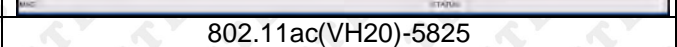
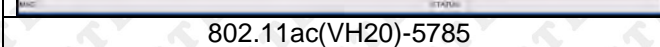
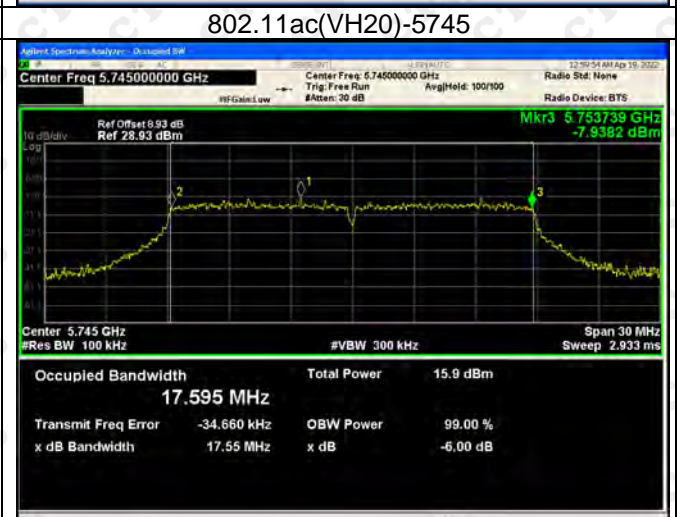
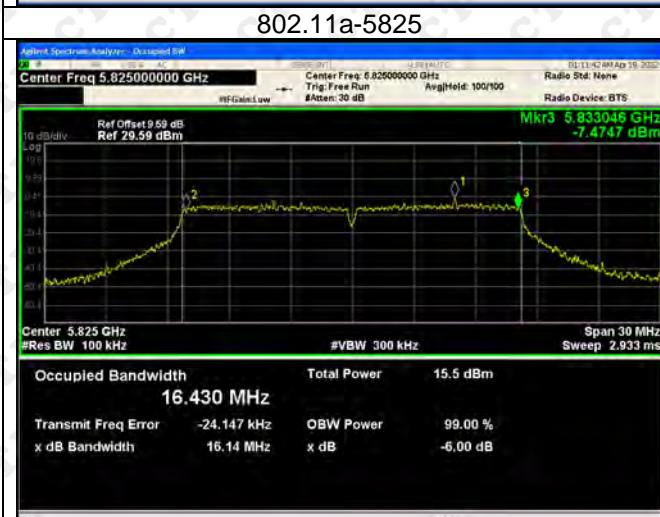
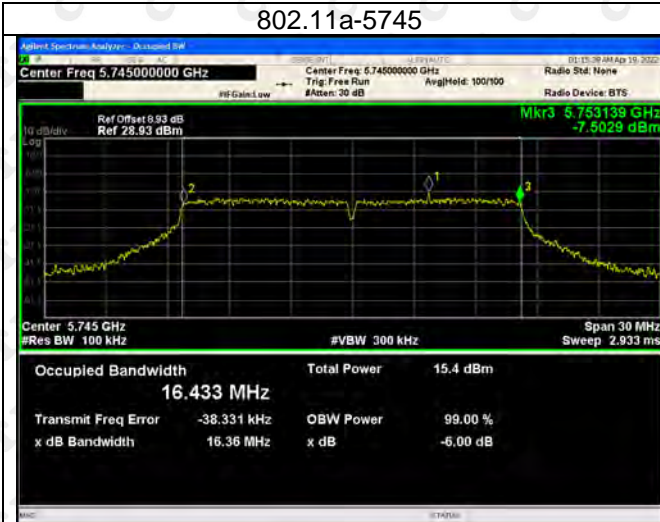


5725-5850MHz





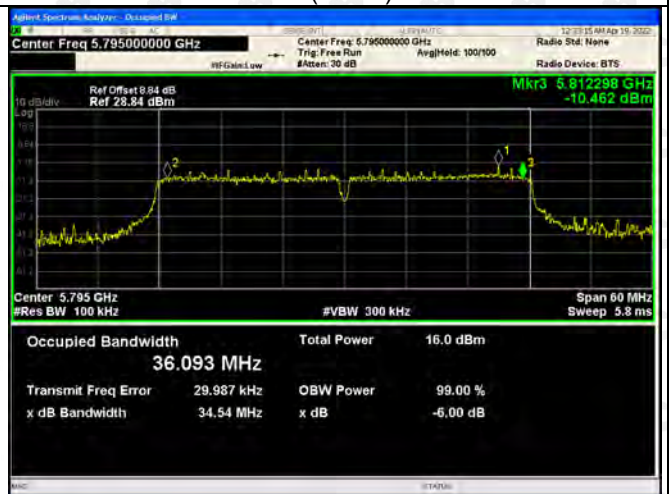
802.11ac(VH40)-5755



802.11ac(VH40)-5795



802.11n(HT20)-5745



802.11n(HT20)-5785



802.11n(HT20)-5825



802.11n(HT40)-5755



802.11n(HT40)-5795



802.11ac(HT80)-5775

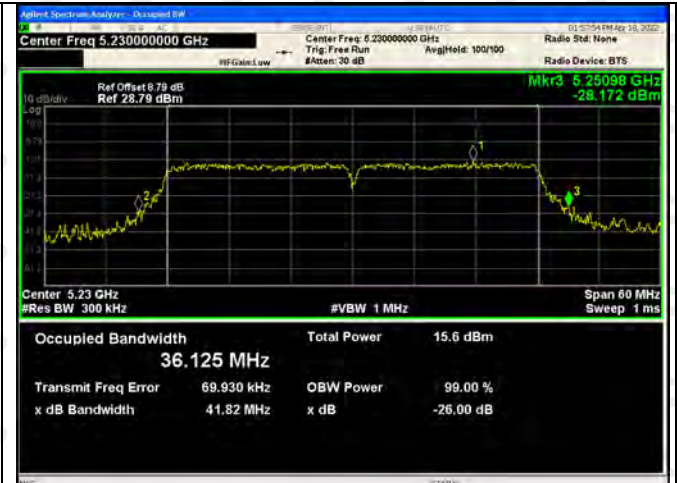


Test Graph ANT 3

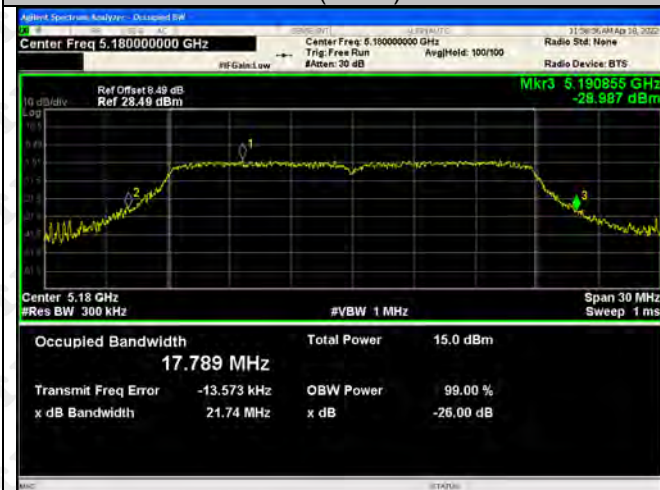




802.11ac(VH20)-5180



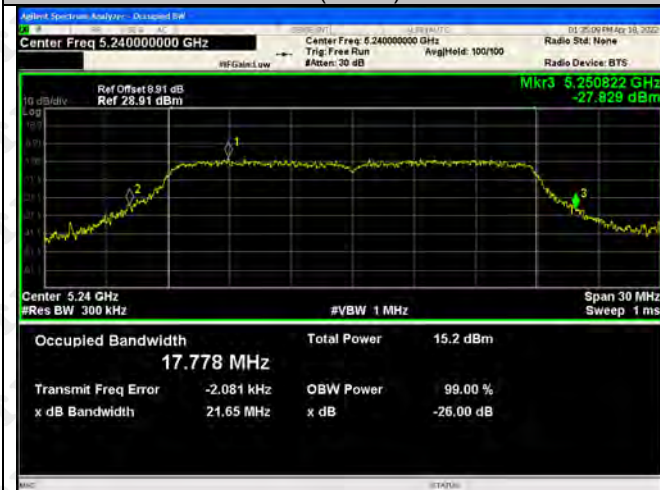
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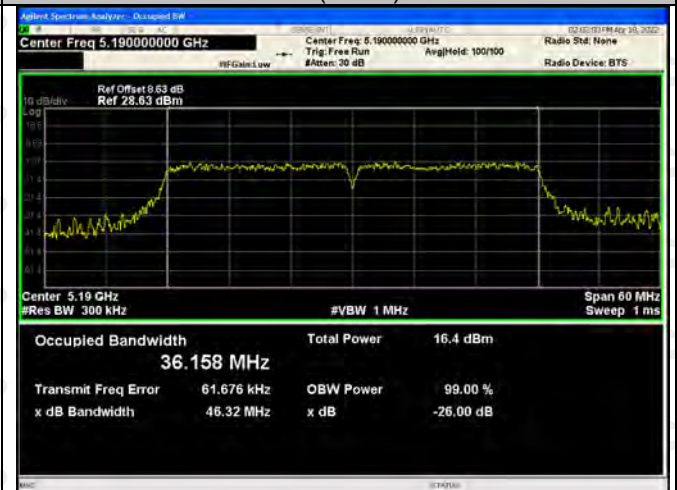
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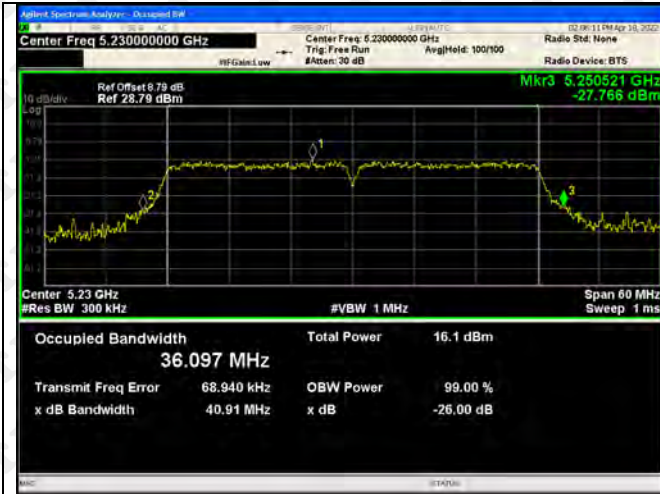
802.11ac(VH40)-5190



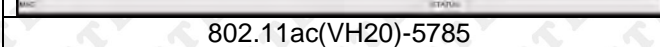
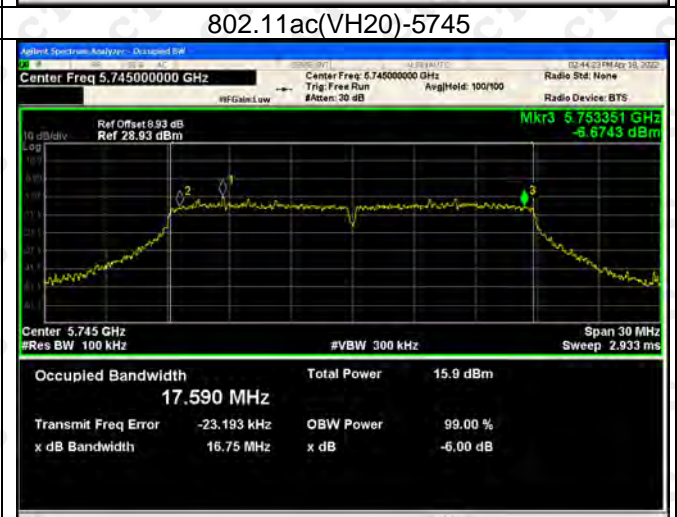
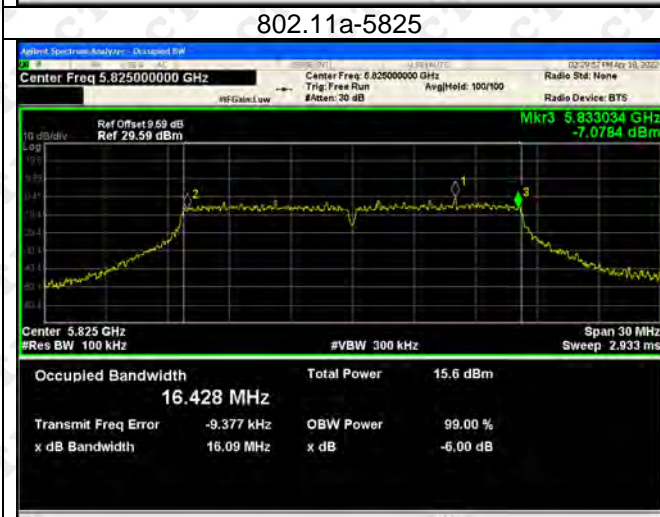
802.11ac(VH40)-5230



802.11ac(VH80)-5210



5725-5850MHz

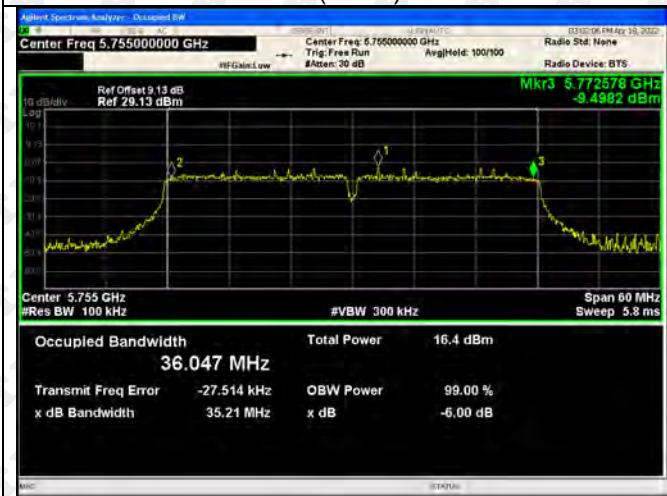




802.11ac(VH40)-5755



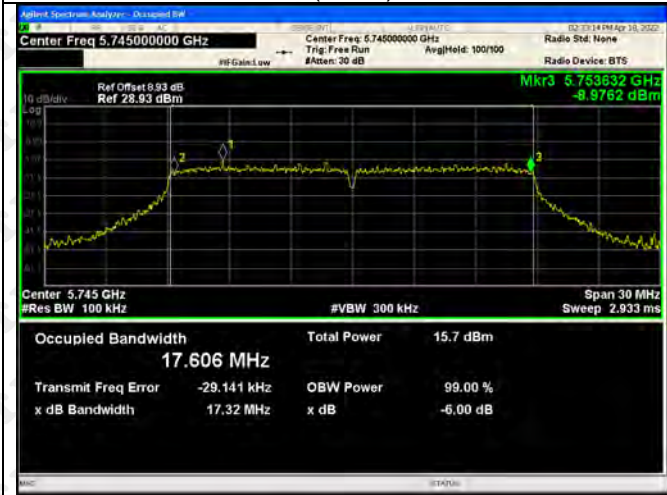
802.11ac(VH40)-5795



802.11n(HT20)-5745



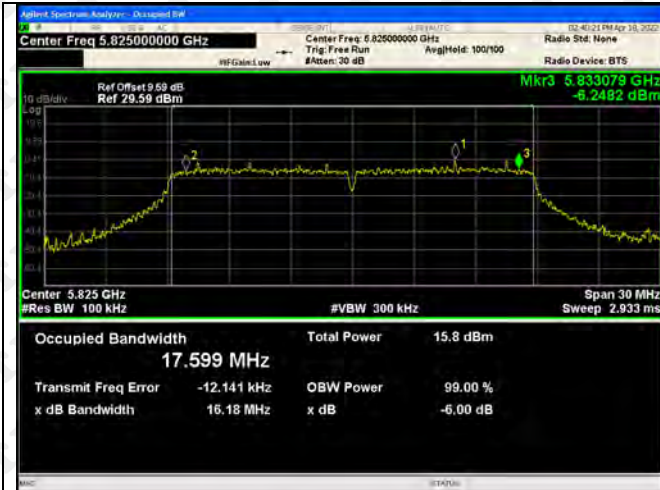
802.11n(HT20)-5785



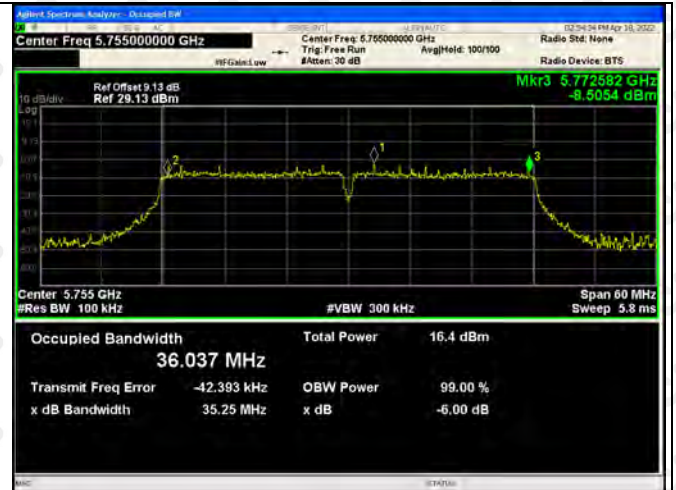
802.11n(HT20)-5825



802.11n(HT40)-5755



802.11n(HT40)-5795

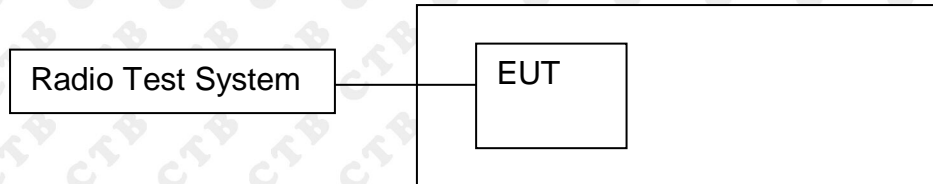


802.11ac(HT80)-5775



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 $11 \text{ dBm} + 10 \log B$, 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 $RBW \geq 1/T$, where T is defined in II.B.1.a).
 - b) Set $VBW \geq 3 RBW$.
 - c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add $10 \log (500 \text{ kHz}/RBW)$ to the measured result, whereas $RBW (<500 \text{ kHz})$ 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 $10 \log (1\text{MHz}/RBW)$ to the measured result, whereas $RBW (< 1 \text{ MHz})$ 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 $RBW=100 \text{ kHz}$ is available on nearly all spectrum analyzers.

11.4 Test Result

ANT 1

Test mode	Test Channel (MHz)	PSD [dBm/MHz]	Limit [dBm/MHz]	Result
802.11a	5180	3.942	11	Pass
	5200	3.57	11	Pass
	5240	3.35	11	Pass
802.11ac(VH20)	5180	3.671	11	Pass
	5200	3.611	11	Pass
	5240	4.452	11	Pass
802.11ac(VH40)	5190	1.992	11	Pass
	5230	1.64	11	Pass
802.11ac(VH80)	5210	0.326	11	Pass
802.11n(HT20)	5180	3.431	11	Pass
	5200	3.87	11	Pass
	5240	3.678	11	Pass
802.11n(HT40)	5190	0.73	11	Pass
	5230	2.013	11	Pass

ANT 2+3

Test mode	Test Channel (MHz)	PSD [dBm/MHz] ANT 2	PSD [dBm/MHz] ANT 3	PSD [dBm/MHz] Total	Limit (dBm)	Result
802.11a	5180	4.079	3.3	/	11	Pass
	5200	4.462	3.721	/	11	Pass
	5240	4.104	4.318	/	11	Pass
802.11ac(VH20)	5180	3.986	3.623	6.82	11	Pass
	5200	4.11	3.618	6.88	11	Pass
	5240	3.884	3.922	6.91	11	Pass
802.11ac(VH40)	5190	1.647	2.75	5.24	11	Pass
	5230	0.491	1.656	4.12	11	Pass
802.11n(VH20)	5180	0.513	-0.375	3.10	11	Pass
	5200	3.753	3.738	6.76	11	Pass
	5240	4.136	4.223	7.19	11	Pass
802.11n(VH40)	5190	4.181	3.851	7.03	11	Pass
	5230	1.555	1.326	4.45	11	Pass
802.11ac(VH80)	5230	1.393	2.134	4.79	11	Pass

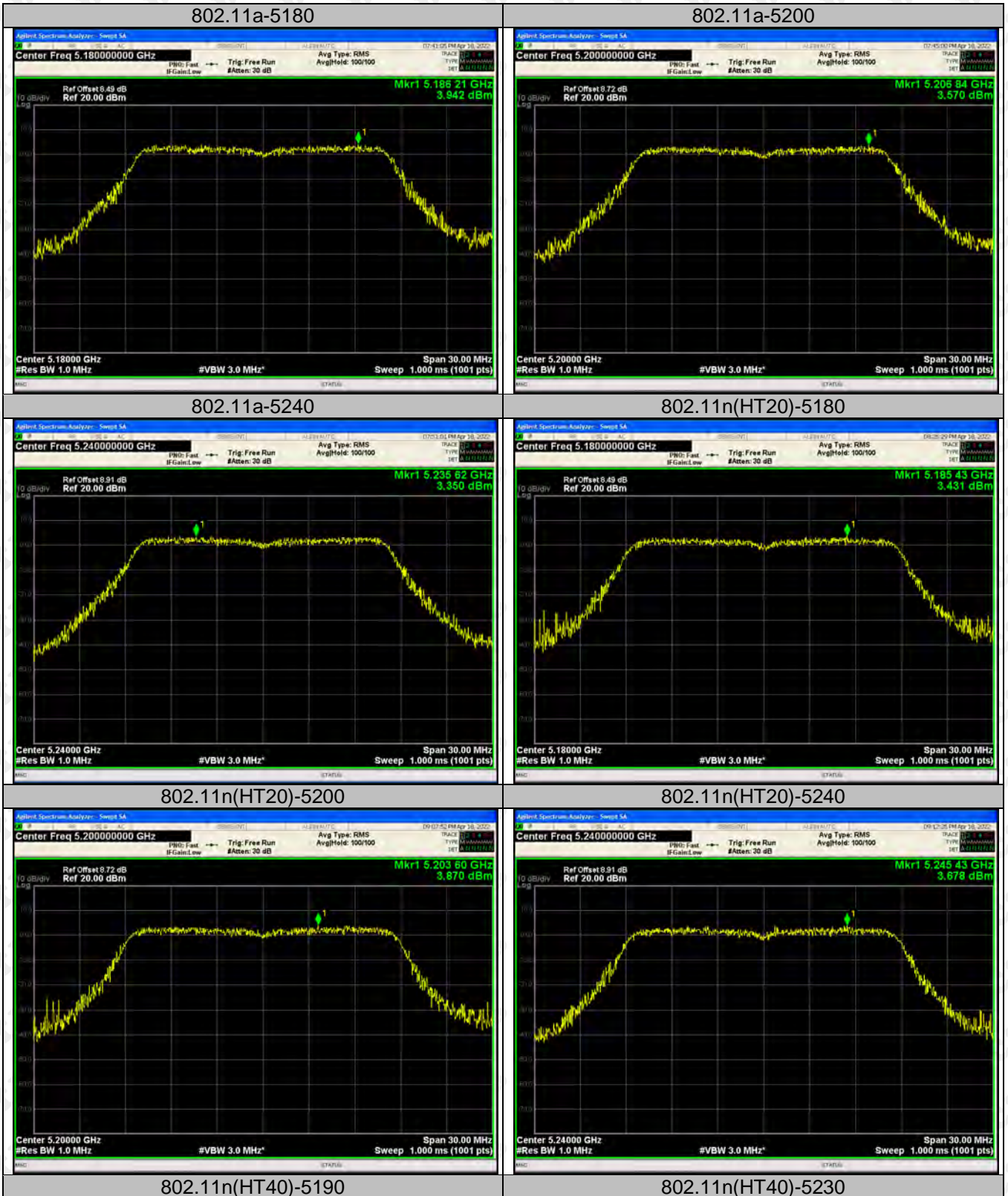
ANT 1

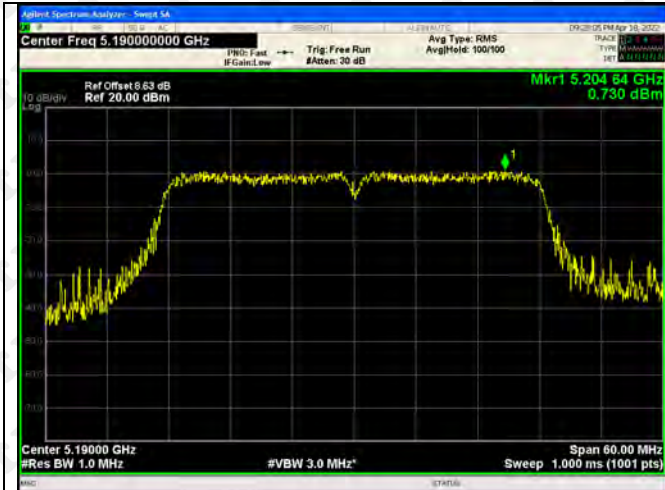
Test mode	Test Channel (MHz)	PSD [dBm/MHz]	Limit [dBm/MHz]	Result
802.11a	5180	1.456	11	Pass
	5200	1.938	11	Pass
	5240	2.375	11	Pass
802.11ac(VH20)	5180	2.003	11	Pass
	5200	2.378	11	Pass
	5240	1.363	11	Pass
802.11ac(VH40)	5190	0.078	11	Pass
	5230	-0.574	11	Pass
802.11ac(VH80)	5210	-2.3	11	Pass
802.11n(HT20)	5180	1.709	11	Pass
	5200	2.093	11	Pass
	5240	1.793	11	Pass
802.11n(HT40)	5190	-0.465	11	Pass
	5230	-0.892	11	Pass

ANT 2+3

Test mode	Test Channel (MHz)	PSD [dBm/MHz] ANT 2	PSD [dBm/MHz] ANT 3	PSD [dBm/MHz] Total	Limit (dBm)	Result
802.11a	5180	2.399	1.874	/	11	Pass
	5200	1.519	2.016	/	11	Pass
	5240	1.992	2.282	/	11	Pass
802.11ac(VH20)	5180	2.395	2.031	5.15	11	Pass
	5200	1.102	1.822	4.78	11	Pass
	5240	1.868	2.045	5.15	11	Pass
802.11ac(VH40)	5190	-0.634	-1.259	5.23	11	Pass
	5230	-0.851	-0.596	4.49	11	Pass
802.11n(VH20)	5180	-3.155	-1.035	4.97	11	Pass
	5200	2.461	1.828	2.08	11	Pass
	5240	1.7	1.65	2.29	11	Pass
802.11n(VH40)	5190	1.854	1.567	1.04	11	Pass
	5230	-0.834	-0.74	5.17	11	Pass
802.11ac(VH80)	5230	-0.573	-0.162	4.69	11	Pass

ANT 1





802.11ac(VH20)-5180



802.11ac(VH20)-5200



802.11ac(VH20)-5240



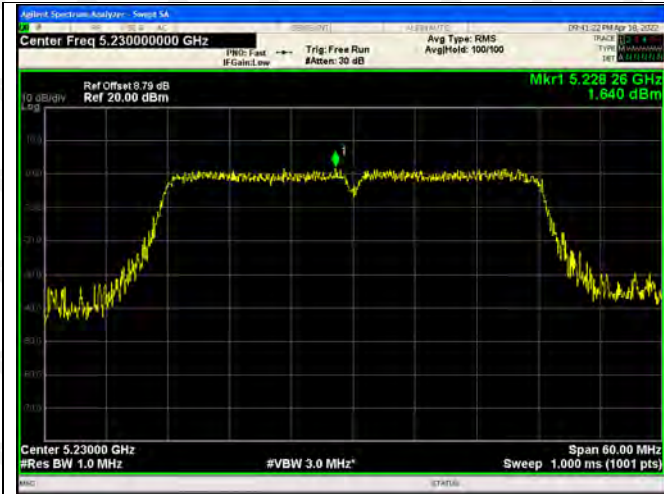
802.11ac(VH40)-5190



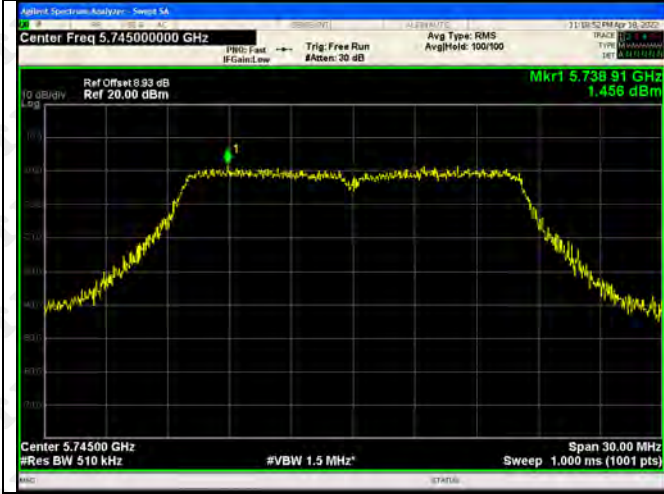
802.11ac(VH40)-5230



802.11ac(VH80)-5210



802.11a-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



802.11n(HT20)-5745



802.11n(HT20)-5785



802.11n(HT20)-5825



802.11n(HT40)-5755



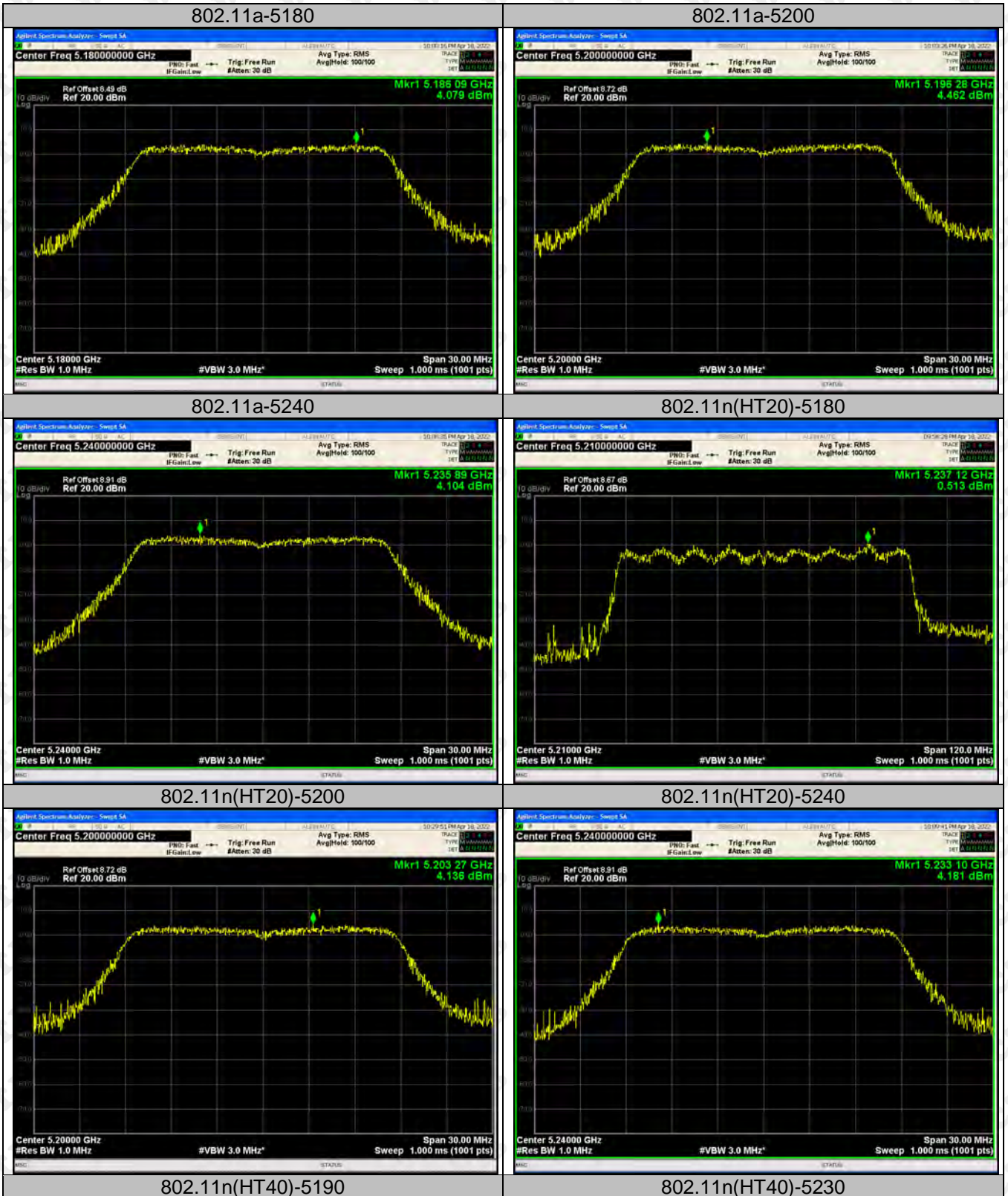
802.11n(HT40)-5795

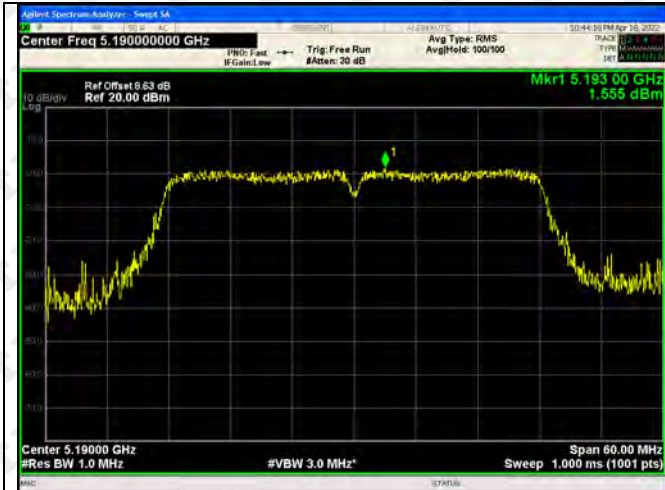


802.11ac(HT80)-5775



ANT 2





802.11ac(VH20)-5180



802.11ac(VH20)-5200



802.11ac(VH20)-5240



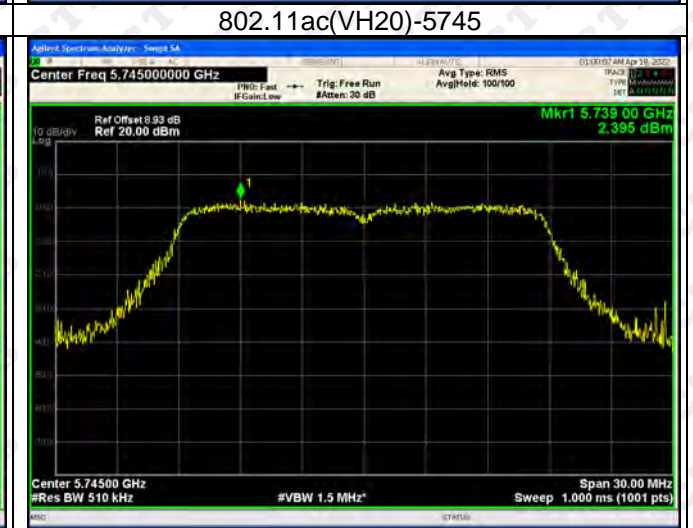
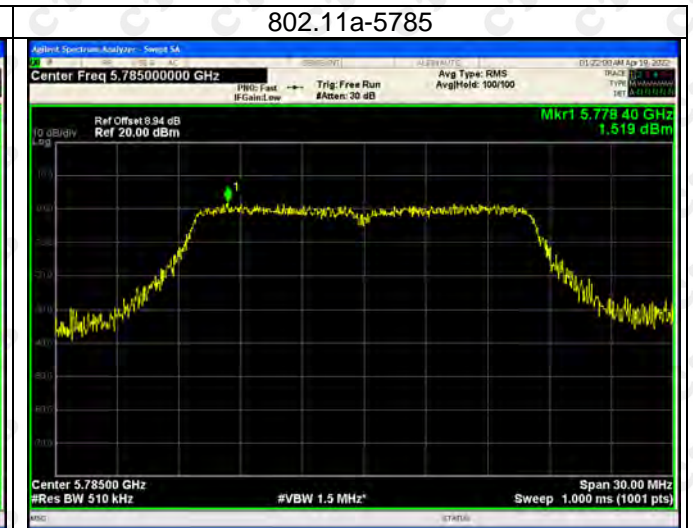
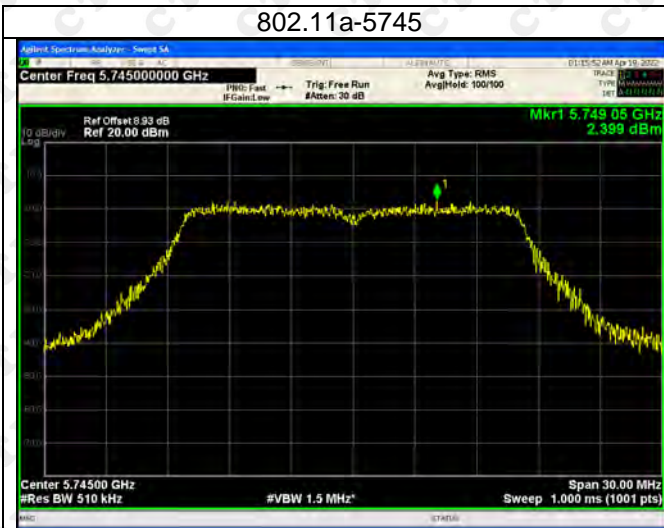
802.11ac(VH40)-5190



802.11ac(VH40)-5230



802.11ac(VH80)-5210





802.11ac(VH40)-5755



802.11ac(VH40)-5795



802.11n(HT20)-5745



802.11n(HT20)-5785



802.11n(HT20)-5825



802.11n(HT40)-575



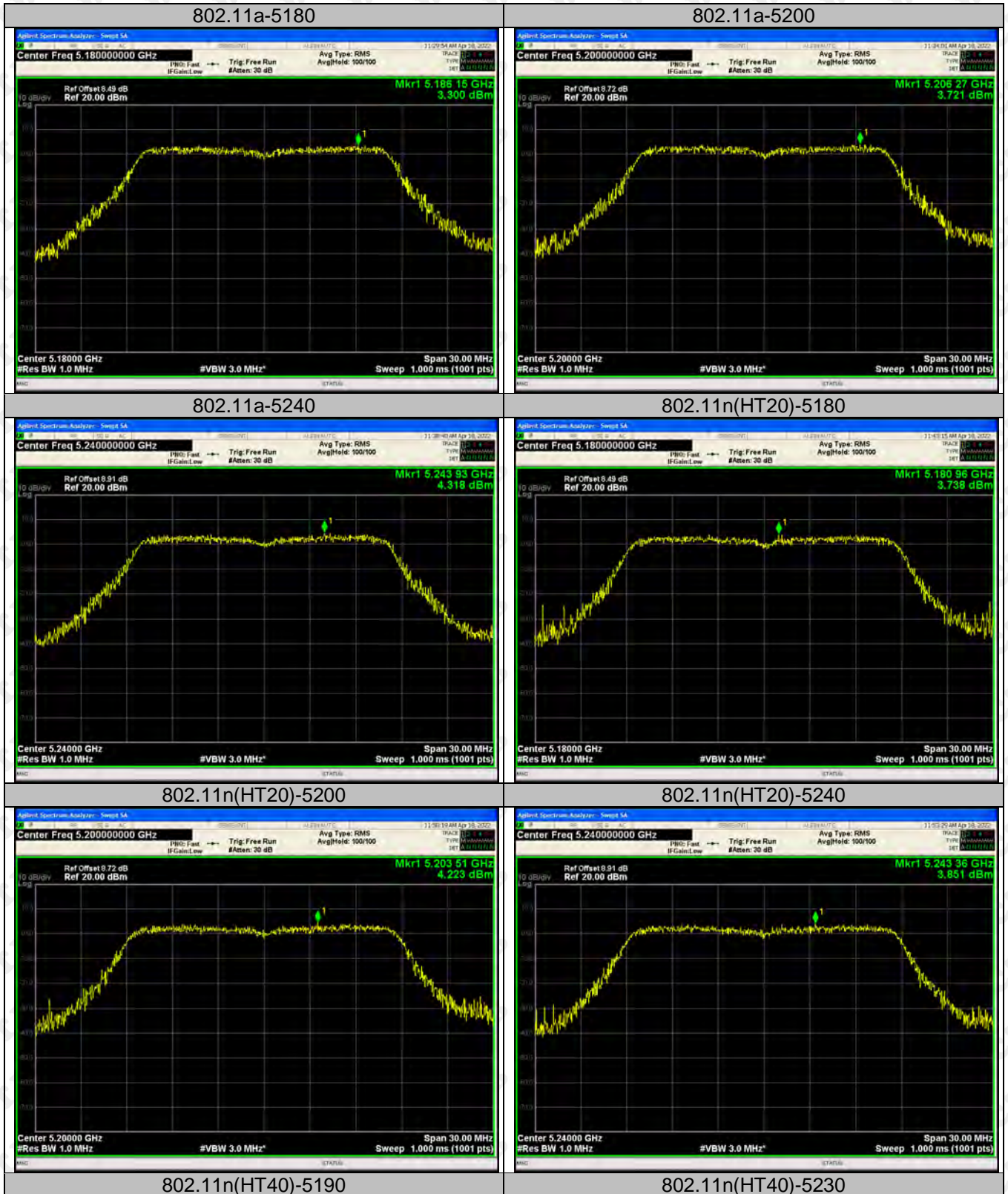
802.11n(HT40)-5795

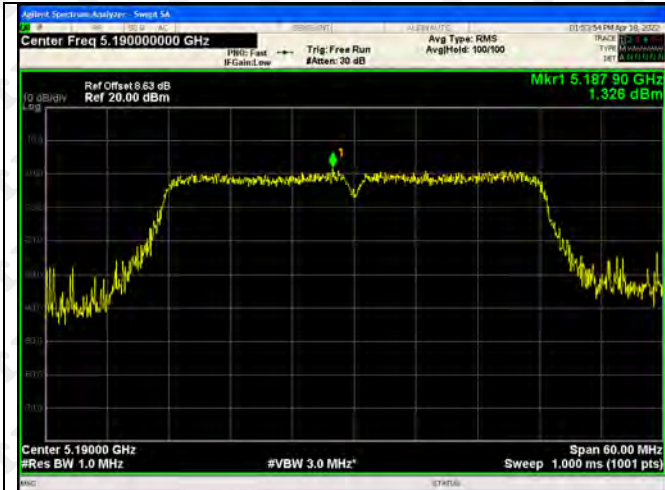


802.11ac(HT80)-5775



ANT 3





802.11ac(VH20)-5180



802.11ac(VH20)-5200



802.11ac(VH20)-5240



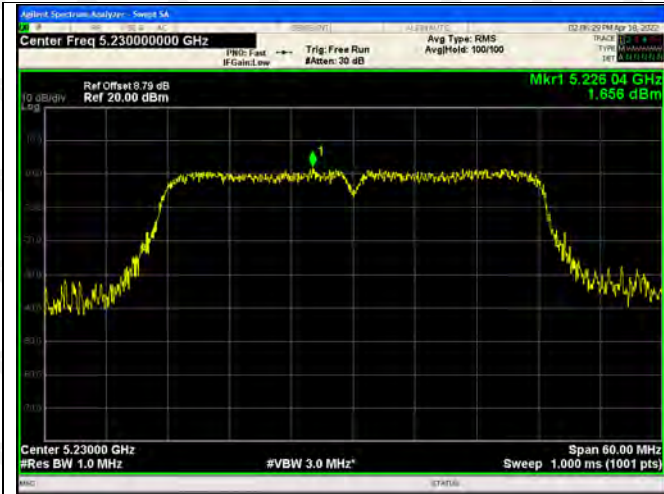
802.11ac(VH40)-5190



802.11ac(VH40)-5230



802.11ac(VH80)-5210



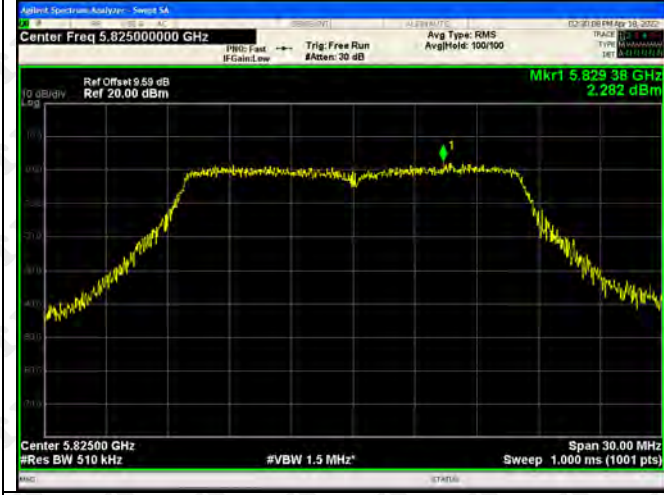
802.11a-5745



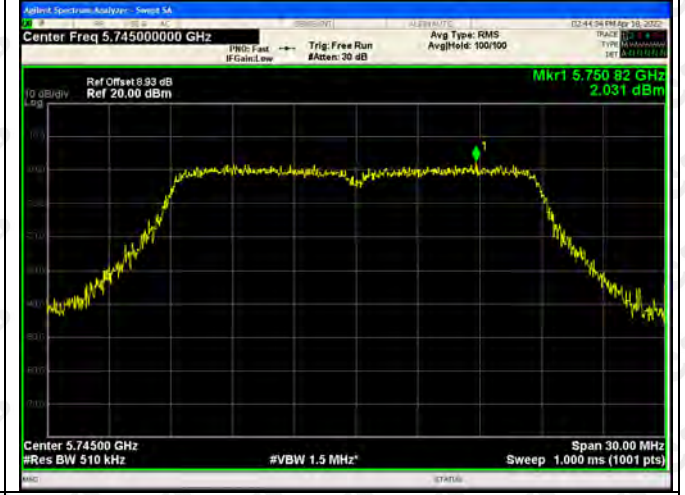
802.11a-5785



802.11a-5825



802.11ac(VH20)-5745



802.11ac(VH20)-5785

802.11ac(VH20)-5825



802.11ac(VH40)-5755



802.11ac(VH40)-5795



802.11n(HT20)-5745



802.11n(HT20)-5785



802.11n(HT20)-5825



802.11n(HT40)-575



802.11n(HT40)-5795

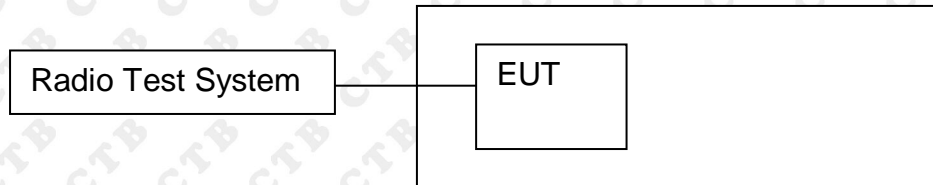


802.11ac(HT80)-5775



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 (5180-5240MHz)

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	5180.0556	5180	0.0556	10.7336
		V max (V)	132	5180.0323	5180	0.0323	6.2355
		V min (V)	108	5180.0246	5180	0.0246	4.7490
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5180MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	3.7	T (°C)	-20	5180.0054	5180	0.0054	1.0425
		T (°C)	-10	5180.0105	5180	0.0105	2.0270
		T (°C)	0	5180.0323	5180	0.0323	6.2355
		T (°C)	10	5180.0386	5180	0.0386	7.4517
		T (°C)	20	5180.0293	5180	0.0293	5.6564
		T (°C)	30	5180.0218	5180	0.0218	4.2085
		T (°C)	40	5180.0125	5180	0.0125	2.4131
		T (°C)	50	5180.0097	5180	0.0097	1.8726
		T (°C)	60	5180.0414	5180	0.0414	7.9923
		T (°C)	70	5180.0697	5180	0.0697	13.4556
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	5200.0254	5200	0.0254	4.8846
		V max (V)	132	5200.0428	5200	0.0428	8.2308
		V min (V)	108	5200.0694	5200	0.0694	13.3462
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)	-20	5200.0633	5200	0.0633	12.1731
		T (°C)	-10	5200.0526	5200	0.0526	10.1154
		T (°C)	0	5200.0434	5200	0.0434	8.3462
		T (°C)	10	5200.0928	5200	0.0928	17.8462
		T (°C)	20	5200.0635	5200	0.0635	12.2115
		T (°C)	30	5200.0124	5200	0.0124	2.3846
		T (°C)	40	5200.0733	5200	0.0733	14.0962
		T (°C)	50	5200.0416	5200	0.0416	8.0000
		T (°C)	60	5200.0325	5200	0.0325	6.2500
		T (°C)	70	5200.0427	5200	0.0427	8.2115
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	5240.0136	5240	0.0136	2.5954
		V max (V)	132	5240.0414	5240	0.0414	7.9008
		V min (V)	108	5240.0097	5240	0.0097	1.8511
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)	-20	5240.0094	5240	0.0094	1.7939
		T (°C)	-10	5240.0035	5240	0.0035	0.6679
		T (°C)	0	5240.0144	5240	0.0144	2.7481
		T (°C)	10	5240.0856	5240	0.0856	16.3359
		T (°C)	20	5240.0114	5240	0.0114	2.1756
		T (°C)	30	5240.0125	5240	0.0125	2.3855
		T (°C)	40	5240.0063	5240	0.0063	1.2023
		T (°C)	50	5240.0076	5240	0.0076	1.4504
		T (°C)	60	5240.0053	5240	0.0053	1.0115
		T (°C)	70	5240.0105	5240	0.0105	2.0038
Limits				±20ppm			
Result				Complies			

ANT2:

TX Frequency (5180-5240MHz)

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	5180.0557	5180	0.0557	10.7490
		V max (V)	132	5180.0320	5180	0.0320	6.1776
		V min (V)	108	5180.0247	5180	0.0247	4.7683
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)	-20	5180.0051	5180	0.0051	0.9846
		T (°C)	-10	5180.0107	5180	0.0107	2.0656
		T (°C)	0	5180.0321	5180	0.0321	6.1969
		T (°C)	10	5180.0383	5180	0.0382	7.3842
		T (°C)	20	5180.0235	5180	0.0235	4.5367
		T (°C)	30	5180.0219	5180	0.0219	4.2278
		T (°C)	40	5180.0127	5180	0.0127	2.4517
		T (°C)	50	5180.0097	5180	0.0097	1.8726
		T (°C)	60	5180.0417	5180	0.0417	8.0502
		T (°C)	70	5180.0695	5180	0.0695	13.4170
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	5200.0252	5200	0.0252	4.8462
		V max (V)	132	5200.0427	5200	0.0427	8.2115
		V min (V)	108	5200.0696	5200	0.0696	13.3846
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)	-20	5200.0637	5200	0.0637	12.2500
		T (°C)	-10	5200.0523	5200	0.0523	10.0577
		T (°C)	0	5200.0437	5200	0.0437	8.4038
		T (°C)	10	5200.0925	5200	0.0925	17.7885
		T (°C)	20	5200.0639	5200	0.0639	12.2885
		T (°C)	30	5200.0121	5200	0.0121	2.3269
		T (°C)	40	5200.0738	5200	0.0738	14.1923
		T (°C)	50	5200.0416	5200	0.0416	8.0000
		T (°C)	60	5200.0329	5200	0.0329	6.3269
		T (°C)	70	5200.0421	5200	0.0421	8.0962
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	5240.0138	5240	0.0138	2.6336
		V max (V)	132	5240.0411	5240	0.0411	7.8435
		V min (V)	108	5240.0102	5240	0.0102	1.9466
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)	-20	5240.0097	5240	0.0097	1.8511
		T (°C)	-10	5240.0033	5240	0.0033	0.6298
		T (°C)	0	5240.0148	5240	0.0148	2.8244
		T (°C)	10	5240.0856	5240	0.0856	16.3359
		T (°C)	20	5240.0119	5240	0.0119	2.2710
		T (°C)	30	5240.0125	5240	0.0125	2.3855
		T (°C)	40	5240.0061	5240	0.0061	1.1641
		T (°C)	50	5240.0076	5240	0.0076	1.4504
		T (°C)	60	5240.0059	5240	0.0059	1.1260
		T (°C)	70	5240.0107	5240	0.0107	2.0420
Limits				±20ppm			
Result				Complies			

Ant 3

TX Frequency (5180-5240MHz)

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	5180.0556	5180	0.0556	10.7336
		V max (V)	138	5180.0323	5180	0.0323	6.2355
		V min (V)	102	5180.0246	5180	0.0246	4.7490
Limits				5150-5250 MHz			
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)	-20	5180.0054	5180	0.0054	1.0425
		T (°C)	-10	5180.0105	5180	0.0105	2.0270
		T (°C)	0	5180.0323	5180	0.0323	6.2355
		T (°C)	10	5180.0386	5180	0.0386	7.4517
		T (°C)	20	5180.0293	5180	0.0293	5.6564
		T (°C)	30	5180.0218	5180	0.0218	4.2085
		T (°C)	40	5180.0125	5180	0.0125	2.4131
		T (°C)	50	5180.0097	5180	0.0097	1.8726
		T (°C)	60	5180.0414	5180	0.0414	7.9923
		T (°C)	70	5180.0697	5180	0.0697	13.4556
Limits				5150-5250 MHz			
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	5200.0254	5200	0.0254	4.8846
		V max (V)	138	5200.0428	5200	0.0428	8.2308
		V min (V)	102	5200.0694	5200	0.0694	13.3462
Limits				5150-5250MHz			
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)	-20	5200.0633	5200	0.0633	12.1731
		T (°C)	-10	5200.0526	5200	0.0526	10.1154
		T (°C)	0	5200.0434	5200	0.0434	8.3462
		T (°C)	10	5200.0928	5200	0.0928	17.8462
		T (°C)	20	5200.0635	5200	0.0635	12.2115
		T (°C)	30	5200.0124	5200	0.0124	2.3846
		T (°C)	40	5200.0733	5200	0.0733	14.0962
		T (°C)	50	5200.0416	5200	0.0416	8.0000
		T (°C)	60	5200.0325	5200	0.0325	6.2500
		T (°C)	70	5200.0427	5200	0.0427	8.2115
Limits				5150-5250 MHz			
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	5240.0136	5240	0.0136	2.5954
		V max (V)	138	5240.0414	5240	0.0414	7.9008
		V min (V)	102	5240.0097	5240	0.0097	1.8511
Limits				5150-5250 MHz			
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)	-20	5240.0094	5240	0.0094	1.7939
		T (°C)	-10	5240.0035	5240	0.0035	0.6679
		T (°C)	0	5240.0144	5240	0.0144	2.7481
		T (°C)	10	5240.0856	5240	0.0856	16.3359
		T (°C)	20	5240.0114	5240	0.0114	2.1756
		T (°C)	30	5240.0125	5240	0.0125	2.3855
		T (°C)	40	5240.0063	5240	0.0063	1.2023
		T (°C)	50	5240.0076	5240	0.0076	1.4504
		T (°C)	60	5240.0053	5240	0.0053	1.0115
		T (°C)	70	5240.0105	5240	0.0105	2.0038
Limits				5150-5250 MHz			
Result				Complies			

ANT 1

Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC 120V/60Hz
Hzst Mode :	TX Frequency(5745-5825MHz)		

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	5745.00770	5745	0.00770	1.3395
		V max (V)	132	5745.00936	5745	0.00936	1.6290
		V min (V)	108	5745.00541	5745	0.00541	0.9422
Limits				5725-5850 MHz			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	12	T (°C)	-20	5745.01307	5745	0.01307	2.2748
		T (°C)	-10	5745.00750	5745	0.00750	1.3059
		T (°C)	0	5745.00042	5745	0.00042	0.0737
		T (°C)	10	5745.00469	5745	0.00469	0.8156
		T (°C)	20	5745.00509	5745	0.00509	0.8852
		T (°C)	30	5745.01208	5745	0.01208	2.1031
		T (°C)	40	5745.00877	5745	0.00877	1.5273
		T (°C)	50	5745.01121	5745	0.01121	1.9512
		T (°C)	60	5745.00880	5745	0.00880	1.5322
		T (°C)	70	5745.00914	5745	0.00914	1.5913
Limits				5725-5850 MHz			
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	5785.00880	5785	0.00880	1.5212
		V max (V)	132	5785.01009	5785	0.01009	1.7448
		V min (V)	108	5785.00215	5785	0.00215	0.3725
Limits				5725-5850 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	12	T (°C)	-20	5785.00563	5785	0.00563	0.9735
		T (°C)	-10	5785.00207	5785	0.00207	0.3572
		T (°C)	0	5785.00368	5785	0.00368	0.6365
		T (°C)	10	5785.00946	5785	0.00946	1.6351
		T (°C)	20	5785.01099	5785	0.01099	1.8997
		T (°C)	30	5785.00837	5785	0.00837	1.4470
		T (°C)	40	5785.00779	5785	0.00779	1.3468
		T (°C)	50	5785.00606	5785	0.00606	1.0476
		T (°C)	60	5785.00704	5785	0.00704	1.2176
		T (°C)	70	5785.00941	5785	0.00941	1.6258
Limits				5725-5850 MHz			
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	5825.00332	5825	0.00332	0.5692
		V max (V)	132	5825.01195	5825	0.01195	2.0511
		V min (V)	108	5825.01045	5825	0.01045	1.7938
Limits				5725-5850 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	12	T (°C)	-20	5825.00134	5825	0.00134	0.2305
		T (°C)	-10	5825.01089	5825	0.01089	1.8698
		T (°C)	0	5825.00166	5825	0.00166	0.2856
		T (°C)	10	5825.00611	5825	0.00611	1.0483
		T (°C)	20	5825.00617	5825	0.00617	1.0593
		T (°C)	30	5825.01018	5825	0.01018	1.7475
		T (°C)	40	5825.00272	5825	0.00272	0.4664
		T (°C)	50	5825.00397	5825	0.00397	0.6808
		T (°C)	60	5825.00561	5825	0.00561	0.9639
		T (°C)	70	5825.00024	5825	0.00024	0.0412
Limits				5725-5850 MHz			
Result				Complies			

ANT 2

Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC 120V/60Hz
Hzst Mode :	TX Frequency(5745-5825MHz)		

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	5745.00700	5745	0.00700	1.2180
		V max (V)	132	5745.00673	5745	0.00673	1.1712
		V min (V)	108	5745.00447	5745	0.00447	0.7789
Limits				5725-5850 MHz			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	12	T (°C)	-20	5745.01307	5745	0.01307	2.2748
		T (°C)	-10	5745.00750	5745	0.00750	1.3059
		T (°C)	0	5745.00042	5745	0.00042	0.0737
		T (°C)	10	5745.00469	5745	0.00469	0.8156
		T (°C)	20	5745.00509	5745	0.00509	0.8852
		T (°C)	30	5745.01208	5745	0.01208	2.1031
		T (°C)	40	5745.00877	5745	0.00877	1.5273
		T (°C)	50	5745.01121	5745	0.01121	1.9512
		T (°C)	60	5745.00880	5745	0.00880	1.5322
		T (°C)	70	5745.00914	5745	0.00914	1.5913
Limits				5725-5850 MHz			
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	5785.00309	5785	0.00309	0.5334
		V max (V)	132	5785.00701	5785	0.00701	1.2114
		V min (V)	108	5785.00330	5785	0.00330	0.5699
Limits				5725-5850 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	12	T (°C)	-20	5785.00563	5785	0.00563	0.9735
		T (°C)	-10	5785.00207	5785	0.00207	0.3572
		T (°C)	0	5785.00368	5785	0.00368	0.6365
		T (°C)	10	5785.00946	5785	0.00946	1.6351
		T (°C)	20	5785.01099	5785	0.01099	1.8997
		T (°C)	30	5785.00837	5785	0.00837	1.4470
		T (°C)	40	5785.00779	5785	0.00779	1.3468
		T (°C)	50	5785.00606	5785	0.00606	1.0476
		T (°C)	60	5785.00704	5785	0.00704	1.2176
		T (°C)	70	5785.00941	5785	0.00941	1.6258
Limits				5725-5850 MHz			
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	5825.01149	5825	0.01149	1.9719
		V max (V)	132	5825.01117	5825	0.01117	1.9183
		V min (V)	108	5825.00100	5825	0.00100	0.1724
Limits				5725-5850 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	12	T (°C)	-20	5825.00134	5825	0.00134	0.2305
		T (°C)	-10	5825.01089	5825	0.01089	1.8698
		T (°C)	0	5825.00166	5825	0.00166	0.2856
		T (°C)	10	5825.00611	5825	0.00611	1.0483
		T (°C)	20	5825.00617	5825	0.00617	1.0593
		T (°C)	30	5825.01018	5825	0.01018	1.7475
		T (°C)	40	5825.00272	5825	0.00272	0.4664
		T (°C)	50	5825.00397	5825	0.00397	0.6808
		T (°C)	60	5825.00561	5825	0.00561	0.9639
		T (°C)	70	5825.00024	5825	0.00024	0.0412
Limits				5725-5850 MHz			
Result				Complies			

ANT 3

Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC 120V/60Hz
Hzst Mode :	TX Frequency(5745-5825MHz)		

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	5745.00585	5745	0.00585	1.0190
		V max (V)	132	5745.00607	5745	0.00607	1.0566
		V min (V)	108	5745.01097	5745	0.01097	1.9098
Limits				5725-5850 MHz			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	12	T (°C)	-20	5745.01307	5745	0.01307	2.2748
		T (°C)	-10	5745.00750	5745	0.00750	1.3059
		T (°C)	0	5745.00042	5745	0.00042	0.0737
		T (°C)	10	5745.00469	5745	0.00469	0.8156
		T (°C)	20	5745.00509	5745	0.00509	0.8852
		T (°C)	30	5745.01208	5745	0.01208	2.1031
		T (°C)	40	5745.00877	5745	0.00877	1.5273
		T (°C)	50	5745.01121	5745	0.01121	1.9512
		T (°C)	60	5745.00880	5745	0.00880	1.5322
		T (°C)	70	5745.00914	5745	0.00914	1.5913
Limits				5725-5850 MHz			
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	5785.00656	5785	0.00656	1.1336
		V max (V)	132	5785.01332	5785	0.01332	2.3024
		V min (V)	108	5785.00127	5785	0.00127	0.2195
Limits				5725-5850 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	12	T (°C)	-20	5785.00563	5785	0.00563	0.9735
		T (°C)	-10	5785.00207	5785	0.00207	0.3572
		T (°C)	0	5785.00368	5785	0.00368	0.6365
		T (°C)	10	5785.00946	5785	0.00946	1.6351
		T (°C)	20	5785.01099	5785	0.01099	1.8997
		T (°C)	30	5785.00837	5785	0.00837	1.4470
		T (°C)	40	5785.00779	5785	0.00779	1.3468
		T (°C)	50	5785.00606	5785	0.00606	1.0476
		T (°C)	60	5785.00704	5785	0.00704	1.2176
		T (°C)	70	5785.00941	5785	0.00941	1.6258
Limits				5725-5850 MHz			
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	5825.00144	5825	0.00144	0.2471
		V max (V)	132	5825.01080	5825	0.01080	1.8538
		V min (V)	108	5825.00201	5825	0.00201	0.3447
Limits				5725-5850 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	12	T (°C)	-20	5825.00134	5825	0.00134	0.2305
		T (°C)	-10	5825.01089	5825	0.01089	1.8698
		T (°C)	0	5825.00166	5825	0.00166	0.2856
		T (°C)	10	5825.00611	5825	0.00611	1.0483
		T (°C)	20	5825.00617	5825	0.00617	1.0593
		T (°C)	30	5825.01018	5825	0.01018	1.7475
		T (°C)	40	5825.00272	5825	0.00272	0.4664
		T (°C)	50	5825.00397	5825	0.00397	0.6808
		T (°C)	60	5825.00561	5825	0.00561	0.9639
T (°C)	70	5825.00024	5825	0.00024	0.0412		
Limits				5725-5850 MHz			
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 Internal Antenna and no consideration of replacement. The best case gain of the antenna is 1.76dBi.

15. EUT PHOTOGRAPHS

EUT Photo 1



EUT Photo 2



16. EUT TEST SETUP PHOTOGRAPHS

Spurious emissions

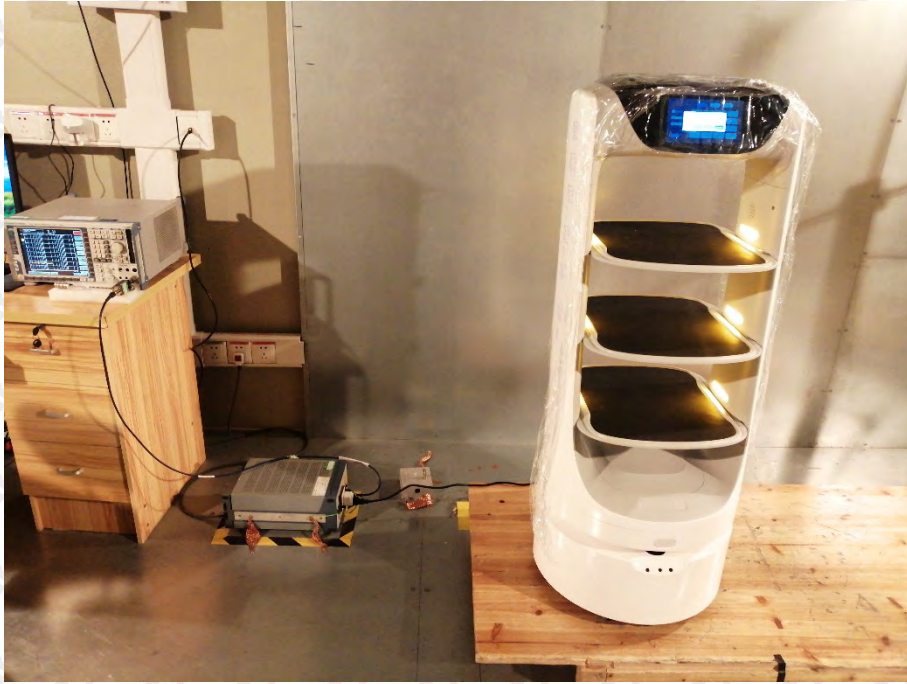
Below 1GHz



Above 1GHz



Conducted Emission



***** END OF REPORT *****