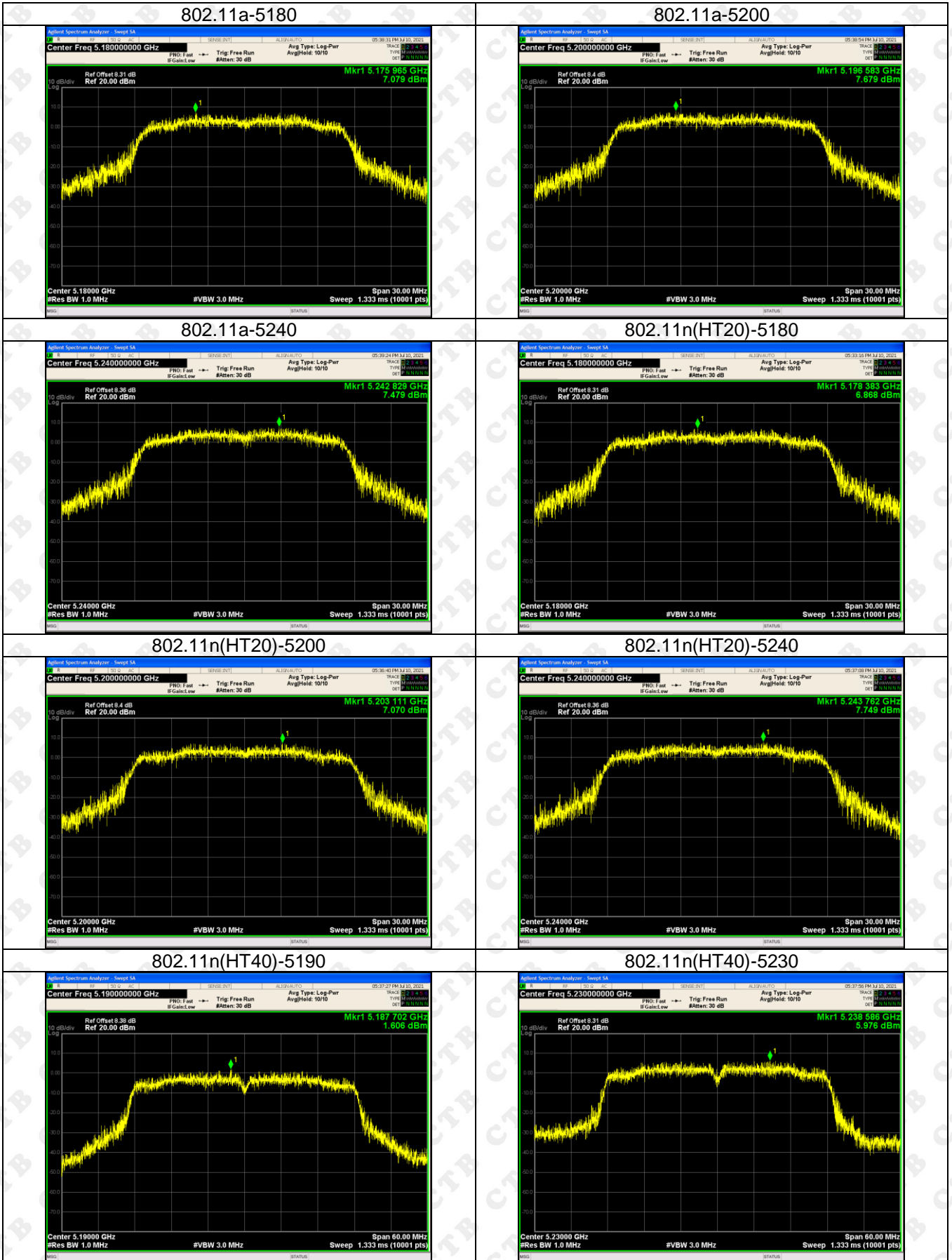
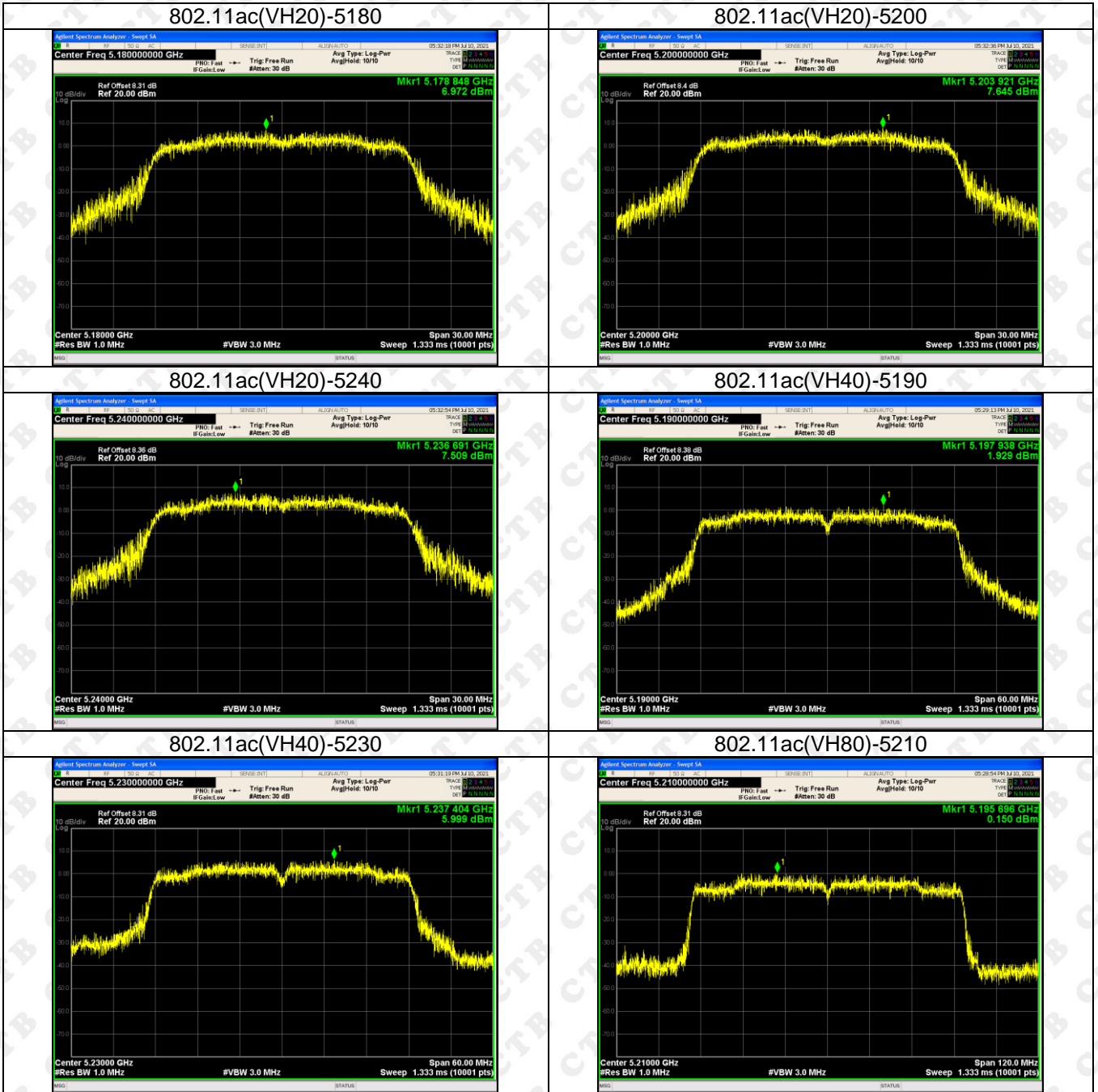
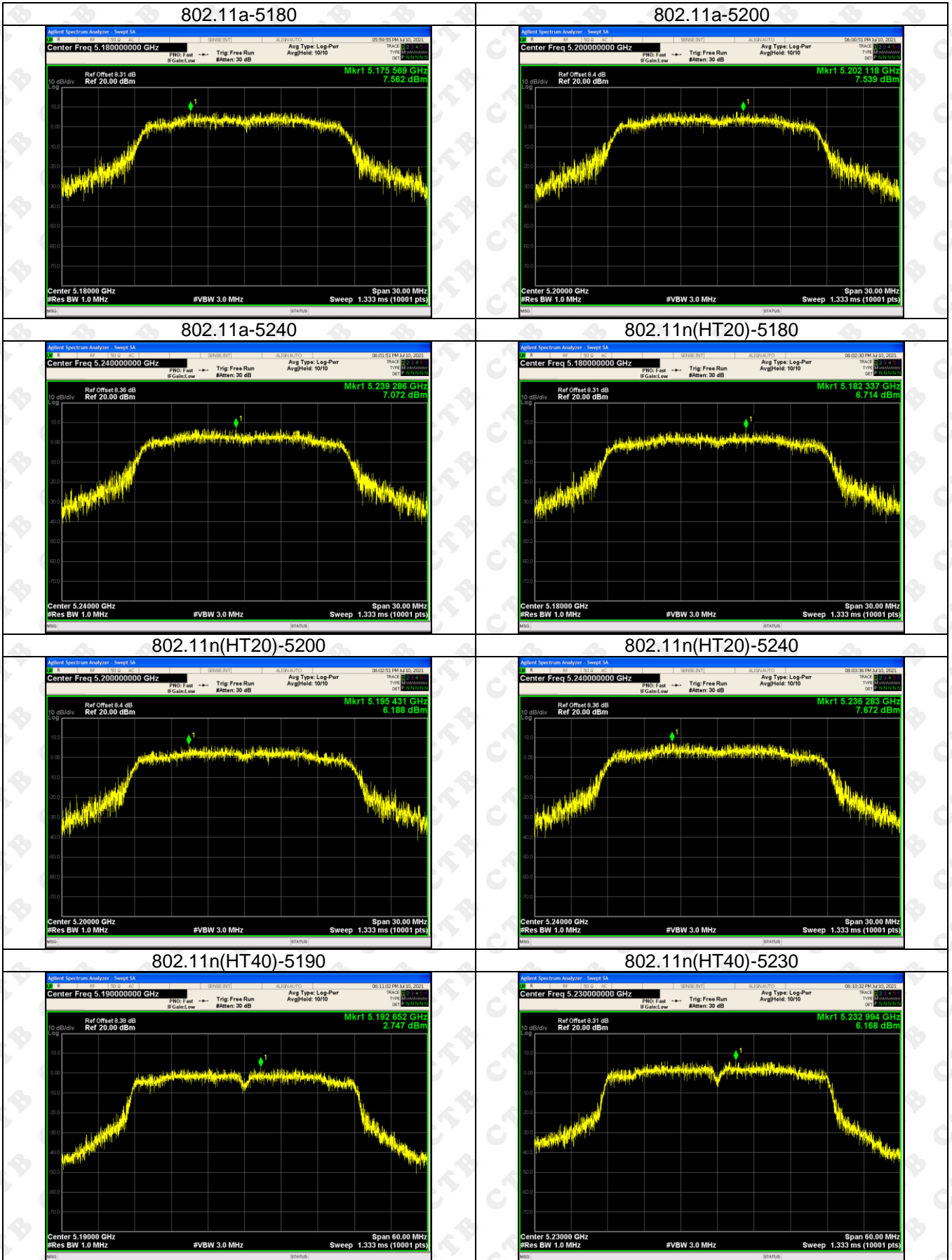


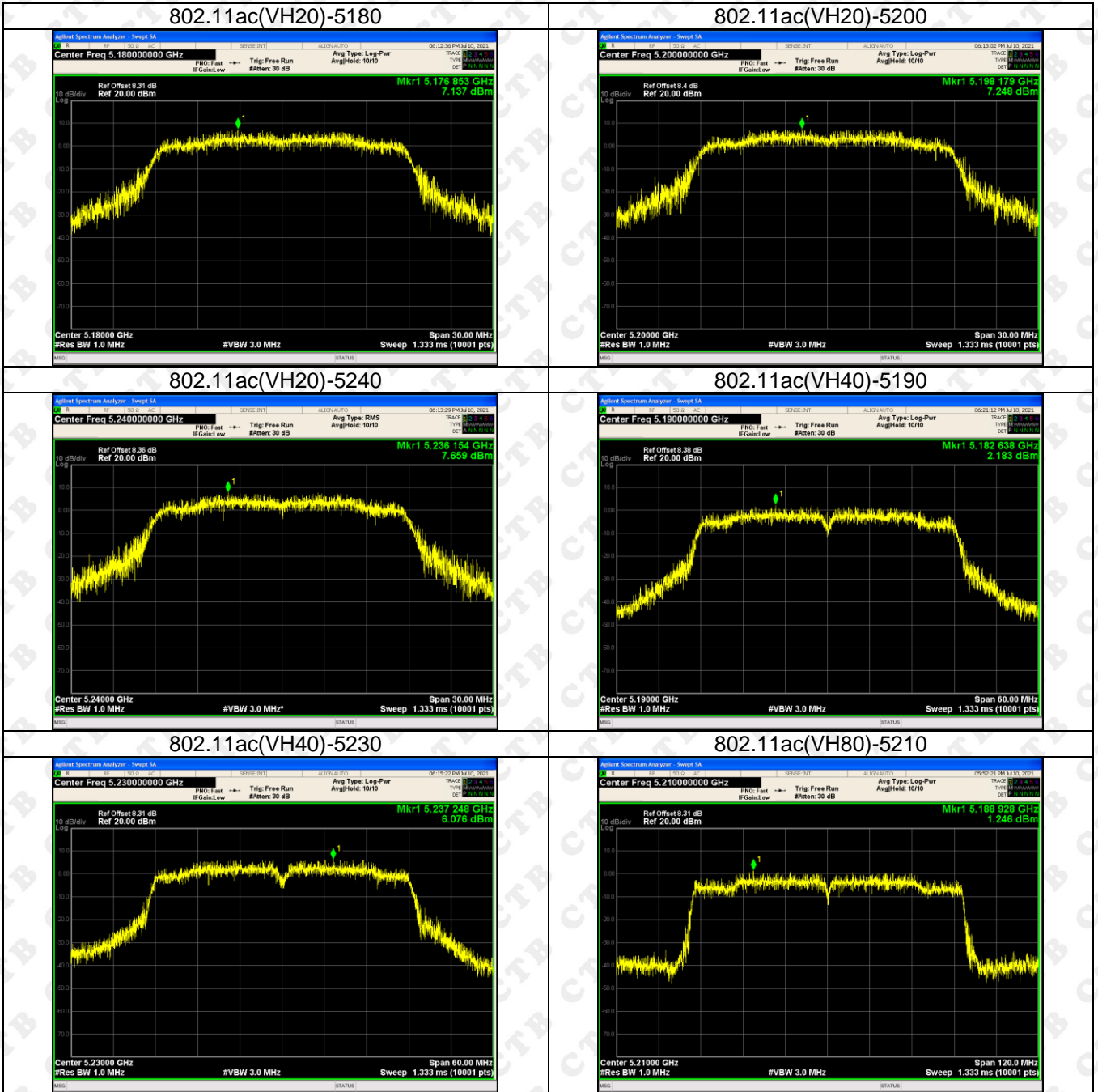
5180-5230MHz ANT1



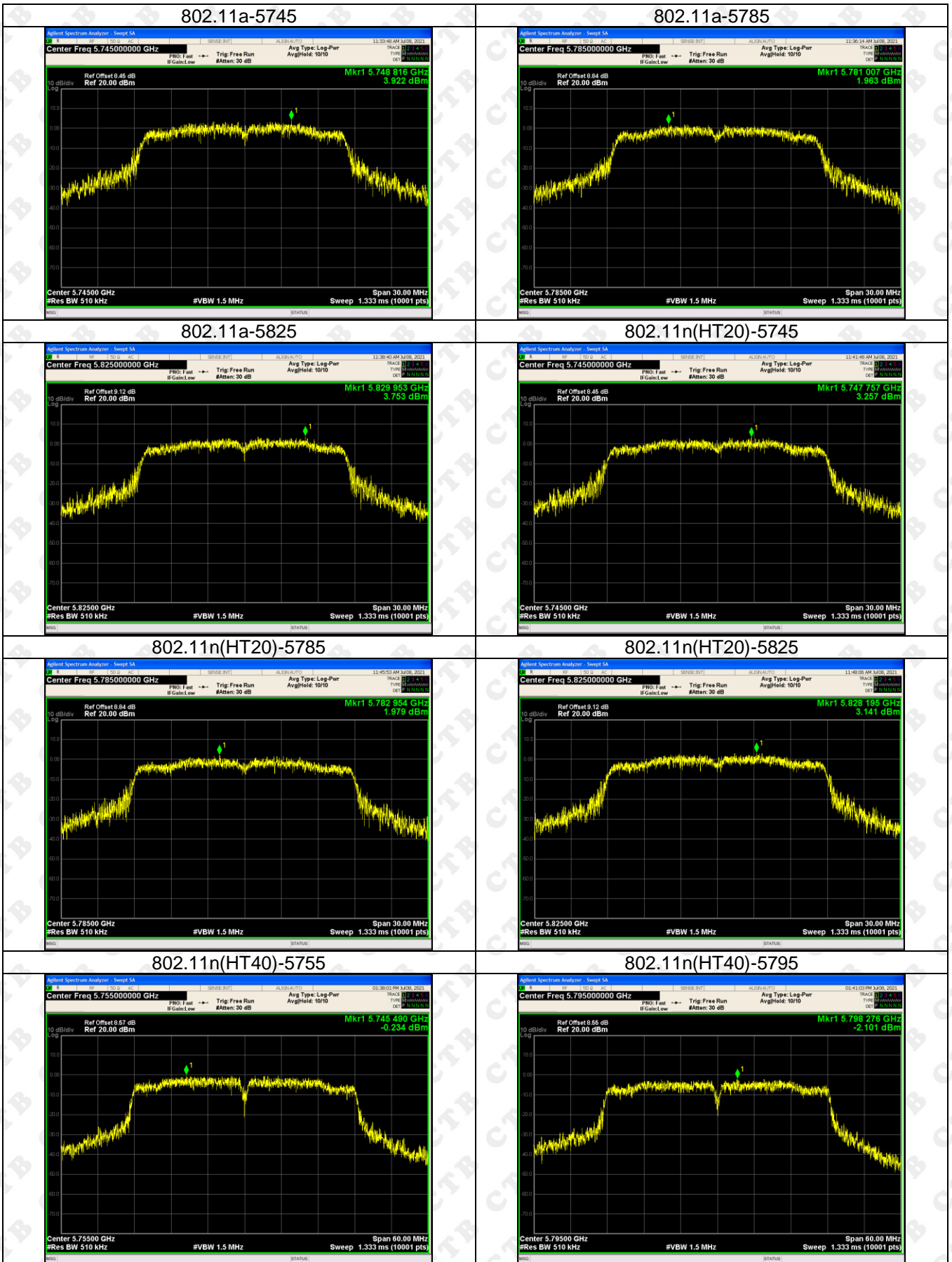


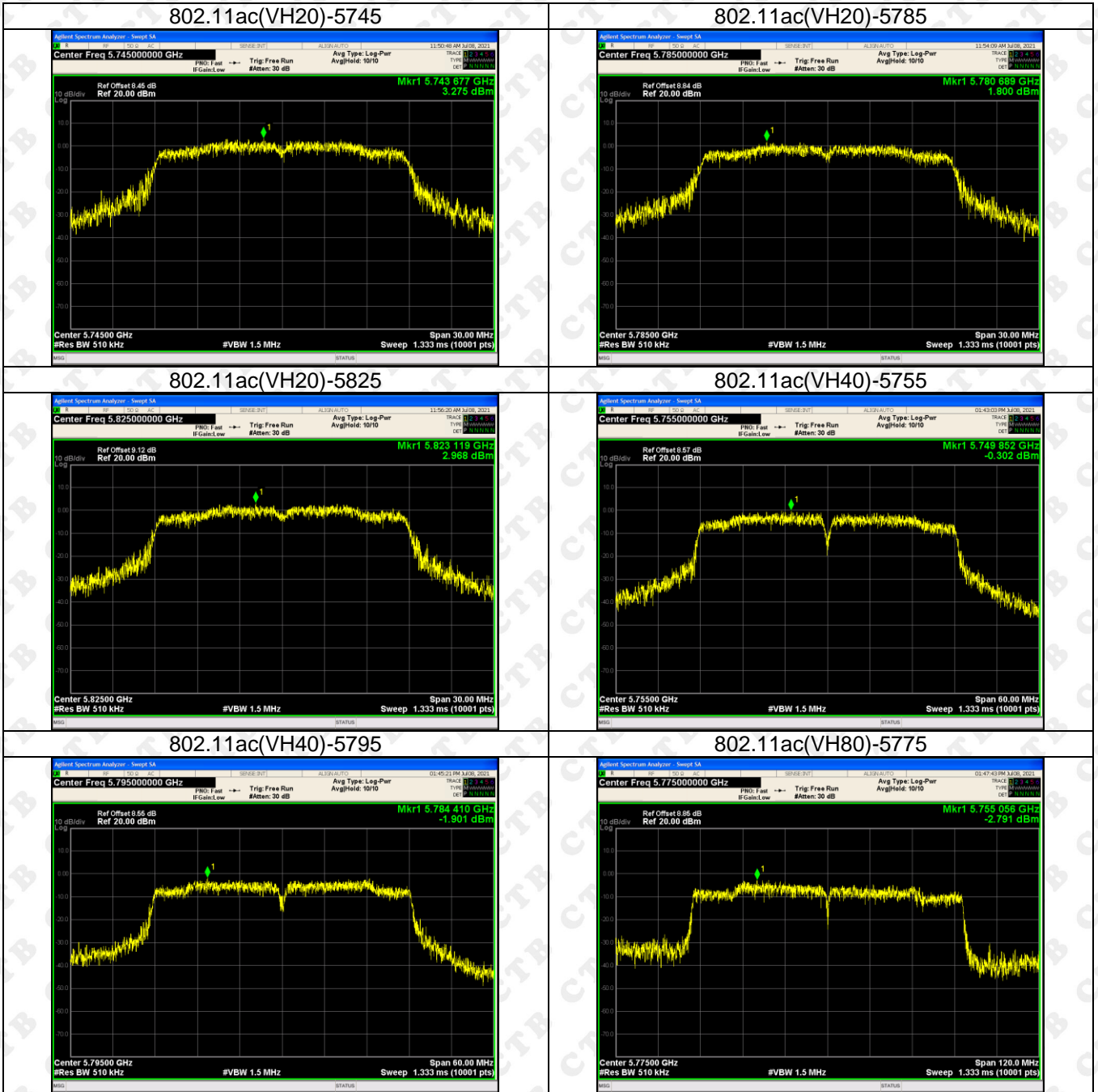
5180-5230MHz ANT2



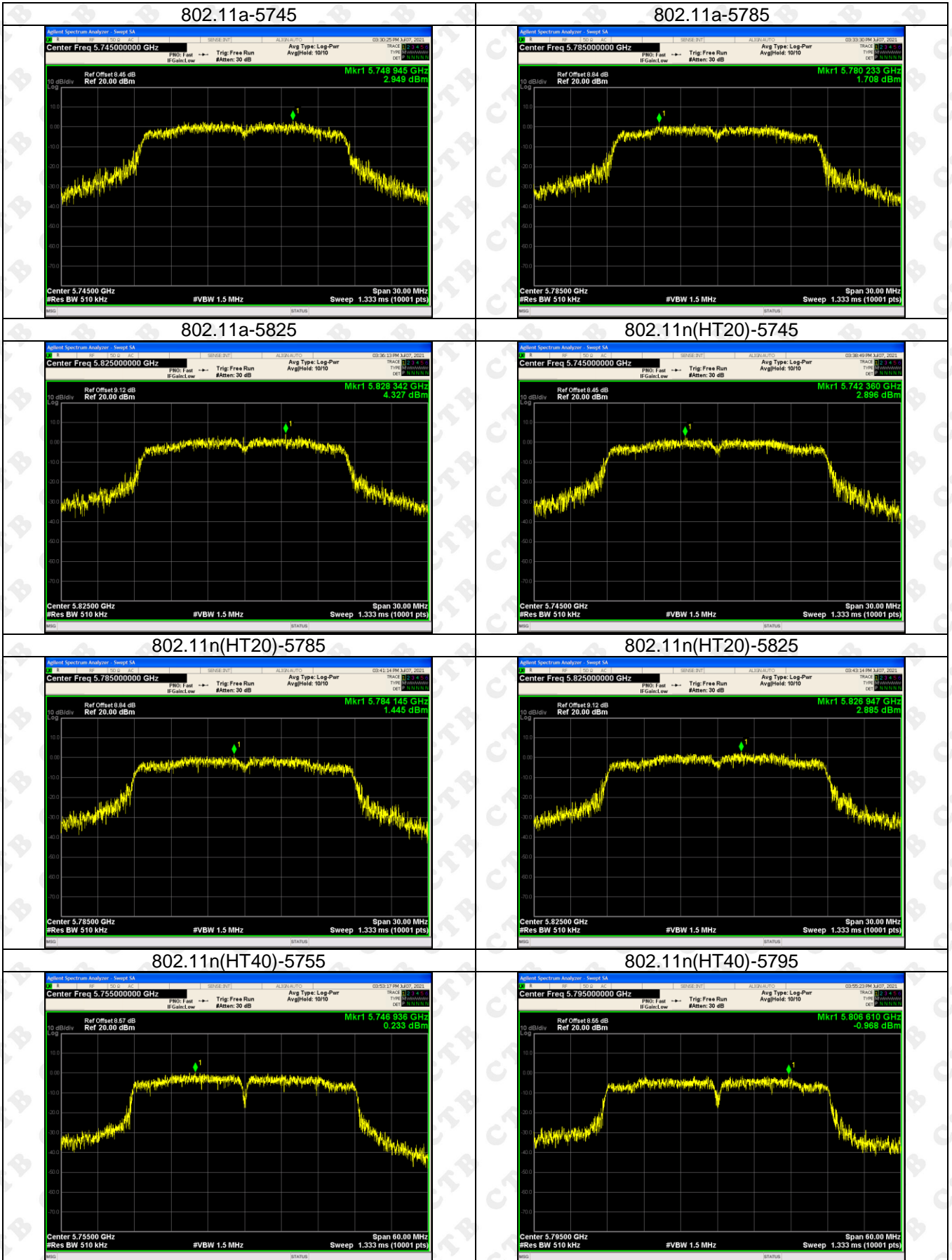


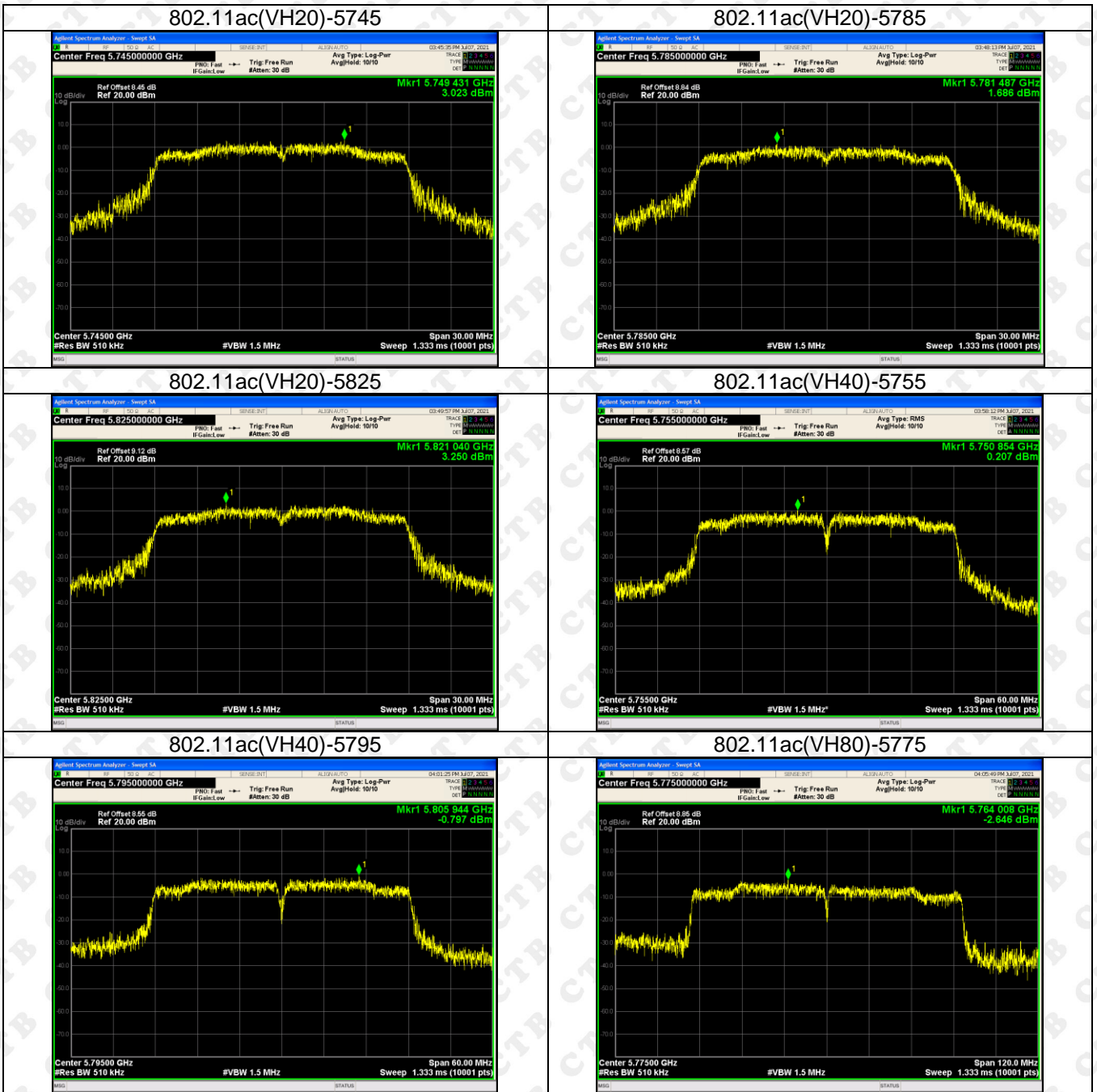
5745-5825MHz ANT 1





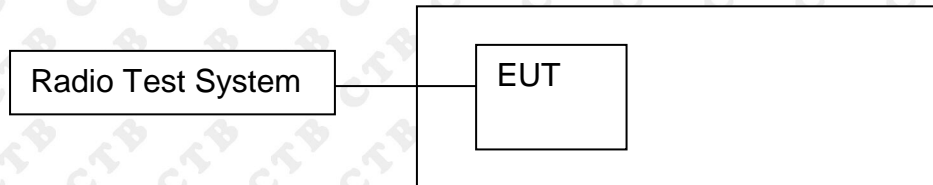
5745-5825MHz ANT 2





12. FREQUENCY STABILITY

12.1 Block Diagram Of Test Setup



12.2 Limit

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

12.3 Test procedure

1. The EUT was placed inside temperature chamber and powered and powered by nominal DC voltage.
2. Set EUT as normal operation.
3. Turn the EUT on and couple its output to spectrum.
4. Turn the EUT off and set the chamber to the highest temperature specified.
5. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT and measure the operating frequency.
6. Repeat step with the temperature chamber set to the lowest temperature.

12.4 Test Result

TX Frequency (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)	3.80	5180.0556	5180	0.0556	10.7336
		V max (V)	4.37	5180.0323	5180	0.0323	6.2355
		V min (V)	3.23	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)	3.8	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)	5.00	5200.0254	5200	0.0254	4.8846
		V max (V)	5.75	5200.0428	5200	0.0428	8.2308
		V min (V)	4.25	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)	3.8	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)	5.00	5240.0136	5240	0.0136	2.5954
		V max (V)	5.75	5240.0414	5240	0.0414	7.9008
		V min (V)	4.25	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)	3.8	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			

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)	5.00	5745.01099	5745	0.01099	1.9126
		V max (V)	5.75	5745.00463	5745	0.00463	0.8055
		V min (V)	4.25	5745.00590	5745	0.00590	1.0272
Limits				5725-5850 MHz			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	3.8	T (°C)	-20	5745.01069	5745	0.01069	1.8615
		T (°C)	-10	5745.01249	5745	0.01249	2.1748
		T (°C)	0	5745.01119	5745	0.01119	1.9473
		T (°C)	10	5745.00332	5745	0.00332	0.5777
		T (°C)	20	5745.00111	5745	0.00111	0.1930
		T (°C)	30	5745.00867	5745	0.00867	1.5091
		T (°C)	40	5745.00264	5745	0.00264	0.4588
		T (°C)	50	5745.00005	5745	0.00005	0.0083
		T (°C)	60	5745.00755	5745	0.00755	1.3139
		T (°C)	70	5745.00425	5745	0.00425	0.7405
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)	5.00	5785.01228	5785	0.01228	2.1222
		V max (V)	5.75	5785.01045	5785	0.01045	1.8062
		V min (V)	4.25	5785.00821	5785	0.00821	1.4187
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)	5	T (°C)	-20	5785.01103	5785	0.01103	1.9074
		T (°C)	-10	5785.00092	5785	0.00092	0.1596
		T (°C)	0	5785.00518	5785	0.00518	0.8960
		T (°C)	10	5785.01156	5785	0.01156	1.9974
		T (°C)	20	5785.00809	5785	0.00809	1.3980
		T (°C)	30	5785.01317	5785	0.01317	2.2759
		T (°C)	40	5785.00068	5785	0.00068	0.1167
		T (°C)	50	5785.00380	5785	0.00380	0.6562
		T (°C)	60	5785.01346	5785	0.01346	2.3274
		T (°C)	70	5785.00719	5785	0.00719	1.2430
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)	5.00	5825.00385	5825	0.00385	0.6607
		V max (V)	5.75	5825.01238	5825	0.01238	2.1258
		V min (V)	4.25	5825.01027	5825	0.01027	1.7624
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)	5	T (°C)	-20	5825.01348	5825	0.01348	2.3148
		T (°C)	-10	5825.00472	5825	0.00472	0.8108
		T (°C)	0	5825.01272	5825	0.01272	2.1828
		T (°C)	10	5825.01116	5825	0.01116	1.9166
		T (°C)	20	5825.00163	5825	0.00163	0.2791
		T (°C)	30	5825.00063	5825	0.00063	0.1078
		T (°C)	40	5825.00907	5825	0.00907	1.5563
		T (°C)	50	5825.00404	5825	0.00404	0.6939
		T (°C)	60	5825.00797	5825	0.00797	1.3683
		T (°C)	70	5825.00844	5825	0.00844	1.4483
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 1dBi.

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 *****