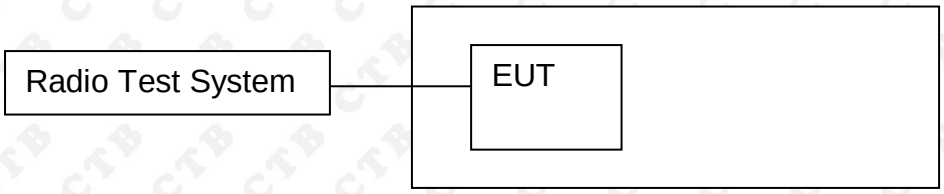
11. POWER SPECTRAL DENSITY

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.l.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.

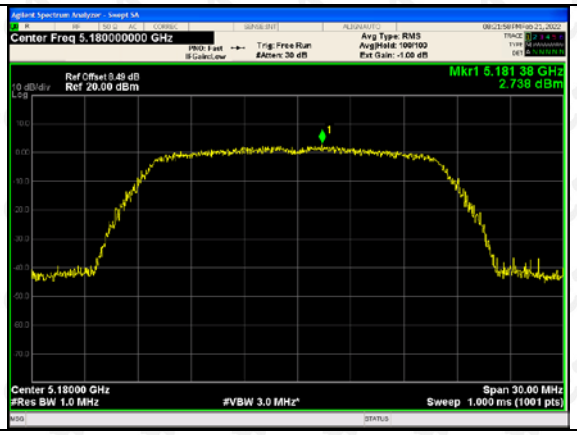
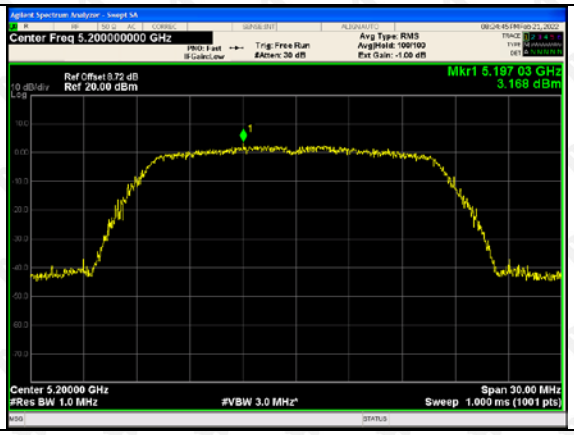
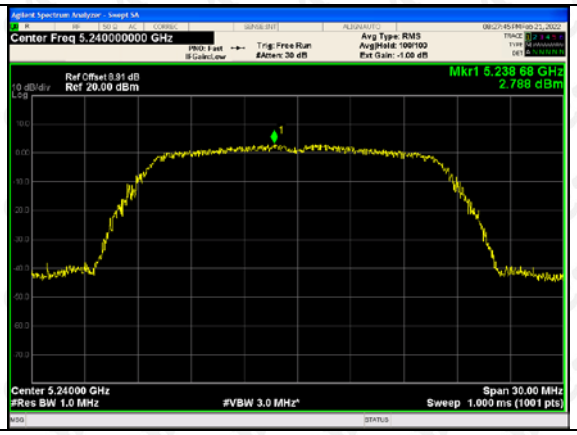
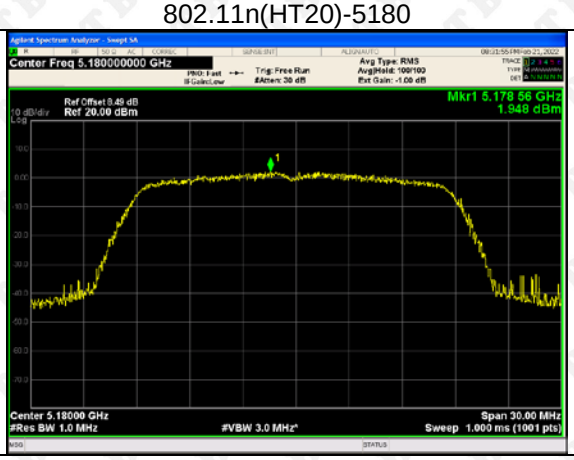
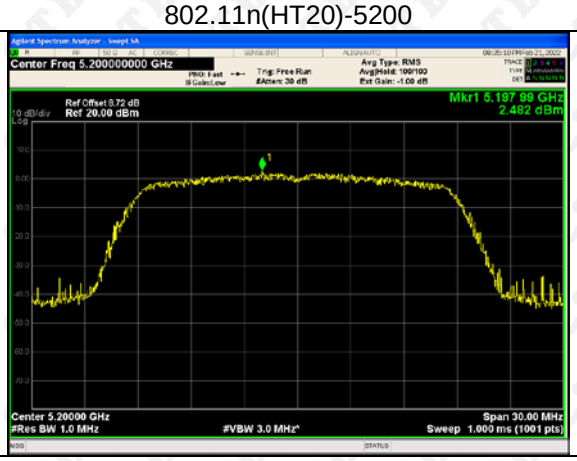
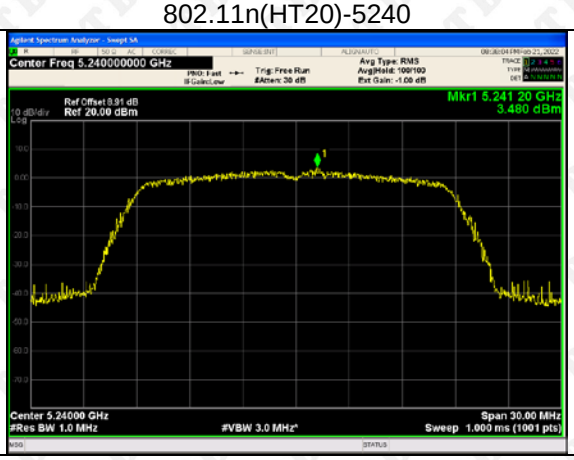
11.4 Test Result

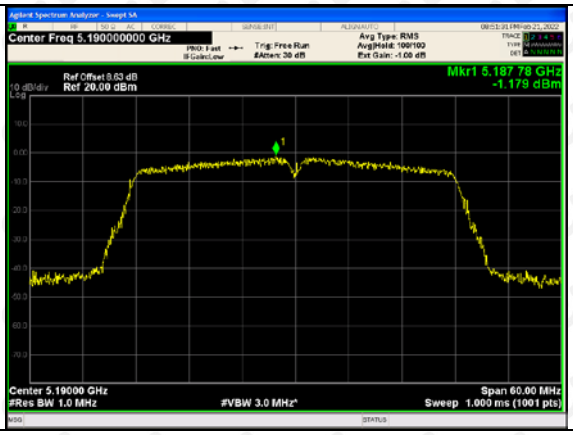
ANT 1+2

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	2.738	2.199	5.487	11	Pass
	5200	3.168	1.864	5.575	11	Pass
	5240	2.788	2.227	5.527	11	Pass
802.11n(HT20)	5180	2.201	1.527	4.887	11	Pass
	5200	2.107	1.591	4.867	11	Pass
	5240	3.407	2.066	5.798	11	Pass
802.11n(HT40)	5190	-1.052	-1.893	1.558	11	Pass
	5230	-1.177	-1.875	1.498	11	Pass
802.11ac(VH20)	5210	-4.627	-4.646	-1.626	11	Pass
	5180	1.948	1.559	4.768	11	Pass
	5200	2.482	1.959	5.239	11	Pass
802.11ac(VH40)	5240	3.48	2.297	5.939	11	Pass
	5190	-1.179	-1.615	1.619	11	Pass
802.11ac(VH80)	5230	-0.984	-1.887	1.598	11	Pass

Test mode	Test Channel (MHz)	PSD [dBm/500kHz] ANT 1	PSD [dBm/500kHz] ANT 2	PSD [dBm/500kHz] Total	Limit (dBm)	Result
802.11a	5745	1.543	-0.434	3.676	30	Pass
	5785	1.425	0.432	3.967	30	Pass
	5825	0.763	0.025	3.420	30	Pass
802.11n(HT20)	5745	0.292	-0.877	2.757	30	Pass
	5785	0.939	0.152	3.574	30	Pass
	5825	1.485	0.626	4.087	30	Pass
802.11n(HT40)	5755	-3.234	-3.986	-0.583	30	Pass
	5795	-2.526	-4.644	-0.447	30	Pass
802.11ac(VH20)	5745	-0.247	-7.881	0.444	30	Pass
	5785	0.575	-0.06	3.279	30	Pass
	5825	1.557	-0.411	3.694	30	Pass
802.11ac(VH40)	5755	-3.263	0.157	1.786	30	Pass
	5795	-3.515	-1.154	0.834	30	Pass
802.11ac(VH80)	5775	-6.799	-3.032	-1.509	30	Pass

ANT 1

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



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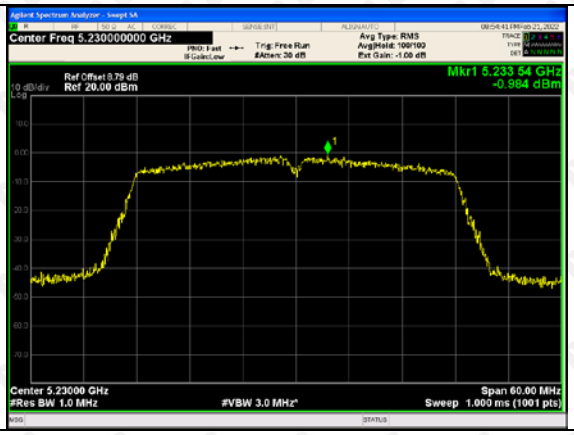

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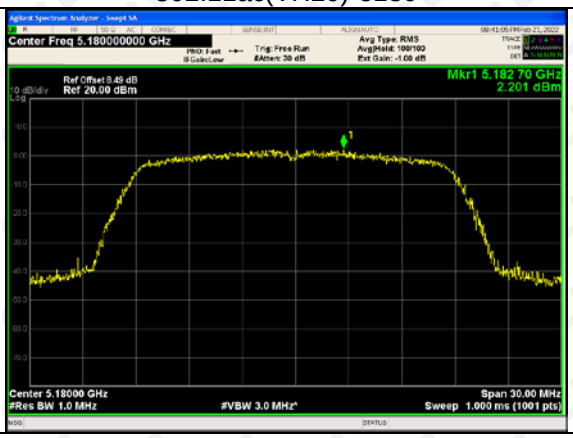

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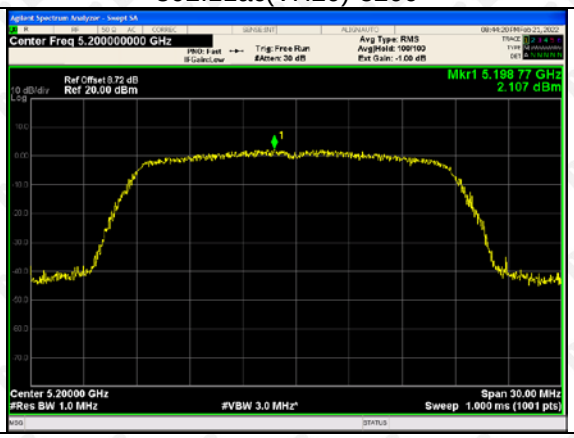
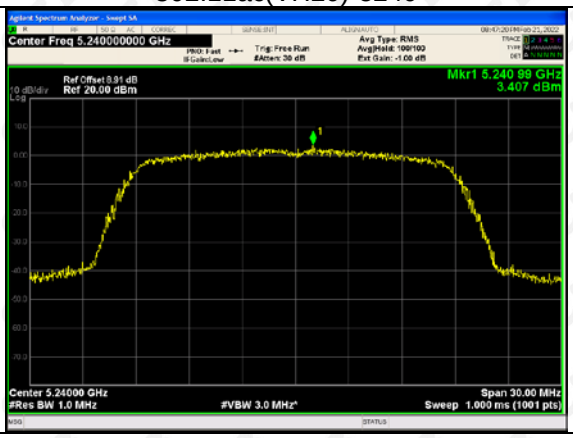


802.11ac(VH40)-5190



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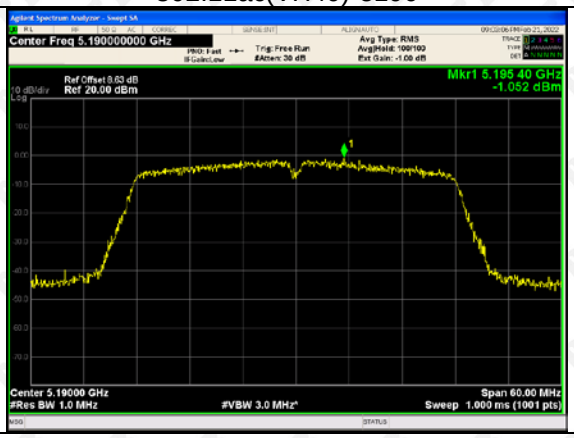

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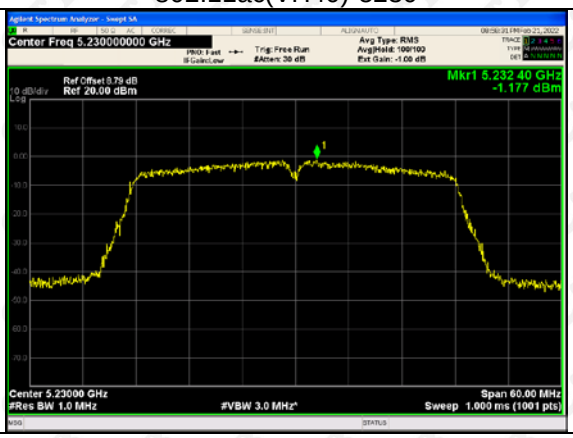
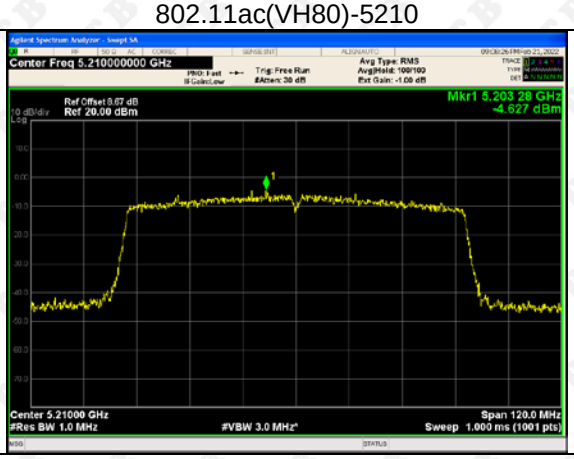
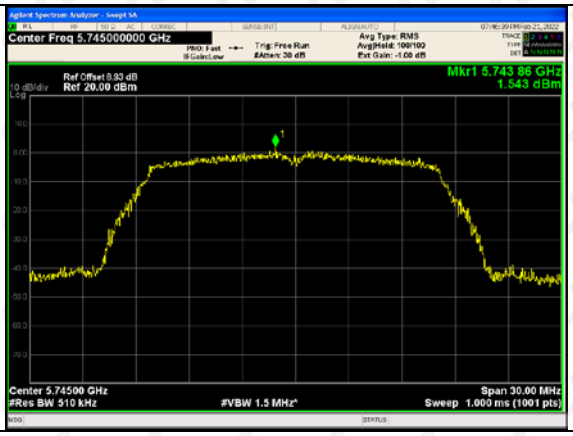
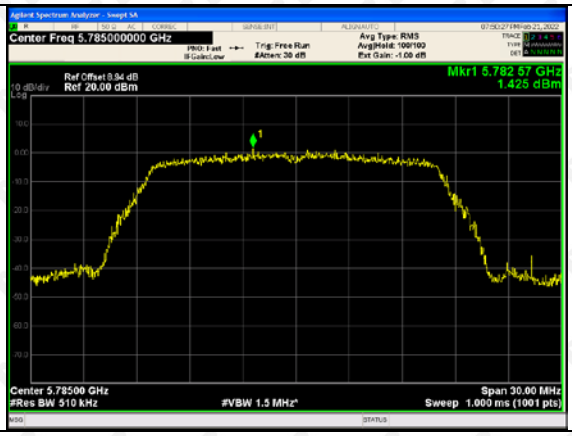
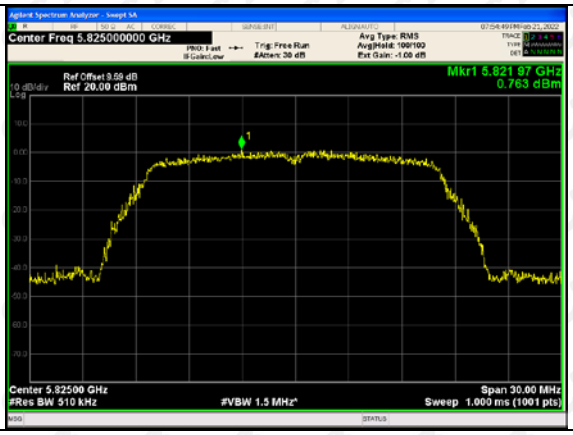
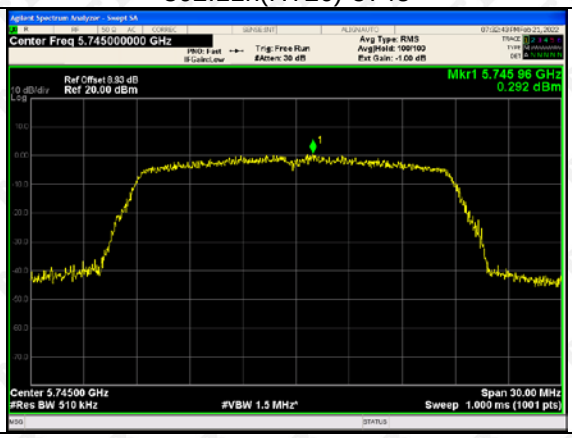
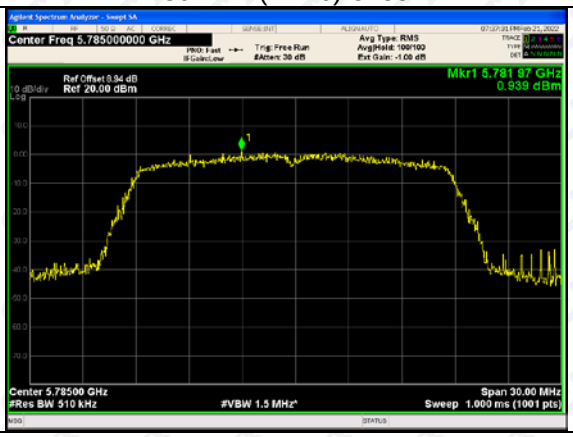
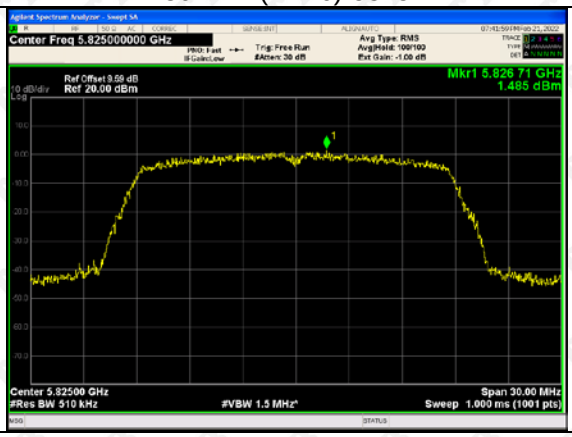
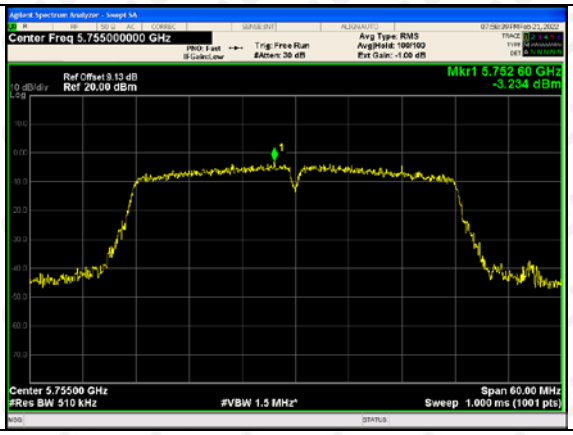


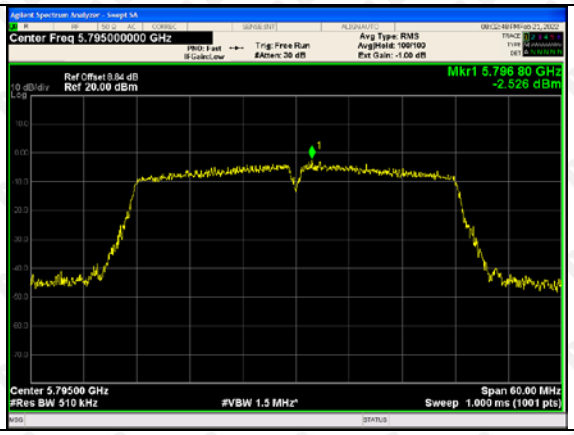


5745-5825MHz

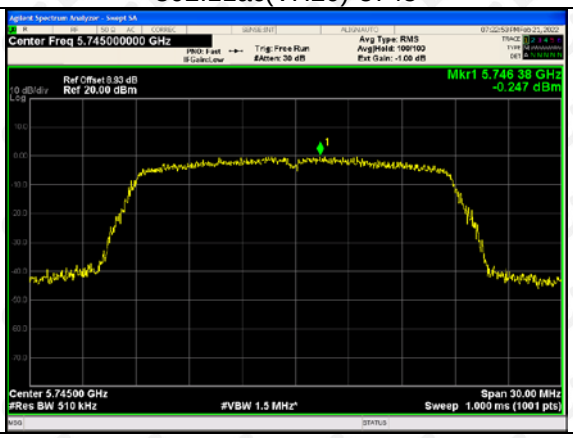
802.11a-5745	802.11a-5785
	
802.11a-5825	802.11n(HT20)-5745
	
802.11n(HT20)-5785	802.11n(HT20)-5825
	
802.11n(HT40)-5755	802.11n(HT40)-5795



802.11ac(VH20)-5745



802.11ac(VH20)-5785



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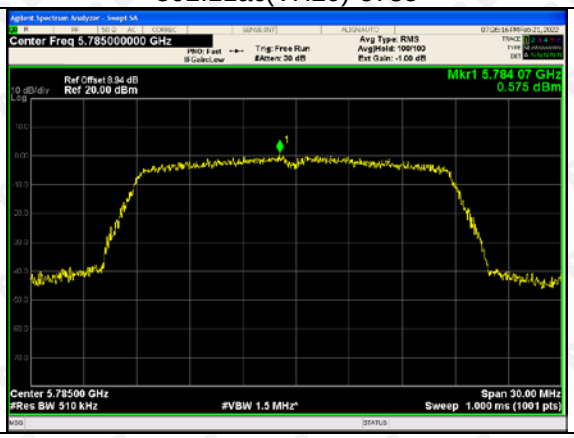

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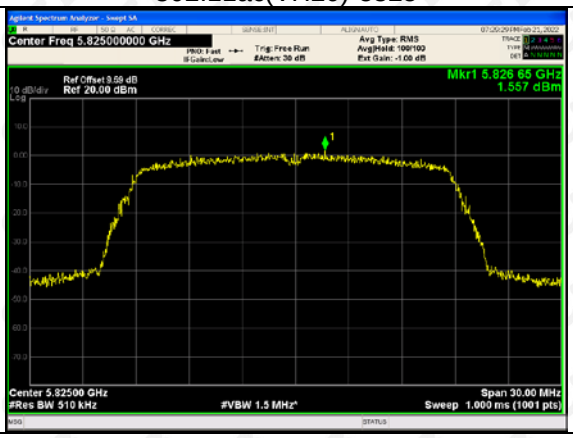

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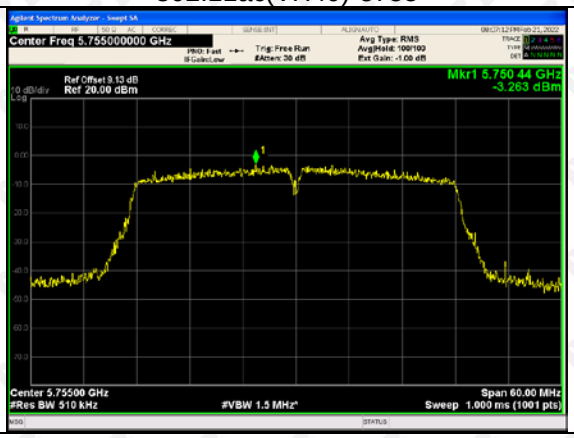

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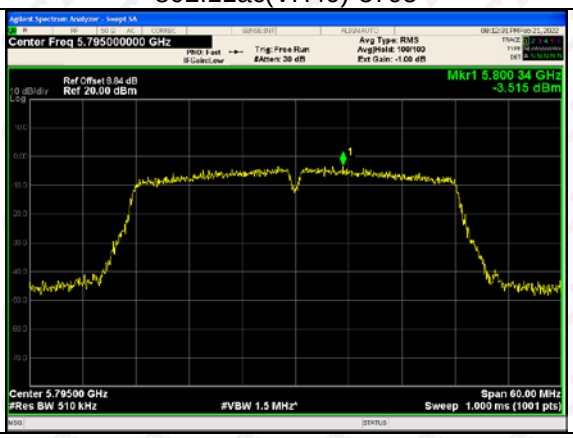
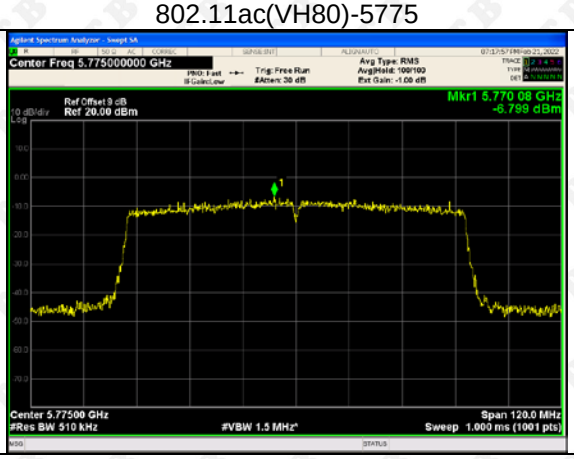
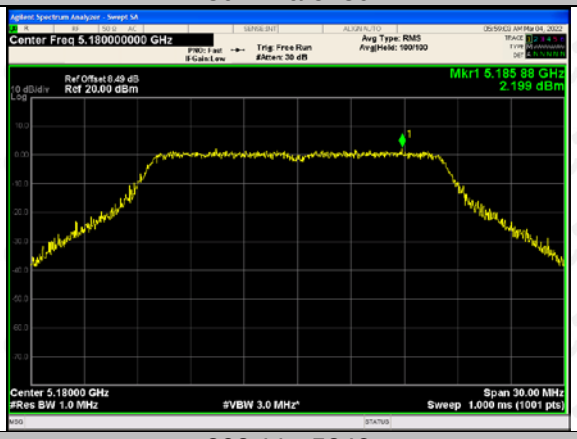


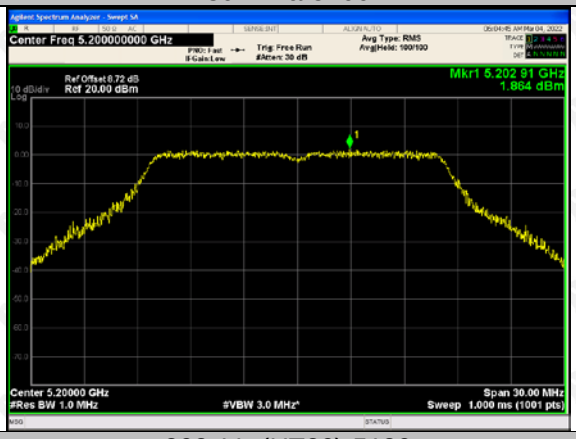


ANT 2

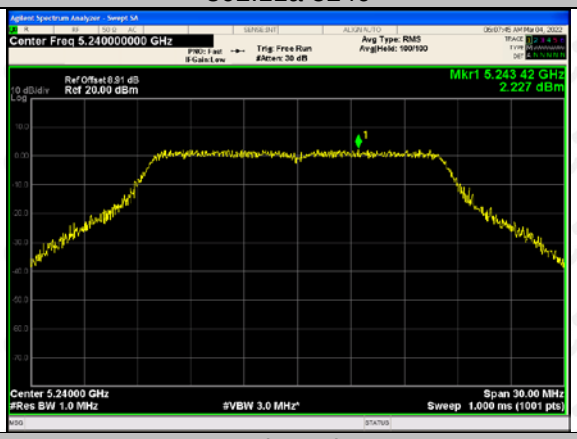
802.11a-5180



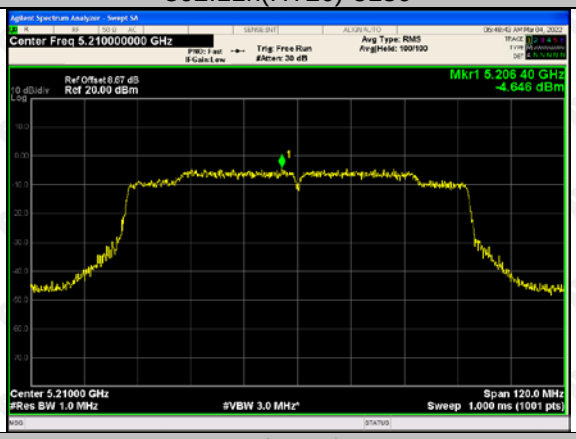
802.11a-5200



802.11a-5240



802.11n(HT20)-5180



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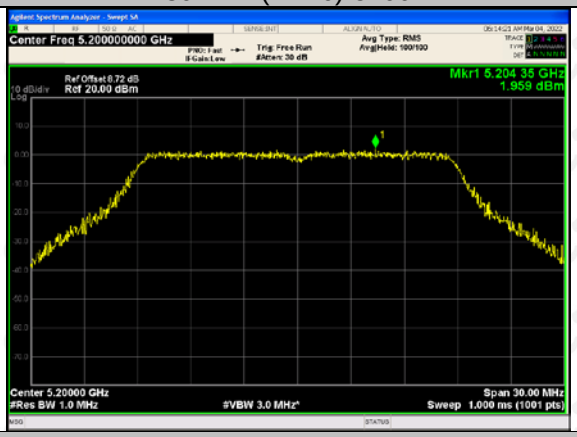

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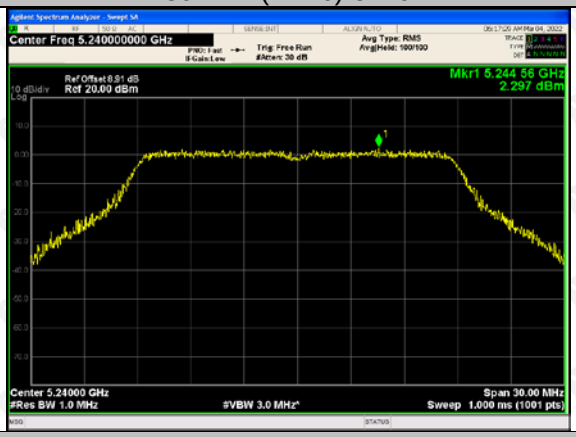

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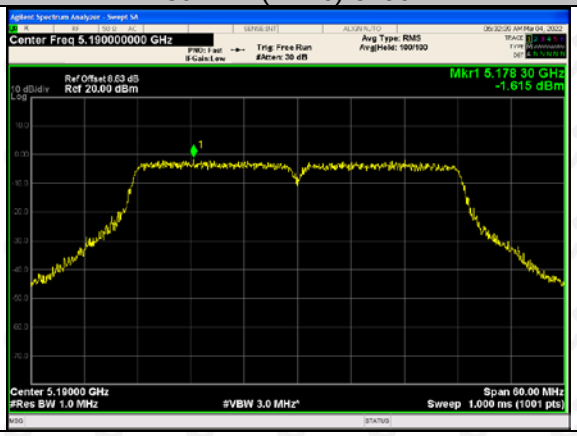

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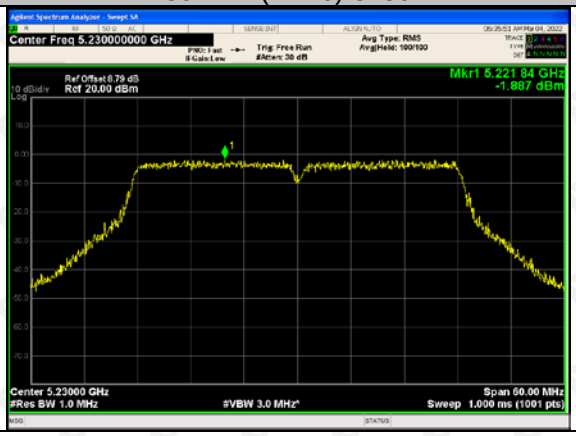
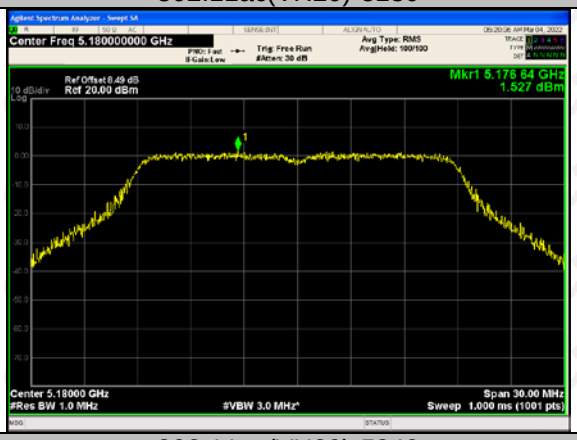
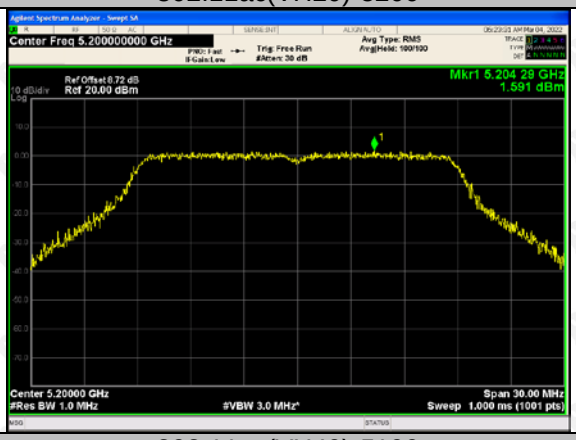


802.11ac(VH20)-5180	802.11ac(VH20)-5200
	
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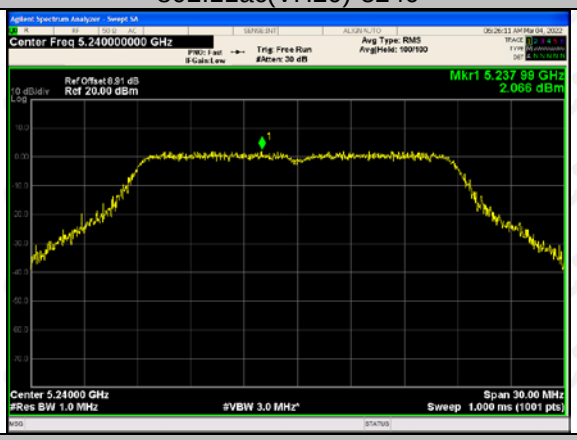	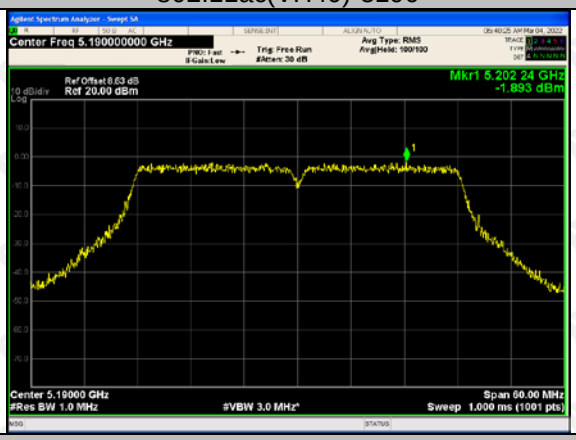
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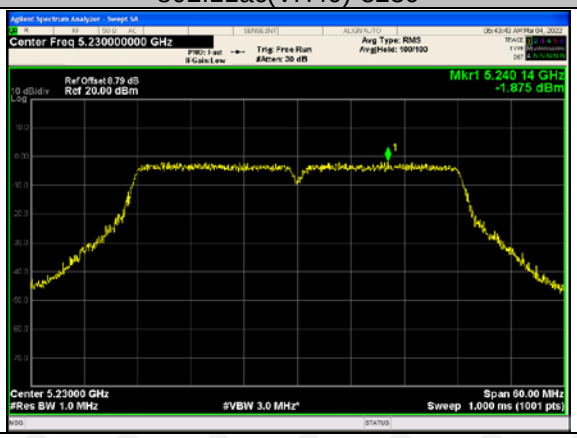
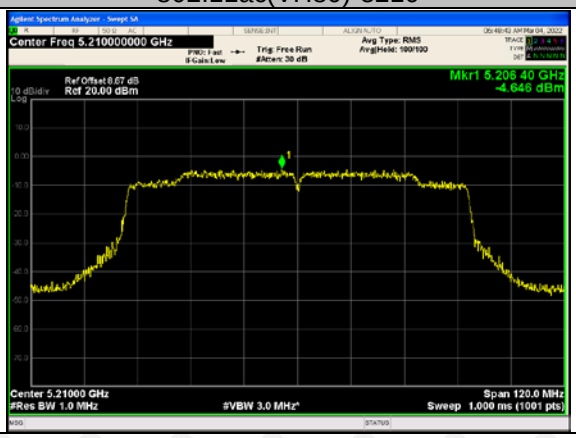
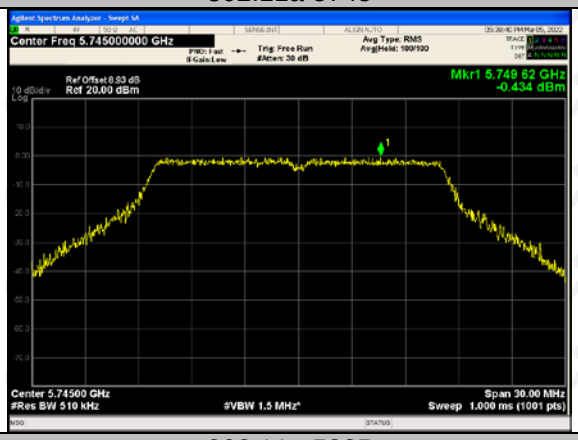
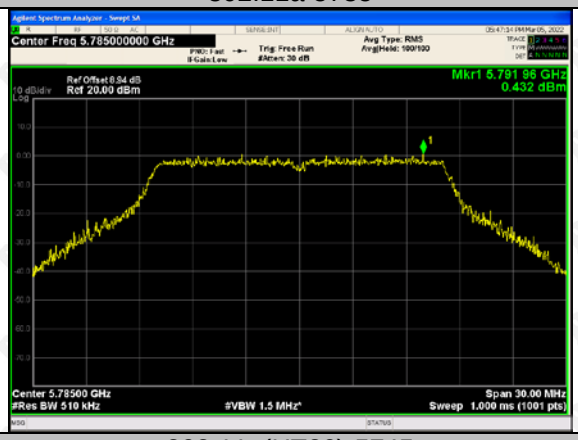
	

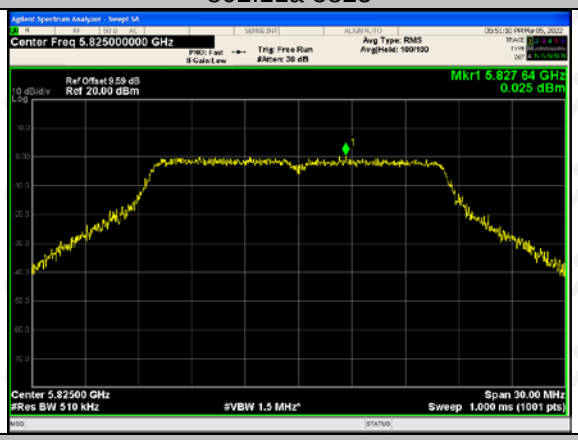
802.11a-5745



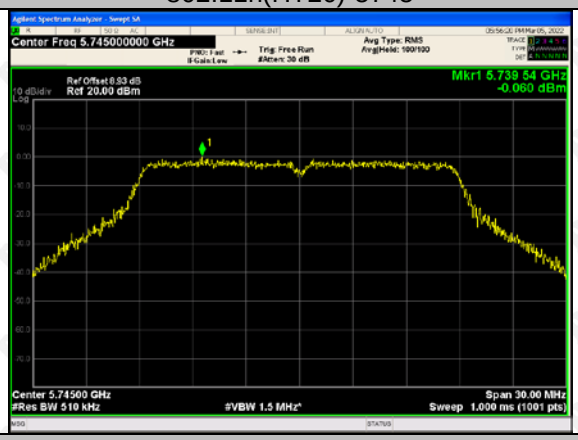
802.11a-5785



802.11a-5825

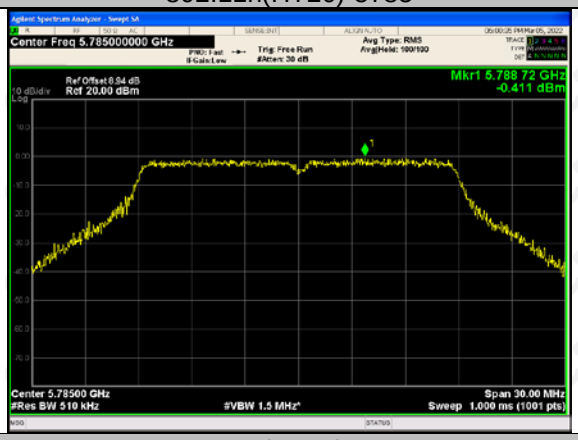


802.11n(HT20)-5745

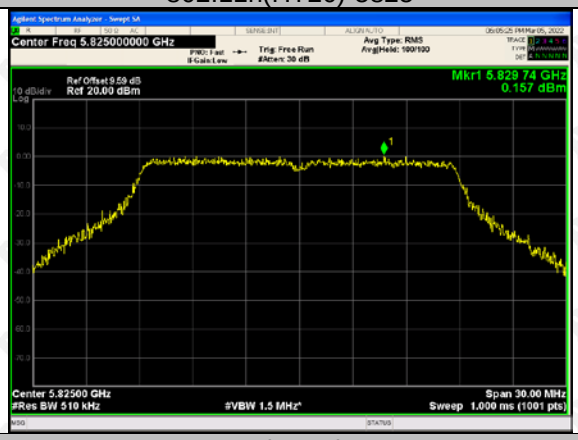


802.11n(HT20)-5785

802.11n(HT20)-5825



802.11n(HT40)-5755



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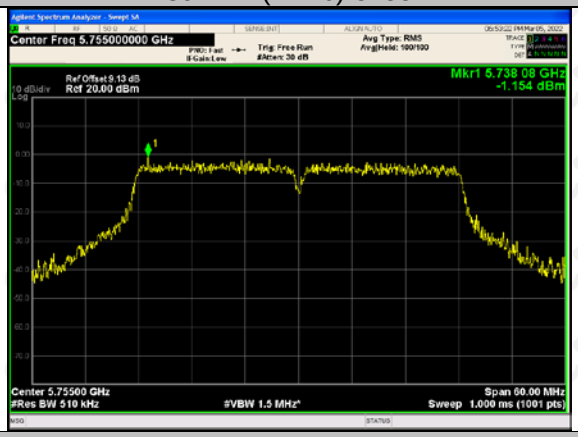

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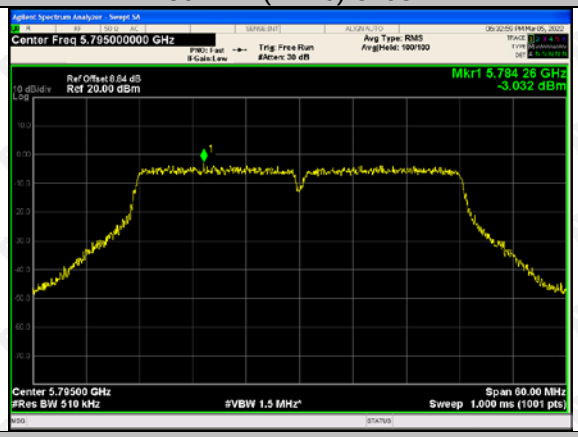

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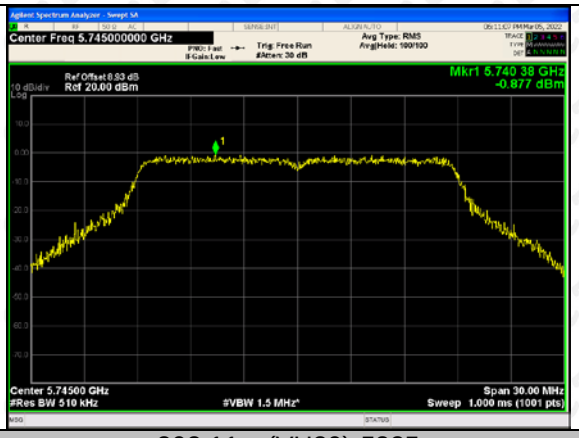

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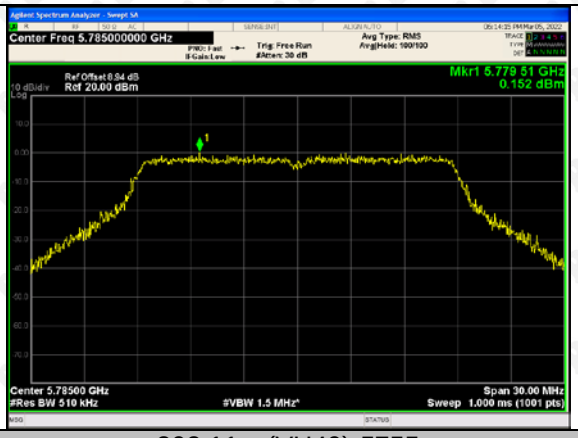

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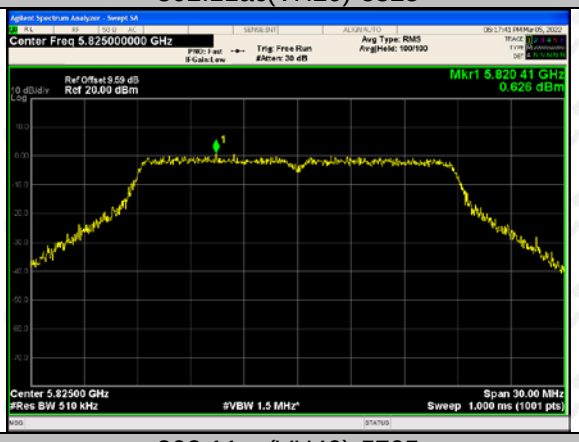

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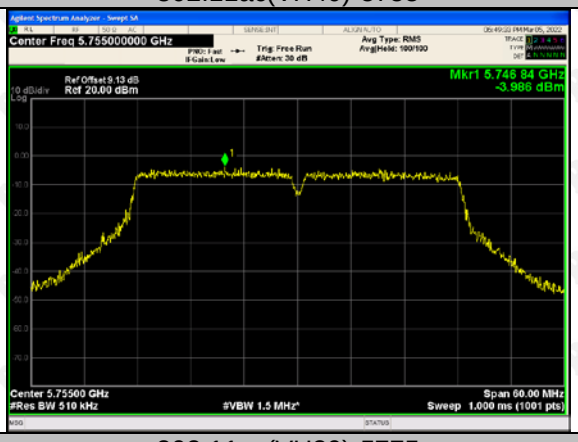

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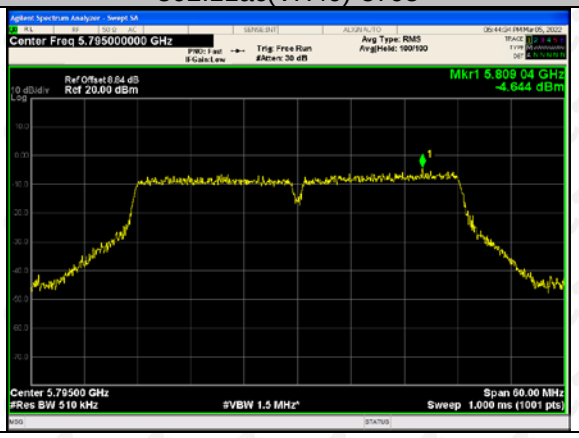
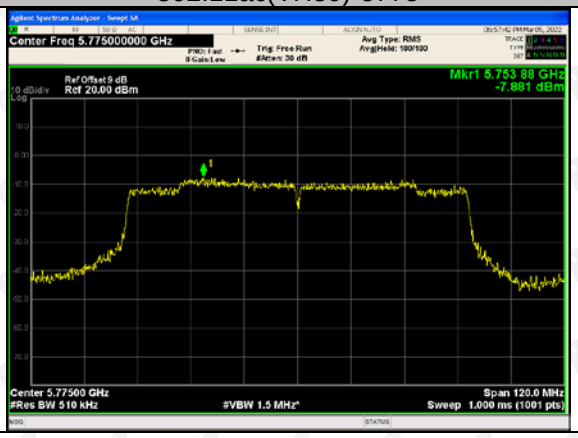
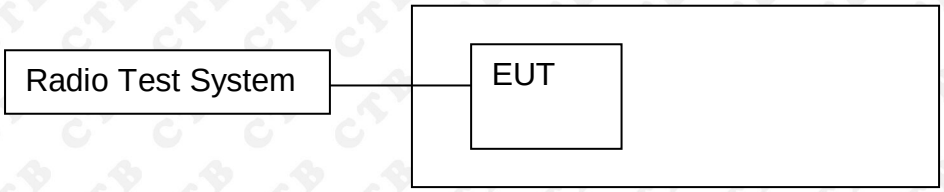




12. FREQUENCY STABILITY

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	5180.0156	5180	0.0156	3.0116
		V max (V)	132	5180.0134	5180	0.0134	2.5869
		V min (V)	108	5180.0110	5180	0.0110	2.1236
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	5180.0178	5180	0.0178	3.4363
		T (°C)	-10	5180.0145	5180	0.0145	2.7992
		T (°C)	0	5180.0124	5180	0.0124	2.3938
		T (°C)	10	5180.0139	5180	0.0139	2.6834
		T (°C)	20	5180.0192	5180	0.0192	3.7066
		T (°C)	30	5180.0184	5180	0.0184	3.5521
		T (°C)	40	5180.0114	5180	0.0114	2.2008
		T (°C)	50	5180.0145	5180	0.0145	2.7992
		T (°C)	60	5180.0178	5180	0.0178	3.4363
		T (°C)	70	5180.0132	5180	0.0132	2.5483
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	5200.0147	5200	0.0147	2.8269
		V max (V)	132	5200.0150	5200	0.0150	2.8846
		V min (V)	108	5200.0128	5200	0.0128	2.4615
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	5200.0125	5200	0.0125	2.4038
		T (°C)	-10	5200.0175	5200	0.0175	3.3654
		T (°C)	0	5200.0156	5200	0.0156	3.0000
		T (°C)	10	5200.0133	5200	0.0133	2.5577
		T (°C)	20	5200.0112	5200	0.0112	2.1538
		T (°C)	30	5200.0117	5200	0.0117	2.2500
		T (°C)	40	5200.0136	5200	0.0136	2.6154
		T (°C)	50	5200.0178	5200	0.0178	3.4231
		T (°C)	60	5200.0145	5200	0.0145	2.7885
		T (°C)	70	5200.0166	5200	0.0166	3.1923
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	5240.0132	5240	0.0132	2.5191
		V max (V)	132	5240.0113	5240	0.0113	2.1565
		V min (V)	108	5240.0198	5240	0.0198	3.7786
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	5240.0148	5240	0.0148	2.8244
		T (°C)	-10	5240.0134	5240	0.0134	2.5573
		T (°C)	0	5240.0132	5240	0.0132	2.5191
		T (°C)	10	5240.0148	5240	0.0148	2.8244
		T (°C)	20	5240.0129	5240	0.0129	2.4618
		T (°C)	30	5240.0163	5240	0.0163	3.1107
		T (°C)	40	5240.0174	5240	0.0174	3.3206
		T (°C)	50	5240.0123	5240	0.0123	2.3473
		T (°C)	60	5240.0183	5240	0.0183	3.4924
		T (°C)	70	5240.0113	5240	0.0113	2.1565
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	5745.0135	5745	0.0135	2.3499
		V max (V)	132	5745.0157	5745	0.0157	2.7328
		V min (V)	108	5745.0145	5745	0.0145	2.5239
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)	-20	5745.0174	5745	0.0174	3.0287
		T (°C)	-10	5745.0142	5745	0.0142	2.4717
		T (°C)	0	5745.0132	5745	0.0132	2.2977
		T (°C)	10	5745.0102	5745	0.0102	1.7755
		T (°C)	20	5745.0144	5745	0.0144	2.5065
		T (°C)	30	5745.0103	5745	0.0103	1.7929
		T (°C)	40	5745.0166	5745	0.0166	2.8895
		T (°C)	50	5745.0145	5745	0.0145	2.5239
		T (°C)	60	5745.0109	5745	0.0109	1.8973
		T (°C)	70	5745.0178	5745	0.0178	3.0983
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	5785.0158	5785	0.0158	2.7312
		V max (V)	132	5785.0147	5785	0.0147	2.5411
		V min (V)	108	5785.0165	5785	0.0165	2.8522
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)	-20	5785.0123	5785	0.0123	2.1262
		T (°C)	-10	5785.0138	5785	0.0138	2.3855
		T (°C)	0	5785.0198	5785	0.0198	3.4226
		T (°C)	10	5785.0129	5785	0.0129	2.2299
		T (°C)	20	5785.0142	5785	0.0142	2.4546
		T (°C)	30	5785.0175	5785	0.0175	3.0251
		T (°C)	40	5785.0189	5785	0.0189	3.2671
		T (°C)	50	5785.0147	5785	0.0147	2.5411
		T (°C)	60	5785.0169	5785	0.0169	2.9213
		T (°C)	70	5785.0114	5785	0.0114	1.9706
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	5825.0173	5825	0.0173	2.9700
		V max (V)	132	5825.0113	5825	0.0113	1.9399
		V min (V)	108	5825.0167	5825	0.0167	2.8670
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)	-20	5825.0125	5825	0.0125	2.1459
		T (°C)	-10	5825.0174	5825	0.0174	2.9871
		T (°C)	0	5825.0170	5825	0.0170	2.9185
		T (°C)	10	5825.0189	5825	0.0189	3.2446
		T (°C)	20	5825.0173	5825	0.0173	2.9700
		T (°C)	30	5825.0123	5825	0.0123	2.1116
		T (°C)	40	5825.0152	5825	0.0152	2.6094
		T (°C)	50	5825.0147	5825	0.0147	2.5236
		T (°C)	60	5825.0154	5825	0.0154	2.6438
		T (°C)	70	5825.0178	5825	0.0178	3.0558
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	5180.0134	5180	0.0134	2.5869
		V max (V)	132	5180.0147	5180	0.0147	2.8378
		V min (V)	108	5180.0112	5180	0.0112	2.1622
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	5180.0169	5180	0.0169	3.2625
		T (°C)	-10	5180.0174	5180	0.0174	3.3591
		T (°C)	0	5180.0133	5180	0.0133	2.5676
		T (°C)	10	5180.0147	5180	0.0147	2.8378
		T (°C)	20	5180.0155	5180	0.0155	2.9923
		T (°C)	30	5180.0187	5180	0.0187	3.6100
		T (°C)	40	5180.0144	5180	0.0144	2.7799
		T (°C)	50	5180.0176	5180	0.0176	3.3977
		T (°C)	60	5180.0149	5180	0.0149	2.8764
		T (°C)	70	5180.0114	5180	0.0114	2.2008
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	5200.0155	5200	0.0155	2.9808
		V max (V)	132	5200.0165	5200	0.0165	3.1731
		V min (V)	108	5200.0147	5200	0.0147	2.8269
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	5200.0146	5200	0.0146	2.8077
		T (°C)	-10	5200.0125	5200	0.0125	2.4038
		T (°C)	0	5200.0175	5200	0.0175	3.3654
		T (°C)	10	5200.0121	5200	0.0121	2.3269
		T (°C)	20	5200.0155	5200	0.0155	2.9808
		T (°C)	30	5200.0128	5200	0.0128	2.4615
		T (°C)	40	5200.0121	5200	0.0121	2.3269
		T (°C)	50	5200.0117	5200	0.0117	2.2500
		T (°C)	60	5200.0198	5200	0.0198	3.8077
		T (°C)	70	5200.0123	5200	0.0123	2.3654
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	5240.0142	5240	0.0142	2.7099
		V max (V)	132	5240.0103	5240	0.0103	1.9656
		V min (V)	108	5240.0148	5240	0.0148	2.8206
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	5240.0118	5240	0.0118	2.2481
		T (°C)	-10	5240.0164	5240	0.0164	3.1298
		T (°C)	0	5240.0132	5240	0.0132	2.5191
		T (°C)	10	5240.0158	5240	0.0158	3.0153
		T (°C)	20	5240.0179	5240	0.0179	3.4160
		T (°C)	30	5240.0126	5240	0.0126	2.4046
		T (°C)	40	5240.0163	5240	0.0163	3.1107
		T (°C)	50	5240.0176	5240	0.0176	3.3588
		T (°C)	60	5240.0123	5240	0.0123	2.3531
		T (°C)	70	5240.0113	5240	0.0113	2.1565
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	5745.0124	5745	0.0124	2.1584
		V max (V)	132	5745.0145	5745	0.0145	2.5239
		V min (V)	108	5745.0122	5745	0.0122	2.1236
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)	-20	5745.0154	5745	0.0154	2.6806
		T (°C)	-10	5745.0147	5745	0.0147	2.5587
		T (°C)	0	5745.0156	5745	0.0156	2.7154
		T (°C)	10	5745.0188	5745	0.0188	3.2724
		T (°C)	20	5745.0183	5745	0.0183	3.1854
		T (°C)	30	5745.0120	5745	0.0120	2.0888
		T (°C)	40	5745.0115	5745	0.0115	2.0017
		T (°C)	50	5745.0196	5745	0.0196	3.4117
		T (°C)	60	5745.0108	5745	0.0108	1.8799
		T (°C)	70	5745.0128	5745	0.0128	2.2280
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	5785.0178	5785	0.0178	3.0769
		V max (V)	132	5785.0125	5785	0.0125	2.1608
		V min (V)	108	5785.0184	5785	0.0184	3.1806
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)	-20	5785.0199	5785	0.0199	3.4399
		T (°C)	-10	5785.0165	5785	0.0165	2.8522
		T (°C)	0	5785.0186	5785	0.0186	3.2152
		T (°C)	10	5785.0159	5785	0.0159	2.7485
		T (°C)	20	5785.0112	5785	0.0112	1.9360
		T (°C)	30	5785.0135	5785	0.0135	2.3336
		T (°C)	40	5785.0145	5785	0.0145	2.5065
		T (°C)	50	5785.0123	5785	0.0123	2.1262
		T (°C)	60	5785.0148	5785	0.0148	2.5583
		T (°C)	70	5785.0175	5785	0.0175	3.0251
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	5825.0173	5825	0.0173	2.9700
		V max (V)	132	5825.0125	5825	0.0125	2.1459
		V min (V)	108	5825.0101	5825	0.0101	1.7339
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)	-20	5825.0126	5825	0.0126	2.1614
		T (°C)	-10	5825.0147	5825	0.0147	2.5236
		T (°C)	0	5825.0175	5825	0.0175	3.0043
		T (°C)	10	5825.0100	5825	0.0100	1.7167
		T (°C)	20	5825.0128	5825	0.0128	2.1974
		T (°C)	30	5825.0117	5825	0.0117	2.0086
		T (°C)	40	5825.0149	5825	0.0149	2.5579
		T (°C)	50	5825.0140	5825	0.0140	2.4034
		T (°C)	60	5825.0189	5825	0.0189	3.2446
		T (°C)	70	5825.0176	5825	0.0176	3.0215
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.

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.

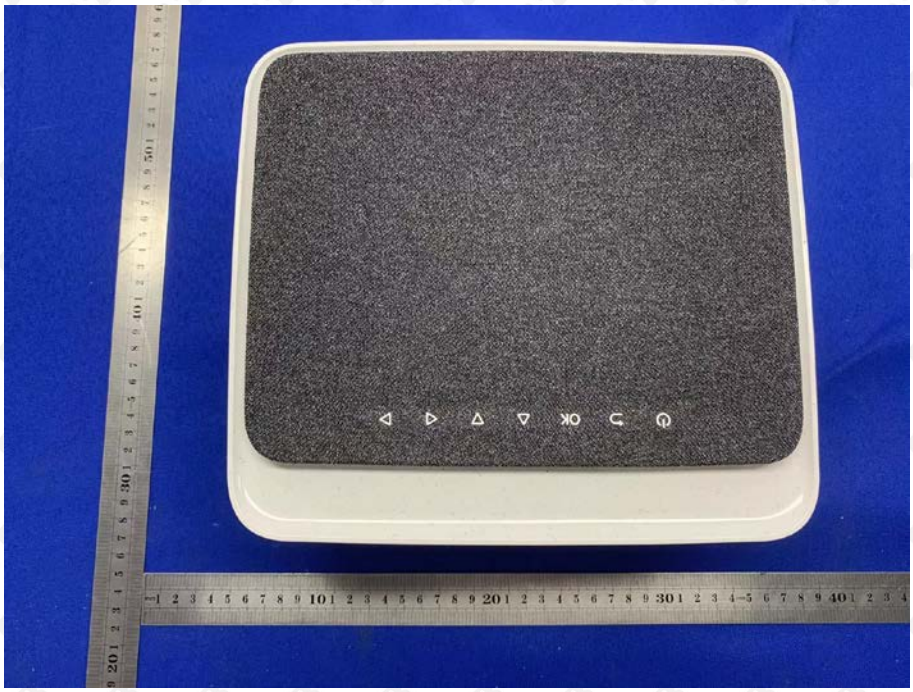
EUT Antenna:

The antenna is Internal antenna and no consideration of replacement. The best case gain of the antenna is 1.0dBi.

15. EUT PHOTOGRAPHS

EUT Photo 1

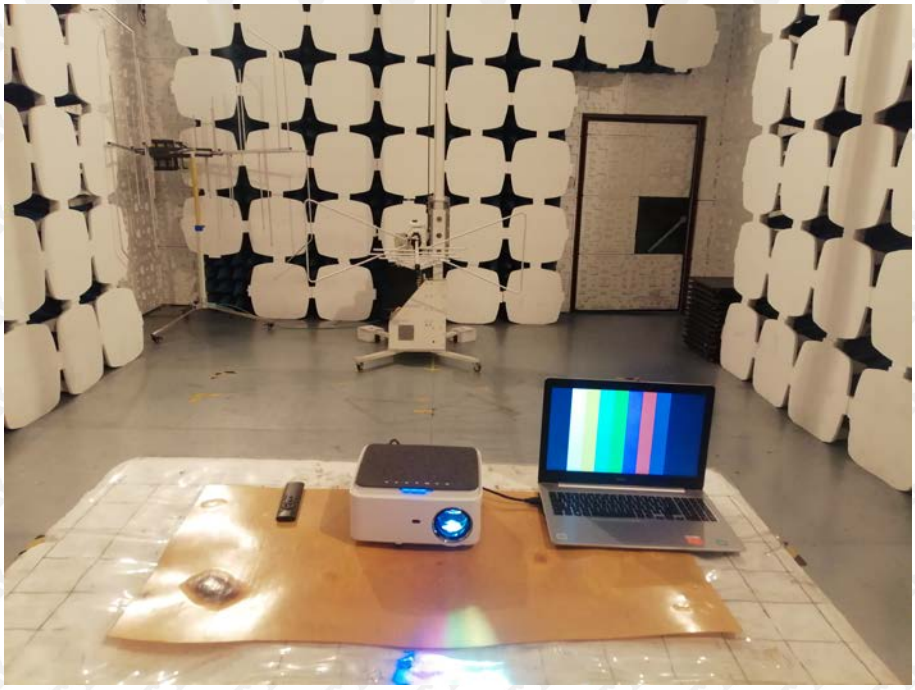
EUT Photo 2



16. EUT TEST SETUP PHOTOGRAPHS

Spurious emissions

Below 1GHz



Above 1G

Conducted Emission

※※※※※ END OF REPORT ※※※※※