

EUT :	Notebook	Model Name. :	G139
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1015 hPa	Test Voltage :	DC 7.6V
Test Mode :	TX Frequency Band IV (5745-5825MHz)		

Mode	Frequency	Measured Power Density (dBm)	Calculate power density (dBm)(Note 1)	Limit (dBm)	Result
802.11 a	5745 MHz	2.674	2.588	30	PASS
	5785 MHz	2.640	2.554	30	PASS
	5825 MHz	2.928	2.842	30	PASS
802.11 n20	5745 MHz	1.983	1.897	30	PASS
	5785 MHz	2.288	2.202	30	PASS
	5825 MHz	2.481	2.395	30	PASS
802.11 n40	5755 MHz	-0.050	-0.136	30	PASS
	5795 MHz	0.004	-0.082	30	PASS
802.11 ac20	5745 MHz	2.072	1.986	30	PASS
	5785 MHz	2.497	2.411	30	PASS
	5825 MHz	2.359	2.273	30	PASS
802.11 ac40	5755 MHz	0.088	0.002	30	PASS
	5795 MHz	-0.506	-0.592	30	PASS
802.11 ac80	5775 MHz	-3.682	-3.768	30	PASS

Note:

(1) Calculate power density= Measured Power Density+10log(500kHz/RBW)= Measured Power Density+(-0.086)
 RBW=0.51MHz

(802.11a) PSD plot on channel 149



(802.11n20) PSD plot on channel 149



(802.11a) PSD plot on channel 157



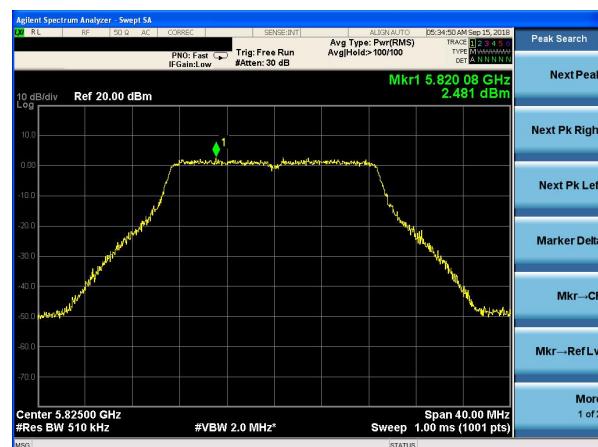
(802.11n20) PSD plot on channel 157



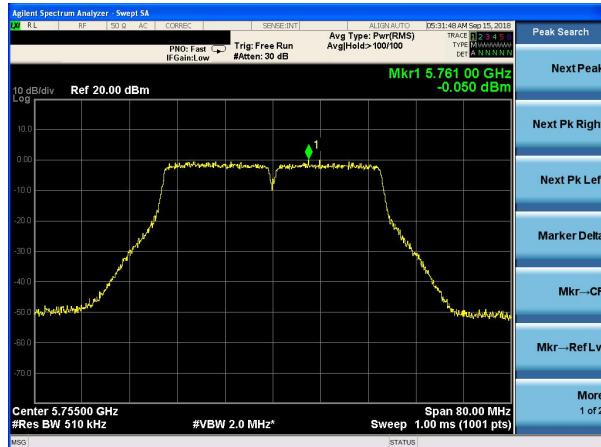
(802.11a) PSD plot on channel 165



(802.11n20) PSD plot on channel 165



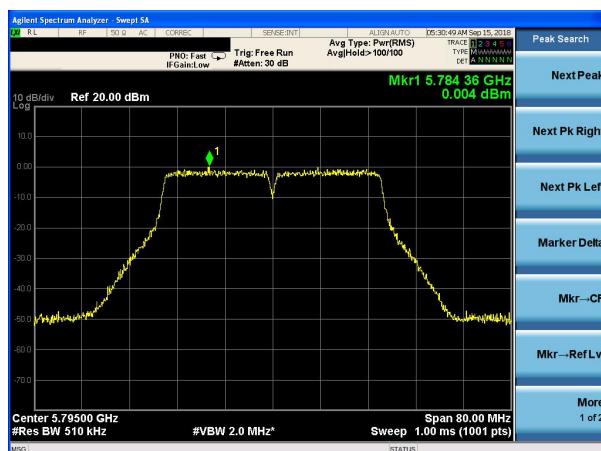
(802.11n40) PSD plot on channel 151



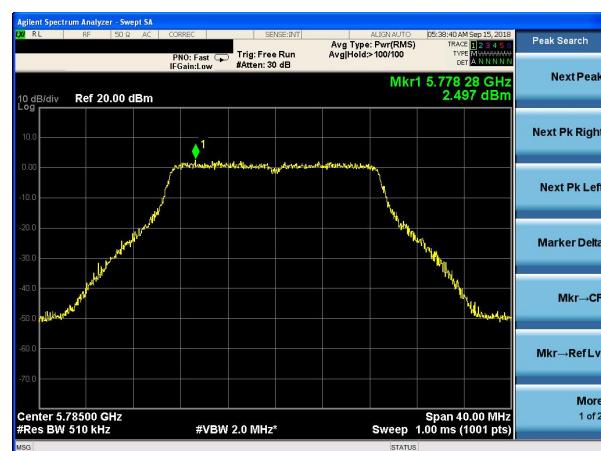
(802.11ac20) PSD plot on channel 149



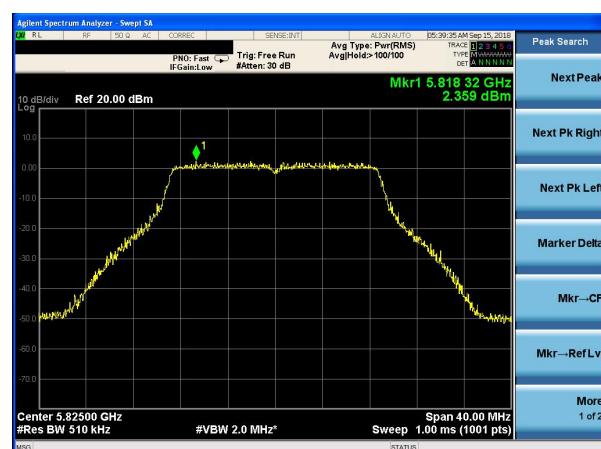
(802.11n40) PSD plot on channel 159



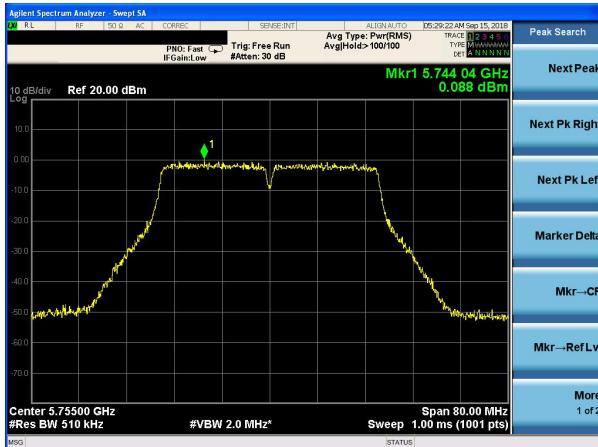
(802.11ac20) PSD plot on channel 157



(802.11ac20) PSD plot on channel 165



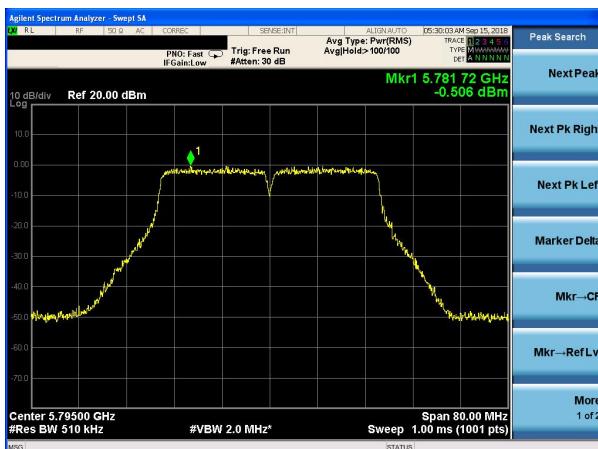
(802.11ac40) PSD plot on channel 151



(802.11ac80) PSD plot on channel 155



(802.11ac40) PSD plot on channel 159



5. 26DB & 99% EMISSION BANDWIDTH

5.1 APPLIED PROCEDURES / LIMIT

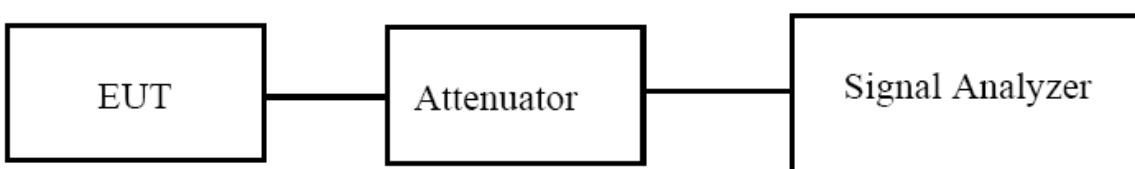
The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. If the device cannot be connected directly, alternative techniques acceptable to the Commission may be used. Measurements in the 5.725-5.85 GHz band are made over a reference bandwidth of 500 kHz or the 26 dB emission bandwidth of the device, whichever is less. Measurements in the 5.15-5.25 GHz, 5.25-5.35 GHz, and the 5.47-5.725 GHz bands are made over a bandwidth of 1 MHz or the 26 dB emission bandwidth of the device, whichever is less. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full reference bandwidth.

5.2 TEST PROCEDURE

- a) Set RBW = approximately 1% of the emission bandwidth.
- b) Set the VBW > RBW.
- c) Detector = Peak.
- d) Trace mode = max hold.
- e) 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 RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

The following procedure shall be used for measuring (99 %) power 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. Set VBW $\geq 3 \cdot$ 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.



5.3 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

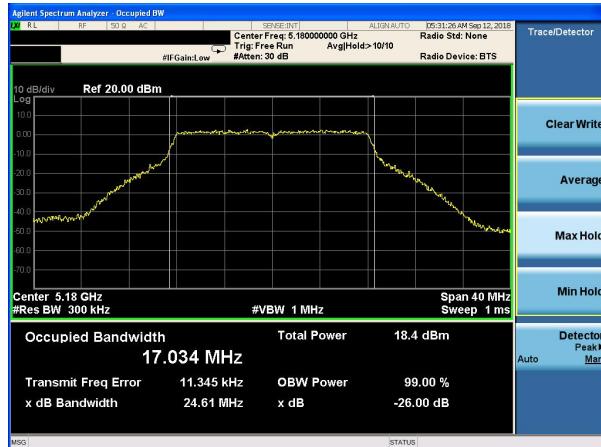
5.4 TEST RESULTS

EUT :	Notebook	Model Name. :	G139
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1012 hPa	Test Voltage :	DC 7.6V
Test Mode :	TX Frequency Band I (5150-5250MHz)		

Mode	Channel	Frequency (MHz)	99% bandwidth(MHz)	26dB bandwidth (MHz)	Result
802.11a	CH36	5180	17.034	24.61	Pass
	CH40	5200	16.980	23.72	Pass
	CH48	5240	17.045	24.27	Pass
802.11 n20	CH36	5180	18.076	24.41	Pass
	CH40	5200	18.093	24.09	Pass
	CH48	5240	18.077	23.98	Pass
802.11 n40	CH 38	5190	36.554	45.06	Pass
	CH 46	5230	36.584	44.62	Pass
802.11 ac20	CH36	5180	18.062	24.71	Pass
	CH40	5200	18.072	23.96	Pass
	CH48	5240	18.068	24.59	Pass
802.11 ac40	CH 38	5190	36.550	44.29	Pass
	CH 46	5230	36.509	44.99	Pass
802.11 ac80	CH 42	5210	75.032	82.83	Pass

Test plot

(802.11a) -26dB&99%Bandwidth plot on
channel 36



(802.11 n20) -26dB&99%Bandwidth plot on
channel 36



(802.11a) -26dB&99%Bandwidth plot on
channel 40



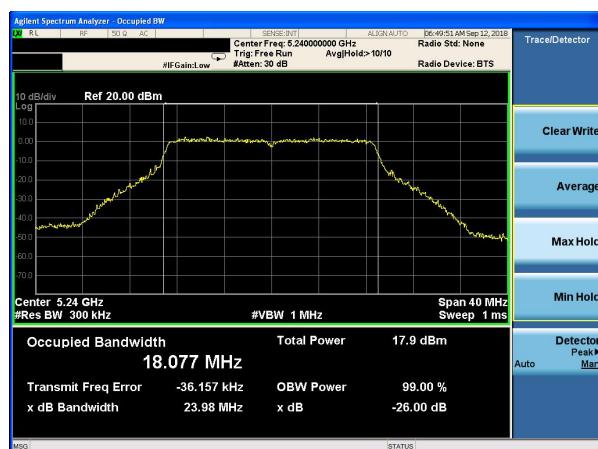
(802.11 n20) -26dB&99%Bandwidth plot on
channel 40



(802.11a) -26dB&99%Bandwidth plot on
channel 48



(802.11 n20) -26dB&99%Bandwidth plot on
channel 48



Test plot

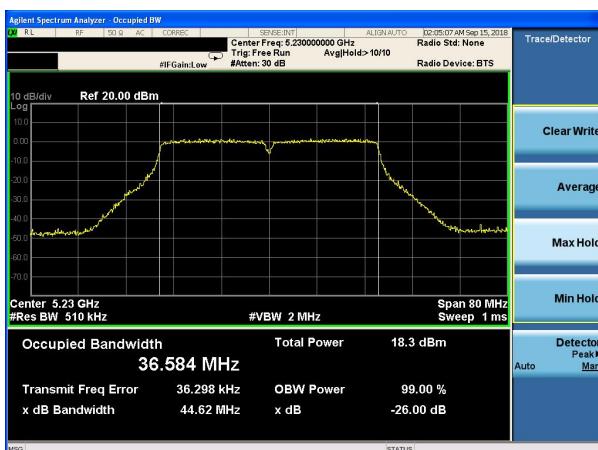
(802.11 n40) -26dB&99%Bandwidth plot on
channel 38



(802.11 ac20) -26dB&99%Bandwidth plot on
channel 36



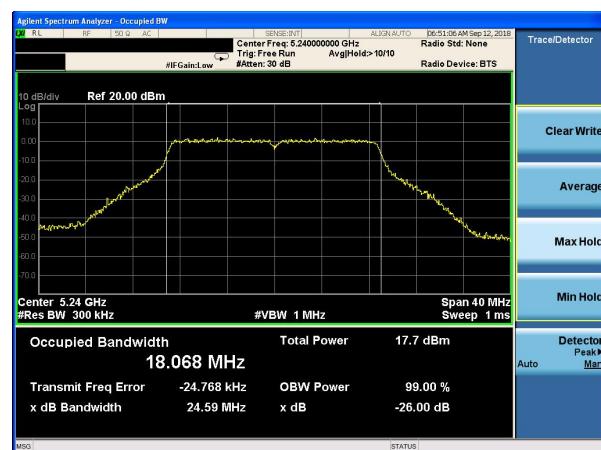
(802.11 n40) -26dB&99%Bandwidth plot on
channel 46



(802.11 ac20) -26dB&99%Bandwidth plot on
channel 40

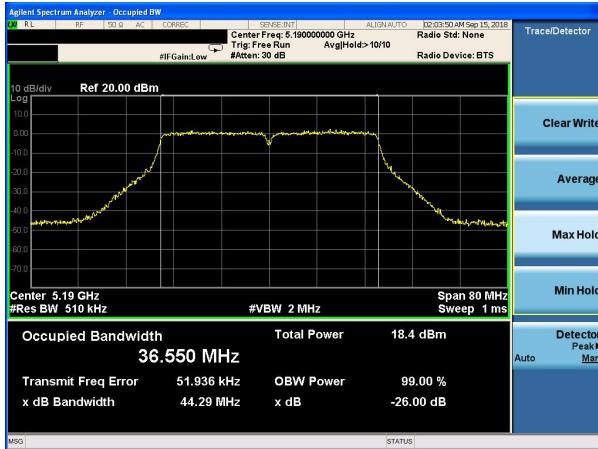


(802.11 ac20) -26dB&99%Bandwidth plot on
channel 48

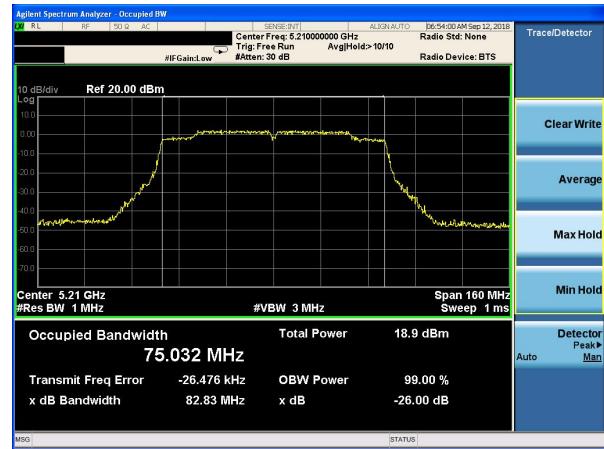


Test plot

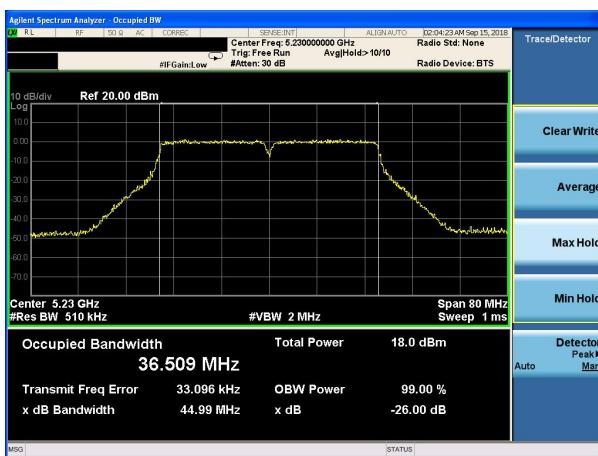
(802.11 ac40) -26dB&99%Bandwidth plot on
channel 38



(802.11 ac80) -26dB&99%Bandwidth plot on
channel 42



(802.11 ac40) -26dB&99%Bandwidth plot on
channel 46

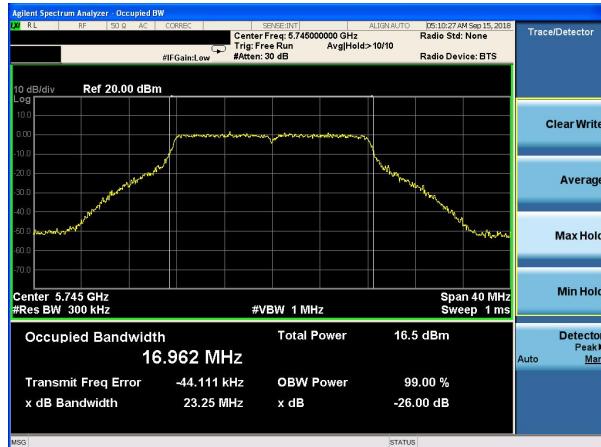


EUT :	Notebook	Model Name. :	G139
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1012 hPa	Test Voltage :	DC 7.6V
Test Mode :	TX Frequency Band IV(5745-5825MHz)		

Mode	Channel	Frequency (MHz)	99% bandwidth(MHz)	26dB bandwidth (MHz)	Result
802.11a	CH149	5745	16.962	23.25	Pass
	CH157	5785	16.958	23.44	Pass
	CH165	5825	16.952	23.51	Pass
802.11 n20	CH149	5745	18.049	23.84	Pass
	CH157	5785	18.075	23.76	Pass
	CH165	5825	18.082	23.64	Pass
802.11 n40	CH151	5755	36.532	44.59	Pass
	CH159	5795	36.561	43.39	Pass
802.11 ac20	CH149	5745	18.059	24.66	Pass
	CH157	5785	18.080	24.49	Pass
	CH165	5825	18.046	24.46	Pass
802.11 ac40	CH151	5755	36.515	44.19	Pass
	CH159	5795	36.525	44.49	Pass
802.11 ac80	CH155	5775	75.235	83.80	Pass

Test plot

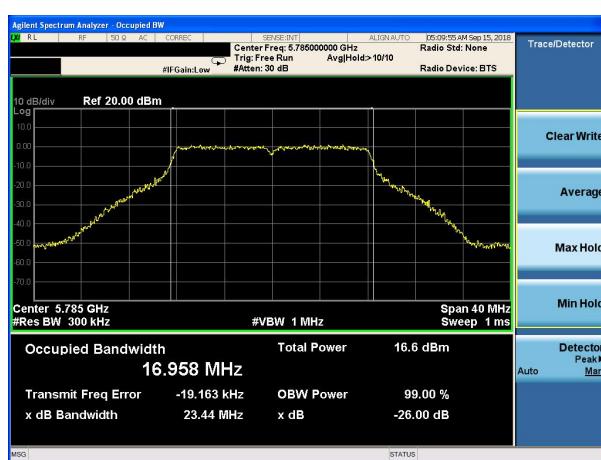
(802.11a) -26dB&99%Bandwidth plot on
channel 149



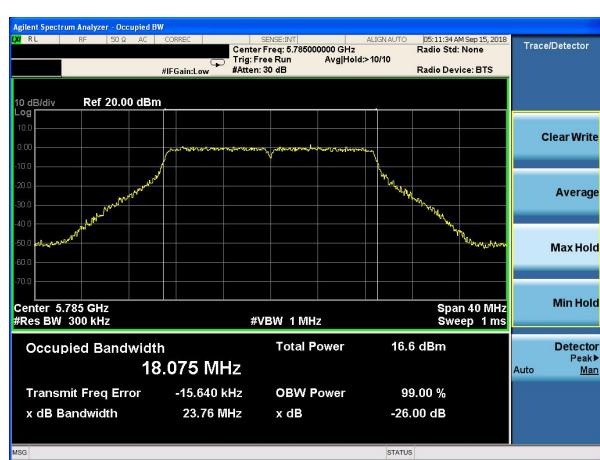
(802.11 n20) -26dB&99%Bandwidth plot on
channel 149



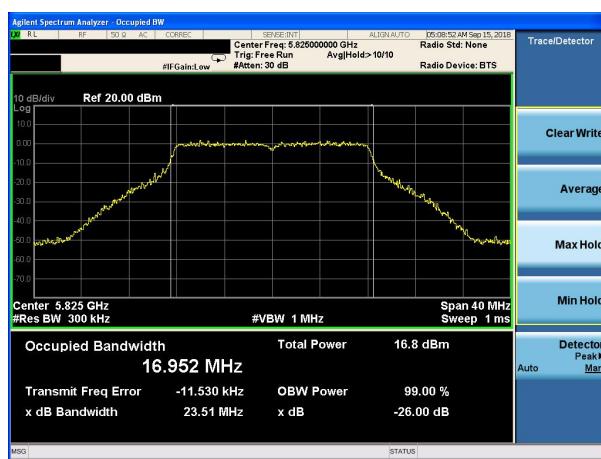
(802.11a) -26dB&99%Bandwidth plot on channel
157



(802.11 n20) -26dB&99%Bandwidth plot on
channel 157



(802.11a) -26dB&99%Bandwidth plot on channel
165

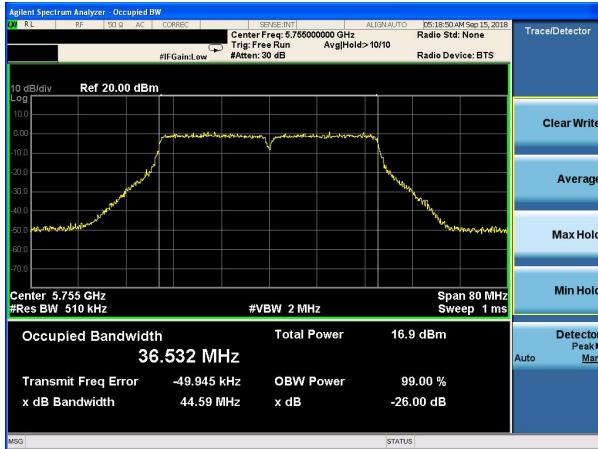


(802.11 n20) -26dB&99%Bandwidth plot on
channel 165



Test plot

(802.11 n40) -26dB&99%Bandwidth plot on
channel 151



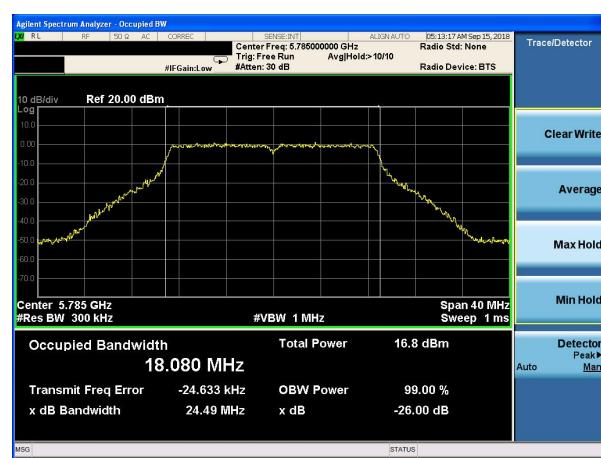
(802.11 ac20) -26dB&99%Bandwidth plot on
channel 149



(802.11 n40) -26dB&99%Bandwidth plot on
channel 159



(802.11 ac20) -26dB&99%Bandwidth plot on
channel 157



(802.11 ac20) -26dB&99%Bandwidth plot on
channel 165

