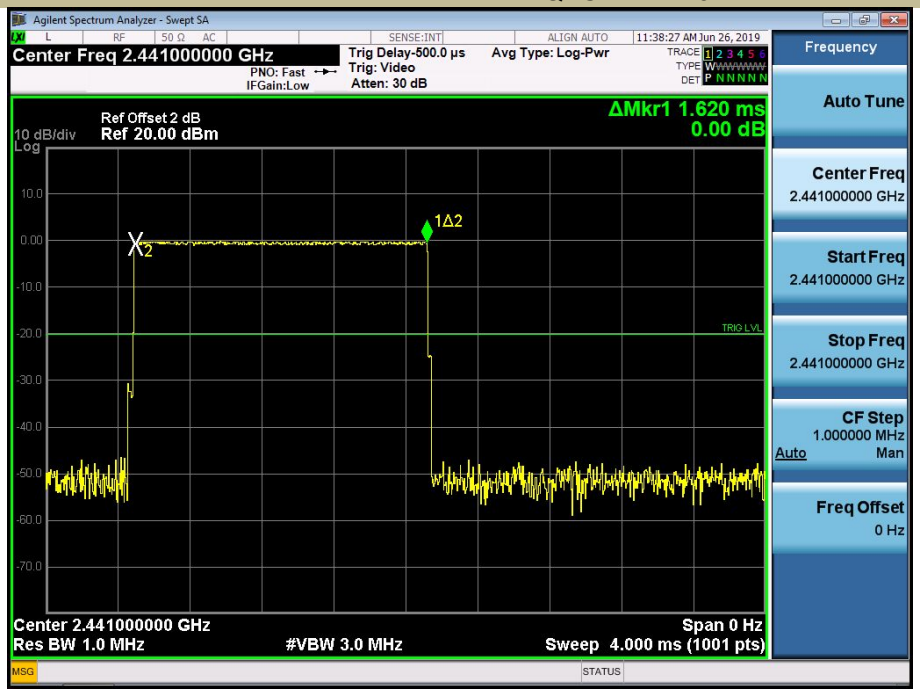
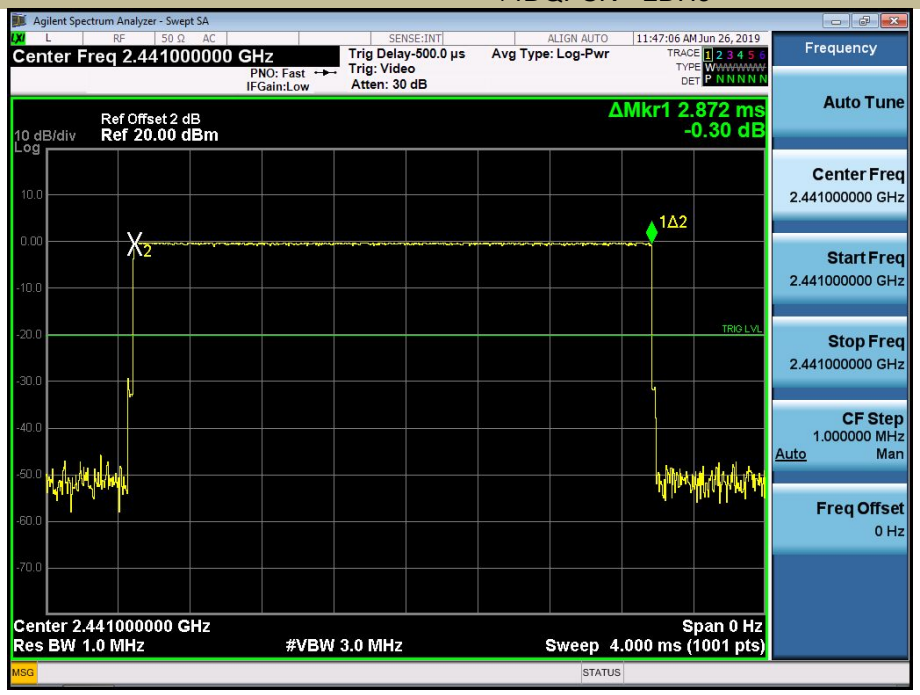
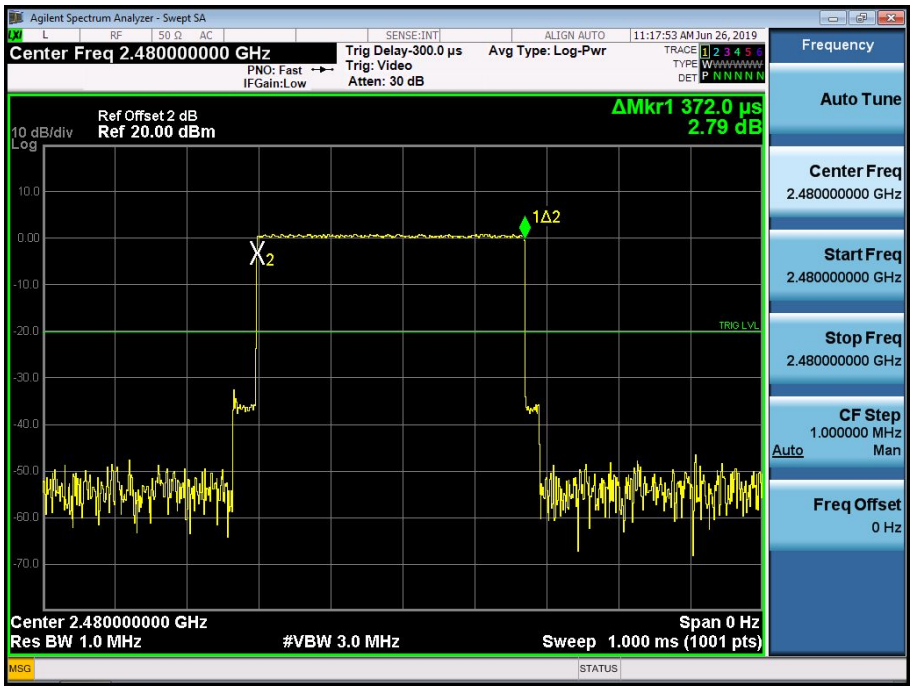
Test Model	Average Time Of Occupancy (Dwell Time) CH 0: 2402MHz π /4DQPSK 2DH3



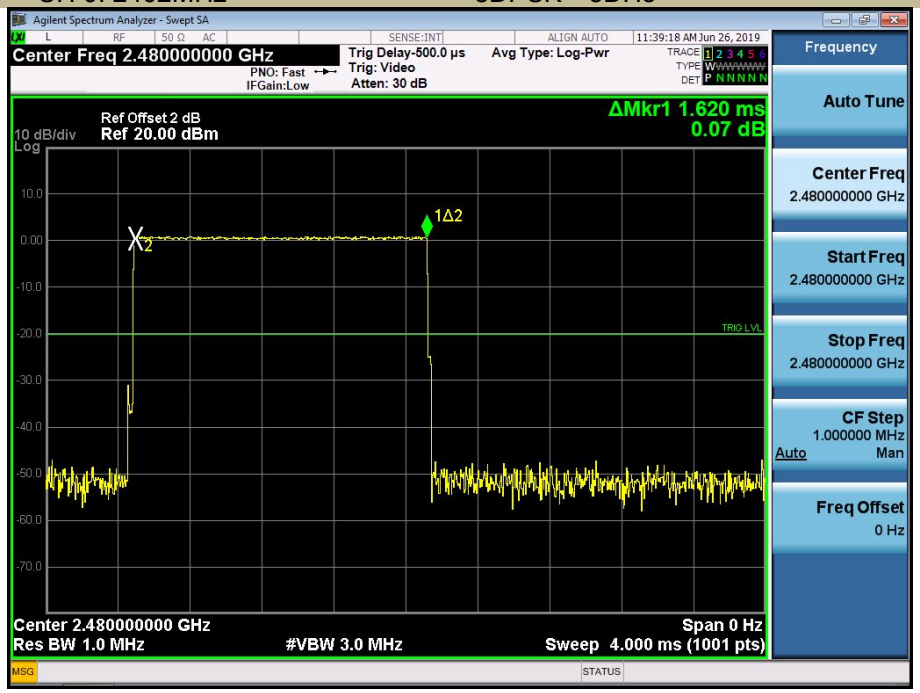
Test Model	Average Time Of Occupancy (Dwell Time) CH 0: 2402MHz π /4DQPSK 2DH5



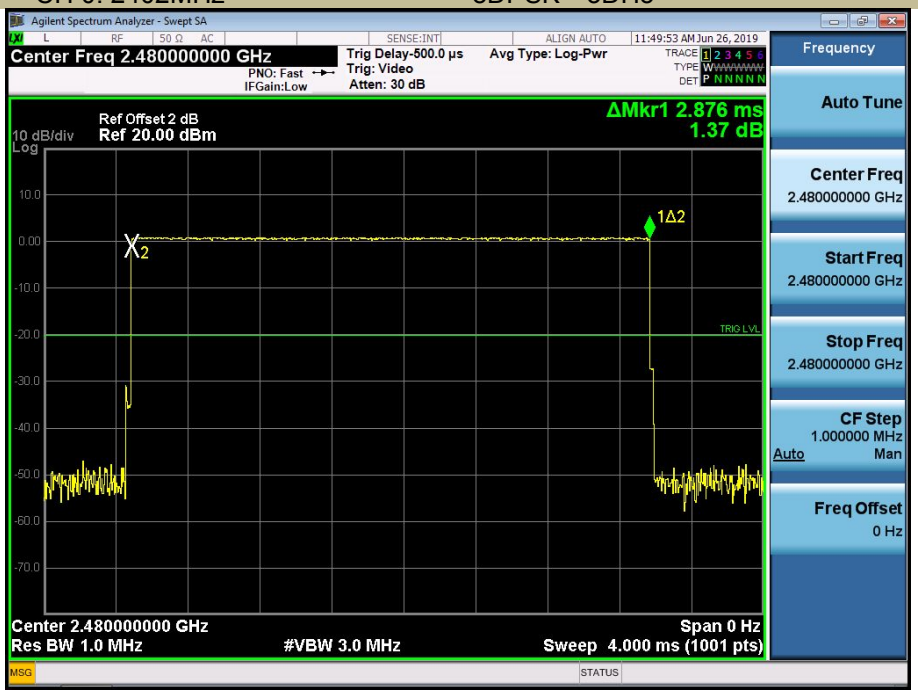
Test Model	Average Time Of Occupancy (Dwell Time) CH 0: 2402MHz 8DPSK 3DH1



Test Model	Average Time Of Occupancy (Dwell Time) CH 0: 2402MHz 8DPSK 3DH3



Test Model	Average Time Of Occupancy (Dwell Time) CH 0: 2402MHz 8DPSK 3DH5



9.5 MAXIMUM PEAK CONDUCTED OUTPUT POWER

9.5.1 Applicable Standard

According to FCC Part 15.247(b)(1) and KDB 558074 D01 15.247 MEAS GUIDANCE v05r02

9.5.2 Conformance Limit

The max For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

9.5.3 Test Configuration

Test according to clause 7.1 radio frequency test setup 1

9.5.4 Test Procedure

■ According to FCC Part15.247(b)(1)
As an alternative to a peak power measurement, compliance with the limit can be based on a measurement of the maximum conducted output power.
Use the following spectrum analyzer settings:
Set Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel (about 10MHz)
Set RBW > the 20 dB bandwidth of the emission being measured (about 3MHz)
Set VBW ≥ RBW
Set Sweep = auto
Set Detector function = peak
Set Trace = max hold
Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission to determine the peak amplitude level.

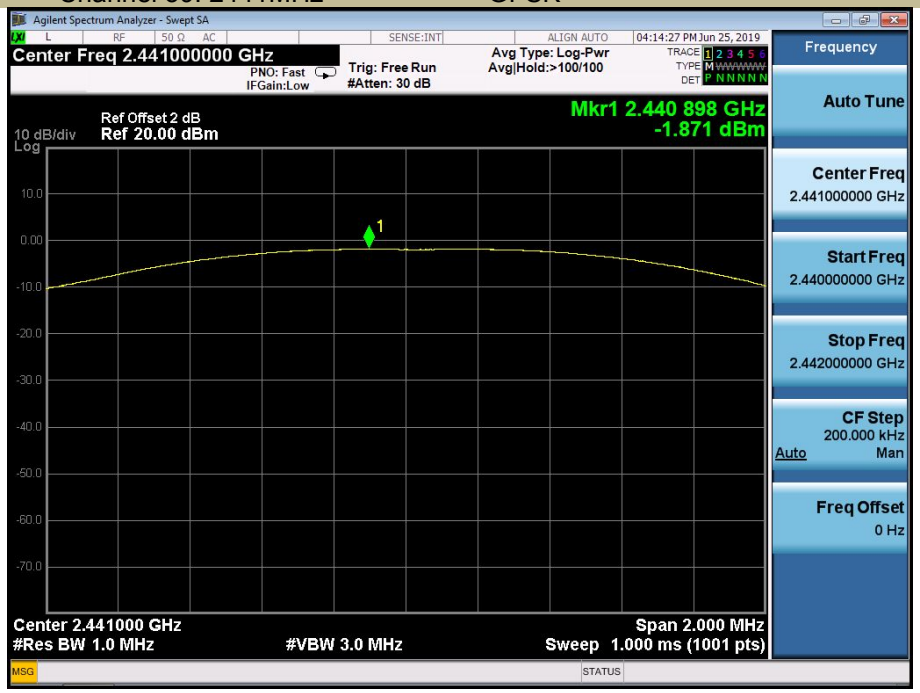
Test Results

Temperature:	26°C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

Operation Mode	Channel Number	Channel Frequency (MHz)	Measurement Level (dBm)	Limit (dBm)	Verdict
GFSK	0	2402	-4.386	30	PASS
	39	2441	-1.871	30	PASS
	78	2480	-0.683	30	PASS
π/4-DQPSK	0	2402	-2.235	30	PASS
	39	2441	0.333	30	PASS
	78	2480	1.667	30	PASS
8DPSK	0	2402	-1.935	30	PASS
	39	2441	0.620	30	PASS
	78	2480	1.998	30	PASS
Note:					

Test Model	Maximum Peak Conducted Output Power Channel 0: 2402MHz GFSK

Test Model	Maximum Peak Conducted Output Power Channel 39: 2441MHz GFSK



Test Model	Maximum Peak Conducted Output Power Channel 78: 2480MHz GFSK

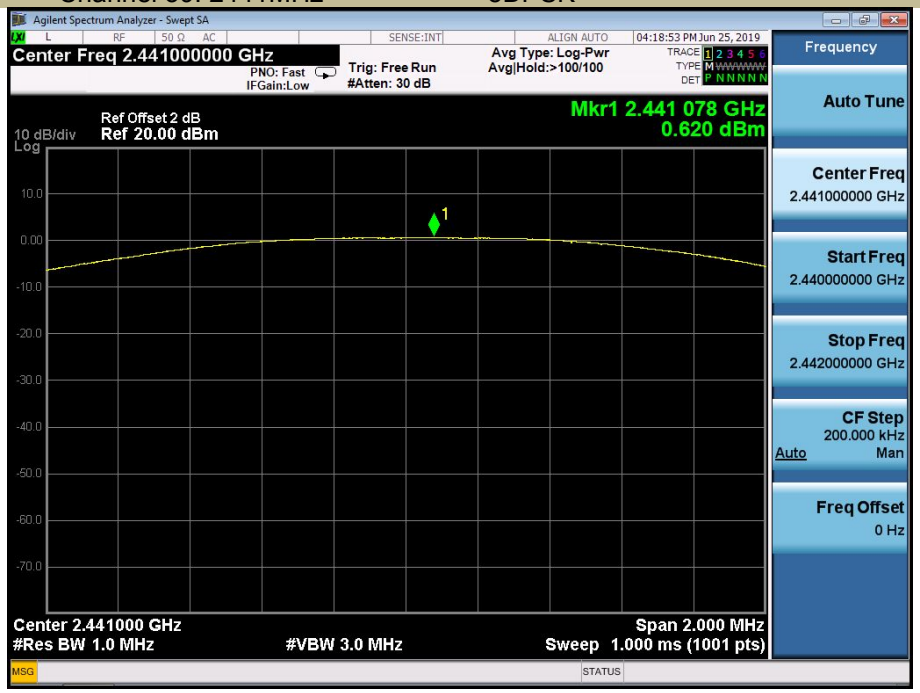
Test Model	Maximum Peak Conducted Output Power Channel 0: 2402MHz π /4DQPSK

Test Model	Maximum Peak Conducted Output Power Channel 39: 2441MHz π /4DQPSK

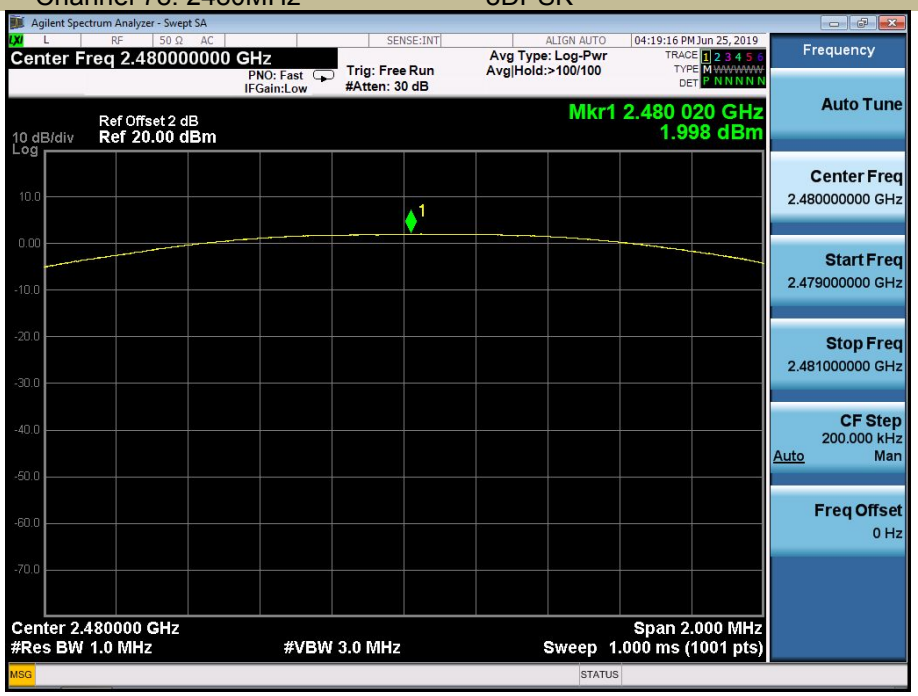
Test Model	Maximum Peak Conducted Output Power Channel 78: 2480MHz π /4DQPSK

Test Model	Maximum Peak Conducted Output Power Channel 0: 2402MHz 8DPSK

Test Model	Maximum Peak Conducted Output Power Channel 39: 2441MHz 8DPSK



Test Model	Maximum Peak Conducted Output Power Channel 78: 2480MHz 8DPSK



9.6 CONDUCTED SUPRIOUS EMISSION

9.6.1 Applicable Standard

According to FCC Part 15.247(d) and KDB 558074 D01 15.247 MEAS GUIDANCE v05r02

9.6.2 Conformance Limit

According to FCC Part 15.247(d):
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum 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, provided the transmitter demonstrates compliance with the peak conducted power limits.

9.6.3 Test Configuration

Test according to clause 7.1 radio frequency test setup 1

9.6.4 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 DSS channel center frequency.
Set Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel.
Set the RBW = 100 kHz. Set the VBW ≥ 3 x 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 Maximum conduceted level.
Note that the channel found to contain the maximum conduceted level can be used to establish the reference level.

- **Band-edge Compliance of RF Conducted Emissions**

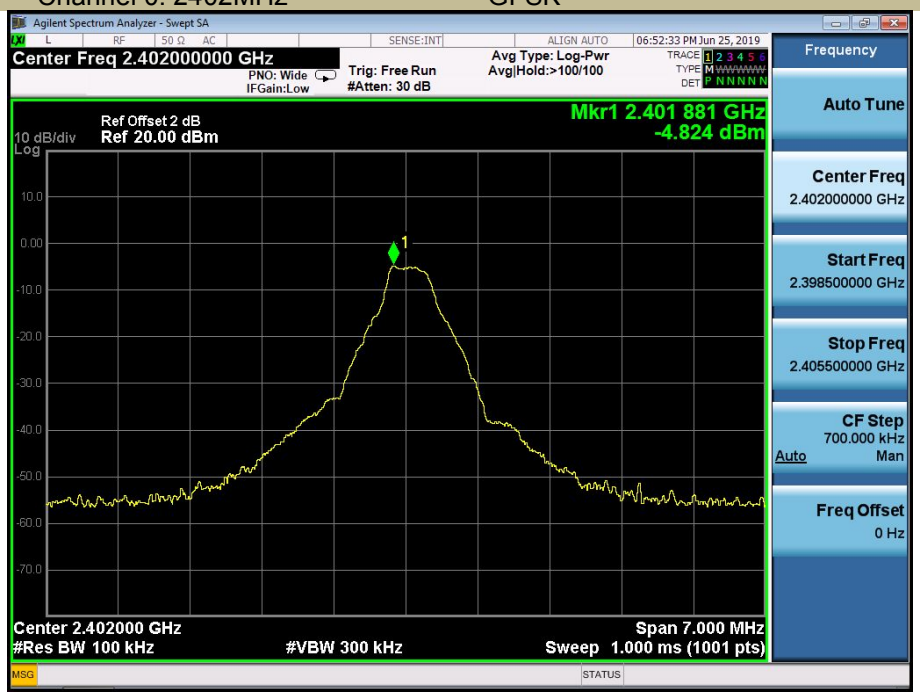
Use the following spectrum analyzer settings:
Span = wide enough to capture the peak level of the emission operating on the channel closest to the band-edge, as well as any modulation products which fall outside of the authorized band of operation
Set RBW ≥ 1% of the span=100kHz Set VBW ≥ RBW
Set Sweep = auto Set Detector function = peak Set Trace = max hold
Allow the trace to stabilize. Set the marker on the emission at the bandedge, or on the highest modulation product outside of the band, if this level is greater than that at the bandedge. Enable the marker-delta function, then use the marker-to-peak function to move the marker to the peak of the in-band emission. The marker-delta value now displayed must comply with the limit specified in this Section.
Now, using the same instrument settings, enable the hopping function of the EUT. Allow the trace to stabilize. Follow the same procedure listed above to determine if any spurious emissions caused by the hopping function also comply with the specified limit.

- **Conduceted Spurious RF Conducted Emission**

Use the following spectrum analyzer settings:
Span = wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g., harmonics) from the lowest frequency generated in the EUT up through the 10th harmonic.(30MHz to 25GHz). Set RBW = 100 kHz Set VBW ≥ RBW
Set Sweep = auto Set Detector function = peak Set Trace = max hold
Allow the trace to stabilize. Set the marker on the peak of any spurious emission recorded. The level displayed must comply with the limit specified in this Section.

9.6.5 Test Results

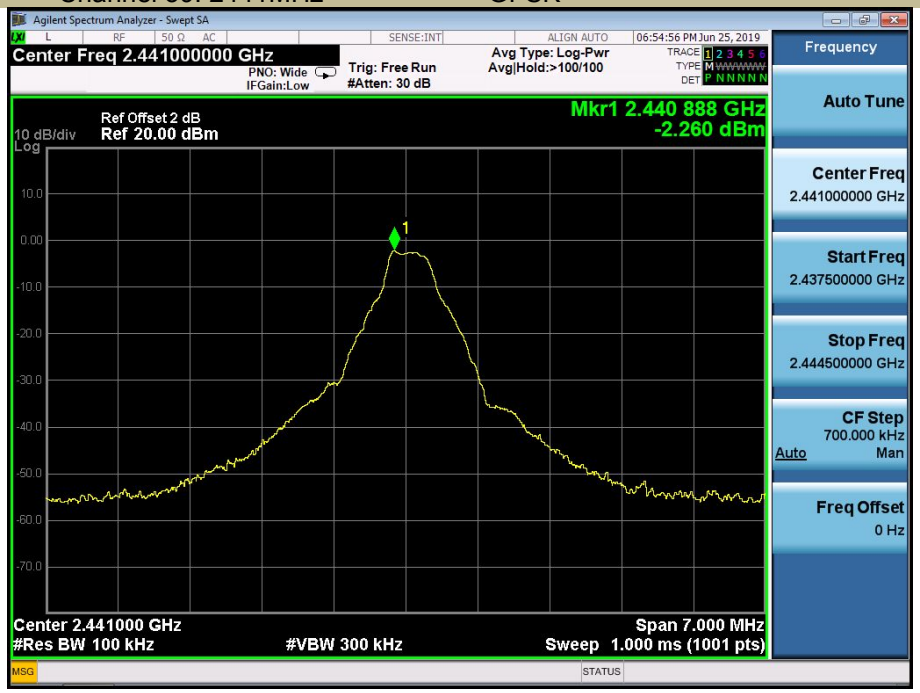
Test Model	Maximum Conduceted Level RBW=100kHz Channel 0: 2402MHz GFSK



Test Model	Conduceted Spurious RF Conducted Emission Channel 0: 2402MHz GFSK

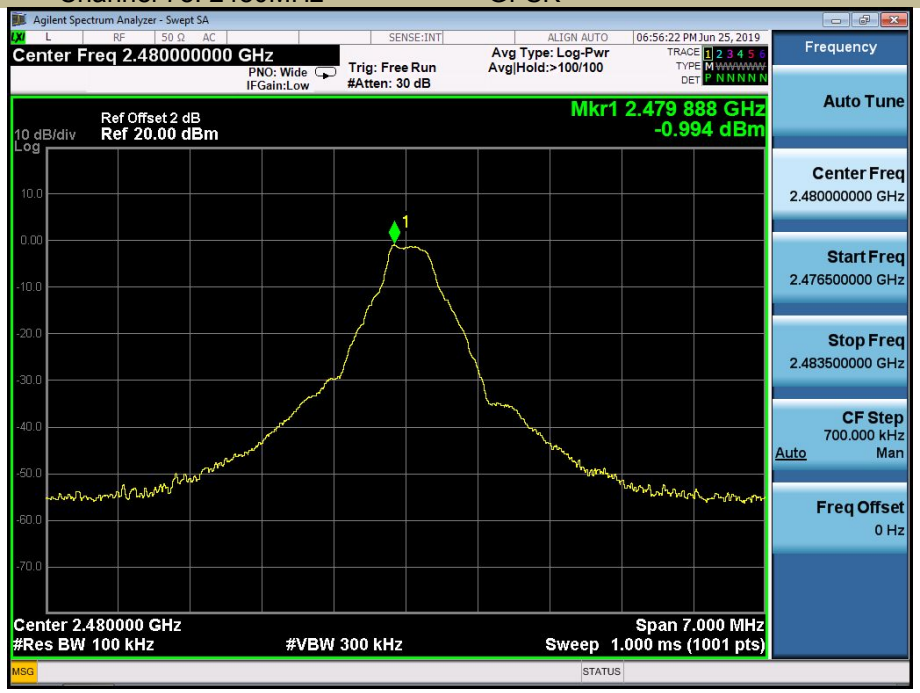
Test Model	Band-edge Conducted Emissions Channel 0: 2402MHz GFSK

Test Model	Maximum Conduceted Level RBW=100kHz Channel 39: 2441MHz GFSK



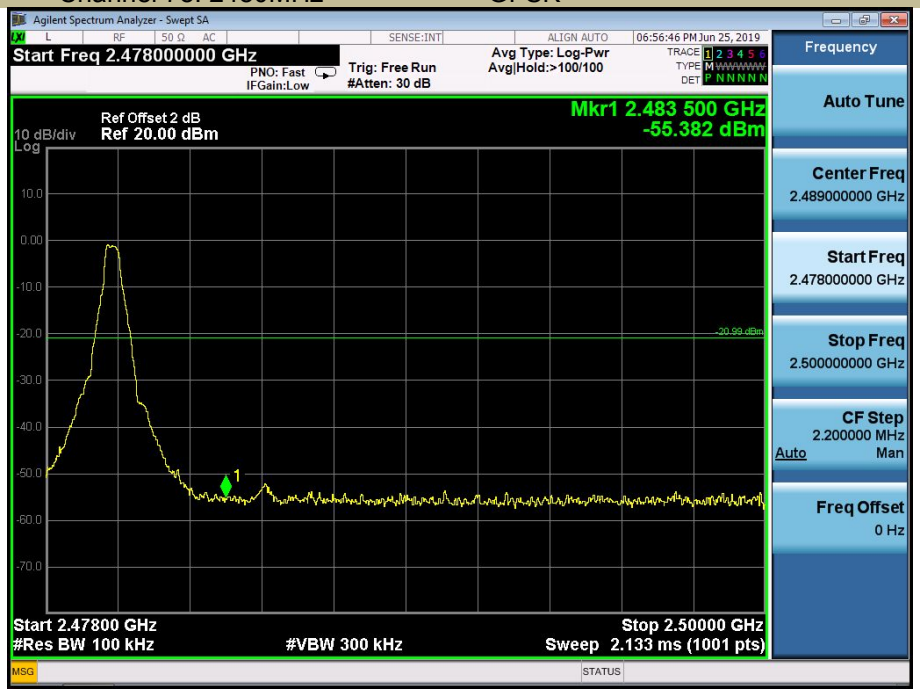
Test Model	Conducted Spurious RF Conducted Emission Channel 39: 2441MHz GFSK

Test Model	Maximum Conducted Level RBW=100kHz Channel 78: 2480MHz GFSK

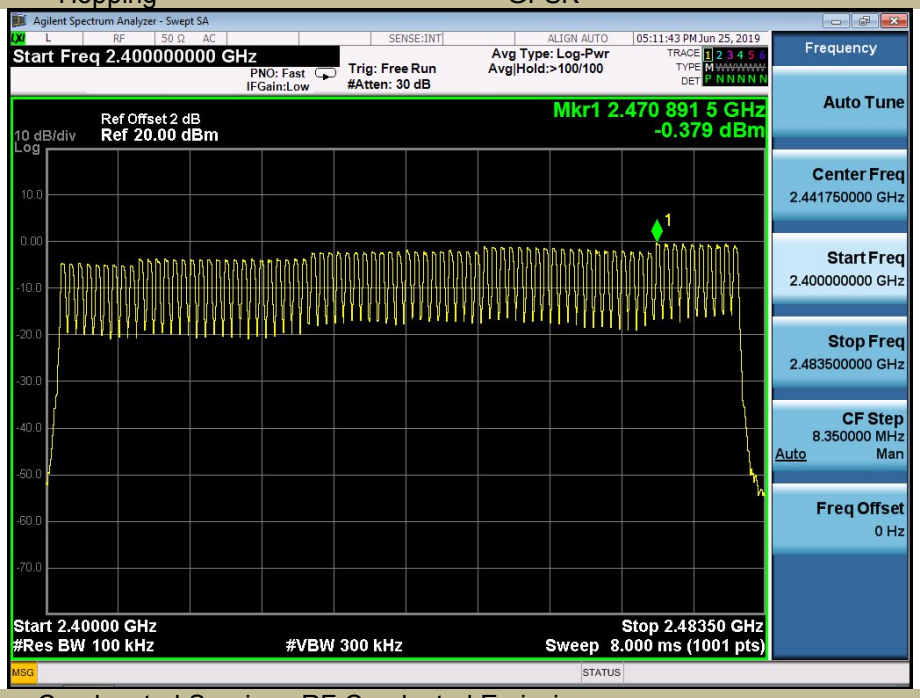


Test Model	Conduceted Spurious RF Conducted Emission Channel 78: 2480MHz GFSK

Test Model	Band-edge Conducted Emissions Channel 78: 2480MHz GFSK

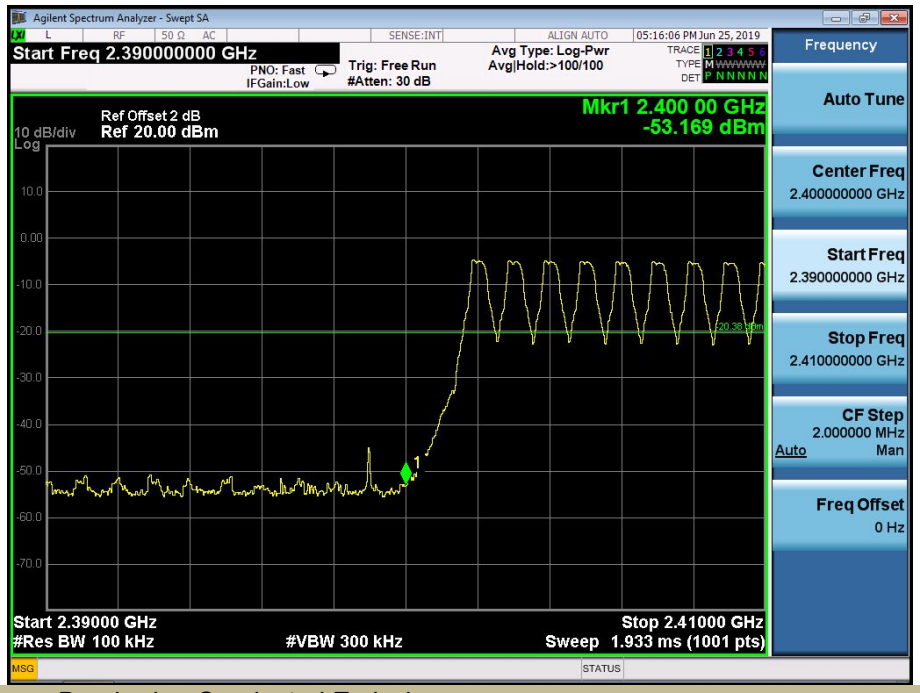


Test Model	Maximum Conduceted Level RBW=100kHz Hopping GFSK

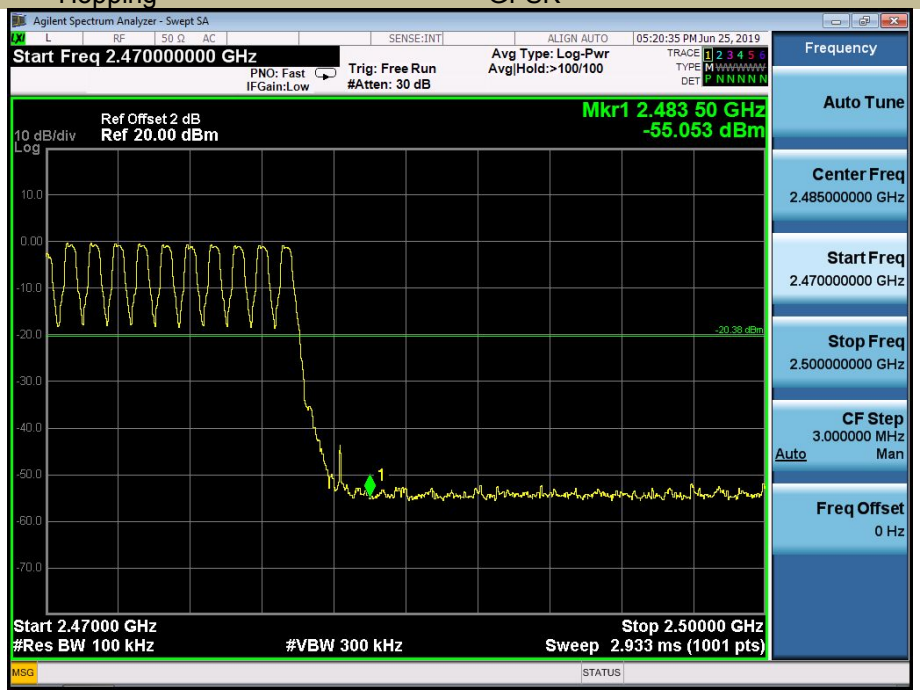


Test Model	Conduceted Spurious RF Conducted Emission Hopping GFSK

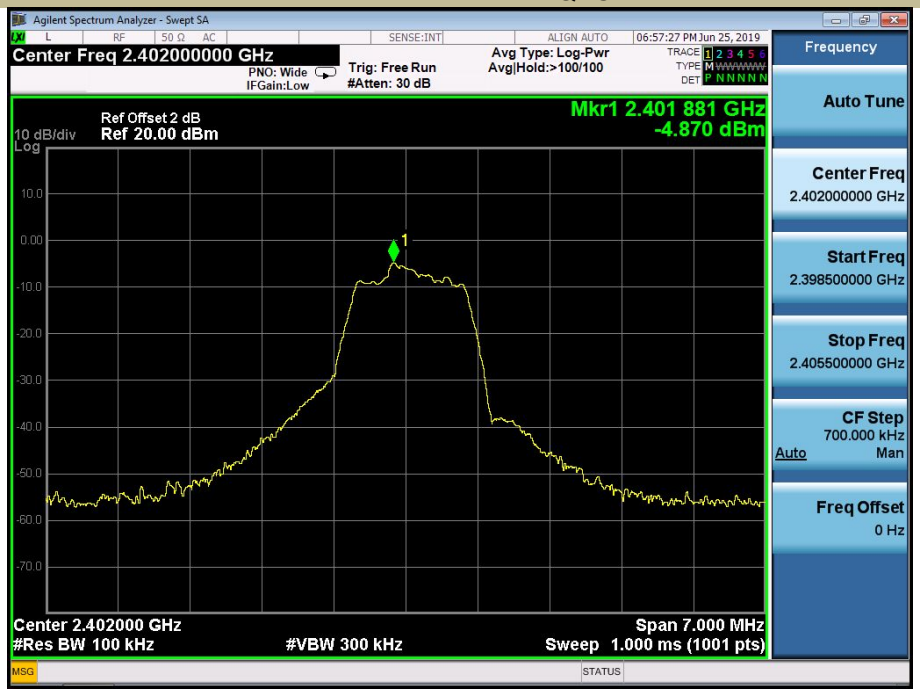
Test Model	Band-edge Conducted Emissions Hopping GFSK



Test Model	Band-edge Conducted Emissions Hopping GFSK

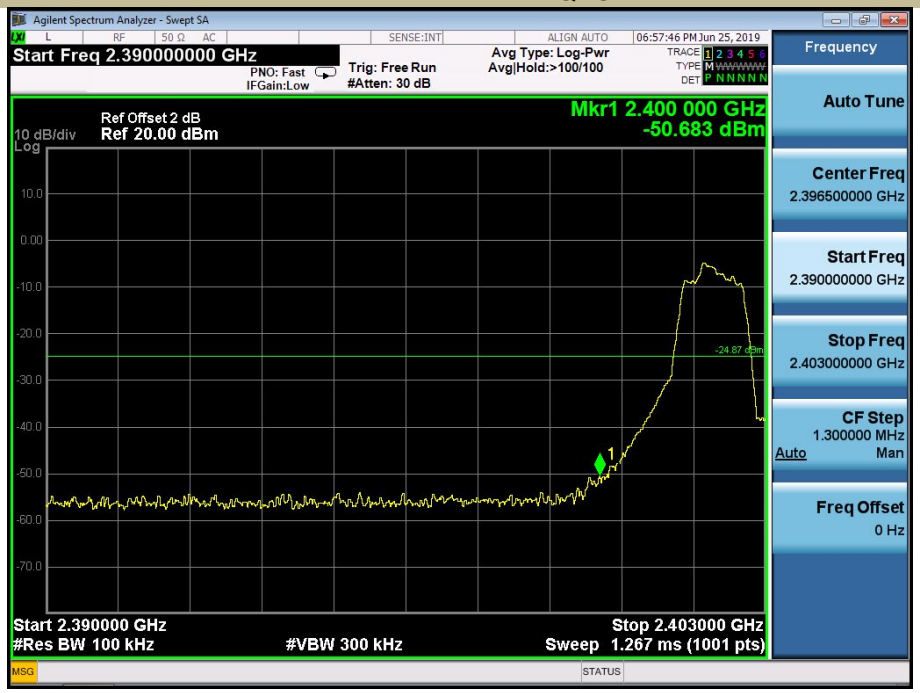


Test Model	Maximum Conduceted Level RBW=100kHz Channel 0: 2402MHz π /4DQPSK



Test Model	Conduceted Spurious RF Conducted Emission Channel 0: 2402MHz π /4DQPSK

Test Model	Band-edge Conducted Emissions Channel 0: 2402MHz π /4DQPSK



Test Model	Maximum Conduceted Level RBW=100kHz Channel 39: 2441MHz π /4DQPSK

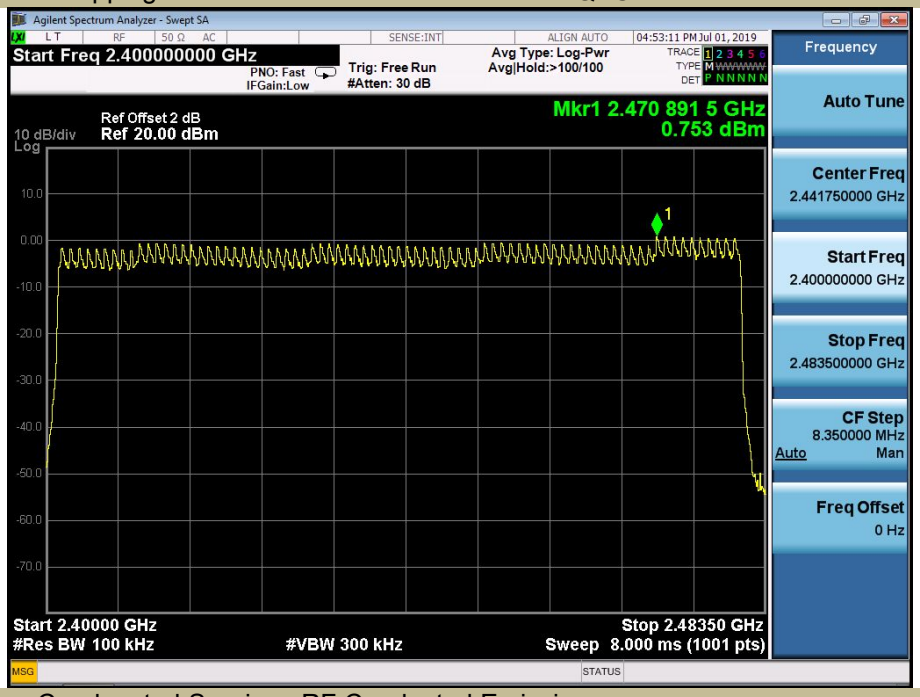
Test Model	Conducted Spurious RF Conducted Emission Channel 39: 2441MHz π /4DQPSK

Test Model	Maximum Conducted Level RBW=100kHz Channel 78: 2480MHz π /4DQPSK

Test Model	Conduceted Spurious RF Conducted Emission Channel 78: 2480MHz π /4DQPSK

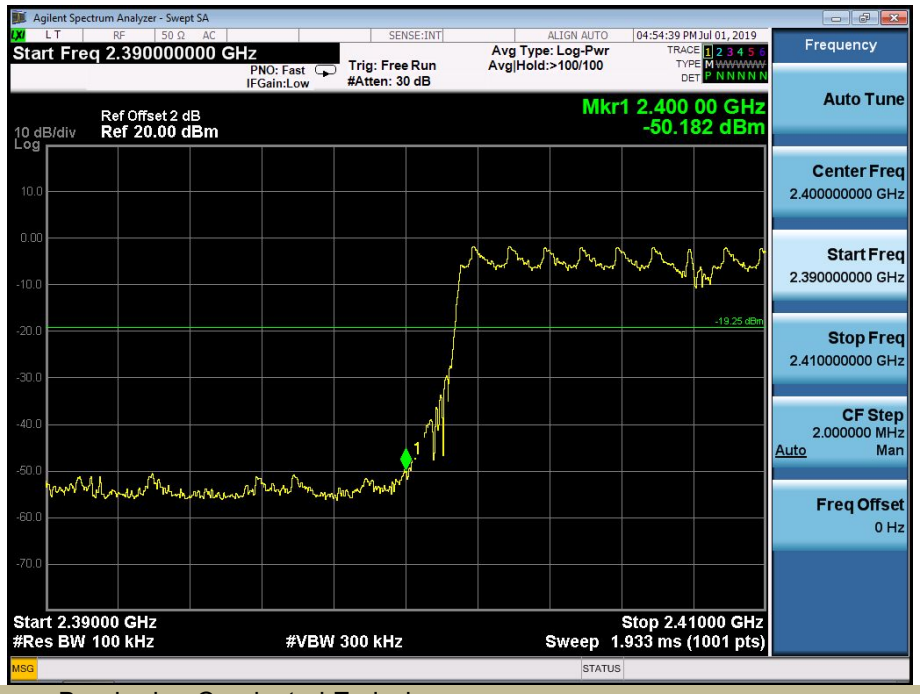
Test Model	Band-edge Conducted Emissions Channel 78: 2480MHz π /4DQPSK

Test Model	Maximum Conduceted Level RBW=100kHz Hopping π /4DQPSK

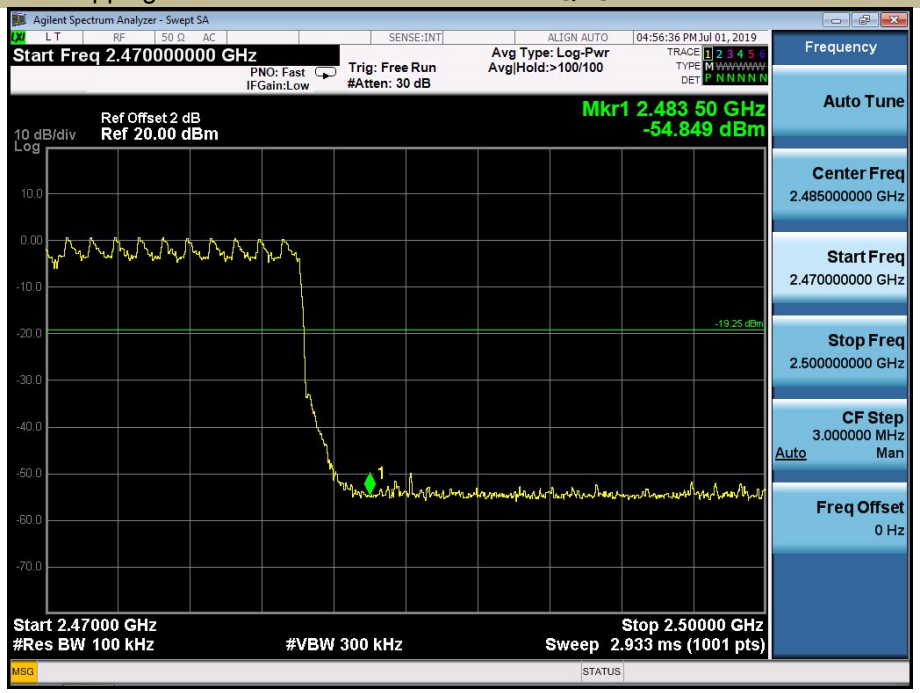


Test Model	Conduceted Spurious RF Conducted Emission Hopping π /4DQPSK

Test Model	Band-edge Conducted Emissions Hopping π /4DQPSK



Test Model	Band-edge Conducted Emissions Hopping π /4DQPSK

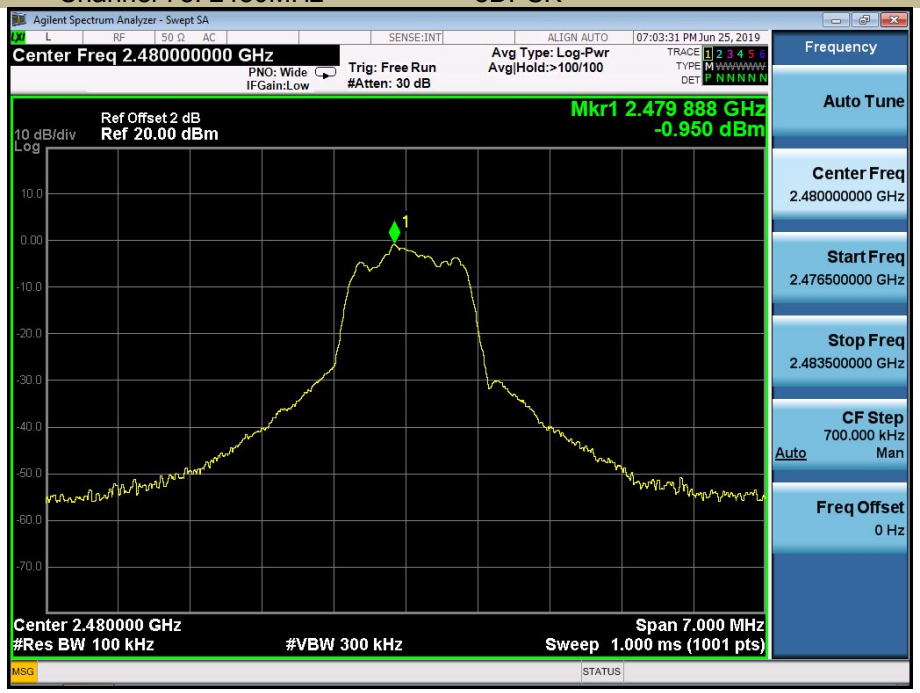


Test Model	Maximum Conduceted Level RBW=100kHz Channel 0: 2402MHz 8DPSK

Test Model	Conduceted Spurious RF Conducted Emission Channel 0: 2402MHz 8DPSK

Test Model	Band-edge Conducted Emissions Channel 0: 2402MHz 8DPSK

Test Model	Maximum Conduceted Level RBW=100kHz Channel 39: 2441MHz 8DPSK

Test Model	Conducted Spurious RF Conducted Emission Channel 39: 2441MHz 8DPSK

Test Model	Maximum Conducted Level RBW=100kHz Channel 78: 2480MHz 8DPSK