

### 7.3 MAXIMUM POWER SPECTRAL DENSITY

#### 7.3.1 Applicable Standard

According to FCC Part15.247(e) and KDB 558074 D01 15.247 Meas Guidance v05r02.

#### 7.3.2 Conformance Limit

The transmitter power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of section 5.4(d), (i.e. the power spectral density shall be determined using the same method as is used to determine the conducted output power).

#### 7.3.3 Test Configuration

Test according to clause 6.1 radio frequency test setup 1.

#### 7.3.4 Test Procedure

This procedure shall be used if maximum peak conducted output power was used to demonstrate compliance

The transmitter output (antenna port) was connected to the spectrum analyzer.

Set analyzer center frequency to DTS channel center frequency.

Set the span to 1.5 times the DTS bandwidth.

Set the RBW to: 3 kHz.

Set the VBW to: 10 kHz.

Set Detector = peak.

Set Sweep time = auto couple.

Set Trace mode = max hold.

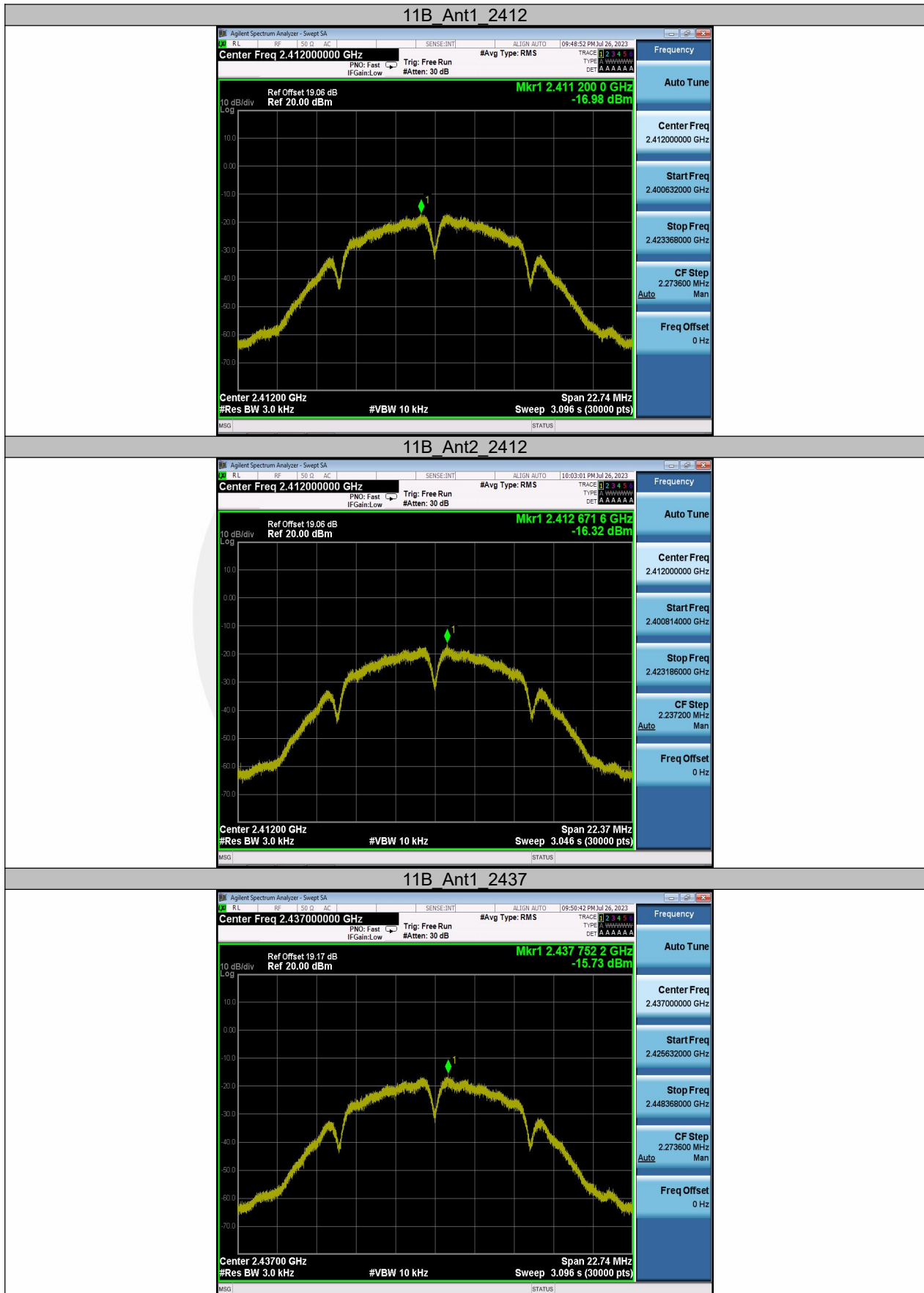
Allow trace to fully stabilize.

Use the peak marker function to determine the maximum amplitude level within the RBW.

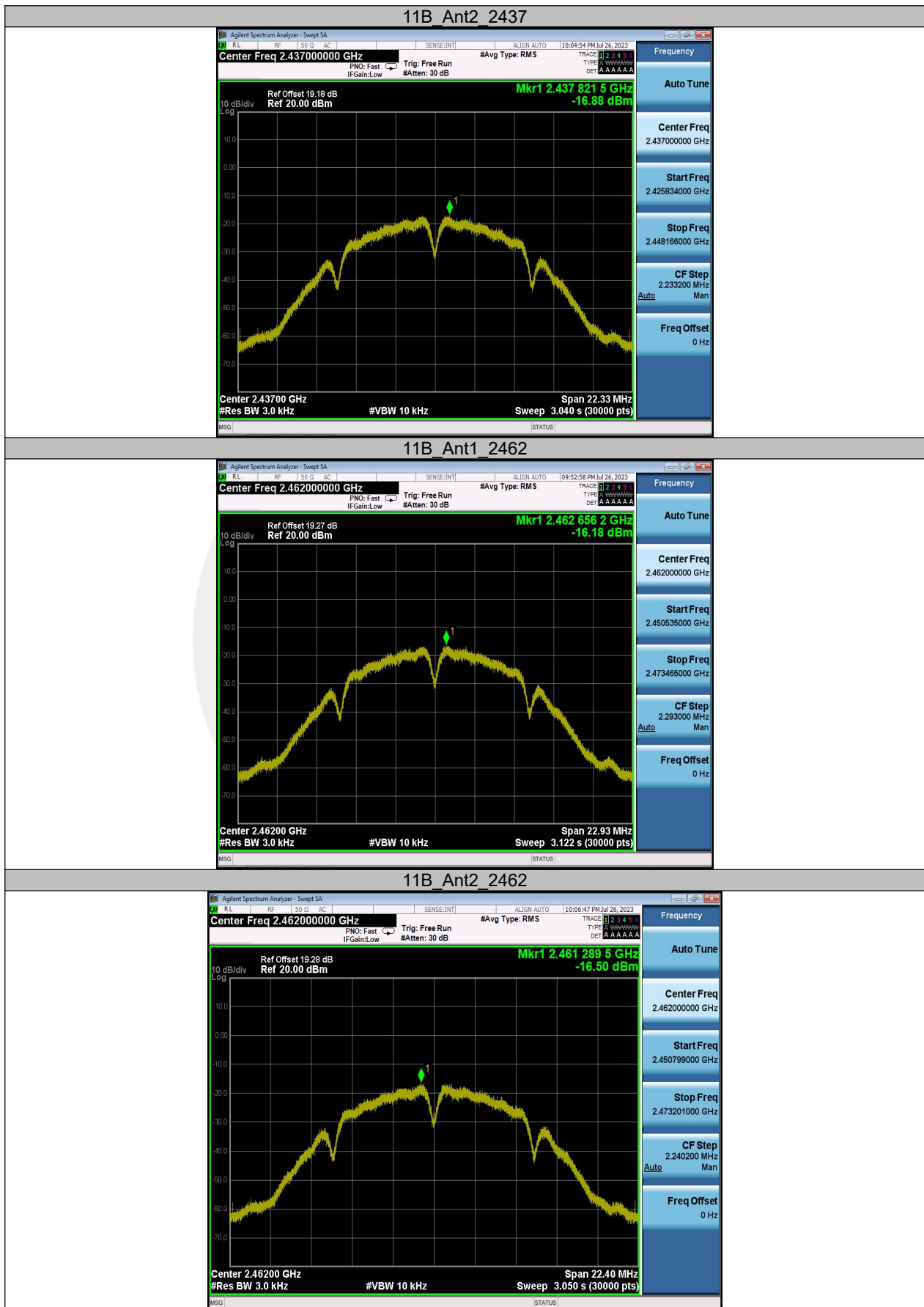
#### 7.3.5 Test Results

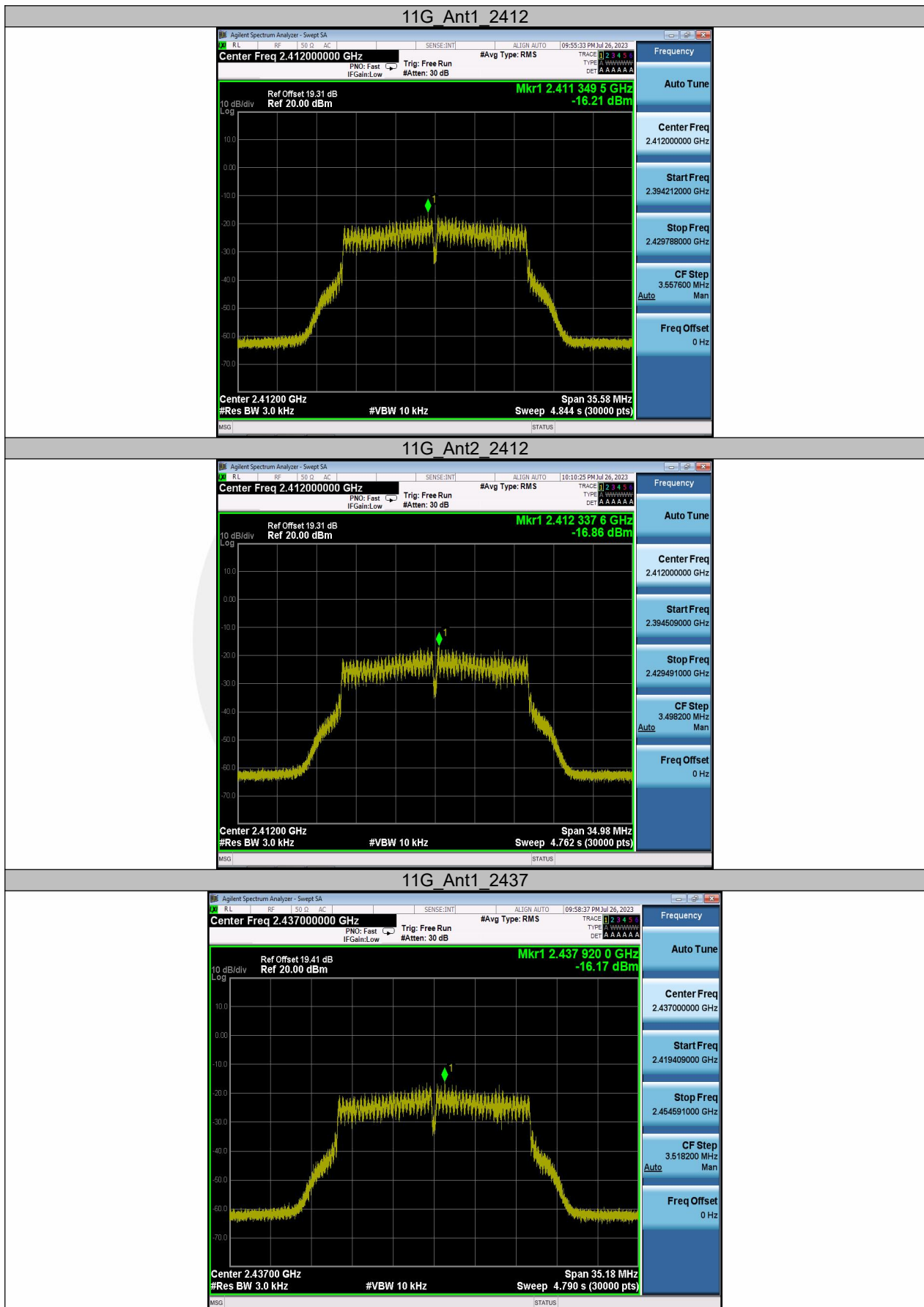
Temperature :	25°C	ATM Pressure::	1011 mbar
Humidity :	45 %	Test By:	ZXR

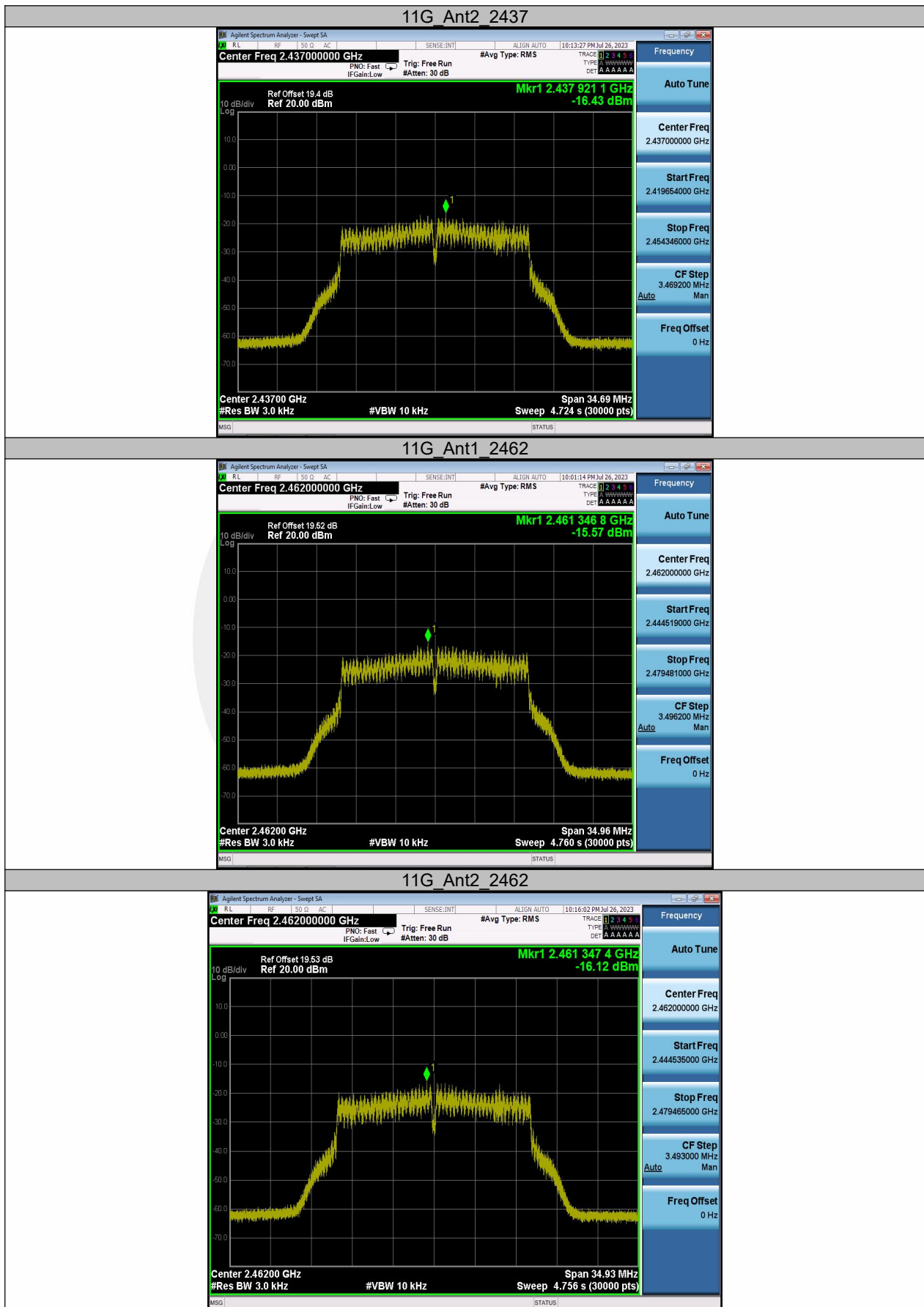
TestMode	Antenna	Frequency[MHz]	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-16.98	≤8.00	PASS
	Ant2	2412	-16.32	≤8.00	PASS
	Ant1	2437	-15.73	≤8.00	PASS
	Ant2	2437	-16.88	≤8.00	PASS
	Ant1	2462	-16.18	≤8.00	PASS
	Ant2	2462	-16.5	≤8.00	PASS
11G	Ant1	2412	-16.21	≤8.00	PASS
	Ant2	2412	-16.86	≤8.00	PASS
	Ant1	2437	-16.17	≤8.00	PASS
	Ant2	2437	-16.43	≤8.00	PASS
	Ant1	2462	-15.57	≤8.00	PASS
	Ant2	2462	-16.12	≤8.00	PASS
11N20MIMO	Ant1	2412	-18.72	≤8.00	PASS
	Ant2	2412	-18.97	≤8.00	PASS
	total	2412	-15.83	≤8.00	PASS
	Ant1	2437	-18.69	≤8.00	PASS
	Ant2	2437	-18.96	≤8.00	PASS
	total	2437	-15.81	≤8.00	PASS
	Ant1	2462	-17.86	≤8.00	PASS
	Ant2	2462	-18.93	≤8.00	PASS
	total	2462	-15.35	≤8.00	PASS
11AX20MIMO	Ant1	2412	-17.33	≤8.00	PASS
	Ant2	2412	-18.53	≤8.00	PASS
	total	2412	-14.88	≤8.00	PASS
	Ant1	2437	-18.23	≤8.00	PASS
	Ant2	2437	-18.74	≤8.00	PASS
	total	2437	-15.47	≤8.00	PASS
	Ant1	2462	-16.59	≤8.00	PASS
	Ant2	2462	-17.62	≤8.00	PASS
	total	2462	-14.06	≤8.00	PASS



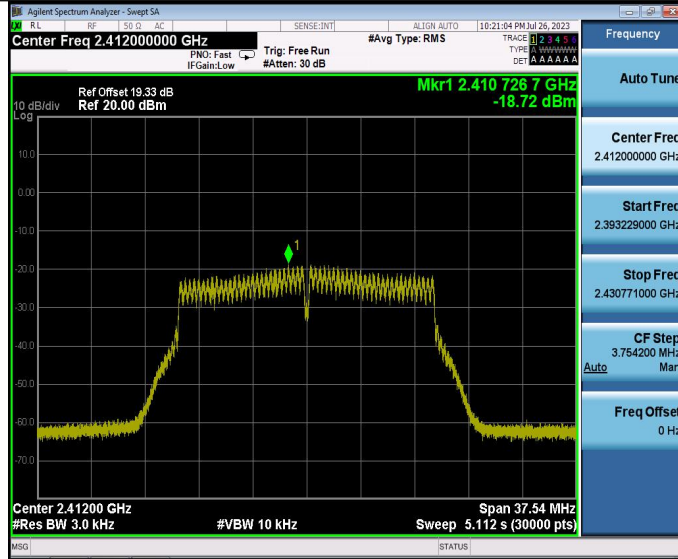




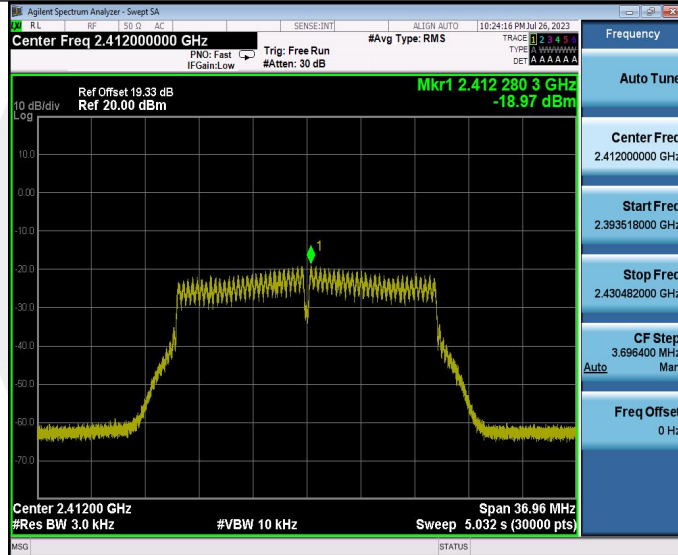




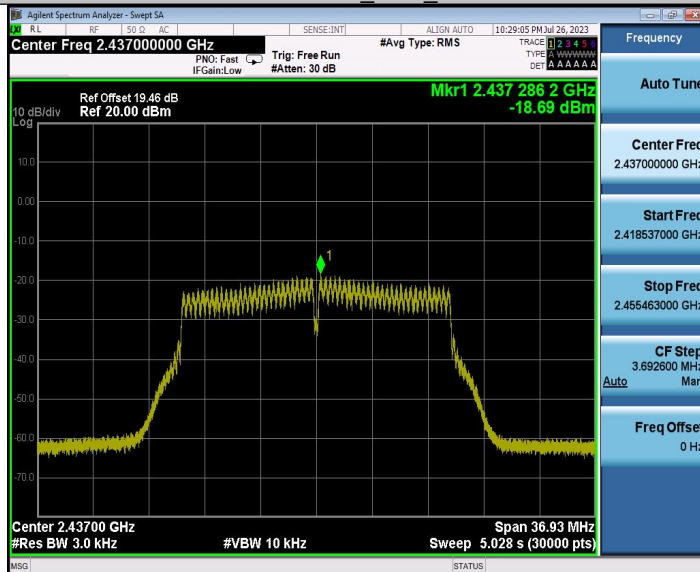
## 11N20MIMO\_Ant1\_2412

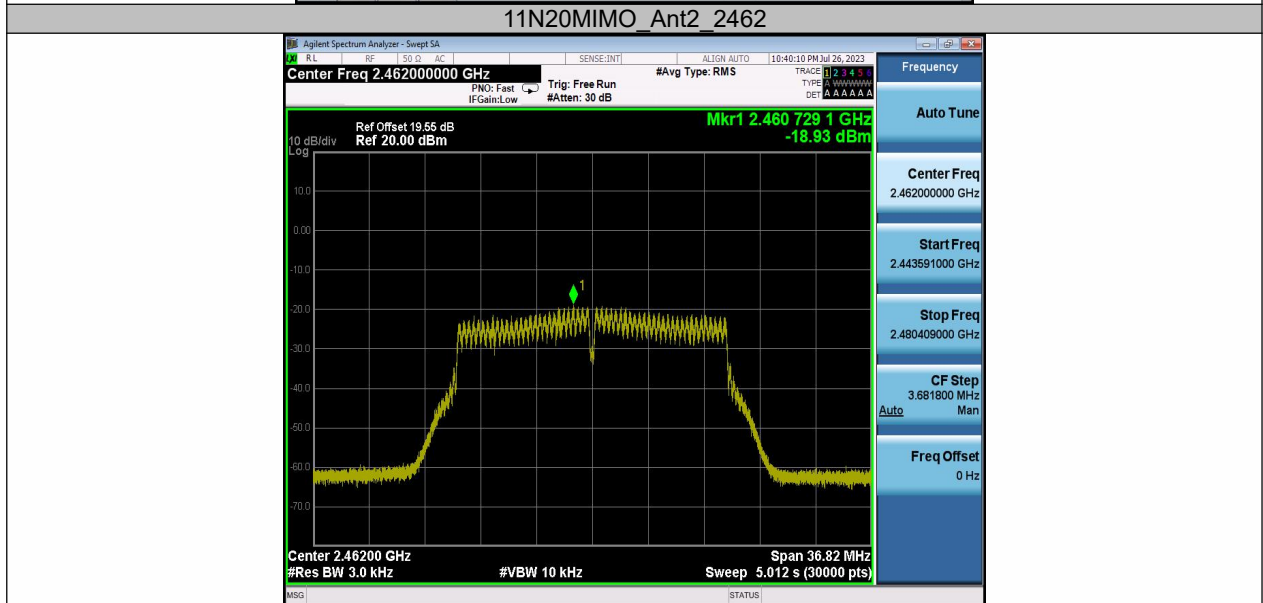
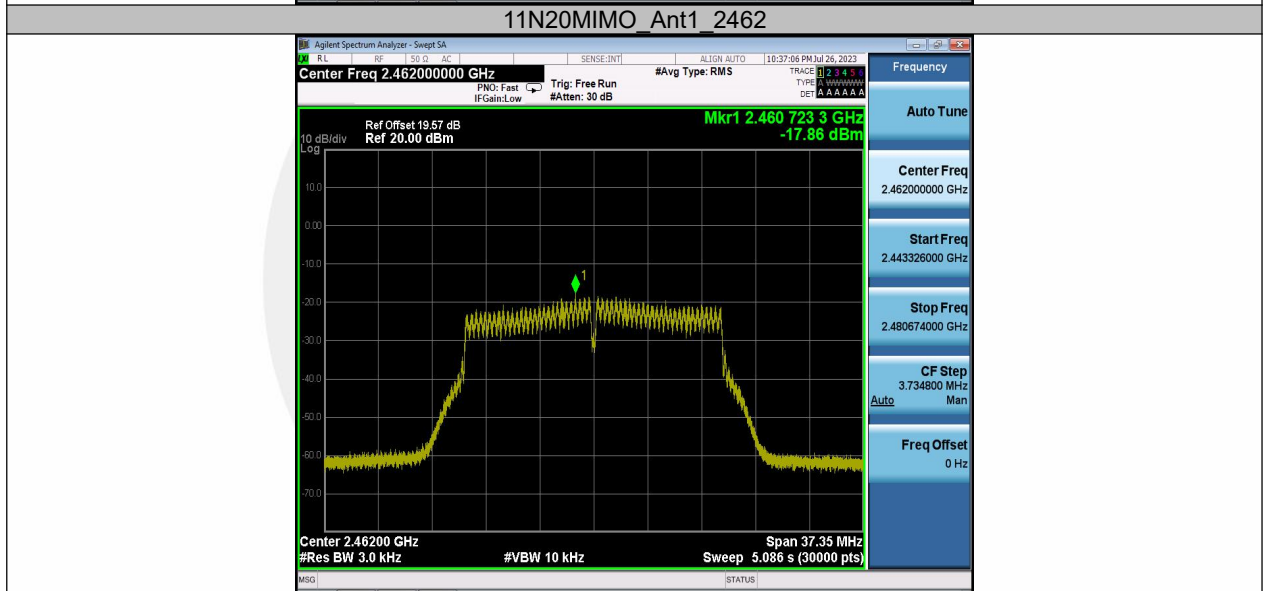
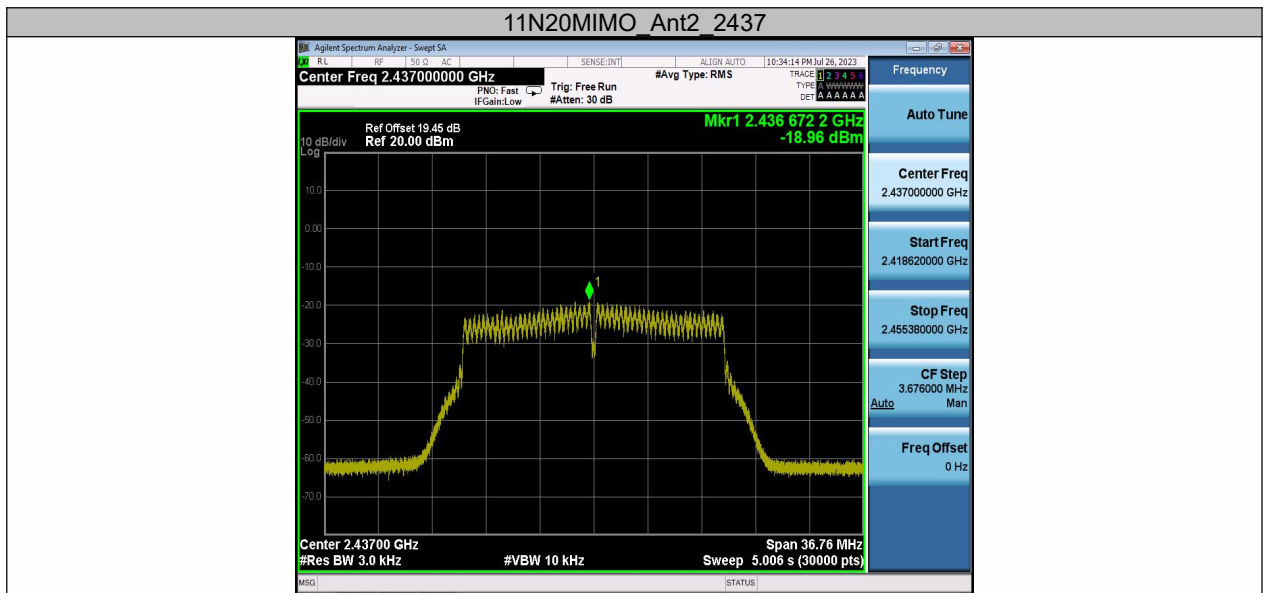


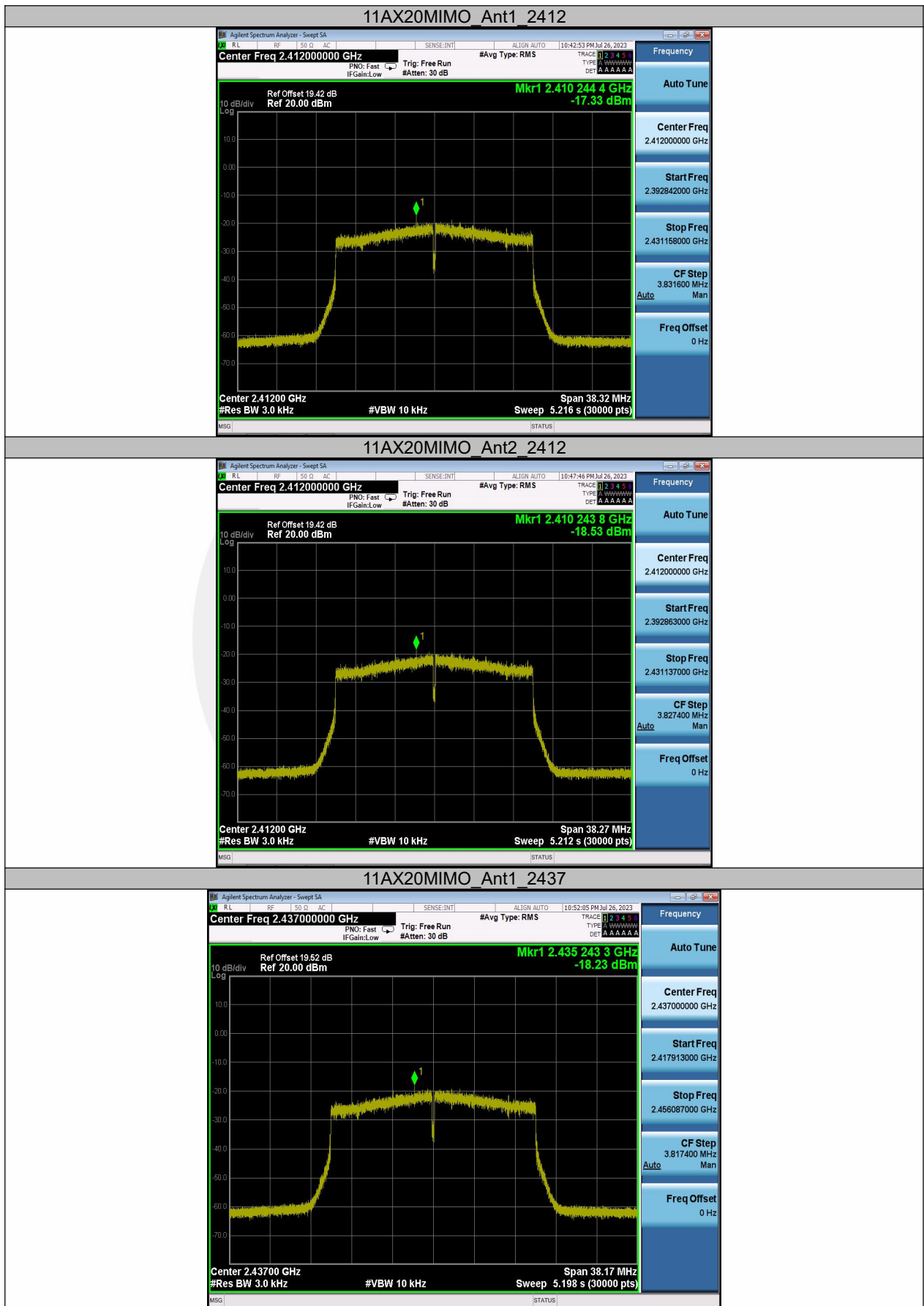
## 11N20MIMO\_Ant2\_2412

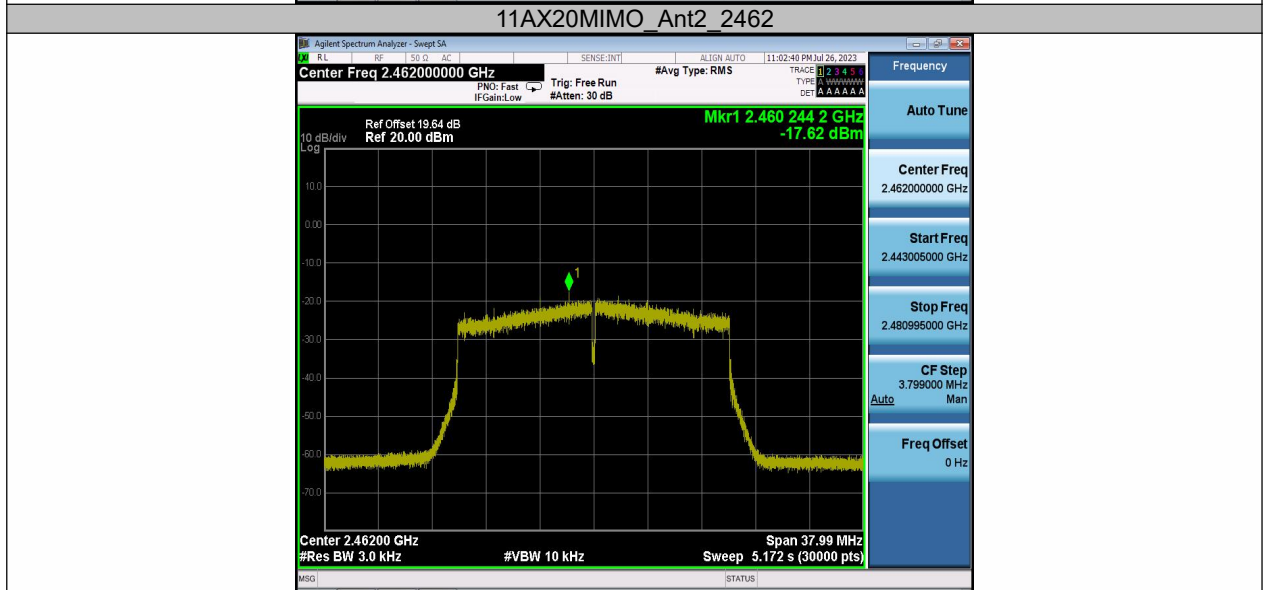
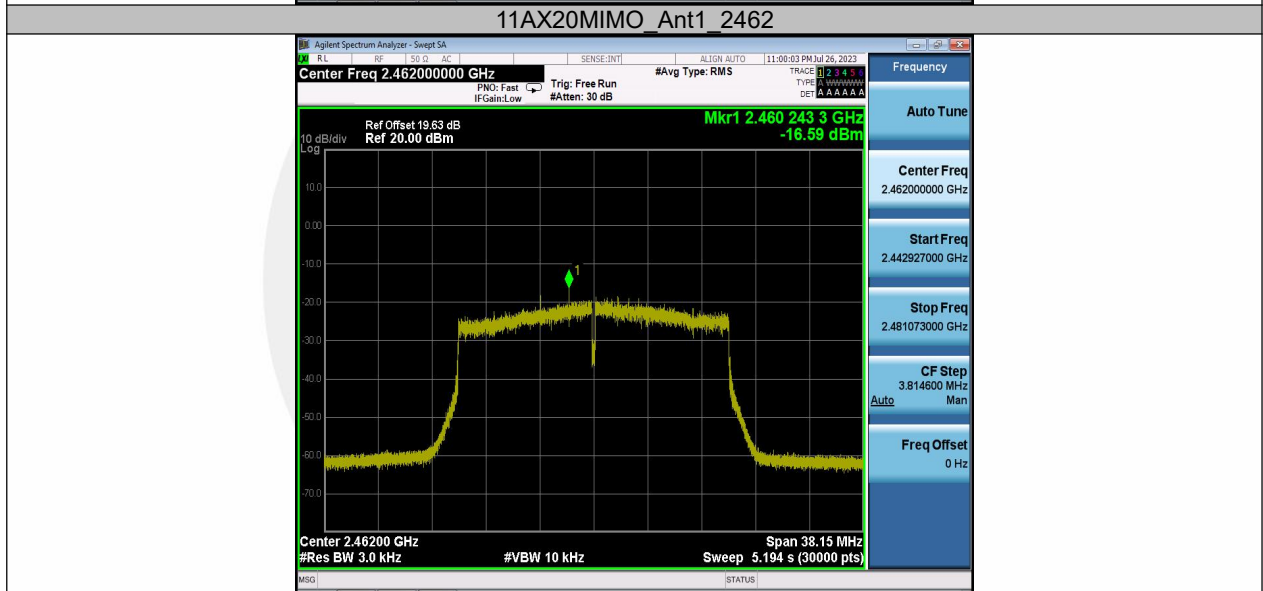
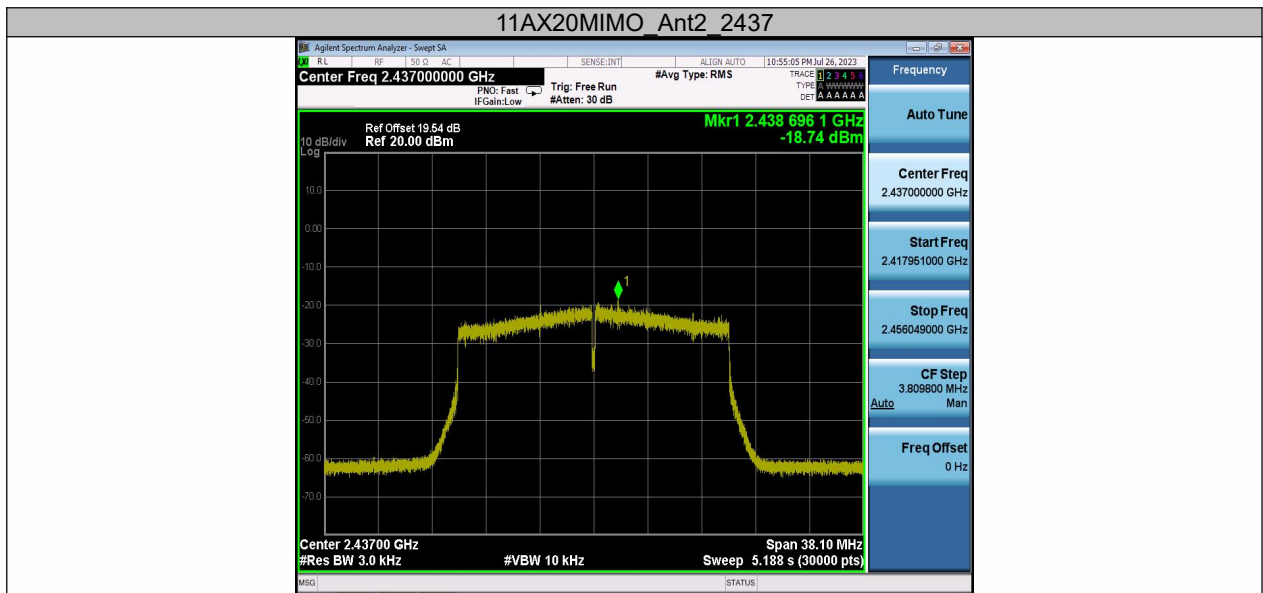


## 11N20MIMO\_Ant1\_2437









## 7.4 UNWANTED SPURIOUS EMISSIONS

### 7.4.1 Applicable Standard

According to FCC Part15.247(d) and KDB 558074 D01 15.247 Meas Guidance v05r02.

### 7.4.2 Conformance Limit

According to FCC Part 15.247(d):

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced 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 that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under section 5.4(d), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in RSS-Gen is not required.

### 7.4.3 Test Configuration

Test according to clause 6.1 radio frequency test setup 1.

### 7.4.4 Test Procedure

The transmitter output (antenna port) was connected to the spectrum analyzer.

#### ■ Reference level measurement

Establish a reference level by using the following procedure:

Set instrument center frequency to DTS channel center frequency.

Set the span to  $\geq 1.5$  times the DTS bandwidth.

Set the RBW = 100 kHz.

Set the VBW  $\geq 3 \times$  RBW.

Set Detector = peak.

Set Sweep time = auto couple.

Set Trace mode = max hold.

Allow trace to fully stabilize.

Use the peak marker function to determine the maximum PSD level.

Note that the channel found to contain the maximum PSD level can be used to establish the reference level.

#### ■ Emission level measurement

Set the center frequency and span to encompass frequency range to be measured.

Set the RBW = 100 kHz.

Set the VBW = 300 kHz.

Set Detector = peak.

Sweep time = auto couple.

Trace mode = max hold.

Allow trace to fully stabilize.

Use the peak marker function to determine the maximum amplitude level.

Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) are attenuated by at least the minimum requirements. Report the three highest emissions relative to the limit.

### 7.4.5 Test Results



All modulation modes were tested, and the worst data is shown in the table below:

**Band edge measurements**

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	5.31	-36.29	≤-24.69	PASS
	Ant2	Low	2412	4.83	-36.25	≤-25.17	PASS
	Ant1	High	2462	6.74	-36.65	≤-23.26	PASS
	Ant2	High	2462	6.70	-36.55	≤-23.31	PASS

