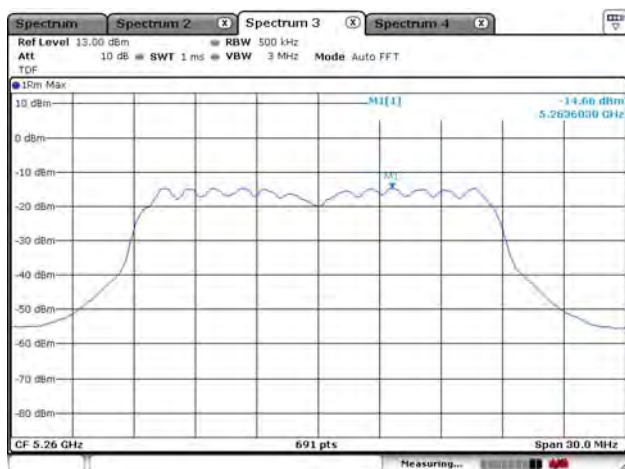


802.11n(HT40) / CH High

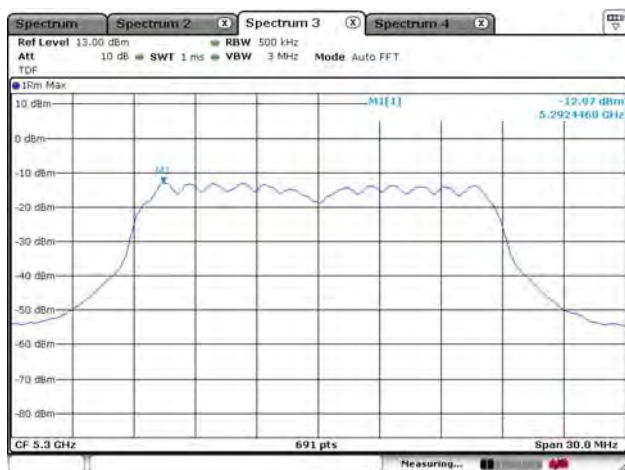


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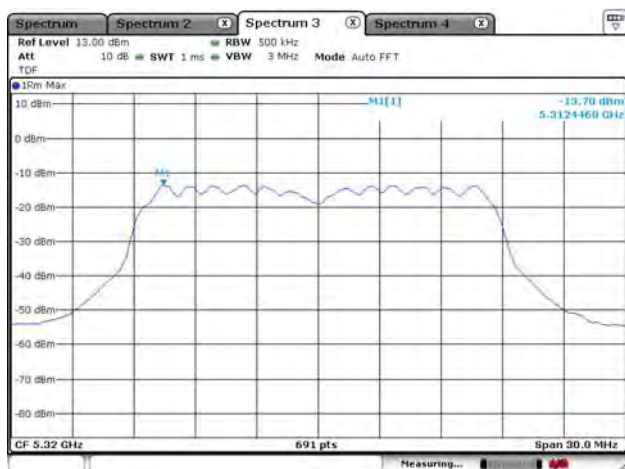
802.11ac(VHT20) / CH Low



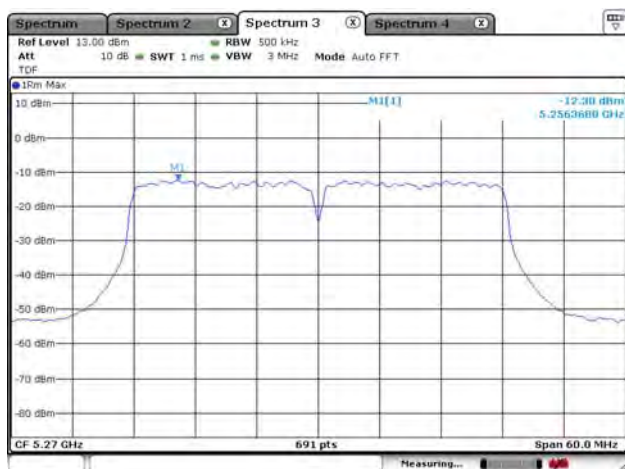
802.11ac(VHT20) / CH Middle



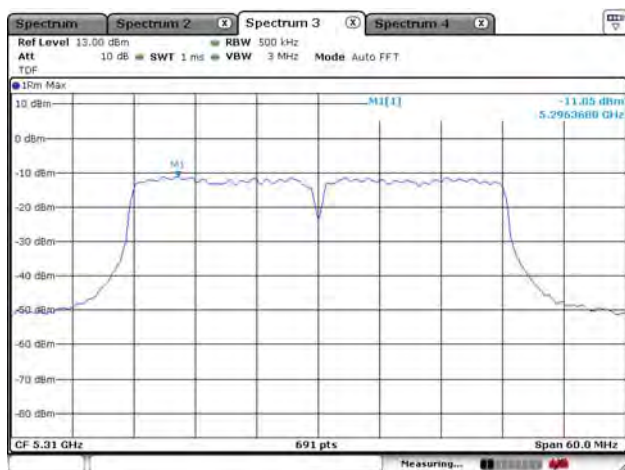
802.11ac(VHT20) / CH High



802.11ac(VHT40) / CH Low

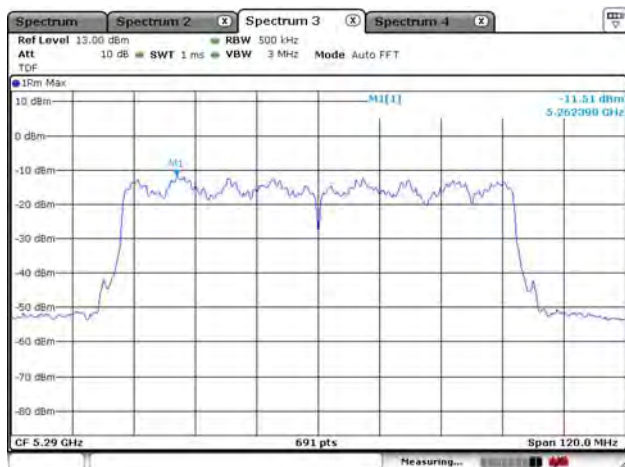


802.11ac(VHT40) / CH High



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802.11ac(VHT80) / CH Middle



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5 500 ~ 5 720 MHz

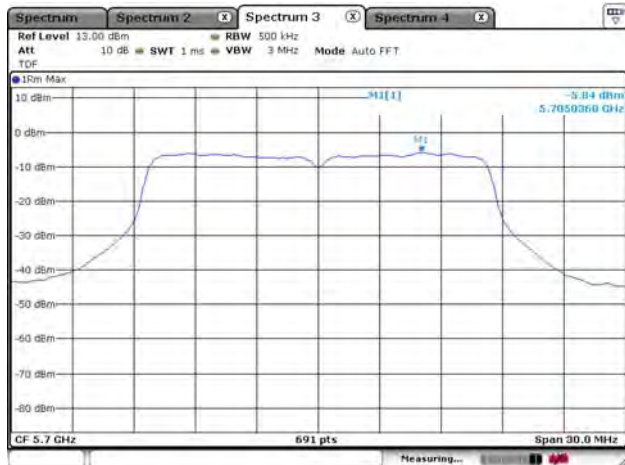
802.11a / CH Low



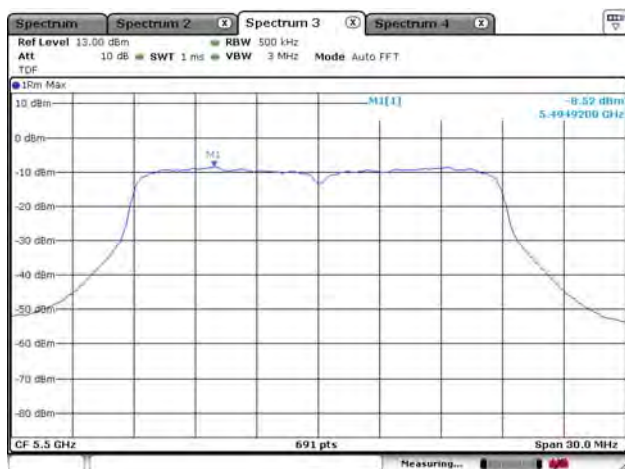
802.11a / CH Middle



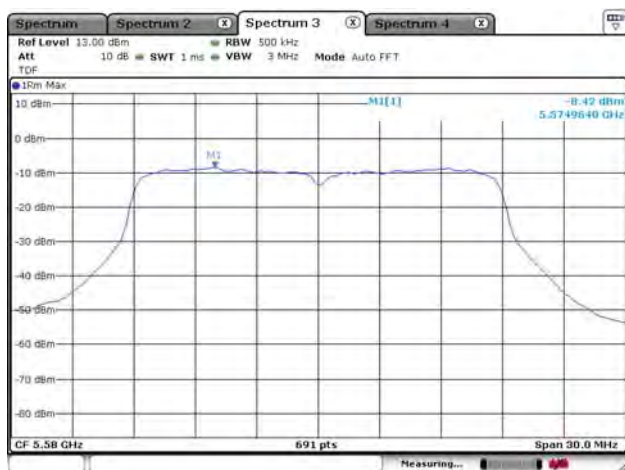
802.11a / CH High



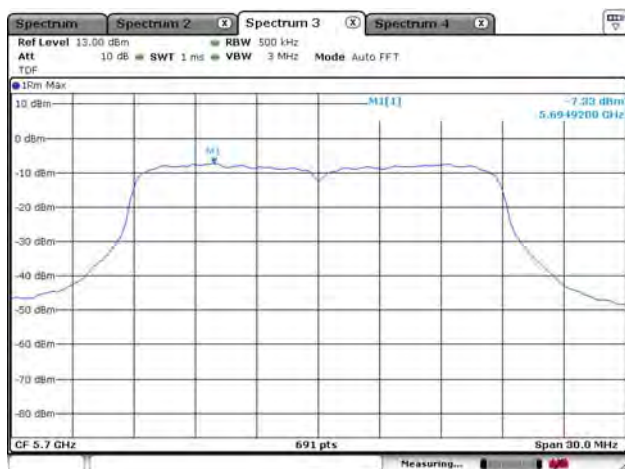
802.11n(HT20) / CH Low



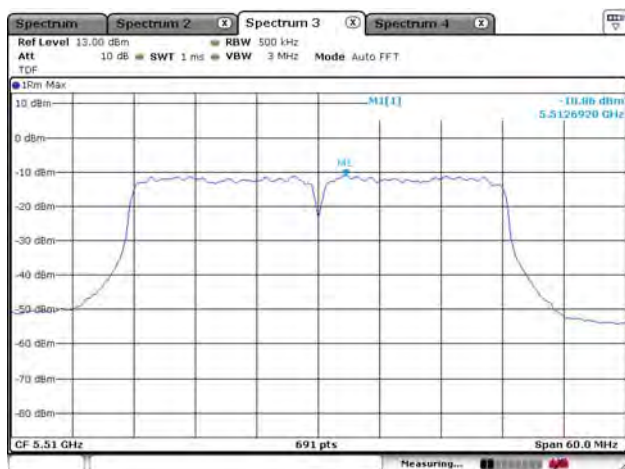
802.11n(HT20) / CH Middle



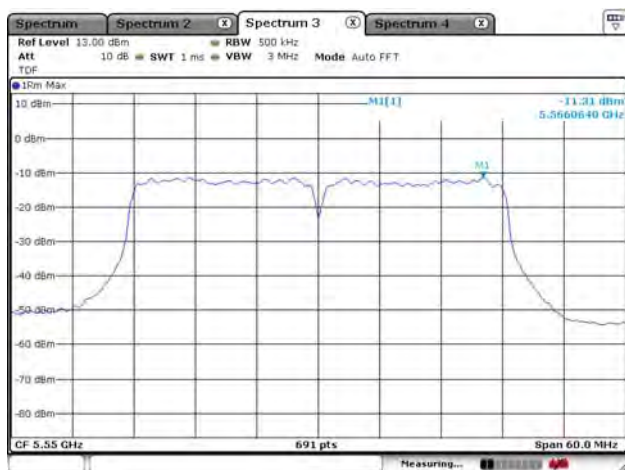
802.11n(HT20) / CH High



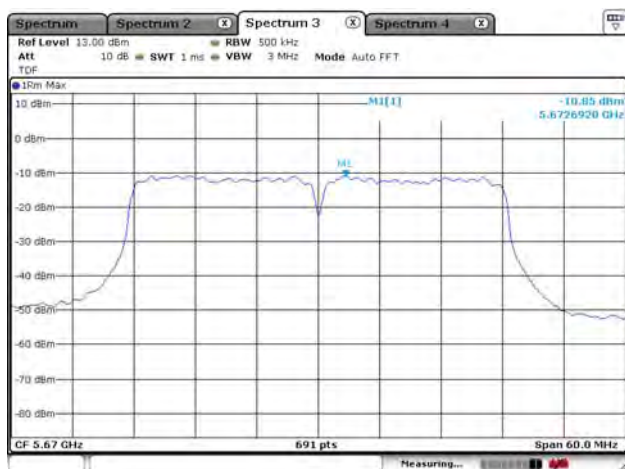
802.11n(HT40) / CH Low



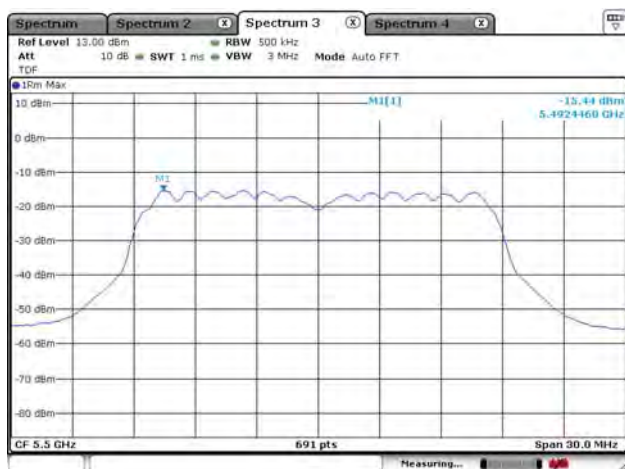
802.11n(HT40) / CH Middle



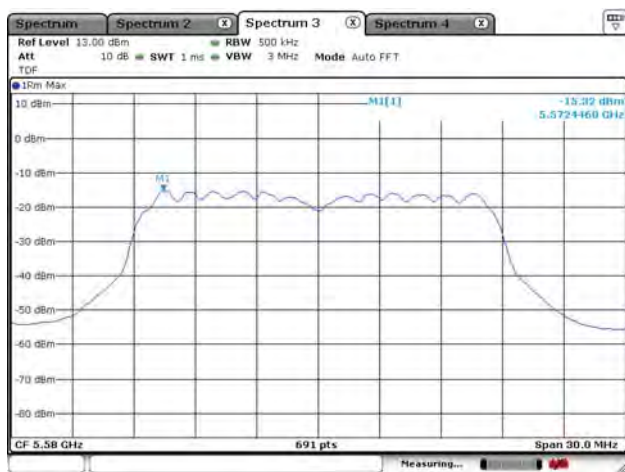
802.11n(HT40) / CH High



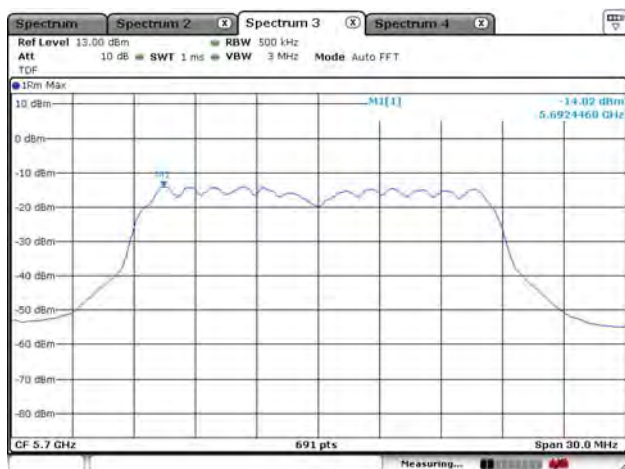
802.11ac(VHT20) / CH Low



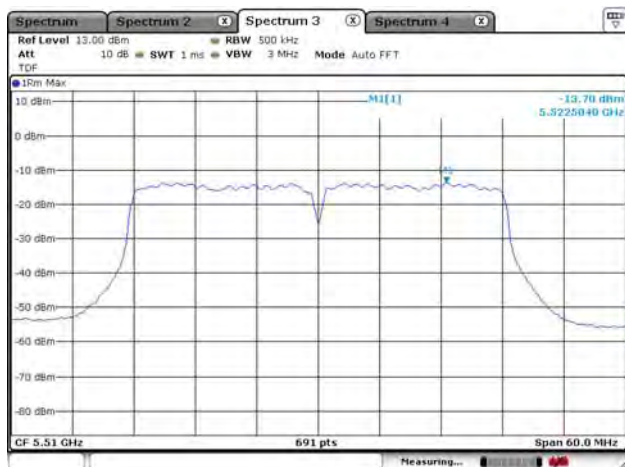
802.11ac(VHT20) / CH Middle



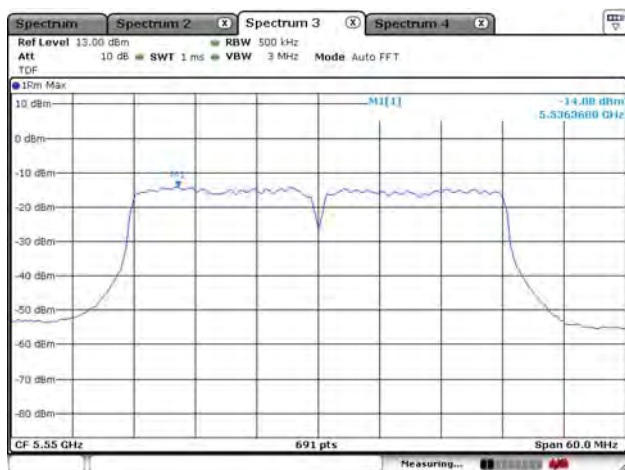
802.11ac(VHT20) / CH High



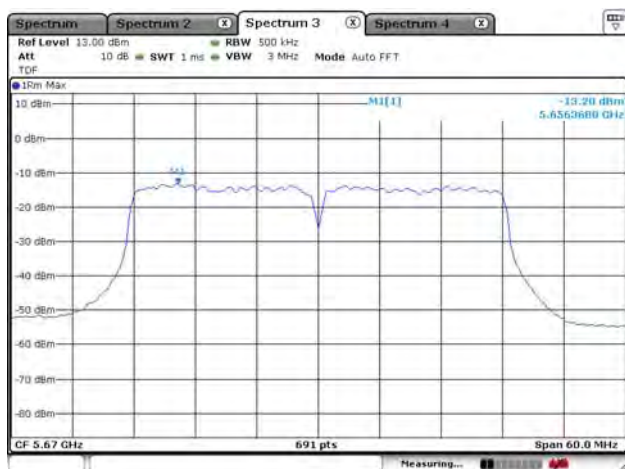
802.11ac(VHT40) / CH Low



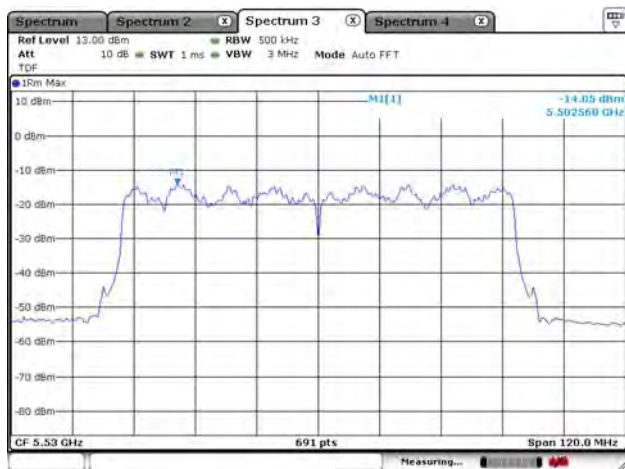
802.11ac(VHT40) / CH Middle



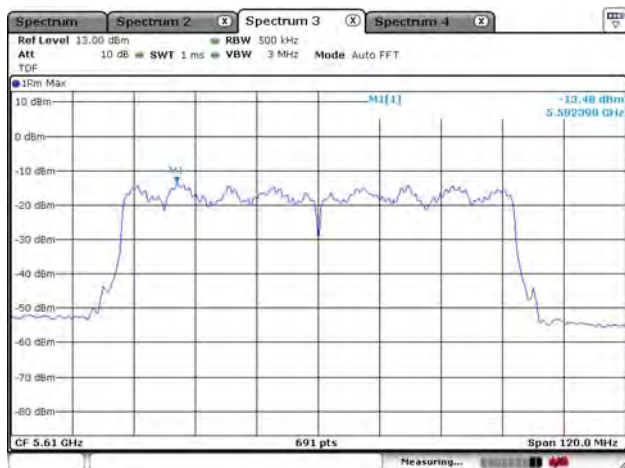
802.11ac(VHT40) / CH High



802.11ac(VHT80) / CH Low

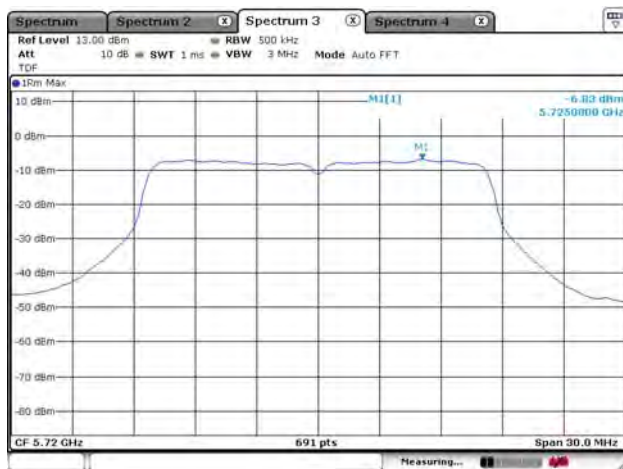


802.11ac(VHT80) / CH High

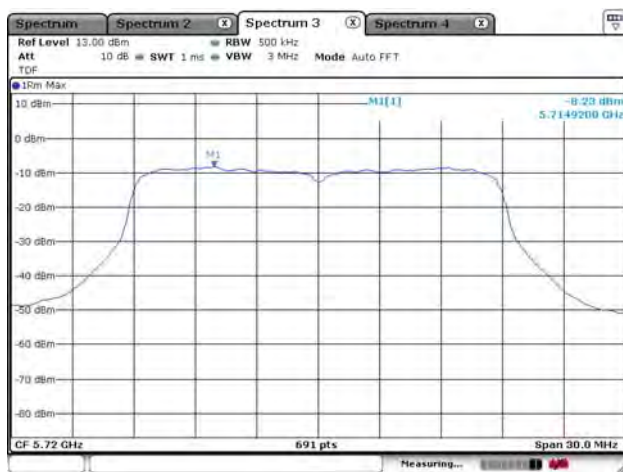


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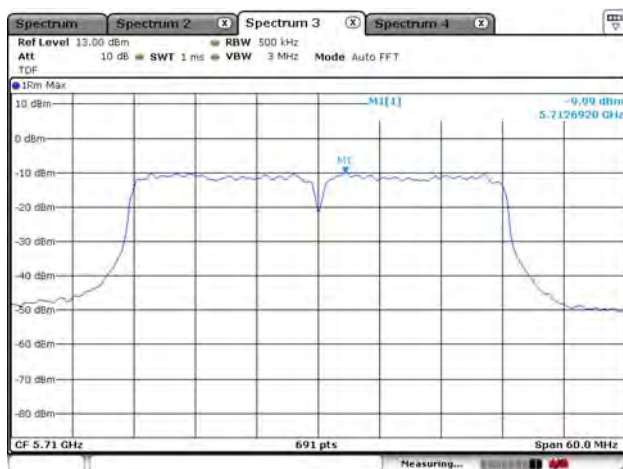
802.11a / CH 144



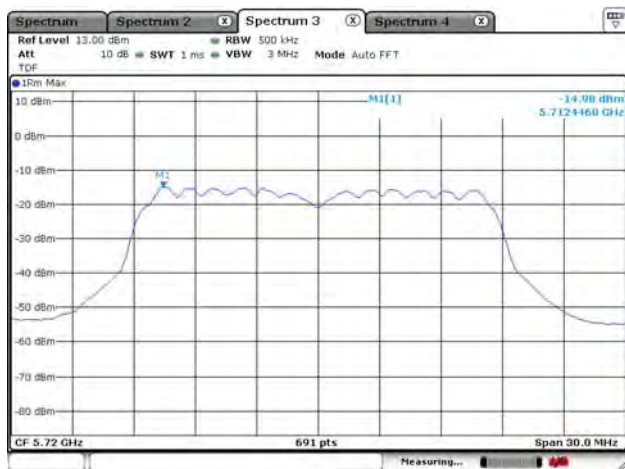
802.11n(HT20) / CH 144



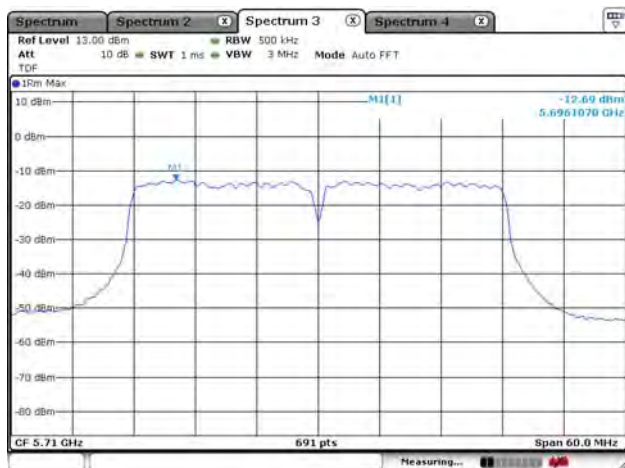
802.11n(HT40) / CH 142



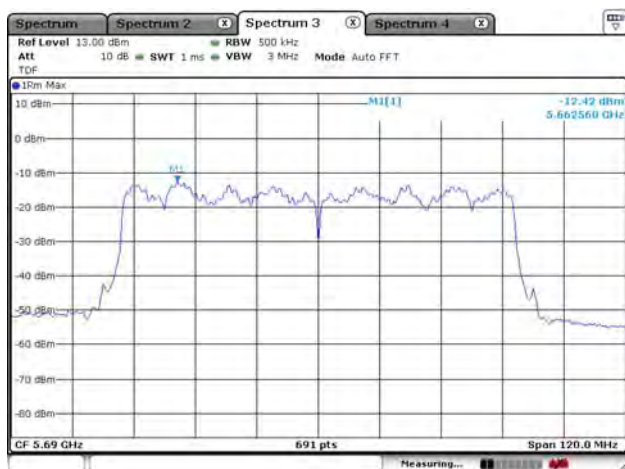
802.11ac(VHT20) / CH 144



802.11ac(VHT40) / CH 142

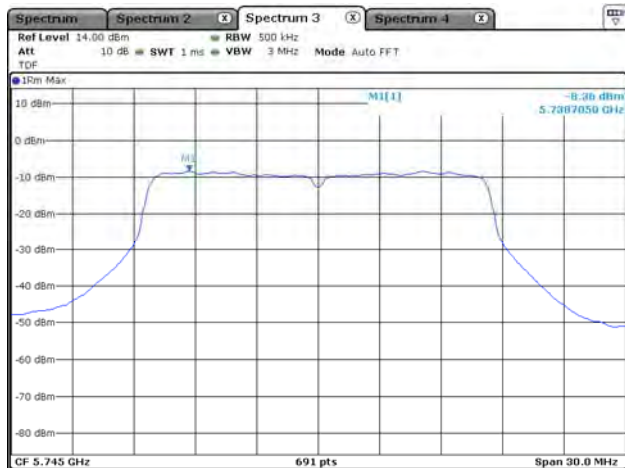


802.11ac(VHT80) / CH 138

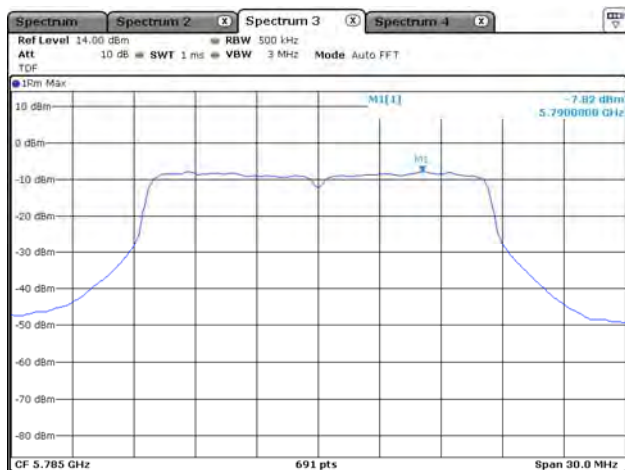


5 745 ~ 5 825 MHz

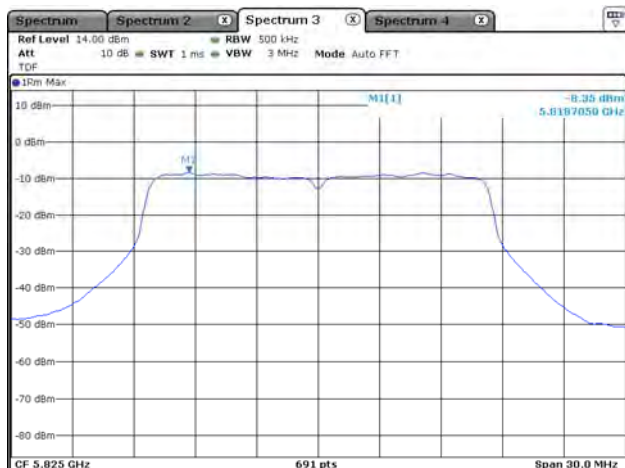
802.11a / CH Low



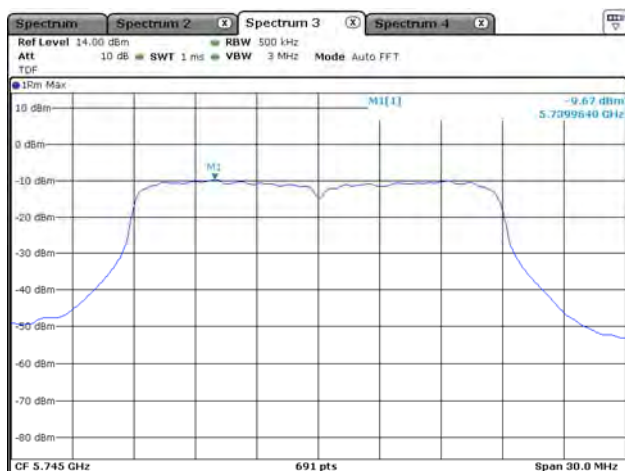
802.11a / CH Middle



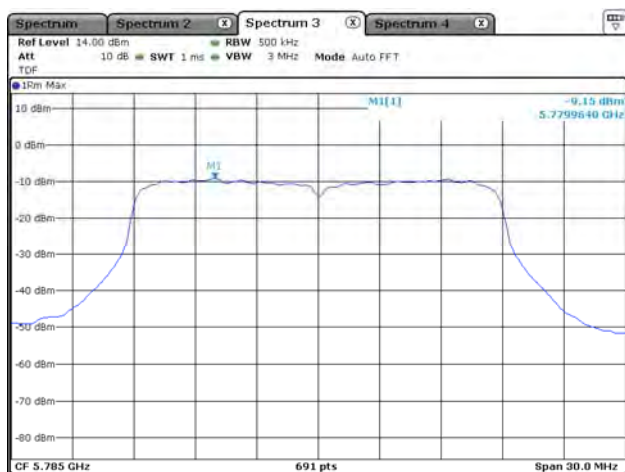
802.11a / CH High



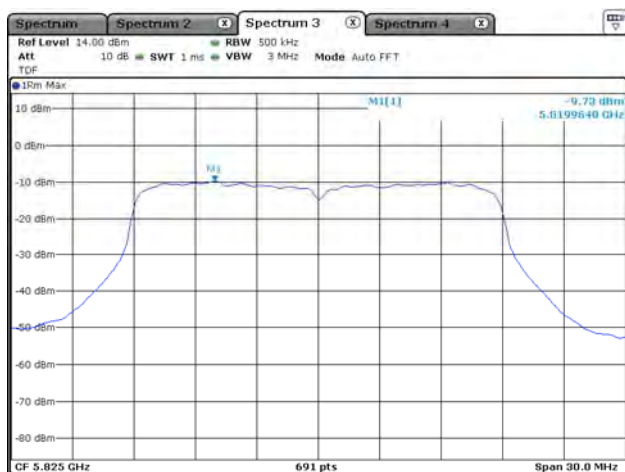
802.11n(HT20) / CH Low



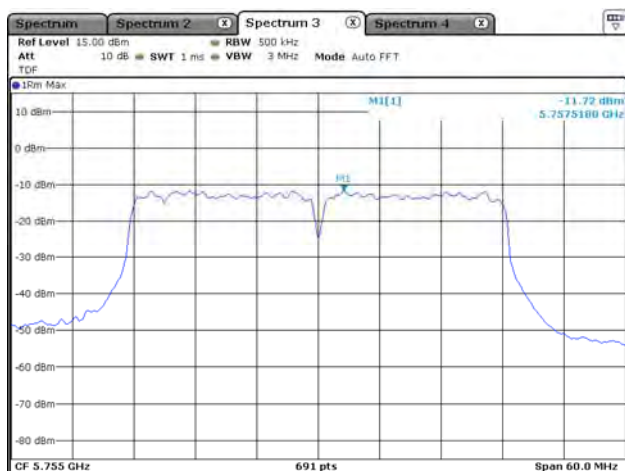
802.11n(HT20) / CH Middle



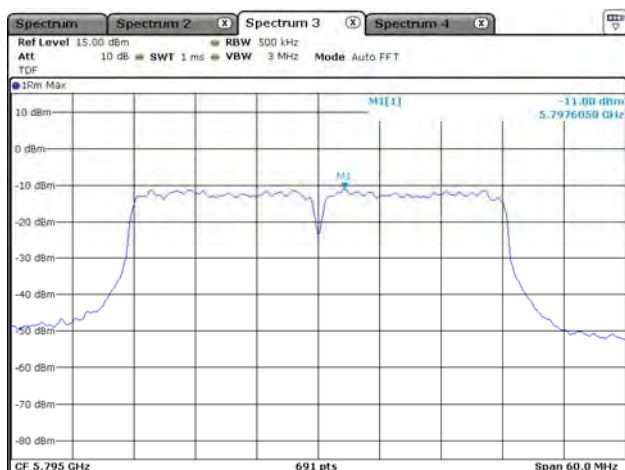
802.11n(HT20) / CH High



802.11n(HT40) / CH Low

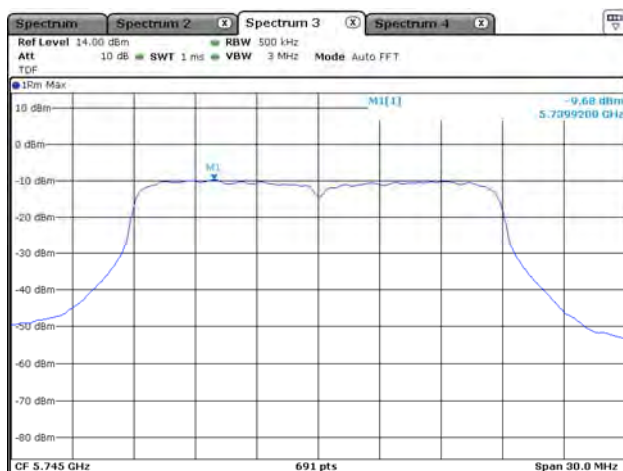


802.11n(HT40) / CH High

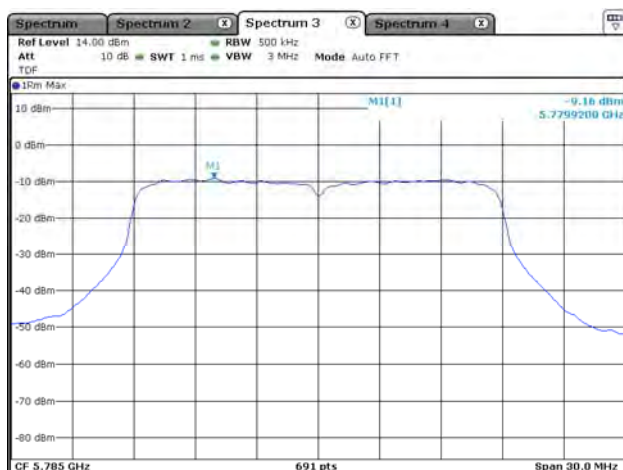


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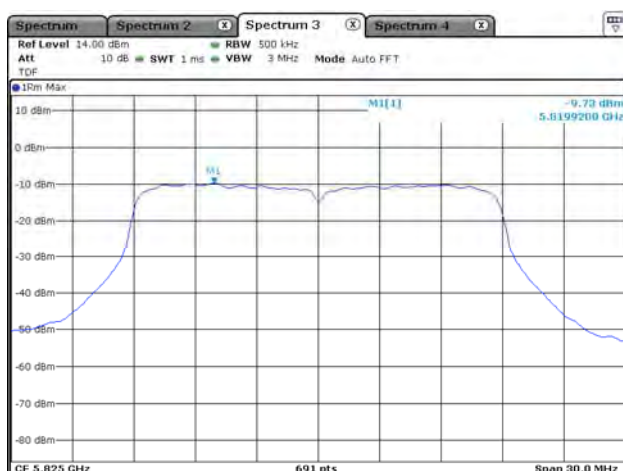
802.11ac(VHT20) / CH Low



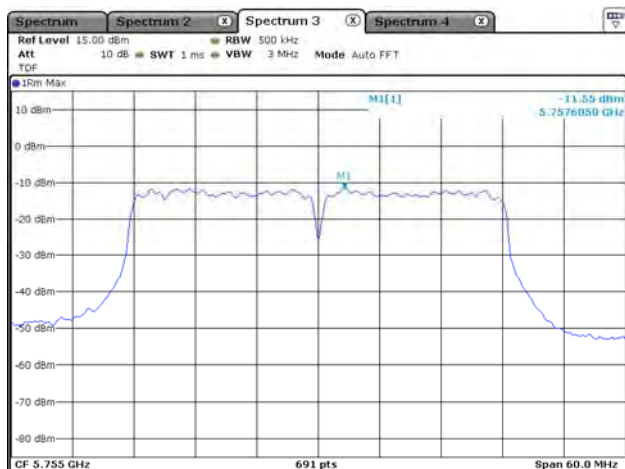
802.11ac(VHT20) / CH Middle



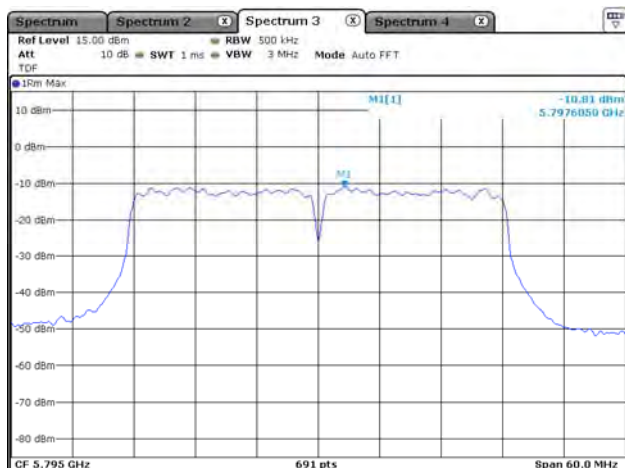
802.11ac(VHT20) / CH High



802.11ac(VHT40) / CH Low

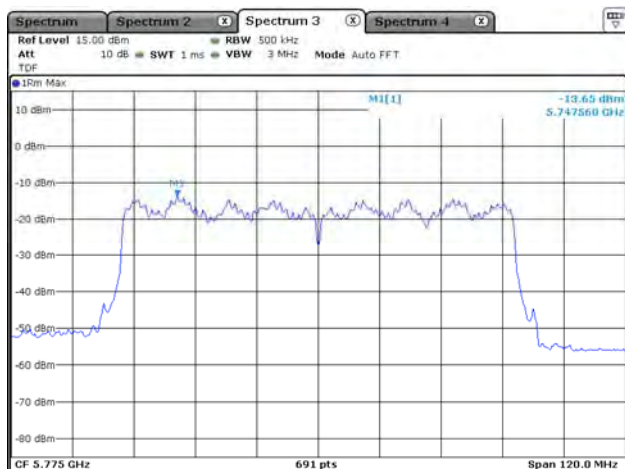


802.11ac(VHT40) / CH High



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802.11ac(VHT80) / CH Middle



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5.3 Emission Bandwidth

5.3.1 Standard Applicable [FCC §15.407(e)]

The 26 dB Bandwidth is used to determine the conducted power limits.

In the 5.725~5.850 GHz Band, the 6 dB Bandwidth must be ≥ 500 kHz.

5.3.2 Test Environment conditions

- Ambient temperature : (22 ~ 25) °C
- Relative Humidity : (51 ~ 57) % R.H.

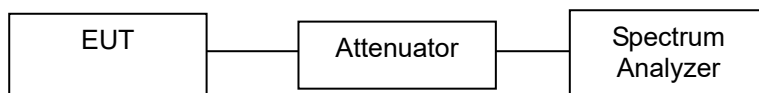
5.3.3 Measurement Procedure

1. The transmitter output (antenna port) was connected to the spectrum analyzer in peak hold mode.
2. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.
3. The minimum of 6dB Bandwidth Measurement is 0.5MHz.

The spectrum analyzer is set to the as follows :

- RBW : $>1\%$ of the emission bandwidth
- VBW : $>3 \times$ RBW
- Sweep : auto
- Detector function : peak
- Trace : max hold

5.3.4 Test setup



5.3.5 Measurement Result

5 180 ~ 5 240 MHz

802.11a

Channel	Frequency [MHz]	26 dB Bandwidth [MHz]	99% Bandwidth [MHz]	Limit [MHz]	Test Results
36	5 180	18.67	16.37	-	Compliance
44	5 220	18.67	16.41	-	Compliance
48	5 240	18.67	16.41	-	Compliance

802.11n(HT20)

Channel	Frequency [MHz]	26 dB Bandwidth [MHz]	99% Bandwidth [MHz]	Limit [MHz]	Test Results
36	5 180	19.49	17.63	-	Compliance
44	5 220	19.23	17.58	-	Compliance
48	5 240	19.41	17.58	-	Compliance

802.11n(HT40)

Channel	Frequency [MHz]	26 dB Bandwidth [MHz]	99% Bandwidth [MHz]	Limit [MHz]	Test Results
38	5 190	37.95	35.95	-	Compliance
46	5 230	38.12	35.95	-	Compliance

802.11ac(VHT20)

Channel	Frequency [MHz]	26 dB Bandwidth [MHz]	99% Bandwidth [MHz]	Limit [MHz]	Test Results
36	5 180	18.50	17.32	-	Compliance
44	5 220	18.54	17.32	-	Compliance
48	5 240	18.50	17.32	-	Compliance

802.11ac(VHT40)

Channel	Frequency [MHz]	26 dB Bandwidth [MHz]	99% Bandwidth [MHz]	Limit [MHz]	Test Results
38	5 190	38.38	36.12	-	Compliance
46	5 230	38.47	36.12	-	Compliance

802.11ac(VHT80)

Channel	Frequency [MHz]	26 dB Bandwidth [MHz]	99% Bandwidth [MHz]	Limit [MHz]	Test Results
42	5 210	78.15	75.20	-	Compliance

5 260 ~ 5 320 MHz

802.11a

Channel	Frequency [MHz]	26 dB Bandwidth [MHz]	99% Bandwidth [MHz]	Limit [MHz]	Test Results
52	5 260	19.15	16.45	-	Compliance
60	5 300	18.97	16.50	-	Compliance
64	5 320	19.15	16.50	-	Compliance

802.11n(HT20)

Channel	Frequency [MHz]	26 dB Bandwidth [MHz]	99% Bandwidth [MHz]	Limit [MHz]	Test Results
52	5 260	20.15	17.71	-	Compliance
60	5 300	20.28	17.71	-	Compliance
64	5 320	20.32	17.71	-	Compliance

802.11n(HT40)

Channel	Frequency [MHz]	26 dB Bandwidth [MHz]	99% Bandwidth [MHz]	Limit [MHz]	Test Results
54	5 270	38.47	36.03	-	Compliance
62	5 310	38.38	36.12	-	Compliance

802.11ac(VHT20)

Channel	Frequency [MHz]	26 dB Bandwidth [MHz]	99% Bandwidth [MHz]	Limit [MHz]	Test Results
52	5 260	18.63	17.37	-	Compliance
60	5 300	18.84	17.41	-	Compliance
64	5 320	18.76	17.37	-	Compliance

802.11ac(VHT40)

Channel	Frequency [MHz]	26 dB Bandwidth [MHz]	99% Bandwidth [MHz]	Limit [MHz]	Test Results
54	5 270	38.47	36.12	-	Compliance
62	5 310	38.73	36.21	-	Compliance

802.11ac(VHT80)

Channel	Frequency [MHz]	26 dB Bandwidth [MHz]	99% Bandwidth [MHz]	Limit [MHz]	Test Results
58	5 290	78.15	75.37	-	Compliance

5 500 ~ 5 720 MHz

802.11a

Channel	Frequency [MHz]	26 dB Bandwidth [MHz]	99% Bandwidth [MHz]	Limit [MHz]	Test Results
100	5 500	18.97	16.54	-	Compliance
116	5 580	18.76	16.54	-	Compliance
140	5 700	18.93	16.58	-	Compliance

802.11n(HT20)

Channel	Frequency [MHz]	26 dB Bandwidth [MHz]	99% Bandwidth [MHz]	Limit [MHz]	Test Results
100	5 500	20.10	17.76	-	Compliance
116	5 580	20.15	17.76	-	Compliance
140	5 700	20.10	17.76	-	Compliance

802.11n(HT40)

Channel	Frequency [MHz]	26 dB Bandwidth [MHz]	99% Bandwidth [MHz]	Limit [MHz]	Test Results
102	5 510	38.12	36.03	-	Compliance
110	5 550	38.47	36.03	-	Compliance
134	5 670	38.55	36.03	-	Compliance

802.11ac(VHT20)

Channel	Frequency [MHz]	26 dB Bandwidth [MHz]	99% Bandwidth [MHz]	Limit [MHz]	Test Results
100	5 500	18.80	17.41	-	Compliance
116	5 580	18.80	17.37	-	Compliance
140	5 700	18.80	17.37	-	Compliance

802.11ac(VHT40)

Channel	Frequency [MHz]	26 dB Bandwidth [MHz]	99% Bandwidth [MHz]	Limit [MHz]	Test Results
102	5 510	38.29	36.21	-	Compliance
110	5 550	38.38	36.21	-	Compliance
134	5 670	38.38	36.12	-	Compliance

802.11ac(VHT80)

Channel	Frequency [MHz]	26 dB Bandwidth [MHz]	99% Bandwidth [MHz]	Limit [MHz]	Test Results
106	5 530	78.32	75.37	-	Compliance
122	5 610	38.32	75.37	-	Compliance

802.11a

Channel	Frequency [MHz]	Measured Frequency [MHz]	26 dB Bandwidth [MHz]	Limit [MHz]	Test Results
*144 (UNII 2C)	5 720	5 710.49	14.51	-	Compliance
*144 (UNII 3)	5 720	5 729.65	4.65	-	Compliance

802.11n(HT20)

Channel	Frequency [MHz]	Measured Frequency [MHz]	26 dB Bandwidth [MHz]	Limit [MHz]	Test Results
*144 (UNII 2C)	5 720	5 709.71	15.29	-	Compliance
*144 (UNII 3)	5 720	5 730.17	5.17	-	Compliance

802.11n(HT40)

Channel	Frequency [MHz]	Measured Frequency [MHz]	26 dB Bandwidth [MHz]	Limit [MHz]	Test Results
*142 (UNII 2C)	5 710	5 690.87	34.13	-	Compliance
*142 (UNII 3)	5 710	5 729.26	4.26	-	Compliance

802.11ac(VHT20)

Channel	Frequency [MHz]	Measured Frequency [MHz]	26 dB Bandwidth [MHz]	Limit [MHz]	Test Results
*144 (UNII 2C)	5 720	5 710.49	14.51	-	Compliance
*144 (UNII 3)	5 720	5 729.60	4.60	-	Compliance

802.11ac(VHT40)

Channel	Frequency [MHz]	Measured Frequency [MHz]	26 dB Bandwidth [MHz]	Limit [MHz]	Test Results
*142 (UNII 2C)	5 710	5 690.35	34.65	-	Compliance
*142 (UNII 3)	5 710	5 729.69	4.69	-	Compliance

802.11ac(VHT80)

Channel	Frequency [MHz]	Measured Frequency [MHz]	26 dB Bandwidth [MHz]	Limit [MHz]	Test Results
*138 (UNII 2C)	5 690	5 650.58	74.42	-	Compliance
*138 (UNII 3)	5 690	5 729.20	4.20	-	Compliance

Note:

[UNII 2C] 26 dB Bandwidth = 5 725 MHz – Measured Frequency[MHz]

[UNII 3] 26 dB Bandwidth = Measured Frequency[MHz] - 5 725 MHz

802.11a

Channel	Frequency [MHz]	Measured Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]	Test Results
*144 (UNII 3)	5 720	5 728.34	3.34	>0.5	Compliance

802.11n(HT20)

Channel	Frequency [MHz]	Measured Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]	Test Results
*144 (UNII 3)	5 720	5 728.73	3.73	>0.5	Compliance

802.11n(HT40)

Channel	Frequency [MHz]	Measured Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]	Test Results
*142 (UNII 3)	5 710	5 728.30	3.30	>0.5	Compliance

802.11ac(VHT20)

Channel	Frequency [MHz]	Measured Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]	Test Results
*144 (UNII 3)	5 720	5 728.42	3.42	>0.5	Compliance

802.11ac(VHT40)

Channel	Frequency [MHz]	Measured Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]	Test Results
*142 (UNII 3)	5 710	5 728.21	3.21	>0.5	Compliance

802.11ac(VHT80)

Channel	Frequency [MHz]	Measured Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]	Test Results
*138 (UNII 3)	5 690	5 727.81	2.81	>0.5	>0.5

Note:

6 dB Bandwidth = Measured Frequency[MHz] – 5 725 MHz

5 745 ~ 5 825 MHz

802.11a

Channel	Frequency [MHz]	6 dB Bandwidth [MHz]	99% Bandwidth [MHz]	Limit [MHz]	Test Results
149	5 745	16.50	16.41	>0.5	Compliance
157	5 785	16.45	16.41	>0.5	Compliance
165	5 825	16.45	16.41	>0.5	Compliance

802.11n(HT20)

Channel	Frequency [MHz]	6 dB Bandwidth [MHz]	99% Bandwidth [MHz]	Limit [MHz]	Test Results
149	5 745	17.37	17.58	>0.5	Compliance
157	5 785	17.41	17.58	>0.5	Compliance
165	5 825	17.37	17.58	>0.5	Compliance

802.11n(HT40)

Channel	Frequency [MHz]	6 dB Bandwidth [MHz]	99% Bandwidth [MHz]	Limit [MHz]	Test Results
151	5 755	35.86	36.03	>0.5	Compliance
159	5 795	36.24	36.03	>0.5	Compliance

802.11ac(VHT20)

Channel	Frequency [MHz]	6 dB Bandwidth [MHz]	99% Bandwidth [MHz]	Limit [MHz]	Test Results
149	5 745	17.58	17.58	>0.5	Compliance
157	5 785	17.58	17.58	>0.5	Compliance
165	5 825	17.41	17.58	>0.5	Compliance

802.11ac(VHT40)

Channel	Frequency [MHz]	6 dB Bandwidth [MHz]	99% Bandwidth [MHz]	Limit [MHz]	Test Results
151	5 755	36.21	36.03	>0.5	Compliance
159	5 795	36.24	36.03	>0.5	Compliance

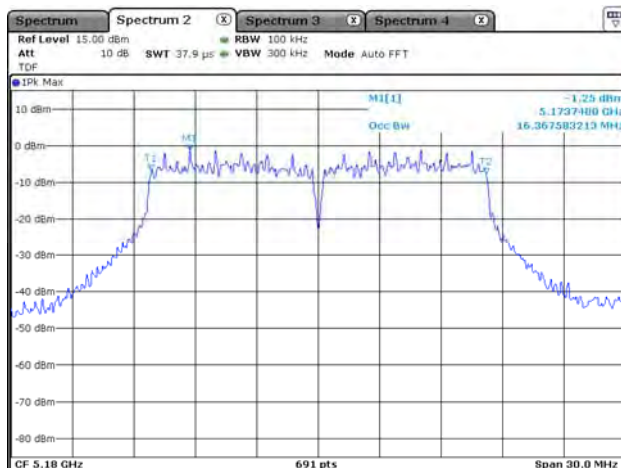
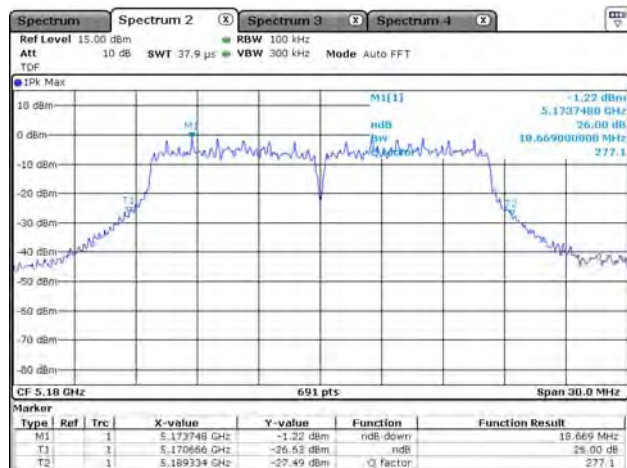
802.11ac(VHT80)

Channel	Frequency [MHz]	6 dB Bandwidth [MHz]	99% Bandwidth [MHz]	Limit [MHz]	Test Results
155	5 775	75.02	75.20	>0.5	Compliance

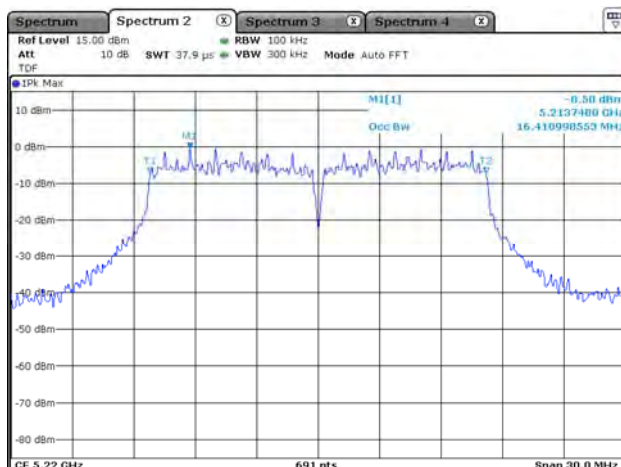
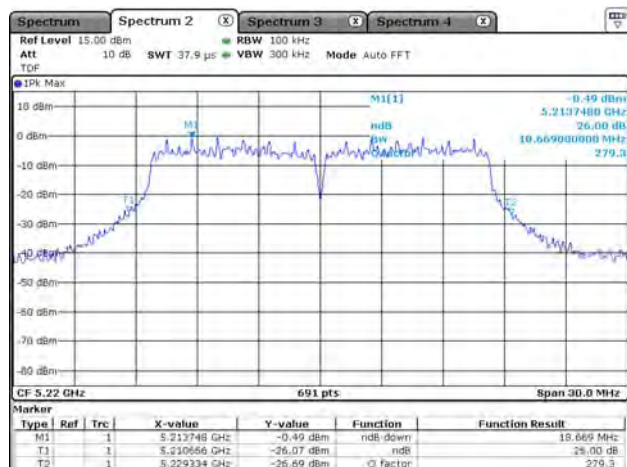
5.3.6 Test Plot

5 180 ~ 5 240 MHz

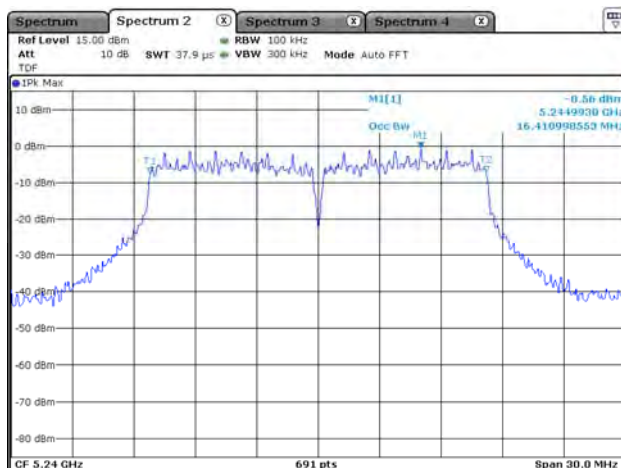
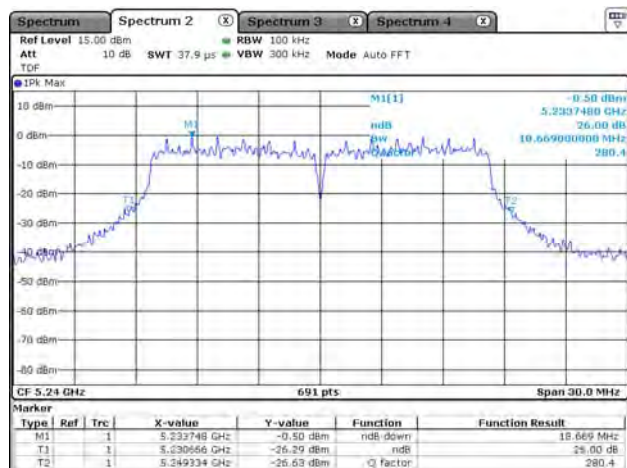
802.11a / CH Low



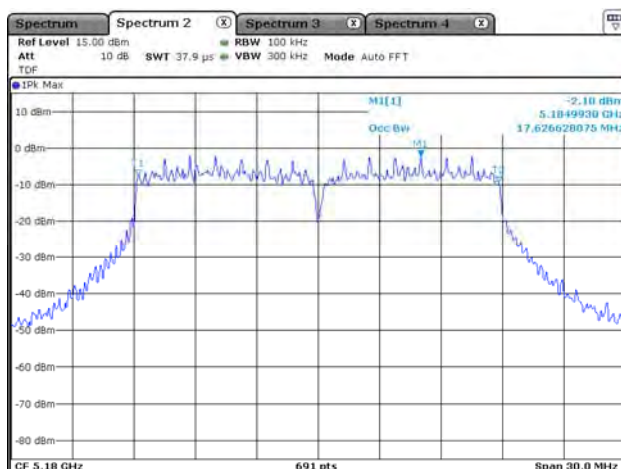
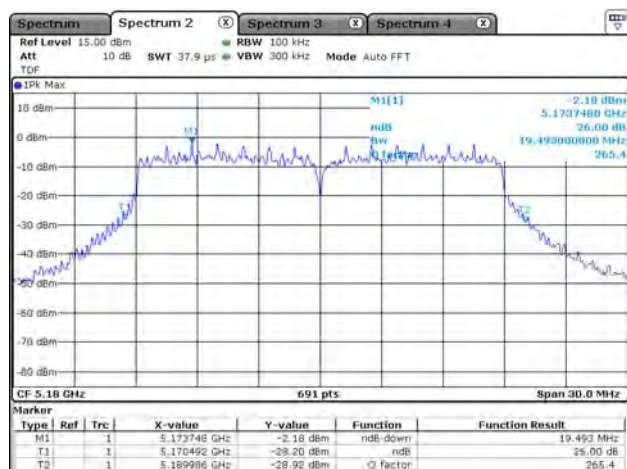
802.11a / CH Middle



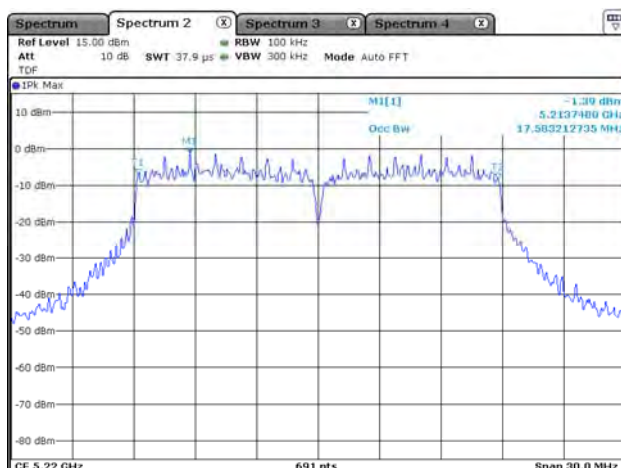
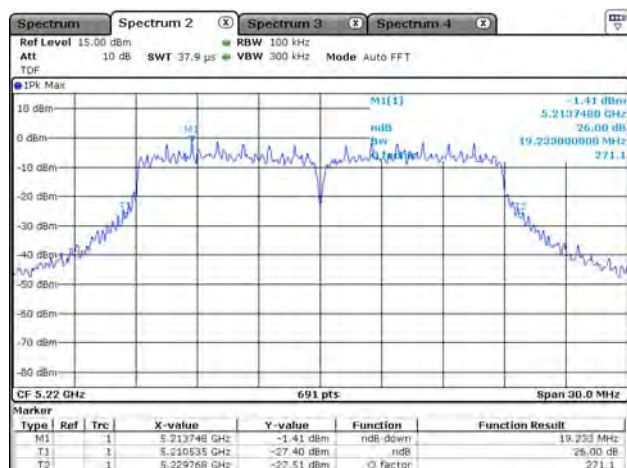
802.11a / CH High



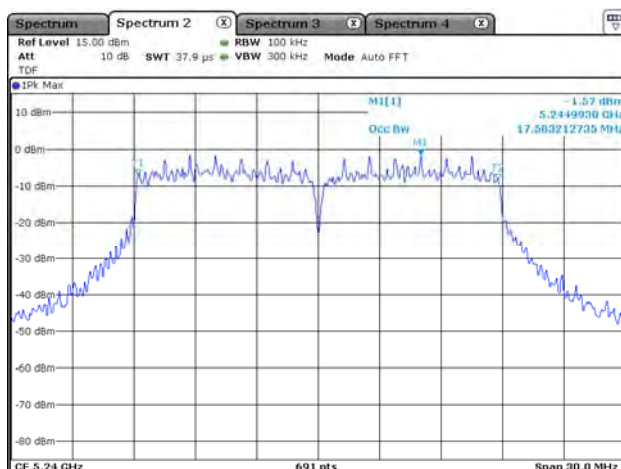
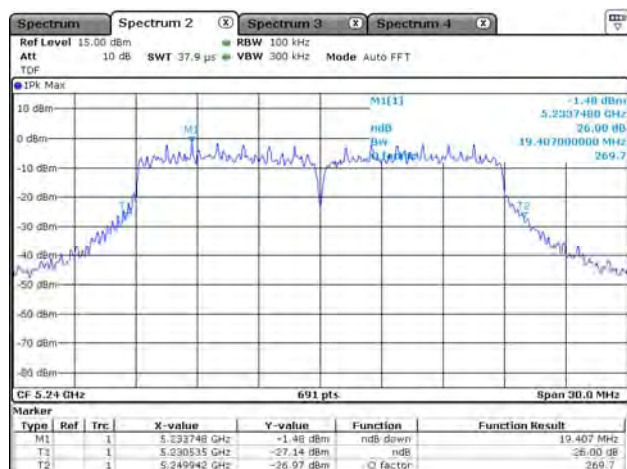
802.11n(HT20) / CH Low



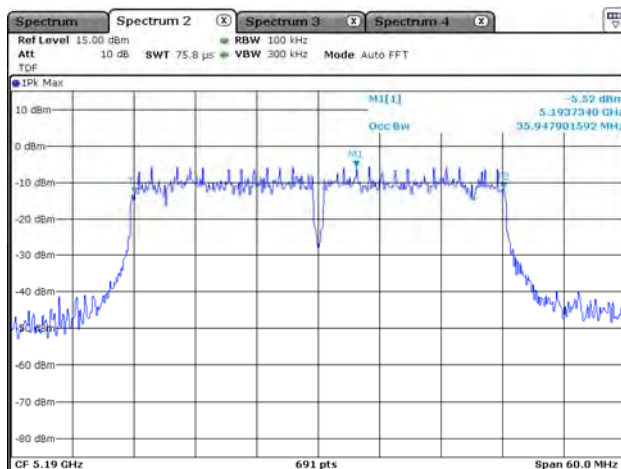
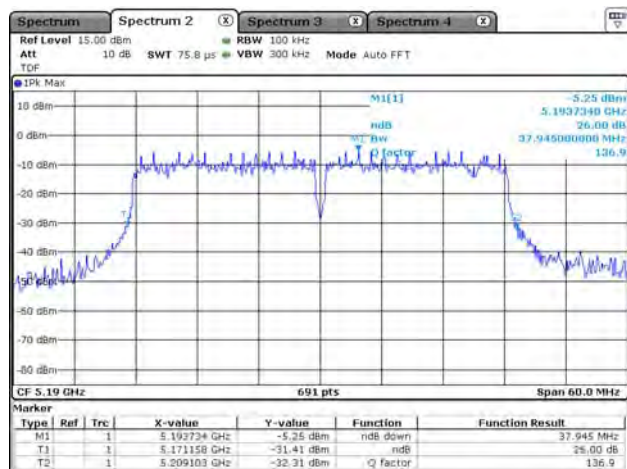
802.11n(HT20) / CH Middle



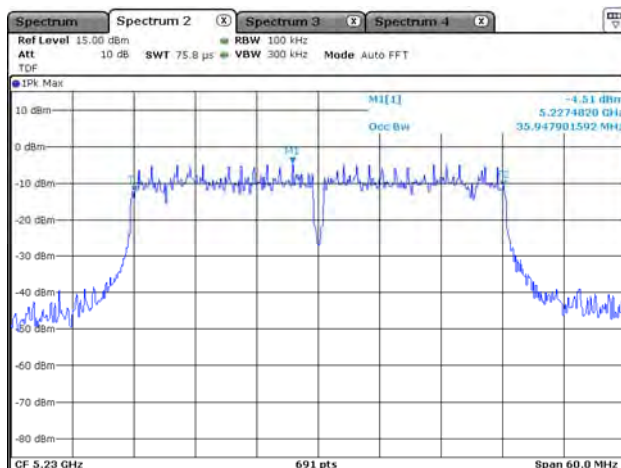
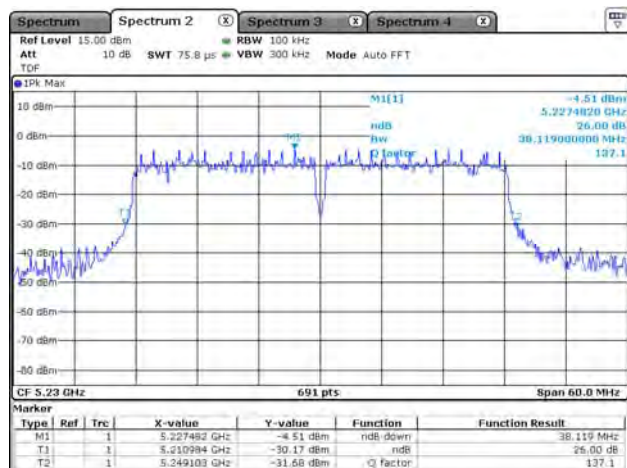
802.11n(HT20) / CH High



802.11n(HT40) / CH Low

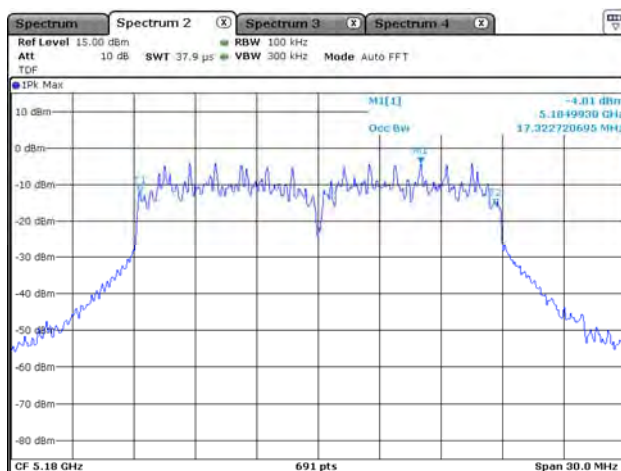
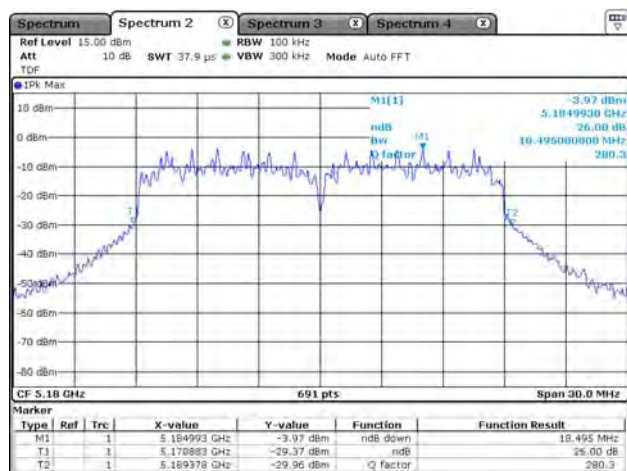


802.11n(HT40) / CH High

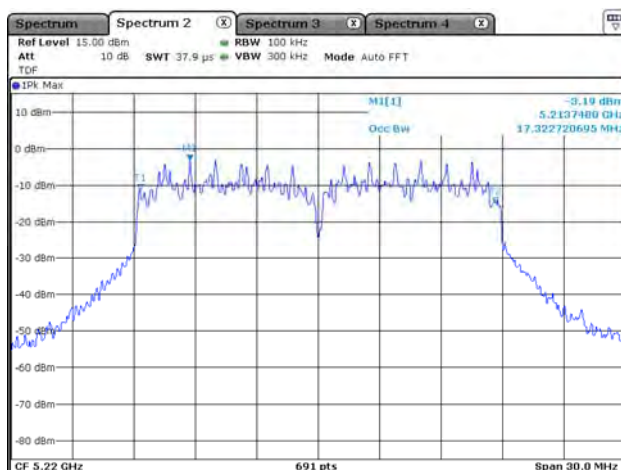
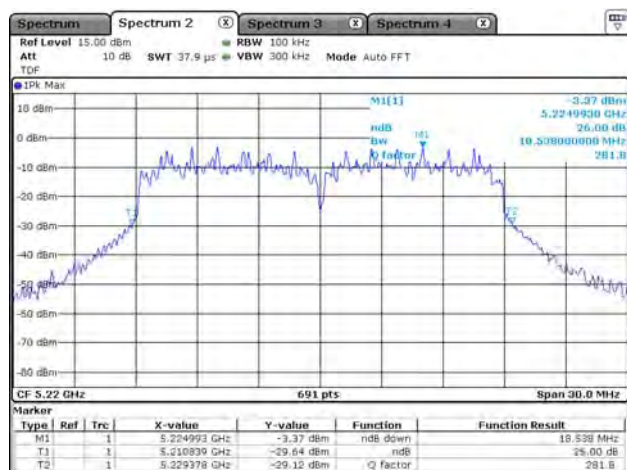


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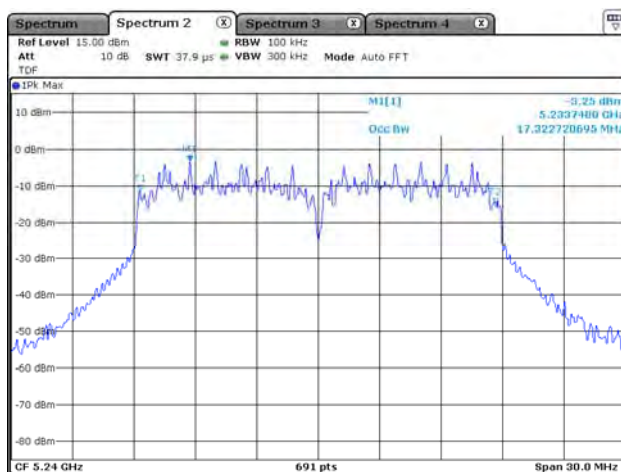
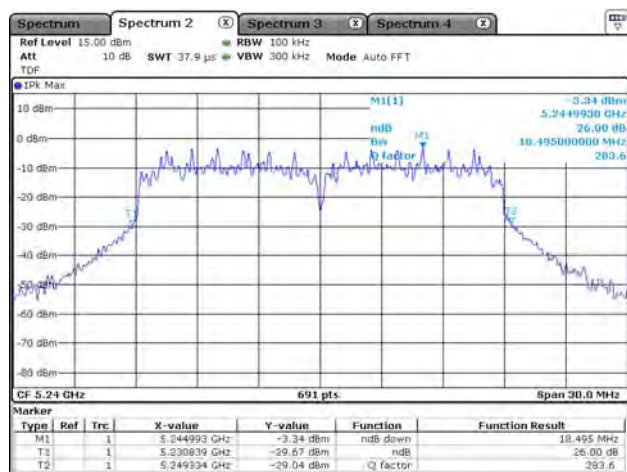
802.11ac(VHT20) / CH Low



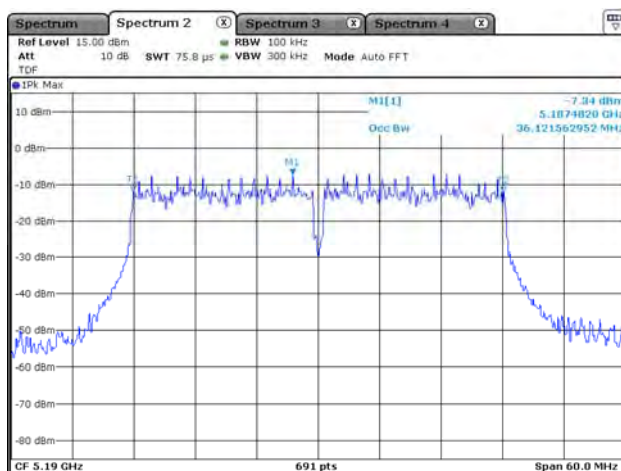
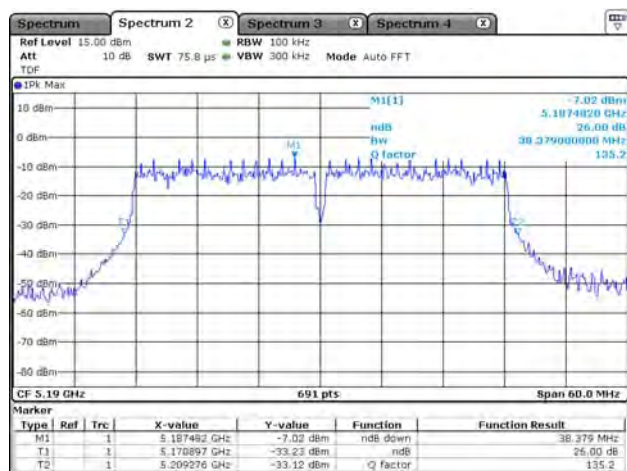
802.11ac(VHT20) / CH Middle



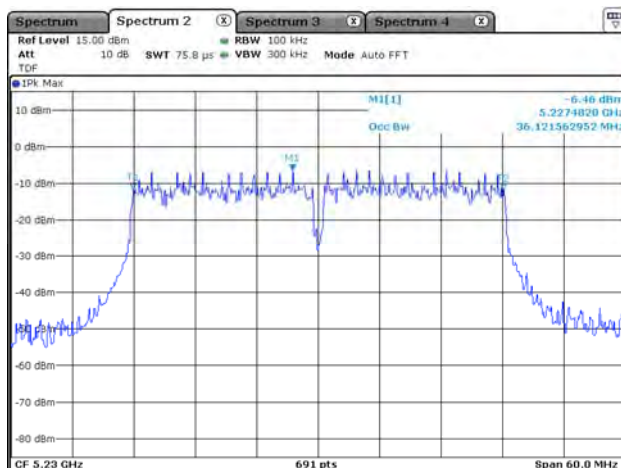
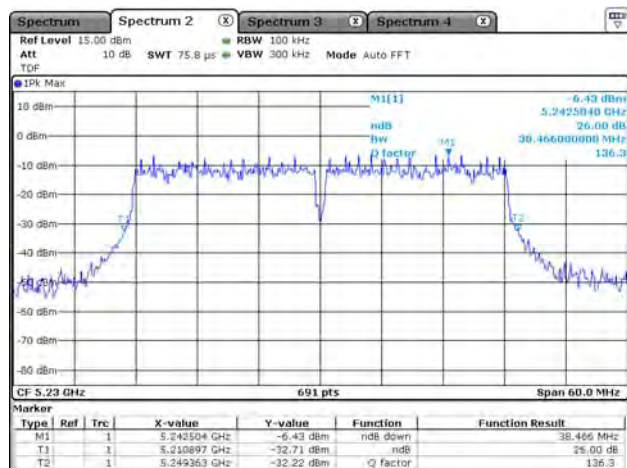
802.11ac(VHT20) / CH High



802.11ac(VHT40) / CH Low

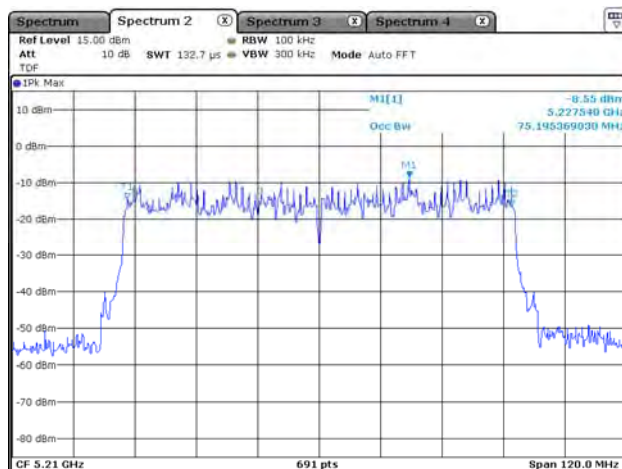
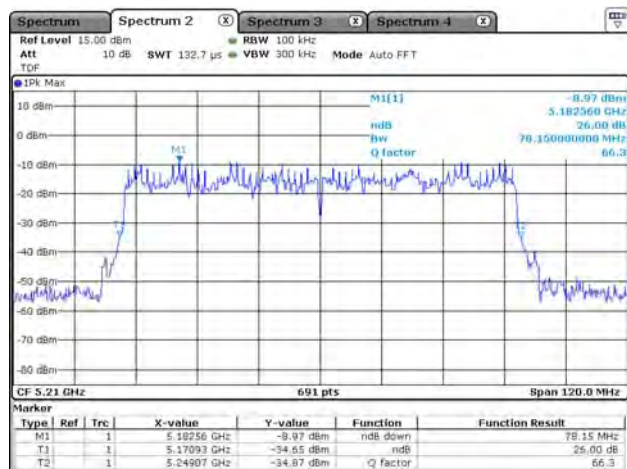


802.11ac(VHT40) / CH High



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802.11ac(VHT80) / CH Middle

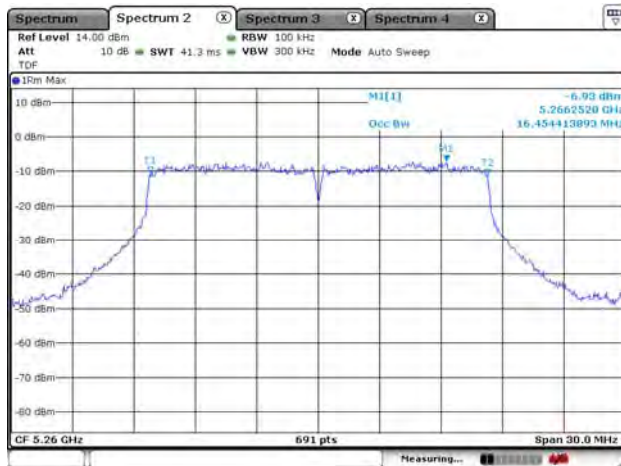
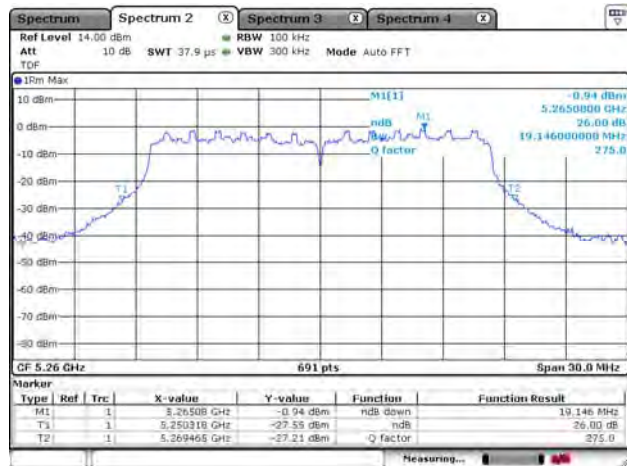


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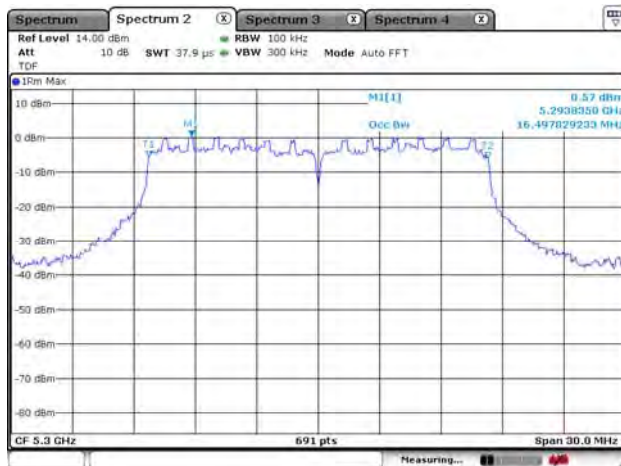
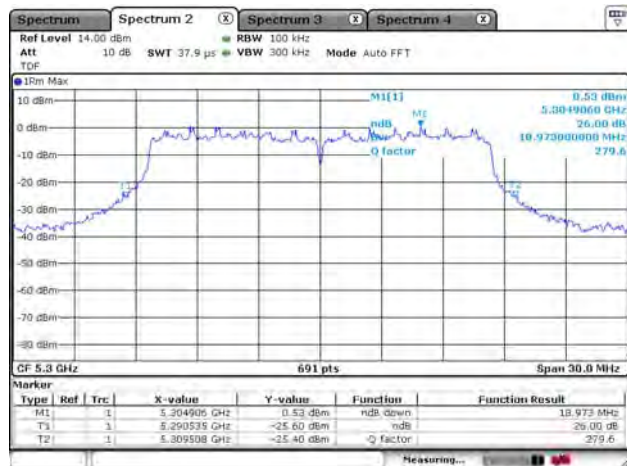
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5 260 ~ 5 320 MHz

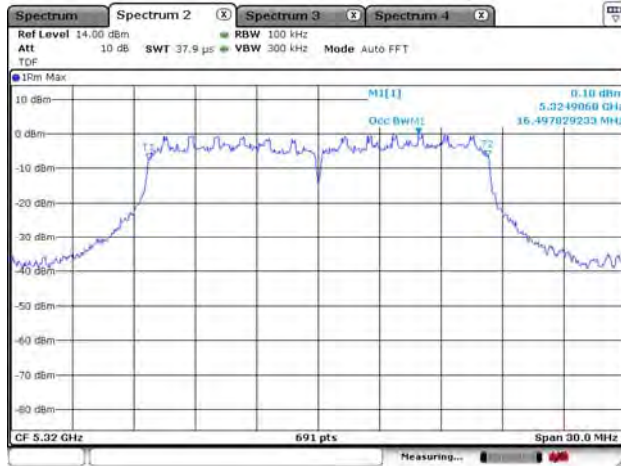
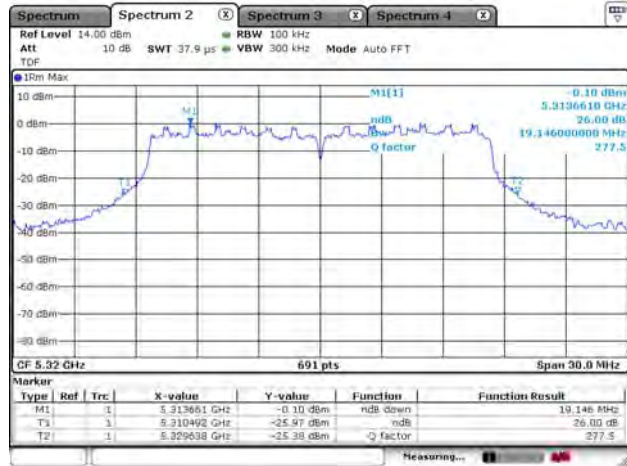
802.11a / CH Low



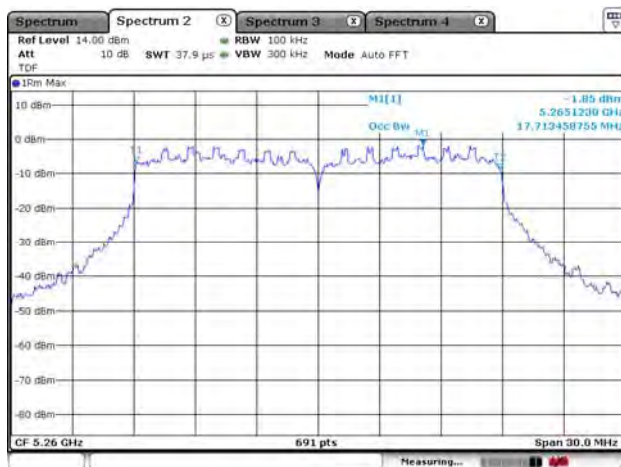
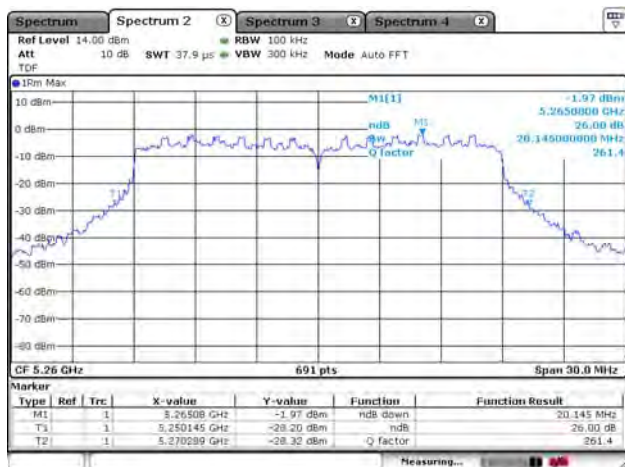
802.11a / CH Middle



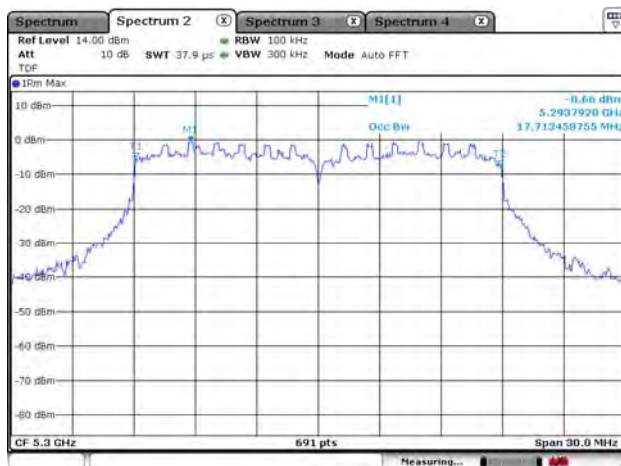
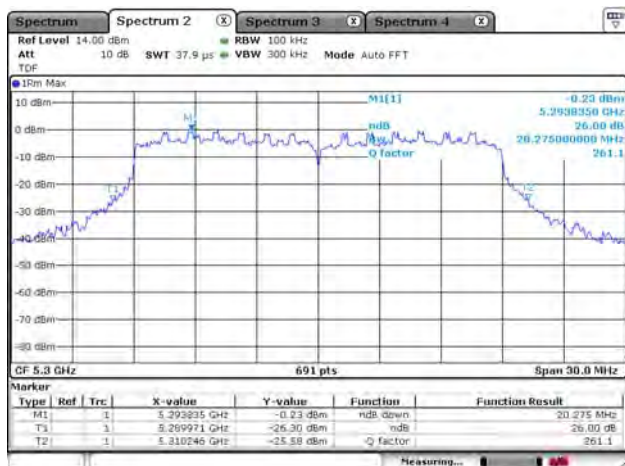
802.11a / CH High



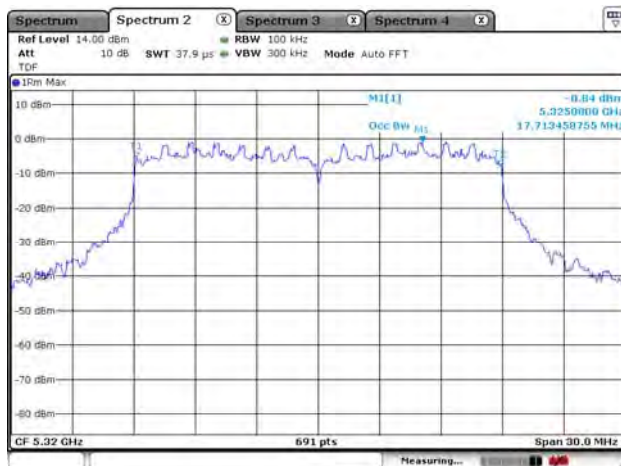
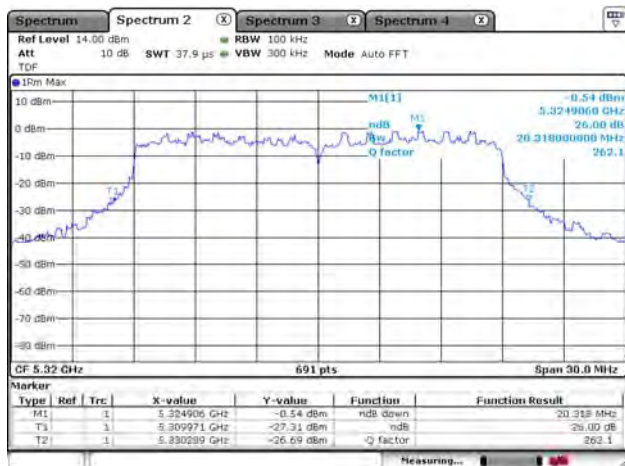
802.11n(HT20) / CH Low



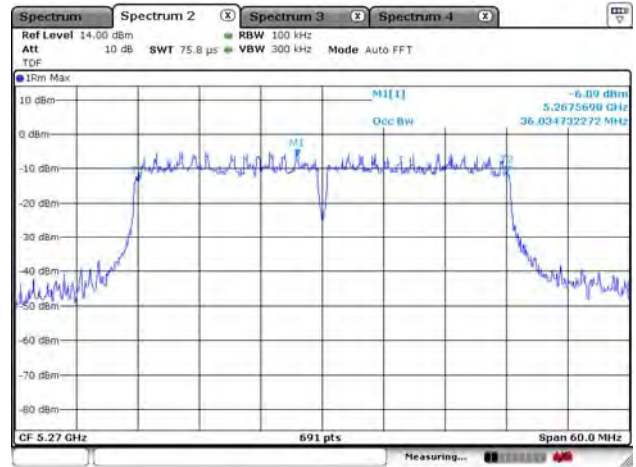
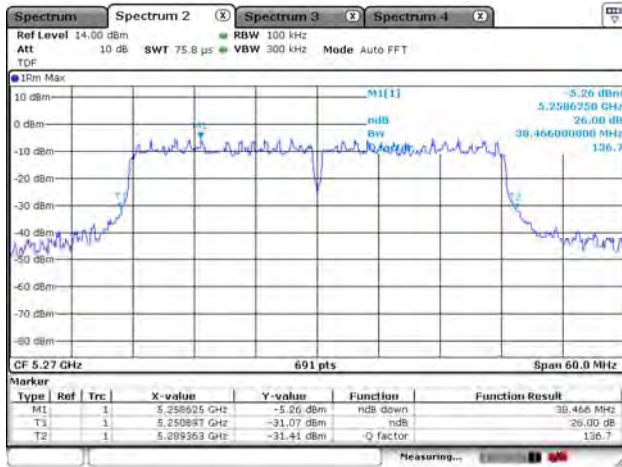
802.11n(HT20) / CH Middle



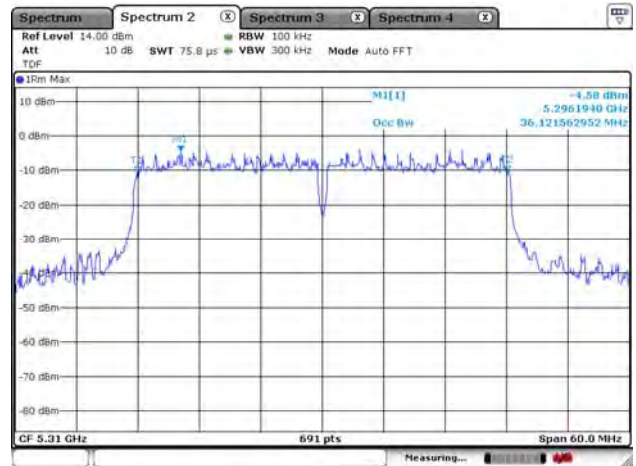
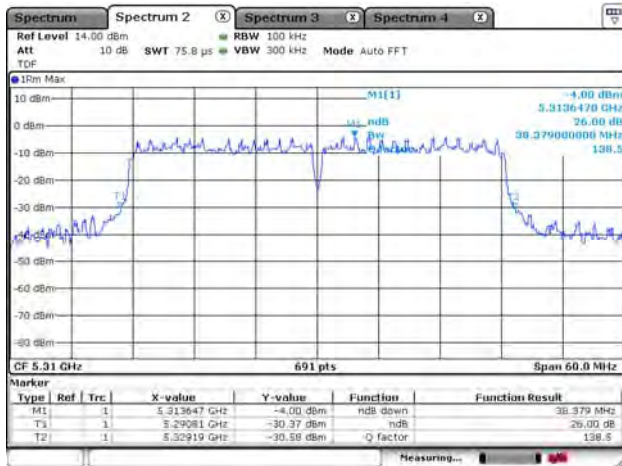
802.11n(HT20) / CH High



802.11n(HT40) / CH Low

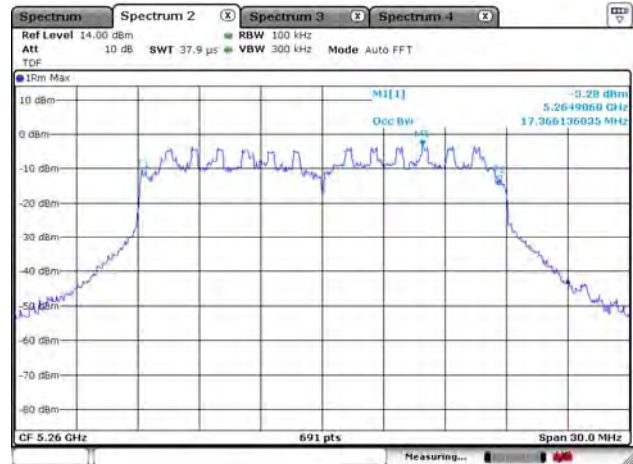
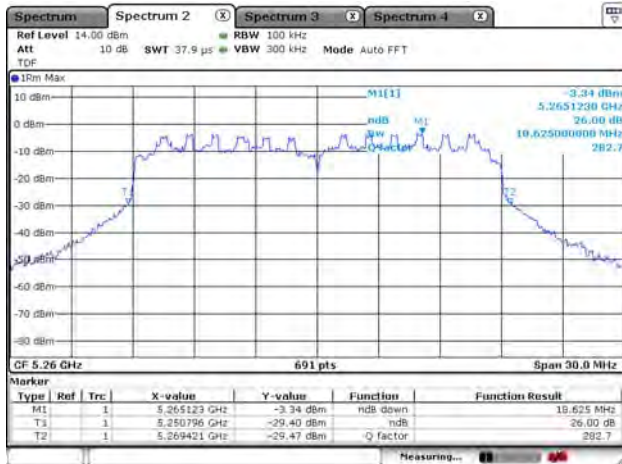


802.11n(HT40) / CH High

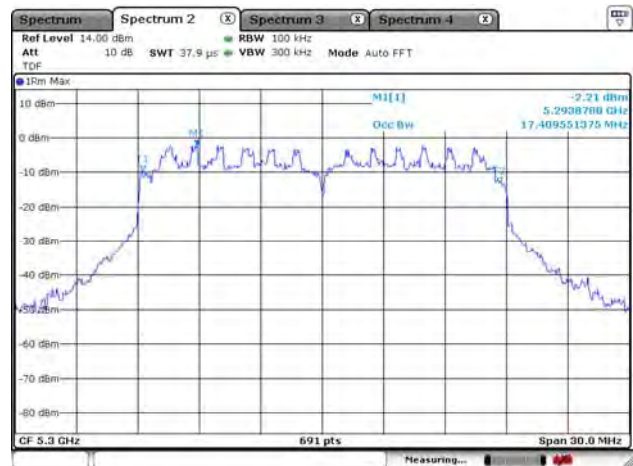
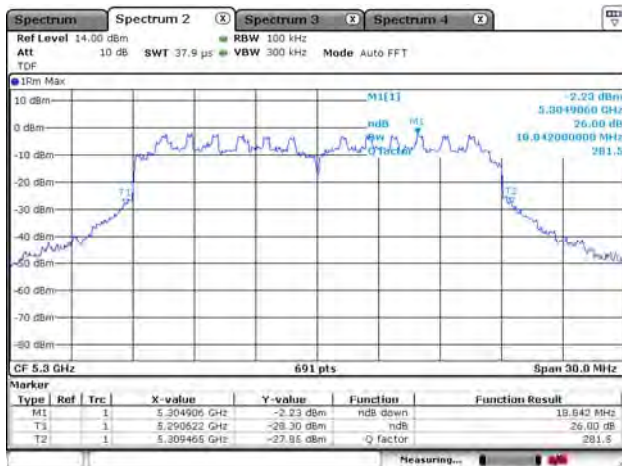


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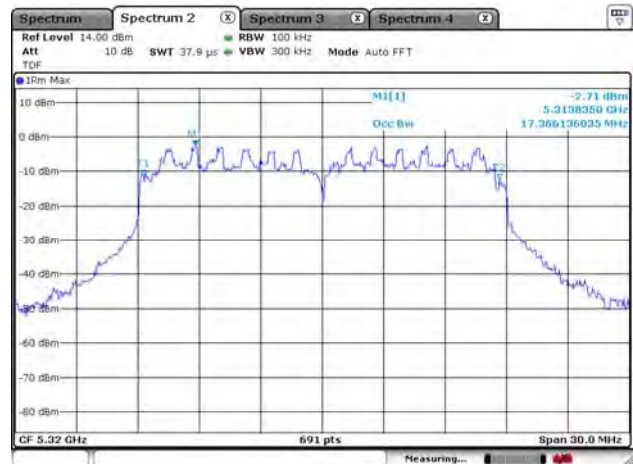
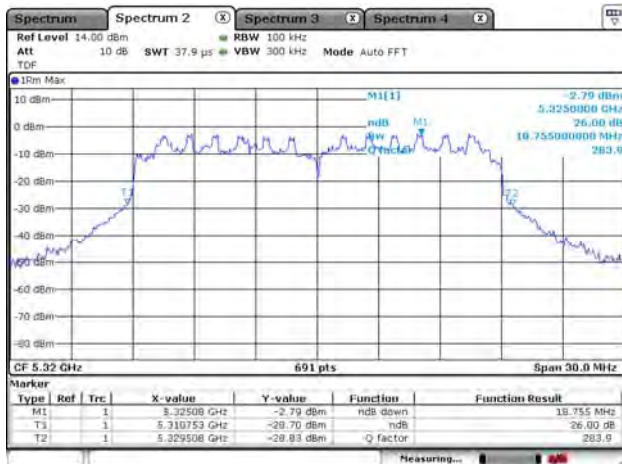
802.11ac(VHT20) / CH Low



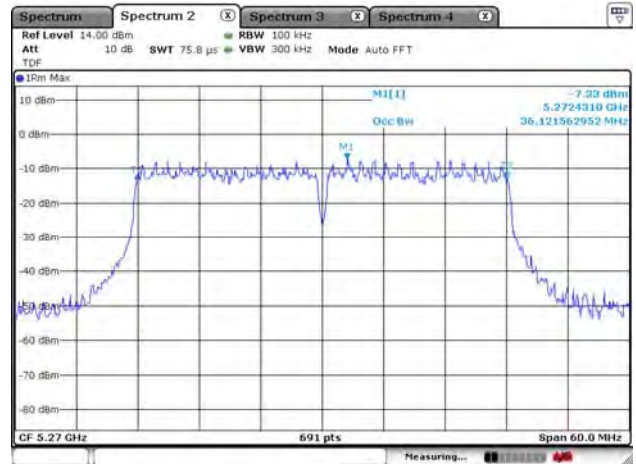
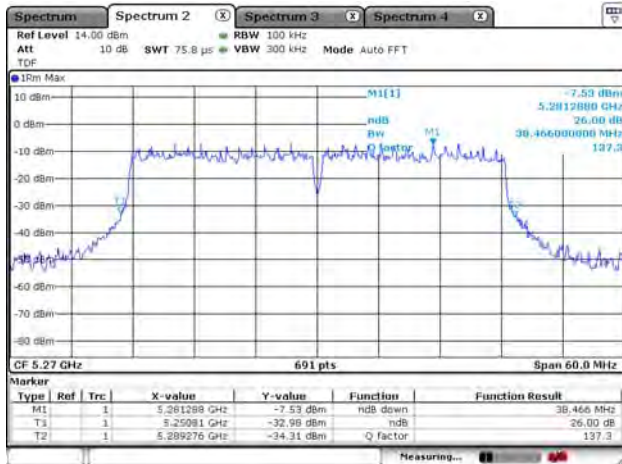
802.11ac(VHT20) / CH Middle



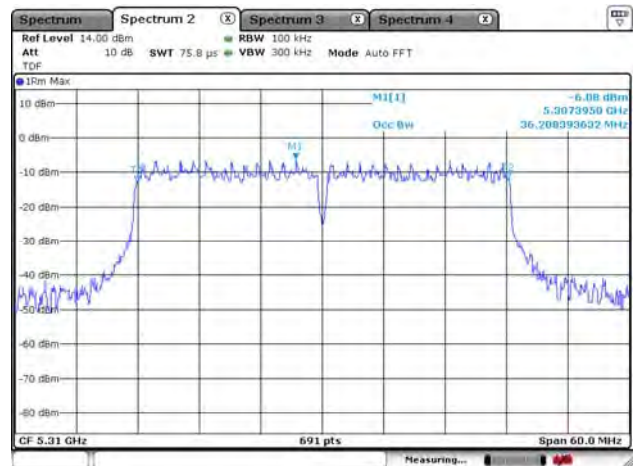
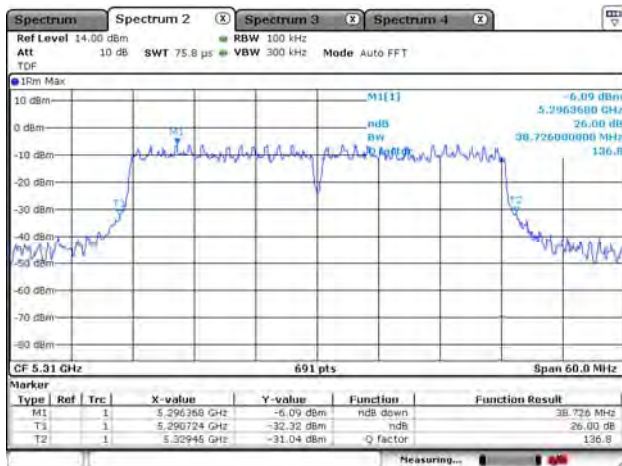
802.11ac(VHT20) / CH High



802.11ac(VHT40) / CH Low

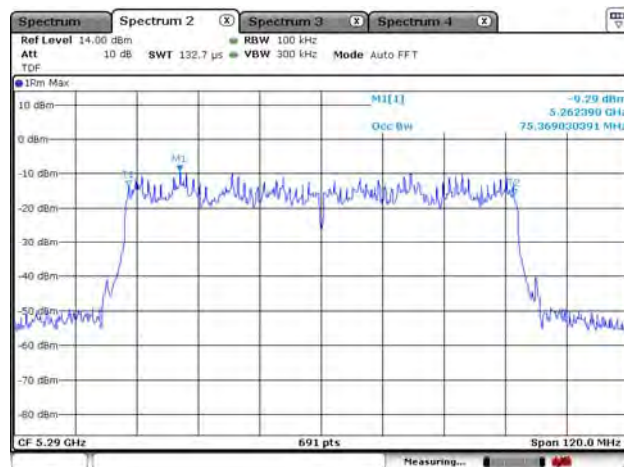
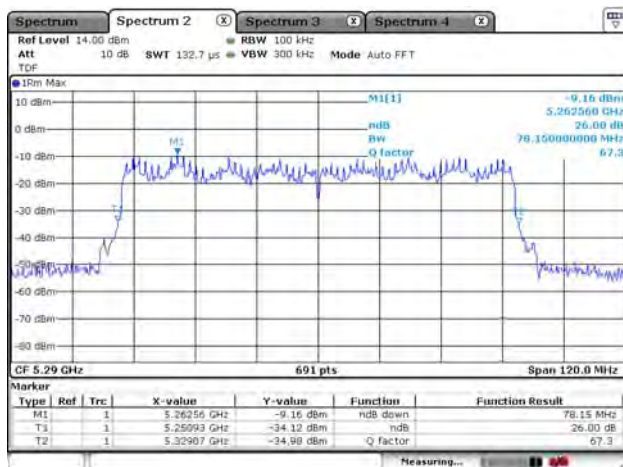


802.11ac(VHT40) / CH High



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802.11ac(VHT80) / CH Middle

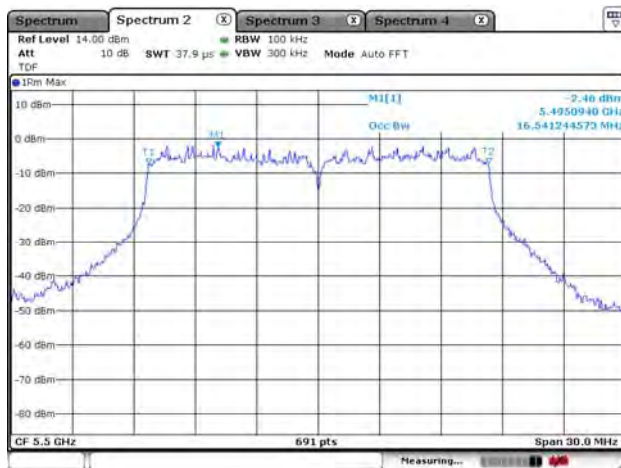
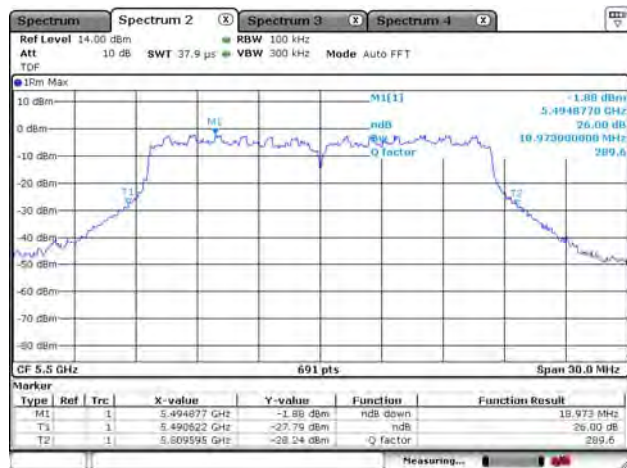


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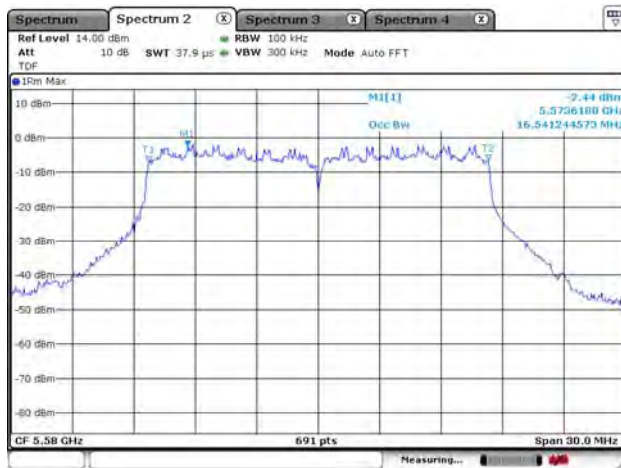
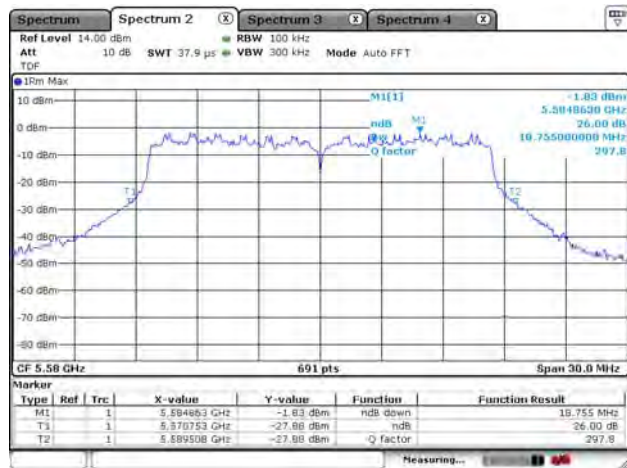
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5 500 ~ 5 720 MHz

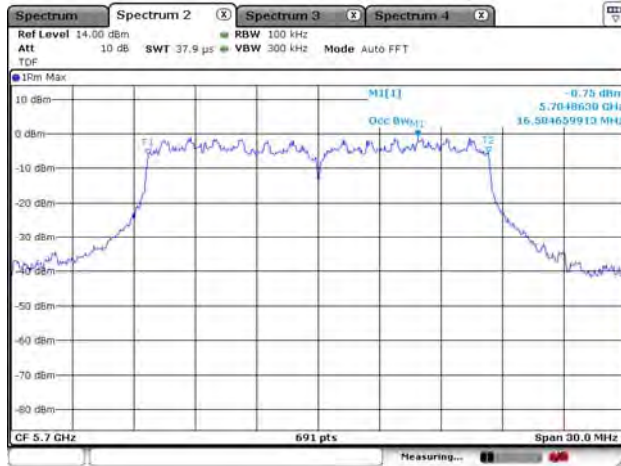
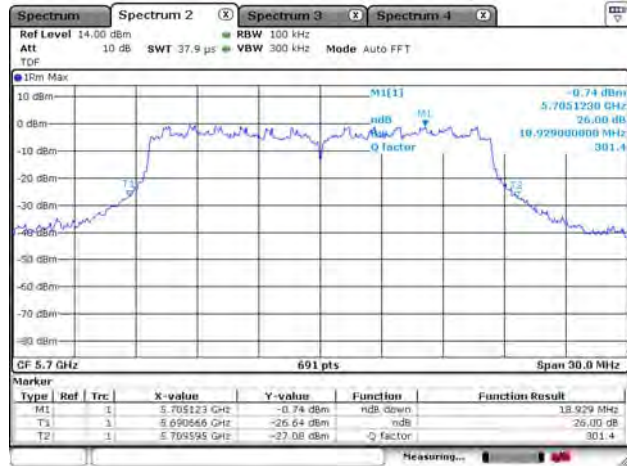
802.11a / CH Low



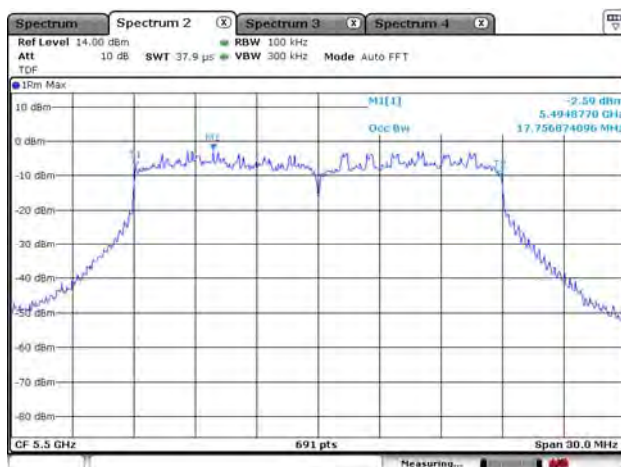
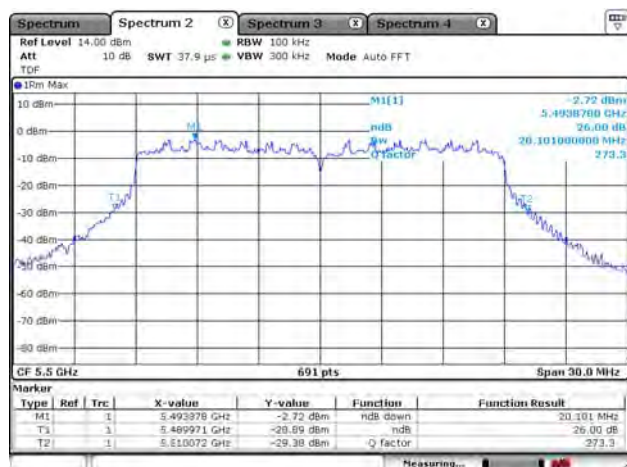
802.11a / CH Middle



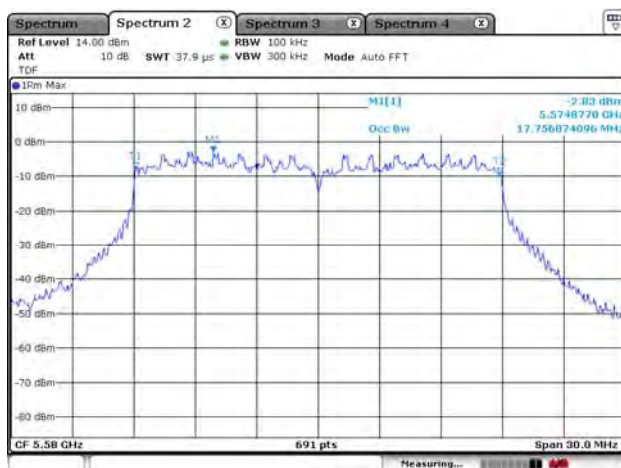
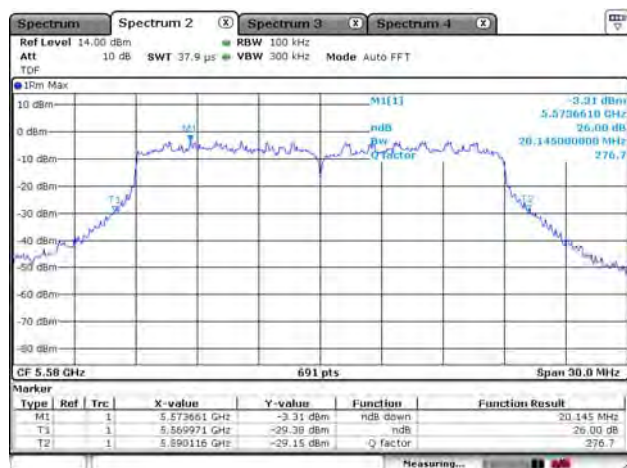
802.11a / CH High



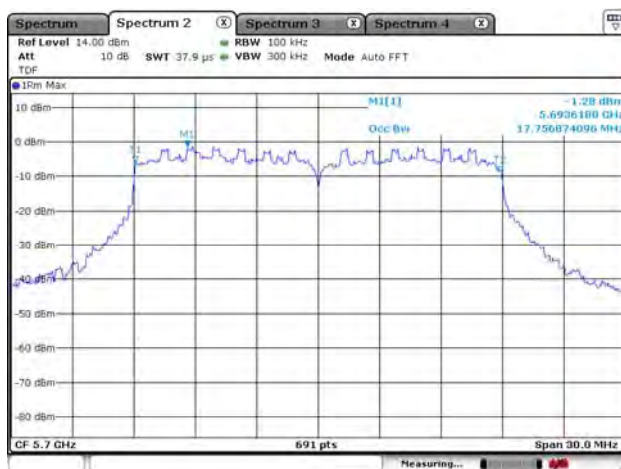
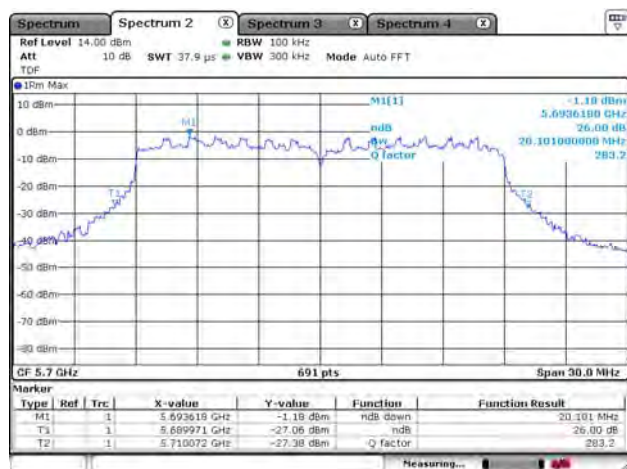
802.11n(HT20) / CH Low



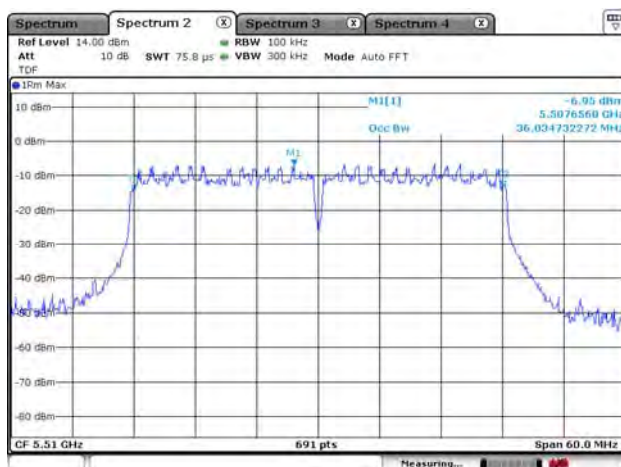
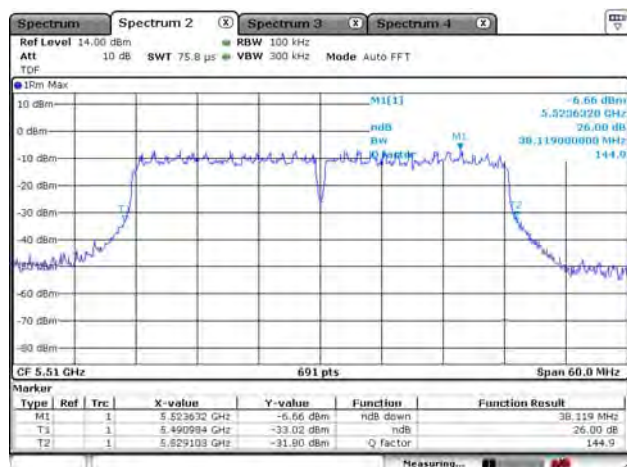
802.11n(HT20) / CH Middle



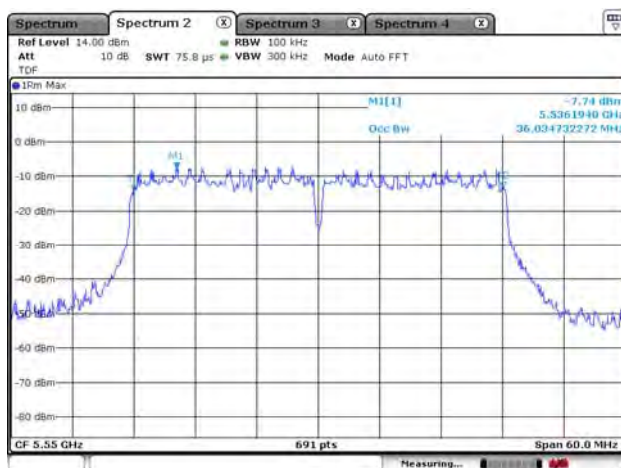
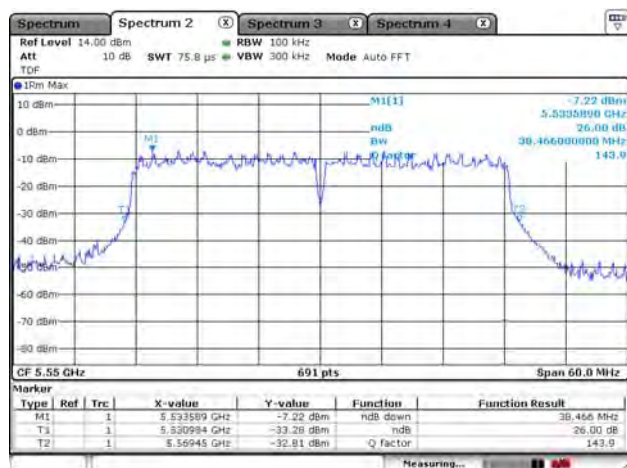
802.11n(HT20) / CH High



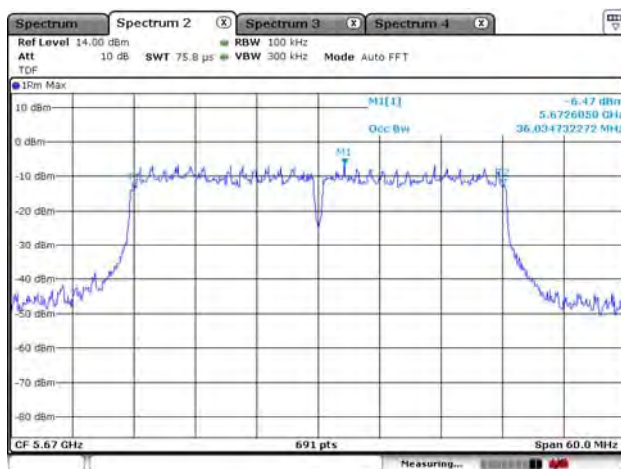
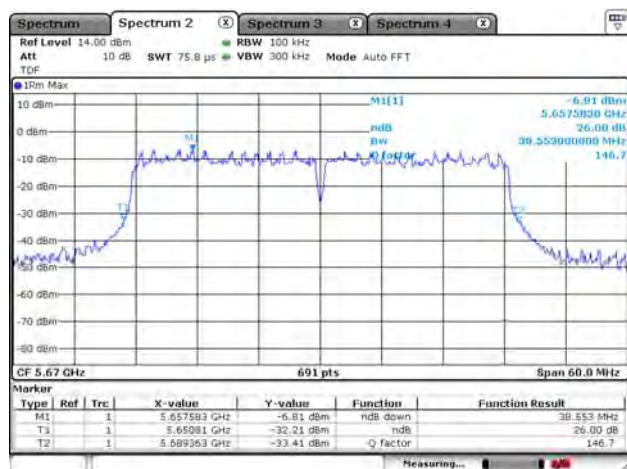
802.11n(HT40) / CH Low



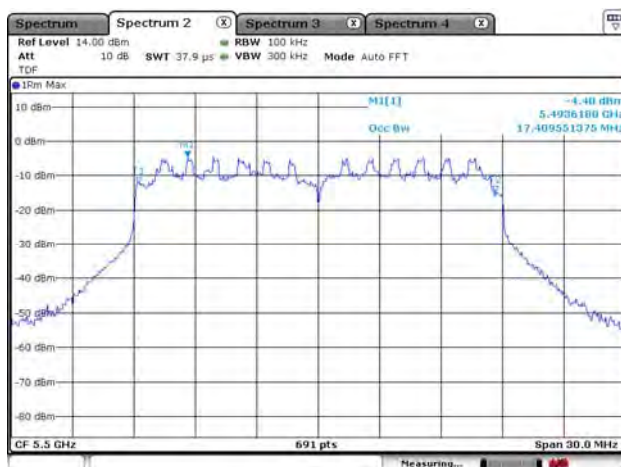
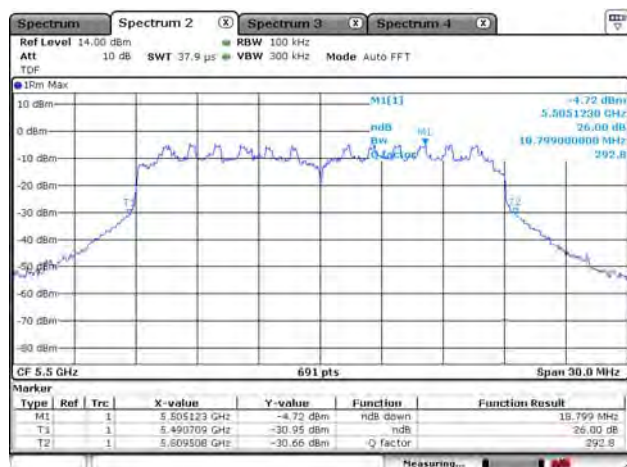
802.11n(HT40) / CH Middle



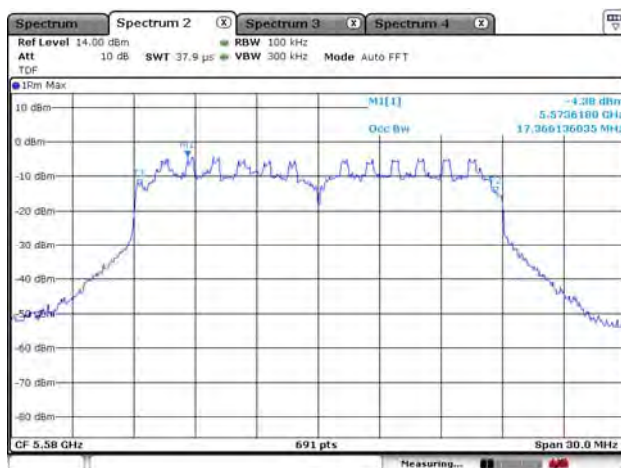
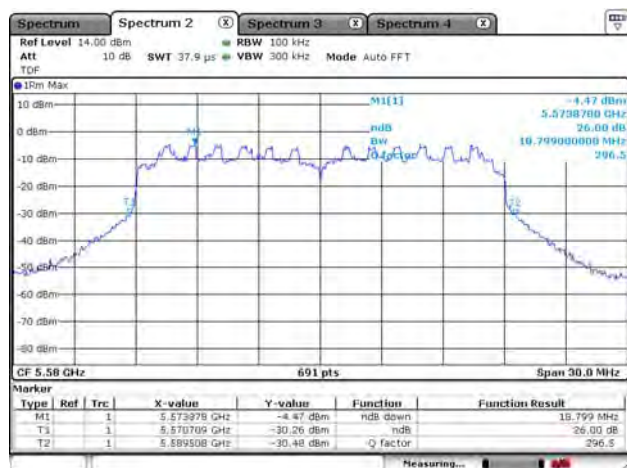
802.11n(HT40) / CH High



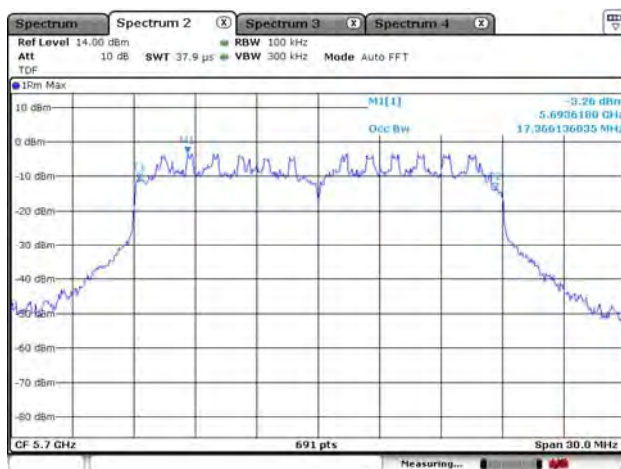
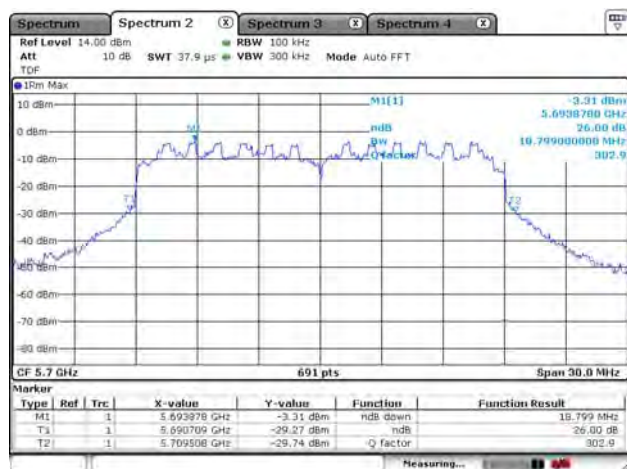
802.11ac(VHT20) / CH Low



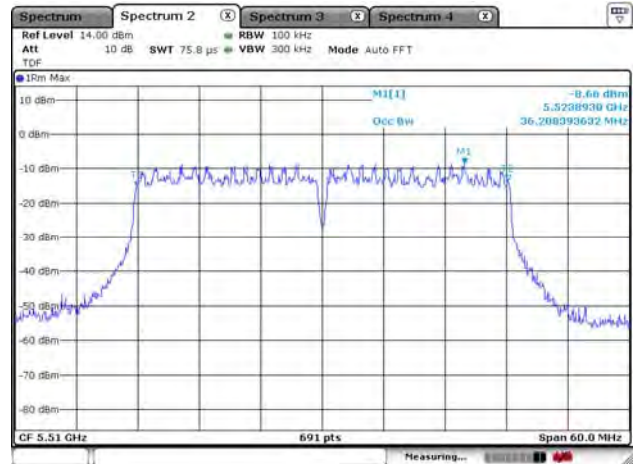
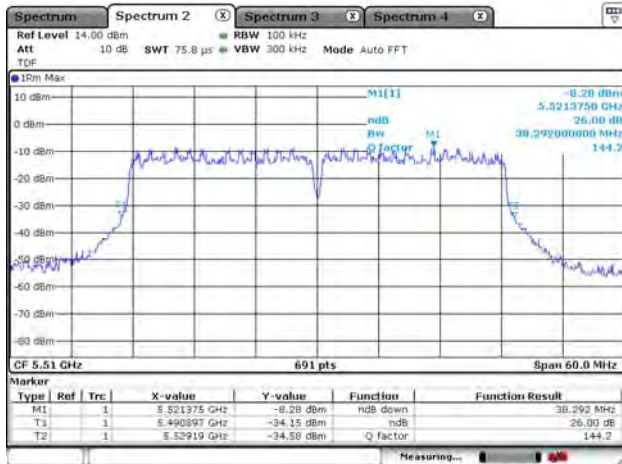
802.11ac(VHT20) / CH Middle



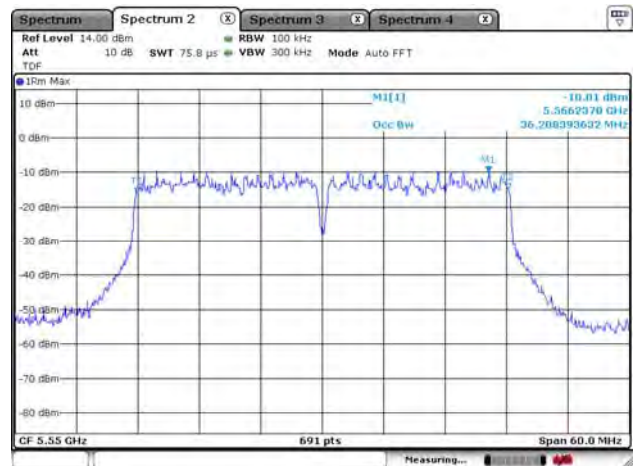
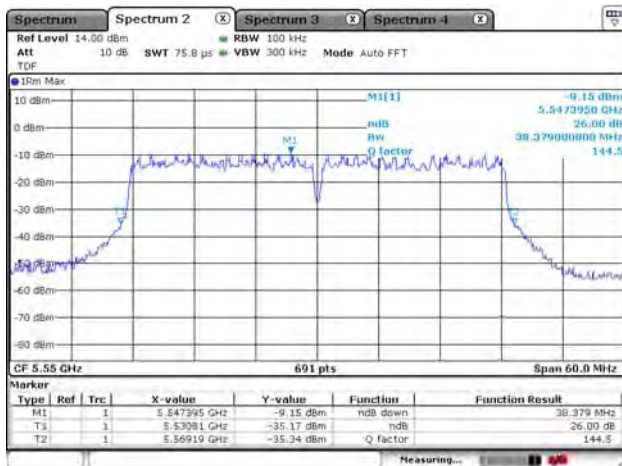
802.11ac(VHT20) / CH High



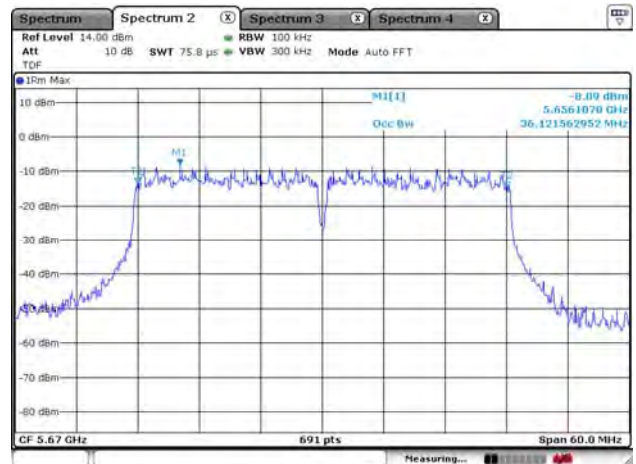
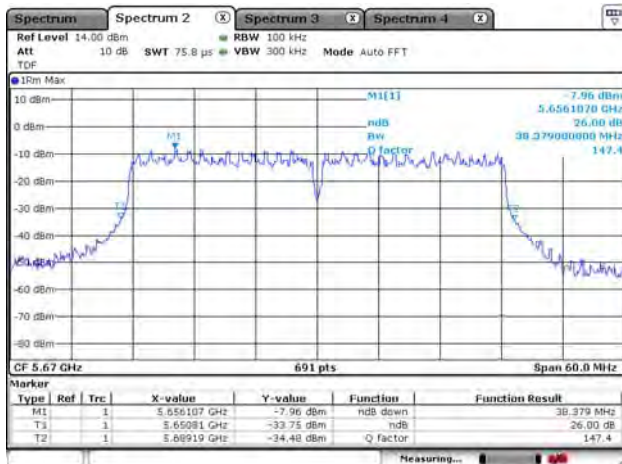
802.11ac(VHT40) / CH Low



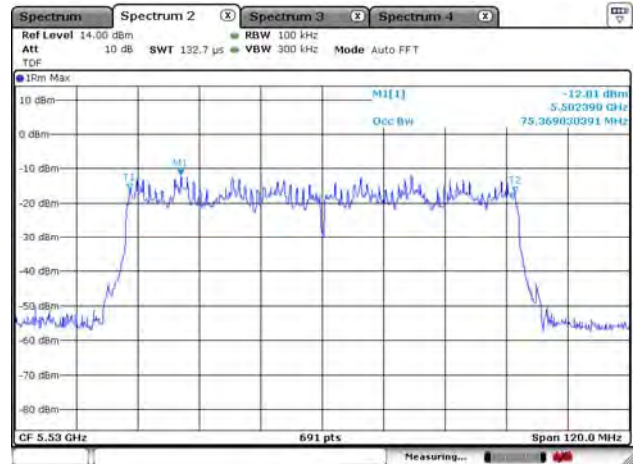
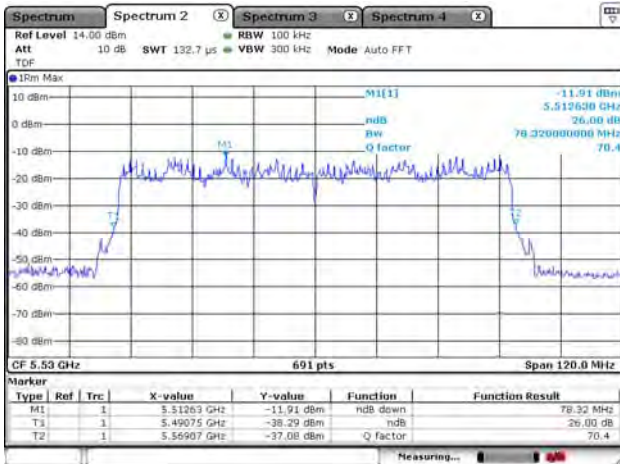
802.11ac(VHT40) / CH Middle



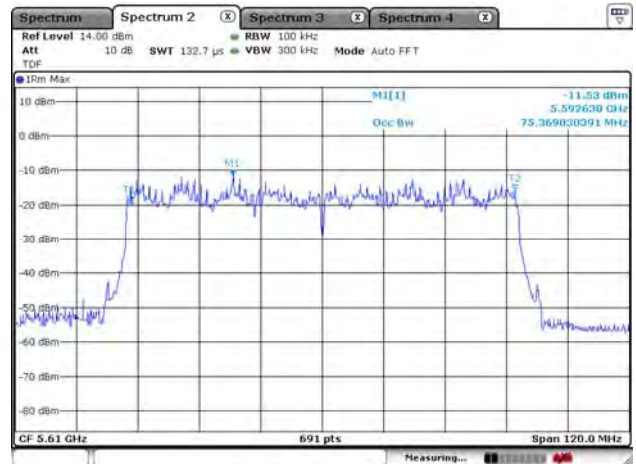
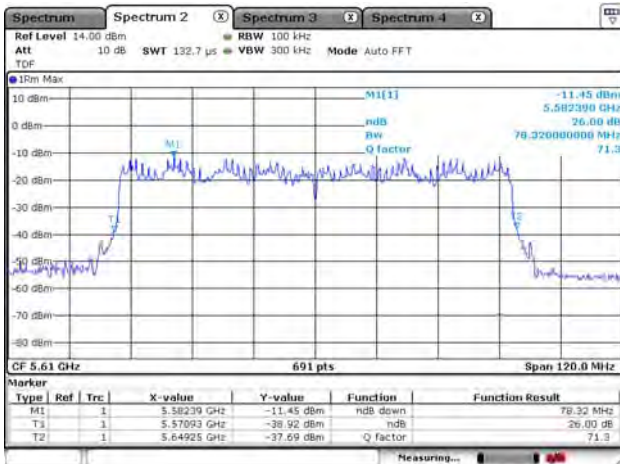
802.11ac(VHT40) / CH High



802.11ac(VHT80) / CH Low

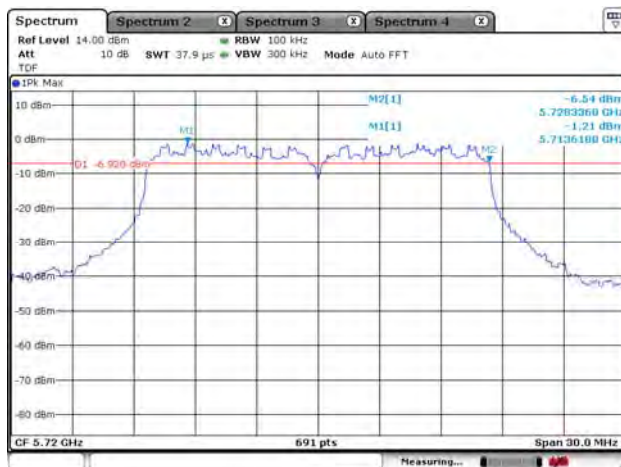
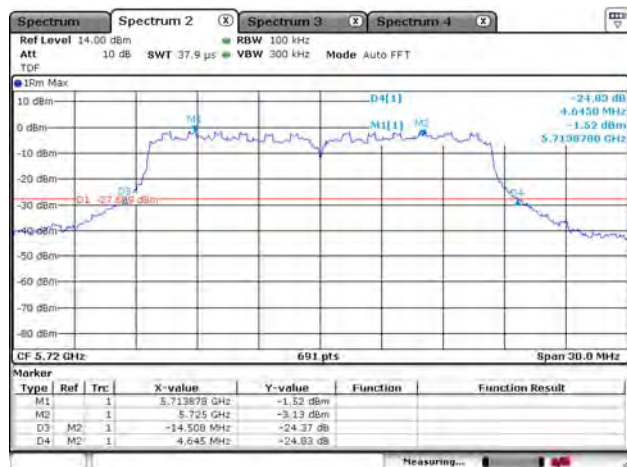


802.11ac(VHT80) / CH High

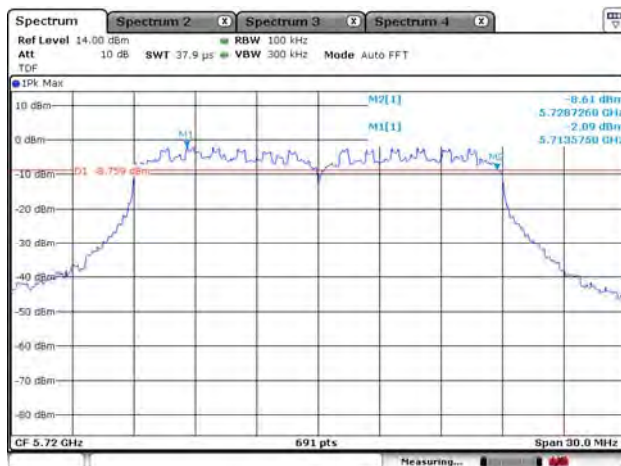
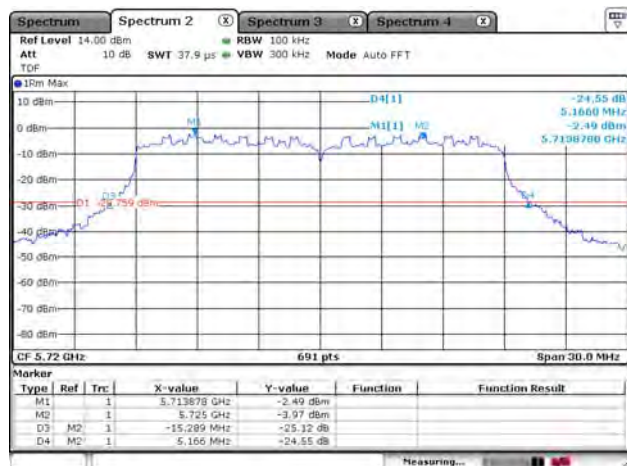


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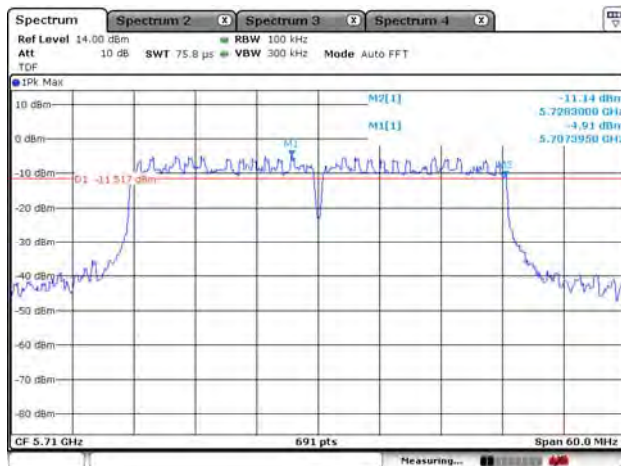
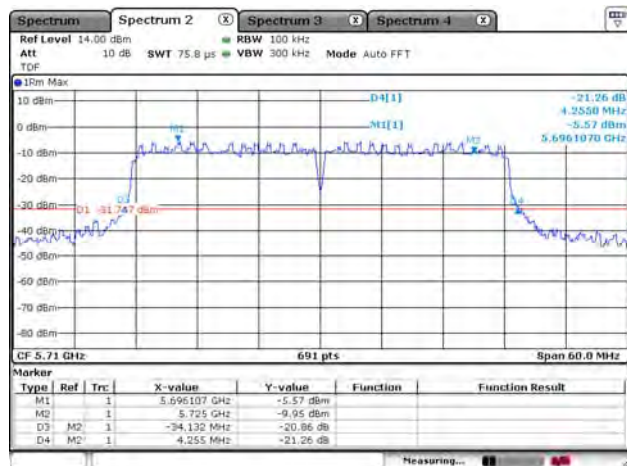
802.11a / CH 144



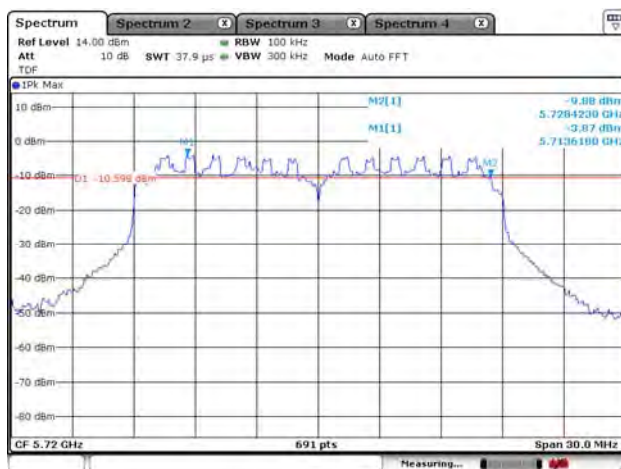
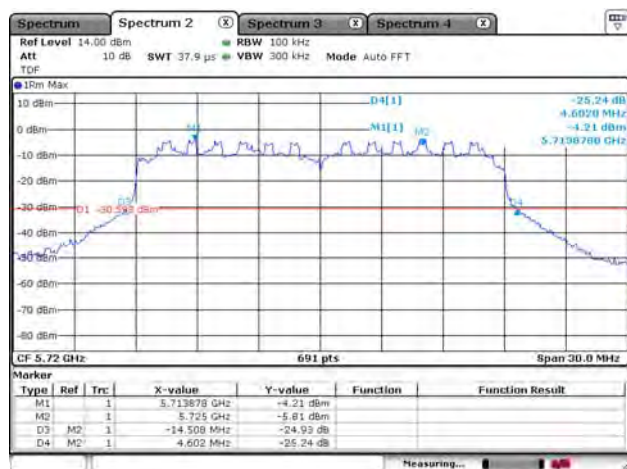
802.11n(HT20) / CH 144



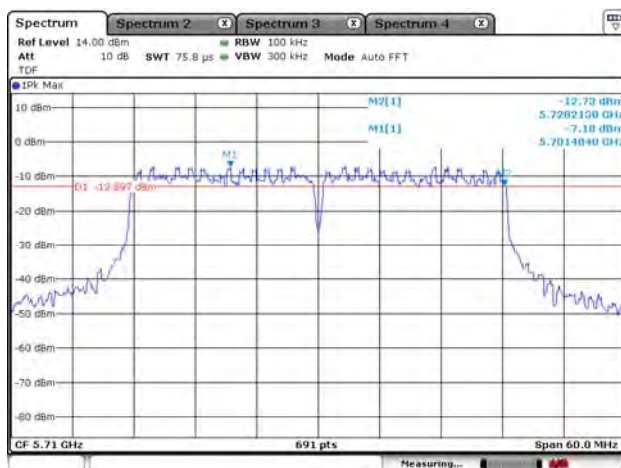
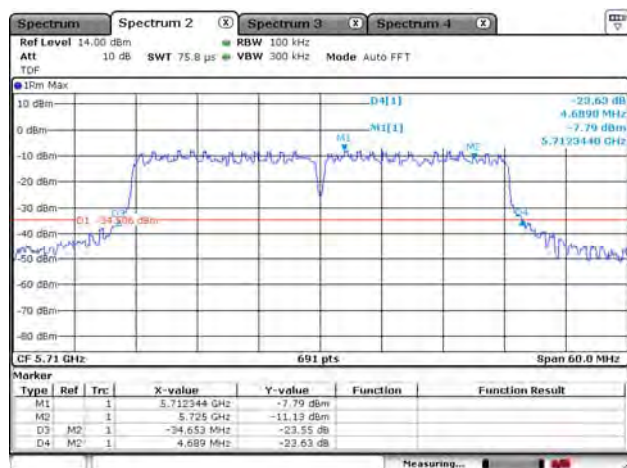
802.11n(HT40) / CH 142



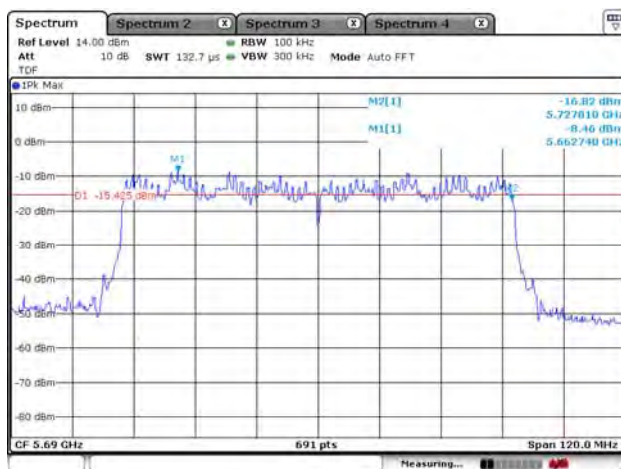
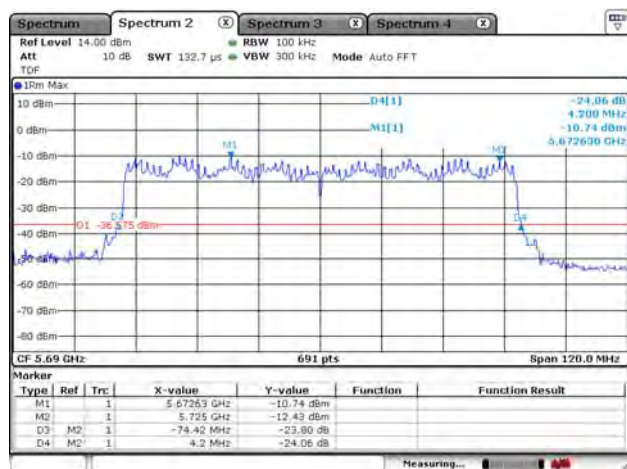
802.11ac(VHT20) / CH 144



802.11ac(VHT40) / CH 142

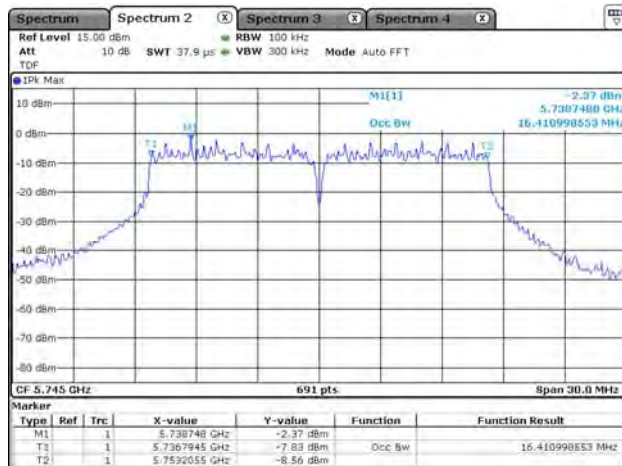
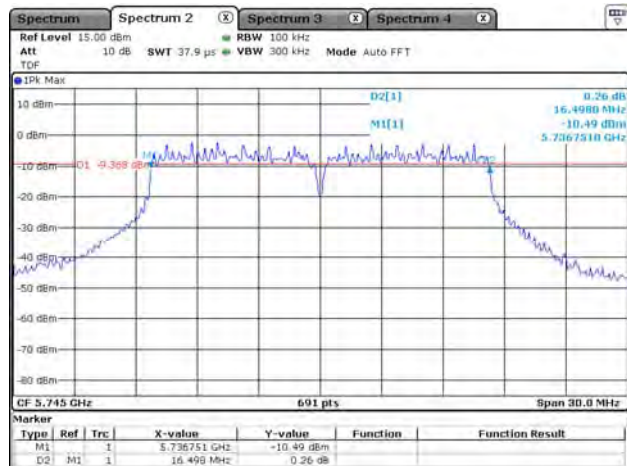


802.11ac(VHT80) / CH 138

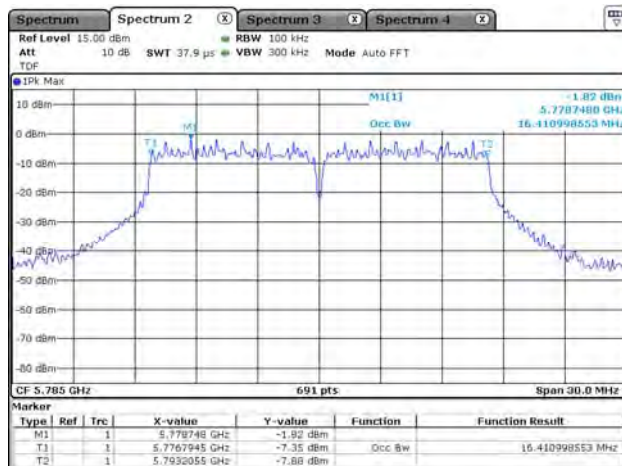
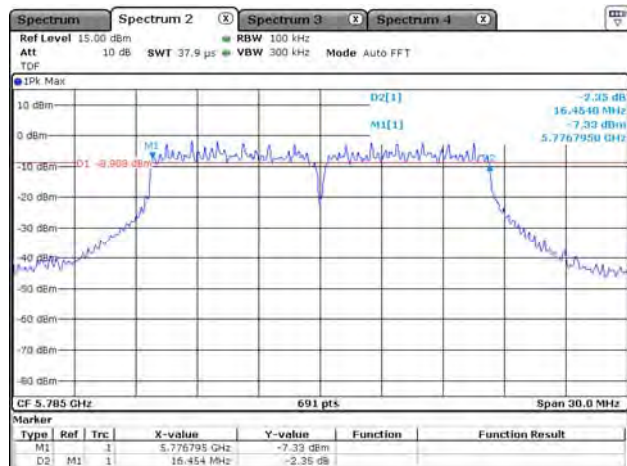


5 745 ~ 5 825 MHz

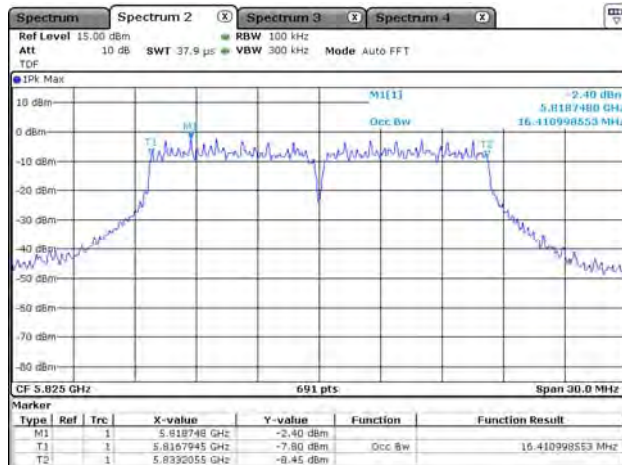
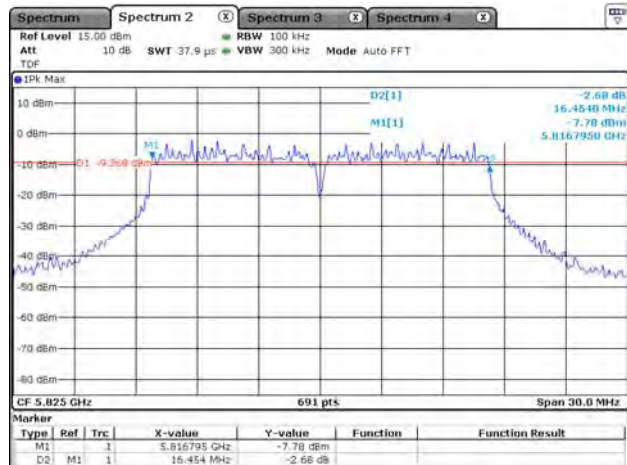
802.11a / CH Low



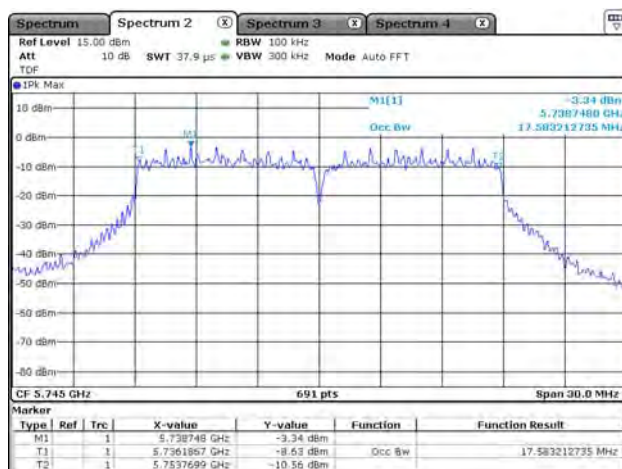
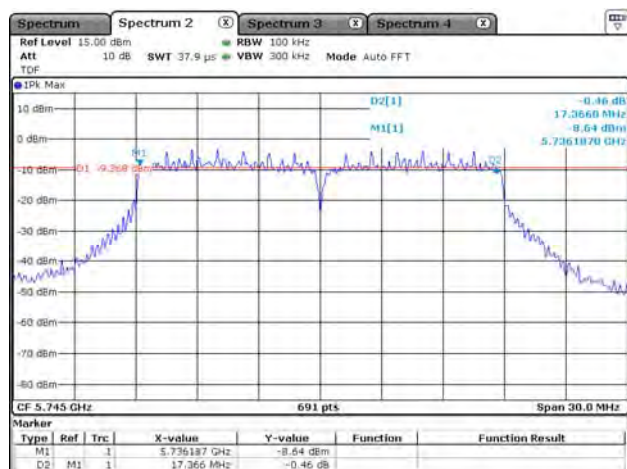
802.11a / CH Middle



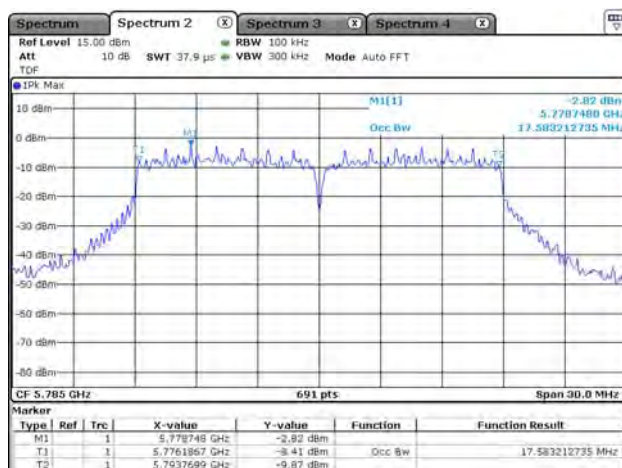
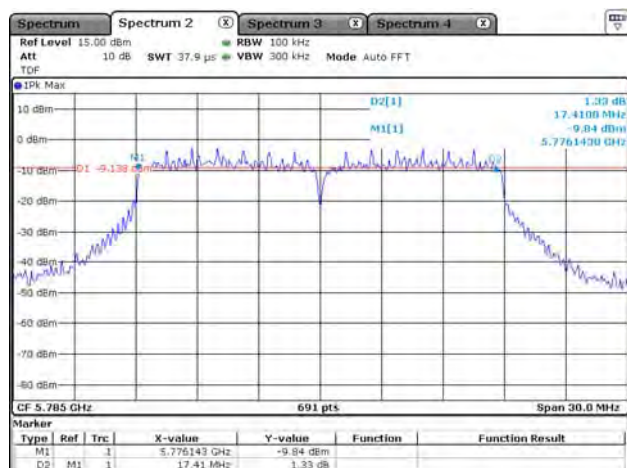
802.11a / CH High



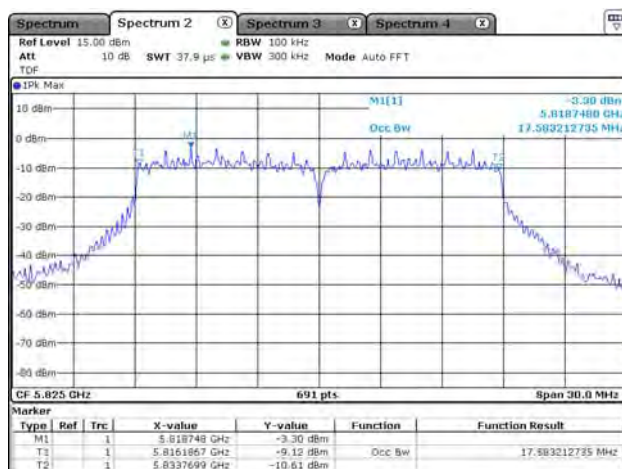
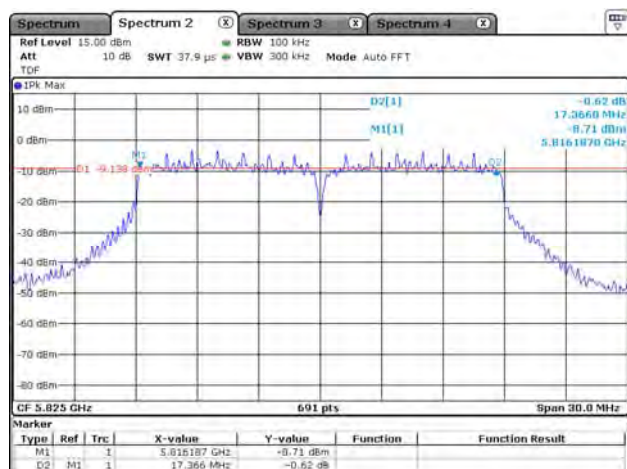
802.11n(HT20) / CH Low



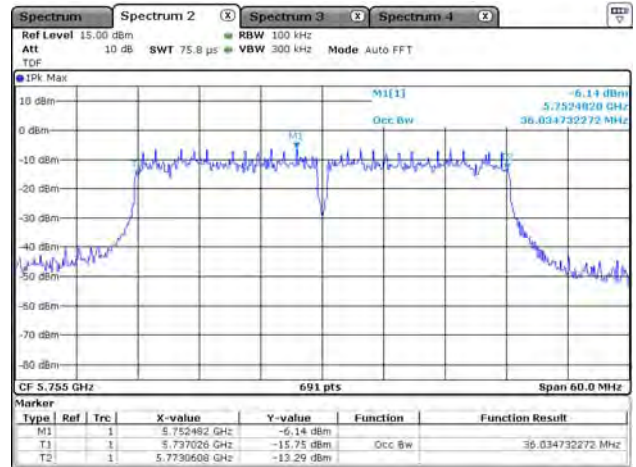
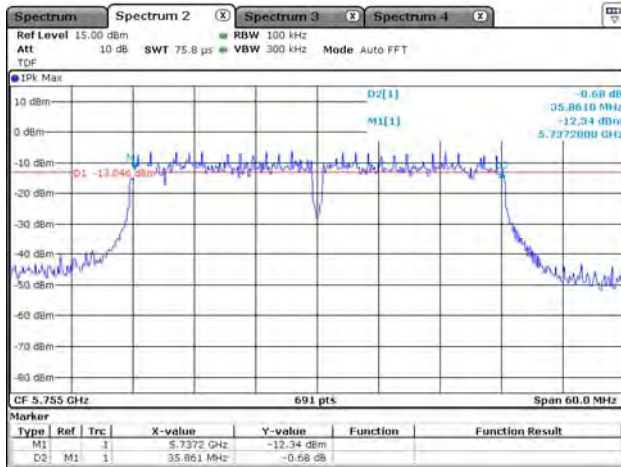
802.11n(HT20) / CH Middle



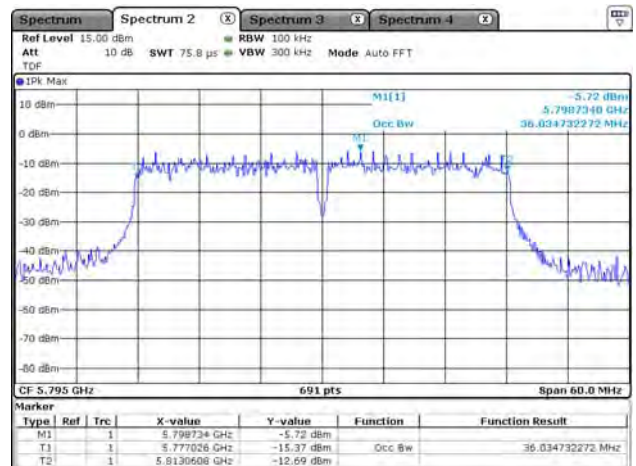
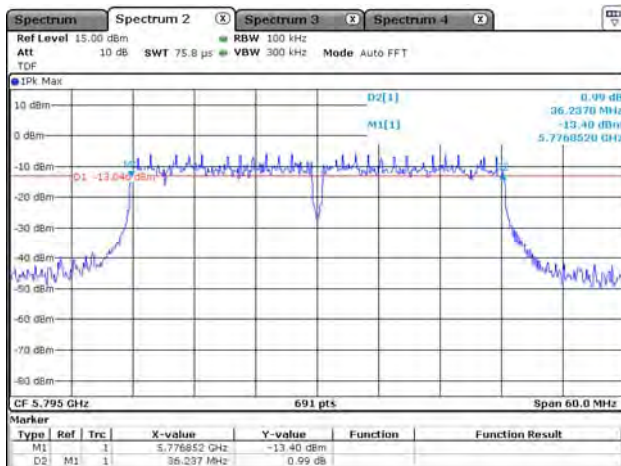
802.11n(HT20) / CH High



802.11n(HT40) / CH Low

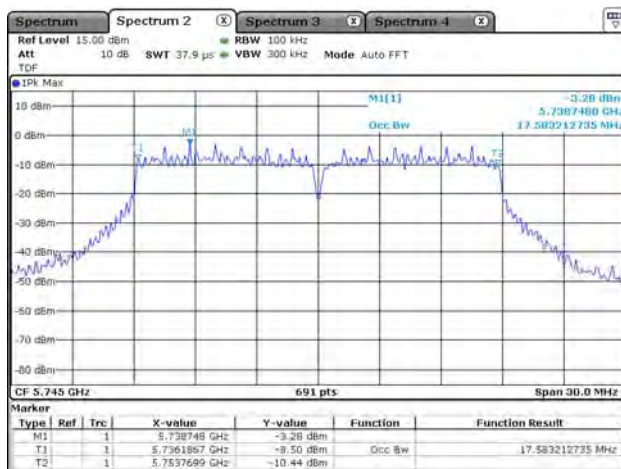
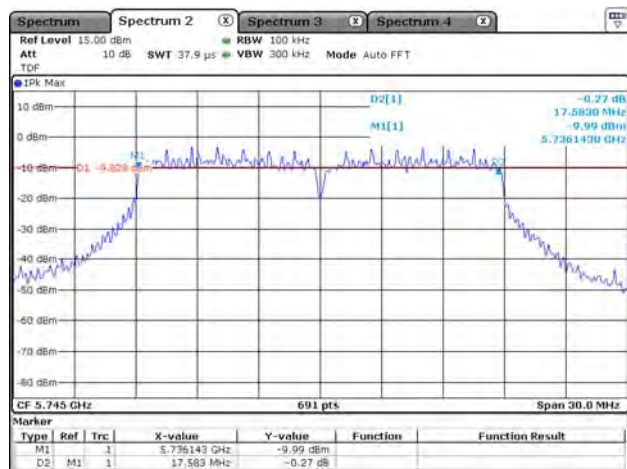


802.11n(HT40) / CH High

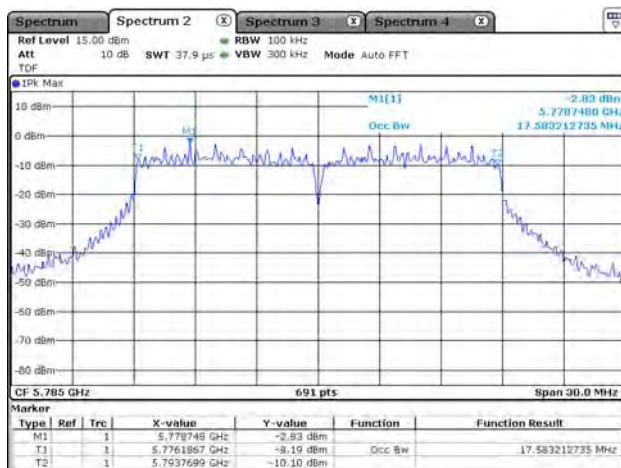
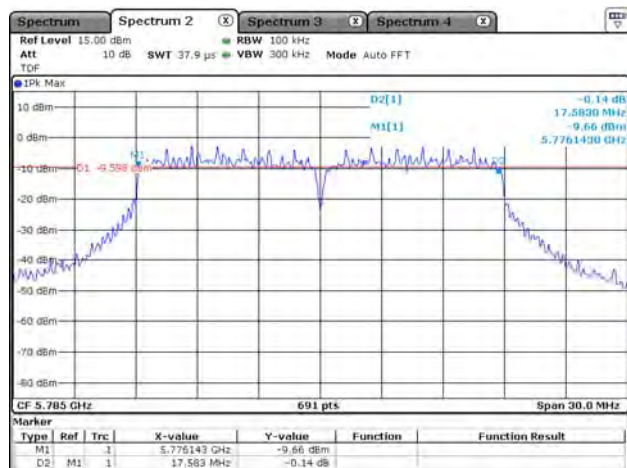


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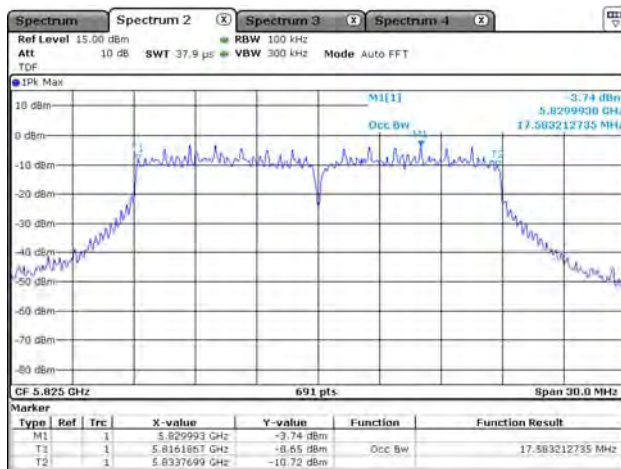
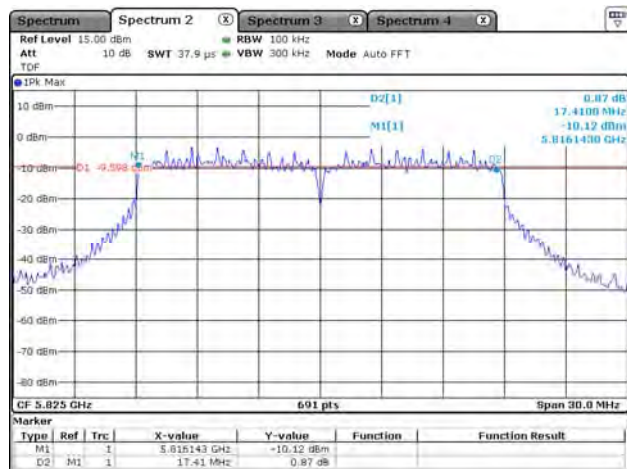
802.11ac(VHT20) / CH Low



802.11ac(VHT20) / CH Middle

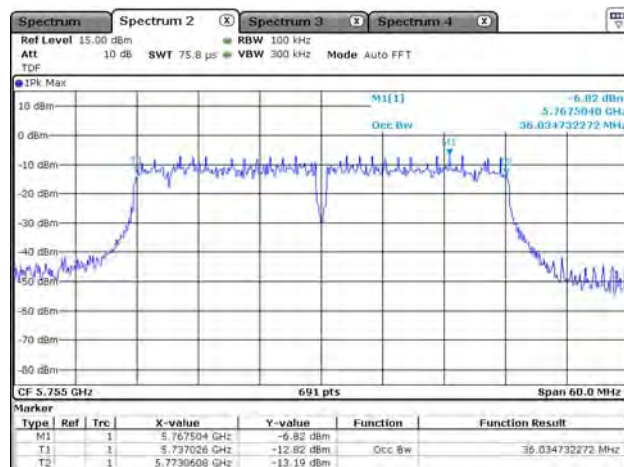


802.11ac(VHT20) / CH High



The screenshot displays the Spectrum Analyzer interface. At the top, three spectra are visible: Spectrum 2, Spectrum 3, and Spectrum 4. The main display shows a signal with a peak at 5.7368520 GHz. The bottom section shows a table of markers.

Marker	Ref	Trc	X-value	Y-value	Function	Function Result
M1	1	1	5.7368520 GHz	-13.93 dBm		
D2	M1	1	36.208 MHz	0.75 dB		



Spectrum **Spectrum 2** **Spectrum 3** **Spectrum 4**

Ref Level 15.00 dBm
Att 10 dB SWT 75.5 μs RBW 100 kHz VBW 300 kHz Mode AUTO FFT
TDF

● IPk Max

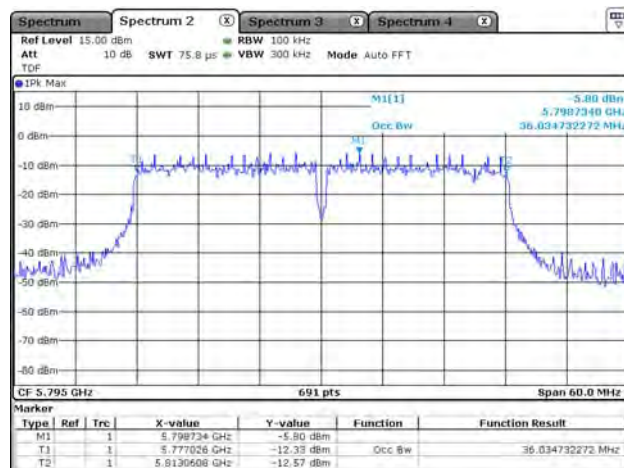
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm

D2[1] 0.82 dB
M3[1] 36.2370 MHz
-13.43 dBm
5.7768520 GHz

O1 -13.640 dBm

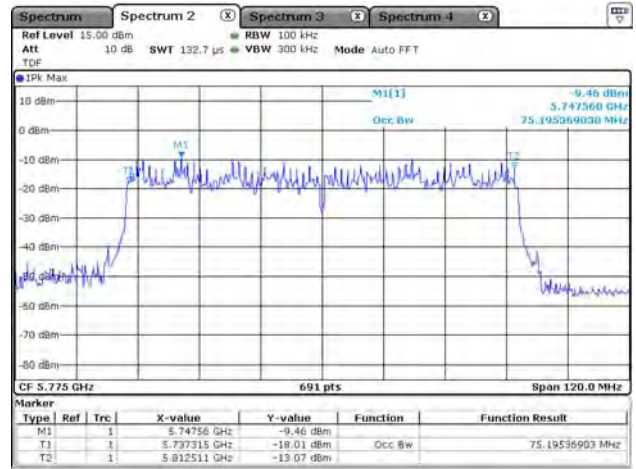
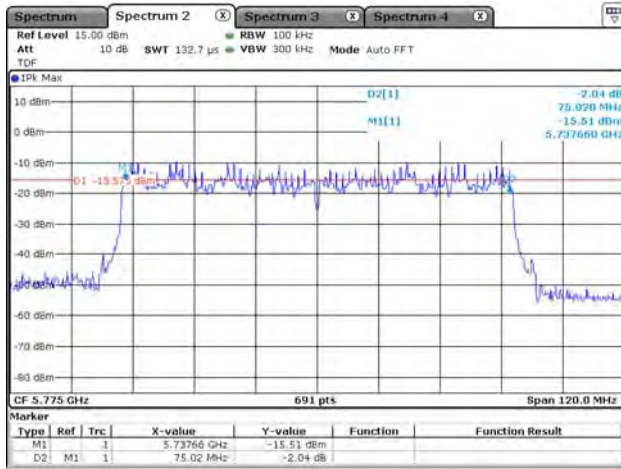
CF 5.795 GHz 691 pts Span 60.0 MHz

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.776852 GHz	-13.43 dBm		
D2	M1	1	36.237 MHz	0.82 dB		



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802.11ac(VHT80) / CH Middle



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5.4 Frequency Stability

5.4.1 Standard Applicable [FCC §15.407(g)]

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

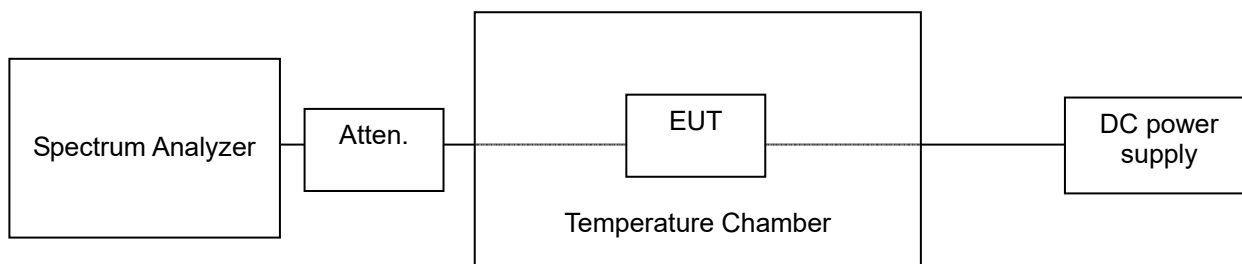
5.4.2 Test Environment conditions

- Ambient temperature : (22 ~ 25) °C • Relative Humidity : (51 ~ 57) % R.H.

5.4.3 Measurement Procedure

1. The EUT is installed in an environment test chamber with external power source.
2. Set the chamber to operate at 50 centigrade and external power source to output at nominal voltage of EUT
3. A sufficient stabilization period at each temperature is used prior to each frequency measurement.
4. When temperature is stabled, measure the frequency stability after 2, 5, and 10 minutes.
5. The test shall be performed under -30 to 50 centigrade and 85 to 115 percent of the nominal voltage. Change setting of chamber and external power source to complete all conditions.

5.4.4 Test setup



5.4.5 Measurement Result

Operating Frequency: 5 180 MHz

Temp (°C)	Power Supply	0 minute	2 minutes	5 minutes	10 minutes
		Freq Drift(ppm)	Freq Drift(ppm)	Freq Drift(ppm)	Freq Drift(ppm)
50	24.0 V _{dc} (V _{nom})	4.15	4.15	4.14	4.15
40	24.0 V _{dc} (V _{nom})	4.17	4.15	4.15	4.14
30	24.0 V _{dc} (V _{nom})	4.16	4.16	4.15	4.14
20	24.0 V _{dc} (V _{nom})	4.16	4.16	4.16	4.15
10	24.0 V _{dc} (V _{nom})	4.15	4.15	4.16	4.16
0	24.0 V _{dc} (V _{nom})	4.18	4.17	4.15	4.15
-10	24.0 V _{dc} (V _{nom})	4.16	4.17	4.15	4.16
-20	24.0 V _{dc} (V _{nom})	4.14	4.15	4.14	4.15
22	21.6 V _{dc} (V _{min})	4.15	4.15	4.15	4.14
22	26.4 V _{dc} (V _{max})	4.15	4.16	4.14	4.15

Operating Frequency: 5 260 MHz

Temperature (°C)	Power Supply	0 minute	2 minutes	5 minutes	10 minutes
		Freq Drift(ppm)	Freq Drift(ppm)	Freq Drift(ppm)	Freq Drift(ppm)
50	24.0 V _{dc} (V _{nom})	4.09	4.08	4.09	4.10
40	24.0 V _{dc} (V _{nom})	4.10	4.10	4.07	4.10
30	24.0 V _{dc} (V _{nom})	4.07	4.10	4.07	4.11
20	24.0 V _{dc} (V _{nom})	4.08	4.09	4.08	4.08
10	24.0 V _{dc} (V _{nom})	4.06	4.07	4.09	4.09
0	24.0 V _{dc} (V _{nom})	4.08	4.09	4.07	4.07
-10	24.0 V _{dc} (V _{nom})	4.09	4.08	4.08	4.08
-20	24.0 V _{dc} (V _{nom})	4.09	4.09	4.08	4.10
22	21.6 V _{dc} (V _{min})	4.07	4.08	4.10	4.08
22	26.4 V _{dc} (V _{max})	4.08	4.08	4.09	4.07

Operating Frequency: 5 500 MHz

Temperature (°C)	Power Supply	0 minute	2 minutes	5 minutes	10 minutes
		Freq Drift(ppm)	Freq Drift(ppm)	Freq Drift(ppm)	Freq Drift(ppm)
50	24.0 V _{dc} (V _{nom})	11.82	11.80	11.79	11.79
40	24.0 V _{dc} (V _{nom})	11.80	11.79	11.77	11.78
30	24.0 V _{dc} (V _{nom})	11.83	11.82	11.78	11.79
20	24.0 V _{dc} (V _{nom})	11.84	11.81	11.82	11.81
10	24.0 V _{dc} (V _{nom})	11.84	11.80	11.83	11.80
0	24.0 V _{dc} (V _{nom})	11.82	11.83	11.82	11.82
-10	24.0 V _{dc} (V _{nom})	11.81	11.80	11.81	11.83
-20	24.0 V _{dc} (V _{nom})	11.80	11.79	11.82	11.80
22	21.6 V _{dc} (V _{min})	11.79	11.82	11.82	11.80
22	26.4 V _{dc} (V _{max})	11.79	11.81	11.80	11.83

Operating Frequency: 5 745 MHz

Temperature (°C)	Power Supply	0 minute	2 minutes	5 minutes	10 minutes
		Freq Drift(ppm)	Freq Drift(ppm)	Freq Drift(ppm)	Freq Drift(ppm)
50	24.0 V _{dc} (V _{nom})	11.31	11.28	11.29	11.30
40	24.0 V _{dc} (V _{nom})	11.27	11.27	11.30	11.31
30	24.0 V _{dc} (V _{nom})	11.28	11.29	11.31	11.31
20	24.0 V _{dc} (V _{nom})	11.27	11.28	11.30	11.32
10	24.0 V _{dc} (V _{nom})	11.30	11.30	11.28	11.30
0	24.0 V _{dc} (V _{nom})	11.31	11.32	11.29	11.29
-10	24.0 V _{dc} (V _{nom})	11.29	11.31	11.27	11.28
-20	24.0 V _{dc} (V _{nom})	11.29	11.30	11.33	11.31
22	21.6 V _{dc} (V _{min})	11.30	11.32	11.31	11.29
22	26.4 V _{dc} (V _{max})	11.32	11.31	11.30	11.29