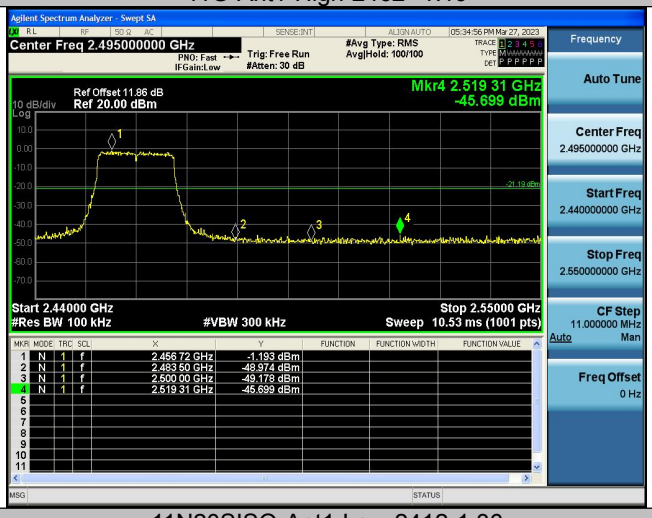
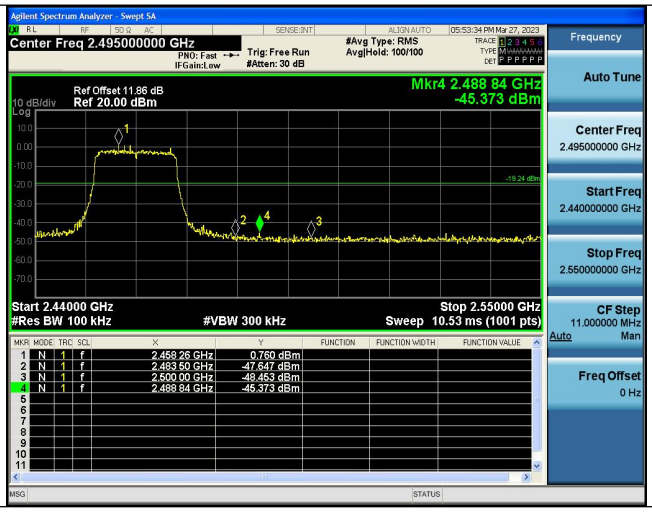
11G-Ant1-High-2462--1.19



11N20SISO-Ant1-Low-2412-1.36

11N20SISO-Ant1-High-2462-0.76


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.495000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 100/100
05:53:34 PM Mar 27, 2023
Ref Offset 11.86 dB
10 dB/div
Ref 20.00 dBm
Mkr4 2.488 84 GHz
-45.373 dBm
-19.24 dBm
Start 2.44000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.55000 GHz
Sweep 10.53 ms (1001 pts)
1 N 1 f 2.458 26 GHz 0.760 dBm
2 N 1 f 2.483 50 GHz -47.647 dBm
3 N 1 f 2.500 00 GHz -48.453 dBm
4 N 1 f 2.488 84 GHz -45.373 dBm
Frequency
Auto Tune
Center Freq
2.495000000 GHz
Start Freq
2.440000000 GHz
Stop Freq
2.550000000 GHz
CF Step
11.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

9 6dB Bandwidth Measurement

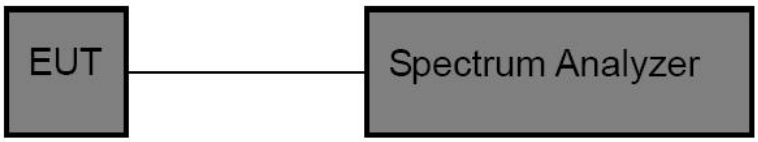
Test Requirement	:	FCC CFR47 Part 15 Section 15.247
Test Method	:	ANSI C63.10:2013
Test Limit		Systems using digital modulation techniques may operate in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

9.1Test 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

9.2Test Setup



9.3Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	9.600	2407.440	2417.040	0.5	PASS
11B	Ant1	2437	9.040	2432.480	2441.520	0.5	PASS
11B	Ant1	2462	9.600	2456.960	2466.560	0.5	PASS
11G	Ant1	2412	16.400	2403.800	2420.200	0.5	PASS
11G	Ant1	2437	16.520	2428.720	2445.240	0.5	PASS
11G	Ant1	2462	16.400	2453.760	2470.160	0.5	PASS
11N20SISO	Ant1	2412	16.960	2403.440	2420.400	0.5	PASS
11N20SISO	Ant1	2437	17.240	2428.240	2445.480	0.5	PASS
11N20SISO	Ant1	2462	16.480	2453.640	2470.120	0.5	PASS

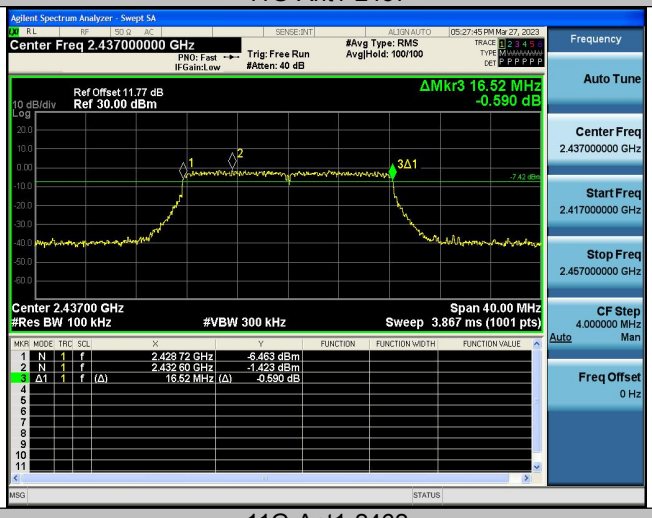
11B-Ant1-2412

11B-Ant1-2437

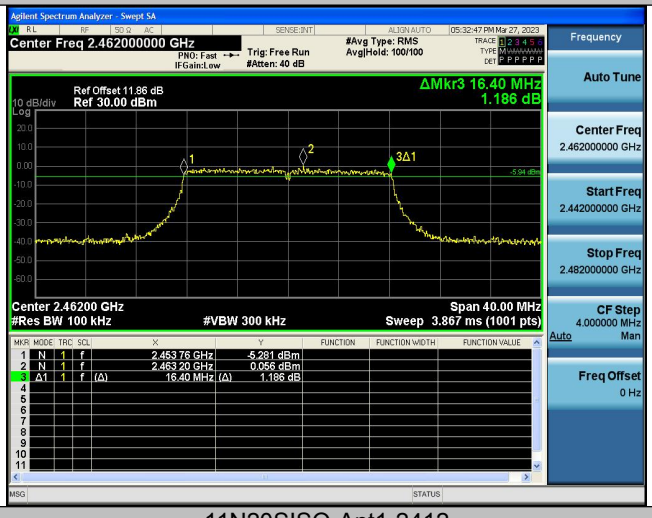
11B-Ant1-2462

11G-Ant1-2412

11G-Ant1-2437

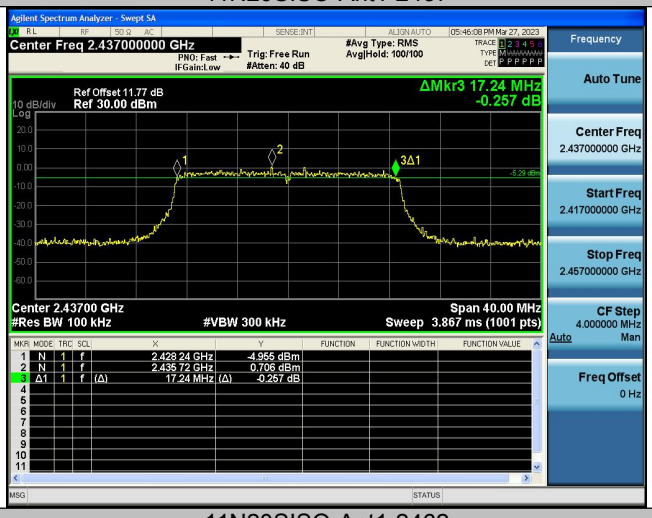


11G-Ant1-2462



11N20SISO-Ant1-2412

11N20SISO-Ant1-2437



11N20SISO-Ant1-2462

10 Maximum conducted output power

Test Requirement : FCC CFR47 Part 15 Section 15.247

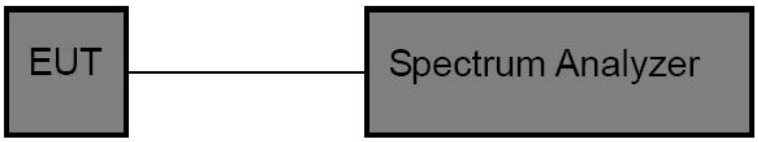
Test Method : ANSI C63.10:2013

Test Limit : Regulation 15.247 (b)(3), For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power.

10.1Test Procedure

1. The testing follows the Measurement Procedure of FCC KDB No. 558074 D01 15.247 Meas Guidance v05 section 8.3.2.2.
2. The RF output of EUT Connect the antenna port(s) to the spectrum analyzer input. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Measure the conducted output power and record the results in the test report.

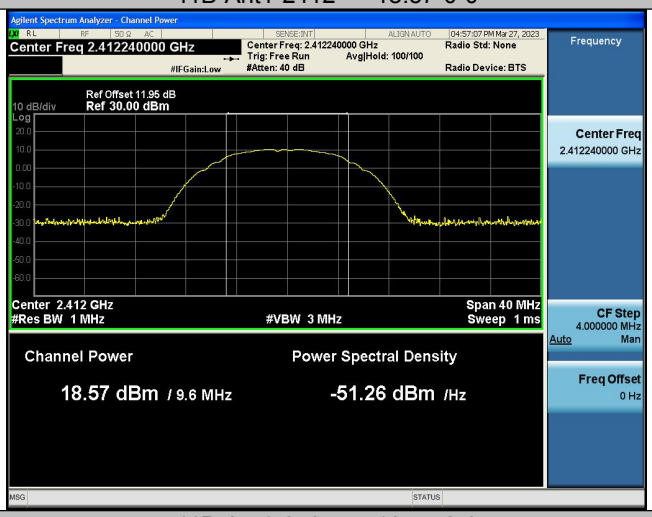
10.2Test Setup



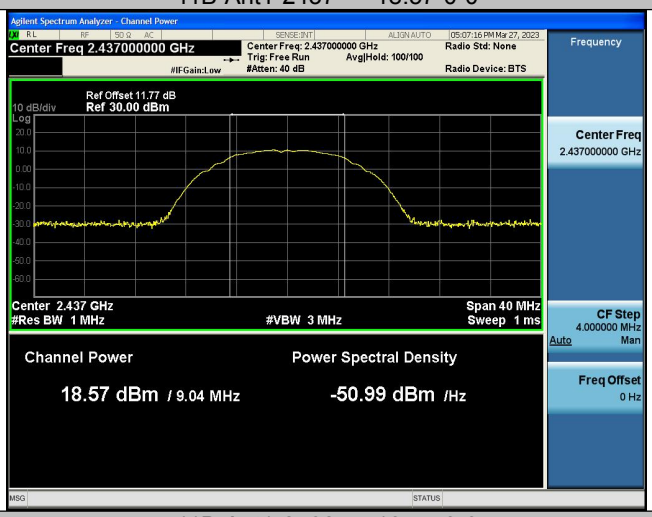
10.3Test Result

TestMode	Antenna	Frequency[MHz]	Set Power	Peak Powert[dBm]	Conducted Limit[dBm]	Verdict
11B	Ant1	2412	---	18.57	≤30.00	PASS
11B	Ant1	2437	---	18.57	≤30.00	PASS
11B	Ant1	2462	---	18.74	≤30.00	PASS
11G	Ant1	2412	---	19.76	≤30.00	PASS
11G	Ant1	2437	---	19.92	≤30.00	PASS
11G	Ant1	2462	---	19.99	≤30.00	PASS
11N20SISO	Ant1	2412	---	19.74	≤30.00	PASS
11N20SISO	Ant1	2437	---	19.85	≤30.00	PASS
11N20SISO	Ant1	2462	---	19.91	≤30.00	PASS

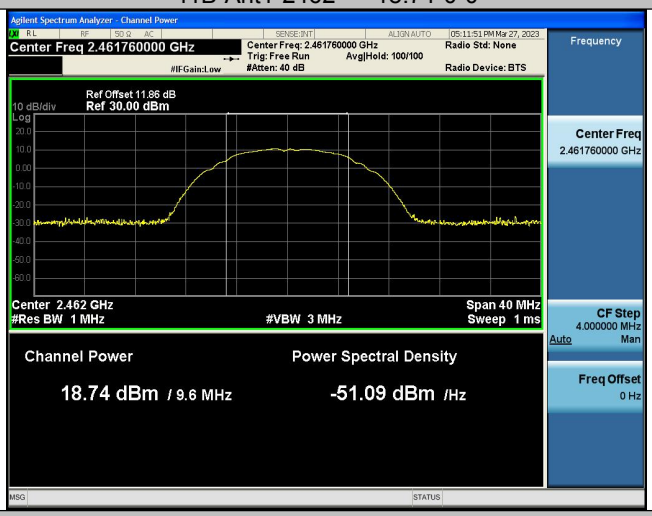
11B-Ant1-2412-----18.57-0-0



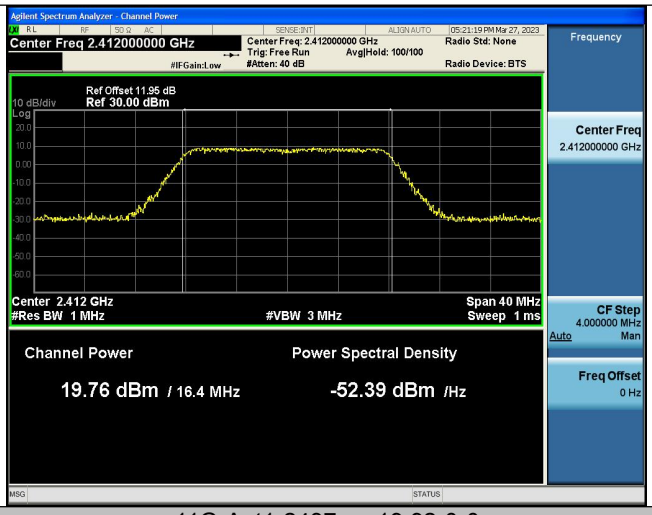
11B-Ant1-2437-----18.57-0-0



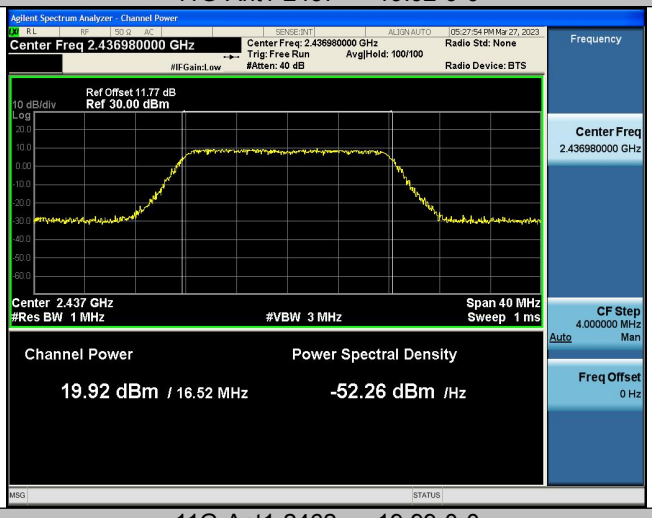
11B-Ant1-2462-----18.74-0-0



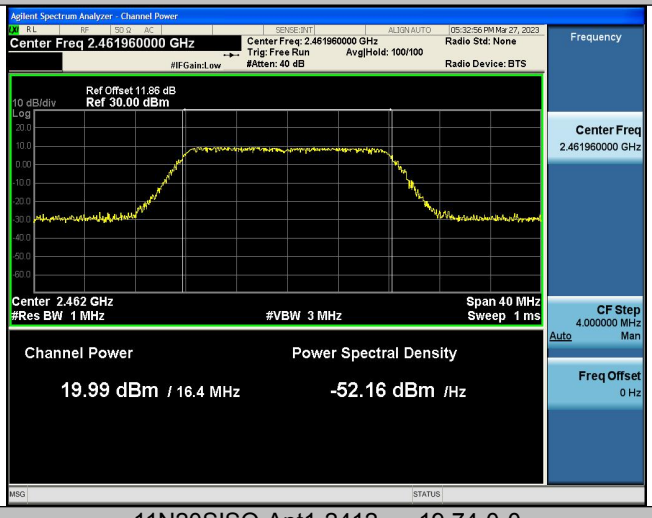
11G-Ant1-2412-----19.76-0-0



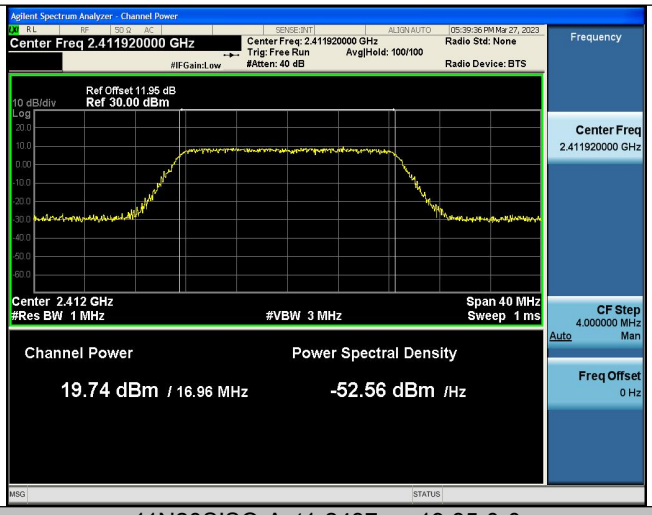
11G-Ant1-2437-----19.92-0-0



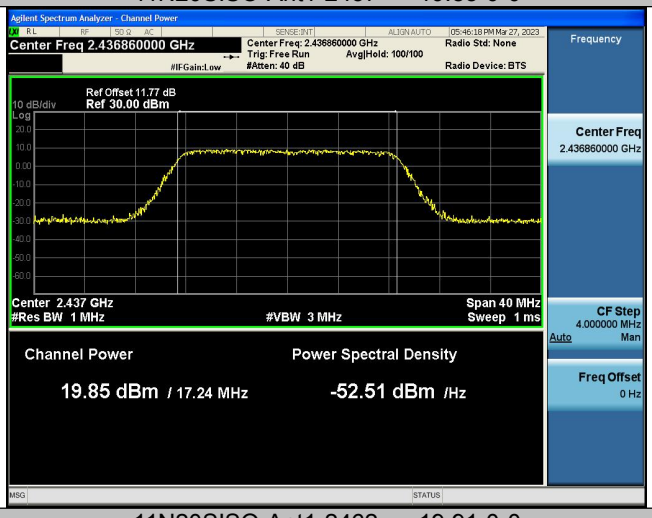
11G-Ant1-2462-----19.99-0-0



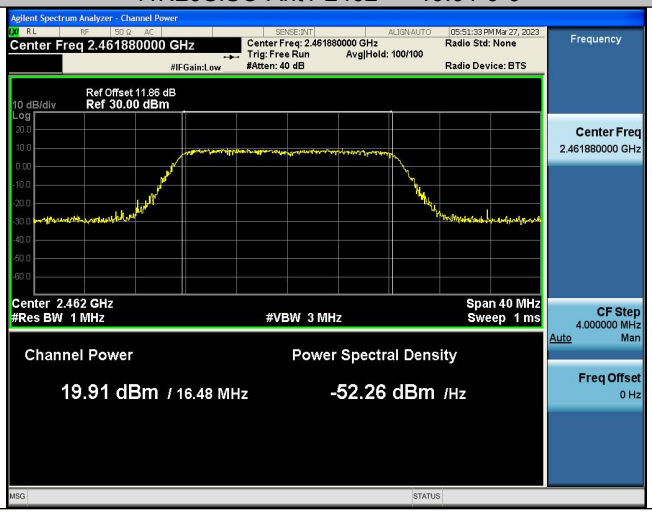
11N20SISO-Ant1-2412-----19.74-0-0



11N20SISO-Ant1-2437-----19.85-0-0



11N20SISO-Ant1-2462-----19.91-0-0



11 Power Spectral density

Test Requirement : FCC CFR47 Part 15 Section 15.247

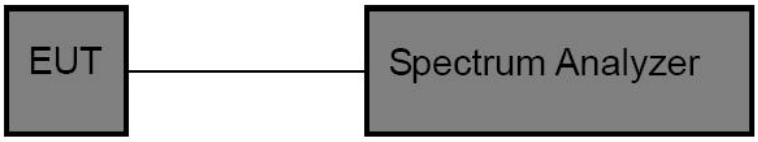
Test Method : ANSI C63.10:2013

Test Limit : Regulation 15.247(f) The power spectral density conducted from the intentional radiator to the antenna due to the digital modulation operation of the hybrid system, with the frequency hopping operation turned off, shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

11.1Test Procedure

1. Connect the antenna port(s) to the spectrum analyzer input.
2. Configure the spectrum analyzer as shown below:
   Center frequency=DTS channel center frequency
   Span = 1.5 times the DTS bandwidth
   RBW = 3KHz, VBW = 10KHz
   Sweep time = auto couple
   Detector = peak
   Trace mode =max hold
3. Place the radio in continuous transmit mode, allow the trace to stabilize, view the transmitter wave form on the spectrum analyzer.
4. Use the peak marker function to determine the maximum amplitude level within the RBW.
5. If measured value exceeds limit, reduce RBW(no less than 3KHz) and repeat.

11.2Test Setup



11.3Test Result

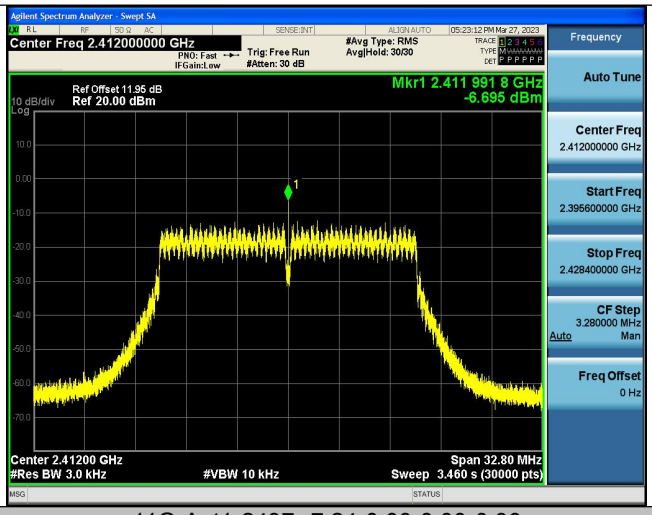
TestMode	Antenna	Frequency[MHz]	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-5.06	≤8.00	PASS
11B	Ant1	2437	-6.24	≤8.00	PASS
11B	Ant1	2462	-6.46	≤8.00	PASS
11G	Ant1	2412	-6.7	≤8.00	PASS
11G	Ant1	2437	-7.24	≤8.00	PASS
11G	Ant1	2462	-7.5	≤8.00	PASS
11N20SISO	Ant1	2412	-6.98	≤8.00	PASS
11N20SISO	Ant1	2437	-7.22	≤8.00	PASS
11N20SISO	Ant1	2462	-7.75	≤8.00	PASS

11B-Ant1-2412--5.06-0.00-0.00-0.00

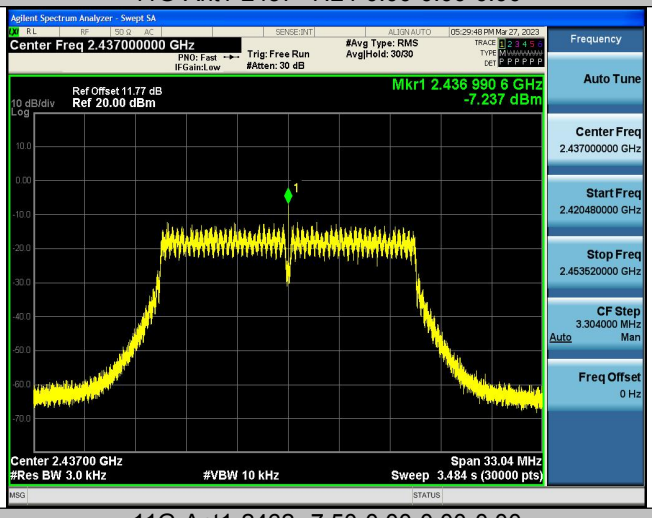
11B-Ant1-2437--6.24-0.00-0.00-0.00

11B-Ant1-2462--6.46-0.00-0.00-0.00

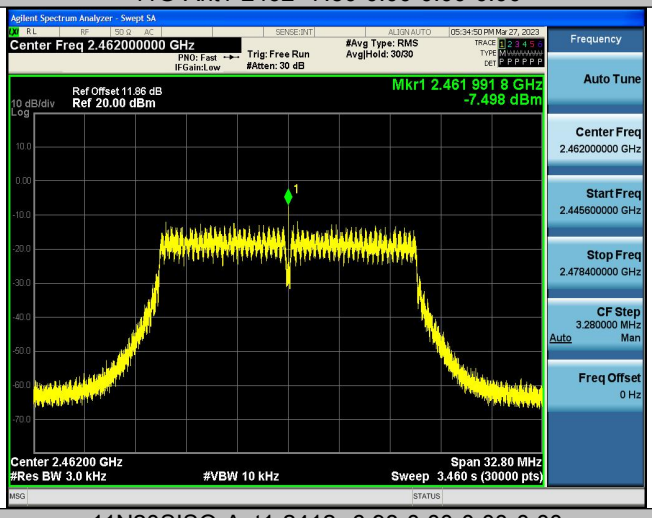
11G-Ant1-2412--6.70-0.00-0.00-0.00



11G-Ant1-2437--7.24-0.00-0.00-0.00



11G-Ant1-2462--7.50-0.00-0.00-0.00



11N20SISO-Ant1-2412--6.98-0.00-0.00-0.00