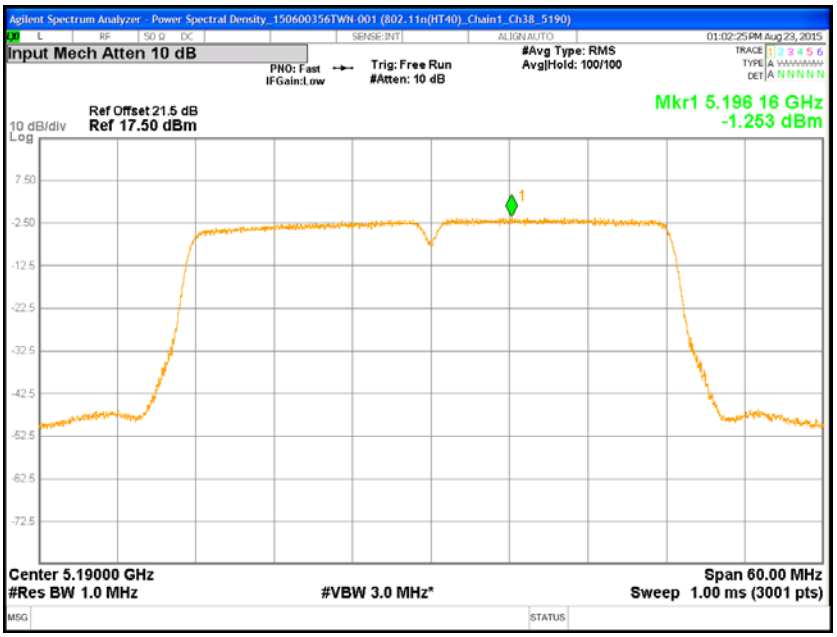
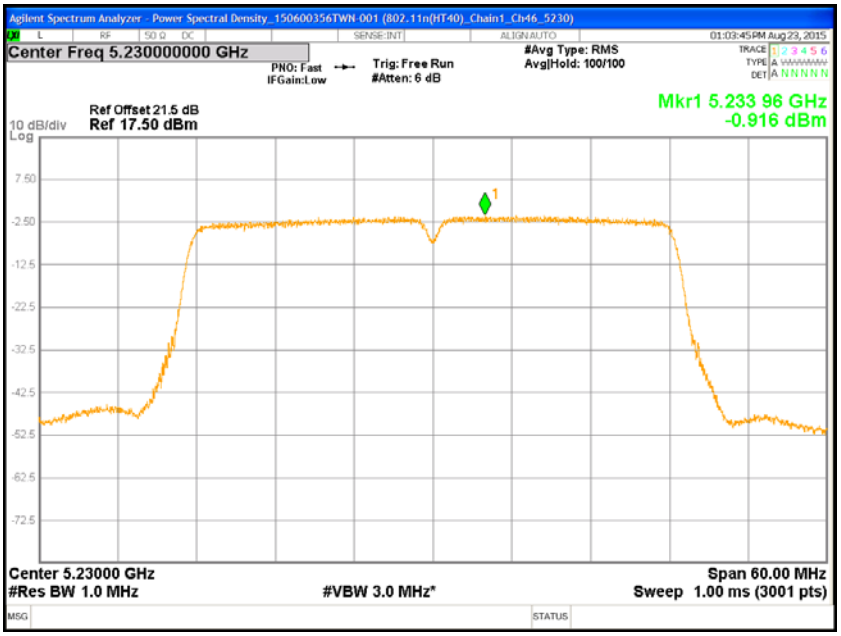
Chain1 : Power Spectral Density @ 802.11an(HT40) Mode Ch38



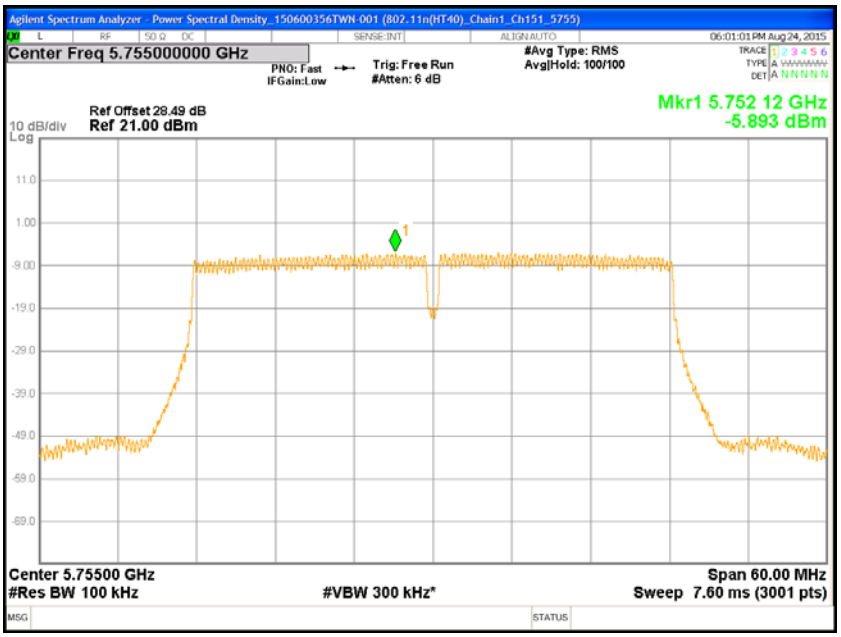
Chain1 : Power Spectral Density @ 802.11an(HT40) Mode Ch46



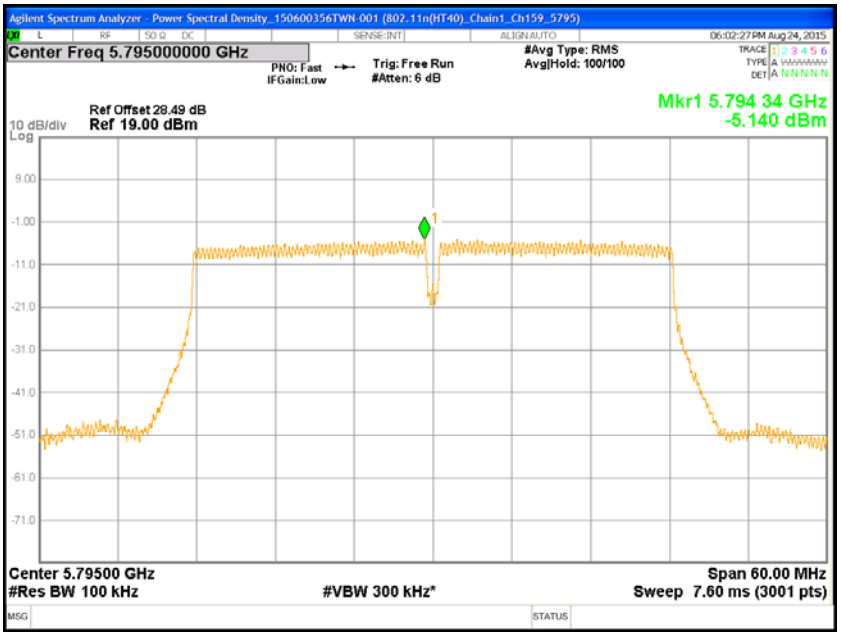
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

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

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



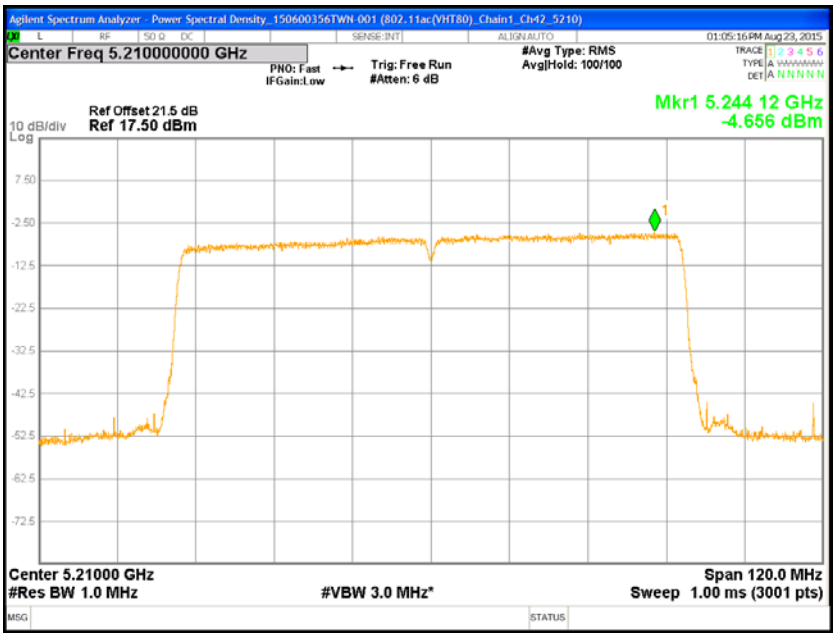
Chain1 : Power Spectral Density @ 802.11an(HT40) Mode Ch159



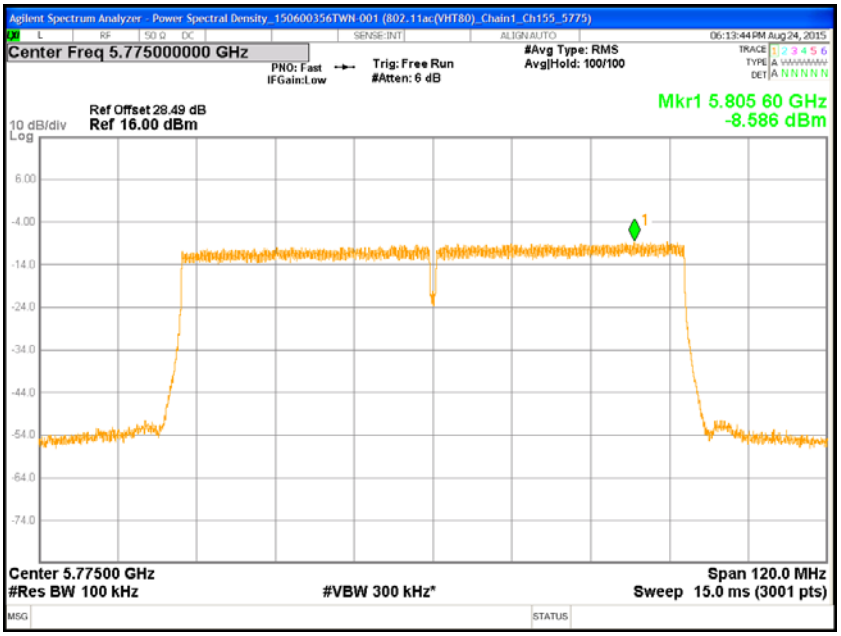
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

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

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



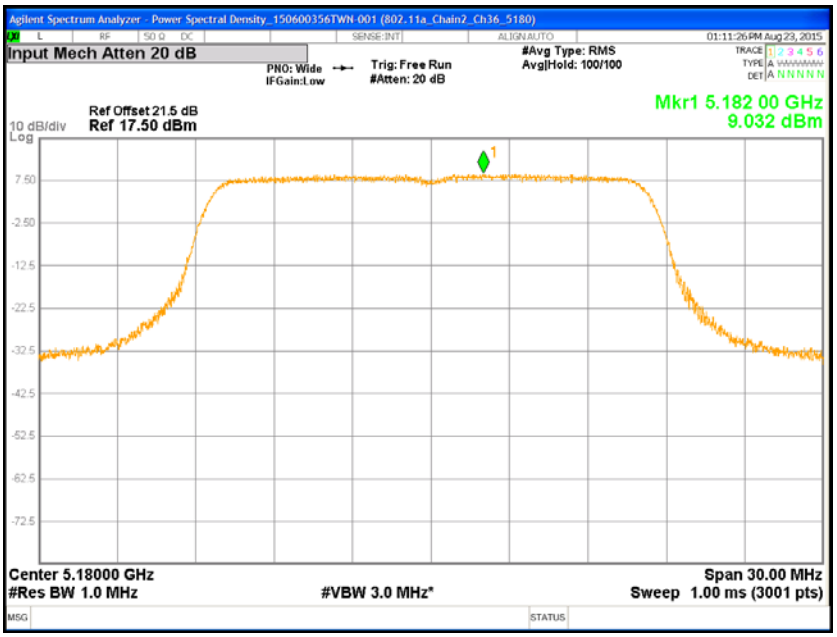
Chain1 : Power Spectral Density @ 802.11ac(VHT80) Mode Ch155



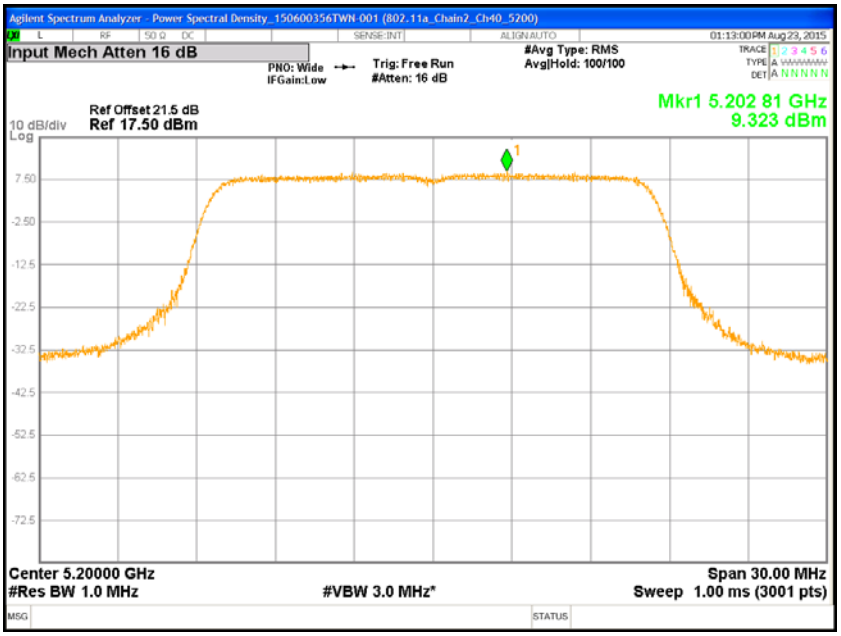
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

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

Chain2 : Power Spectral Density @ 802.11a Mode Ch36



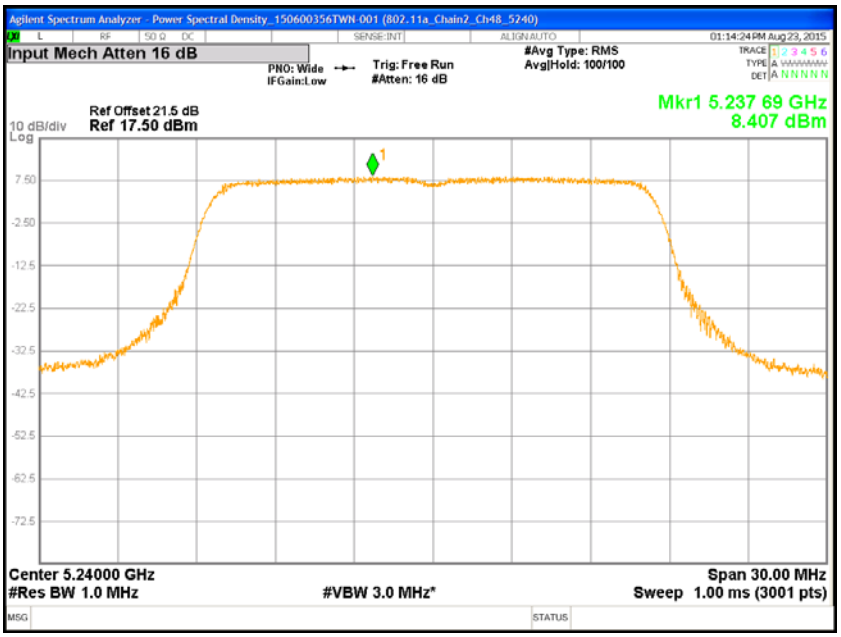
Chain2 : Power Spectral Density @ 802.11a Mode Ch40



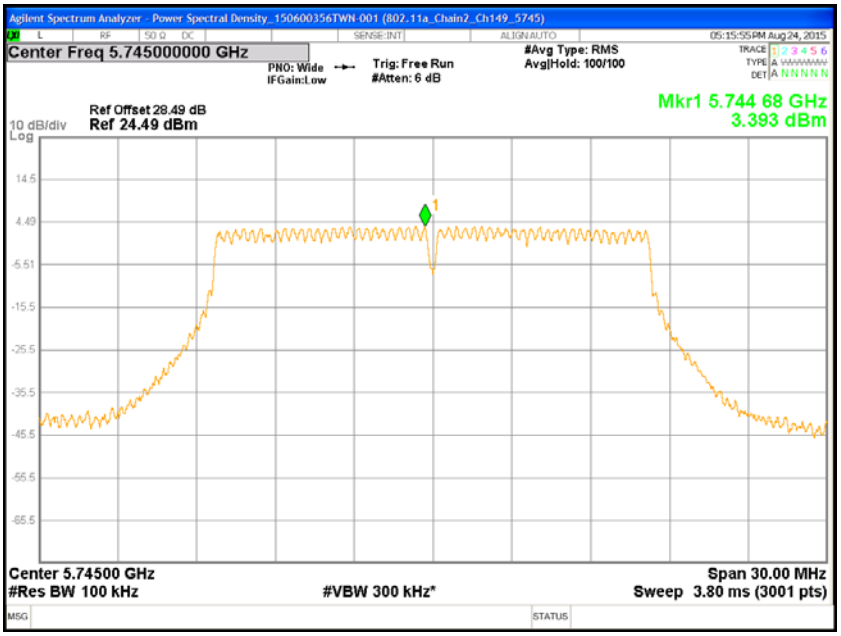
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

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

Chain2 : Power Spectral Density @ 802.11a Mode Ch48



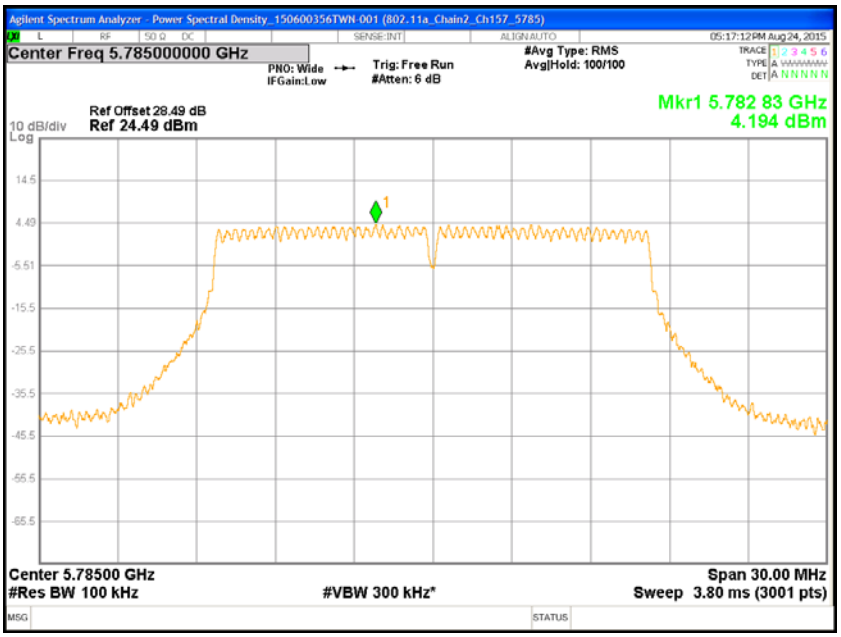
Chain2 : Power Spectral Density @ 802.11a Mode Ch149



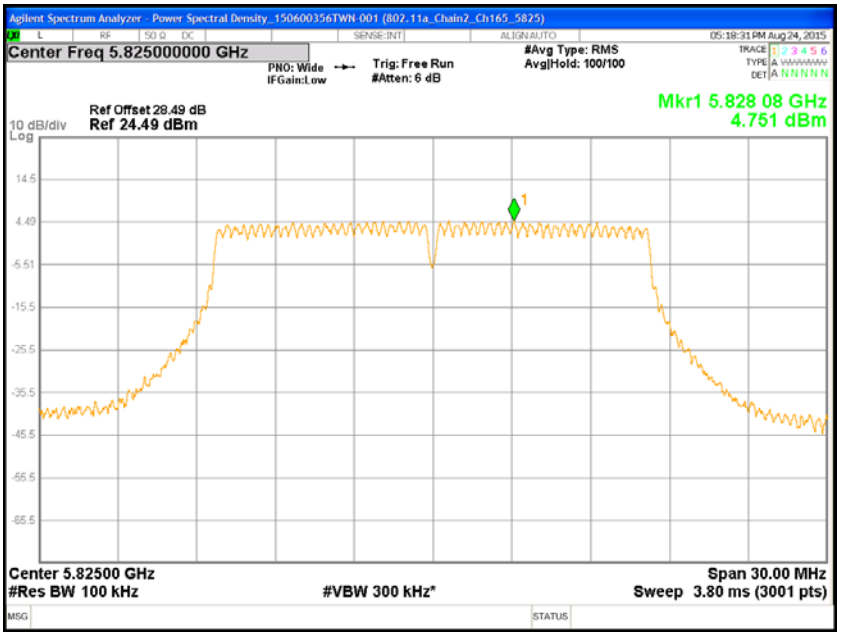
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

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

Chain2 : Power Spectral Density @ 802.11a Mode Ch157



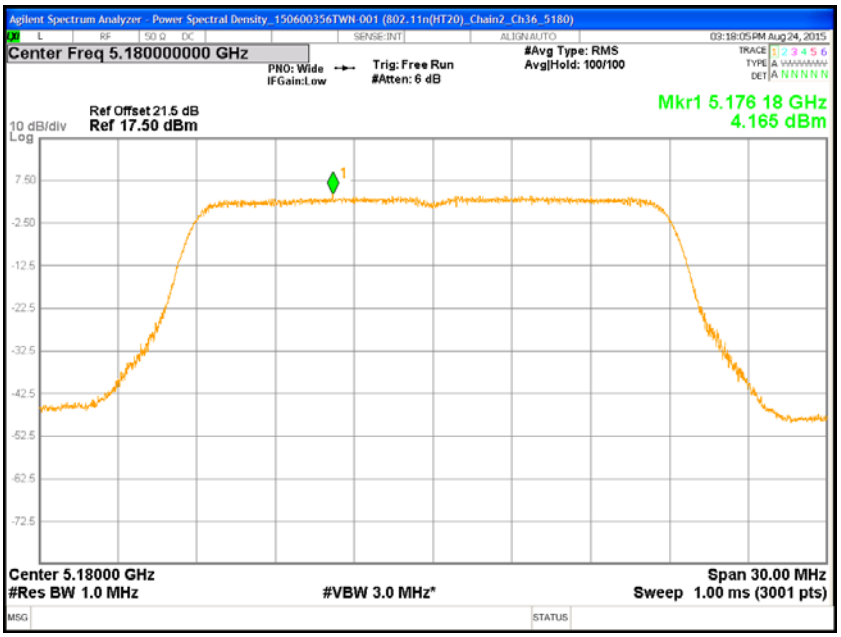
Chain2 : Power Spectral Density @ 802.11a Mode Ch165



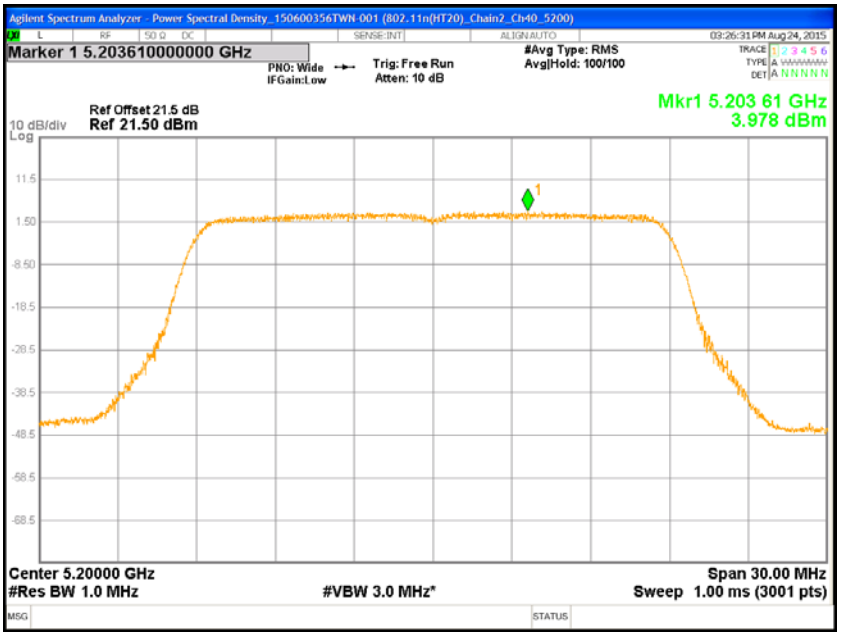
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

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

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



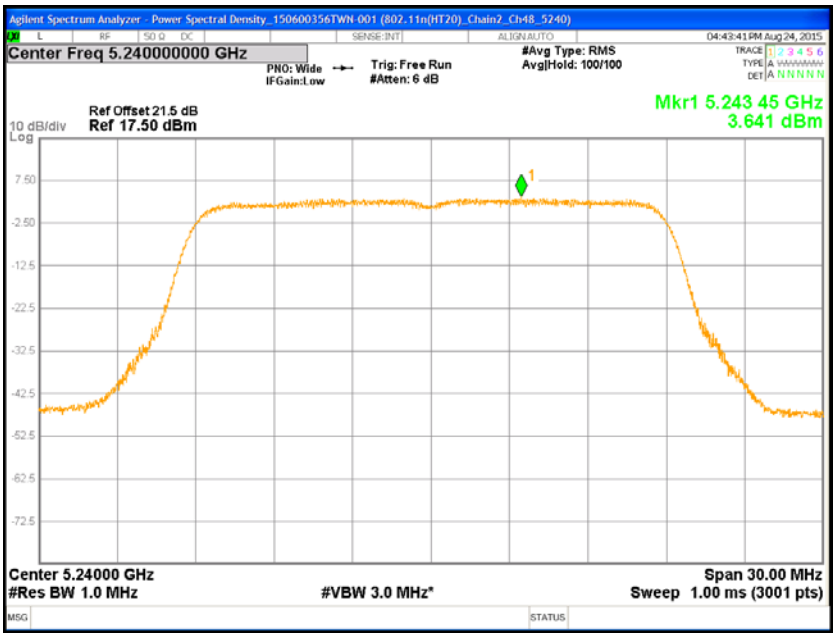
Chain2 : Power Spectral Density @ 802.11an(HT20) Mode Ch40



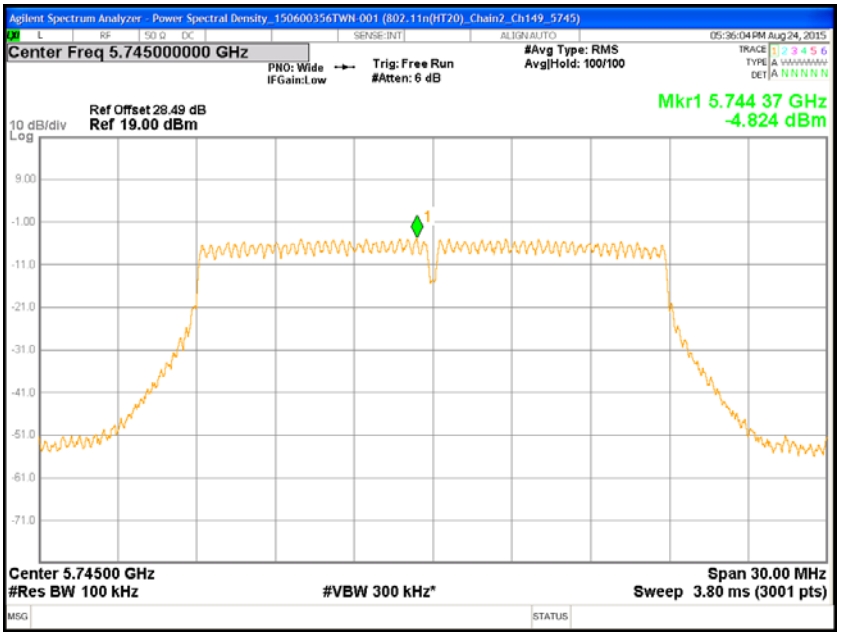
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

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

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



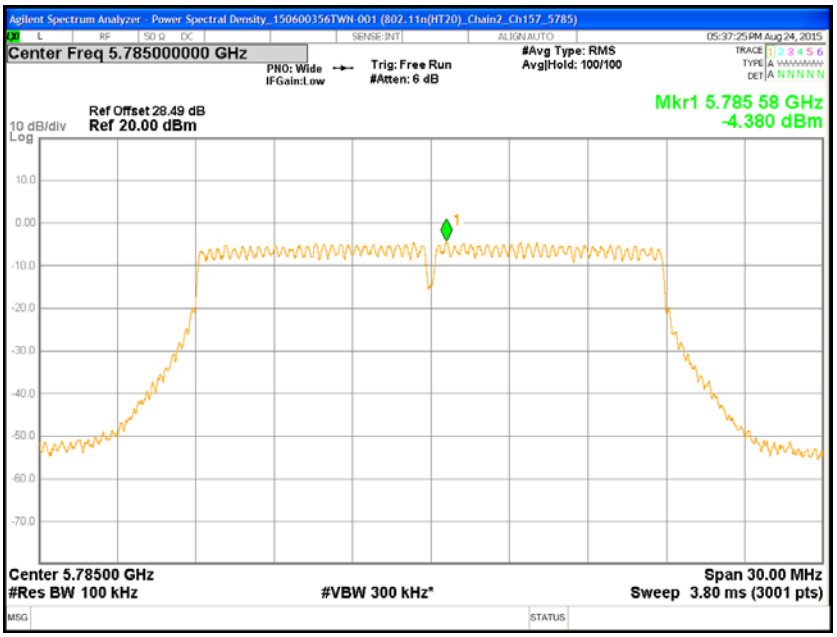
Chain2 : Power Spectral Density @ 802.11an(HT20) Mode Ch149



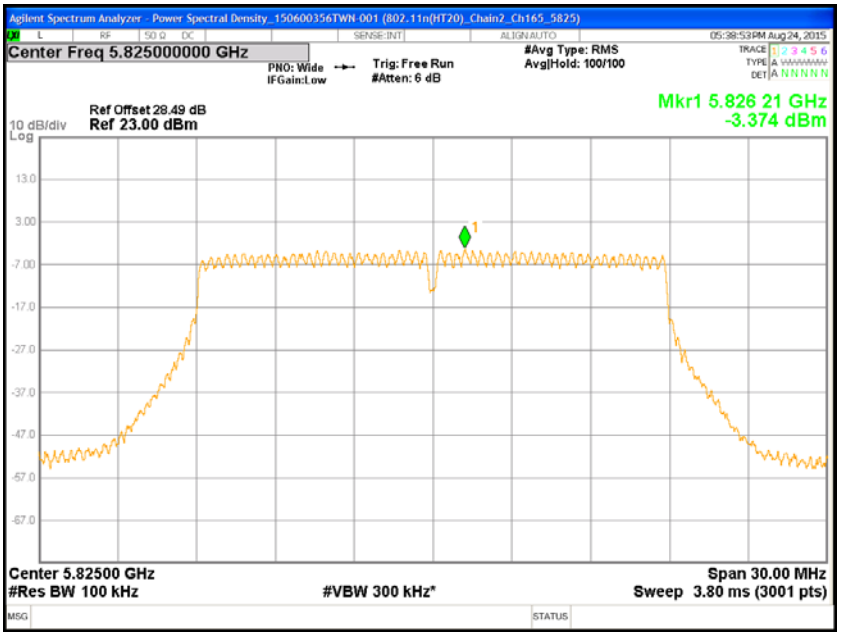
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

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

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



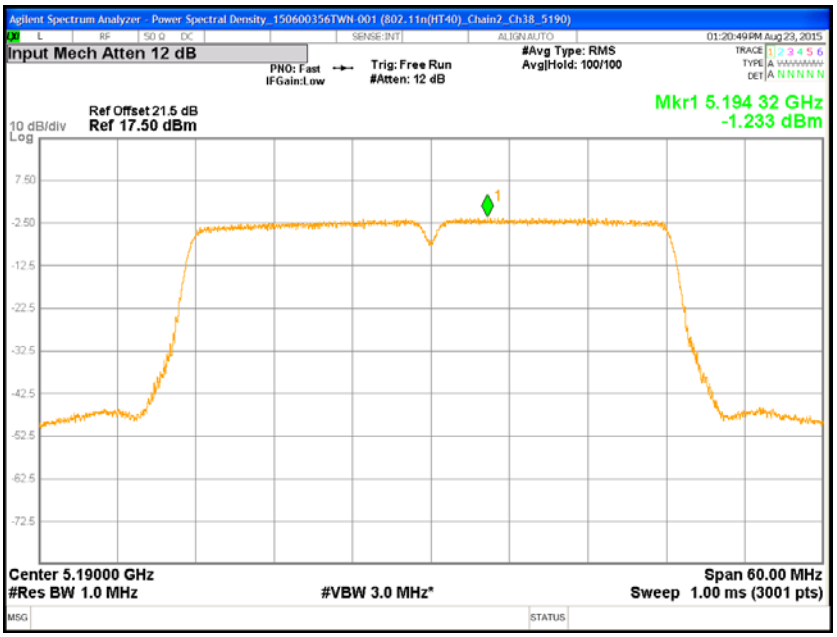
Chain2 : Power Spectral Density @ 802.11an(HT20) Mode Ch165



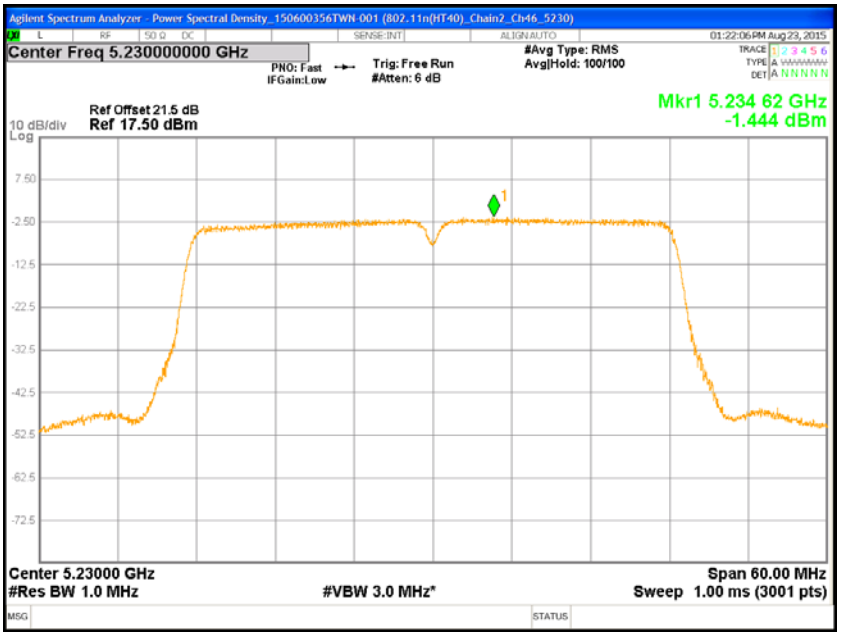
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

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

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



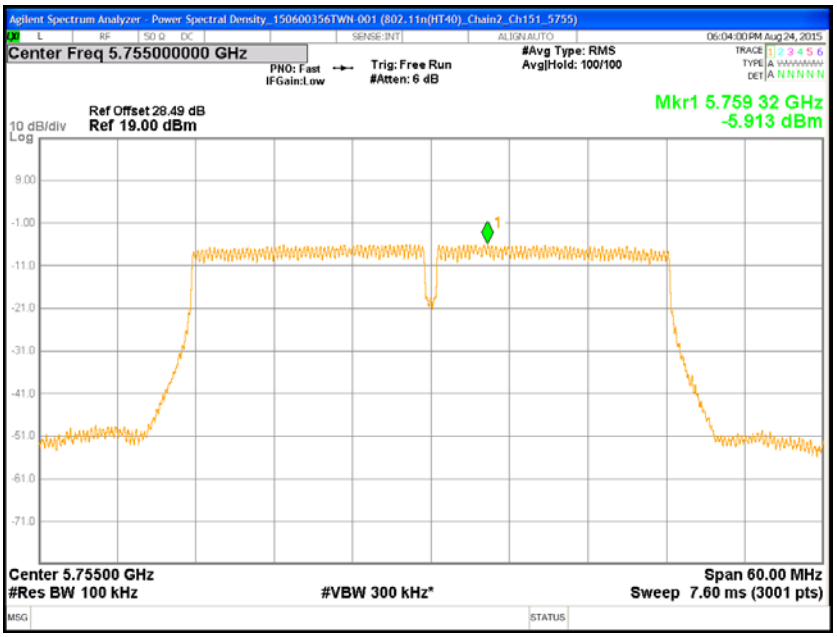
Chain2 : Power Spectral Density @ 802.11an(HT40) Mode Ch46



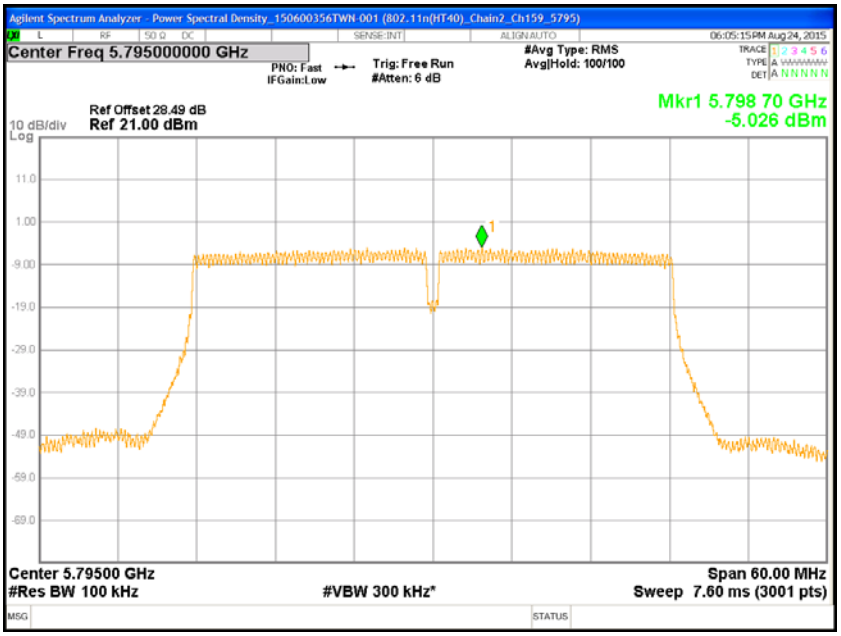
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

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

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



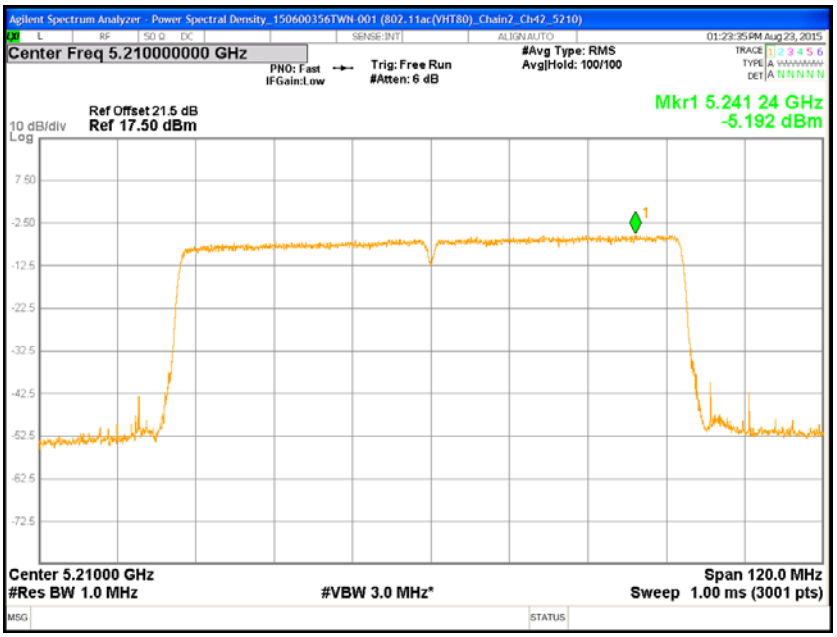
Chain2 : Power Spectral Density @ 802.11an(HT40) Mode Ch159



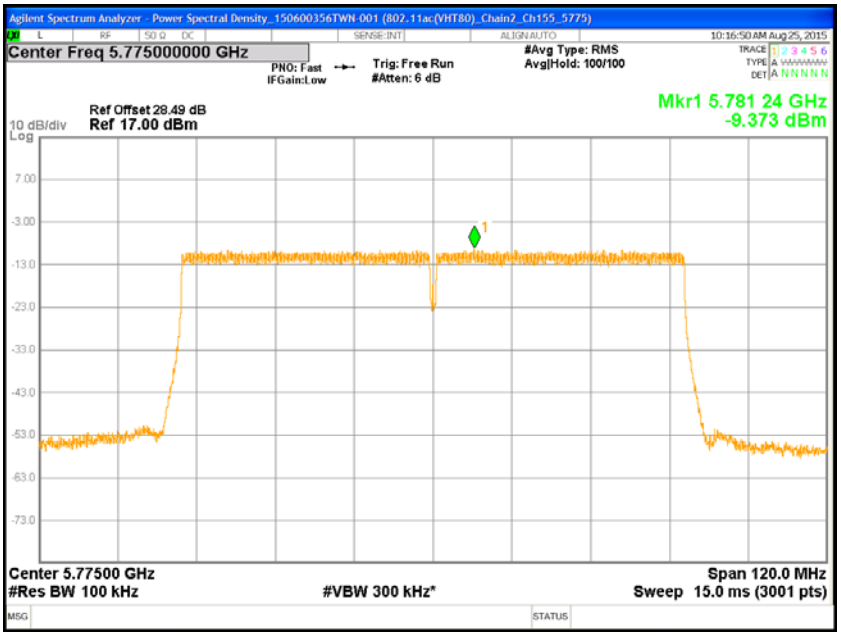
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

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

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



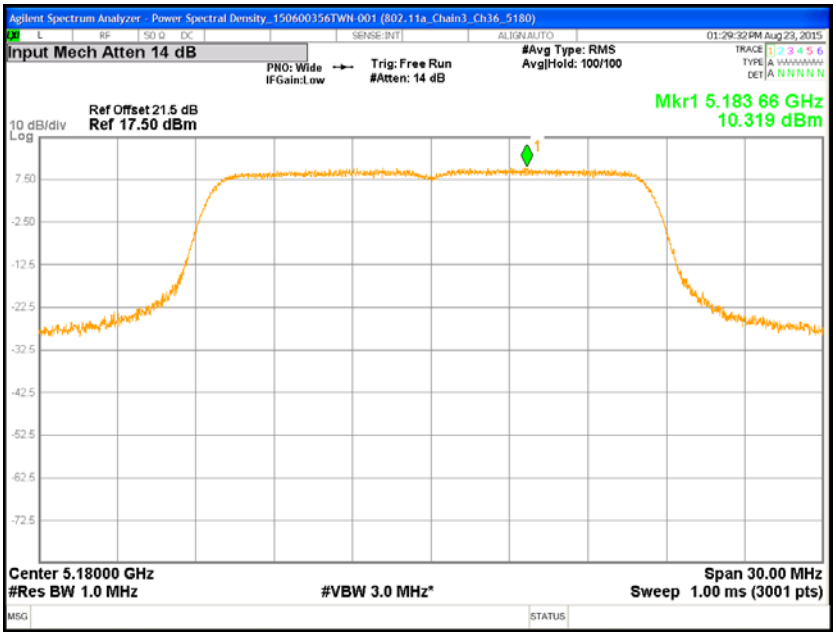
Chain2 : Power Spectral Density @ 802.11ac(VHT80) Mode Ch155



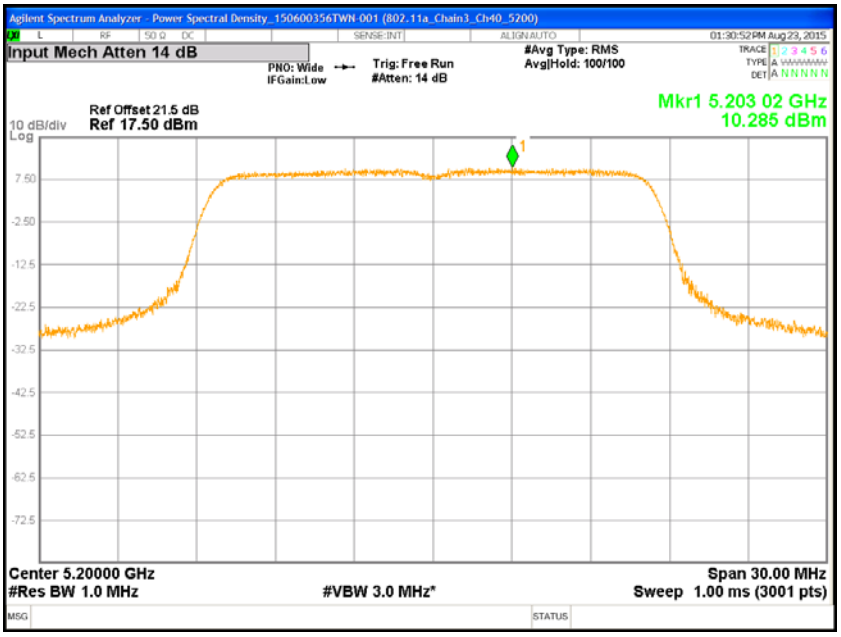
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

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

Chain3 : Power Spectral Density @ 802.11a Mode Ch36



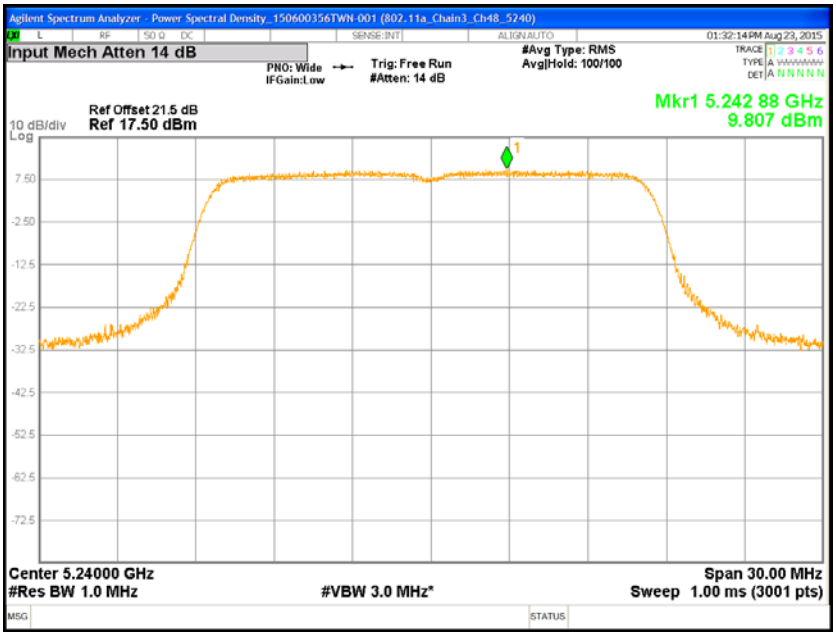
Chain3 : Power Spectral Density @ 802.11a Mode Ch40



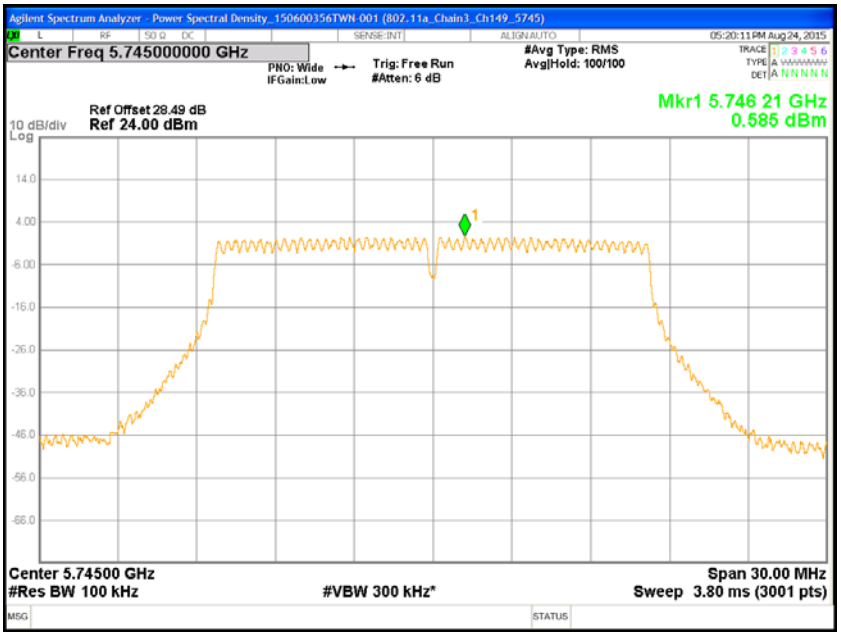
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

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

Chain3 : Power Spectral Density @ 802.11a Mode Ch48



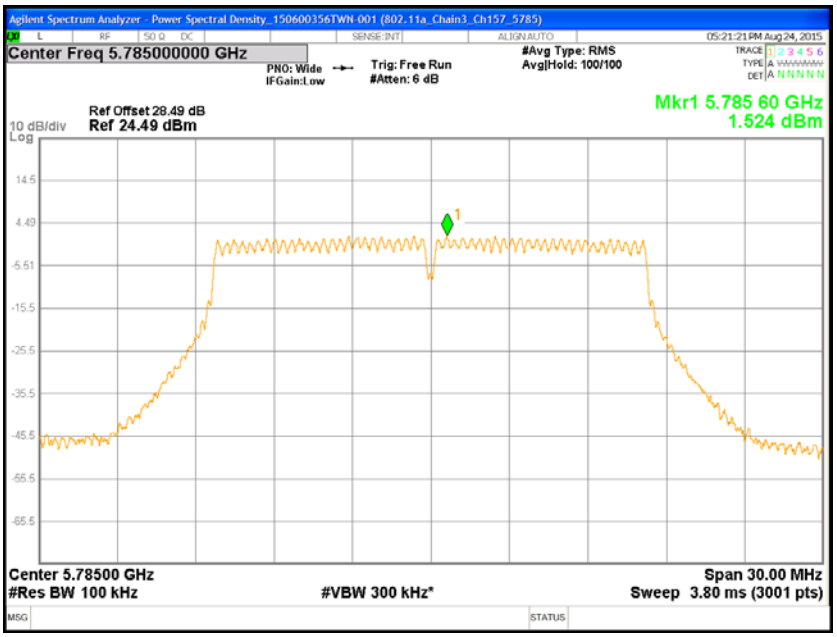
Chain3 : Power Spectral Density @ 802.11a Mode Ch149



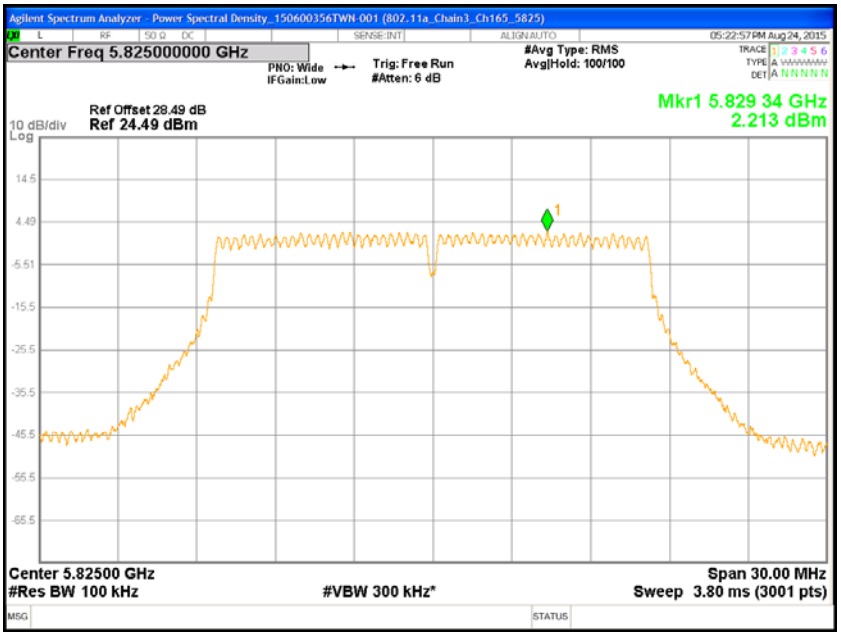
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

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

Chain3 : Power Spectral Density @ 802.11a Mode Ch157



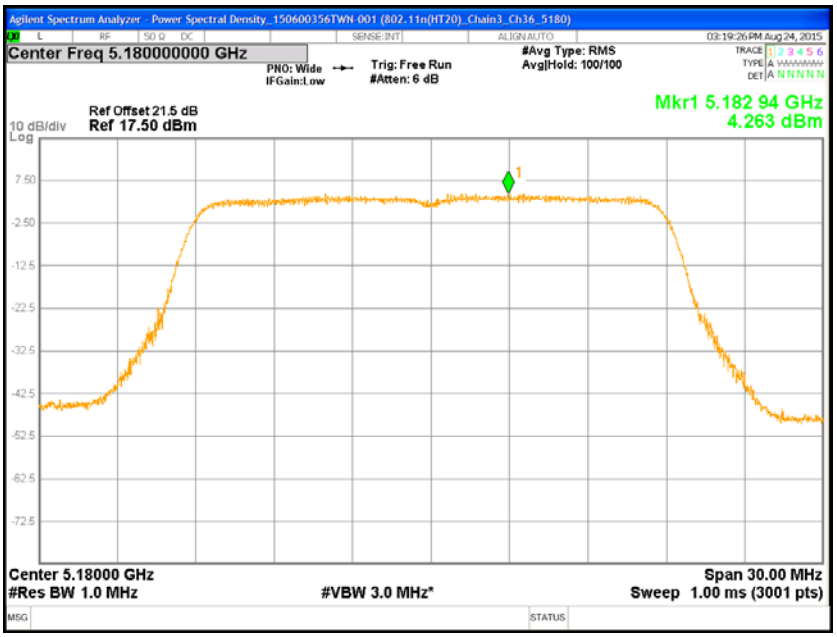
Chain3 : Power Spectral Density @ 802.11a Mode Ch165



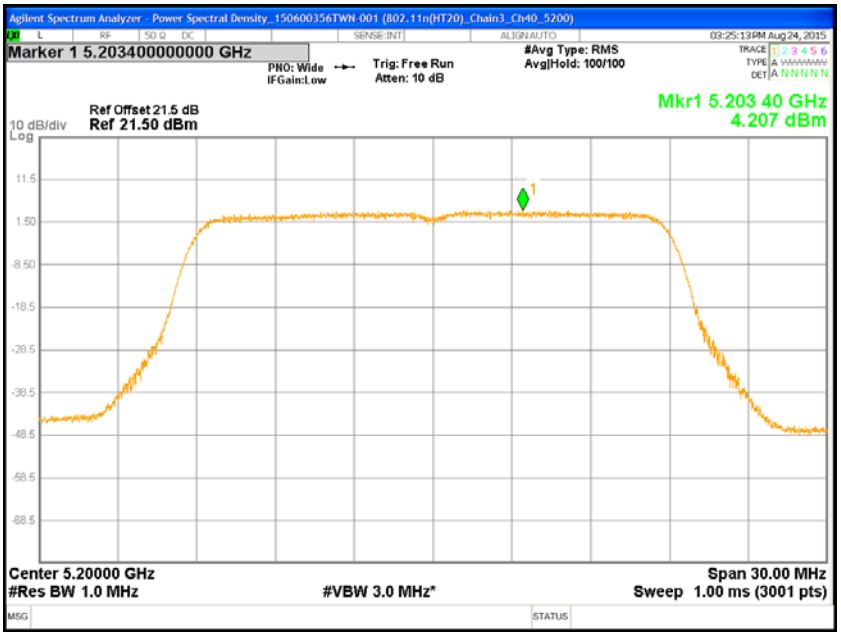
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

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

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



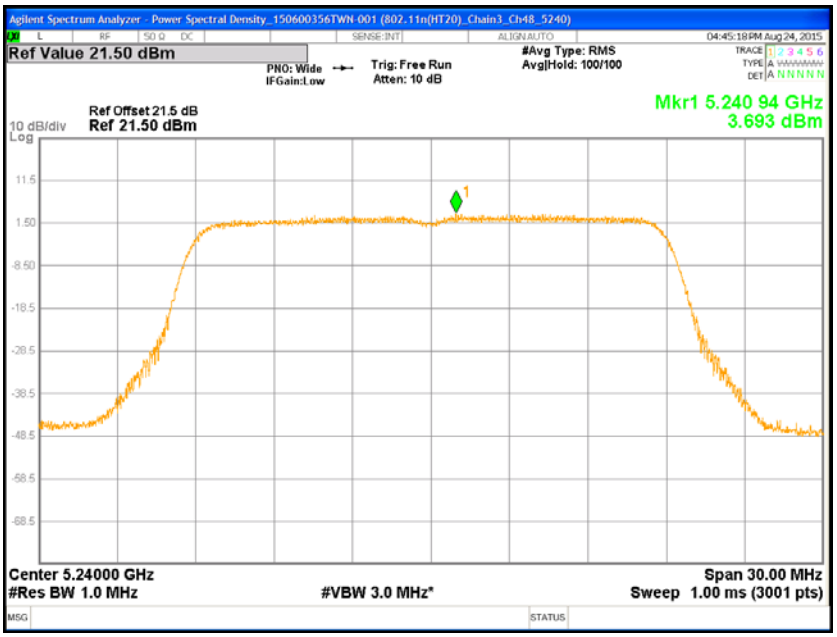
Chain3 : Power Spectral Density @ 802.11an(HT20) Mode Ch40



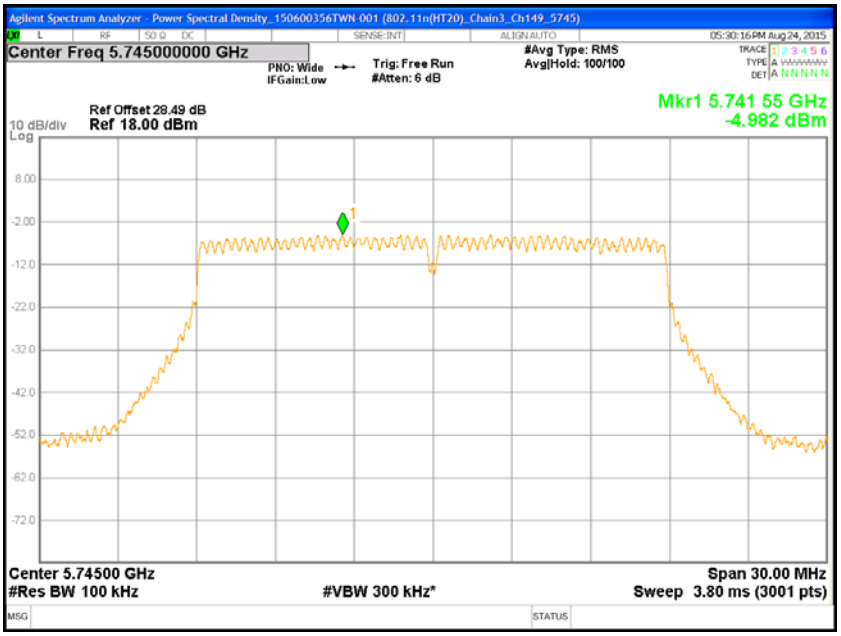
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

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

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



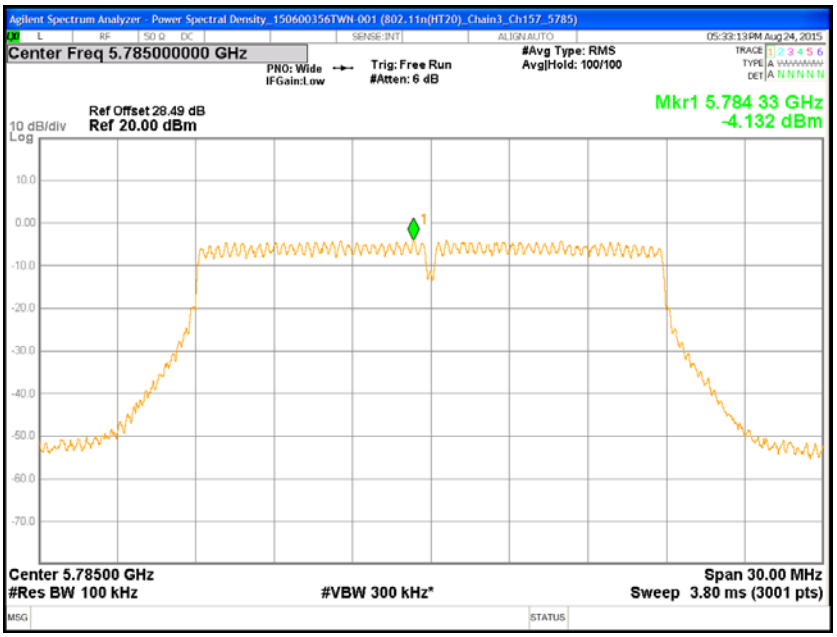
Chain3 : Power Spectral Density @ 802.11an(HT20) Mode Ch149



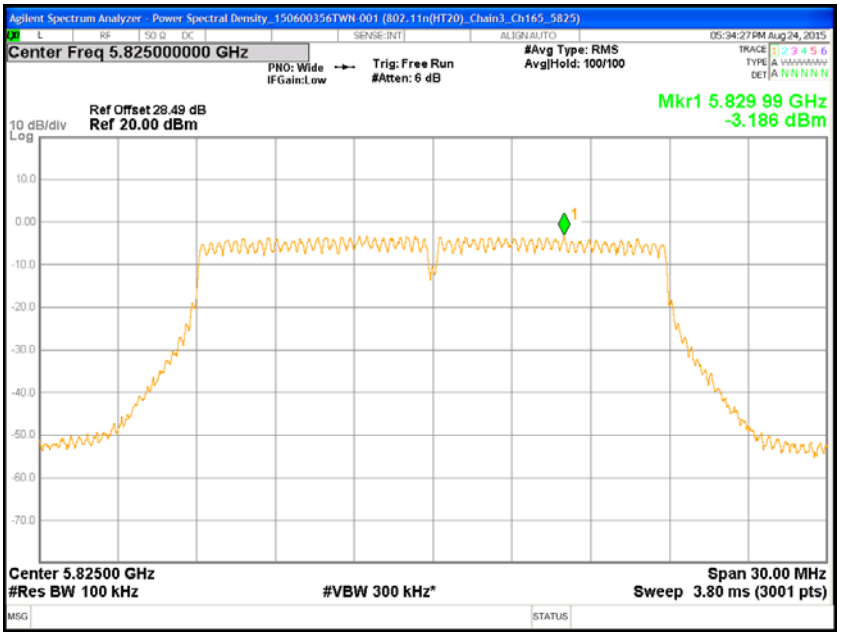
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

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

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



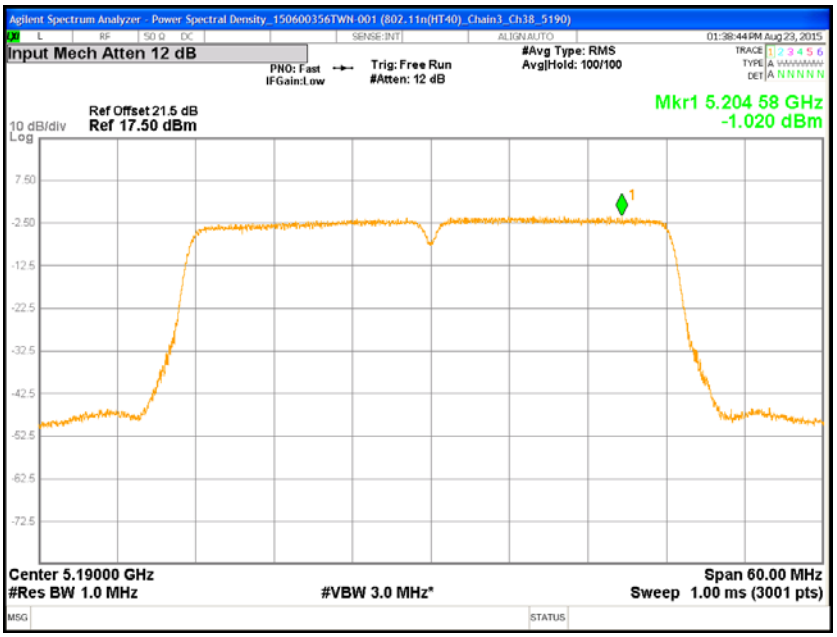
Chain3 : Power Spectral Density @ 802.11an(HT20) Mode Ch165



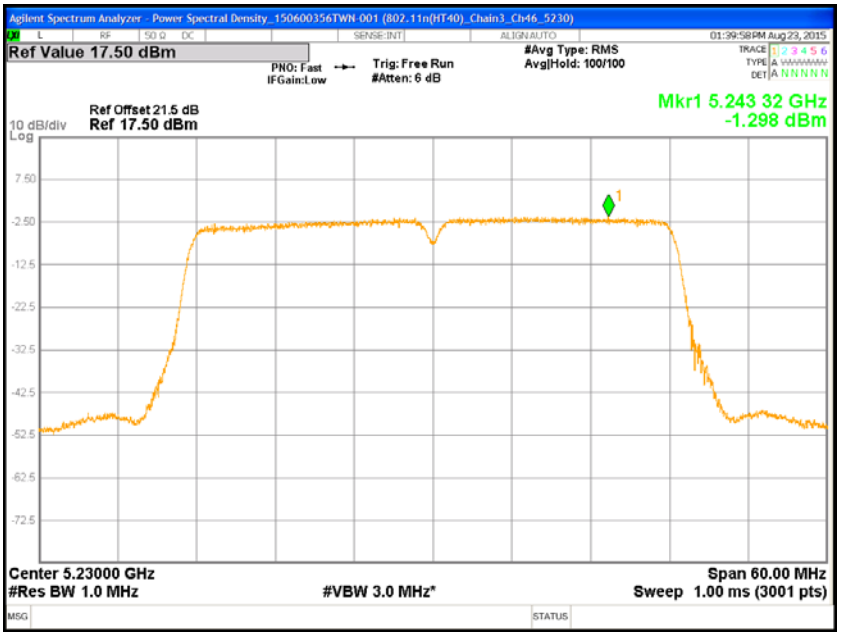
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

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

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



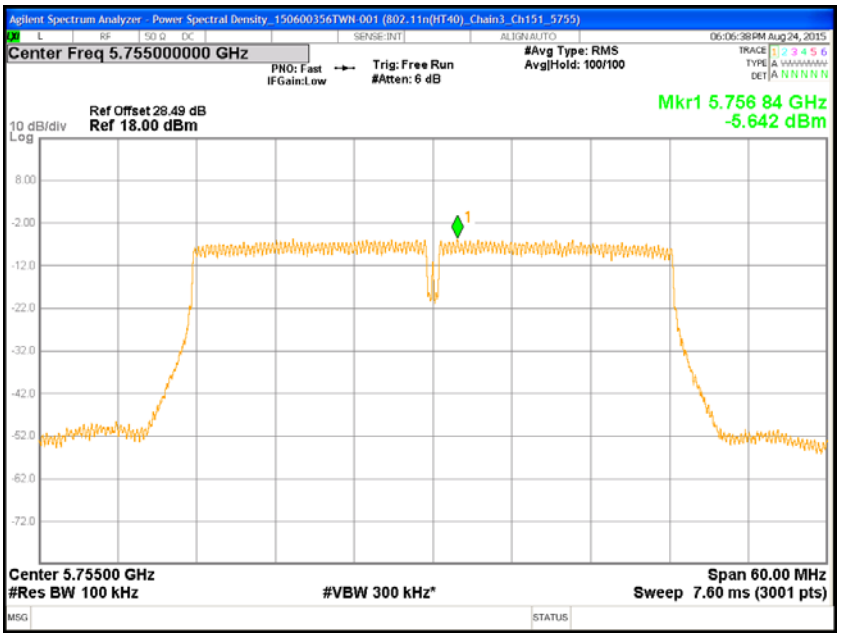
Chain3 : Power Spectral Density @ 802.11an(HT40) Mode Ch46



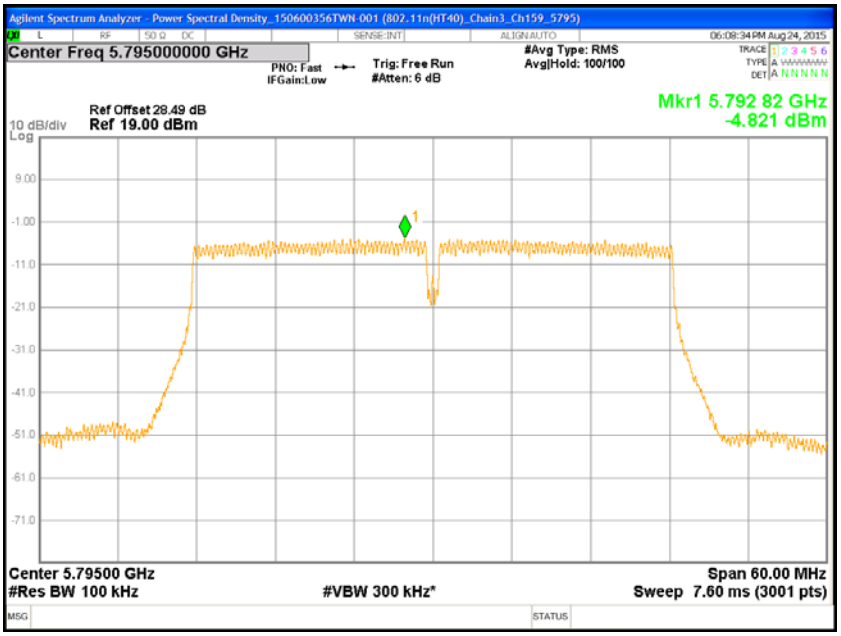
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

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

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



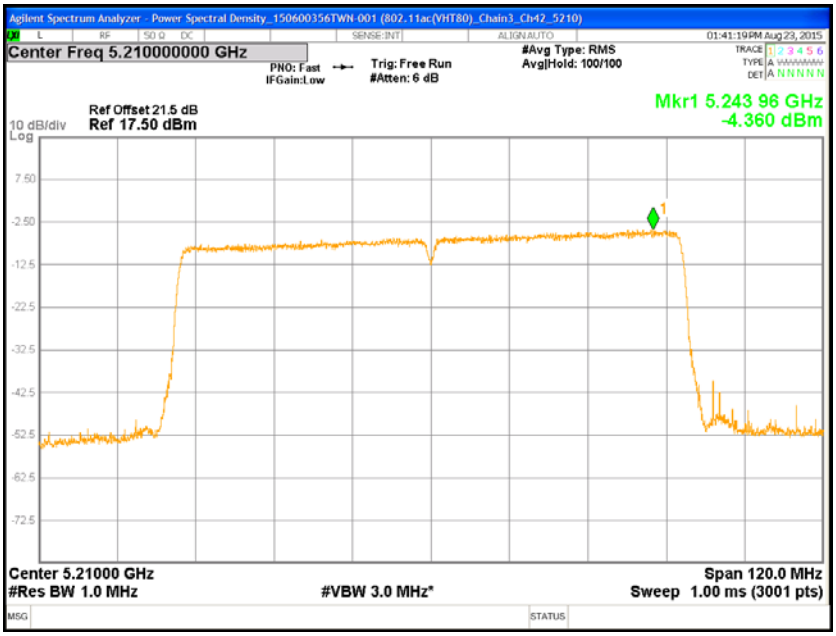
Chain3 : Power Spectral Density @ 802.11an(HT40) Mode Ch159



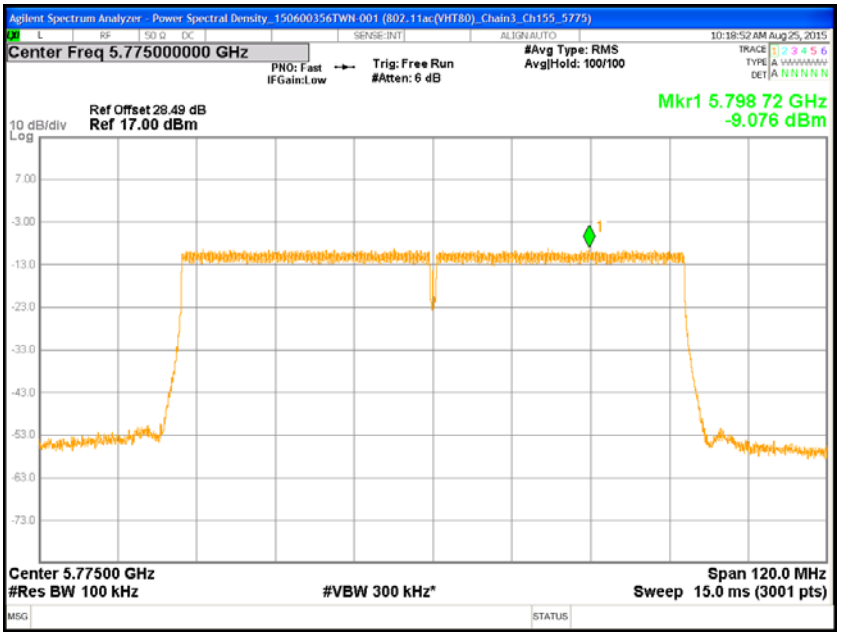
Note: Ref Offset 21.5 dB= Cable loss + Attenuation

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)

10. Minimum Bandwidth

10.1 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	

10.2 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.

10.3 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

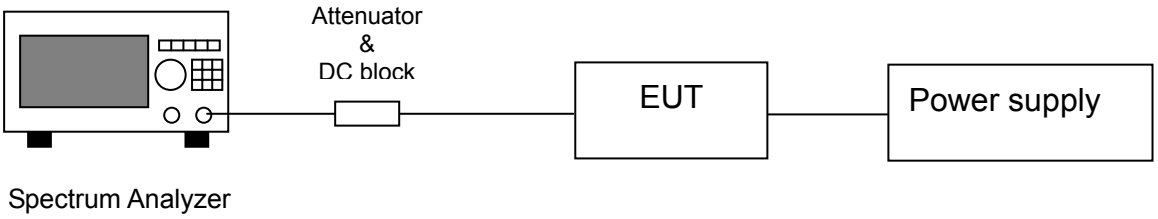
For 5.725-5.85 GHz

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

10.4 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.

10.5 Test diagram

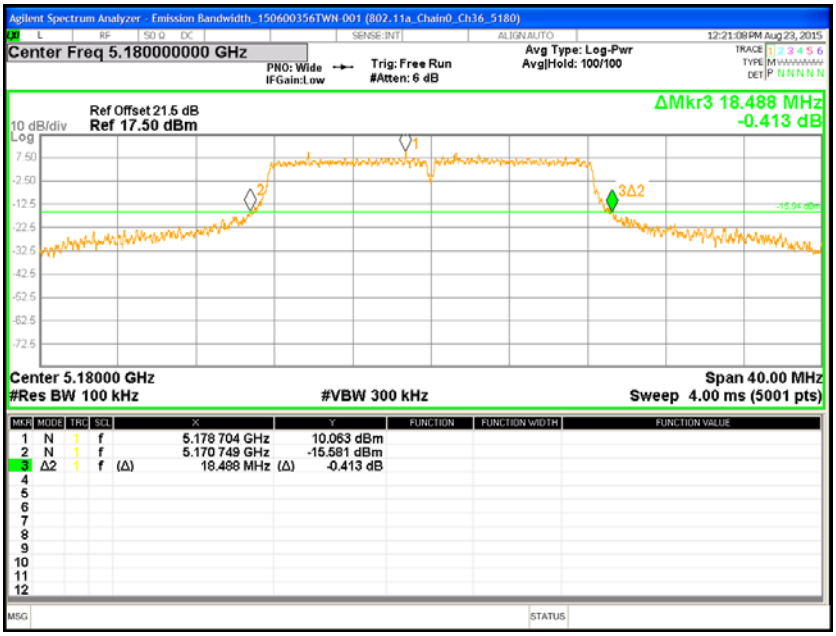


10.6 Test results

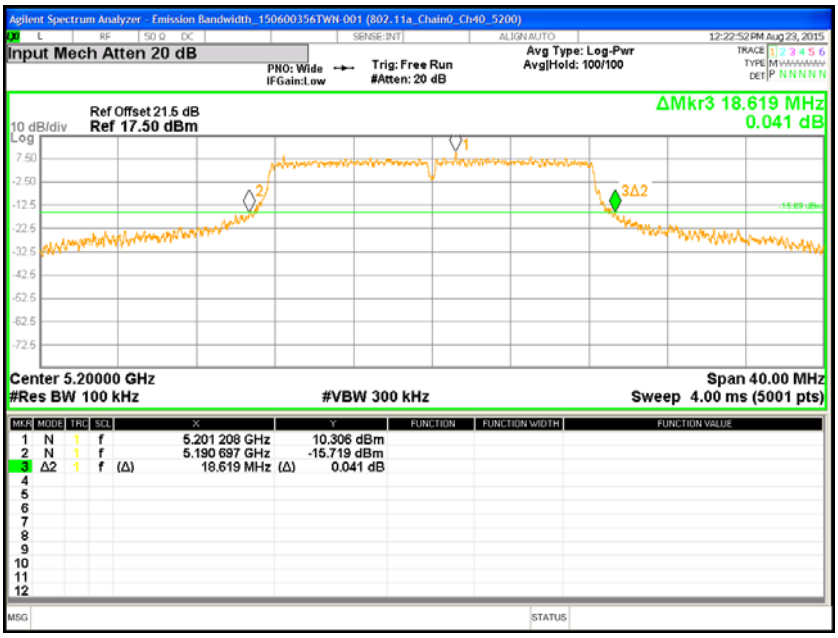
Mode	Channel	Frequency (MHz)	6dB Bandwidth (MHz)	6 dB Limit (MHz)	26dB Bandwidth (MHz)	Upper Frequency (MHz)	Upper limit	Pass/Fail
802.11a Chain0	36	5180		N/A	18.488			Pass
	40	5200			18.619			Pass
	48	5240			18.591	5249.282	5250.000	Pass
	149	5745	16.366	0.5	19.040			Pass
	157	5785	16.343	0.5	19.370			Pass
	165	5825	16.351	0.5	18.640			Pass
802.11a Chain1	36	5180		N/A	18.406			Pass
	40	5200			18.391			Pass
	48	5240			18.513	5249.194	5250.000	Pass
	149	5745	16.383	0.5	19.280			Pass
	157	5785	16.340	0.5	18.970			Pass
	165	5825	16.348	0.5	18.520			Pass
802.11a Chain2	36	5180		N/A	18.444			Pass
	40	5200			18.119			Pass
	48	5240			18.148	5249.026	5250.000	Pass
	149	5745		0.5	18.890			Pass
	157	5785	16.330	0.5	18.950			Pass
	165	5825	16.355	0.5	18.460			Pass
802.11a Chain3	36	5180		N/A	18.377			Pass
	40	5200			18.448			Pass
	48	5240			18.476	5249.210	5250.000	Pass
	149	5745	16.358	0.5	18.980			Pass
	157	5785	16.347	0.5	19.100			Pass
	165	5825	16.356	0.5	18.490			Pass
802.11n (HT 20) Chain0	36	5180		N/A	19.088			Pass
	40	5200			19.313			Pass
	48	5240			19.290	5249.651	5250.000	Pass
	149	5745	17.551	0.5	20.090			Pass
	157	5785	17.564	0.5	20.150			Pass
	165	5825	17.559	0.5	19.800			Pass
802.11n (HT 20) Chain1	36	5180		N/A	19.113			Pass
	40	5200			19.342			Pass
	48	5240			19.337	5249.637	5250.000	Pass
	149	5745	17.595	0.5	20.050			Pass
	157	5785	17.591	0.5	20.120			Pass
	165	5825	17.595	0.5	19.960			Pass
802.11n (HT 20) Chain2	36	5180		N/A	19.084			Pass
	40	5200			19.295			Pass
	48	5240			19.056	5249.592	5250.000	Pass
	149	5745	17.612	0.5	20.190			Pass
	157	5785	17.629	0.5	19.940			Pass
	165	5825	17.565	0.5	20.350			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	19.343			Pass
	40	5200			19.365			Pass
	48	5240			19.149	5249.693	5250.000	Pass
	149	5745	17.576	0.5	19.760			Pass
	157	5785	17.593	0.5	20.090			Pass
	165	5825	17.556	0.5	19.930			Pass
802.11n (HT 40) Chain0	38	5190		N/A	38.186			Pass
	46	5230			38.060	5249.012	5250.000	Pass
	151	5755	36.329	0.5	39.550			Pass
	159	5795	36.031	0.5	39.620			Pass
802.11n (HT 40) Chain1	38	5190		N/A	37.852			Pass
	46	5230			38.094	5249.029	5250.000	Pass
	151	5755	36.058	0.5	39.580			Pass
	159	5795	35.863	0.5	39.420			Pass
802.11n (HT 40) Chain2	38	5190		N/A	37.920			Pass
	46	5230			37.933	5249.033	5250.000	Pass
	151	5755	35.698	0.5	39.400			Pass
	159	5795	36.286	0.5	39.360			Pass
802.11n (HT 40) Chain3	38	5190		N/A	37.918			Pass
	46	5230			37.891	5249.017	5250.000	Pass
	151	5755	36.298	0.5	39.700			Pass
	159	5795	36.295	0.5	39.620			Pass
802.11ac (VHT80) Chain0	42	5210		N/A	78.025	5248.981	5250.000	Pass
	155	5775	76.108	0.5	80.020			Pass
802.11ac (VHT80) Chain1	42	5210		N/A	77.877	5249.044	5250.000	Pass
	155	5775	76.332	0.5	80.510			Pass
802.11ac (VHT80) Chain2	42	5210		N/A	77.913	5249.017	5250.000	Pass
	155	5775	76.317	0.5	81.660			Pass
802.11ac (VHT80) Chain3	42	5210		N/A	77.854	5249.028	5250.000	Pass
	155	5775	76.348	0.5	80.090			Pass

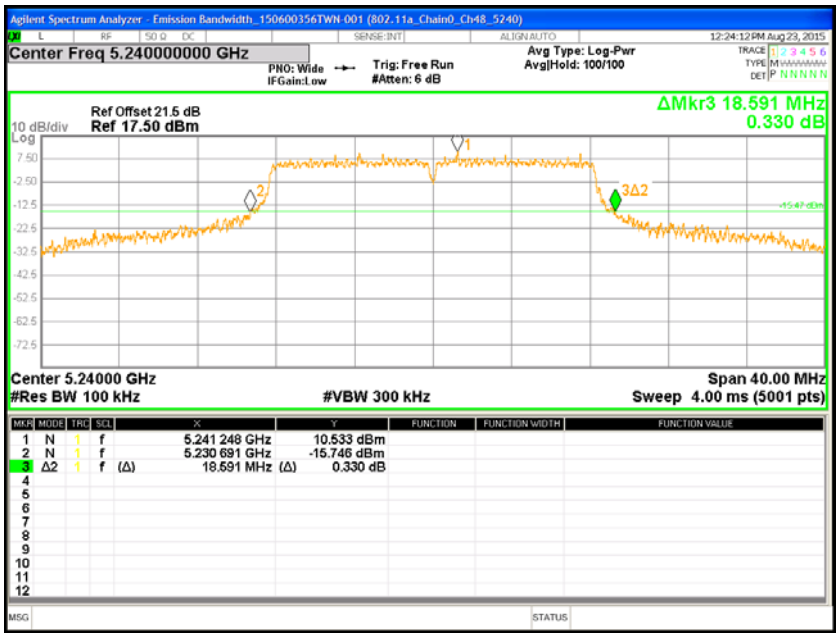
Chain0 : 26 dB Bandwidth @ 802.11a Mode Ch36



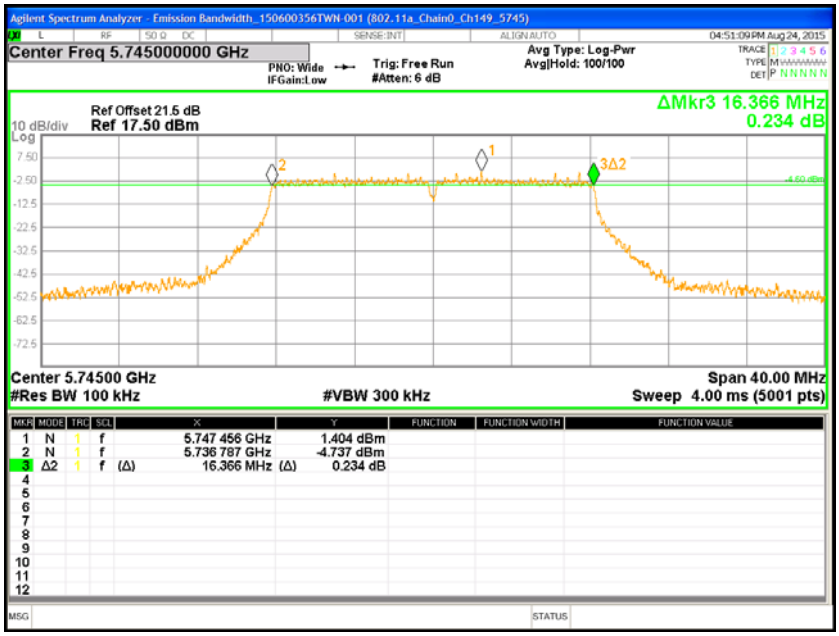
Chain0 : 26 dB Bandwidth @ 802.11a Mode Ch40



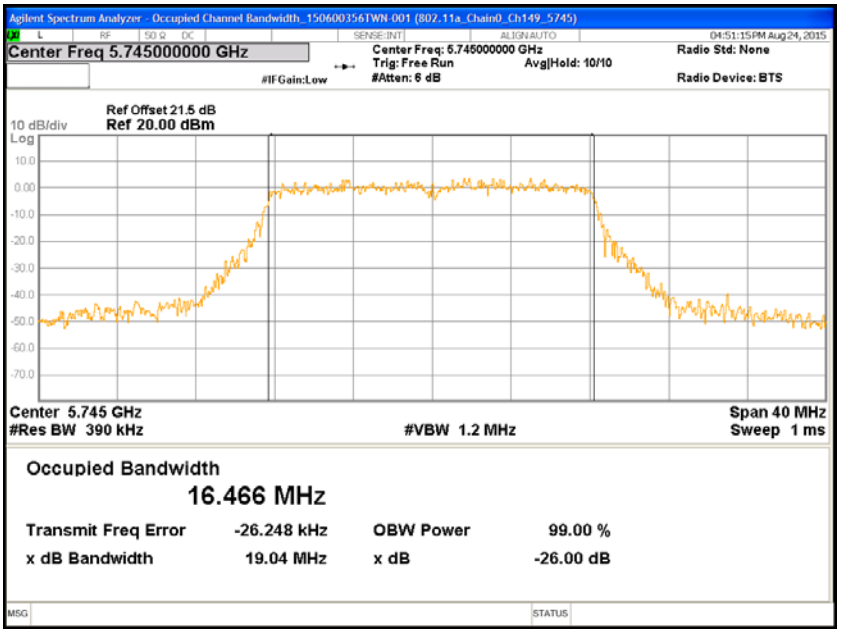
Chain0 : 26 dB Bandwidth@ 802.11a Mode Ch48



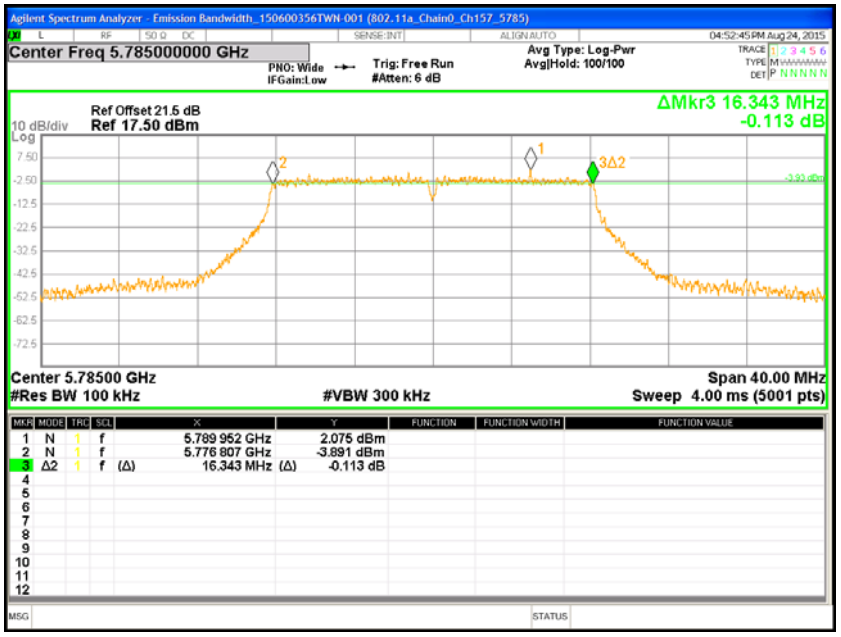
Chain0 : 6 dB Bandwidth @ 802.11a Mode Ch149



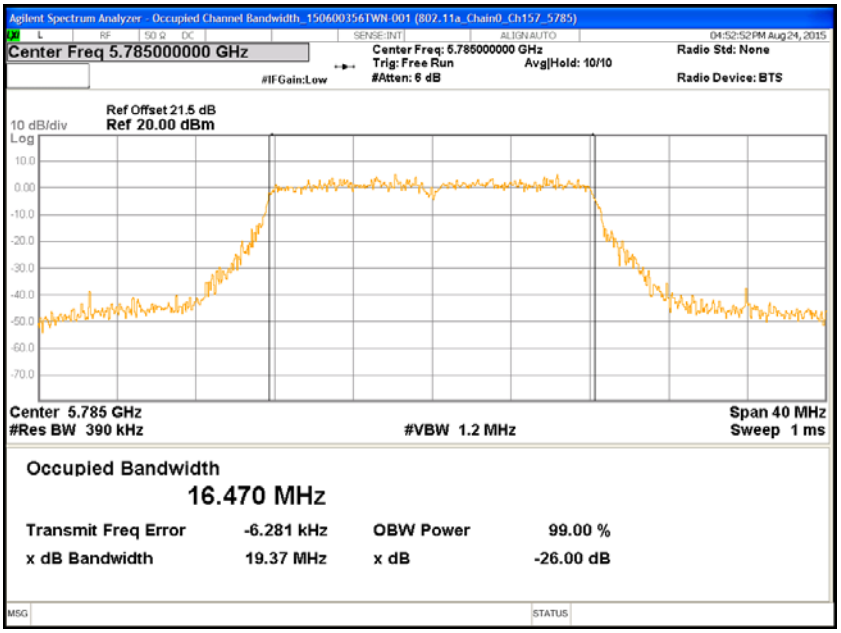
Chain0 : 26 dB Bandwidth @ 802.11a Mode Ch149



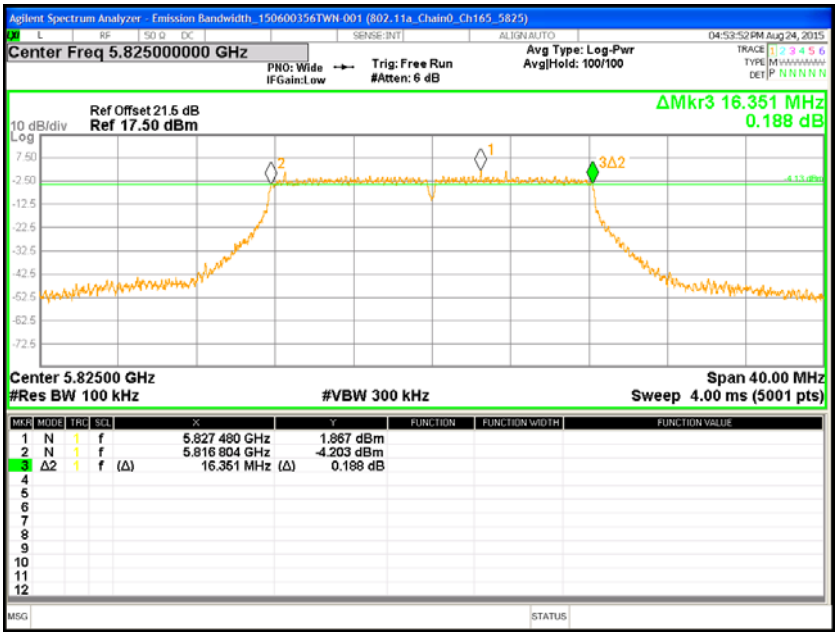
Chain0 : 6 dB Bandwidth @ 802.11a Mode Ch157



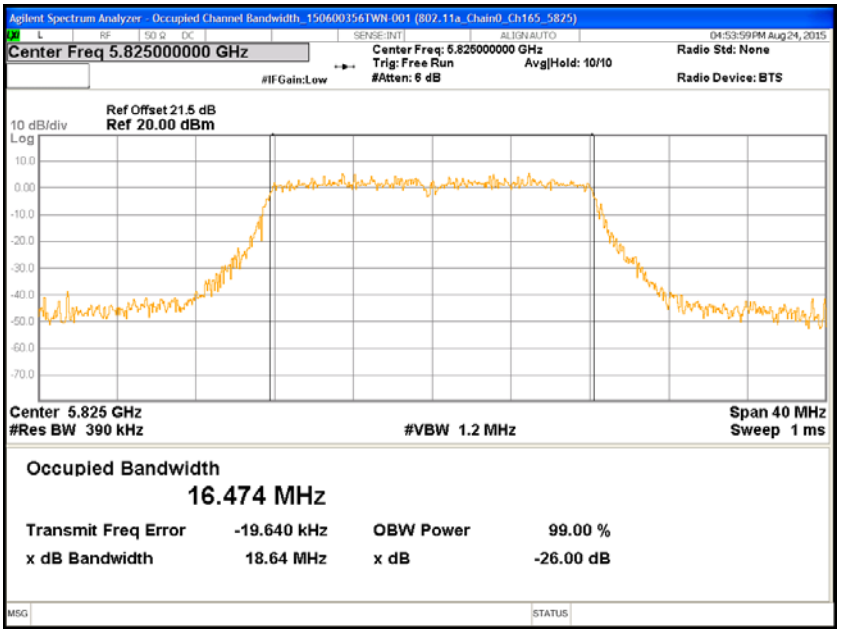
Chain0 : 26 dB Bandwidth@ 802.11a Mode Ch157



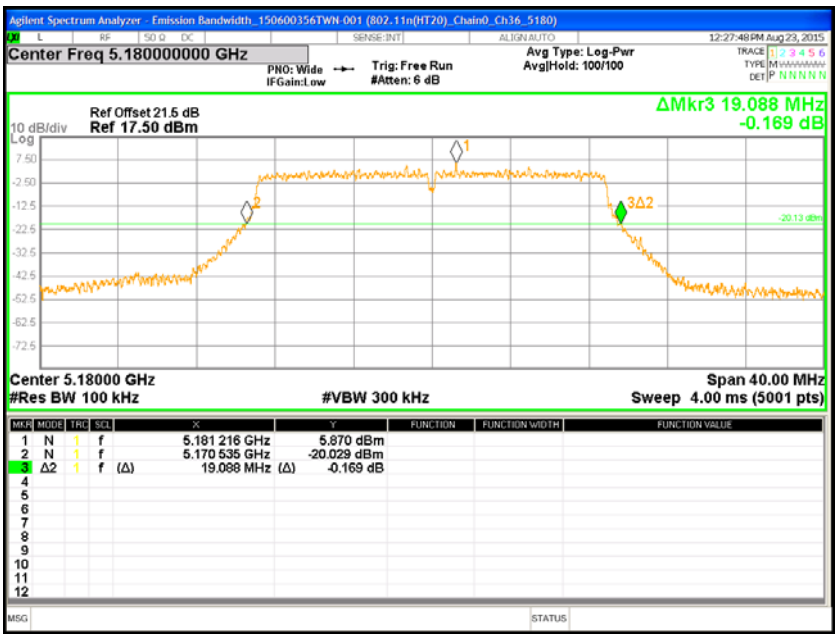
Chain0 : 6 dB Bandwidth @ 802.11a Mode Ch165



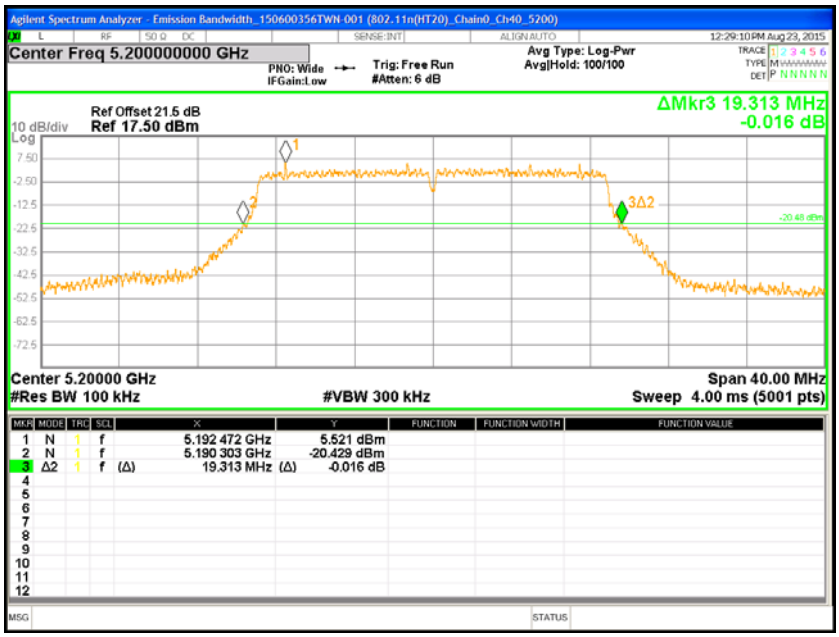
Chain0 : 26 dB Bandwidth @ 802.11a Mode Ch165



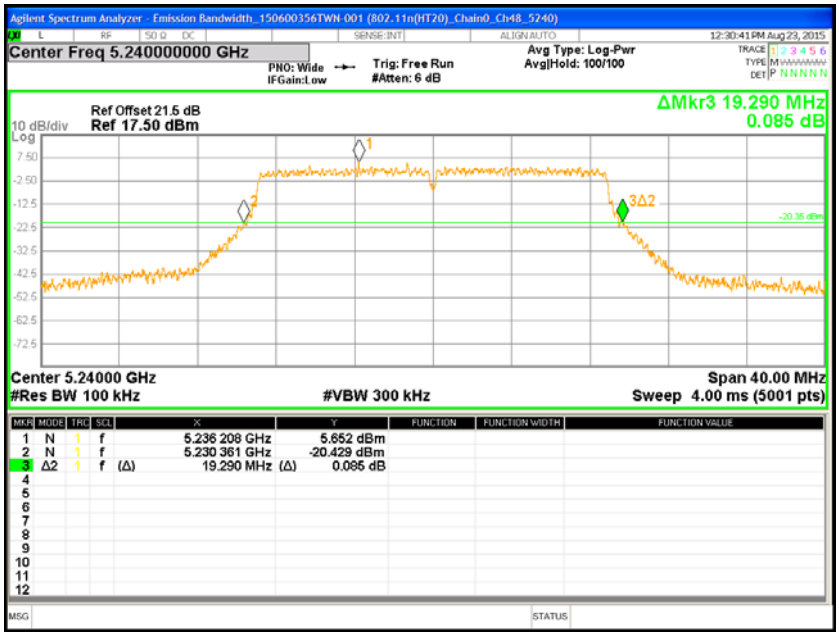
Chain0 : 26 dB Bandwidth @ 802.11an(HT20) Mode Ch36



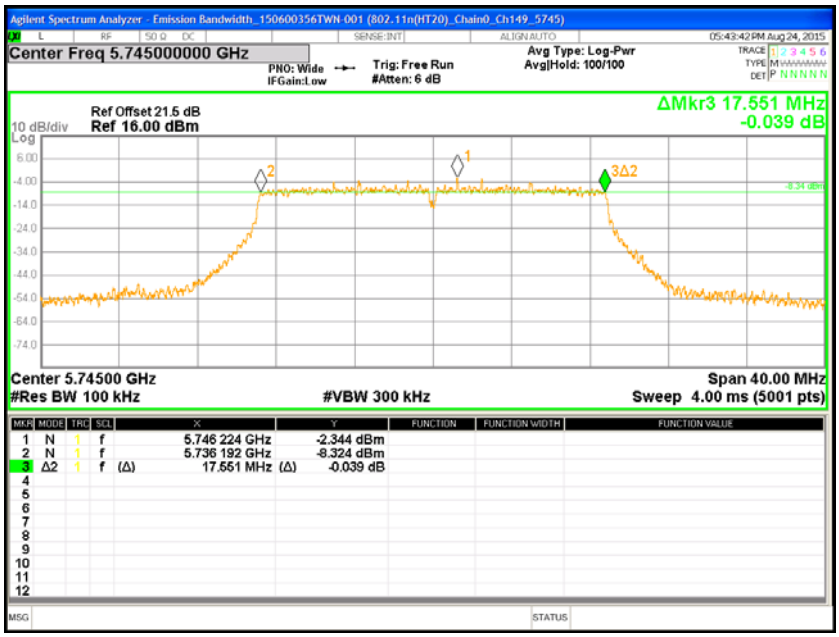
Chain0 : 26 dB Bandwidth @ 802.11an(HT20) Mode Ch40



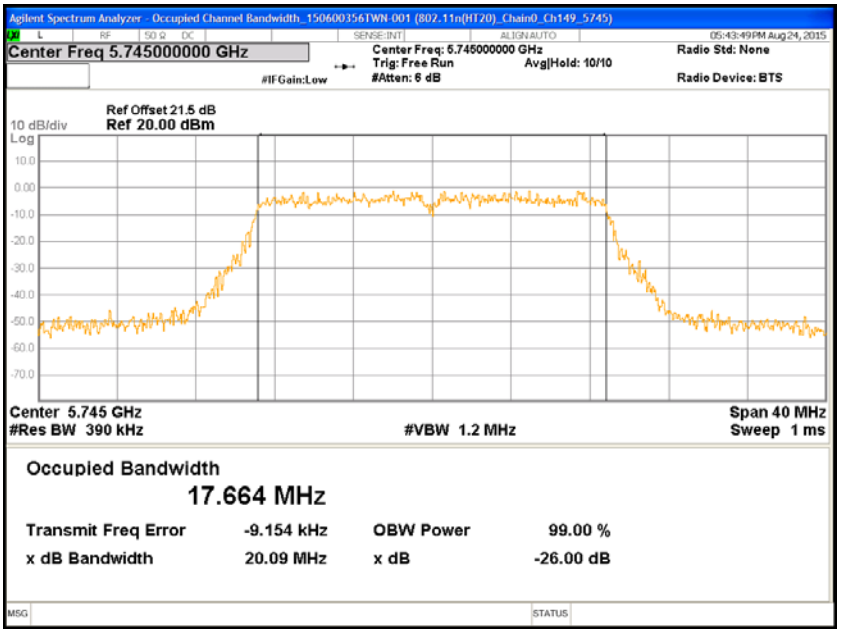
Chain0 : 26 dB Bandwidth @ 802.11an(HT20) Mode Ch48



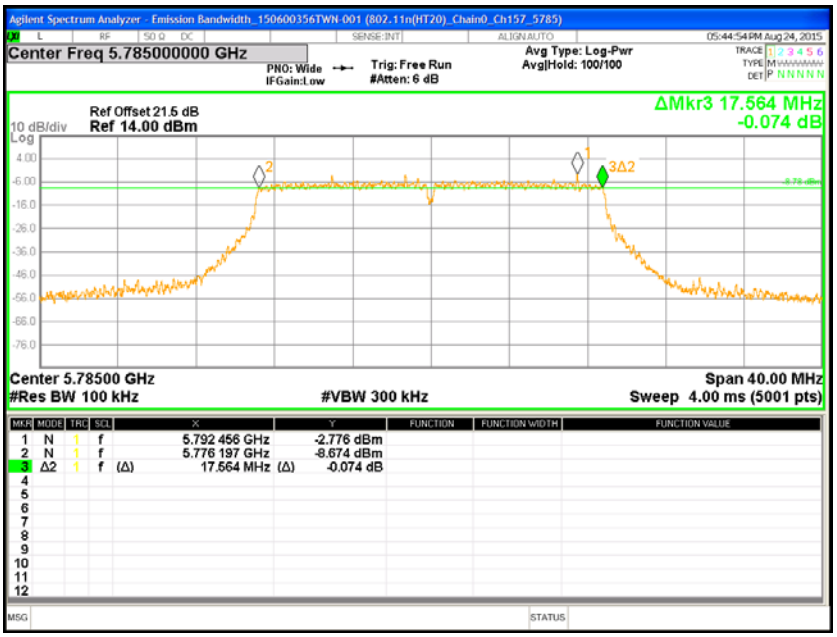
Chain0 : 6 dB Bandwidth @ 802.11an(HT20) Mode Ch149



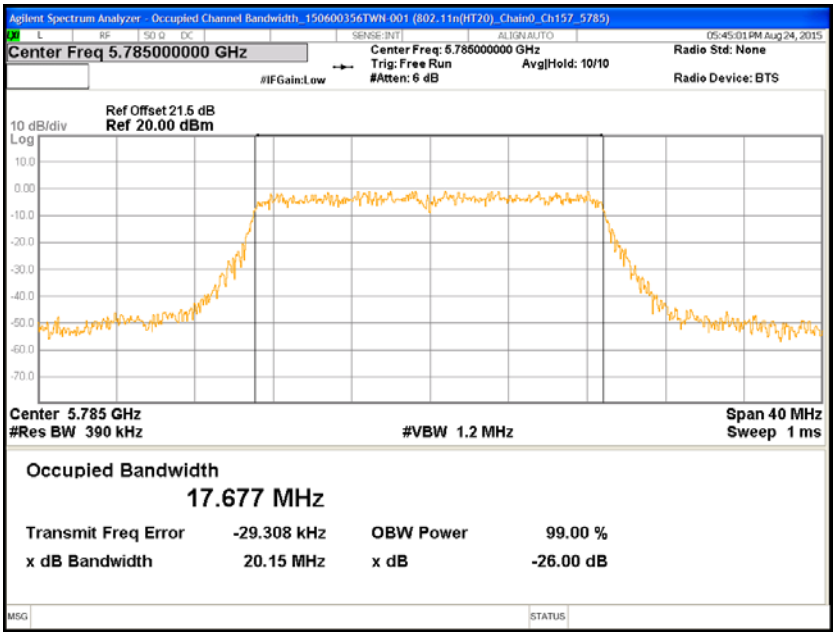
Chain0 : 26 dB Bandwidth @ 802.11an(HT20) Mode Ch149



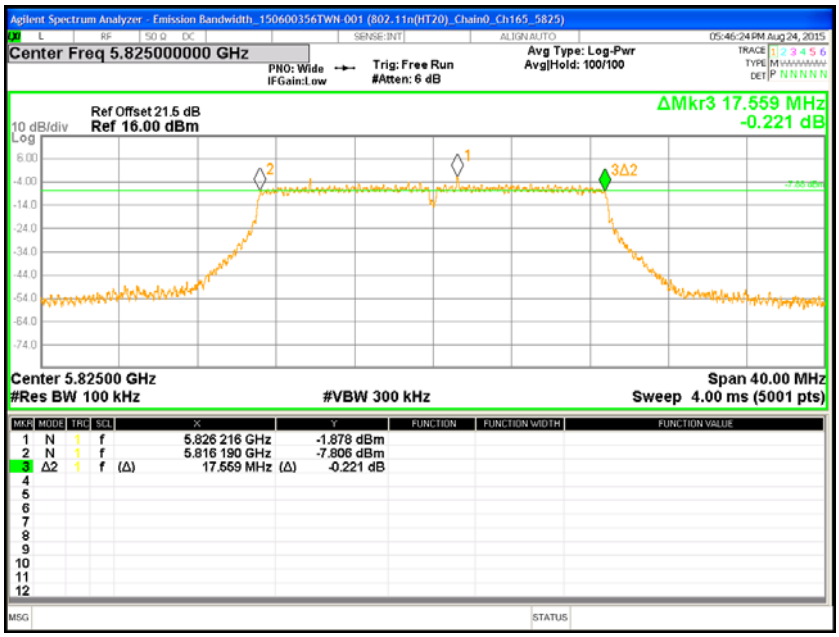
Chain0 : 6 dB Bandwidth @ 802.11an(HT20) Mode Ch157



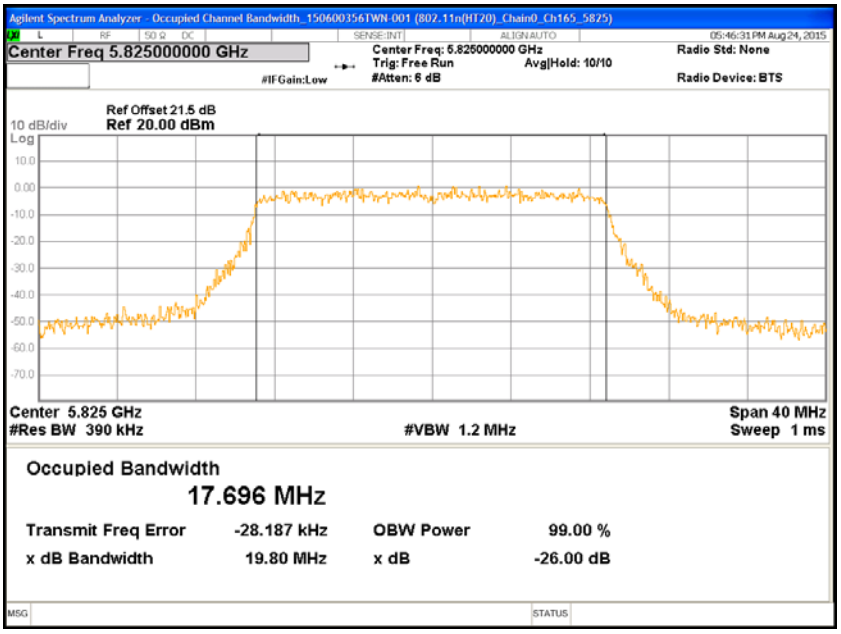
Chain0 : 26 dB Bandwidth @ 802.11an(HT20) Mode Ch157



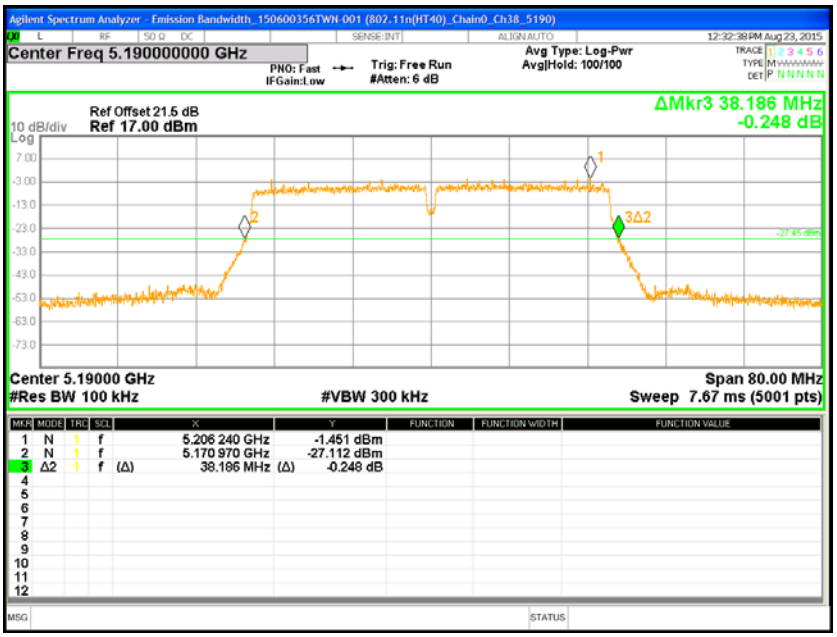
Chain0 : 6 dB Bandwidth @ 802.11an(HT20) Mode Ch165



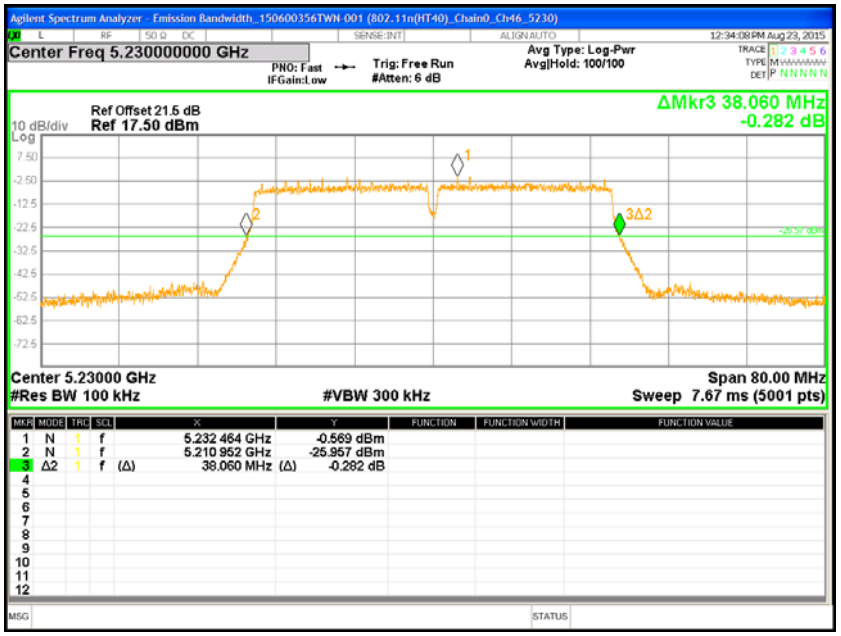
Chain0 : 26 dB Bandwidth @ 802.11an(HT20) Mode Ch165



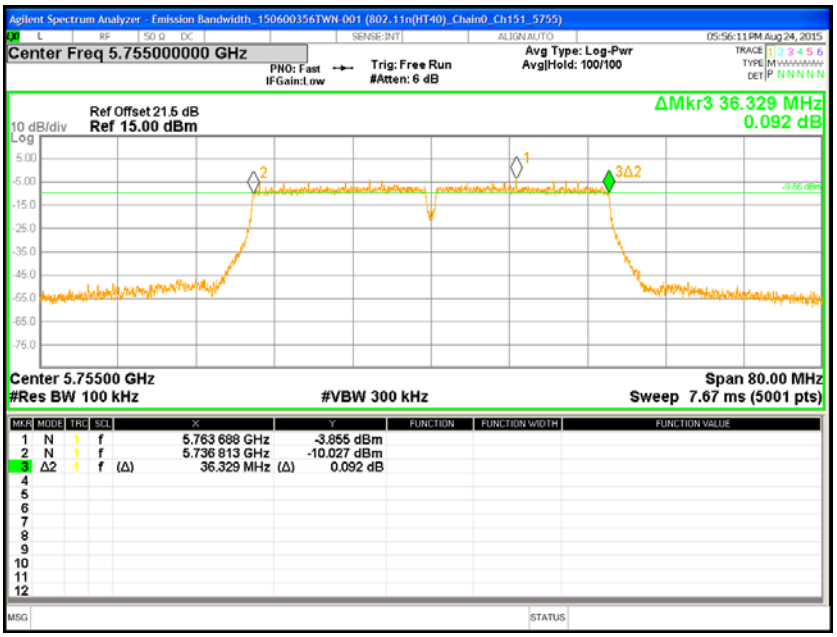
Chain0 : 26 dB Bandwidth @ 802.11an(HT40) Mode Ch38



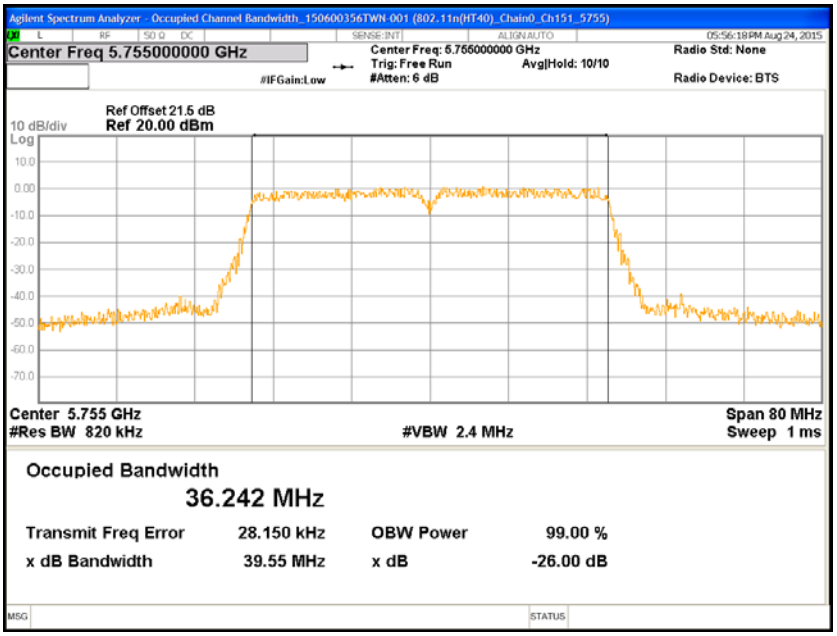
Chain0 : 26 dB Bandwidth @ 802.11an(HT40) Mode Ch46



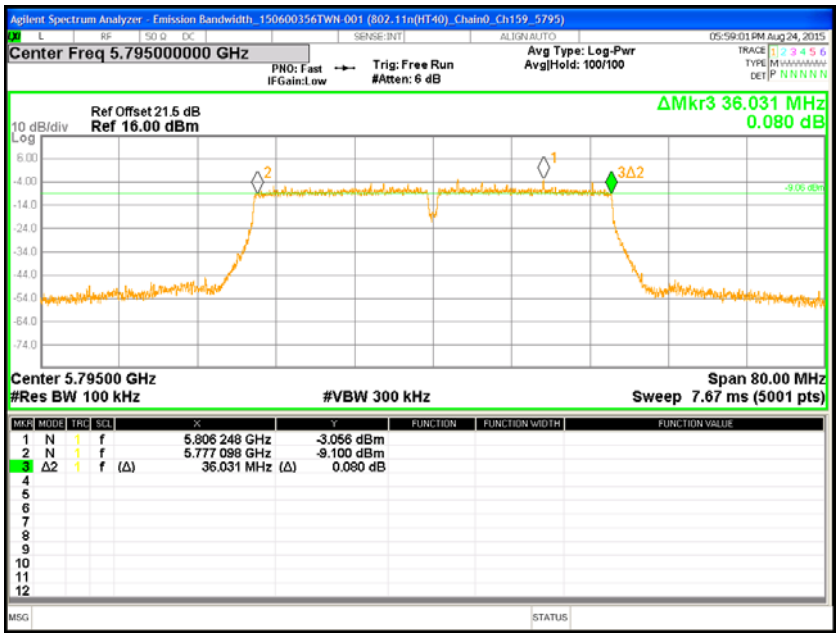
Chain0 : 6 dB Bandwidth @ 802.11an(HT40) Mode Ch151



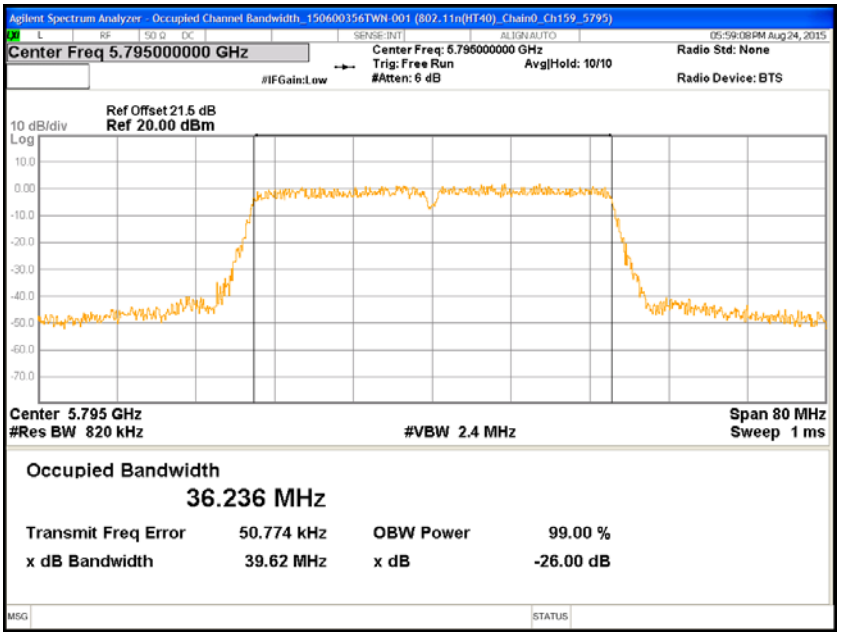
Chain0 : 26 dB Bandwidth @ 802.11an(HT40) Mode Ch151



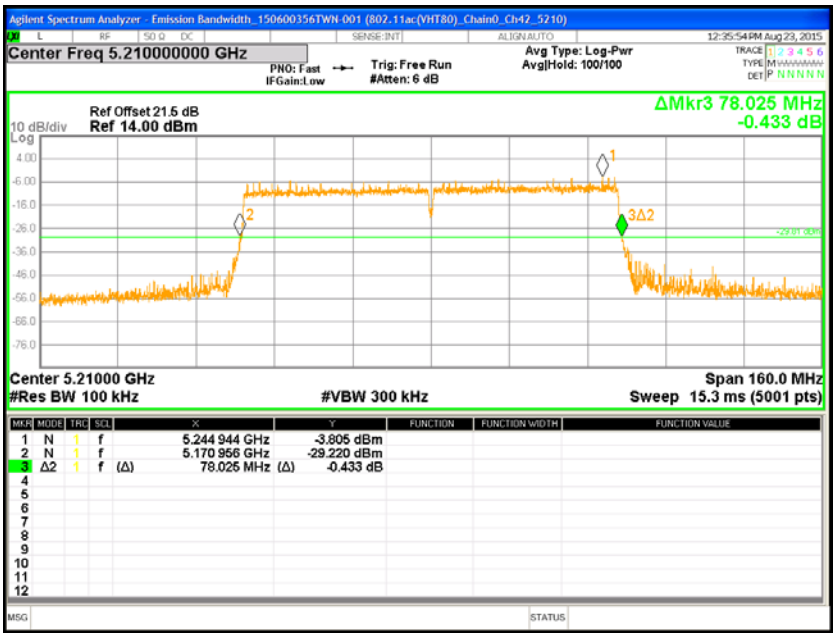
Chain0 : 6 dB Bandwidth @ 802.11an(HT40) Mode Ch159



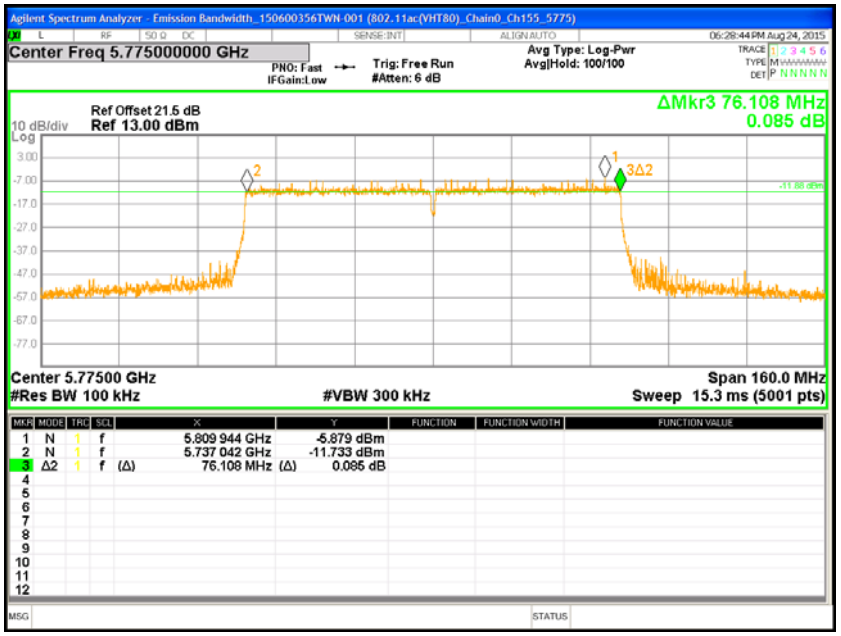
Chain0 : 26 dB Bandwidth @ 802.11an(HT40) Mode Ch159



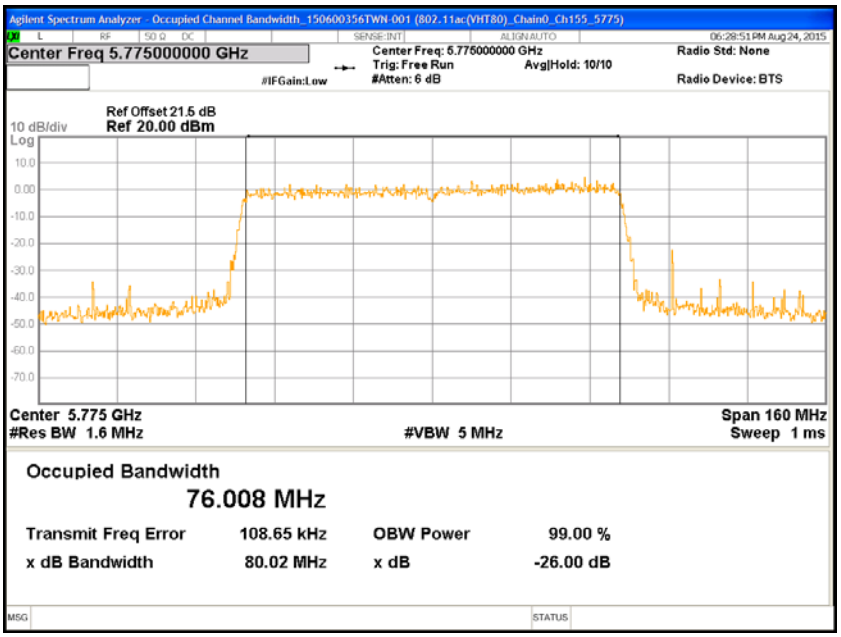
Chain0 : 26 dB Bandwidth @ 802.11ac(VHT80) Mode Ch42



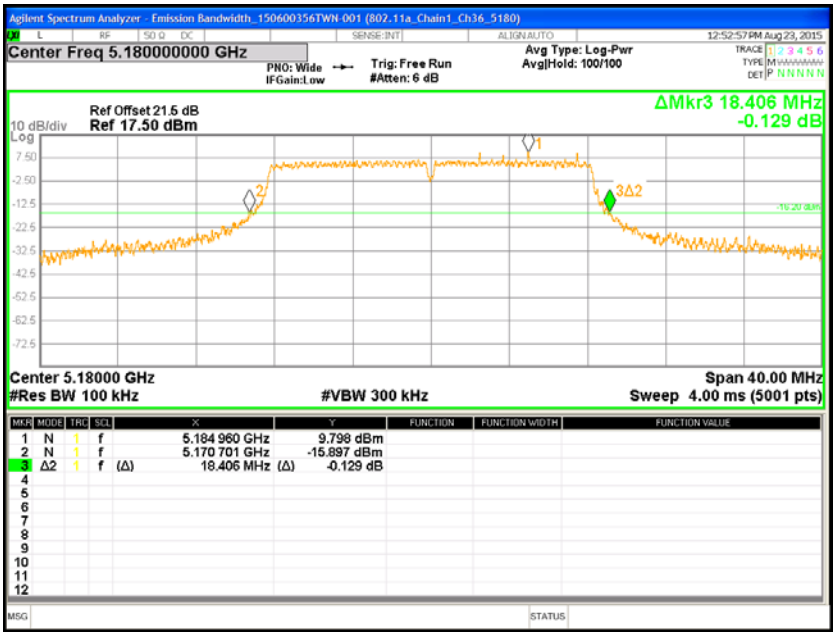
Chain0 : 6 dB Bandwidth @ 802.11ac(VHT80) Mode Ch155



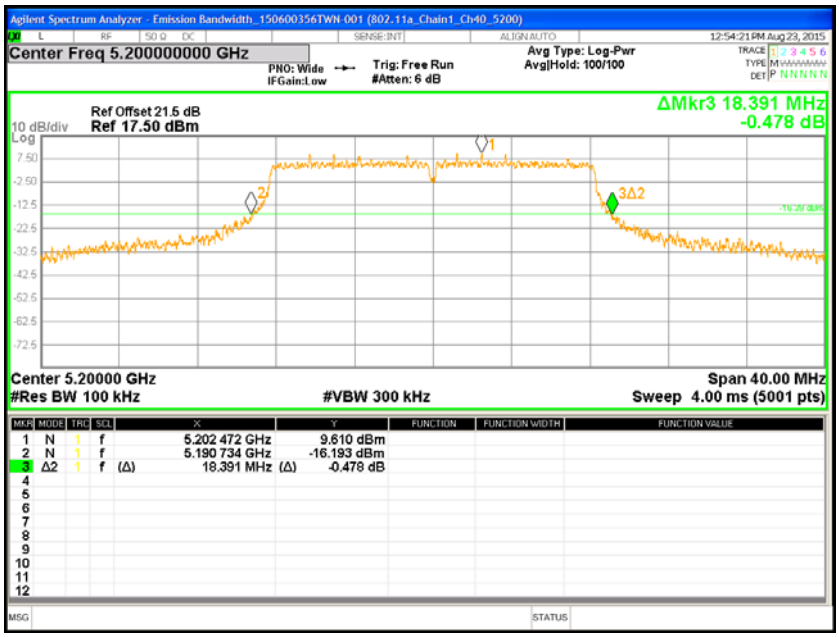
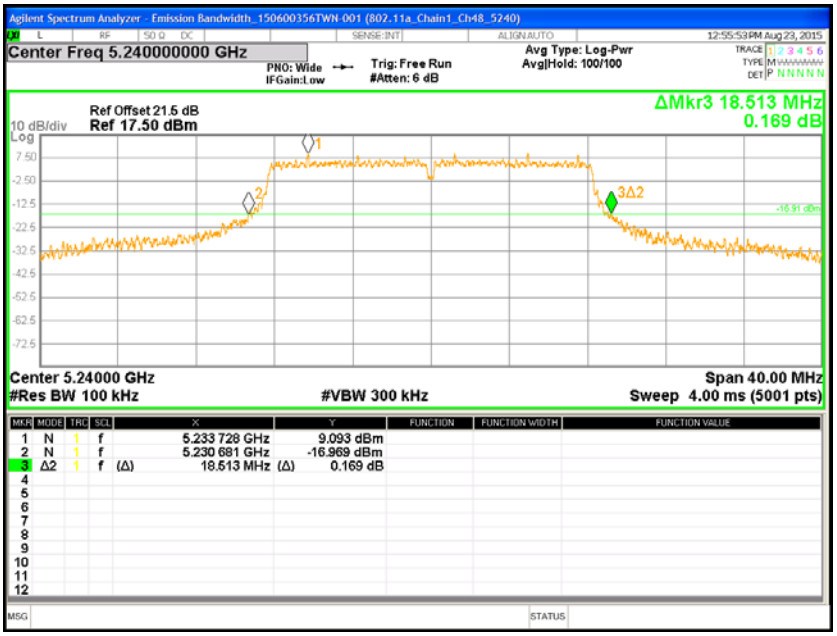
Chain0 : 26 dB Bandwidth @ 802.11ac(VHT80) Mode Ch155



Chain1 : 26 dB Bandwidth @ 802.11a Mode Ch36



Chain1 : 26 dB Bandwidth @ 802.11a Mode Ch40



Chain1 : 26 dB Bandwidth @ 802.11a Mode Ch48