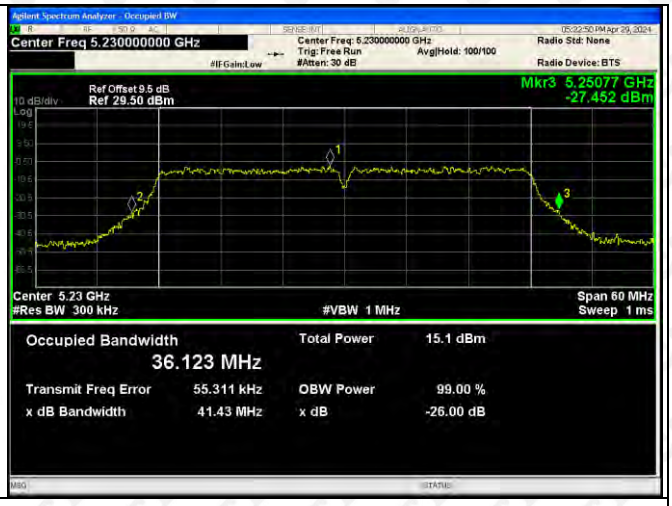
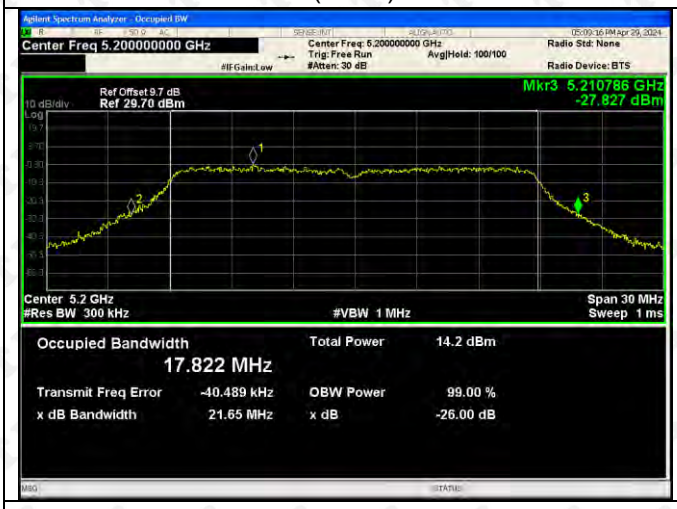
802.11ac(VH80)-5210



802.11n(HT20)-5180

802.11n(HT20)-5200

802.11n(HT20)-5240



802.11n(HT40)-5190

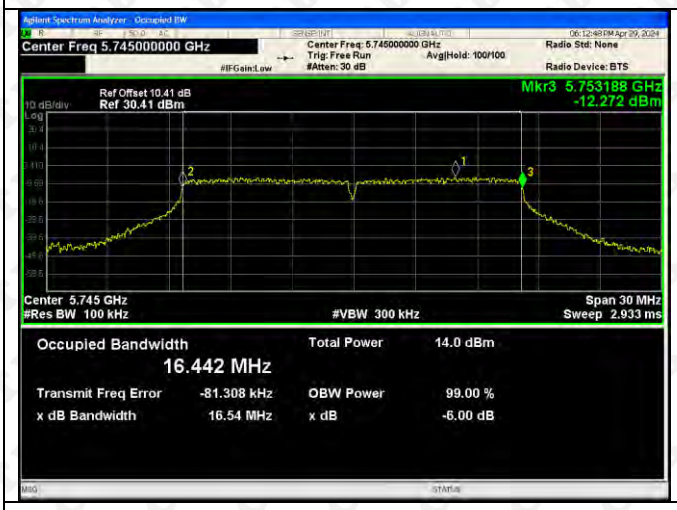
802.11n(HT40)-5230


Agilent Spectrum Analyzer - Occupied BW
Center Freq 5.190000000 GHz
Center Freq: 5.190000000 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 5.210858 GHz
-31.257 dBm
Center 5.19 GHz
#Res BW 300 kHz
#VBW 1 MHz
Span 60 MHz
Sweep 1 ms
Occupied Bandwidth
36.194 MHz
Total Power 14.3 dBm
Transmit Freq Error 2.908 kHz
OBW Power 99.00 %
x dB Bandwidth 41.71 MHz
x dB -26.00 dB

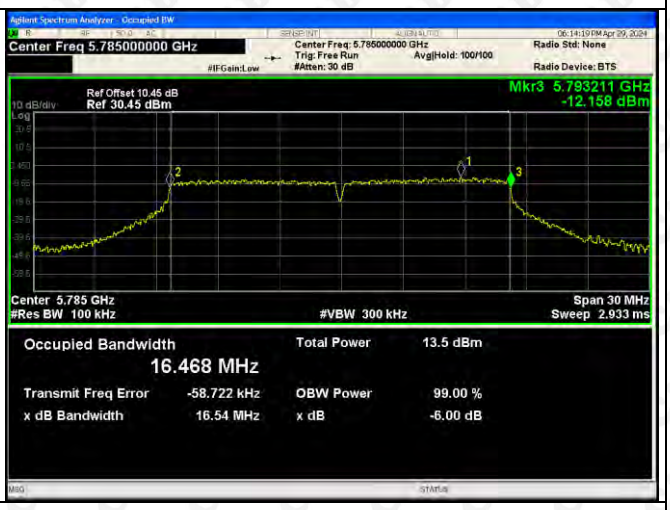

Agilent Spectrum Analyzer - Occupied BW
Center Freq 5.230000000 GHz
Center Freq: 5.230000000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
Ref Offset 9.5 dB
10 dB/div
Ref 29.50 dBm
Mkr3 5.250622 GHz
-28.336 dBm
Center 5.23 GHz
#Res BW 300 kHz
#VBW 1 MHz
Span 60 MHz
Sweep 1 ms
Occupied Bandwidth
36.126 MHz
Total Power 15.2 dBm
Transmit Freq Error 51.597 kHz
OBW Power 99.00 %
x dB Bandwidth 41.14 MHz
x dB -26.00 dB

ANT1:
5745-5825MHz

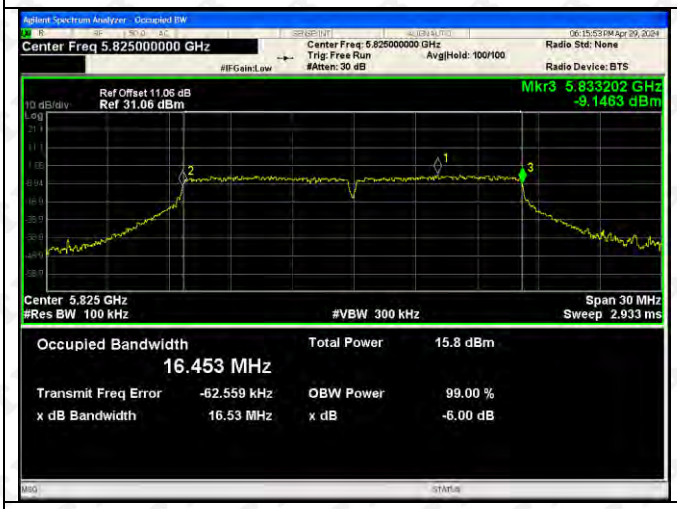
802.11a-5745



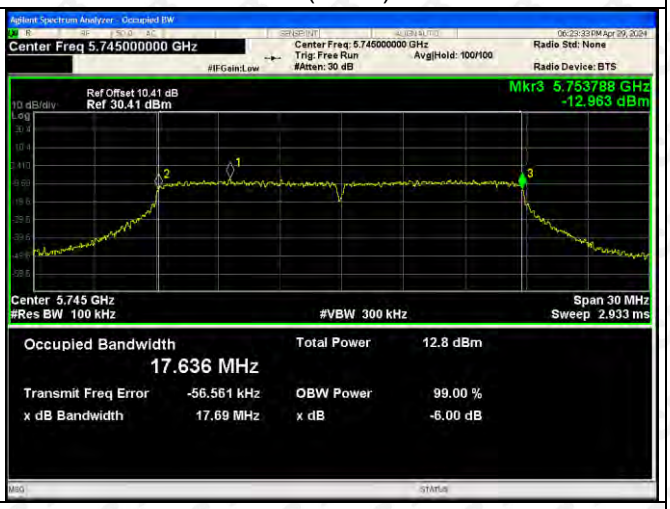
802.11a-5785



802.11a-5825



802.11ac(VH20)-5745

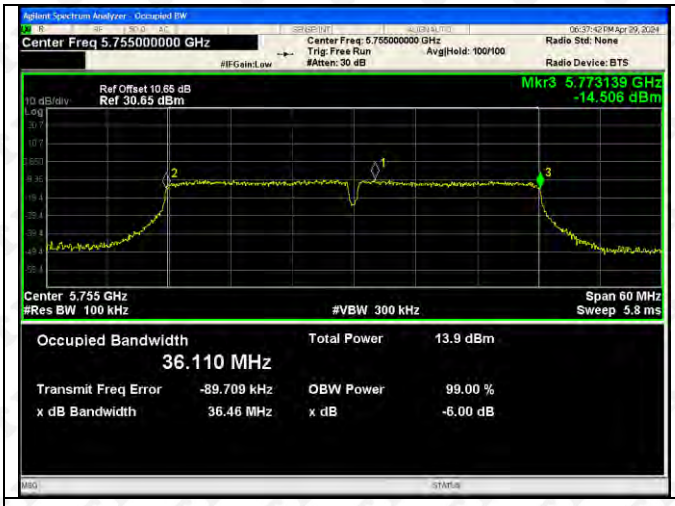


802.11ac(VH20)-5785

802.11ac(VH20)-5825

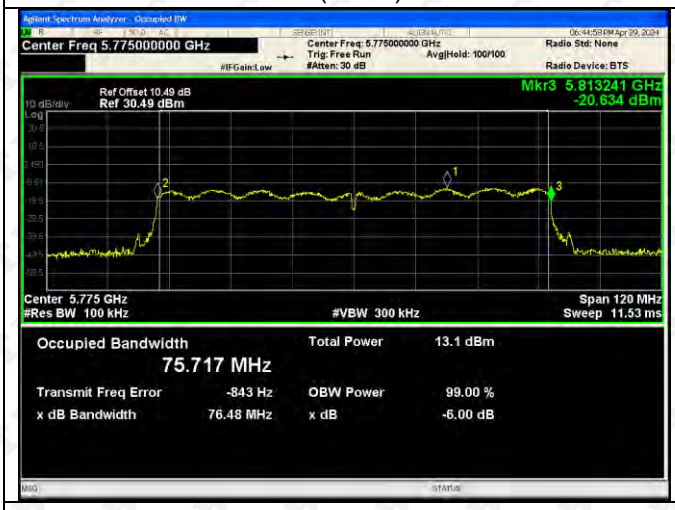
802.11ac(VH40)-5755

802.11ac(VH40)-5795



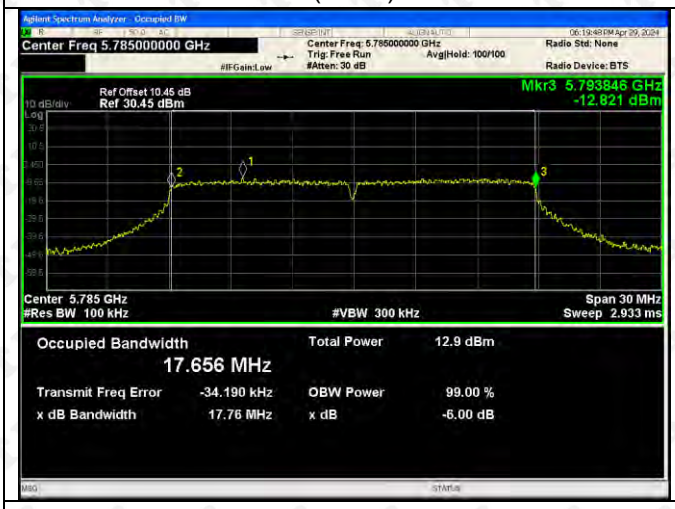
802.11ac(VH80)-5775

802.11n(HT20)-5745



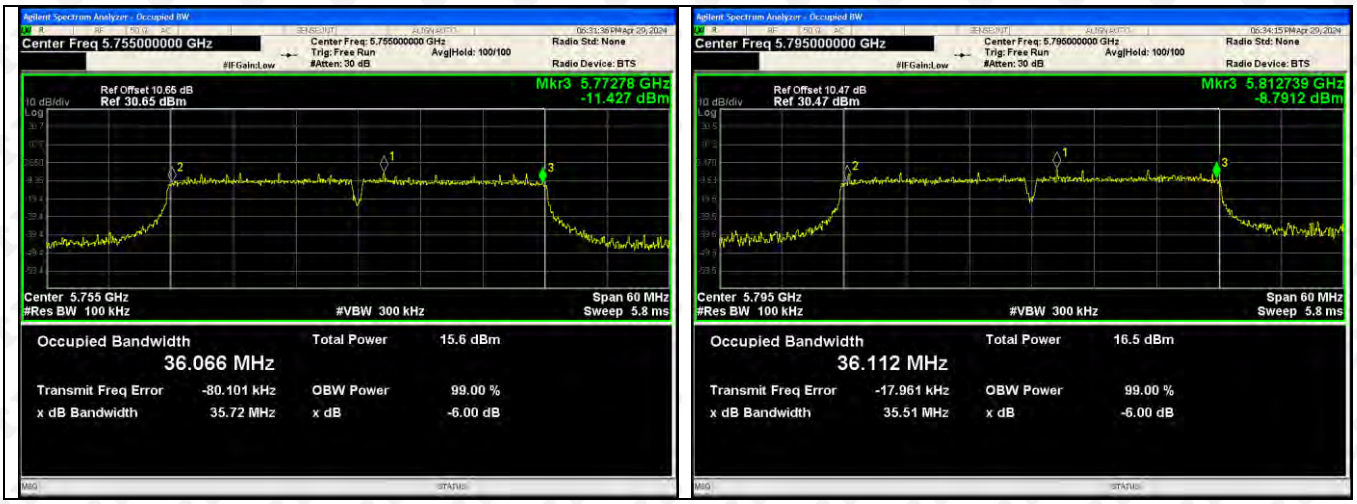
802.11n(HT20)-5785

802.11n(HT20)-5825



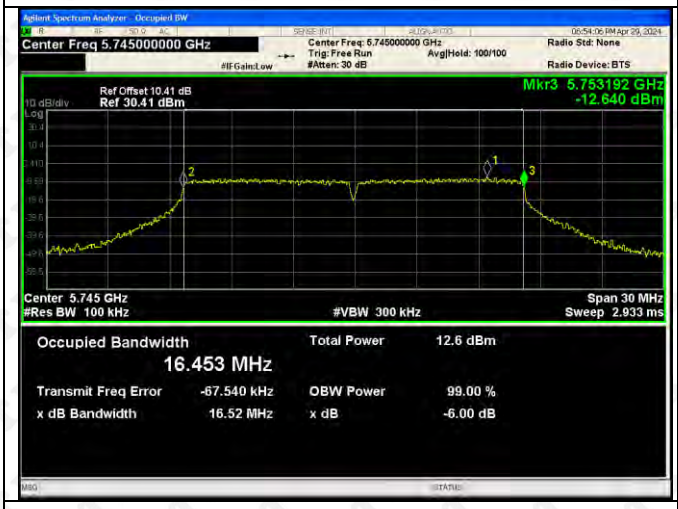
5802.11n(HT40)-5755

802.11n(HT40)-5795

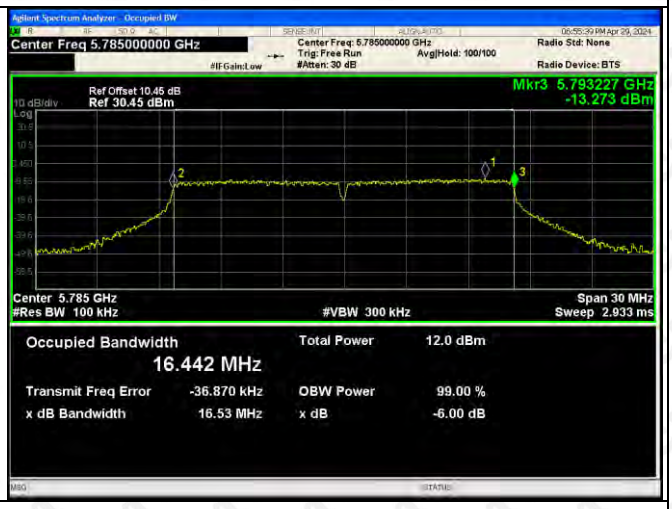

Agilent Spectrum Analyzer - Occupied BW
Center Freq 5.755000000 GHz
Center Freq: 5.755000000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
Ref Offset 10.66 dB
10 dB/div
Ref 30.65 dBm
Mkr3 5.77278 GHz
-11.427 dBm
Center 5.755 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 60 MHz
Sweep 5.8 ms
Occupied Bandwidth
36.066 MHz
Total Power 15.6 dBm
Transmit Freq Error -80.101 kHz
OBW Power 99.00 %
x dB Bandwidth 35.72 MHz
x dB -6.00 dB
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 10.47 dB
10 dB/div
Ref 30.47 dBm
Mkr3 5.812739 GHz
-8.7912 dBm
Center 5.795 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 60 MHz
Sweep 5.8 ms
Occupied Bandwidth
36.112 MHz
Total Power 16.5 dBm
Transmit Freq Error -17.961 kHz
OBW Power 99.00 %
x dB Bandwidth 35.51 MHz
x dB -6.00 dB

ANT2:
5745-5825MHz

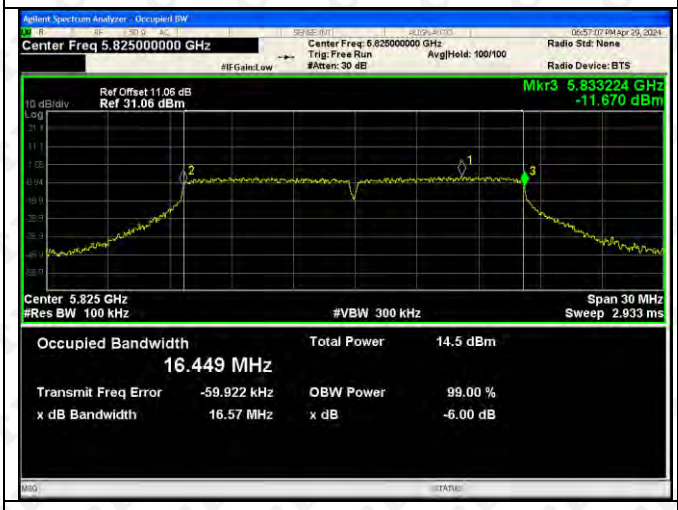
802.11a-5745



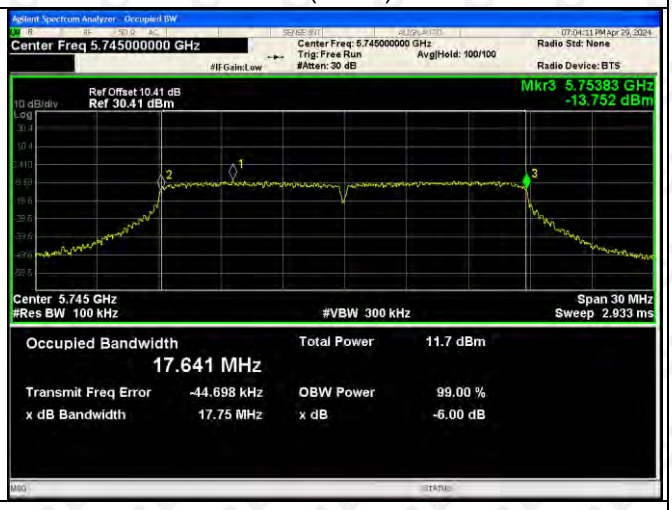
802.11a-5785



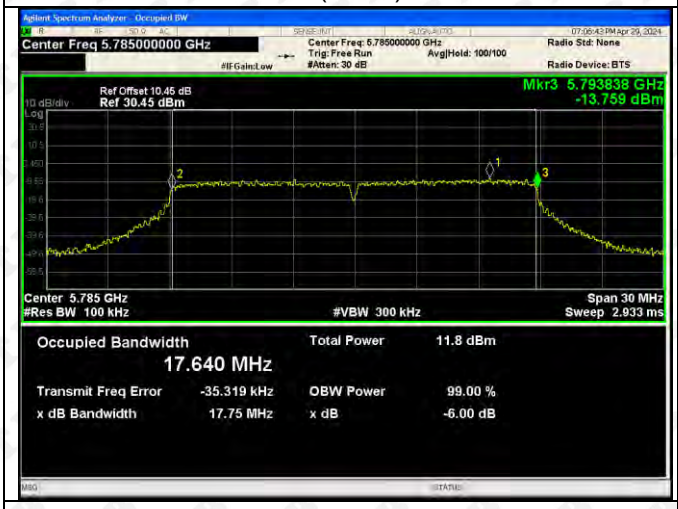
802.11a-5825



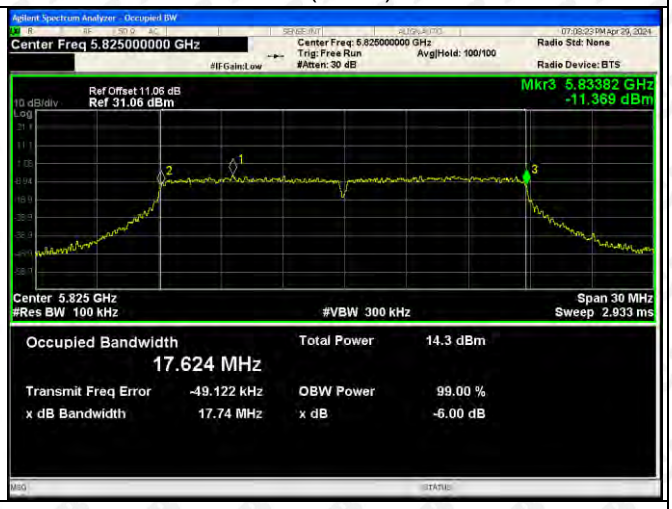
802.11ac(VH20)-5745



802.11ac(VH20)-5785

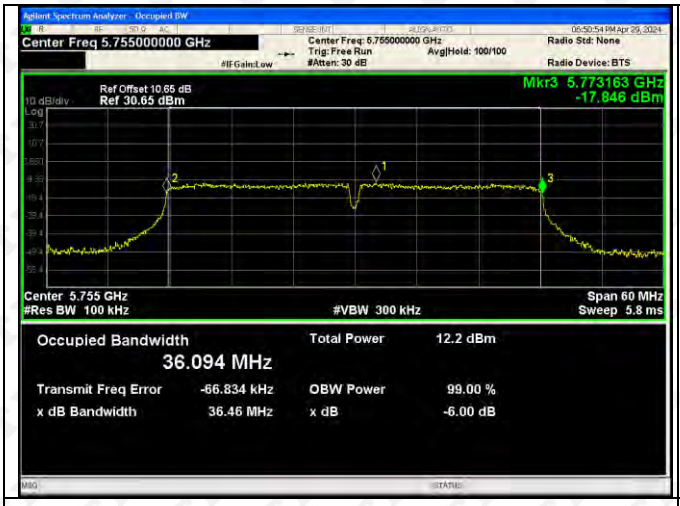


802.11ac(VH20)-5825

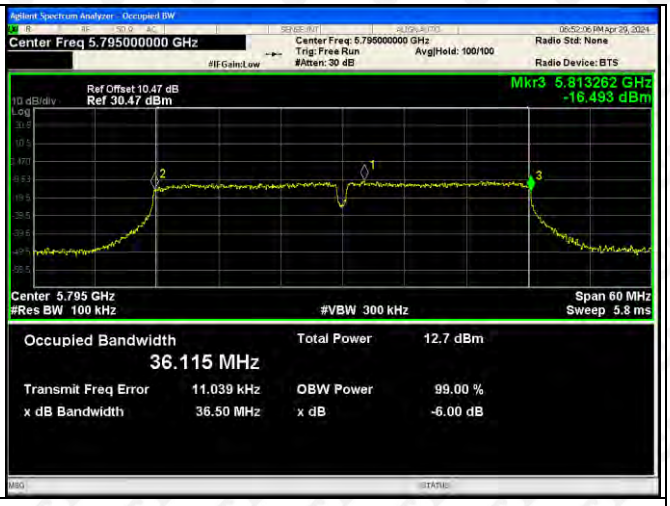


802.11ac(VH40)-5755

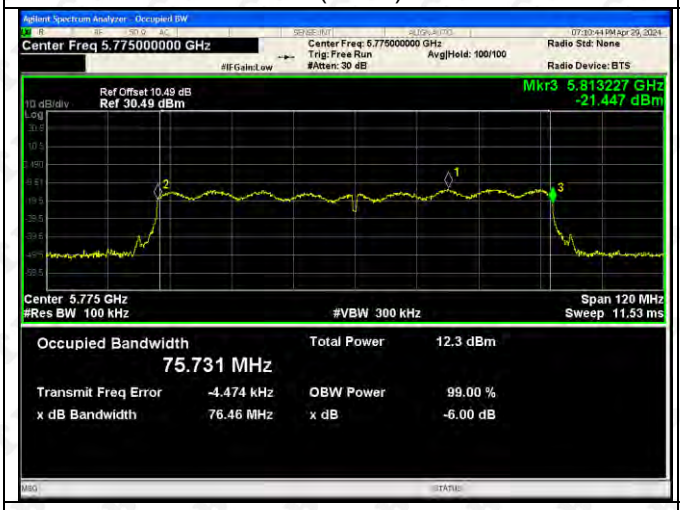
802.11ac(VH40)-5795



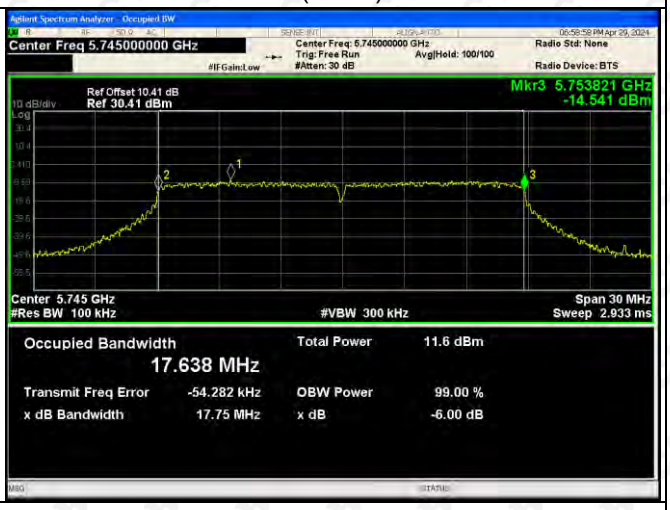
802.11ac(VH80)-5775



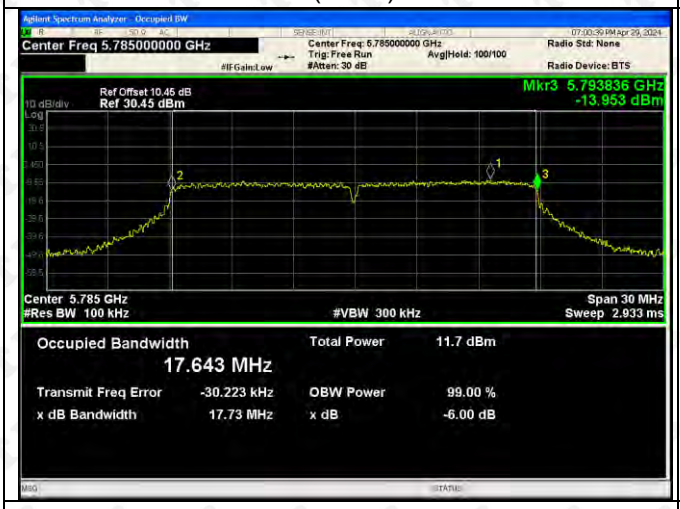
802.11n(HT20)-5745



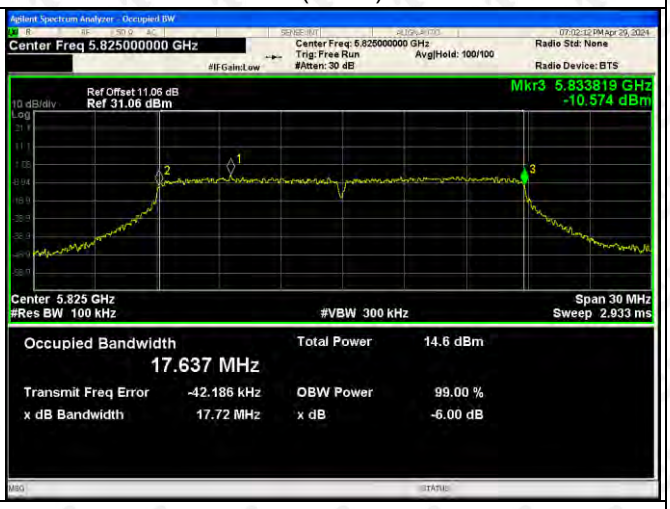
802.11n(HT20)-5785



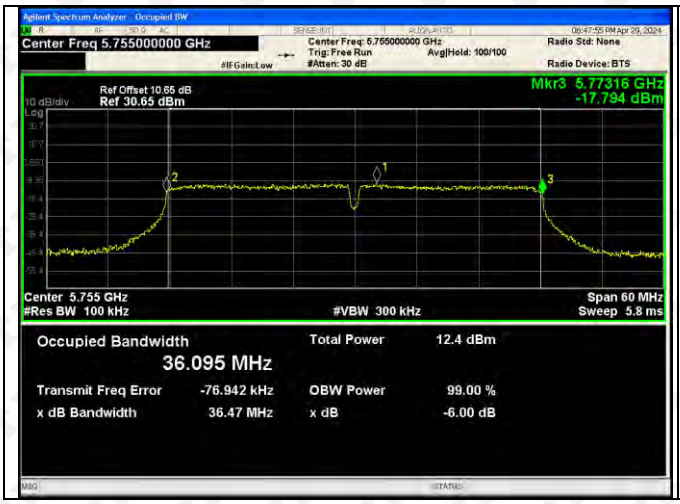
802.11n(HT20)-5825

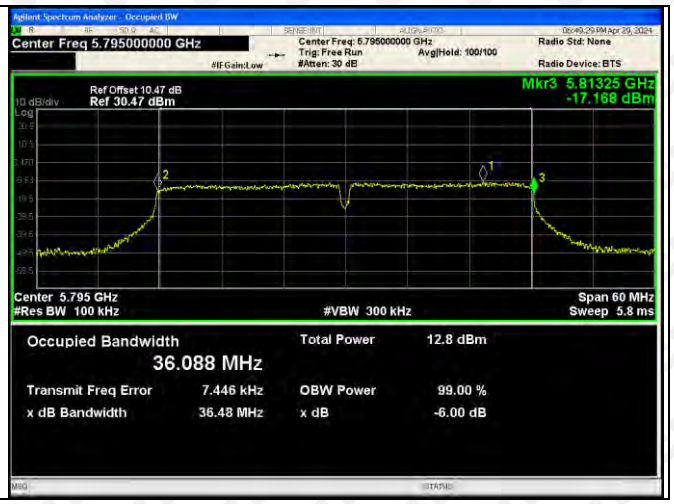


5802.11n(HT40)-5755



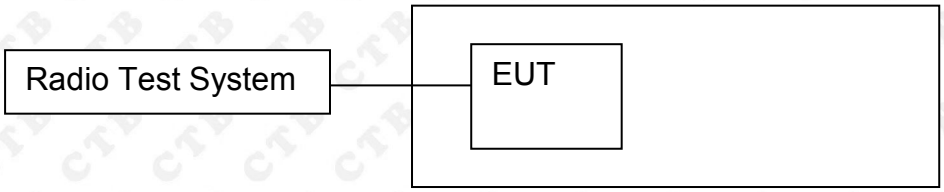
802.11n(HT40)-5795


Agilent Spectrum Analyzer - Occupied BW
Center Freq 5.755000000 GHz
Center Freq: 5.755000000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
Ref Offset 10.65 dB
10 dB/div
Ref 30.65 dBm
Mkr3 5.77316 GHz
-17.794 dBm
Center 5.755 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 60 MHz
Sweep 5.8 ms
Occupied Bandwidth
36.095 MHz
Total Power 12.4 dBm
Transmit Freq Error -76.942 kHz
OBW Power 99.00 %
x dB Bandwidth 36.47 MHz
x dB -6.00 dB


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 10.47 dB
10 dB/div
Ref 30.47 dBm
Mkr3 5.81325 GHz
-17.168 dBm
Center 5.795 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 60 MHz
Sweep 5.8 ms
Occupied Bandwidth
36.088 MHz
Total Power 12.8 dBm
Transmit Freq Error 7.446 kHz
OBW Power 99.00 %
x dB Bandwidth 36.48 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

Test mode	Test Channel (MHz)	PSD [dBm/MHz] ANT 1	PSD [dBm/MHz] ANT 2	PSD [dBm/MHz] Total	Limit (dBm/MHz)	Result
802.11a	5180	-2.082	-2.725	/	11	Pass
	5200	-2.56	-2.744	/	11	Pass
	5240	-1.647	-0.804	/	11	Pass
802.11ac(VH20)	5180	-2.968	-3.028	0.012	11	Pass
	5200	-3.055	-2.117	0.450	11	Pass
	5240	-2.414	-2.199	0.705	11	Pass
802.11ac(VH40)	5190	-6.547	-5.907	-3.205	11	Pass
	5230	-5.009	-5.067	-2.028	11	Pass
802.11n(VH20)	5180	-7.314	-6.943	-4.114	11	Pass
	5200	-2.961	-2.665	0.200	11	Pass
	5240	-3.237	-2.818	-0.012	11	Pass
802.11n(VH40)	5190	-2.556	-2.042	0.719	11	Pass
	5230	-5.981	-5.922	-2.941	11	Pass
802.11ac(VH80)	5230	-5.248	-4.868	-2.044	11	Pass

Test mode	Test Channel (MHz)	PSD [dBm/MHz] ANT 1	PSD [dBm/MHz] ANT 2	PSD [dBm/MHz] Total	Limit (dBm)	Result
802.11a	5745	-5.655	-7.094	/	30	Pass
	5785	-5.763	-7.193	/	30	Pass
	5825	-3.777	-4.942	/	30	Pass
802.11ac(VH20)	5745	-6.671	-7.771	-4.176	30	Pass
	5785	-6.348	-7.365	-3.816	30	Pass
	5825	-4.352	-5.24	-1.763	30	Pass
802.11ac(VH40)	5755	-9.004	-10.748	-6.779	30	Pass
	5795	-8.805	-10.182	-6.429	30	Pass
802.11n(VH20)	5775	-11.914	-12.625	-9.245	30	Pass
	5745	-7.169	-7.791	-4.459	30	Pass
	5785	-6.537	-7.706	-4.072	30	Pass
802.11n(VH40)	5825	-4.342	-4.909	-1.606	30	Pass
	5755	-11.803	-10.518	-8.103	30	Pass
802.11ac(VH80)	5795	-9.906	-9.8	-6.842	30	Pass

ANT1:
5180-5240MHz

802.11a-5180

802.11a-5200

802.11a-5240

802.11ac(VH20)-5180

802.11ac(VH20)-5200

802.11ac(VH20)-5240

802.11ac(VH40)-5190

802.11ac(VH40)-5230

802.11ac(VH80)-5210

802.11n(HT20)-5180

802.11n(HT20)-5200

802.11n(HT20)-5240

802.11n(HT40)-5190

802.11n(HT40)-5230


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.190000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: RMS
Avg|Hold: 100/100
Ref Offset 9.65 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 5.203 98 GHz
-5.981 dBm
Center 5.19000 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 5.230000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: RMS
Avg|Hold: 100/100
Ref Offset 9.5 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 5.232 40 GHz
-5.248 dBm
Center 5.23000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Span 60.00 MHz
Sweep 1.000 ms (1001 pts)

ANT2:

5180-5240MHz

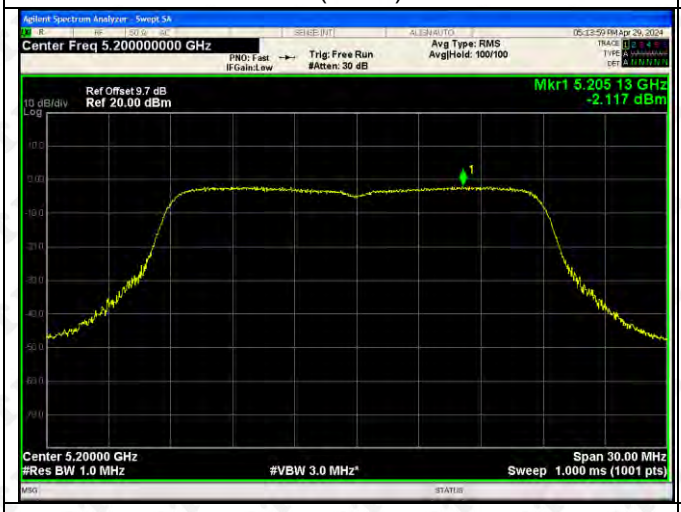
802.11a-5180

802.11a-5200

802.11a-5240

802.11ac(VH20)-5180

802.11ac(VH20)-5200



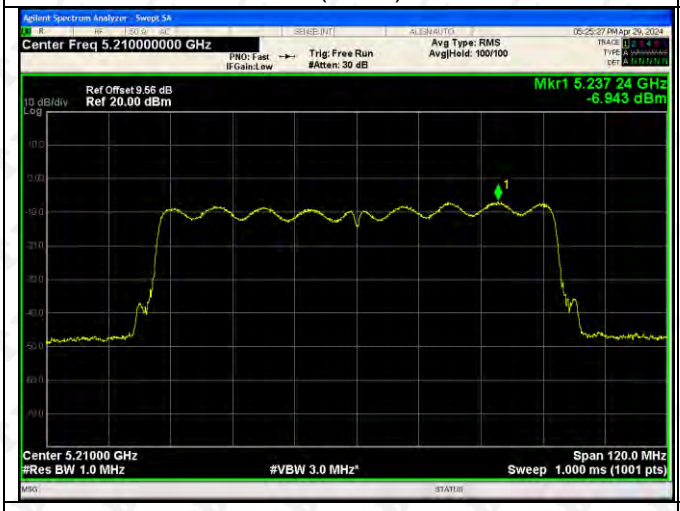
802.11ac(VH20)-5240

802.11ac(VH40)-5190

802.11ac(VH40)-5230

802.11ac(VH80)-5210

802.11n(HT20)-5180

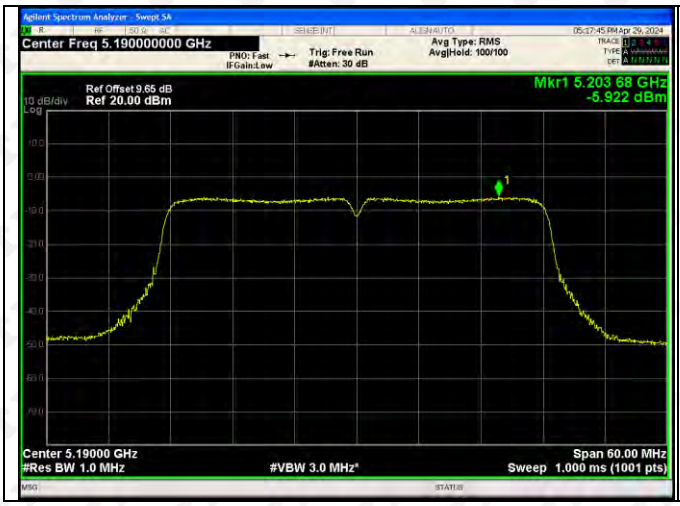


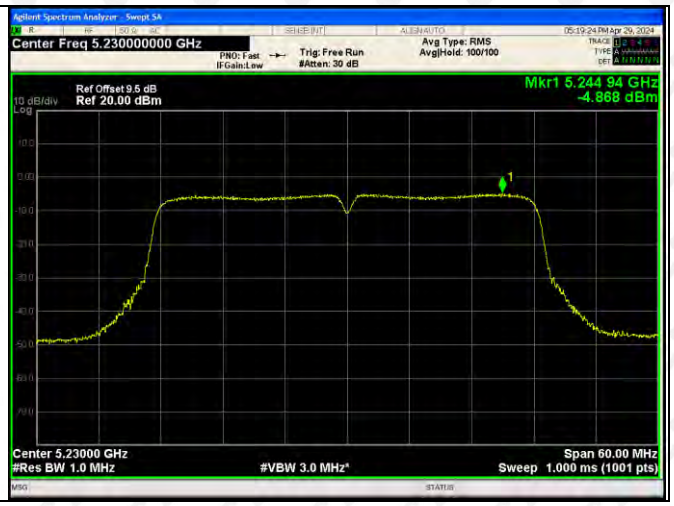
802.11n(HT20)-5200

802.11n(HT20)-5240

802.11n(HT40)-5190

802.11n(HT40)-5230


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.190000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: RMS
Avg|Hold: 100/100
05:17:45 PM Apr 29, 2024
Ref Offset 9.65 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 5.203 68 GHz
-5.922 dBm
Center 5.19000 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 5.230000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: RMS
Avg|Hold: 100/100
05:19:24 PM Apr 29, 2024
Ref Offset 9.6 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 5.244 94 GHz
-4.868 dBm
Center 5.23000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Span 60.00 MHz
Sweep 1.000 ms (1001 pts)

ANT1:
5745-5825MHz

802.11a-5745

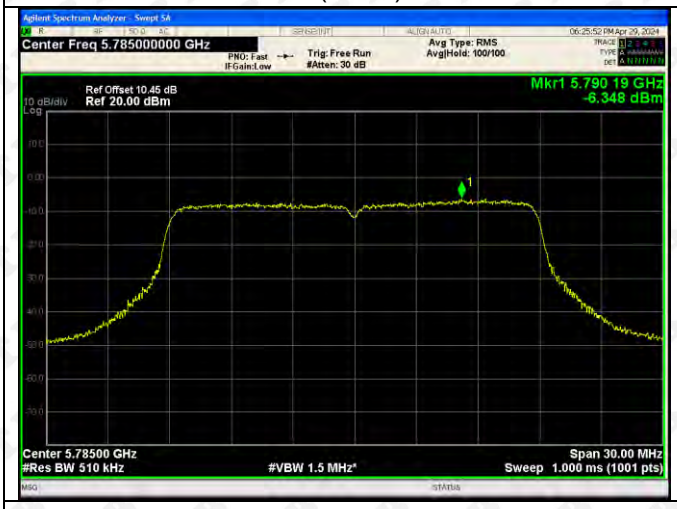
802.11a-5785

802.11a-5825

802.11ac(VH20)-5745

802.11ac(VH20)-5785

802.11ac(VH20)-5825



802.11ac(VH40)-5755

802.11ac(VH40)-5795

802.11ac(VH80)-5775

802.11n(HT20)-5745

802.11n(HT20)-5785

802.11n(HT20)-5825

5802.11n(HT40)-5755

802.11n(HT40)-5795


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.755000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: RMS
Avg|Hold: 100/100
Ref Offset 10.65 dB
10 dB/div
Ref 20.00 dBm
Mkr1 5.756 50 GHz
-11.803 dBm
Center 5.75500 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 5.795000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: RMS
Avg|Hold: 100/100
Ref Offset 10.47 dB
10 dB/div
Ref 20.00 dBm
Mkr1 5.807 36 GHz
-9.906 dBm
Center 5.79500 GHz
#Res BW 510 kHz
#VBW 1.5 MHz*
Span 60.00 MHz
Sweep 1.000 ms (1001 pts)

ANT2:
5745-5825MHz

802.11a-5745

802.11a-5785

802.11a-5825

802.11ac(VH20)-5745

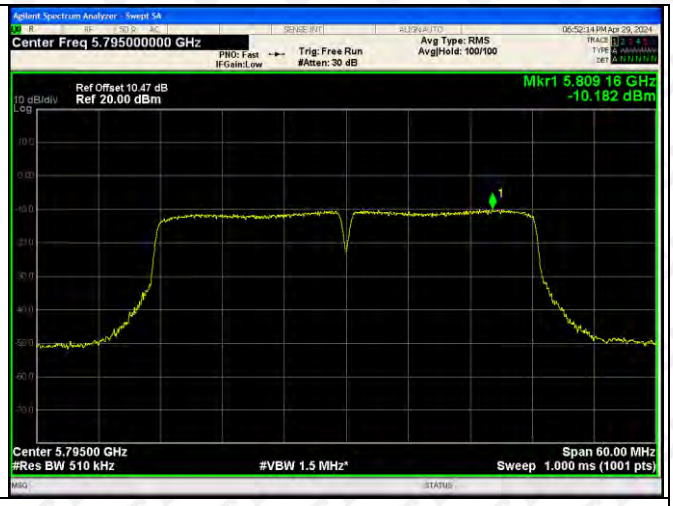
802.11ac(VH20)-5785

802.11ac(VH20)-5825

802.11ac(VH40)-5755

802.11ac(VH40)-5795

802.11ac(VH80)-5775



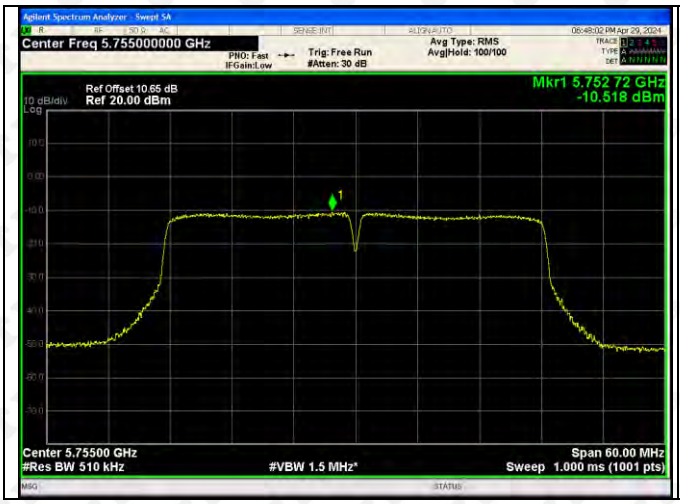
802.11n(HT20)-5745

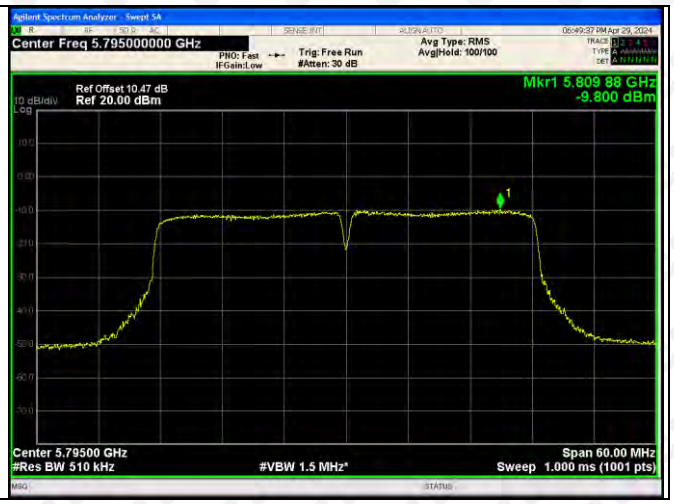
802.11n(HT20)-5785

802.11n(HT20)-5825

5802.11n(HT40)-5755

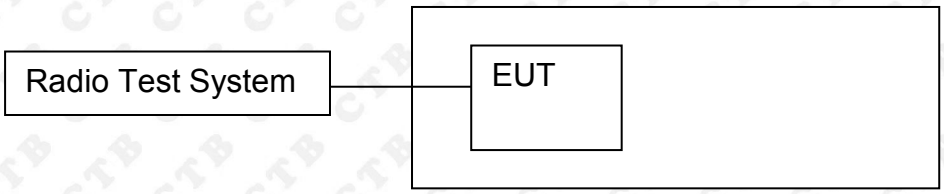
802.11n(HT40)-5795


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.755000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: RMS
Avg|Hold: 100/100
Ref Offset 10.65 dB
10 dB/div
Ref 20.00 dBm
Mkr1 5.752 72 GHz
-10.518 dBm
Center 5.75500 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 5.795000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: RMS
Avg|Hold: 100/100
Ref Offset 10.47 dB
10 dB/div
Ref 20.00 dBm
Mkr1 5.809 88 GHz
-9.800 dBm
Center 5.79500 GHz
#Res BW 510 kHz
#VBW 1.5 MHz*
Span 60.00 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

ANT1:

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	5180.0305	5180	0.0305	5.8832
		V max (V)	132	5180.0871	5180	0.0871	16.8126
		V min (V)	108	5180.0807	5180	0.0807	15.5714
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	5180.0292	5180	0.0292	5.6375
		T (°C)	10	5180.0142	5180	0.0142	2.7496
		T (°C)	20	5180.0040	5180	0.0040	0.7760
		T (°C)	30	5180.0175	5180	0.0175	3.3866
		T (°C)	40	5180.0136	5180	0.0136	2.6230
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	5200.0105	5200	0.0105	2.0194
		V max (V)	132	5200.0385	5200	0.0385	7.4042
		V min (V)	108	5200.0477	5200	0.0477	9.1793
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	5200.0080	5200	0.0080	1.5357
		T (°C)	10	5200.0408	5200	0.0408	7.8395
		T (°C)	20	5200.0089	5200	0.0089	1.7134
		T (°C)	30	5200.0363	5200	0.0363	6.9793
		T (°C)	40	5200.0108	5200	0.0108	2.0826
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	5240.0173	5240	0.0173	3.3090
		V max (V)	132	5240.0102	5240	0.0102	1.9480
		V min (V)	108	5240.0093	5240	0.0093	1.7765
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	5240.0144	5240	0.0144	2.7422
		T (°C)	10	5240.0322	5240	0.0322	6.1397
		T (°C)	20	5240.0028	5240	0.0028	0.5259
		T (°C)	30	5240.0218	5240	0.0218	4.1585
		T (°C)	40	5240.0354	5240	0.0354	6.7648
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	5180.0032	5180	0.0032	0.6209
		V max (V)	132	5180.0014	5180	0.0014	0.2677
		V min (V)	108	5180.0495	5180	0.0495	9.5547
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	5180.0154	5180	0.0154	2.9740
		T (°C)	10	5180.0827	5180	0.0827	15.9599
		T (°C)	20	5180.0001	5180	0.0001	0.0254
		T (°C)	30	5180.0551	5180	0.0551	10.6316
		T (°C)	40	5180.0513	5180	0.0513	9.9004
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	5200.0295	5200	0.0295	5.6666
		V max (V)	132	5200.0830	5200	0.0830	15.9547
		V min (V)	108	5200.0408	5200	0.0408	7.8557
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	5200.0934	5200	0.0934	17.9664
		T (°C)	10	5200.0440	5200	0.0440	8.4577
		T (°C)	20	5200.0485	5200	0.0485	9.3189
		T (°C)	30	5200.0772	5200	0.0772	14.8456
		T (°C)	40	5200.0137	5200	0.0137	2.6304
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	5240.0653	5240	0.0653	12.4632
		V max (V)	132	5240.0792	5240	0.0792	15.1202
		V min (V)	108	5240.0749	5240	0.0749	14.2987
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	5240.0542	5240	0.0542	10.3482
		T (°C)	10	5240.0498	5240	0.0498	9.5011
		T (°C)	20	5240.0087	5240	0.0087	1.6608
		T (°C)	30	5240.0203	5240	0.0203	3.8800
		T (°C)	40	5240.0617	5240	0.0617	11.7699
Limits				±20ppm			
Result				Complies			

ANT1:

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	5745.0223	5745	0.0223	3.8858
		V max (V)	132	5745.0518	5745	0.0518	9.0142
		V min (V)	108	5745.0223	5745	0.0223	3.8858
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	5745.0679	5745	0.0679	11.8154
		T (°C)	10	5745.0458	5745	0.0458	7.9788
		T (°C)	20	5745.0448	5745	0.0448	7.8010
		T (°C)	30	5745.0905	5745	0.0905	15.7613
		T (°C)	40	5745.0397	5745	0.0397	6.9026
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	5785.0248	5785	0.0248	4.2845
		V max (V)	132	5785.0136	5785	0.0136	2.3517
		V min (V)	108	5785.0461	5785	0.0461	7.9758
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	5785.0638	5785	0.0638	11.0205
		T (°C)	10	5785.0765	5785	0.0765	13.2250
		T (°C)	20	5785.0501	5785	0.0501	8.6532
		T (°C)	30	5785.0163	5785	0.0163	2.8102
		T (°C)	40	5785.0466	5785	0.0466	8.0619
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	5825.0805	5825	0.0805	13.8181
		V max (V)	132	5825.0044	5825	0.0044	0.7541
		V min (V)	108	5825.0095	5825	0.0095	1.6278
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	5825.0162	5825	0.0162	2.7825
		T (°C)	10	5825.0381	5825	0.0381	6.5477
		T (°C)	20	5825.0148	5825	0.0148	2.5468
		T (°C)	30	5825.0814	5825	0.0814	13.9749
		T (°C)	40	5825.0780	5825	0.0780	13.3941
Limits				±20ppm			
Result				Complies			

ANT2:

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	5745.0697	5745	0.0697	12.1255
		V max (V)	132	5745.0512	5745	0.0512	8.9205
		V min (V)	108	5745.0189	5745	0.0189	3.2909
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	5745.0592	5745	0.0592	10.3051
		T (°C)	10	5745.0161	5745	0.0161	2.8047
		T (°C)	20	5745.0797	5745	0.0797	13.8653
		T (°C)	30	5745.0313	5745	0.0313	5.4494
		T (°C)	40	5745.0915	5745	0.0915	15.9291
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	5785.0354	5785	0.0354	6.1134
		V max (V)	132	5785.0114	5785	0.0114	1.9641
		V min (V)	108	5785.0435	5785	0.0435	7.5249
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	5785.0008	5785	0.0008	0.1321
		T (°C)	10	5785.0483	5785	0.0483	8.3519
		T (°C)	20	5785.0708	5785	0.0708	12.2342
		T (°C)	30	5785.0627	5785	0.0627	10.8357
		T (°C)	40	5785.0804	5785	0.0804	13.8949
		T (°C)	50	5785.0235	5785	0.0235	4.0571
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	5825.0391	5825	0.0391	6.7108
		V max (V)	132	5825.0480	5825	0.0480	8.2391
		V min (V)	108	5825.0198	5825	0.0198	3.3980
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	5825.0237	5825	0.0237	4.0637
		T (°C)	10	5825.0686	5825	0.0686	11.7757
		T (°C)	20	5825.0797	5825	0.0797	13.6823
		T (°C)	30	5825.0366	5825	0.0366	6.2803
		T (°C)	40	5825.0082	5825	0.0082	1.4103
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 WLAN message transmitting from remote device and verify whether it shall reconnect. (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.

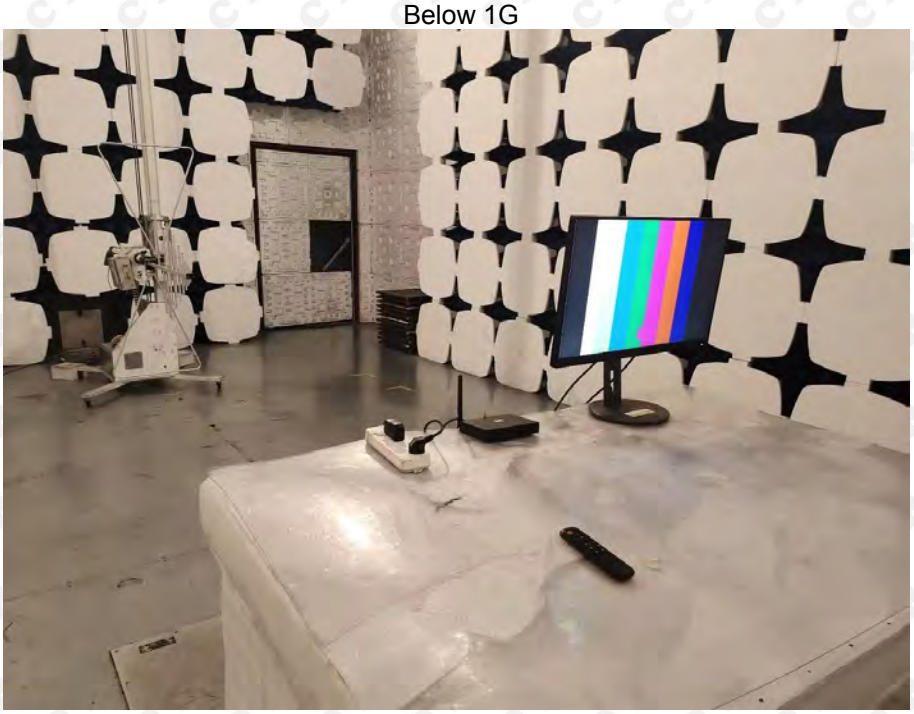
EUT Antenna:

The antenna is external antenna and no consideration of replacement. The best case gain of the antenna is WIFI(5.2G):3.03dBi,WIFI(5.8G):2.27dBi

15. EUT TEST SETUP PHOTOGRAPHS

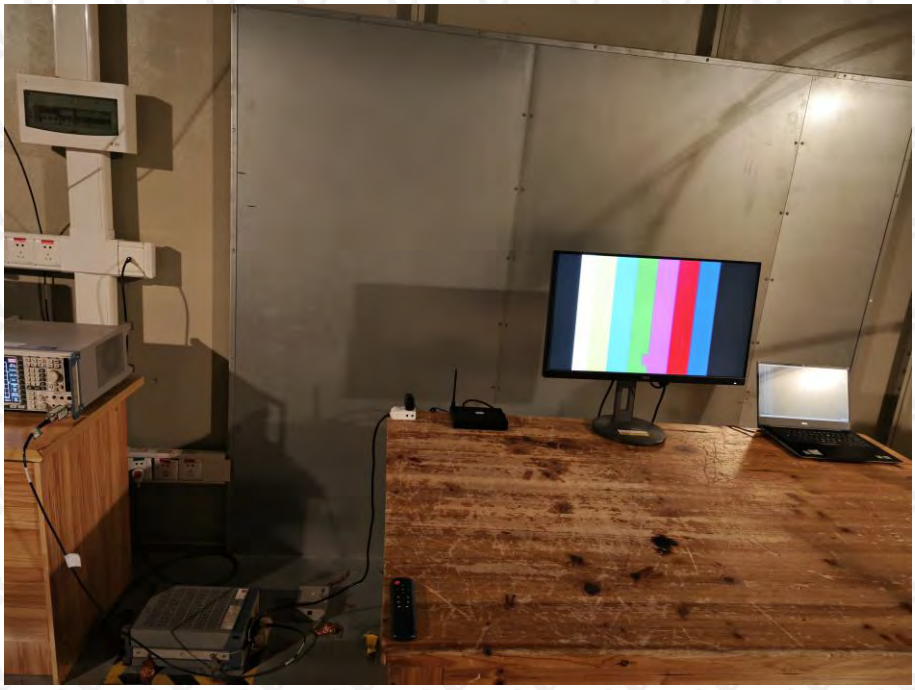
Radiated Emission

Below 1G



Above 1G

Conducted Emission



※※※※※ **END OF REPORT** ※※※※※