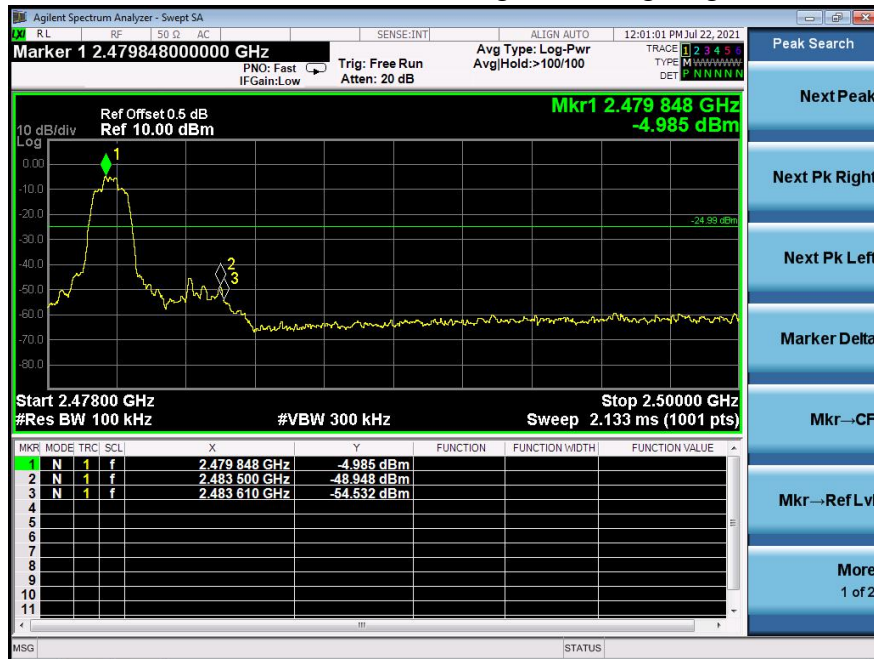
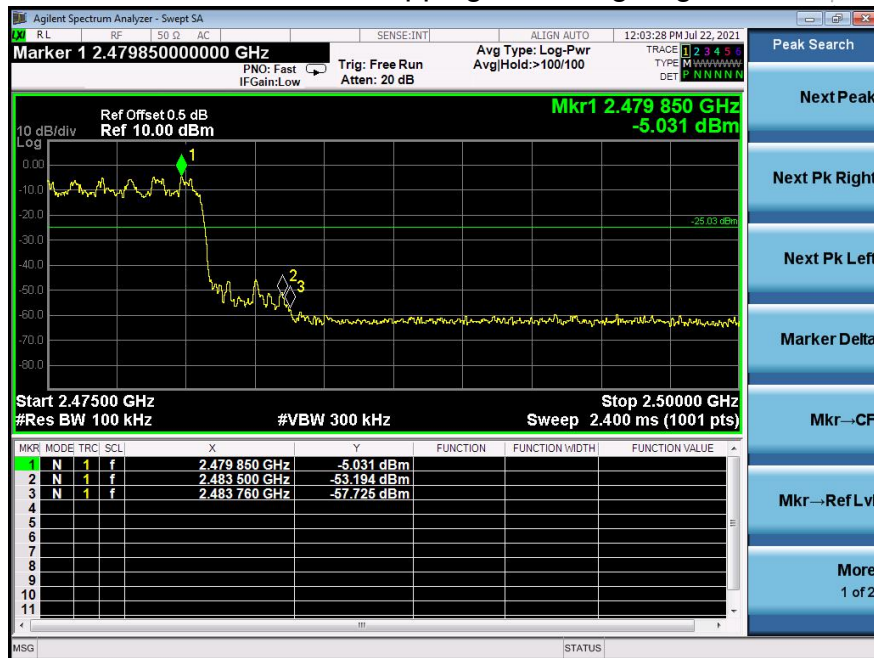
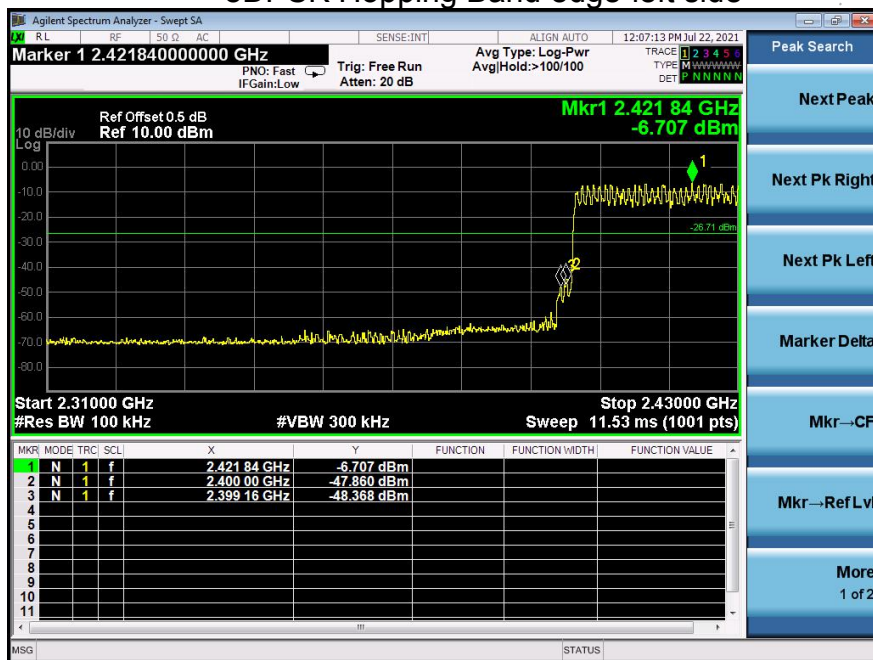


$\pi/4$ DQPSK Transmitting Band edge-right side

 $\pi/4$ DQPSK Hopping Band edge-right side


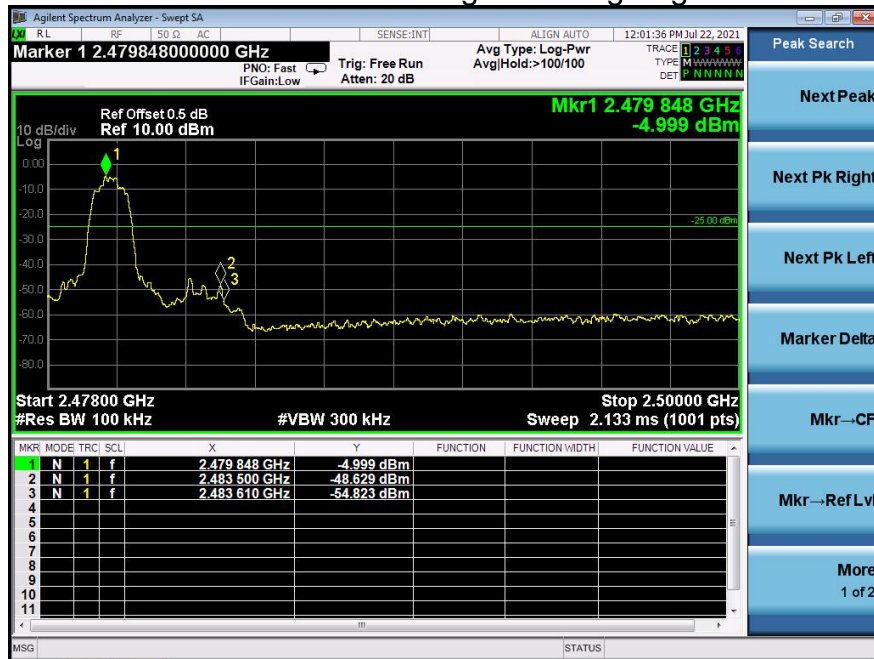
8DPSK Transmitting Band edge-left side



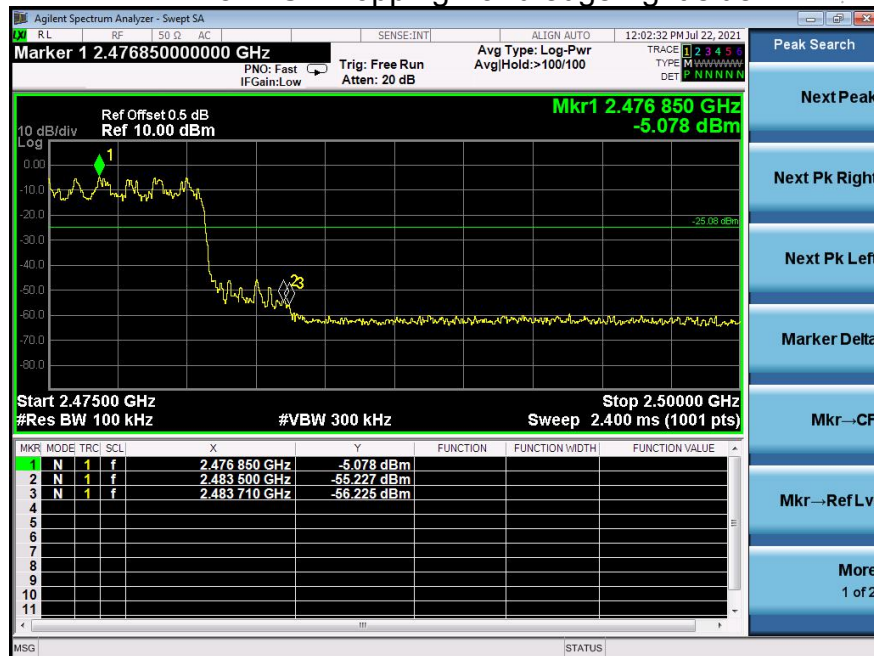
8DPSK Hopping Band edge-left side



8DPSK Transmitting Band edge-right side



8DPSK Hopping Band edge-right side



10. 20 DB BANDWIDTH

10.1 Block Diagram Of Test Setup



10.2 Limit

N/A

10.3 Test procedure

1. Set RBW = 30kHz.
2. Set the video bandwidth (VBW) $\geq 3 \times$ RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

10.4 Test Result

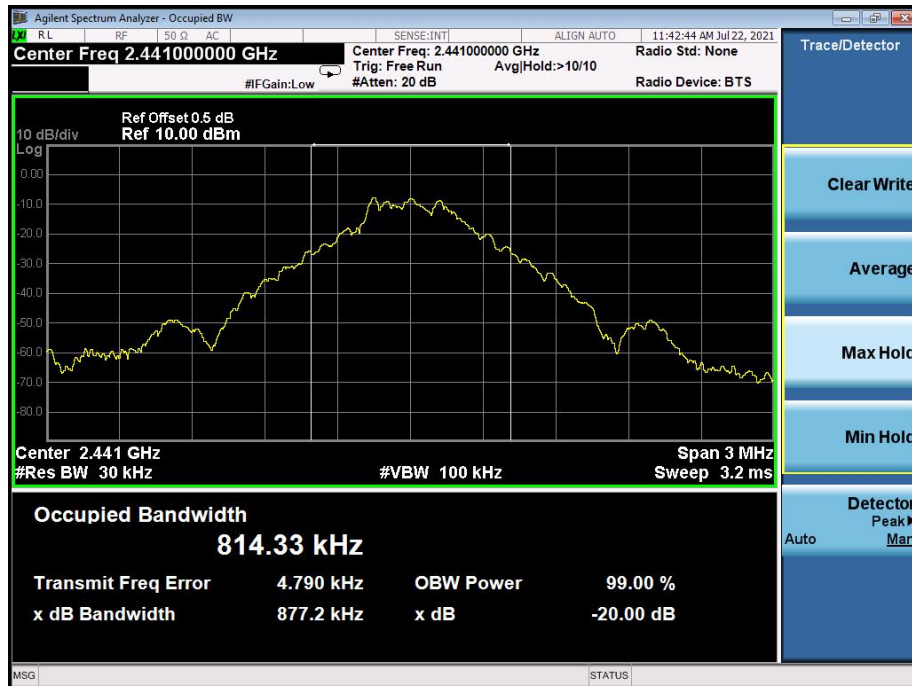
Temperature :	26°C	Relative Humidity :	54%
Test Voltage :	DC 12V	Remark	N/A

Modulation	Test Channel	Bandwidth(MHz)
GFSK	Low	0.878
GFSK	Middle	0.877
GFSK	High	0.880
$\pi/4$ DQPSK	Low	1.257
$\pi/4$ DQPSK	Middle	1.259
$\pi/4$ DQPSK	High	1.241
8DPSK	Low	1.218
8DPSK	Middle	1.222
8DPSK	High	1.248

Test plots
GFSK Low Channel



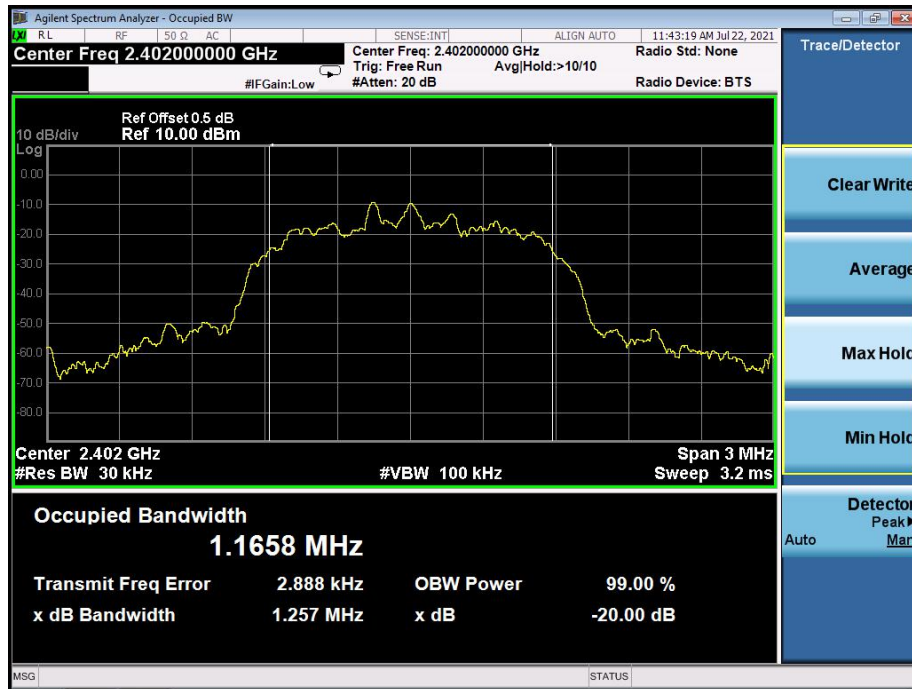
GFSK Middle Channel



GFSK High Channel



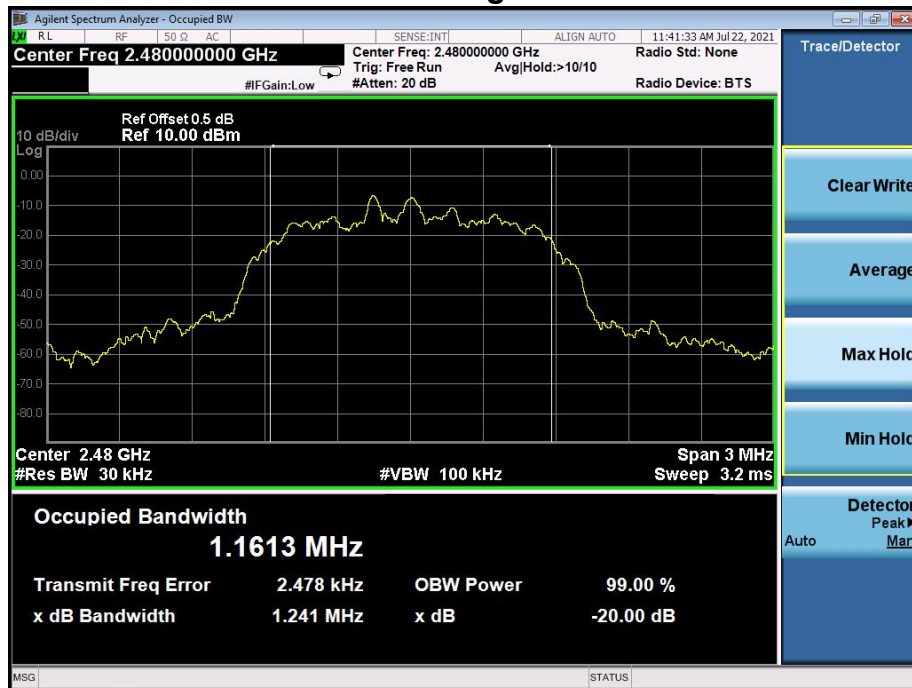
π /4DQPSK Low Channel



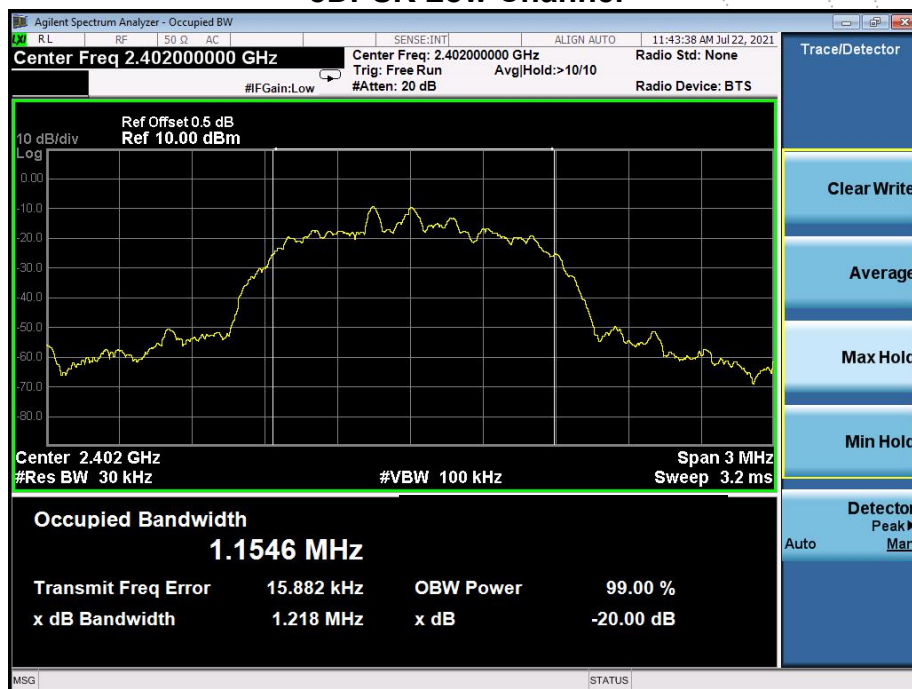
π /4DQPSK Middle Channel



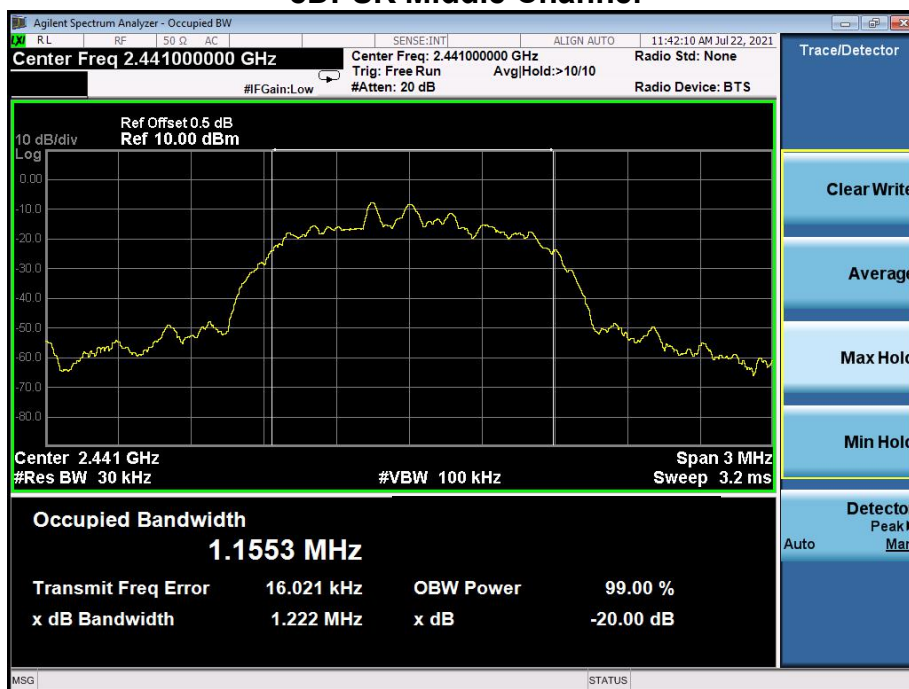
π /4DQPSK High Channel



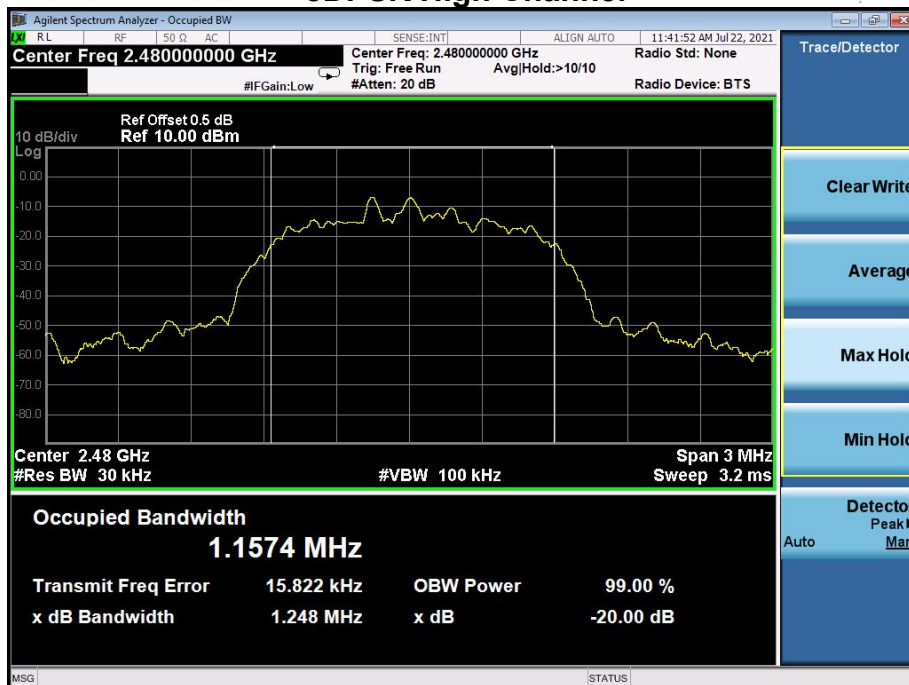
8DPSK Low Channel



8DPSK Middle Channel



8DPSK High Channel



11. MAXIMUM PEAK OUTPUT POWER

11.1 Block Diagram Of Test Setup



11.2 Limit

FCC Part15 (15.247), Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(1)	Peak Output Power	0.125 watt or 21dBm	2400-2483.5	PASS

11.3 Test procedure

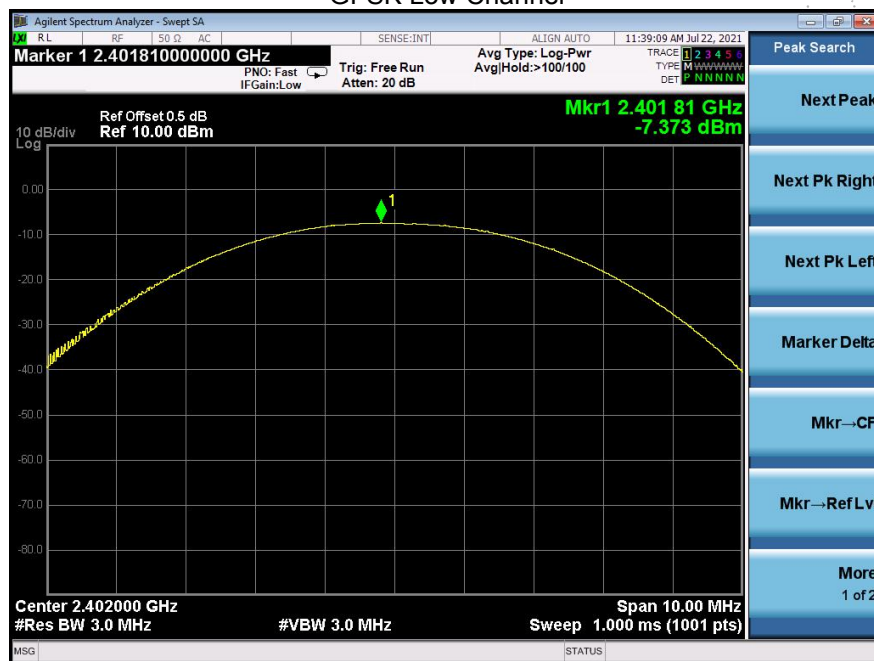
1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.
2. Set the spectrum analyzer: RBW = 3MHz. VBW = 3MHz. Sweep = auto; Detector Function = Peak.
3. Keep the EUT in transmitting at lowest, medium and highest channel individually. Record the max value.

11.4 Test Result

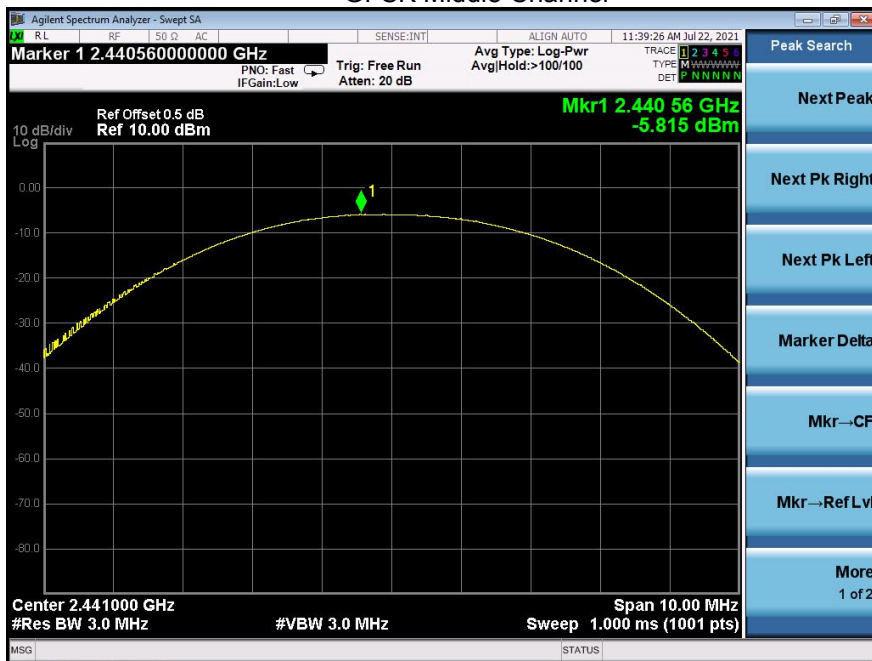
Temperature :	26°C	Relative Humidity :	54%
Test Voltage :	DC 12V	Remark:	N/A

Modulation	Test Channel	Output Power (dBm)	Limit (dBm)
GFSK	Low	-7.373	21
GFSK	Middle	-5.815	21
GFSK	High	-5.012	21
$\pi/4$ DQPSK	Low	-6.640	21
$\pi/4$ DQPSK	Middle	-5.092	21
$\pi/4$ DQPSK	High	-4.184	21
8DPSK	Low	-6.011	21
8DPSK	Middle	-4.544	21
8DPSK	High	-3.614	21

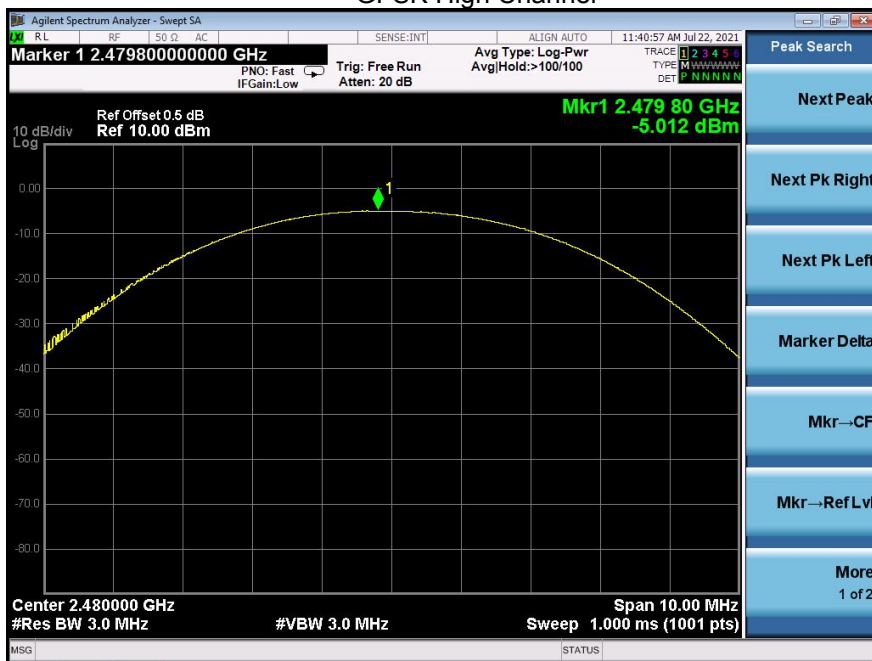
Test plots
GFSK Low Channel

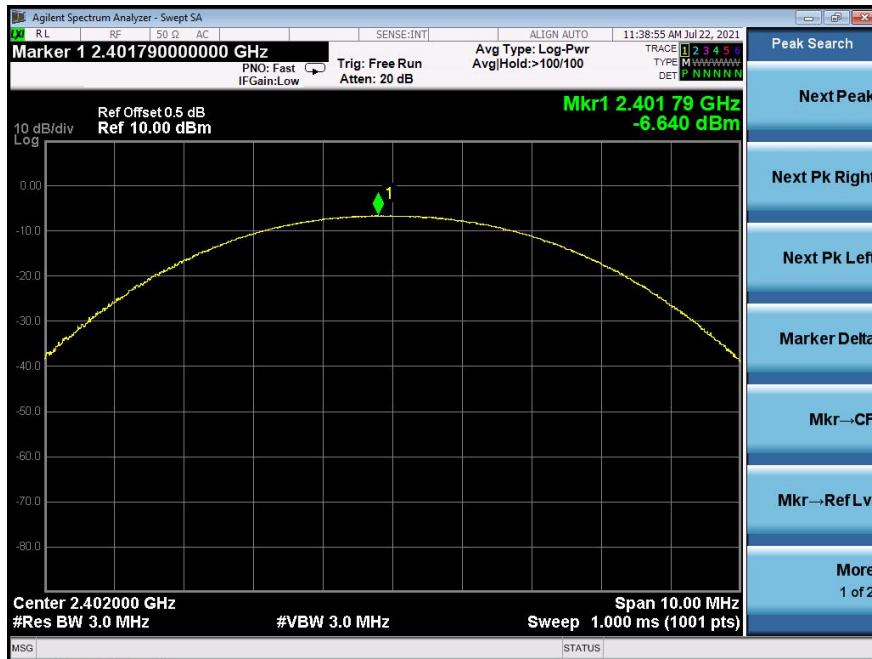
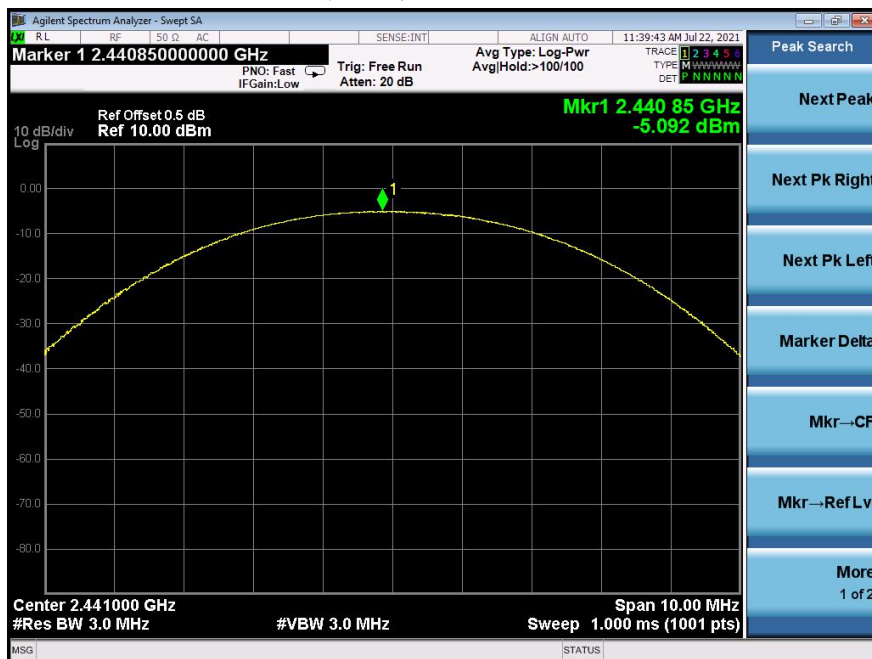


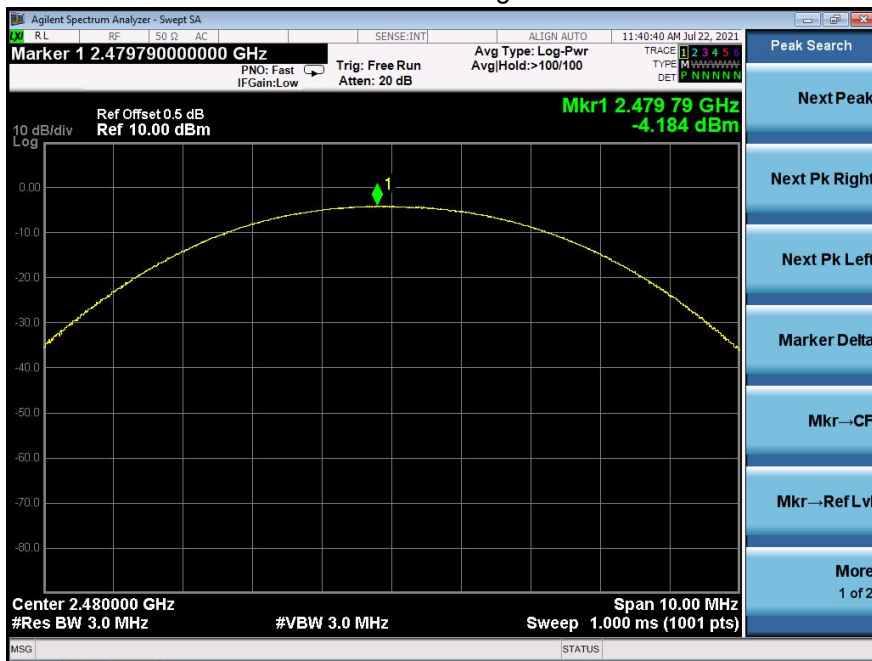
GFSK Middle Channel



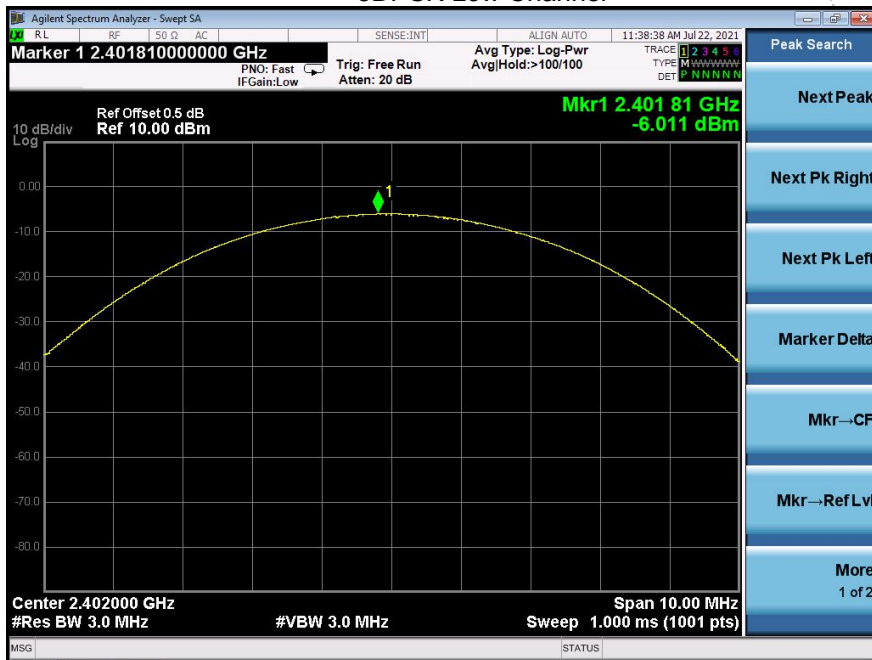
GFSK High Channel



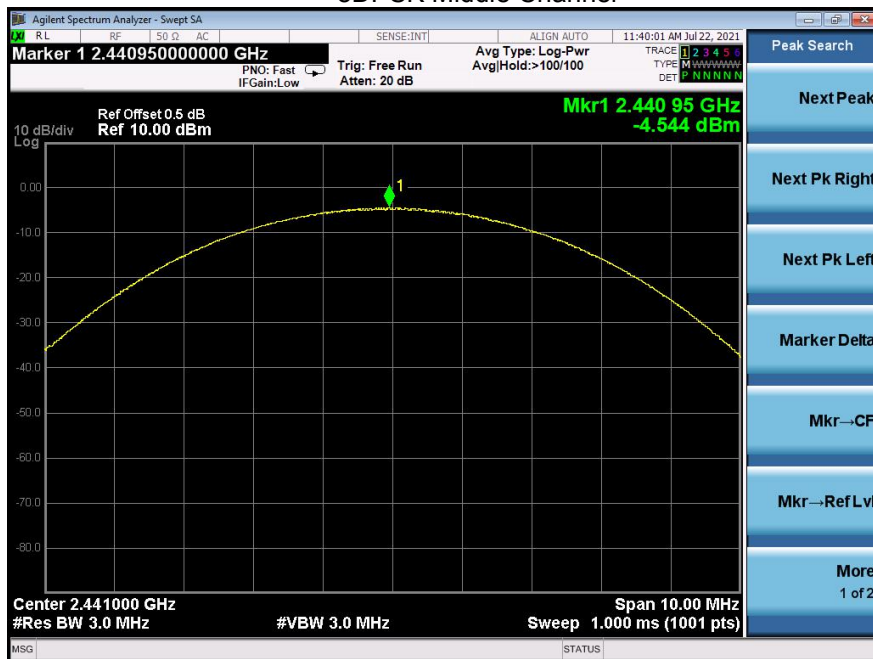
$\pi/4$ DQPSK Low Channel

 $\pi/4$ DQPSK Middle Channel


$\pi/4$ DQPSK High Channel


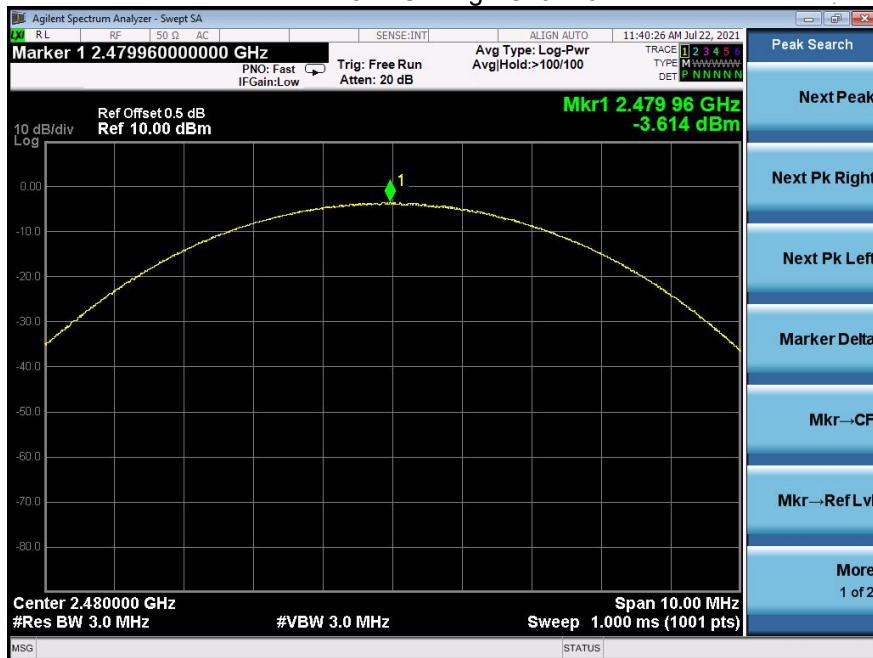
8DPSK Low Channel



8DPSK Middle Channel



8DPSK High Channel



12. HOPPING CHANNEL SEPARATION

12.1 Block Diagram Of Test Setup



12.2 Limit

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 0.125W.

12.3 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 = 30kHz. VBW = 100kHz , Span = 2.0MHz. Sweep = auto; Detector Function = Peak. Trace = Max hold.
3. Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels. The limit is specified in one of the subparagraphs of this Section Submit this plot.

12.4 Test Result

Modulation	Test Channel	Separation (MHz)	Limit(MHz)	Result
GFSK	Low	1.004	0.585	PASS
GFSK	Middle	0.998	0.585	PASS
GFSK	High	0.998	0.587	PASS
$\pi/4$ DQPSK	Low	1.002	0.838	PASS
$\pi/4$ DQPSK	Middle	1.000	0.839	PASS
$\pi/4$ DQPSK	High	1.006	0.827	PASS
8DPSK	Low	0.998	0.812	PASS
8DPSK	Middle	1.000	0.815	PASS
8DPSK	High	1.000	0.832	PASS

Test plots GFSK Low Channel



GFSK Middle Channel



GFSK High Channel



$\pi/4$ DQPSK Low Channel



$\pi/4$ DQPSK Middle Channel



π /4DQPSK High Channel



8DPSK Low Channel



8DPSK Middle Channel



8DPSK High Channel



13. NUMBER OF HOPPING FREQUENCY

13.1 Block Diagram Of Test Setup



13.2 Limit

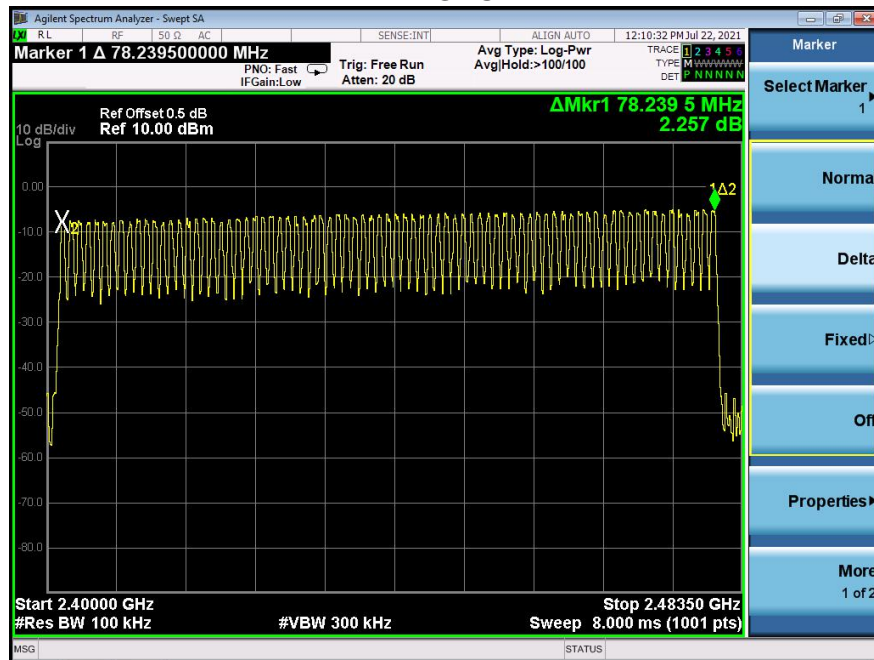
Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels.

13.3 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. Allow the trace to stabilize. It may prove necessary to break the span up to sections. in order to clearly show all of the hopping frequencies. The limit is specified in one of the subparagraphs of this Section.
4. Set the spectrum analyzer: Start Frequency = 2.4GHz, Stop Frequency = 2.4835GHz. Sweep=auto;

13.4 Test Result

Test Plots: 79 Channels in total GFSK



$\pi/4$ DQPSK

