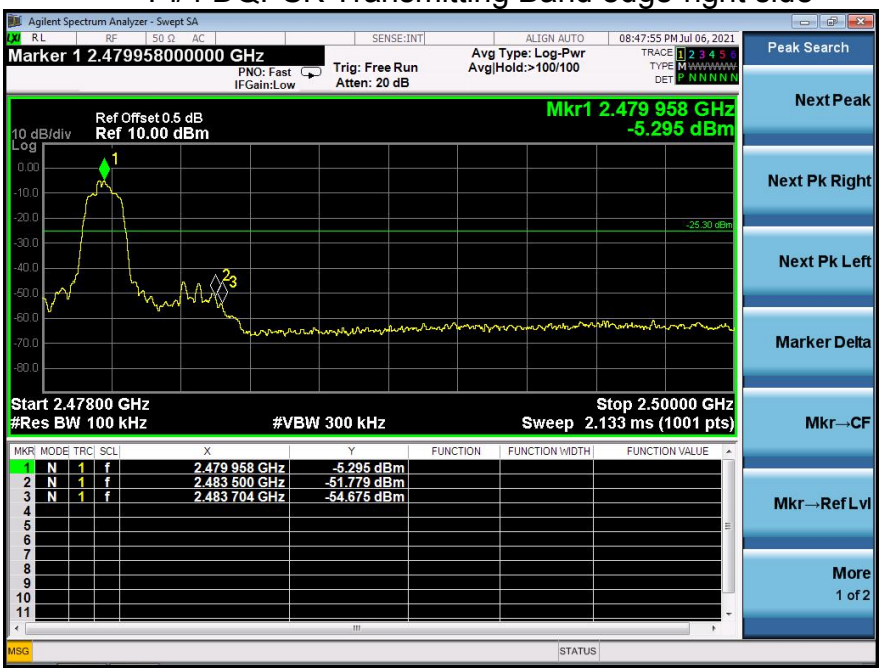
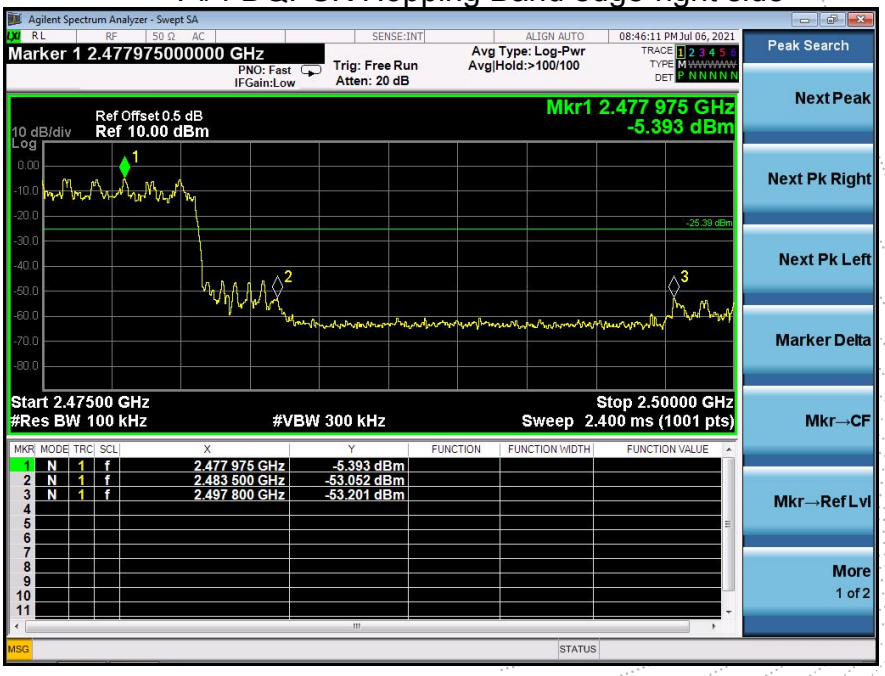
Pi/4 DQPSK Transmitting Band edge-right side

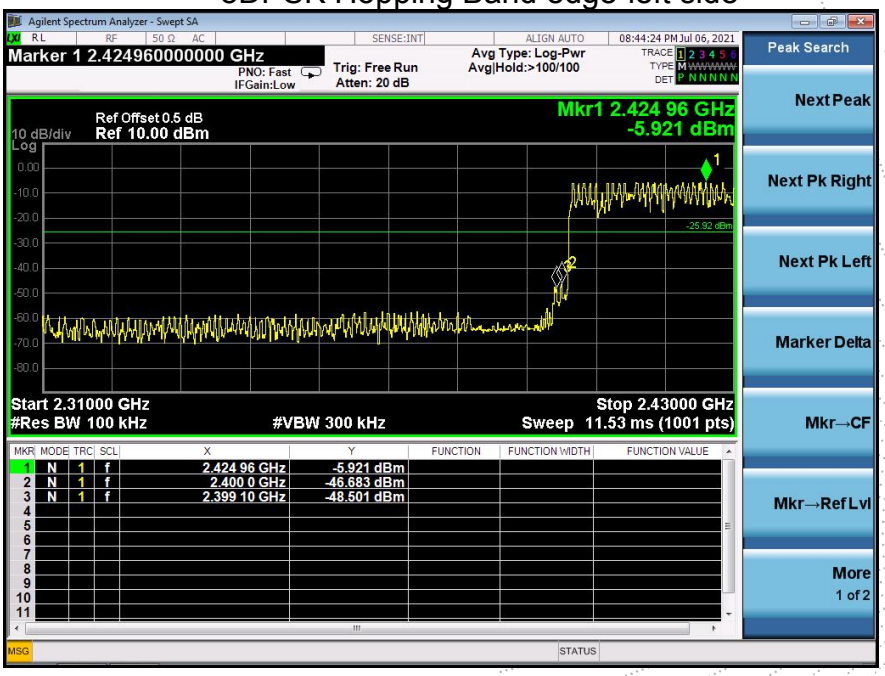


Pi/4 DQPSK Hopping Band edge-right side

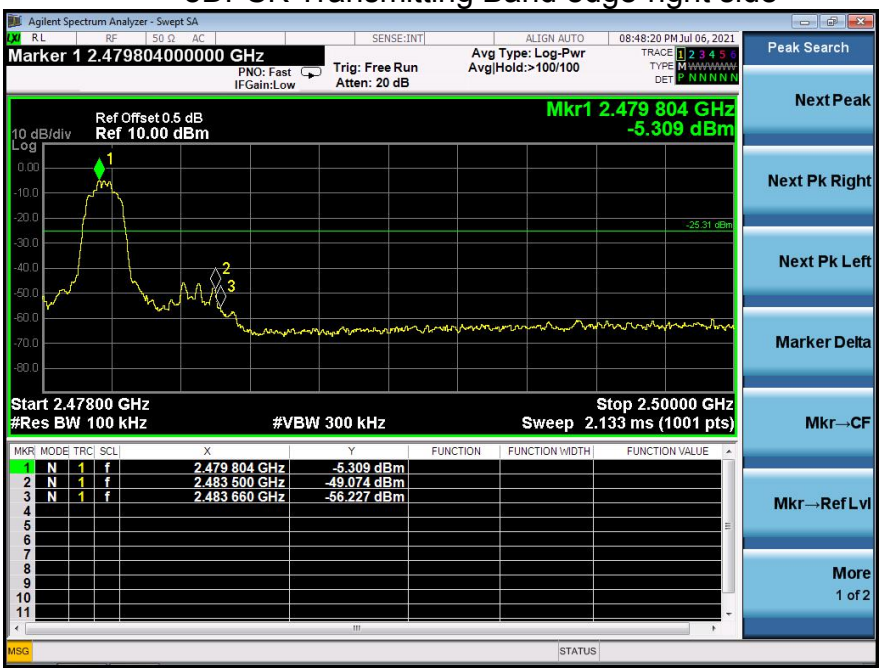


8DPSK Transmitting Band edge-left side

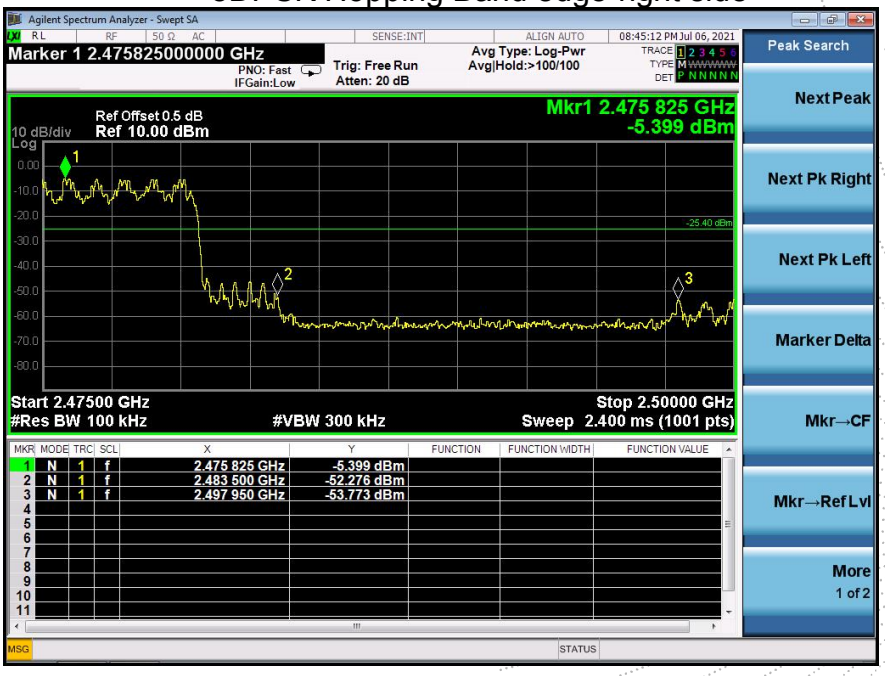
8DPSK Hopping Band edge-left side



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

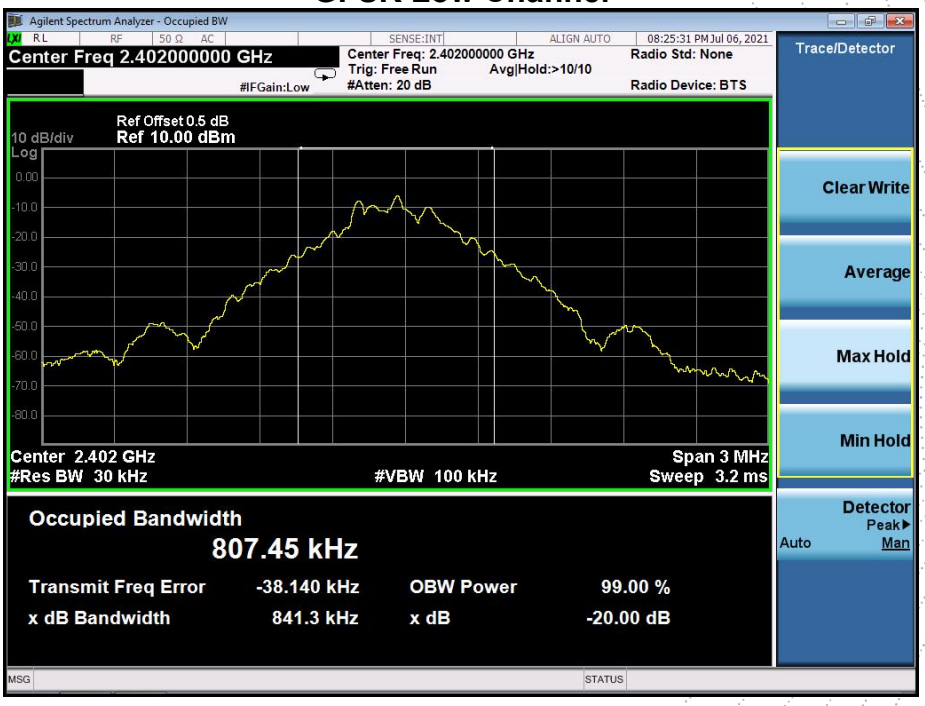
1. Set RBW = 30kHz.
2. Set the video bandwidth (VBW) ≥ 3 x RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (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℃	Relative Humidity：	54%
Test Voltage ：	DC 3.7V	Remark	N/A

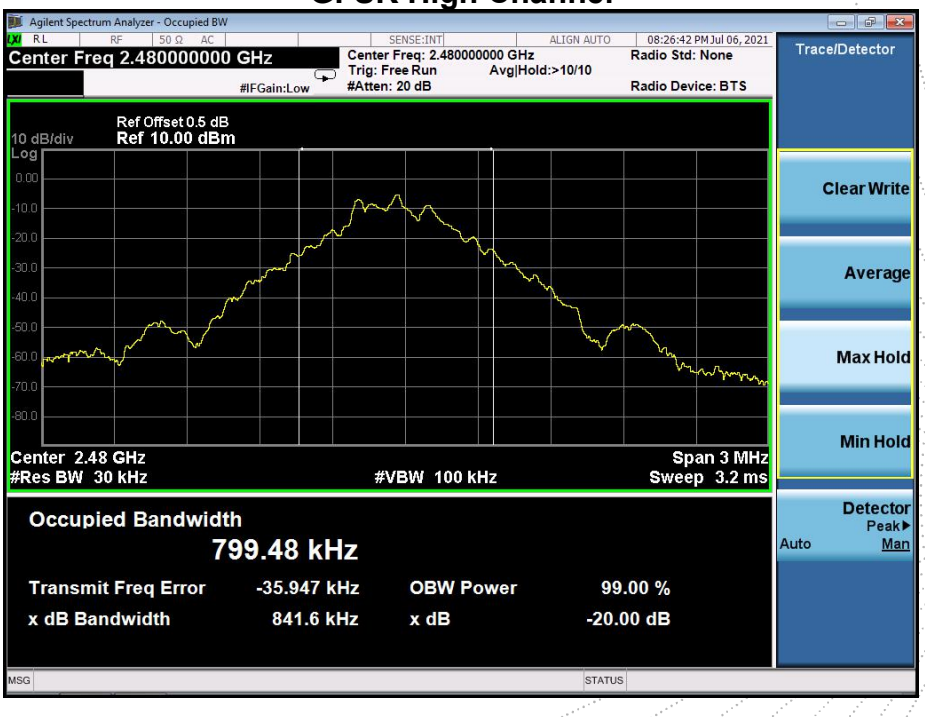
Modulation	Test Channel	Bandwidth(MHz)
GFSK	Low	0.841
GFSK	Middle	0.842
GFSK	High	0.842
Pi/4 DQPSK	Low	1.209
Pi/4 DQPSK	Middle	1.207
Pi/4 DQPSK	High	1.213
8DPSK	Low	1.200
8DPSK	Middle	1.206
8DPSK	High	1.208

Test plots
GFSK Low Channel

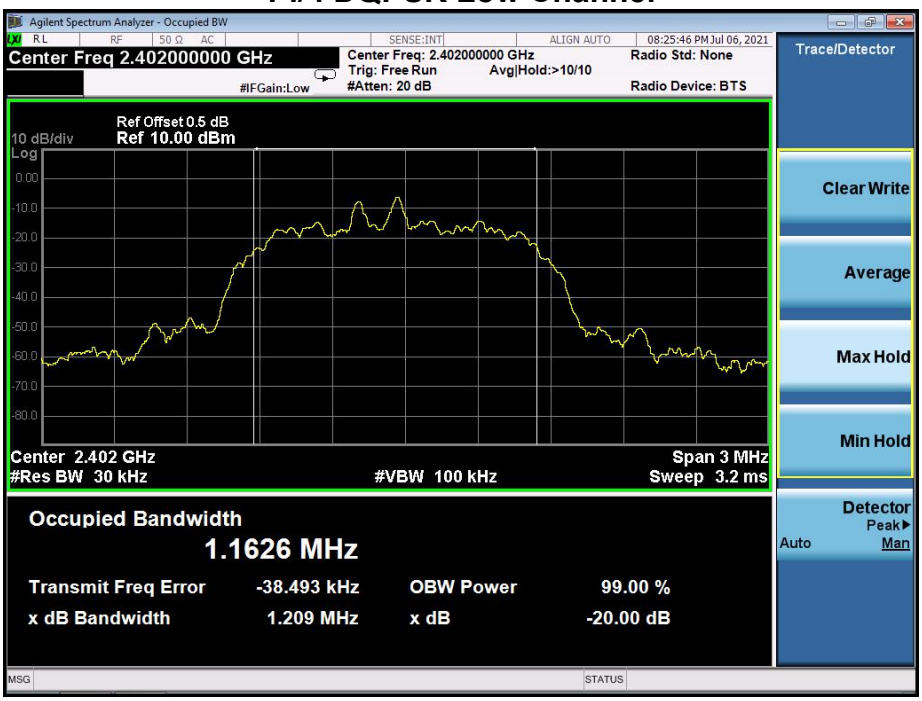


GFSK Middle Channel

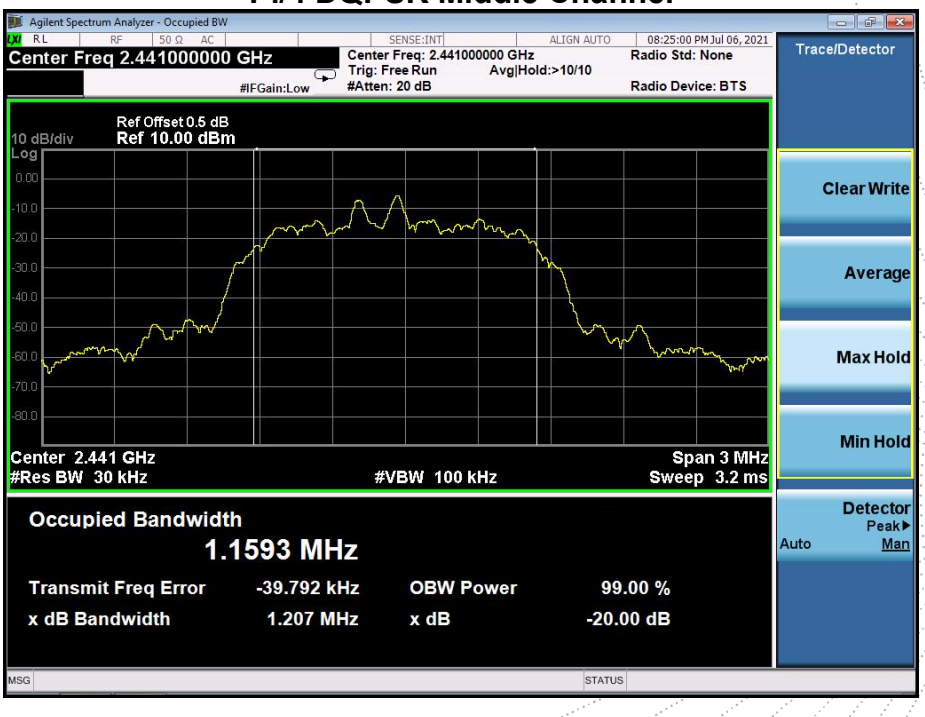
GFSK High Channel



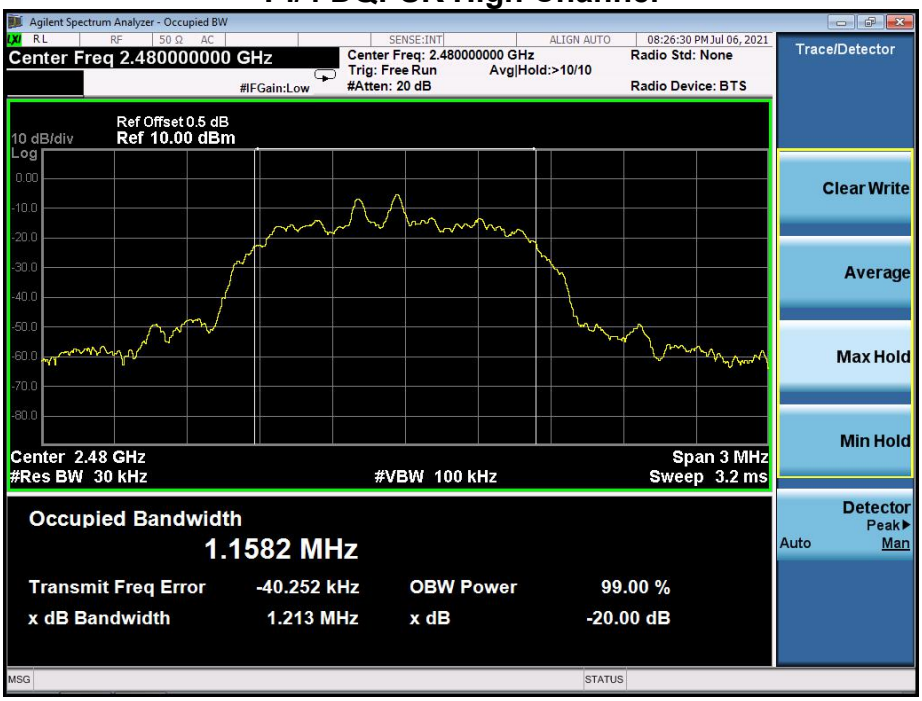
Pi/4 DQPSK Low Channel



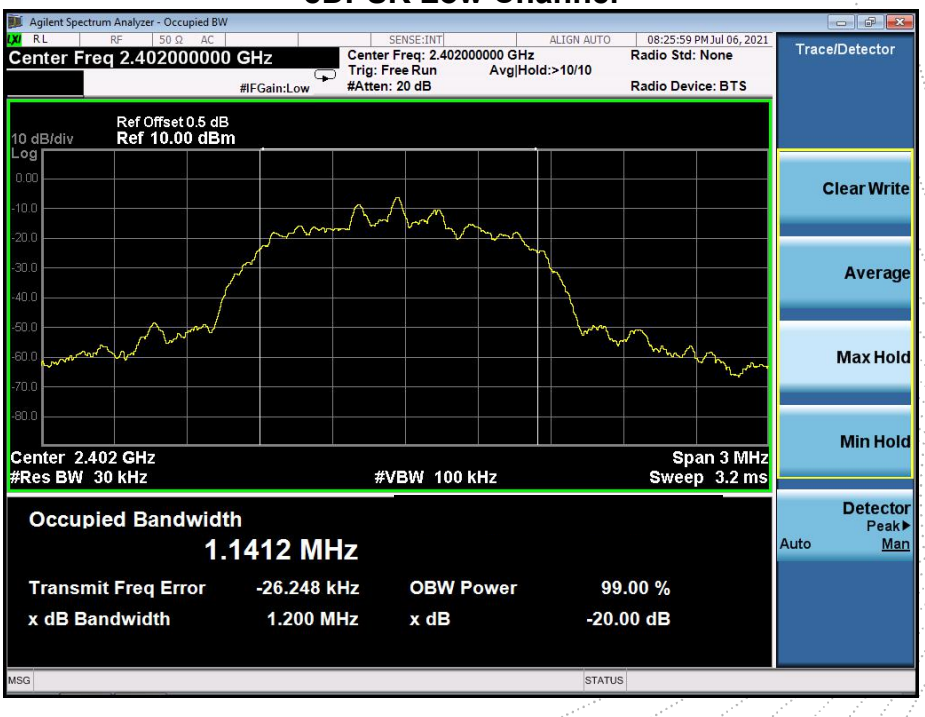
Pi/4 DQPSK Middle Channel



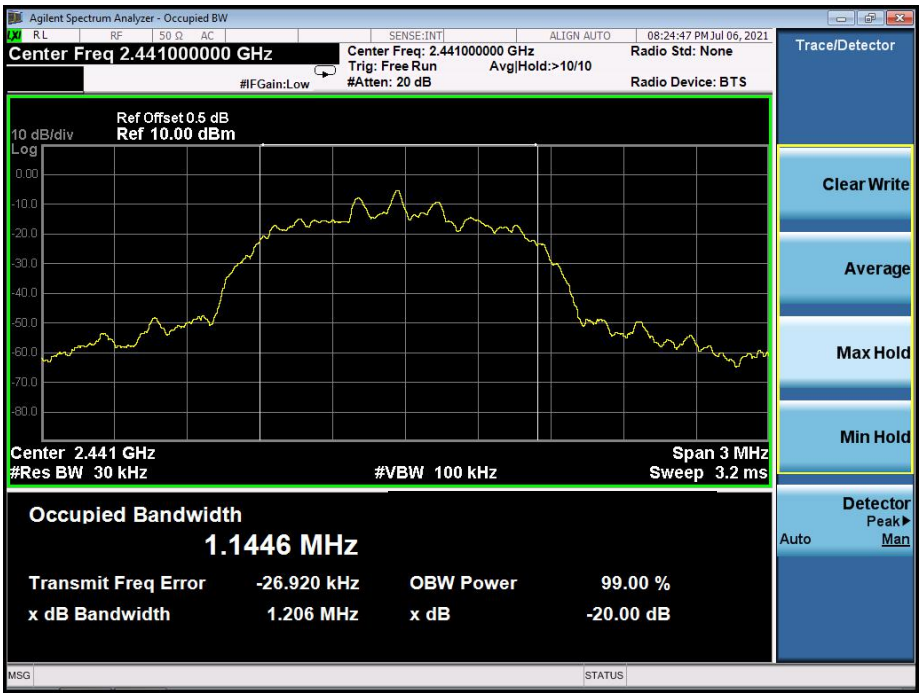
Pi/4 DQPSK High Channel



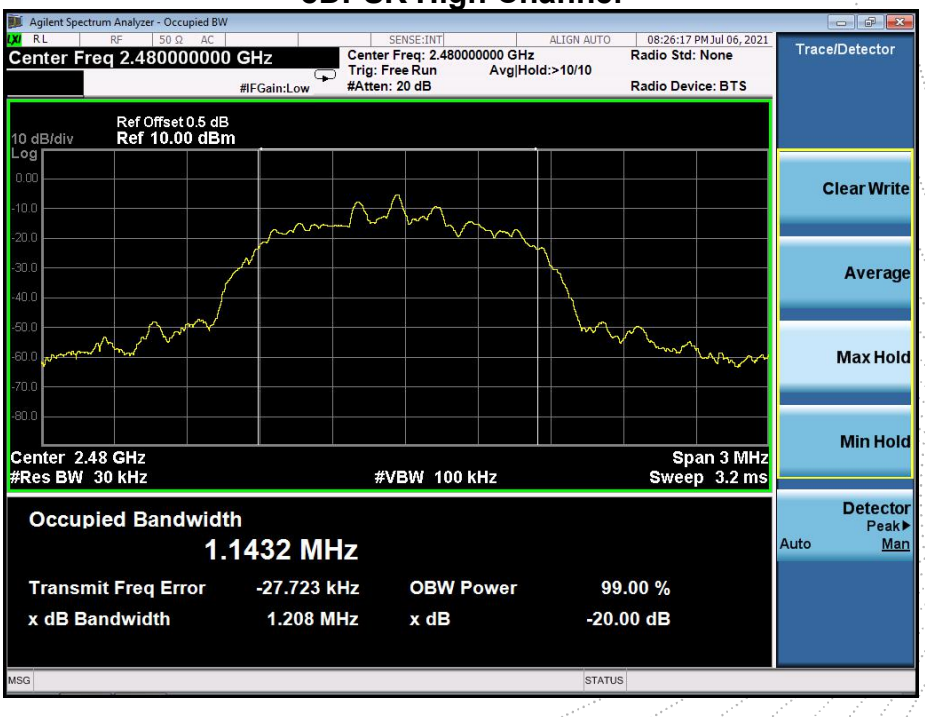
8DPSK Low Channel



8DPSK Middle Channel



8DPSK High Channel



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.

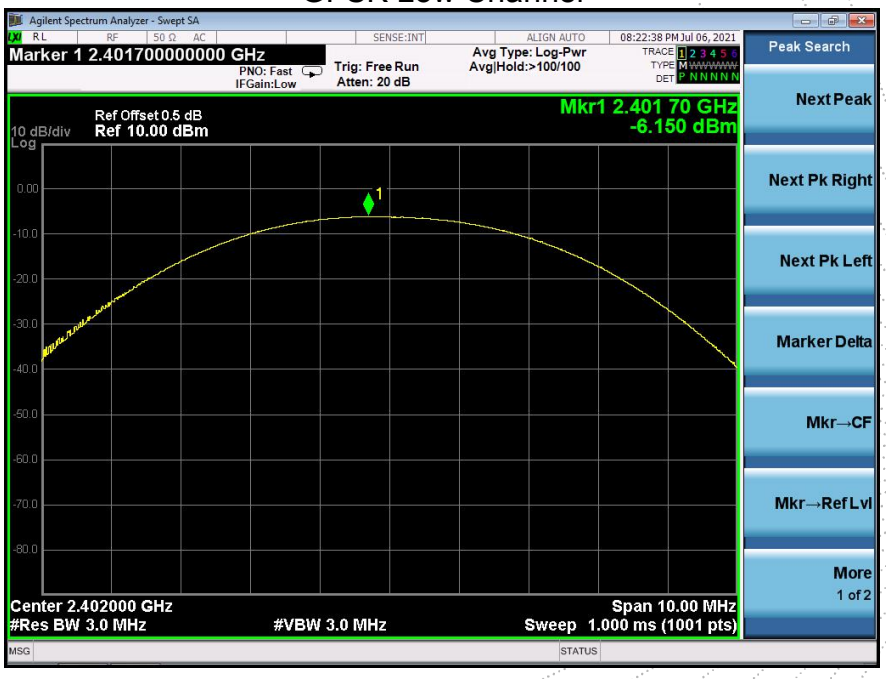
11.4 Test Result

Temperature：	26℃	Relative Humidity：	54%
Test Voltage ：	DC 3.7V	Remark:	N/A

Modulation	Test Channel	Output Power (dBm)	Limit (dBm)
GFSK	Low	-6.150	21
GFSK	Middle	-5.395	21
GFSK	High	-5.255	21
Pi/4 DQPSK	Low	-5.353	21
Pi/4 DQPSK	Middle	-4.544	21
Pi/4 DQPSK	High	-4.451	21
8DPSK	Low	-4.776	21
8DPSK	Middle	-3.998	21
8DPSK	High	-3.900	21

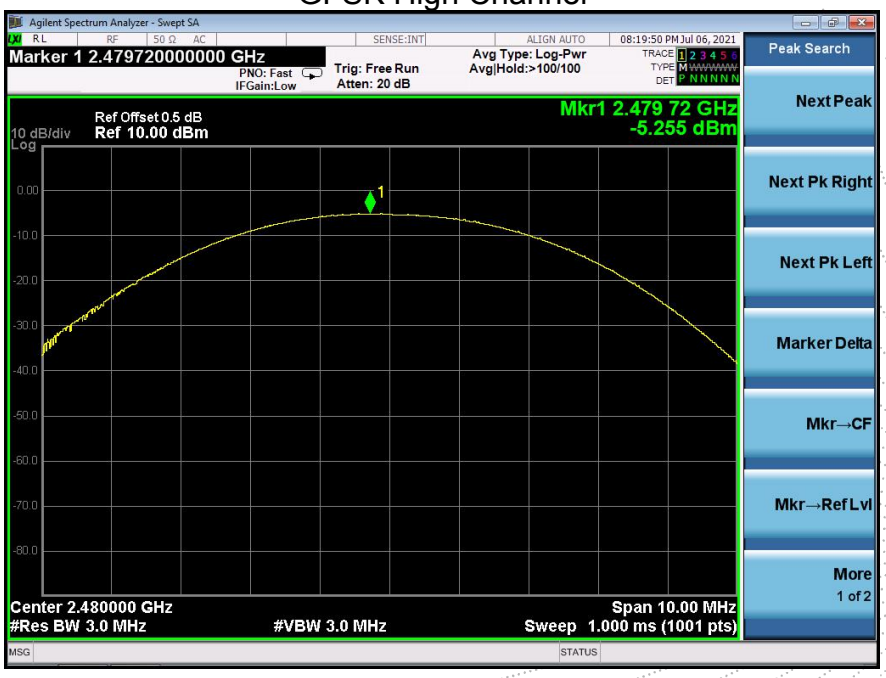
Test plots

GFSK Low Channel



GFSK Middle Channel

GFSK High Channel

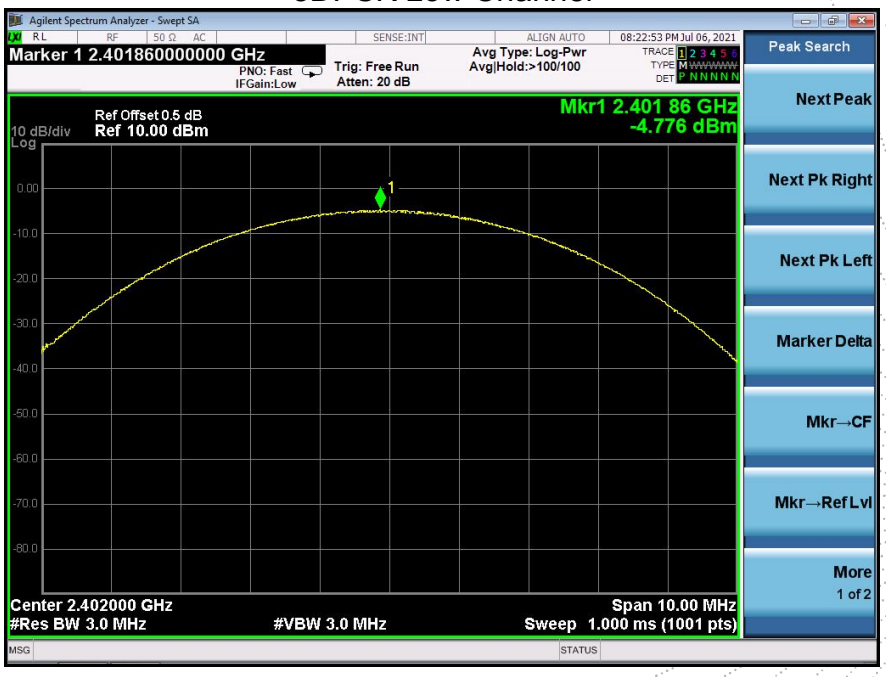


Pi/4 DQPSK Low Channel

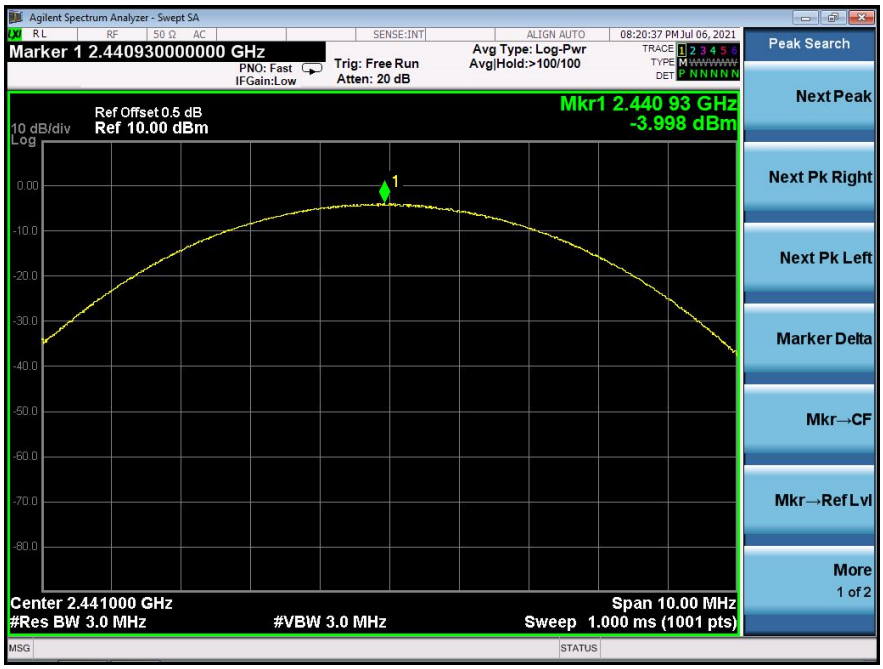
Pi/4 DQPSK Middle Channel

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	1.000	0.561	PASS
GFSK	Middle	1.000	0.561	PASS
GFSK	High	0.998	0.561	PASS
Pi/4 DQPSK	Low	1.000	0.806	PASS
Pi/4 DQPSK	Middle	1.000	0.805	PASS
Pi/4 DQPSK	High	1.000	0.809	PASS
8DPSK	Low	1.000	0.800	PASS
8DPSK	Middle	1.000	0.804	PASS
8DPSK	High	0.998	0.805	PASS

Test plots

GFSK Low Channel 阿

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