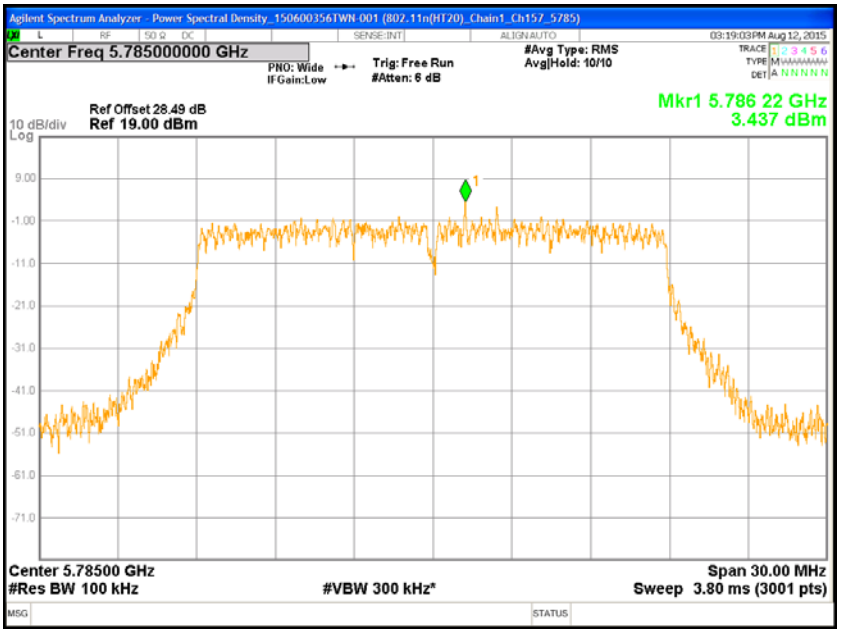
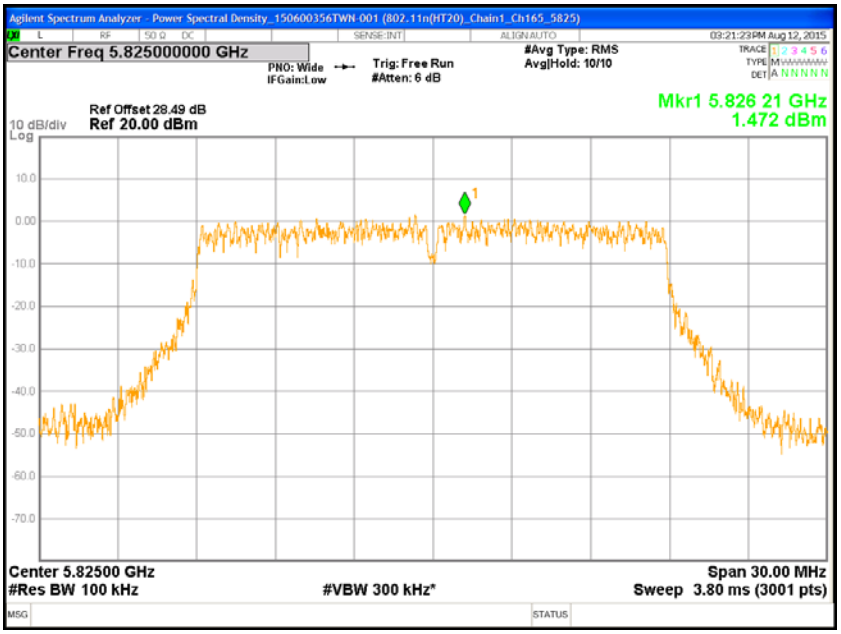
Chain1 : Power Spectral Density @ 802.11an(HT20) Mode Ch157



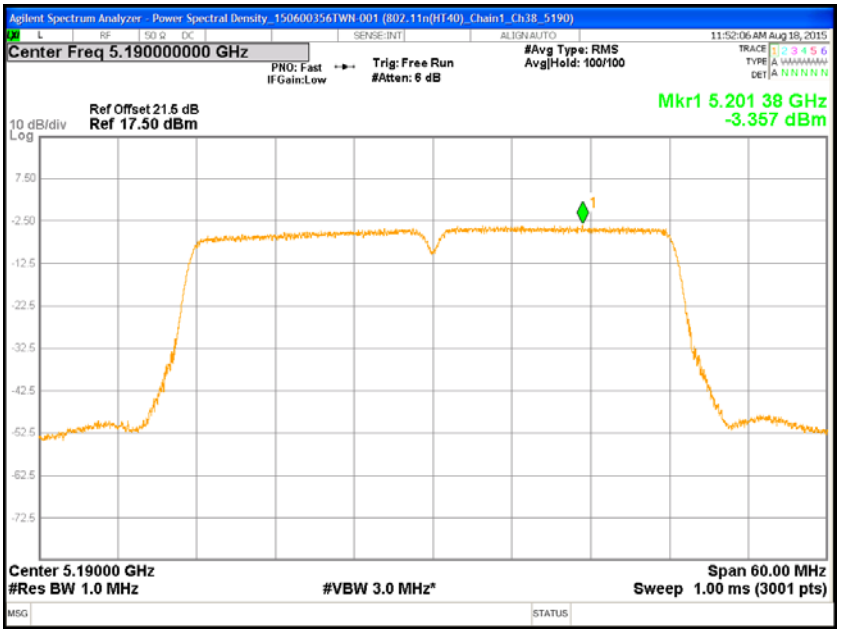
Chain1 : Power Spectral Density @ 802.11an(HT20) Mode Ch165



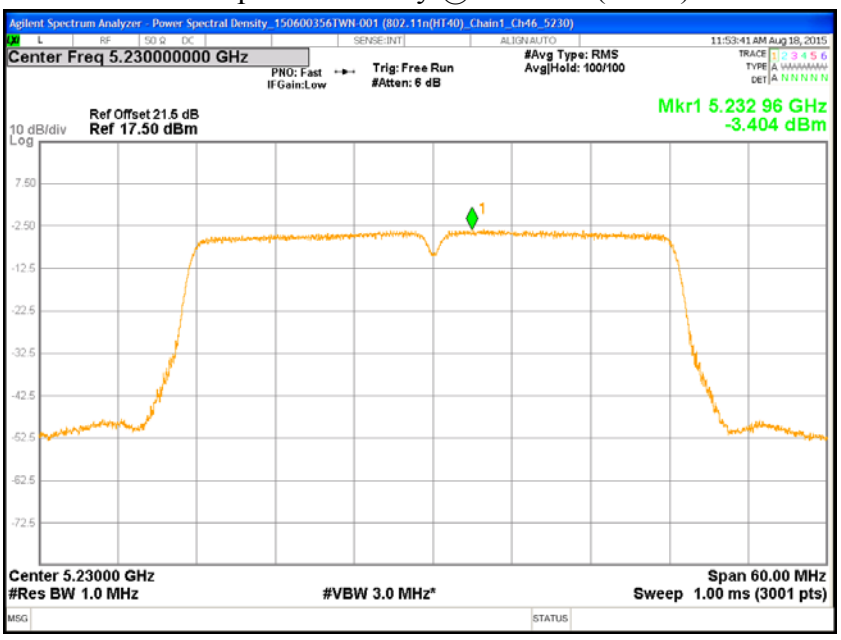
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

Ref Offset 28.49 dB= Cable loss + Attenuation+10log(500/100)

Chain1 : Power Spectral Density @ 802.11an(HT40) Mode Ch38



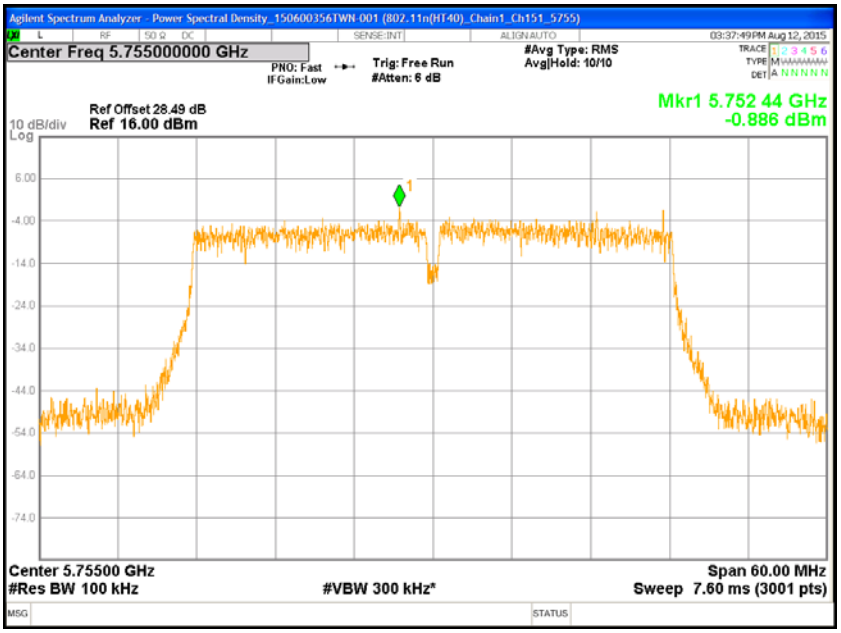
Chain1 : Power Spectral Density @ 802.11an(HT40) Mode Ch46



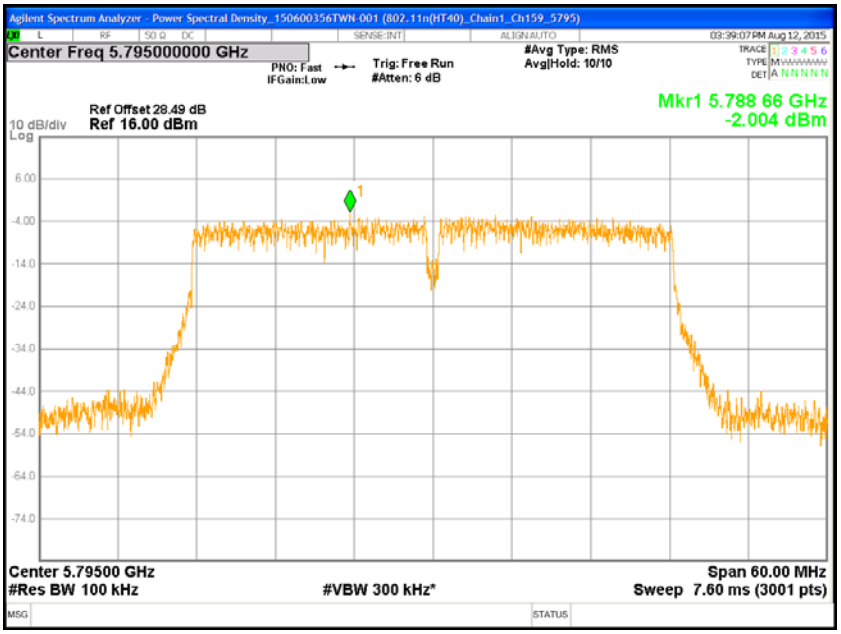
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

Ref Offset 28.49 dB= Cable loss + Attenuation+10log(500/100)

Chain1 : Power Spectral Density @ 802.11an(HT40) Mode Ch151



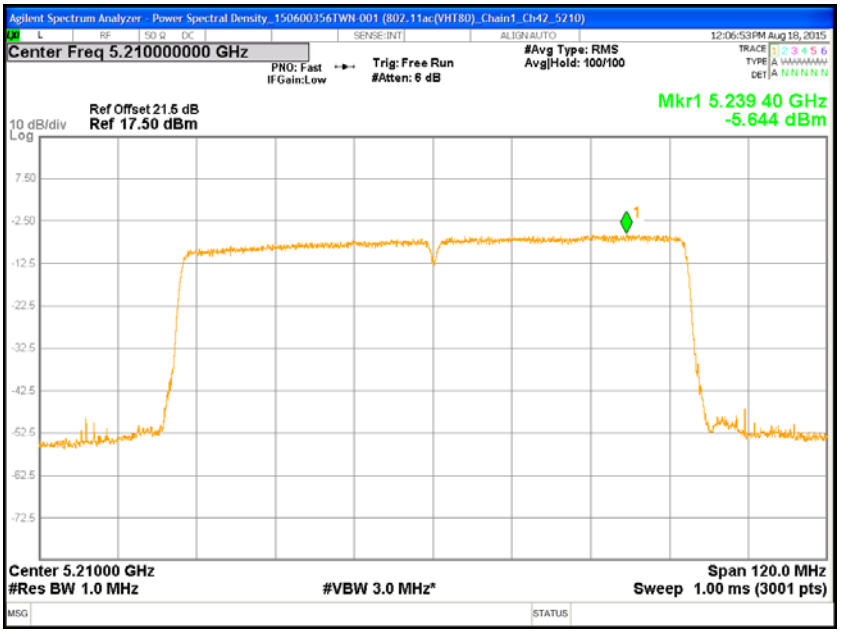
Chain1 : Power Spectral Density @ 802.11an(HT40) Mode Ch159



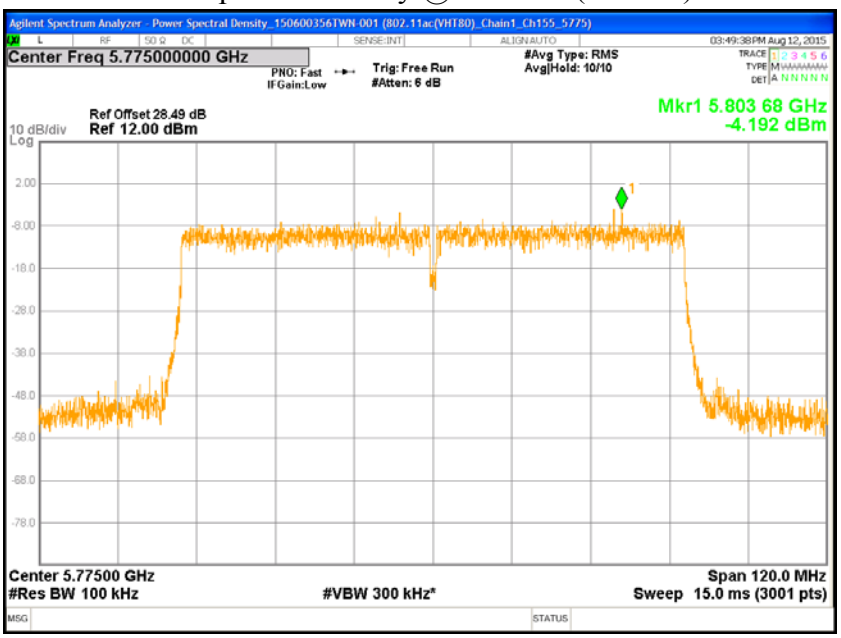
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

Ref Offset 28.49 dB= Cable loss + Attenuation+10log(500/100)

Chain1 : Power Spectral Density @ 802.11ac(VHT80) Mode Ch42



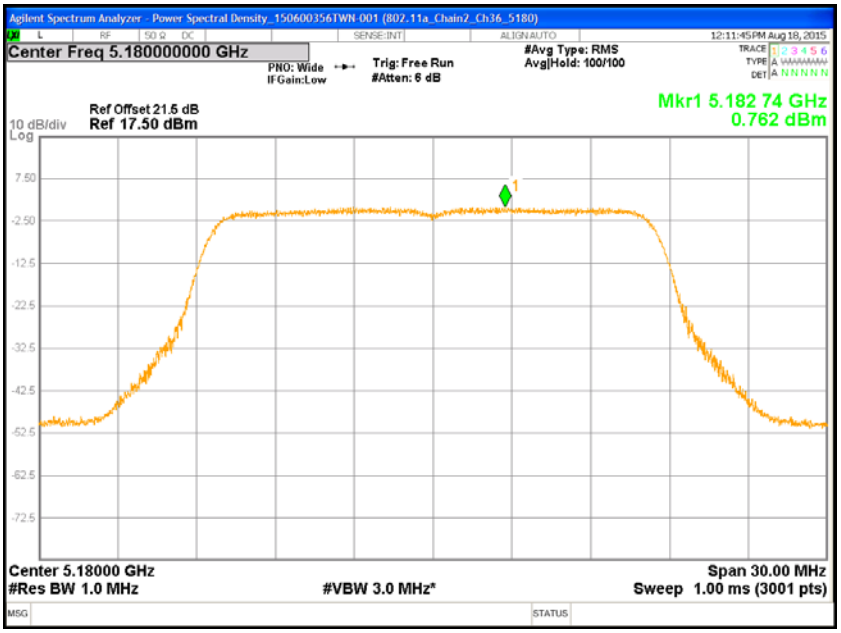
Chain1 : Power Spectral Density @ 802.11ac(VHT80) Mode Ch155



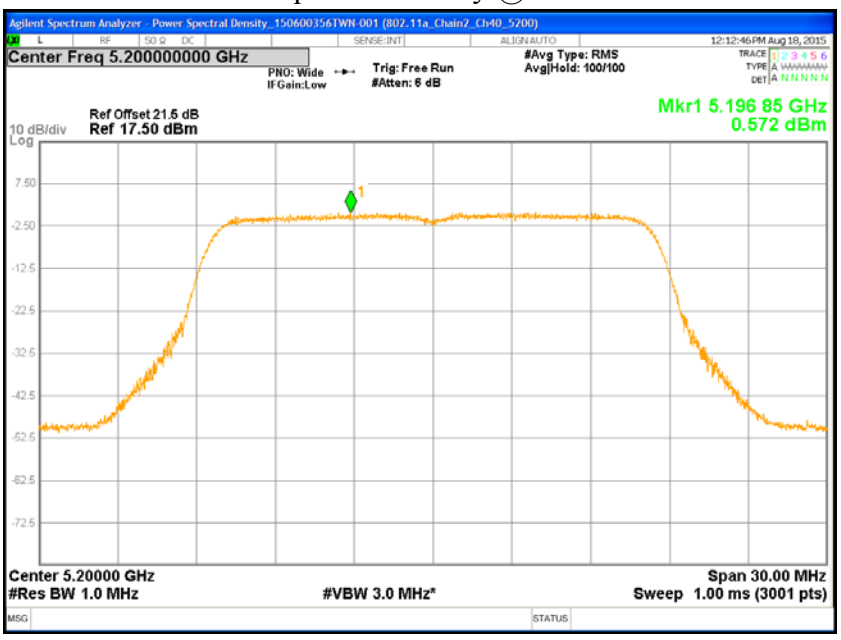
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

Ref Offset 28.49 dB= Cable loss + Attenuation +10log(500/100)

Chain2 : Power Spectral Density @ 802.11a Mode Ch36



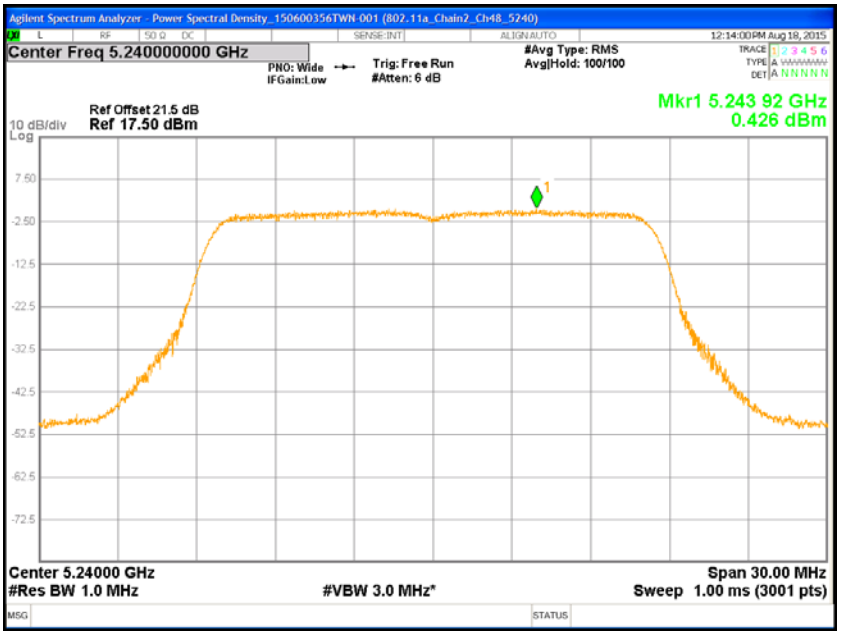
Chain2 : Power Spectral Density @ 802.11a Mode Ch40



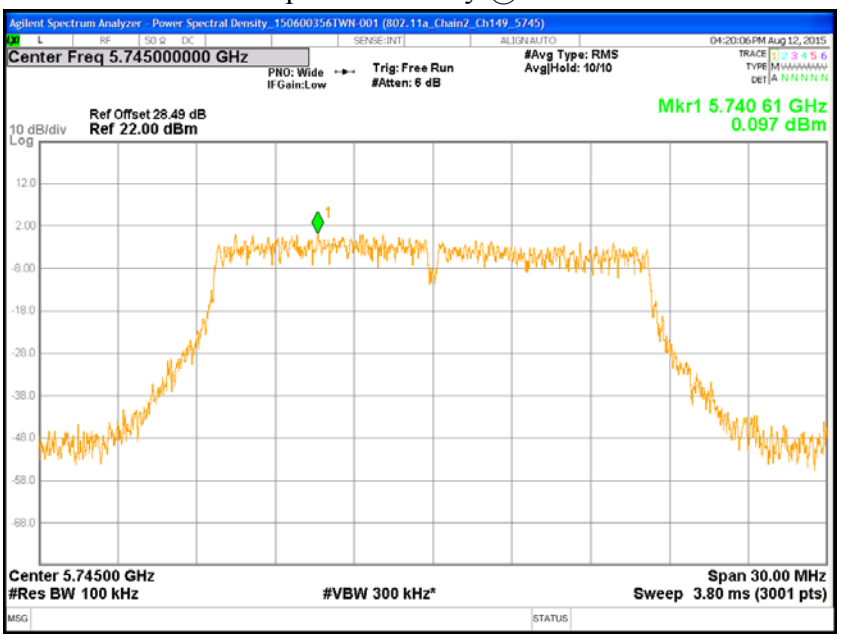
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

Ref Offset 28.49 dB= Cable loss + Attenuation +10log(500/100)

Chain2 : Power Spectral Density @ 802.11a Mode Ch48



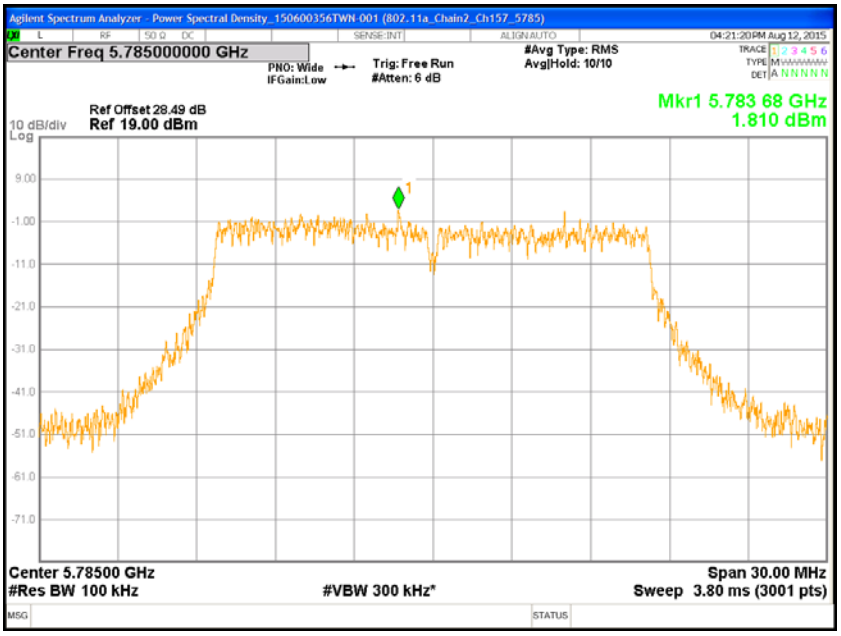
Chain2 : Power Spectral Density @ 802.11a Mode Ch149



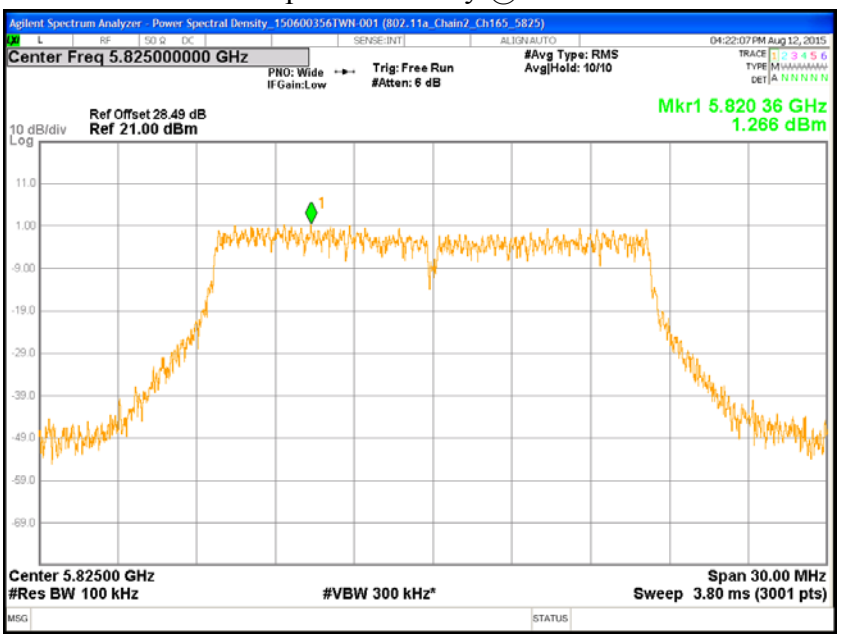
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

Ref Offset 28.49 dB= Cable loss + Attenuation +10log(500/100)

Chain2 : Power Spectral Density @ 802.11a Mode Ch157



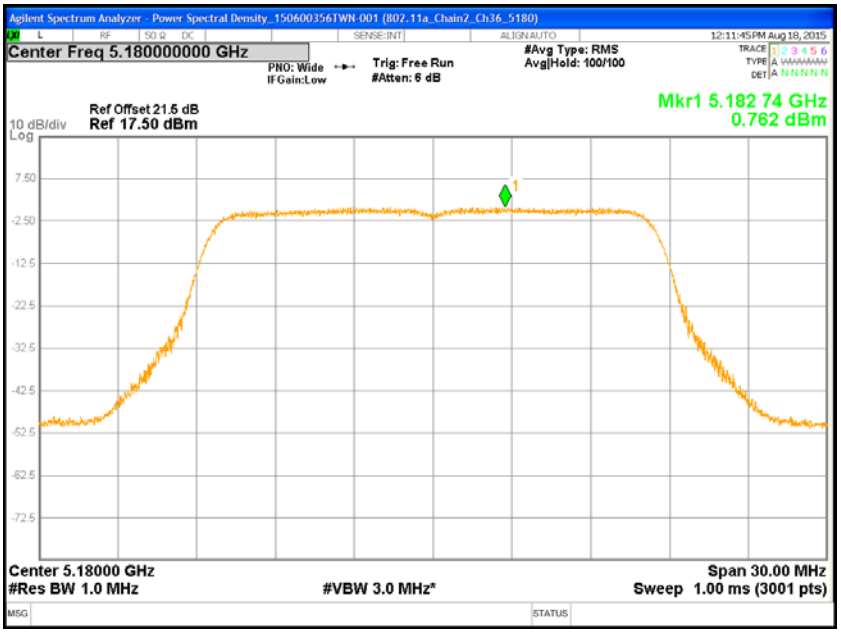
Chain2 : Power Spectral Density @ 802.11a Mode Ch165



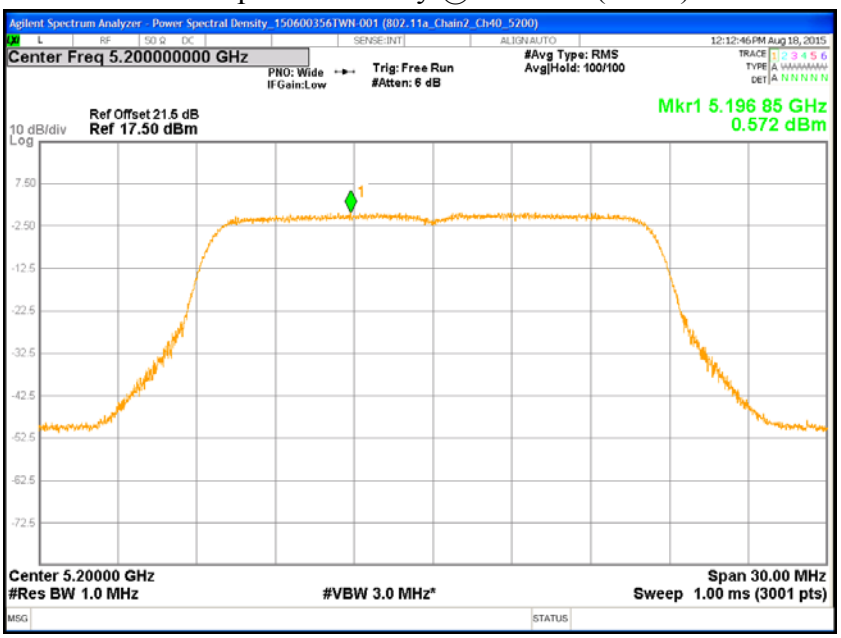
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

Ref Offset 28.49 dB= Cable loss + Attenuation +10log(500/100)

Chain2 : Power Spectral Density @ 802.11an(HT20) Mode Ch36



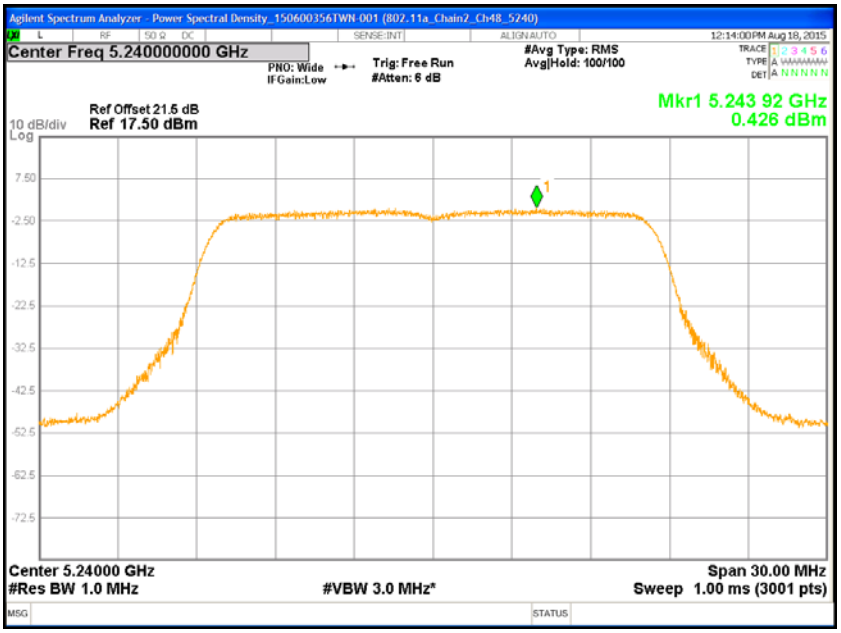
Chain2 : Power Spectral Density @ 802.11an(HT20) Mode Ch40



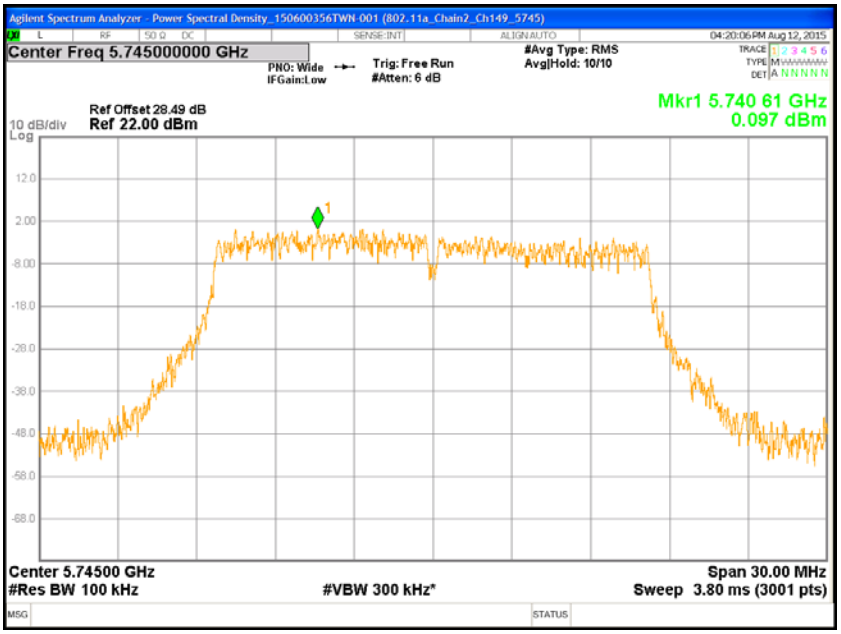
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

Ref Offset 28.49 dB= Cable loss + Attenuation +10log(500/100)

Chain2 : Power Spectral Density @ 802.11an(HT20) Mode Ch48



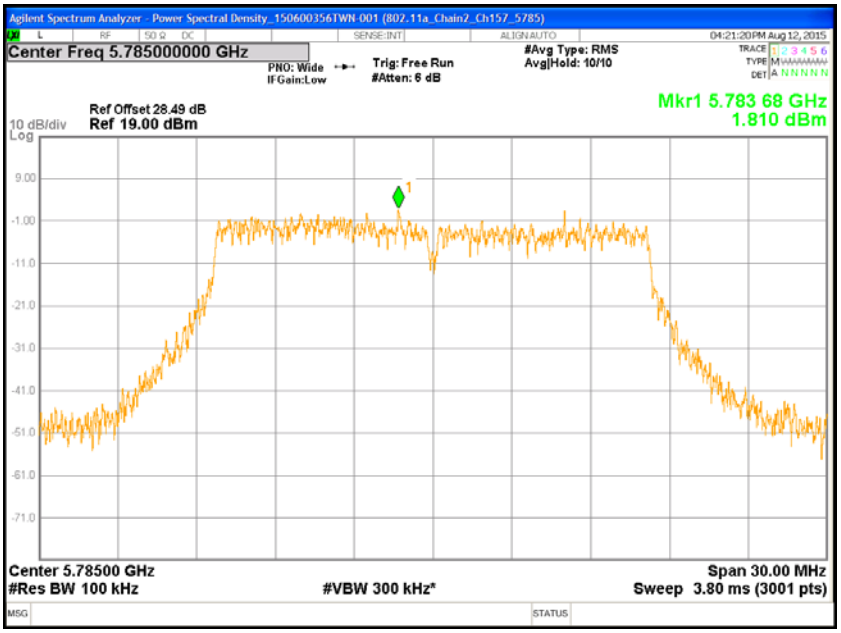
Chain2 : Power Spectral Density @ 802.11an(HT20) Mode Ch149



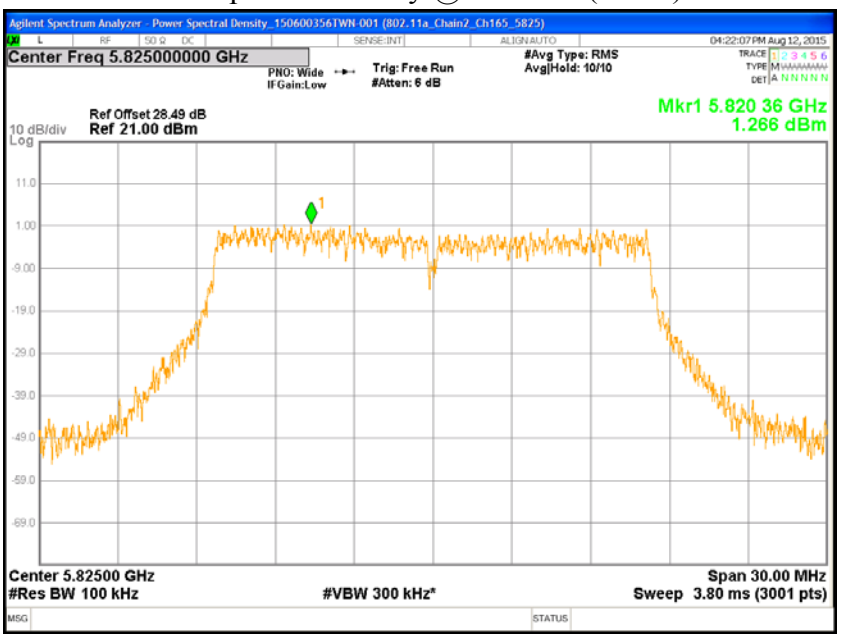
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

Ref Offset 28.49 dB= Cable loss + Attenuation +10log(500/100)

Chain2 : Power Spectral Density @ 802.11an(HT20) Mode Ch157



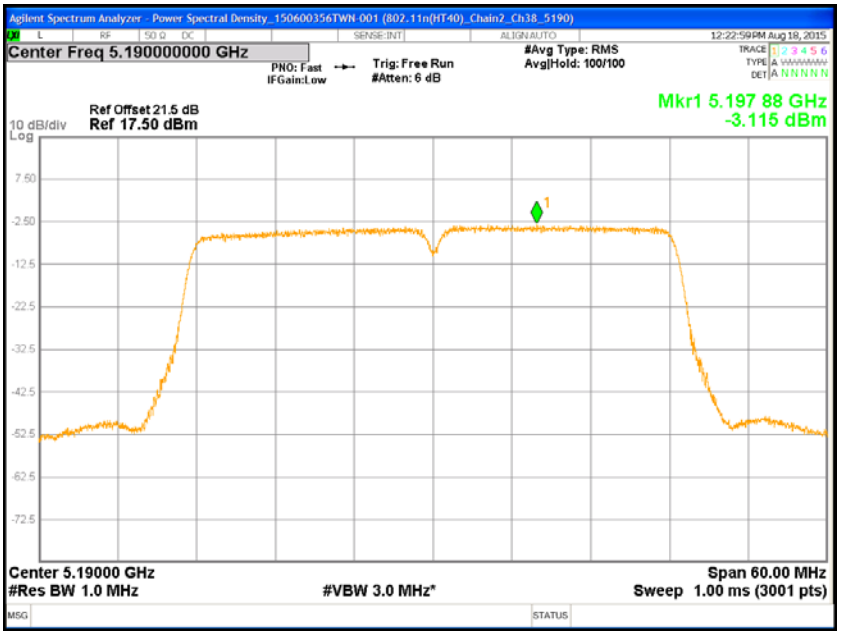
Chain2 : Power Spectral Density @ 802.11an(HT20) Mode Ch165



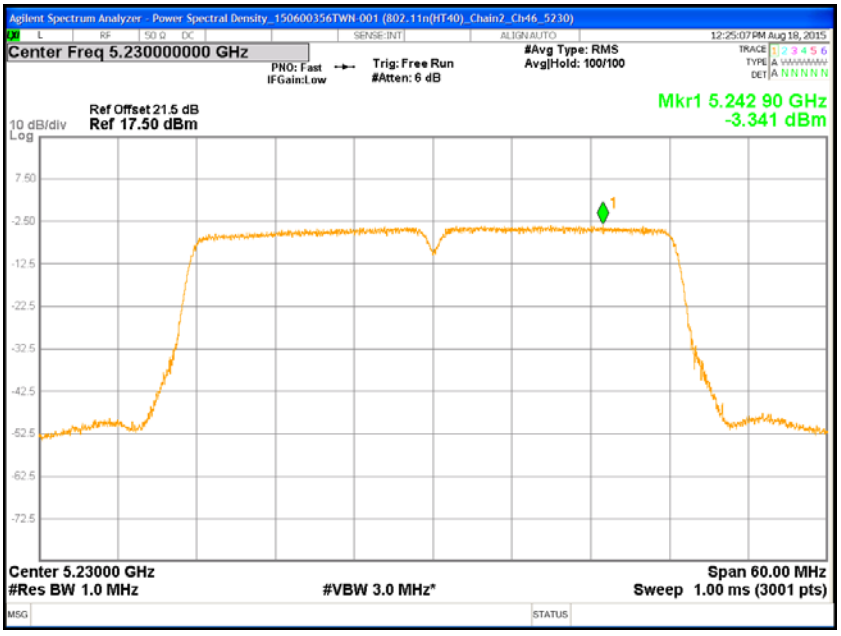
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

Ref Offset 28.49 dB= Cable loss + Attenuation +10log(500/100)

Chain2 : Power Spectral Density @ 802.11an(HT40) Mode Ch38



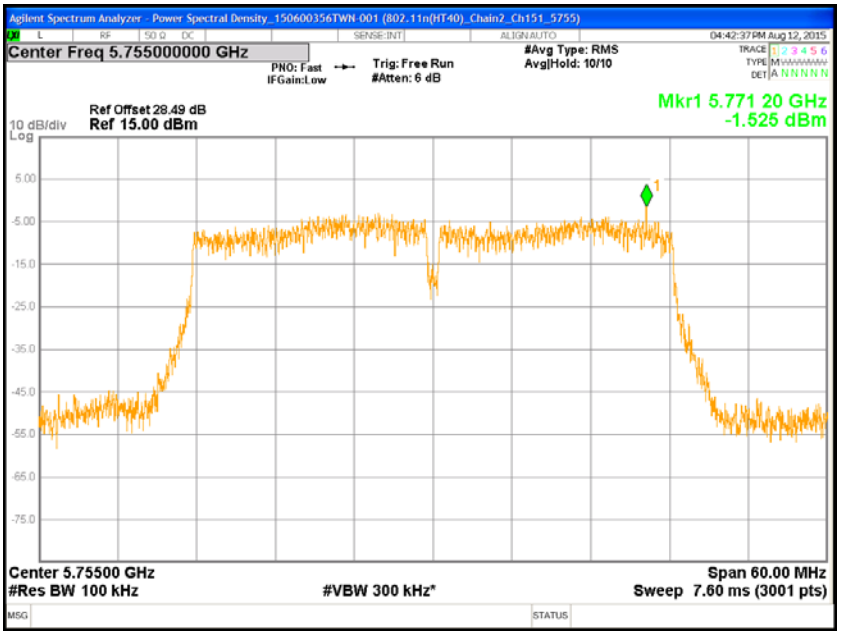
Chain2 : Power Spectral Density @ 802.11an(HT40) Mode Ch46



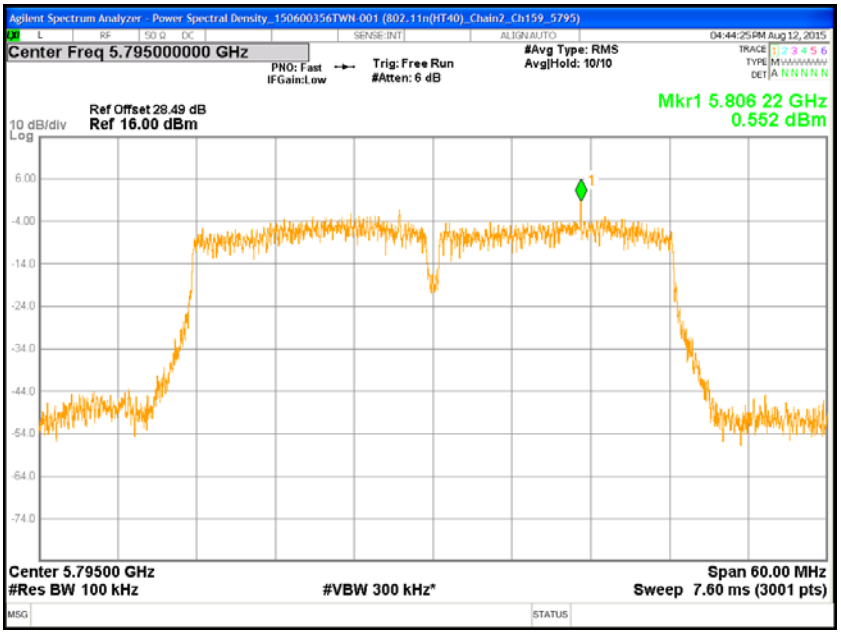
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

Ref Offset 28.49 dB= Cable loss + Attenuation +10log(500/100)

Chain2 : Power Spectral Density @ 802.11an(HT40) Mode Ch151



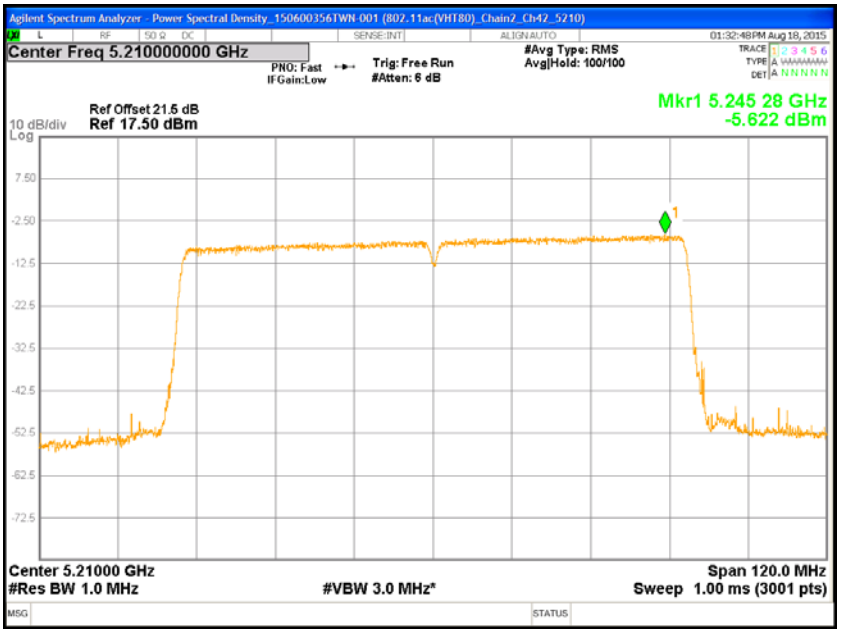
Chain2 : Power Spectral Density @ 802.11an(HT40) Mode Ch159



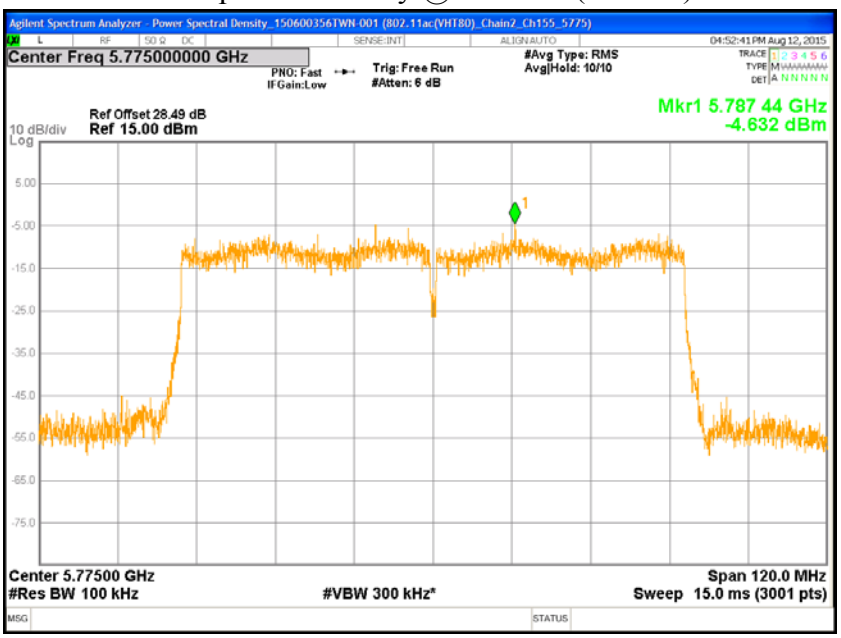
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

Ref Offset 28.49 dB= Cable loss + Attenuation +10log(500/100)

Chain2 : Power Spectral Density @ 802.11ac(VHT80) Mode Ch42



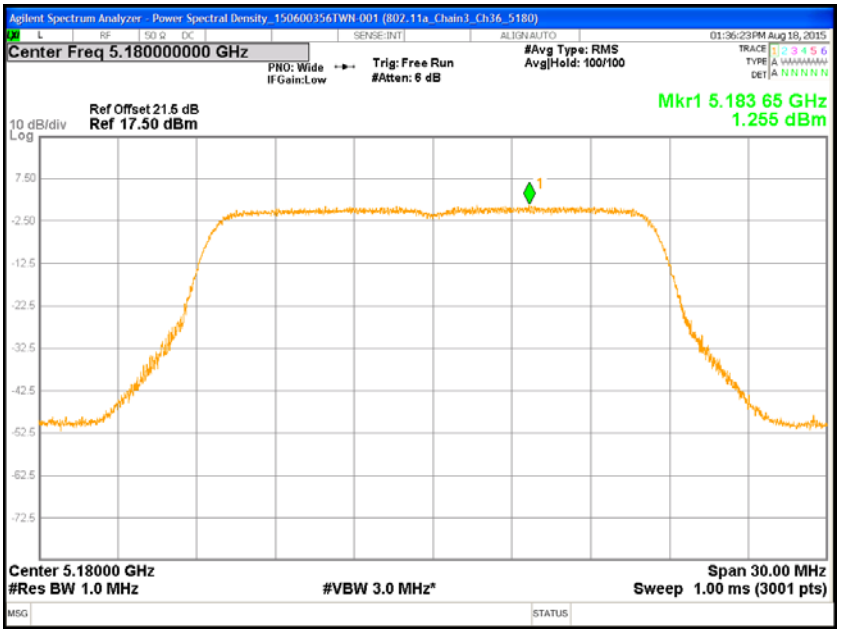
Chain2 : Power Spectral Density @ 802.11ac(VHT80) Mode Ch155



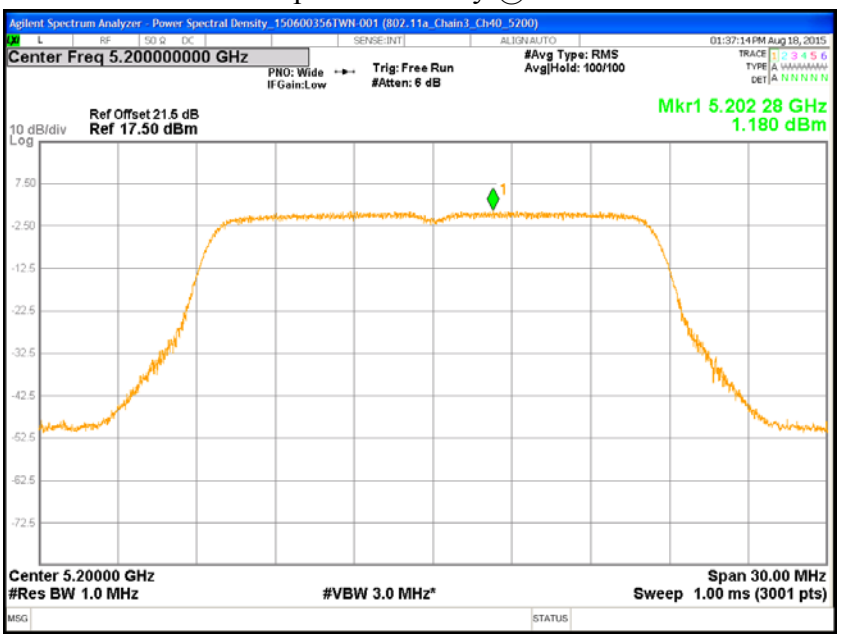
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

Ref Offset 28.49 dB= Cable loss + Attenuation +10log(500/100)

Chain3 : Power Spectral Density @ 802.11a Mode Ch36



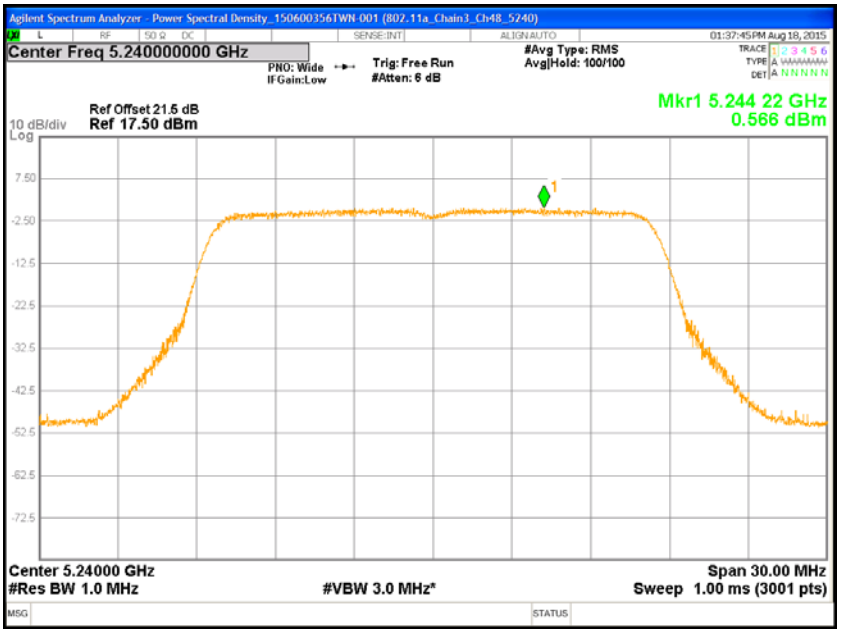
Chain3 : Power Spectral Density @ 802.11a Mode Ch40



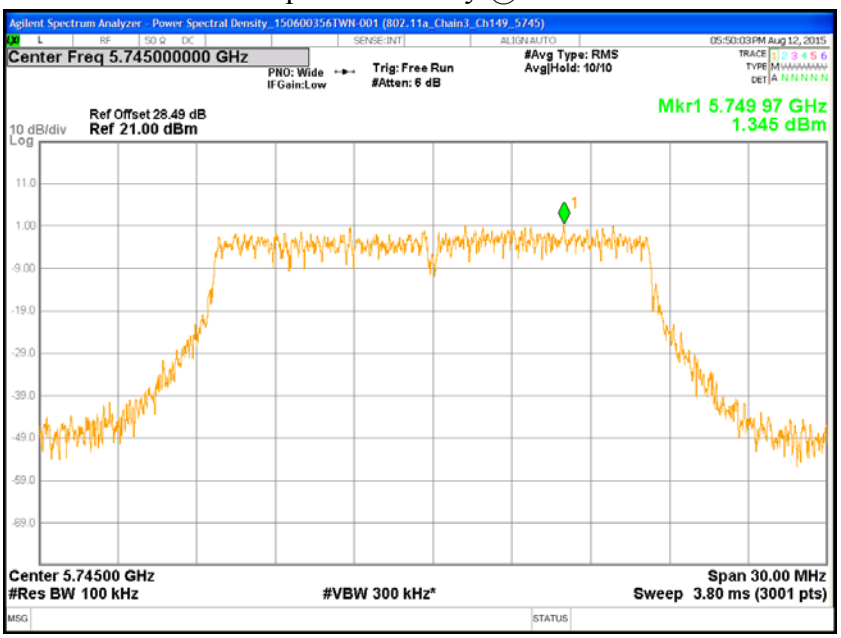
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

Ref Offset 28.49 dB= Cable loss + Attenuation +10log(500/100)

Chain3 : Power Spectral Density @ 802.11a Mode Ch48



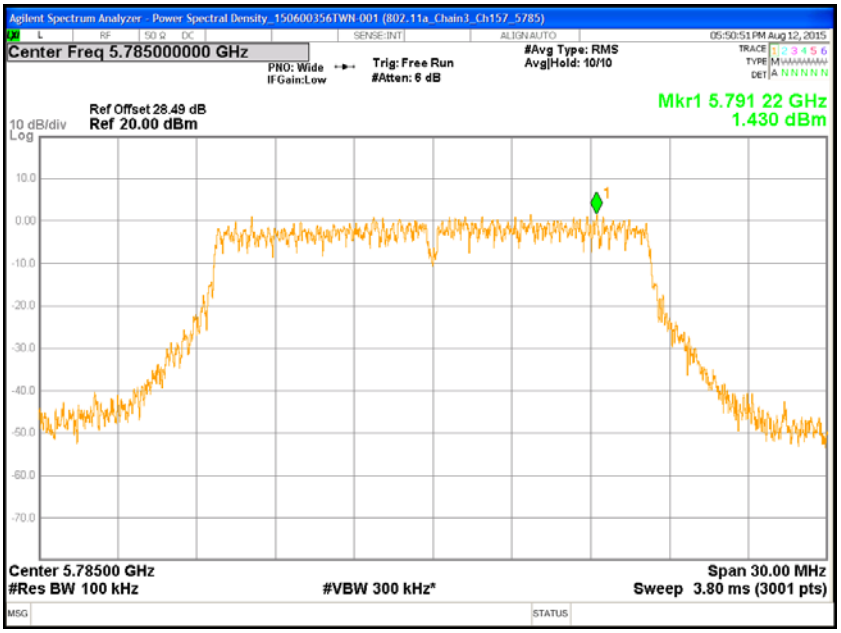
Chain3 : Power Spectral Density @ 802.11a Mode Ch149



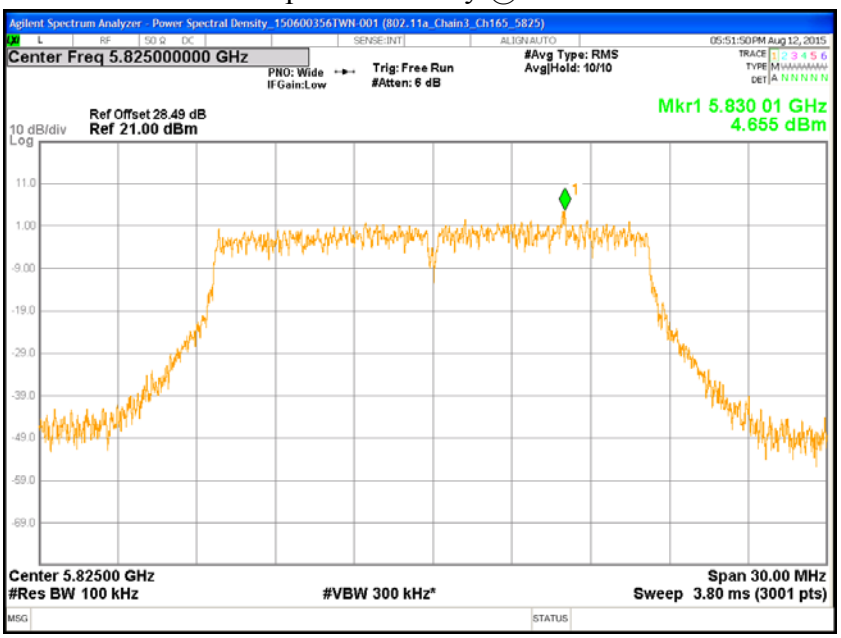
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

Ref Offset 28.49 dB= Cable loss + Attenuation +10log(500/100)

Chain3 : Power Spectral Density @ 802.11a Mode Ch157



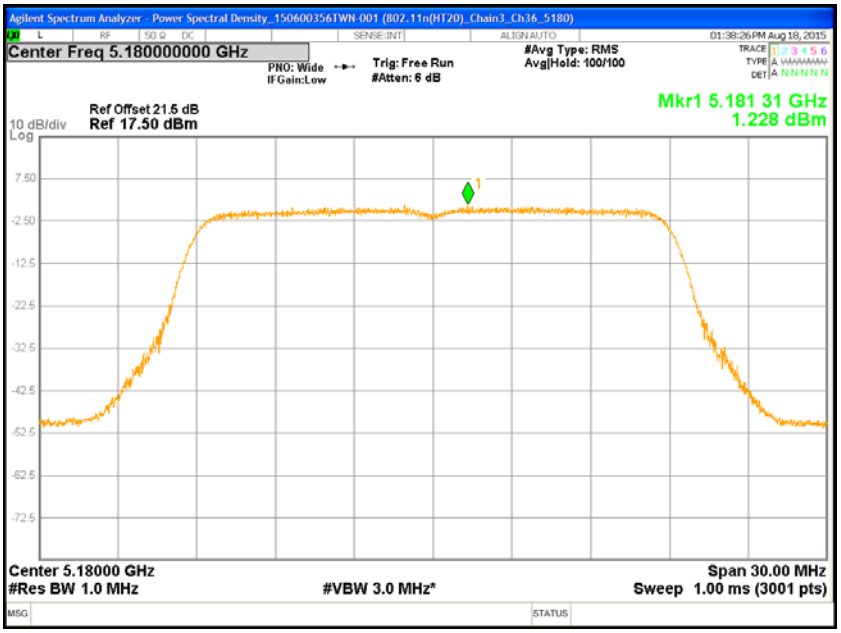
Chain3 : Power Spectral Density @ 802.11a Mode Ch165



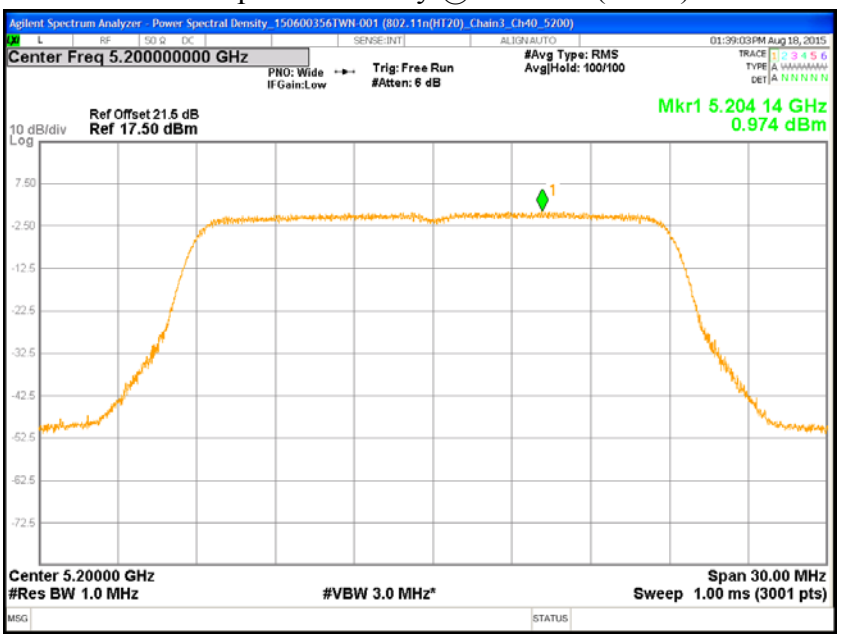
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

Ref Offset 28.49 dB= Cable loss + Attenuation +10log(500/100)

Chain3 : Power Spectral Density @ 802.11an(HT20) Mode Ch36



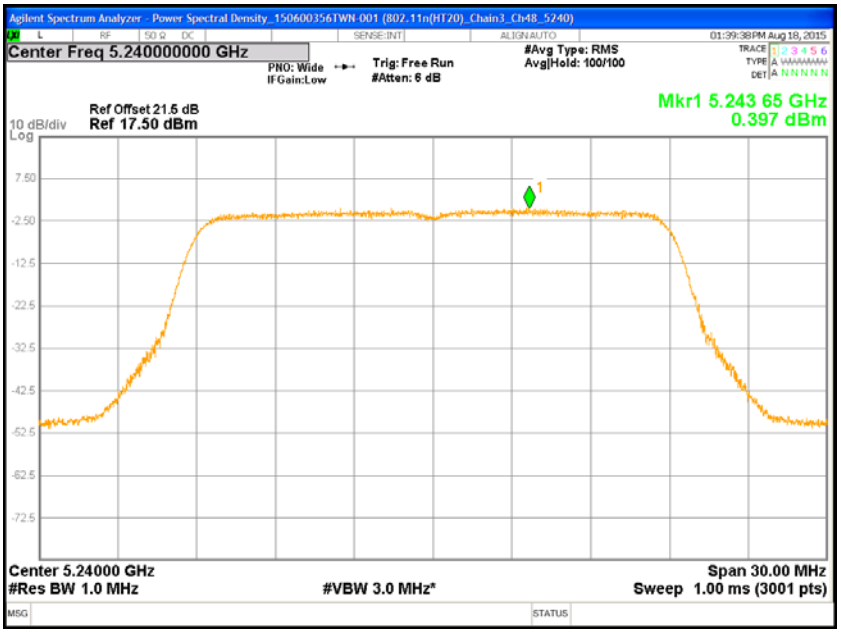
Chain3 : Power Spectral Density @ 802.11an(HT20) Mode Ch40



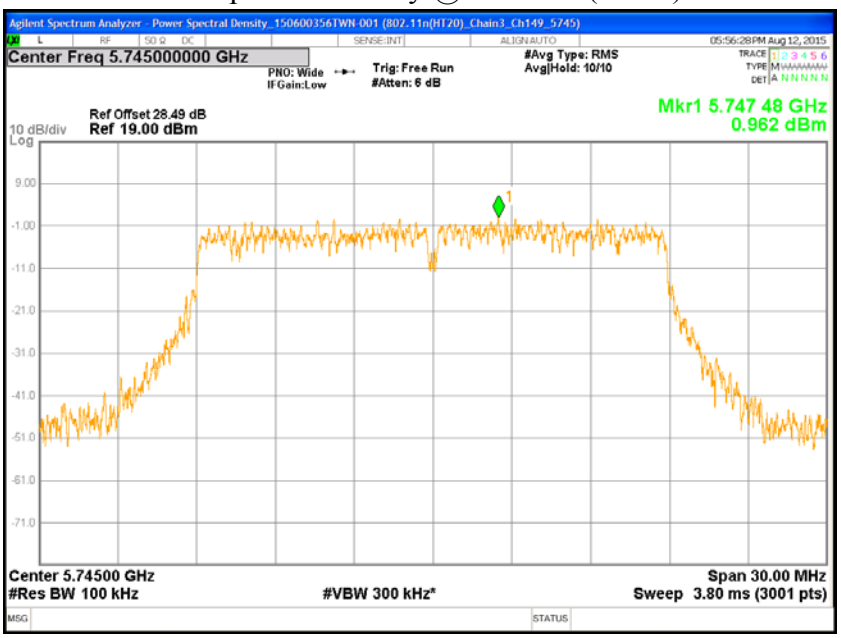
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

Ref Offset 28.49 dB= Cable loss + Attenuation +10log(500/100)

Chain3 : Power Spectral Density @ 802.11an(HT20) Mode Ch48



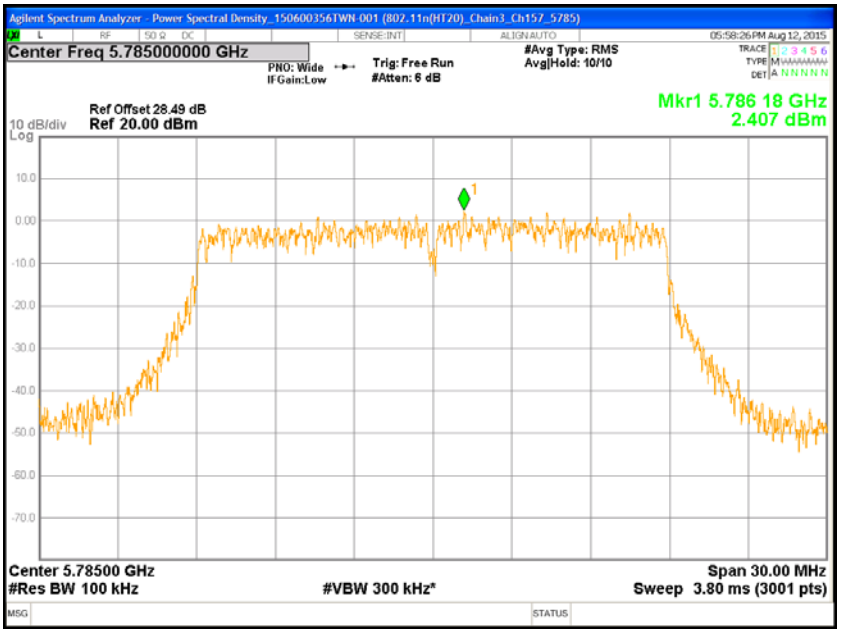
Chain3 : Power Spectral Density @ 802.11an(HT20) Mode Ch149



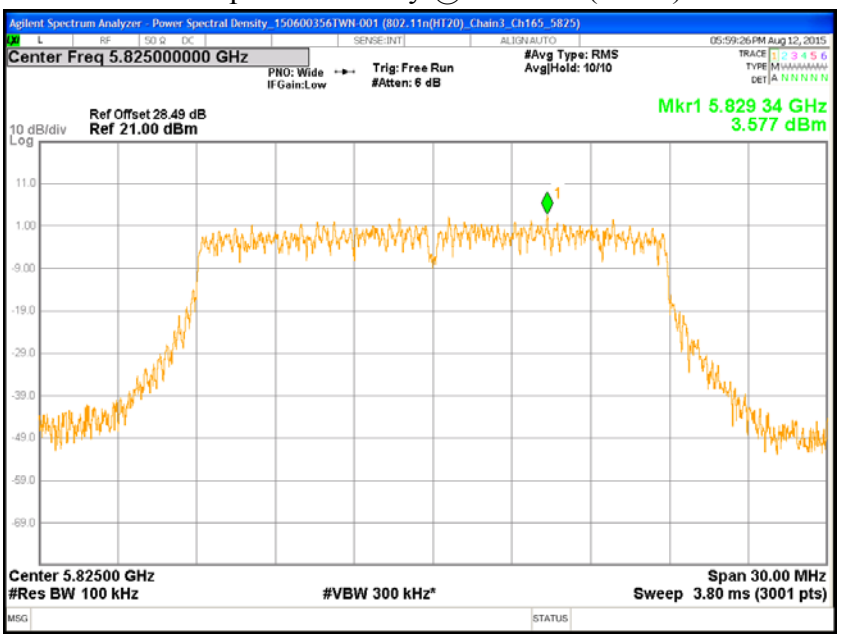
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

Ref Offset 28.49 dB= Cable loss + Attenuation +10log(500/100)

Chain3 : Power Spectral Density @ 802.11an(HT20) Mode Ch157



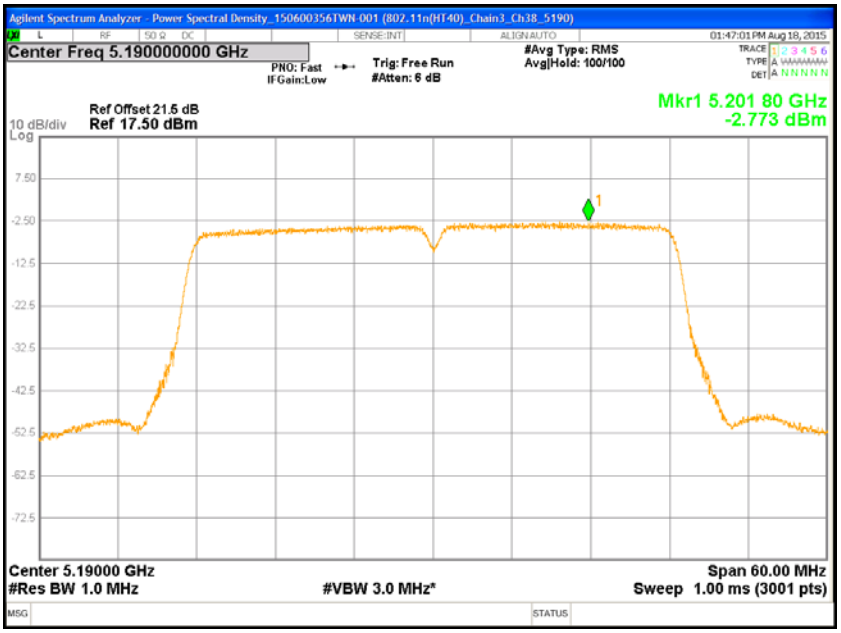
Chain3 : Power Spectral Density @ 802.11an(HT20) Mode Ch165



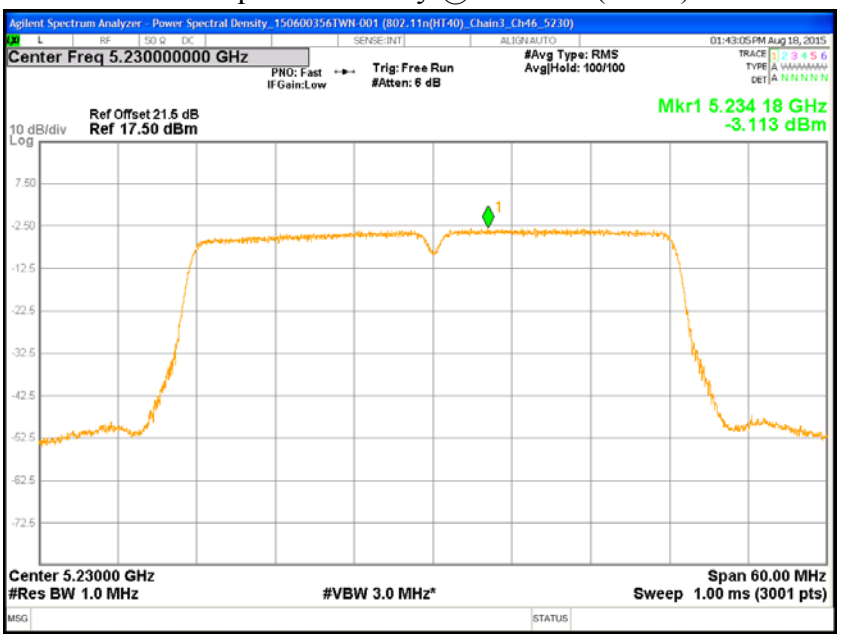
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

Ref Offset 28.49 dB= Cable loss + Attenuation +10log(500/100)

Chain3 : Power Spectral Density @ 802.11an(HT40) Mode Ch38



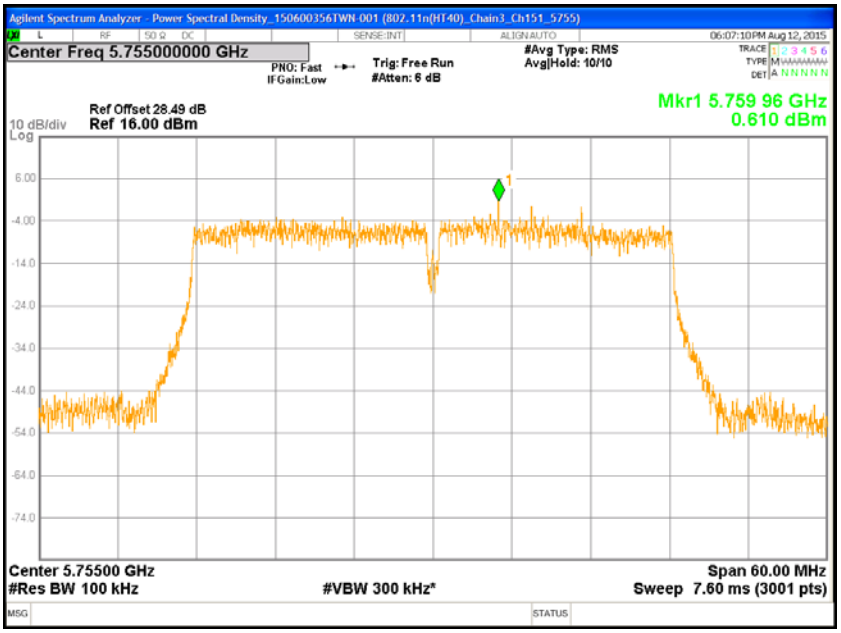
Chain3 : Power Spectral Density @ 802.11an(HT40) Mode Ch46



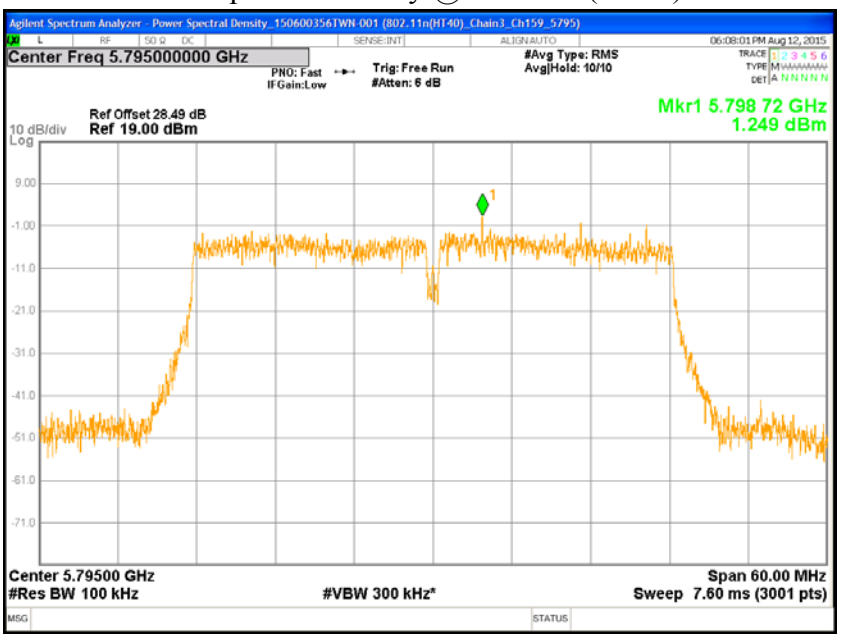
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

Ref Offset 28.49 dB= Cable loss + Attenuation +10log(500/100)

Chain3 : Power Spectral Density @ 802.11an(HT40) Mode Ch151



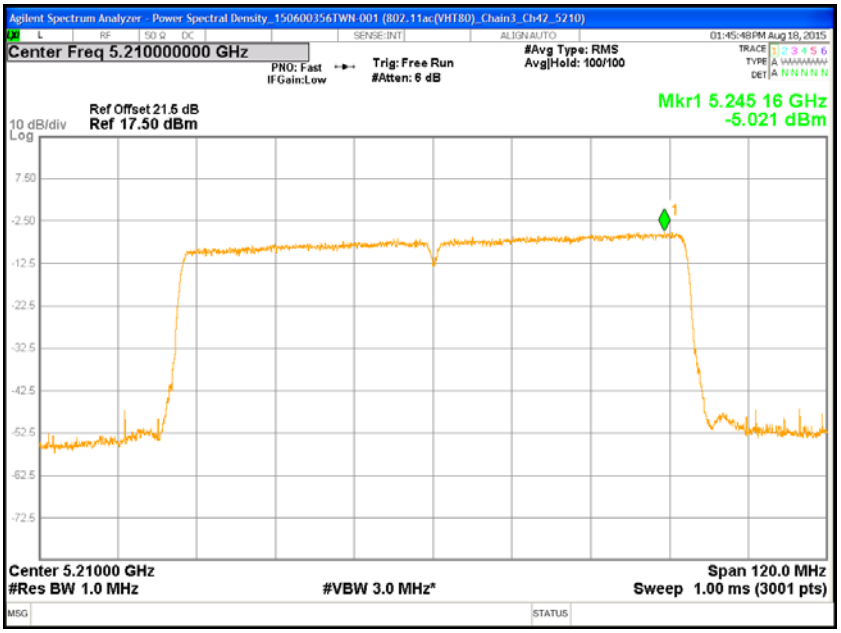
Chain3 : Power Spectral Density @ 802.11an(HT40) Mode Ch159



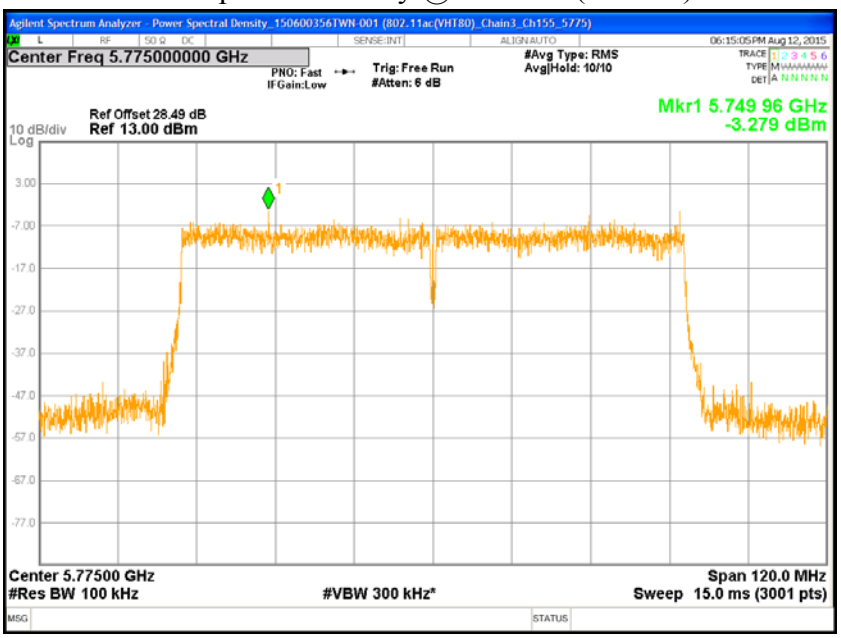
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

Ref Offset 28.49 dB= Cable loss + Attenuation +10log(500/100)

Chain3 : Power Spectral Density @ 802.11ac(VHT80) Mode Ch42



Chain3 : Power Spectral Density @ 802.11ac(VHT80) Mode Ch155



Note: Ref Offset 21.5 dB= Cable loss + Attenuation

Ref Offset 28.49 dB= Cable loss + Attenuation +10log(500/100)

5. Minimum Bandwidth

5.1 Operating environment

Temperature:	25	℃
Relative Humidity:	50	%
Atmospheric Pressure	1008	hPa
Requirement & Test method	15.407(a)(5) 15.407(e) KDB 789033 D02 v01	

5.2 Limit for minimum emission bandwidth.

Within the 5.15-5.25 GHz, the 26 dB bandwidth is for reporting purpose and the 26 dB bandwidth of the emission shall not fall in the 5.25 – 5.35GHz.

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

5.3 Measuring instrument setting

For 5.15-5.25 GHz

Spectrum analyzer settings	
Spectrum Analyzer function	**Setting**
Detector	Peak
RBW	Approximately 1% of the EBW
VBW	> RBW
Trace mode	Max hold

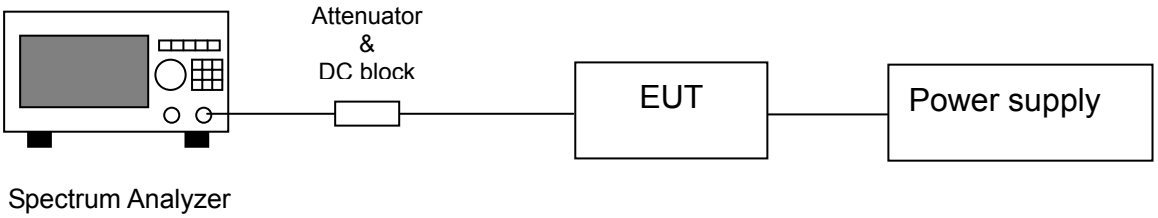
For 5.725-5.85 GHz

Spectrum analyzer settings	
Spectrum Analyzer function	**Setting**
Detector	Peak
RBW	100kHz
VBW	≧3 x RBW
Sweep	Auto couple
Trace mode	Max hold

5.4 Test procedure

1. The transmitter output was connected to the spectrum analyzer.
2. Test was performed in accordance with section C of KDB 789033 D02 v01.
3. For the 5.725-5.85 GHz, 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.
4. For the 5.15-5.25 GHz and 5.725-5.85 GHz, measure the maximum width of the emission that is 26 dB down from the maximum of the emission.

5.5 Test diagram

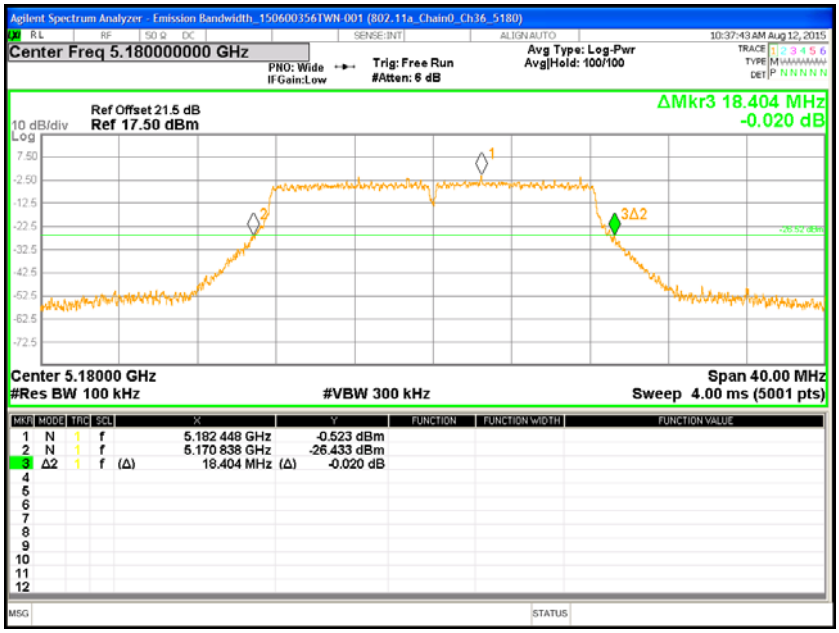


5.6 Test results

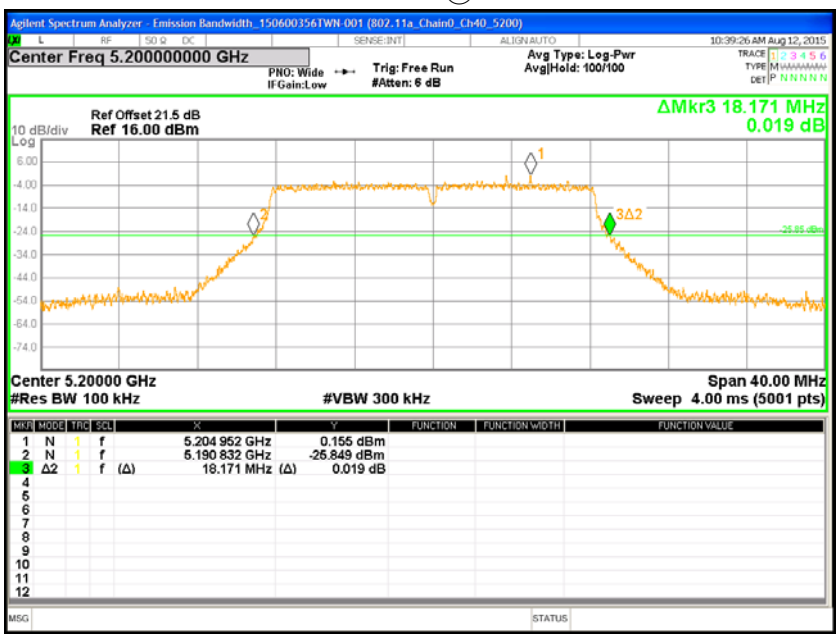
Mode	Channel	Frequency (MHz)	6dB Bandwidth (MHz)	6 dB Limit (MHz)	26dB Bandwidth (MHz)	Upper Frequency (MHz)	Upper limit	Pass/Fail
802.11a Chain0	36	5180		N/A	18.404			Pass
	40	5200			18.171			Pass
	48	5240			18.162	5249.028	5250	Pass
	149	5745	16.343	0.5	19.29			Pass
	157	5785	16.369	0.5	18.9			Pass
	165	5825	16.324	0.5	19.2			Pass
802.11a Chain1	36	5180		N/A	18.311			Pass
	40	5200			18.389			Pass
	48	5240			18.01	5249.007	5250	Pass
	149	5745	16.326	0.5	19.08			Pass
	157	5785	16.33	0.5	19.01			Pass
	165	5825	16.317	0.5	19.39			Pass
802.11a Chain2	36	5180		N/A	18.195			Pass
	40	5200			18.183			Pass
	48	5240			18.225	5249.04	5250	Pass
	149	5745	16.037	0.5	18.83			Pass
	157	5785	16.367	0.5	18.85			Pass
	165	5825	16.409	0.5	19.07			Pass
802.11a Chain3	36	5180		N/A	18.02			Pass
	40	5200			18.133			Pass
	48	5240			17.995	5249.009	5250	Pass
	149	5745	16.319	0.5	18.26			Pass
	157	5785	16.377	0.5	18.92			Pass
	165	5825	16.368	0.5	18.43			Pass
802.11n (HT 20) Chain0	36	5180		N/A	19.298			Pass
	40	5200			19.32			Pass
	48	5240			19.254	5249.601	5250	Pass
	149	5745	17.611	0.5	19.85			Pass
	157	5785	17.616	0.5	20.08			Pass
	165	5825	17.579	0.5	19.87			Pass
802.11n (HT 20) Chain1	36	5180		N/A	19.323			Pass
	40	5200			19.24			Pass
	48	5240			18.983	5249.407	5250	Pass
	149	5745	17.566	0.5	20.25			Pass
	157	5785	17.588	0.5	19.97			Pass
	165	5825	17.166	0.5	20.4			Pass
802.11n (HT 20) Chain2	36	5180		N/A	19.335			Pass
	40	5200			19.312			Pass
	48	5240			19.263	5249.643	5250	Pass
	149	5745	17.316	0.5	20.03			Pass
	157	5785	17.674	0.5	20.15			Pass
	165	5825	17.619	0.5	20.06			Pass

Mode	Channel	Frequency (MHz)	6dB Bandwidth (MHz)	6 dB Limit (MHz)	26dB BW (MHz)	Upper Frequency (MHz)	Upper Limit (MHz)	Pass/Fail
802.11n (HT 20) Chain3	36	5180		N/A	19.308			Pass
	40	5200			19.282			Pass
	48	5240			19.279	5249.622	5250	Pass
	149	5745	17.537	0.5	19.5			Pass
	157	5785	17.613	0.5	19.32			Pass
	165	5825	17.625	0.5	19.78			Pass
802.11n (HT 40) Chain0	38	5190		N/A	38.062			Pass
	46	5230			38.047	5249.017	5250	Pass
	151	5755	36.311	0.5	39.82			Pass
	159	5795	35.401	0.5	39.66			Pass
802.11n (HT 40) Chain1	38	5190		N/A	37.86			Pass
	46	5230			37.994	5249.008	5250	Pass
	151	5755	35.687	0.5	39.75			Pass
	159	5795	35.672	0.5	39.91			Pass
802.11n (HT 40) Chain2	38	5190		N/A	37.838			Pass
	46	5230			37.614	5248.812	5250	Pass
	151	5755	35.071	0.5	39.15			Pass
	159	5795	32.571	0.5	39.32			Pass
802.11n (HT 40) Chain3	38	5190		N/A	37.991			Pass
	46	5230			37.813	5248.97	5250	Pass
	151	5755	36.325	0.5	39.31			Pass
	159	5795	35.325	0.5	39.37			Pass
802.11ac (VHT80) Chain0	42	5210		N/A	77.852	5249.019	5250	Pass
	155	5775	76.354	0.5	80.23			Pass
802.11ac (VHT80) Chain1	42	5210		N/A	77.867	5249.041	5250	Pass
	155	5775	76.324	0.5	82.74			Pass
802.11ac (VHT80) Chain2	42	5210		N/A	77.817	5248.985	5250	Pass
	155	5775	75.118	0.5	80.06			Pass
802.11ac (VHT80) Chain3	42	5210		N/A	77.84	5248.999	5250	Pass
	155	5775	76.347	0.5	81.32			Pass

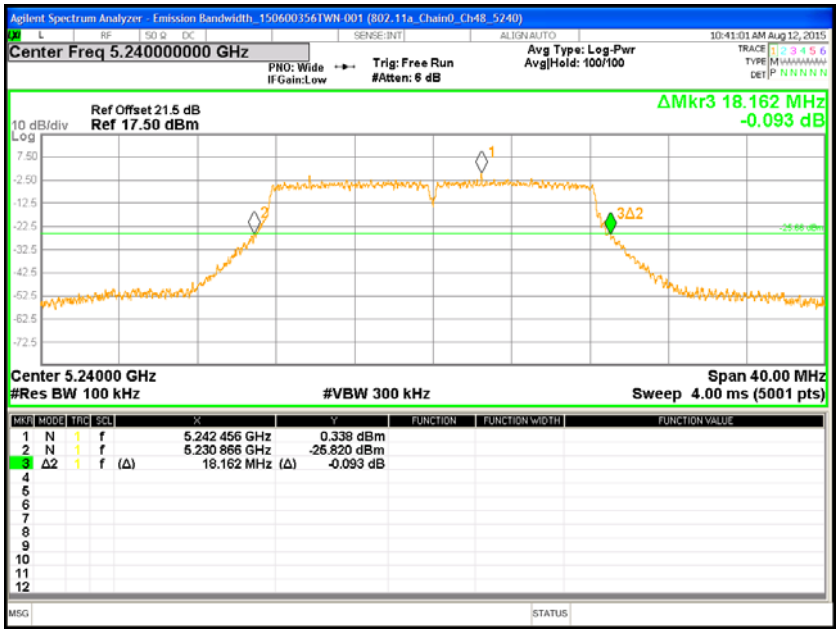
Chain0 : 26dB Bandwidth @ 802.11a mode Ch36



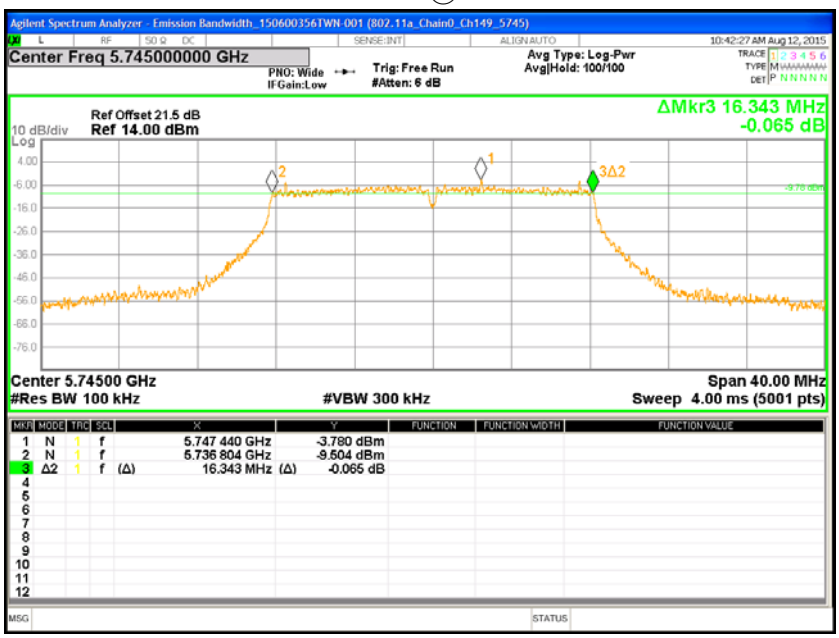
Chain0 : 26dB Bandwidth @ 802.11a mode Ch40



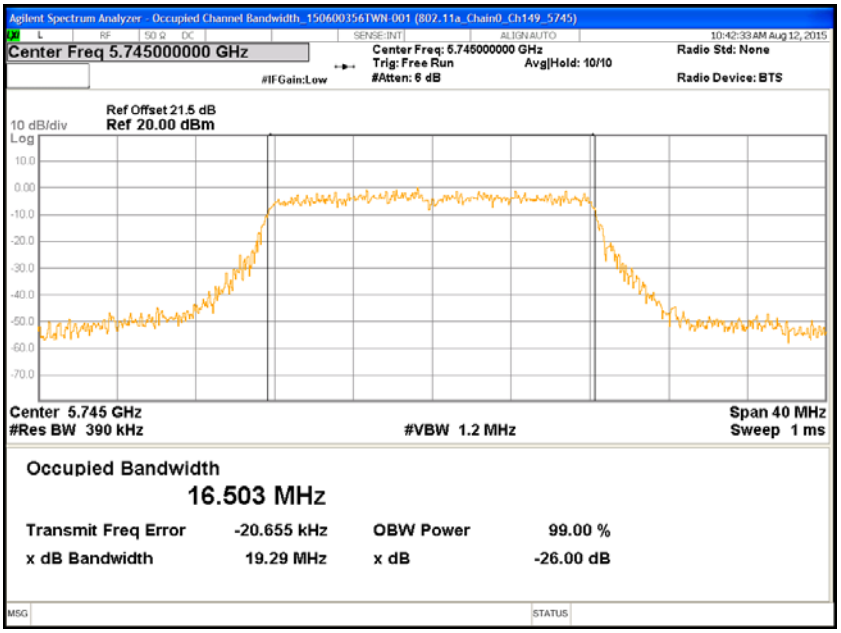
Chain0 : 26dB Bandwidth @ 802.11a mode Ch48



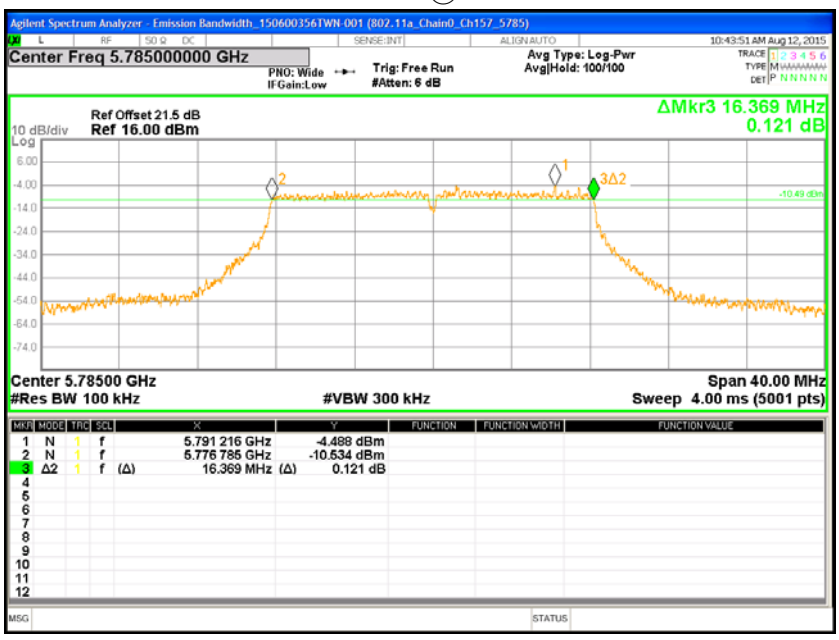
Chain0 : 6dB Bandwidth @ 802.11a mode Ch149



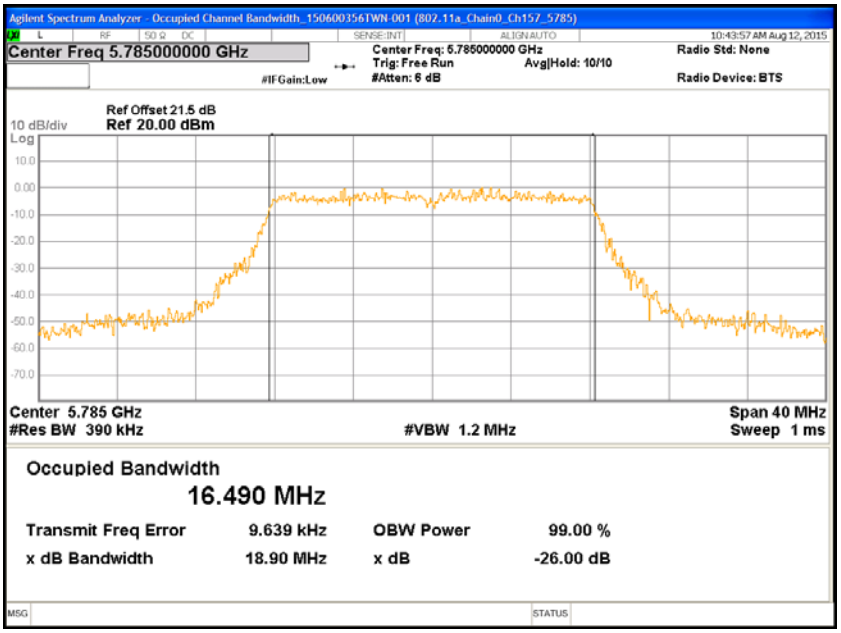
Chain0 : 26 dB Bandwidth @ 802.11a Mode Ch149



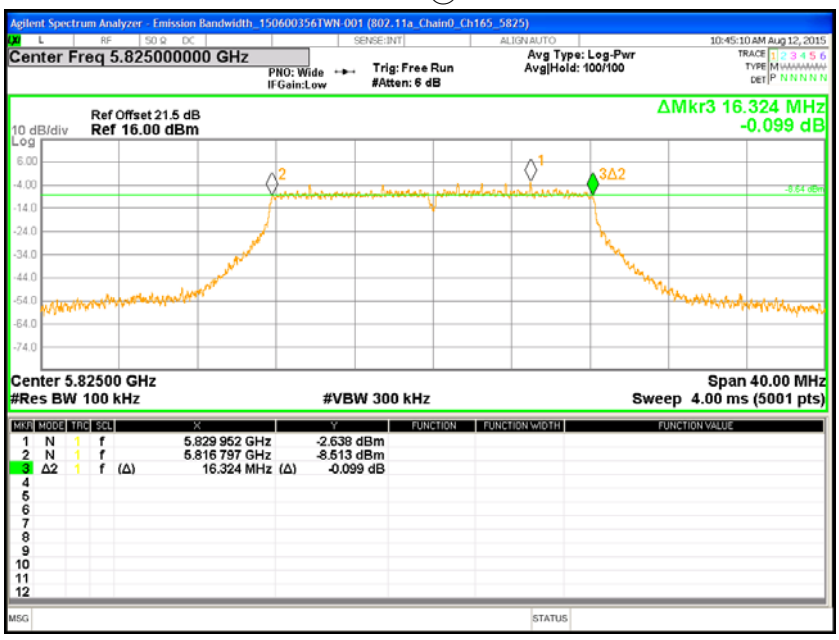
Chain0 : 6dB Bandwidth @ 802.11a mode Ch157



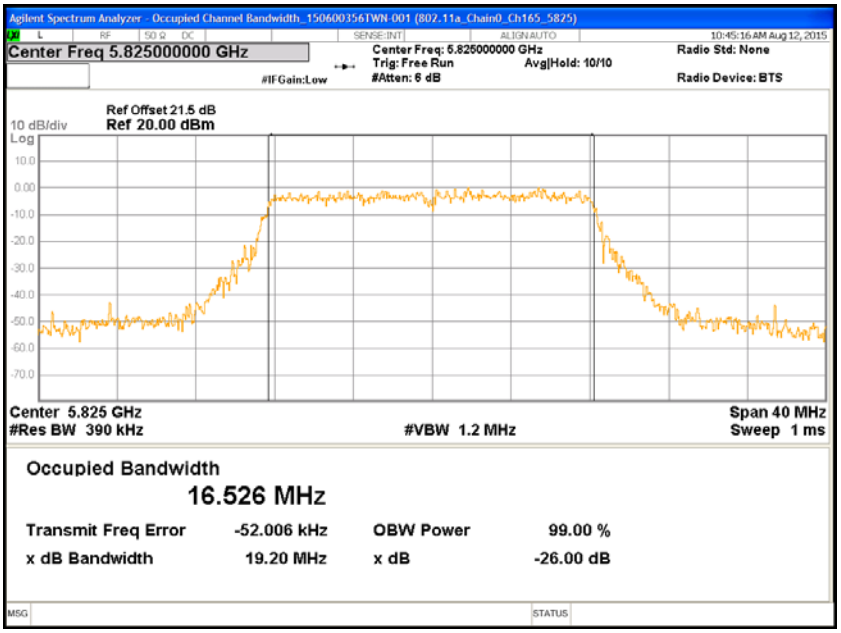
Chain0 : 26 dB Bandwidth@ 802.11a Mode Ch157



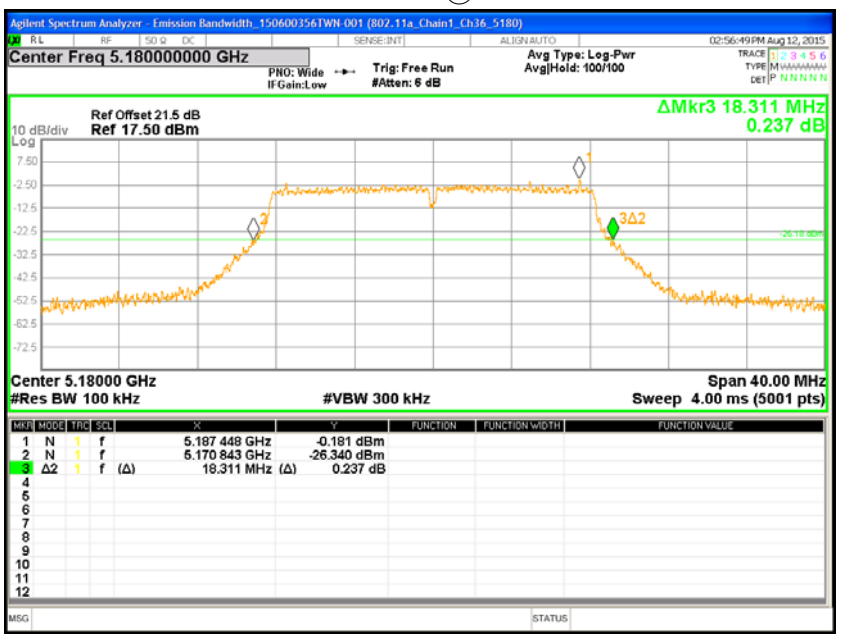
Chain0 : 6dB Bandwidth @ 802.11a mode Ch165



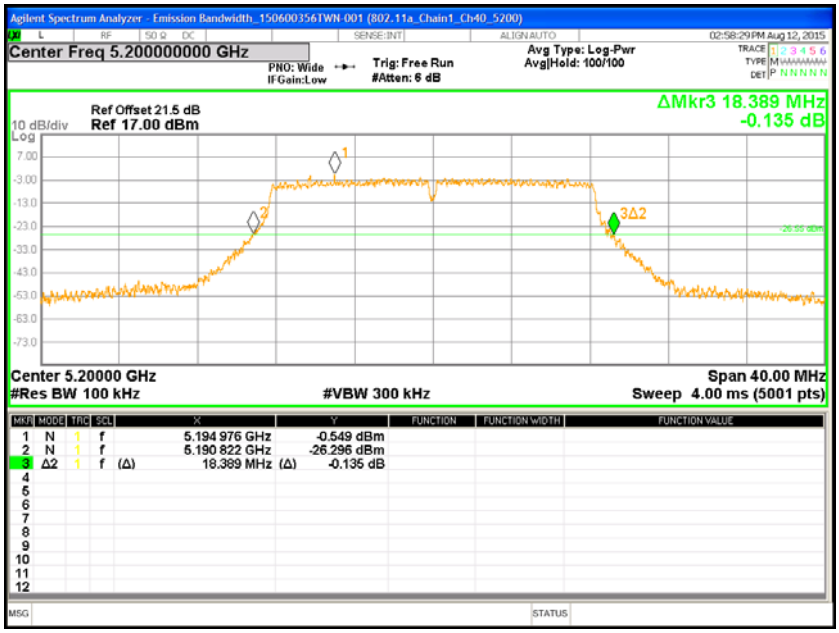
Chain0 : 26 dB Bandwidth @ 802.11a Mode Ch165



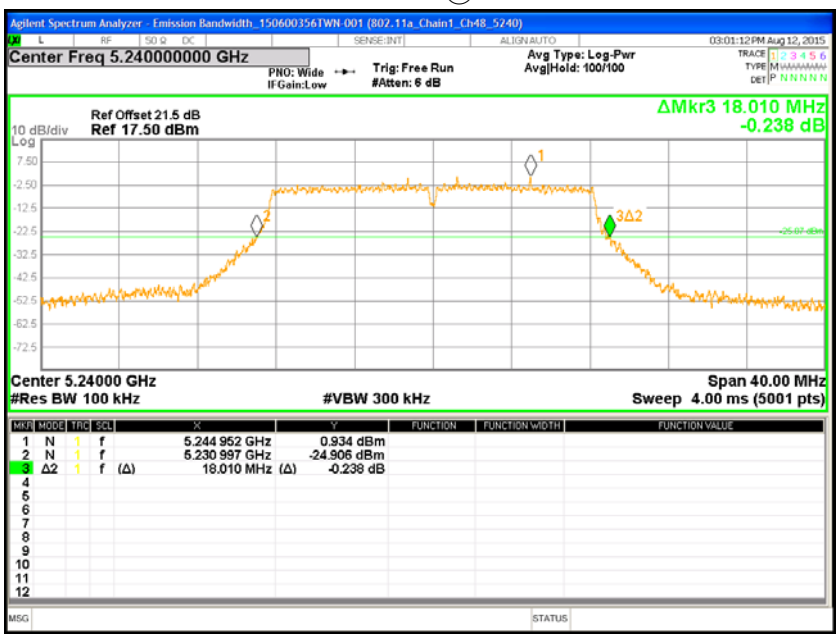
Chain1 : 26dB Bandwidth @ 802.11a mode Ch36



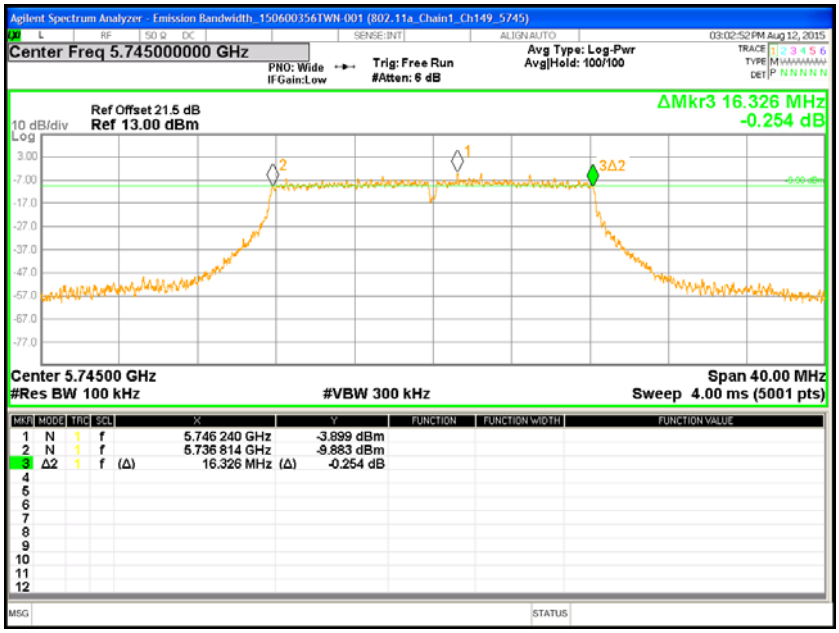
Chain1 : 26dB Bandwidth @ 802.11a mode Ch40



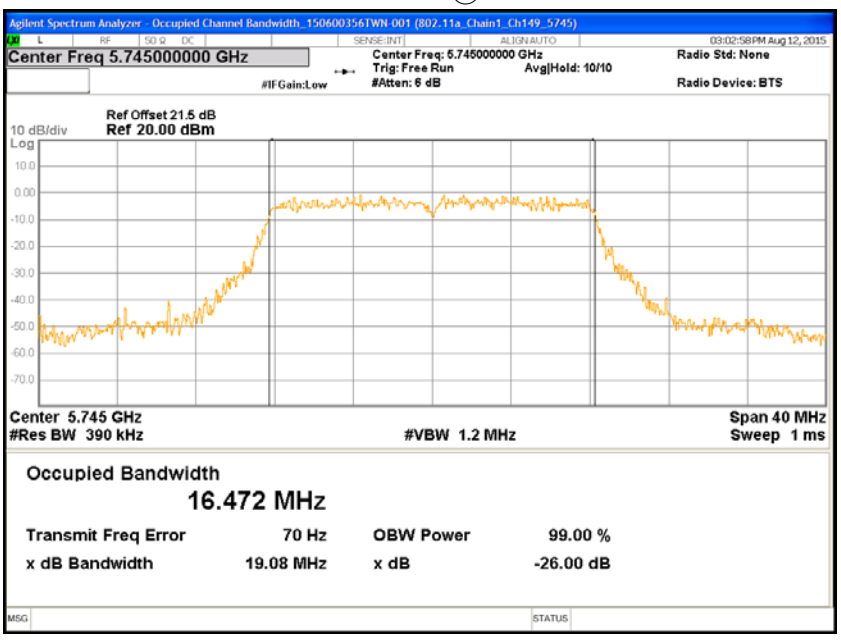
Chain1 : 26dB Bandwidth @ 802.11a mode Ch48



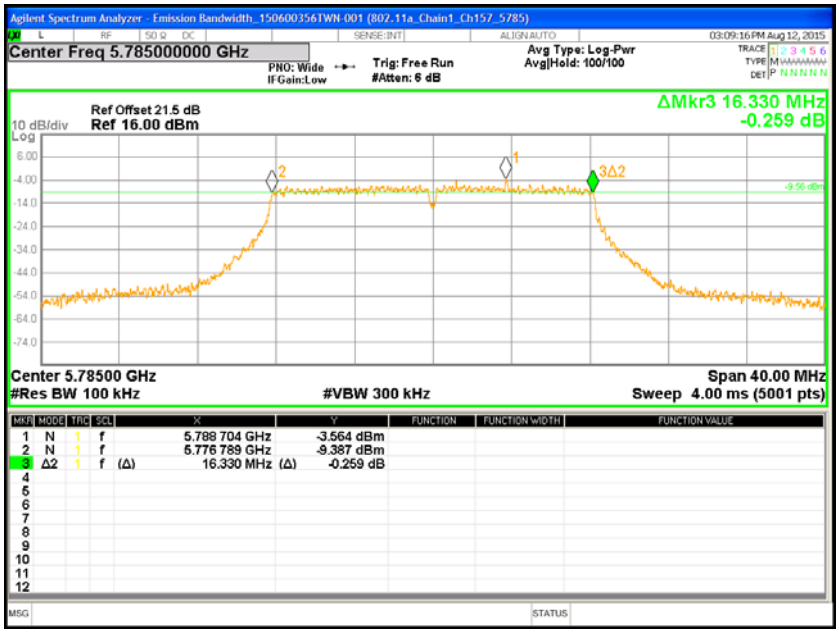
Chain1 : 6dB Bandwidth @ 802.11a mode Ch149



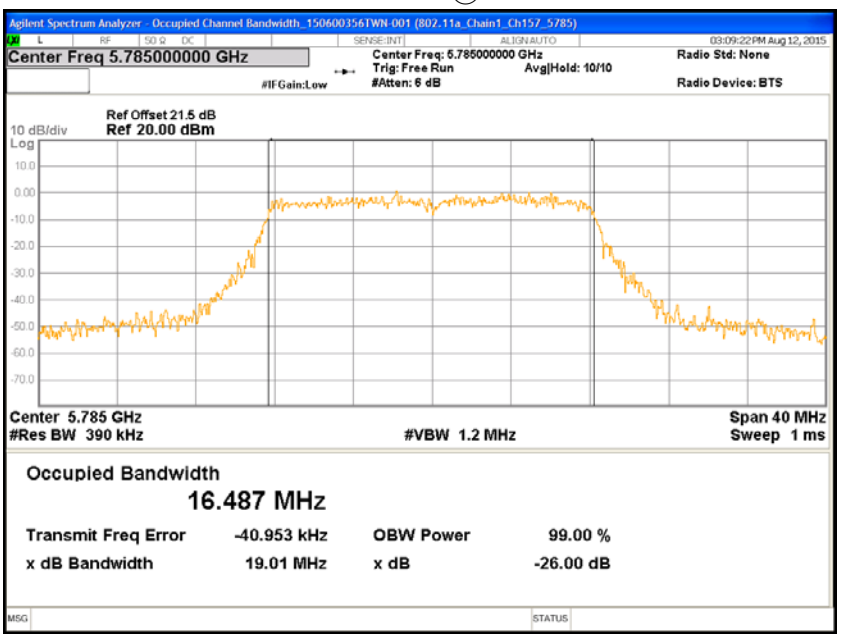
Chain1 : 26 dB Bandwidth @ 802.11a Mode Ch149



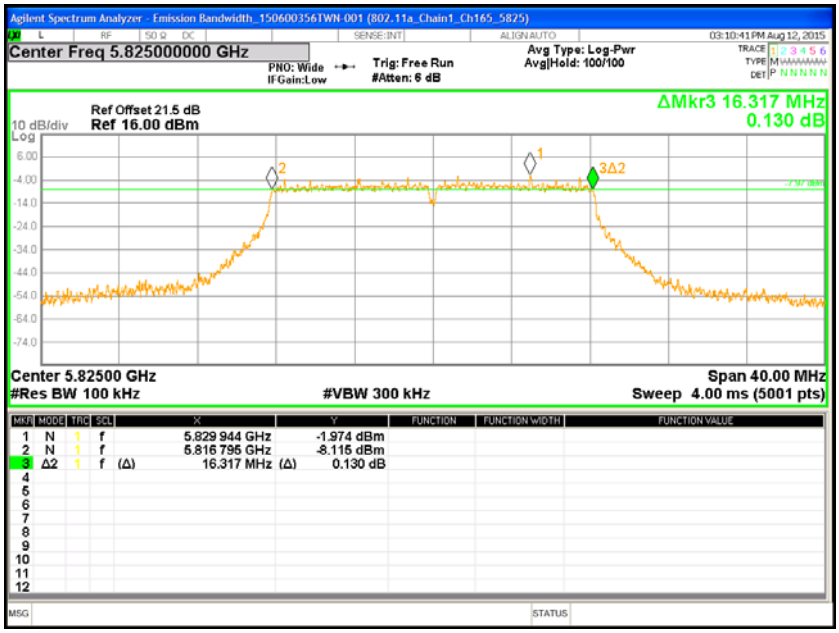
Chain1 : 6dB Bandwidth @ 802.11a mode Ch157



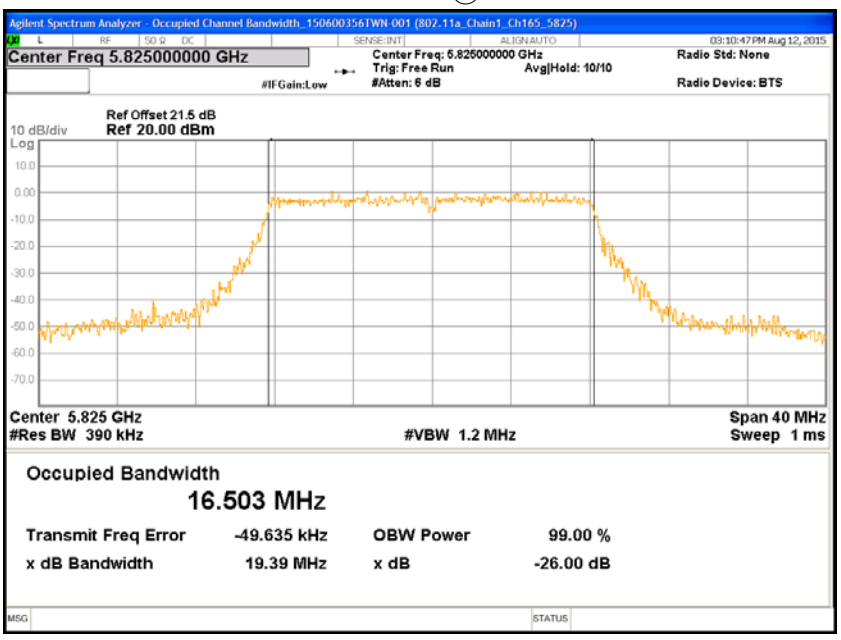
Chain1 : 26 dB Bandwidth @ 802.11a Mode Ch157



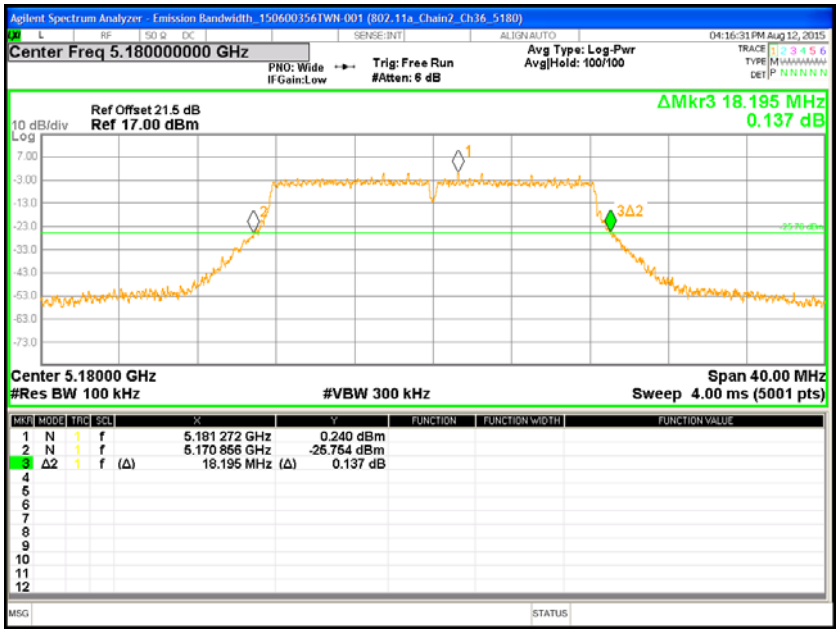
Chain1 : 6dB Bandwidth @ 802.11a mode Ch165



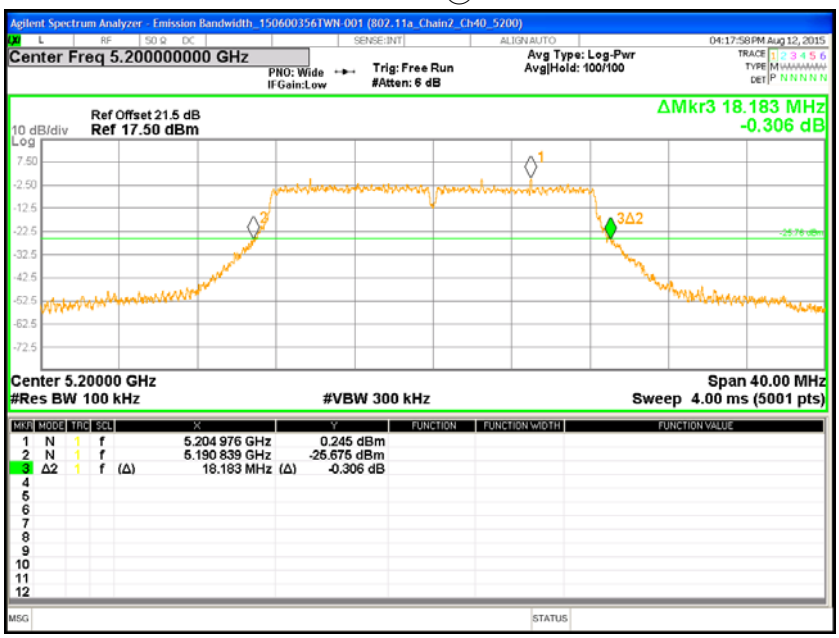
Chain1 : 26 dB Bandwidth @ 802.11a Mode Ch165



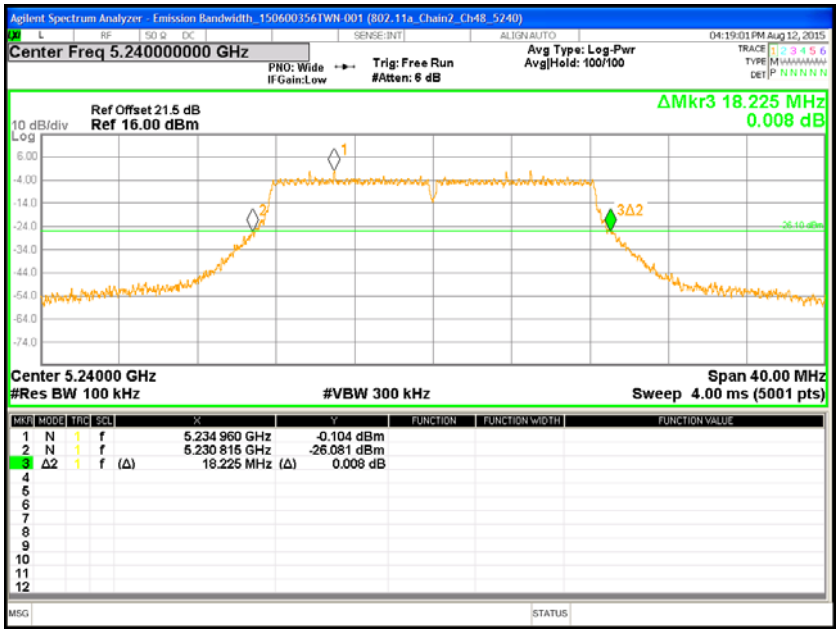
Chain2 : 26dB Bandwidth @ 802.11a mode Ch36



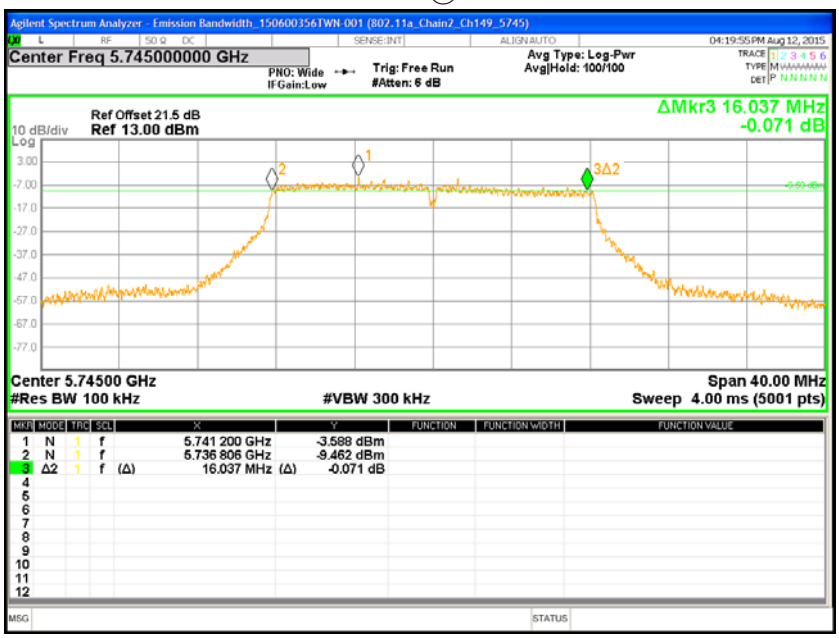
Chain2 : 26dB Bandwidth @ 802.11a mode Ch40



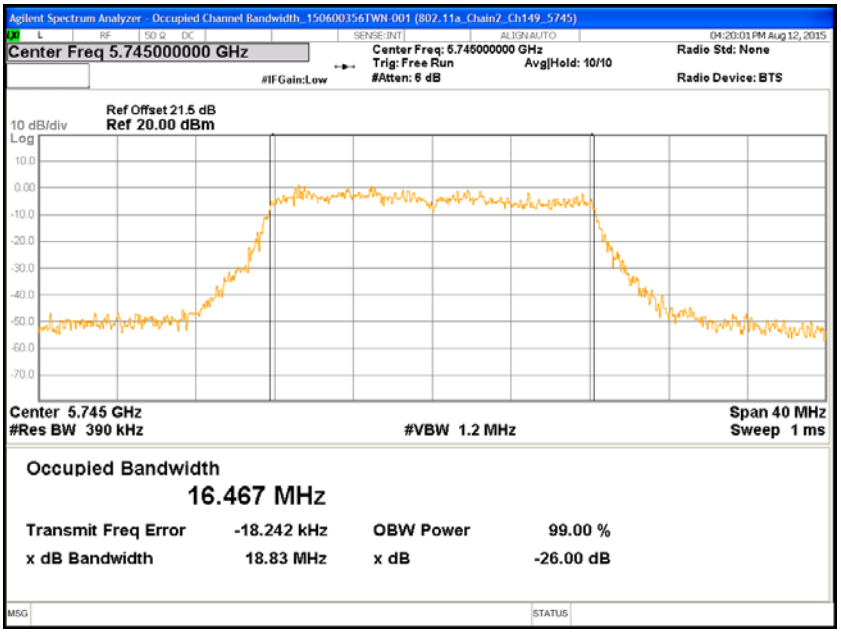
Chain2 : 26dB Bandwidth @ 802.11a mode Ch48



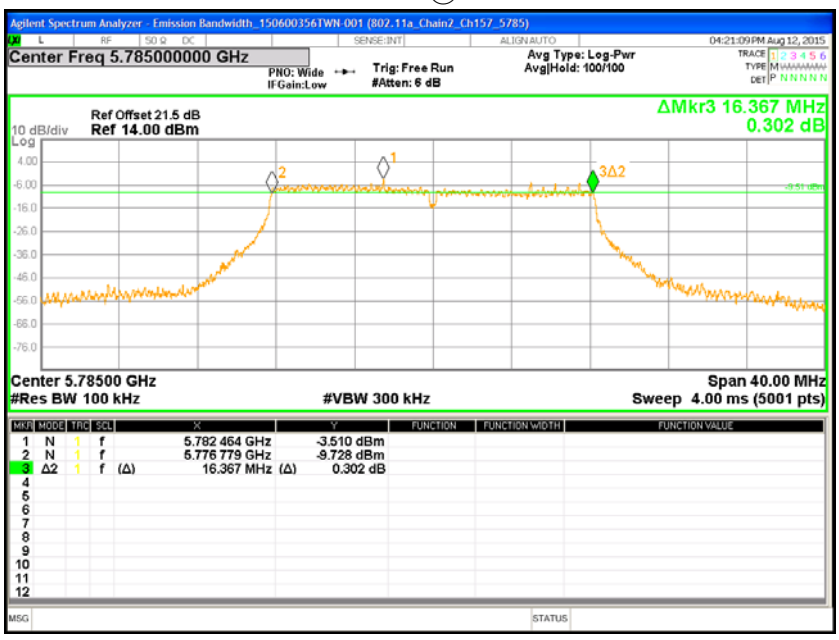
Chain2 : 6dB Bandwidth @ 802.11a mode Ch149



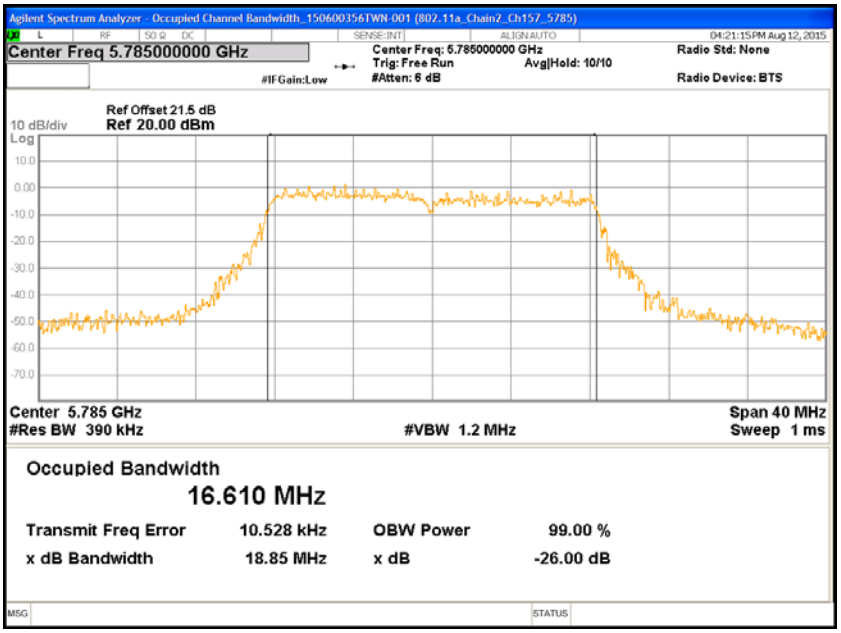
Chain2 : 26 dB Bandwidth @ 802.11a Mode Ch149



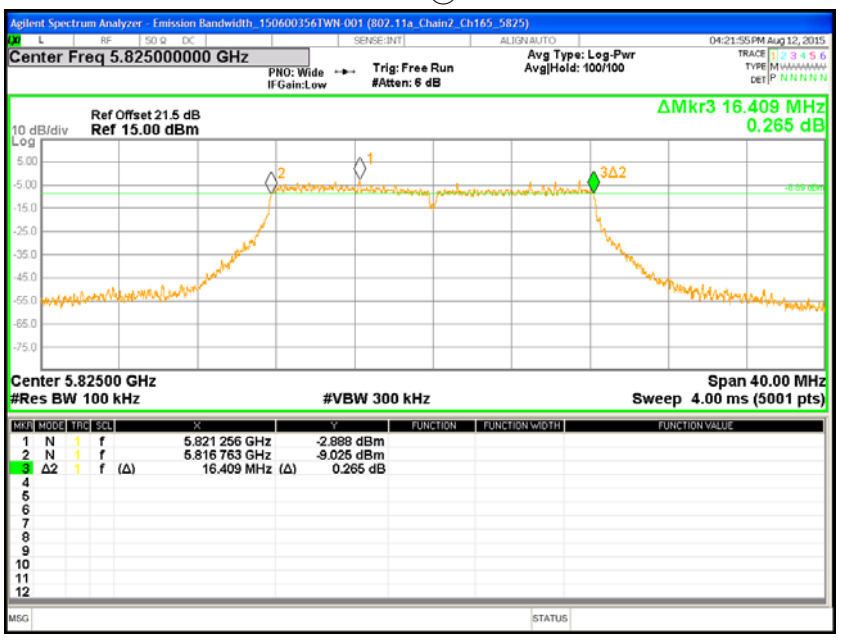
Chain2 : 6dB Bandwidth @ 802.11a mode Ch157



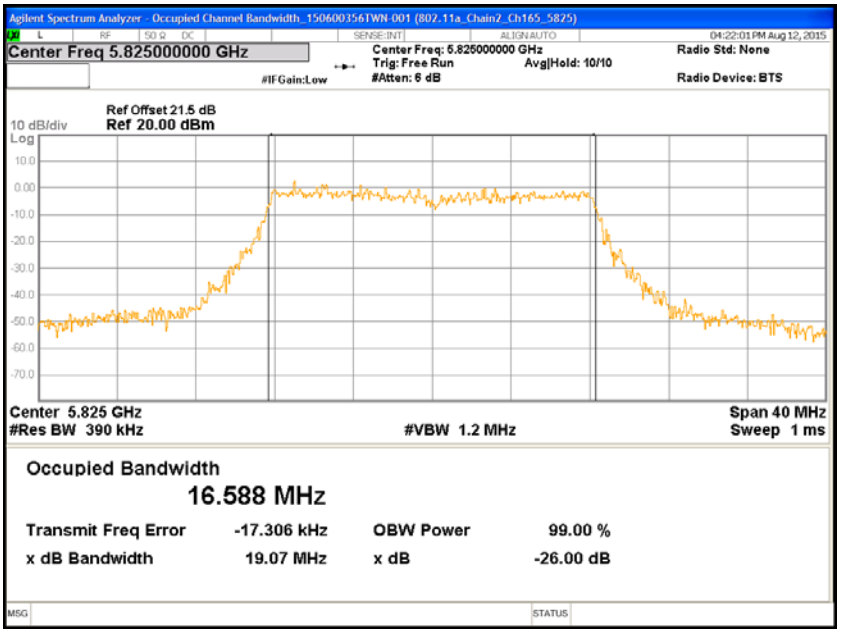
Chain2 : 26 dB Bandwidth @ 802.11a Mode Ch157



Chain2 : 6dB Bandwidth @ 802.11a mode Ch165



Chain2 : 26 dB Bandwidth @ 802.11a Mode Ch165



Chain3 : 26dB Bandwidth @ 802.11a mode Ch36