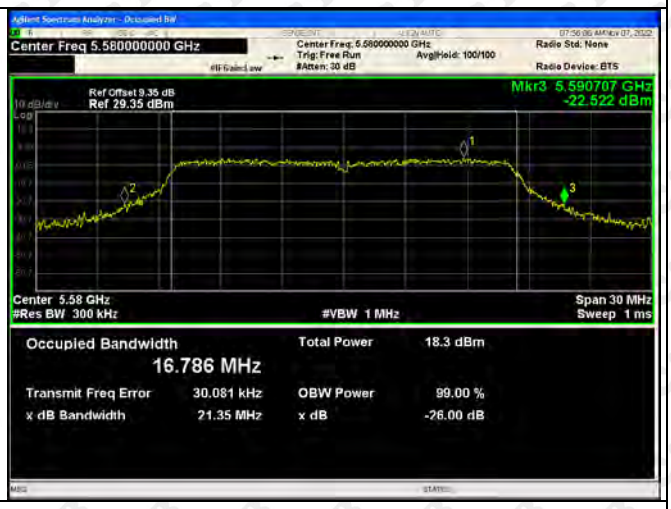
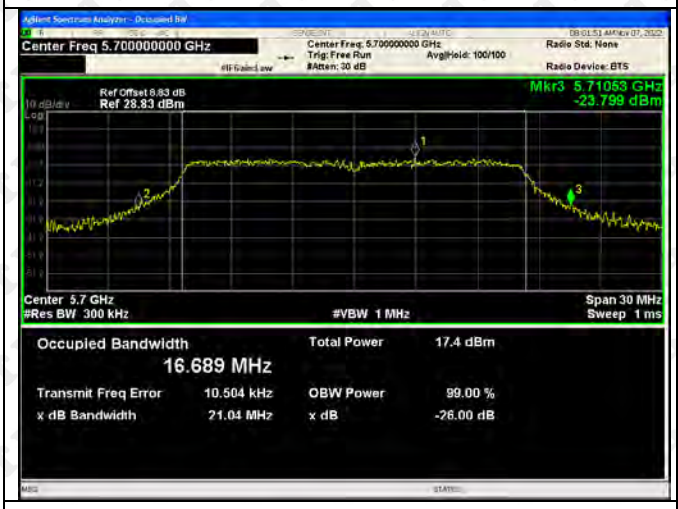
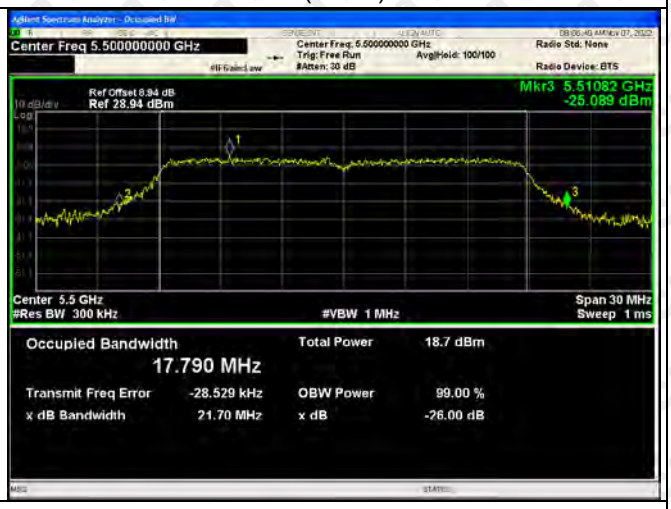
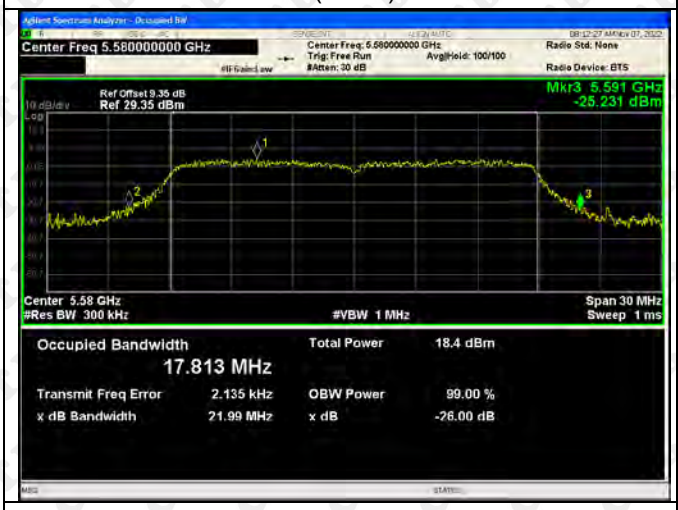
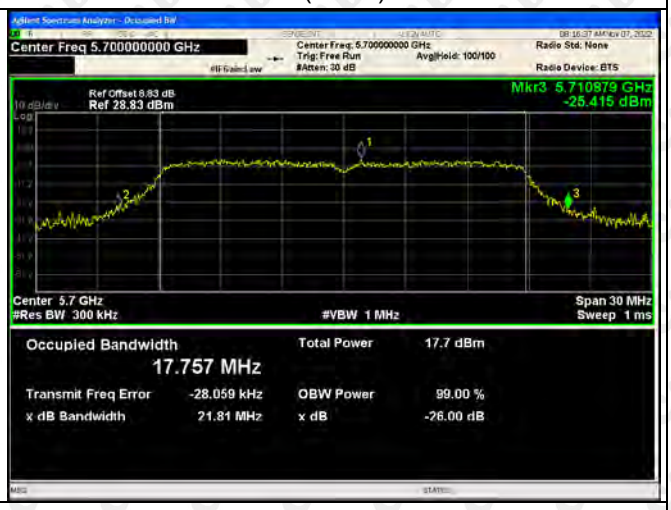
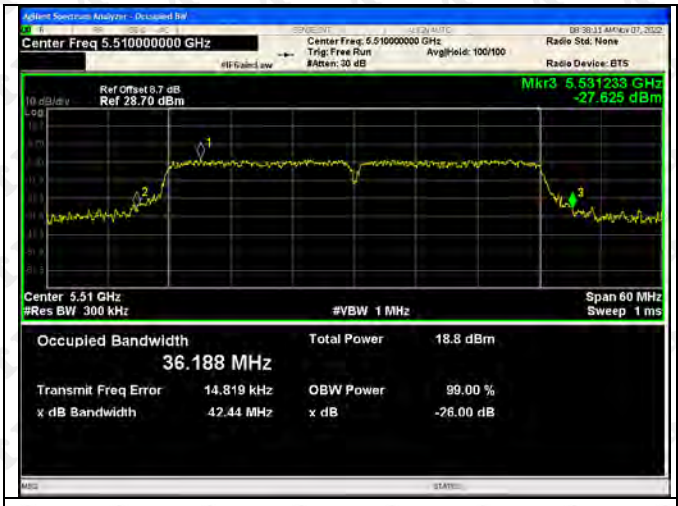
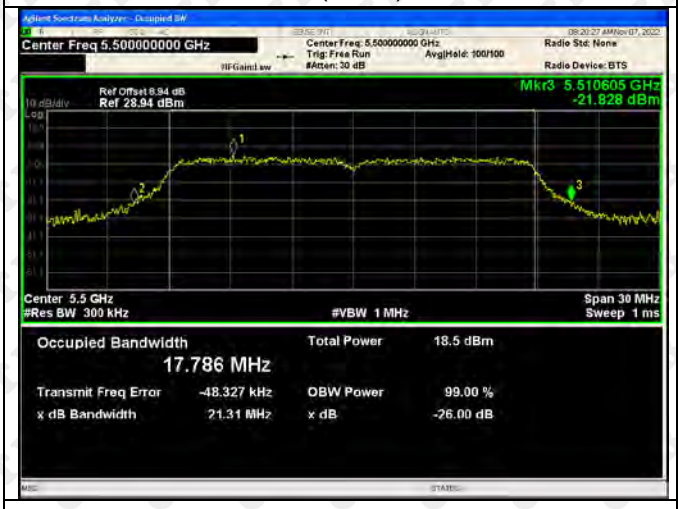
5500-5700MHz
ANT1

802.11a-5500	802.11a-5580
	
802.11a-5700	802.11n(HT20)-5500
	
802.11n(HT20)-5580	802.11n(HT20)-5700
	
802.11n(HT40)-5510	802.11n(HT40)-5670

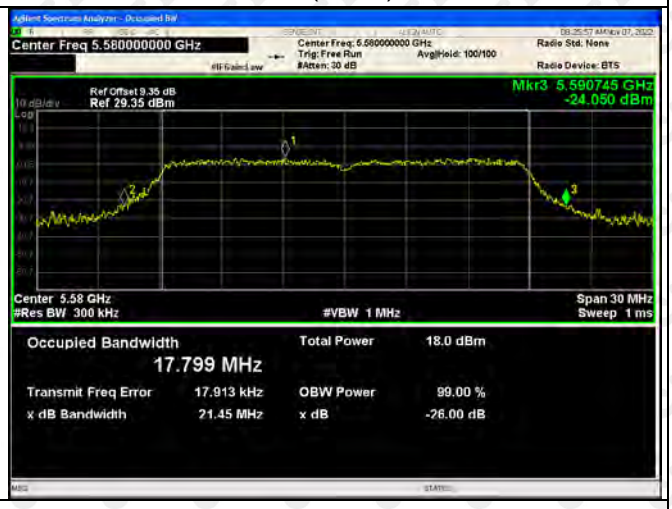


802.11ac(VH20)-5500

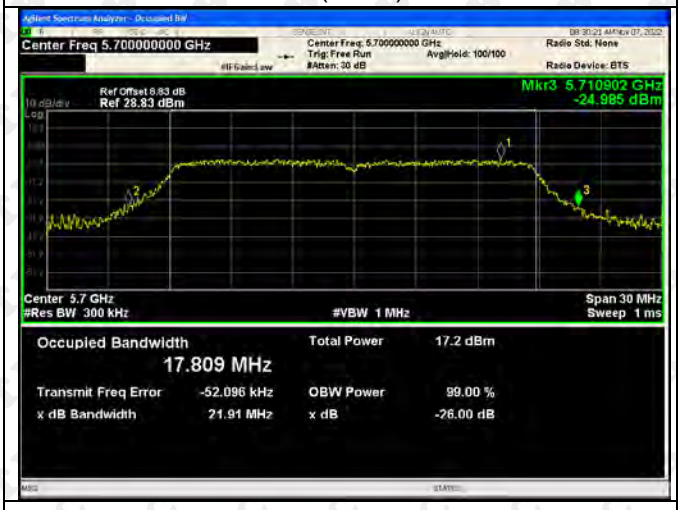
802.11ac(VH20)-5580



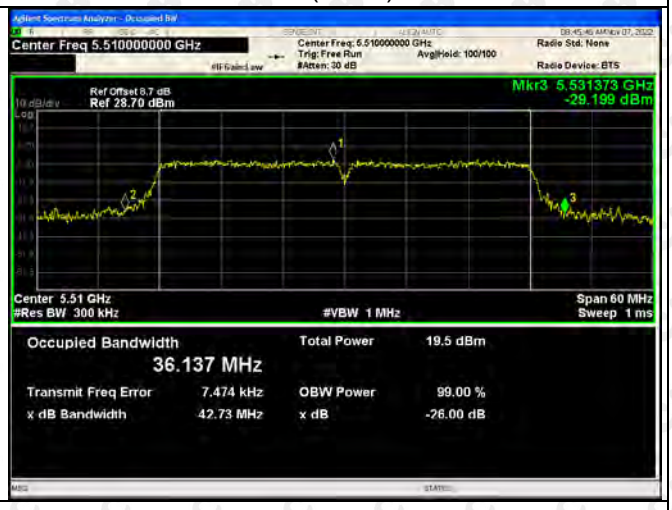
802.11ac(VH20)-5700



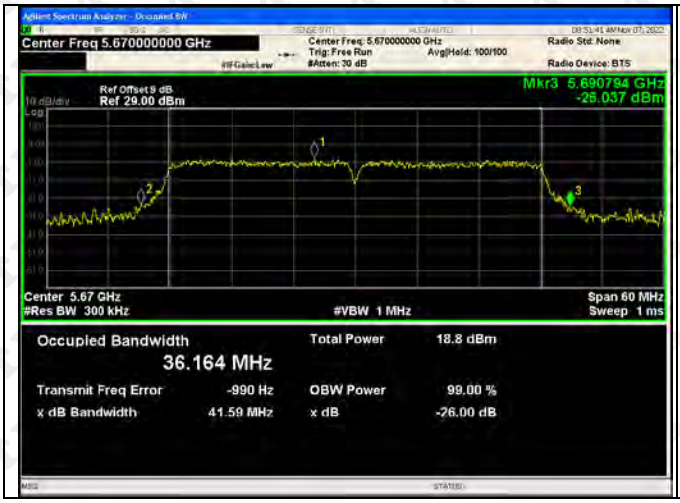
802.11ac(VH40)-5510



802.11ac(VH40)-5670



802.11ac(VH80)-5530


Agilent Spectrum Analyzer - Occupied BW
Center Freq 5.670000000 GHz
Center Freq: 5.670000000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
Ref Offset 9 dB
10 dB/div
Ref 29.00 dBm
Mkr3 5.690794 GHz
-25.037 dBm
Center 5.67 GHz
#Res BW 300 kHz
#VBW 1 MHz
Span 60 MHz
Sweep 1 ms
Occupied Bandwidth
36.164 MHz
Total Power 18.8 dBm
Transmit Freq Error -990 Hz
OBW Power 99.00 %
x dB Bandwidth 41.59 MHz
x dB -26.00 dB


Agilent Spectrum Analyzer - Occupied BW
Center Freq 5.530000000 GHz
Center Freq: 5.530000000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
Ref Offset 8.88 dB
10 dB/div
Ref 28.88 dBm
Mkr3 5.57444 GHz
-30.260 dBm
Center 5.53 GHz
#Res BW 300 kHz
#VBW 1 MHz
Span 120 MHz
Sweep 1.267 ms
Occupied Bandwidth
75.561 MHz
Total Power 20.1 dBm
Transmit Freq Error -35.957 kHz
OBW Power 99.00 %
x dB Bandwidth 88.95 MHz
x dB -26.00 dB

ANT2

802.11a-5500

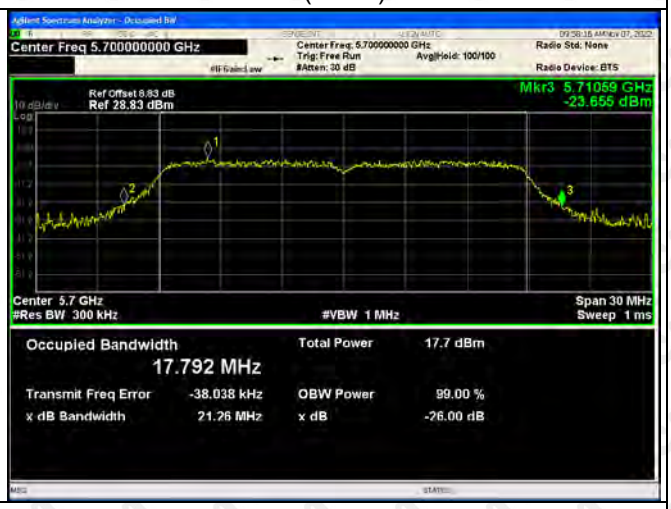
802.11a-5580

802.11a-5700

802.11n(HT20)-5500

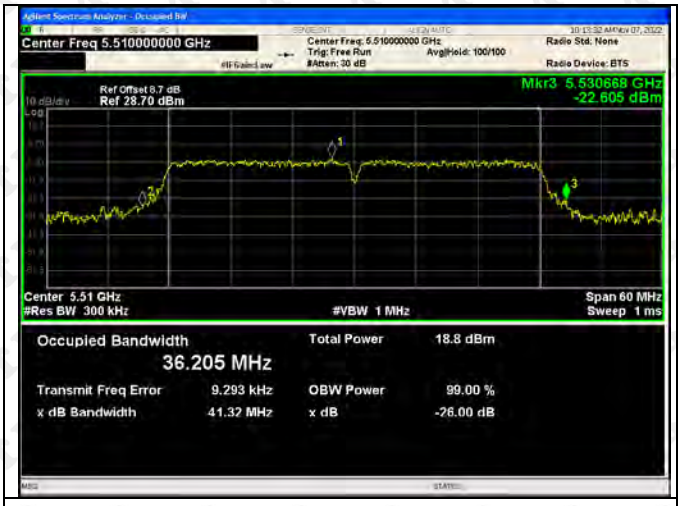
802.11n(HT20)-5580

802.11n(HT20)-5700

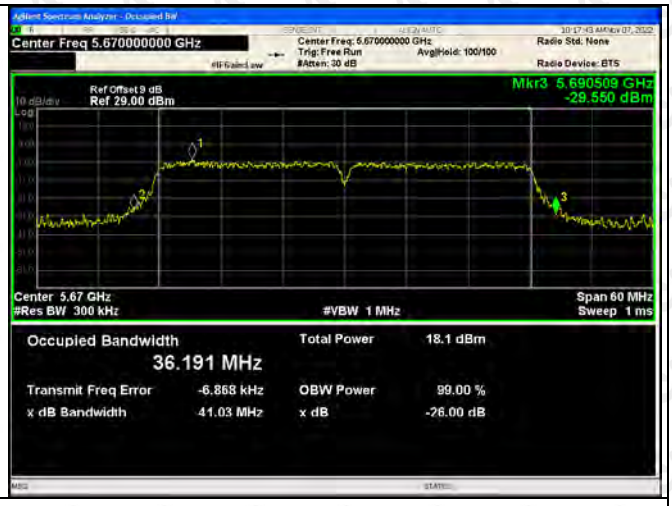


802.11n(HT40)-5510

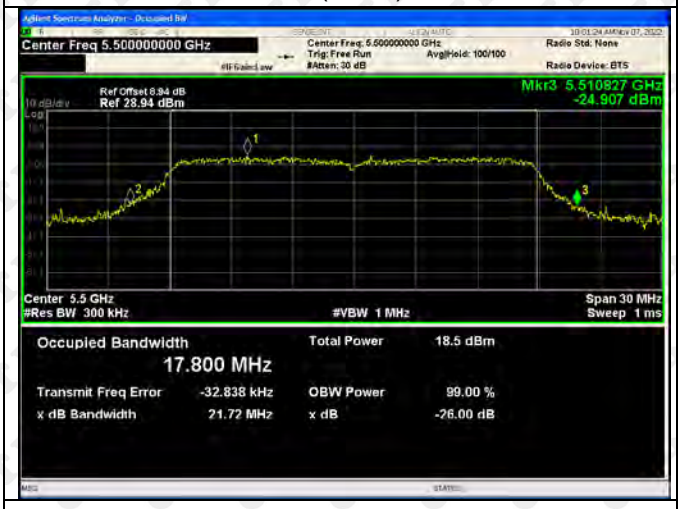
802.11n(HT40)-5670



802.11ac(VH20)-5500

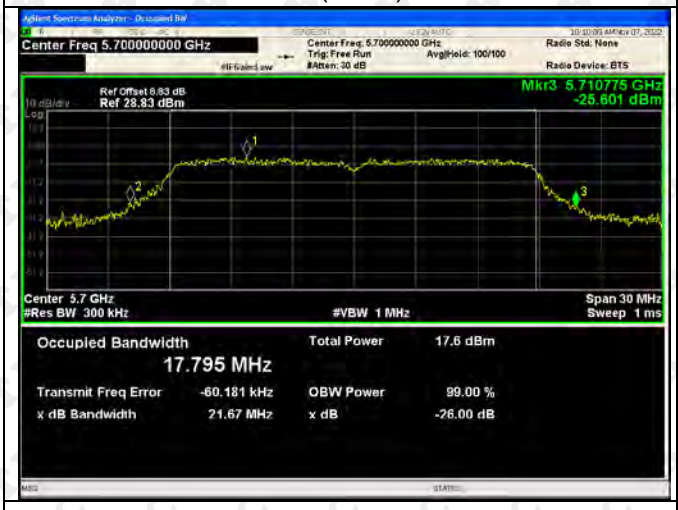


802.11ac(VH20)-5580



802.11ac(VH20)-5700

802.11ac(VH40)-5510



802.11ac(VH40)-5670

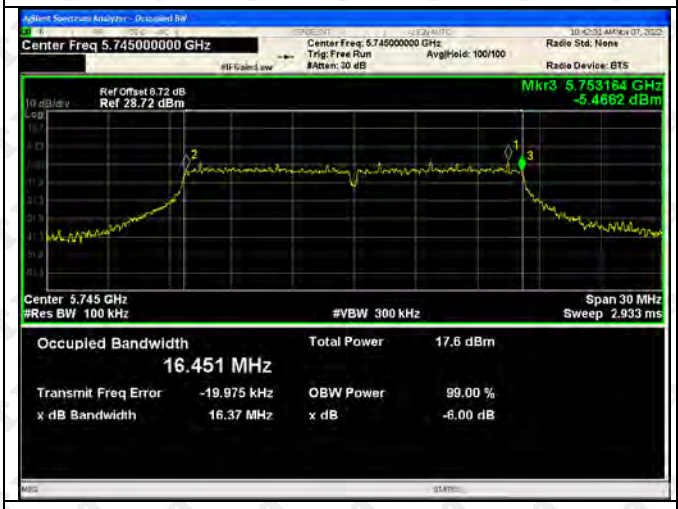
802.11ac(VH80)-5530


Agilent Spectrum Analyzer - Occupied BW
Center Freq 5.670000000 GHz
Center Freq: 5.670000000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
Ref Offset 9 dB
10 dB/div
Ref 29.00 dBm
Mkr3 5.690508 GHz
-26.532 dBm
Center 5.67 GHz
#Res BW 300 kHz
#VBW 1 MHz
Span 60 MHz
Sweep 1 ms
Occupied Bandwidth
36.173 MHz
Total Power 18.5 dBm
Transmit Freq Error -14.470 kHz
OBW Power 99.00 %
x dB Bandwidth 41.05 MHz
x dB -26.00 dB


Agilent Spectrum Analyzer - Occupied BW
Center Freq 5.530000000 GHz
Center Freq: 5.530000000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
Ref Offset 8.88 dB
10 dB/div
Ref 28.88 dBm
Mkr3 5.575423 GHz
-30.281 dBm
Center 5.53 GHz
#Res BW 300 kHz
#VBW 1 MHz
Span 120 MHz
Sweep 1.267 ms
Occupied Bandwidth
75.547 MHz
Total Power 19.9 dBm
Transmit Freq Error 30.137 kHz
OBW Power 99.00 %
x dB Bandwidth 90.78 MHz
x dB -26.00 dB

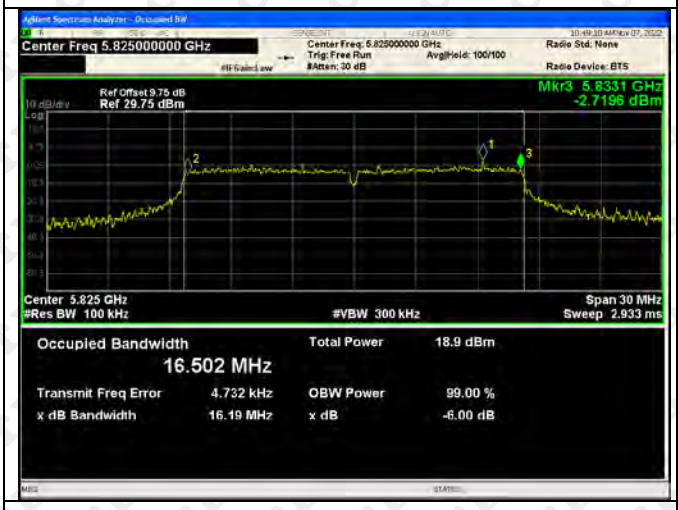
5745-5825MHz
ANT1

802.11a-5745



802.11a-5785

802.11a-5825



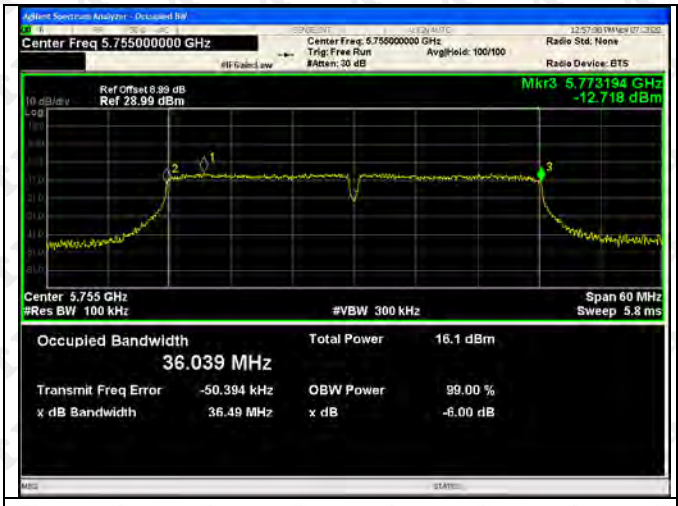
802.11n(HT20)-5745

802.11n(HT20)-5785

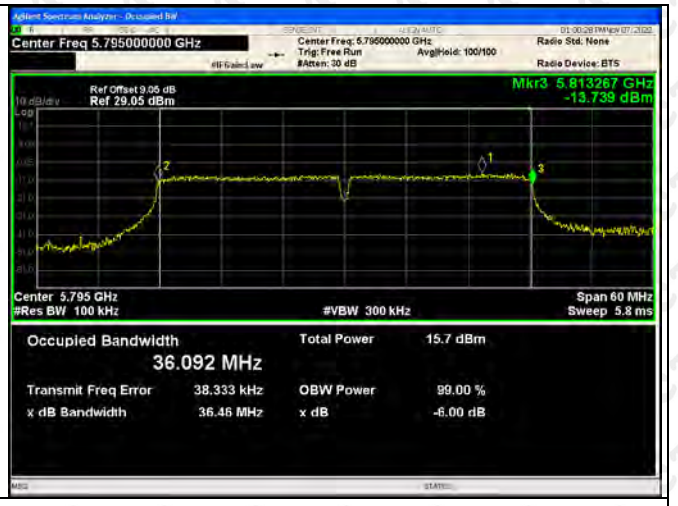
802.11n(HT20)-5825

802.11n(HT40)-5755

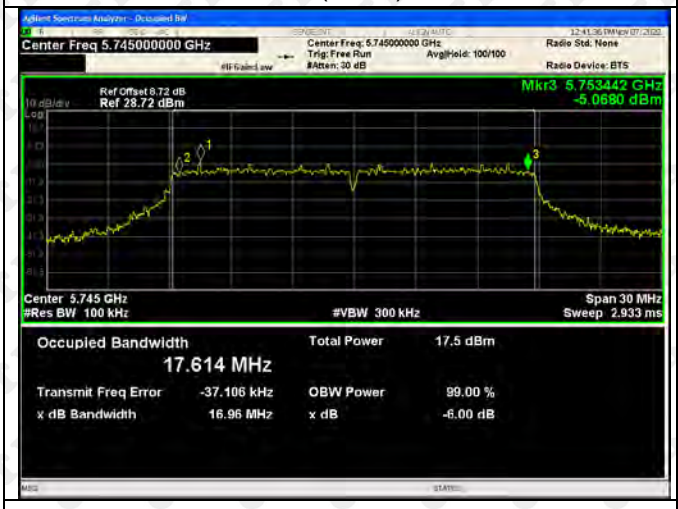
802.11n(HT40)-5795



802.11ac(VH20)-5745



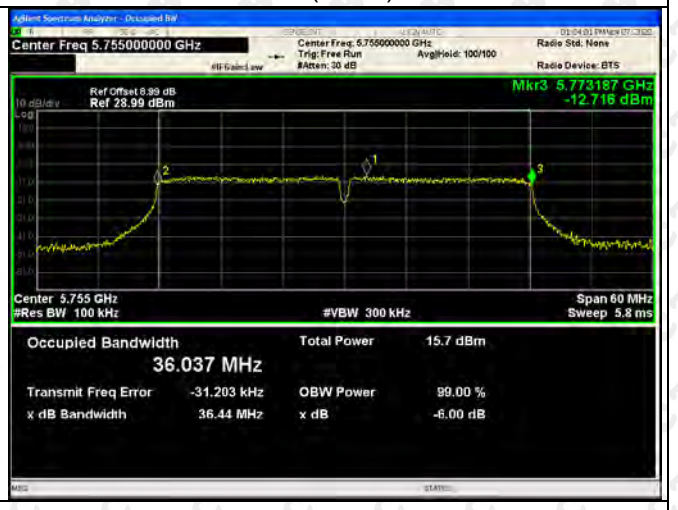
802.11ac(VH20)-5785



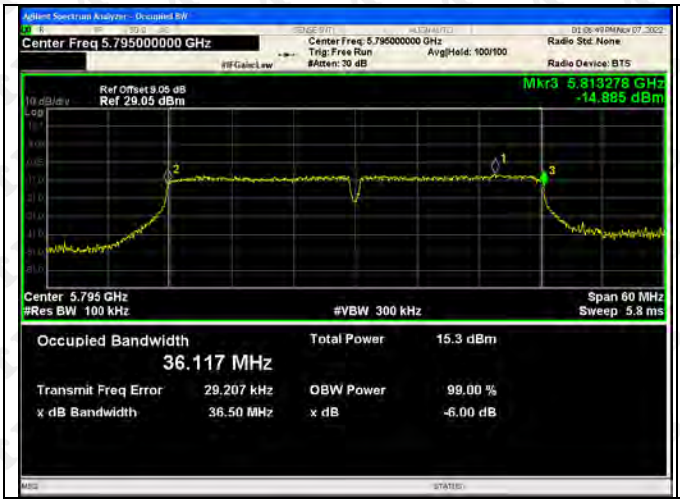
802.11ac(VH20)-5825

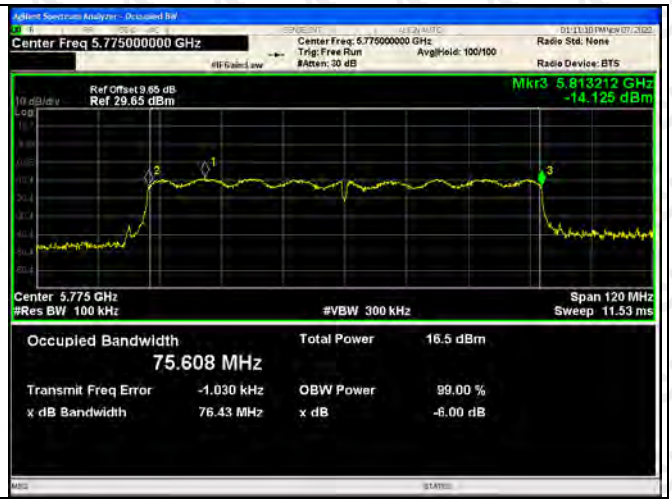
802.11ac(VH40)-5755

802.11ac(VH40)-5795



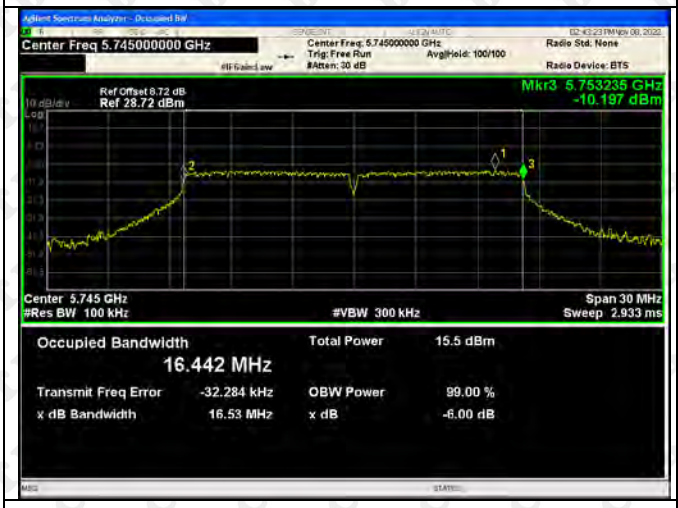
802.11ac(VH80)-5775


Agilent Spectrum Analyzer - Occupied BW
Center Freq 5.795000000 GHz
Center Freq: 5.795000000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
Ref Offset 9.05 dB
10 dB/div
Ref 29.05 dBm
Mkr3 5.813278 GHz
-14.885 dBm
Center 5.795 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 60 MHz
Sweep 5.8 ms
Occupied Bandwidth
36.117 MHz
Total Power 15.3 dBm
Transmit Freq Error 29.207 kHz
OBW Power 99.00 %
x dB Bandwidth 36.50 MHz
x dB -6.00 dB

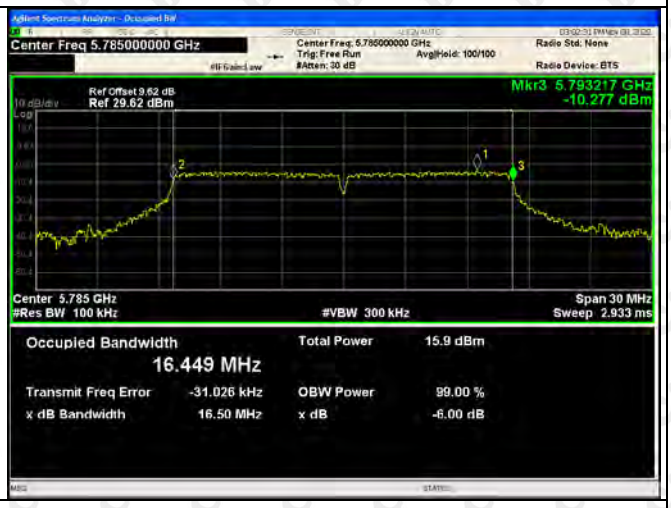

Agilent Spectrum Analyzer - Occupied BW
Center Freq 5.775000000 GHz
Center Freq: 5.775000000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
Ref Offset 9.65 dB
10 dB/div
Ref 29.65 dBm
Mkr3 5.813212 GHz
-14.125 dBm
Center 5.775 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 120 MHz
Sweep 11.53 ms
Occupied Bandwidth
75.608 MHz
Total Power 16.5 dBm
Transmit Freq Error -1.030 kHz
OBW Power 99.00 %
x dB Bandwidth 76.43 MHz
x dB -6.00 dB

ANT2

802.11a-5745



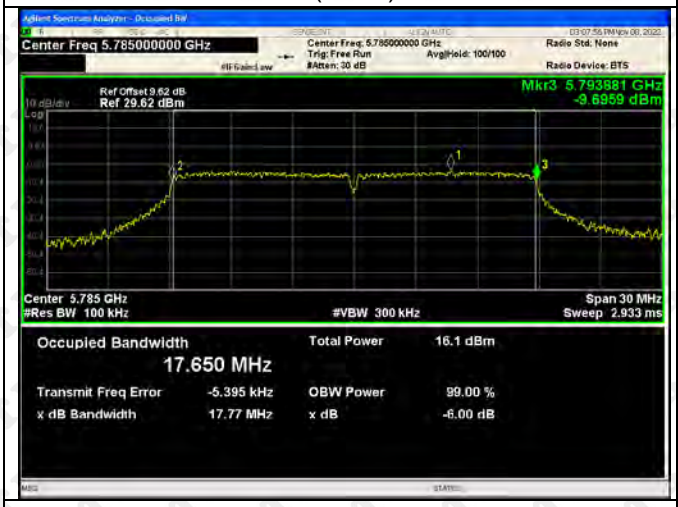
802.11a-5785



802.11a-5825

802.11n(HT20)-5745

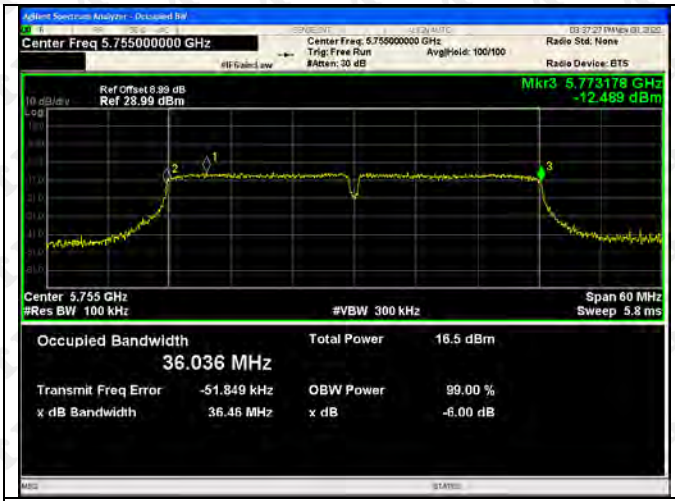
802.11n(HT20)-5785



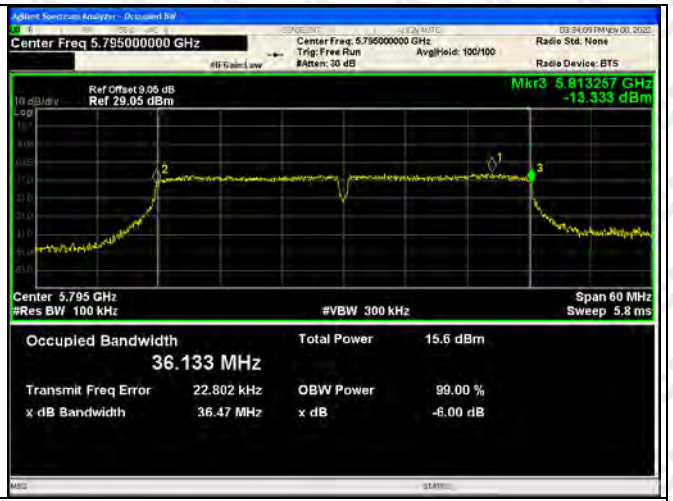
802.11n(HT20)-5825

802.11n(HT40)-5755

802.11n(HT40)-5795



802.11ac(VH20)-5745

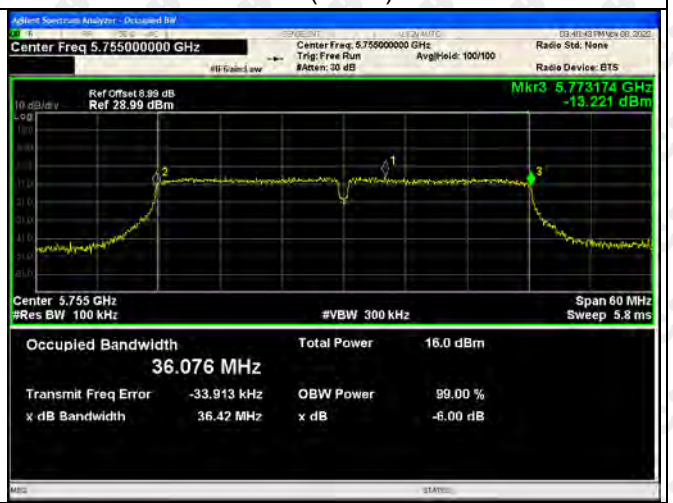


802.11ac(VH20)-5785

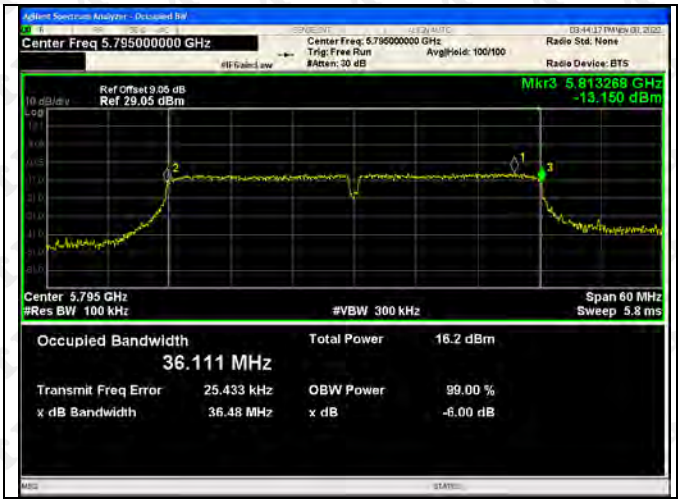
802.11ac(VH20)-5825

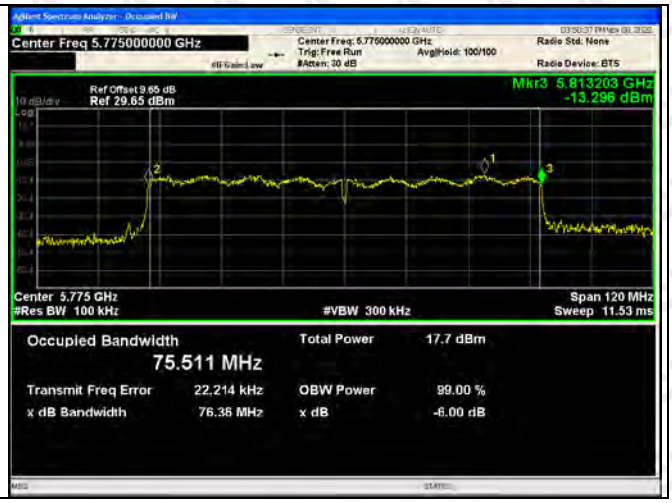
802.11ac(VH40)-5755

802.11ac(VH40)-5795



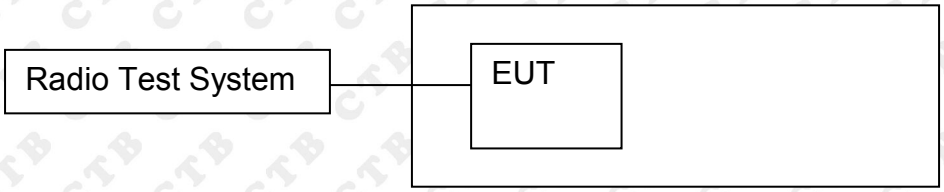
802.11ac(VH80)-5775


Agilent Spectrum Analyzer - Occupied BW
Center Freq 5.795000000 GHz
Center Freq: 5.795000000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
Ref Offset 9.05 dB
10 dB/div
Ref 29.05 dBm
Mkr3 5.813268 GHz
-13.150 dBm
Center 5.795 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 60 MHz
Sweep 5.8 ms
Occupied Bandwidth
36.111 MHz
Total Power 16.2 dBm
Transmit Freq Error 25.433 kHz
OBW Power 99.00 %
x dB Bandwidth 36.48 MHz
x dB -6.00 dB


Agilent Spectrum Analyzer - Occupied BW
Center Freq 5.775000000 GHz
Center Freq: 5.775000000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
Ref Offset 9.65 dB
10 dB/div
Ref 29.65 dBm
Mkr3 5.813203 GHz
-13.296 dBm
Center 5.775 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 120 MHz
Sweep 11.53 ms
Occupied Bandwidth
75.511 MHz
Total Power 17.7 dBm
Transmit Freq Error 22.214 kHz
OBW Power 99.00 %
x dB Bandwidth 76.36 MHz
x dB -6.00 dB

11. POWER SPECTRAL DENSITY

11.1 Block Diagram Of Test Setup



11.2 Limit

(1) For the band 5.15-5.25 GHz.

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

11.3 Test procedure

According to KDB789033 D02v02r01 sectionE, the following is the measurement procedure.

For devices operating in the bands 5.15−5.25 GHz, 5.25−5.35 GHz, and 5.47−5.725 GHz, the preceding procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in Section 15.407(a)(5). For devices operating in the band 5.725−5.85 GHz, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of RBWs less than 1 MHz, or 500 kHz, “provided that the measured power is integrated over the full reference bandwidth” to show the total power over the specified measurement bandwidth (i.e., 1 MHz, or 500 kHz). If measurements are performed using a reduced resolution bandwidth (< 1 MHz, or < 500 kHz) and integrated over 1 MHz, or 500 kHz bandwidth, the following adjustments to the procedures apply:
a) Set RBW ≥ 1/*T*, where *T* is defined in II.B.I.a).

b) Set VBW ≥ 3 RBW.

c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add 10 log (500 kHz/RBW) to the measured result, whereas RBW (<500 kHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.

d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add 10 log (1MHz/RBW) to the measured result, whereas RBW (< 1 MHz) is the reduced resolution bandwidth of spectrum analyzer set during measurement.

e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.
Note: As a practical matter, it is recommended to use reduced RBW of 100 kHz for the II.F.5.c) and II.F.5.d), since RBW=100 kHz is available on nearly all spectrum analyzers.

11.4 Test Result

5180-5240MHz
ANT1+ANT2

Test mode	Test Channel (MHz)	PSD [dBm/MHz] ANT 1	PSD [dBm/MHz] ANT 2	PSD [dBm/MHz] Total	Limit (dBm)	Result
802.11a	5180	6.619	6.898	/	11	Pass
	5200	6.987	6.516	/	11	Pass
	5240	6.848	6.976	/	11	Pass
802.11n(HT20)	5180	6.353	6.219	9.771	11	Pass
	5200	6.56	6.704	9.768	11	Pass
	5240	7.037	7.217	9.923	11	Pass
802.11n(HT40)	5190	4.545	3.964	9.297	11	Pass
	5230	4.297	4.745	9.643	11	Pass
802.11ac(VH20)	5210	2.603	2.689	10.138	11	Pass
	5180	6.445	7.019	7.275	11	Pass
	5200	6.946	6.64	7.537	11	Pass
802.11ac(VH40)	5240	7.166	6.88	5.657	11	Pass
	5190	3.964	4.111	9.752	11	Pass
802.11ac(VH80)	5230	4.357	4.314	9.806	11	Pass

5260-5320MHz
ANT1+ANT2

Test mode	Test Channel (MHz)	PSD [dBm/MHz] ANT 1	PSD [dBm/MHz] ANT 2	PSD [dBm/MHz] Total	Limit (dBm)	Result
802.11a	5260	7.111	7.265	/	10.86	Pass
	5280	7.037	6.68	/	10.86	Pass
	5320	7.453	6.727	/	10.86	Pass
802.11n(HT20)	5260	6.762	6.975	9.880	10.86	Pass
	5280	6.663	6.58	9.632	10.86	Pass
	5320	6.377	6.339	9.368	10.86	Pass
802.11n(HT40)	5270	3.735	4.157	6.961	10.86	Pass
	5310	4.298	4.248	7.283	10.86	Pass
802.11ac(VH20)	5260	2.775	2.691	5.744	10.86	Pass
	5280	6.692	6.705	9.709	10.86	Pass
	5320	6.735	6.71	9.733	10.86	Pass
802.11ac(VH40)	5270	6.517	6.688	9.614	10.86	Pass
	5310	6.418	3.856	10.199	10.86	Pass
802.11ac(VH80)	5290	4.384	4.672	9.872	10.86	Pass

5500-5700MHz
ANT1+ANT2

Test mode	Test Channel (MHz)	PSD [dBm/MHz] ANT 1	PSD [dBm/MHz] ANT 2	PSD [dBm/MHz] Total	Limit (dBm)	Result
802.11a	5500	6.548	7.13	/	10.63	Pass
	5580	7.351	7.374	/	10.63	Pass
	5700	6.47	6.971	/	10.63	Pass
802.11n(HT20)	5500	6.795	6.834	9.825	10.63	Pass
	5580	6.694	6.366	9.543	10.63	Pass
	5700	5.958	6.005	8.992	10.63	Pass
802.11n(HT40)	5510	4.619	4.757	7.699	10.63	Pass
	5670	4.354	4.062	7.221	10.63	Pass
802.11ac(VH20)	5530	1.61	3.172	5.471	10.63	Pass
	5500	7.385	7.233	10.320	10.63	Pass
	5580	6.662	6.64	9.661	10.63	Pass
802.11ac(VH40)	5700	5.956	6.192	9.086	10.63	Pass
	5510	4.406	3.864	9.825	10.63	Pass
802.11ac(VH80)	5670	4.078	3.445	9.543	10.63	Pass

5745-5825MHz
ANT1+ANT2

Test mode	Test Channel (MHz)	PSD [dBm/500kHz] ANT 1	PSD [dBm/500kHz] ANT 2	PSD [dBm/500kHz] Total	Limit (dBm/500kHz)	Result
802.11a	5745	4.088	1.436	/	29.85	Pass
	5785	3.827	1.629	/	29.85	Pass
	5825	4.742	3.954	/	29.85	Pass
802.11n(HT20)	5745	3.926	2.788	6.404	29.85	Pass
	5785	2.282	1.807	5.061	29.85	Pass
	5825	3.562	3.594	6.588	29.85	Pass
802.11n(HT40)	5755	-1.422	-1.165	1.719	29.85	Pass
	5795	-1.212	-0.272	2.294	29.85	Pass
802.11ac(VH20)	5745	-2.801	-1.273	1.040	29.85	Pass
	5785	3.355	1.829	5.669	29.85	Pass
	5825	3.645	2.139	5.967	29.85	Pass
802.11ac(VH40)	5755	4.847	3.897	7.408	29.85	Pass
	5795	-1.081	-0.19	6.404	29.85	Pass
802.11ac(VH80)	5775	-1.355	-1.429	5.061	29.85	Pass

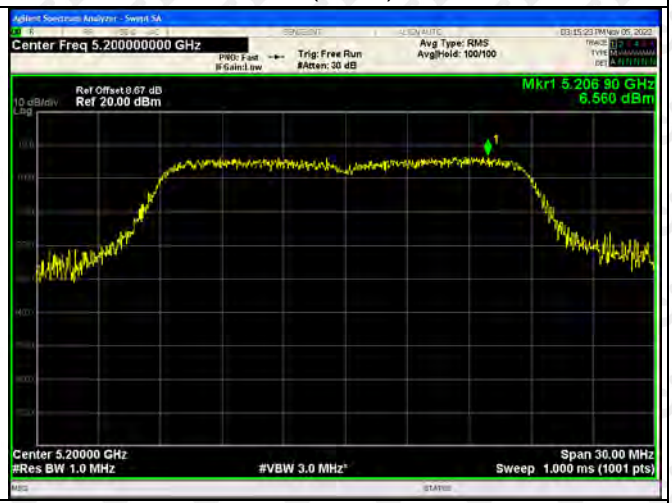
5180-5240MHz
ANT1

802.11a-5180	802.11a-5200
	
802.11a-5240	802.11n(HT20)-5180
	
802.11n(HT20)-5200	802.11n(HT20)-5240
	
802.11n(HT40)-5190	802.11n(HT40)-5230

802.11ac(VH20)-5180

802.11ac(VH20)-5200

802.11ac(VH20)-5240



802.11ac(VH40)-5190

802.11ac(VH40)-5230

802.11ac(VH80)-5210


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.230000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: RMS
Avg|Hold: 100/100
Ref Offset 8.48 dB
10 dB/div
Ref 20.00 dBm
Mkr1 5.244 10 GHz
4.297 dBm
Center 5.23000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Span 60.00 MHz
Sweep 1.000 ms (1001 pts)


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.210000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: RMS
Avg|Hold: 100/100
Ref Offset 8.52 dB
10 dB/div
Ref 20.00 dBm
Mkr1 5.237 12 GHz
2.603 dBm
Center 5.21000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Span 120.0 MHz
Sweep 1.000 ms (1001 pts)

ANT2

802.11a-5180

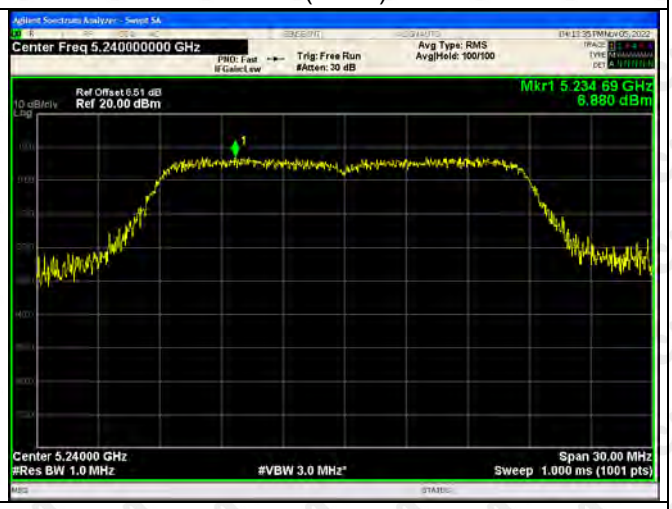
802.11a-5200

802.11a-5240

802.11n(HT20)-5180

802.11n(HT20)-5200

802.11n(HT20)-5240



802.11n(HT40)-5190

802.11n(HT40)-5230

802.11ac(VH20)-5180

802.11ac(VH20)-5200

802.11ac(VH20)-5240

802.11ac(VH40)-5190

802.11ac(VH40)-5230

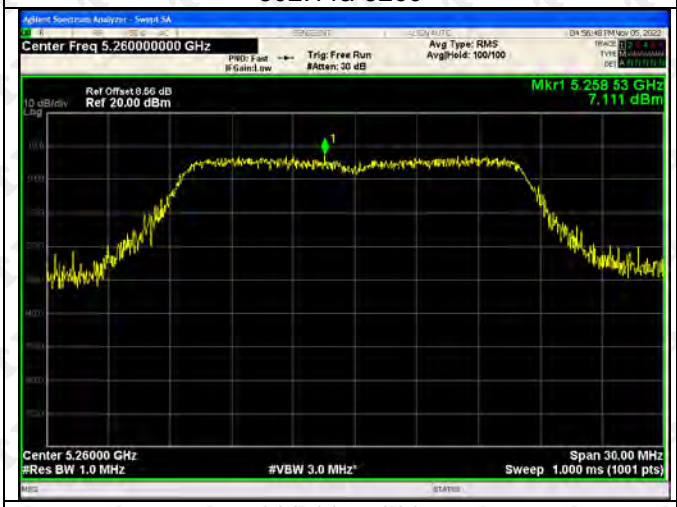
802.11ac(VH80)-5210


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.230000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: RMS
Avg|Hold: 100/100
Ref Offset 8.48 dB
10 dB/div
Ref 20.00 dBm
Mkr1 5.242 42 GHz
4.745 dBm
Center 5.23000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Span 60.00 MHz
Sweep 1.000 ms (1001 pts)


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.210000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: RMS
Avg|Hold: 100/100
Ref Offset 8.52 dB
10 dB/div
Ref 20.00 dBm
Mkr1 5.236 40 GHz
2.689 dBm
Center 5.21000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Span 120.0 MHz
Sweep 1.000 ms (1001 pts)

5260-5320MHz
ANT1

802.11a-5260



802.11a-5280

802.11a-5320

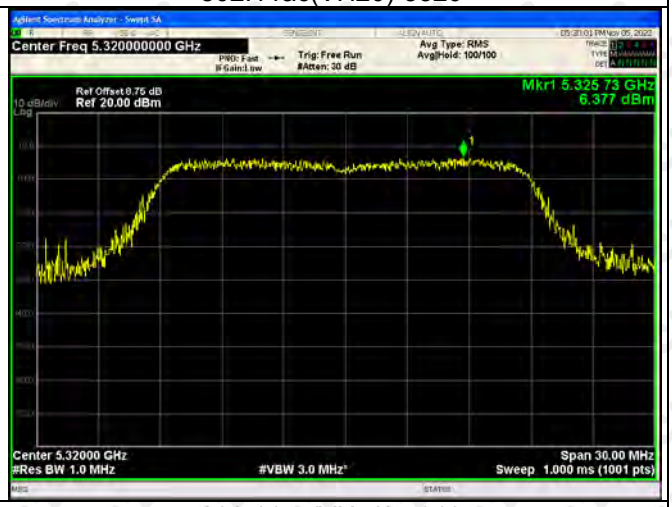
802.11ac(VH20)-5260

802.11ac(VH20)-5280

802.11ac(VH20)-5320

802.11ac(VH40)-5270

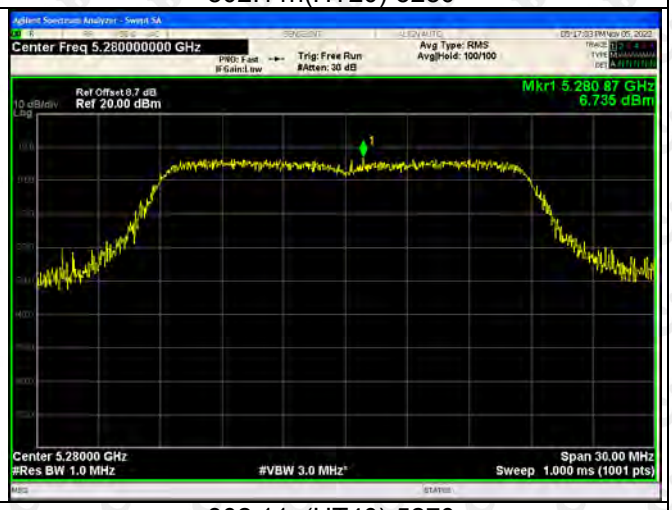
802.11ac(VH40)-5310



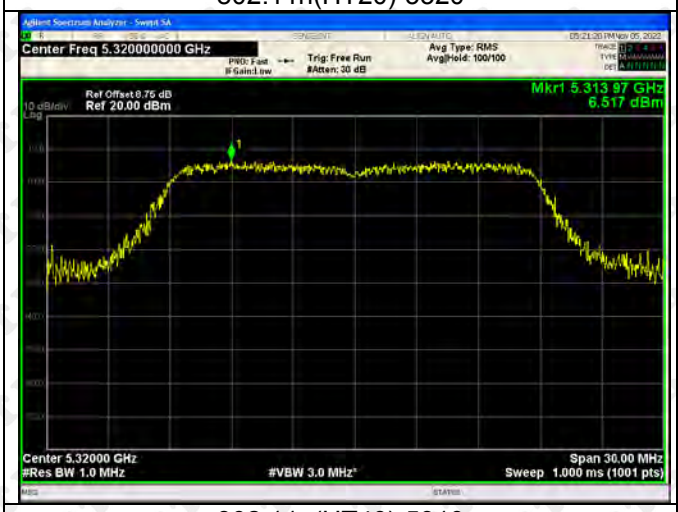
802.11n(HT20)-5260

802.11n(HT20)-5280

802.11n(HT20)-5320



802.11n(HT40)-5270



802.11n(HT40)-5310

802.11ac(HT80)-5290

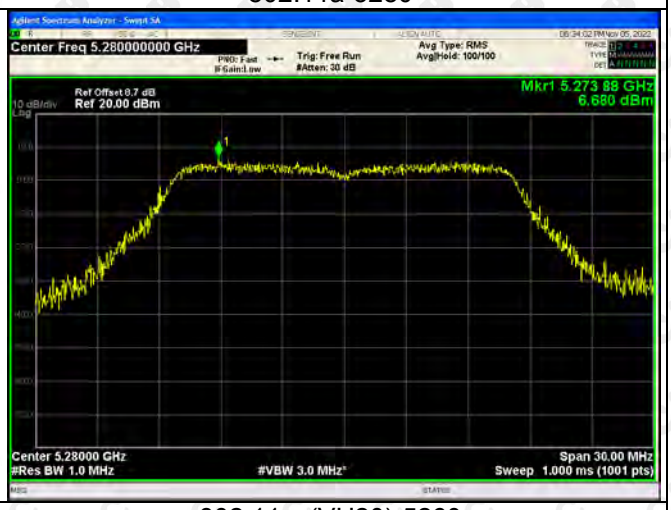

Agilent Spectrum Analyzer - Swept SA
Center Freq 5.310000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: RMS
Avg|Hold: 100/100
Ref Offset 8.93 dB
10 dB/div
Ref 20.00 dBm
Mkr1 5.293 80 GHz
4.384 dBm
Center 5.31000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Span 60.00 MHz
Sweep 1.000 ms (1001 pts)


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.290000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: RMS
Avg|Hold: 100/100
Ref Offset 9.06 dB
10 dB/div
Ref 20.00 dBm
Mkr1 5.263 48 GHz
2.775 dBm
Center 5.29000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Span 120.0 MHz
Sweep 1.000 ms (1001 pts)

ANT2

802.11a-5260

802.11a-5280



802.11a-5320

802.11ac(VH20)-5260

802.11ac(VH20)-5280

802.11ac(VH20)-5320

802.11ac(VH40)-5270

802.11ac(VH40)-5310

802.11n(HT20)-5260

802.11n(HT20)-5280

802.11n(HT20)-5320

802.11n(HT40)-5270

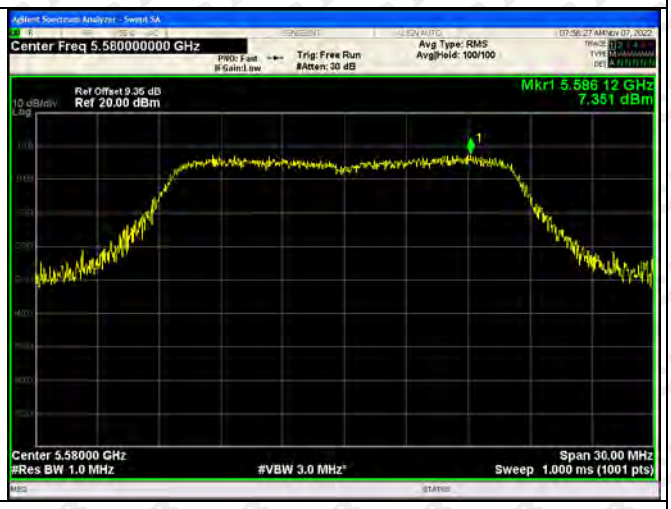
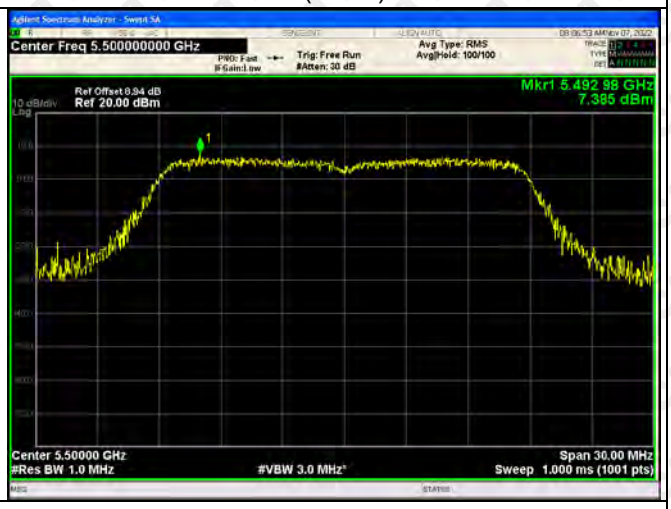
802.11n(HT40)-5310

802.11ac(HT80)-5290


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.310000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: RMS
Avg|Hold: 100/100
Ref Offset 8.93 dB
10 dB/div
Ref 20.00 dBm
Mkr1 5.323 98 GHz
4.672 dBm
Center 5.31000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Span 60.00 MHz
Sweep 1.000 ms (1001 pts)


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.290000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: RMS
Avg|Hold: 100/100
Ref Offset 9.06 dB
10 dB/div
Ref 20.00 dBm
Mkr1 5.262 88 GHz
2.691 dBm
Center 5.29000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Span 120.0 MHz
Sweep 1.000 ms (1001 pts)

5500-5700MHz
ANT1

802.11a-5500	802.11a-5580
	
802.11a-5700	802.11n(HT20)-5500
	
802.11n(HT20)-5580	802.11n(HT20)-5700
	
802.11n(HT40)-5510	802.11n(HT40)-5670

802.11ac(VH20)-5500

802.11ac(VH20)-5580

802.11ac(VH20)-5700

802.11ac(VH40)-5510

802.11ac(VH40)-5670

802.11ac(VH80)-5530


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.670000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: RMS
Avg|Hold: 100/100
Ref Offset 9 dB
10 dB/div
Ref 20.00 dBm
Mkr1 5.683 50 GHz
4.354 dBm
Center 5.67000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Span 60.00 MHz
Sweep 1.000 ms (1001 pts)


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.530000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: RMS
Avg|Hold: 100/100
Ref Offset 8.80 dB
10 dB/div
Ref 20.00 dBm
Mkr1 5.512 24 GHz
1.610 dBm
Center 5.53000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Span 120.0 MHz
Sweep 1.000 ms (1001 pts)

ANT2

802.11a-5500

802.11a-5580

802.11a-5700

802.11n(HT20)-5500

802.11n(HT20)-5580

802.11n(HT20)-5700

802.11n(HT40)-5510

802.11n(HT40)-5670

802.11ac(VH20)-5500

802.11ac(VH20)-5580

802.11ac(VH20)-5700

802.11ac(VH40)-5510

802.11ac(VH40)-5670

802.11ac(VH80)-5530


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.670000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: RMS
Avg|Hold: 100/100
Ref Offset 9 dB
10 dB/div
Ref 20.00 dBm
Mkr1 5.657 04 GHz
4.062 dBm
Center 5.67000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Span 60.00 MHz
Sweep 1.000 ms (1001 pts)


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.530000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: RMS
Avg|Hold: 100/100
Ref Offset 8.88 dB
10 dB/div
Ref 20.00 dBm
Mkr1 5.502 76 GHz
3.172 dBm
Center 5.53000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Span 120.0 MHz
Sweep 1.000 ms (1001 pts)

5745-5825MHz
ANT1

802.11a-5745	802.11a-5785
	
802.11a-5825	802.11n(HT20)-5745
	
802.11n(HT20)-5785	802.11n(HT20)-5825
	
802.11n(HT40)-5755	802.11n(HT40)-5795

802.11ac(VH20)-5745

802.11ac(VH20)-5785

802.11ac(VH20)-5825

802.11ac(VH40)-5755

802.11ac(VH40)-5795

802.11ac(VH80)-5775


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.795000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: RMS
Avg|Hold: 100/100
Ref Offset 9.06 dB
10 dB/div
Ref 20.00 dBm
Mkr1 5.809 04 GHz
-1.212 dBm
Center 5.79500 GHz
#Res BW 510 kHz
#VBW 1.5 MHz
Span 60.00 MHz
Sweep 1.000 ms (1001 pts)


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.775000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: RMS
Avg|Hold: 100/100
Ref Offset 9.66 dB
10 dB/div
Ref 20.00 dBm
Mkr1 5.757 84 GHz
-2.801 dBm
Center 5.77500 GHz
#Res BW 510 kHz
#VBW 1.5 MHz
Span 120.0 MHz
Sweep 1.000 ms (1001 pts)

ANT2

802.11a-5745

802.11a-5785

802.11a-5825

802.11n(HT20)-5745

802.11n(HT20)-5785

802.11n(HT20)-5825

802.11n(HT40)-5755

802.11n(HT40)-5795

802.11ac(VH20)-5745

802.11ac(VH20)-5785

802.11ac(VH20)-5825

802.11ac(VH40)-5755

802.11ac(VH40)-5795

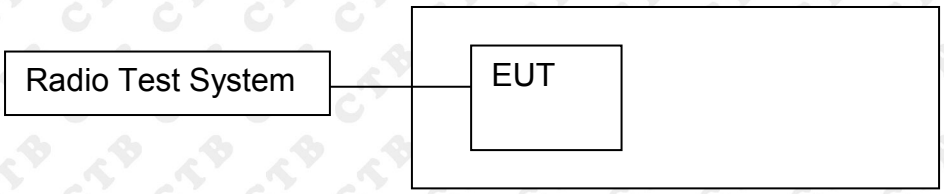
802.11ac(VH80)-5775


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.795000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: RMS
Avg|Hold: 100/100
Ref Offset 9.06 dB
10 dB/div
Ref 20.00 dBm
Mkr1 5.806 58 GHz
-0.272 dBm
Center 5.79500 GHz
#Res BW 510 kHz
#VBW 1.5 MHz*
Span 60.00 MHz
Sweep 1.000 ms (1001 pts)


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.775000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: RMS
Avg|Hold: 100/100
Ref Offset 9.65 dB
10 dB/div
Ref 20.00 dBm
Mkr1 5.756 76 GHz
-1.273 dBm
Center 5.77500 GHz
#Res BW 510 kHz
#VBW 1.5 MHz*
Span 120.0 MHz
Sweep 1.000 ms (1001 pts)

12. FREQUENCY STABILITY

12.1 Block Diagram Of Test Setup



12.2 Limit

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

12.3 Test procedure

1. The EUT was placed inside temperature chamber and powered and powered by nominal DC voltage.

2. Set EUT as normal operation.

3. Turn the EUT on and couple its output to spectrum.

4. Turn the EUT off and set the chamber to the highest temperature specified.

5. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT and measure the operating frequency.

6. Repeat step with the temperature chamber set to the lowest temperature.

12.4 Test Result

TX Frequency (5150-5250MHz)

ANT1

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5180MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (° C)	20	V nom (V)	120	5180.0168	5180	0.0168	3.2492
		V max (V)	132	5180.0246	5180	0.0246	4.7512
		V min (V)	108	5180.1004	5180	0.1004	19.3739
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5180MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5180.0468	5180	0.0468	9.0376
		T (°C)	10	5180.0212	5180	0.0212	4.0918
		T (°C)	20	5180.0410	5180	0.0410	7.9232
		T (°C)	30	5180.0012	5180	0.0012	0.2326
		T (°C)	40	5180.0362	5180	0.0362	6.9906
Limits				±20ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5200.0379	5200	0.0379	7.2959
		V max (V)	132	5200.0094	5200	0.0094	1.8141
		V min (V)	108	5200.0306	5200	0.0306	5.8919
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5200.0289	5200	0.0289	5.5561
		T (°C)	10	5200.0096	5200	0.0096	1.8423
		T (°C)	20	5200.0248	5200	0.0248	4.7698
		T (°C)	30	5200.0122	5200	0.0122	2.3416
		T (°C)	40	5200.0147	5200	0.0147	2.8321
Limits				±20ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5240MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5240.0037	5240	0.0037	0.7005
		V max (V)	132	5240.0427	5240	0.0427	8.1454
		V min (V)	108	5240.0167	5240	0.0167	3.1908
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5240MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5240.0218	5240	0.0218	4.1647
		T (°C)	10	5240.0456	5240	0.0456	8.6938
		T (°C)	20	5240.0356	5240	0.0356	6.8031
		T (°C)	30	5240.0087	5240	0.0087	1.6607
		T (°C)	40	5240.0472	5240	0.0472	9.0143
Limits				±20ppm			
Result				Complies			

TX Frequency (5250-5350MHz)

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5260MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5260.0031	5260	0.0031	0.5799
		V max (V)	132	5260.0308	5260	0.0308	5.8540
		V min (V)	108	5260.0138	5260	0.0138	2.6152
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5260MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5260.0722	5260	0.0722	13.7313
		T (°C)	10	5260.0531	5260	0.0531	10.1039
		T (°C)	20	5260.0250	5260	0.0250	4.7442
		T (°C)	30	5260.0519	5260	0.0519	9.8719
		T (°C)	40	5260.0889	5260	0.0889	16.9106
Limits				±20ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5280MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5280.0380	5280	0.0380	7.1990
		V max (V)	132	5280.0494	5280	0.0494	9.3534
		V min (V)	108	5280.0226	5280	0.0226	4.2819
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5280MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5280.0098	5280	0.0098	1.8622
		T (°C)	10	5280.0217	5280	0.0217	4.1187
		T (°C)	20	5280.0397	5280	0.0397	7.5146
		T (°C)	30	5280.0740	5280	0.0740	14.0097
		T (°C)	40	5280.0162	5280	0.0162	3.0599
Limits				±20ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5320MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5320.0610	5320	0.0610	11.4665
		V max (V)	132	5320.0068	5320	0.0068	1.2842
		V min (V)	108	5320.0580	5320	0.0580	10.9058
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5320MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5320.0708	5320	0.0708	13.3055
		T (°C)	10	5320.0126	5320	0.0126	2.3668
		T (°C)	20	5320.0125	5320	0.0125	2.3555
		T (°C)	30	5320.0367	5320	0.0367	6.9003
		T (°C)	40	5320.0074	5320	0.0074	1.3989
Limits				±20ppm			
Result				Complies			

TX Frequency (5470-5725MHz)

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5500MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5550.0019	5500	50.0019	9091.2555
		V max (V)	132	5550.0134	5500	50.0134	9093.3458
		V min (V)	108	5550.0285	5500	50.0285	9096.0883
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5500MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5500.0757	5500	0.0757	13.7615
		T (°C)	10	5500.0503	5500	0.0503	9.1404
		T (°C)	20	5500.0134	5500	0.0134	2.4439
		T (°C)	30	5500.0531	5500	0.0531	9.6587
		T (°C)	40	5500.0184	5500	0.0184	3.3480
Limits				±20ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5580MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5580.0522	5580	0.0522	9.3489
		V max (V)	132	5580.0226	5580	0.0226	4.0532
		V min (V)	108	5580.0515	5580	0.0515	9.2308
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5580MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5580.0160	5580	0.0160	2.8678
		T (°C)	10	5580.0185	5580	0.0185	3.3143
		T (°C)	20	5580.0826	5580	0.0826	14.7983
		T (°C)	30	5580.0805	5580	0.0805	14.4350
		T (°C)	40	5580.0458	5580	0.0458	8.2154
Limits				±20ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5700MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5700.0403	5700	0.0403	7.0629
		V max (V)	132	5700.0407	5700	0.0407	7.1412
		V min (V)	108	5700.0040	5700	0.0040	0.6956
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5700MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5700.0841	5700	0.0841	14.7570
		T (°C)	10	5700.0577	5700	0.0577	10.1283
		T (°C)	20	5700.0092	5700	0.0092	1.6140
		T (°C)	30	5700.0423	5700	0.0423	7.4143
		T (°C)	40	5700.0930	5700	0.0930	16.3104
Limits				±20ppm			
Result				Complies			

TX Frequency (5725-5850MHz)

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5745.0175	5745	0.0175	3.0422
		V max (V)	132	5745.0285	5745	0.0285	4.9550
		V min (V)	108	5745.0175	5745	0.0175	3.0422
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5745.0569	5745	0.0569	9.9013
		T (°C)	10	5745.0544	5745	0.0544	9.4606
		T (°C)	20	5745.0343	5745	0.0343	5.9691
		T (°C)	30	5745.0393	5745	0.0393	6.8350
		T (°C)	40	5745.0847	5745	0.0847	14.7390
Limits				±20ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5785.0563	5785	0.0563	9.7280
		V max (V)	132	5785.0280	5785	0.0280	4.8366
		V min (V)	108	5785.0041	5785	0.0041	0.7044
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5785.0610	5785	0.0610	10.5428
		T (°C)	10	5785.0859	5785	0.0859	14.8485
		T (°C)	20	5785.0345	5785	0.0345	5.9721
		T (°C)	30	5785.0555	5785	0.0555	9.5969
		T (°C)	40	5785.0637	5785	0.0637	11.0040
Limits				±20ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5825.0823	5825	0.0823	14.1210
		V max (V)	132	5825.0928	5825	0.0928	15.9287
		V min (V)	108	5825.0034	5825	0.0034	0.5786
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5825.0330	5825	0.0330	5.6694
		T (°C)	10	5825.0552	5825	0.0552	9.4738
		T (°C)	20	5825.0105	5825	0.0105	1.7997
		T (°C)	30	5825.0931	5825	0.0931	15.9822
		T (°C)	40	5825.0348	5825	0.0348	5.9800
Limits				±20ppm			
Result				Complies			

ANT2:

TX Frequency (5150-5250MHz)

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5180MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5180.0316	5180	0.0316	6.1097
		V max (V)	132	5180.0081	5180	0.0081	1.5560
		V min (V)	108	5180.0837	5180	0.0837	16.1601
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5180MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5180.0407	5180	0.0407	7.8529
		T (°C)	10	5180.0488	5180	0.0488	9.4274
		T (°C)	20	5180.0155	5180	0.0155	2.9907
		T (°C)	30	5180.0515	5180	0.0515	9.9377
		T (°C)	40	5180.0155	5180	0.0155	2.9946
Limits				±20ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5200.0912	5200	0.0912	17.5475
		V max (V)	132	5200.0623	5200	0.0623	11.9731
		V min (V)	108	5200.0338	5200	0.0338	6.5056
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5200.0747	5200	0.0747	14.3691
		T (°C)	10	5200.0610	5200	0.0610	11.7338
		T (°C)	20	5200.0523	5200	0.0523	10.0592
		T (°C)	30	5200.0115	5200	0.0115	2.2043
		T (°C)	40	5200.0932	5200	0.0932	17.9172
Limits				±20ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5240MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5240.0221	5240	0.0221	4.2119
		V max (V)	132	5240.0389	5240	0.0389	7.4284
		V min (V)	108	5240.0009	5240	0.0009	0.1623
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5240MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5240.0608	5240	0.0608	11.6049
		T (°C)	10	5240.0063	5240	0.0063	1.2085
		T (°C)	20	5240.0544	5240	0.0544	10.3911
		T (°C)	30	5240.0848	5240	0.0848	16.1863
		T (°C)	40	5240.0570	5240	0.0570	10.8820
Limits				±20ppm			
Result				Complies			

TX Frequency (5250-5350MHz)

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5260MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5260.0312	5260	0.0312	5.9306
		V max (V)	132	5260.0530	5260	0.0530	10.0691
		V min (V)	108	5260.0490	5260	0.0490	9.3106
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5260MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5260.0622	5260	0.0622	11.8282
		T (°C)	10	5260.0156	5260	0.0156	2.9651
		T (°C)	20	5260.0610	5260	0.0610	11.5987
		T (°C)	30	5260.0136	5260	0.0136	2.5887
		T (°C)	40	5260.0778	5260	0.0778	14.7983
Limits				±20ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5280MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5280.0478	5280	0.0478	9.0526
		V max (V)	132	5280.0414	5280	0.0414	7.8464
		V min (V)	108	5280.0651	5280	0.0651	12.3228
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5280MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5280.0830	5280	0.0830	15.7108
		T (°C)	10	5280.0863	5280	0.0863	16.3368
		T (°C)	20	5280.0817	5280	0.0817	15.4646
		T (°C)	30	5280.0833	5280	0.0833	15.7821
		T (°C)	40	5280.0458	5280	0.0458	8.6714
Limits				±20ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5320MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5320.0359	5320	0.0359	6.7513
		V max (V)	132	5320.0867	5320	0.0867	16.3051
		V min (V)	108	5320.0871	5320	0.0871	16.3752
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5320MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	-20	5320.0174	5320	0.0174	3.2708
		T (°C)	-10	5320.0883	5320	0.0883	16.5952
		T (°C)	0	5320.0388	5320	0.0388	7.2918
		T (°C)	10	5320.0895	5320	0.0895	16.8195
		T (°C)	20	5320.0868	5320	0.0868	16.3092
		T (°C)	30	5320.0657	5320	0.0657	12.3484
		T (°C)	40	5320.0352	5320	0.0352	6.6200
		T (°C)	50	5320.0474	5320	0.0474	8.9177
		T (°C)	60	5320.0255	5320	0.0255	4.7997
		T (°C)	70	5320.0069	5320	0.0069	1.2906
Limits				±20ppm			
Result				Complies			

TX Frequency (5470-5725MHz)

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5500MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5500.0272	5500	0.0272	4.9383
		V max (V)	132	5500.0131	5500	0.0131	2.3898
		V min (V)	108	5500.0292	5500	0.0292	5.3145
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5500MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5500.0488	5500	0.0488	8.8793
		T (°C)	10	5500.0525	5500	0.0525	9.5469
		T (°C)	20	5500.0354	5500	0.0354	6.4366
		T (°C)	30	5500.0566	5500	0.0566	10.2999
		T (°C)	40	5500.0179	5500	0.0179	3.2481
Limits				±20ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5580MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5580.0475	5580	0.0475	8.5040
		V max (V)	132	5580.0846	5580	0.0846	15.1576
		V min (V)	108	5580.0755	5580	0.0755	13.5293
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5580MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5580.0662	5580	0.0662	11.8558
		T (°C)	10	5580.0298	5580	0.0298	5.3376
		T (°C)	20	5580.0886	5580	0.0886	15.8783
		T (°C)	30	5580.0411	5580	0.0411	7.3703
		T (°C)	40	5580.0798	5580	0.0798	14.3068
Limits				±20ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5700MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5700.0749	5700	0.0749	13.1429
		V max (V)	132	5700.0843	5700	0.0843	14.7874
		V min (V)	108	5700.0058	5700	0.0058	1.0197
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5700MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5700.0706	5700	0.0706	12.3869
		T (°C)	10	5700.0893	5700	0.0893	15.6728
		T (°C)	20	5700.0383	5700	0.0383	6.7126
		T (°C)	30	5700.0592	5700	0.0592	10.3852
		T (°C)	40	5700.0652	5700	0.0652	11.4432
Limits				±20ppm			
Result				Complies			

TX Frequency (5725-5850MHz)

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5745.0717	5745	0.0717	12.4842
		V max (V)	132	5745.0382	5745	0.0382	6.6524
		V min (V)	108	5745.0151	5745	0.0151	2.6259
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5745.0386	5745	0.0386	6.7156
		T (°C)	10	5745.0897	5745	0.0897	15.6086
		T (°C)	20	5745.0900	5745	0.0900	15.6627
		T (°C)	30	5745.0739	5745	0.0739	12.8563
		T (°C)	40	5745.0907	5745	0.0907	15.7858
Limits				±20ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5785.0933	5785	0.0933	16.1237
		V max (V)	132	5785.0183	5785	0.0183	3.1620
		V min (V)	108	5785.0924	5785	0.0924	15.9780
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5785.0447	5785	0.0447	7.7258
		T (°C)	10	5785.0004	5785	0.0004	0.0633
		T (°C)	20	5785.0542	5785	0.0542	9.3733
		T (°C)	30	5785.0397	5785	0.0397	6.8682
		T (°C)	40	5785.0005	5785	0.0005	0.0780
		T (°C)	50	5785.0105	5785	0.0105	1.8228
Limits				±20ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5825.0557	5825	0.0557	9.5569
		V max (V)	132	5825.0041	5825	0.0041	0.7042
		V min (V)	108	5825.0133	5825	0.0133	2.2791
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5825.0471	5825	0.0471	8.0854
		T (°C)	10	5825.0604	5825	0.0604	10.3622
		T (°C)	20	5825.0097	5825	0.0097	1.6635
		T (°C)	30	5825.0176	5825	0.0176	3.0140
		T (°C)	40	5825.0797	5825	0.0797	13.6746
Limits				±20ppm			
Result				Complies			

13. OPERATION IN THE ABSENCE OF INFORMATION TO THE TRANSMIT

13.1 Requirement

15.407(c) requirement:
The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signal ling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization a description of how this requirement is met.

13.2 Test Results

Operation in the absence of information to the transmit:

While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling
signal of ASK message transmitting from remote device and verify whether it shall resend or discontinue transmission. (manufacturer declare)

14. ANTENNA REQUIREMENT

15.203 requirement:
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.
15.247(b) (4) requirement:
The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

EUT Antenna:

The antenna is PIFA antenna and no consideration of replacement. The best case gain of the antenna is 5.2G:2.88dBi, 5.3G:3.13dBi, 5.6G:3.36dBi, 5.8G:3.14dBi.

15. EUT PHOTOGRAPHS

EUT Photo 1

EUT Photo 2

16. EUT TEST SETUP PHOTOGRAPHS

Spurious emissions

Below 1GHz

Above 1GHz

Conducted Emission

※※※※※ END OF REPORT ※※※※※