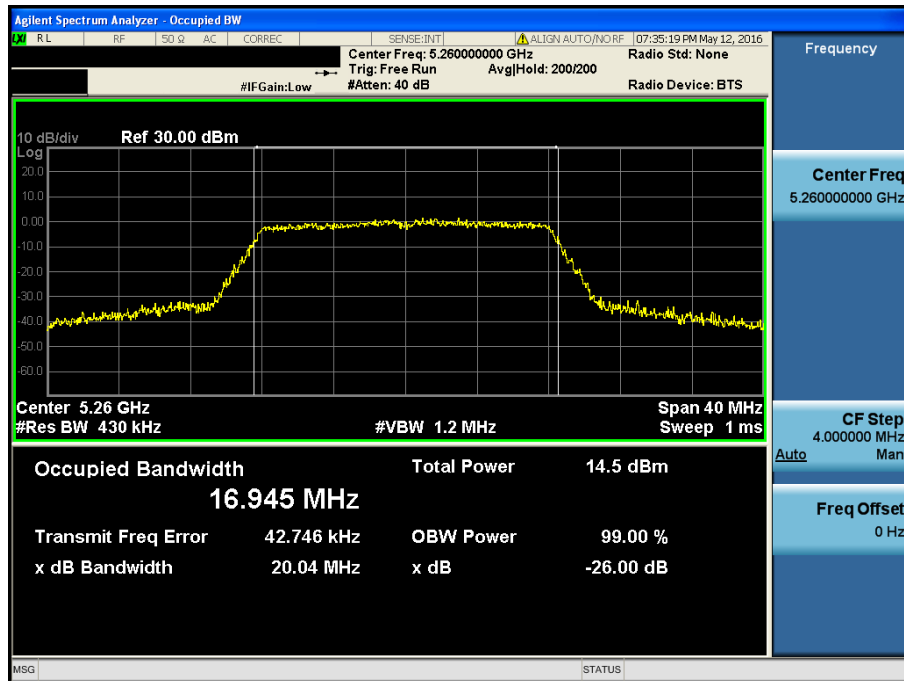


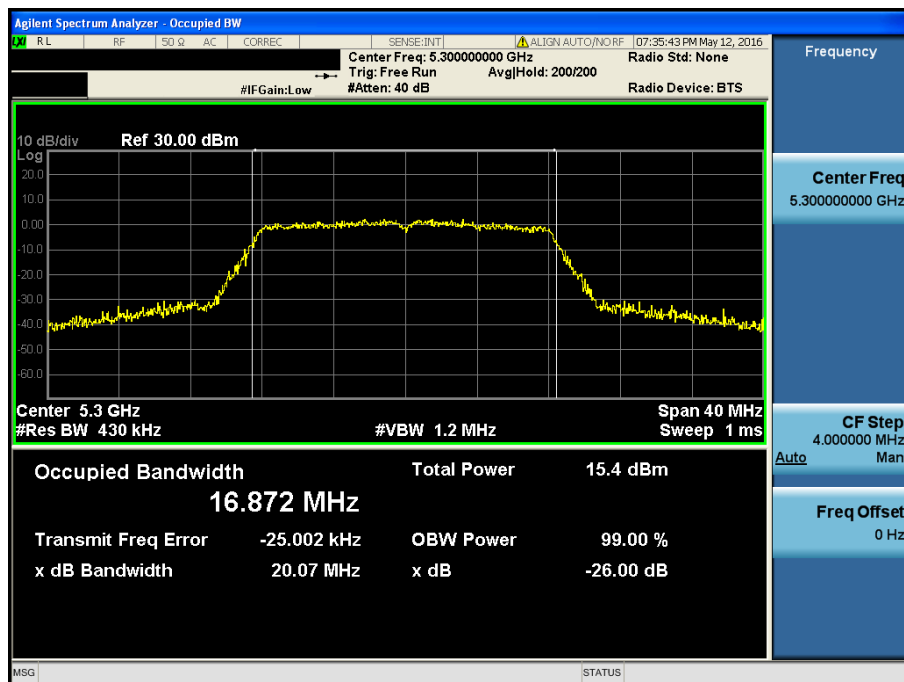
Occupied Bandwidth 99%

Test Mode: 802.11a & ANT 2 & Ch.52



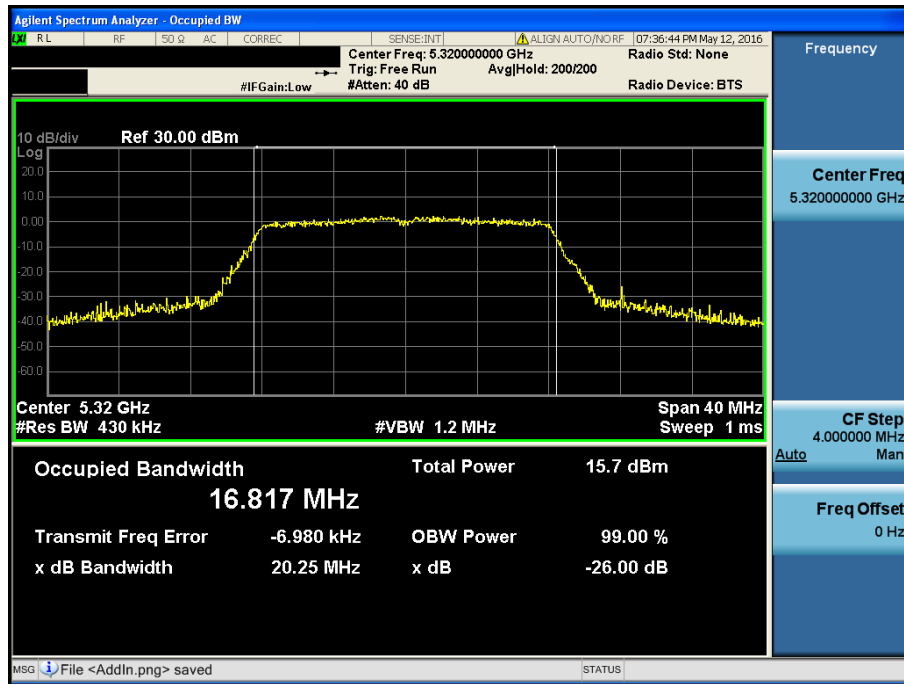
Occupied Bandwidth 99%

Test Mode: 802.11a & ANT 2 & Ch.60



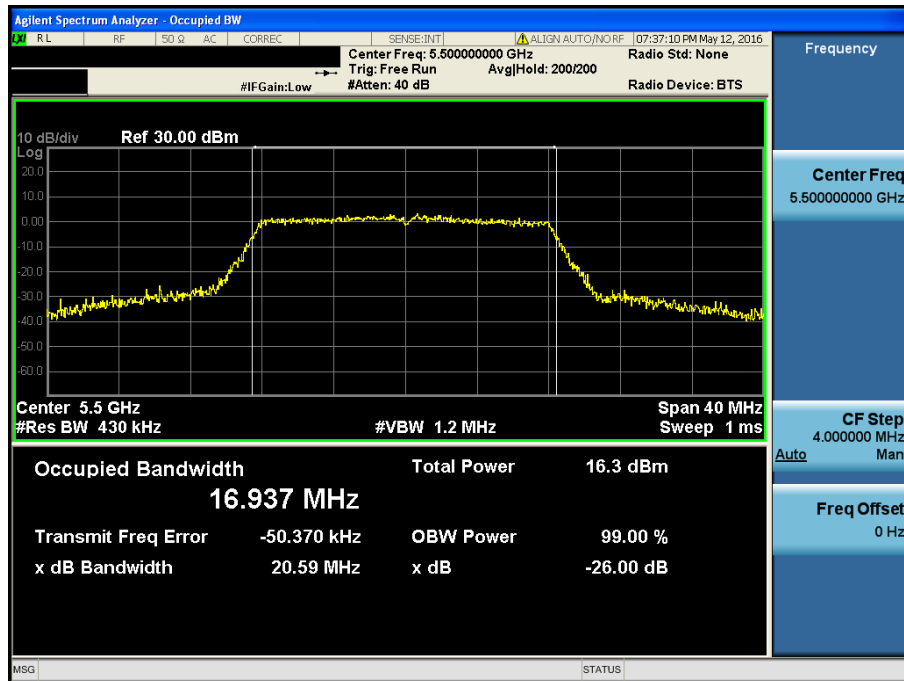
Occupied Bandwidth 99%

Test Mode: 802.11a & ANT 2 & Ch.64



Occupied Bandwidth 99%

Test Mode: 802.11a & ANT 2 & Ch.100



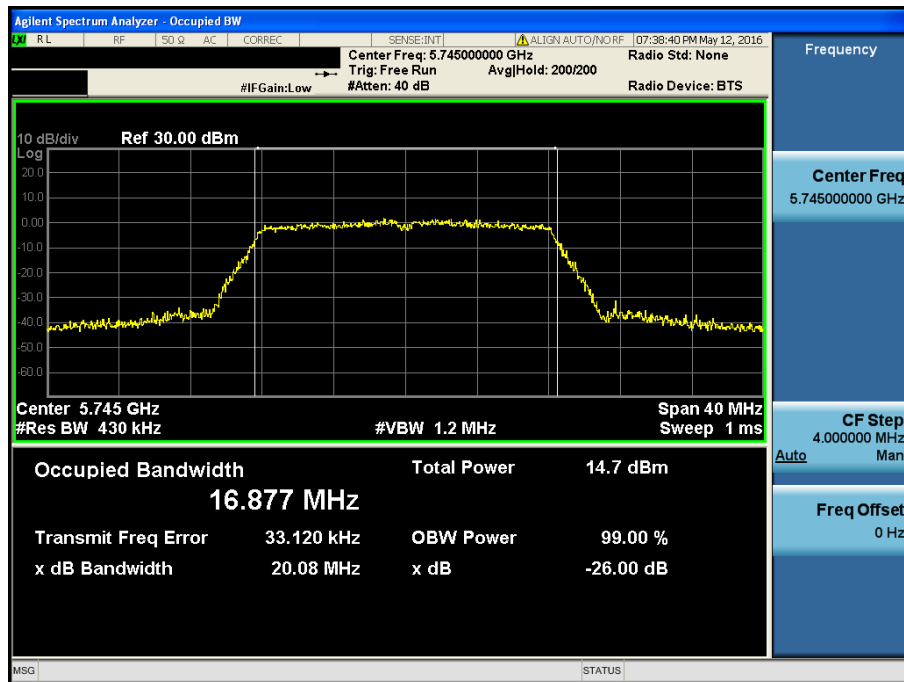
Occupied Bandwidth 99%

Test Mode: 802.11a & ANT 2 & Ch.116



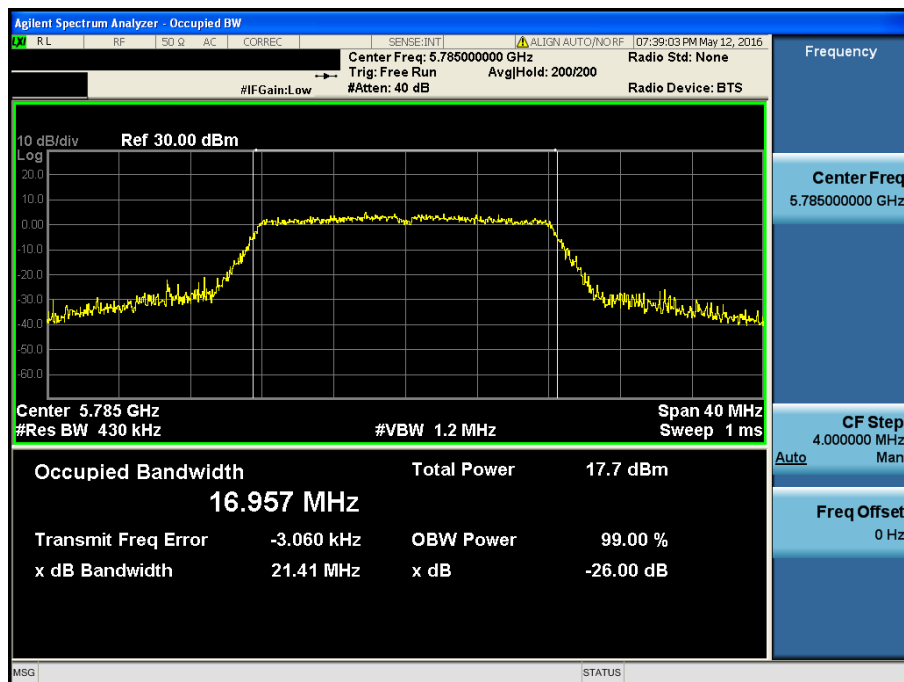
Occupied Bandwidth 99%

Test Mode: 802.11a & ANT 2 & Ch.149



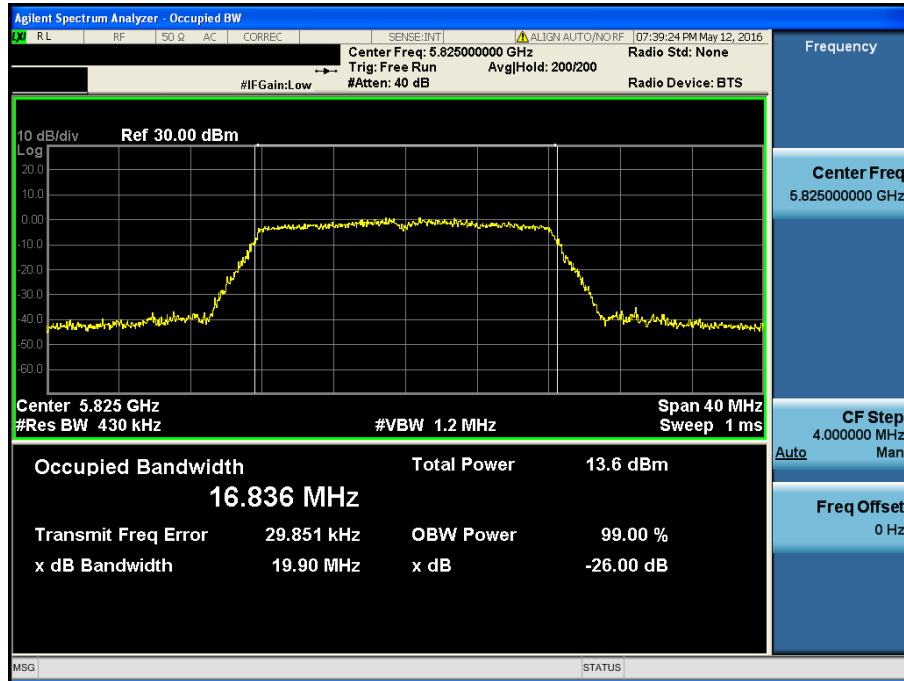
Occupied Bandwidth 99%

Test Mode: 802.11a & ANT 2 & Ch.157



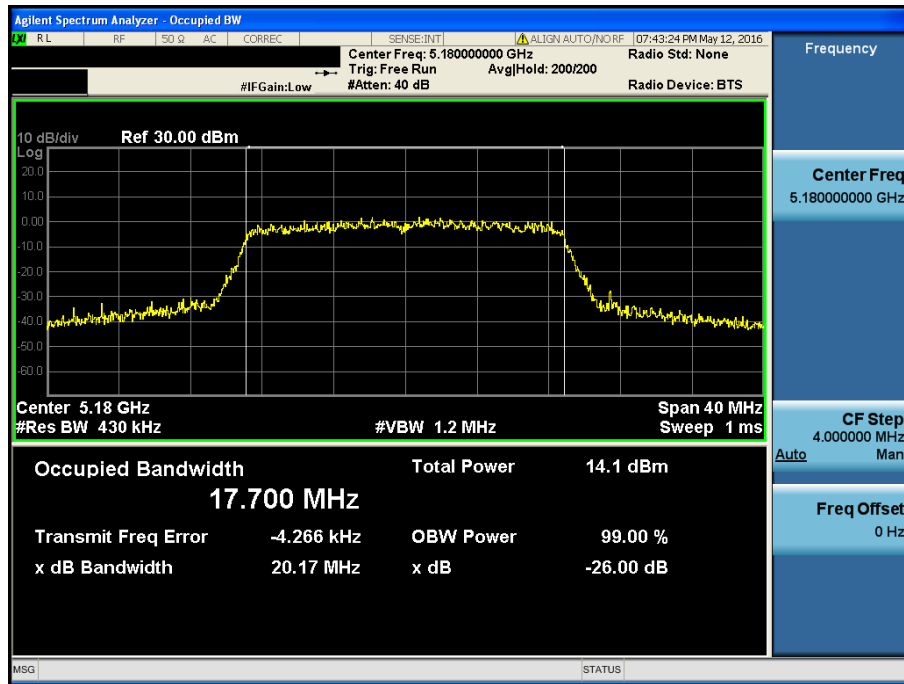
Occupied Bandwidth 99%

Test Mode: 802.11a & ANT 2 & Ch.165



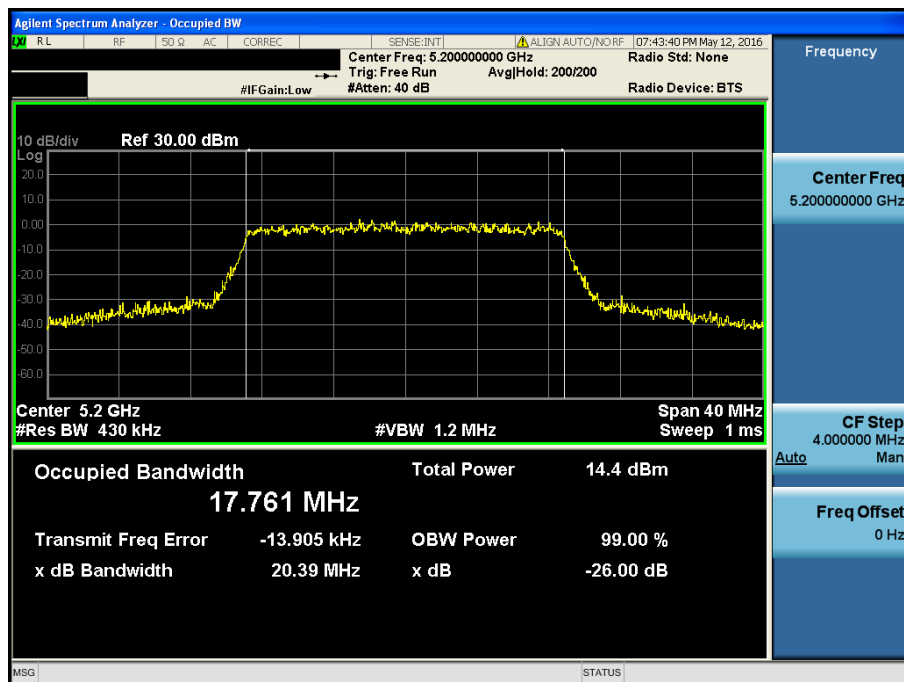
Occupied Bandwidth 99%

Test Mode: 802.11n HT20 & ANT 2 & Ch.36



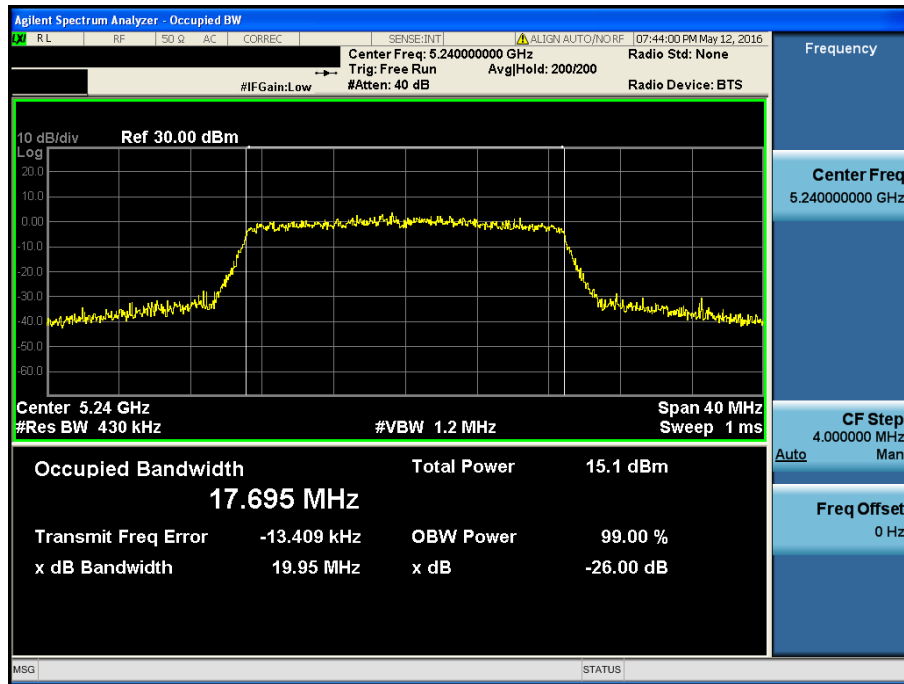
Occupied Bandwidth 99%

Test Mode: 802.11n HT20 & ANT 2 & Ch.40



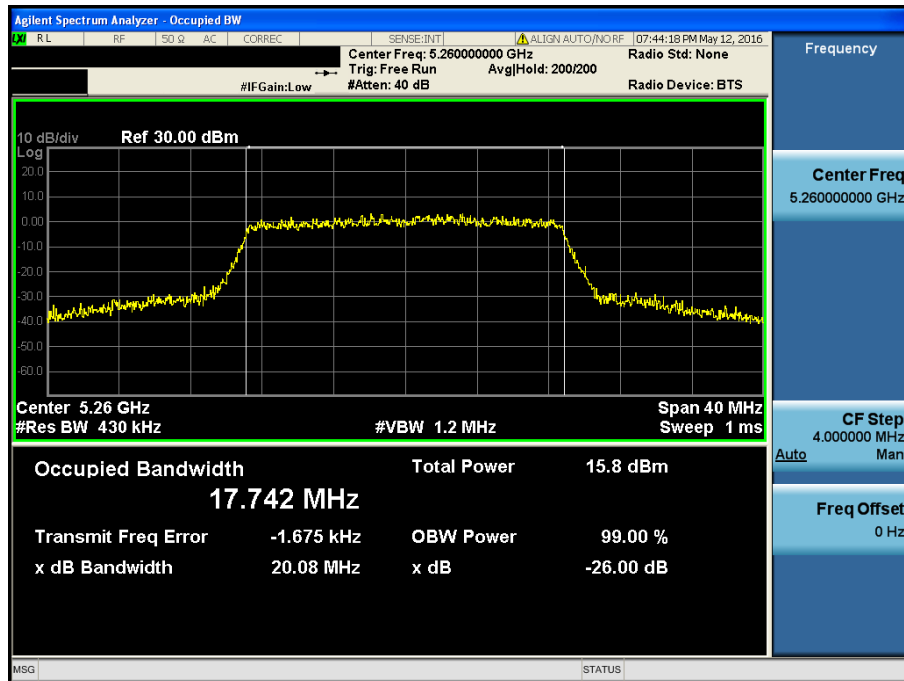
Occupied Bandwidth 99%

Test Mode: 802.11n HT20 & ANT 2 & Ch.48



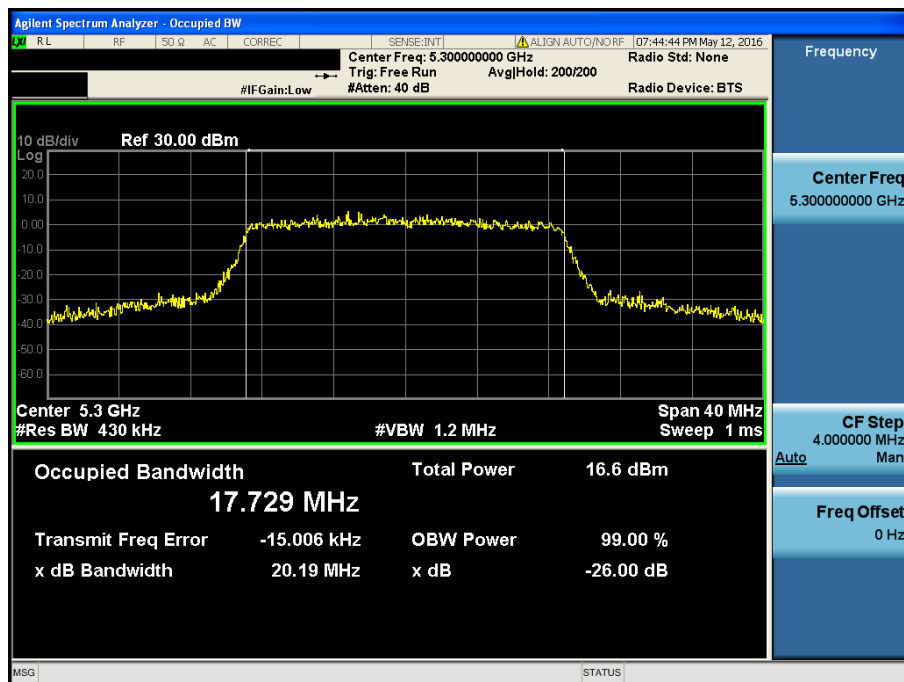
Occupied Bandwidth 99%

Test Mode: 802.11n HT20 & ANT 2 & Ch.52



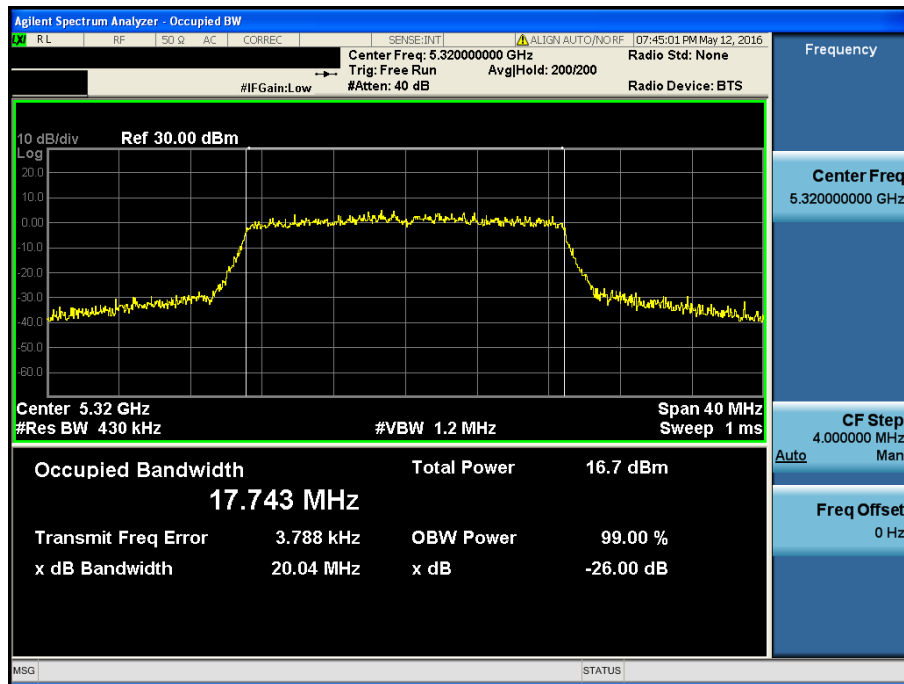
Occupied Bandwidth 99%

Test Mode: 802.11n HT20 & ANT 2 & Ch.60



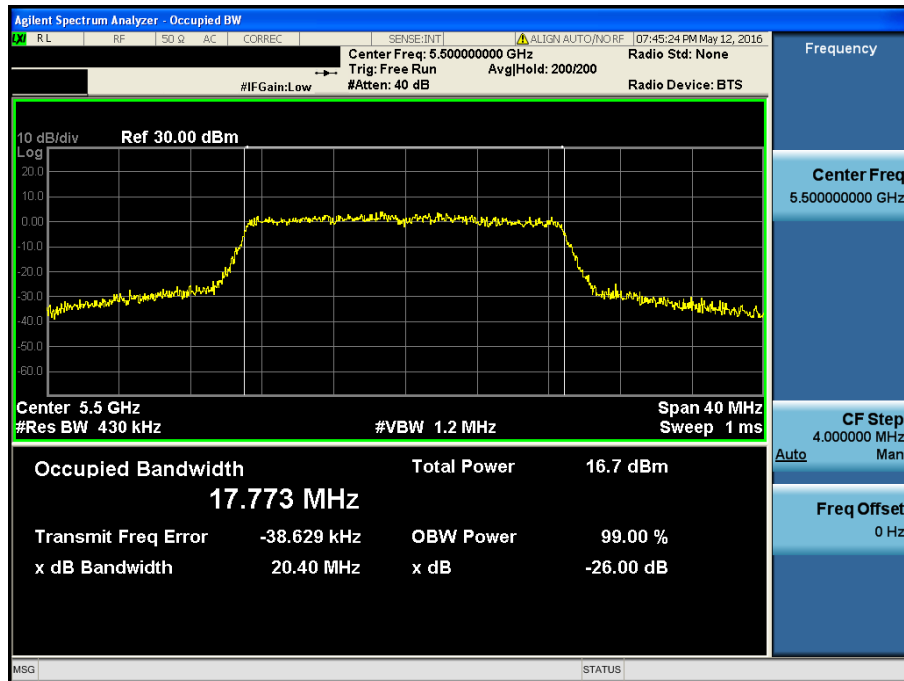
Occupied Bandwidth 99%

Test Mode: 802.11n HT20 & ANT 2 & Ch.64



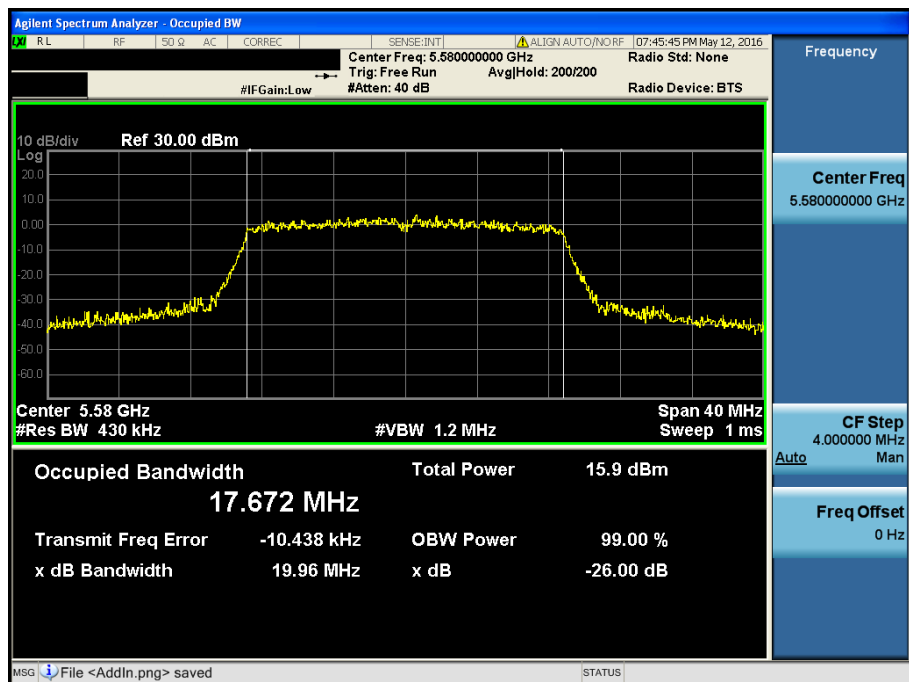
Occupied Bandwidth 99%

Test Mode: 802.11n HT20 & ANT 2 & Ch.100



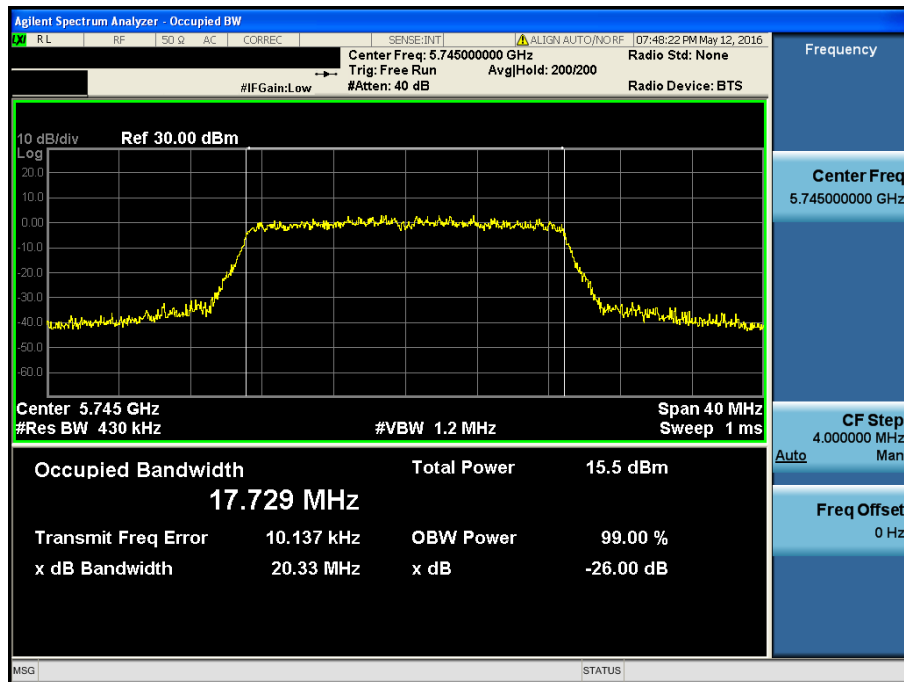
Occupied Bandwidth 99%

Test Mode: 802.11n HT20 & ANT 2 & Ch.116



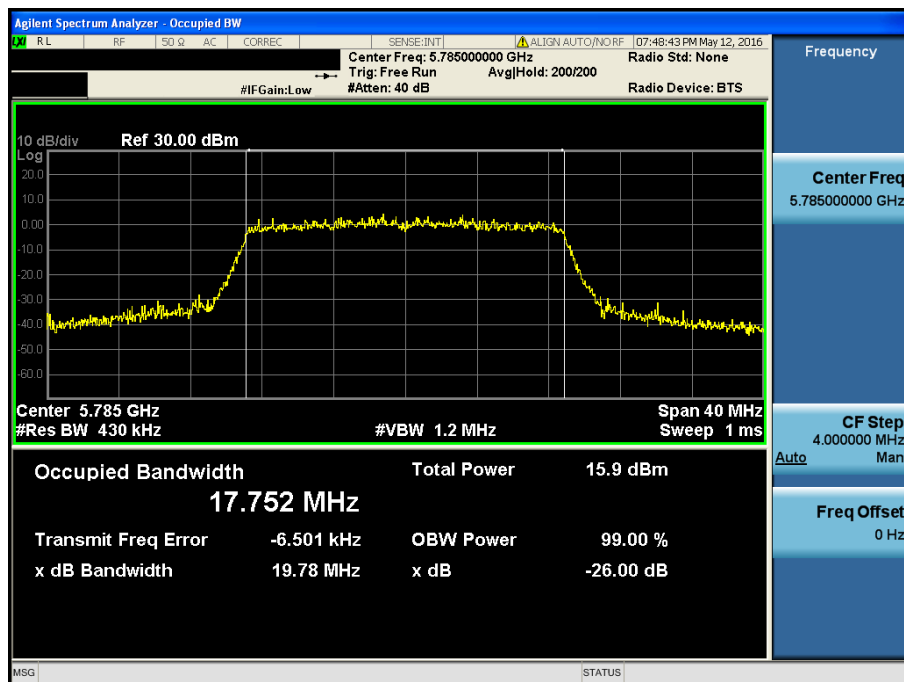
Occupied Bandwidth 99%

Test Mode: 802.11n HT20 & ANT 2 & Ch.149



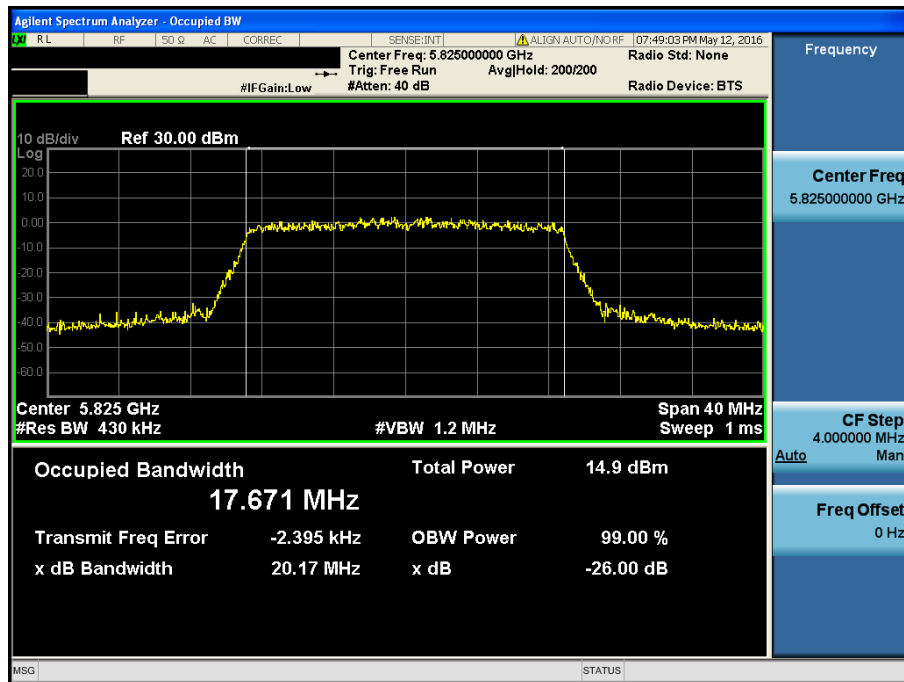
Occupied Bandwidth 99%

Test Mode: 802.11n HT20 & ANT 2 & Ch.157



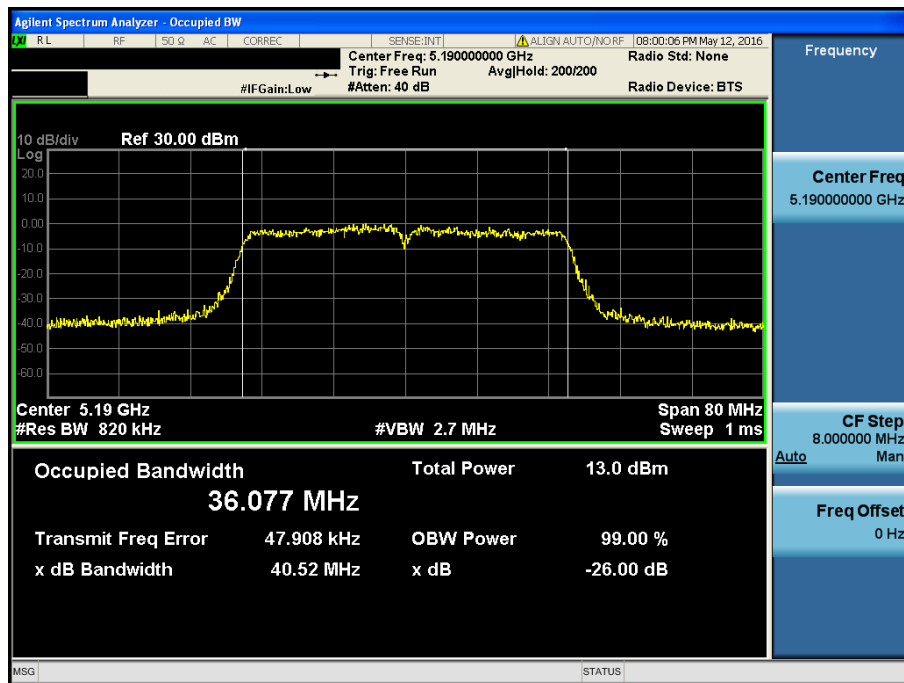
Occupied Bandwidth 99%

Test Mode: 802.11n HT20 & ANT 2 & Ch.165



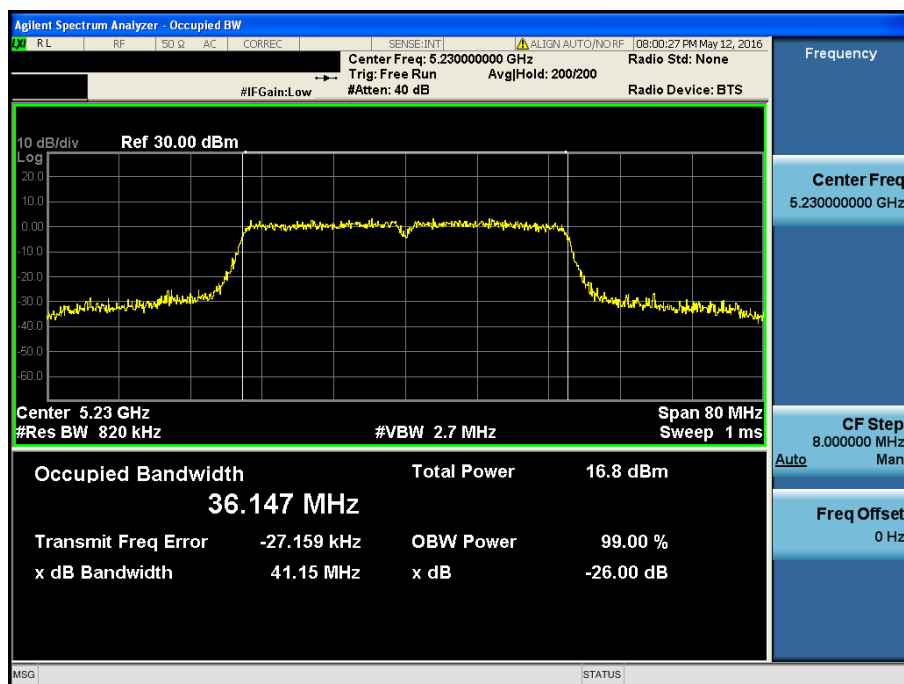
Occupied Bandwidth 99%

Test Mode: 802.11n HT40 & ANT 2 & Ch.38



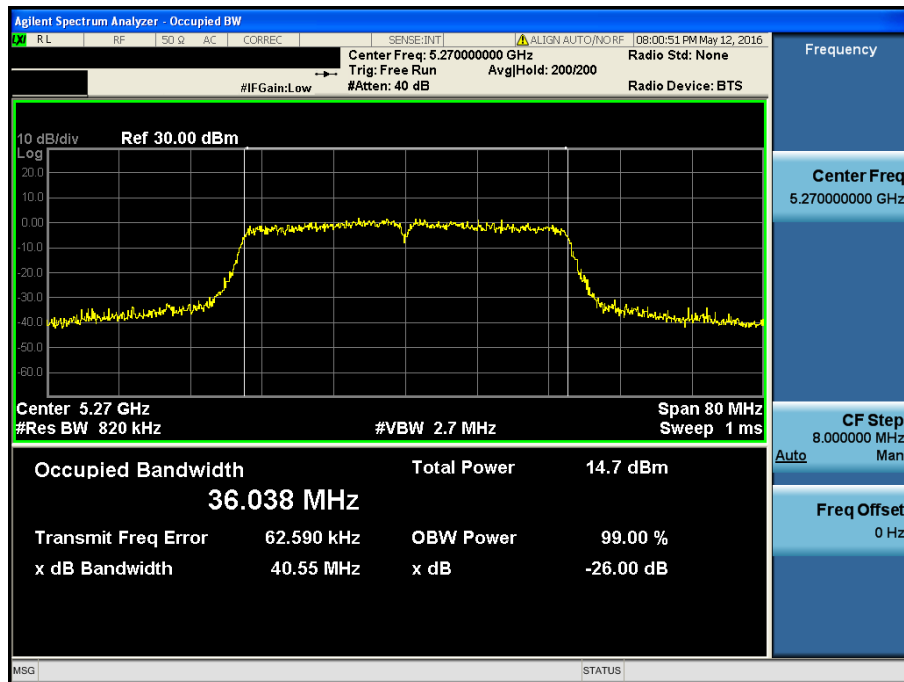
Occupied Bandwidth 99%

Test Mode: 802.11n HT40 & ANT 2 & Ch.46



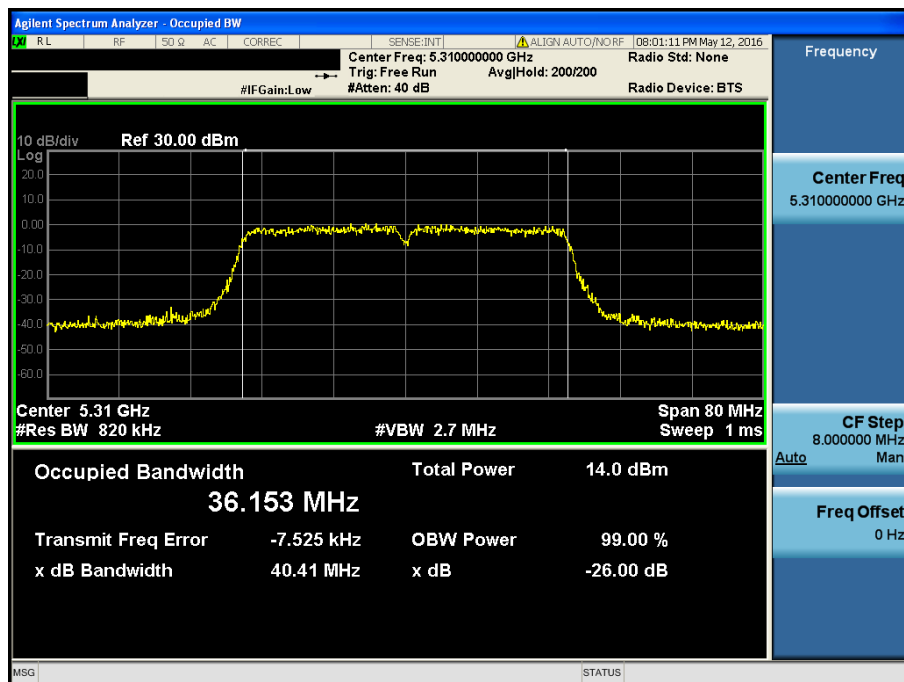
Occupied Bandwidth 99%

Test Mode: 802.11n HT40 & ANT 2 & Ch.54



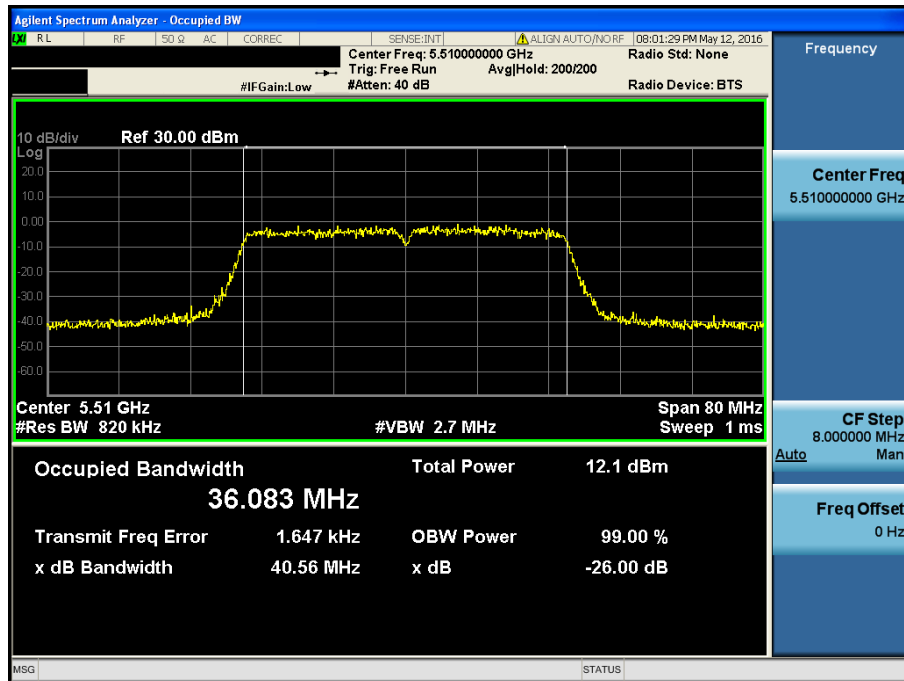
Occupied Bandwidth 99%

Test Mode: 802.11n HT40 & ANT 2 & Ch.62



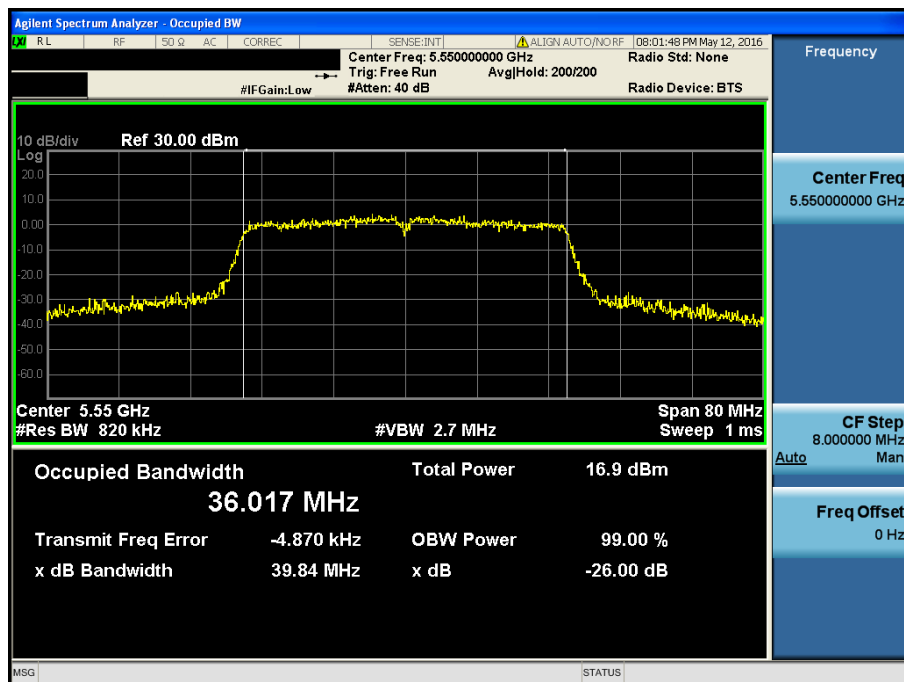
Occupied Bandwidth 99%

Test Mode: 802.11n HT40 & ANT 2 & Ch.102



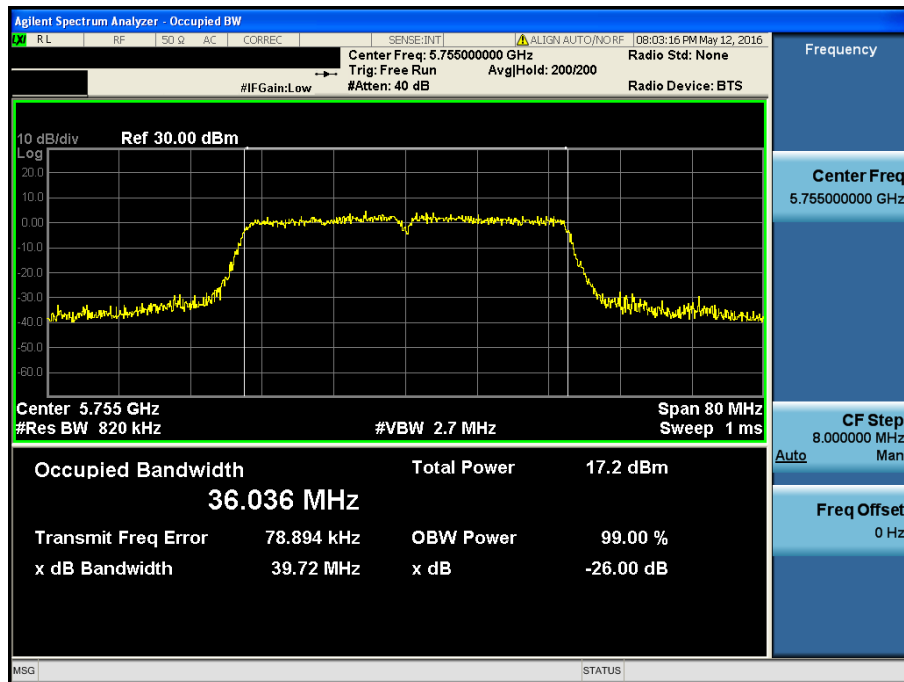
Occupied Bandwidth 99%

Test Mode: 802.11n HT40 & ANT 2 & Ch.110



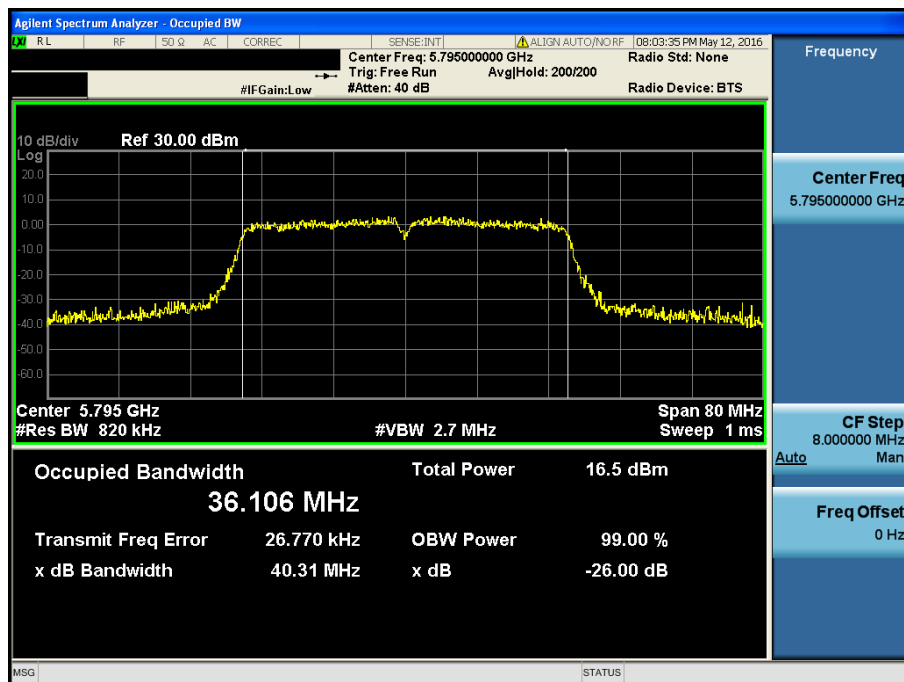
Occupied Bandwidth 99%

Test Mode: 802.11n HT40 & ANT 2 & Ch.151



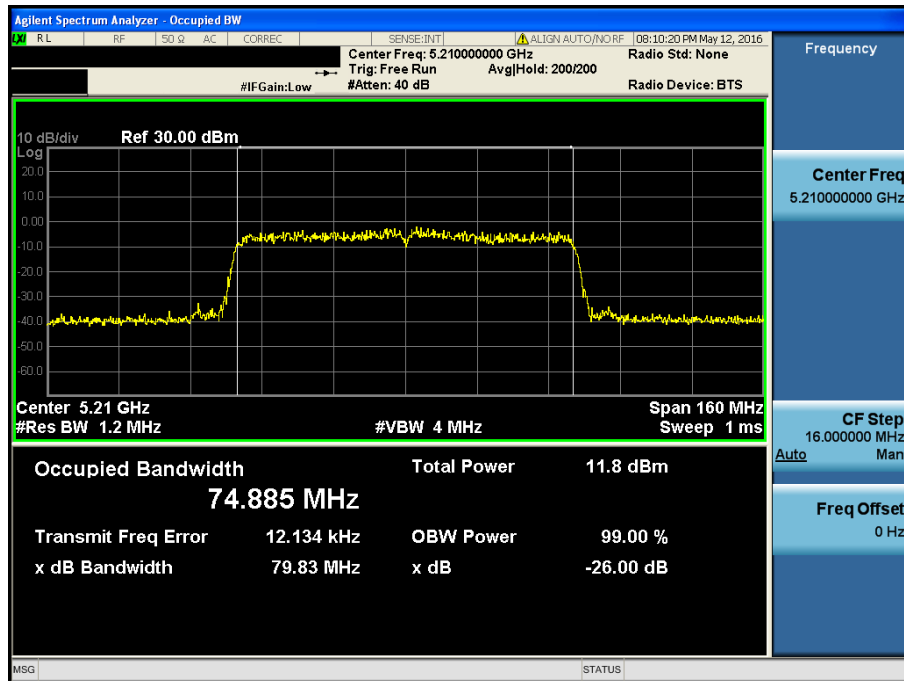
Occupied Bandwidth 99%

Test Mode: 802.11n HT40 & ANT 2 & Ch.159



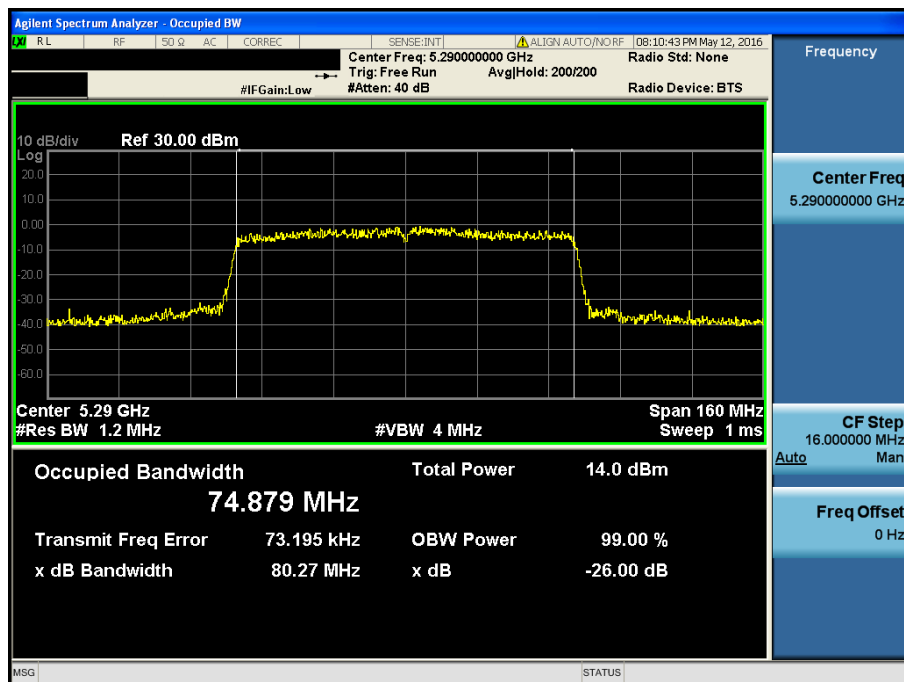
Occupied Bandwidth 99%

Test Mode: 802.11ac VHT80 & ANT 2 & Ch.42



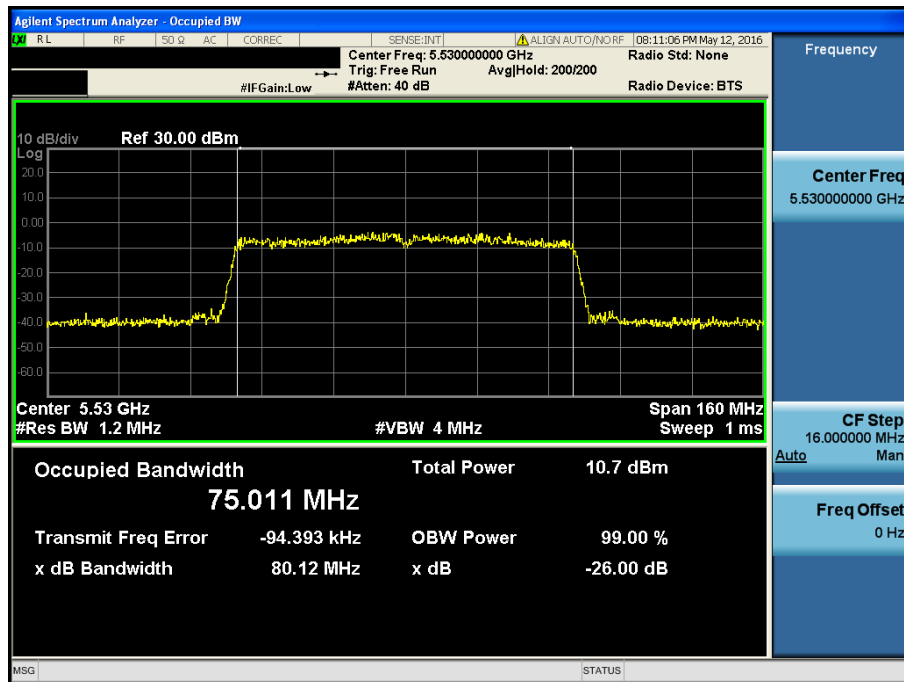
Occupied Bandwidth 99%

Test Mode: 802.11ac VHT80 & ANT 2 & Ch.58



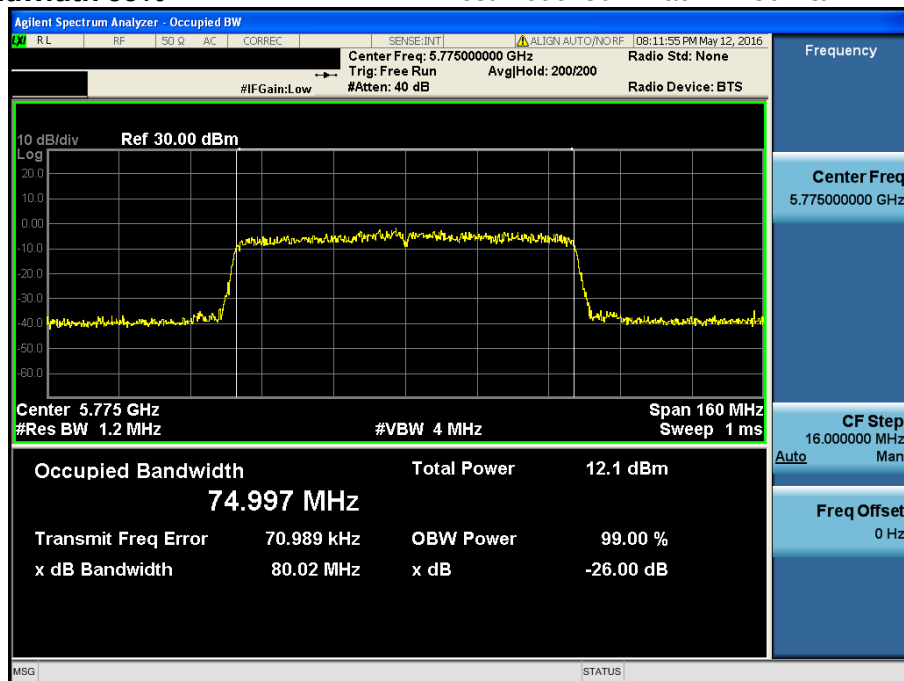
Occupied Bandwidth 99%

Test Mode: 802.11ac VHT80 & ANT 2 & Ch.106



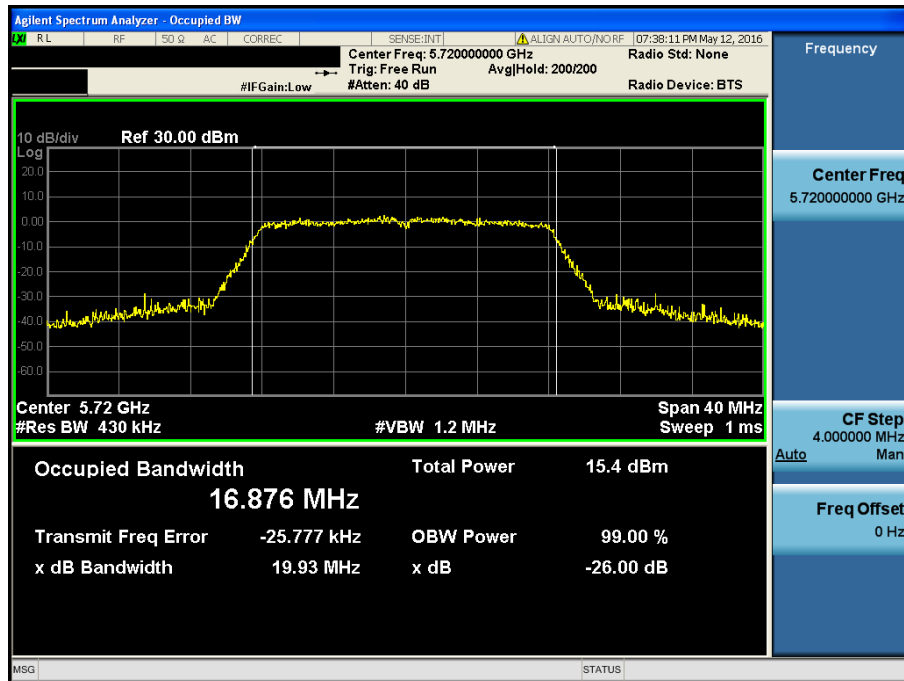
Occupied Bandwidth 99%

Test Mode: 802.11ac VHT80 & ANT 2 & Ch.155



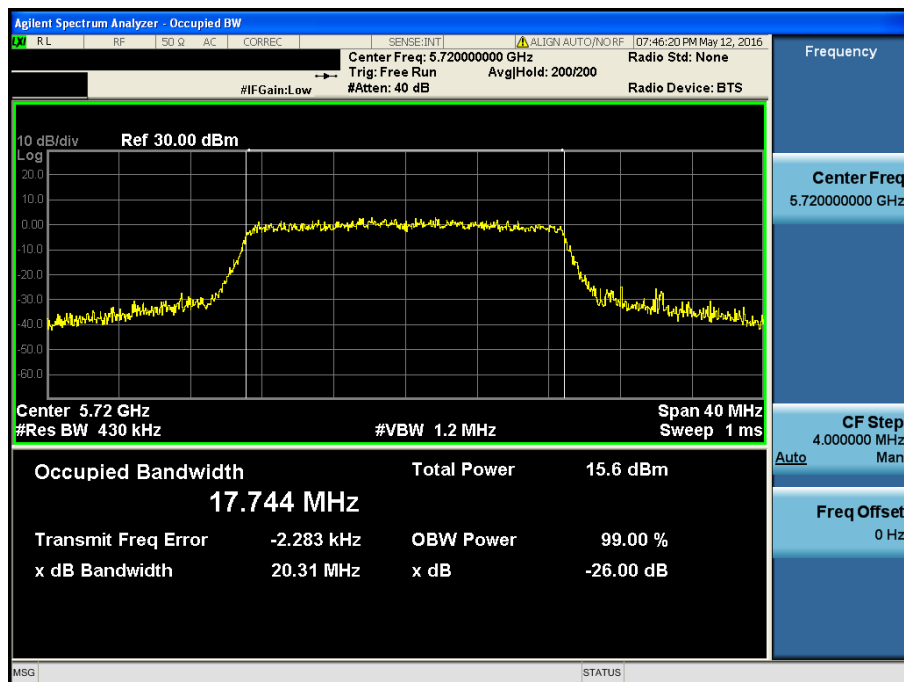
Occupied Bandwidth 99%

Test Mode: 802.11a & ANT 2 & Ch.144



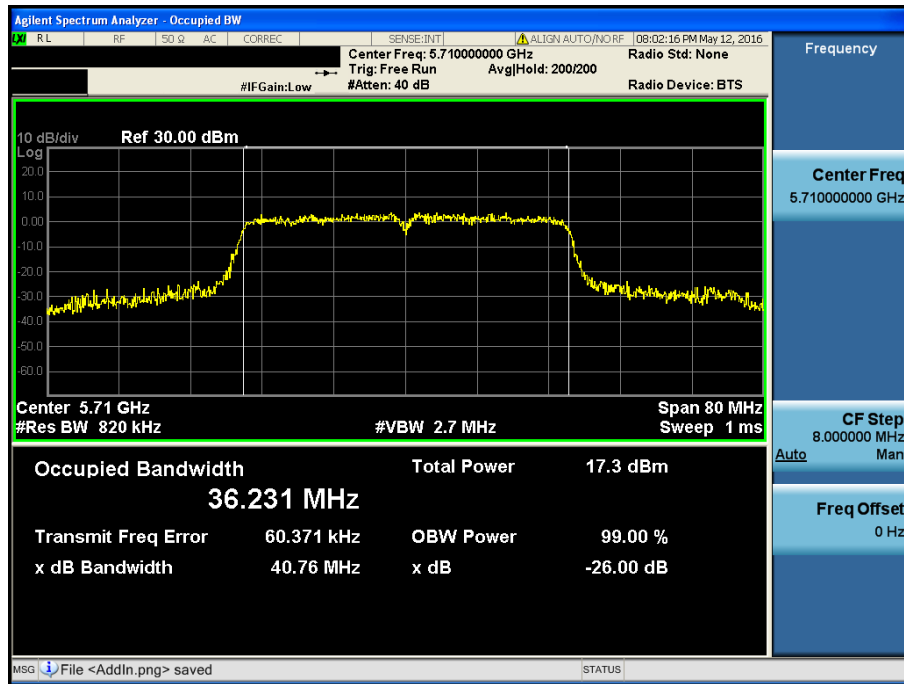
Occupied Bandwidth 99%

Test Mode: 802.11n HT20 & ANT 2 & Ch.144



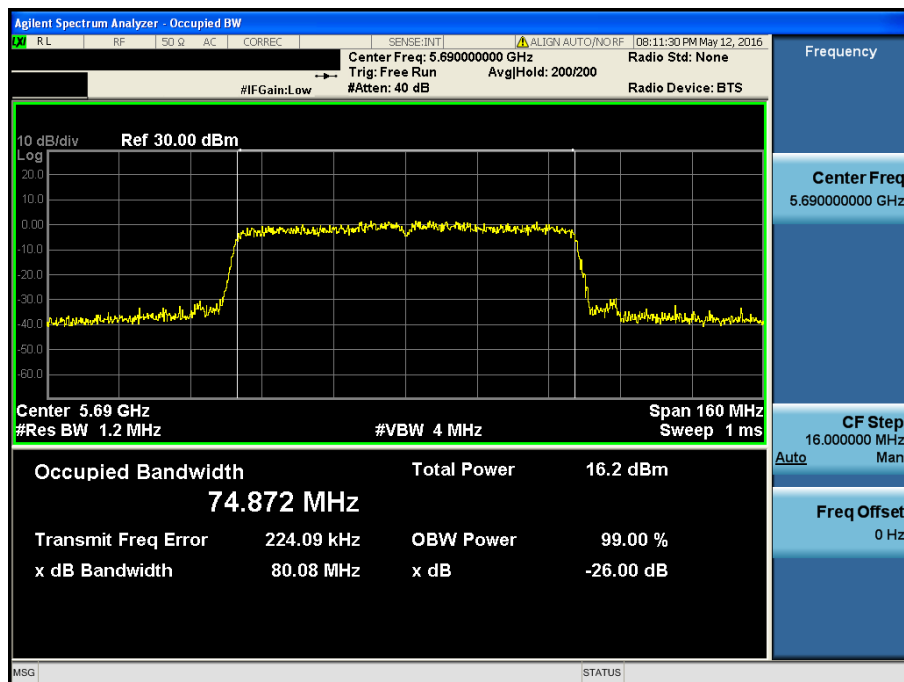
Occupied Bandwidth 99%

Test Mode: 802.11n HT40 & ANT 2 & Ch.142



Occupied Bandwidth 99%

Test Mode: 802.11ac VHT80 & ANT 2 & Ch.138



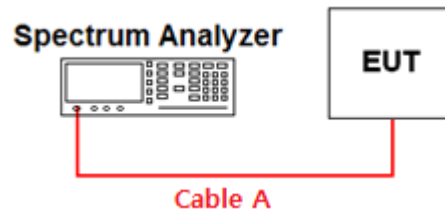
9. LIST OF TEST EQUIPMENT

Type	Manufacturer	Model	Cal.Date (yy/mm/dd)	Next.Cal.Date (yy/mm/dd)	S/N
Spectrum Analyzer	Agilent Technologies	N9020A	16/01/06	17/01/06	MY48011146
Spectrum Analyzer	Agilent Technologies	N9020A	16/01/06	17/01/06	MY46471096
Dynamic Measurement DC Source	Agilent Technologies	66332A	15/10/19	16/10/19	MY43000394
Power Meter & Wide Bandwidth Sensor	Anritsu	ML2495A / MA2490A	15/10/20	16/10/20	1338003 / 1249304
Temp & Humi Test Chamber	JISICO	KR-100/J-RHC2	15/09/10	16/09/10	30604493/021031
10W 30dB Attenuator	SRTechnology	F01-D1230-01	15/10/21	16/10/21	13092401
Termination	SigaTek	1402	15/10/08	16/10/08	9
Thermohygrometer	BODYCOM	BJ5478	16/04/22	17/04/22	120612-1
Signal Generator	Rohde Schwarz	SMF100A	15/06/29	16/06/29	102341
Digital Multimeter	HP	34401A	16/02/25	17/02/25	3146A13475
Loop Antenna	Schwarzbeck	FMZB1513	16/04/22	18/04/22	1513-128
TRILOG Broadband Test-Antenna	Schwarzbeck	VULB 9161	14/07/10	16/07/10	4070
Horn Antenna	ETS-Lindgren	3115	15/02/09	17/02/09	9202-3820
Horn Antenna	A.H.Systems Inc.	SAS-574	15/04/30	17/04/30	154
Highpass Filter	Wainwright Instruments	WHNX6-6320-8000-26500-40CC	15/09/23	16/09/23	1
PreAmplifier	TSJ	MLA-010K01-B01-27	16/03/10	17/03/10	1844539
PreAmplifier	Agilent	8449B	16/02/24	17/02/24	3008A00370
EMI Test Receiver	Rohde Schwarz	ESU	15/07/14	16/07/14	100469
EMI Test Receiver	Rohde Schwarz	ESCI	16/02/25	17/02/25	100364
Single-Phase Master	NF	4420	15/09/09	16/09/09	3049354420023
Artificial Mains Network	Narda S.T.S. / PMM	PMM L2-16B	15/06/26	16/06/26	000WX20305
CABLE	DTNC	CABLE	N/A	N/A	C-016-2
CABLE	DTNC	CABLE	N/A	N/A	C-016-3
CABLE	DTNC	CABLE	N/A	N/A	C-016-4
CABLE	DTNC	CABLE	N/A	N/A	RF2-106
CABLE	DTNC	CABLE	N/A	N/A	RF1-008
CABLE	DTNC	CABLE	N/A	N/A	RF2-23
CABLE	DTNC	CABLE	N/A	N/A	RF2-24
CABLE	DTNC	CABLE	N/A	N/A	RF2-25
CABLE	DTNC	CABLE	N/A	N/A	RF2-26

APPENDIX I

Conducted Test set up Diagram

▪ Conducted Measurement



APPENDIX II

Duty Cycle Information

■ Test Procedure

Duty Cycle [X = On Time / (On + Off time)] is measured using Measurement Procedure of **KDB789033 D02**

1. Set the center frequency of the spectrum analyzer to the center frequency of the transmission.
2. Set RBW $\geq$ EBW if possible; otherwise, set RBW to the largest available value.
3. Set VBW $\geq$ RBW. Set detector = peak.
4. Note : The zero-span measurement method shall not be used unless both **RBW and VBW are $> 50/T$** , where T is defined in section II.B.1.a), and **the number of sweep points across duration T exceeds 100**. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring duty cycle shall not be used if $T \leq 16.7$ microseconds.)

T : The minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

(T = On time of the above table since the EUT operates with above fixed Duty Cycle and it is the minimum On time)

■ Test Results:

Single Transmit

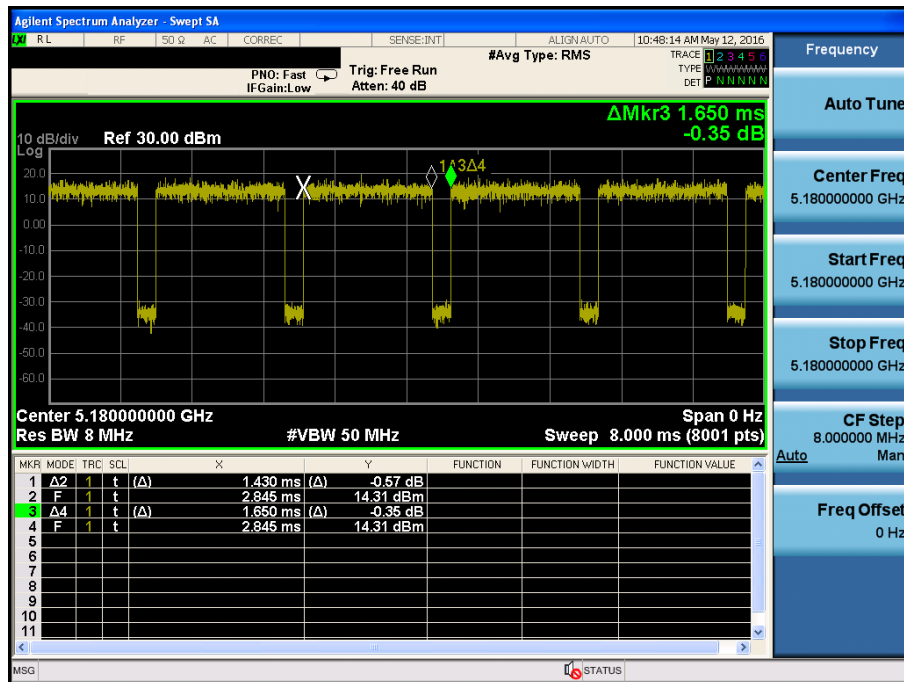
Mode	Channel	Tested Frequency [MHz]	Maximum Achievable Duty Cycle (x) = On / (On+Off)			Duty Cycle Correction Factor [dB]	50/T [kHz]
			On Time [ms]	On+OffTime [ms]	x		
802.11a	36	5180	1.43	1.65	86.67	0.63	34.97
802.11n (HT20)	36	5180	1.34	1.56	85.90	0.67	37.31
802.11n (HT40)	38	5190	0.68	0.88	76.53	1.17	73.53
802.11ac (VHT80)	42	5210	0.33	0.54	61.48	2.12	151.52

Multiple Transmit

Mode	Channel	Tested Frequency [MHz]	Maximum Achievable Duty Cycle (x) = On / (On+Off)			Duty Cycle Correction Factor [dB]	50/T [kHz]
			On Time [ms]	On+OffTime [ms]	x		
802.11a	36	5180	1.43	1.65	86.67	0.63	34.97
802.11n (HT20)	36	5180	0.70	0.90	77.14	1.13	71.43
802.11n (HT40)	38	5190	0.36	0.56	63.39	1.98	138.89
802.11ac (VHT80)	42	5210	0.19	0.40	48.23	3.17	263.16

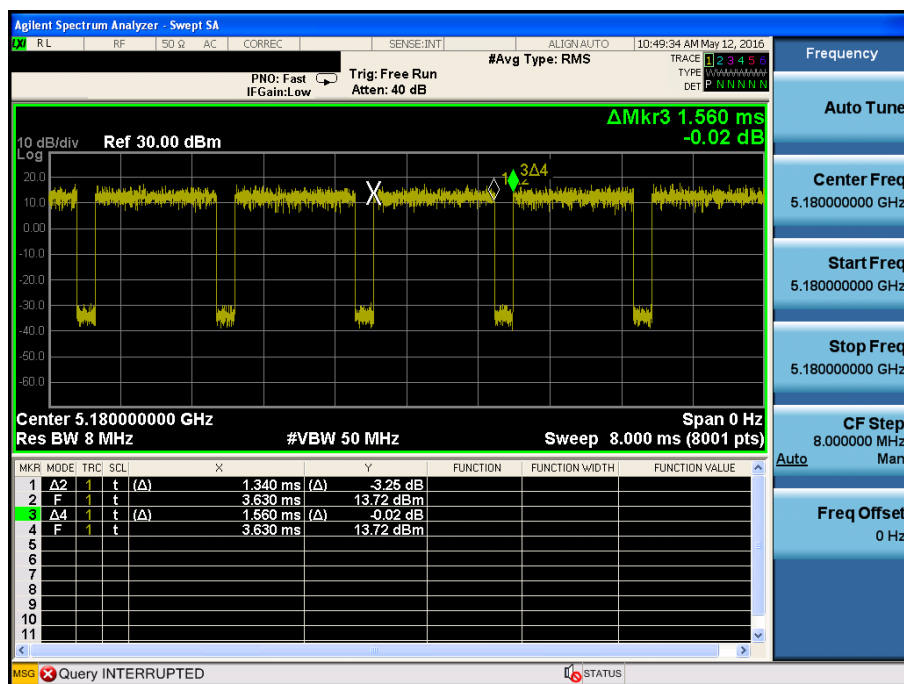
Single Transmit Duty Cycle

Test Mode: 802.11a & Ch.36



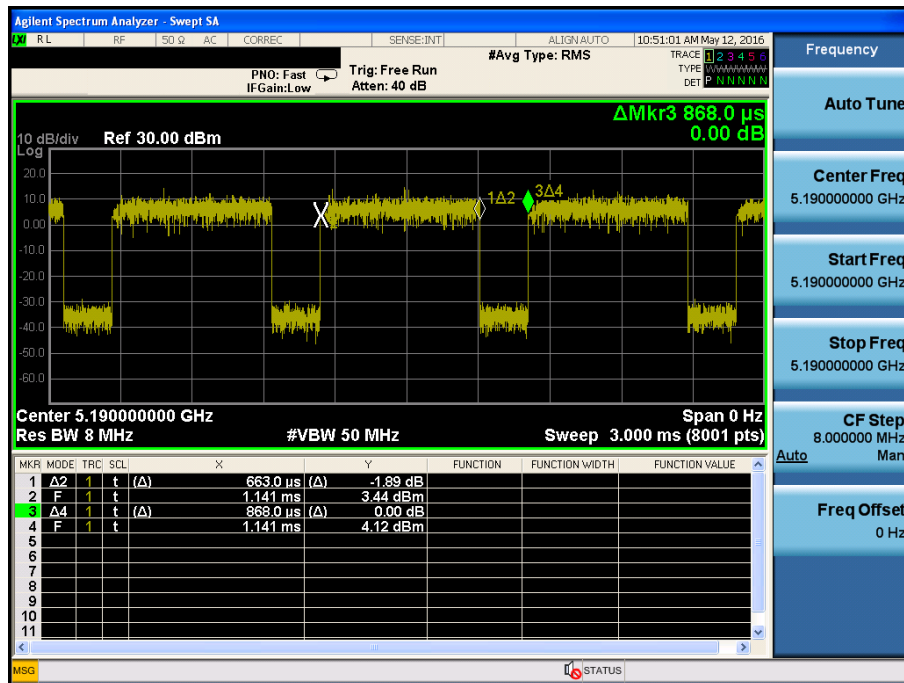
Duty Cycle

Test Mode: 802.11n HT20 & Ch.36



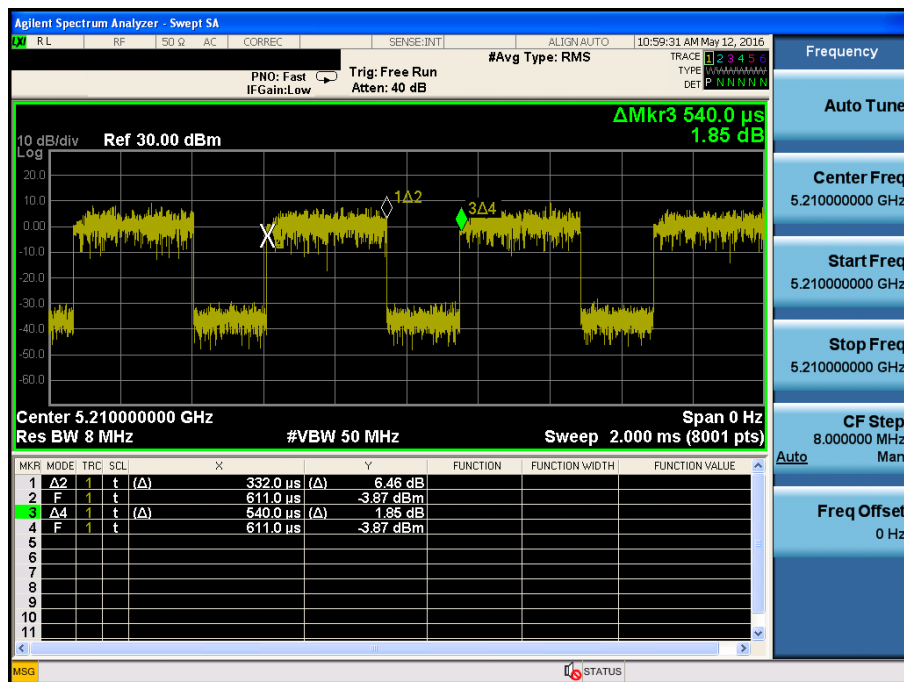
Duty Cycle

Test Mode: 802.11n HT40 & Ch.38



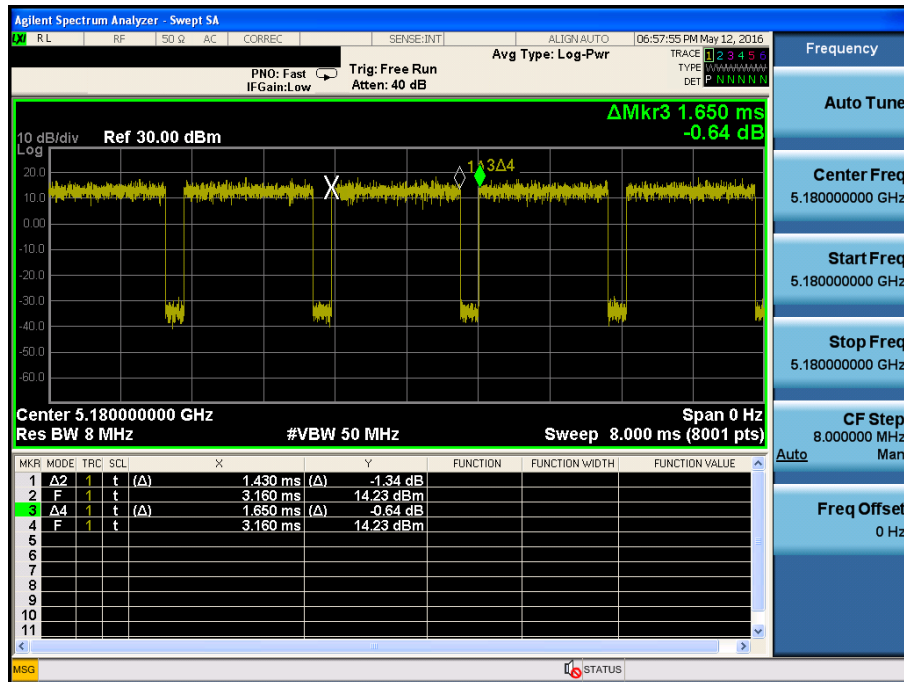
Duty Cycle

Test Mode: 802.11ac VHT80 & Ch.42



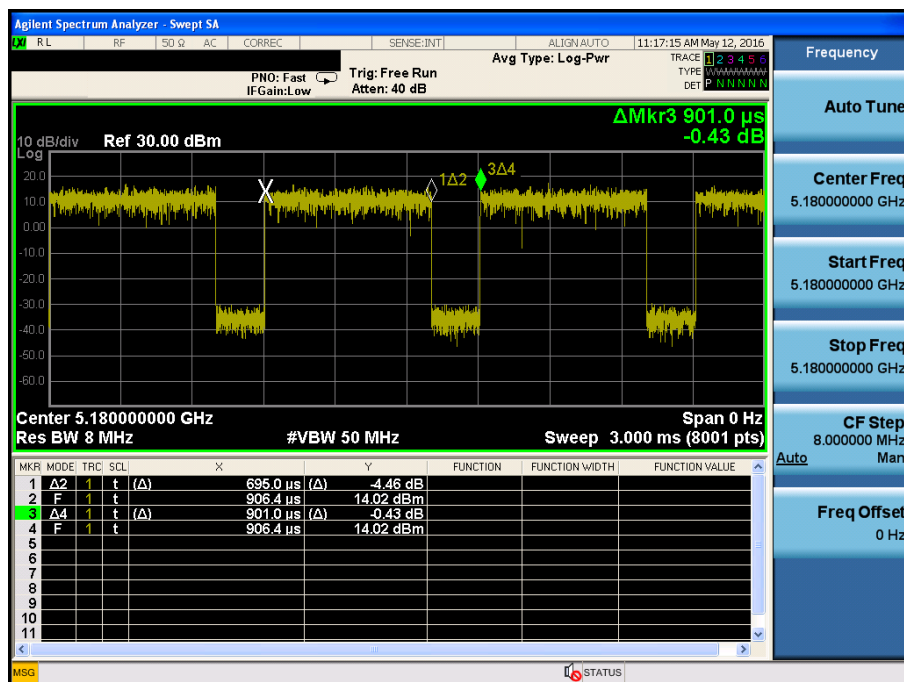
Multiple Transmit Duty Cycle

Test Mode: 802.11a & Ch.36



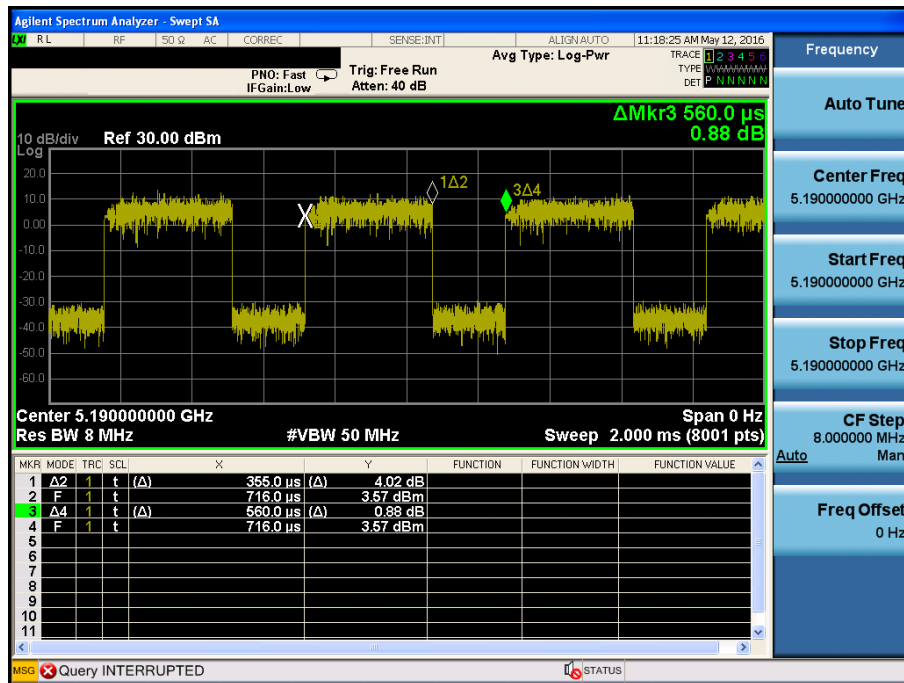
Duty Cycle

Test Mode: 802.11n HT20 & Ch.36



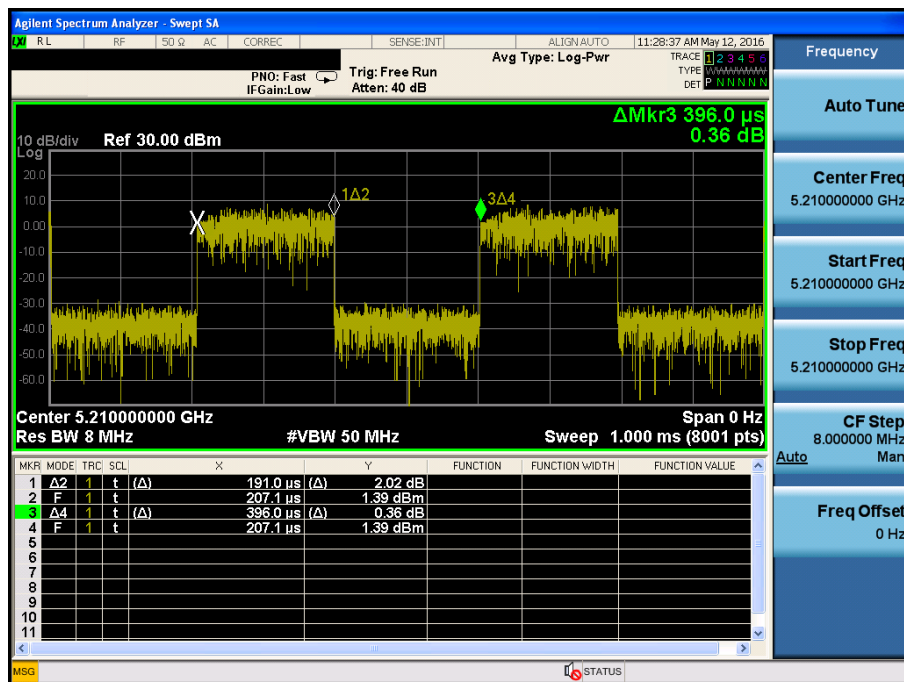
Duty Cycle

Test Mode: 802.11n HT40 & Ch.38



Duty Cycle

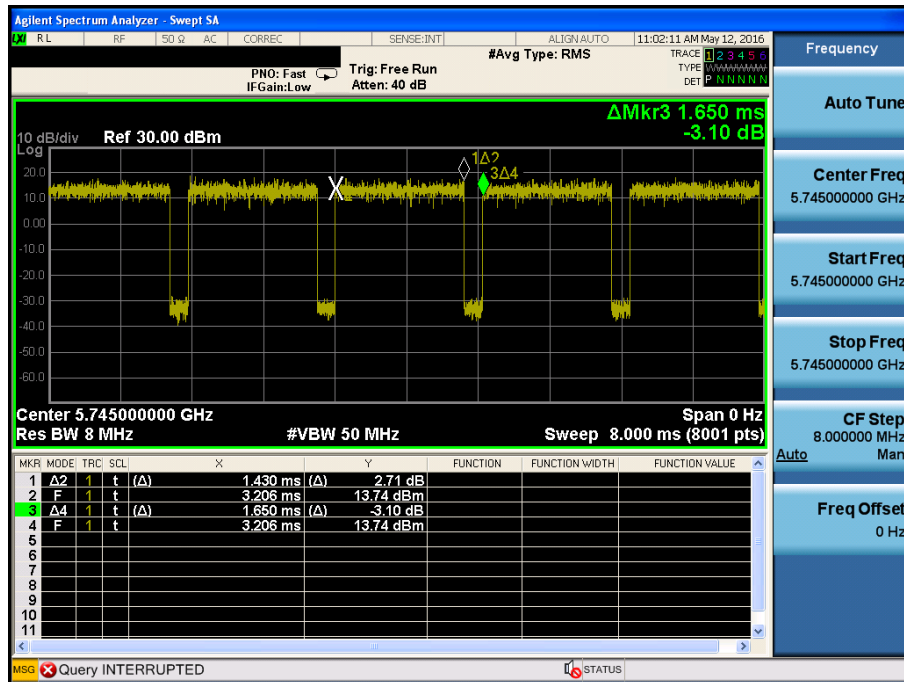
Test Mode: 802.11ac VHT80 & Ch.42



Cross band 5.7G

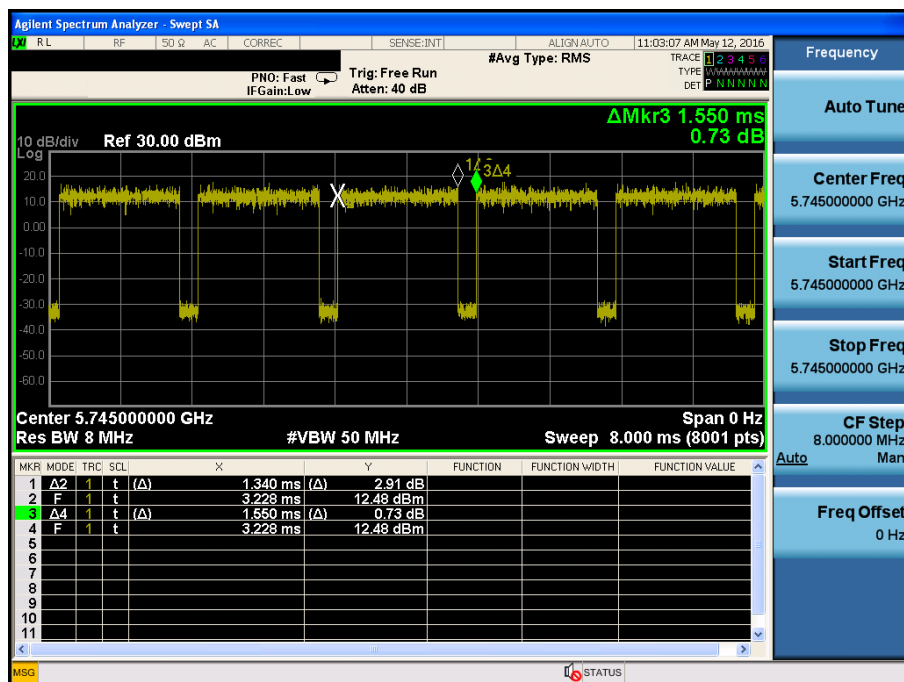
Duty Cycle

Test Mode: 802.11a & Ch.149



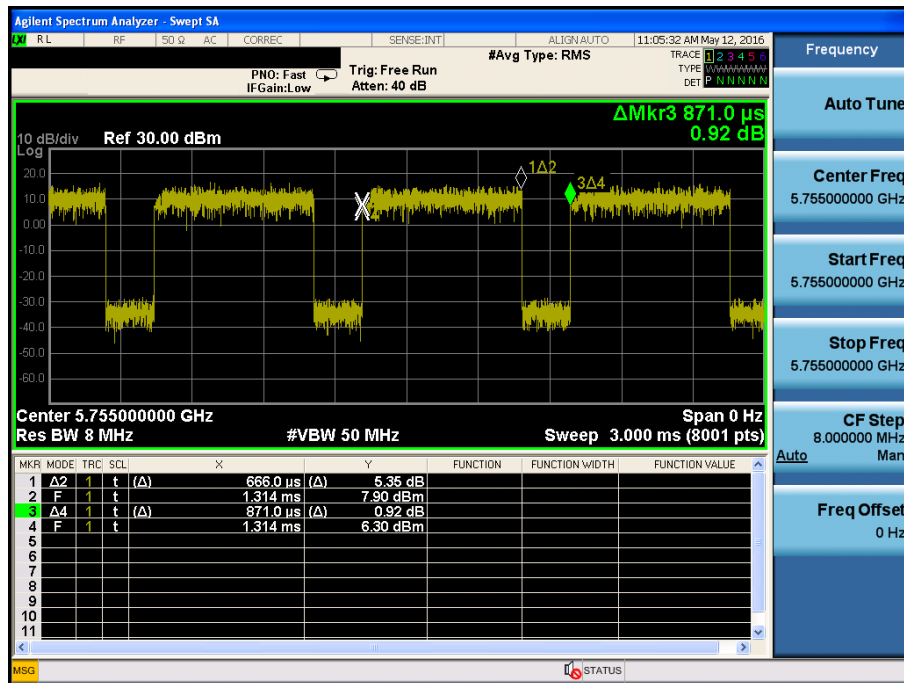
Duty Cycle

Test Mode: 802.11n HT20 & Ch.149



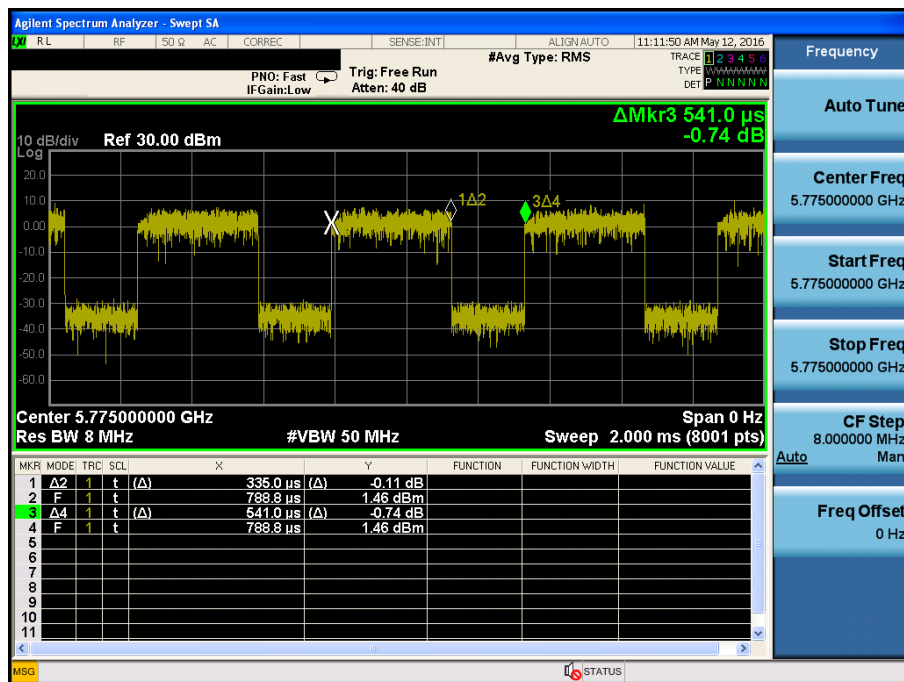
Duty Cycle

Test Mode: 802.11n HT40 & Ch.151



Duty Cycle

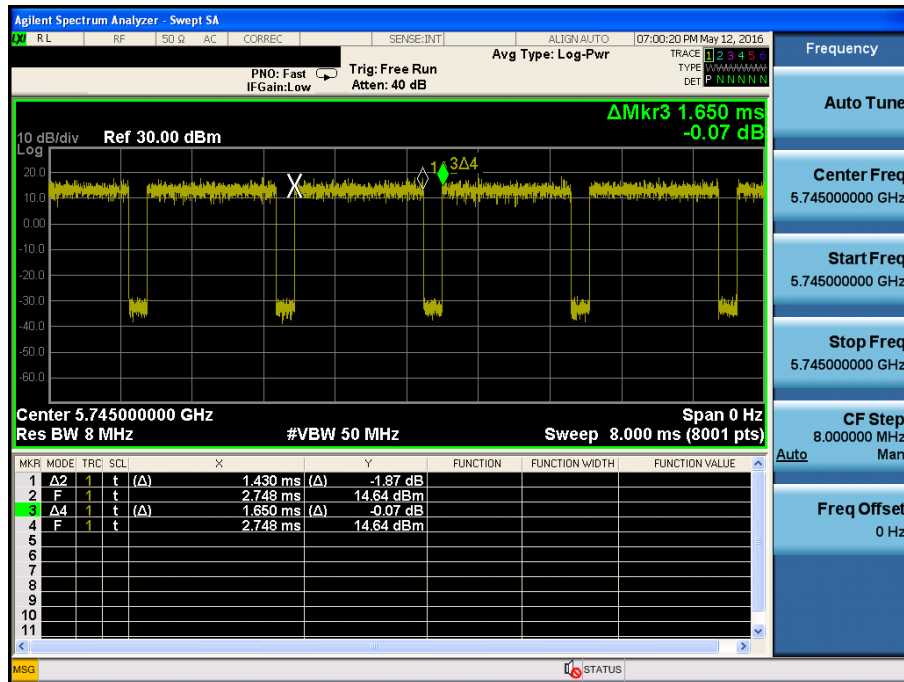
Test Mode: 802.11ac VHT80 & Ch.155



Cross band 5.7G

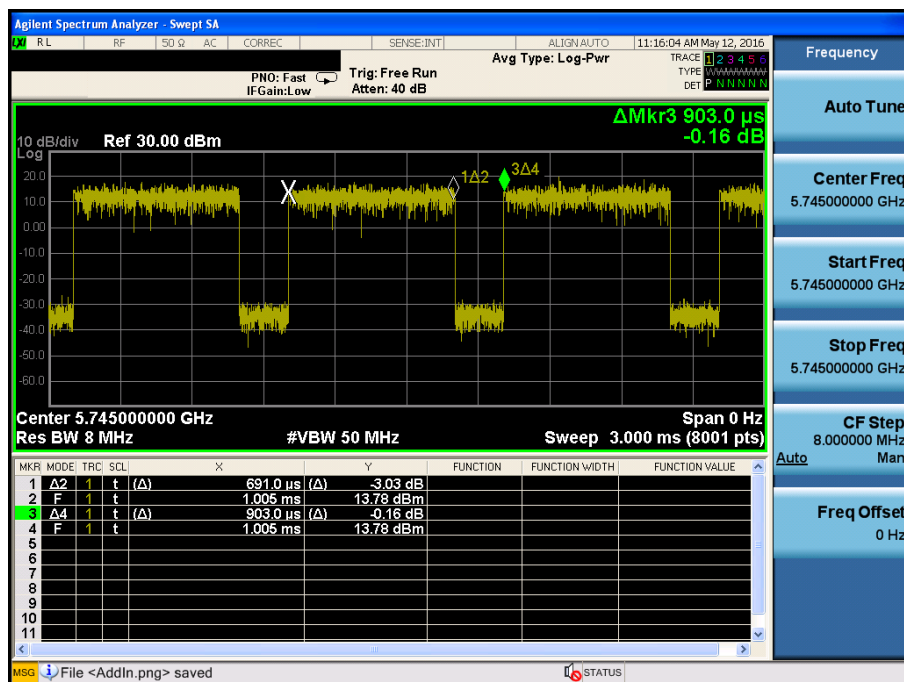
Duty Cycle

Test Mode: 802.11a & Ch.149



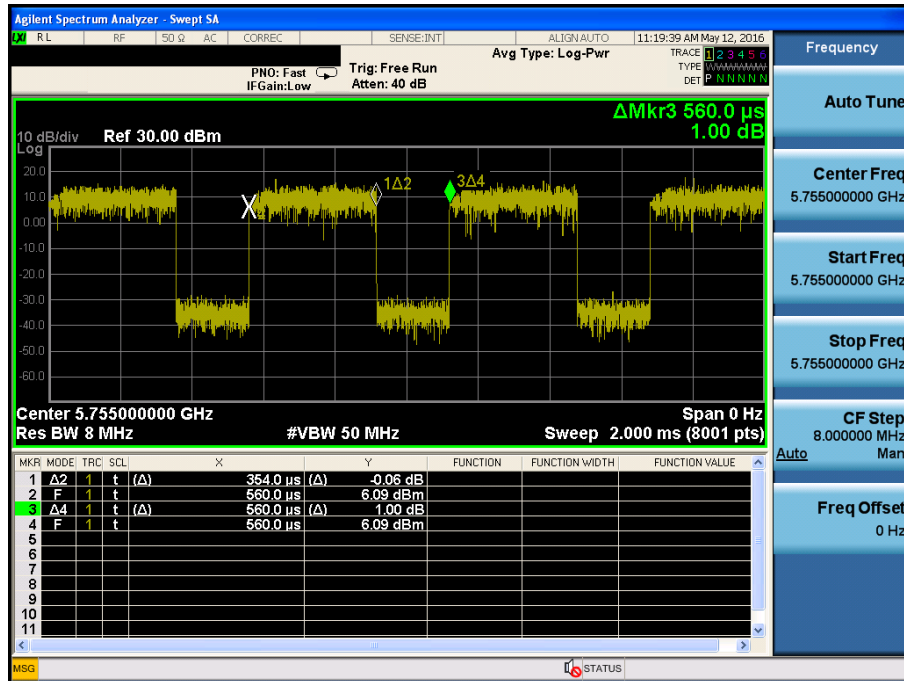
Duty Cycle

Test Mode: 802.11n HT20 & Ch.149



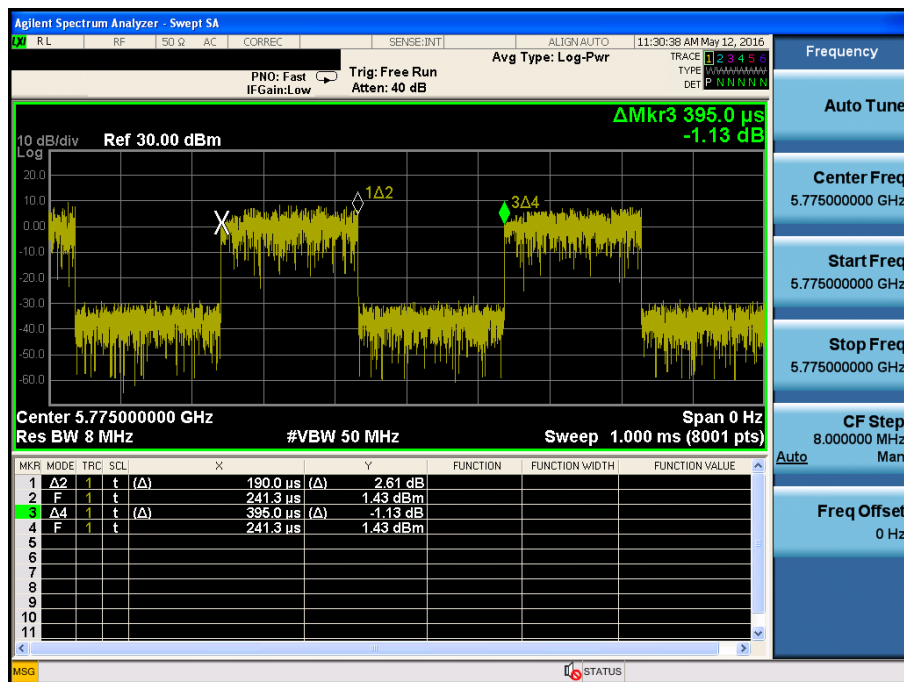
Duty Cycle

Test Mode: 802.11n HT40 & Ch.151



Duty Cycle

Test Mode: 802.11ac VHT80 & Ch.155

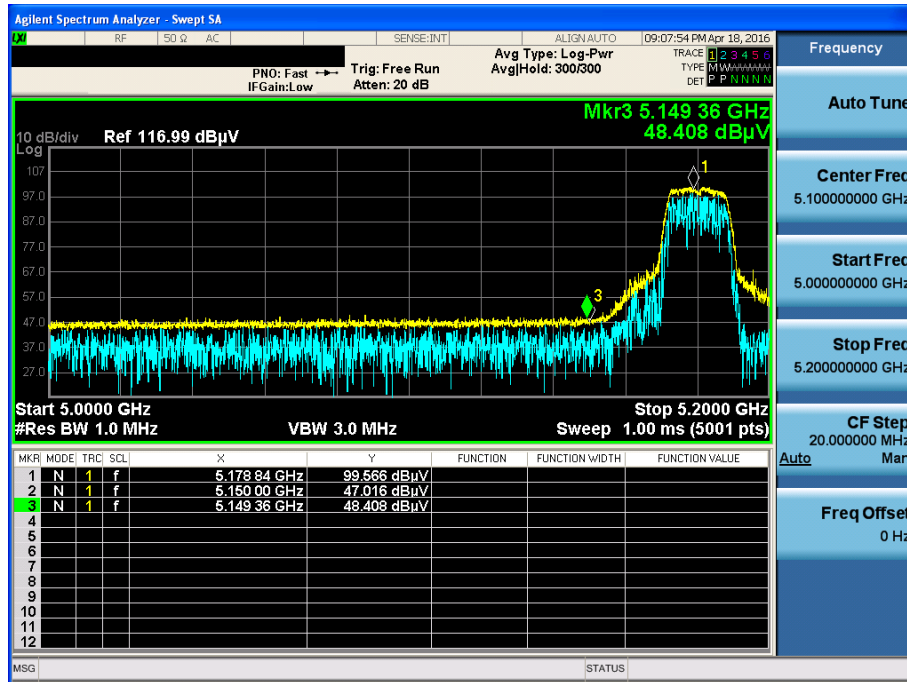


APPENDIX III

Unwanted Emissions (Radiated) Test Plot _ Multiple Transmit

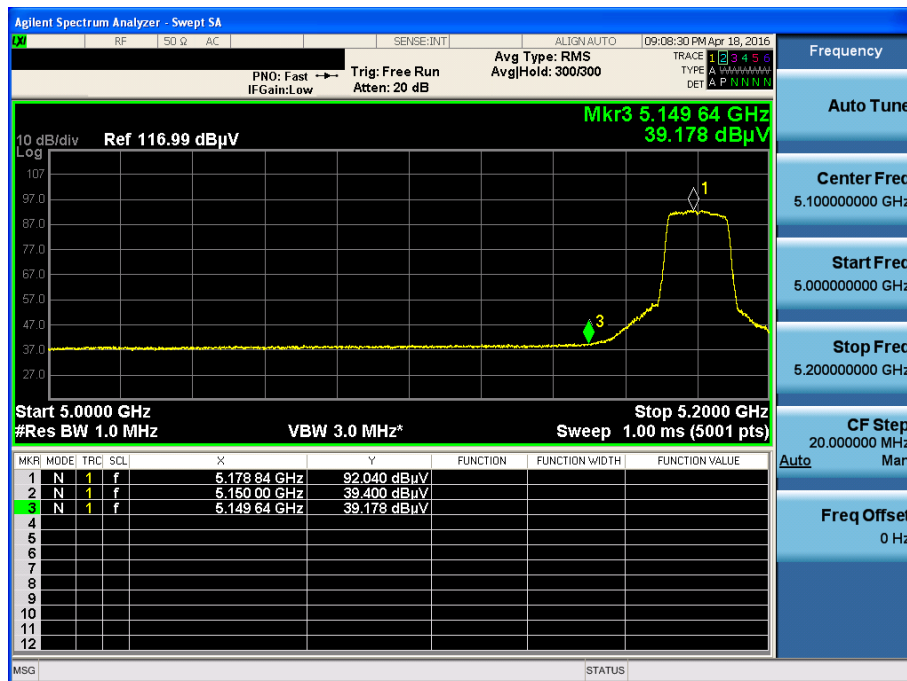
802.11a & U-NII 1 & Ch.36 & Z axis & Ver

Detector Mode : PK



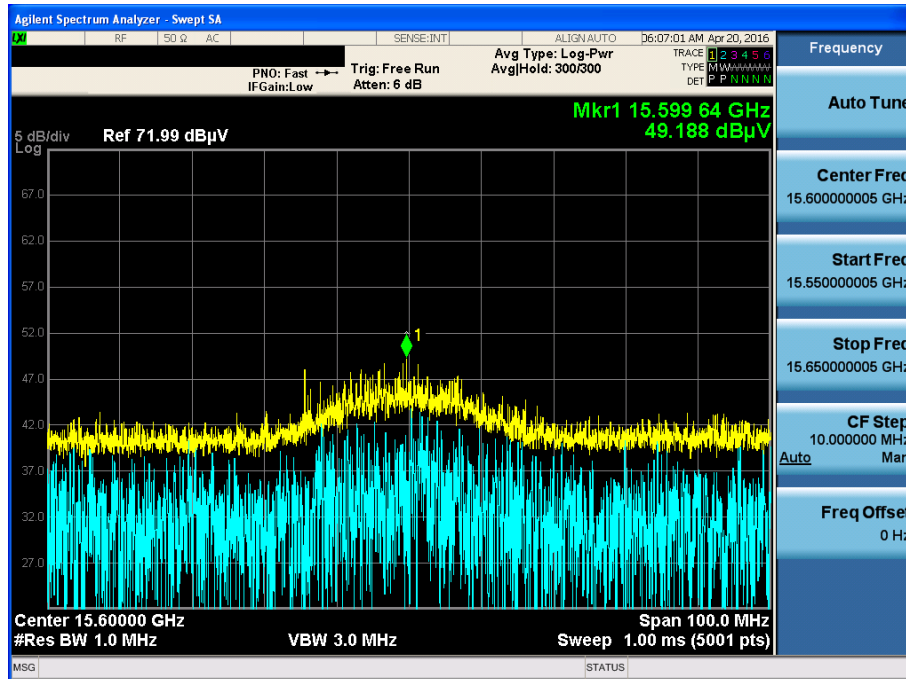
802.11a & U-NII 1 & Ch.36 & Z axis & Ver

Detector Mode : AV



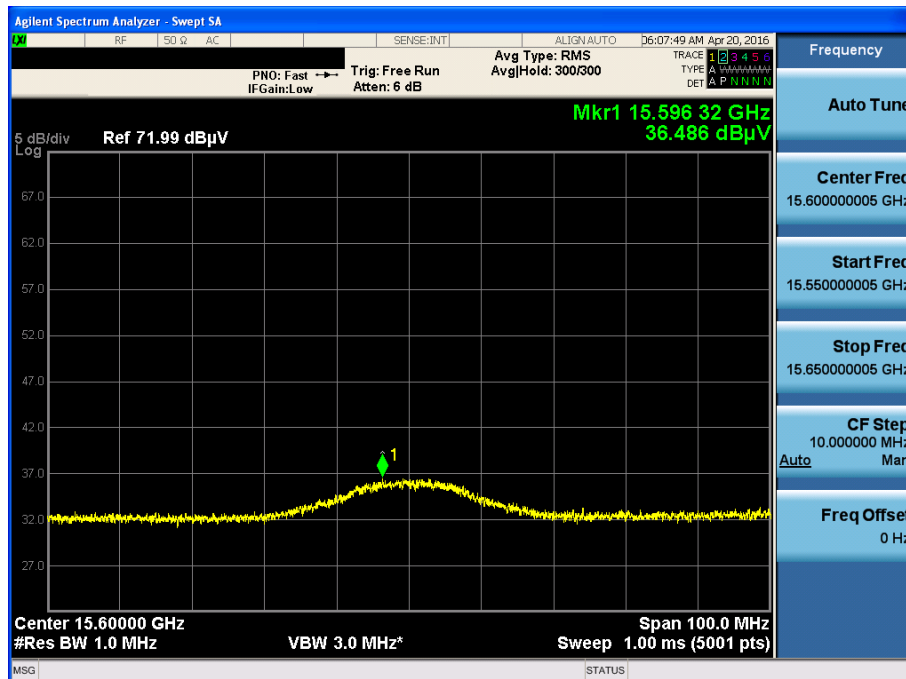
802.11a & U-NII 1 & Ch.40 & Z axis & Hor

Detector Mode : PK



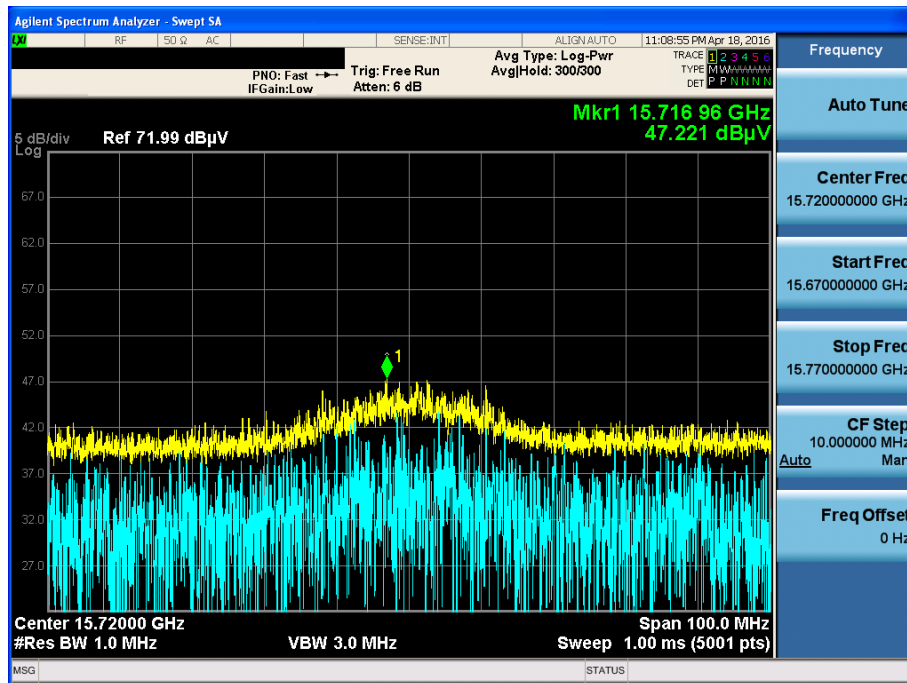
802.11a & U-NII 1 & Ch.40 & Z axis & Hor

Detector Mode : AV



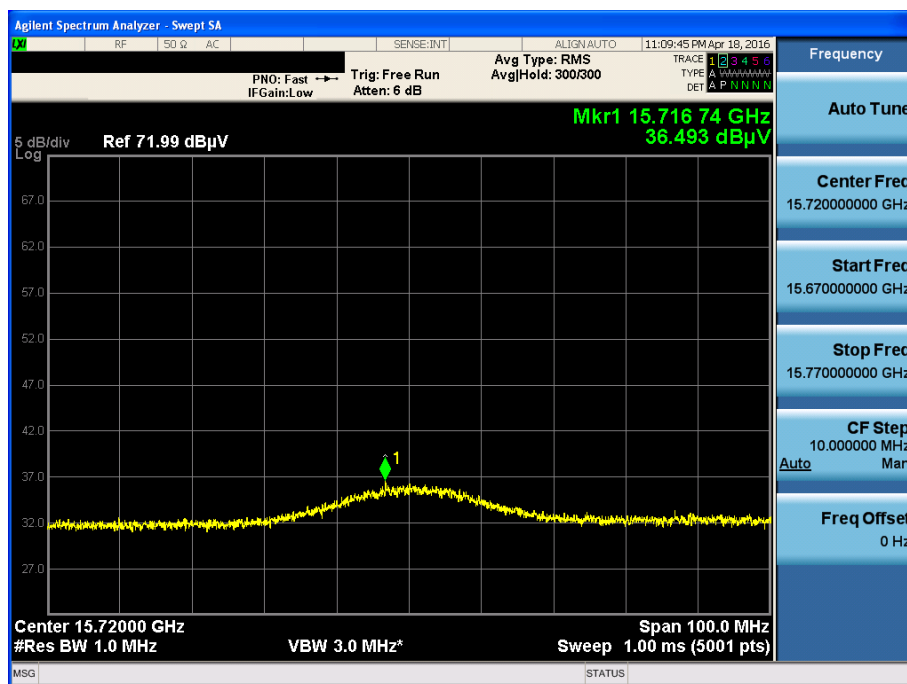
802.11a & U-NII 1 & Ch.48 & Y axis & Ver

Detector Mode : PK



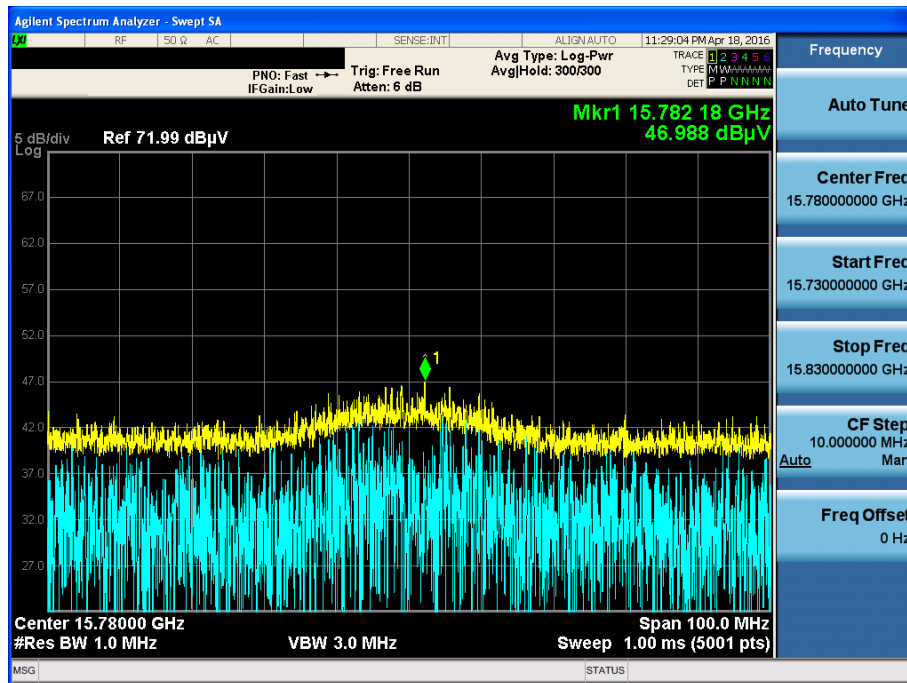
802.11a & U-NII 1 & Ch.48 & Y axis & Ver

Detector Mode : AV



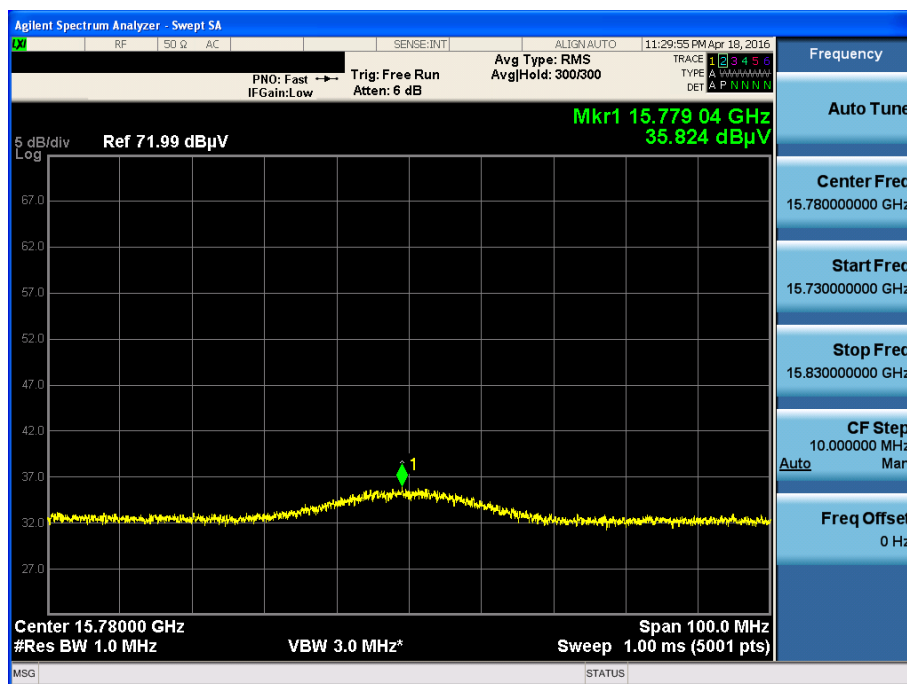
802.11a & U-NII 2A & Ch.52 & Y axis & Ver

Detector Mode : PK



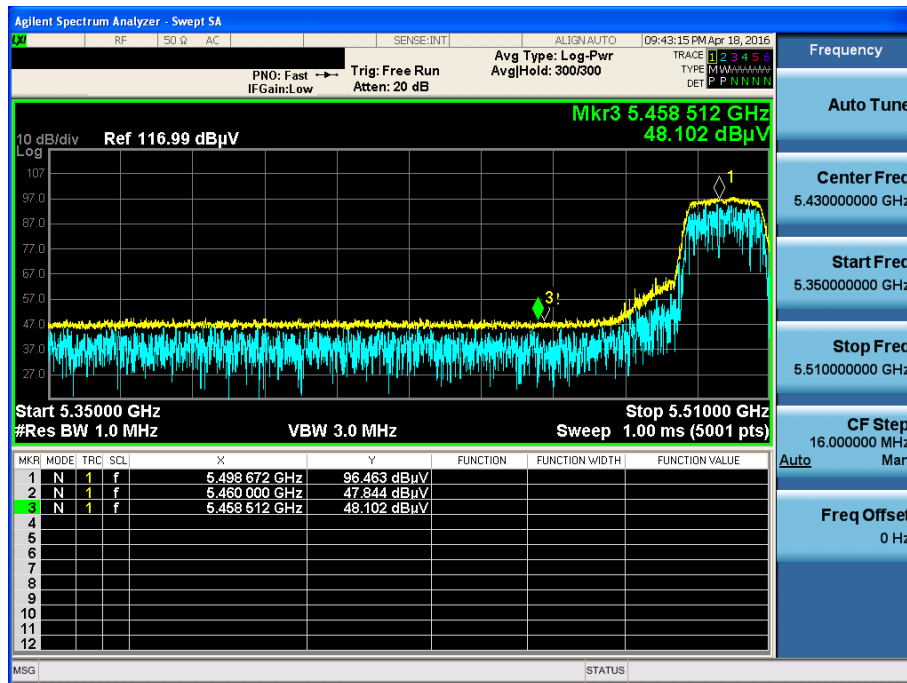
802.11a & U-NII 2A & Ch.52 & Y axis & Ver

Detector Mode : AV



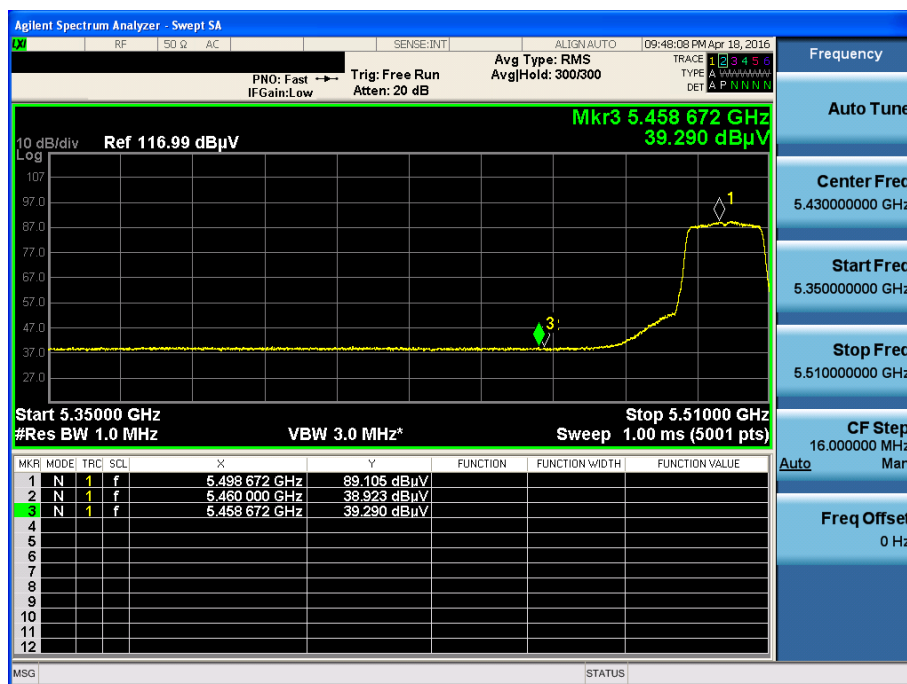
802.11a & U-NII 2C & Ch.100 & Z axis & Hor

Detector Mode : PK



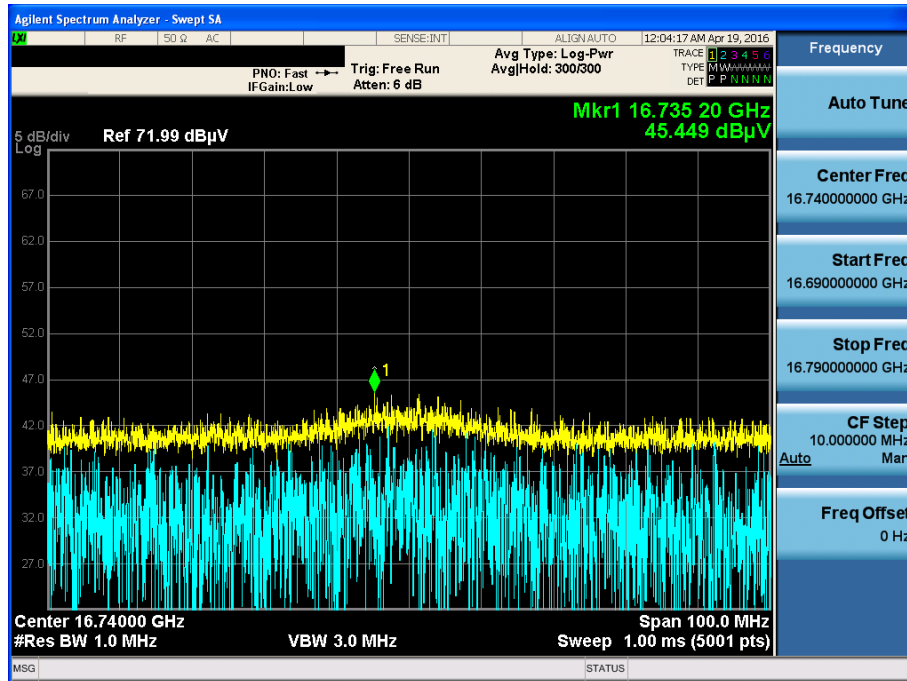
802.11a & U-NII 2C & Ch.100 & Z axis & Hor

Detector Mode : AV



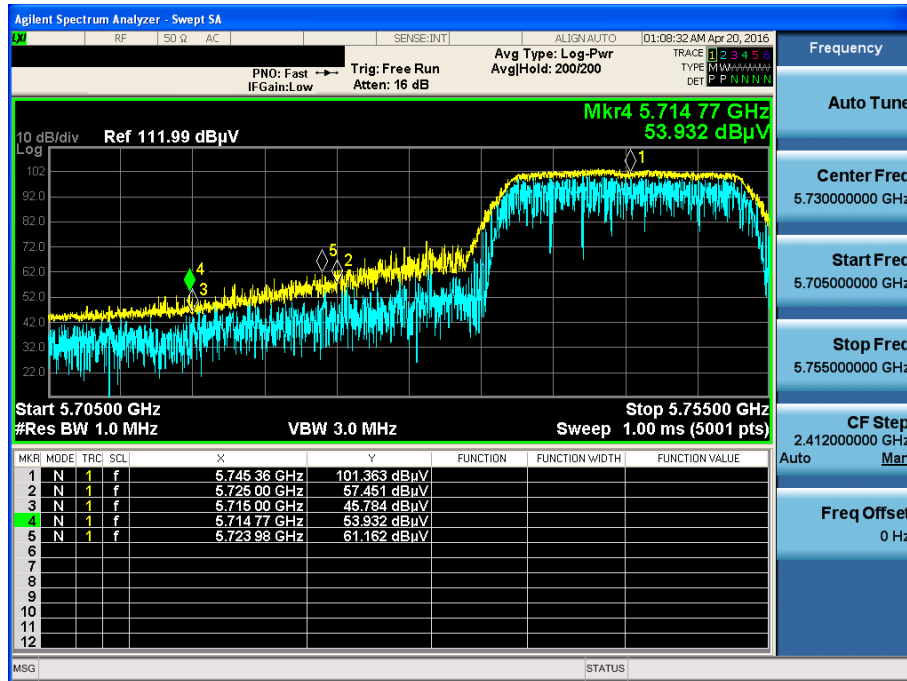
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Detector Mode : PK



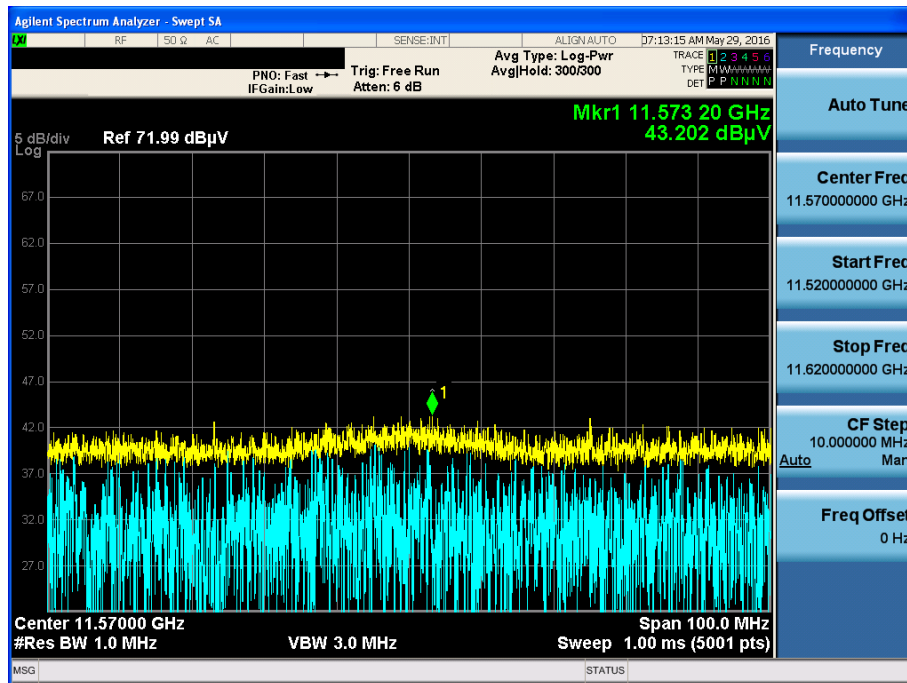
802.11a & U-NII 3 & Ch.149 & Z axis & Ver

Detector Mode : PK



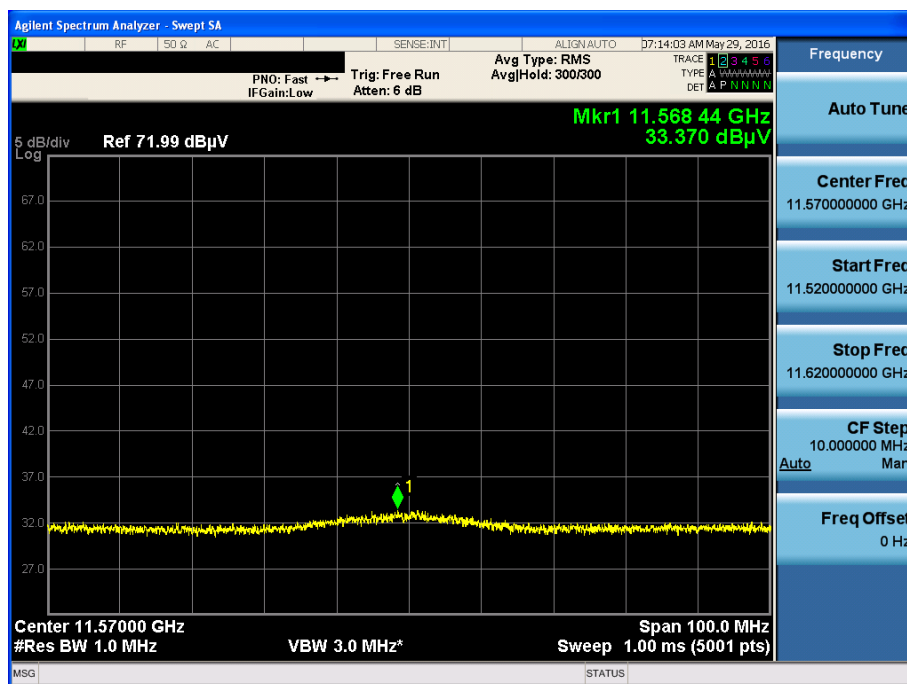
802.11a & U-NII 3 & Ch.157 & Y axis & Hor

Detector Mode : PK



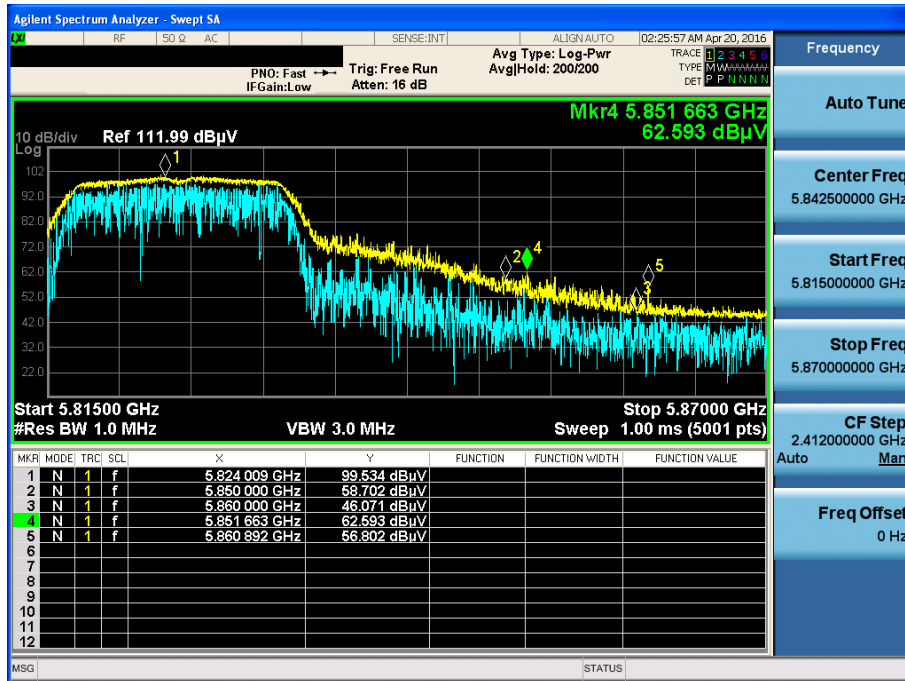
802.11a & U-NII 3 & Ch.157 & Y axis & Hor

Detector Mode : AV



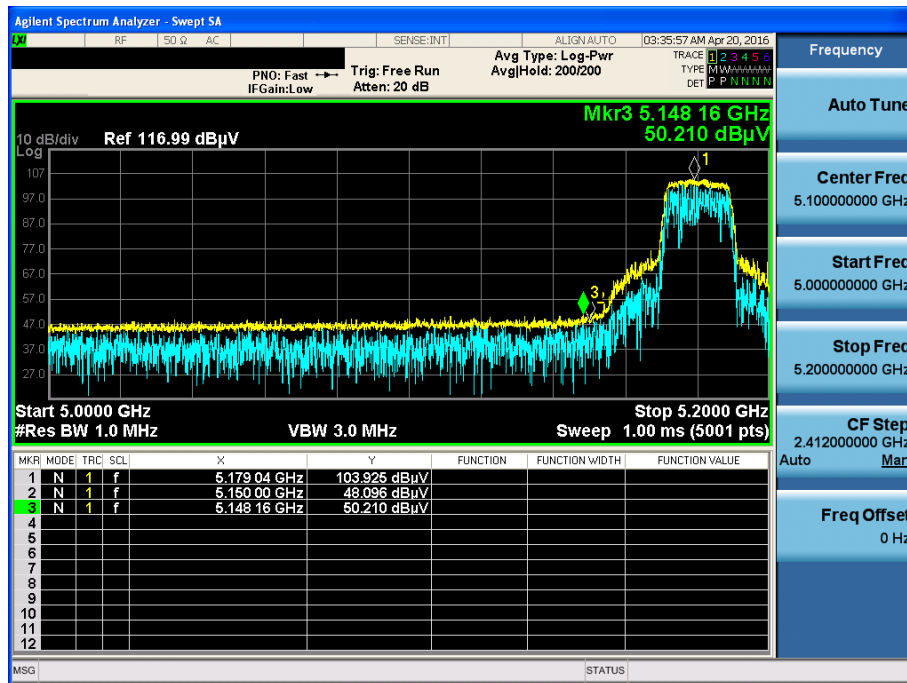
802.11a & U-NII 3 & Ch.165 & Z axis & Ver

Detector Mode : PK



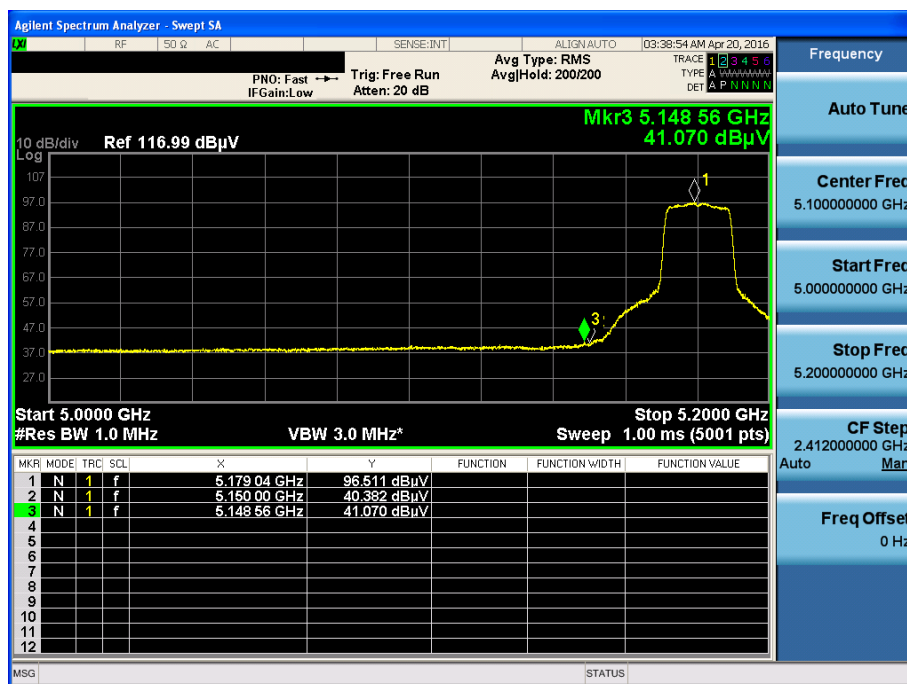
802.11n(HT20) & U-NII 1 & Ch.36 & Z axis & Ver

Detector Mode : PK



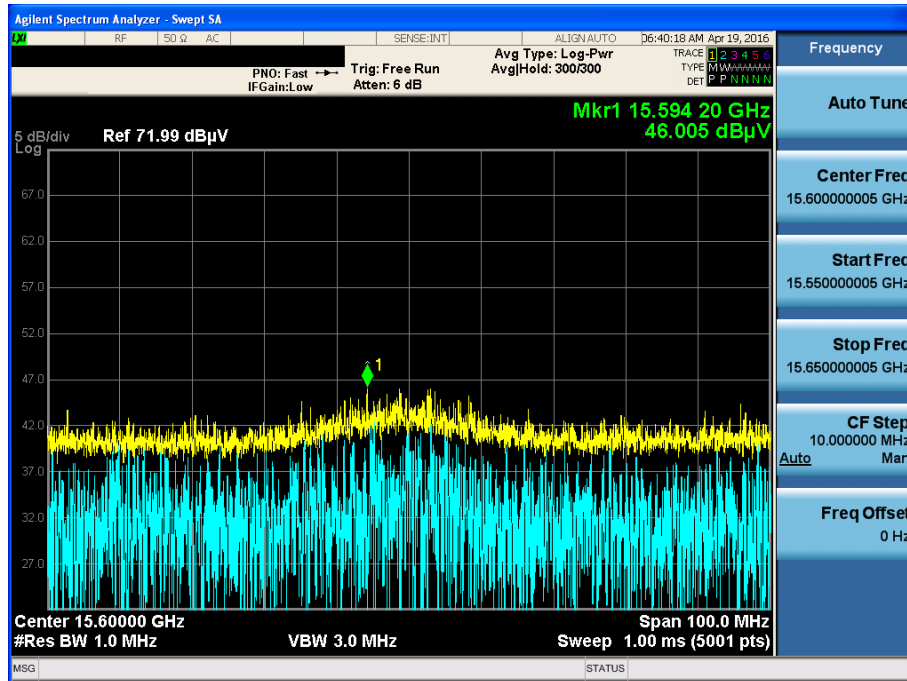
802.11n(HT20) & U-NII 1 & Ch.36 & Z axis & Ver

Detector Mode : AV



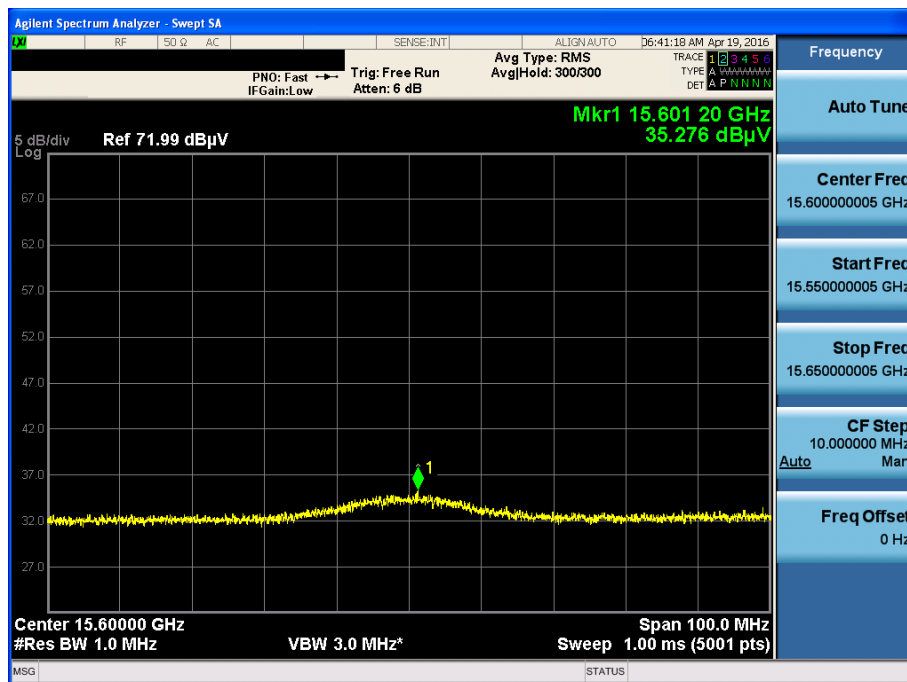
802.11n(HT20) & U-NII 1 & Ch.40 & Y axis & Hor

Detector Mode : PK



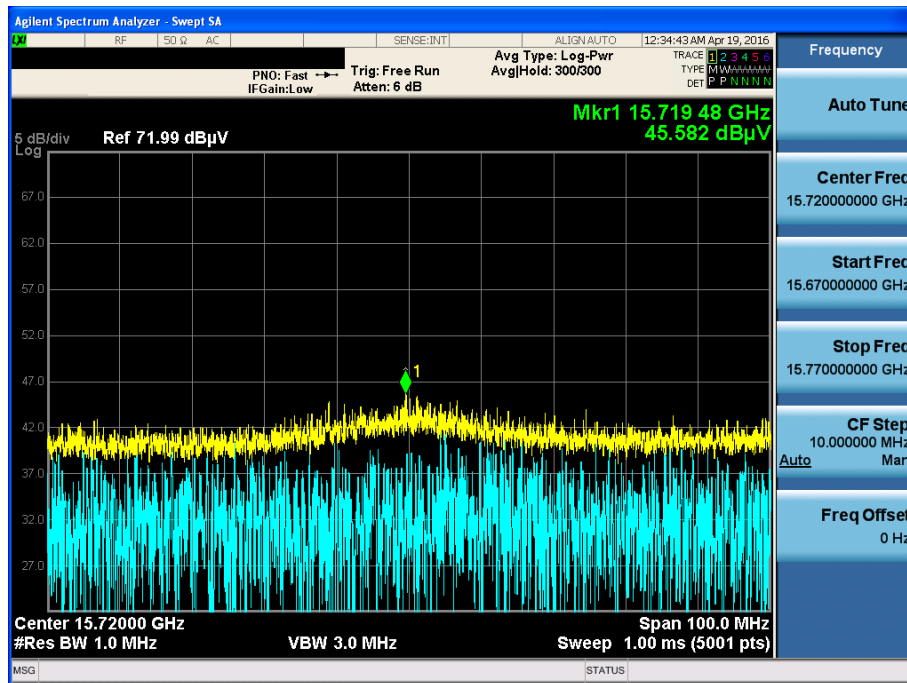
802.11n(HT20) & U-NII 1 & Ch.40 & Y axis & Hor

Detector Mode : AV



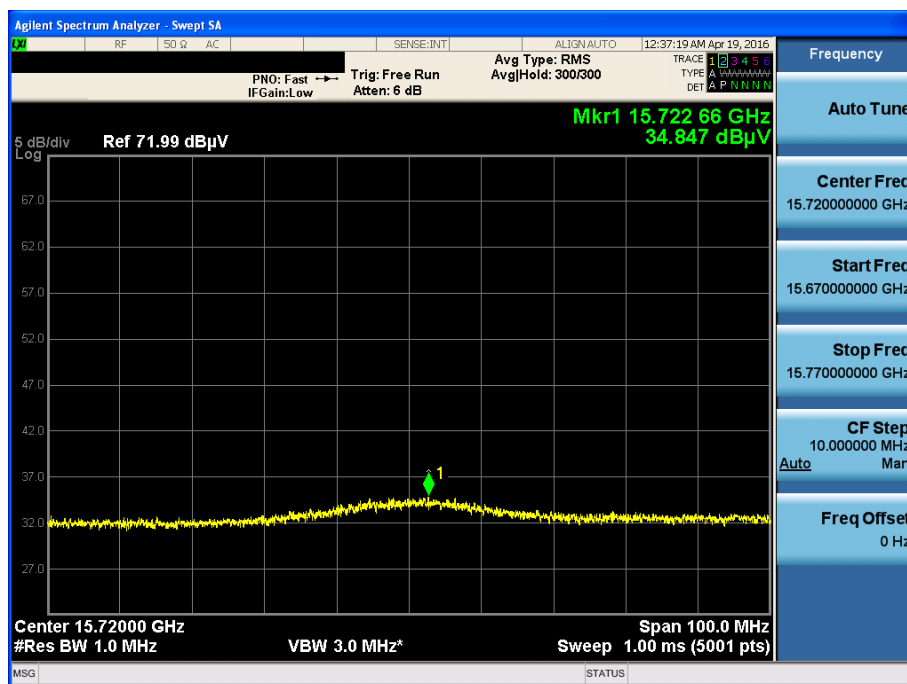
802.11n(HT20) & U-NII 1 & Ch.48 & Y axis & Hor

Detector Mode : PK



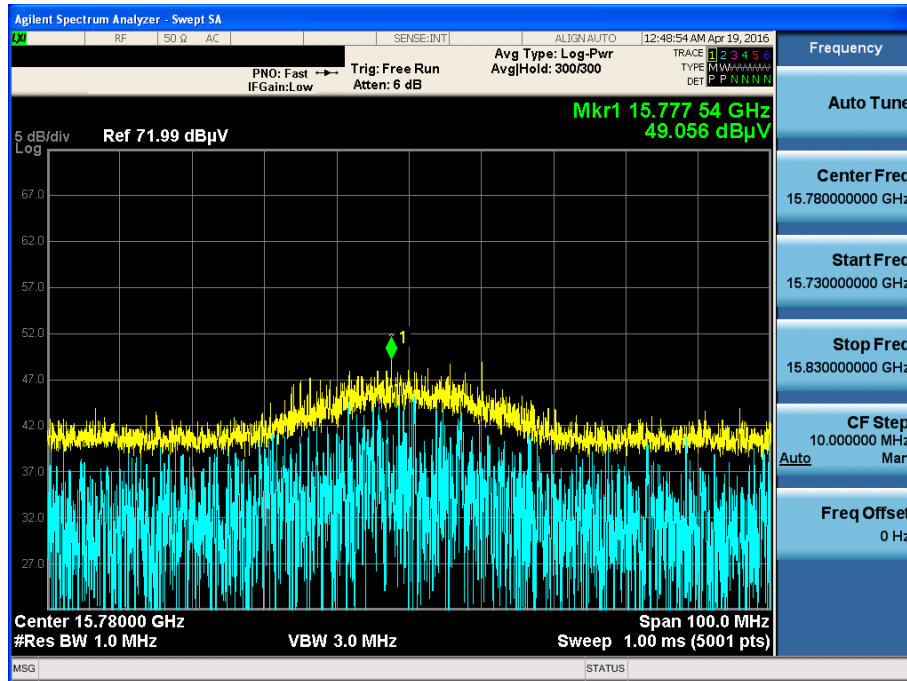
802.11n(HT20) & U-NII 1 & Ch.48 & Y axis & Hor

Detector Mode : AV



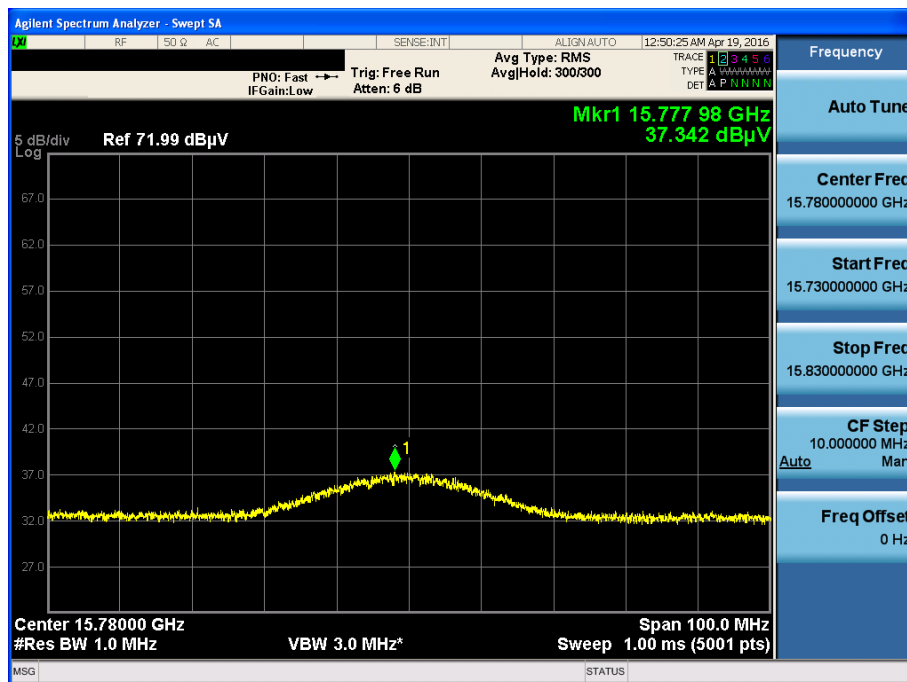
802.11n(HT20) & U-NII 2A & Ch.52 & Zaxis & Hor

Detector Mode : PK



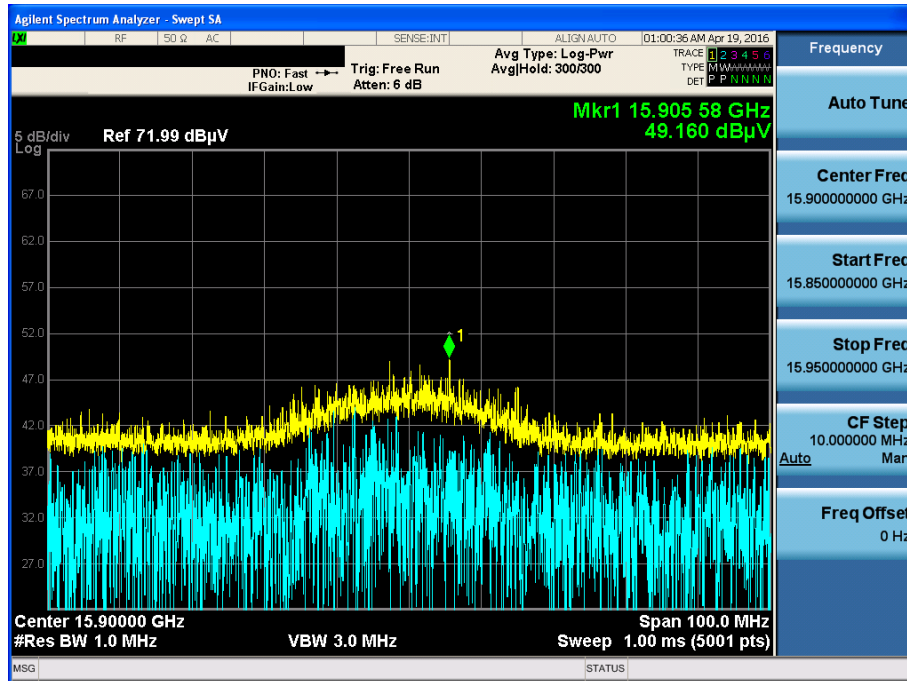
802.11n(HT20) & U-NII 2A & Ch.52 & Zaxis & Hor

Detector Mode : AV



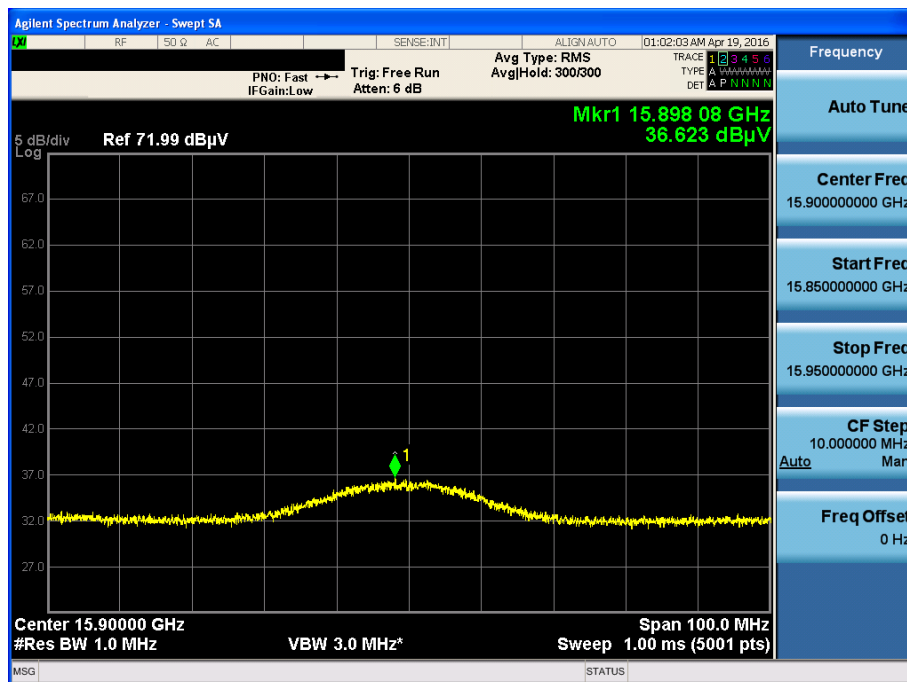
802.11n(HT20) & U-NII 2A & Ch.60 & Y axis & Ver

Detector Mode : PK



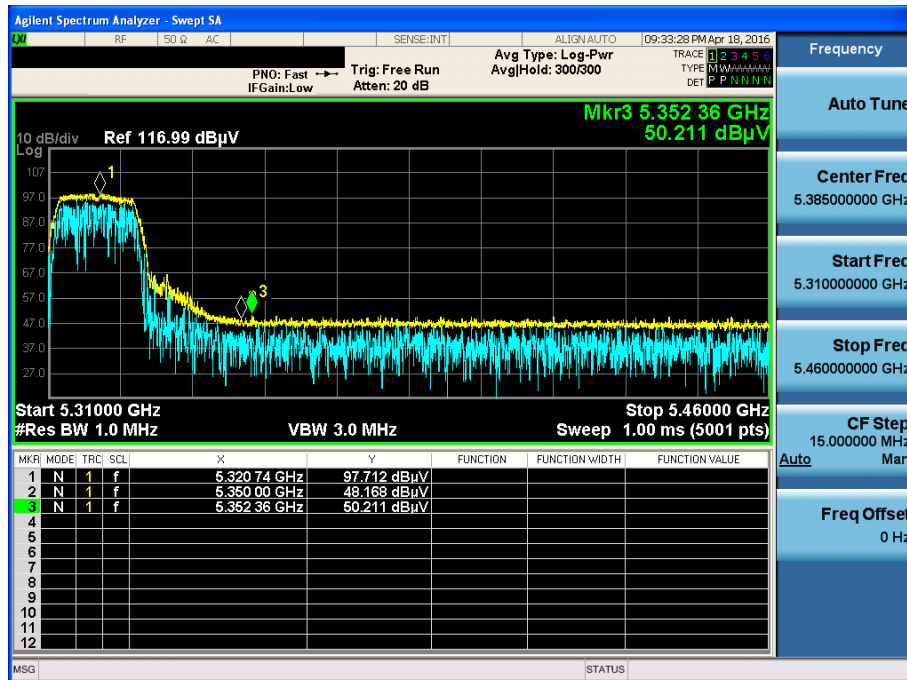
802.11n(HT20) & U-NII 2A & Ch.60 & Y axis & Ver

Detector Mode : AV



802.11n(HT20) & U-NII 2A & Ch.64 & Z axis & Ver

Detector Mode : PK



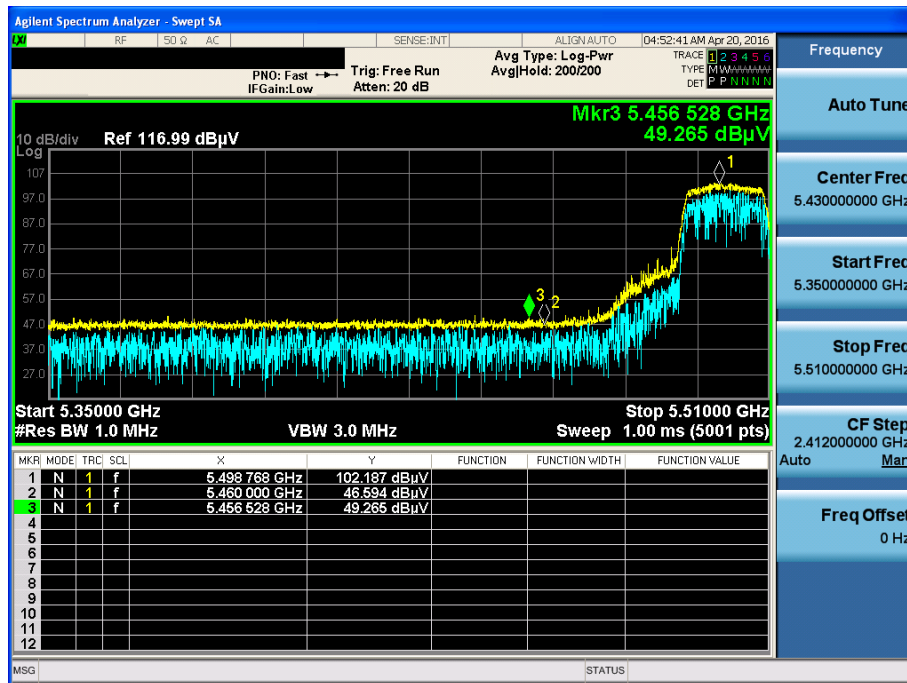
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Detector Mode : AV



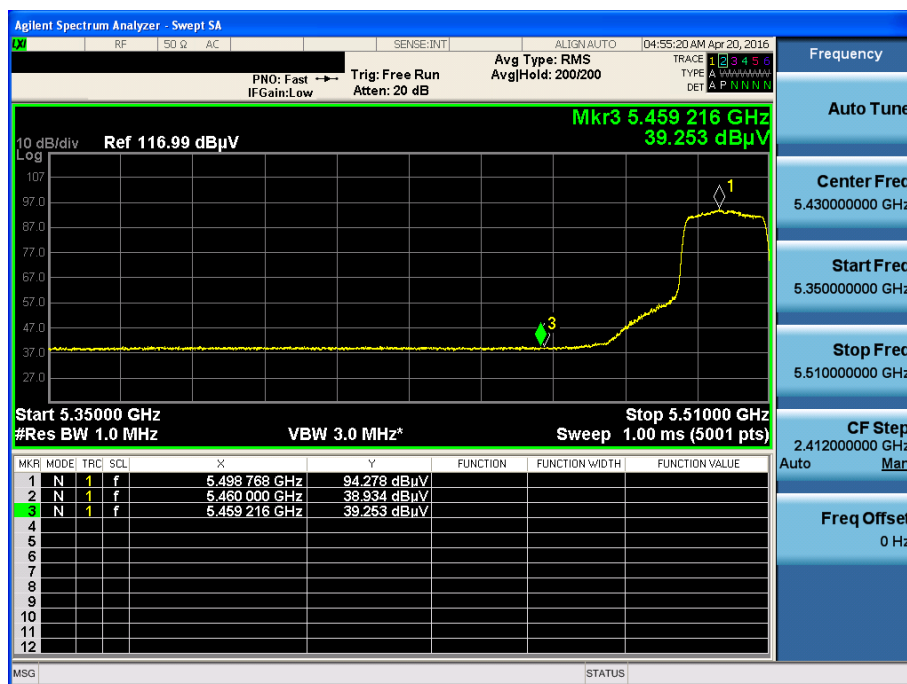
802.11n(HT20) & U-NII 2C & Ch.100 & Z axis & Hor

Detector Mode : PK



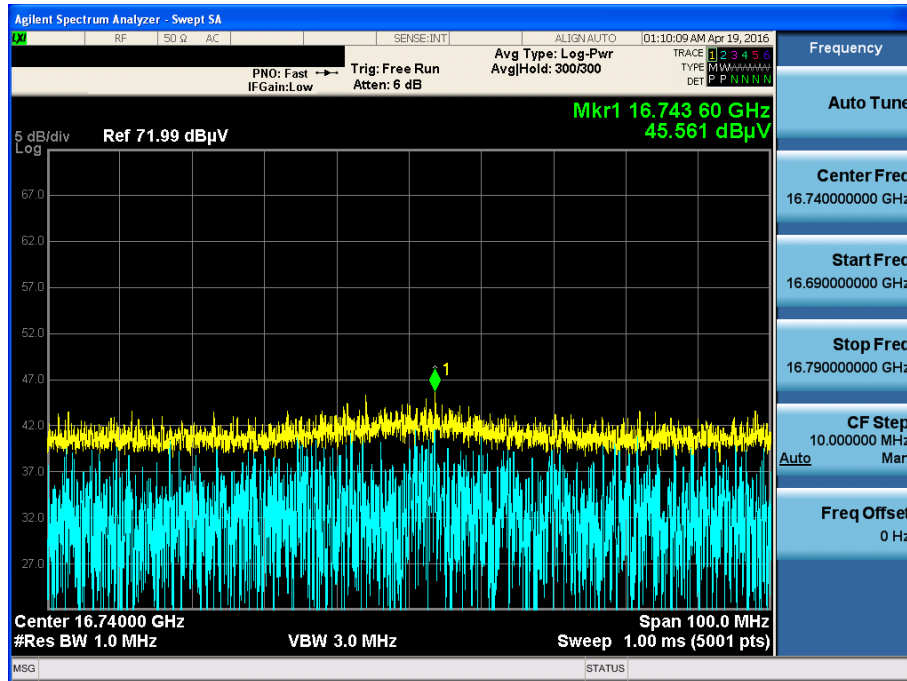
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Detector Mode : AV



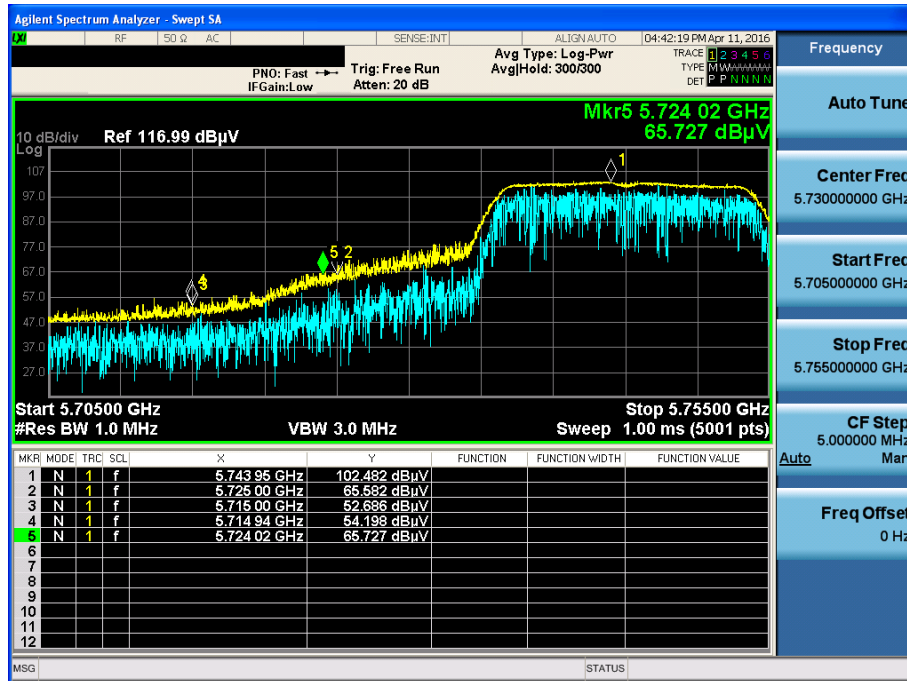
802.11n(HT20) & U-NII 2C & Ch.100 & Y axis & Hor

Detector Mode : PK



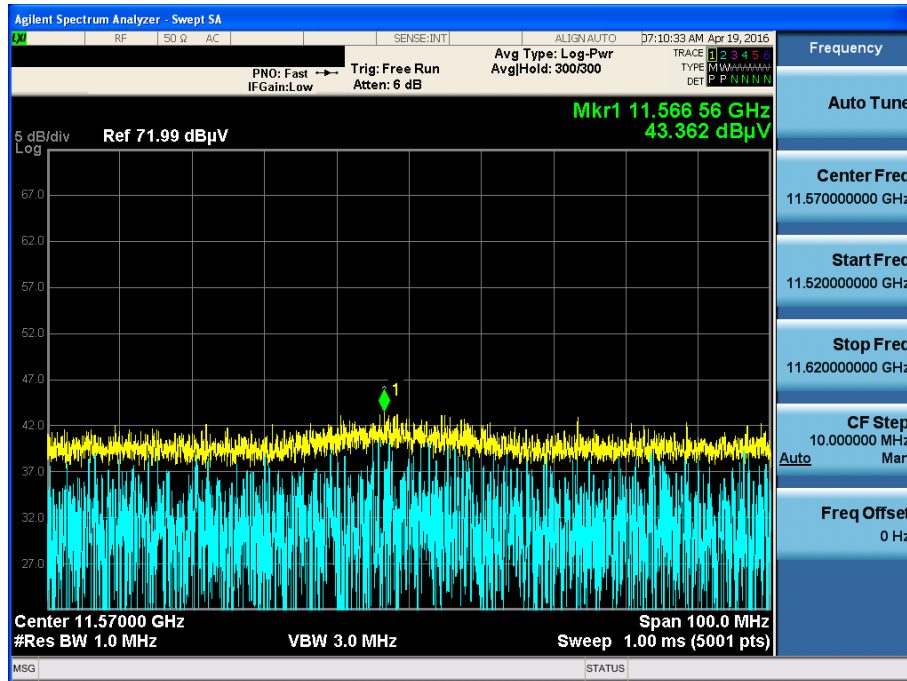
802.11n(HT20) & U-NII 3 & Ch.149 & Z axis & Ver

Detector Mode : PK



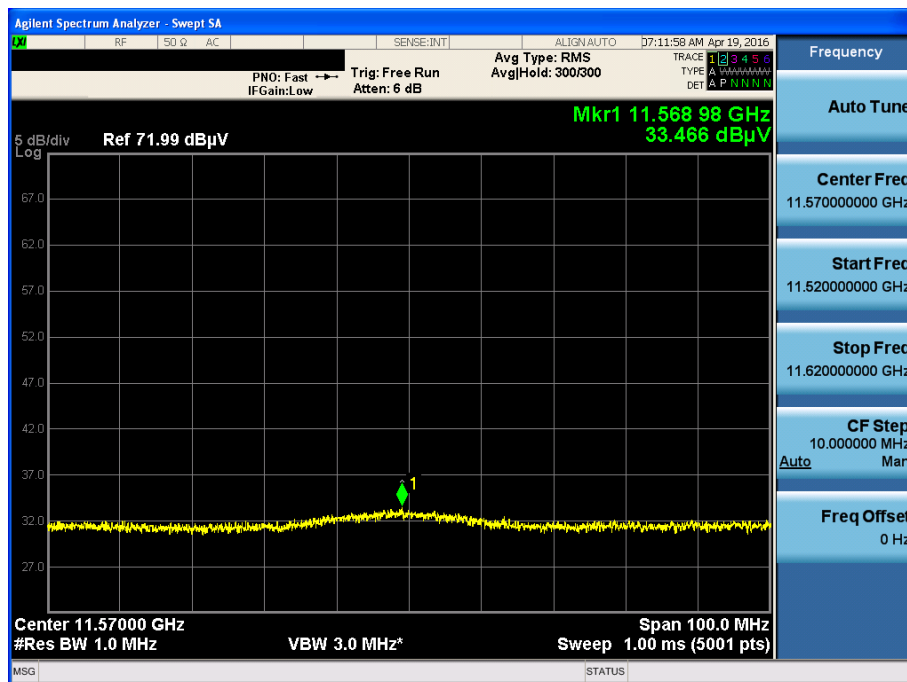
802.11n(HT20) & U-NII 3 & Ch.157 & Y axis & Hor

Detector Mode : PK



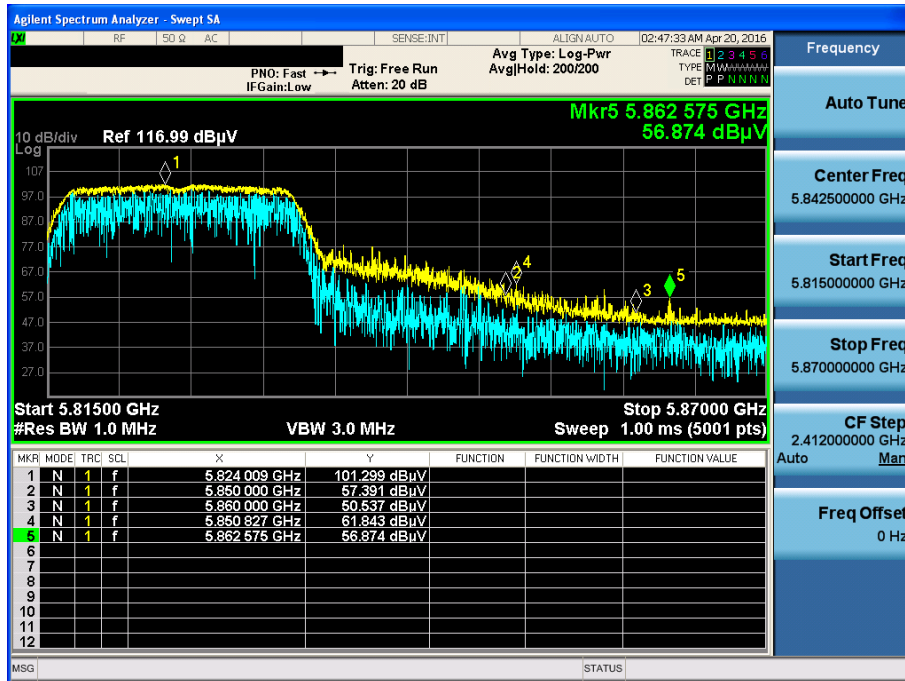
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Detector Mode : AV



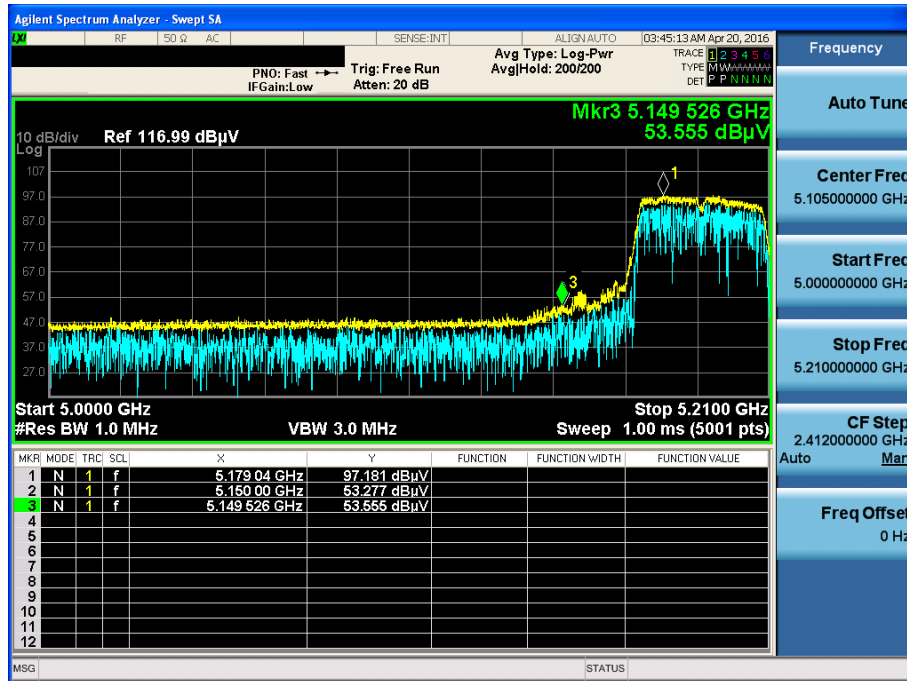
802.11n(HT20) & U-NII 3 & Ch.165 & Z axis & Ver

Detector Mode : PK



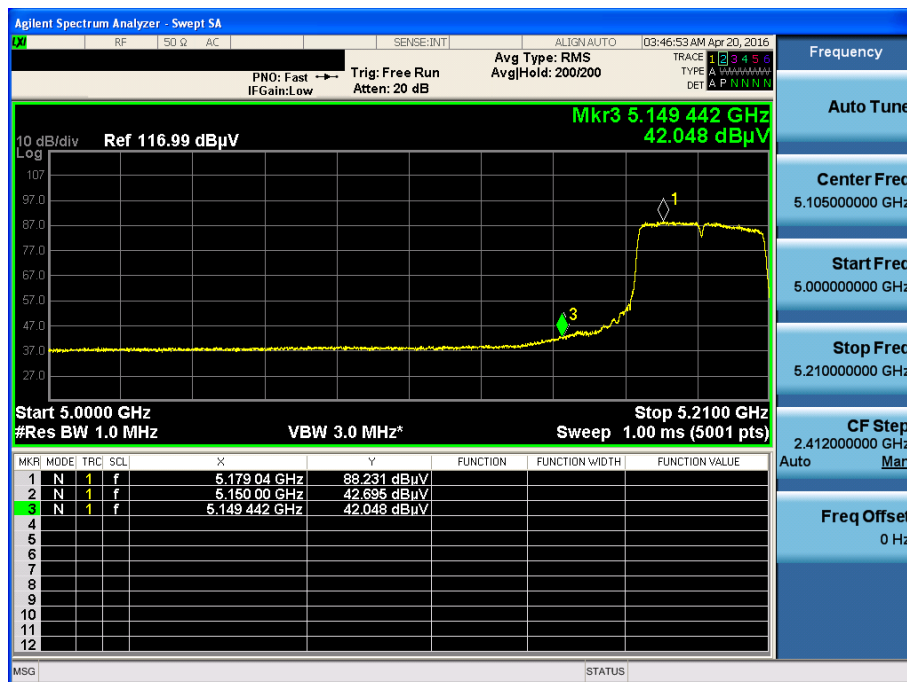
802.11n(HT40) & U-NII 1 & Ch.38 & X axis & Hor

Detector Mode : PK



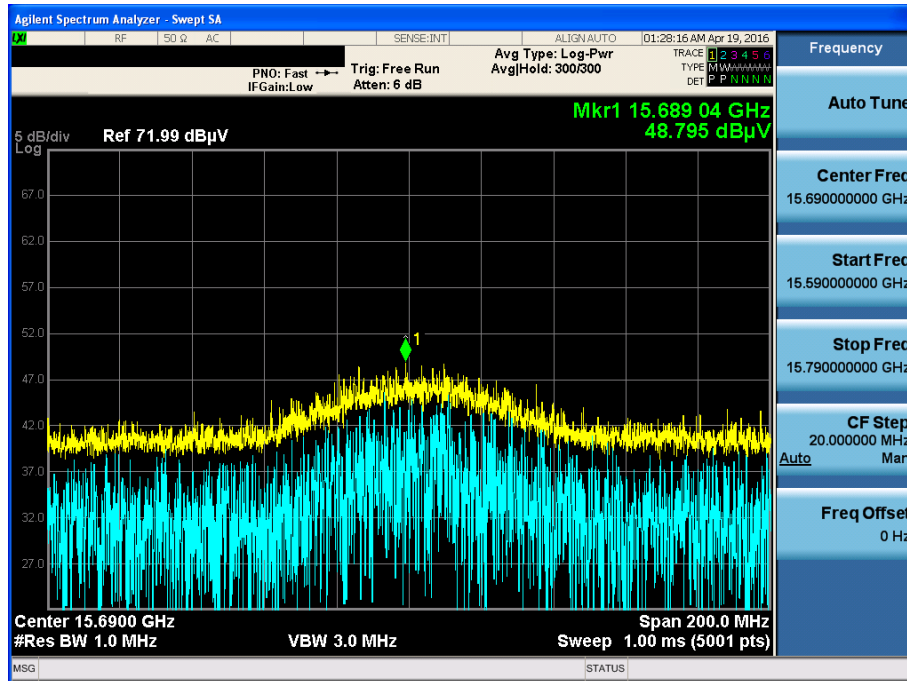
802.11n(HT40) & U-NII 1 & Ch.38 & X axis & Hor

Detector Mode : AV



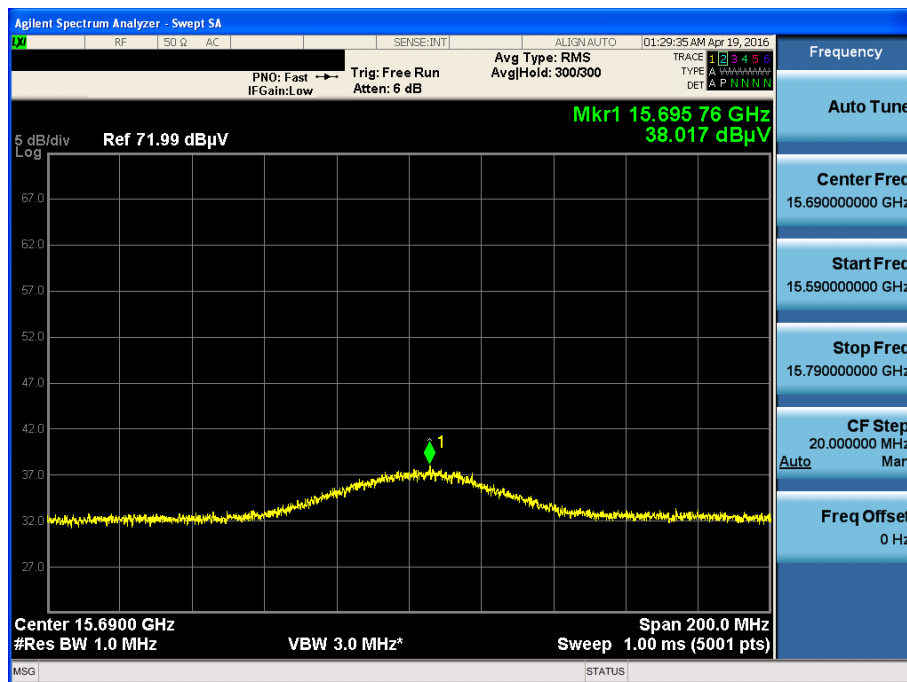
802.11n(HT40) & U-NII 1 & Ch.46 & Z axis & Hor

Detector Mode : PK



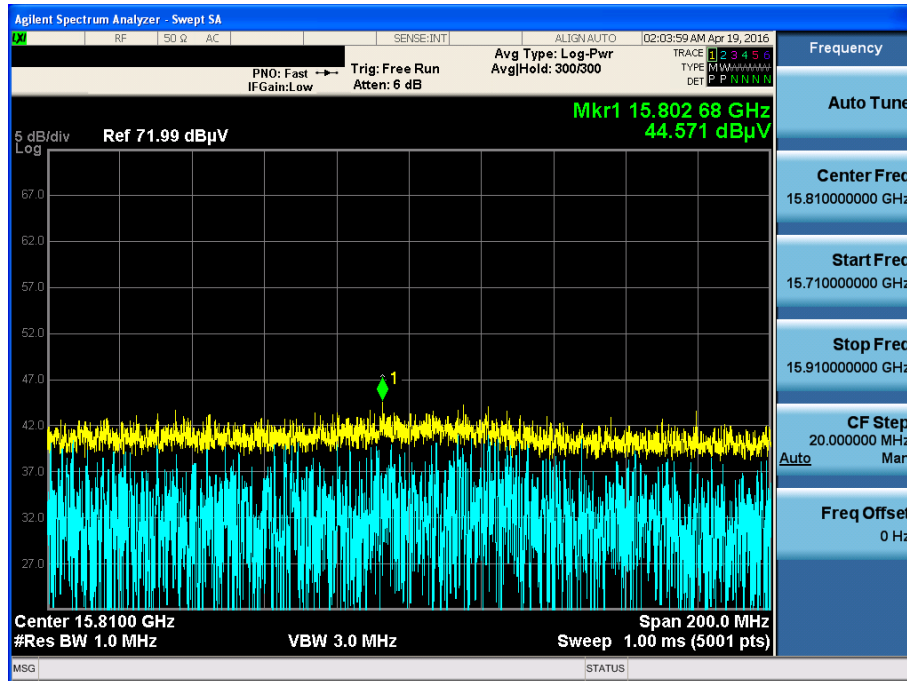
802.11n(HT40) & U-NII 1 & Ch.46 & Z axis & Hor

Detector Mode : AV



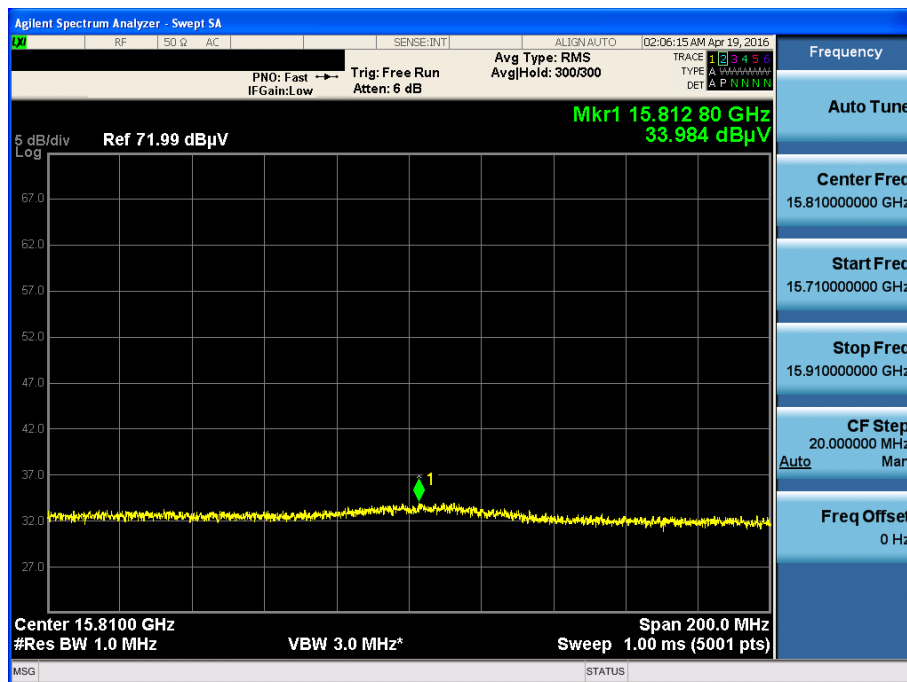
802.11n(HT40) & U-NII 2A & Ch.54 & Z axis & Hor

Detector Mode : PK



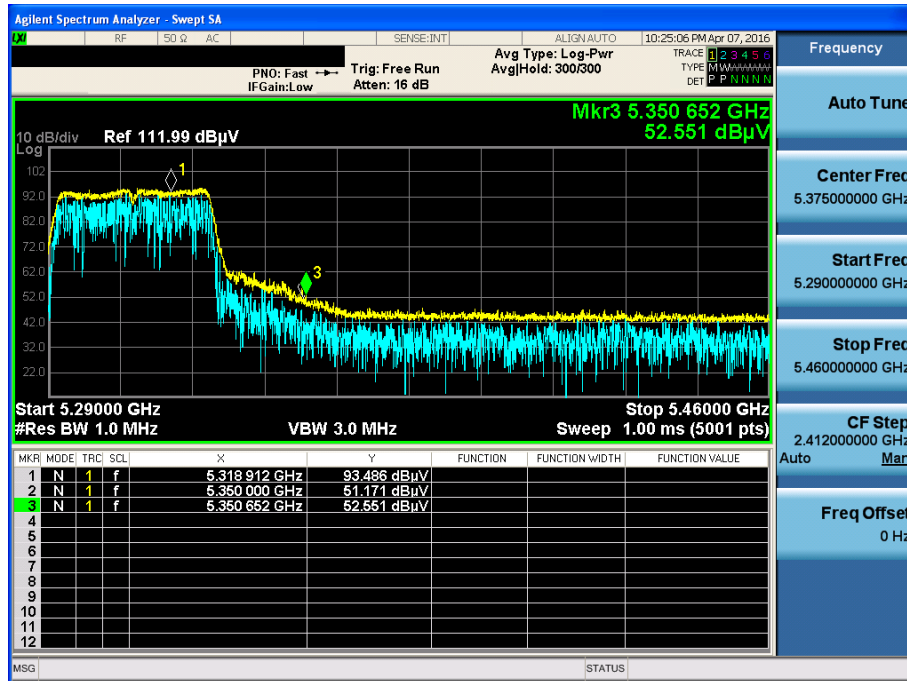
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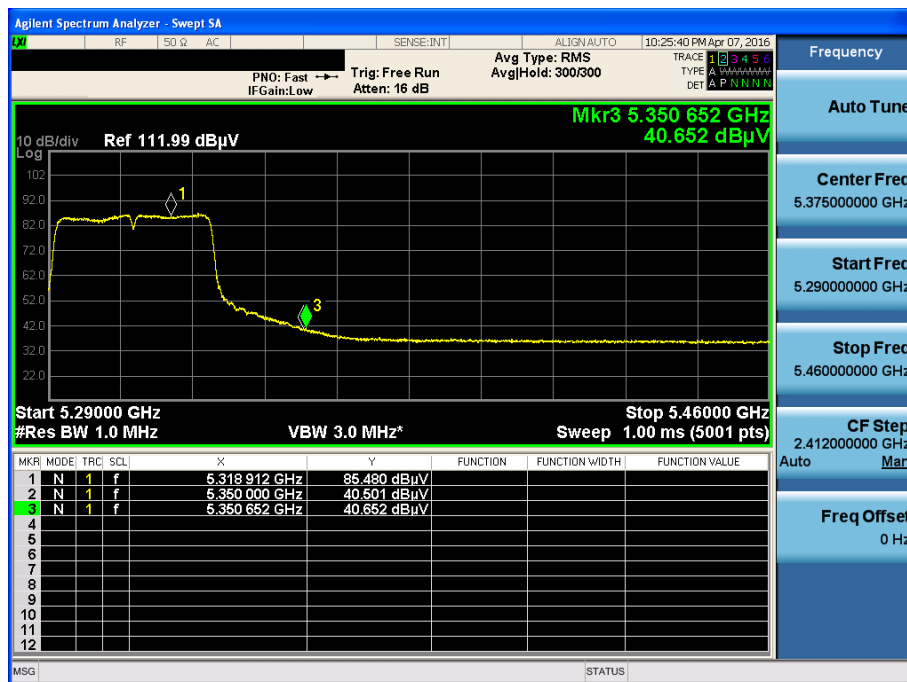
802.11n(HT40) & U-NII 2A & Ch.62 & Z axis & Ver

Detector Mode : PK



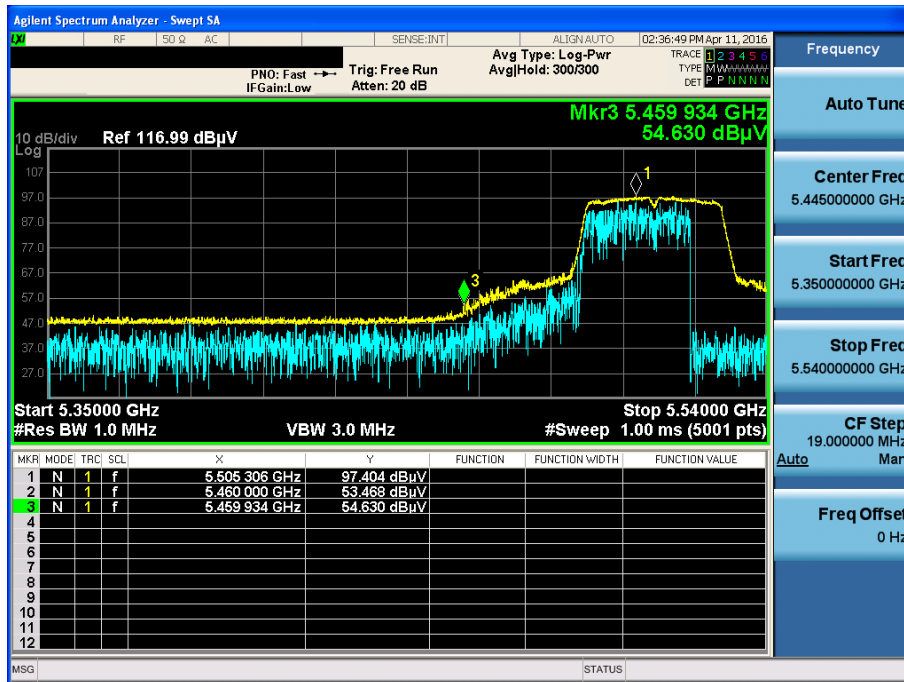
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Detector Mode : AV



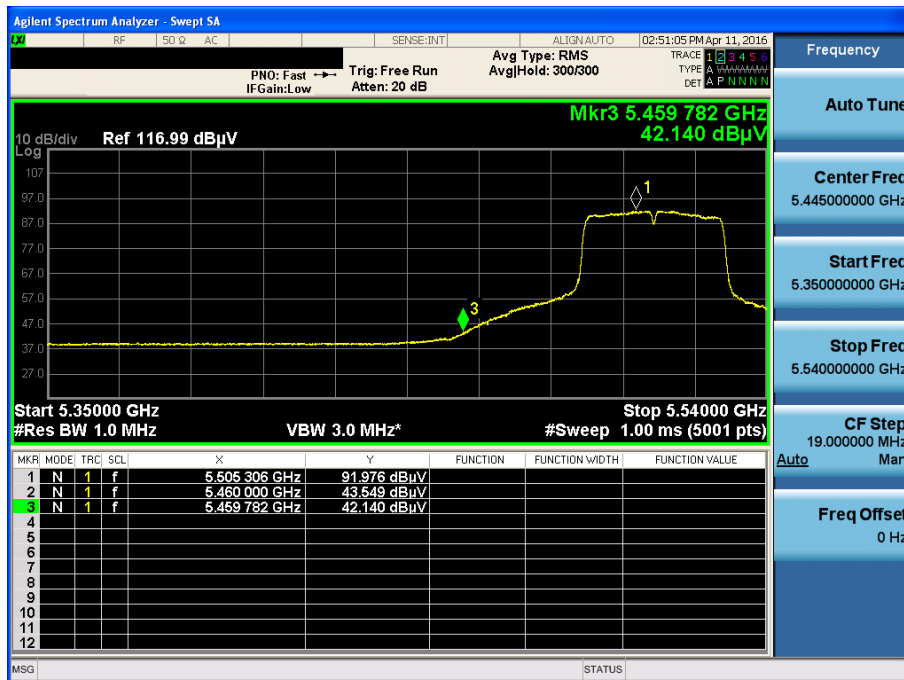
802.11n(HT40) & U-NII 2C & Ch.102 & X axis & Hor

Detector Mode : PK



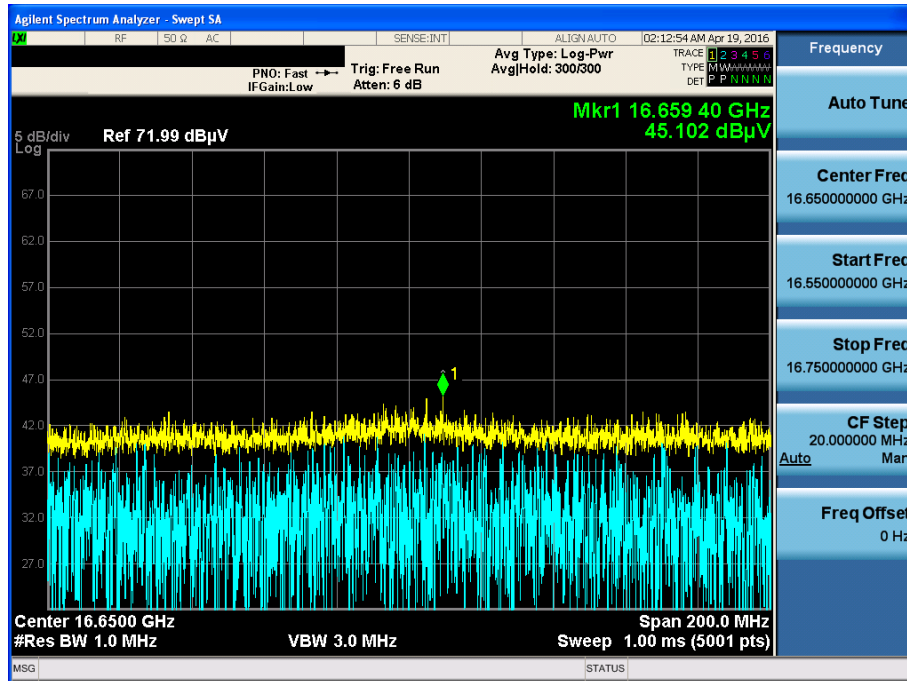
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Detector Mode : AV



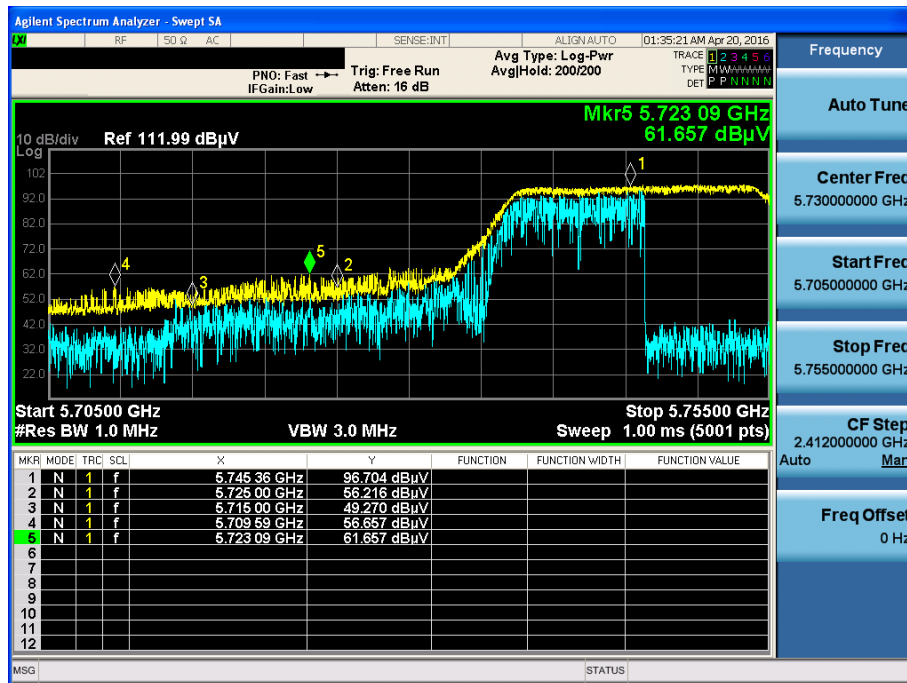
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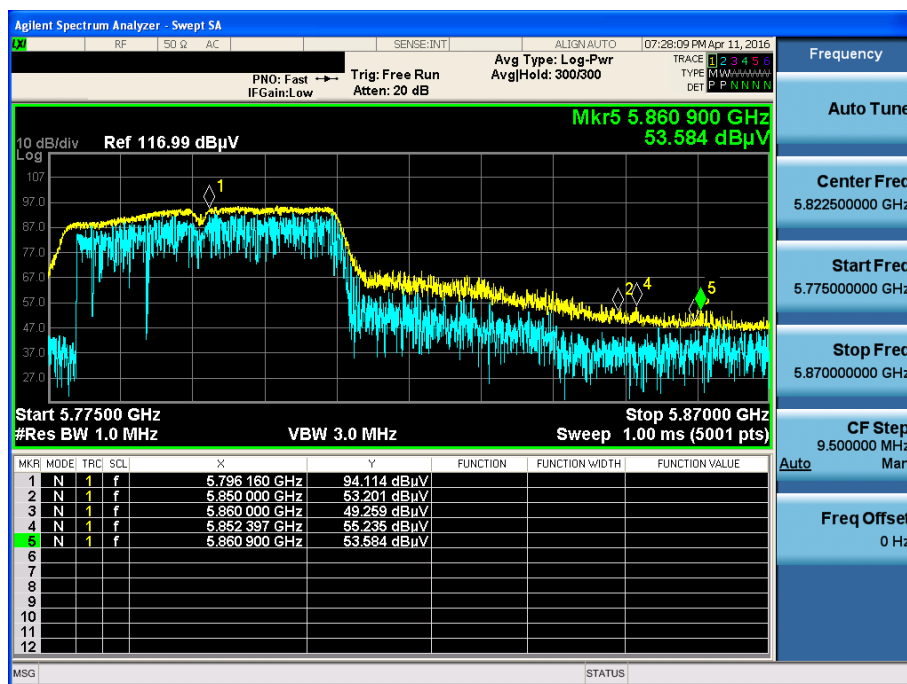
802.11n(HT40) & U-NII 3 & Ch.151 & X axis & Hor

Detector Mode : PK



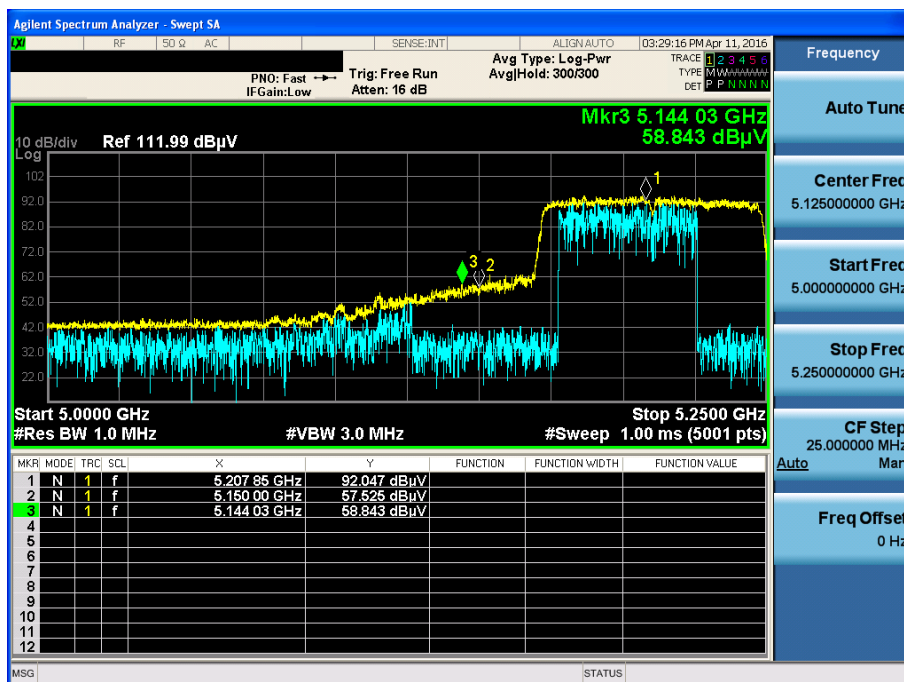
802.11n(HT40) & U-NII 3 & Ch.159 & Z axis & Ver

Detector Mode : PK



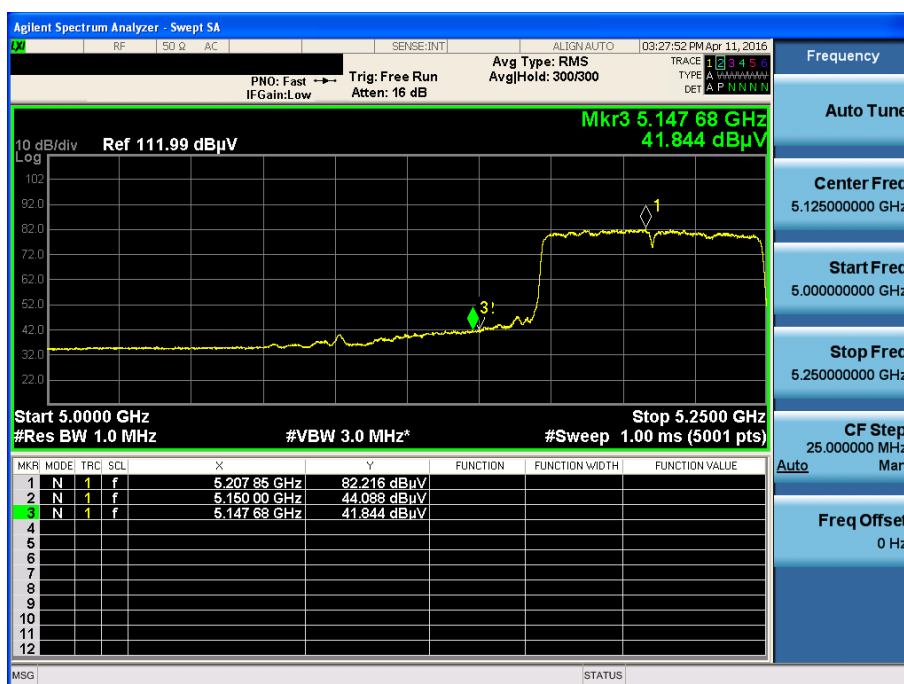
802.11ac(VHT80) & U-NII 1 & Ch.42 & Z axis & Hor

Detector Mode : PK



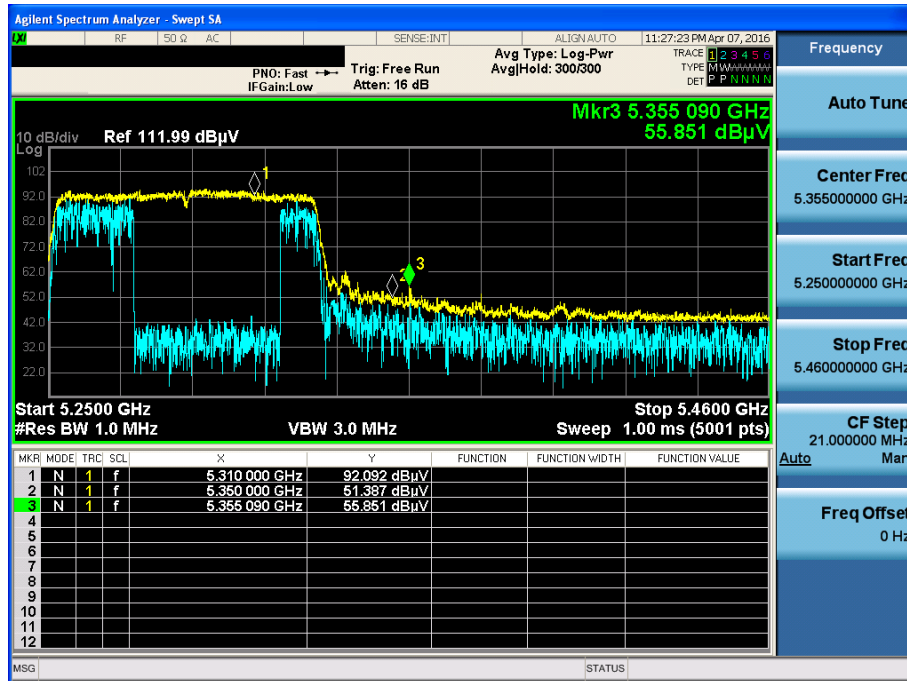
802.11ac(VHT80) & U-NII 1 & Ch.42 & Z axis & Hor

Detector Mode : AV



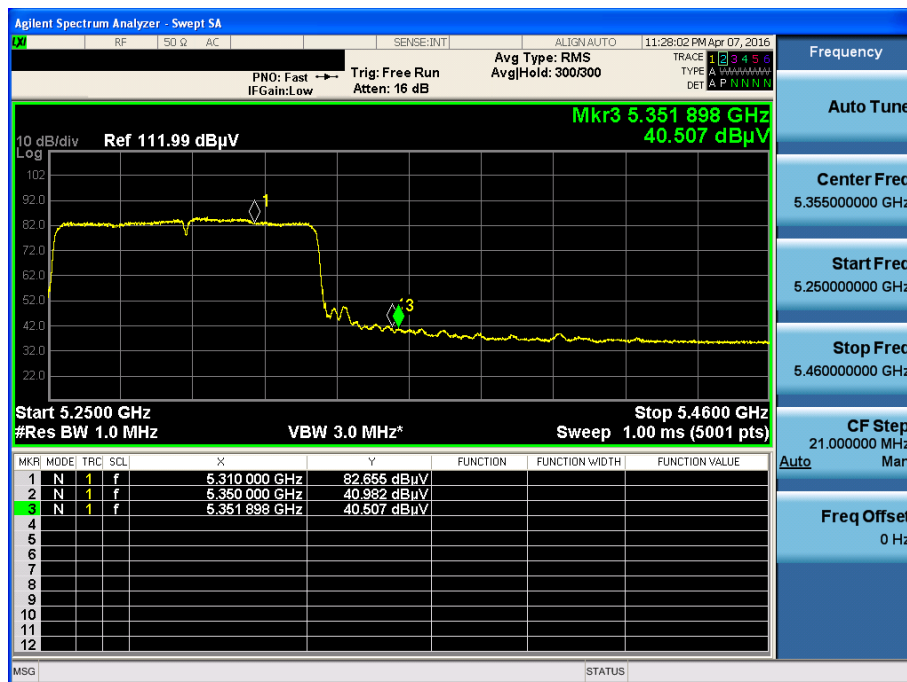
802.11ac(VHT80) & U-NII 2A & Ch.58 & X axis & Hor

Detector Mode : PK



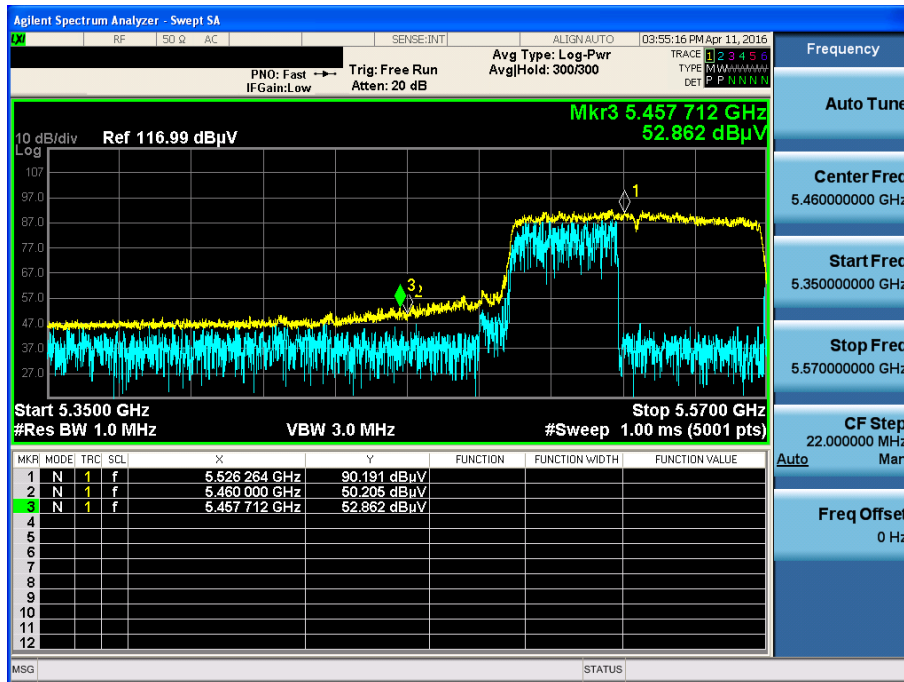
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Detector Mode : AV



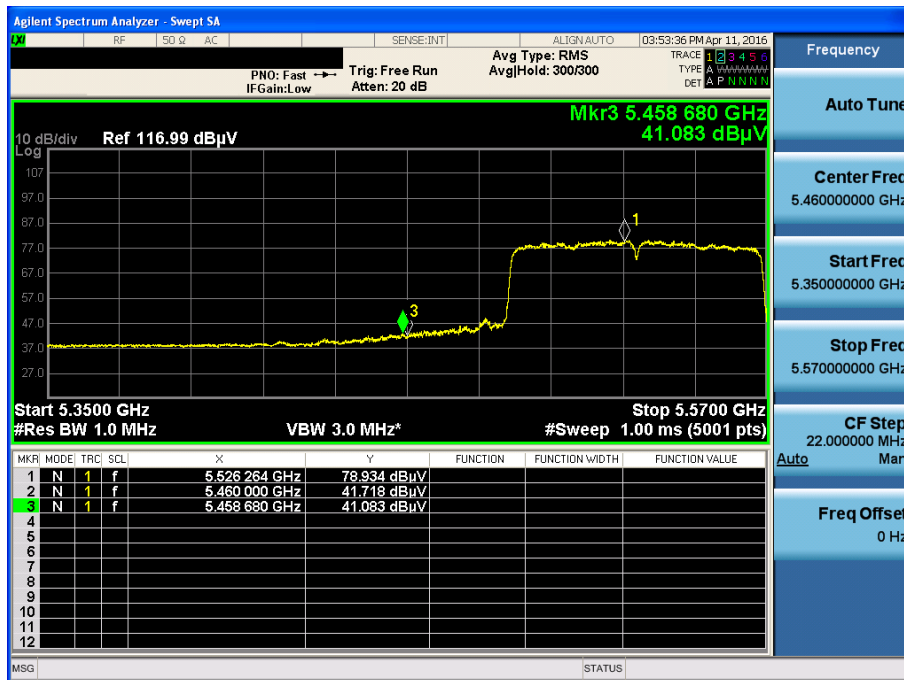
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Detector Mode : PK



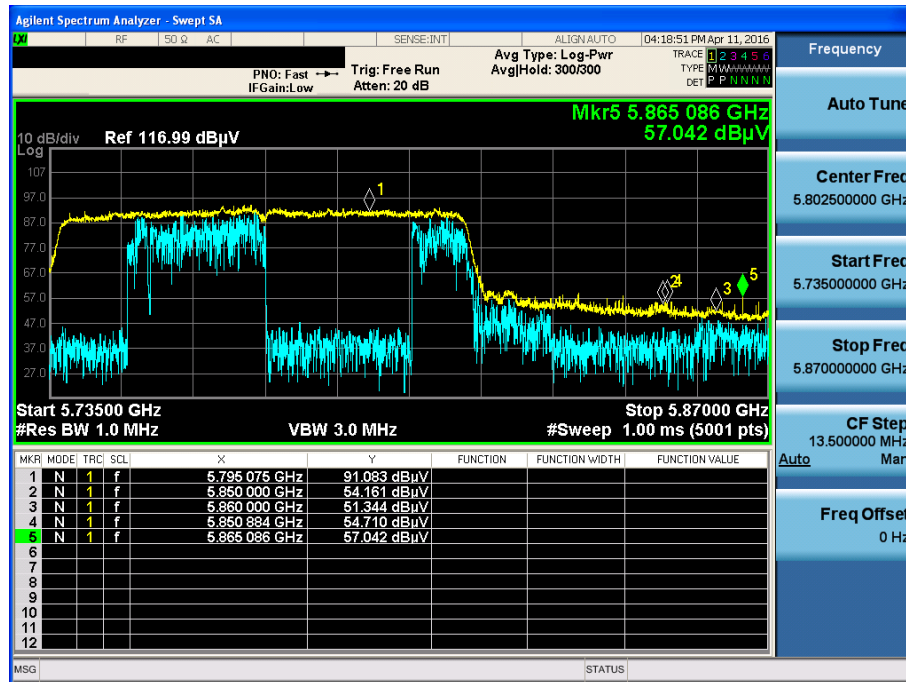
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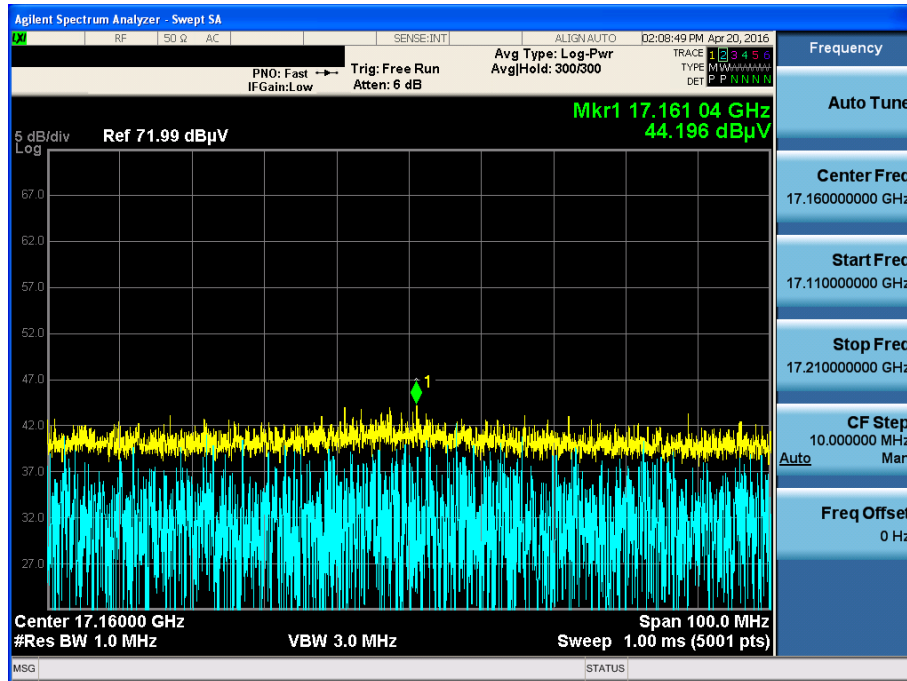
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Detector Mode : PK



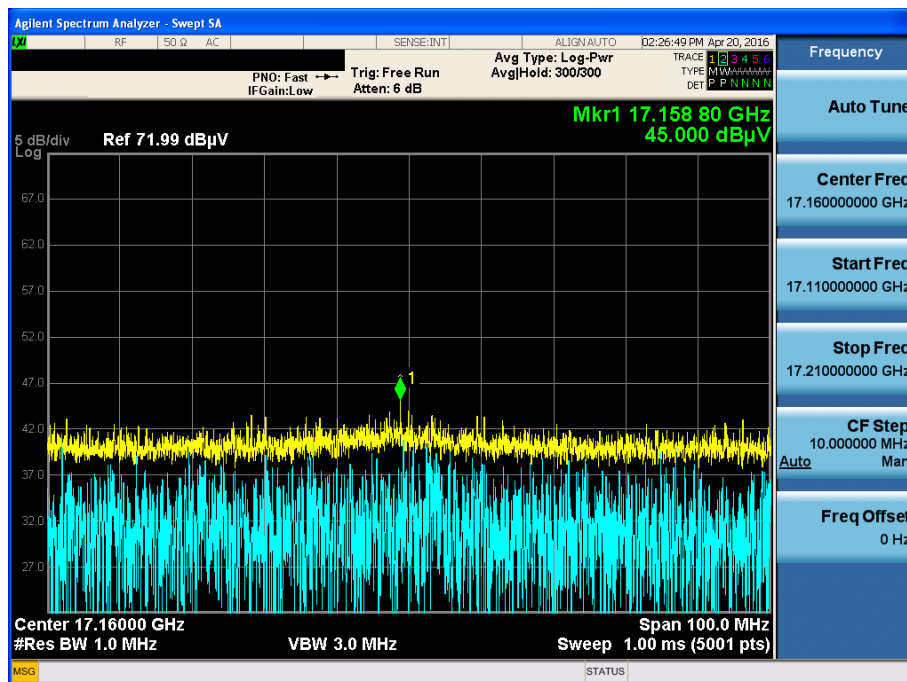
802.11a & Cross & Ch.144 & Y axis & Ver

Detector Mode : PK



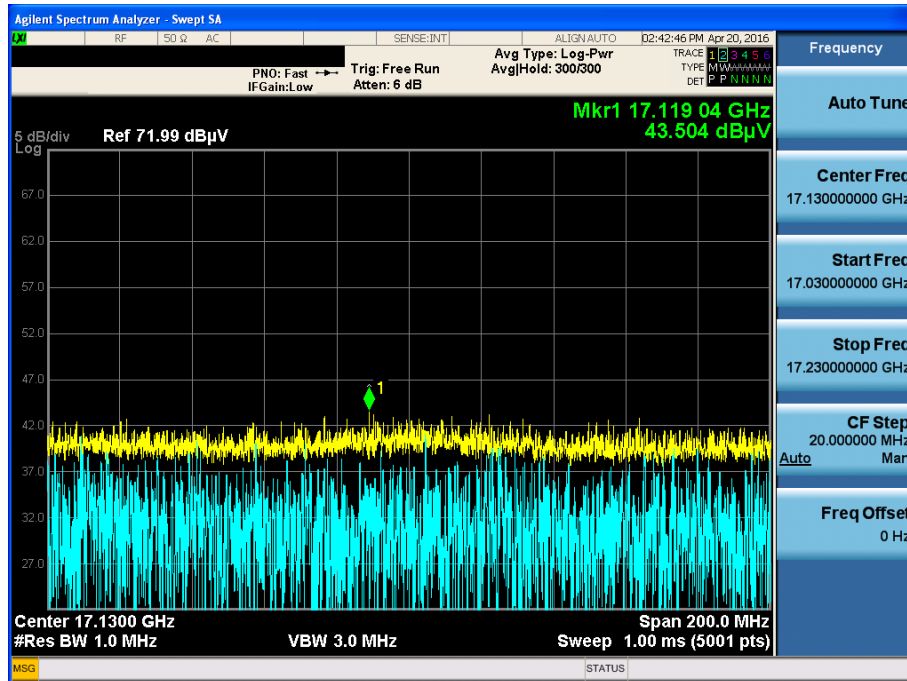
802.11n(HT20) & Cross & Ch.144 & Y axis & Ver

Detector Mode : PK



802.11n(HT40) & Cross & Ch.142 & Z axis & Hor

Detector Mode : PK



802.11ac(VHT80) & Cross & Ch.138 & Z axis & Hor

Detector Mode : PK

