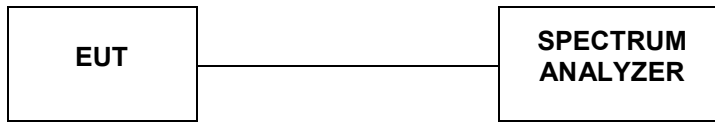


#### 4.6. 6dB Bandwidth

##### TEST CONFIGURATION



##### TEST PROCEDURE

According to KDB789033 D02 General U-NII Test Procedures New Rules v02r01 for one of the following procedures may be used for section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 KHz for the band 5.715-5.85 GHz. The following procedure shall be used for measuring this bandwidth:

- a. Set RBW = 100 kHz.
- b. Set the video bandwidth (VBW)  $\geq 3 \times$  RBW
- c. Detector = Peak.
- d. Trace mode = max hold.
- e. Sweep = auto couple.
- f. Allow the trace to stabilize
- g. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

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

##### LIMIT

For Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 KHz for the band 5.715-5.85 GHz

##### TEST RESULTS

Temperature	23.6°C	Humidity	55.7%
Test Engineer	Moon Tan	Configurations	IEEE 802.11a/n/ac

**Antenna 0:**

Type	Channel	99%Bandwidth (MHz)	6dB Bandwidth (MHz)	Limit (KHz)	Result
802.11a	149	17.526	16.400	≥500	Pass
	157	17.405	16.440		
	165	17.393	16.400		
802.11nHT20	149	18.560	17.640	≥500	Pass
	157	18.433	17.680		
	165	18.343	17.680		
802.11n40	151	36.872	36.480	≥500	Pass
	159	36.853	36.480		
802.11ac20	149	18.585	17.680	≥500	Pass
	157	18.404	17.680		
	165	18.365	17.640		
802.11ac40	151	36.957	36.480	≥500	Pass
	159	36.778	36.480		
802.11ac80	155	75.192	75.520	≥500	Pass

**Antenna 1:**

Type	Channel	99%Bandwidth (MHz)	6dB Bandwidth (MHz)	Limit (KHz)	Result
802.11a	149	17.457	16.440	≥500	Pass
	157	17.381	16.440		
	165	17.339	16.400		
802.11nHT20	149	18.423	17.680	≥500	Pass
	157	18.349	17.640		
	165	18.341	17.680		
802.11n40	151	36.821	36.480	≥500	Pass
	159	36.817	36.480		
802.11ac20	149	18.370	17.680	≥500	Pass
	157	18.362	17.680		
	165	18.330	17.680		
802.11ac40	151	36.759	36.480	≥500	Pass
	159	36.842	36.480		
802.11ac80	155	75.104	75.520	≥500	Pass

Antenna 0:

99%Bandwidth

802.11a

802.11n HT20



CH149

CH149



CH157

CH157



CH165

CH165

99%Bandwidth

802.11ac20

802.11n HT40



CH149

CH151

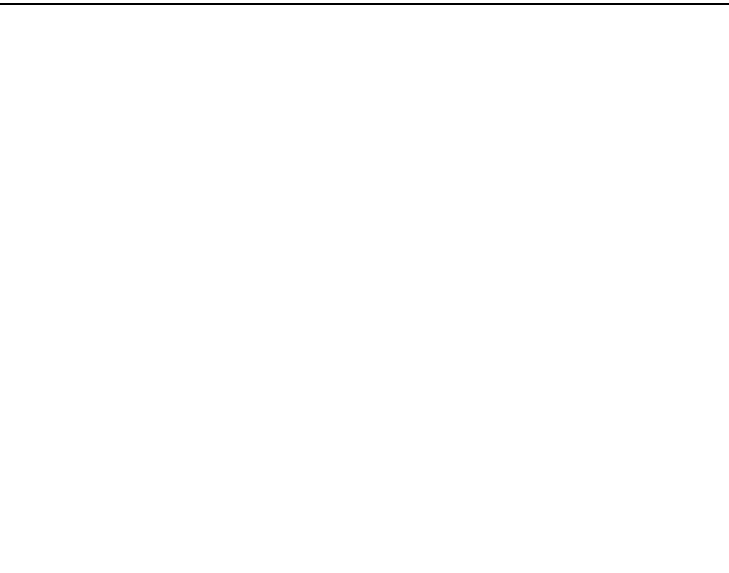


CH157

CH159



CH165



99%Bandwidth

802.11ac40

802.11ac80



CH151

CH155



CH159

CH159

6dB Bandwidth

802.11a

802.11n HT20



CH149

CH149



CH157

CH157



CH165

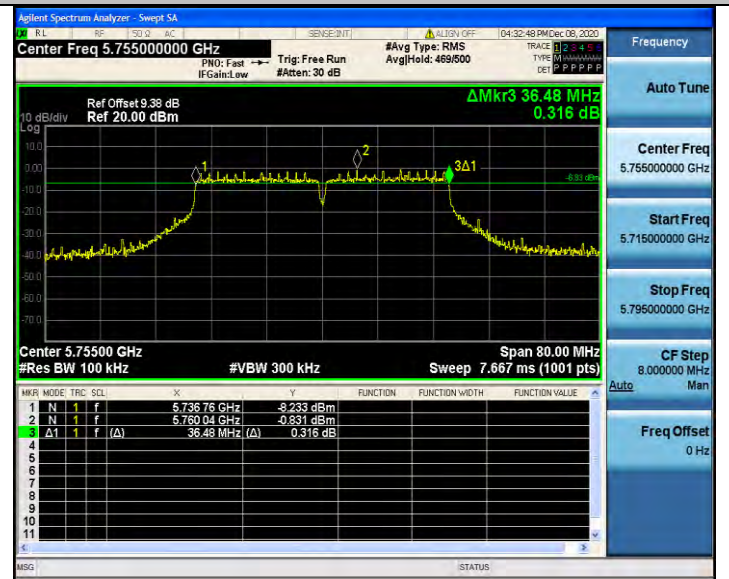
CH165

6dB Bandwidth

802.11ac20



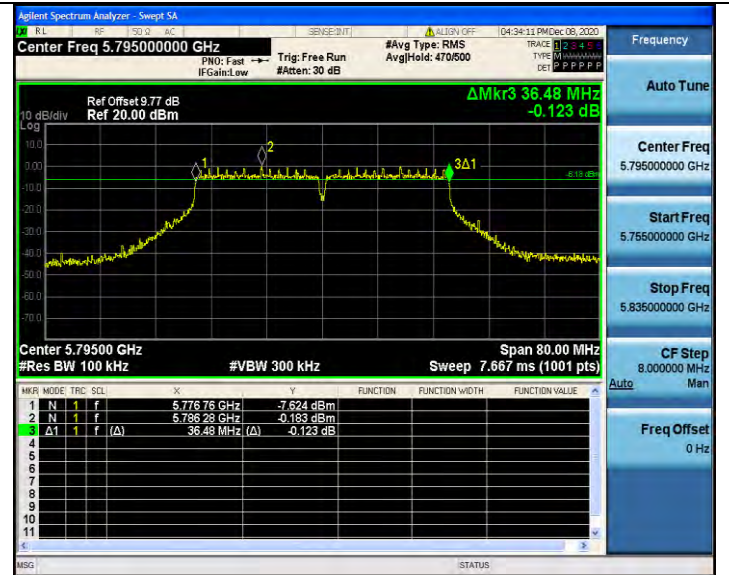
802.11n HT40



CH149



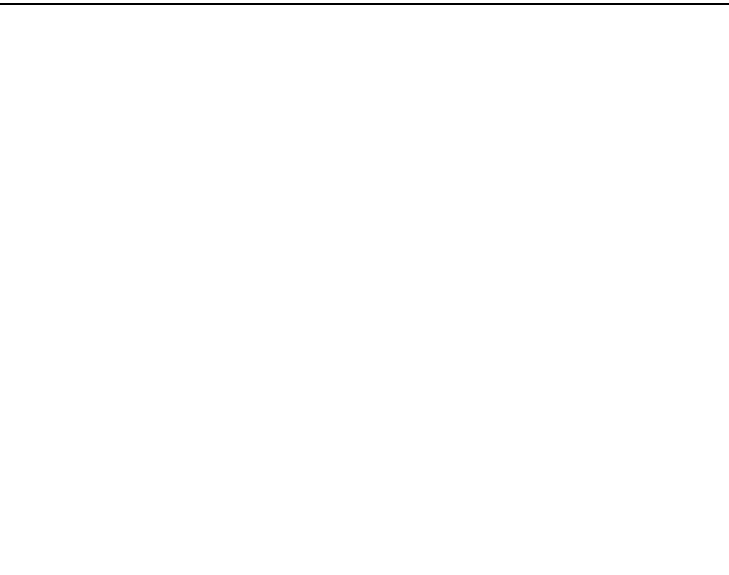
CH151



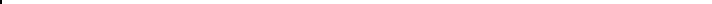
CH157



CH159



CH165



6dB Bandwidth

802.11ac40

802.11ac80

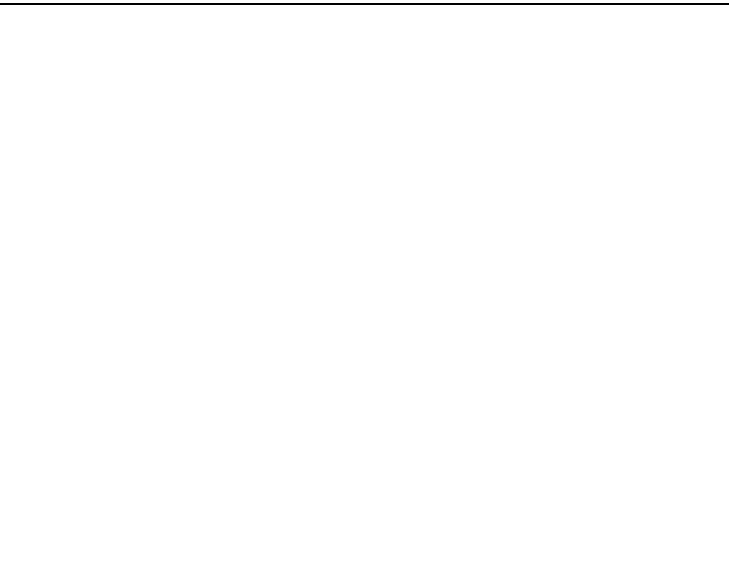


CH151

CH155



CH159





Antenna 1:

99%Bandwidth

802.11a

802.11n HT20



CH149

CH149



CH157

CH157



CH165

CH165

99%Bandwidth

802.11ac20

802.11n HT40



CH149

CH151



CH157

CH159



CH165

99%Bandwidth

802.11ac40

802.11ac80

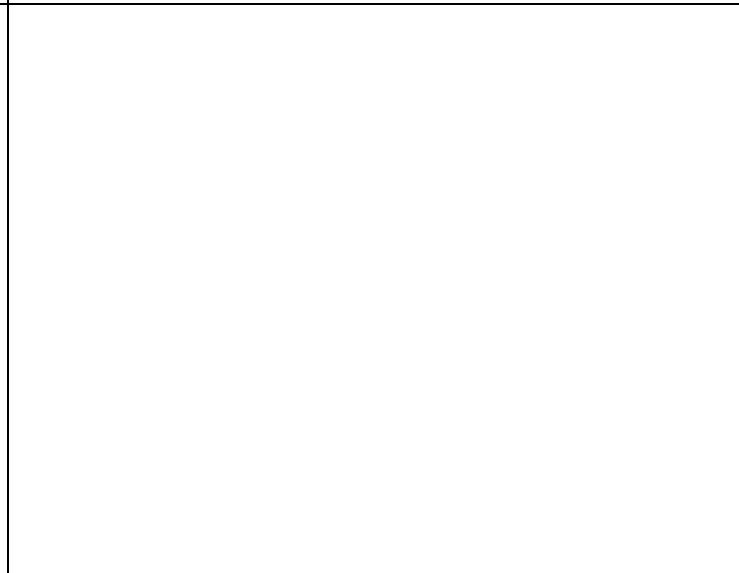


CH151

CH155



CH159



6dB Bandwidth

802.11a

802.11n HT20



CH149

CH149



CH157

CH157



CH165

CH165

6dB Bandwidth

802.11ac20



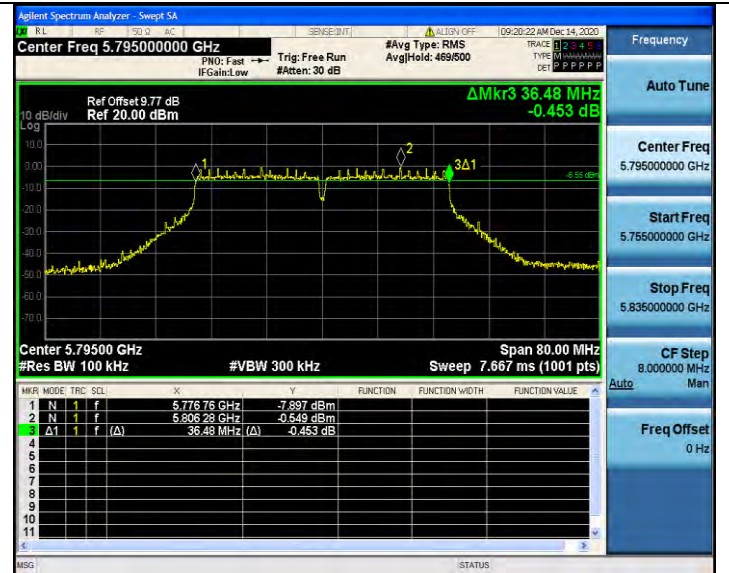
802.11n HT40



CH149



CH151



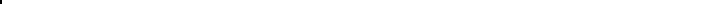
CH157



CH159



CH165



6dB Bandwidth

802.11ac40

802.11ac80

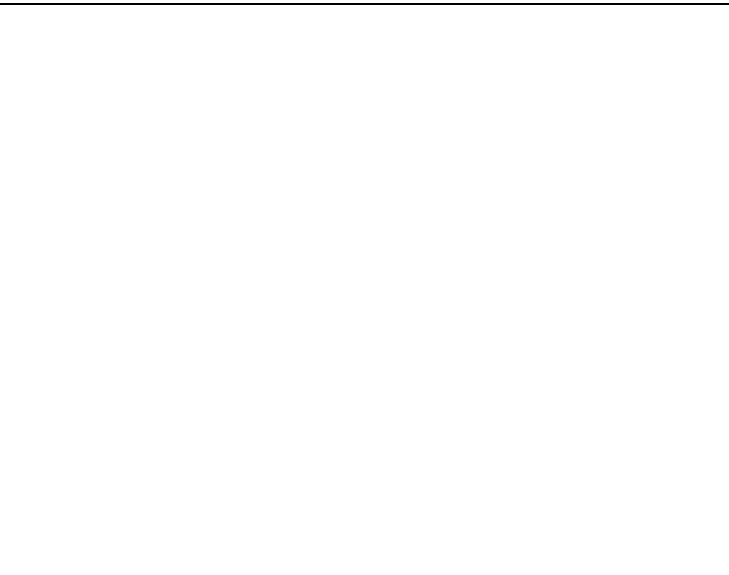


CH151

CH155

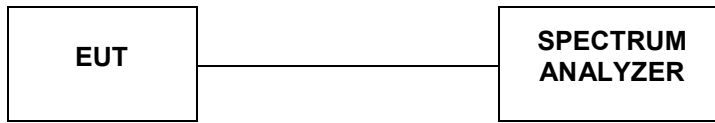


CH159



#### 4.7. 26dBc Bandwidth

##### TEST CONFIGURATION



##### TEST PROCEDURE

According to KDB789033 D02 General U-NII Test Procedures New Rules v02r01 for one of the following procedures may be used for Emission Bandwidth (EBW) measurement:

- a. Set RBW = 220 kHz/430 kHz /820 kHz (approximately 1% of the emission bandwidth).
- b. Set the video bandwidth (VBW) = 3\* RBW)
- c. Detector = Peak.
- d. Trace mode = max hold.
- e. Sweep = auto couple.
- f. Allow the trace to stabilize
- g. Measure the maximum width of the emission that is 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%.

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

##### LIMIT

No Limits for 26dBc Bandwidth

##### TEST RESULTS

Temperature	23.6°C	Humidity	55.7%
Test Engineer	Moon Tan	Configurations	IEEE 802.11a/n/ac

**Antenna 0:**

Type	Channel	99%Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (KHz)	Result
802.11a	36	17.318	23.240	-	Pass
	40	17.235	23.080		
	48	17.234	22.880		
802.11nHT20	36	18.328	24.000	-	Pass
	40	18.373	23.440		
	48	18.328	23.640		
802.11n40	38	36.787	44.400	-	Pass
	46	36.814	44.960		
802.11ac20	36	18.410	24.000	-	Pass
	40	18.333	23.880		
	48	18.382	23.400		
802.11ac40	38	36.829	44.400	-	Pass
	46	36.735	44.320		
802.11ac80	42	75.216	83.520	-	Pass

**Antenna 1:**

Type	Channel	99%Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (KHz)	Result
802.11a	36	17.300	23.600	-	Pass
	40	17.308	23.560		
	48	17.311	23.160		
802.11nHT20	36	18.407	24.200	-	Pass
	40	18.332	23.800		
	48	18.339	23.480		
802.11n40	38	36.836	44.480	-	Pass
	46	36.836	44.800		
802.11ac20	36	18.359	23.760	-	Pass
	40	18.368	23.600		
	48	18.328	23.440		
802.11ac40	38	36.769	44.640	-	Pass
	46	36.789	44.160		
802.11ac80	42	75.111	83.520	-	Pass



Antenna 0:



99%Bandwidth

802.11ac20

802.11n HT40



CH36

CH38



CH40

CH46



CH48

99%Bandwidth

802.11ac40

802.11ac80

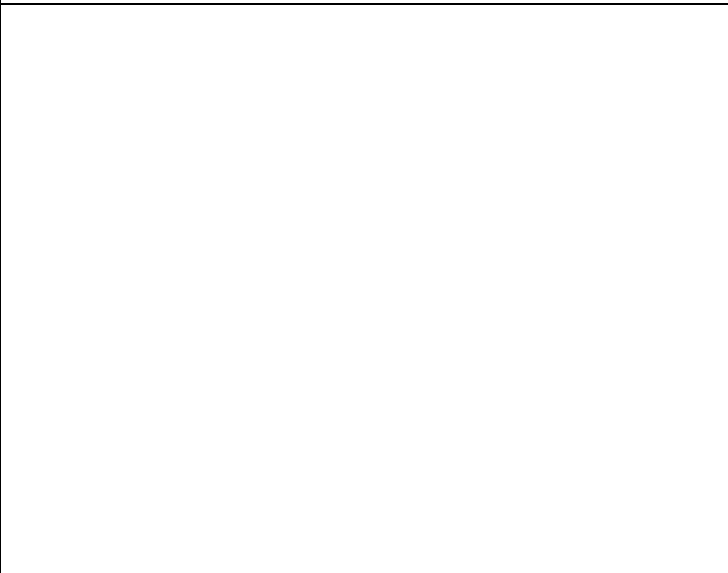


CH38

CH42



CH46



26dB Bandwidth

802.11a

802.11n HT20



CH36

CH36



CH40

CH40



CH48

CH48

26dB Bandwidth

802.11ac20

802.11n HT40



CH36

CH38



CH40

CH46



CH48

26dB Bandwidth

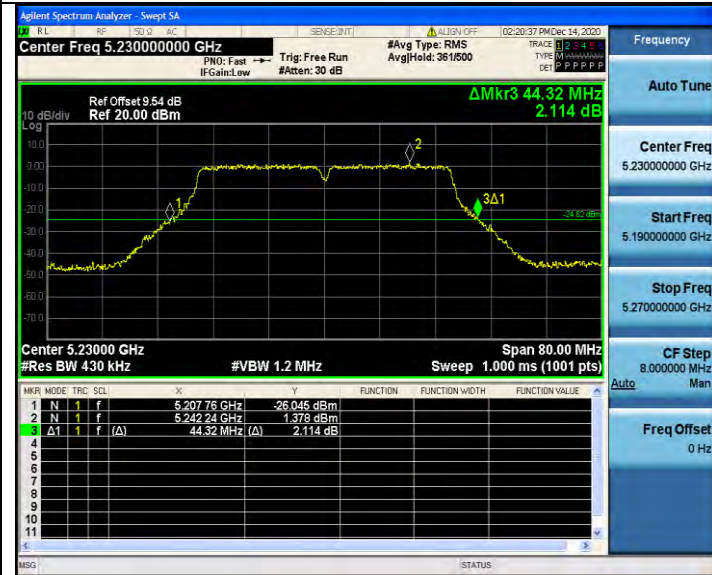
802.11ac40

802.11ac80

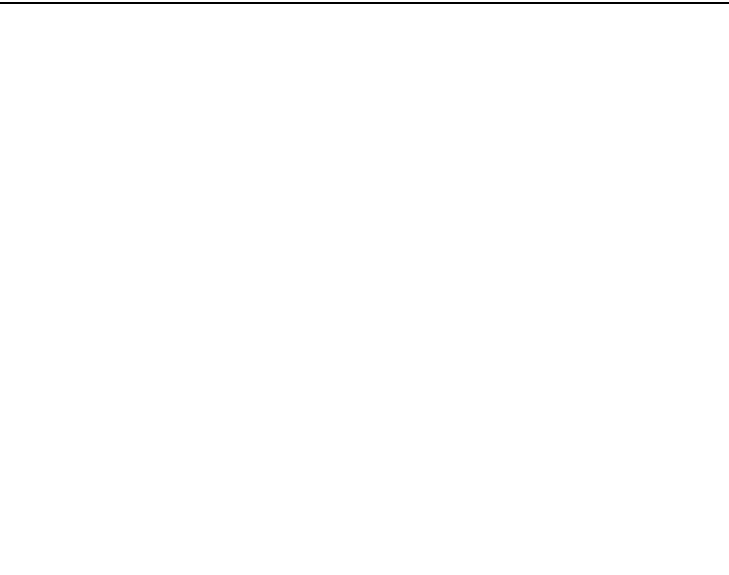


CH38

CH42



CH46



Antenna 1:

99%Bandwidth

802.11a

802.11n HT20



CH36

CH36



CH40

CH40



CH48

CH48

99%Bandwidth

802.11ac20

802.11n HT40



CH36

CH38



CH40

CH46



CH48