Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5280MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5280.0493	5280	0.0493	9.3399
		V max (V)	132	5280.0753	5280	0.0753	14.2597
		V min (V)	108	5280.0814	5280	0.0814	15.4072
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5280MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5280.0102	5280	0.0102	1.9375
		T (°C)	10	5280.0913	5280	0.0913	17.2833
		T (°C)	20	5280.0113	5280	0.0113	2.1460
		T (°C)	30	5280.0053	5280	0.0053	1.0099
		T (°C)	40	5280.0353	5280	0.0353	6.6890
Limits				±20ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5320MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5320.0074	5320	0.0074	1.3902
		V max (V)	132	5320.0692	5320	0.0692	13.0112
		V min (V)	108	5320.0525	5320	0.0525	9.8712
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5320MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	-20	5320.0871	5320	0.0871	16.3718
		T (°C)	-10	5320.0132	5320	0.0132	2.4854
		T (°C)	0	5320.0358	5320	0.0358	6.7376
		T (°C)	10	5320.0328	5320	0.0328	6.1636
		T (°C)	20	5320.0585	5320	0.0585	10.9882
		T (°C)	30	5320.0206	5320	0.0206	3.8631
		T (°C)	40	5320.0925	5320	0.0925	17.3939
		T (°C)	50	5320.0386	5320	0.0386	7.2577
		T (°C)	60	5320.0154	5320	0.0154	2.8998
		T (°C)	70	5320.0777	5320	0.0777	14.6014
Limits				±20ppm			
Result				Complies			

TX Frequency (5470-5725MHz)

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5500MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5500.0925	5500	0.0925	16.8215
		V max (V)	132	5500.0322	5500	0.0322	5.8476
		V min (V)	108	5500.0242	5500	0.0242	4.3943
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5500MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5500.0599	5500	0.0599	10.8865
		T (°C)	10	5500.0017	5500	0.0017	0.3150
		T (°C)	20	5500.0533	5500	0.0533	9.6903
		T (°C)	30	5500.0900	5500	0.0900	16.3721
		T (°C)	40	5500.0809	5500	0.0809	14.7088
Limits				±20ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5580MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5580.0246	5580	0.0246	4.4116
		V max (V)	132	5580.0228	5580	0.0228	4.0831
		V min (V)	108	5580.0864	5580	0.0864	15.4920
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5580MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5580.0685	5580	0.0685	12.2683
		T (°C)	10	5580.0883	5580	0.0883	15.8200
		T (°C)	20	5580.0545	5580	0.0545	9.7727
		T (°C)	30	5580.0448	5580	0.0448	8.0337
		T (°C)	40	5580.0405	5580	0.0405	7.2586
Limits				±20ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5700MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5700.0824	5700	0.0824	14.4484
		V max (V)	132	5700.0719	5700	0.0719	12.6060
		V min (V)	108	5700.0171	5700	0.0171	3.0079
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5700MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5700.0857	5700	0.0857	15.0267
		T (°C)	10	5700.0023	5700	0.0023	0.4098
		T (°C)	20	5700.0108	5700	0.0108	1.9034
		T (°C)	30	5700.0018	5700	0.0018	0.3155
		T (°C)	40	5700.0096	5700	0.0096	1.6814
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	5745.0188	5745	0.0188	3.2781
		V max (V)	132	5745.0849	5745	0.0849	14.7736
		V min (V)	108	5745.0543	5745	0.0543	9.4551
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	5745.0123	5745	0.0123	2.1370
		T (°C)	10	5745.0905	5745	0.0905	15.7551
		T (°C)	20	5745.0166	5745	0.0166	2.8868
		T (°C)	30	5745.0087	5745	0.0087	1.5147
		T (°C)	40	5745.0834	5745	0.0834	14.5164
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	5785.0876	5785	0.0876	15.1416
		V max (V)	132	5785.0442	5785	0.0442	7.6373
		V min (V)	108	5785.0760	5785	0.0760	13.1307
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	5785.0609	5785	0.0609	10.5269
		T (°C)	10	5785.0464	5785	0.0464	8.0157
		T (°C)	20	5785.0897	5785	0.0897	15.5071
		T (°C)	30	5785.0810	5785	0.0810	14.0004
		T (°C)	40	5785.0642	5785	0.0642	11.1037
		T (°C)	50	5785.0904	5785	0.0904	15.6217
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	5825.0765	5825	0.0765	13.1285
		V max (V)	132	5825.0761	5825	0.0761	13.0655
		V min (V)	108	5825.0920	5825	0.0920	15.7993
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	5825.0666	5825	0.0666	11.4263
		T (°C)	10	5825.0024	5825	0.0024	0.4107
		T (°C)	20	5825.0127	5825	0.0127	2.1749
		T (°C)	30	5825.0760	5825	0.0760	13.0461
		T (°C)	40	5825.0496	5825	0.0496	8.5145
Limits				±20ppm			
Result				Complies			

13. OPERATION IN THE ABSENCE OF INFORMATION TO THE TRANSMIT

13.1 Requirement

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

13.2 Test Results

Operation in the absence of information to the transmit:

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

14. DUTY CYCLE

14.1 Applied procedures / limit

Measurements of duty cycle and transmission duration shall be performed using one of the following techniques:

a) A diode detector and an oscilloscope that together have a sufficiently short response time to permit accurate measurements of the ON and OFF times of the transmitted signal.

b) The zero-span mode on a spectrum analyzer or EMI receiver if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the ON and OFF times of the transmitted signal:

1) Set the center frequency of the instrument to the center frequency of the transmission.

2) Set RBW ≥ OBW if possible; otherwise, set RBW to the largest available value.

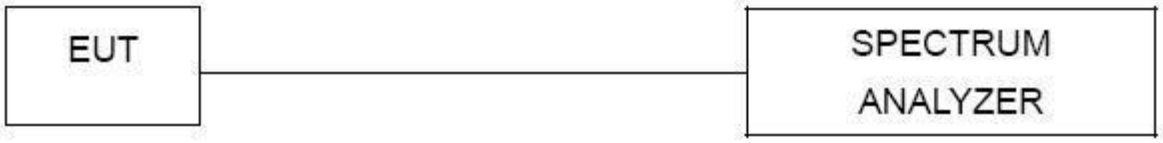
3) Set VBW ≥ RBW. Set detector = peak or average.

4) The zero-span measurement method shall not be used unless both RBW and VBW are > 50/*T* and the number of sweep points across duration *T* exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring the duty cycle shall not be used if $T \leq 16.7$ µs.)

14.2 DEVIATION FROM STANDARD

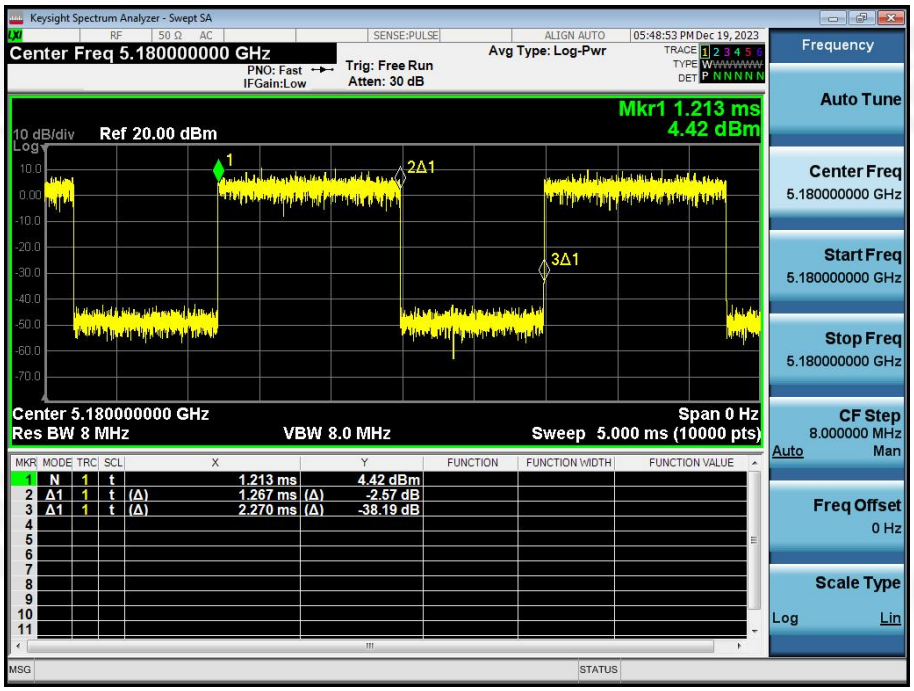
No deviation.

14.3 TEST SETUP

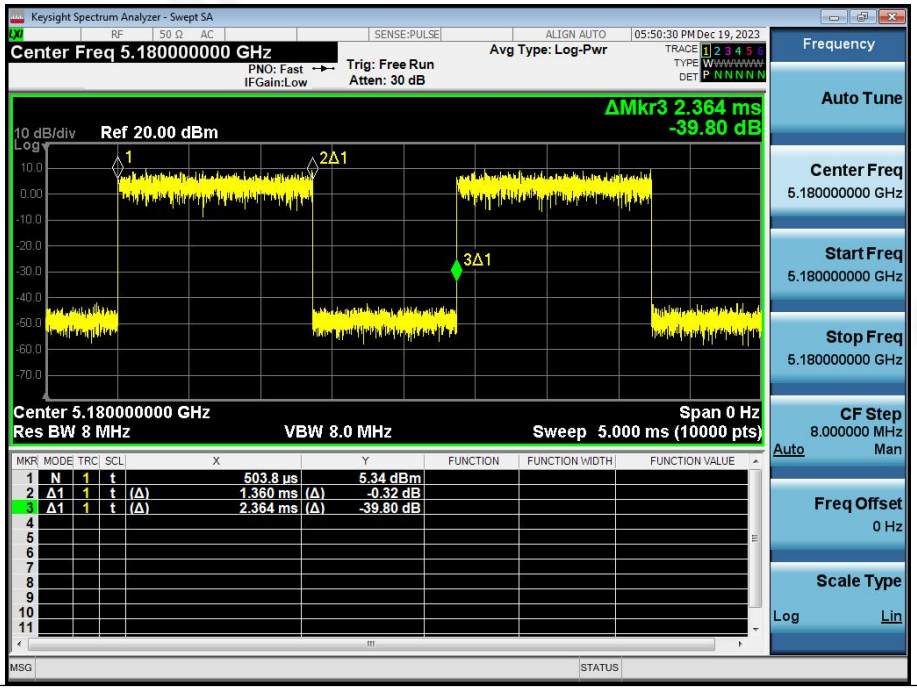


5.2G				
Mode	Frequency (MHz)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Result
802.11a	5180	55.81	2.53	Pass
802.11n20	5180	57.53	2.40	Pass
802.11n40	5190	38.52	4.14	Pass
802.11ac20	5180	55.92	2.52	Pass
802.11ac40	5190	38.78	4.11	Pass
802.11ac80	5210	23.92	6.21	Pass

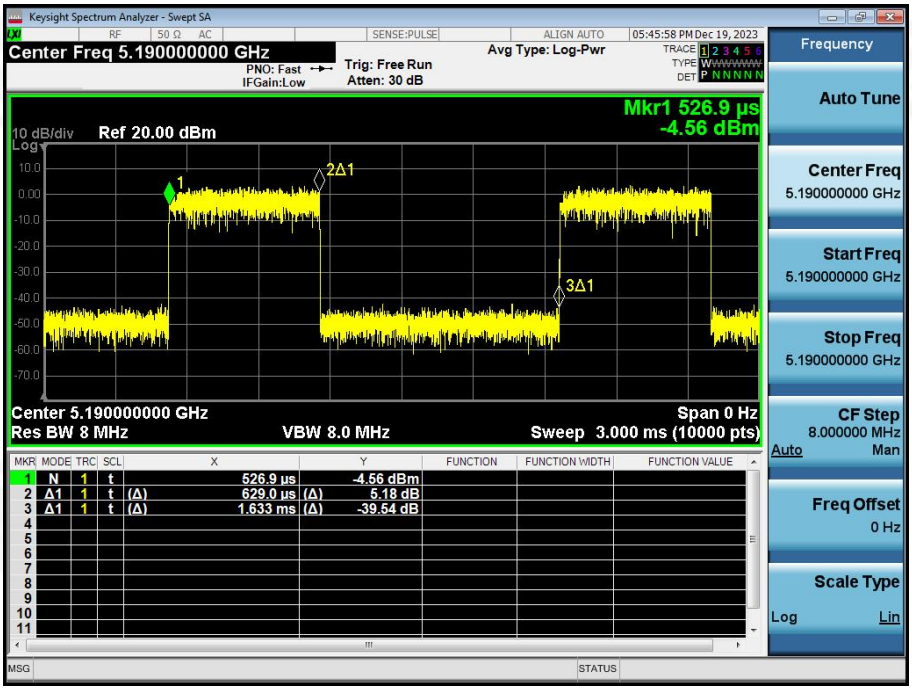
802.11a



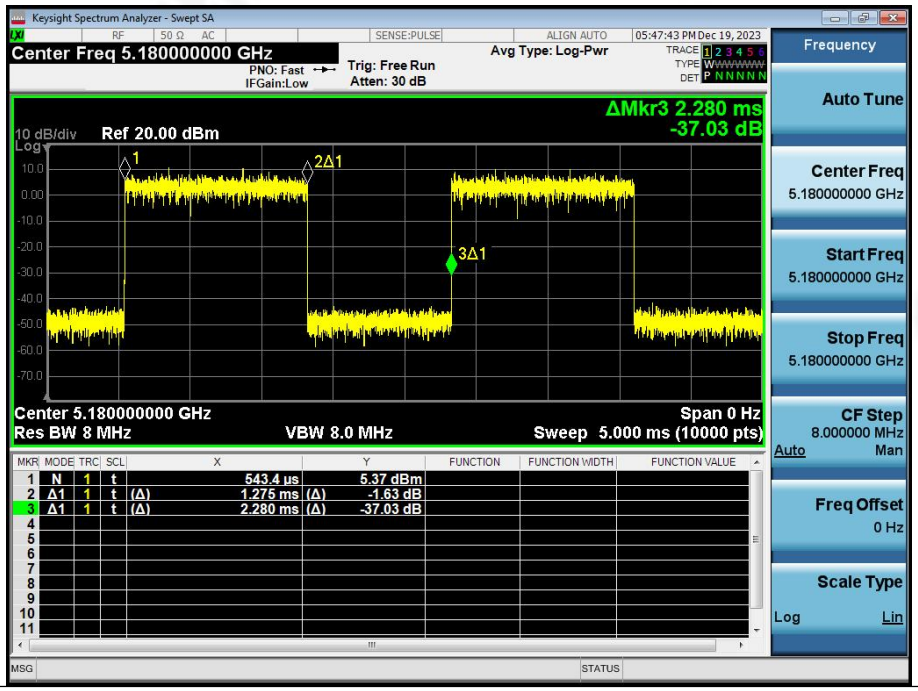
802.11n20



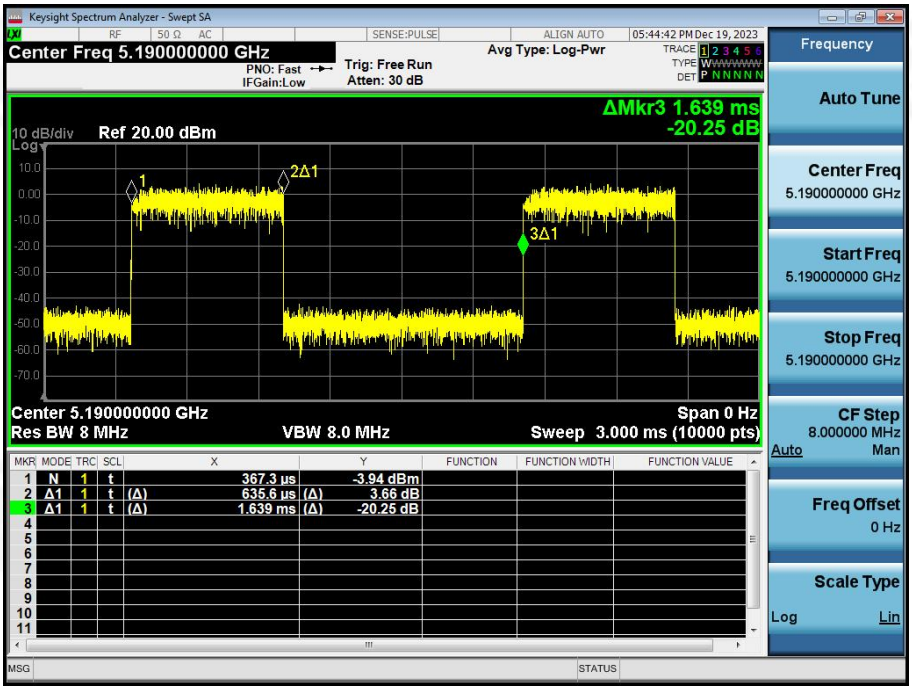
802.11n40



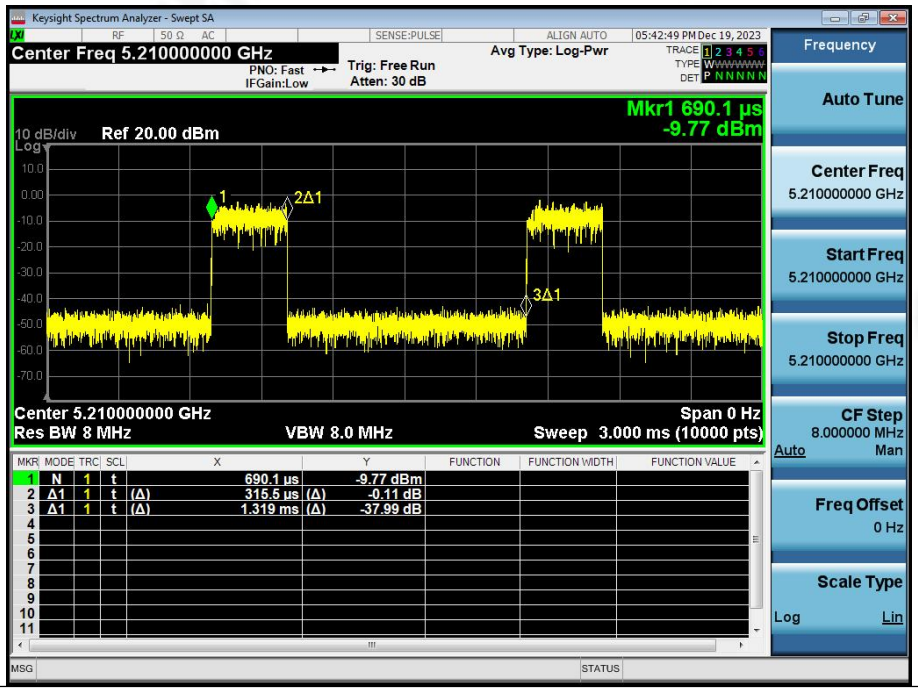
802.11ac20



802.11ac40



802.11ac80



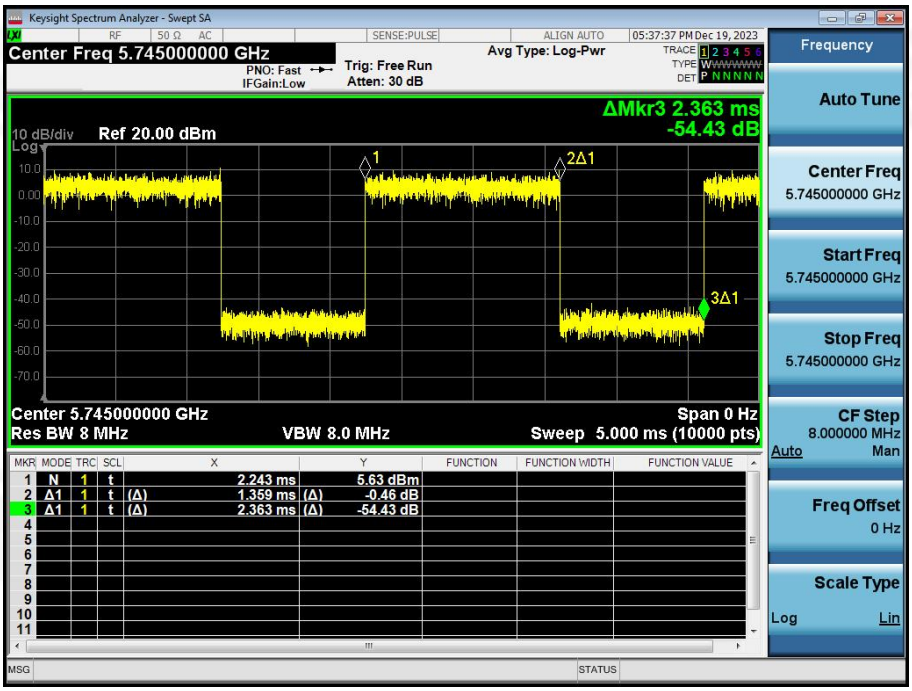
Note: All channel have been tested, and the report only reflects the worst case data.

Duty Cycle= Ton /Total*100%

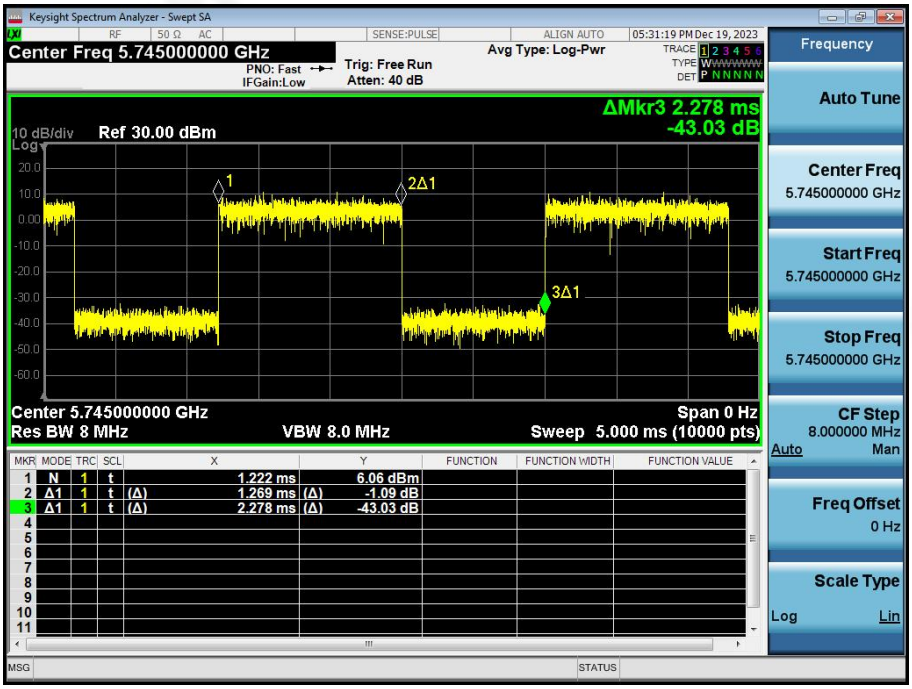
Duty Cycle Correction Factor = 10log (1/Duty Cycle)

5.8G				
Mode	Frequency (MHz)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Result
802.11a	5745	57.51	2.40	Pass
802.11n20	5745	55.71	2.54	Pass
802.11n40	5755	38.64	4.13	Pass
802.11ac20	5745	55.87	2.53	Pass
802.11ac40	5755	38.79	4.11	Pass
802.11ac80	5775	23.85	6.23	Pass

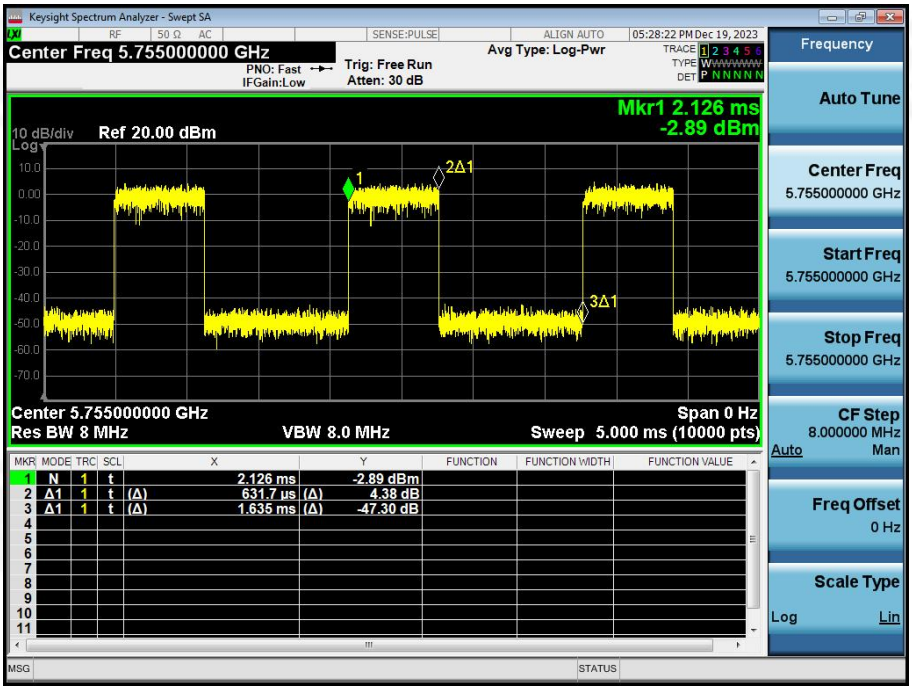
802.11a



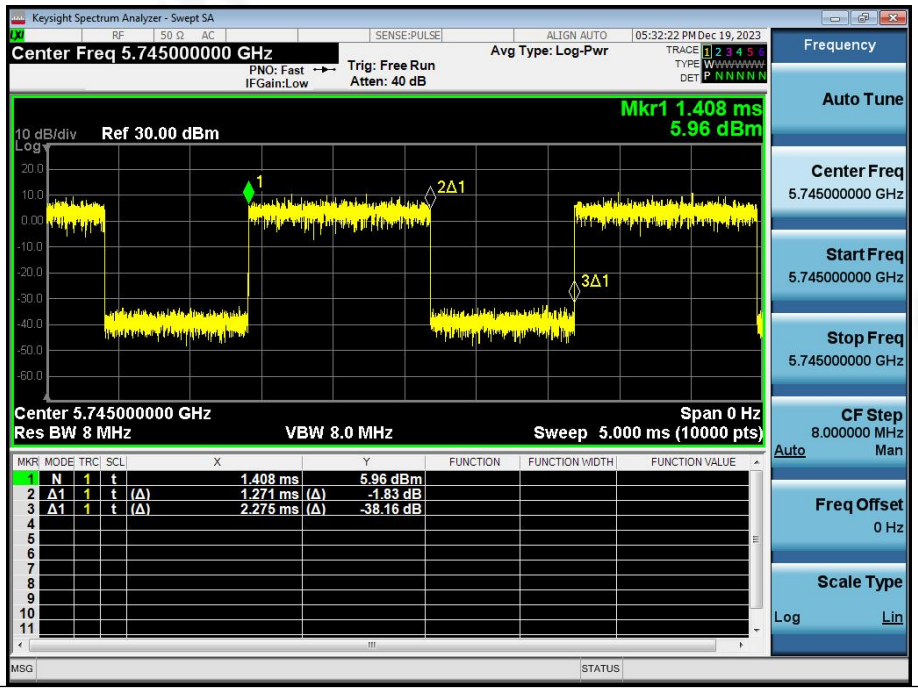
802.11n20



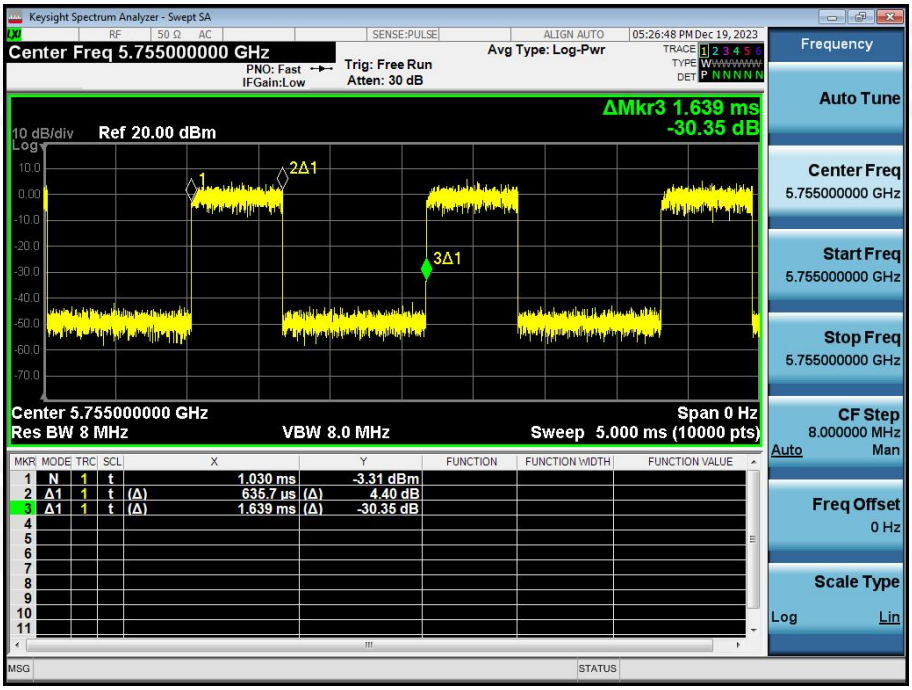
802.11n40



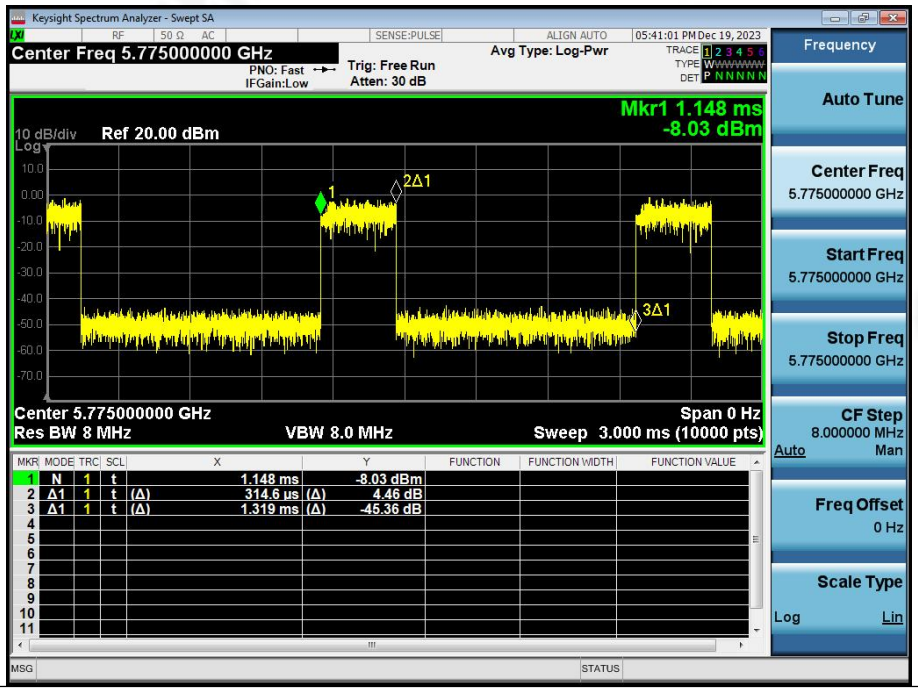
802.11ac20



802.11ac40



802.11ac80



Note: All channel have been tested, and the report only reflects the worst case data.

Duty Cycle= Ton /Total*100%

Duty Cycle Correction Factor = 10log (1/Duty Cycle)

15. 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 External Antenna and no consideration of replacement. The best case gain of the antenna is 2.0 dBi.

※※※※※ END OF REPORT ※※※※※