RF TEST REPORT

Report No.: 17070669-FCC-R2

Supersede Report No.: N/A

Applicant	HUMAX Co., Ltd.
Product Name	Cable Set-top box
Main Model No.	1008R-HDD-XXX(XXX=A~Z)
Serial Model No.	1008C-STB-XXX(XXX=A~Z)
Test Standard	FCC Part 15.407: 2016, ANSI C63.10: 2013
Test Date	August 12, 2017 to January 09, 2018
Issue Date	January 10, 2018
Test Result	☑ Pass ☐ Fail
Equipment complied with the specification	☑
Equipment did not comply with the specification	☐

Aaron Liang	David Huang	
Aaron Liang Test Engineer	David Huang Checked By	

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Test result presented in this test report is applicable to the tested sample only

Issued by:

SIEMIC (SHENZHEN-CHINA) LABORATORIES

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Laboratories Introduction

SIEMIC, headquartered in the heart of Silicon Valley, with superior facilities in US and Asia, is one of the leading independent testing and certification facilities providing customers with one-stop shop services for Compliance Testing and Global Certifications.

In addition to testing and certification, SIEMIC provides initial design reviews and compliance management throughout a project. Our extensive experience with China, Asia Pacific, North America, European, and International compliance requirements, assures the fastest, most cost effective way to attain regulatory compliance for the global markets.

Accreditations for Conformity Assessment

Country/Region	Scope
USA	EMC, RF/Wireless, SAR, Telecom
Canada	EMC, RF/Wireless, SAR, Telecom
Taiwan	EMC, RF, Telecom, SAR, Safety
Hong Kong	RF/Wireless, SAR, Telecom
Australia	EMC, RF, Telecom, SAR, Safety
Korea	EMI, EMS, RF, SAR, Telecom, Safety
Japan	EMI, RF/Wireless, SAR, Telecom
Singapore	EMC, RF, SAR, Telecom
Europe	EMC, RF, SAR, Telecom, Safety

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1. Report Revision History

Report No.	Report Version	Description	Issue Date
17070669-FCC-R2	NONE	Original	January 10, 2018

2. Customer information

Applicant Name	HUMAX Co., Ltd.
Applicant Add	HUMAX BLDG., 2, Yeongmun-ro, Cheoin-gu Yongin-si, Gyeonggi-do South Korea 17040
Manufacturer	HUMAX Co., Ltd.
Manufacturer Add	HUMAX BLDG., 2, Yeongmun-ro, Cheoin-gu Yongin-si, Gyeonggi-do South Korea 17040

3. Test site information

Test Lab A:

Lab performing tests	SIEMIC (Shenzhen-China) LABORATORIES
Lab Address	Zone A, Floor 1, Building 2 Wan Ye Long Technology Park South Side of Zhoushi Road, Bao' an District, Shenzhen, Guangdong China 518108
FCC Test Site No.	535293
IC Test Site No.	4842E-1
Test Software	Radiated Emission Program-To Shenzhen v2.0

Test Lab B:

Lab performing tests	BV 7LAYERS COMMUNICATION TRCHNOLOGY(SHENZHEN)CO.,LTD
Lab Address	No. B102, Dazu Cuangxin Mansion, North of Beihuan Avenue, North Area, Hi-Tech Industry Park, Nanshan District Shenzhen, Guangdong China
FCC Test Site No.	525120

Note: We just perform Radiated Spurious Emission above 18GHz in the test Lab. B.

4. Equipment under Test (EUT) Information

Description of EUT:	Cable Set-top box
Main Model:	1008R-HDD-XXX(XXX=A~Z)
Serial Model:	1008C-STB-XXX(XXX=A~Z)
Date EUT received:	August 11, 2017
Test Date(s):	August 12, 2017 to January 09, 2018
Equipment Category：	NII
Antenna Gain:	WIFI(2.4G): Antenna (Green): 1.9 dBi Antenna (Gray): 2.8 dBi Antenna (Black): 1.7 dBi WIFI(5150-5250MHz): Antenna (Green): 3.9 dBi Antenna (Gray): 3.8 dBi Antenna (Black): 2.5 dBi WIFI(5250-5350MHz): Antenna (Green): 3.8 dBi Antenna (Gray): 3.9 dBi Antenna (Black): 3.8 dBi WIFI(5470-5725MHz): Antenna (Green): 3.6 dBi Antenna (Gray): 3.9 dBi Antenna (Black): 3.7 dBi WIFI(5725-5850MHz): Antenna (Green): 3.8 dBi Antenna (Gray): 3.8 dBi Antenna (Black): 2.7 dBi RF4CE: Antenna 0: 2.35 dBi Antenna 1: 2.28 dBi
Antenna Type:	WIFI: Dipole antenna RF4CE: PCB antenna
Type of Modulation:	802.11b: DSSS 802.11g/n20/n40/a/ac20/ac40/ac80: OFDM RF4CE: O-QPSK

Number of Channels:	WIFI :802.11b/g: 11CH WIFI :802.11a: 25CH WIFI :802.11n20: 11CH(2.4GHz); 25CH(5GHz) WIFI :802.11n40: 7CH(2.4GHz); 12CH(5GHz) WIFI :802.11ac20: 25CH WIFI :802.11ac40: 12CH WIFI :802.11ac80: 6CH RF4CE:16CH
RF Operating Frequency (ies):	WIFI: 802.11b/g: 2412-2462 MHz(TX/RX) WIFI: 802.11n(20M): 2412-2462 MHz; 5180-5240 MHz; 5260-5320 MHz; 5500-5700 MHz; 5745-5825 MHz； (TX/RX) WIFI: 802.11n(40M): 2422-2452 MHz; 5190-5230 MHz; 5270-5310 MHz; 5510-5710 MHz; 5755-5795 MHz；(TX/RX) 802.11a: 5180-5240 MHz; 5260-5320 MHz; 5500-5700 MHz; 5745-5825 MHz； (TX/RX) 802.11ac 20: 5180-5240 MHz; 5260-5320 MHz; 5500-5700 MHz; 5745-5825 MHz； (TX/RX) 802.11ac 40: 5190-5230 MHz; 5270-5310 MHz; 5510-5710 MHz; 5755-5795 MHz；(TX/RX) 802.11ac 80: 5210 MHz; 5290 MHz; 5530-5690 MHz; 5775 MHz；(TX/RX) RF4CE: 2405-2480 MHz
Max. Output Power:	5150-5250MHz: 802.11a: 17dBm 802.11n20: 12.8dBm 802.11n40: 12.6dBm 802.11ac(20M): 12.8dBm 802.11ac(40M): 12.9dBm 802.11ac(80M):12.7dBm 5250-5350MHz: 802.11a: 17.1dBm 802.11n20:13dBm 802.11n40: 12.5dBm 802.11ac(20M): 12.9dBm 802.11ac(40M): 12.5dBm 802.11ac(80M): 12.8dBm 5470-5725MHz: 802.11a: 17.1dBm 802.11n20: 13dBm 802.11n40: 12.5dBm 802.11ac(20M): 12.9dBm

802.11ac(40M): 12.7dBm
802.11ac(80M): 12.9dBm

5725-5850MHz: 802.11a: 17.2dBm
802.11n20: 12.9dBm
802.11n40: 12.5dBm
802.11ac(20M): 12.9dBm
802.11ac(40M): 12.9dBm
802.11ac(80M): 13.1dBm

5150-5250MHz: 802.11a: 20.9dBm
802.11n20: 21.41dBm
802.11n40: 21.01dBm
802.11ac(20M): 21.50dBm
802.11ac(40M): 21.34dBm
802.11ac(80M):19.81dBm
5250-5350MHz: 802.11a: 21dBm
802.11n20:21.47dBm
802.11n40: 20.98dBm
802.11ac(20M): 21.41dBm
802.11ac(40M): 21.04dBm
802.11ac(80M): 21.31dBm

EIRP:

5470-5725MHz: 802.11a: 20.8dBm
802.11n20: 21.57dBm
802.11n40: 20.95dBm
802.11ac(20M): 21.50dBm
802.11ac(40M): 21.11dBm
802.11ac(80M): 21.18dBm
5725-5850MHz: 802.11a: 21.1dBm
802.11n20: 21.31dBm
802.11n40: 21.21dBm
802.11ac(20M): 21.40dBm
802.11ac(40M): 21.24dBm
802.11ac(80M): 21.31dBm

Port: Please refer to the user manual

Input Power:	Adapter Model: ADP-30LR A Input: 100-240V~0.5A, 50/60Hz Output: 12V DC, 2.5A
Trade Name :	LGI
FCC ID:	O6ZEOS-1008C

5. Power level setup in software

Power level setup in software					
Test Mode	Antenna Path	Channel	Software Setup		
			Antenna (Green) (dBm)	Antenna (Gray) (dBm)	Antenna (Black) (dBm)
a	SISO	5180MHZ	66	66	66
		5220MHZ	66	66	66
		5240MHZ	66	66	66
		5260MHZ	66	66	66
		5300MHZ	66	66	66
		5320MHZ	66	66	66
		5500MHZ	66	66	66
		5600MHZ	66	66	66
		5700MHZ	70	70	70
		5720MHZ	70	70	70
		5745MHZ	68	68	68
		5785MHZ	66	66	66
		5825MHZ	64	64	64
n20	MIMO	5180MHZ	50	50	50
		5220MHZ	50	50	50
		5240NHZ	50	50	50
		5260NHZ	50	50	50
		5300MHZ	50	50	50
		5320MHZ	50	50	50
		5500MHZ	50	50	50
		5600MHZ	56	56	56
		5700MHZ	56	56	56
		5720MHZ	56	56	56
		5745MHZ	52	52	52
		5785MHZ	50	50	50
		5825MHZ	46	46	46
n40	MIMO	5190MHZ	42	42	42
		5230MHZ	42	42	42

		5270MHZ	42	42	42
		5310MHZ	42	42	42
		5510MHZ	44	44	44
		5590MHZ	48	48	48
		5670MHZ	48	48	48
		5710MHZ	48	48	48
		5755MHZ	42	42	42
		5795MHZ	42	42	42
ac20	MIMO	5180MHZ	50	50	50
		5220MHZ	50	50	50
		5240MHZ	50	50	50
		5260MHZ	50	50	50
		5300MHZ	50	50	50
		5320MHZ	50	50	50
		5500MHZ	52	52	52
		5600MHZ	54	54	54
		5700MHZ	56	56	56
		5720MHZ	54	54	54
		5745MHZ	52	52	52
		5785MHZ	50	50	50
		5825MHZ	46	46	46
ac40	MIMO	5190MHZ	44	44	44
		5230MHZ	42	42	42
		5270MHZ	42	42	42
		5310MHZ	42	42	42
		5510MHZ	44	44	44
		5590MHZ	48	48	48
		5670MHZ	48	48	48
		5710MHZ	48	48	48
		5755MHZ	48	48	48
		5795MHZ	42	42	42
ac80	MIMO	5210MHZ	46	46	46
		5290MHZ	46	46	46
		5530MHZ	48	48	48
		5610MHZ	52	52	52

		5690MHZ	52	52	52
		5775MHZ	48	48	48

6. Test Summary

The product was tested in accordance with the following specifications.

All testing has been performed according to below product classification:

FCC Rules	Description of Test	Result
§15.407 (i), §2.1093	RF Exposure	Compliance
§15.203	Antenna Requirement	Compliance
§15.407 (a)(1)	DTS (99%&26 dB) CHANNEL BANDWIDTH	Compliance
§15.407 (e)	DTS (99%&6 dB) CHANNEL BANDWIDTH	Compliance
§15.407(a/1/2)	Conducted Maximum Output Power	Compliance
§15.407(a/1/2)	Maximum Power Spectral Density	Compliance
§15.407(a)(6)	Bandedge	Compliance
§15.207 (a)	AC Power Line Conducted Emissions	Compliance
§15.205, §15.209, §15.247(b/1/2/3/6)	Radiated Spurious Emissions & Unwanted Emissions into Restricted Frequency Bands	Compliance

7. Measurements, Examination And Derived Results

6.1 §15.203 - ANTENNA REQUIREMENT

Applicable Standard

According to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited.
The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

a. Antenna must be permanently attached to the unit.

b. Antenna must use a unique type of connector to attach to the EUT.

Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.
And according to FCC 47 CFR section 15.247 (b), if the transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Antenna Connector Construction

The EUT has three attached Dipole antennas for 2.4GHz WIFI /5GHz WIFI and two attached PCB antennas for RF4CE.

MIMO mode:
FCC KDB 662911 D01 Mutiple Transmitter Output V02r01
For CDD transmissions, directional gain is calculateed as
Dirctional Gain= GANT+ Array Gain, where Array Gain is as follows.
For power spectral desity(PSD) measurements on all devices.
Array Gain=10 log(NANT/NSS=1)
For power measurements on IEEE802.11 devices,
Array Gain=0 dB (i.e, no array gain) for NANT<=4.
The EUT support CDD mode, for Power and PSD, the directional gain is following F)2)f)i)
The directional gain "DG" is calculated as following table.

Mode	Antenna (Green) (dBi)	Antenna (Gray) (dBi)	Antenna (Black) (dBi)	DG For Power (dBi)	DG For PSD (dBi)	Power Limit Reduction	PSD Limit Reduction
2.4GHz	1.9	2.8	1.7	2.8	6.92	0	0.92
5G(5150-5250)	3.9	3.8	2.5	3.9	8.19	0	2.19
5G(5250-5350)	3.8	3.9	3.8	3.8	8.6	0	2.6
5G (5470-5725)	3.6	3.9	3.7	3.9	8.51	0	2.51
5G (5725-5850)	3.8	3.8	2.7	3.8	8.22	0	2.22

Power Limit Reduction= DG(Power)-6dBi,(min=0)

PSD Limit Reduction= DG(Power)-6dBi,(min=0)

DG: Directional Gain

SISO:

WIFI:

Mode	Antenna (Green) (dBi)	Antenna (Gray) (dBi)	Antenna (Black) (dBi)	Power Limit Reduction	PSD Limit Reduction
2.4GHz (802.11b; 802.11g)	1.9	2.8	1.7	0	0
5G(5150-5250) (802.11a)	3.9	3.8	2.5	0	0
5G(5250-5350) (802.11a)	3.8	3.9	3.8	0	0
5G (5470-5725) (802.11a)	3.6	3.9	3.7	0	0
5G (5725-5850) (802.11a)	3.8	3.8	2.7	0	0

Zigbee:

Mode	Antenna 0 (dBi)	Antenna 1 (dBi)	Power Limit Reduction	PSD Limit Reduction
2.4GHz (Zigbee)	1.9	2.8	0	0

The antenna meets up with the ANTENNA REQUIREMENT.

Result: Compliance.

6.2 §15.407(a)-DTS (99% &26 dB) Channel Bandwidth

1. Conducted Measurement

   EUT was set for low, mid, high channel with modulated mode and highest RF output power.

   The spectrum analyzer was connected to the antenna terminal.

2. Environmental Conditions

Temperature	25°C
Relative Humidity	54%
Atmospheric Pressure	1010mbar

3. Conducted Emissions Measurement Uncertainty

   All test measurements carried out are traceable to national standards. The uncertainty of the measurement at a confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2, in the range 30MHz – 40GHz is ±1.5dB.

4. Test date : January 06, 2018

   Tested By : Aaron Liang

Standard Requirement:

None; for reporting purposes only.

Procedures:

99% Bandwidth:

1. Set center frequency to the nominal EUT channel center frequency
2. Set span = 1.5 times to 5.0 times the OBW.
3. Set RBW = 1 % to 5 % of the OBW
4. he video bandwidth (VBW) ≥ 3 x RBW.
5. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used
6. Use the 99 % power bandwidth function of the instrument (if available)
7. If the instrument does not have a 99 % power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning

at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the

difference between these two frequencies.

Emission Bandwidth (EBW)

1) Set RBW = approximately 1% of the emission bandwidth.
2) Set the VBW > RBW.
3) Detector = Peak.
4) Trace mode = max hold.
5) Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust

Test Result: Pass.

Please refer to the following tables and plots.

Measurement result

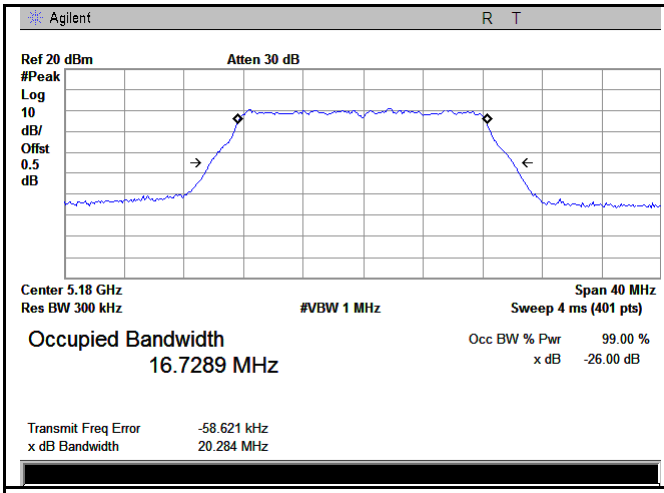
Test mode	Freq Band (MHz)	CH	Freq (MHz)	99% Bandwidth (MHz)			26dB Bandwidth (MHz)		
				Ant. (Green)	Ant. (Gray)	Ant. (Black)	Ant. (Green)	Ant. (Gray)	Ant. (Black)
820.11a	5150-5250	Low	5180	16.7289	16.8295	16.8543	20.284	20.346	24.715
		Middle	5220	16.7216	16.8726	16.8753	20.303	20.320	24.919
		High	5240	16.6945	16.8254	16.8544	20.249	20.275	26.172
	5250-5350	Low	5260	16.7281	16.8480	16.8683	20.252	20.241	26.425
		Middle	5300	16.7161	16.8395	16.8976	20.285	20.341	26.534
		High	5320	16.7914	16.8582	16.8787	20.150	20.218	26.548
	5470-5725	Low	5500	16.7954	16.8313	16.7727	20.037	20.309	20.874
		Mid	5600	16.7819	16.8398	16.7728	20.031	20.305	20.870
		High	5700	16.7693	16.8248	16.7743	20.015	20.392	23.640
		Straddle	5720	16.7656	16.8458	16.7772	20.503	19.998	20.593
	5725-5850	Low	5745	16.8014	16.8556	16.8137	20.071	20.315	23.767
		Mid	5785	16.7905	16.8389	16.7991	20.047	20.358	23.627
		High	5825	16.7607	16.8469	16.8068	20.146	20.431	23.031
802.11n (20M)	5150-5250	Low	5180	16.7057	17.8600	17.8804	20.243	20.476	20.540
		Middle	5220	16.6971	17.8573	17.8924	20.287	20.569	20.203
		High	5240	16.7119	17.8529	17.8649	20.269	20.492	20.564
	5250-5350	Low	5260	17.8718	17.8268	17.8662	20.460	20.567	20.556
		Middle	5300	17.8937	17.8663	7.8525	20.564	20.665	20.560
		High	5320	17.8808	17.8942	17.8634	20.580	20.395	20.425
	5470-5725	Low	5500	17.8848	17.8439	17.9151	20.574	20.321	20.601
		Mid	5600	17.8477	17.8814	17.8482	20.424	20.594	20.562
		High	5700	17.8714	17.8542	17.8853	20.521	20.534	20.645
		Straddle	5720	16.8026	16.7983	16.8352	20.199	20.310	20.195
	5725-5850	Low	5745	17.9046	17.8428	17.8958	20.513	20.724	20.558
		Mid	5785	17.8844	17.8562	17.8643	20.521	20.410	20.602
		High	5825	17.8513	17.8679	17.8663	20.537	20.415	20.434
802.11n (40M)	5150-5250	Low	5190	36.5784	36.4859	36.6277	40.959	40.825	41.004
		High	5230	36.6021	36.6047	36.6333	40.779	40.827	41.430
	5250-5350	Low	5270	36.7233	36.6753	36.7596	40.797	41.119	41.485
		High	5310	36.6549	36.5742	36.6442	40.758	40.901	41.226
	5470-5725	Low	5510	36.6796	36.6416	36.6869	40.946	40.913	41.083
		Mid	5590	36.6543	36.6403	36.6916	40.731	40.638	40.966
		High	5670	36.7088	36.6595	36.7541	40.915	41.127	41.086

		Straddle	5710	36.7243	36.5956	36.6654	40.865	40.769	41.406
	5725-5850	Low	5755	36.7548	36.6172	36.5887	40.903	40.893	41.197
		High	5795	36.7192	36.5320	36.9499	41.137	40.917	41.404
820.11ac (20M)	5150-5250	Low	5180	17.9575	17.8807	17.9178	20.707	20.648	20.605
		Middle	5220	17.9953	17.8649	17.9251	20.820	20.434	20.563
		High	5240	17.9729	17.8849	17.9143	20.645	20.395	20.789
	5250-5350	Low	5260	17.9372	17.8510	17.9129	17.9372	20.4777	20.615
		Middle	5300	17.9475	17.8408	17.9317	17.9475	20.573	20.595
		High	5320	17.9722	17.8870	17.9078	20.627	20.346	20.640
	5470-5725	Low	5500	17.9662	17.8642	17.9168	20.659	20.364	20.516
		Mid	5600	17.9380	17.8480	17.9275	20.682	20.516	20.525
		High	5700	17.9921	17.9117	17.8966	20.525	20.485	20.619
		Straddle	5720	16.8818	16.8126	16.8646	20.427	20.320	20.270
	5725-5850	Low	5745	17.9603	17.8702	17.9008	20.821	20.614	20.641
		Mid	5785	17.9548	17.8530	17.9206	20.670	20.564	20.697
		High	5825	17.9672	17.8703	17.9219	20.568	20.724	20.525
802.11nac (40M)	5150-5250	Low	5190	36.9705	36.7069	36.9227	41.249	41.071	41.421
		High	5230	36.9306	36.7103	36.9841	41.123	41.293	41.494
	5250-5350	Low	5270	36.9315	36.8028	36.9875	41.243	41.080	41.653
		High	5310	36.9721	36.7938	36.9562	41.268	41.237	41.627
	5470-5725	Low	5510	37.0029	36.7925	37.0717	41.340	40.894	41.535
		Mid	5590	37.0013	36.7850	37.0260	41.109	40.782	41.599
		High	5670	36.9699	36.7331	36.9448	41.304	40.839	41.623
		Straddle	5710	36.9688	36.7442	37.0068	41.377	40.816	41.521
	5725-5850	Low	5755	36.9734	36.7598	36.9344	41.236	41.018	41.480
		High	5795	36.9748	36.7918	36.8751	41.070	41.409	41.478
802.11ac (80M)	5150-5250	One	5210	75.5965	75.5043	75.5826	82.207	81.300	81.119
	5250-5350	One	5290	75.6037	75.6308	75.6854	81.076	81.359	81.111
	5470-5725	Low	5470	75.7240	75.6912	75.6823	82.217	81.752	82.239
		High	5610	75.7450	75.6752	75.8134	81.473	81.703	81.175
		Straddle	5690	75.5265	75.5494	75.6798	82.860	82.095	82.349
	5725-5850	One	5775	75.5696	75.5925	75.7057	81.862	82.392	81.912

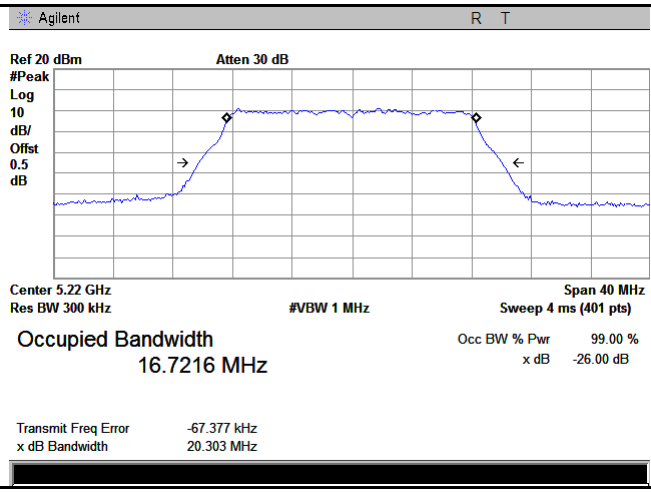
Test Plots

Bandwidth measurement result

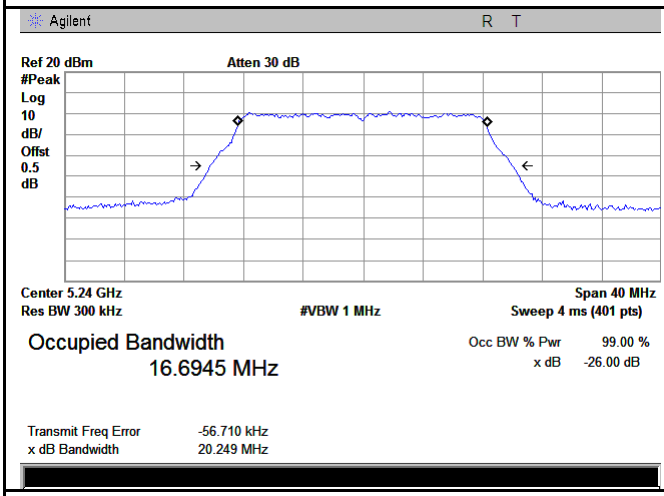
802.11a (Ant. Green)



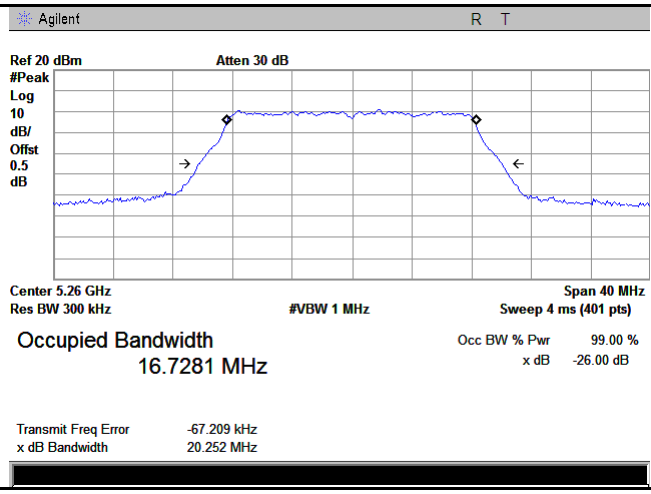
5150-5250MHz Bandwidth - Low CH 5180



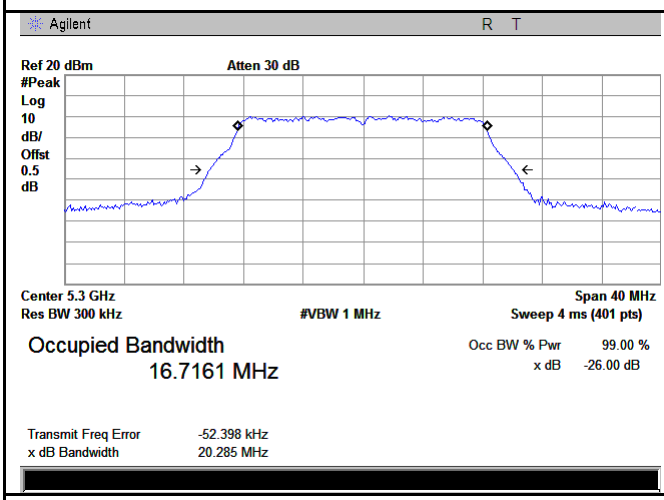
5150-5250MHz Bandwidth - Middle CH 5220



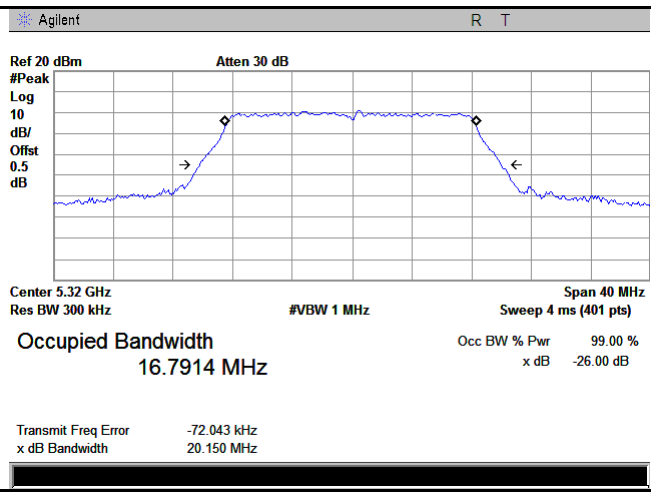
5150-5250MHz Bandwidth - High CH 5240



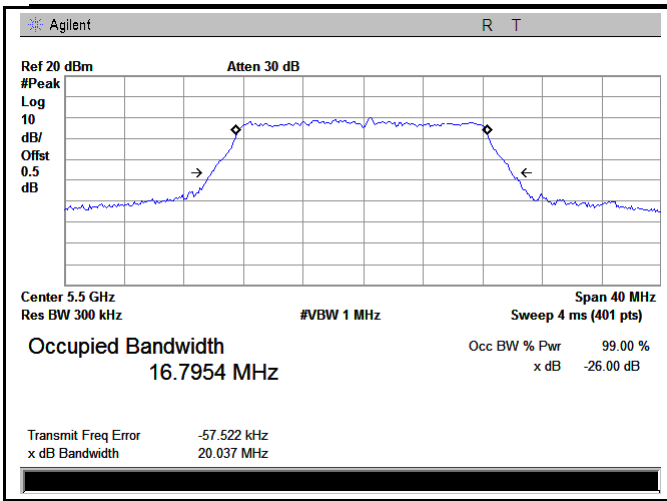
5250-5350MHz Bandwidth - Low CH 5260



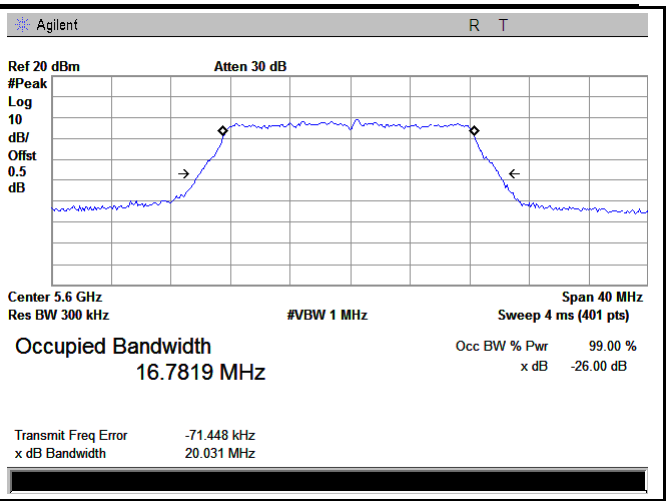
5250-5350MHz Bandwidth - Middle CH 5300



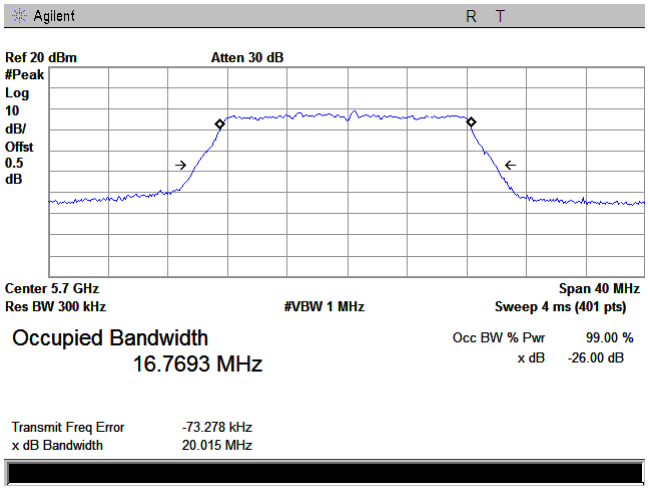
5250-5350MHz Bandwidth - High CH 5320



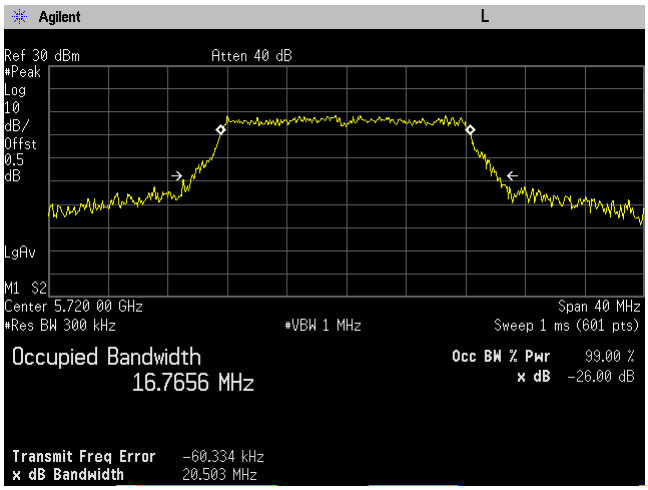
5470-5725MHz Bandwidth - Low CH 5500



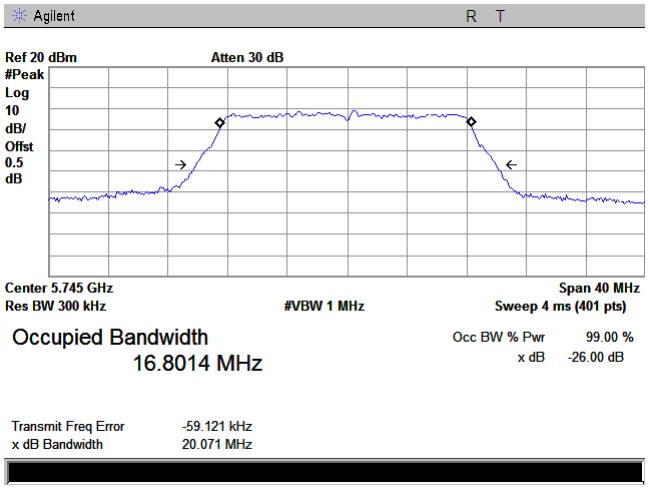
5470-5725MHz Bandwidth - Mid CH 5600



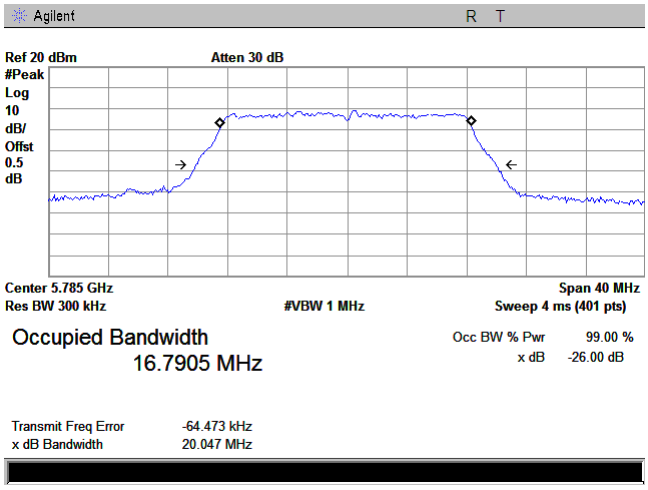
5470-5725MHz Bandwidth - High CH 5700



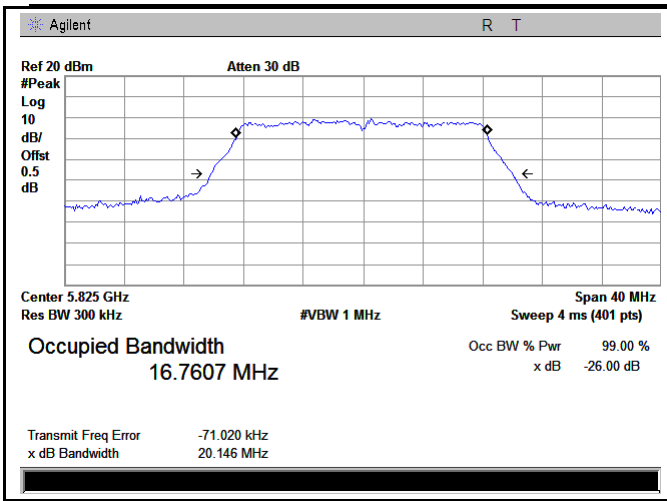
5470-5725MHz Bandwidth - straddle 5720



5725-5850MHz Bandwidth - Low CH 5745

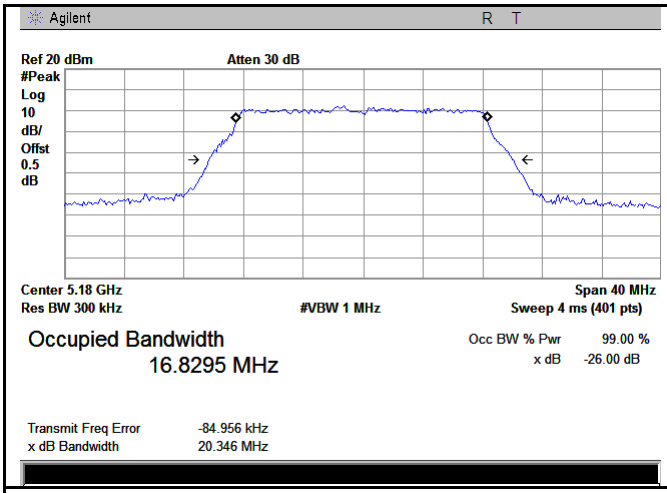


5725-5850MHz Bandwidth - Mid CH 5785

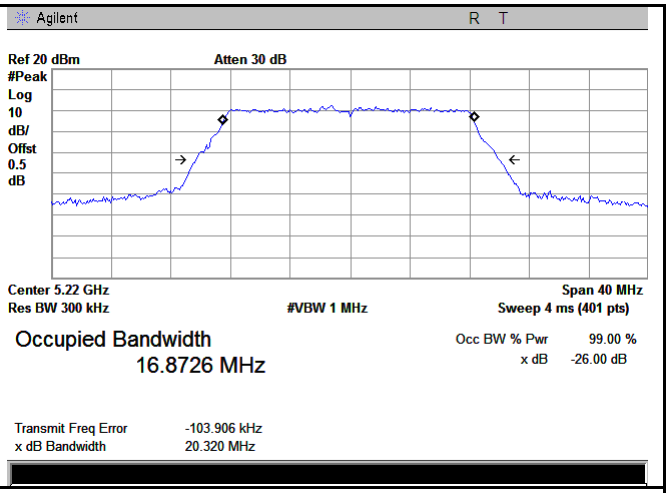


5725-5850MHz Bandwidth - High CH 5825

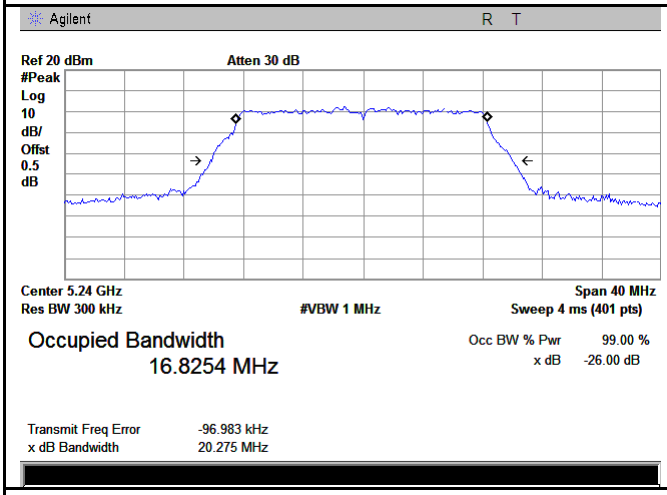
802.11a (Ant. Gray)



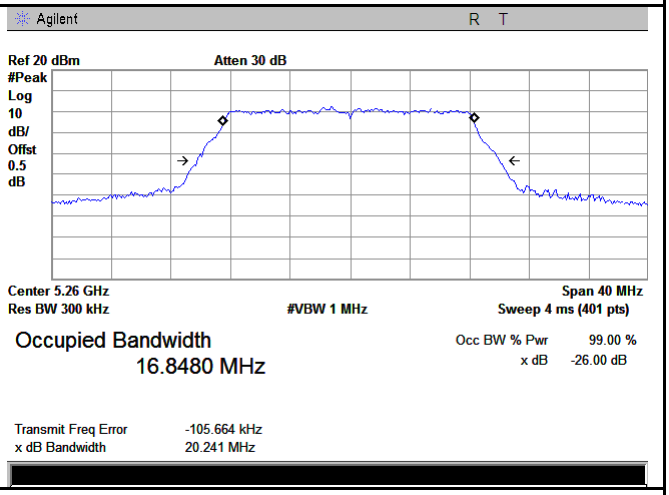
5150-5250MHz Bandwidth - Low CH 5180



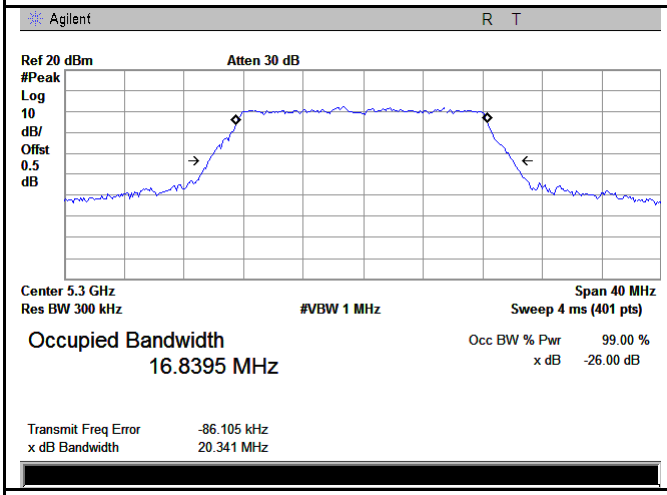
5150-5250MHz Bandwidth - Middle CH 5220



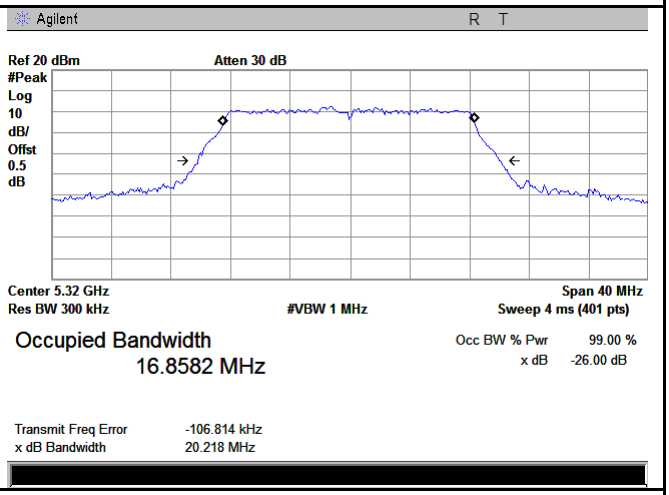
5150-5250MHz Bandwidth - High CH 5240



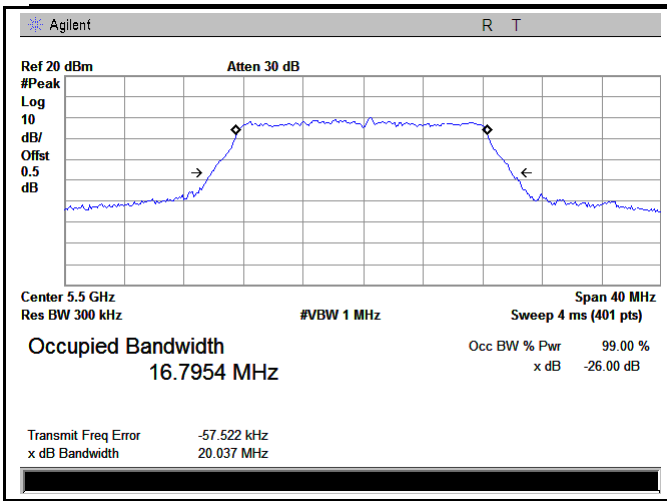
5250-5350MHz Bandwidth - Low CH 5260



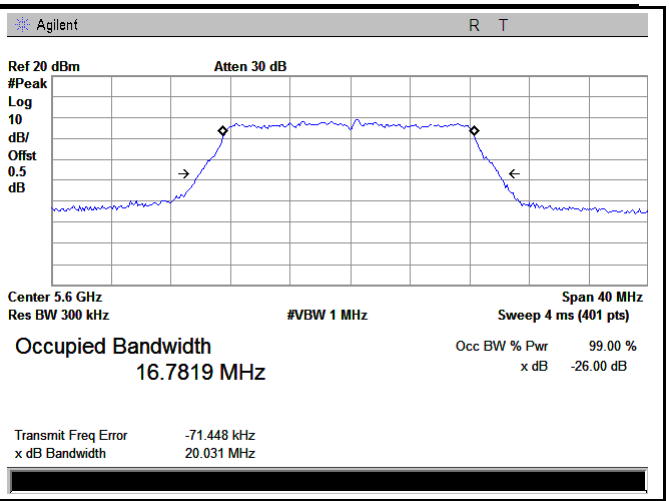
5250-5350MHz Bandwidth - Middle CH 5300



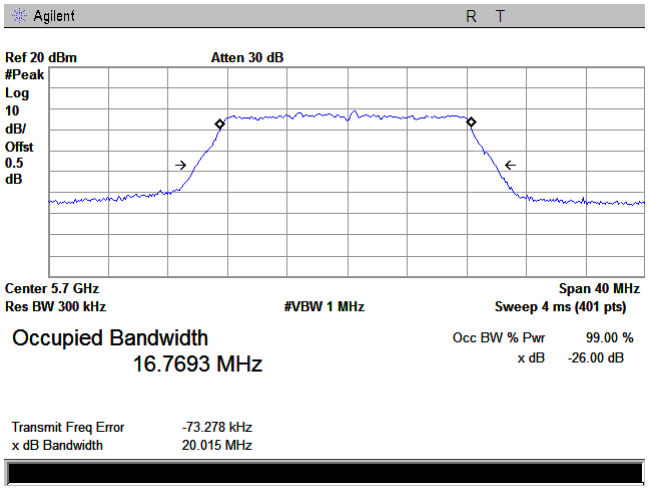
5250-5350MHz Bandwidth - High CH 5320



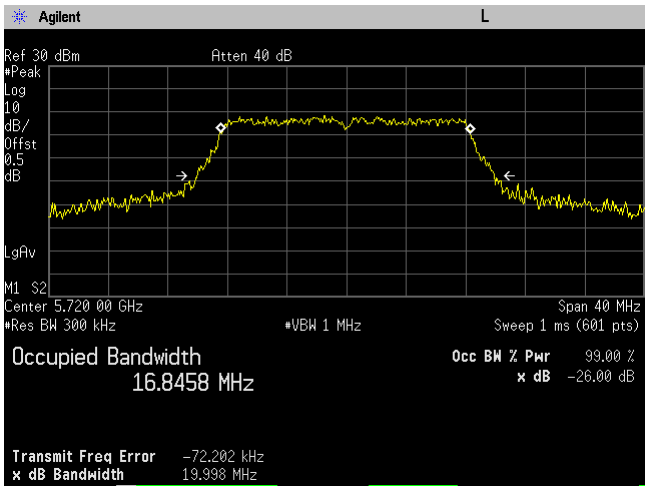
5470-5725MHz Bandwidth - Low CH 5500



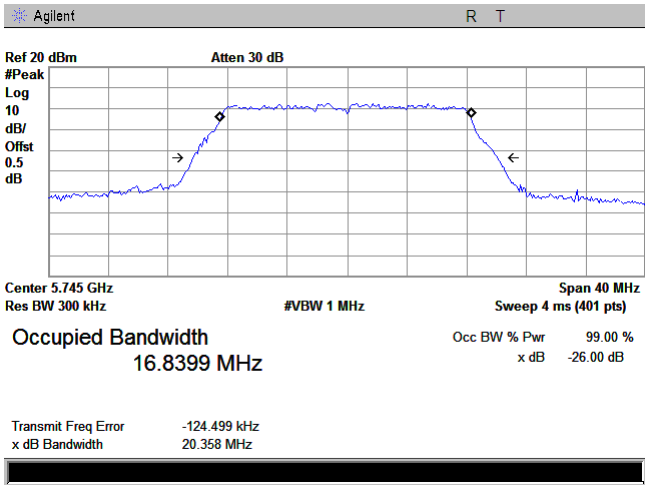
5470-5725MHz Bandwidth - Mid CH 5600



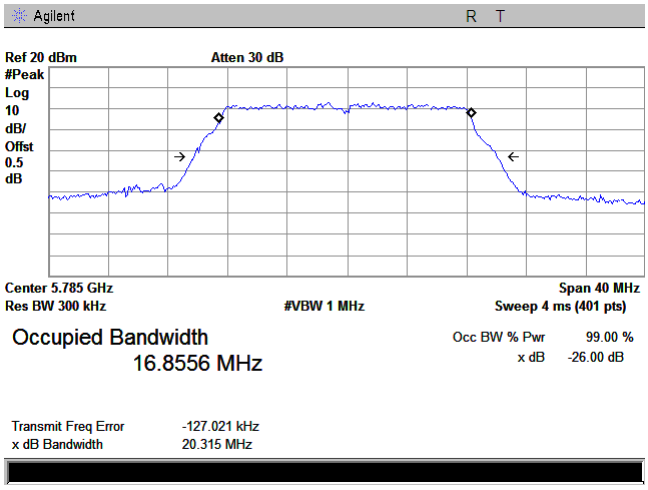
5470-5725MHz Bandwidth - High CH 5700



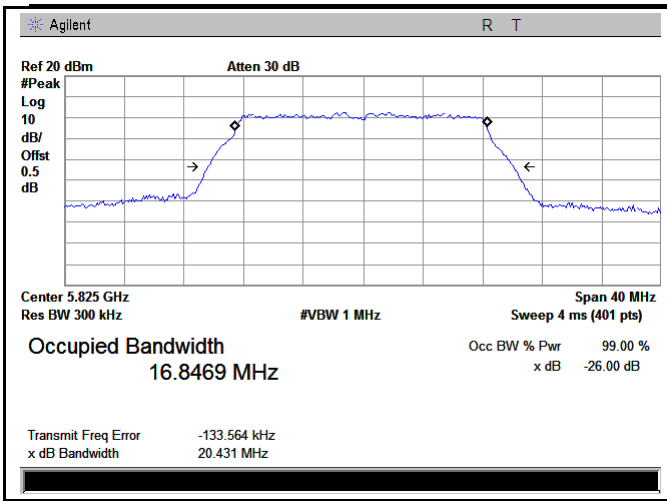
5470-5725MHz Bandwidth - straddle 5720



5725-5850MHz Bandwidth - Low CH 5745

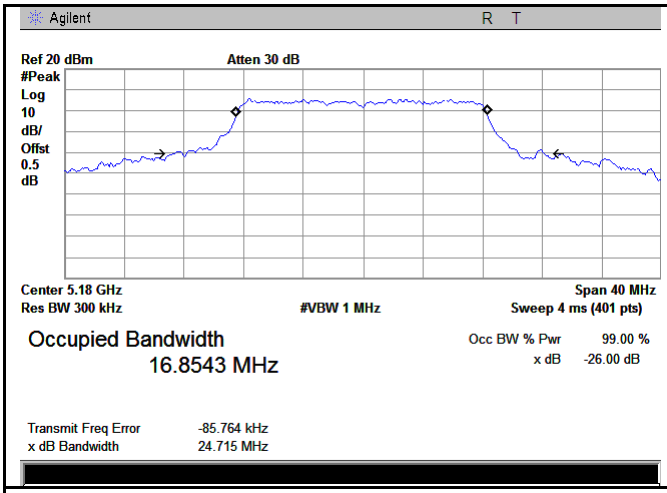


5725-5850MHz Bandwidth - Mid CH 5785

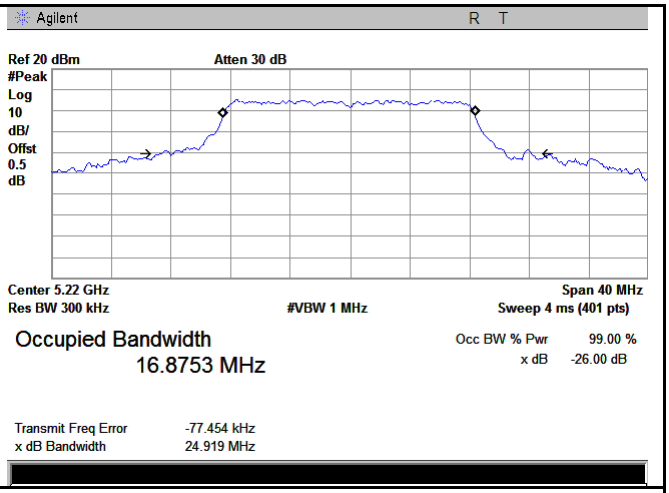


5725-5850MHz Bandwidth - High CH 5825

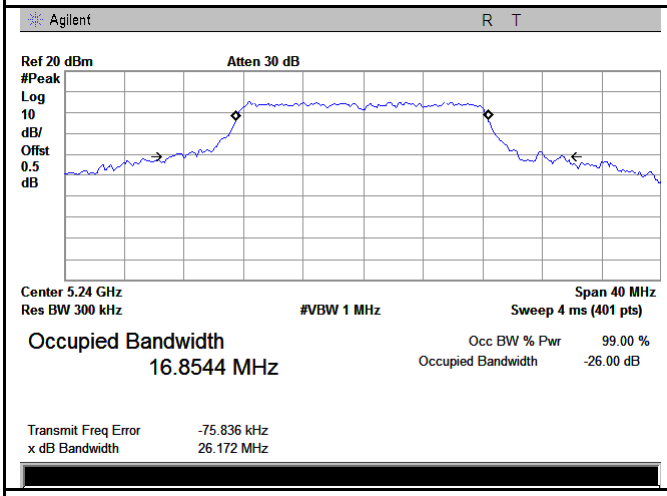
802.11a (Ant. Black)



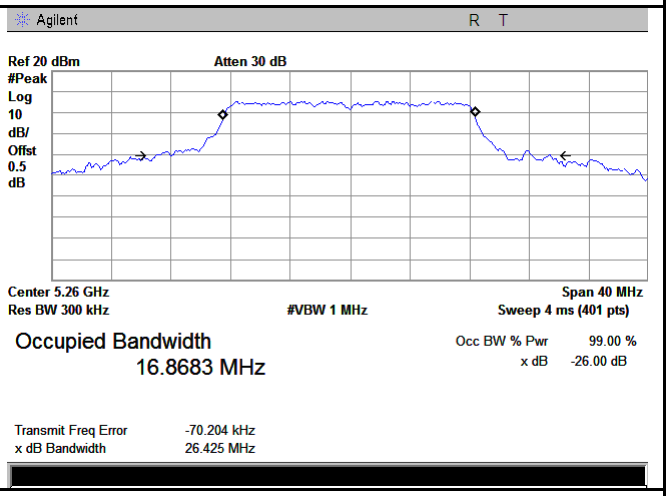
5150-5250MHz Bandwidth - Low CH 5180



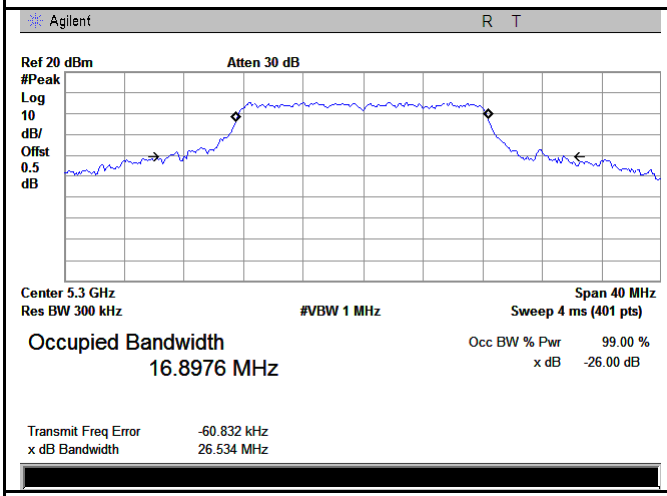
5150-5250MHz Bandwidth - Middle CH 5220



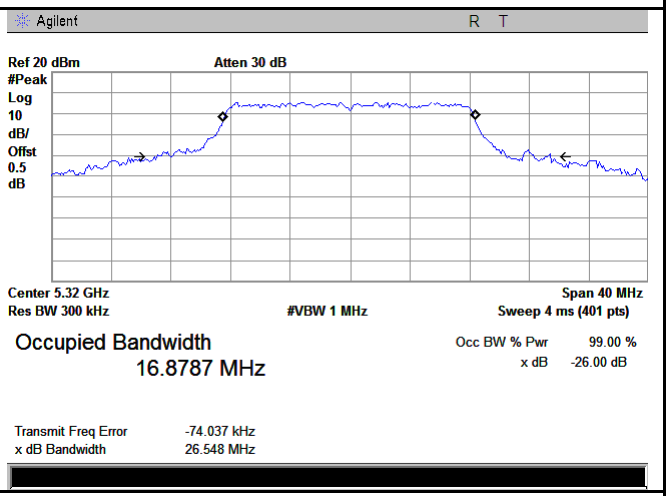
5150-5250MHz Bandwidth - High CH 5240



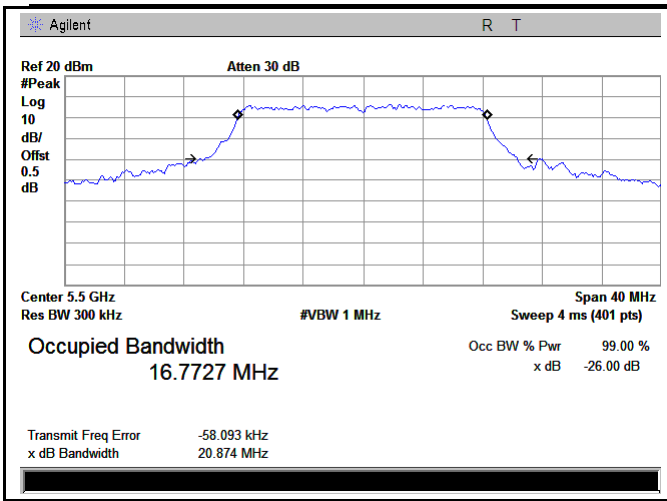
5250-5350MHz Bandwidth - Low CH 5260



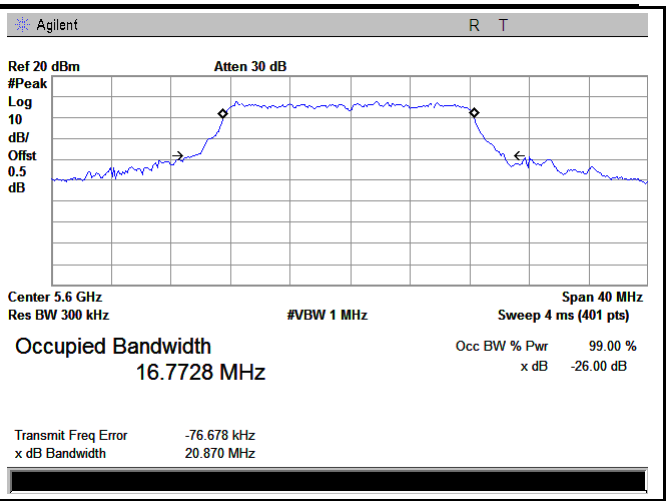
5250-5350MHz Bandwidth - Middle CH 5300



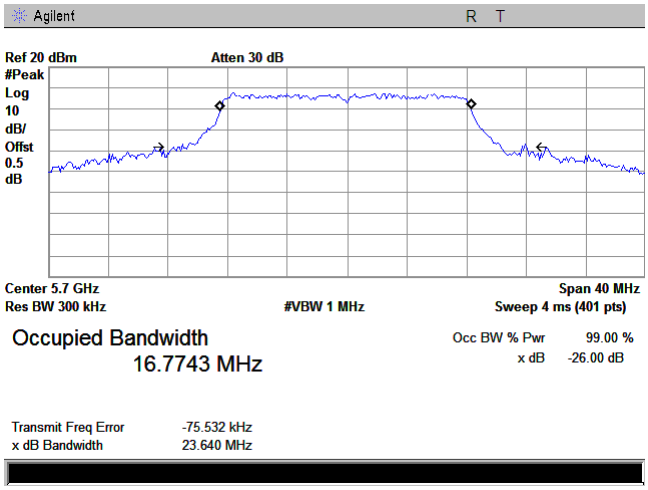
5250-5350MHz Bandwidth - High CH 5320



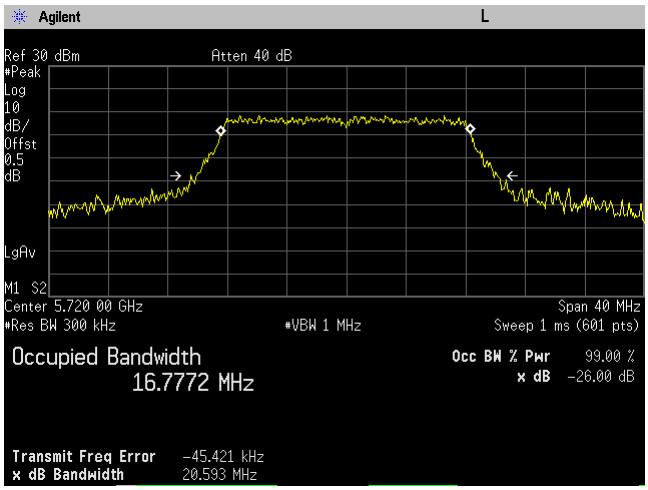
5470-5725MHz Bandwidth - Low CH 5500



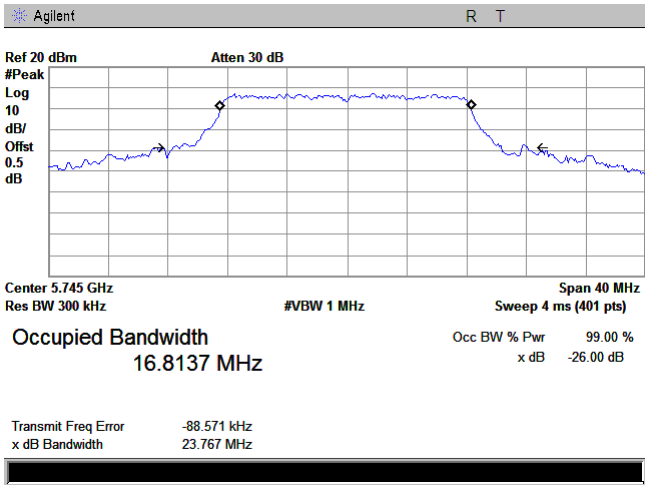
5470-5725MHz Bandwidth - Mid CH 5600



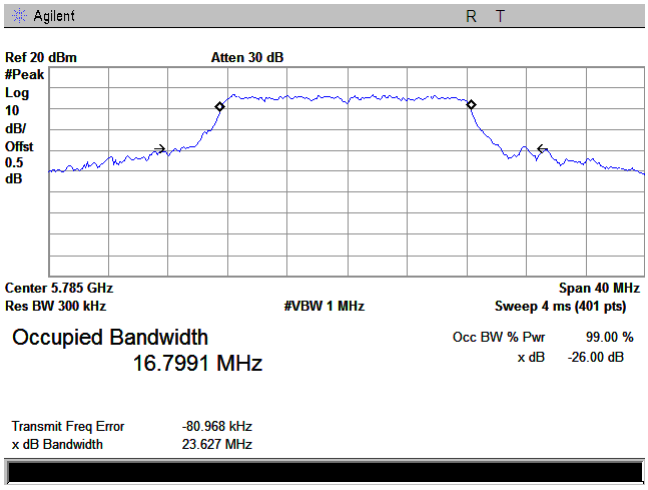
5470-5725MHz Bandwidth - High CH 5700



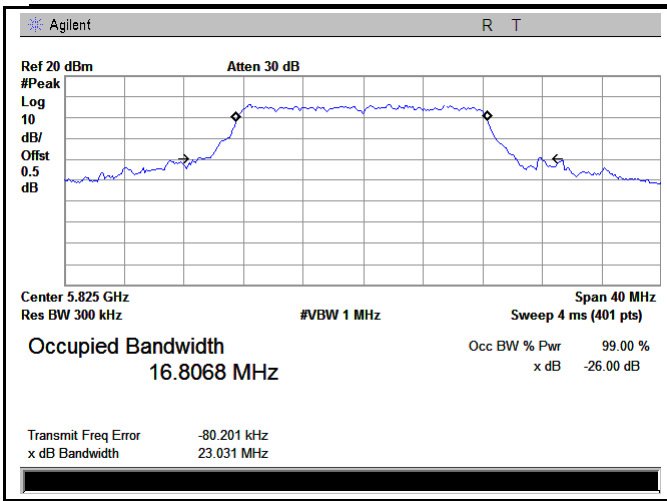
5470-5725MHz Bandwidth - straddle 5720



5725-5850MHz Bandwidth - Low CH 5745



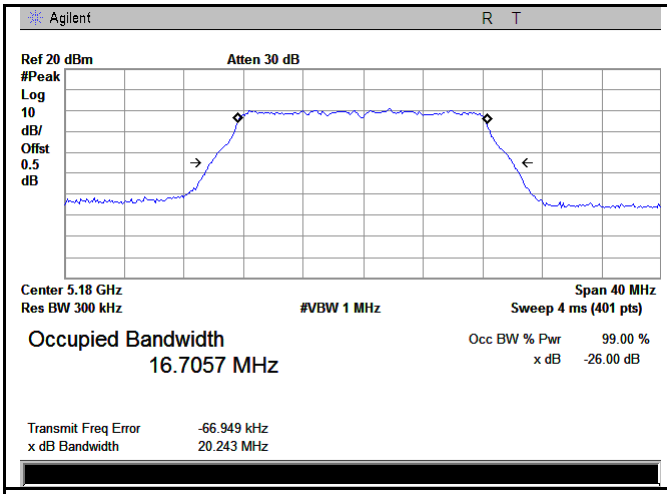
5725-5850MHz Bandwidth - Mid CH 5785



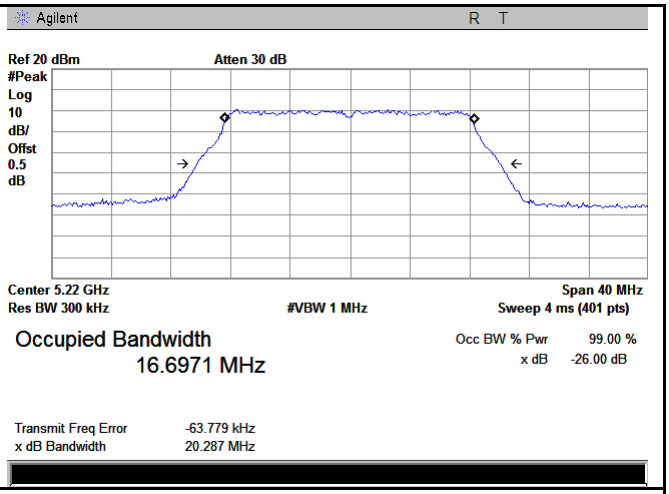
5725-5850MHz Bandwidth - High CH 5825

802.11n (20M)

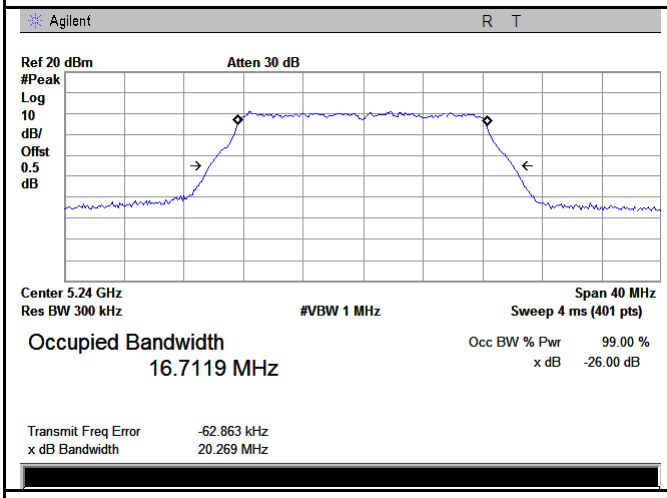
Ant. Green



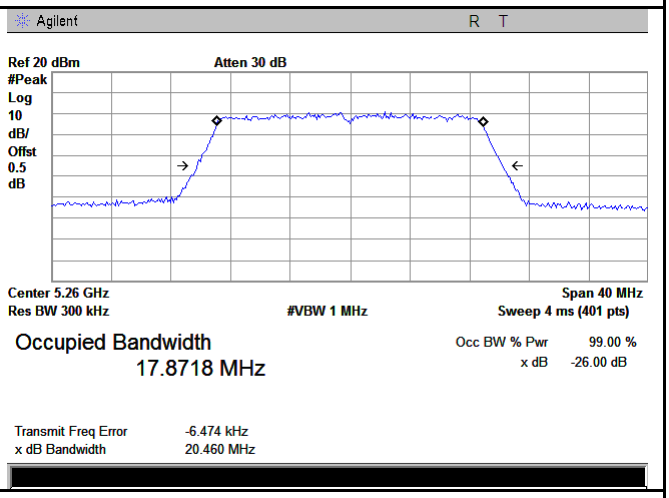
5150-5250MHz Bandwidth - Low CH 5180



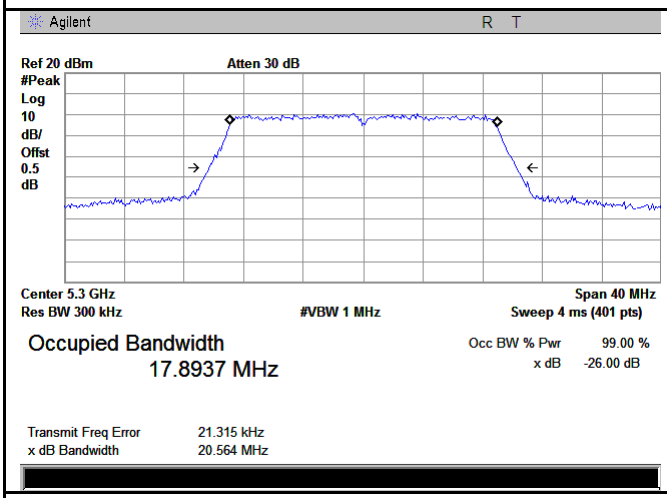
5150-5250MHz Bandwidth - Middle CH 5220



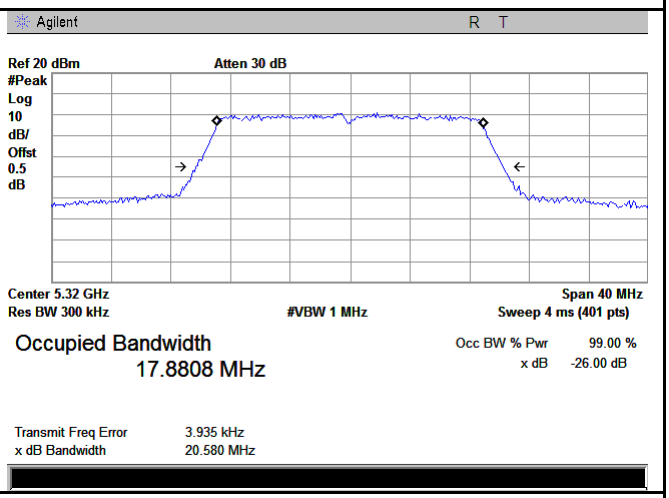
5150-5250MHz Bandwidth - High CH 5240



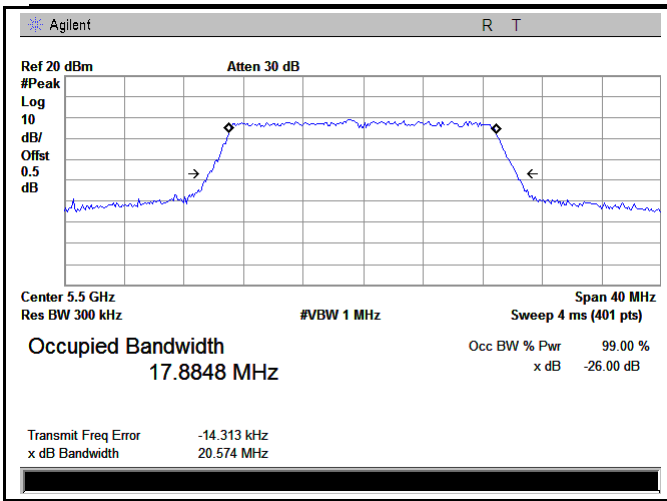
5250-5350MHz Bandwidth - Low CH 5260



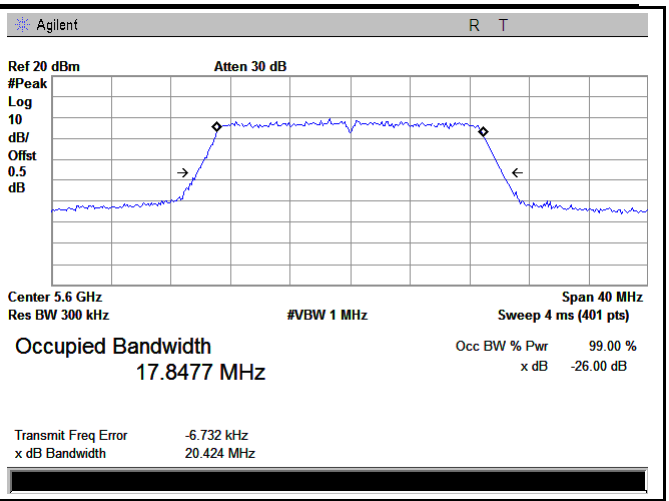
5250-5350MHz Bandwidth - Middle CH 5300



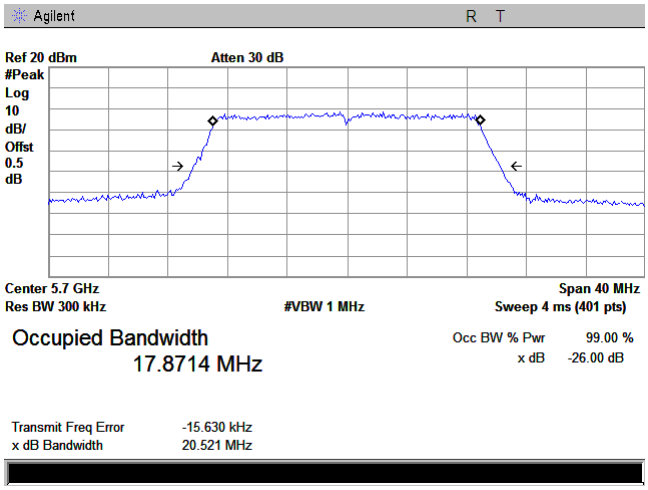
5250-5350MHz Bandwidth - High CH 5320



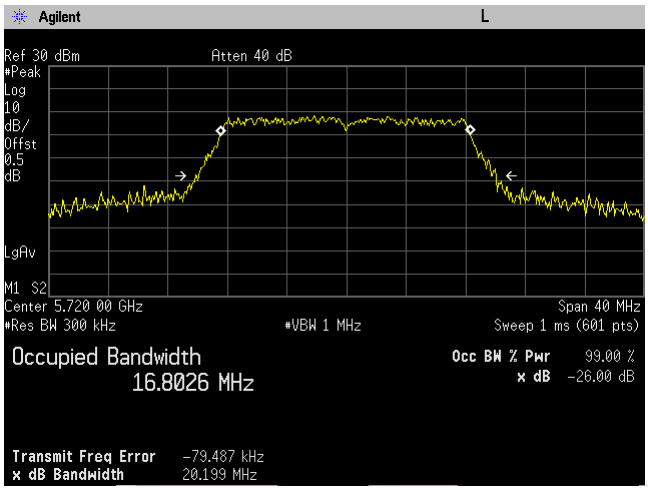
5470-5725MHz Bandwidth - Low CH 5500



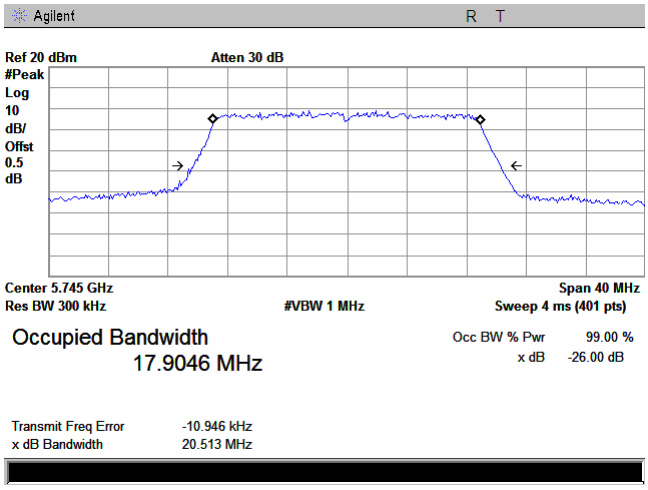
5470-5725MHz Bandwidth - Mid CH 5600



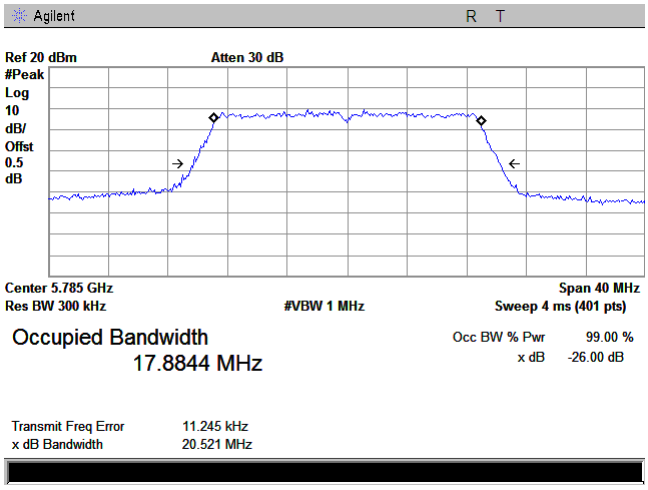
5470-5725MHz Bandwidth - High CH 5700



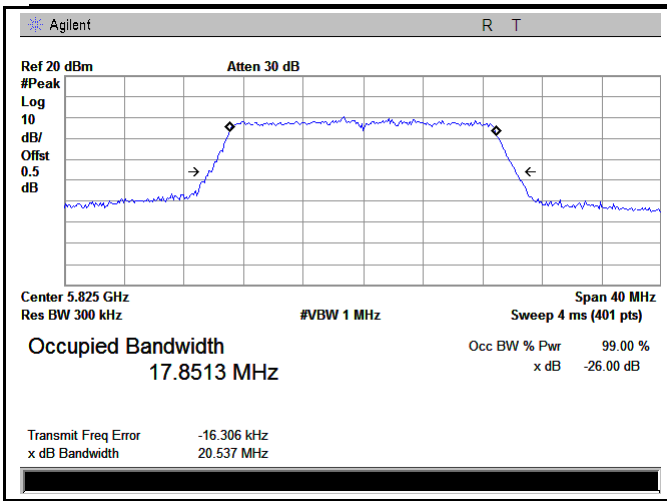
5470-5725MHz Bandwidth - High CH 5720



5725-5850MHz Bandwidth - Low CH 5745



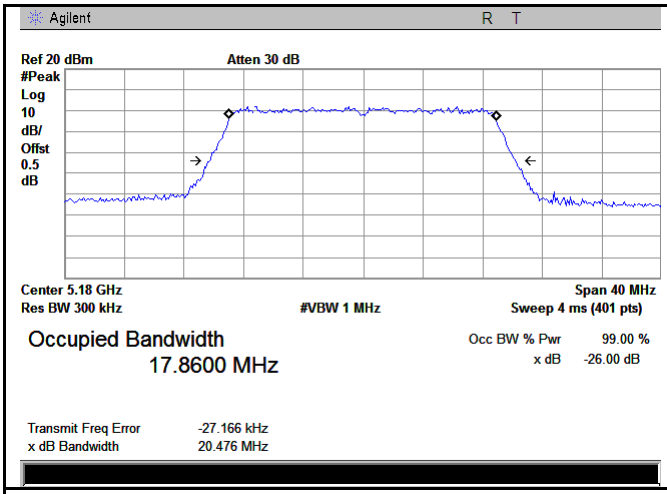
5725-5850MHz Bandwidth - Mid CH 5785



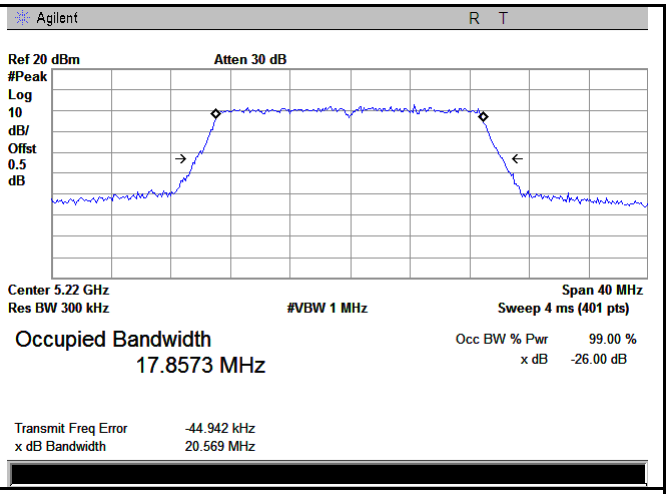
5725-5850MHz Bandwidth - High CH 5825

802.11n (20M)

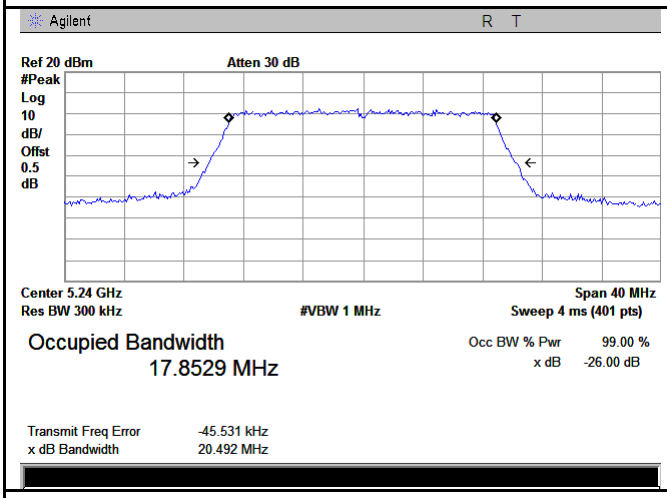
Ant. Gray



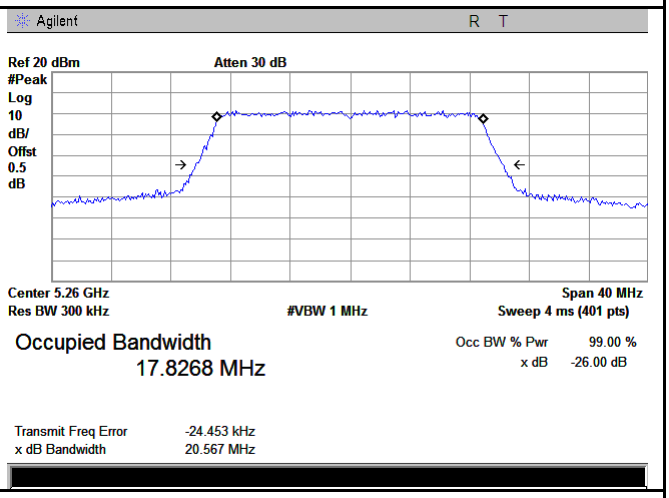
5150-5250MHz Bandwidth - Low CH 5180



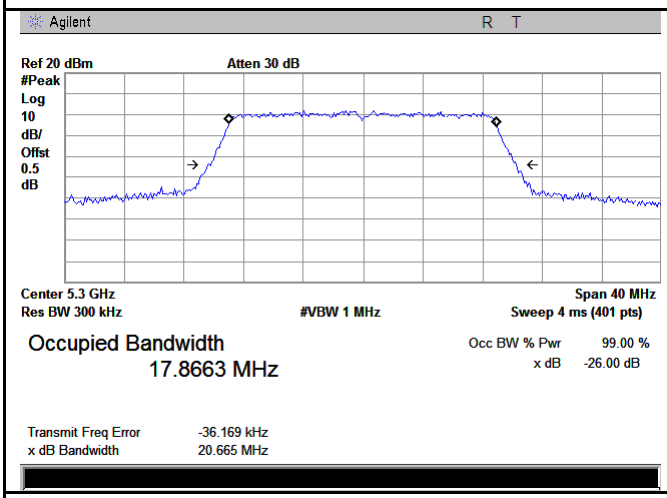
5150-5250MHz Bandwidth - Middle CH 5220



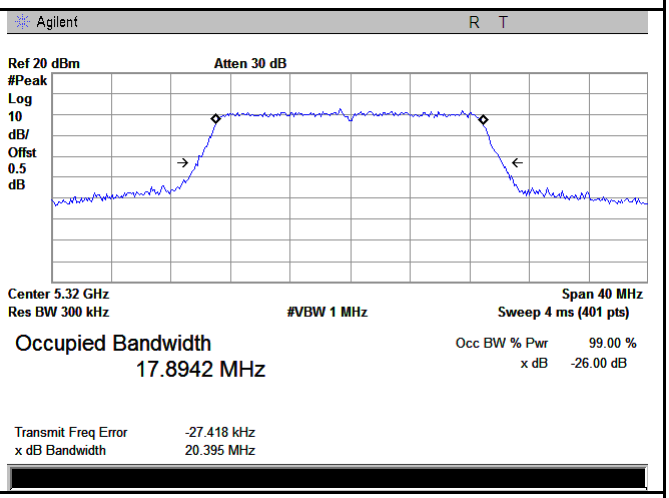
5150-5250MHz Bandwidth - High CH 5240



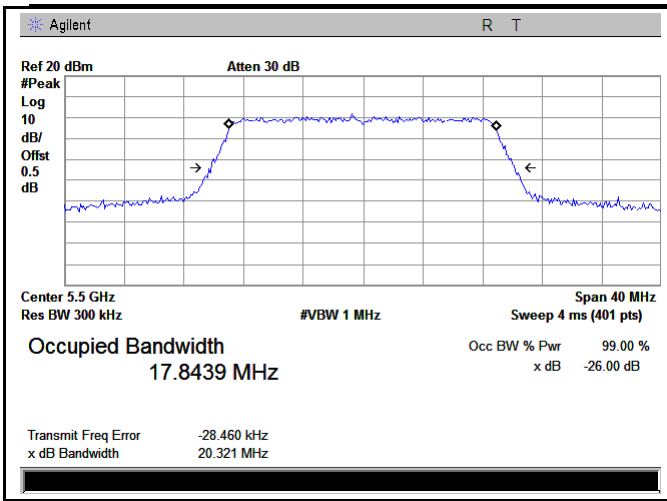
5250-5350MHz Bandwidth - Low CH 5260



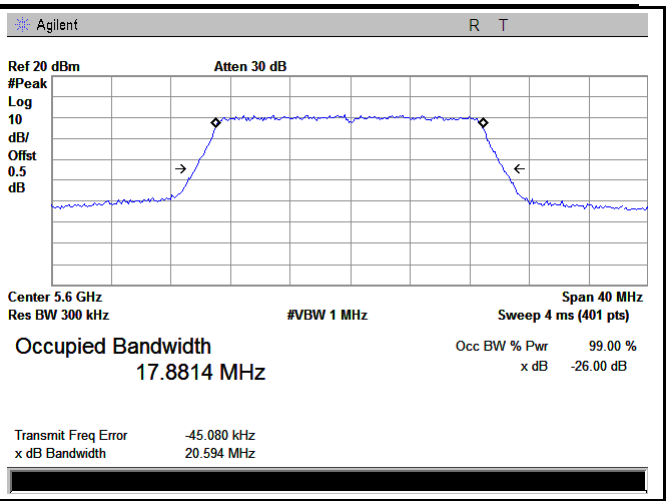
5250-5350MHz Bandwidth - Middle CH 5300



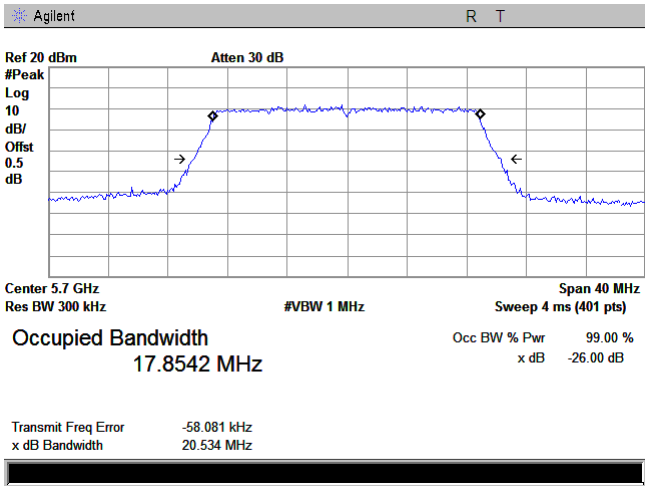
5250-5350MHz Bandwidth - High CH 5320



5470-5725MHz Bandwidth - Low CH 5500

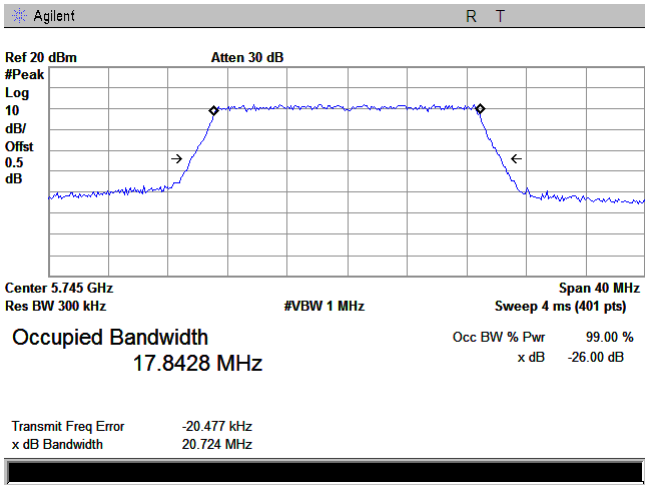


5470-5725MHz Bandwidth - Mid CH 5600

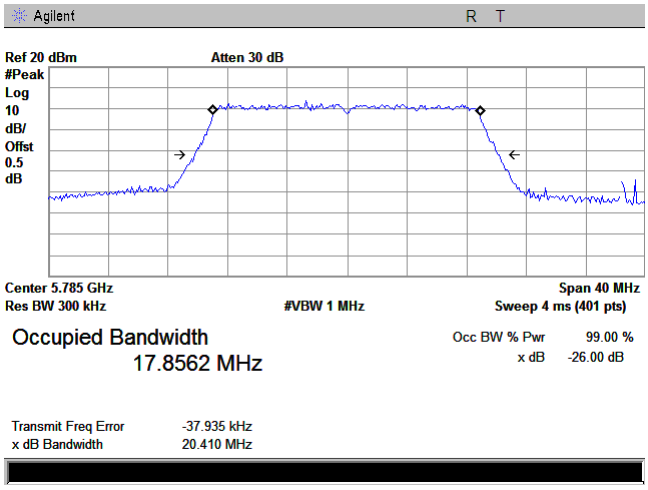


5470-5725MHz Bandwidth - High CH 5700

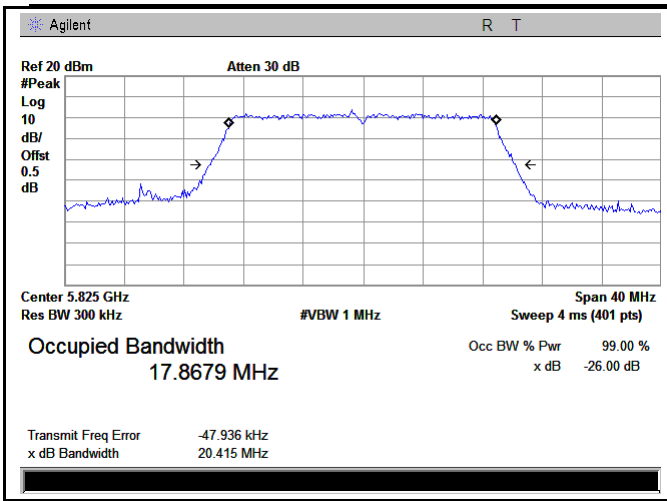
5470-5725MHz Bandwidth - straddle 5720



5725-5850MHz Bandwidth - Low CH 5745



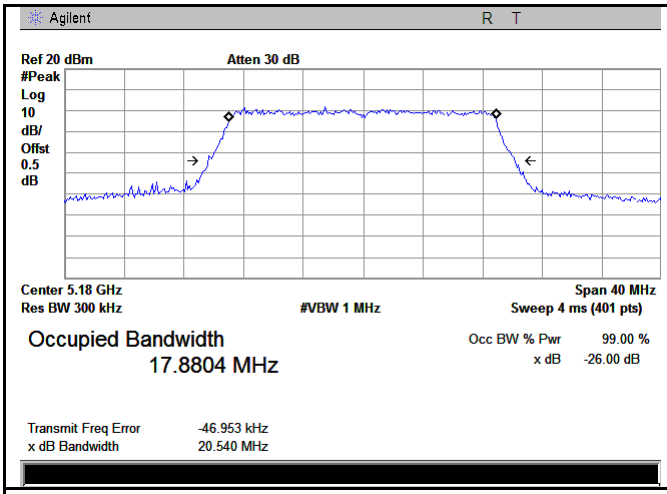
5725-5850MHz Bandwidth - Mid CH 5785



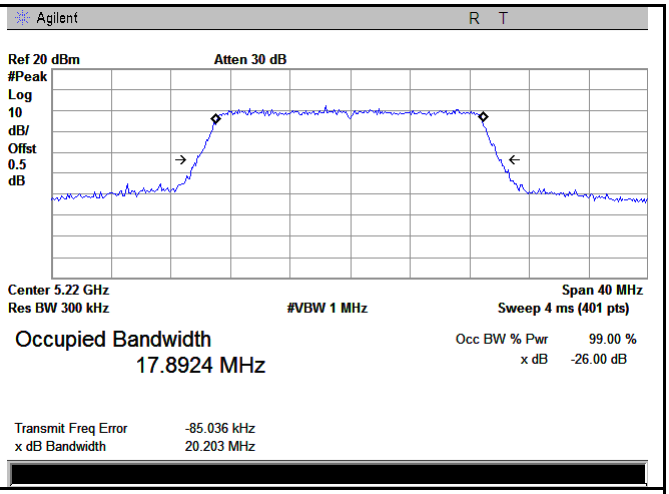
5725-5850MHz Bandwidth - High CH 5825

802.11n (20M)

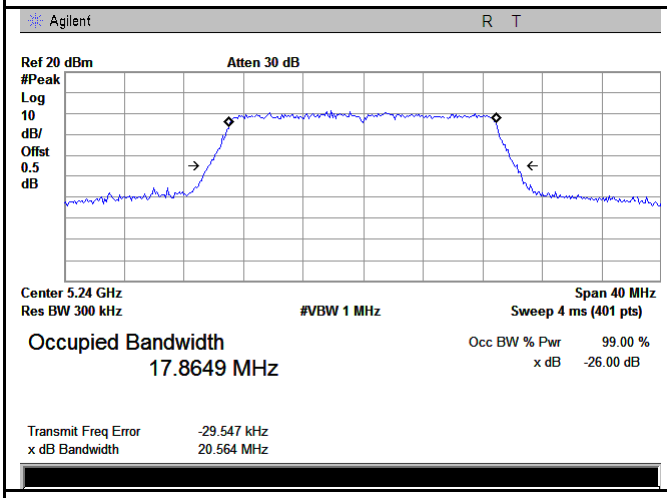
Ant. Black



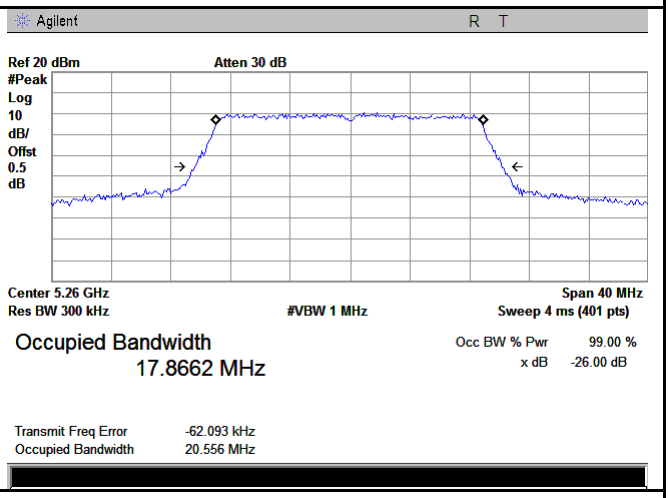
5150-5250MHz Bandwidth - Low CH 5180



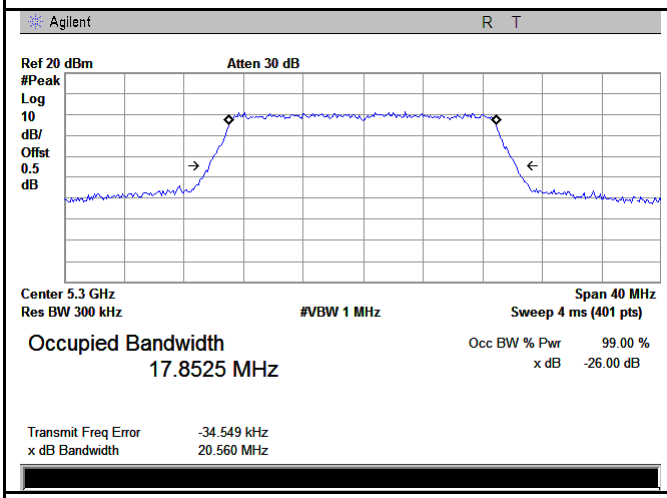
5150-5250MHz Bandwidth - Middle CH 5220



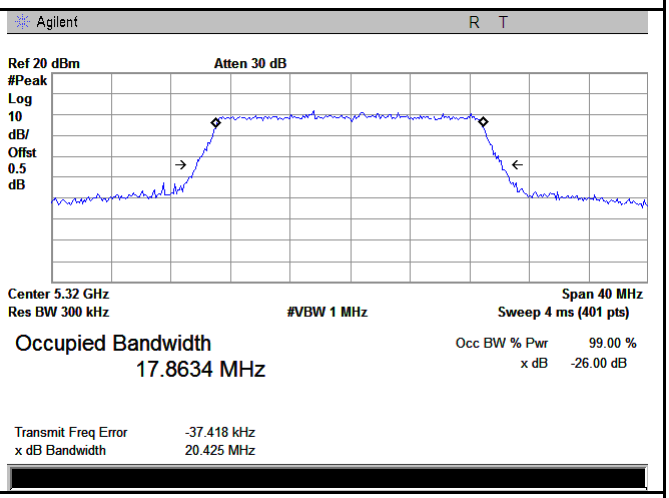
5150-5250MHz Bandwidth - High CH 5240



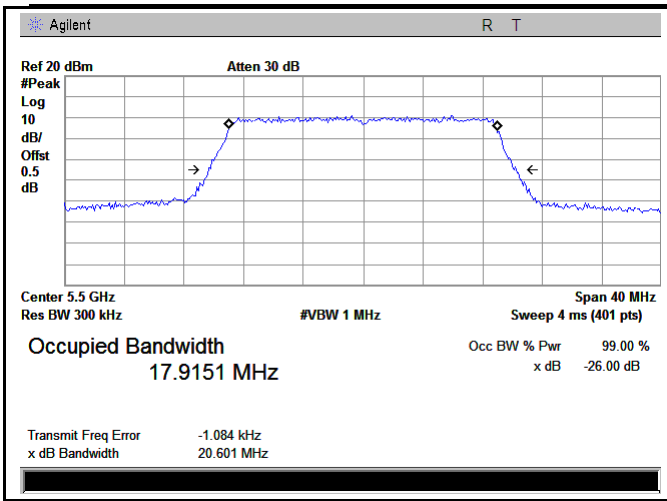
5250-5350MHz Bandwidth - Low CH 5260



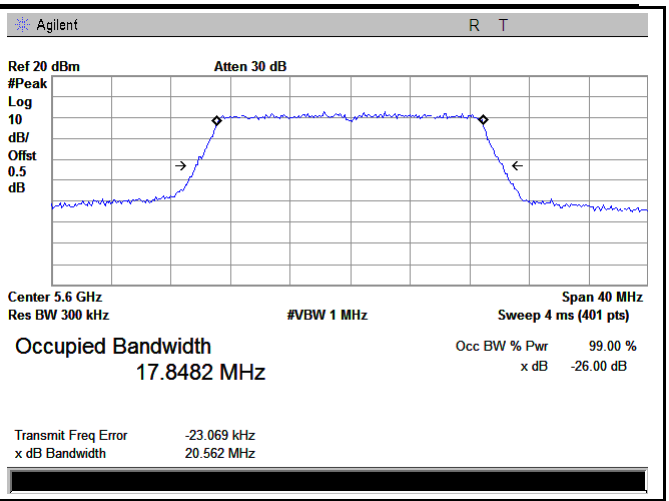
5250-5350MHz Bandwidth - Middle CH 5300



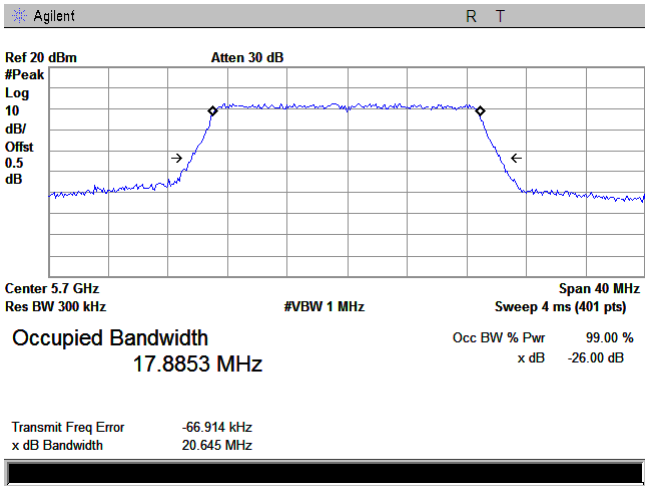
5250-5350MHz Bandwidth - High CH 5320



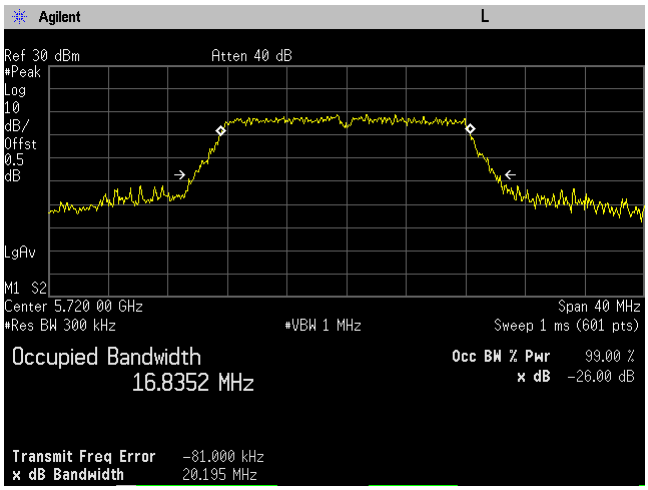
5470-5725MHz Bandwidth - Low CH 5500



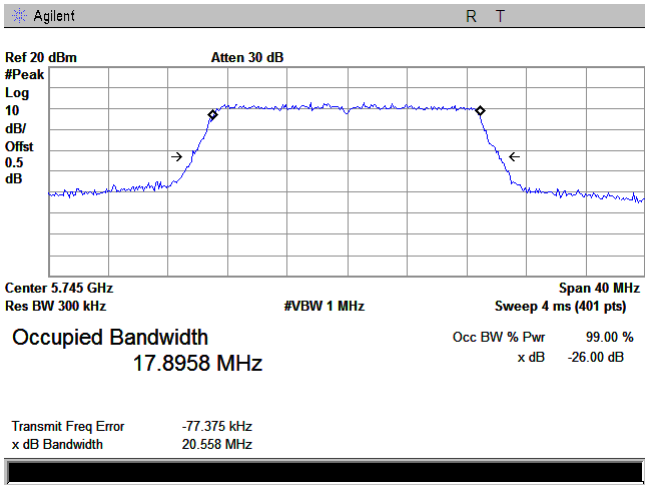
5470-5725MHz Bandwidth - Mid CH 5600



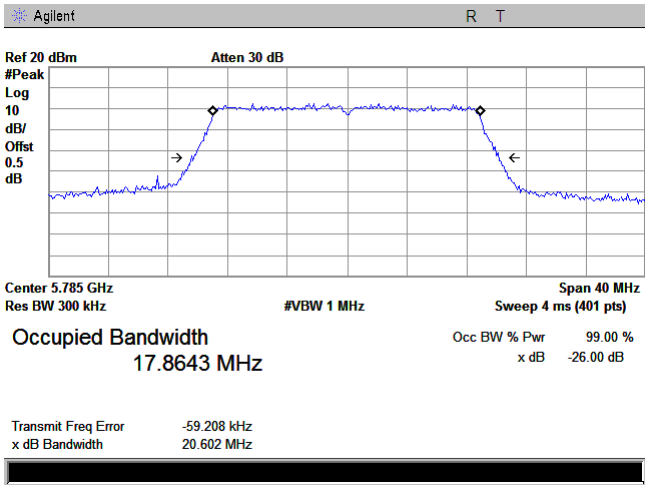
5470-5725MHz Bandwidth - High CH 5700



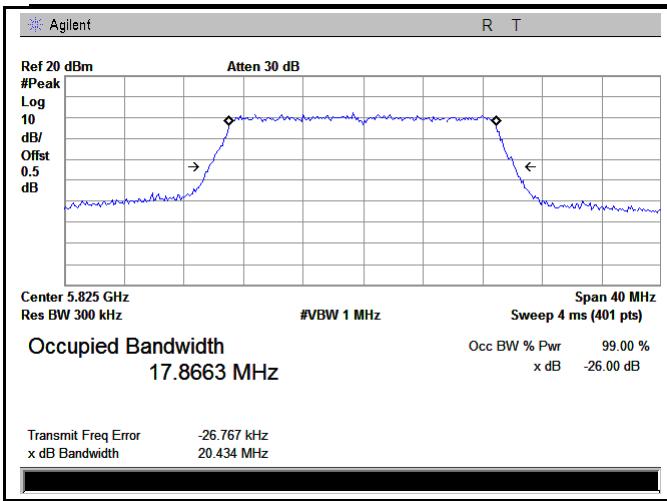
5470-5725MHz Bandwidth - straddle 5720



5725-5850MHz Bandwidth - Low CH 5745



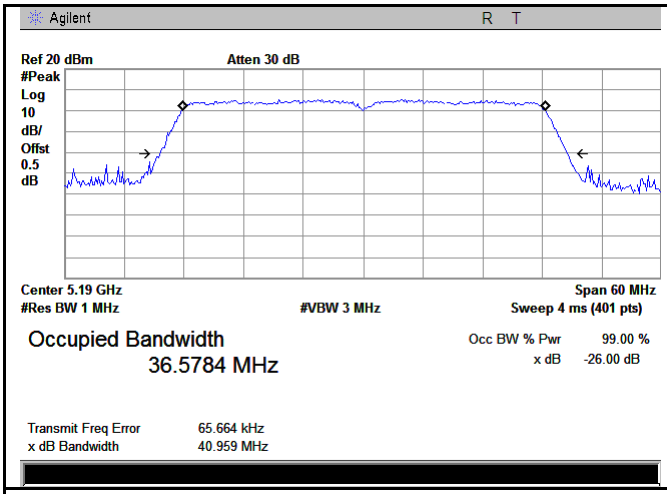
5725-5850MHz Bandwidth - Mid CH 5785



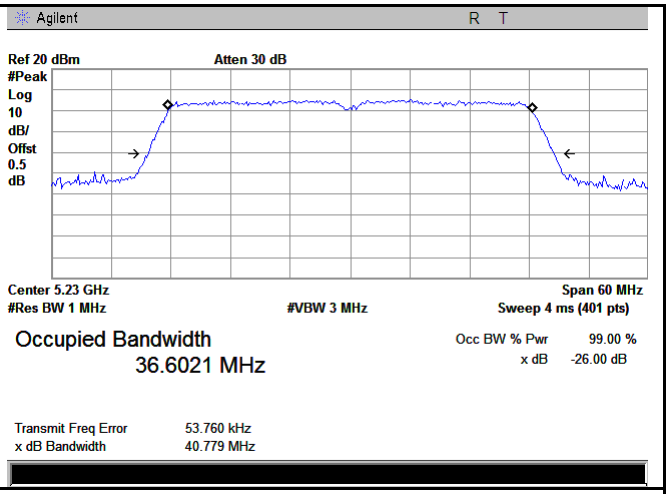
5725-5850MHz Bandwidth - High CH 5825

802.11n (40M)

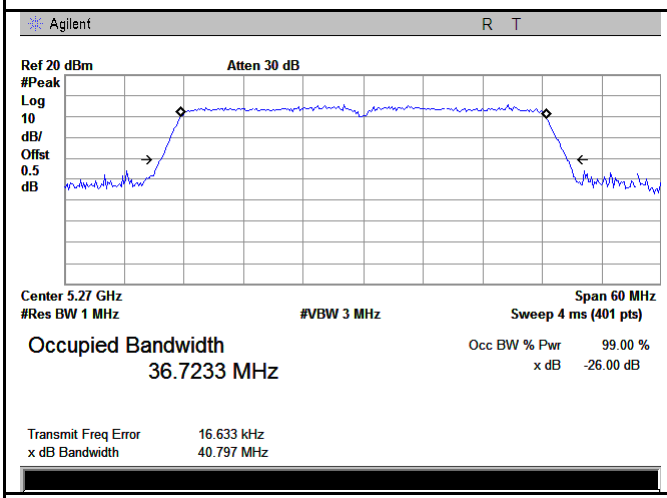
Ant. Green



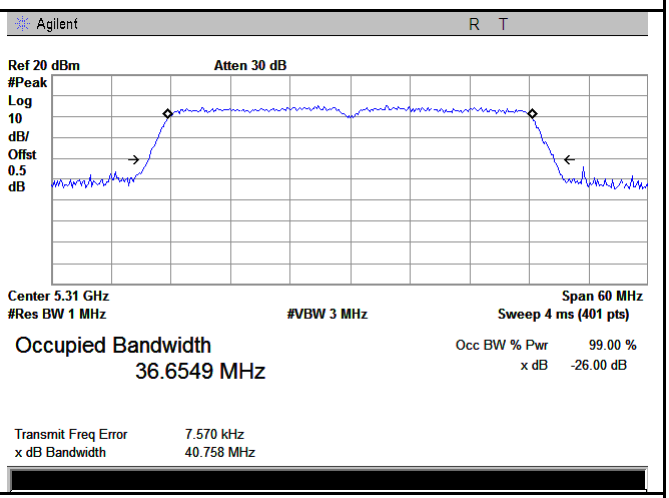
5150-5250MHz Bandwidth - Low CH 5190



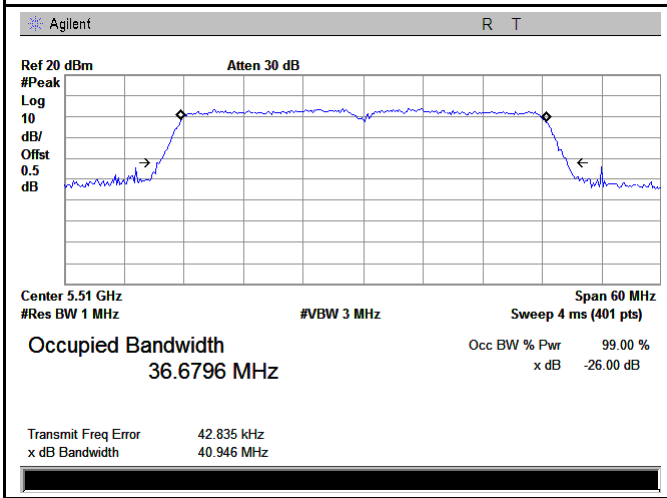
5150-5250MHz Bandwidth - High CH 5230



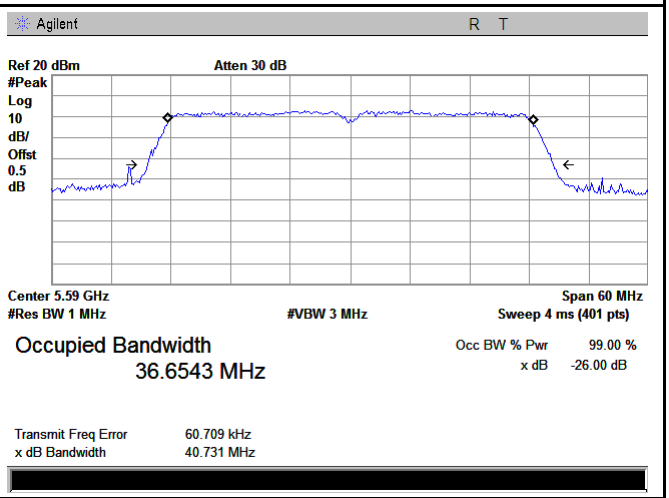
5250-5350MHz Bandwidth - Low CH 5270



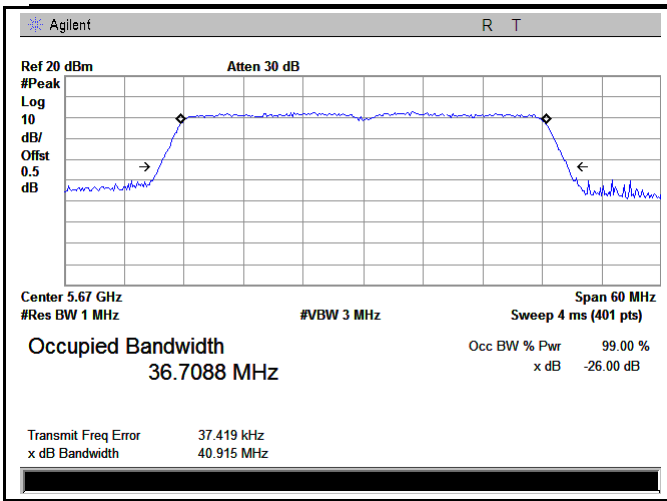
5250-5350MHz Bandwidth - High CH 5310



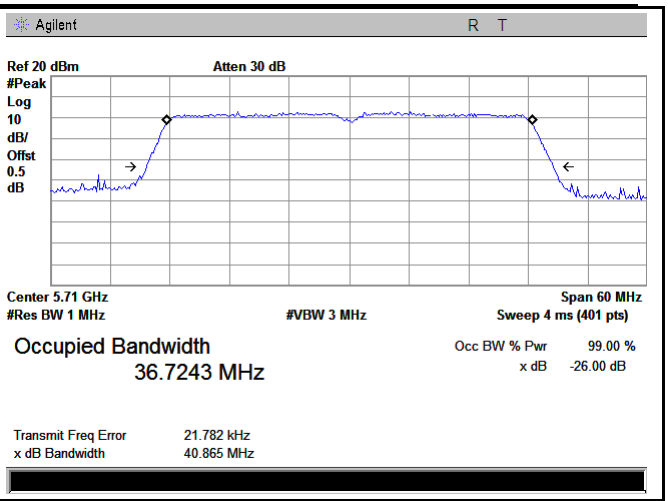
5470-5725MHz Bandwidth - Low CH 5510



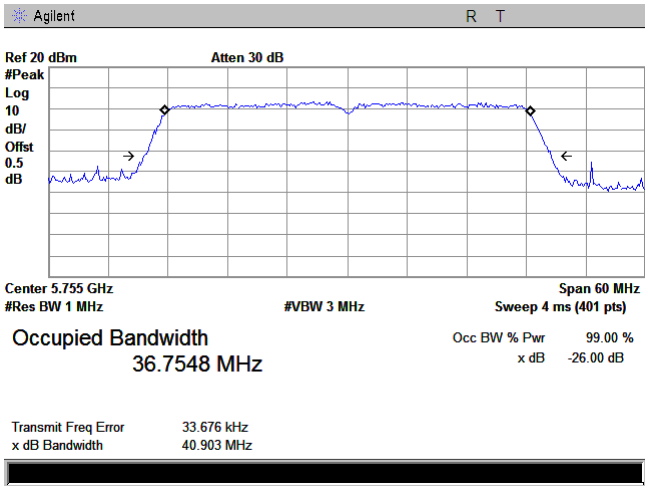
5470-5725MHz Bandwidth - Mid CH 5590



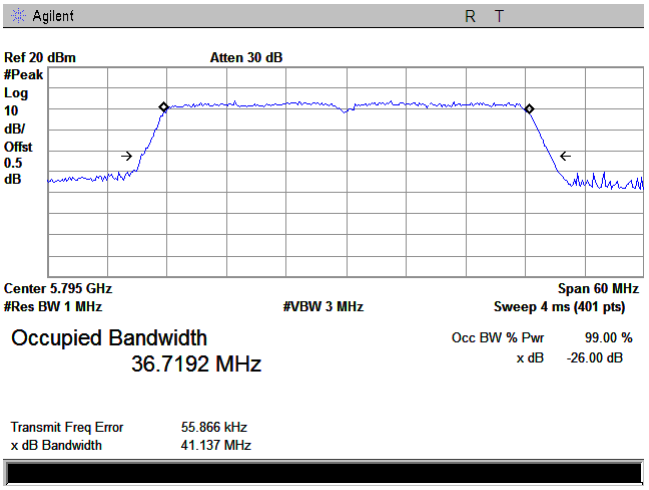
5470-5725MHz Bandwidth - High CH 5670



5470-5725MHz Bandwidth - Straddle CH 5710



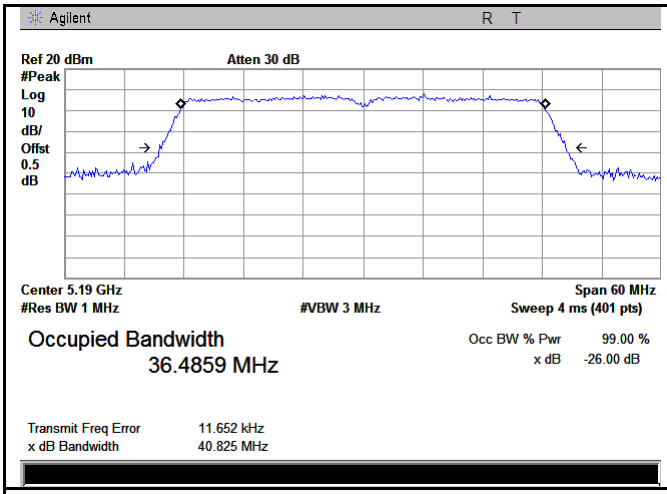
5725-5850MHz Bandwidth - Low CH 5755



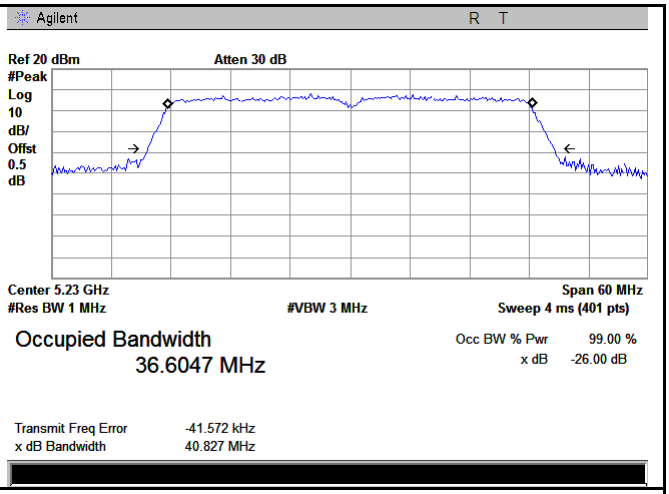
5725-5850MHz Bandwidth - High CH 5795

802.11n (40M)

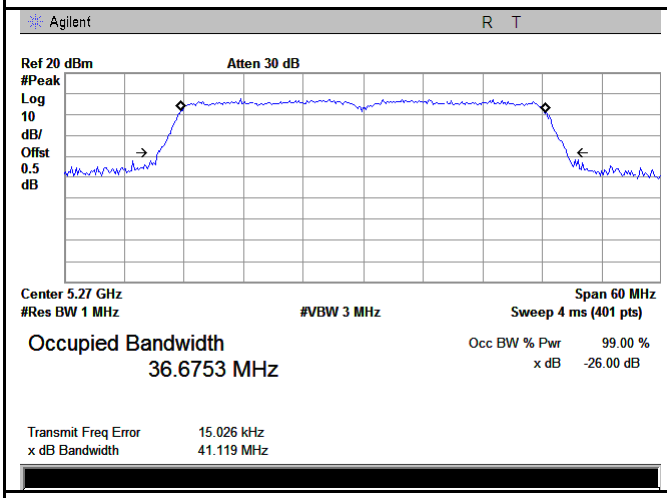
Ant. Gray



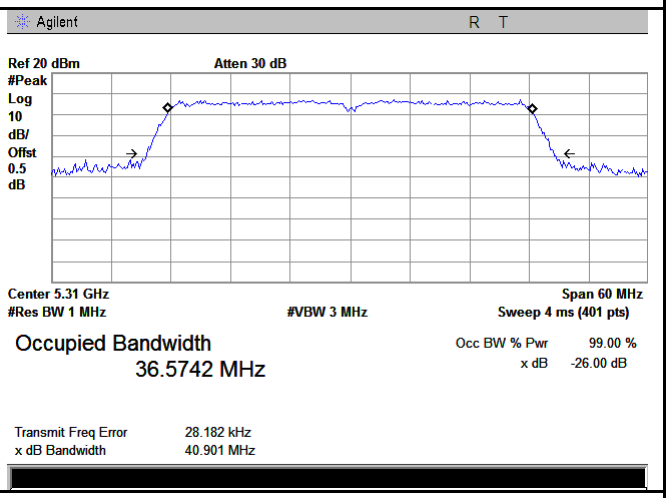
5150-5250MHz Bandwidth - Low CH 5190



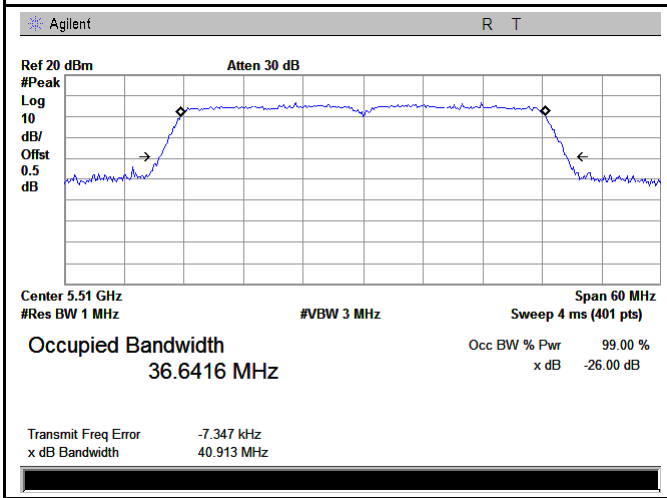
5150-5250MHz Bandwidth - High CH 5230



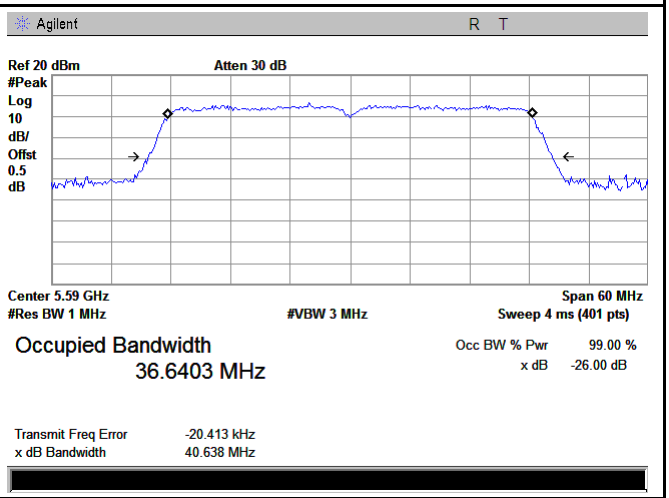
5250-5350MHz Bandwidth - Low CH 5270



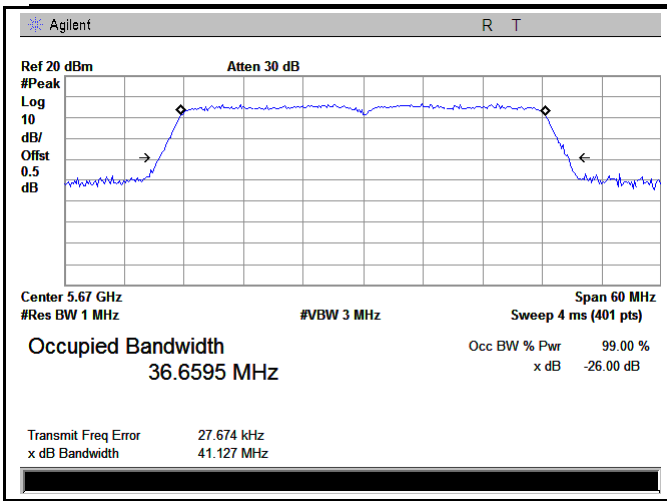
5250-5350MHz Bandwidth - High CH 5310



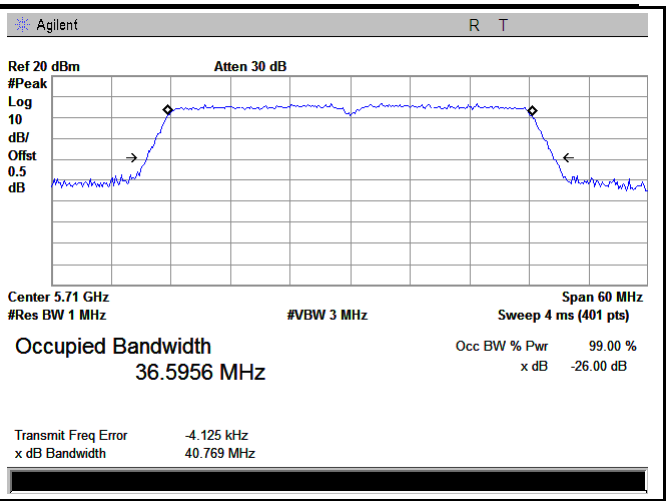
5470-5725MHz Bandwidth - Low CH 5510



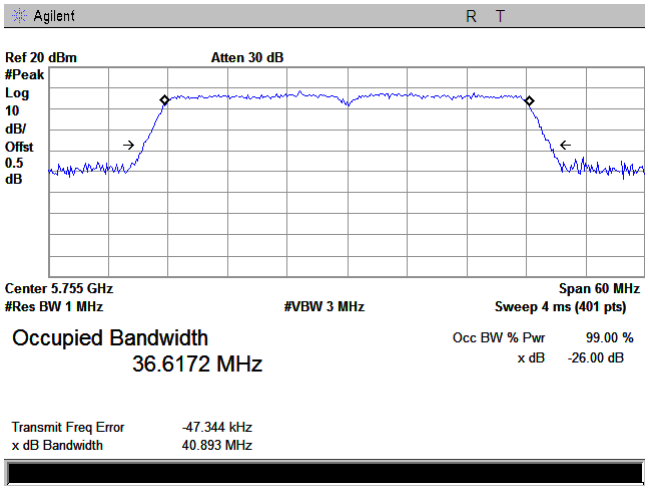
5470-5725MHz Bandwidth - Mid CH 5590



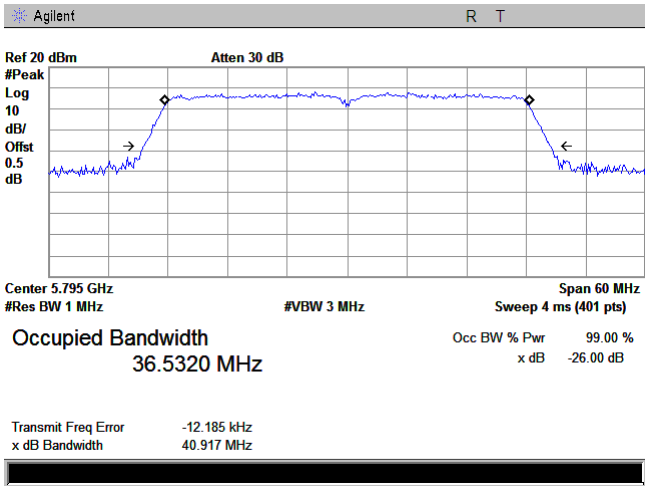
5470-5725MHz Bandwidth - High CH 5670



5470-5725MHz Bandwidth - Straddle CH 5710



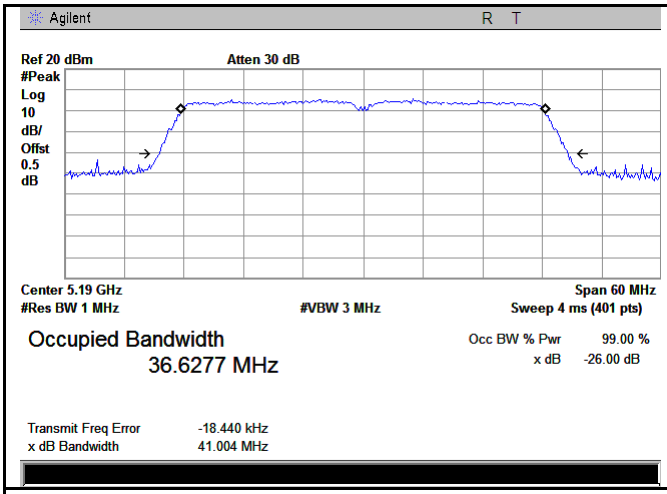
5725-5850MHz Bandwidth - Low CH 5755



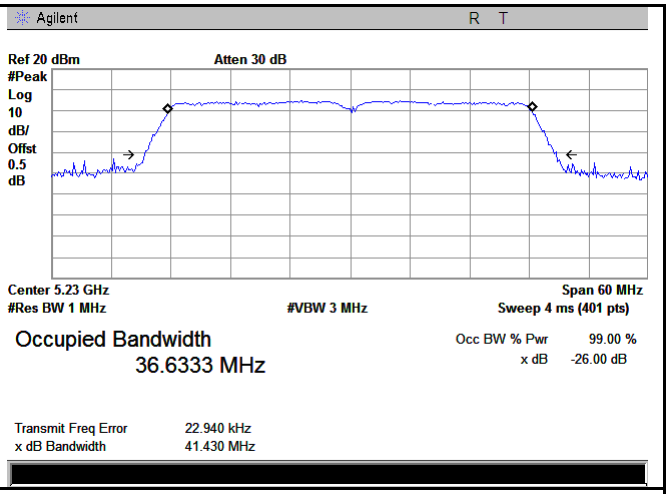
5725-5850MHz Bandwidth - High CH 5795

802.11n (40M)

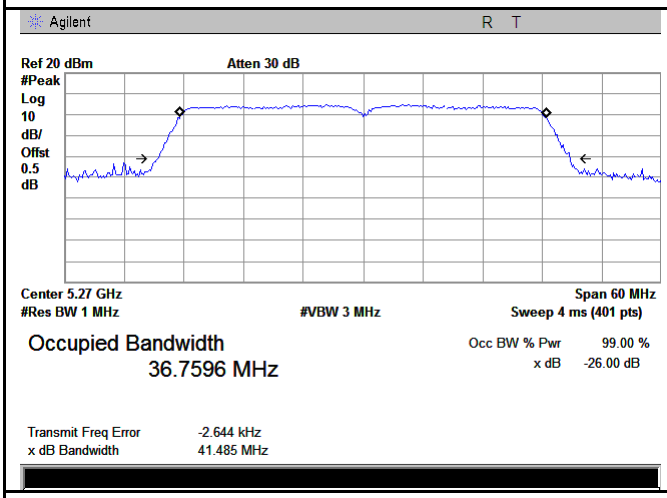
Ant. Black



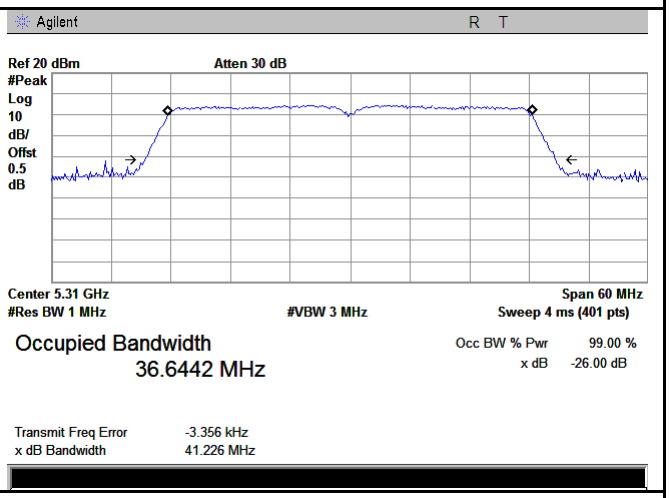
5150-5250MHz Bandwidth - Low CH 5190



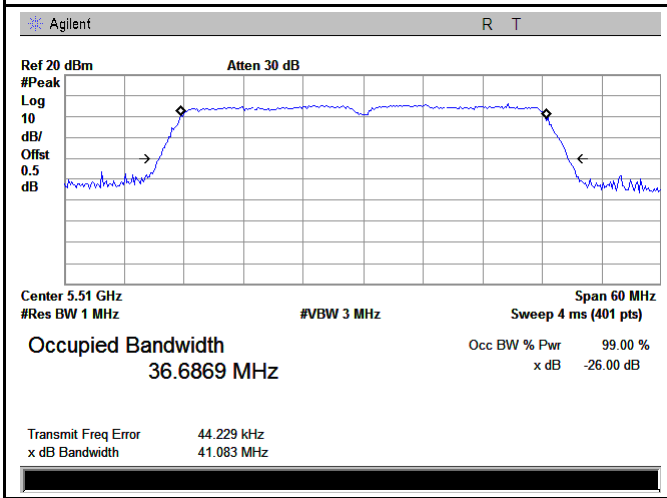
5150-5250MHz Bandwidth - High CH 5230



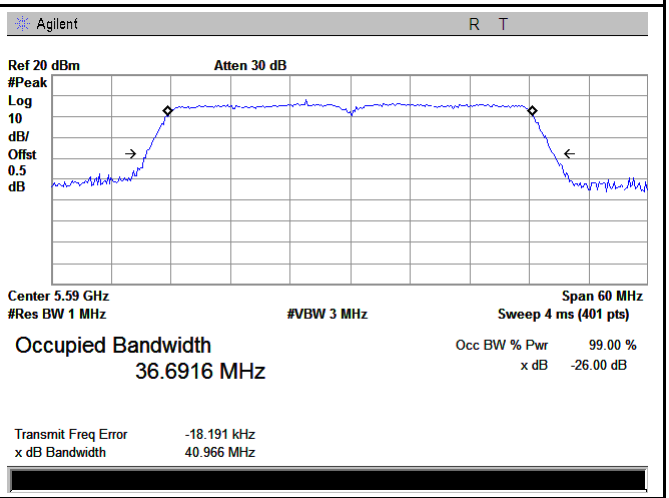
5250-5350MHz Bandwidth - Low CH 5270



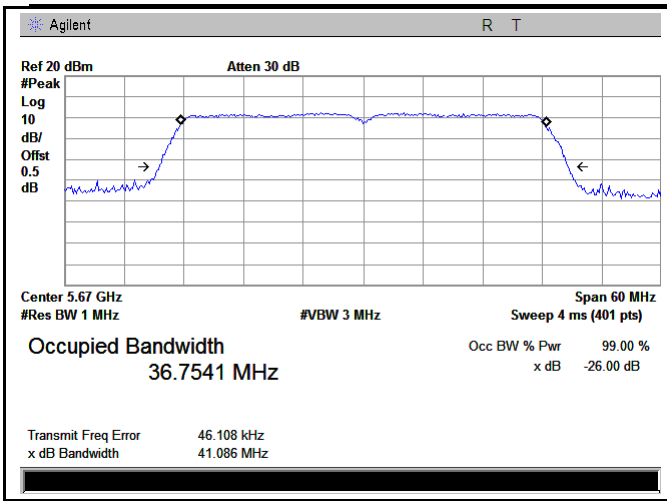
5250-5350MHz Bandwidth - High CH 5310



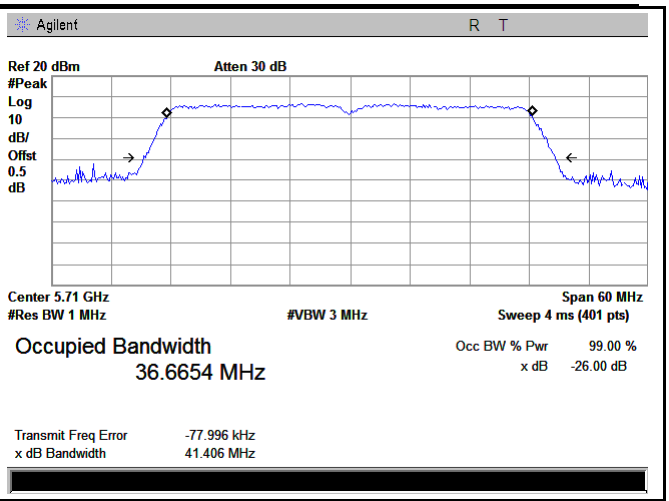
5470-5725MHz Bandwidth - Low CH 5510



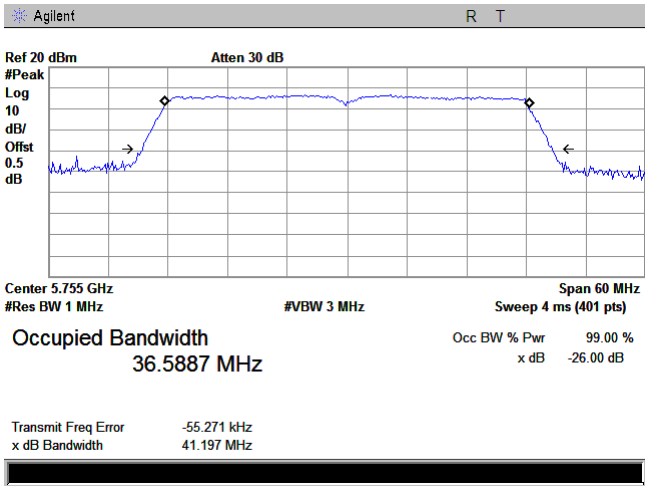
5470-5725MHz Bandwidth - Mid CH 5590



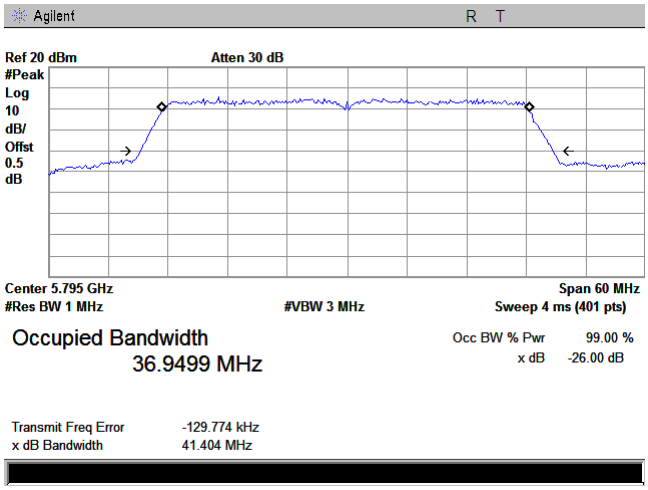
5470-5725MHz Bandwidth - High CH 5670



5470-5725MHz Bandwidth - Straddle CH 5710



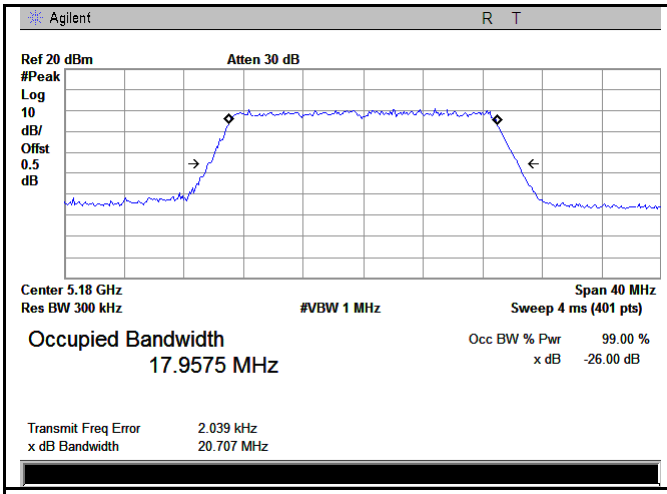
5725-5850MHz Bandwidth - Low CH 5755



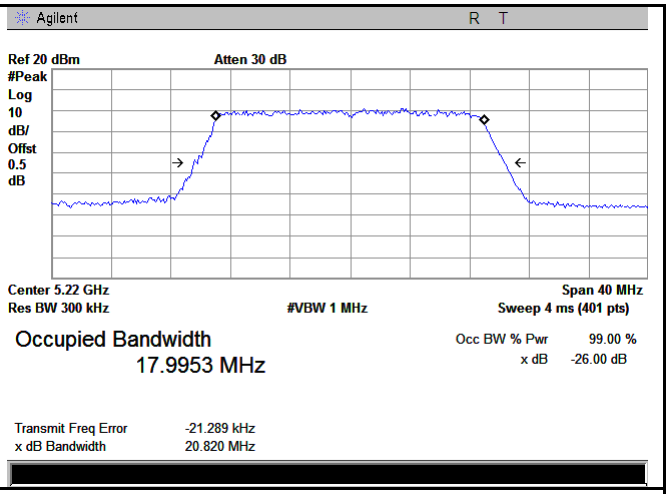
5725-5850MHz Bandwidth - High CH 5795

802.11ac (20M)

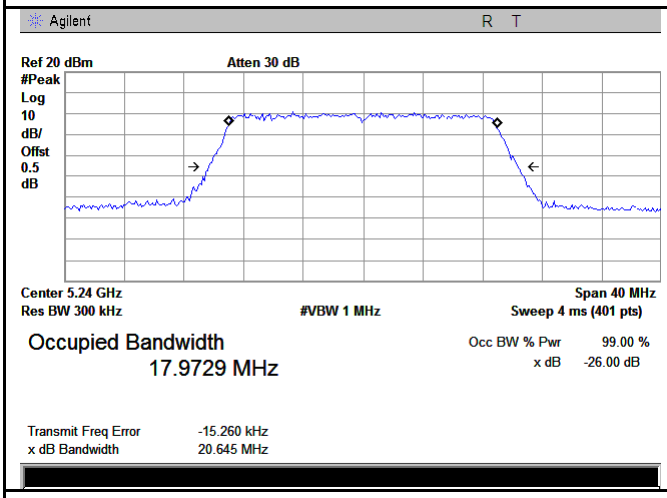
Ant. Green



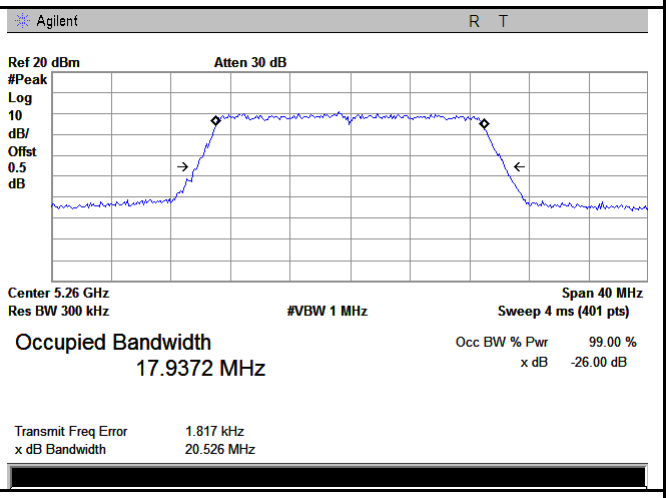
5150-5250MHz Bandwidth - Low CH 5180



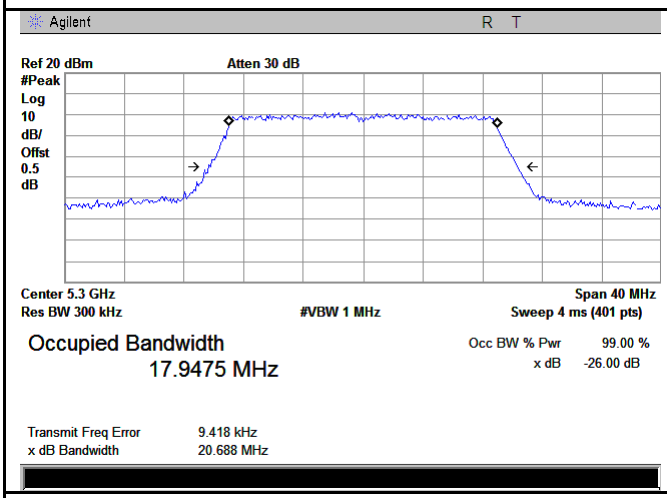
5150-5250MHz Bandwidth - Middle CH 5220



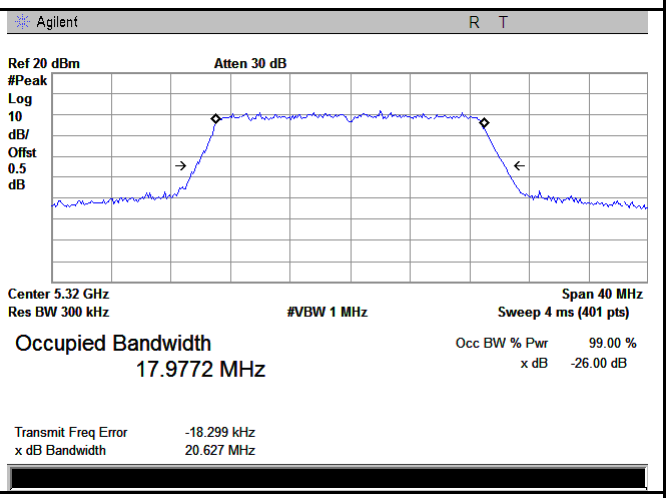
5150-5250MHz Bandwidth - High CH 5240



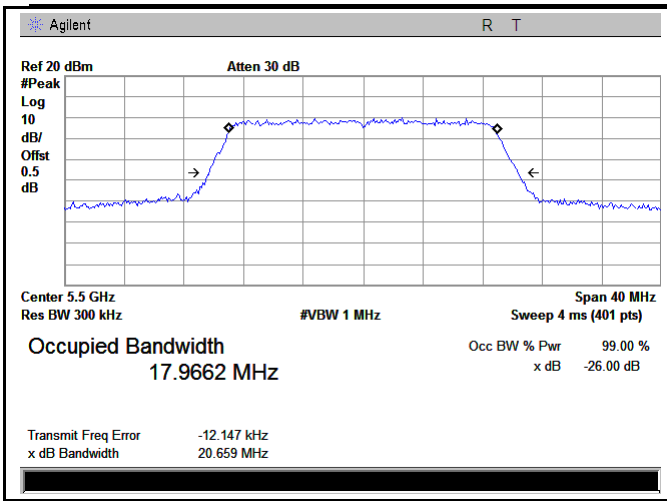
5250-5350MHz Bandwidth - Low CH 5260



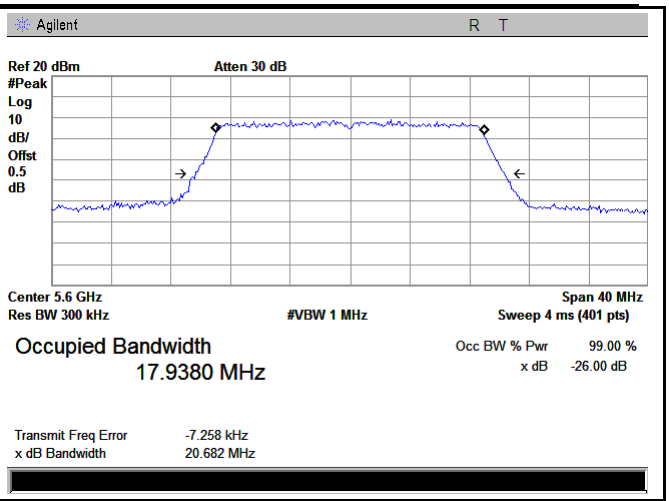
5250-5350MHz Bandwidth - Middle CH 5300



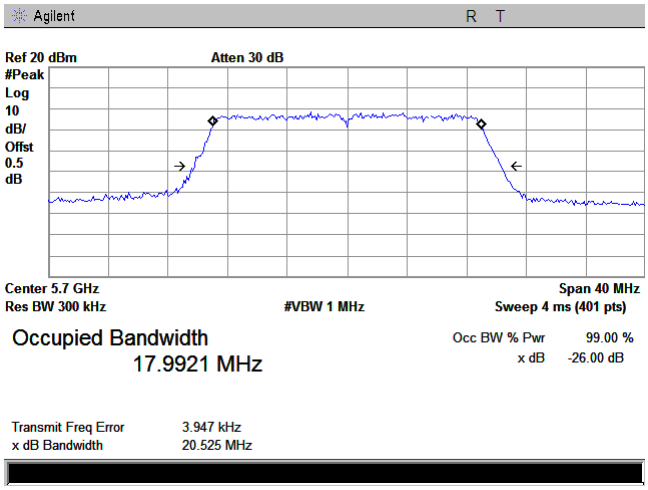
5250-5350MHz Bandwidth - High CH 5320



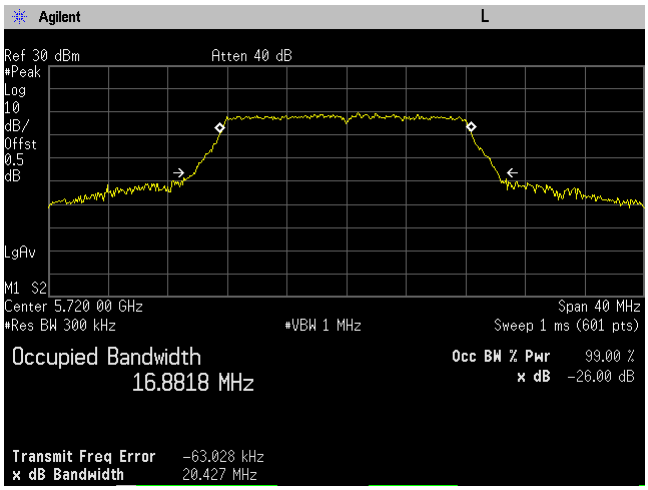
5470-5725MHz Bandwidth - Low CH 5500



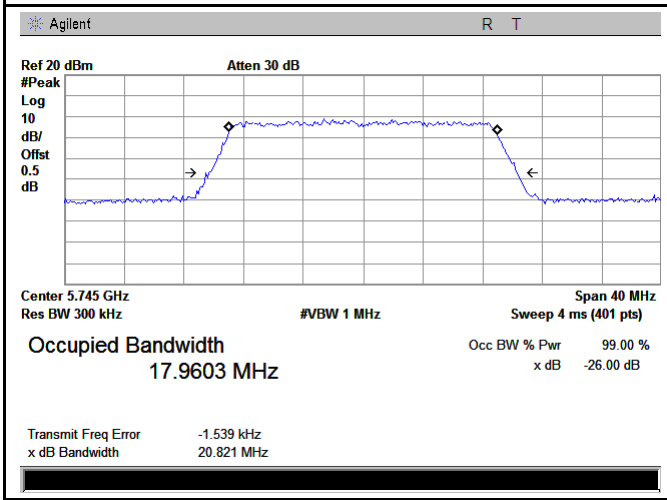
5470-5725MHz Bandwidth - Mid CH 5600



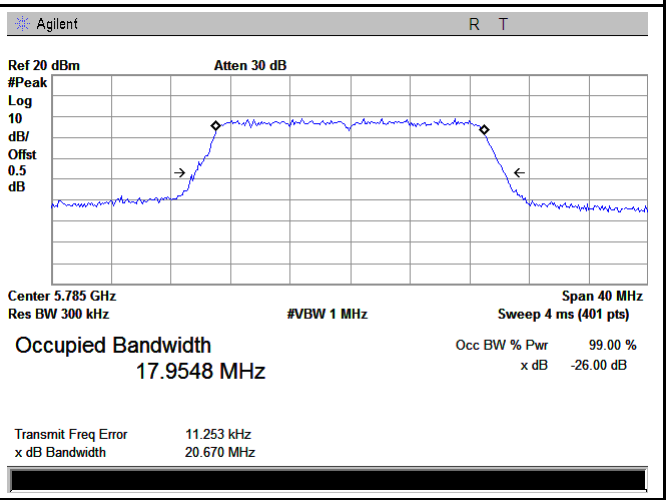
5470-5725MHz Bandwidth - High CH 5700



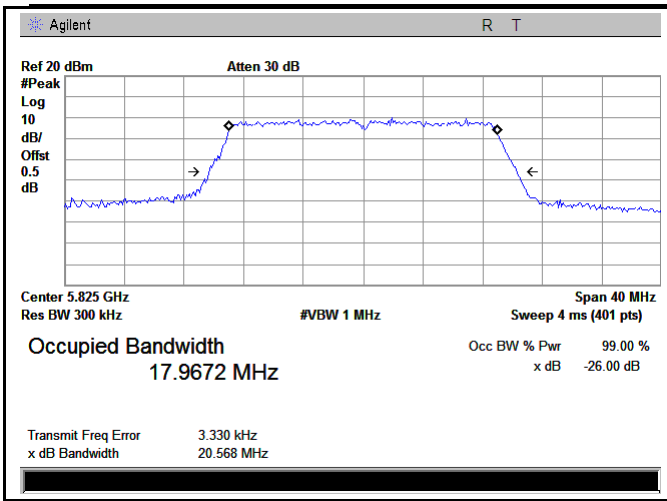
5470-5725MHz Bandwidth - High CH 5720



5725-5850MHz Bandwidth - Low CH 5745



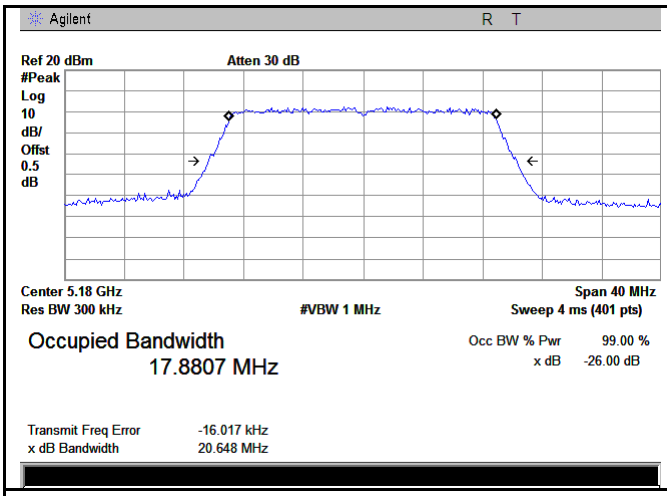
5725-5850MHz Bandwidth - Mid CH 5785



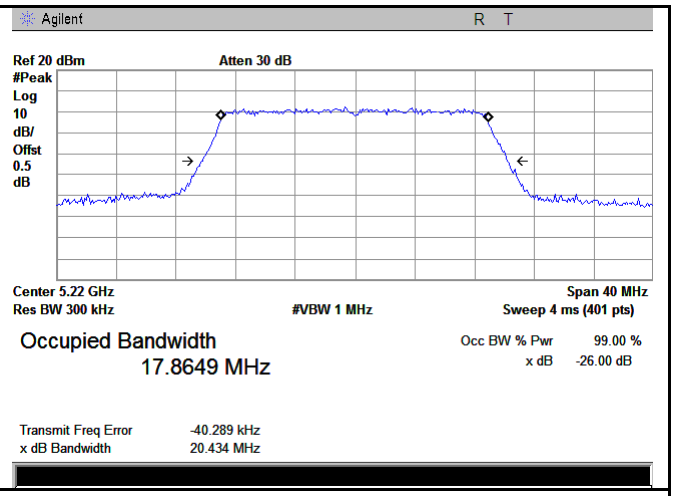
5725-5850MHz Bandwidth - High CH 5825

802.11ac (20M)

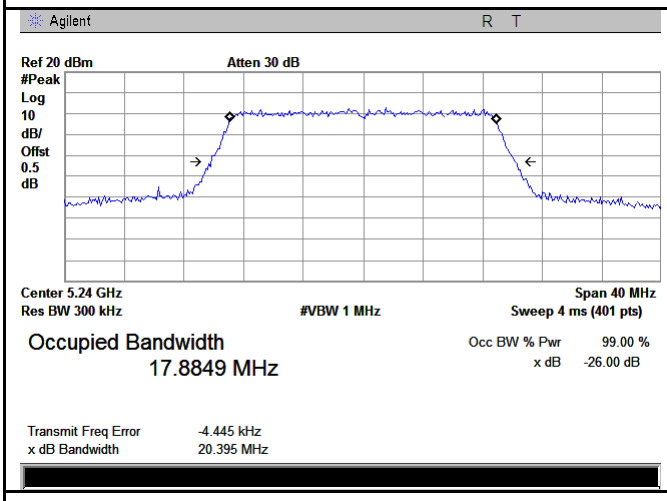
Ant. Gray



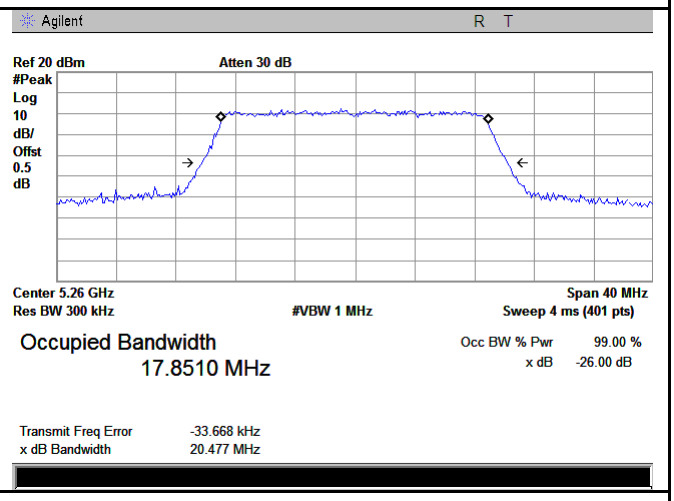
5150-5250MHz Bandwidth - Low CH 5180



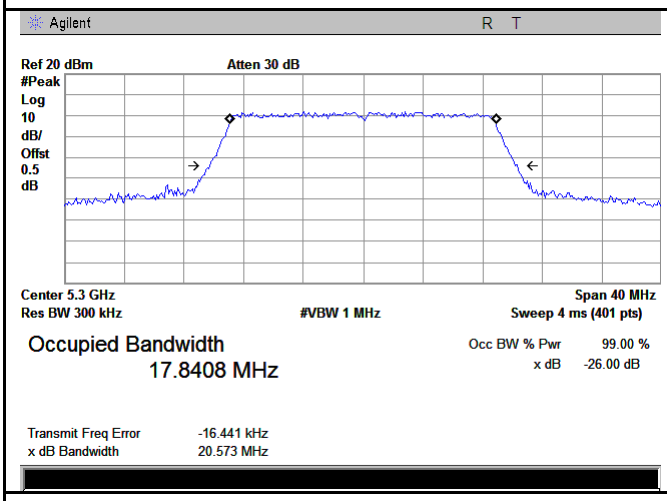
5150-5250MHz Bandwidth - Middle CH 5220



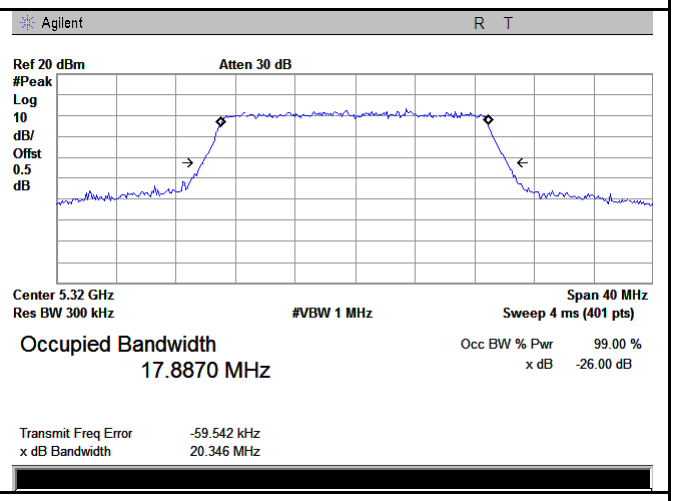
5150-5250MHz Bandwidth - High CH 5240



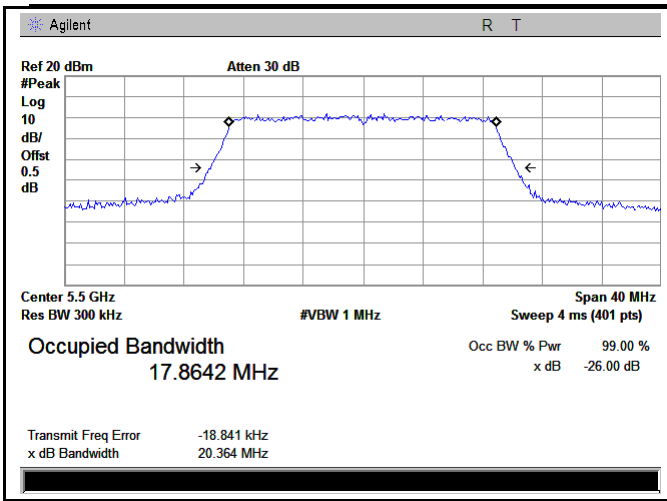
5250-5350MHz Bandwidth - Low CH 5260



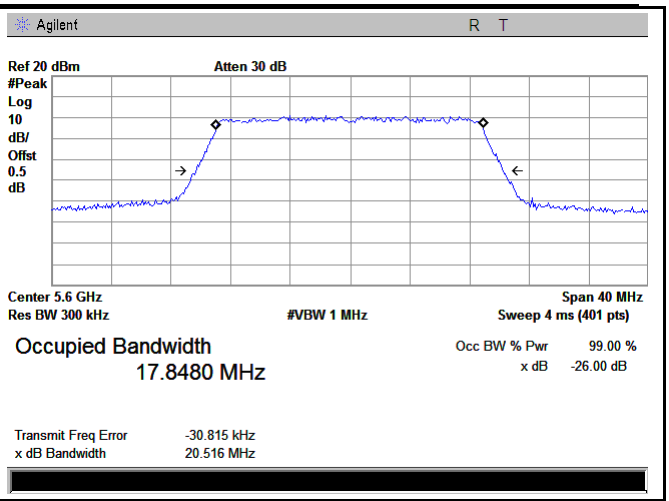
5250-5350MHz Bandwidth - Middle CH 5300



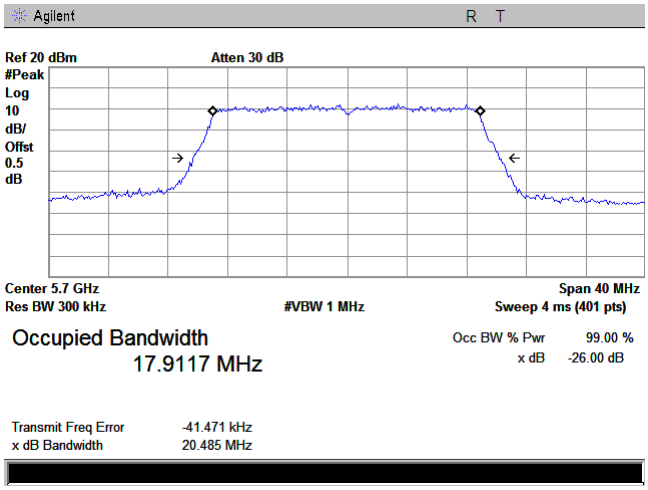
5250-5350MHz Bandwidth - High CH 5320



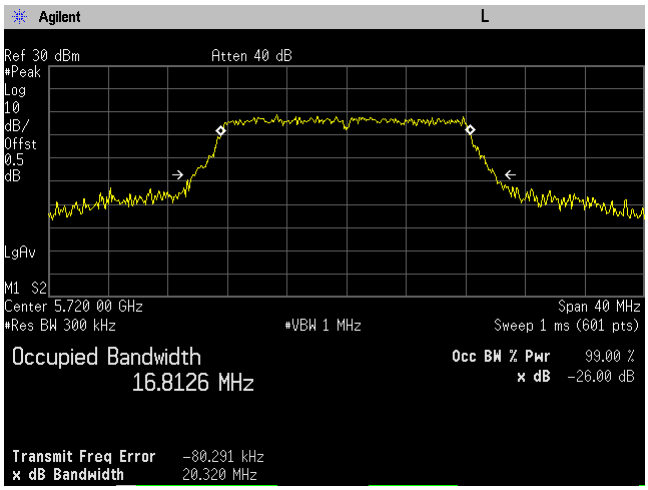
5470-5725MHz Bandwidth - Low CH 5500



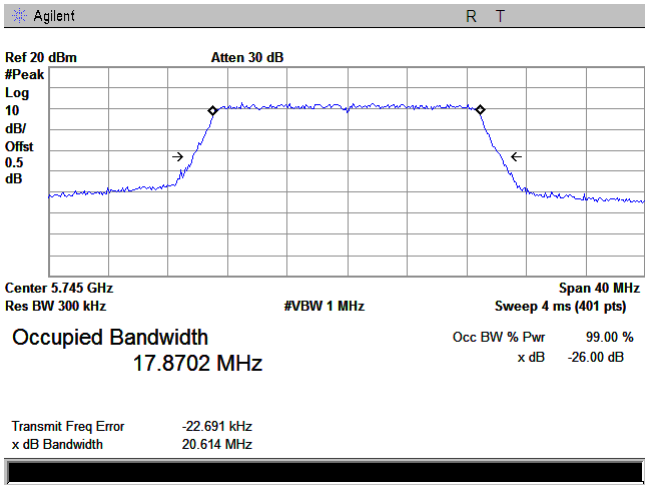
5470-5725MHz Bandwidth - Mid CH 5600



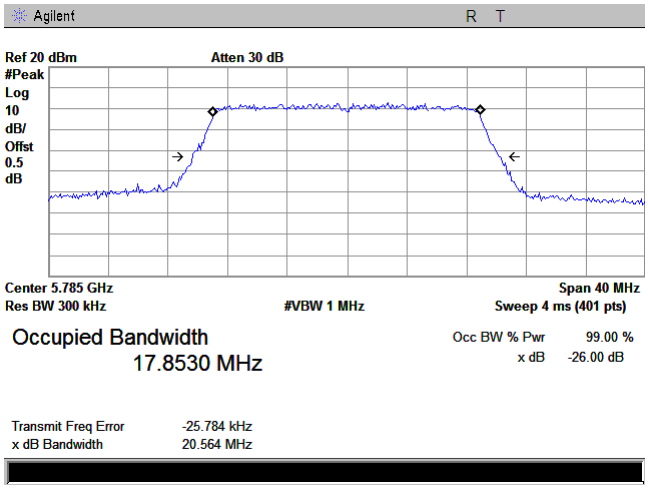
5470-5725MHz Bandwidth - High CH 5700



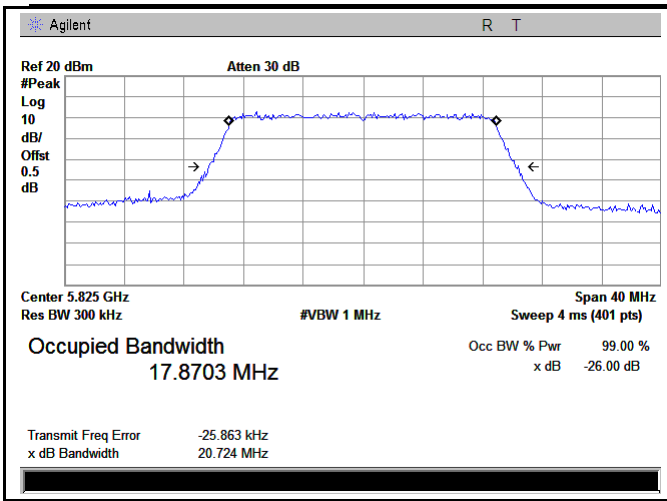
5725-5850MHz Bandwidth - straddle 5720



5725-5850MHz Bandwidth - Low CH 5745



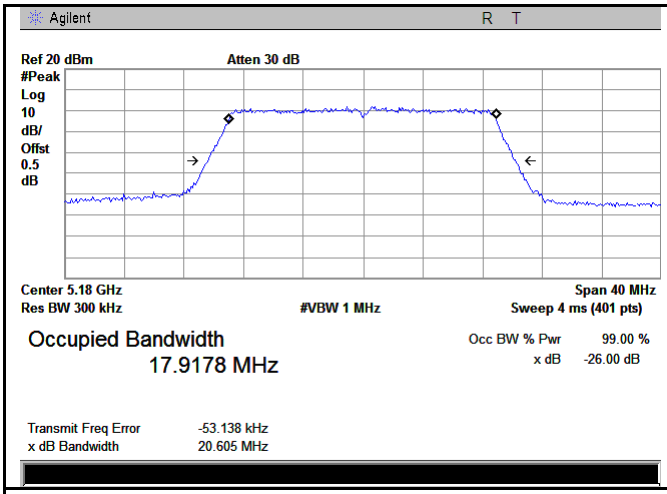
5725-5850MHz Bandwidth - Mid CH 5785



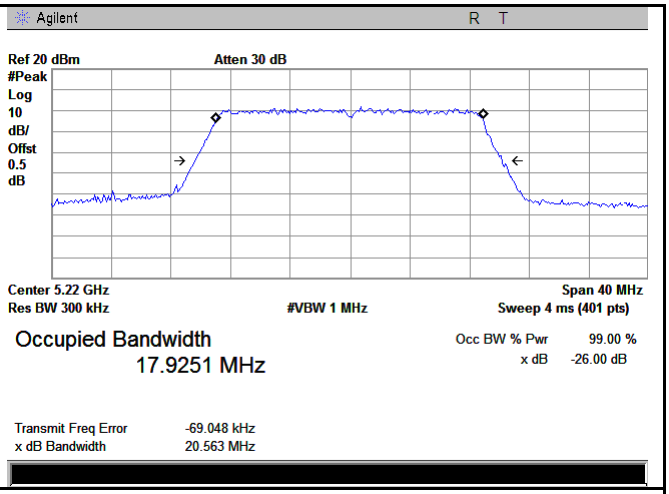
5725-5850MHz Bandwidth - High CH 5825

802.11ac (20M)

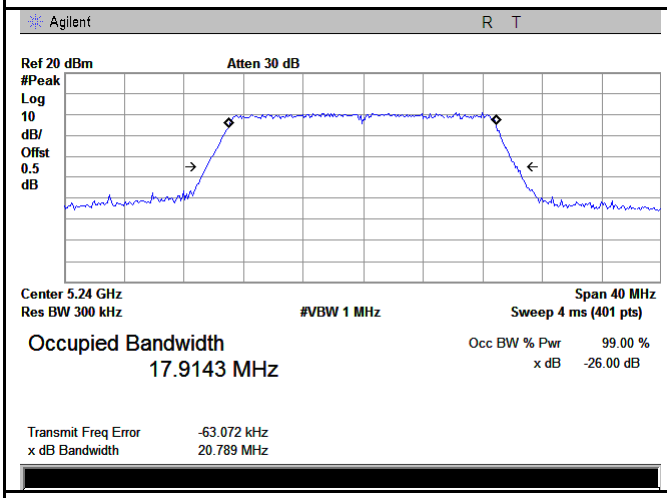
Ant. Black



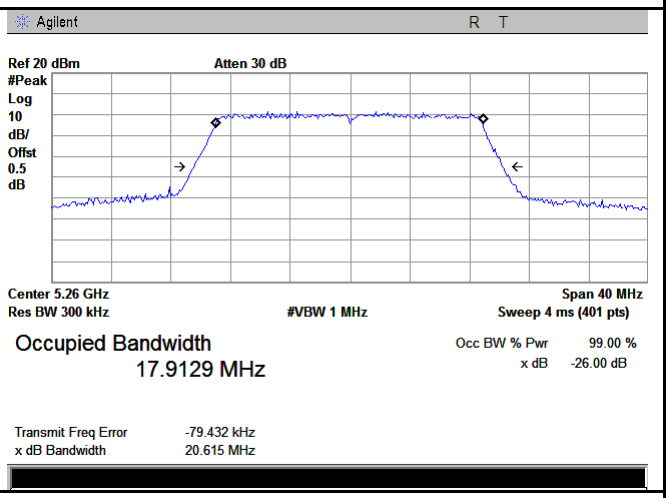
5150-5250MHz Bandwidth - Low CH 5180



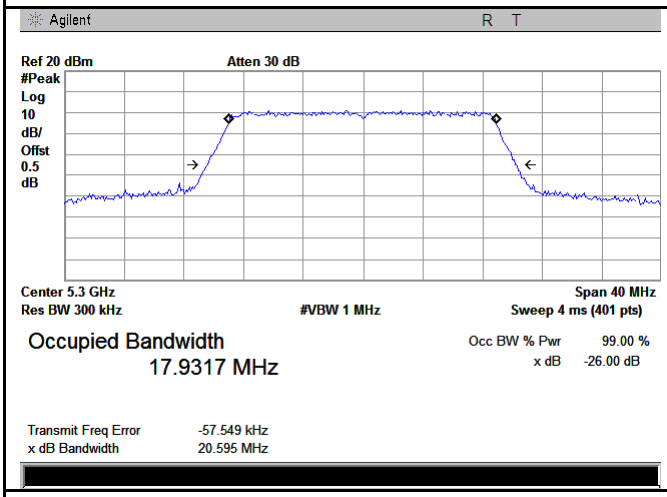
5150-5250MHz Bandwidth - Middle CH 5220



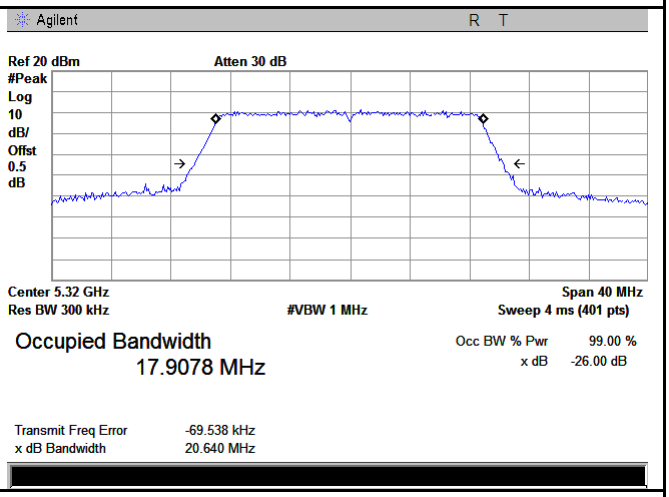
5150-5250MHz Bandwidth - High CH 5240



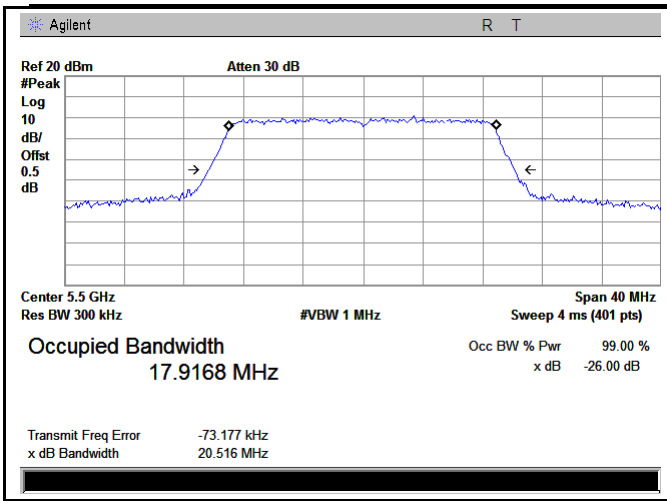
5250-5350MHz Bandwidth - Low CH 5260



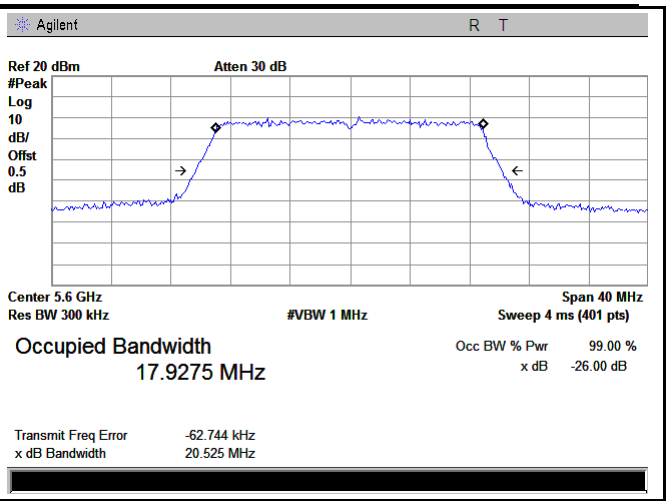
5250-5350MHz Bandwidth - Middle CH 5300



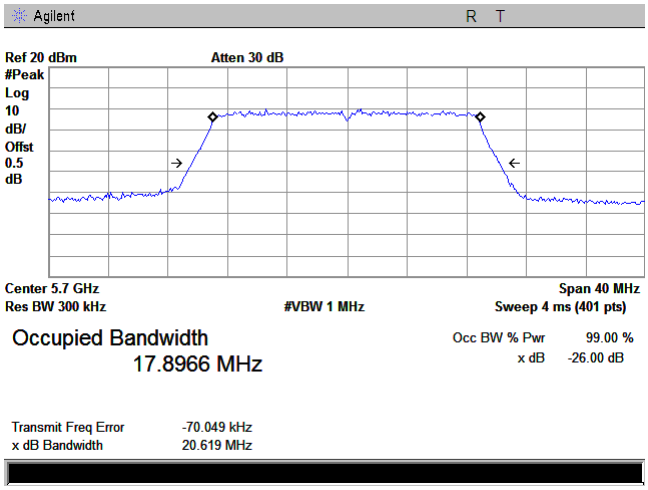
5250-5350MHz Bandwidth - High CH 5320



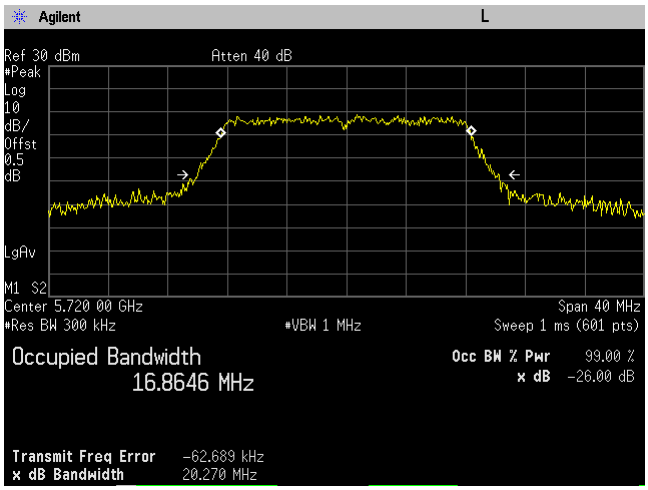
5470-5725MHz Bandwidth - Low CH 5500



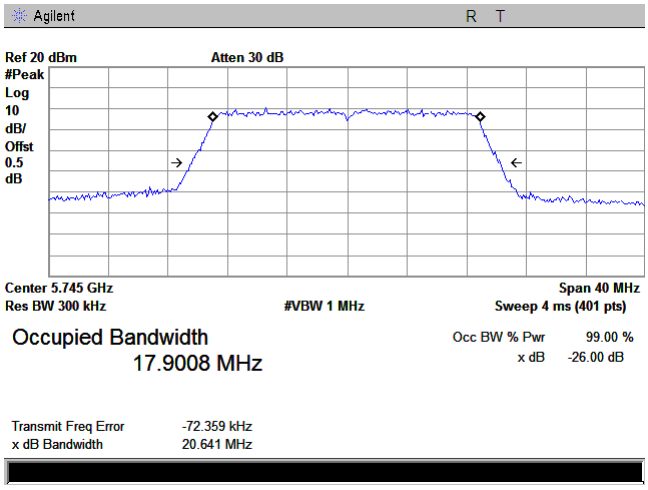
5470-5725MHz Bandwidth - Mid CH 5600



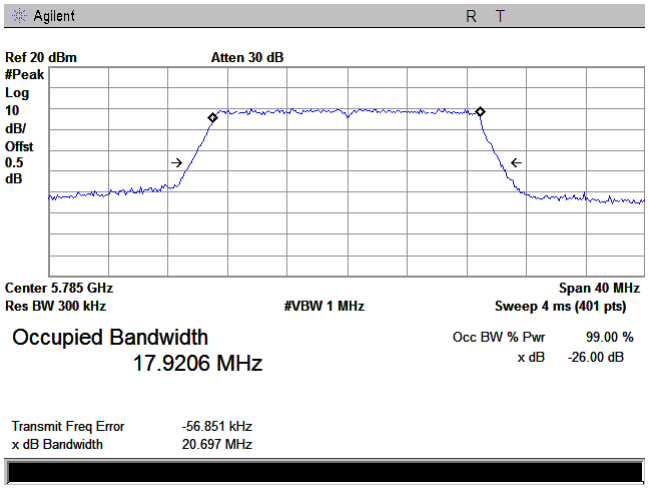
5470-5725MHz Bandwidth - High CH 5700



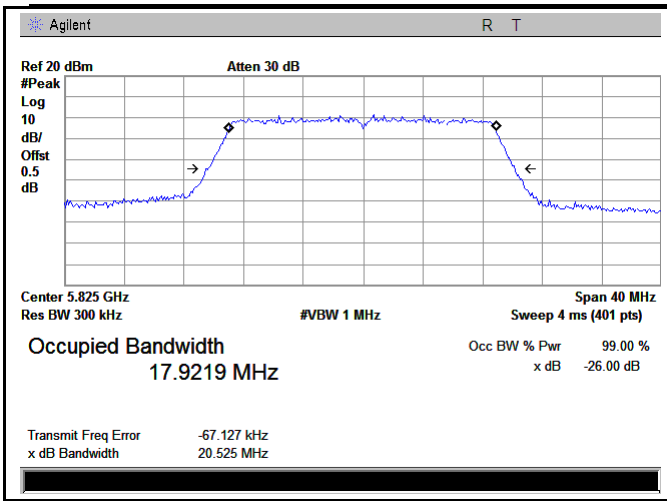
5725-5850MHz Bandwidth - straddle 5720



5725-5850MHz Bandwidth - Low CH 5745



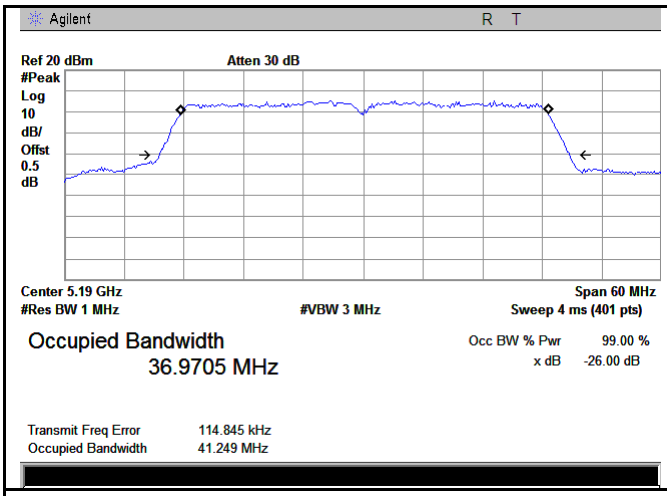
5725-5850MHz Bandwidth - Mid CH 5785



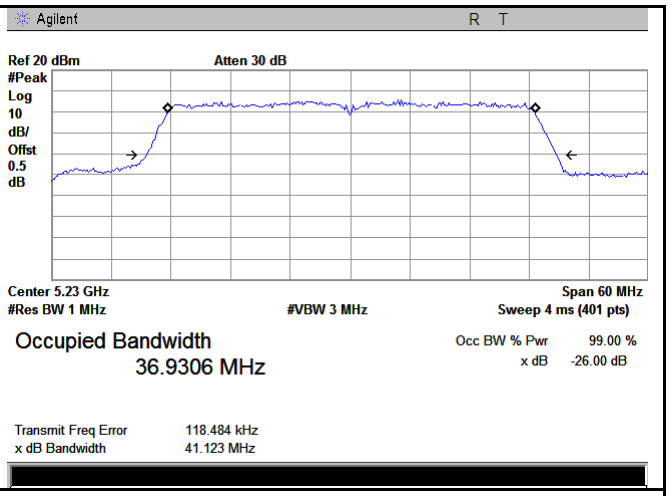
5725-5850MHz Bandwidth - High CH 5825

802.11 ac (40M)

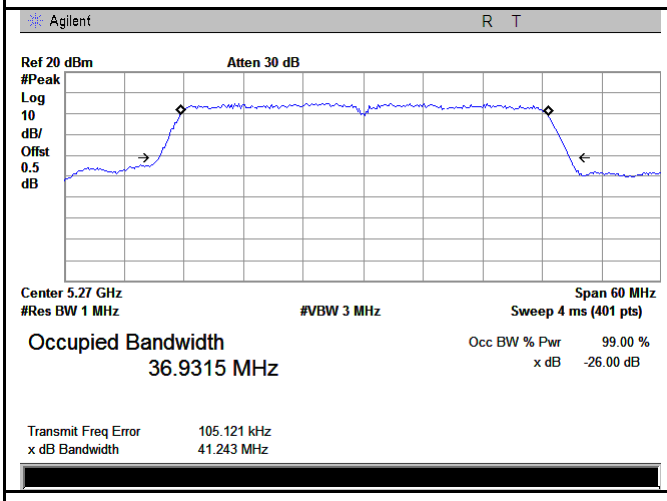
Ant. Green



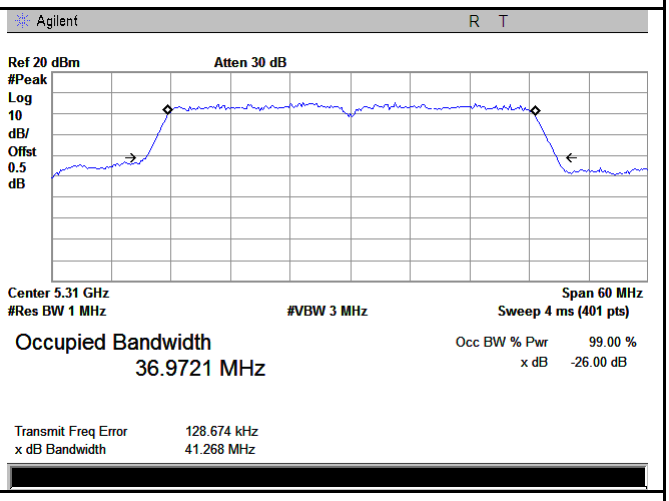
5150-5250MHz Bandwidth - Low CH 5190



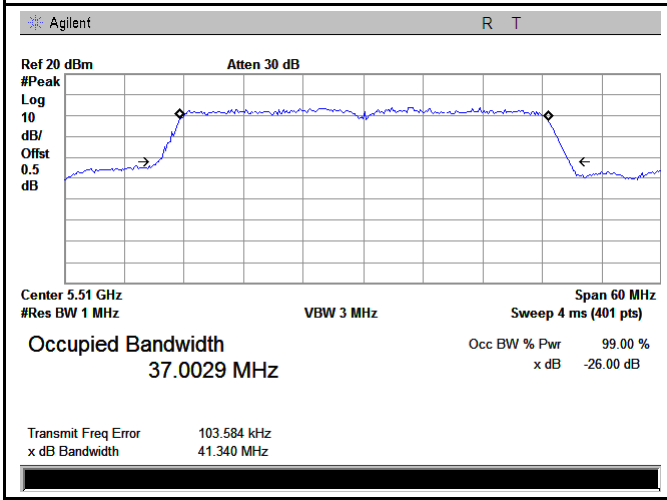
5150-5250MHz Bandwidth - High CH 5230



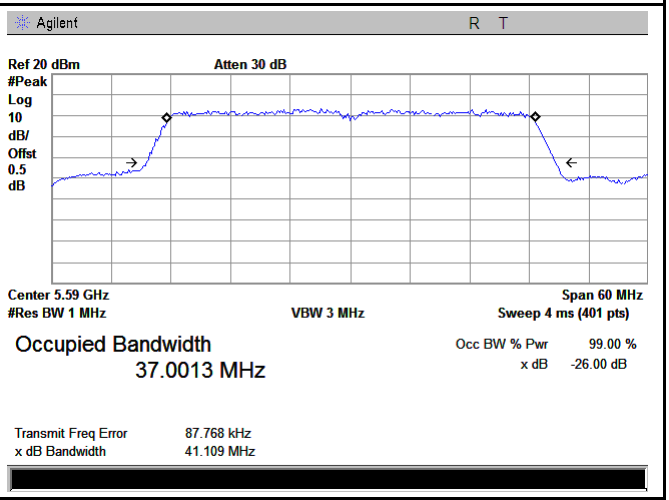
5250-5350MHz Bandwidth - Low CH 5270



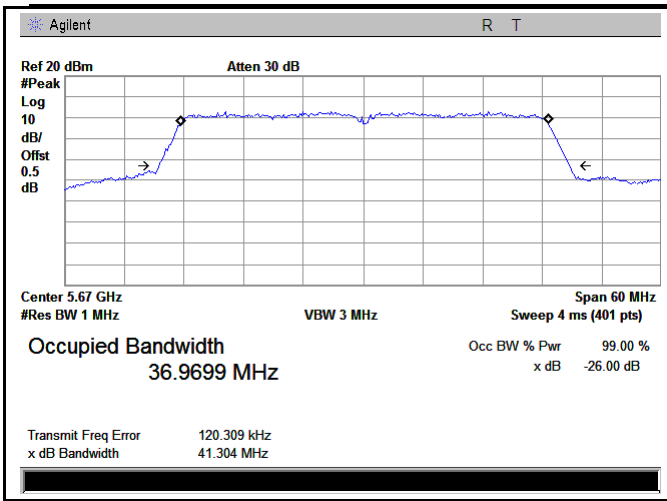
5250-5350MHz Bandwidth - High CH 5310



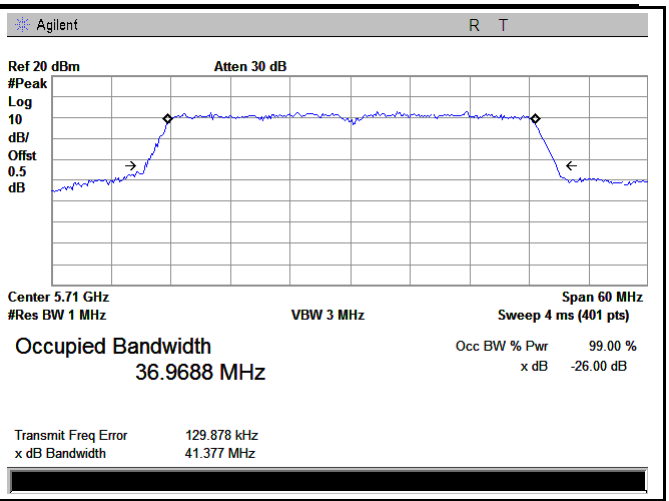
5470-5725MHz Bandwidth - Low CH 5510



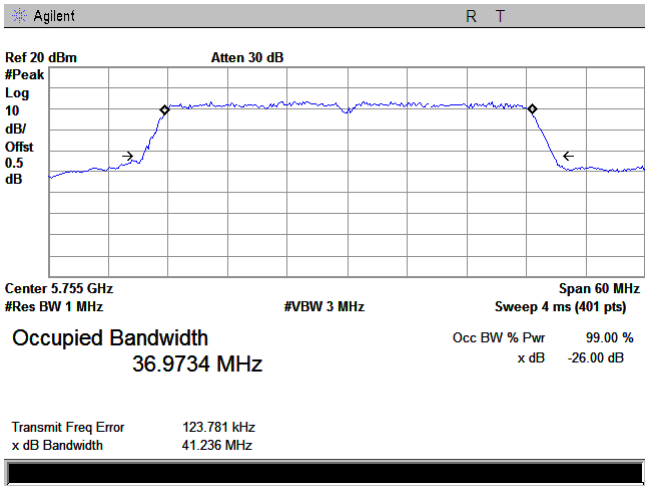
5470-5725MHz Bandwidth - Mid CH 5590



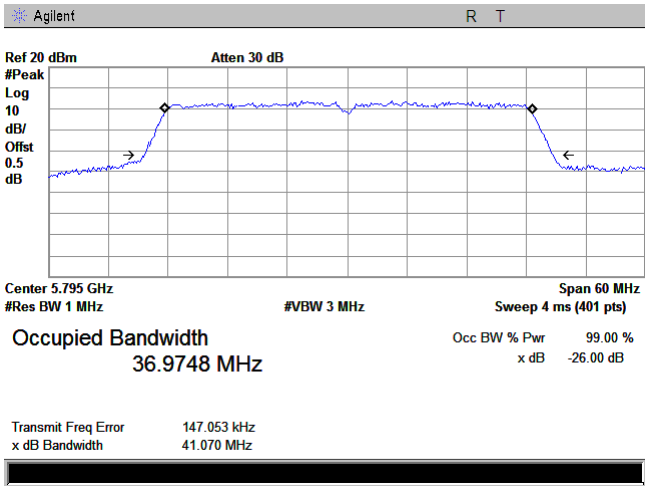
5470-5725MHz Bandwidth - High CH 5670



5470-5725MHz Bandwidth - Straddle CH 5710



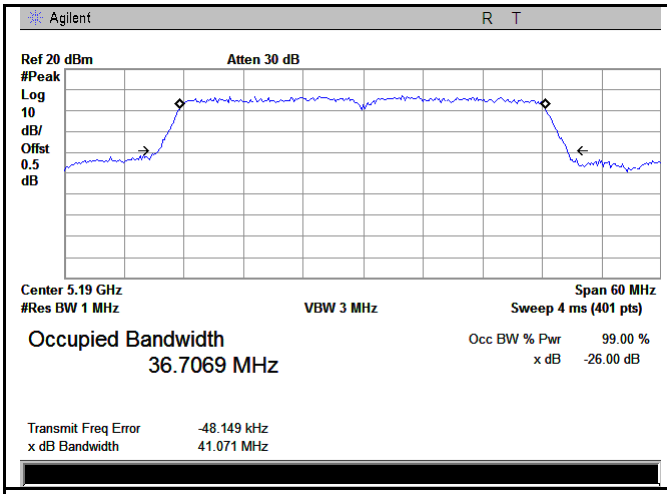
5725-5850MHz Bandwidth- Low CH 5755



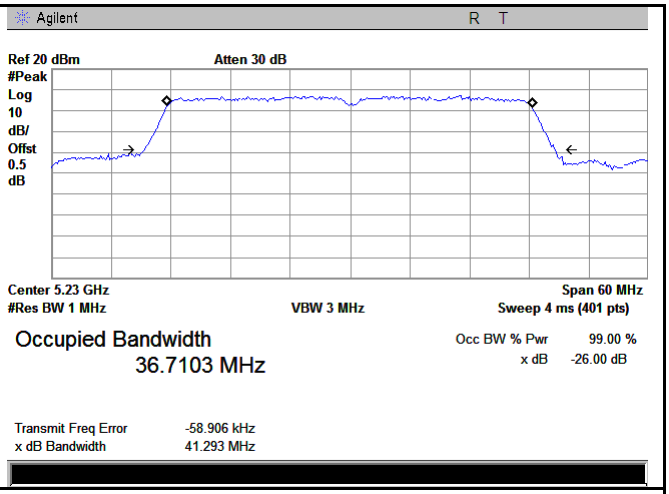
5725-5850MHz Bandwidth- High CH 5795

802.11 ac (40M)

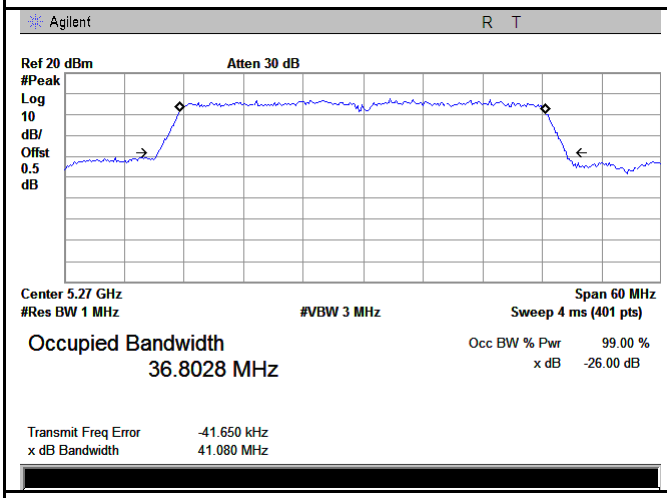
Ant. Gray



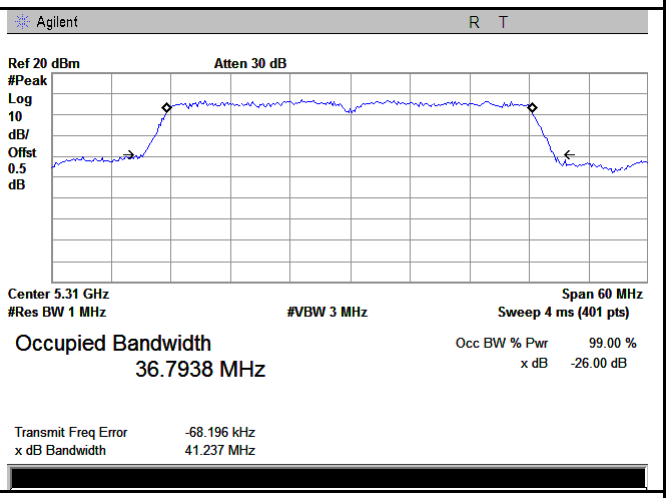
5150-5250MHz Bandwidth - Low CH 5190



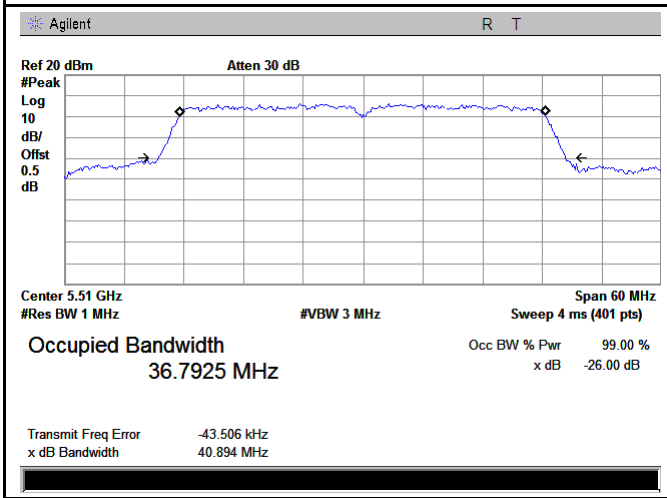
5150-5250MHz Bandwidth - High CH 5230



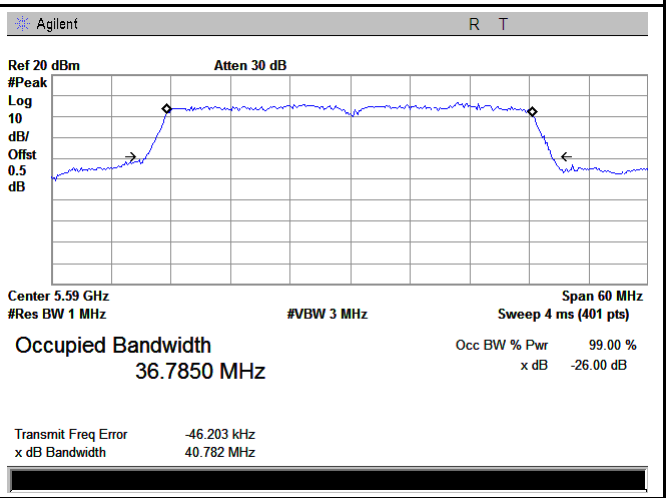
5250-5350MHz Bandwidth - Low CH 5270



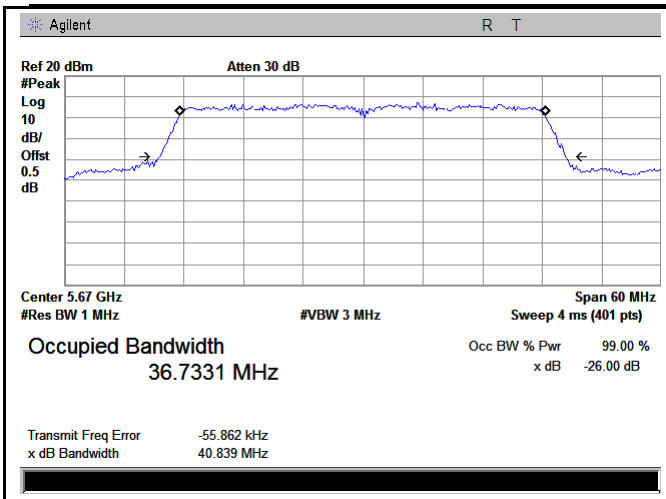
5250-5350MHz Bandwidth - High CH 5310



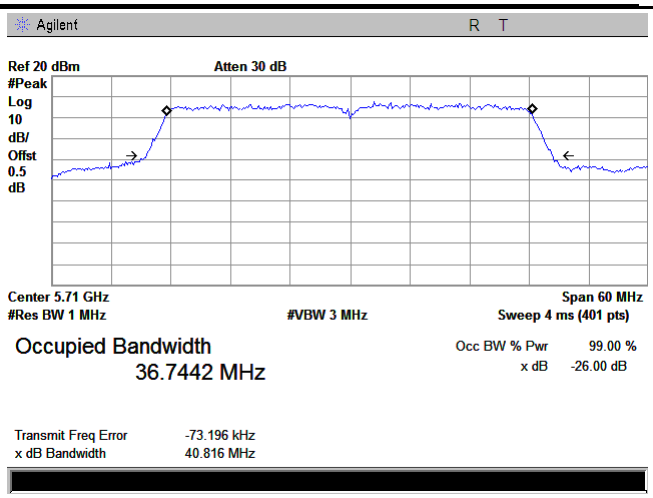
5470-5725MHz Bandwidth - Low CH 5510



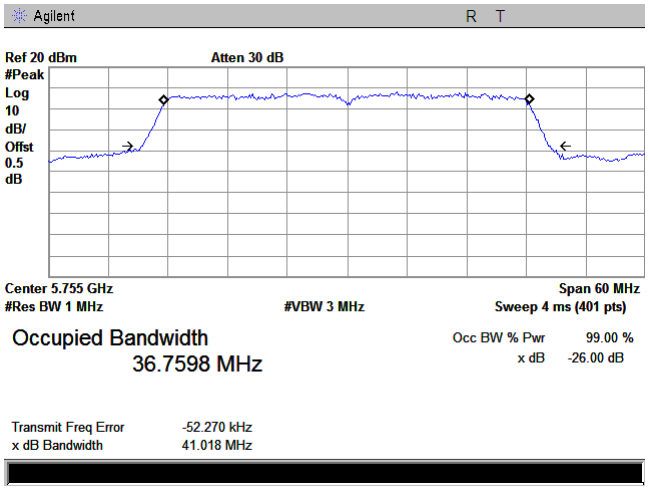
5470-5725MHz Bandwidth - Mid CH 5590



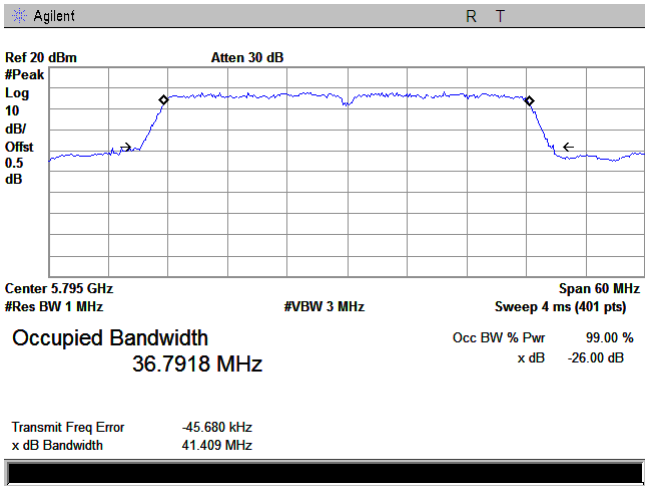
5470-5725MHz Bandwidth - High CH 5670



5470-5725MHz Bandwidth - Straddle CH 5710



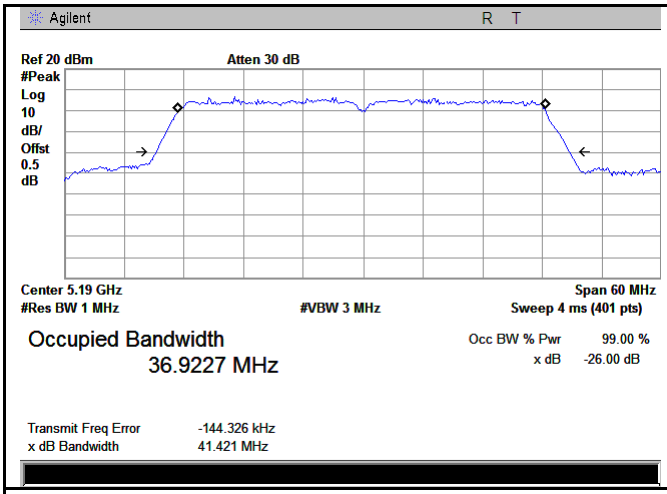
5725-5850MHz Bandwidth- Low CH 5755



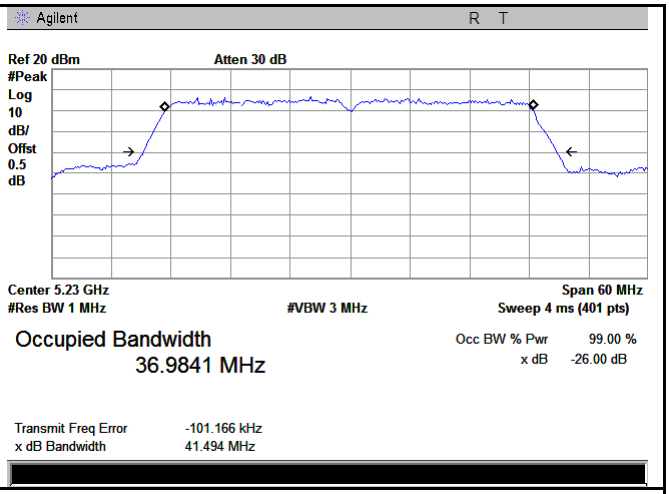
5725-5850MHz Bandwidth- High CH 5795

802.11 ac (40M)

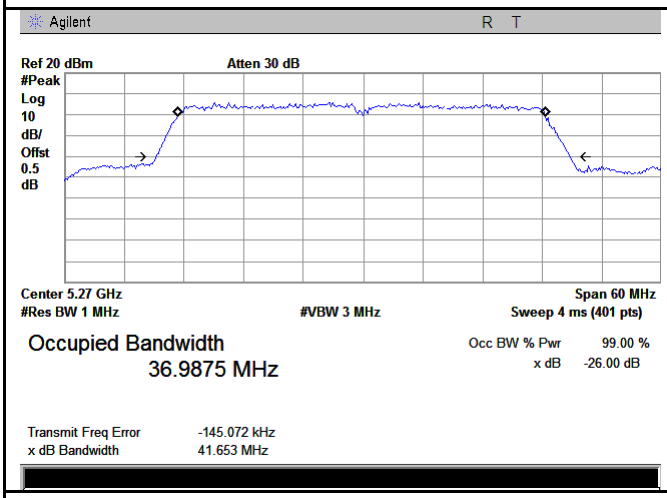
Ant. Black



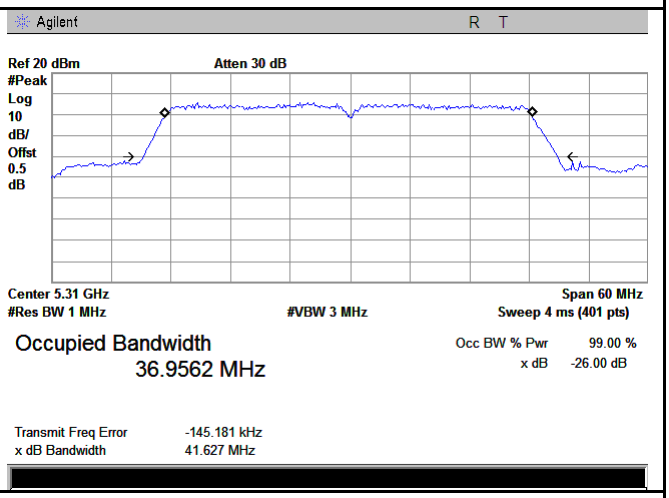
5150-5250MHz Bandwidth - Low CH 5190



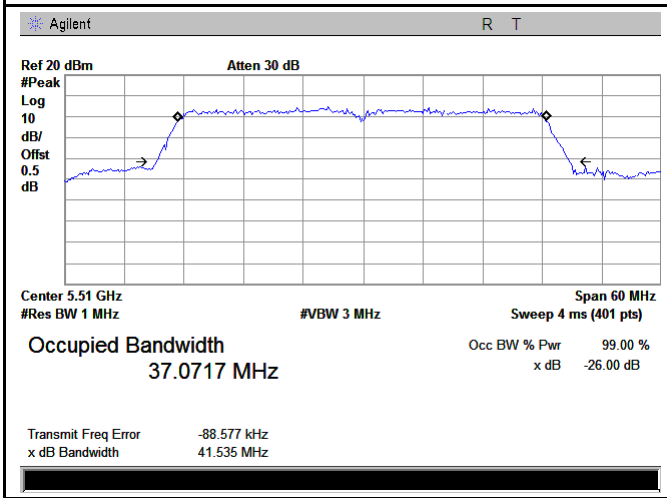
5150-5250MHz Bandwidth - High CH 5230



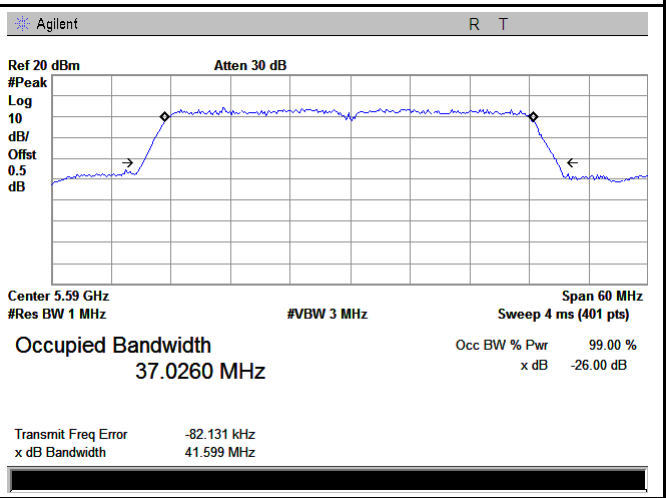
5250-5350MHz Bandwidth - Low CH 5270



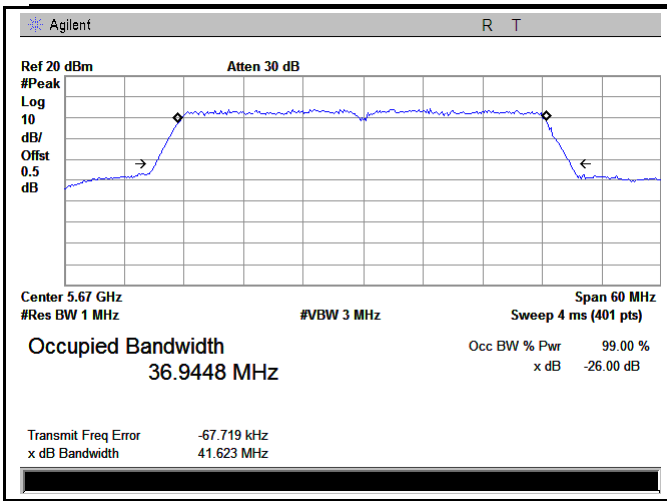
5250-5350MHz Bandwidth - High CH 5310



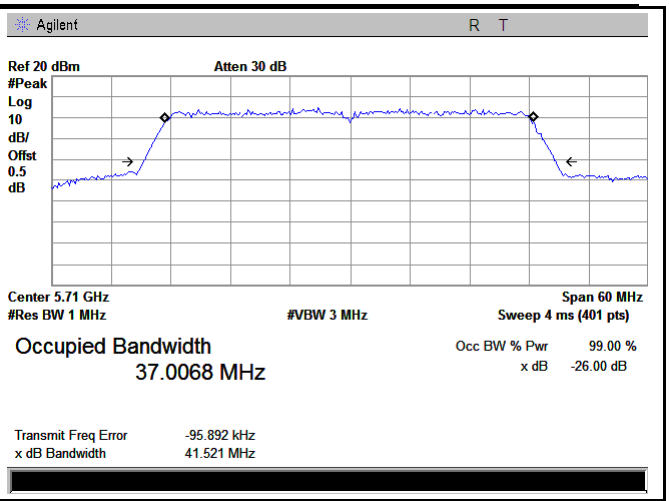
5470-5725MHz Bandwidth - Low CH 5510



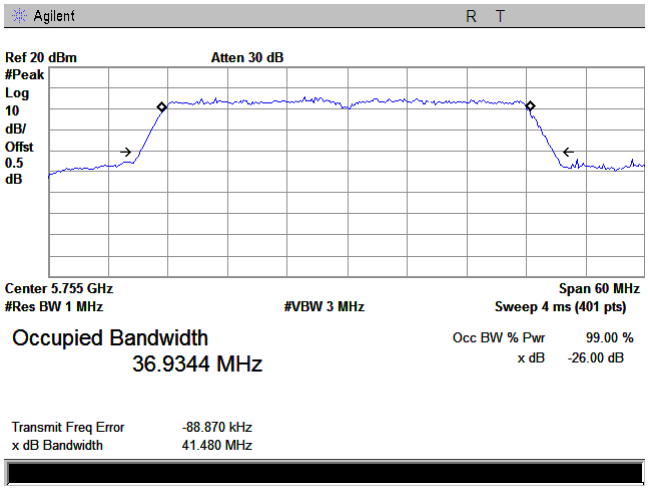
5470-5725MHz Bandwidth - Mid CH 5590



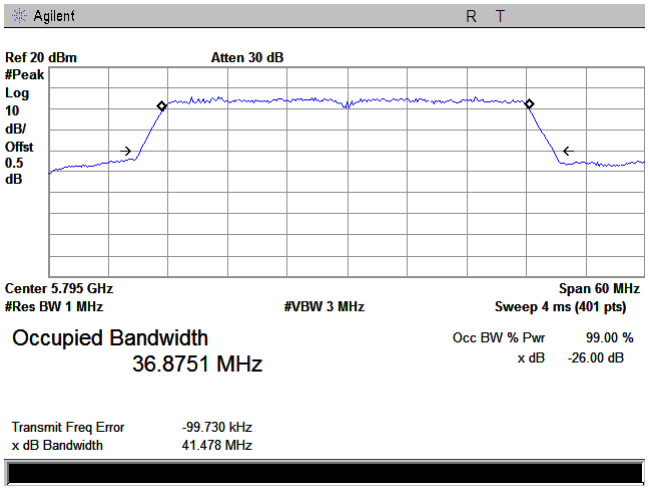
5470-5725MHz Bandwidth - High CH 5670



5470-5725MHz Bandwidth - Straddle CH 5710



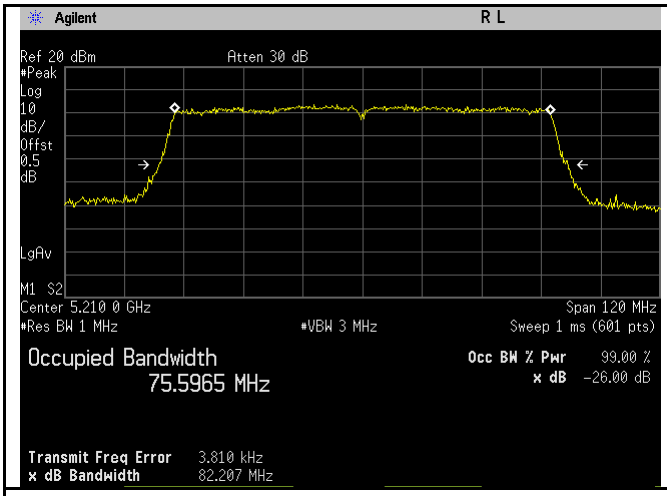
5725-5850MHz Bandwidth- Low CH 5755



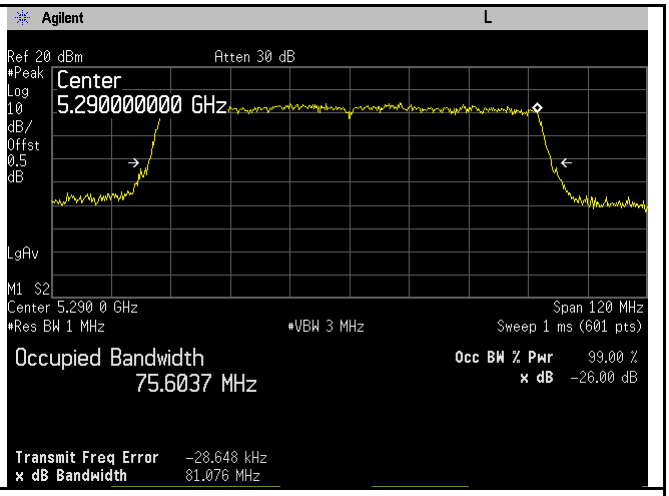
5725-5850MHz Bandwidth- High CH 5795

802.11ac (80M)

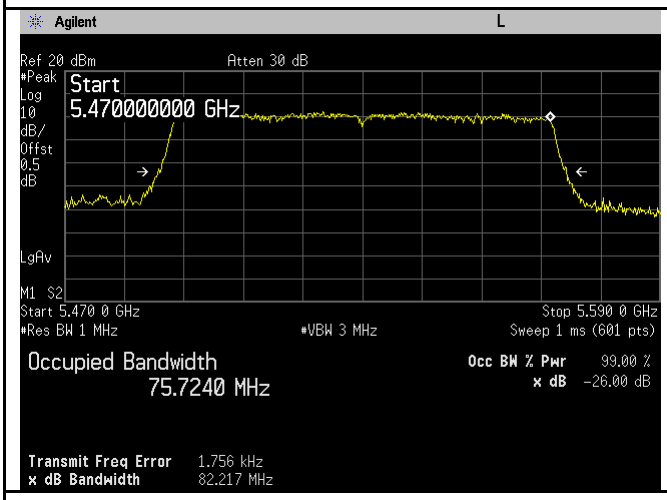
Ant. Green



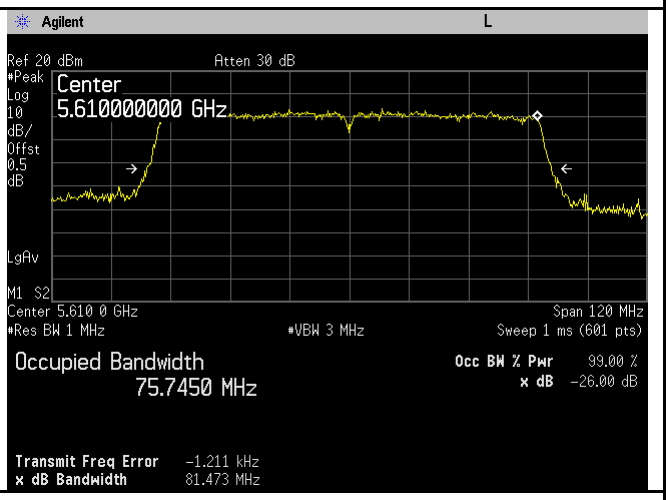
5150-5250MHz Bandwidth - One CH 5210



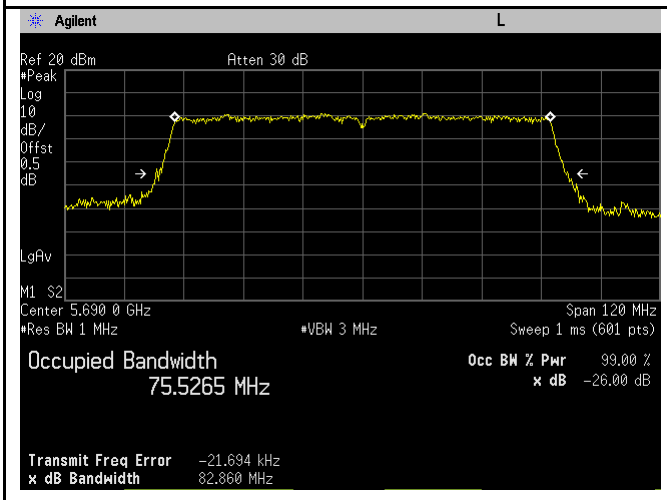
5250-5350MHz Bandwidth - One CH 5290



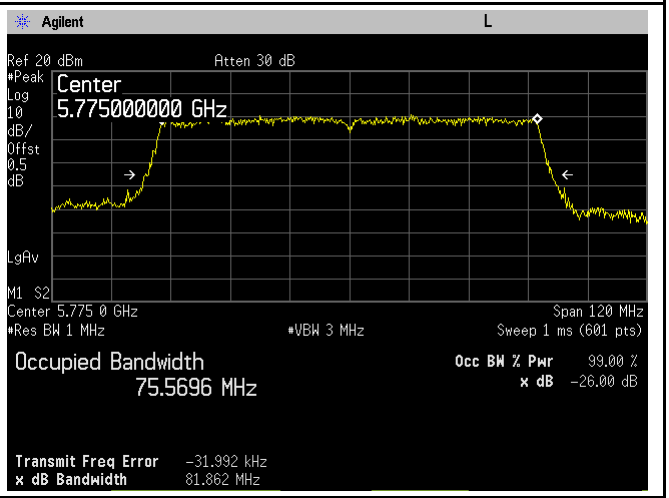
5470-5725MHz Bandwidth - Low CH 5470



5470-5725MHz Bandwidth - High CH 5610



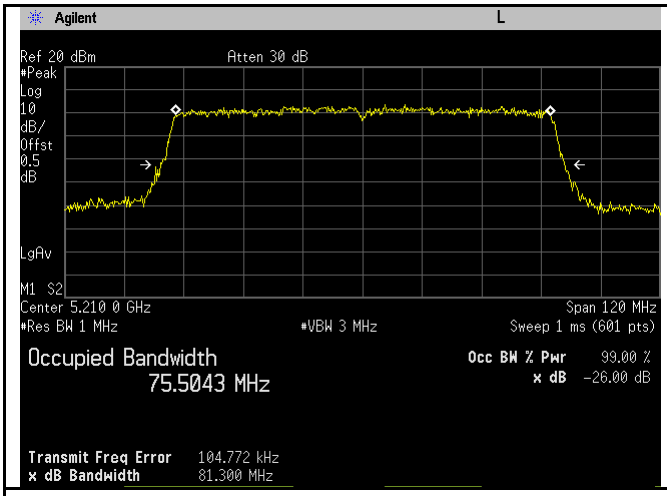
5470-5725MHz Bandwidth - Straddle CH 5690



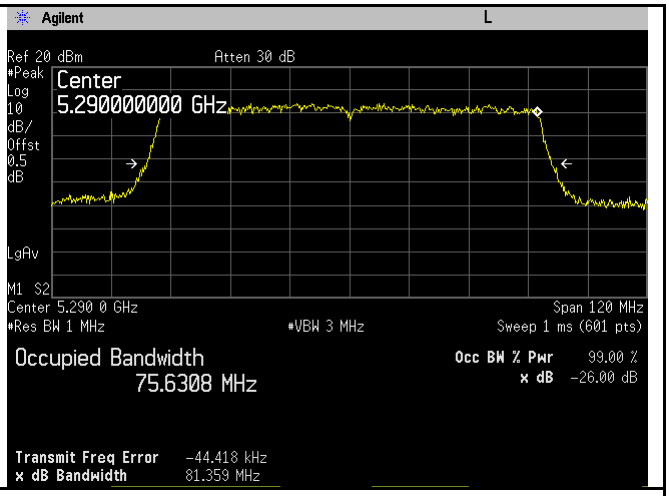
5725-5850MHz Bandwidth - One CH 5775

802.11ac (80M)

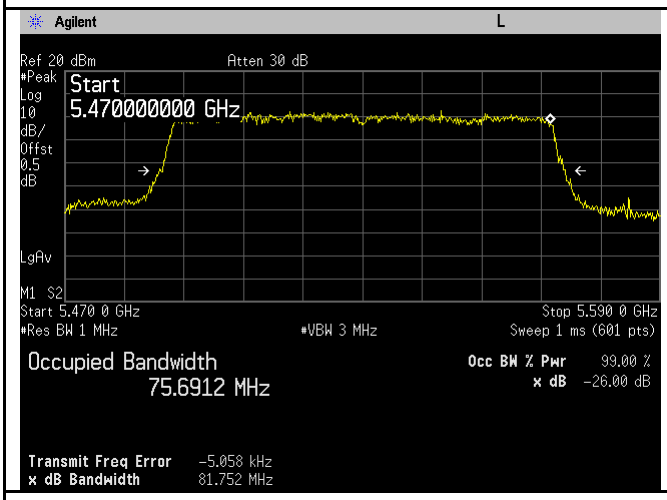
Ant. Gray



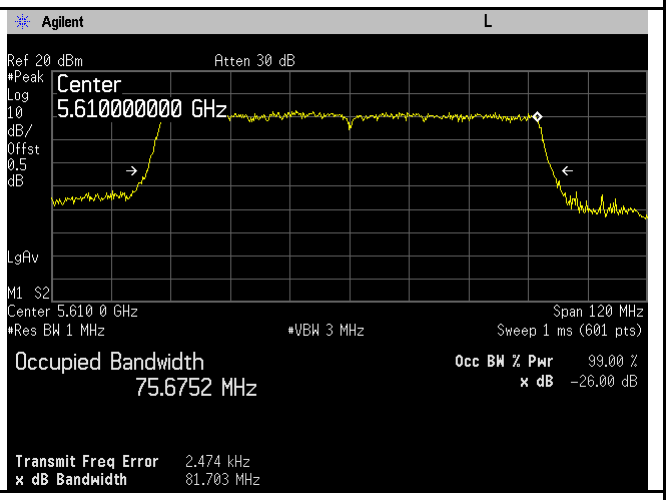
5150-5250MHz Bandwidth - One CH 5210



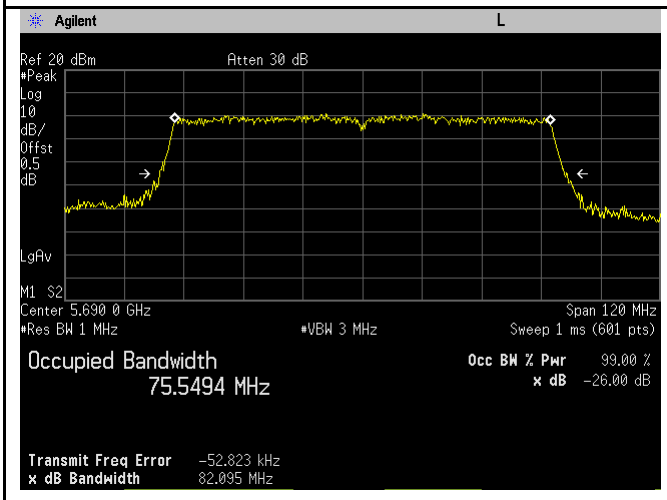
5250-5350MHz Bandwidth - One CH 5290



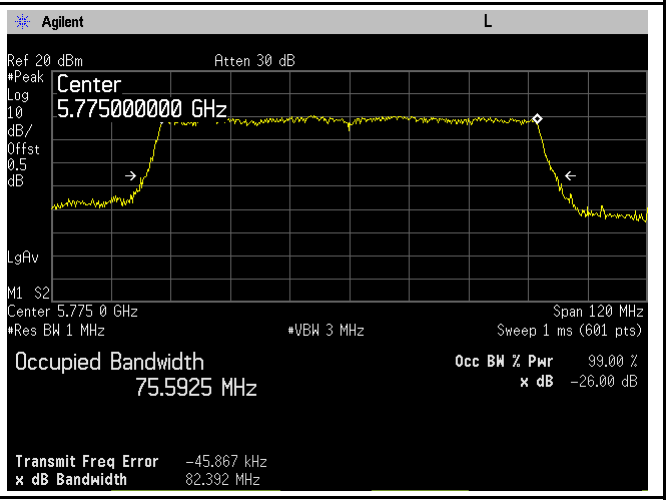
5470-5725MHz Bandwidth - Low CH 5470



5470-5725MHz Bandwidth - High CH 5610



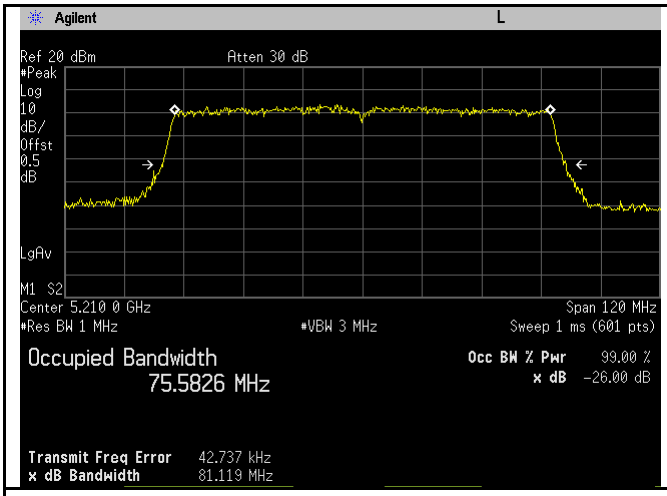
5470-5725MHz Bandwidth - Straddle CH 5690



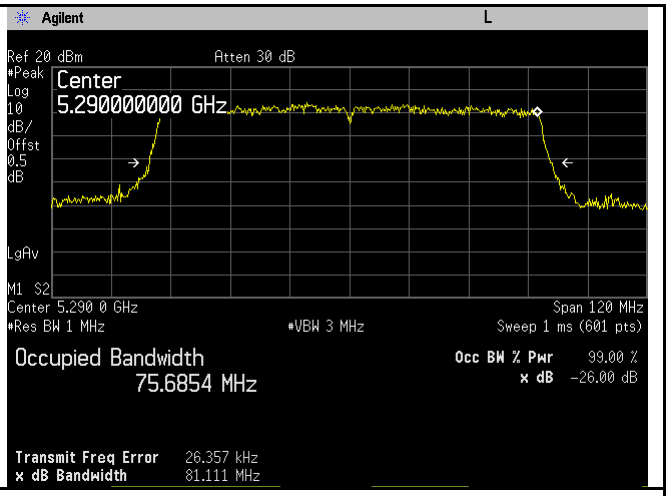
5725-5850MHz Bandwidth - One CH 5775

802.11ac (80M)

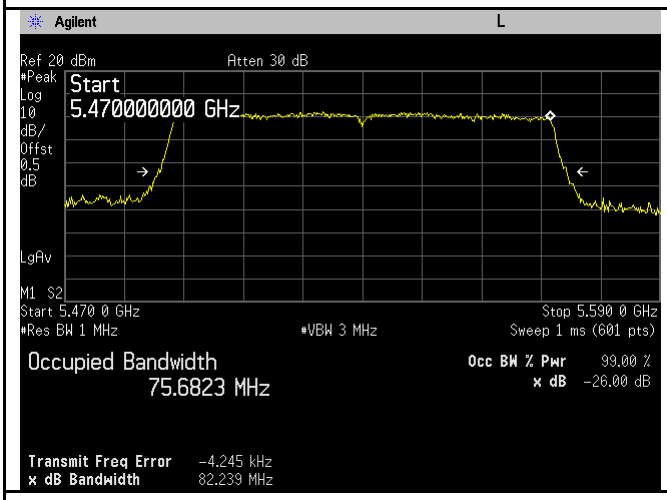
Ant. Black



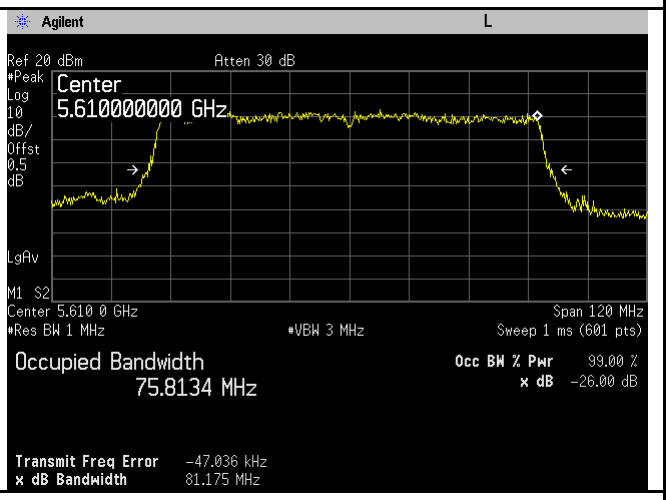
5150-5250MHz Bandwidth - One CH 5210



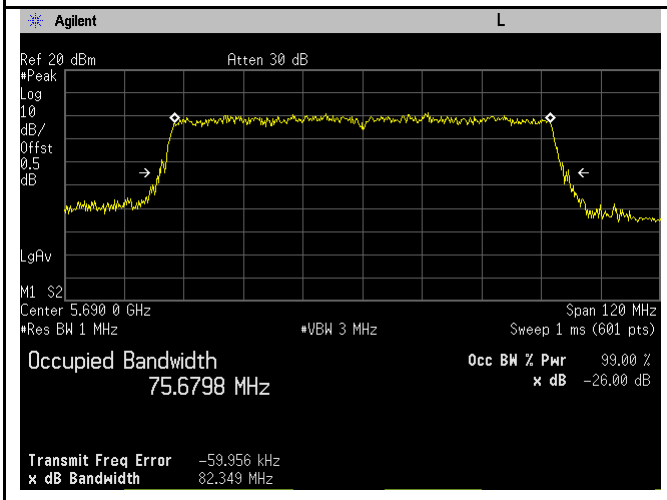
5250-5350MHz Bandwidth - One CH 5290



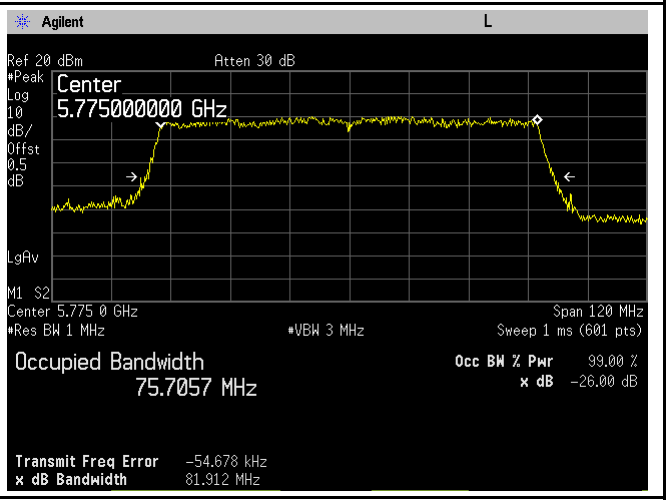
5470-5725MHz Bandwidth - Low CH 5470



5470-5725MHz Bandwidth - High CH 5610



5470-5725MHz Bandwidth - Straddle CH 5690



5725-5850MHz Bandwidth - One CH 5775

6.3 §15.407(a)-DTS (99% &6 dB) Channel Bandwidth

1. Conducted Measurement

   EUT was set for low, mid, high channel with modulated mode and highest RF output power.

   The spectrum analyzer was connected to the antenna terminal.

2. Environmental Conditions

Temperature	25℃
Relative Humidity	54%
Atmospheric Pressure	1010mbar

3. Conducted Emissions Measurement Uncertainty

   All test measurements carried out are traceable to national standards. The uncertainty of the measurement at a confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2, in the range 30MHz – 40GHz is ±1.5dB.

4. Test date :January 06, 2017

   Tested By : Aaron Liang

Standard Requirement:

Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

Procedures:

99% &6 dB Bandwidth:

Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 KHz for the band 5.715-5.85 GHz. The following procedure shall be used for measuring this bandwidth:

a) Set RBW = 100 kHz.

b) Set the video bandwidth (VBW) ≥ 3 × RBW.

c) Detector = Peak.

d) Trace mode = max hold.

e) Sweep = auto couple.

f) Allow the trace to stabilize.

g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Note: The automatic bandwidth measurement capability of a spectrum analyzer or EMI receiver may be employed if it implements the functionality described above.

Emission Bandwidth (EBW)

1) Set RBW = approximately 1% of the emission bandwidth.

2) Set the VBW > RBW.

3) Detector = Peak.

4) Trace mode = max hold.

5) Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust

Test Result: Pass.

Please refer to the following tables and plots.

Measurement result

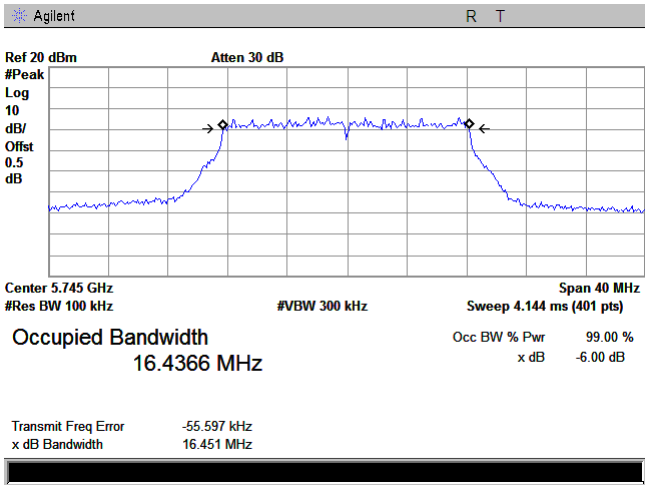
Test mode	Freq Band (MHz)	CH	Freq (MHz)	99% Bandwidth (MHz)			6dB Bandwidth (MHz)			6dB Bandwidth Limit(KHz)
				(Ant. Green)	(Ant. Gray)	(Ant. Black)	(Ant. Green)	(Ant. Gray)	(Ant. Black)	
820.11a	5725-5825	Low	5745	16.4366	16.4211	16.4564	16.451	16.434	16.469	≥ 500
		Mid	5785	16.4235	16.4153	16.4263	16.485	16.314	16.381	≥ 500
		High	5825	16.4268	16.4686	16.4417	16.505	16.520	16.456	≥ 500
802.11n (20M)	5725-5825	Low	5745	17.6600	17.6260	17.8804	17.753	17.692	20.540	≥ 500
		Mid	5785	17.6621	7.6009	17.8924	17.740	17.698	20.203	≥ 500
		High	5825	17.6576	17.6400	17.8649	17.733	17.749	20.564	≥ 500
802.11n (40M)	5725-5825	Low	5755	36.1114	36.0523	36.6277	36.407	36.260	41.004	≥ 500
		High	5795	36.1459	36.0950	36.6333	36.474	36.351	41.430	≥ 500
820.11ac (20M)	5725-5825	Low	5745	17.6815	17.6467	17.6476	17.763	17.683	17.755	≥ 500
		Mid	5785	17.6730	17.6482	17.6560	17.746	17.755	17.741	≥ 500
		High	5825	17.6760	17.6673	17.6530	17.702	17.763	17.759	≥ 500
802.11n ac (40M)	5725-5825	Low	5755	36.1698	36.0850	36.1677	36.524	36.372	36.471	≥ 500
		High	5795	36.1946	36.1276	36.1706	36.556	36.443	36.472	≥ 500
802.11ac (80M)	5725-5825	One	5775	75.5953	75.6614	75.7722	76.392	75.927	76.380	≥ 500

Test Plots (6 Bandwidth measurement result)

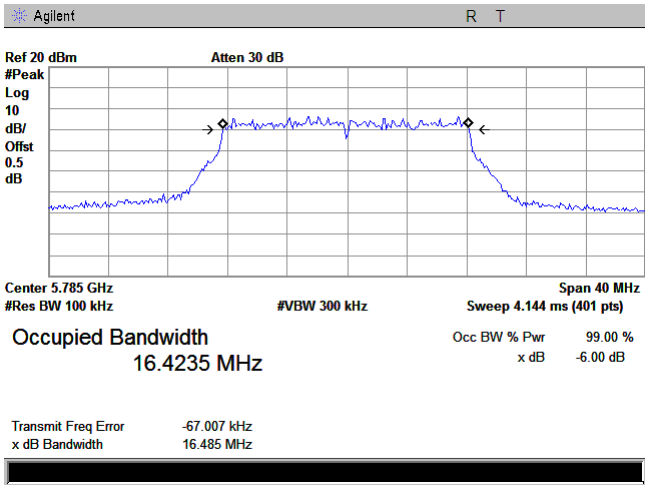
5725-5825MHz

802.11a (20M)

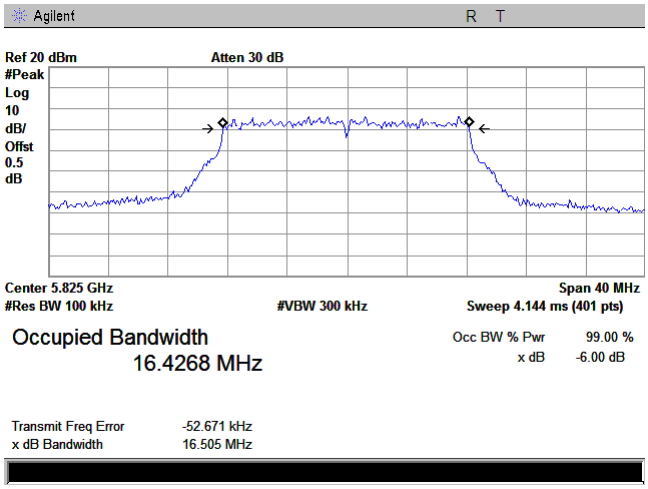
Ant. Green



5725-5850MHz Bandwidth - Low CH 5745

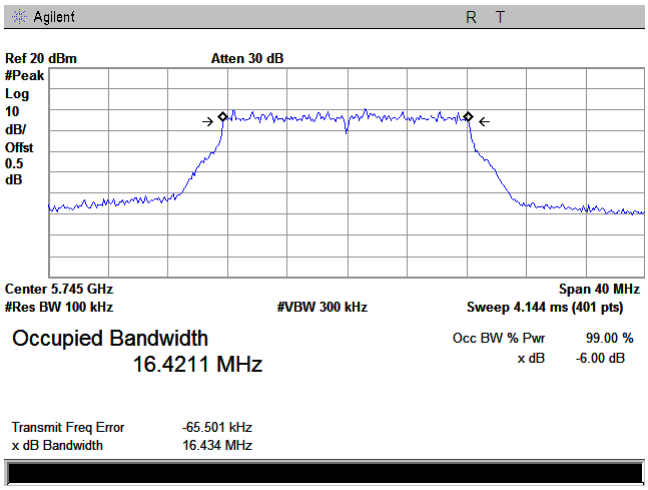


5725-5850MHz Bandwidth - Mid CH 5785

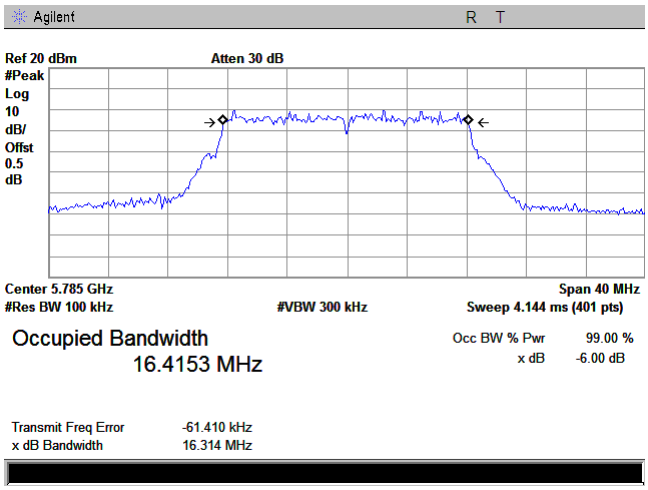


5725-5850MHz Bandwidth - High CH 5825

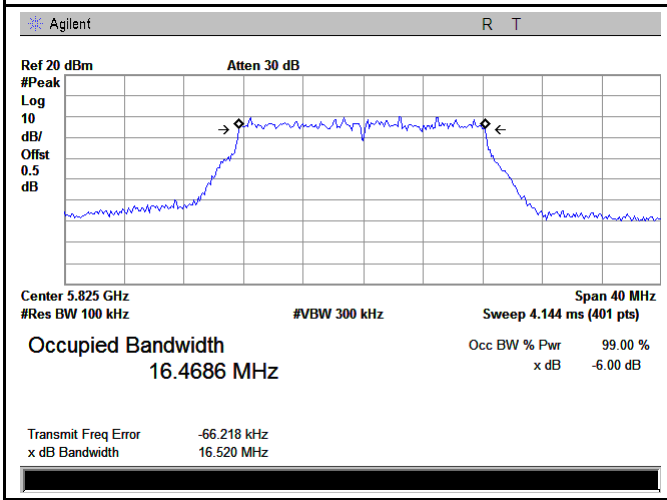
Ant. Gray



5725-5850MHz Bandwidth - Low CH 5745

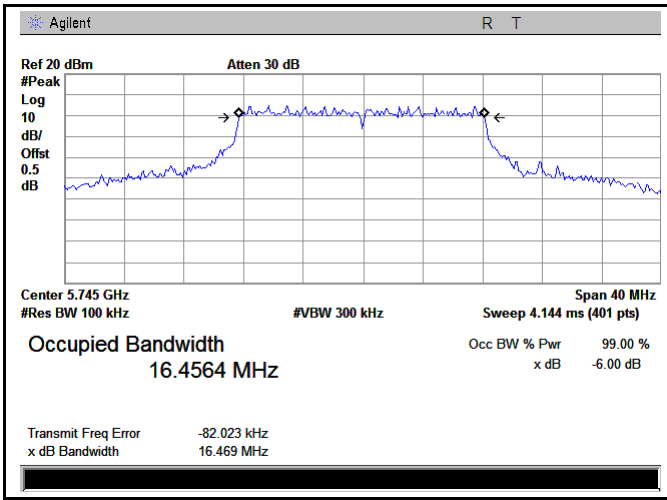


5725-5850MHz Bandwidth - Mid CH 5785

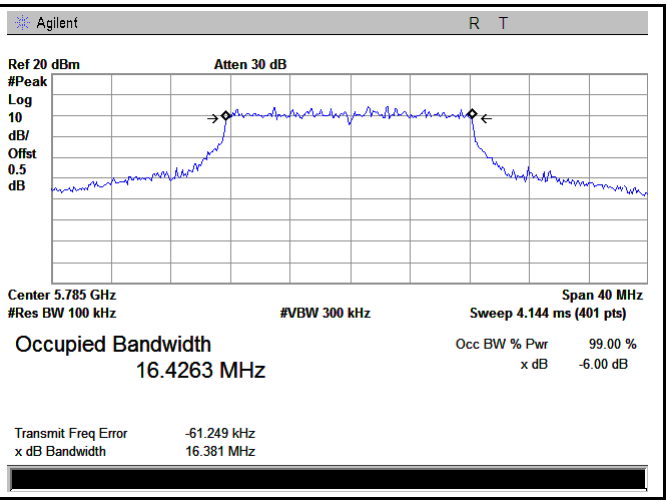


5725-5850MHz Bandwidth - High CH 5825

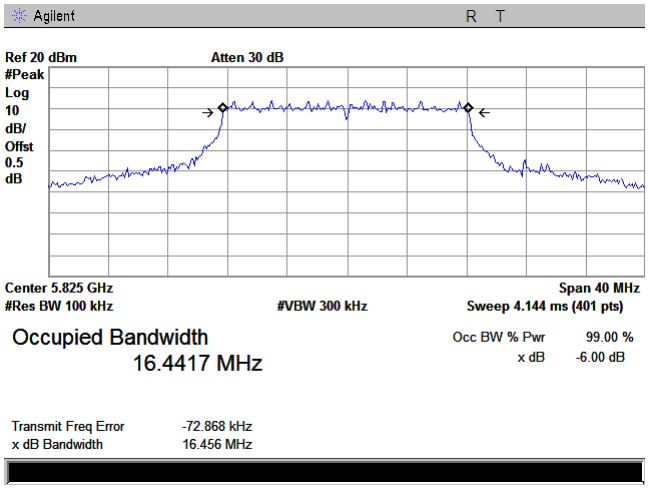
Ant. Black



5725-5850MHz Bandwidth - Low CH 5745



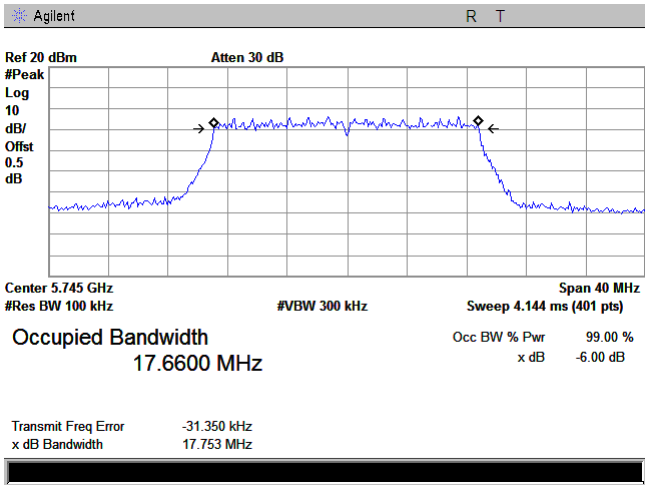
5725-5850MHz Bandwidth - Mid CH 5785



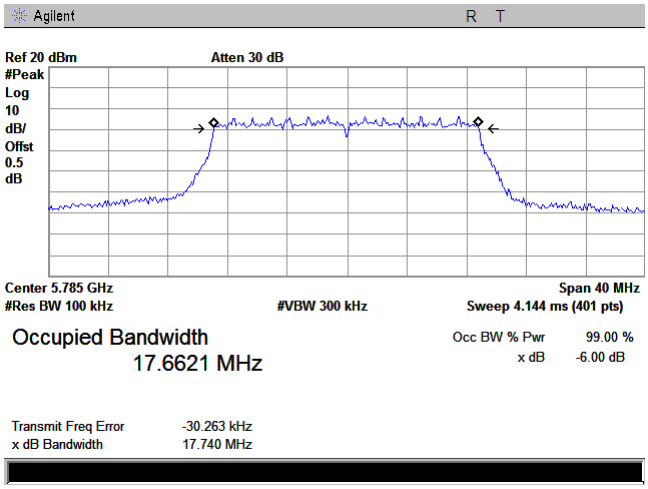
5725-5850MHz Bandwidth - High CH 5825

802.11n (20M)

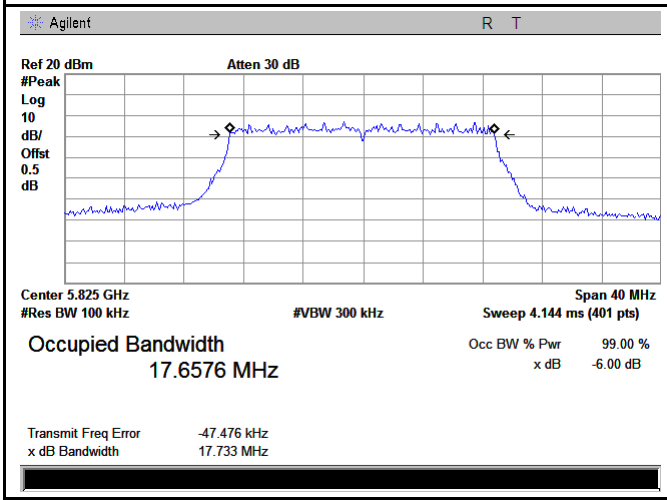
Ant. Green



5725-5850MHz Bandwidth - Low CH 5745

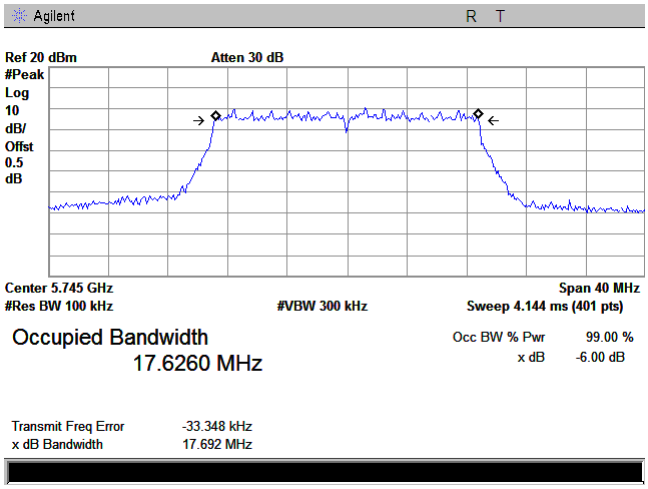


5725-5850MHz Bandwidth - Mid CH 5785

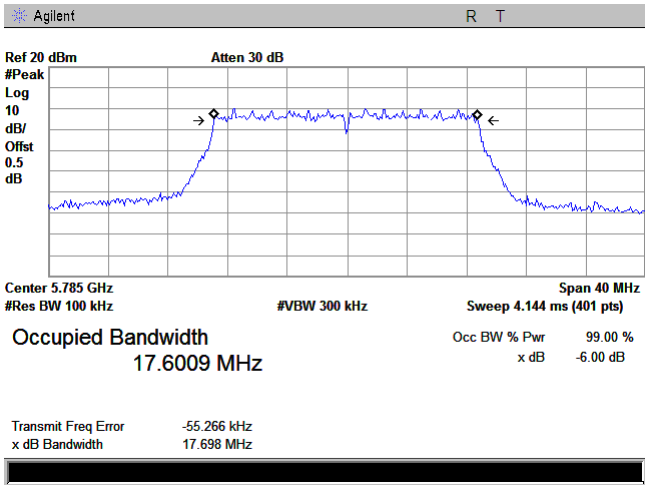


5725-5850MHz Bandwidth - High CH 5825

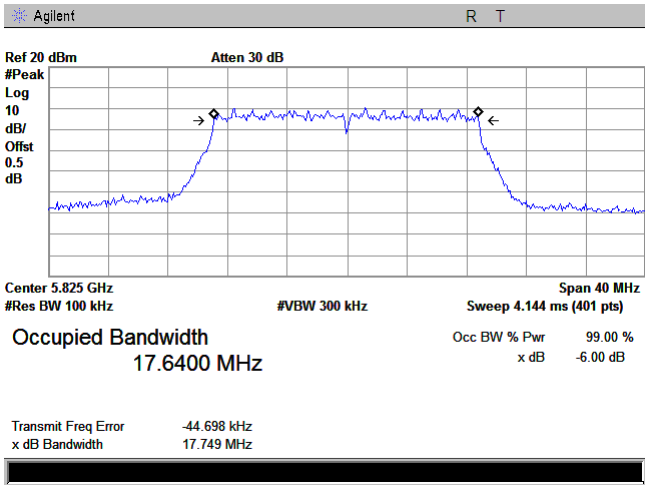
Ant. Gray



5725-5850MHz Bandwidth - Low CH 5745

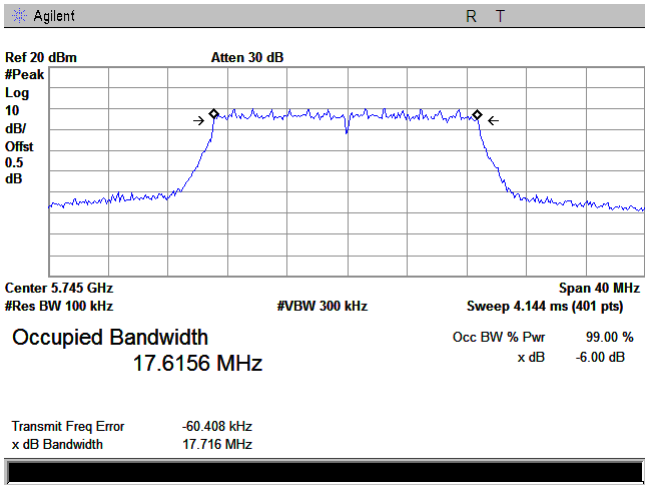


5725-5850MHz Bandwidth - Mid CH 5785

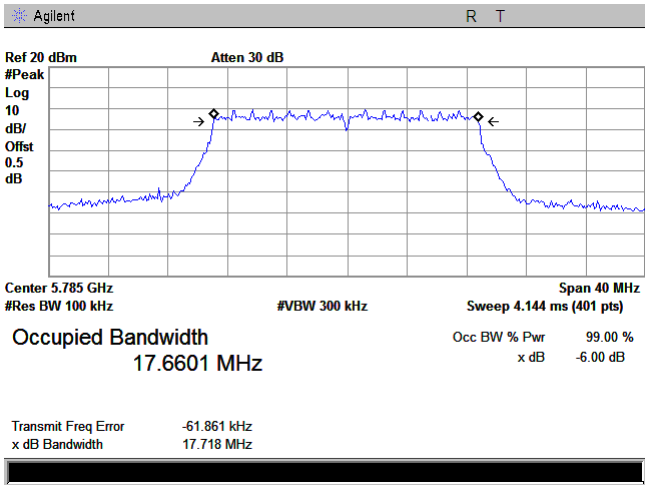


5725-5850MHz Bandwidth - High CH 5825

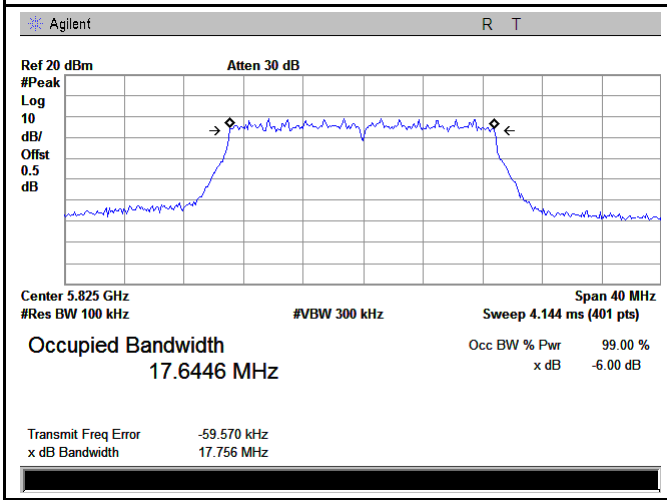
Ant. Black



5725-5850MHz Bandwidth - Low CH 5745



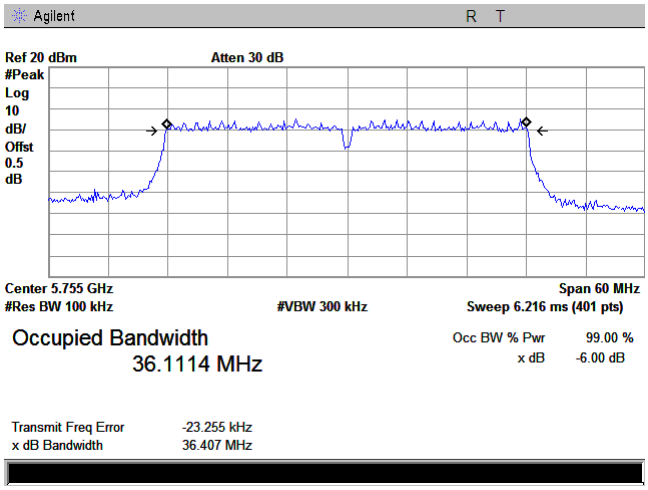
5725-5850MHz Bandwidth - Mid CH 5785



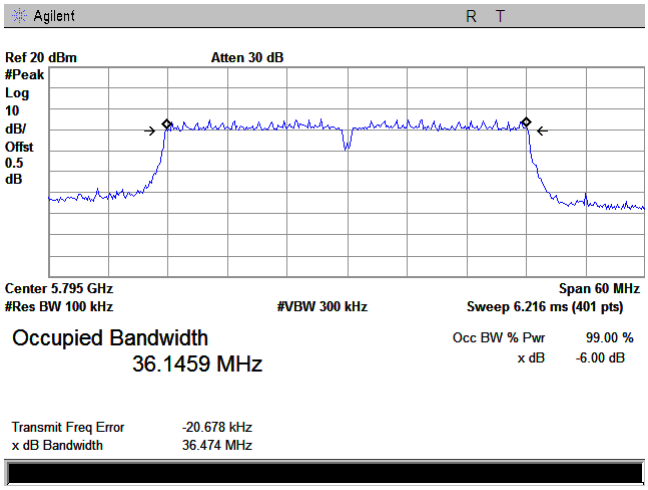
5725-5850MHz Bandwidth - High CH 5825

802.11n (40M)

Ant. Green

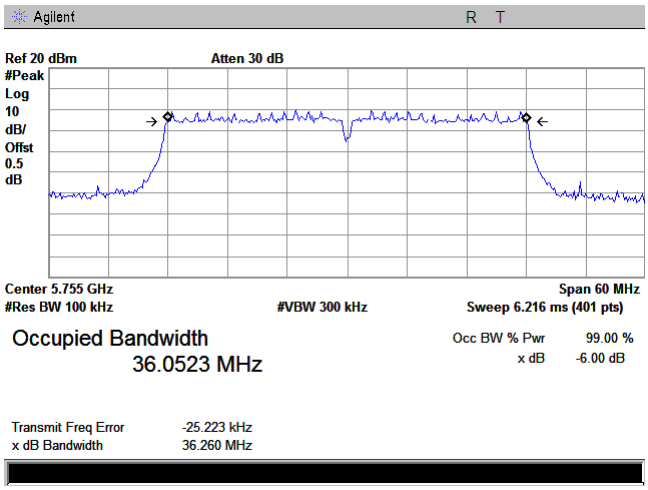


5725-5850MHz Bandwidth - Low CH 5755

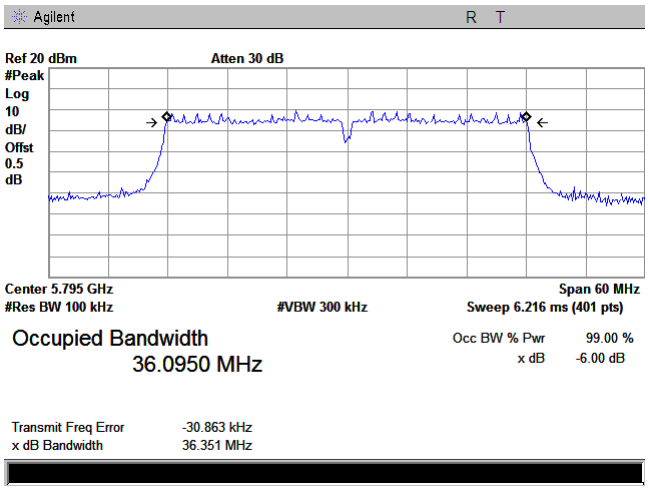


5725-5850MHz Bandwidth - High CH 5795

Ant. Gray

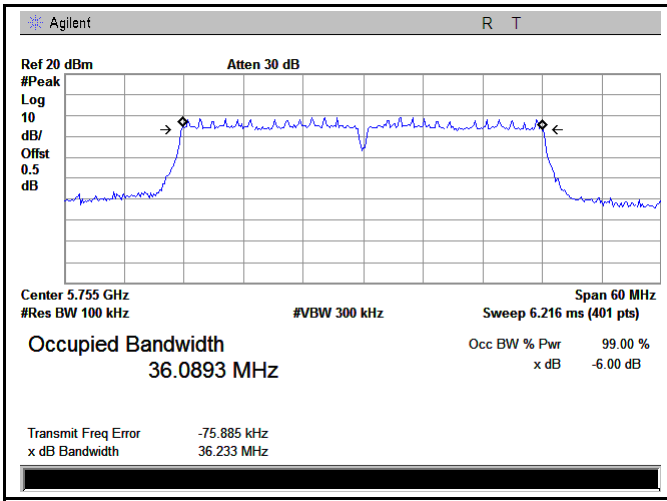


5725-5850MHz Bandwidth - Low CH 5755

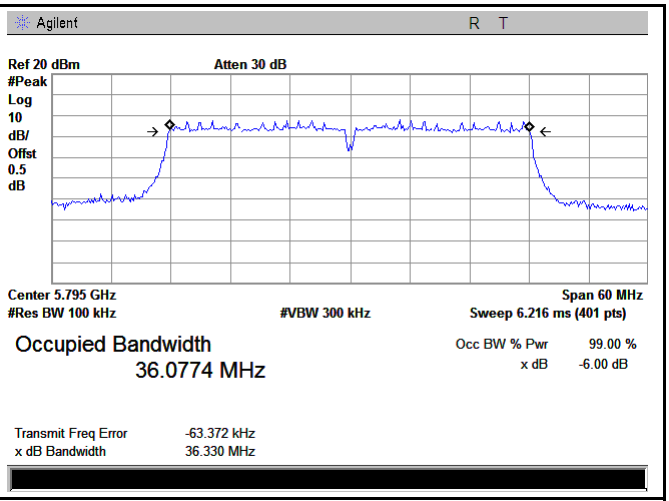


5725-5850MHz Bandwidth - High CH 5795

Ant. Black



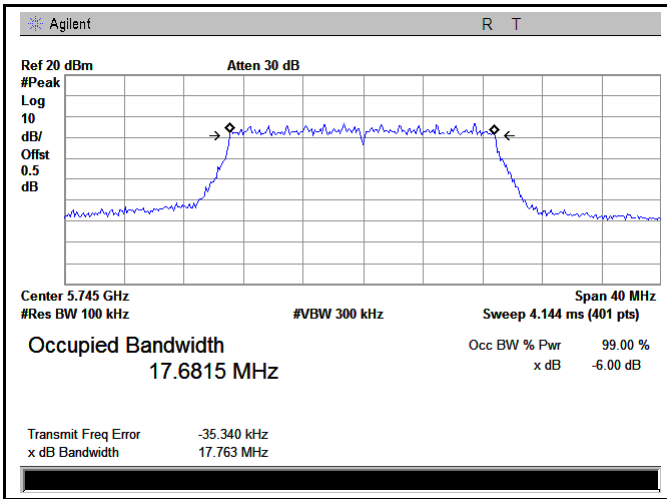
5725-5850MHz Bandwidth - Low CH 5755



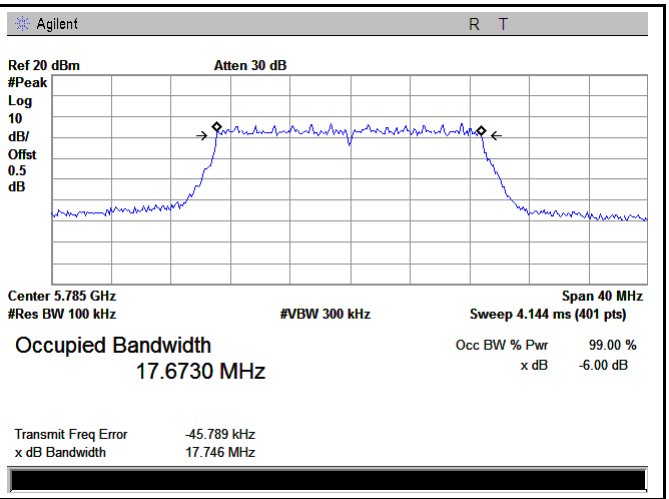
5725-5850MHz Bandwidth - High CH 5795

802.1ac (20M)

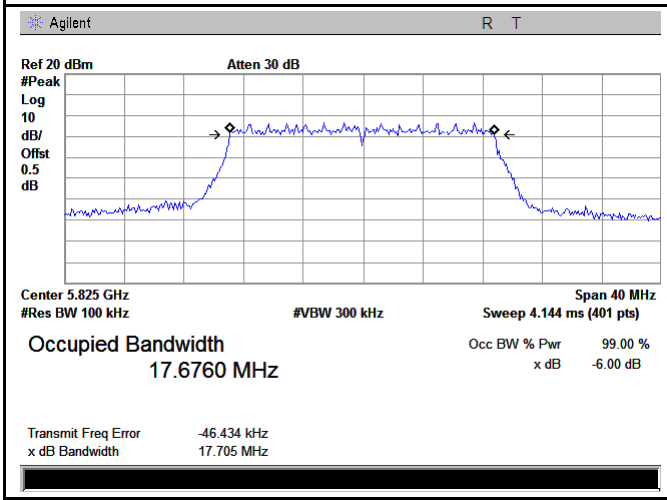
Green



5725-5850MHz Bandwidth - Low CH 5745

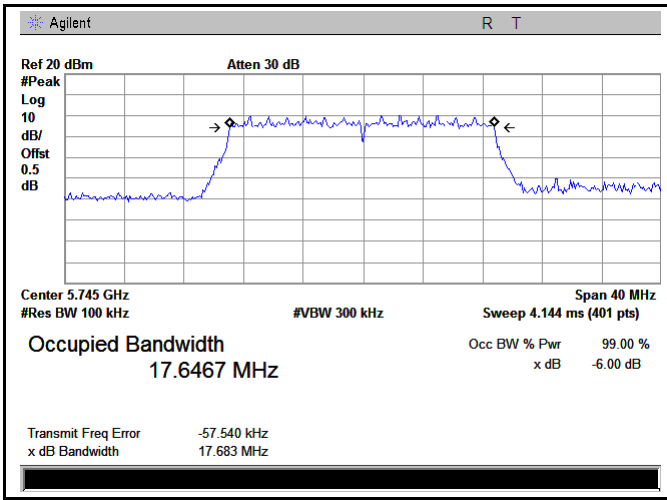


5725-5850MHz Bandwidth - Mid CH 5785

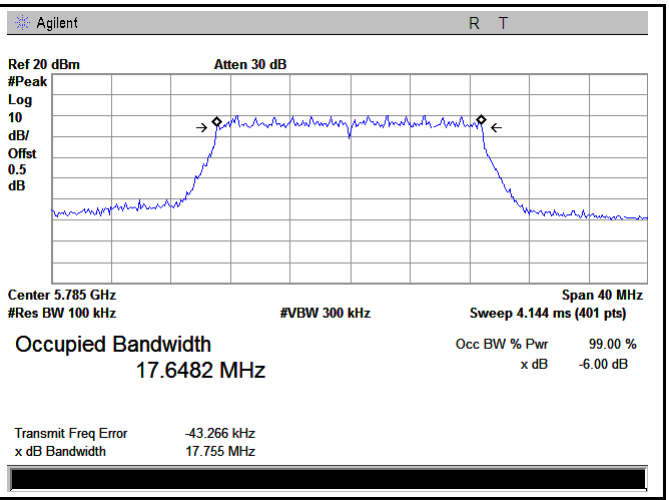


5725-5850MHz Bandwidth - High CH 5825

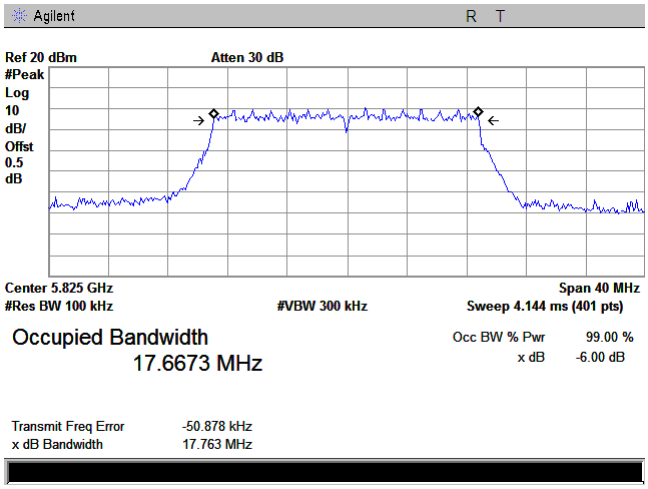
Gray



5725-5850MHz Bandwidth - Low CH 5745

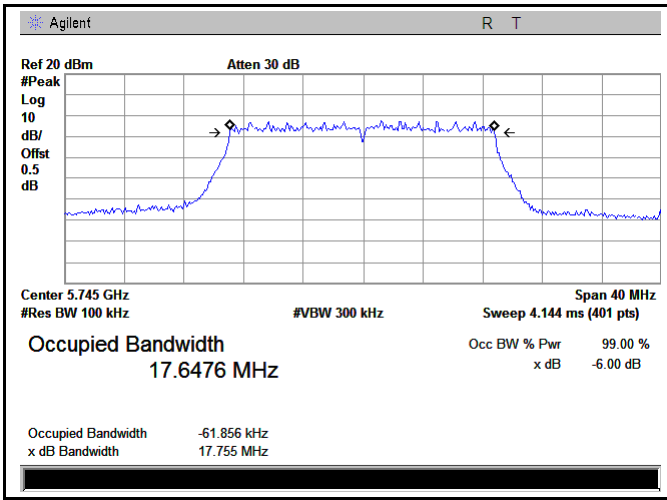


5725-5850MHz Bandwidth - Mid CH 5785

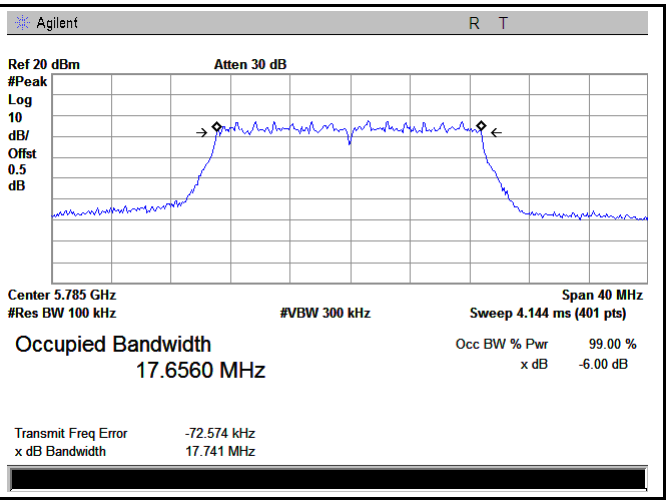


5725-5850MHz Bandwidth - High CH 5825

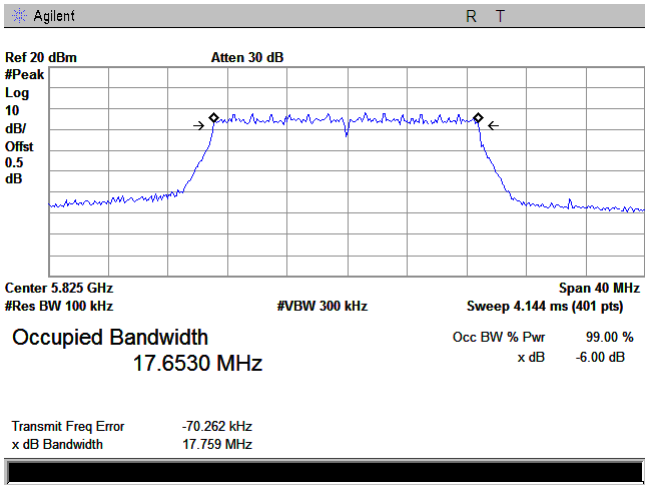
Black



5725-5850MHz Bandwidth - Low CH 5745



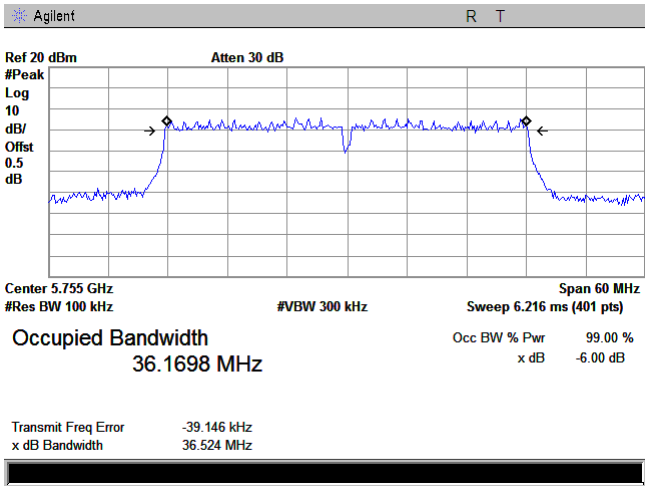
5725-5850MHz Bandwidth - Mid CH 5785



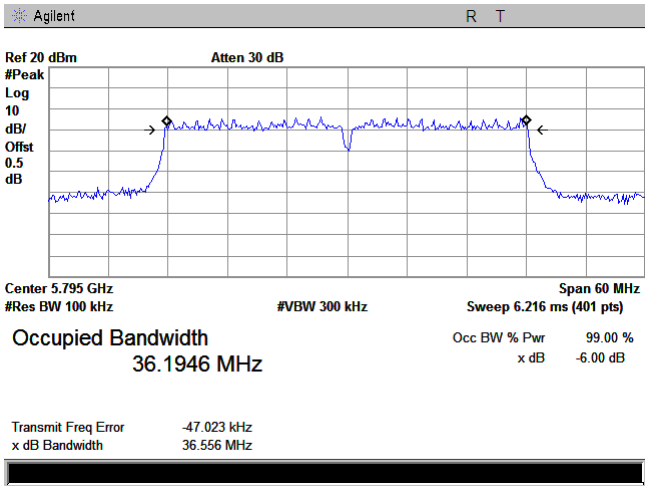
5725-5850MHz Bandwidth - High CH 5825

802.1ac (40M)

Green

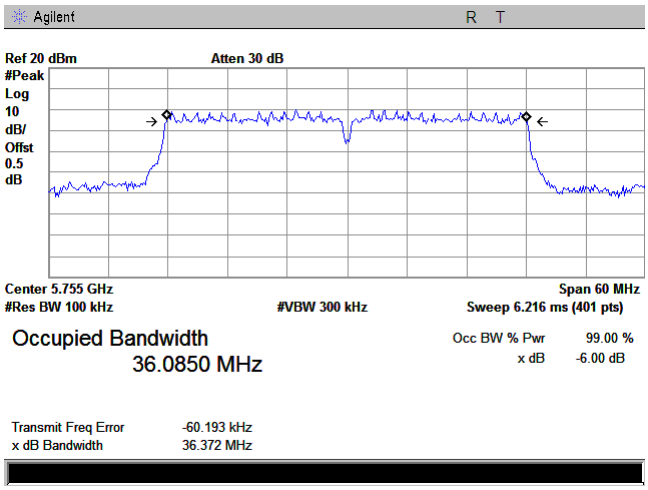


5725-5850MHz Bandwidth - Low CH 5755

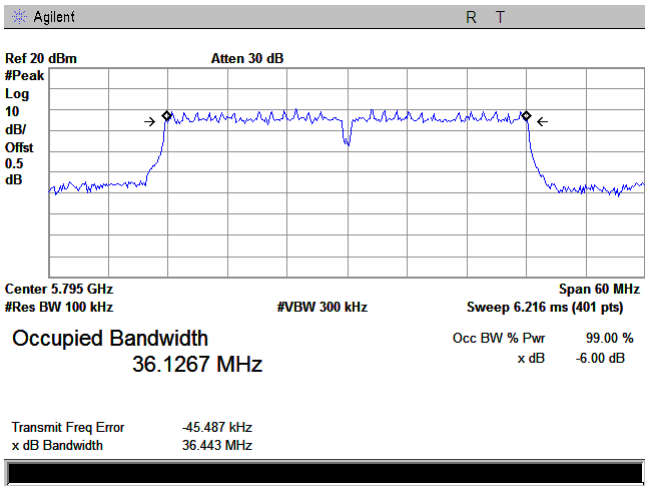


5725-5850MHz Bandwidth - Low CH 5975

Gray

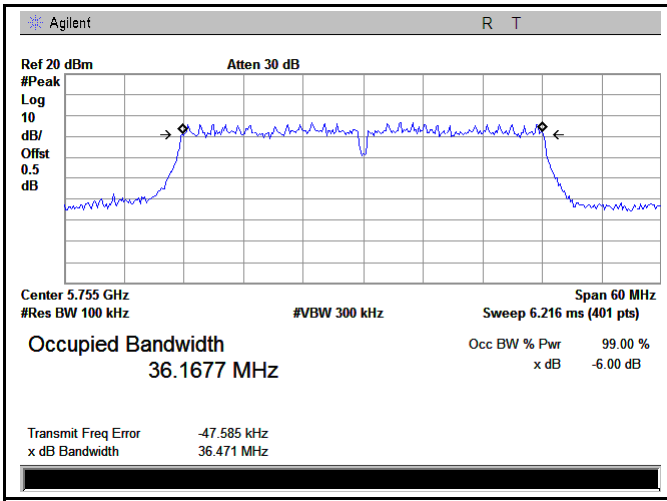


5725-5850MHz Bandwidth - Low CH 5755

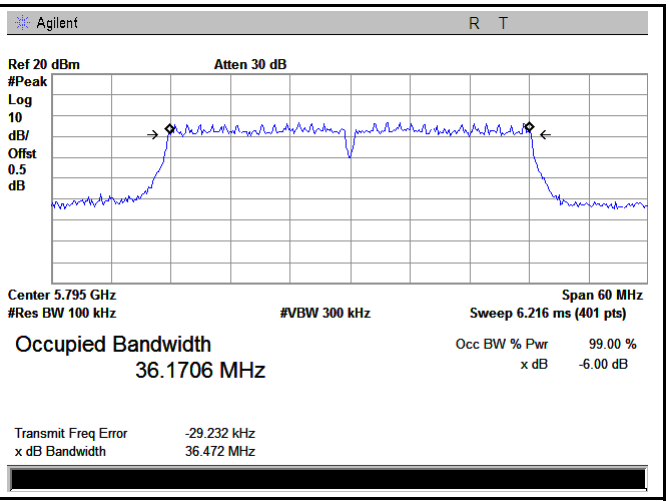


5725-5850MHz Bandwidth - Low CH 5975

Black

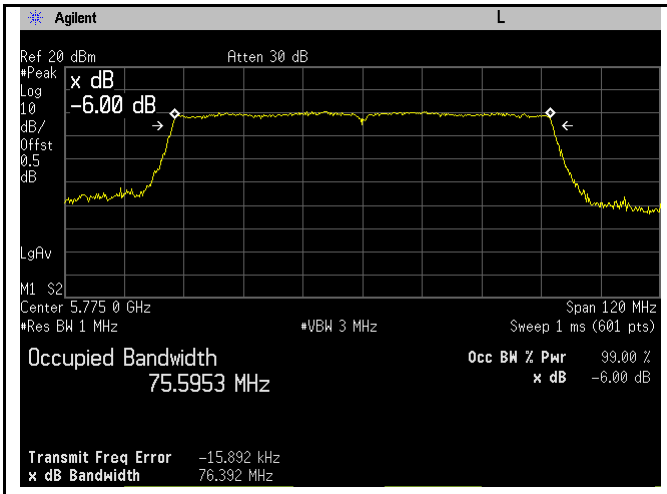


5725-5850MHz Bandwidth - Low CH 5755

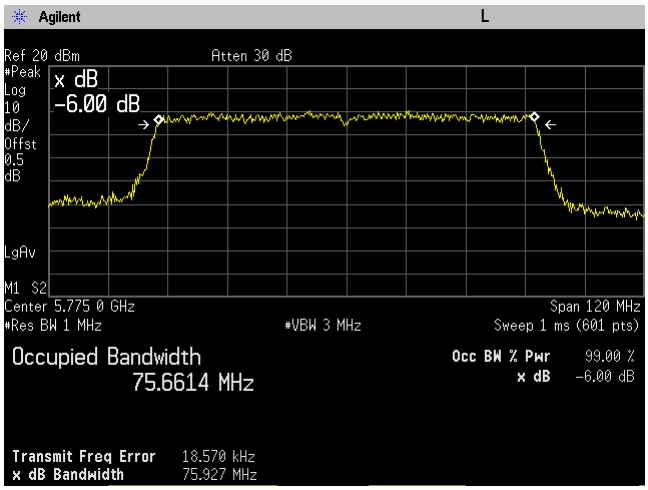


5725-5850MHz Bandwidth - Low CH 5975

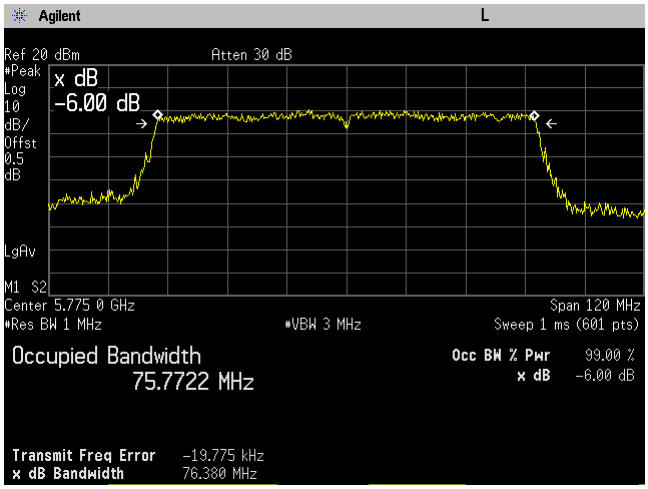
802.1ac (80M)



5725-5850MHz Bandwidth - One CH 5775 (Green)



5725-5850MHz Bandwidth - One CH 5775 (Gray)



5725-5850MHz Bandwidth - One CH 5775 (Black)

6.4 §15.407(a)-Conducted Maximum Output Power

1. Conducted Measurement
   EUT was set for low, mid, high channel with modulated mode and highest RF output power.
   The spectrum analyzer was connected to the antenna terminal.
2. Conducted Emissions Measurement Uncertainty
   All test measurements carried out are traceable to national standards. The uncertainty of the measurement at a confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2, in the range 30MHz – 40GHz is ±1.5dB.
3. Environmental Conditions

Temperature	25°C
Relative Humidity	54%
Atmospheric Pressure	1010mbar

4. Test date : January 06, 2018

   Tested By : Aaron Liang

Standard Requirement:

For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. f 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. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

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 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. 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.

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

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. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

Procedures:

Measurement Procedure Maximum conducted output power:

Maximum conducted output power may be measured using a spectrum analyzer/EMI receiver or an RF power meter.

1. Device Configuration

If possible, configure or modify the operation of the EUT so that it transmits continuously at its maximum power control level (see section II.B.).

a) The intent is to test at 100 percent duty cycle; however a small reduction in duty cycle (to no lower than 98 percent) is permitted if required by the EUT for amplitude control purposes. Manufacturers are expected to provide software to the test lab to permit such continuous operation.

b) If continuous transmission (or at least 98 percent duty cycle) cannot be achieved due to hardware limitations (e.g., overheating), the EUT shall be operated at its maximum power control level with the transmit duration as long as possible and the duty cycle as high as possible.

2. Measurement using a Power Meter (PM)

a) Method PM (Measurement using an RF average power meter):

(i) Measurements may be performed using a wideband RF power meter with a thermocouple detector or equivalent if all of the conditions listed below are satisfied.

- The EUT is configured to transmit continuously or to transmit with a constant duty cycle.
- At all times when the EUT is transmitting, it must be transmitting at its maximum power control level.

• The integration period of the power meter exceeds the repetition period of the transmitted signal by at least a factor of five.

(ii) If the transmitter does not transmit continuously, measure the duty cycle, x, of the transmitter output signal as described in section II.B.
(iii) Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.
(iv) Adjust the measurement in dBm by adding 10 log(1/x) where x is the duty cycle (e.g., 10

log(1/0.25) if the duty cycle is 25 percent).

Test Result: Pass.

Please refer to the following tables and plots:

Output Power measurement result

Mode	duty factory	Antenna Path	Channel	Conducted Power						The Highst (SISO) or Total (MIMO) conducted power	Puroto Rico/FCC Conducted power Limit (dBm)	Antenna Gain				E.I.R.P (The SUBTEL certification's requirement for Chile)					
				Ant.Green		Ant .Gay		Ant.Black				Ant. Green	Ant. Gray	Ant. Black	Directonal Gain (dBi)	Ant. Green	Ant. Gray	Ant. Black	The Highest (SISO) or Total (MIMO) E.I.R.P	E.I.R.P Power Limit (dBm)	Verdit
				RMS Conducted Powe(dBm)	MAX Conducted Powe（dBm）	RMS Conducted Powe(dBm)	MAX Conducted Powe（dBm）	RMS Conducted Powe(dBm)	MAX Conducted Powe（dBm）												
A	0.1	SISO	5180MHZ	16.8	16.9	16.6	16.7	16.8	16.9	/	23.98	3.9	3.8	2.5	/	20.8	20.5	19.4	20.8	21.76	Pass
			5220MHZ	16.9	17	16.6	16.7	16.8	16.9	/	23.98	3.9	3.8	2.5	/	20.9	20.5	19.4	20.9	21.76	Pass
			5240MHZ	17	17.1	16.7	16.8	16.5	16.6	/	23.98	3.9	3.8	2.5	/	21	20.6	19.1	21	21.76	Pass
			5260MHZ	16.8	16.9	16.7	16.8	16.9	17	/	23.98	3.8	3.9	3.8	/	20.7	20.7	20.8	20.8	21.76	Pass
			5300MHZ	16.8	16.9	16.5	16.6	16.8	16.9	/	23.98	3.8	3.9	3.8	/	20.7	20.5	20.7	20.7	21.76	Pass
			5320MHZ	16.8	16.9	16.7	16.8	16.8	16.9	/	23.98	3.8	3.9	3.8	/	20.7	20.7	20.7	20.7	21.76	Pass
			5500MHZ	16.7	16.8	16.7	16.8	16.8	16.9	/	23.98	3.6	3.9	3.7	/	20.4	20.7	20.6	20.7	21.76	Pass
			5600MHZ	16.7	16.8	16.6	16.7	16.9	17	/	23.98	3.6	3.9	3.7	/	20.4	20.6	20.7	20.7	21.76	Pass
			5700MHZ	16.9	17	16.7	16.8	16.9	17	/	23.98	3.6	3.9	3.7	/	20.6	20.7	20.7	20.7	21.76	Pass
			5720MHZ	17	17.1	16.5	16.6	16.6	16.7	/	23.98	3.6	3.9	3.7	/	20.7	20.5	20.4	20.7	21.76	Pass
			5745MHZ	17	17.1	16.7	16.8	16.6	16.7	/	30	3.8	3.8	2.7	/	20.9	20.6	19.4	20.9	21.76	Pass
			5785MHZ	17.2	17.3	16.7	16.8	16.7	16.8	/	30	3.8	3.8	2.7	/	21.1	20.6	19.5	21.1	21.76	Pass
			5825MHZ	17.2	17.3	17	17.1	17.2	17.3	/	30	3.8	3.8	2.7	/	21.1	20.9	20	21.1	21.76	Pass
N20	0.4	MIMO	5180MHZ	12.4	12.8	12.1	12.5	12.2	12.6	17.41	23.98	3.9	3.8	2.5	3.9	/	/	/	21.31	21.76	Pass
			5220MHZ	12.4	12.8	12.2	12.6	12.4	12.8	17.51	23.98	3.9	3.8	2.5	3.9	/	/	/	21.41	21.76	Pass
			5240NHZ	12.6	13	12.2	12.6	12.4	12.8	17.57	23.98	3.9	3.8	2.5	3.9	/	/	/	21.47	21.76	Pass
			5260NHZ	12.5	12.9	12.1	12.5	12.3	12.7	17.47	23.98	3.8	3.9	3.8	3.9	/	/	/	21.37	21.76	Pass
			5300MHZ	12.6	13	12.1	12.5	12.4	12.8	17.54	23.98	3.8	3.9	3.8	3.9	/	/	/	21.44	21.76	Pass
			5320MHZ	12.5	12.9	12.2	12.6	12.3	12.7	17.51	23.98	3.8	3.9	3.8	3.9	/	/	/	21.41	21.76	Pass

			5500MHZ	12.2	12.6	12.1	12.5	12	12.4	17.27	23.98	3.6	3.9	3.7	3.9	/	/	/	21.17	21.76	Pass
			5600MHZ	12.4	12.8	12.4	12.8	12.1	12.5	17.47	23.98	3.6	3.9	3.7	3.9	/	/	/	21.37	21.76	Pass
			5700MHZ	12.5	12.9	12.3	12.7	12.2	12.6	17.51	23.98	3.6	3.9	3.7	3.9	/	/	/	21.41	21.76	Pass
			5720MHZ	12.6	13	12.5	12.9	12.4	12.8	17.67	23.98	3.6	3.9	3.7	3.9	/	/	/	21.57	21.76	Pass
			5745MHZ	12.4	12.8	12.1	12.5	12.3	12.7	17.44	30	3.8	3.8	2.7	3.8	/	/	/	21.24	21.76	Pass
			5785MHZ	12.4	12.8	12.5	12.9	12.1	12.5	17.51	30	3.8	3.8	2.7	3.8	/	/	/	21.31	21.76	Pass
			5825MHZ	12.3	12.7	12.1	12.5	11.9	12.3	17.27	30	3.8	3.8	2.7	3.8	/	/	/	21.07	21.76	Pass
N40	0.8	MIMO	5190MHZ	11.4	12.2	11.1	11.9	11.4	12.2	16.87	23.98	3.9	3.8	2.5	3.9	/	/	/	20.77	21.76	Pass
			5230MHZ	11.8	12.6	11.2	12	11.6	12.4	17.11	23.98	3.9	3.8	2.5	3.9	/	/	/	21.01	21.76	Pass
			5270MHZ	11.6	12.4	11.2	12	11.7	12.5	17.08	23.98	3.8	3.9	3.8	3.9	/	/	/	20.98	21.76	Pass
			5310MHZ	11.5	12.3	11.2	12	11.5	12.3	16.97	23.98	3.8	3.9	3.8	3.9	/	/	/	20.87	21.76	Pass
			5510MHZ	11.4	12.2	11.1	11.9	11.4	12.2	16.87	23.98	3.6	3.9	3.7	3.9	/	/	/	20.77	21.76	Pass
			5590MHZ	11.6	12.4	11.2	12	11.5	12.3	17.01	23.98	3.6	3.9	3.7	3.9	/	/	/	20.91	21.76	Pass
			5670MHZ	11.2	12	11	11.8	11.5	12.3	16.81	23.98	3.6	3.9	3.7	3.9	/	/	/	20.71	21.76	Pass
			5710MHZ	11.7	12.5	11.1	11.9	11.6	12.4	17.05	23.98	3.6	3.9	3.7	3.9	/	/	/	20.95	21.76	Pass
			5755MHZ	11.3	12.1	11.1	11.9	11.2	12	16.77	30	3.8	3.8	2.7	3.8	/	/	/	20.57	21.76	Pass
			5795MHZ	11.9	12.7	11.7	12.5	11.9	12.7	17.41	30	3.8	3.8	2.7	3.8	/	/	/	21.21	21.76	Pass
AC20	0.4	MIMO	5180MHZ	12.4	12.8	12.1	12.5	12.4	12.8	17.47	23.98	3.9	3.8	2.5	3.9	/	/	/	21.37	21.76	Pass
			5220MHZ	12.4	12.8	12.2	12.6	12.4	12.8	17.51	23.98	3.9	3.8	2.5	3.9	/	/	/	21.41	21.76	Pass
			5240MHZ	12.4	12.8	12.4	12.8	12.5	12.9	17.6	23.98	3.9	3.8	2.5	3.9	/	/	/	21.5	21.76	Pass
			5260MHZ	12.4	12.8	12.2	12.6	12.4	12.8	17.51	23.98	3.8	3.9	3.8	3.9	/	/	/	21.41	21.76	Pass
			5300MHZ	12.4	12.8	12.2	12.6	12.4	12.8	17.51	23.98	3.8	3.9	3.8	3.9	/	/	/	21.41	21.76	Pass
			5320MHZ	12.4	12.8	12.1	12.5	12.3	12.7	17.44	23.98	3.8	3.9	3.8	3.9	/	/	/	21.34	21.76	Pass
			5500MHZ	12.5	12.9	12.4	12.8	12.4	12.8	17.6	23.98	3.6	3.9	3.7	3.9	/	/	/	21.5	21.76	Pass
			5600MHZ	12	12.4	12	12.4	11.8	12.2	17.11	23.98	3.6	3.9	3.7	3.9	/	/	/	21.01	21.76	Pass
			5700MHZ	12.5	12.9	12.1	12.5	12.2	12.6	17.44	23.98	3.6	3.9	3.7	3.9	/	/	/	21.34	21.76	Pass
			5720MHZ	12.2	12.6	12.2	12.6	11.8	12.2	17.24	23.98	3.6	3.9	3.7	3.9	/	/	/	21.14	21.76	Pass

			5745MHZ	12.2	12.6	12.1	12.5	12	12.4	17.27	30	3.8	3.8	2.7	3.8	/	/	/	21.07	21.76	Pass
			5785MHZ	12.4	12.8	12.4	12.8	12.5	12.9	17.6	30	3.8	3.8	2.7	3.8	/	/	/	21.4	21.76	Pass
			5825MHZ	12.4	12.8	12	12.4	11.9	12.3	17.28	30	3.8	3.8	2.7	3.8	/	/	/	21.08	21.76	Pass
AC 40	0.8	MIMO	5190MHZ	11.9	12.7	11.6	12.4	12.1	12.9	17.44	23.98	3.9	3.8	2.5	3.9	/	/	/	21.34	21.76	Pass
			5230MHZ	11.5	12.3	11.1	11.9	11.7	12.5	17.01	23.98	3.9	3.8	2.5	3.9	/	/	/	20.91	21.76	Pass
			5270MHZ	11.5	12.3	11.3	12.1	11.6	12.4	17.04	23.98	3.8	3.9	3.8	3.9	/	/	/	20.94	21.76	Pass
			5310MHZ	11.7	12.5	11.3	12.1	11.7	12.5	17.14	23.98	3.8	3.9	3.8	3.9	/	/	/	21.04	21.76	Pass
			5510MHZ	11.9	12.7	11.3	12.1	11.6	12.4	17.18	23.98	3.6	3.9	3.7	3.9	/	/	/	21.08	21.76	Pass
			5590MHZ	11.8	12.6	11.3	12.1	11.6	12.4	17.14	23.98	3.6	3.9	3.7	3.9	/	/	/	21.04	21.76	Pass
			5670MHZ	11.7	12.5	11.2	12	11.6	12.4	17.08	23.98	3.6	3.9	3.7	3.9	/	/	/	20.98	21.76	Pass
			5710MHZ	11.8	12.6	11.4	12.2	11.7	12.5	17.21	23.98	3.6	3.9	3.7	3.9	/	/	/	21.11	21.76	Pass
			5755MHZ	11.9	12.7	11.6	12.4	11.7	12.5	17.31	30	3.8	3.8	2.7	3.8	/	/	/	21.11	21.76	Pass
			5795MHZ	12.1	12.9	11.6	12.4	11.9	12.7	17.44	30	3.8	3.8	2.7	3.8	/	/	/	21.24	21.76	Pass
AC 80	1.4	MIMO	5210MHZ	11.3	12.7	1	2.4	11.3	12.7	15.91	23.98	3.9	3.8	2.5	3.9	/	/	/	19.81	21.76	Pass
			5290MHZ	11.3	12.7	11	12.4	11.4	12.8	17.41	23.98	3.8	3.9	3.8	3.9	/	/	/	21.31	21.76	Pass
			5530MHZ	11.5	12.9	11	12.4	10.7	12.1	17.25	23.98	3.6	3.9	3.7	3.9	/	/	/	21.15	21.76	Pass
			5610MHZ	11.4	12.8	11	12.4	10.9	12.3	17.28	23.98	3.6	3.9	3.7	3.9	/	/	/	21.18	21.76	Pass
			5690MHZ	11.6	13	11	12.4	10.9	12.3	17.35	23.98	3.6	3.9	3.7	3.9	/	/	/	21.25	21.76	Pass
			5775MHZ	11.7	13.1	11.3	12.7	11	12.4	17.51	30	3.8	3.8	2.7	3.8	/	/	/	21.31	21.76	Pass

6.5 §15.407(a) - Power Spectral Density

1. Conducted Measurement

   EUT was set for low, mid, high channel with modulated mode and highest RF output power.

   The spectrum analyzer was connected to the antenna terminal.

2. Environmental Conditions

Temperature	23°C
Relative Humidity	55%
Atmospheric Pressure	1012mbar

3. Conducted Emissions Measurement Uncertainty

   All test measurements carried out are traceable to national standards. The uncertainty of the measurement at a confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2, in the range 30MHz – 40GHz is ±1.5dB.

4. Test date : January 04, 2017

   Tested By : Aaron Liang

Standard Requirement:

The maximum power spectral density shall not exceed 17 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. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

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.

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. However, fixed point-to-point U-NII devices operating in this band

may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII
device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

Procedures:

The rules requires " maximum power spectral density" measurements where the intent is to measure the maximum value of the time average of the power spectral density measured during a period of continuous transmission.

1. Create an average power spectrum for the EUT operating mode being tested by following the instructions in section II.E.2. for measuring maximum conducted output power using a spectrum analyzer or EMI receiver: select the appropriate test method (SA-1, SA-2, SA-3, or alternatives to each) and apply it up to, but not including, the step labeled, " Compute power…" . (This procedure is required even if the maximum conducted output power measurement was performed using a power meter, method PM.)

2. Use the peak search function on the instrument to find the peak of the spectrum and record its value.

3. Make the following adjustments to the peak value of the spectrum, if applicable:

a) If Method SA-2 or SA-2 Alternative was used, add 10 log(1/x), where x is the duty cycle, to the peak of the spectrum.

b) If Method SA-3 Alternative was used and the linear mode was used in step II.E.2.g)(viii), add 1 dB to the final result to compensate for the difference between linear averaging and power averaging.

4. The result is the Maximum PSD over 1 MHz reference bandwidth.

5. For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1 MHz, or 500 kHz, " provided that the measured power is integrated over the full reference bandwidth" to show the total power over the specified measurement bandwidth (i.e., 1 MHz, or 500 kHz). If measurements are performed using a reduced resolution bandwidth (< 1 MHz, or < 500 kHz) and integrated over 1 MHz, or 500 KHz bandwidth, the following adjustments to the procedures apply:

a) Set RBW ≥ 1/T, where T is defined in section II.B.I.a).

b) Set VBW ≥ 3 RBW.

c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add 10log(500kHz/RBW) to the measured result, whereas RBW (< 500 KHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.

d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add 10log(1MHz/RBW) to the measured result, whereas RBW (< 1 MHz) is the reduced resolution bandwidth of spectrum analyzer set during measurement.

e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

Note: As a practical matter, it is recommended to use reduced RBW of 100 KHz for the sections 5.c) and 5.d) above, since RBW=100 KHZ is available on nearly all spectrum analyzers.

Test Result: Pass.

Please refer to the following tables and plots.

Power Spectral Density measurement result

Mode	Antenna Path	Channel	Antenna0(GRAY)	Antenna1(BLACK)	Antenna2(BLUE)	The Highest (SISO) or Total (MIMO) PSD	PSD Limit (dBm)	Verdit
A	SISO	5180MHZ	6.405	6.785	7.493	7.493	17	Pass
		5220MHZ	6.029	6.533	6.48	6.533	17	Pass
		5240MHZ	6.704	5.883	6.629	6.704	17	Pass
		5260MHZ	6.012	6.112	6.624	6.624	11	Pass
		5300MHZ	6.206	6.15	6.248	6.248	11	Pass
		5320MHZ	6.819	6.991	6.854	6.991	11	Pass
		5500MHZ	6.117	6.342	6.016	6.342	11	Pass
		5600MHZ	6.697	6.464	6.682	6.697	11	Pass
		5700MHZ	6.732	6.361	6.432	6.732	11	Pass
		5720MHZ	6.68	6.733	6.939	6.939	11	Pass
		5745MHZ	6.748	6.029	6.721	6.748	30	Pass
		5785MHZ	6.016	6.451	6.206	6.451	30	Pass
		5825MHZ	6.139	5.631	6.154	6.154	30	Pass
N20	MIMO	5180MHZ	1.106	0.724	1.597	1.597	14.81	Pass
		5220MHZ	1.103	0.942	1.37	5.91	14.81	Pass
		5240NHZ	1.243	1.265	1.067	5.96	14.81	Pass
		5260NHZ	0.637	0.857	1.024	5.61	8.4	Pass
		5300MHZ	0.688	0.872	1.662	5.87	8.4	Pass
		5320MHZ	1.07	1.189	0.952	5.84	8.4	Pass
		5500MHZ	0.804	0.478	0.139	5.25	8.49	Pass
		5600MHZ	0.449	1.139	1.258	5.73	8.49	Pass

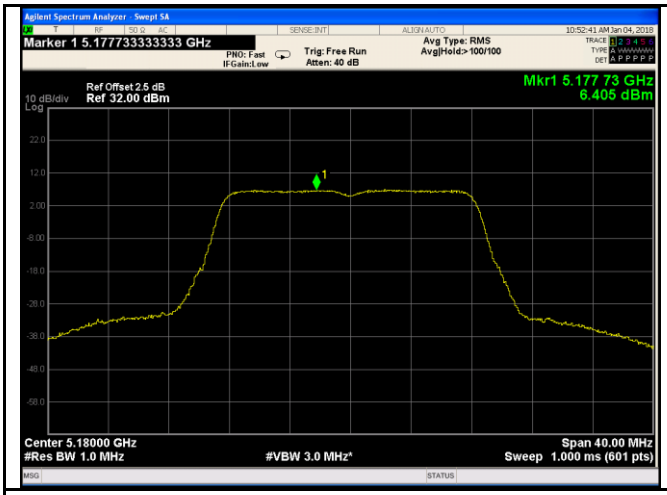
		5700MHZ	1.368	1.373	0.998	6.02	8.49	Pass
		5720MHZ	0.982	1.276	1.392	5.99	8.49	Pass
		5745MHZ	0.96	0.89	1.044	5.74	27.78	Pass
		5785MHZ	-0.005	0.309	0.509	5.05	27.78	Pass
		5825MHZ	0.052	-0.184	-0.887	4.45	27.78	Pass
N40	MIMO	5190MHZ	-2.267	-2.806	-2.099	2.39	14.81	Pass
		5230MHZ	-2.828	-2.954	-2.063	2.17	14.81	Pass
		5270MHZ	-3.013	-2.861	-1.837	2.23	8.4	Pass
		5310MHZ	-3.069	-3.031	-2.433	1.94	8.4	Pass
		5510MHZ	-2.571	-2.926	-2.828	2	8.49	Pass
		5590MHZ	-1.896	-3.426	-1.606	2.53	8.49	Pass
		5670MHZ	-2.834	-4.788	-2.862	1.37	8.49	Pass
		5710MHZ	-2.16	-4.564	-1.718	2.12	27.49	Pass
		5755MHZ	-3.031	-4.893	-2.856	1.27	27.78	Pass
		5795MHZ	-3.399	-5.336	-2.97	0.98	27.78	Pass
AC20	MIMO	5180MHZ	1.002	0.345	0.932	5.54	14.81	Pass
		5220MHZ	0.696	-0.075	1.447	5.5	14.81	Pass
		5240MHZ	1.049	0.756	1.126	5.75	14.81	Pass
		5260MHZ	0.728	0.195	1.204	5.5	8.4	Pass
		5300MHZ	0.808	0.364	1.204	5.58	8.4	Pass
		5320MHZ	0.859	0.414	0.994	5.53	8.4	Pass
		5500MHZ	0.978	0.478	0.57	5.45	8.49	Pass
		5600MHZ	0.517	0.064	0.759	5.23	8.49	Pass
		5700MHZ	1.187	0.664	1.187	5.79	8.49	Pass
		5720MHZ	0.724	0.339	0.773	5.39	8.49	Pass
		5745MHZ	1.199	0.242	1.038	5.62	27.78	Pass
		5785MHZ	0.365	-0.054	0.465	5.04	27.78	Pass
		5825MHZ	-0.728	-1.168	-0.314	4.05	27.78	Pass

AC40	MIMO	5190MHZ	-2.215	-2.694	-1.482	2.67	14.81	Pass
		5230MHZ	-3.389	-3.3	-1.363	2.19	14.81	Pass
		5270MHZ	-2.536	-3.23	-1.63	2.36	8.4	Pass
		5310MHZ	-2.439	-3.34	-1.834	2.28	8.4	Pass
		5510MHZ	-3.261	-3.401	-2.613	1.69	8.49	Pass
		5590MHZ	-2.469	-3.185	-2.292	2.14	8.49	Pass
		5670MHZ	-2.62	-3.025	-2.255	2.15	8.49	Pass
		5710MHZ	-2.657	-3.2	-2.02	2.17	8.49	Pass
		5755MHZ	-2.62	-3.079	-2.574	2.02	27.78	Pass
		5795MHZ	-3.389	-3.845	-2.983	1.38	27.78	Pass
AC80	MIMO	5210MHZ	-6.205	-6.719	-5.354	-1.28	8.81	Pass
		5290MHZ	-6.476	-6.594	-5.702	-1.47	8.4	Pass
		5530MHZ	-6.595	-6.313	-5.538	-1.35	8.49	Pass
		5610MHZ	-5.583	-5.884	-5.01	-0.71	8.49	Pass
		5690MHZ	-5735	-6.56	-6.356	-3.45	8.49	Pass
		5775MHZ	-6.158	-7.123	-6.431	-1.78	27.78	Pass

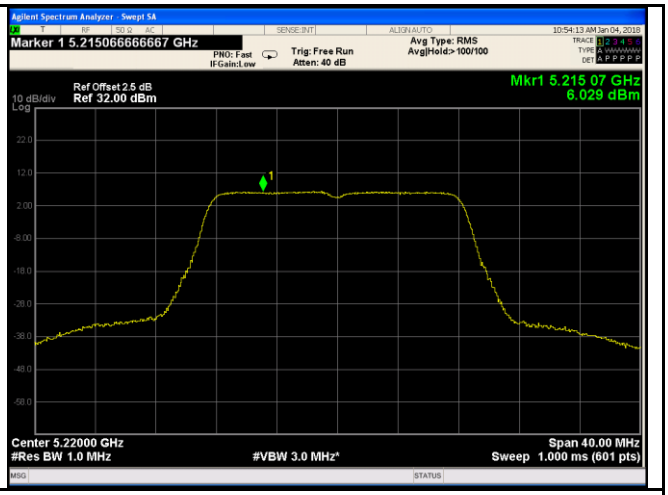
Test Plots

Power Spectral Density measurement result Test Plots

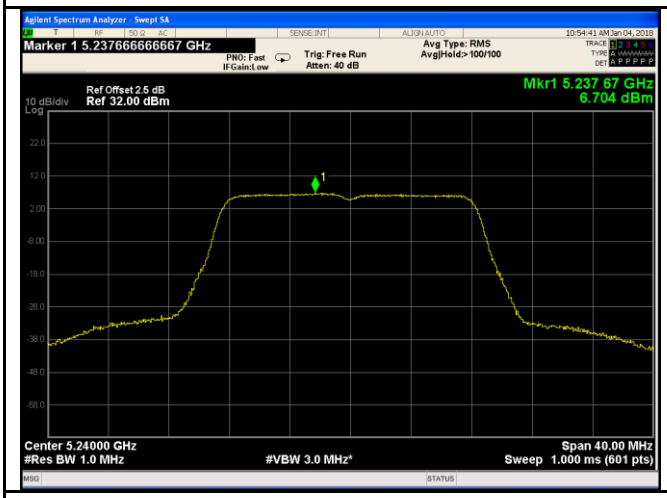
802.11a (Green)



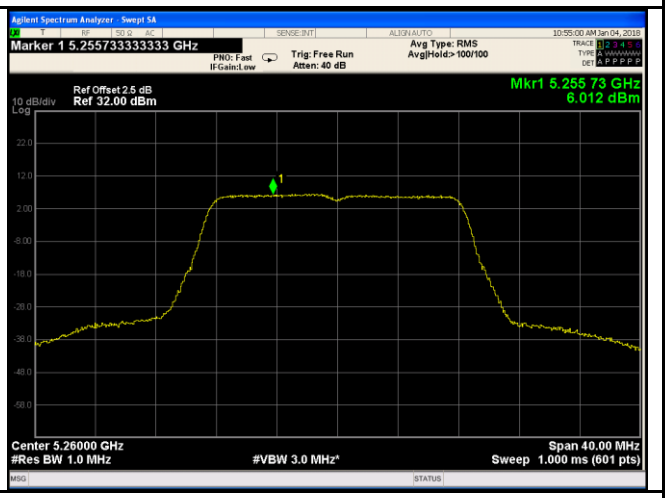
5150-5250MHz PSD - Low CH 5180



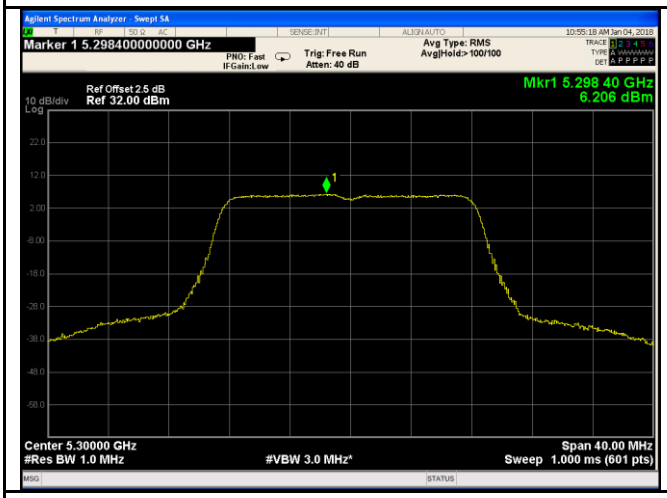
5150-5250MHz PSD - Middle CH 5220



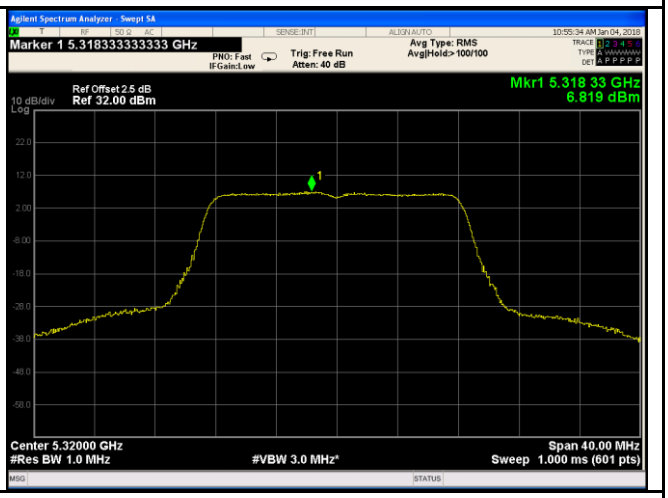
5150-5250MHz PSD - High CH 5240



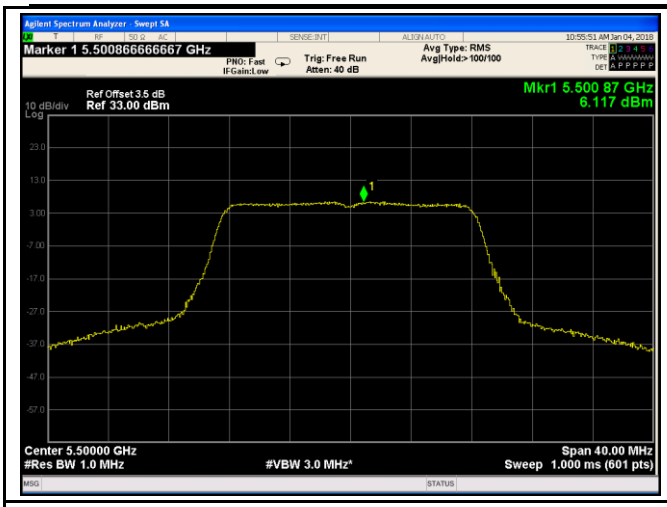
5250-5350MHz PSD - Low CH 5260



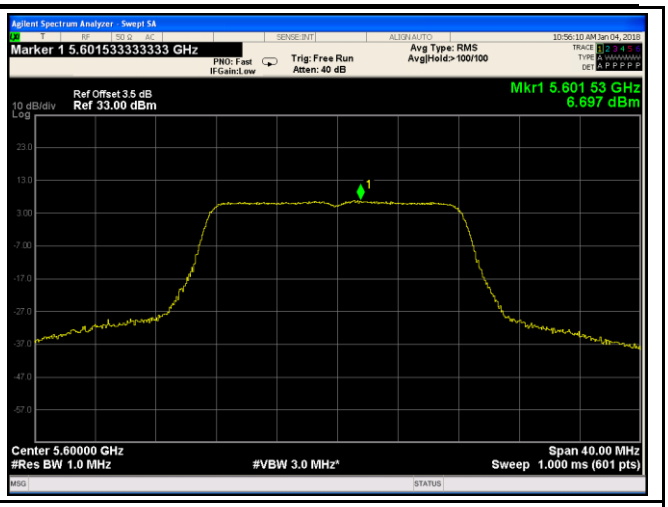
5250-5350MHz PSD - Middle CH 5300



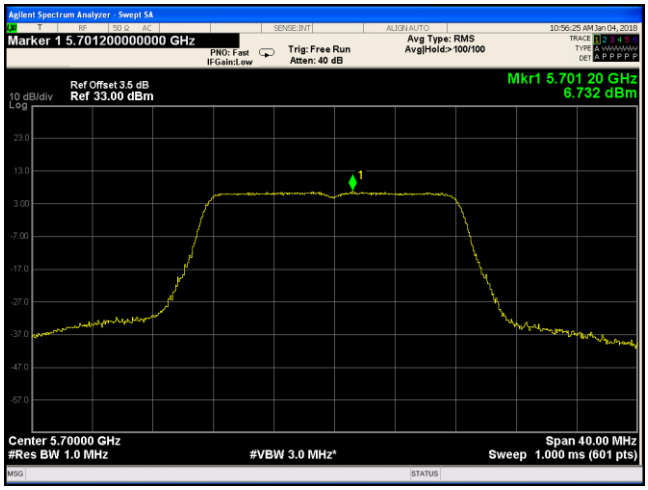
5250-5350MHz PSD - High CH 5320



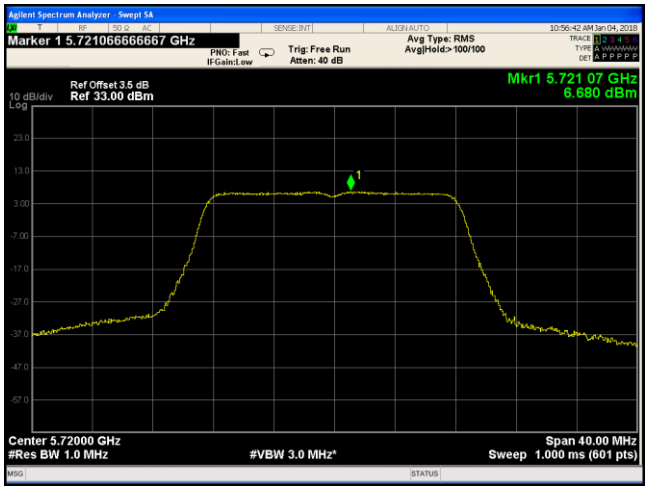
5470-5725MHz PSD - Low CH 5500



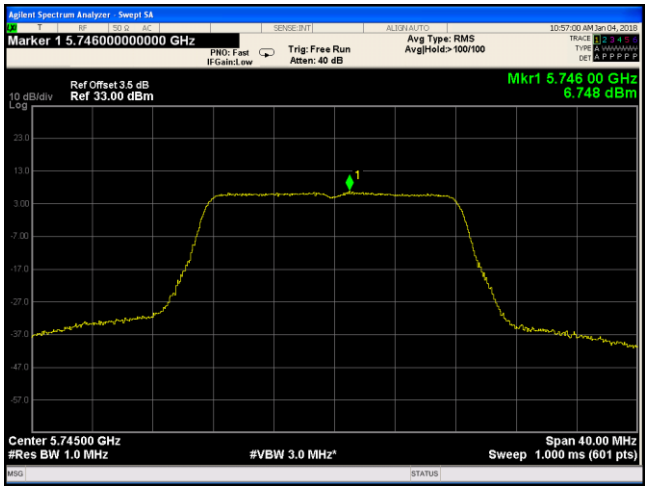
5470-5725MHz PSD - Mid CH 5600



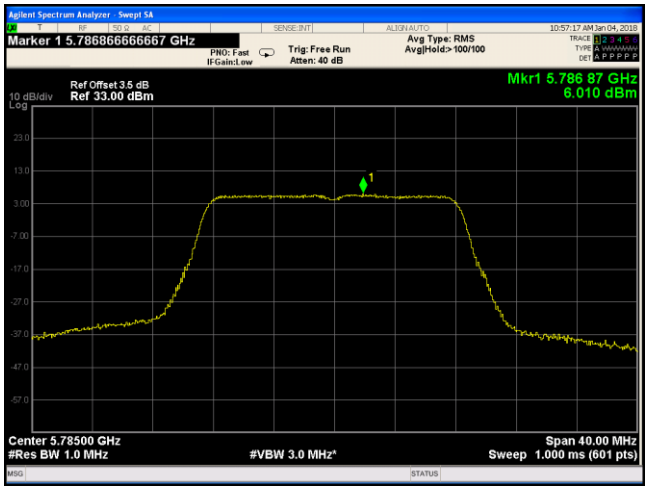
5470-5725MHz PSD - High CH 5700



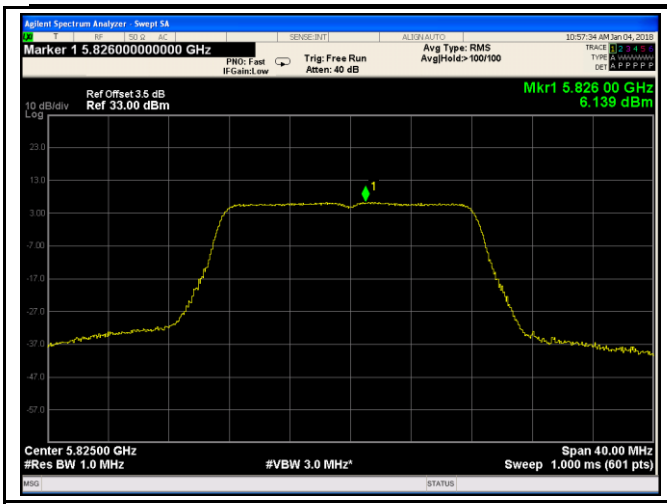
5725-5850MHz PSD - Straddle 5720



5725-5850MHz PSD - Low CH 5745

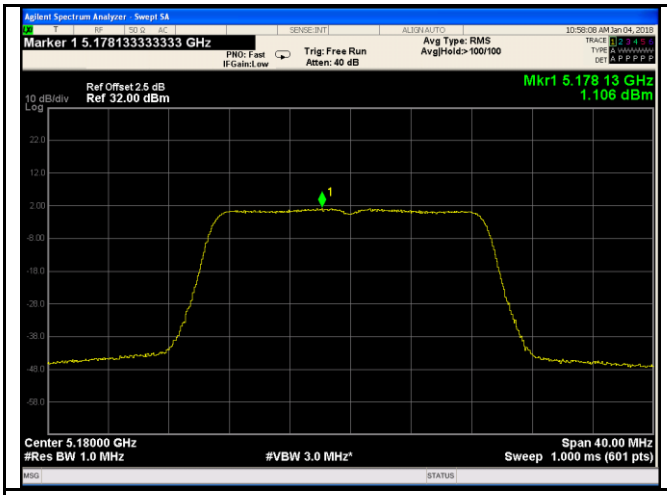


5725-5850MHz PSD - Mid CH 5785

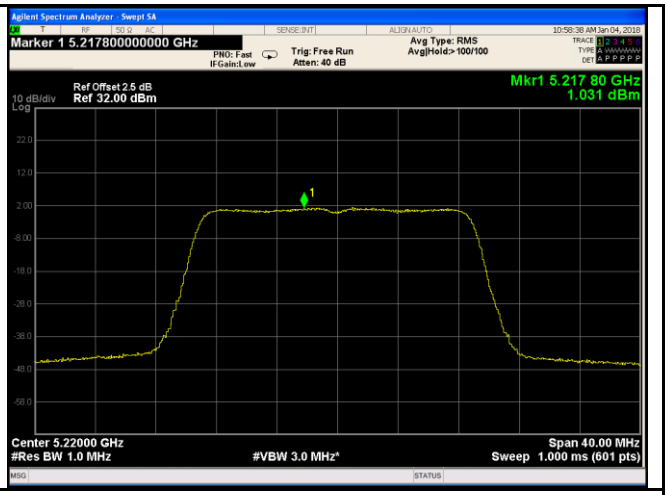


5725-5850MHz PSD - High CH 5825

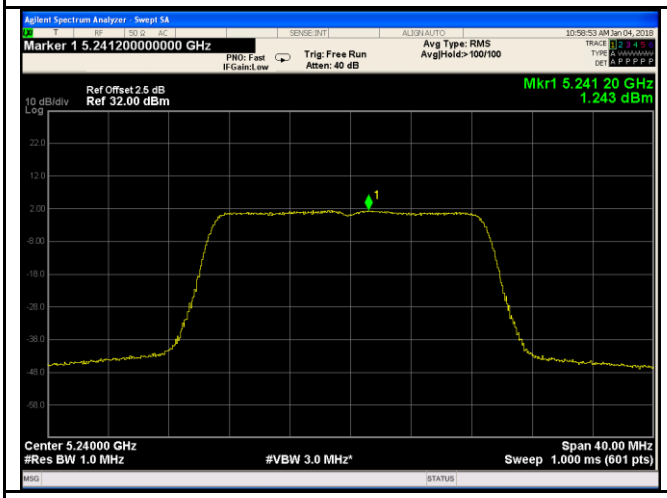
802.11n (20M)



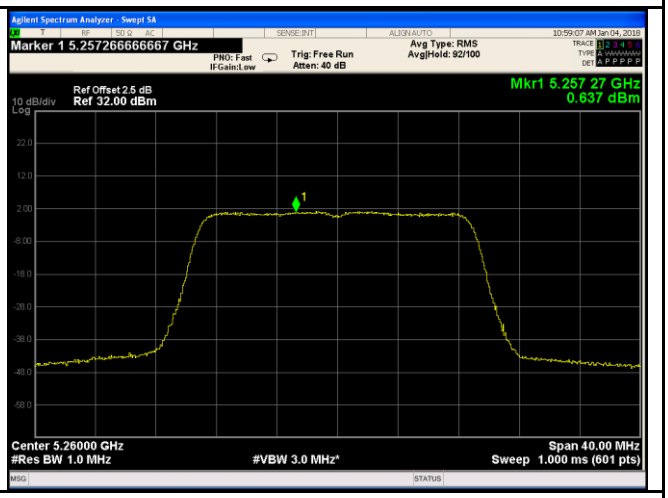
5150-5250MHz PSD - Low CH 5180



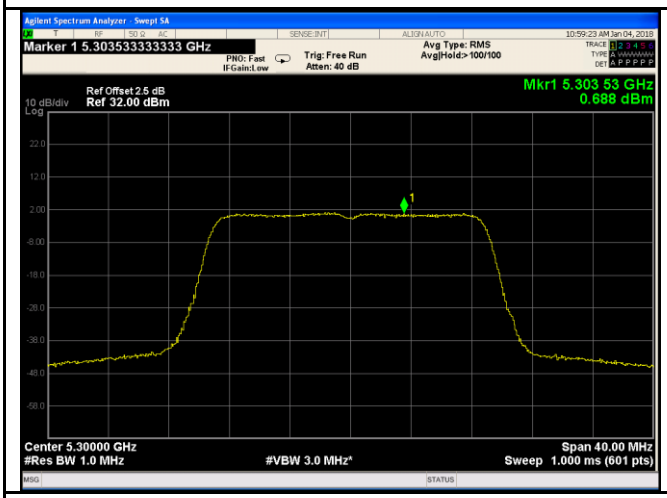
5150-5250MHz PSD - Middle CH 5220



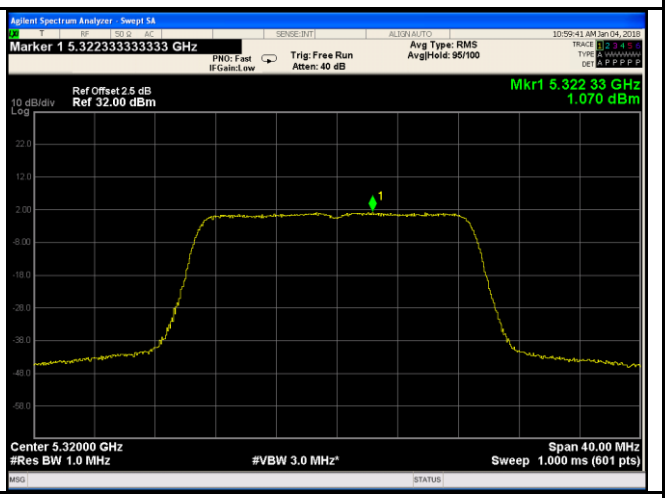
5150-5250MHz PSD - High CH 5240



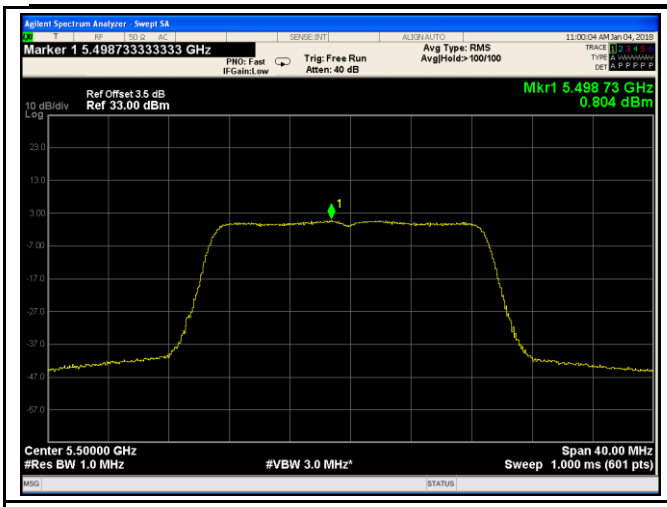
5250-5350MHz PSD - Low CH 5260



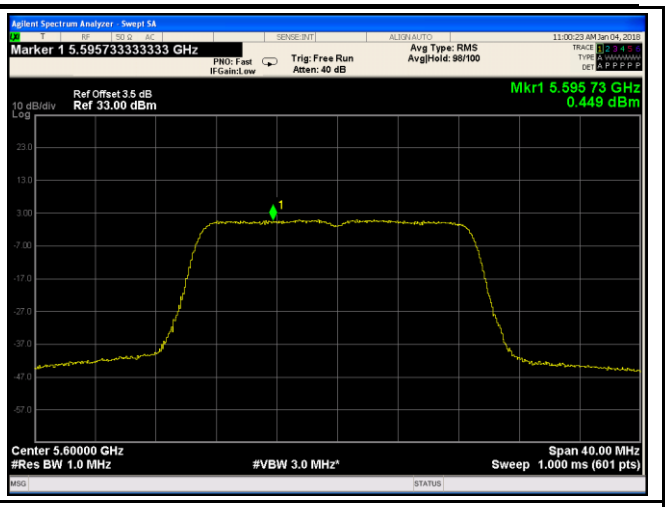
5250-5350MHz PSD - Middle CH 5300



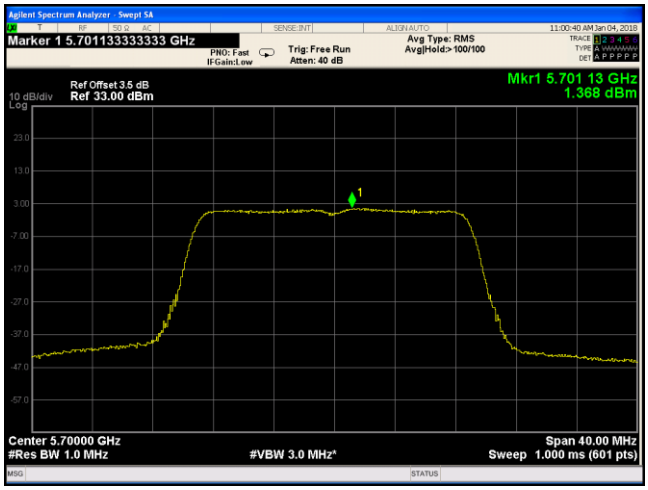
5250-5350MHz PSD - High CH 5320



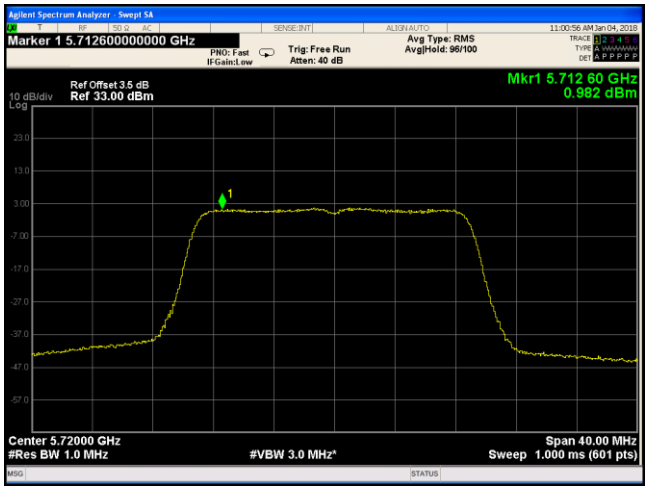
5470-5725MHz PSD - Low CH 5500



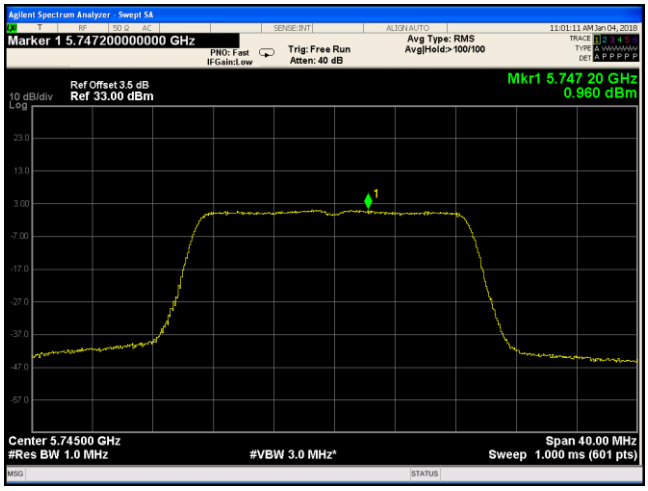
5470-5725MHz PSD - Mid CH 5600



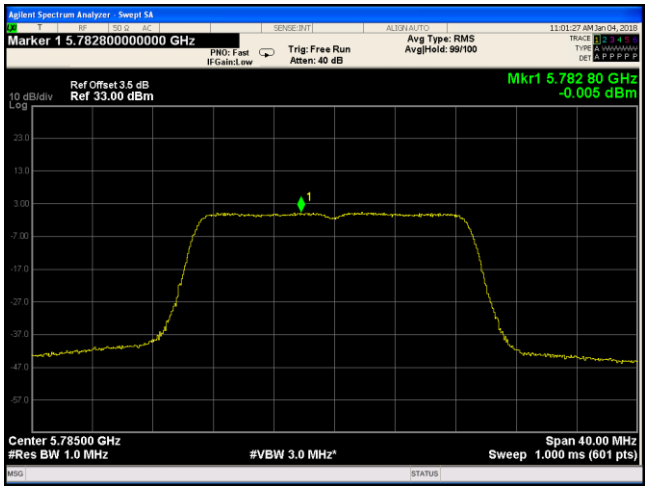
5470-5725MHz PSD - High CH 5700



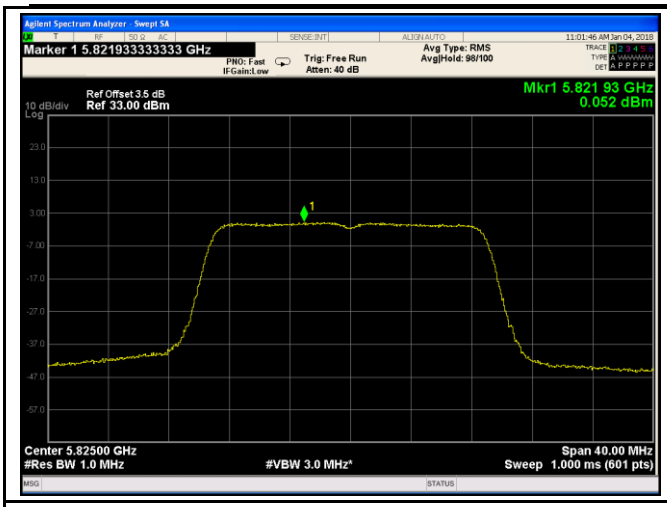
5725-5850MHz PSD - Straddle 5720



5725-5850MHz PSD - Low CH 5745

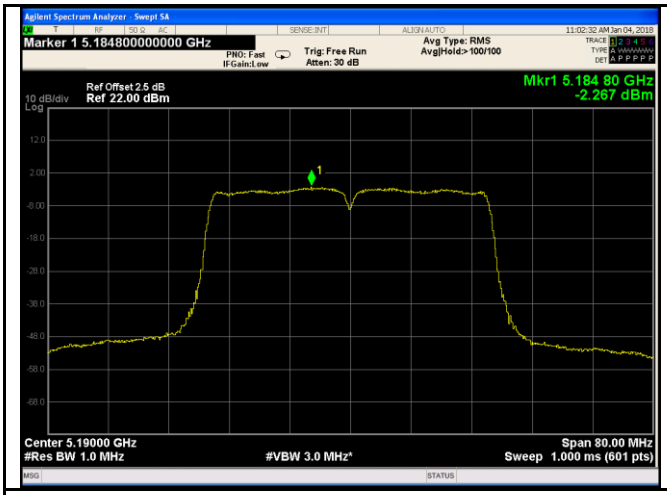


5725-5850MHz PSD - Mid CH 5785

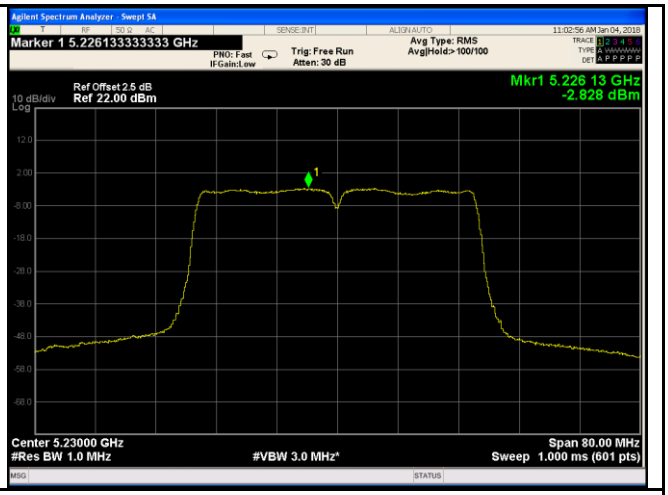


5725-5850MHz PSD - High CH 5825

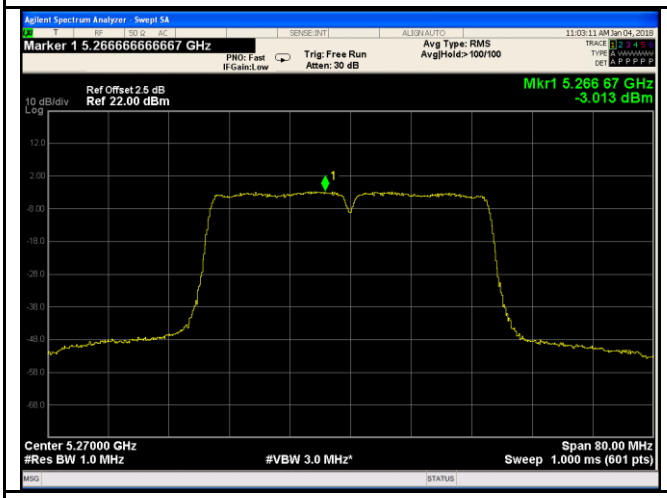
802.11n (40M)



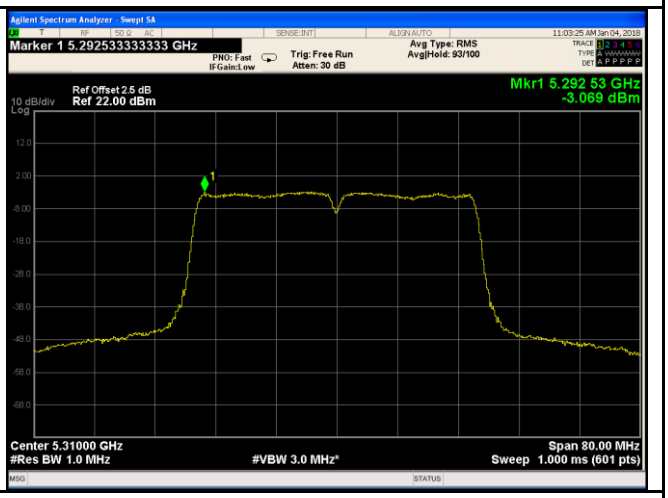
5150-5250MHz PSD - Low CH 5190



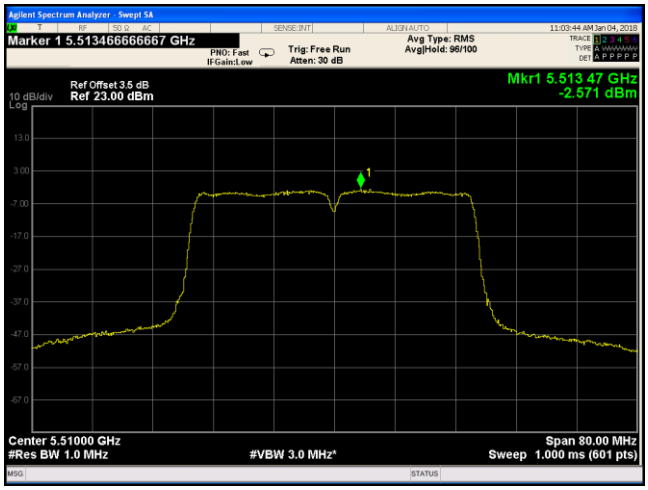
5150-5250MHz PSD - High CH 5230



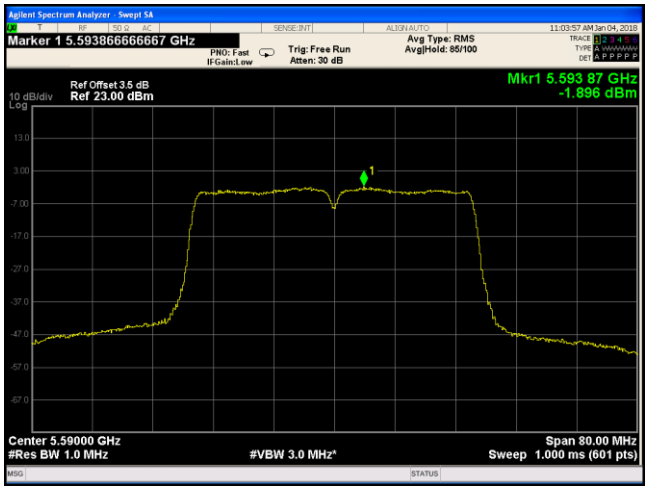
5250-5350MHz PSD - Low CH 5270



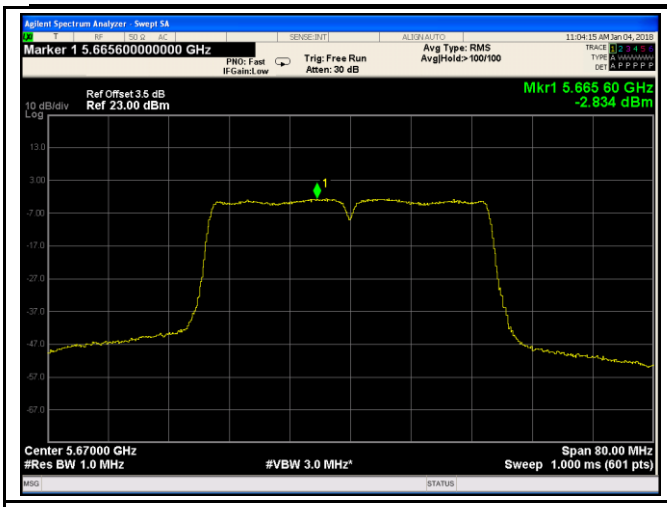
5250-5350MHz PSD - High CH 5310



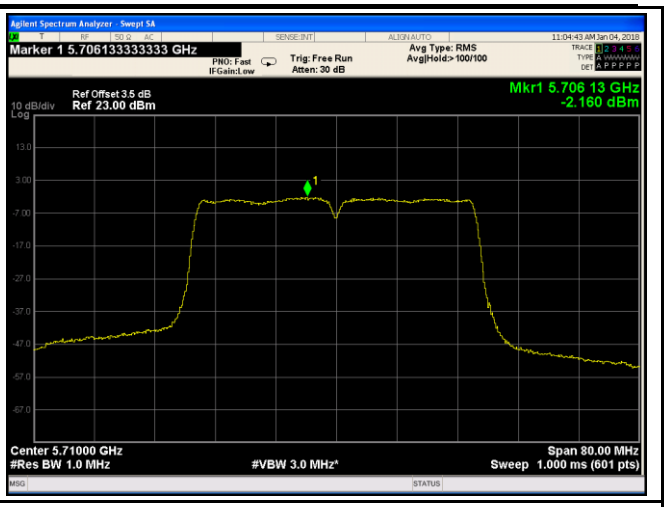
5470-5725MHz PSD - Low CH 5510



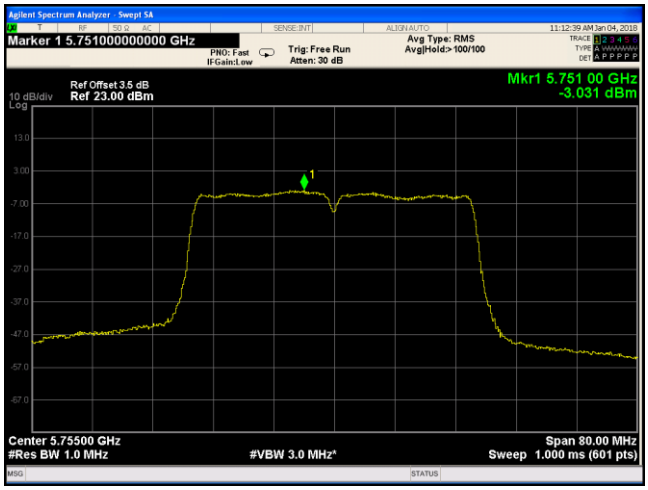
5470-5725MHz PSD - Mid CH 5590



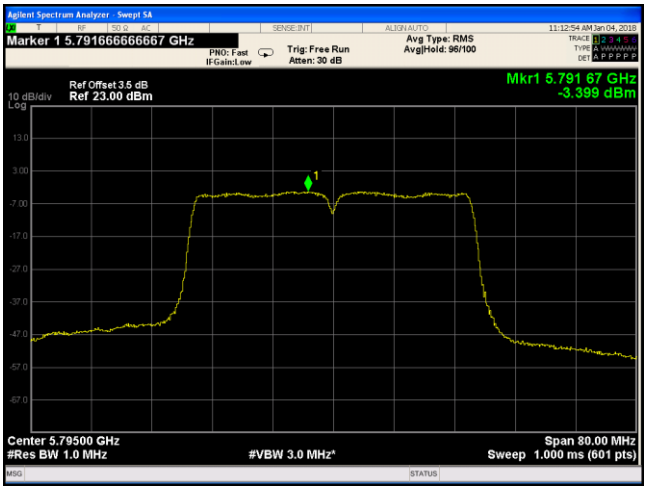
5470-5725MHz PSD - High CH 5670



5470-5725MHz PSD - Straddle CH 5710

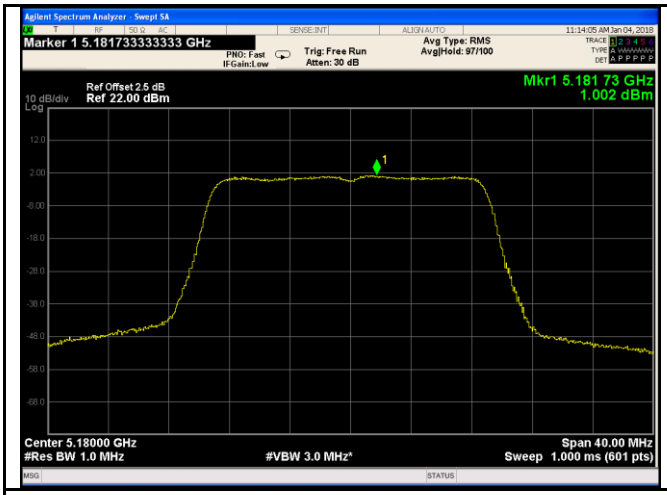


5725-5850MHz PSD - Low CH 5755

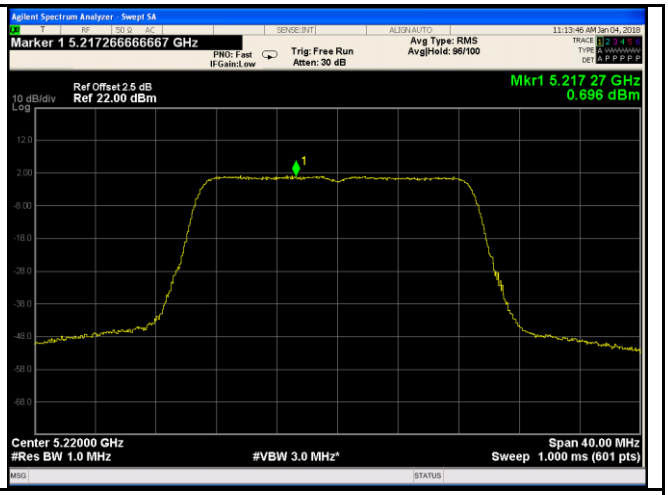


5725-5850MHz PSD - High CH 5795

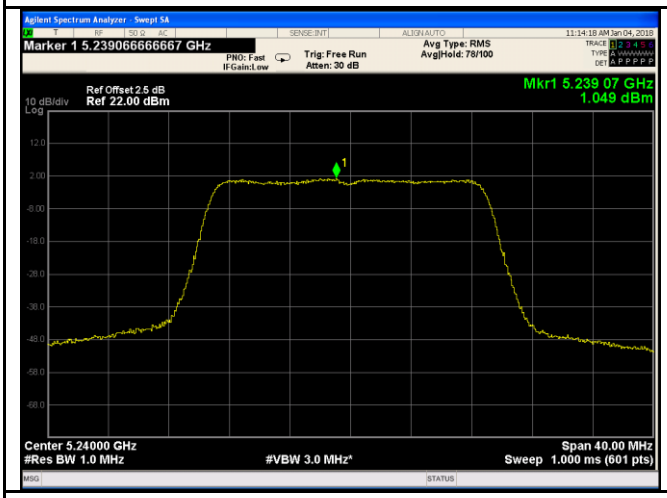
802.11ac (20M)



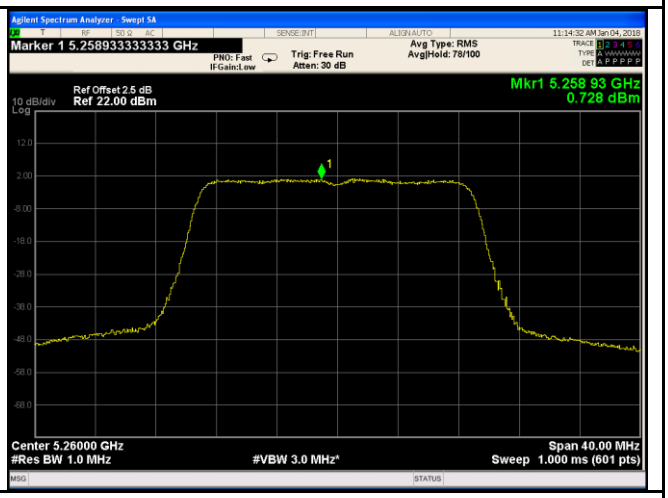
5150-5250MHz PSD - Low CH 5180



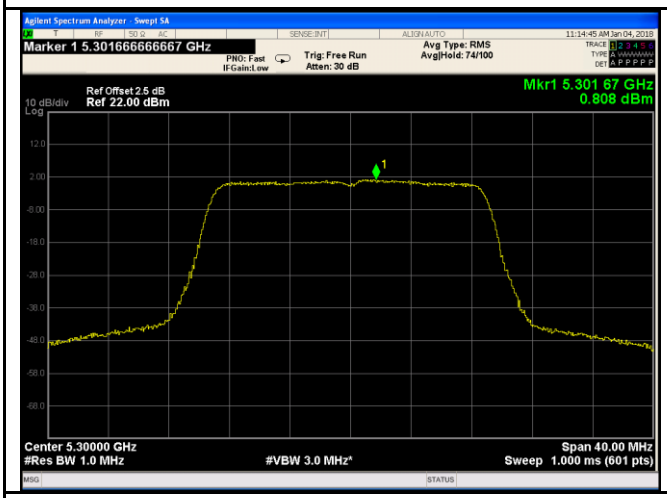
5150-5250MHz PSD - Middle CH 5220



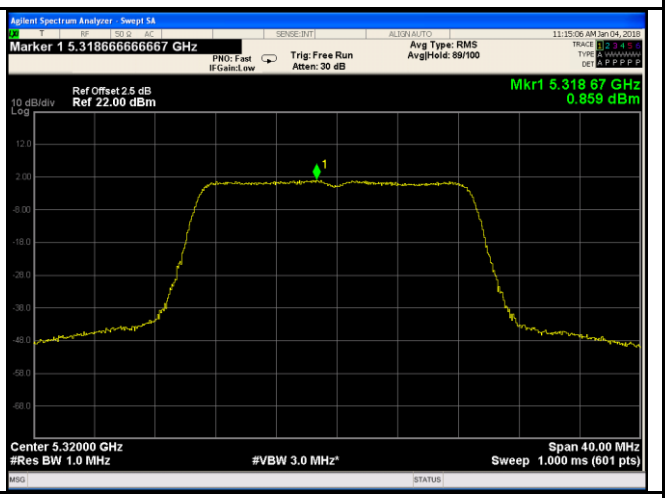
5150-5250MHz PSD - High CH 5240



5250-5350MHz PSD - Low CH 5260



5250-5350MHz PSD - Middle CH 5300



5250-5350MHz PSD - High CH 5320