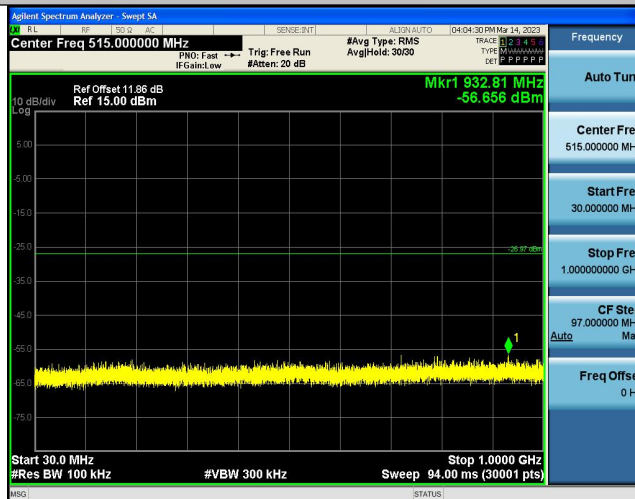
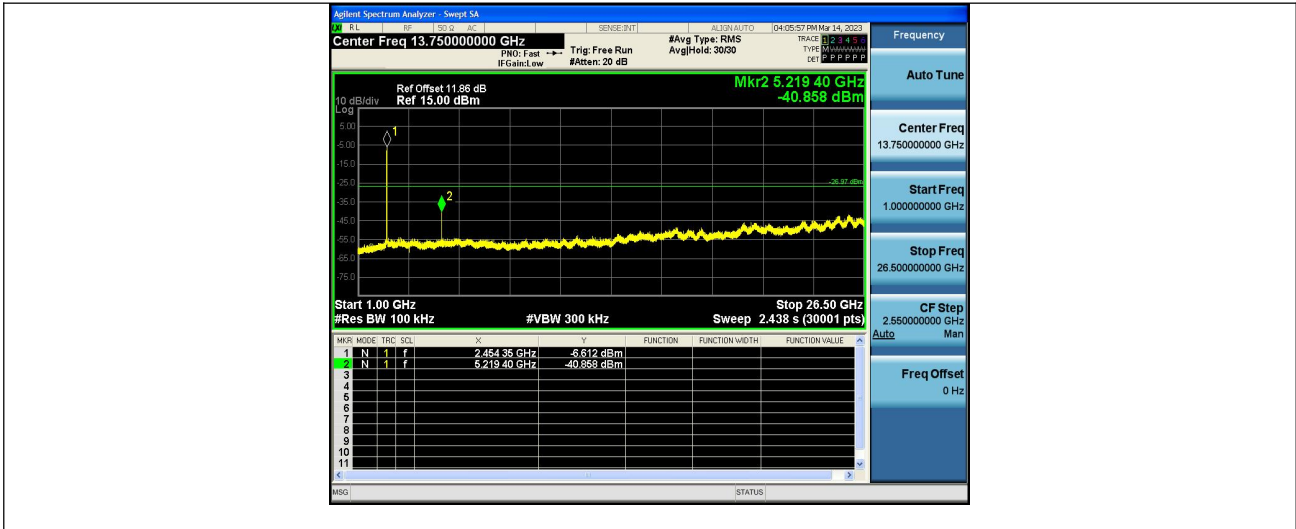




11N20SISO-Ant1-2462-30~1000--6.97



11N20SISO-Ant1-2462-1000~26500--6.97



Emissions in Restricted Bands

TestMode	Antenna	ChName	Frequency[MHz]	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
11B	Ant1	Low	2412	Peak	2390.000	-39.69	≤-21.20	55.51	≤74	PASS
11B	Ant1	Low	2412	Peak	2310.000	-38.84	≤-21.20	56.36	≤74	PASS
11B	Ant1	Low	2412	Peak	2387.620	-34.4	≤-21.20	60.80	≤74	PASS
11B	Ant1	Low	2412	AV	2390.000	-44.49	≤-41.20	50.71	≤54	PASS
11B	Ant1	Low	2412	AV	2310.000	-44.98	≤-41.20	50.22	≤54	PASS
11B	Ant1	Low	2412	AV	2388.010	-44.48	≤-41.20	50.72	≤54	PASS
11B	Ant1	High	2462	Peak	2483.500	-39.99	≤-21.20	55.21	≤74	PASS
11B	Ant1	High	2462	Peak	2500.000	-36.73	≤-21.20	58.47	≤74	PASS
11B	Ant1	High	2462	Peak	2490.710	-35.86	≤-21.20	59.34	≤74	PASS
11B	Ant1	High	2462	AV	2483.500	-44.39	≤-41.20	50.81	≤54	PASS
11B	Ant1	High	2462	AV	2500.000	-44.44	≤-41.20	50.76	≤54	PASS
11B	Ant1	High	2462	AV	2486.860	-44.33	≤-41.20	50.87	≤54	PASS
11G	Ant1	Low	2412	Peak	2390.000	-39	≤-21.20	56.20	≤74	PASS
11G	Ant1	Low	2412	Peak	2310.000	-41.34	≤-21.20	53.86	≤74	PASS
11G	Ant1	Low	2412	Peak	2331.330	-34.84	≤-21.20	60.36	≤74	PASS
11G	Ant1	Low	2412	AV	2390.000	-44.61	≤-41.20	50.59	≤54	PASS
11G	Ant1	Low	2412	AV	2310.000	-45.05	≤-41.20	50.15	≤54	PASS
11G	Ant1	Low	2412	AV	2389.700	-44.6	≤-41.20	50.60	≤54	PASS

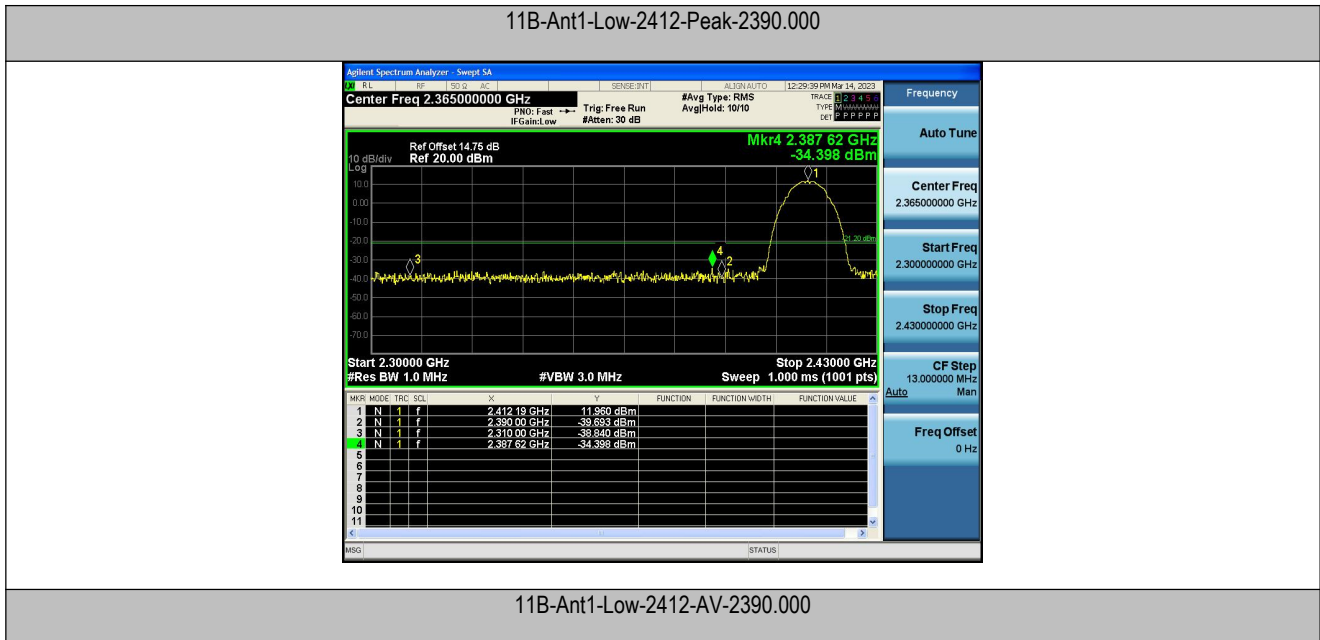


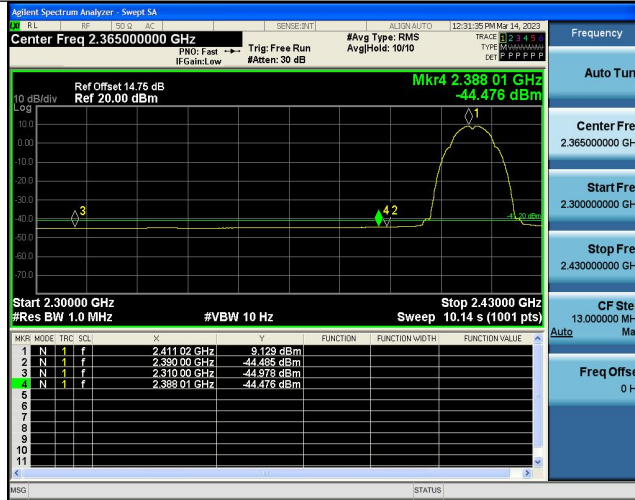
11G	Ant1	High	2462	Peak	2483.500	-38.9	≤-21.20	56.30	≤74	PASS
11G	Ant1	High	2462	Peak	2500.000	-40.73	≤-21.20	54.47	≤74	PASS
11G	Ant1	High	2462	Peak	2485.540	-36.02	≤-21.20	59.18	≤74	PASS
11G	Ant1	High	2462	AV	2483.500	-44.42	≤-41.20	50.78	≤54	PASS
11G	Ant1	High	2462	AV	2500.000	-44.51	≤-41.20	50.69	≤54	PASS
11G	Ant1	High	2462	AV	2483.890	-44.43	≤-41.20	50.77	≤54	PASS
11N20SISO	Ant1	Low	2412	Peak	2390.000	-40.97	≤-21.20	54.23	≤74	PASS
11N20SISO	Ant1	Low	2412	Peak	2310.000	-38.35	≤-21.20	56.85	≤74	PASS
11N20SISO	Ant1	Low	2412	Peak	2323.920	-35.07	≤-21.20	60.13	≤74	PASS
11N20SISO	Ant1	Low	2412	AV	2390.000	-44.55	≤-41.20	50.65	≤54	PASS
11N20SISO	Ant1	Low	2412	AV	2310.000	-45.01	≤-41.20	50.19	≤54	PASS
11N20SISO	Ant1	Low	2412	AV	2389.960	-44.55	≤-41.20	50.65	≤54	PASS
11N20SISO	Ant1	High	2462	Peak	2483.500	-42.3	≤-21.20	52.90	≤74	PASS
11N20SISO	Ant1	High	2462	Peak	2500.000	-39.81	≤-21.20	55.39	≤74	PASS
11N20SISO	Ant1	High	2462	Peak	2495.660	-35.88	≤-21.20	59.32	≤74	PASS
11N20SISO	Ant1	High	2462	AV	2483.500	-44.37	≤-41.20	50.83	≤54	PASS
11N20SISO	Ant1	High	2462	AV	2500.000	-44.5	≤-41.20	50.70	≤54	PASS
11N20SISO	Ant1	High	2462	AV	2483.560	-44.37	≤-41.20	50.83	≤54	PASS

Note:

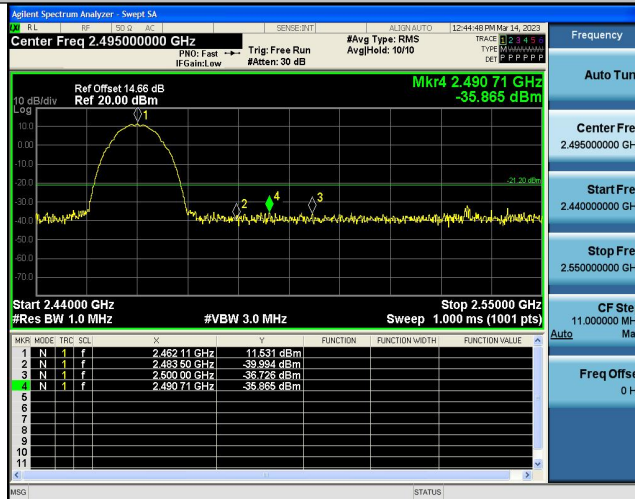
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

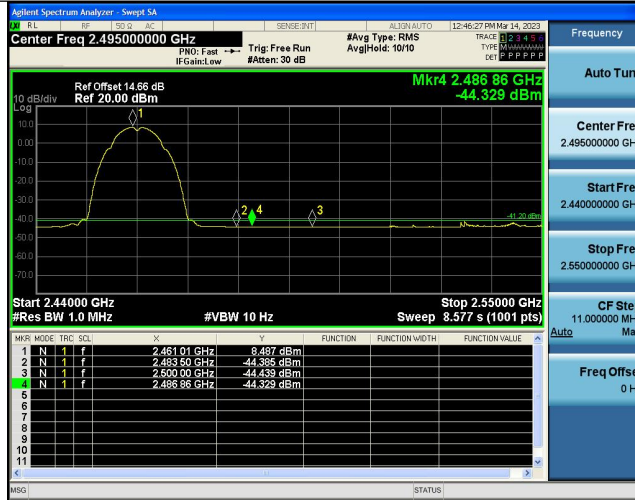




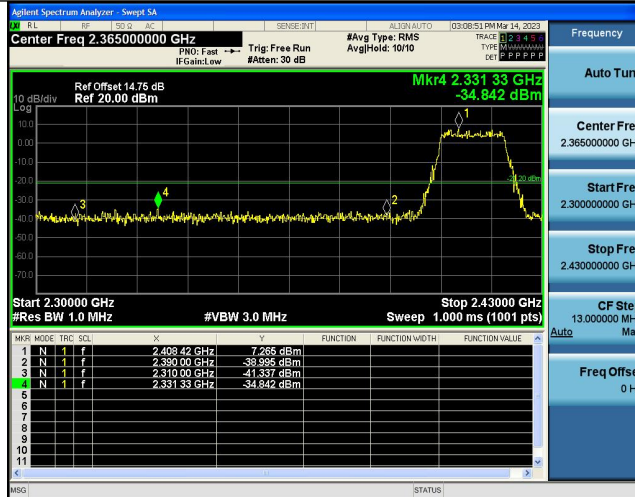
11B-Ant1-High-2462-Peak-2483.500



11B-Ant1-High-2462-AV-2483.500



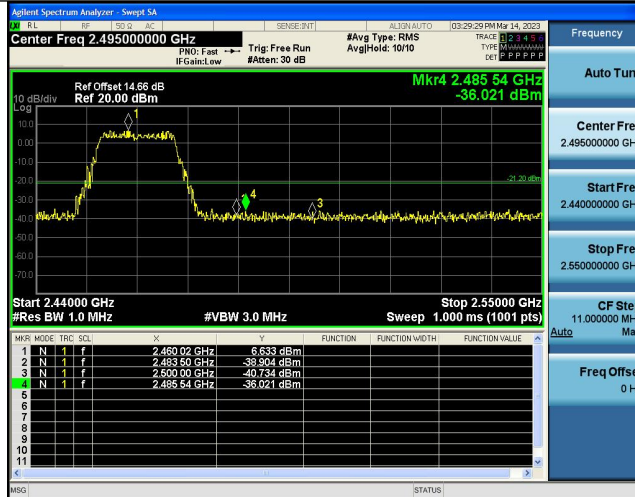
11G-Ant1-Low-2412-Peak-2390.000



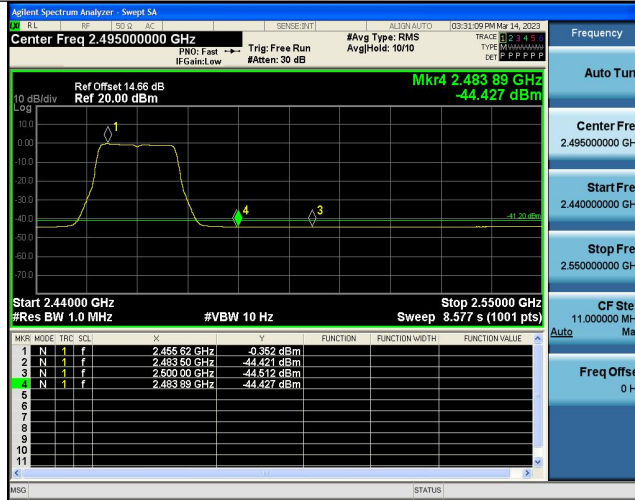
11G-Ant1-Low-2412-AV-2390.000



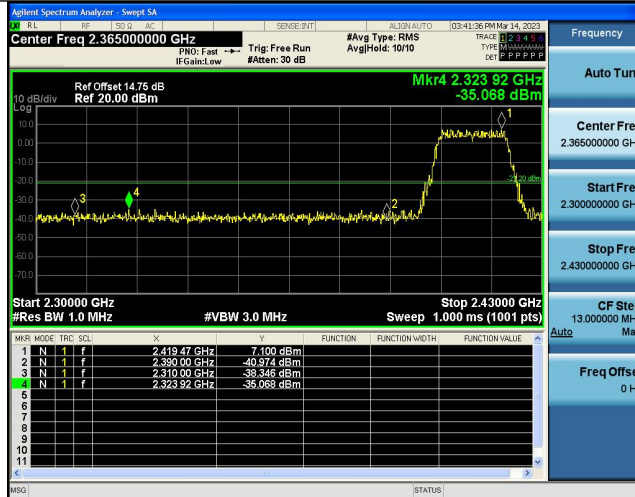
11G-Ant1-High-2462-Peak-2483.500



11G-Ant1-High-2462-AV-2483.500



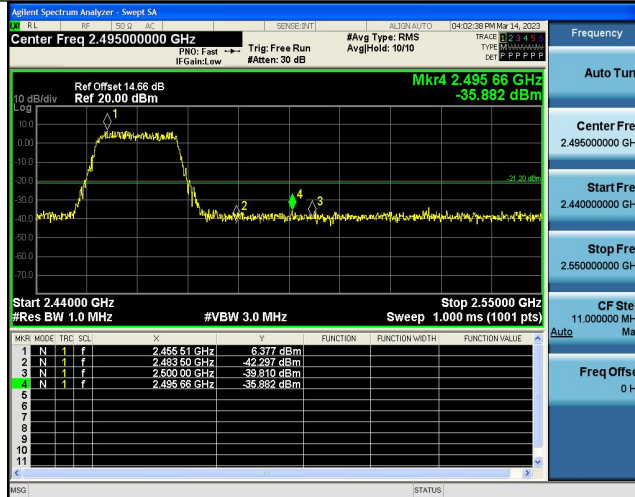
11N20SISO-Ant1-Low-2412-Peak-2390.000



11N20SISO-Ant1-Low-2412-AV-2390.000

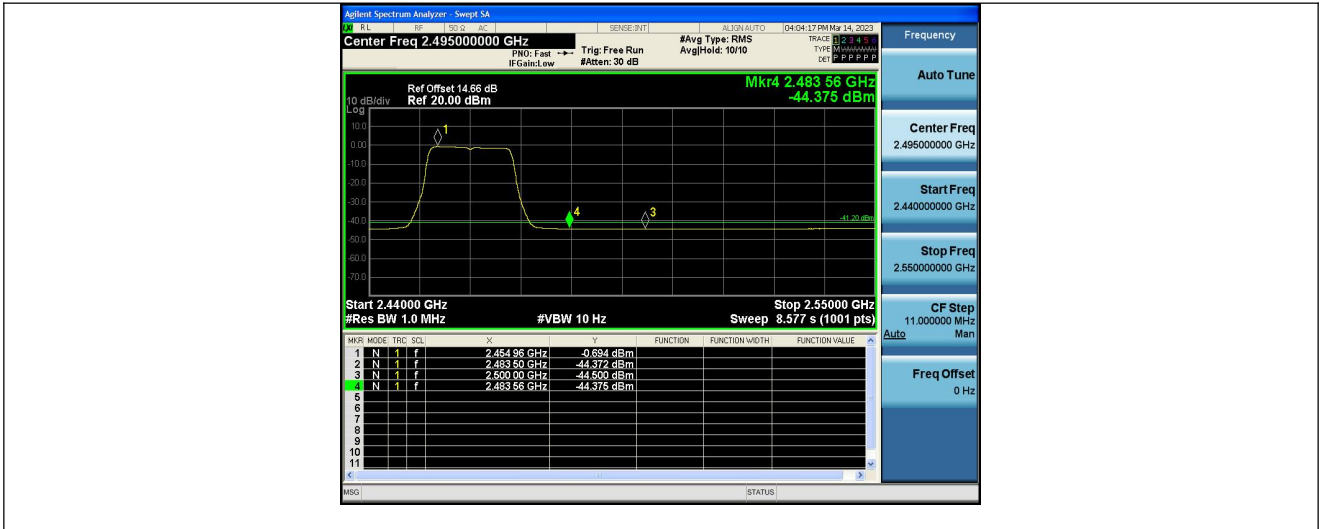


11N20SISO-Ant1-High-2462-Peak-2483.500



11N20SISO-Ant1-High-2462-AV-2483.500





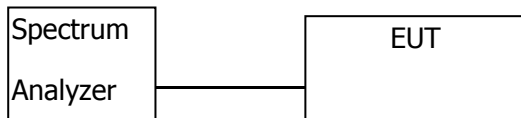


## 8 Band Edge Measurement

- Test Requirement : Section 15.247(d) In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).
- Test Method : ANSI C63.10:2013
- Test Limit : Regulation 15.247 (d), In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

### 8.1 Test Procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;
2. Set the spectrum analyzer: RBW = 100kHz, VBW = 300kHz, Sweep = auto  
Detector function = peak, Trace = max hold
3. Set up:



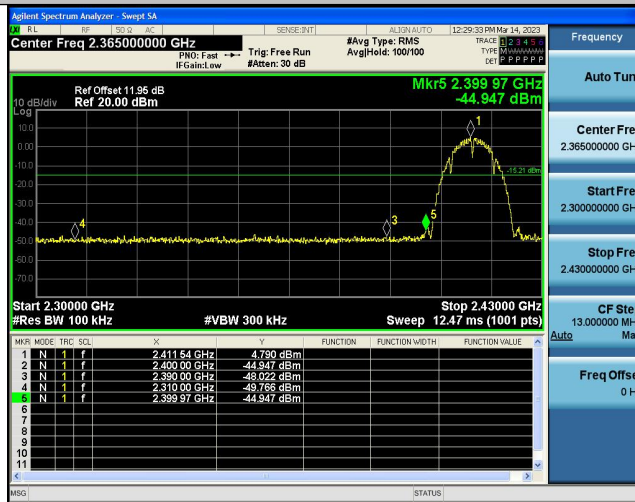


### 8.2 Test Result

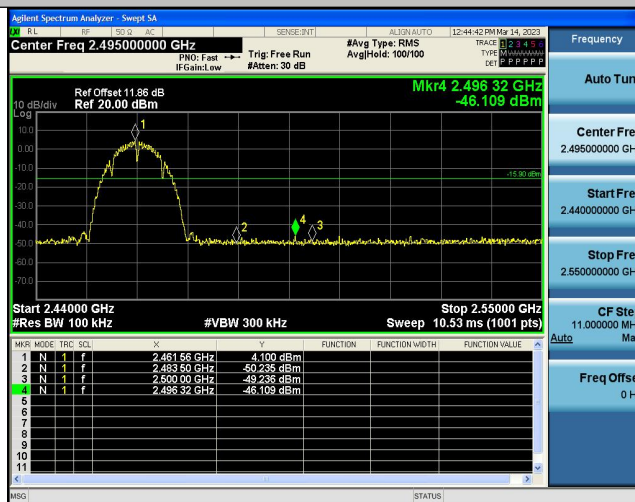
TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	4.79	-44.95	≤-15.21	PASS
11B	Ant1	High	2462	4.10	-46.11	≤-15.9	PASS
11G	Ant1	Low	2412	-5.99	-41.61	≤-25.99	PASS
11G	Ant1	High	2462	-6.58	-45.97	≤-26.58	PASS
11N20SISO	Ant1	Low	2412	-6.16	-41.89	≤-26.16	PASS
11N20SISO	Ant1	High	2462	-6.22	-46.19	≤-26.22	PASS

### Test Graphs

11B-Ant1-Low-2412-4.79

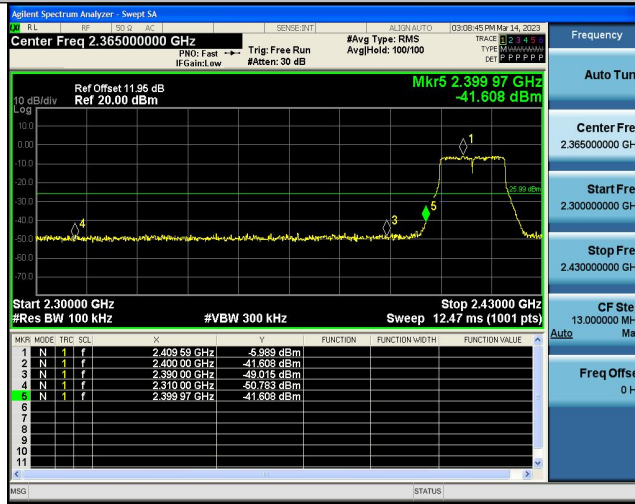


11B-Ant1-High-2462-4.10

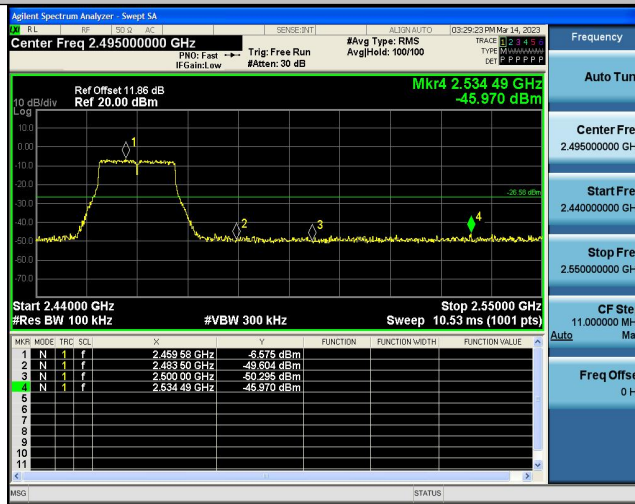




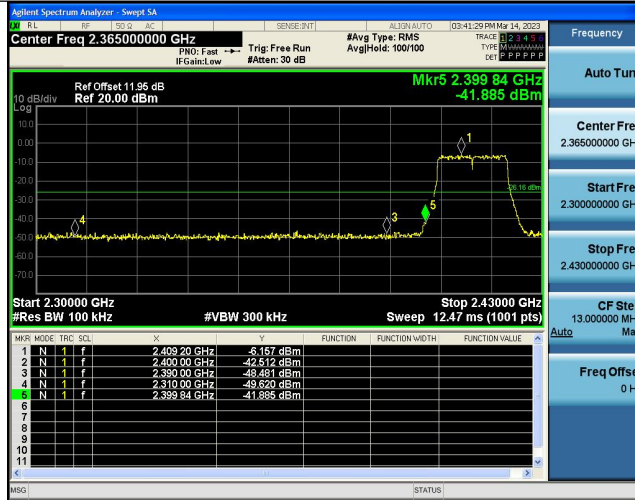
11G-Ant1-Low-2412--5.99



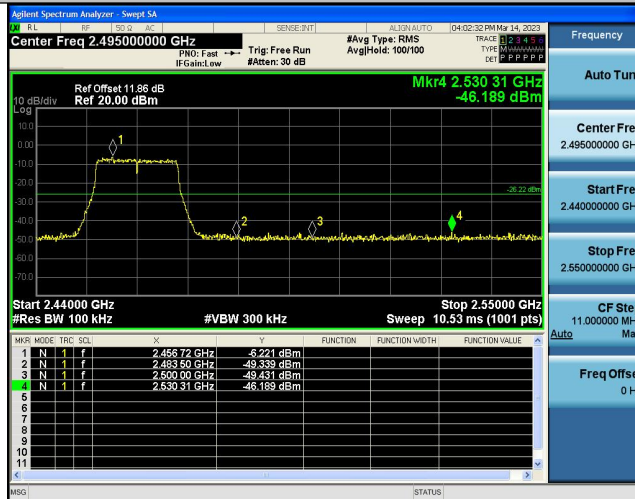
11G-Ant1-High-2462--6.58



11N20SISO-Ant1-Low-2412--6.16



11N20SISO-Ant1-High-2462-6.22





## 9 6dB Bandwidth Measurement

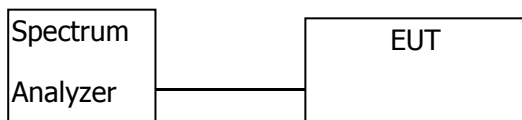
Test Requirement : FCC CFR47 Part 15 Section 15.247

Test Method : ANSI C63.10:2013

Test Limit : Systems using digital modulation techniques may operate in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

### 9.1 Test Procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;
2. Set the spectrum analyzer: RBW = 100kHz, VBW = 300kHz
3. Set up:



### 9.2 Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	9.040	2407.560	2416.600	0.5	PASS
11B	Ant1	2437	9.040	2432.520	2441.560	0.5	PASS
11B	Ant1	2462	9.040	2457.520	2466.560	0.5	PASS
11G	Ant1	2412	16.560	2403.760	2420.320	0.5	PASS
11G	Ant1	2437	16.560	2428.760	2445.320	0.5	PASS
11G	Ant1	2462	16.560	2453.760	2470.320	0.5	PASS
11N20SISO	Ant1	2412	17.760	2403.160	2420.920	0.5	PASS
11N20SISO	Ant1	2437	17.760	2428.160	2445.920	0.5	PASS
11N20SISO	Ant1	2462	17.720	2453.160	2470.880	0.5	PASS

#### Test Graphs

11B-Ant1-2412



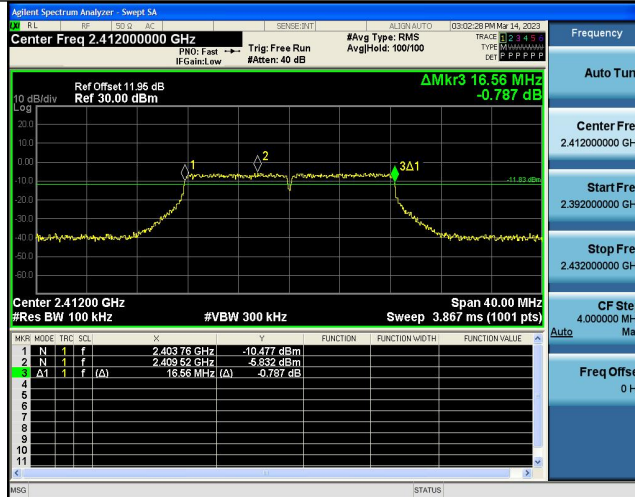
11B-Ant1-2437



11B-Ant1-2462

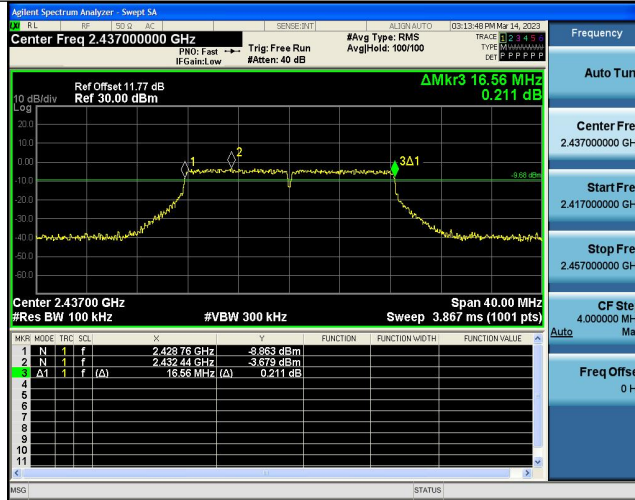


11G-Ant1-2412



11G-Ant1-2437

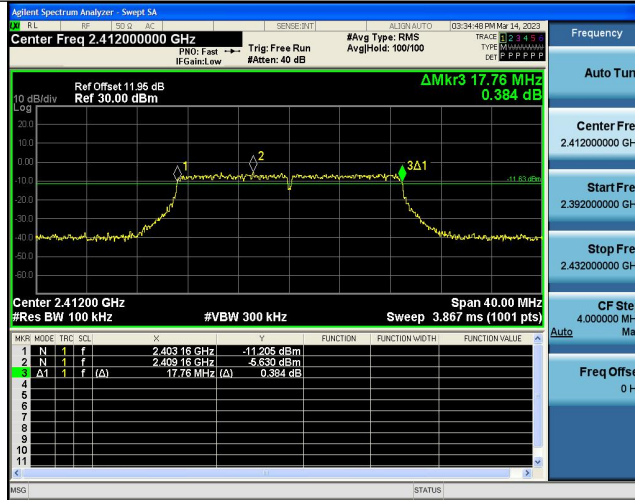




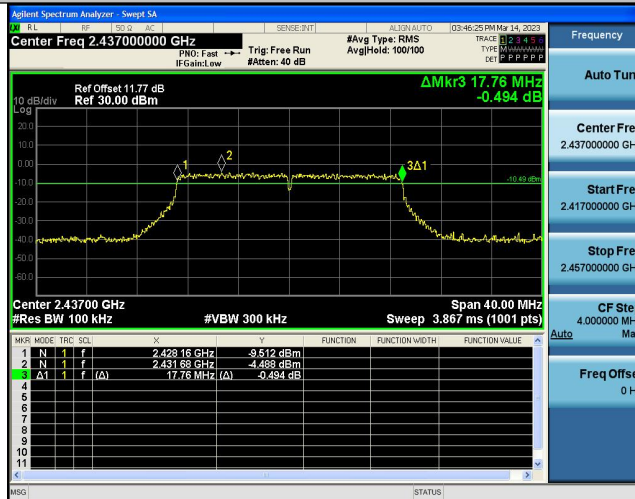
11G-Ant1-2462



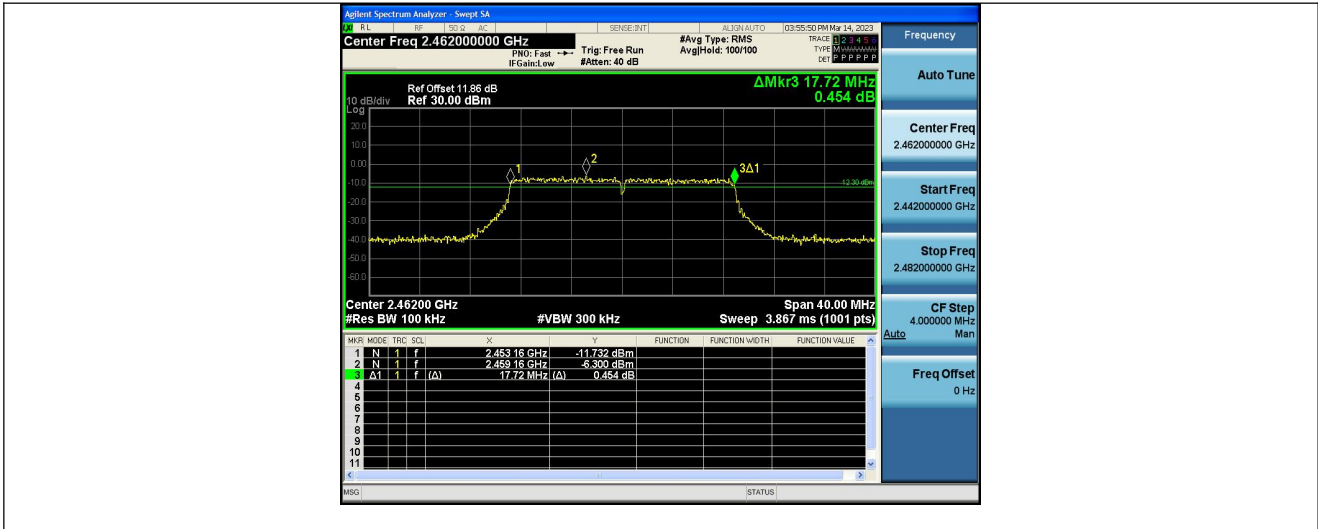
11N20SISO-Ant1-2412



11N20SISO-Ant1-2437



11N20SISO-Ant1-2462



### Occupied Channel Bandwidth

TestMode	Antenna	Channel Frequency [MHz]	OCB [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11B	Ant1	2412	13.628	2405.2424	2418.8704	---	---
11B	Ant1	2437	13.576	2430.2131	2443.7891	---	---
11B	Ant1	2462	13.600	2455.1900	2468.7900	---	---
11G	Ant1	2412	17.128	2403.4178	2420.5458	---	---
11G	Ant1	2437	17.115	2428.3730	2445.4880	---	---
11G	Ant1	2462	17.173	2453.3190	2470.4920	---	---
11N20SISO	Ant1	2412	18.093	2402.9959	2421.0889	---	---
11N20SISO	Ant1	2437	18.066	2427.9782	2446.0442	---	---
11N20SISO	Ant1	2462	18.111	2452.9377	2471.0487	---	---



Test Graphs

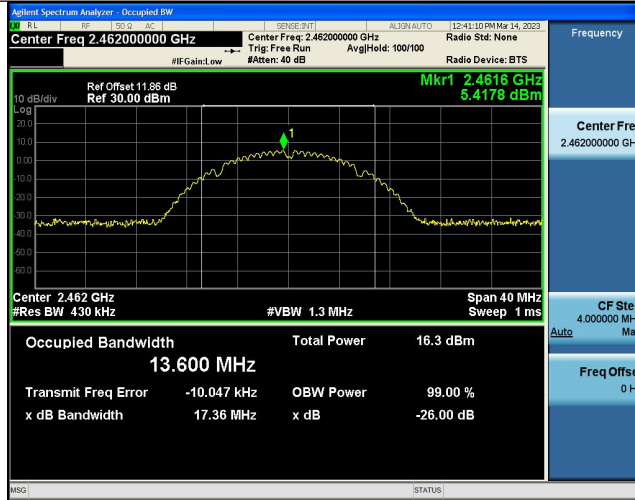
11B-Ant1-2412



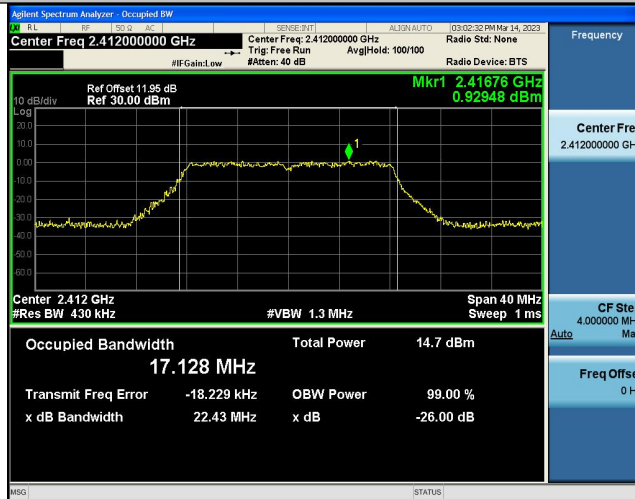
11B-Ant1-2437



11B-Ant1-2462



11G-Ant1-2412



11G-Ant1-2437