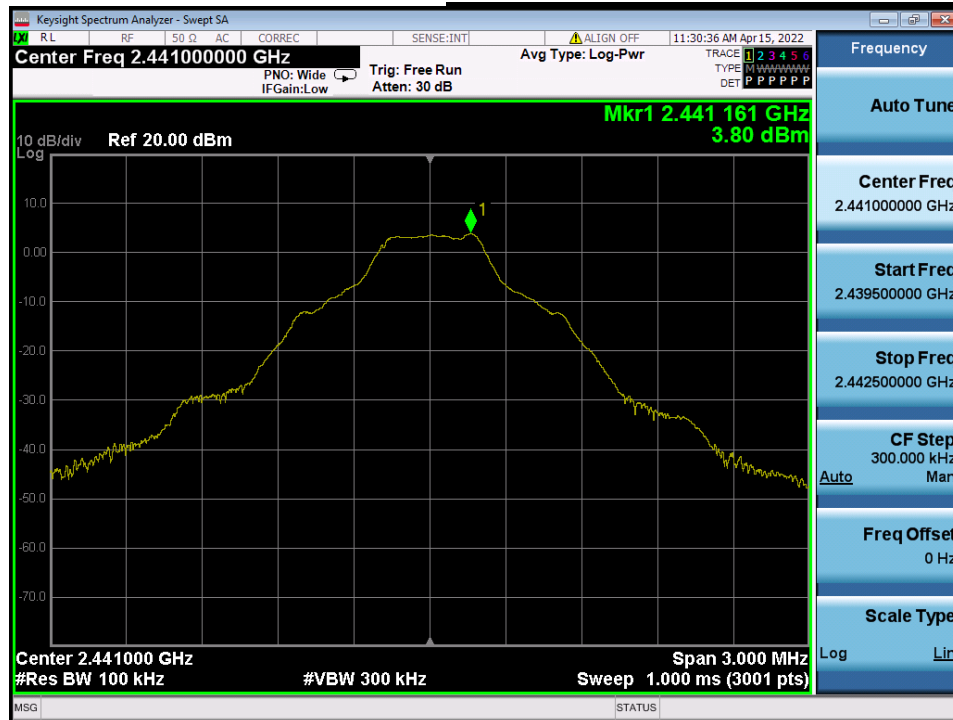


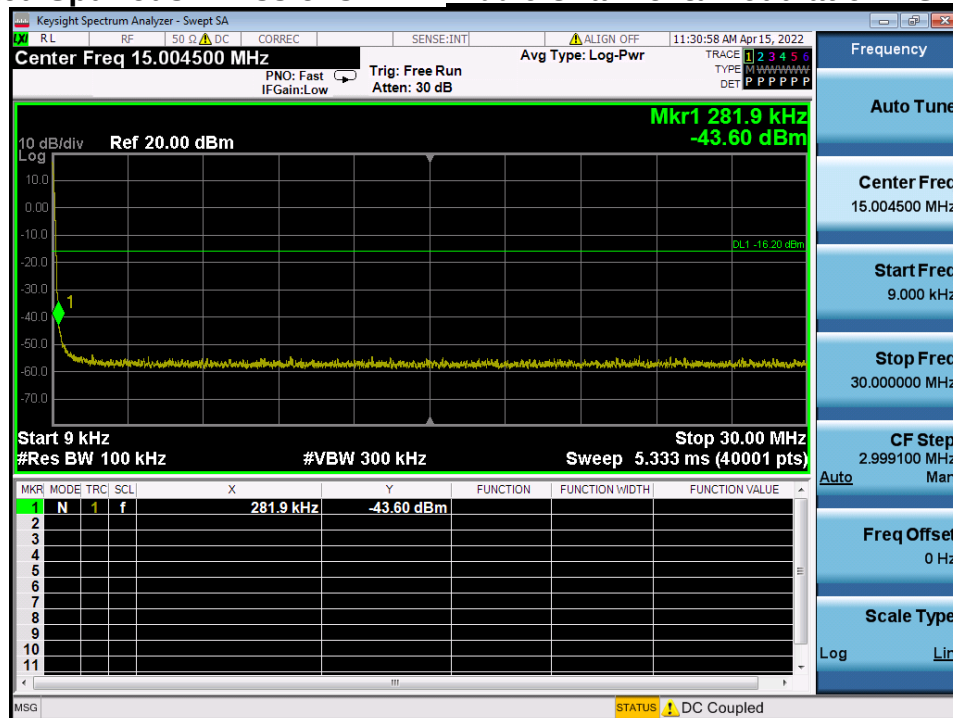
Reference for limit

Middle Channel & Modulation : GFSK



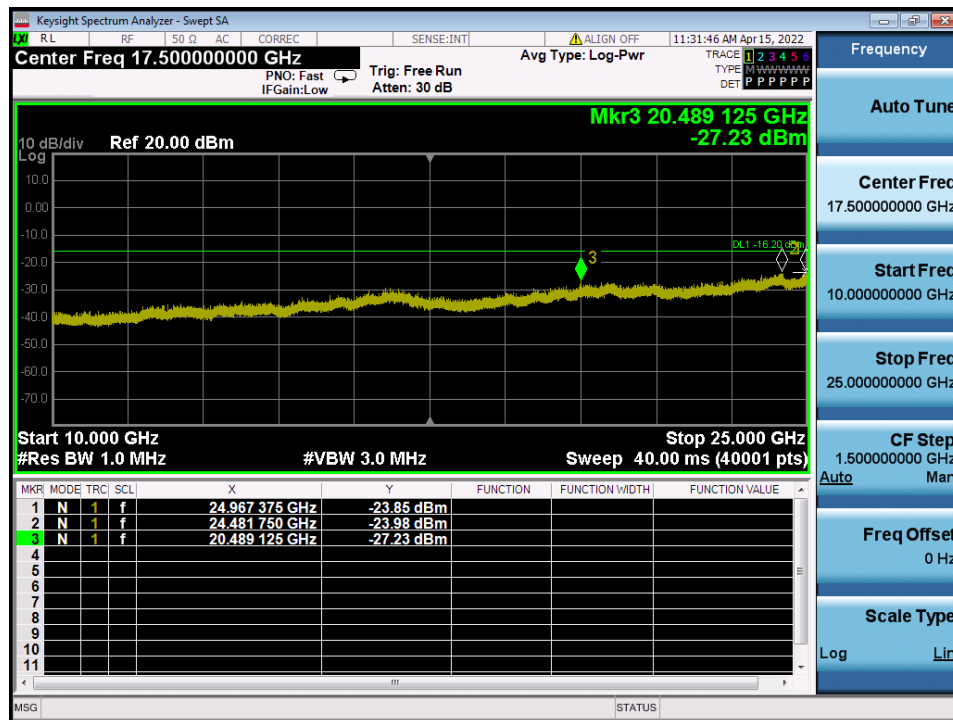
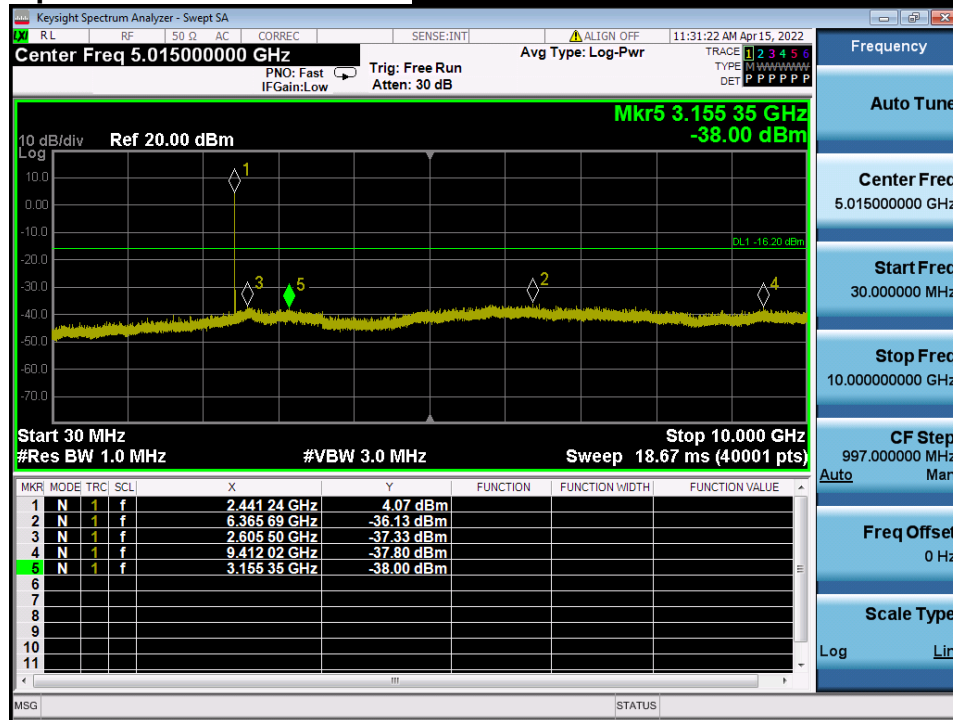
Conducted Spurious Emissions

Middle Channel & Modulation : GFSK



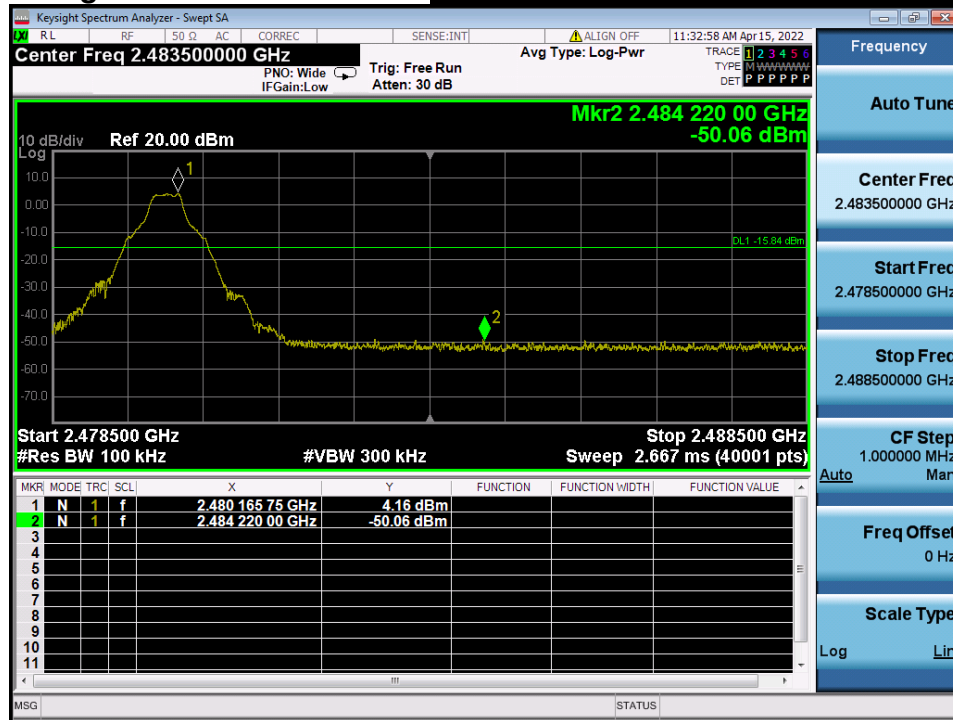
Conducted Spurious Emissions

Middle Channel & Modulation : GFSK



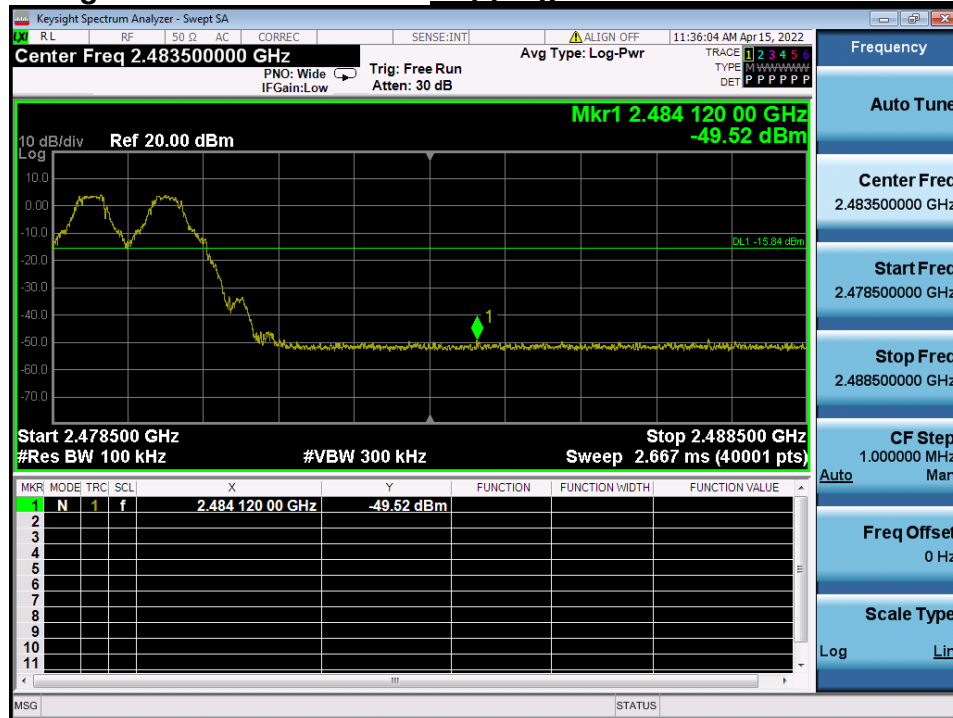
High Band-edge

Highest Channel & Modulation : GFSK

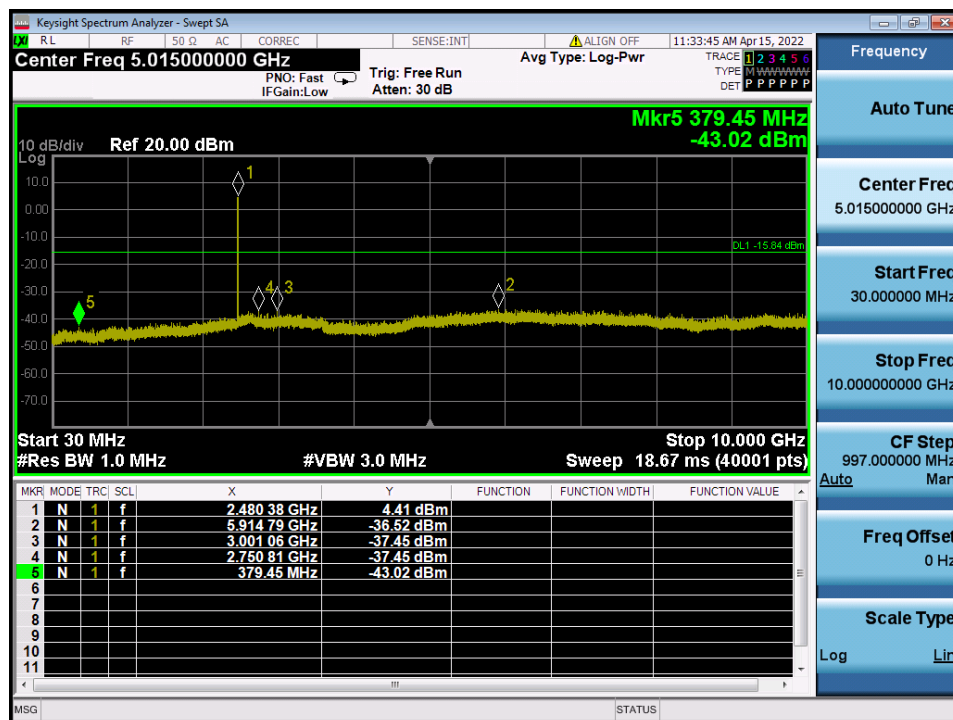
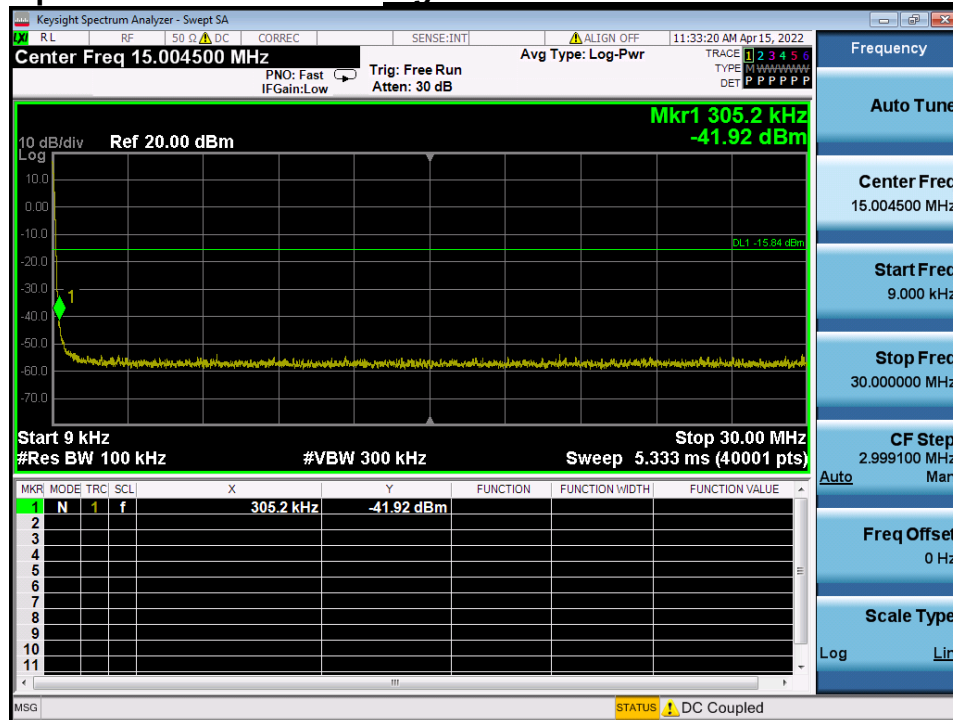


High Band-edge

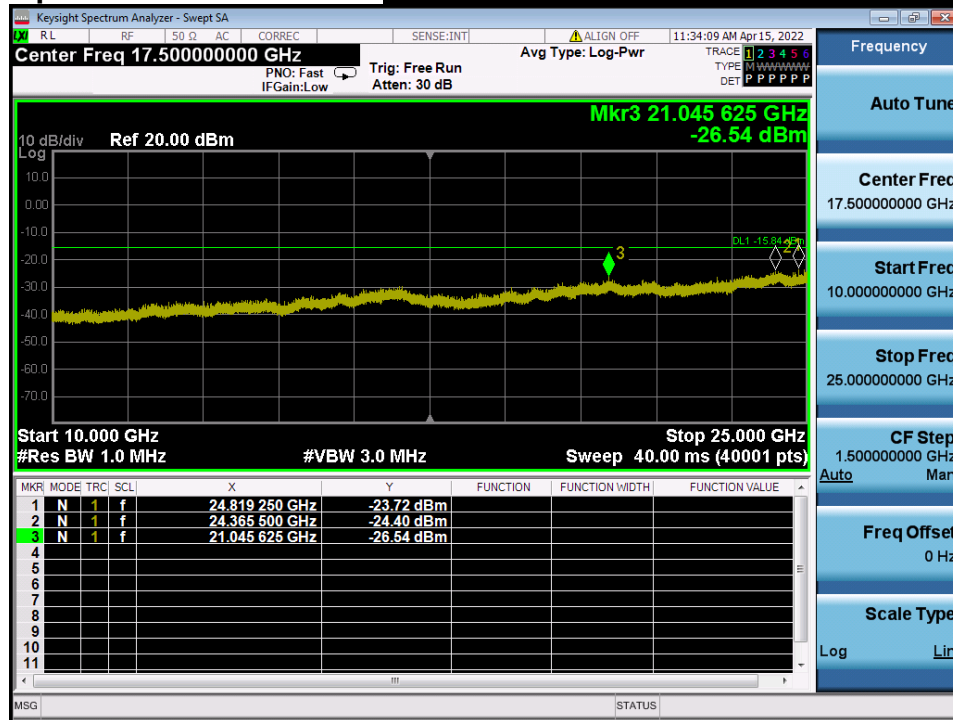
Hopping mode & Modulation : GFSK



Conducted Spurious Emissions *Highest Channel & Modulation : GFSK*

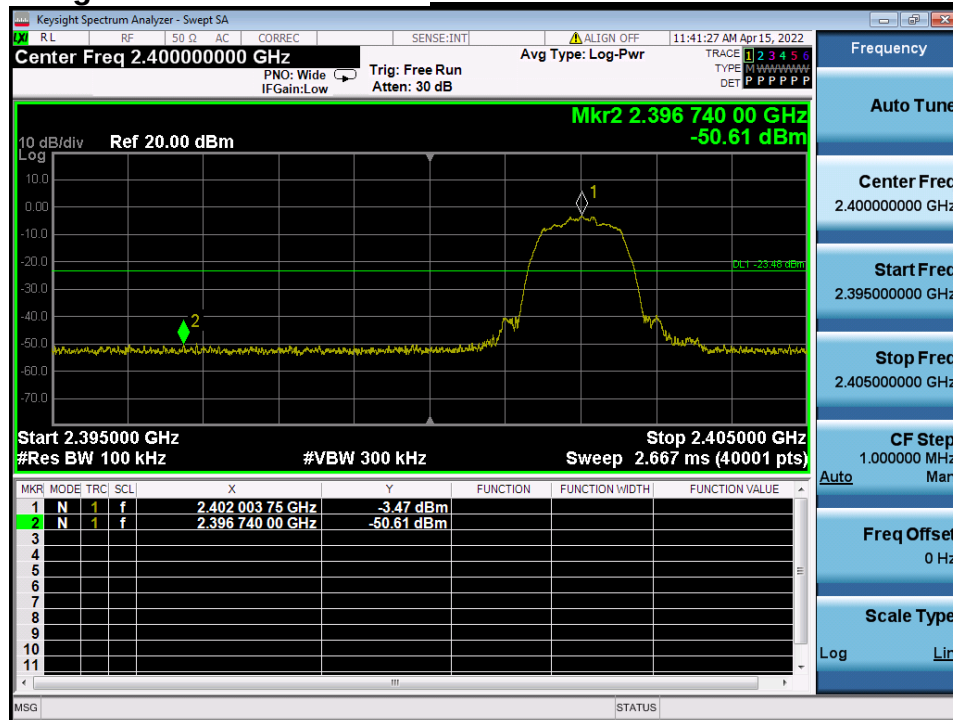


Conducted Spurious Emissions **Highest Channel & Modulation : GFSK**



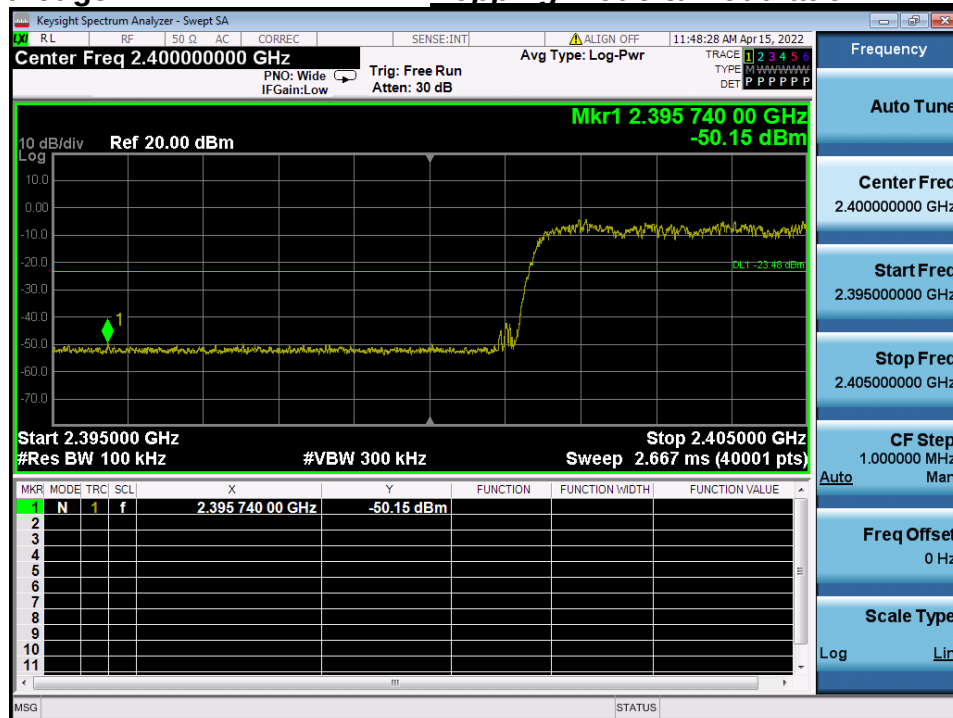
Low Band-edge

Lowest Channel & Modulation : $\pi/4$ DQPSK

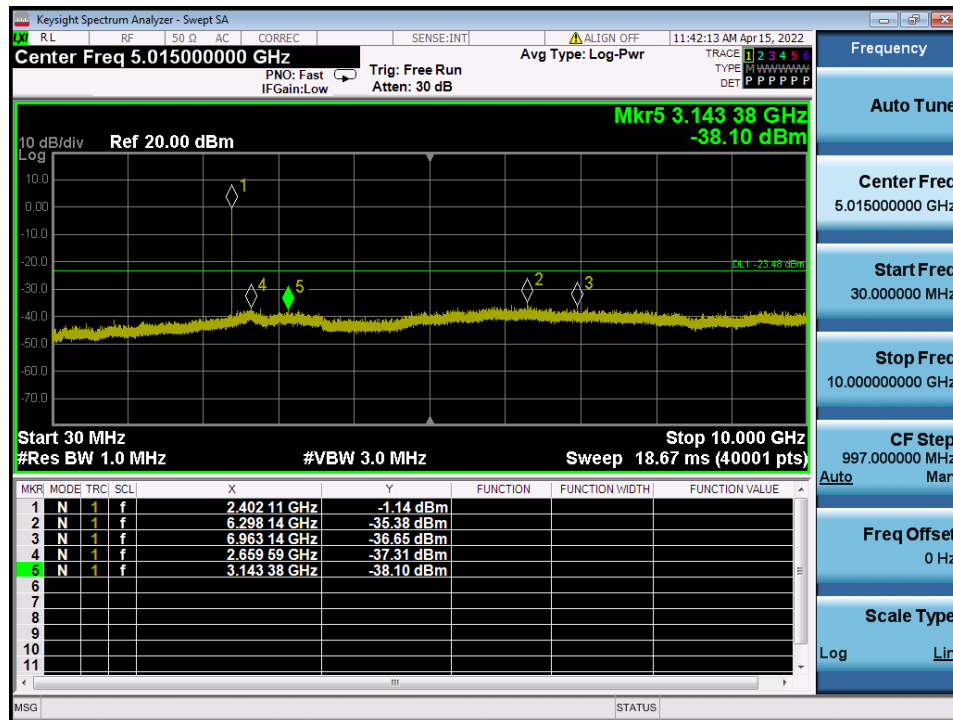
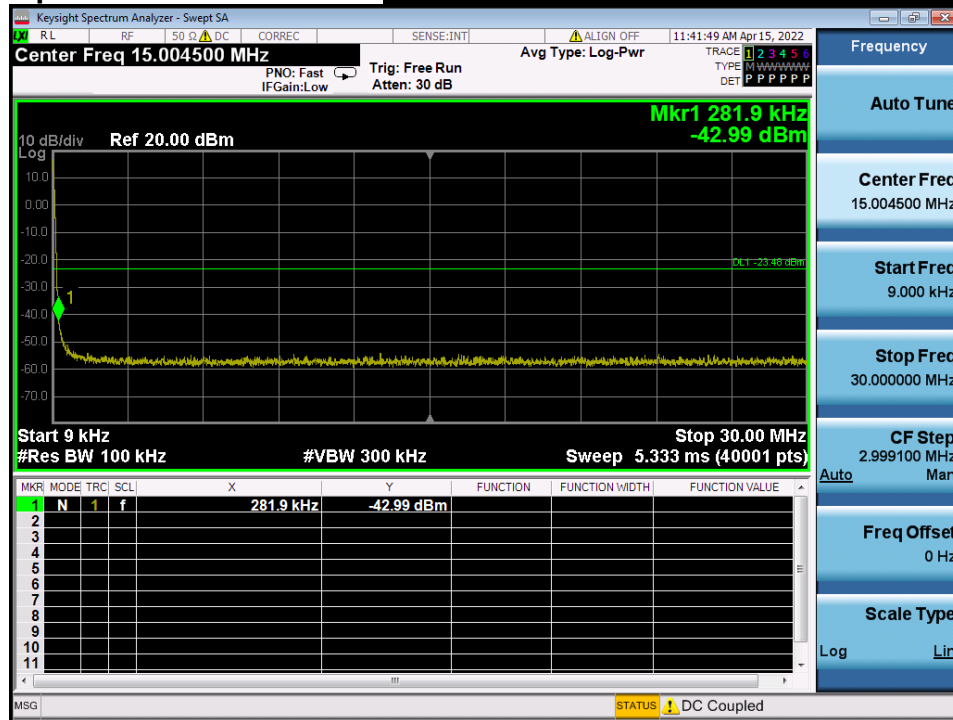


Low Band-edge

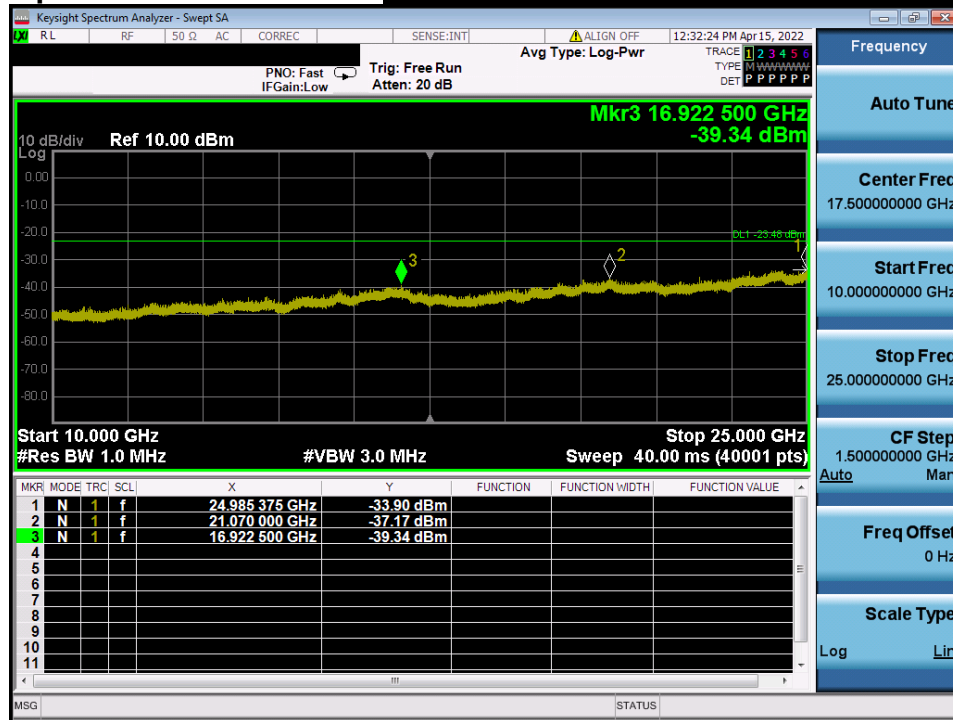
Hopping mode & Modulation : $\pi/4$ DQPSK



Conducted Spurious Emissions Lowest Channel & Modulation : $\pi/4$ DQPSK

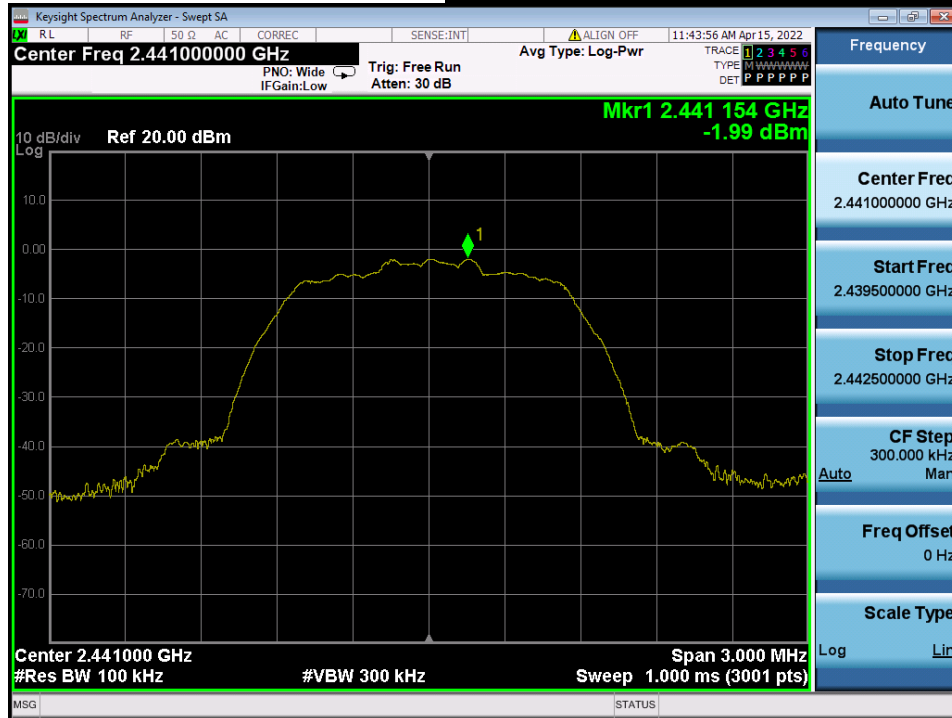


Conducted Spurious Emissions Lowest Channel & Modulation : $\pi/4$ DQPSK



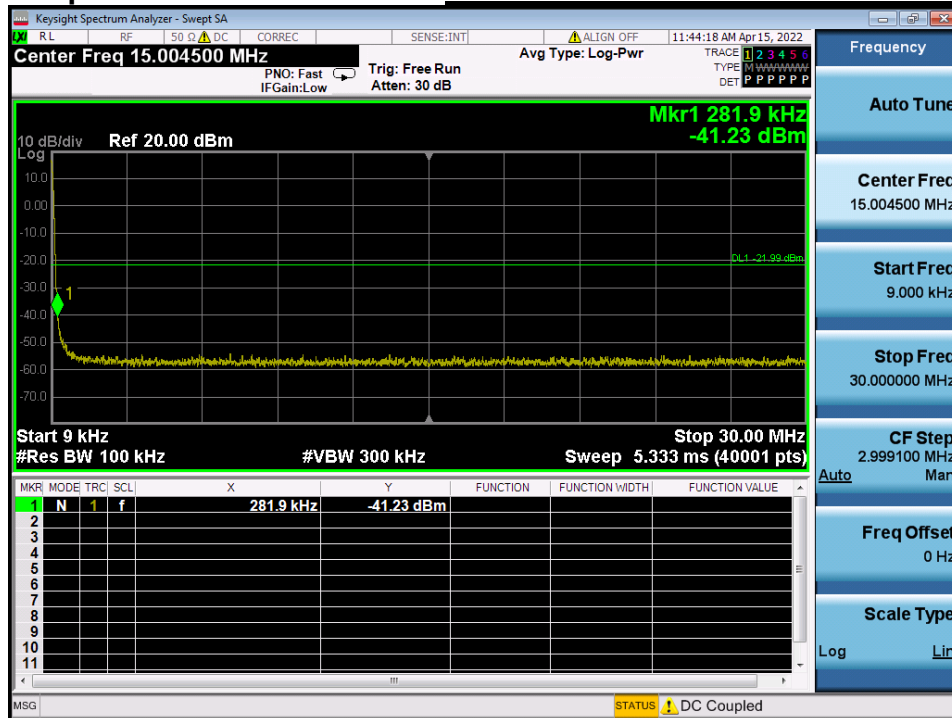
Reference for limit

Middle Channel & Modulation : $\pi/4$ DQPSK



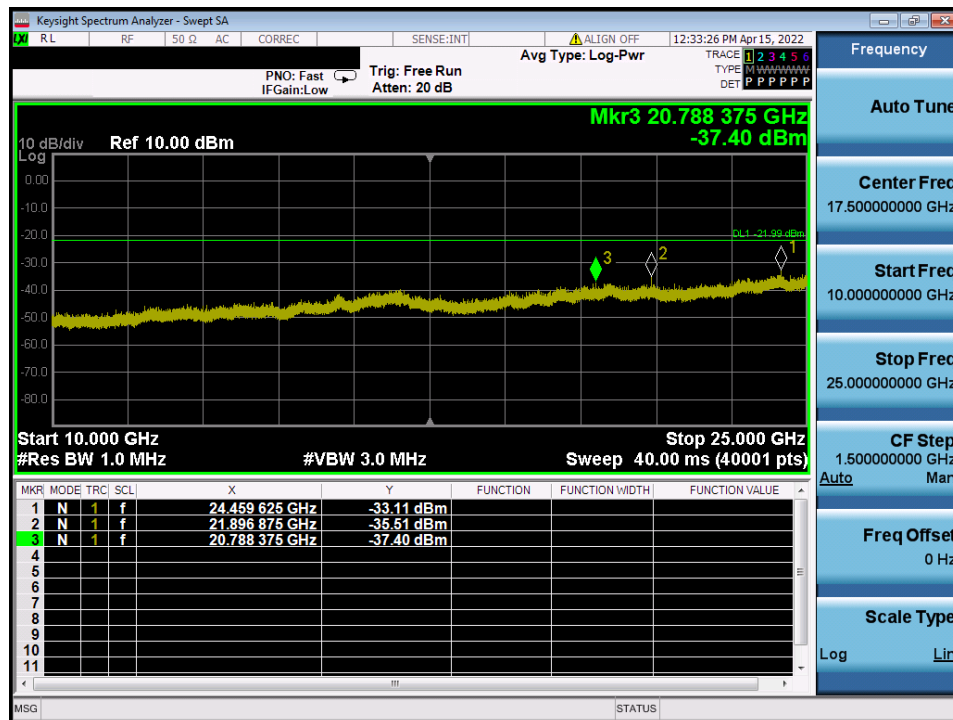
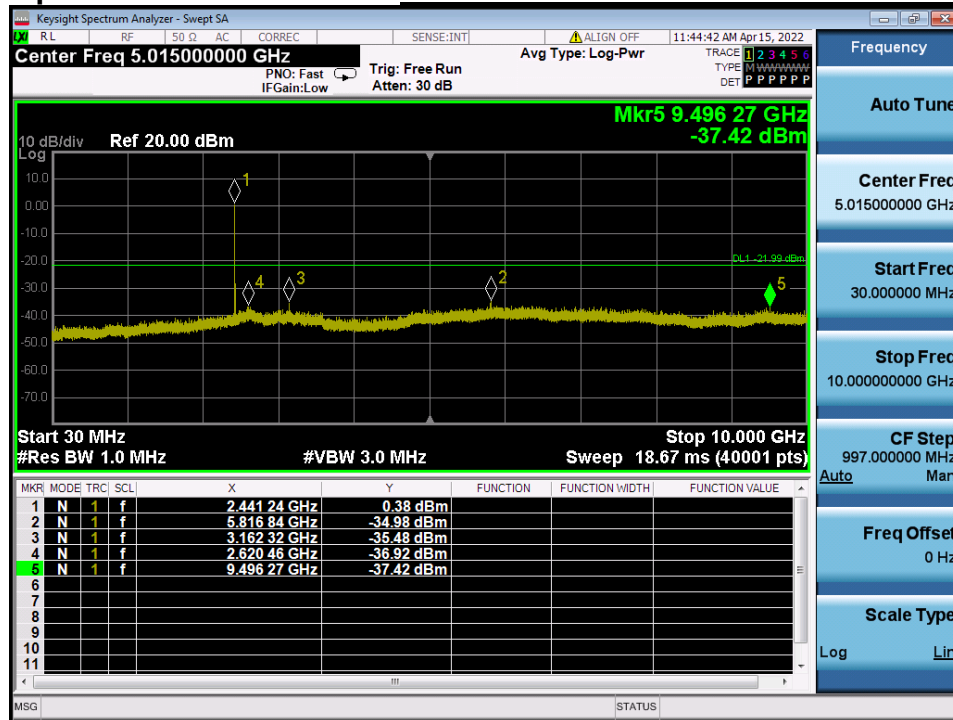
Conducted Spurious Emissions

Middle Channel & Modulation : $\pi/4$ DQPSK



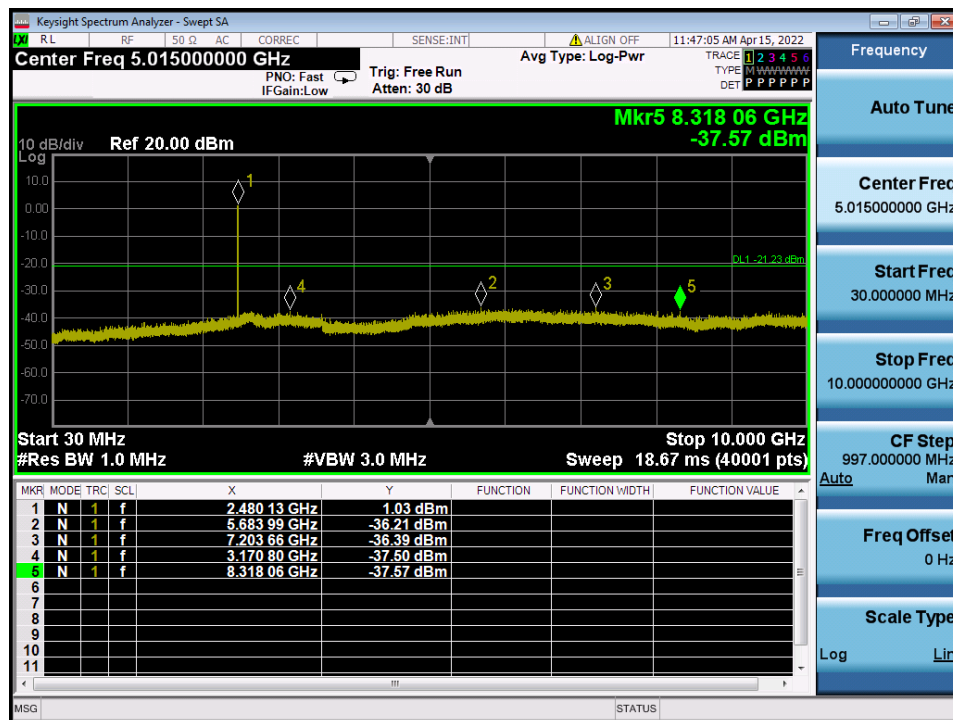
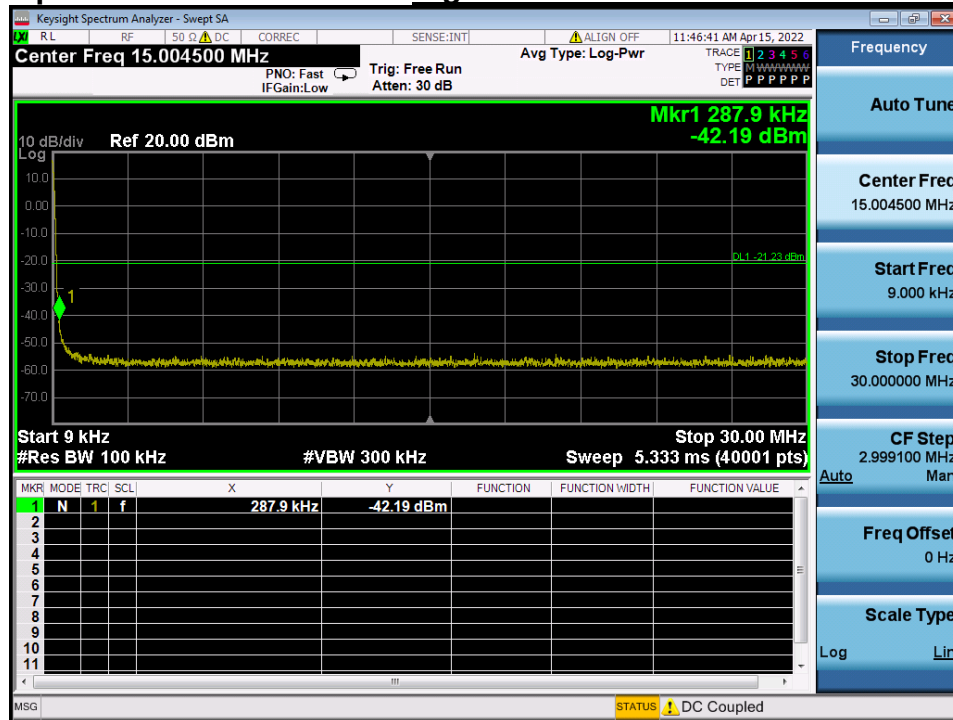
Conducted Spurious Emissions

Middle Channel & Modulation : $\pi/4$ DQPSK



Conducted Spurious Emissions

Highest Channel & Modulation : $\pi/4$ DQPSK



Highest Channel & Modulation : $\pi/4$ DQPSK

Keysight Spectrum Analyzer - Swept SA

RL RF 50 Ω AC CORREC SENSE:INT ALIGN OFF 12:34:17 PM Apr 15, 2022

PNO: Fast IF Gain: Low Trig: Free Run Atten: 20 dB Avg Type: Log-Pwr

TRACE 1 2 3 4 5 6 TYPE M DET P P P P P P

10 dB/div Ref 10.00 dBm

Mkr3 22.800 625 GHz -37.60 dBm

0.00 -10.0 -20.0 -30.0 -40.0 -50.0 -60.0 -70.0 -80.0

Start 10.000 GHz Stop 25.000 GHz
#Res BW 1.0 MHz #VBW 3.0 MHz Sweep 40.00 ms (40001 pts)

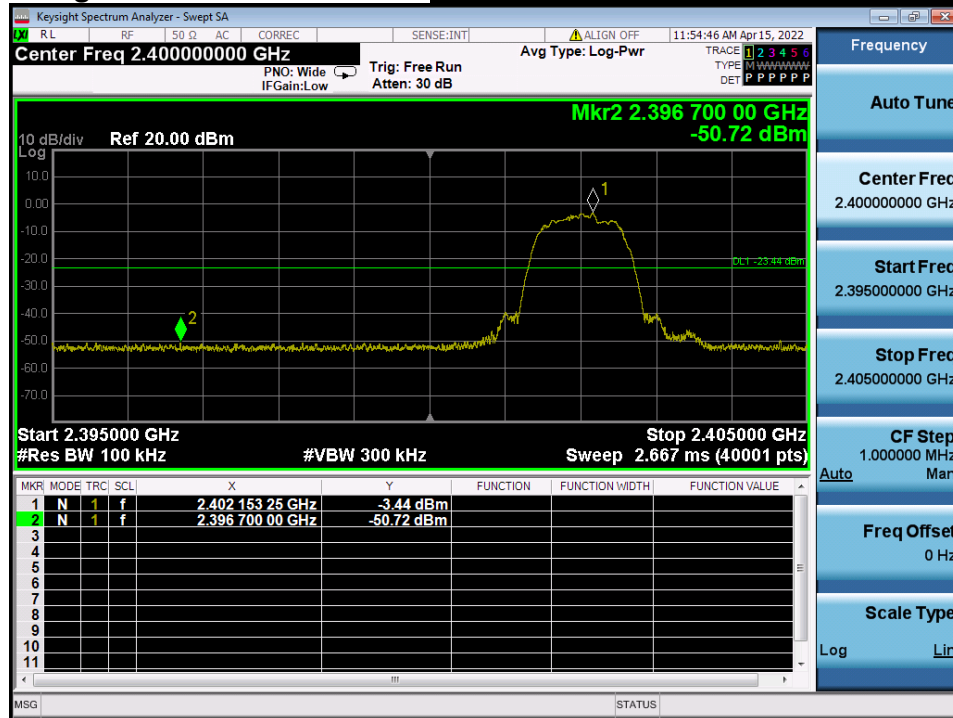
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	24.294 250 GHz	-34.01 dBm			
2	N	1	f	23.852 500 GHz	-35.09 dBm			
3	N	1	f	22.800 625 GHz	-37.60 dBm			
4								
5								
6								
7								
8								
9								
10								
11								

MSG STATUS

Frequency Auto Tune Center Freq 17.500000000 GHz Start Freq 10.000000000 GHz Stop Freq 25.000000000 GHz CF Step 1.500000000 GHz Auto Mar Freq Offset 0 Hz Scale Type Log Lin

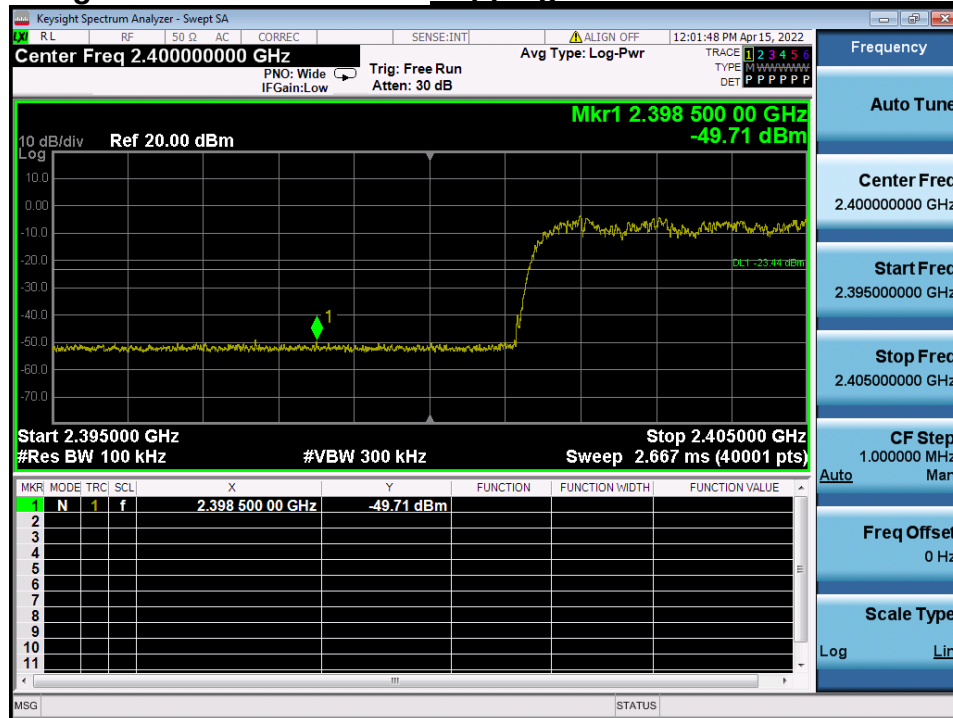
Low Band-edge

Lowest Channel & Modulation : 8DPSK



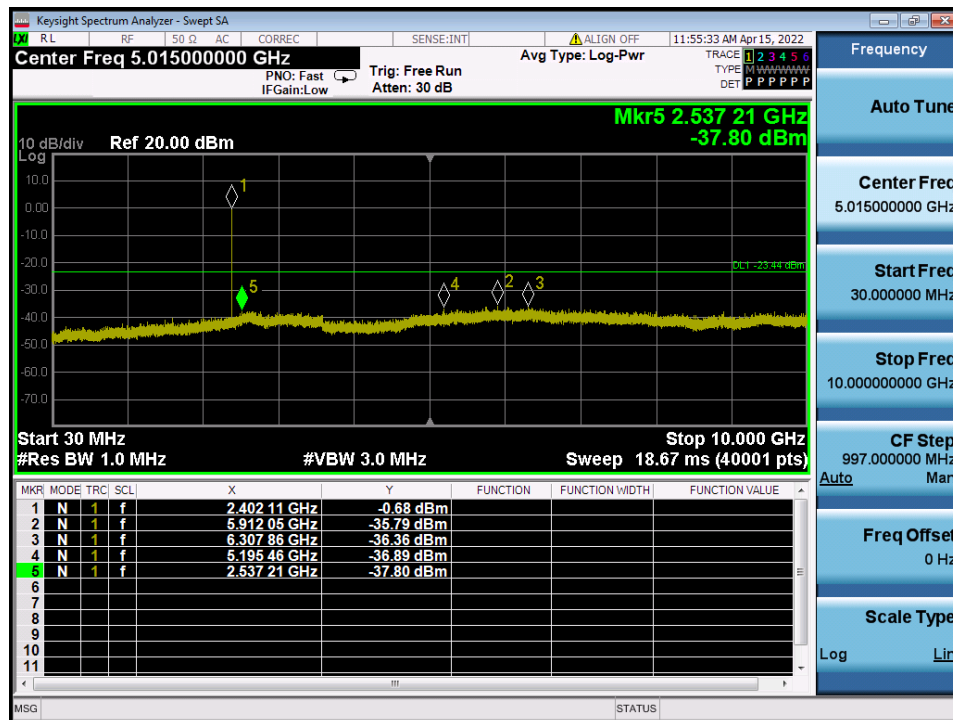
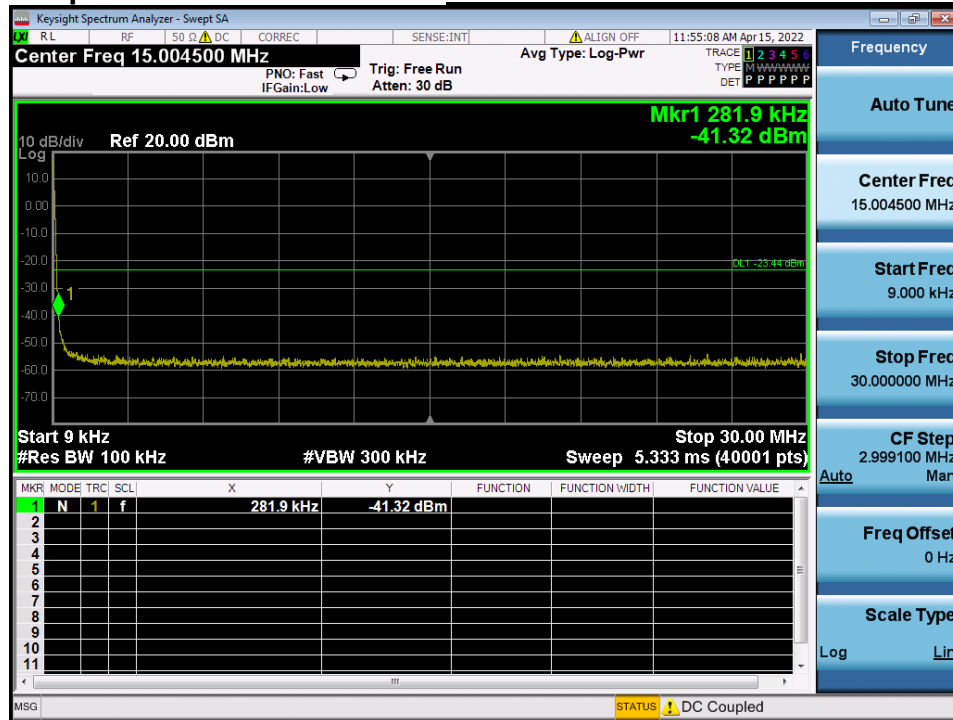
Low Band-edge

Hopping mode & Modulation : 8DPSK



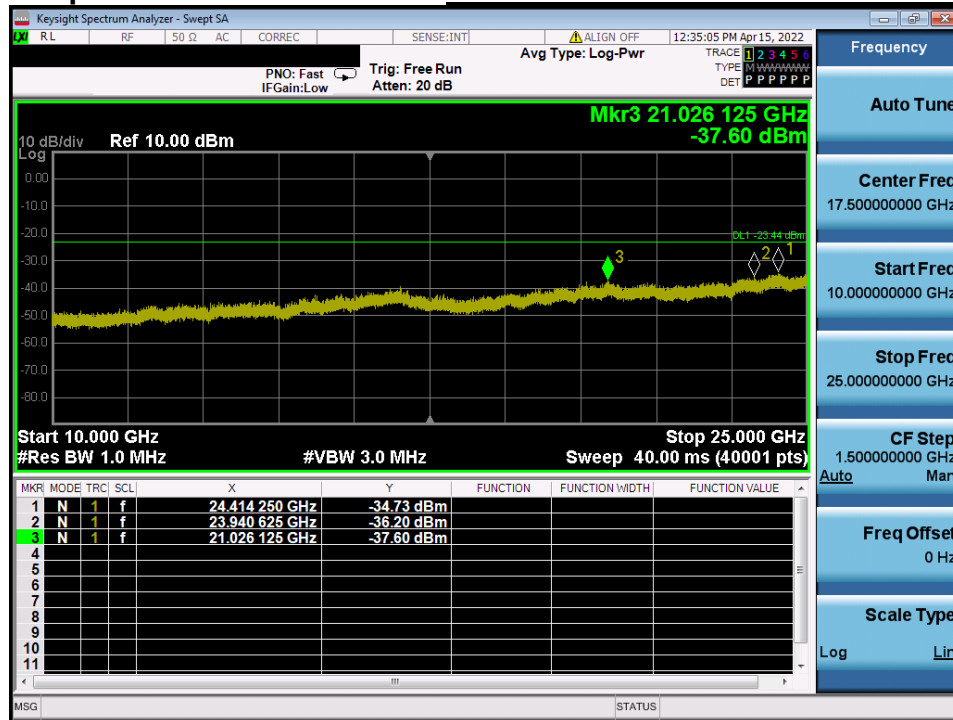
Conducted Spurious Emissions

Lowest Channel & Modulation : 8DPSK



Conducted Spurious Emissions

Lowest Channel & Modulation : 8DPSK



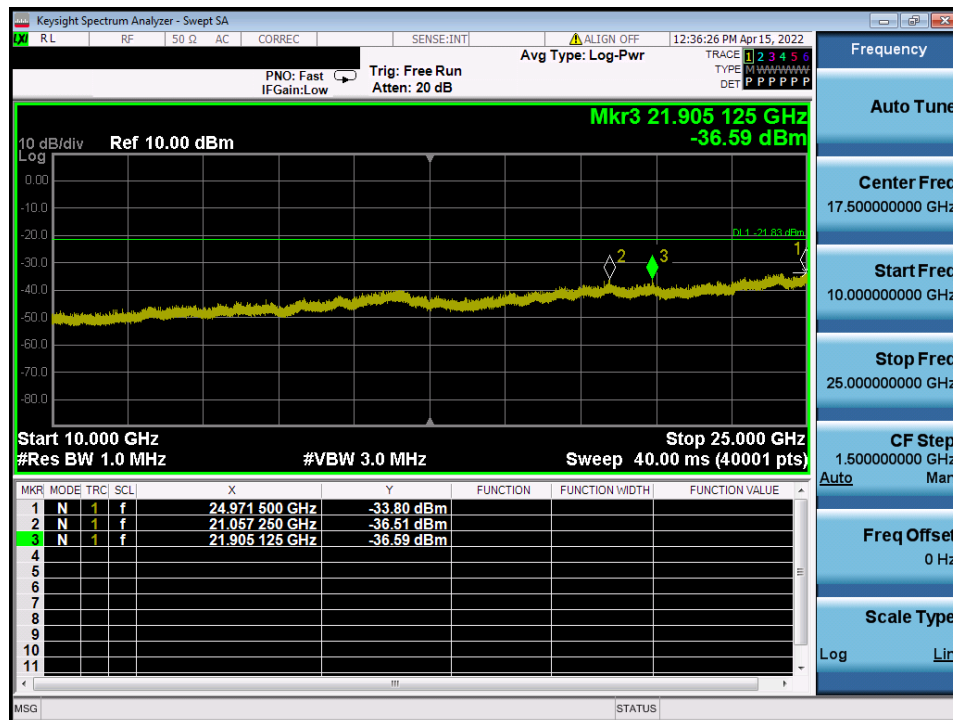
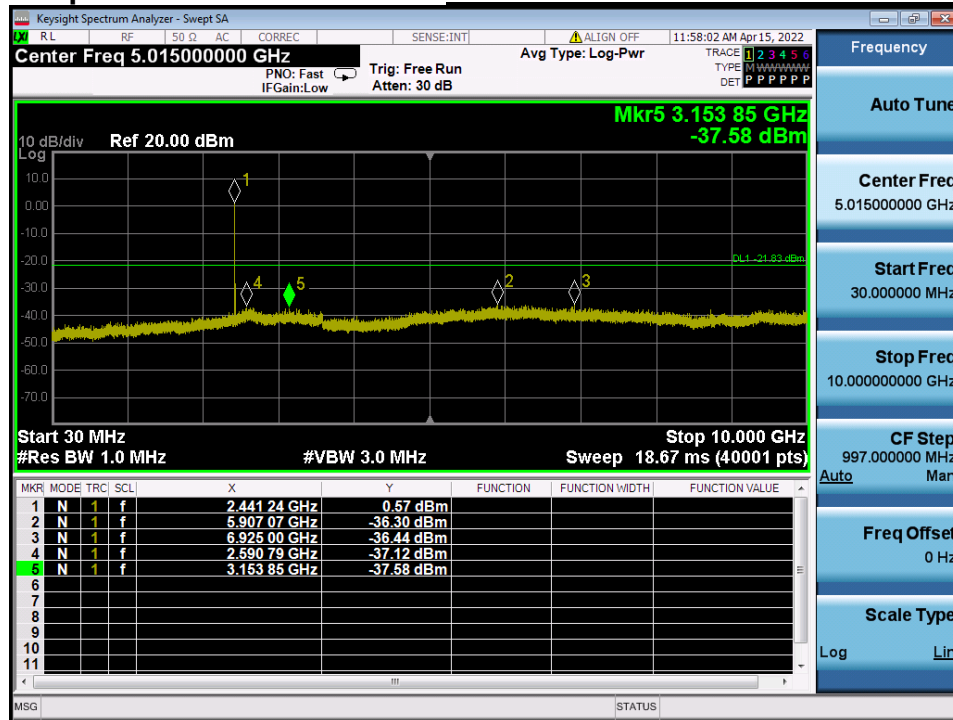
Middle Channel & Modulation : 8DPSK

Middle Channel & Modulation : 8DPSK

MRK	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	281.9 kHz	-42.39 dBm			
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								

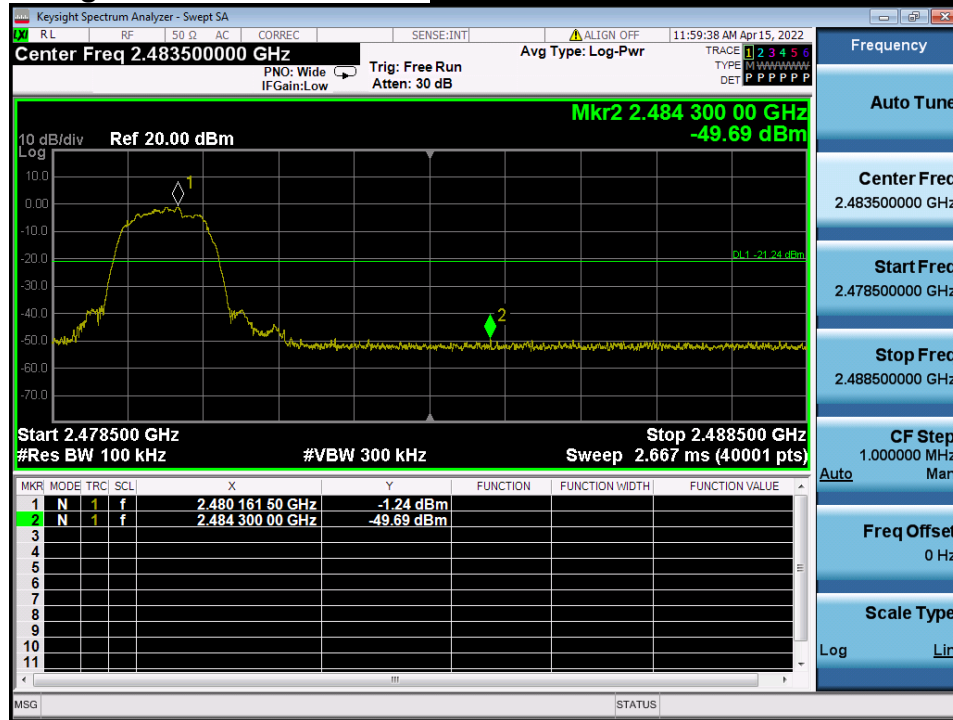
Conducted Spurious Emissions

Middle Channel & Modulation : 8DPSK



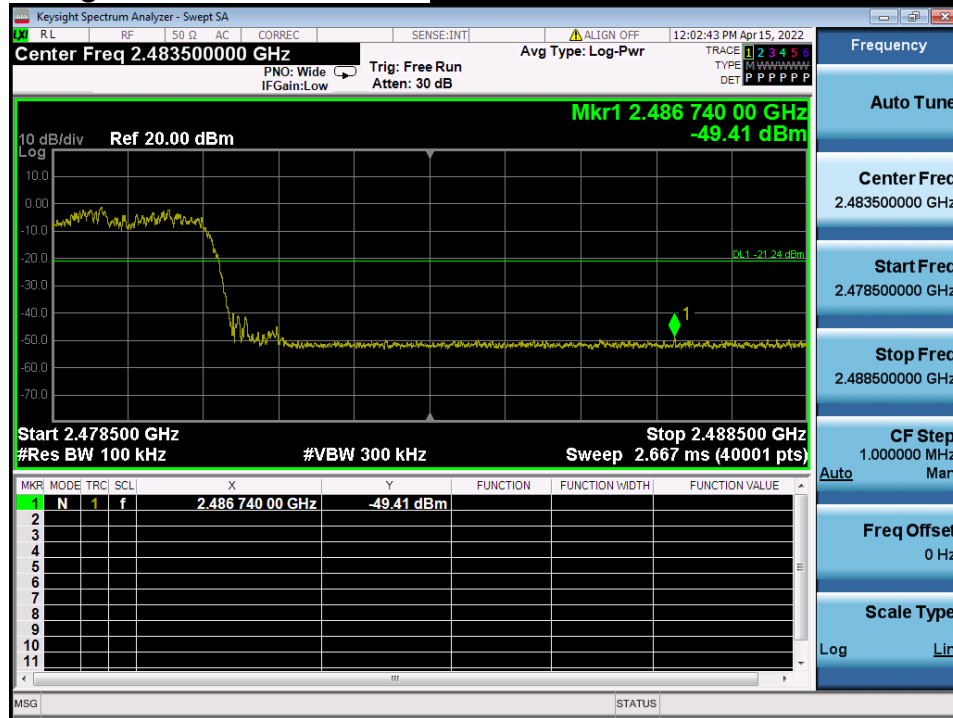
High Band-edge

Highest Channel & Modulation : 8DPSK



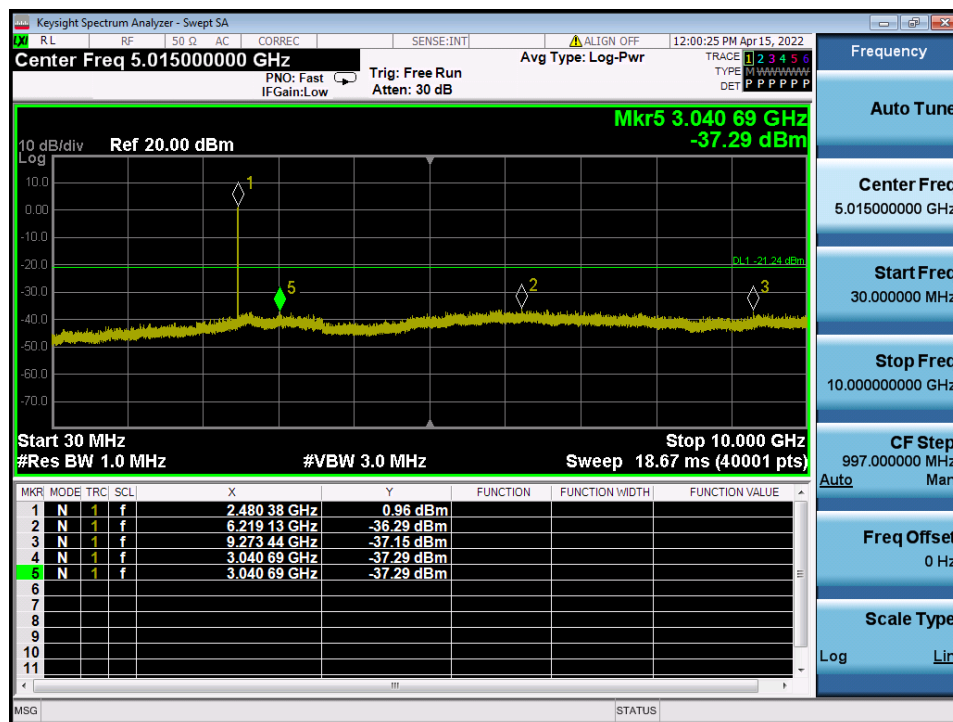
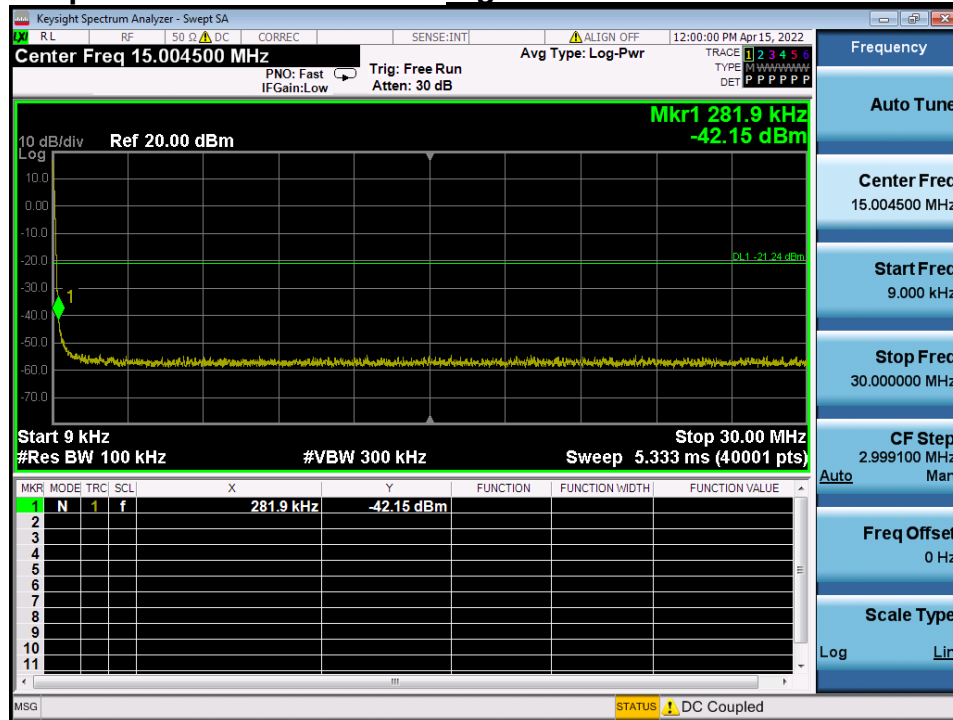
High Band-edge

Hopping mode & Modulation : 8DPSK



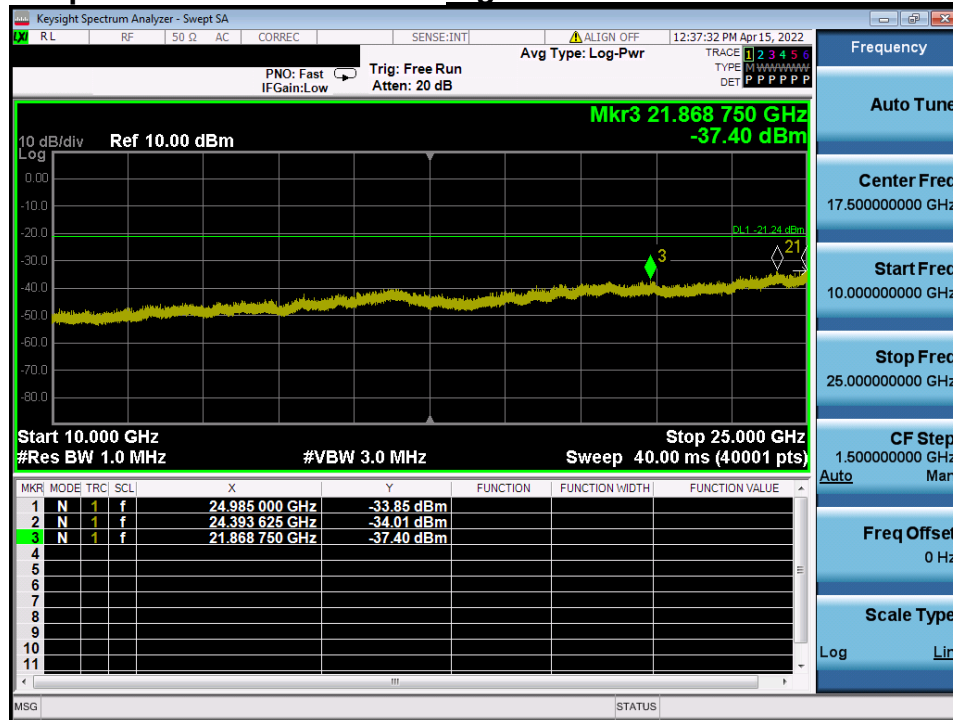
Conducted Spurious Emissions

Highest Channel & Modulation : 8DPSK



Conducted Spurious Emissions

Highest Channel & Modulation : 8DPSK



10. AC Power-Line Conducted Emissions

10.1. Test Setup

NA

10.2. Limit

According to §15.207(a) for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 uH/50 ohm line impedance stabilization network (LISN).

Compliance with the provision of this paragraph shall on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower applies at the boundary between the frequency ranges.

Frequency Range (MHz)	Conducted Limit (dBuV)	
	Quasi-Peak	Average
0.15 ~ 0.50	66 to 56 *	56 to 46 *
0.5 ~ 5.0	56	46
5 ~ 30	60	50

* Decreases with the logarithm of the frequency

10.3. Test Procedure

Conducted emissions from the EUT were measured according to the ANSI C63.10.

1. The test procedure is performed in a 6.5 m × 3.5 m × 3.5 m (L × W × H) shielded room. The EUT along with its peripherals were placed on a 1.0 m (W) × 1.5 m (L) and 0.8 m in height wooden table and the EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane.
2. The EUT was connected to power mains through a line impedance stabilization network (LISN) which provides 50 ohm coupling impedance for measuring instrument and the chassis ground was bounded to the horizontal ground plane of shielded room.
3. All peripherals were connected to the second LISN and the chassis ground also bounded to the horizontal ground plane of shielded room.
4. The excess power cable between the EUT and the LISN was bundled. The power cables of peripherals were unbundled. All connecting cables of EUT and peripherals were moved to find the maximum emission.

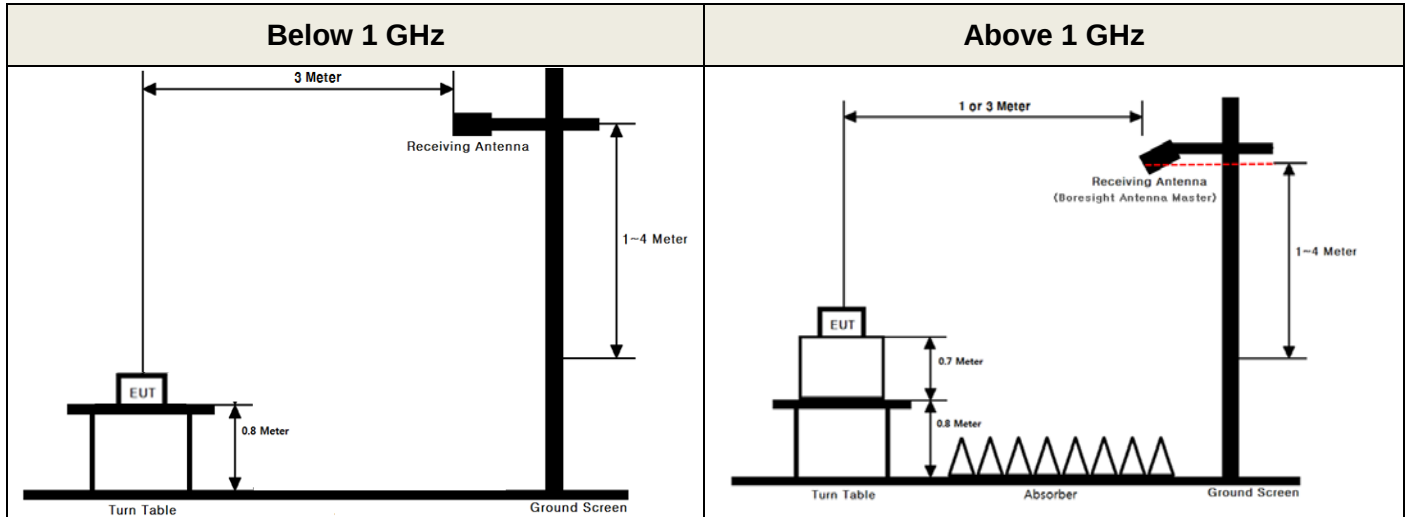
10.4. Test Results

NA

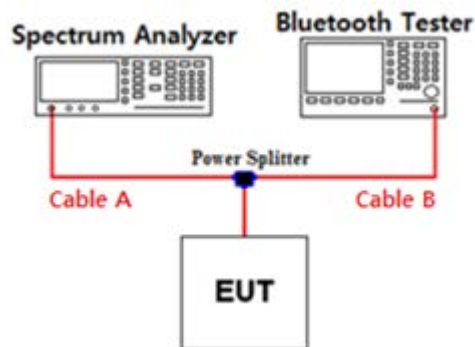
APPENDIX I

Test set up diagrams

▪ Radiated Measurement



▪ Conducted Measurement



Path loss information

Frequency (GHz)	Path Loss (dB)	Frequency (GHz)	Path Loss (dB)
0.03	6.71	15	11.70
1	7.14	20	13.40
2.402 & 2.440 & 2.480	8.33	25	15.05
5	9.84	-	-
10	10.33	-	-

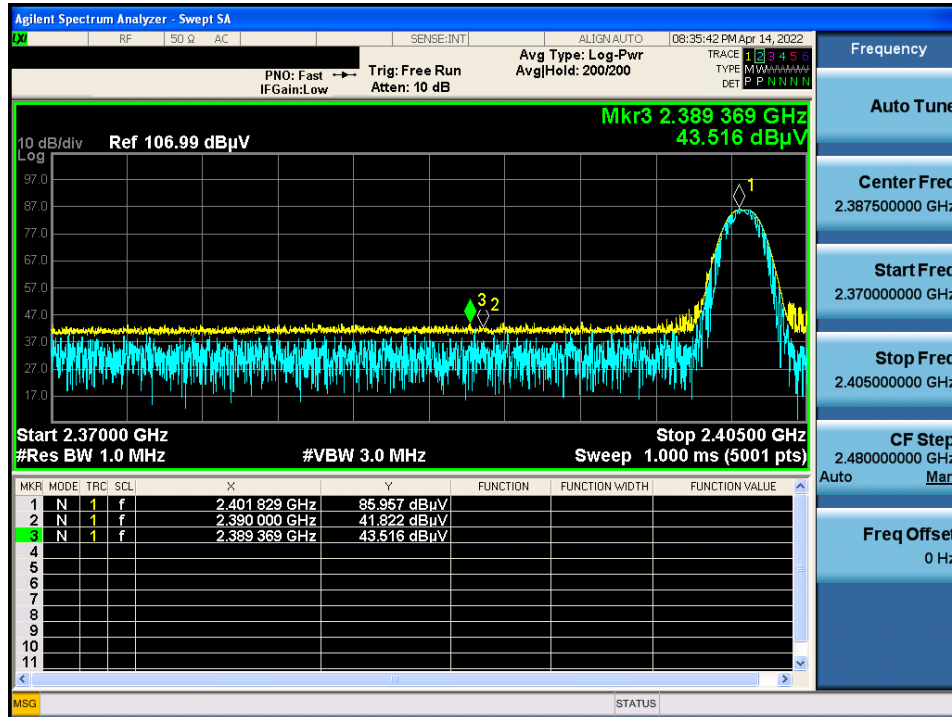
Note 1: The path loss from EUT to Spectrum analyzer was measured and used for test.
 Path loss (S/A's correction factor) = Cable A + Power Splitter

APPENDIX II

Unwanted Emissions (Radiated) Test Plot

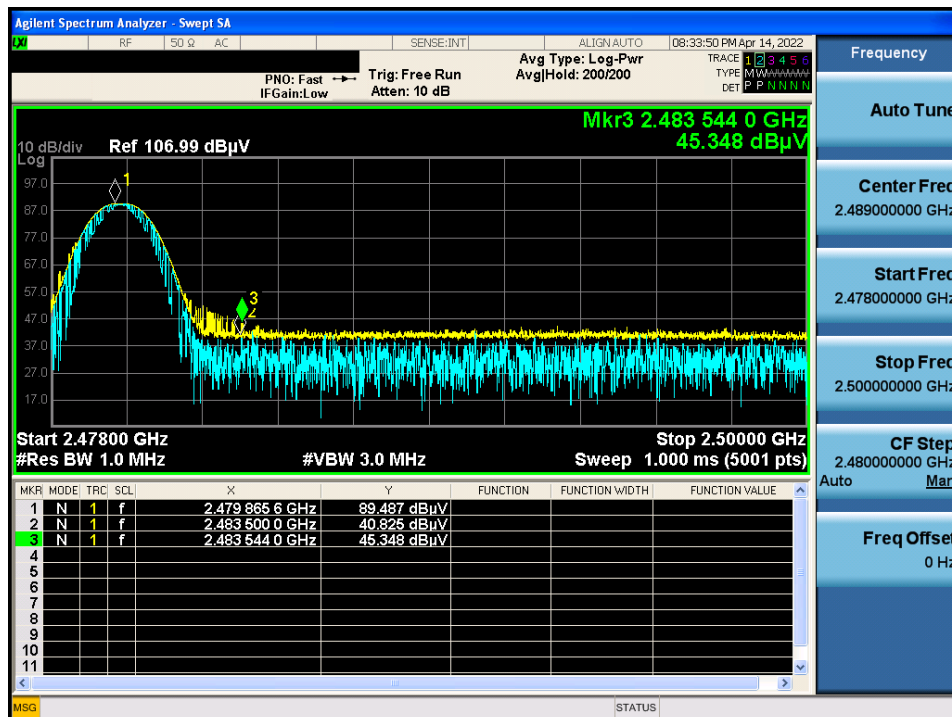
GFSK & Lowest & X & Hor

Detector Mode : PK



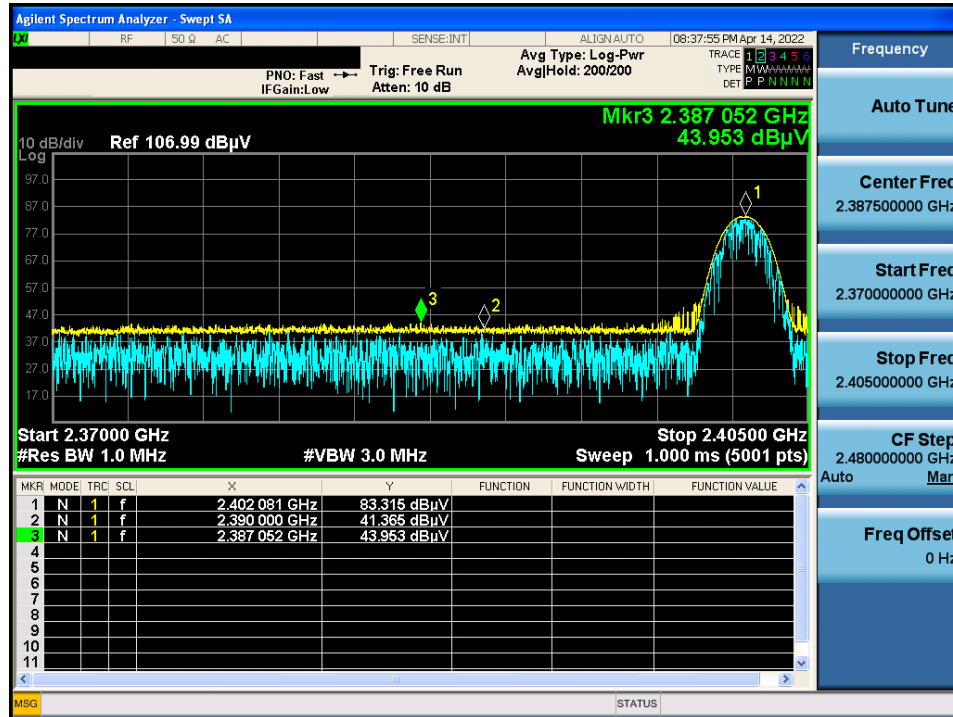
GFSK & Highest & X & Hor

Detector Mode : PK



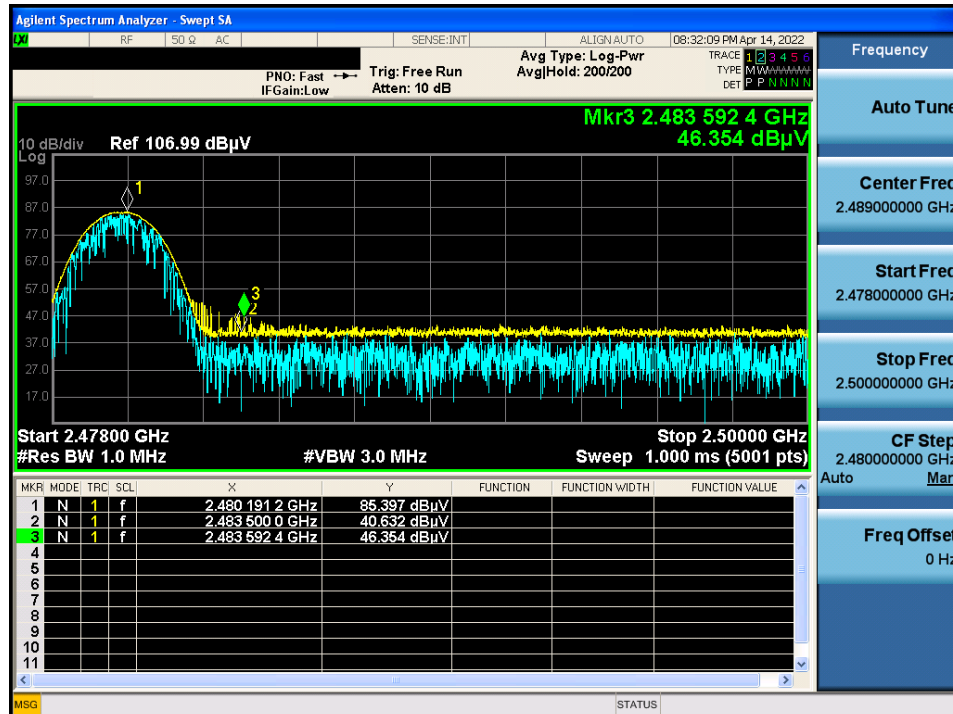
$\pi/4$ DQPSK & Lowest & X & Hor

Detector Mode : PK



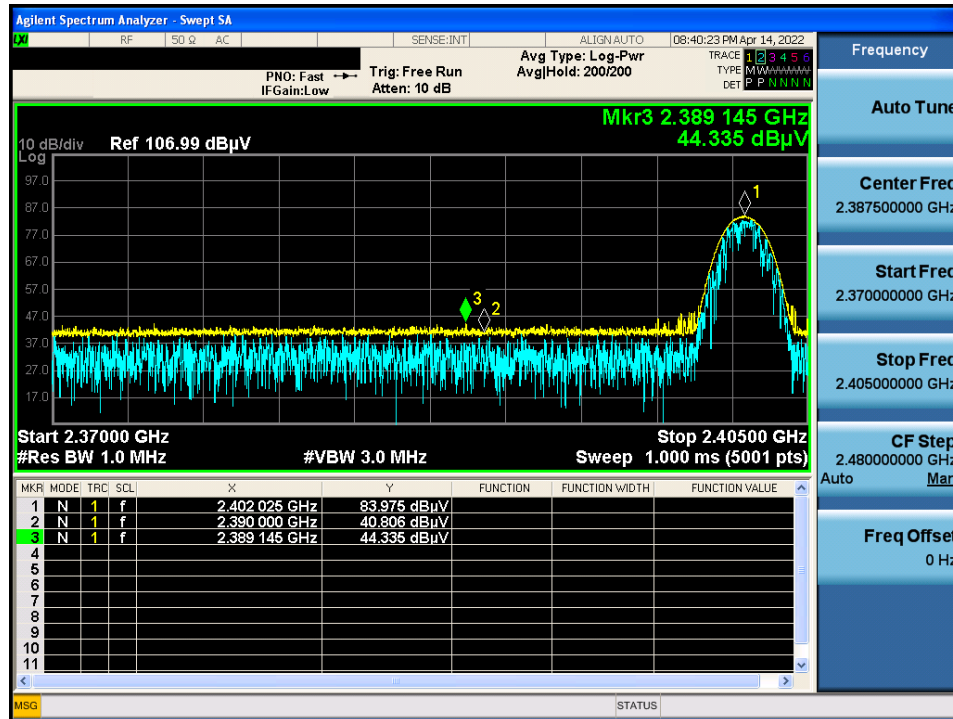
$\pi/4$ DQPSK & Highest & X & Hor

Detector Mode : PK



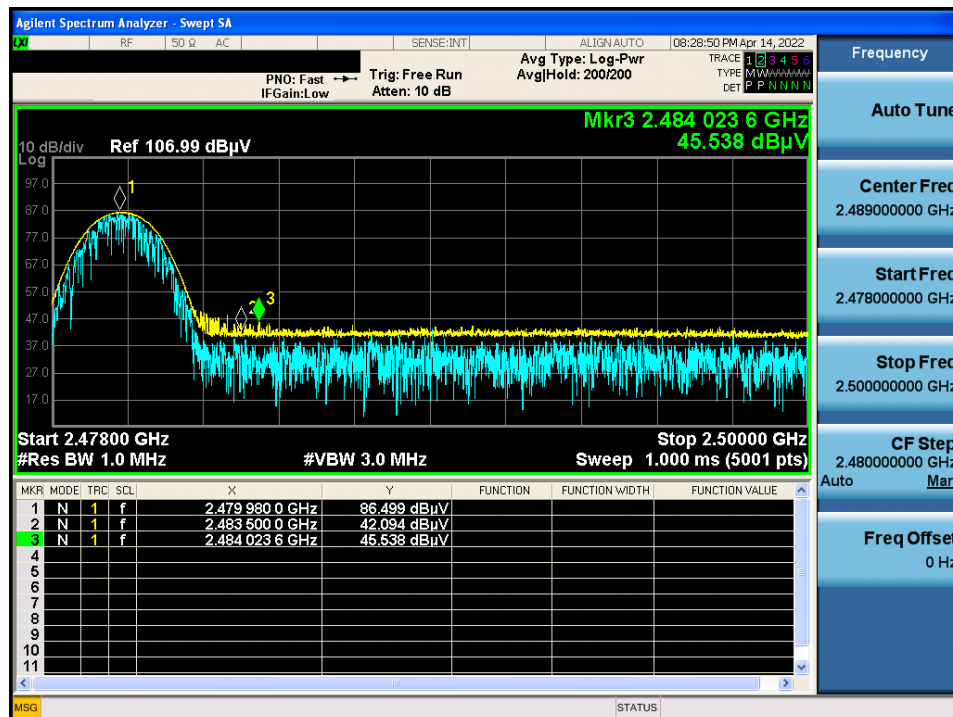
8DPSK & Lowest & X & Hor

Detector Mode : PK



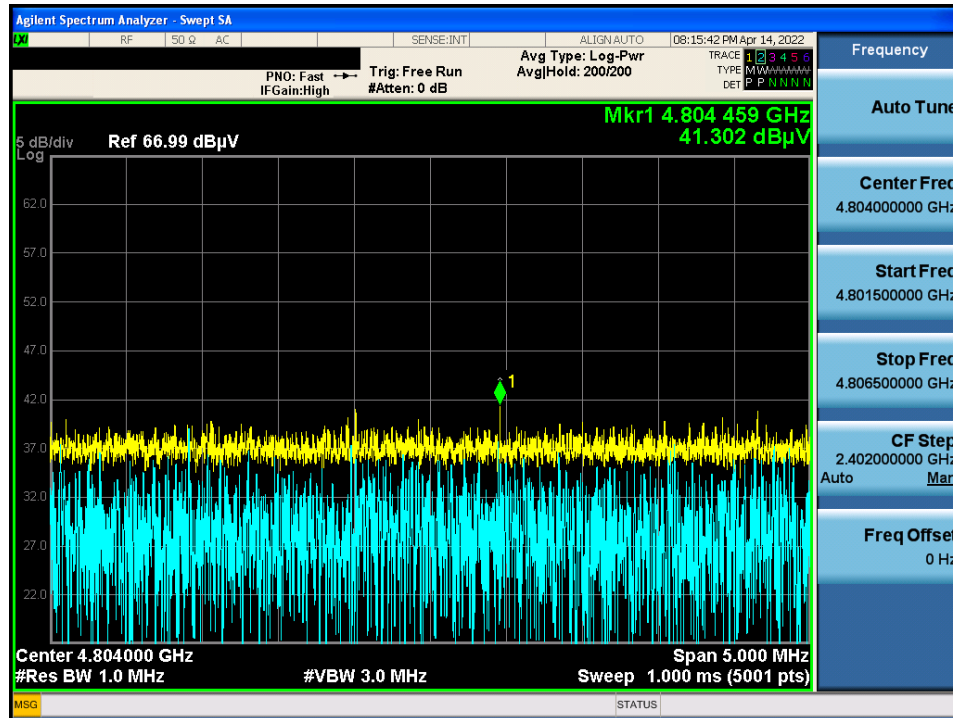
8DPSK & Highest & X & Hor

Detector Mode : PK



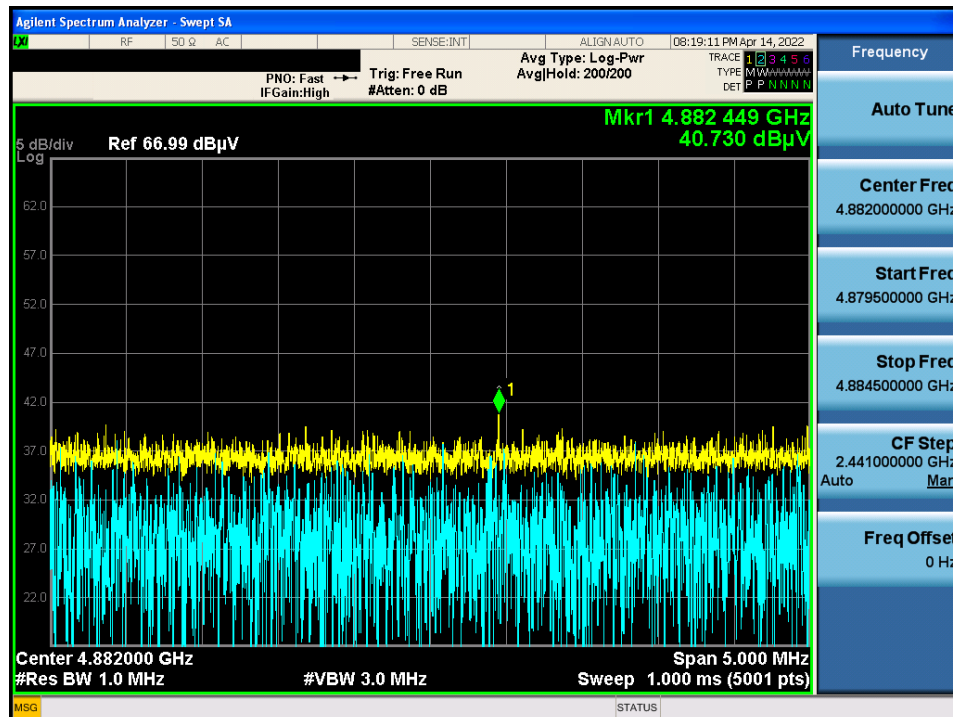
GFSK & Lowest & X & Hor

Detector Mode : PK



π /4DQPSK & Middle & X & Hor

Detector Mode : PK



8DPSK & Lowest & X & Hor

Detector Mode : PK

