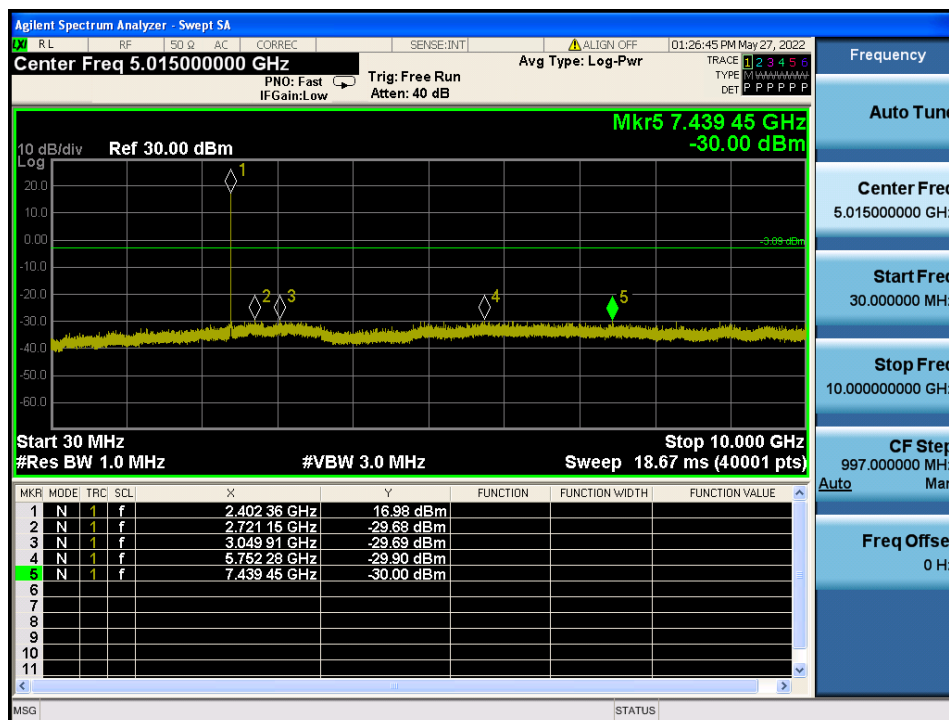
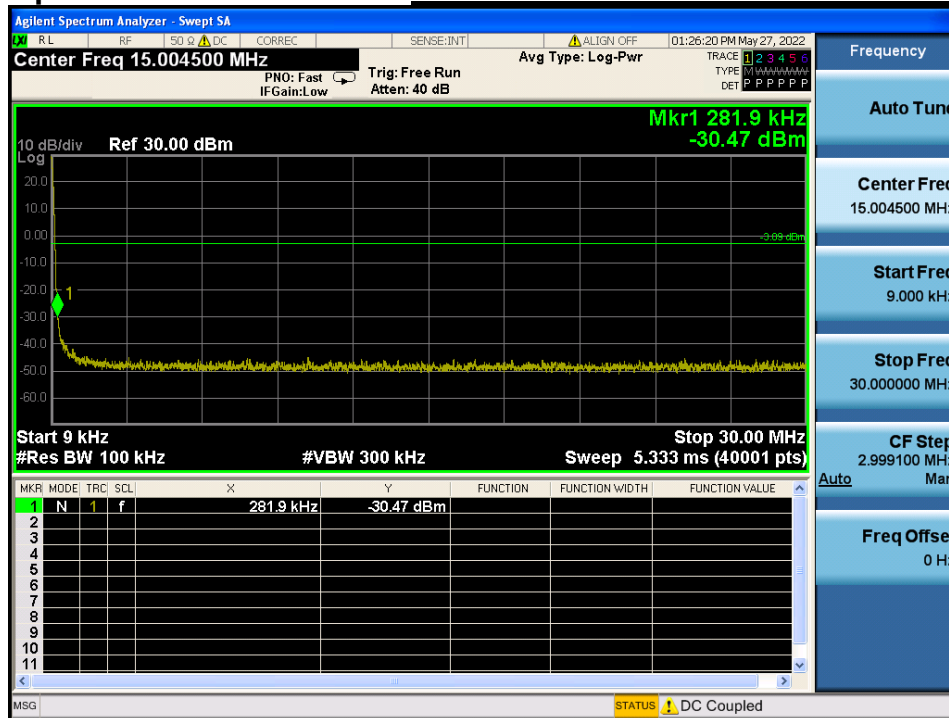


Conducted Spurious Emissions *Lowest Channel & Modulation : GFSK*

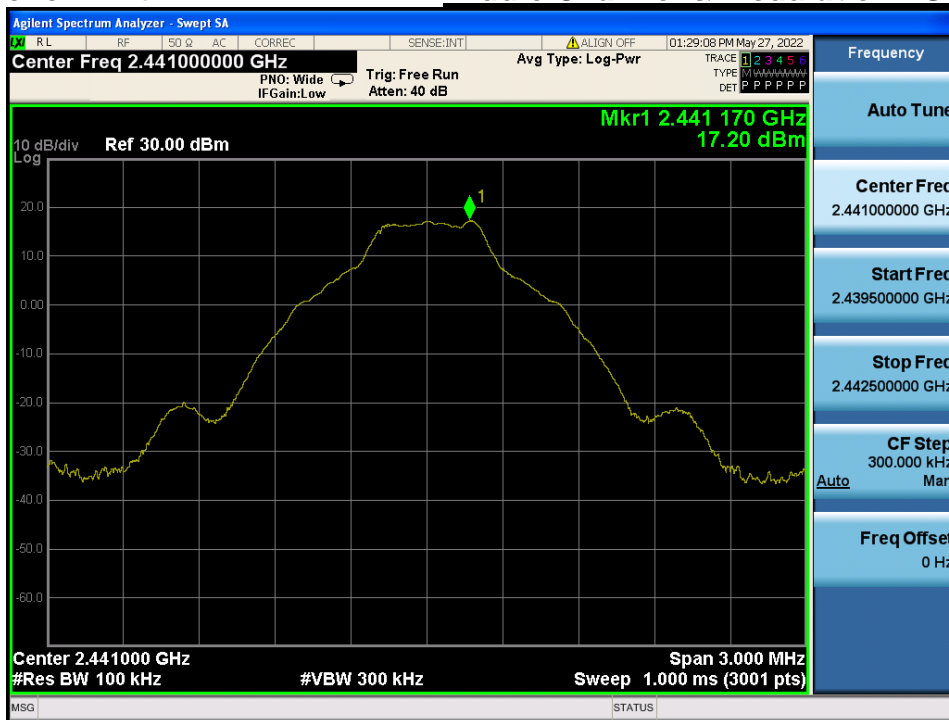


Conducted Spurious Emissions *Lowest Channel & Modulation : GFSK*



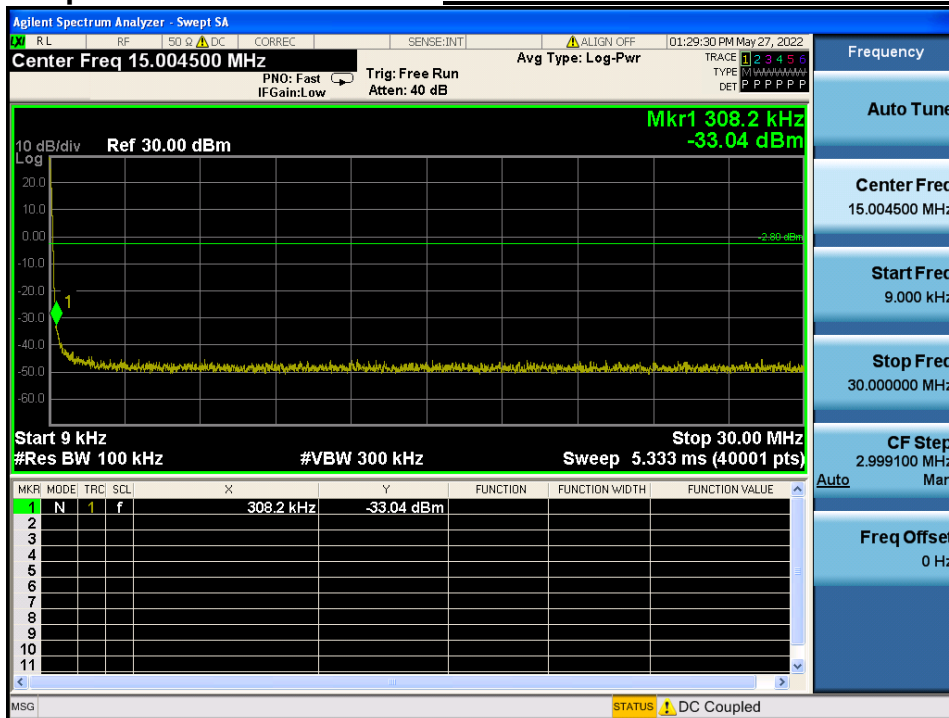
Reference for limit

Middle Channel & Modulation : GFSK

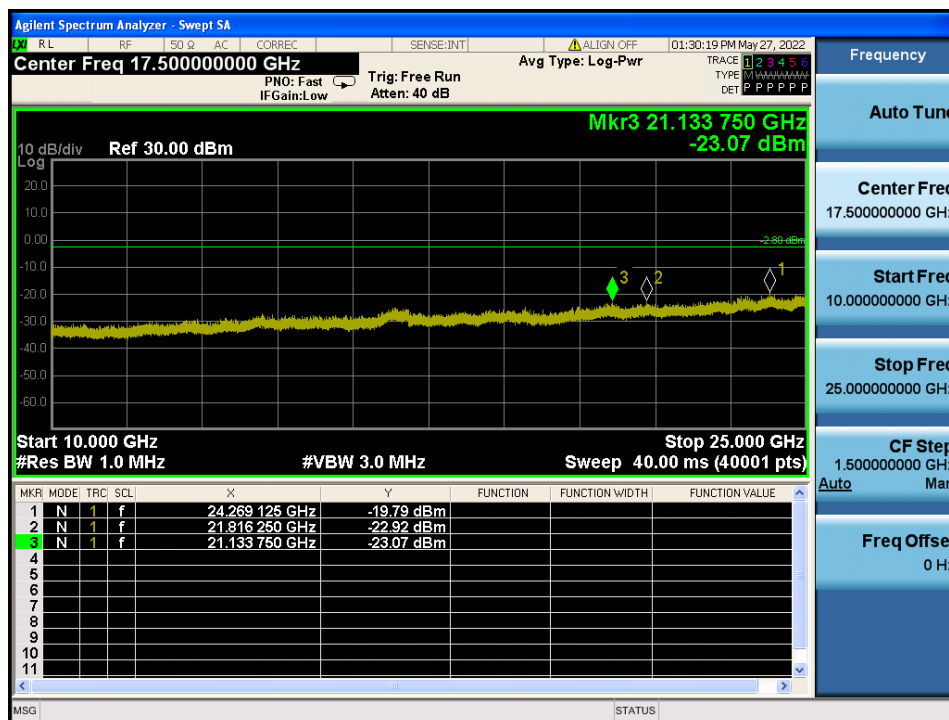
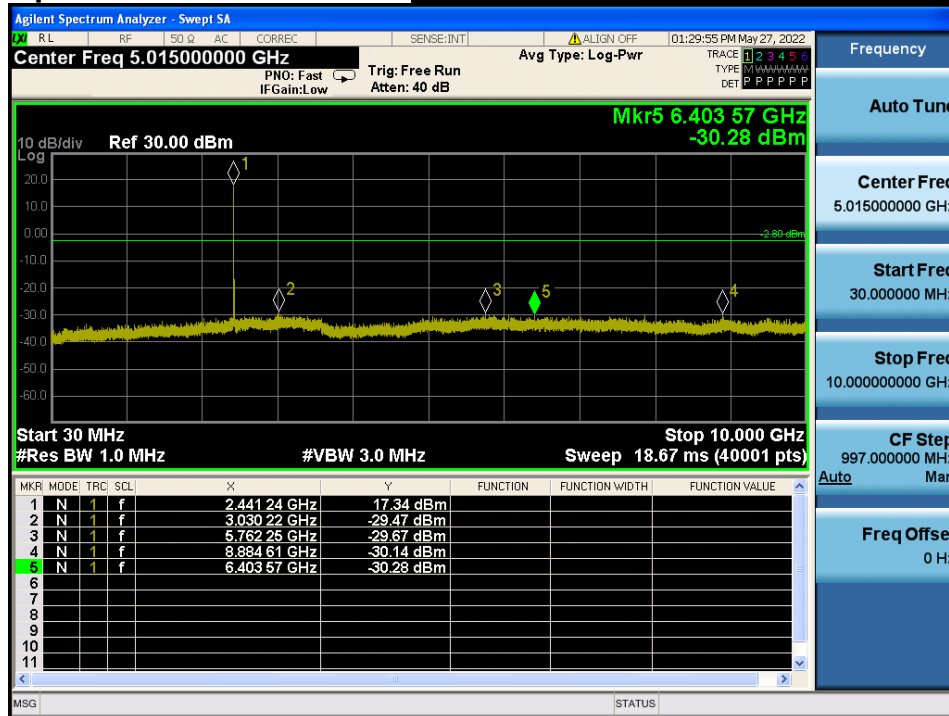


Conducted Spurious Emissions

Middle Channel & Modulation : GFSK

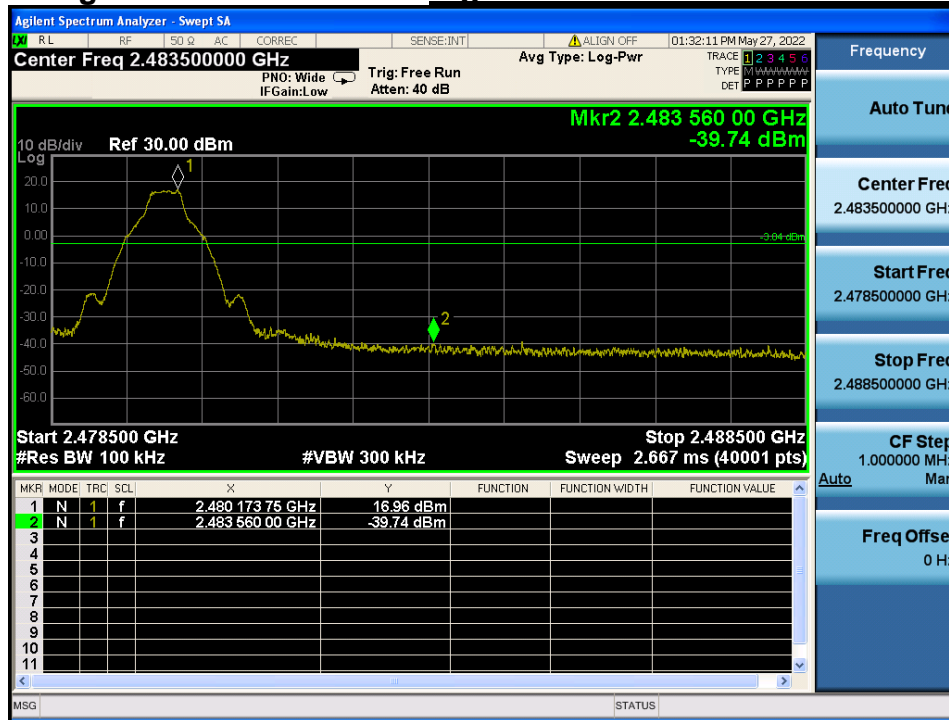


Conducted Spurious Emissions *Middle Channel & Modulation : GFSK*



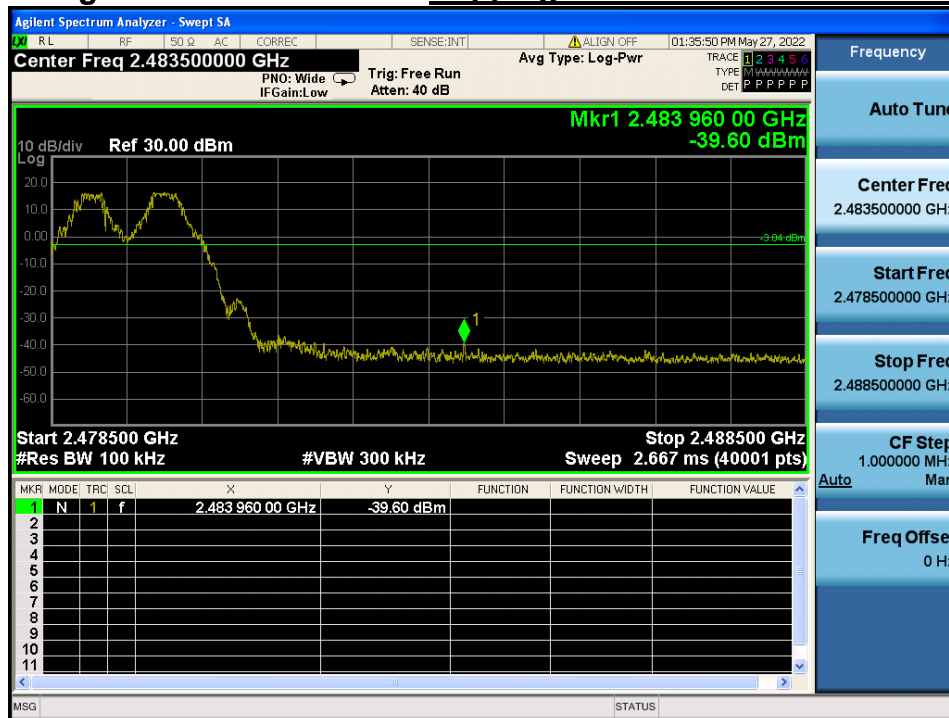
High Band-edge

Highest Channel & Modulation : GFSK

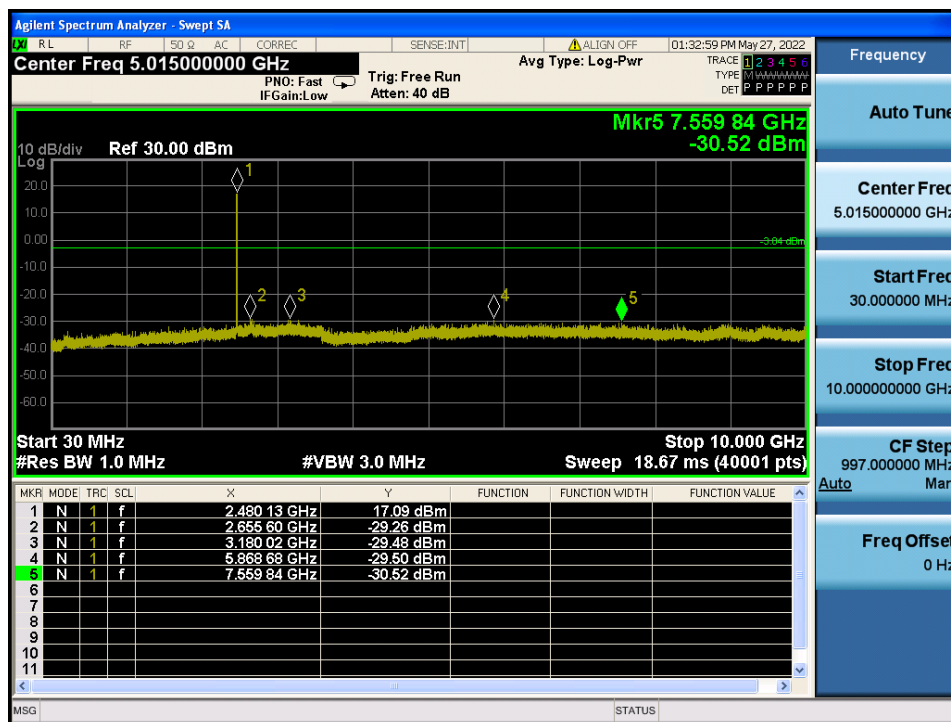
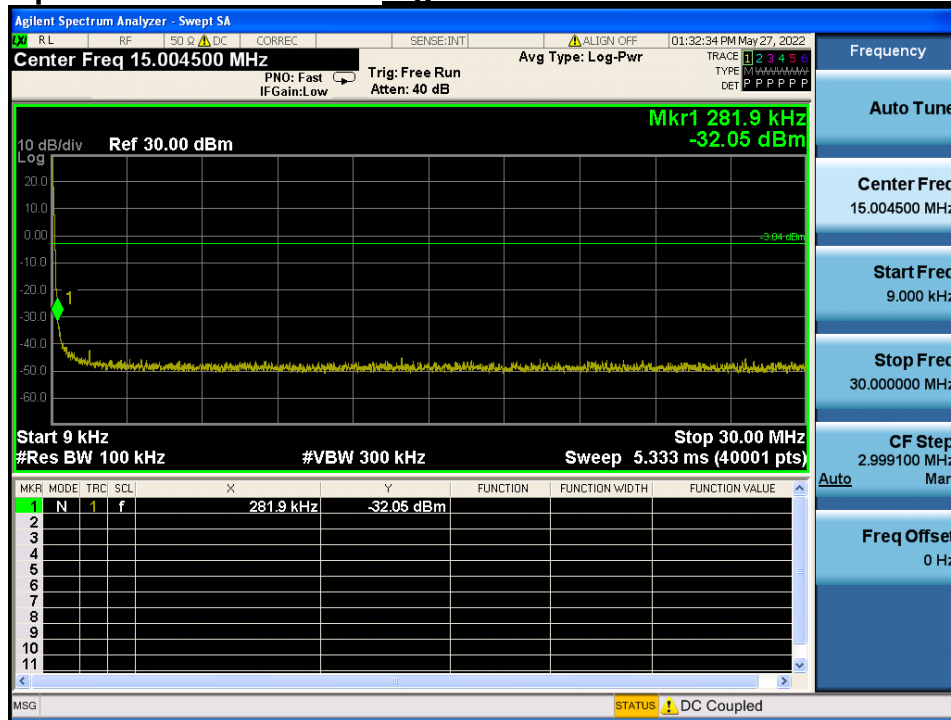


High Band-edge

Hopping mode & Modulation : GFSK



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

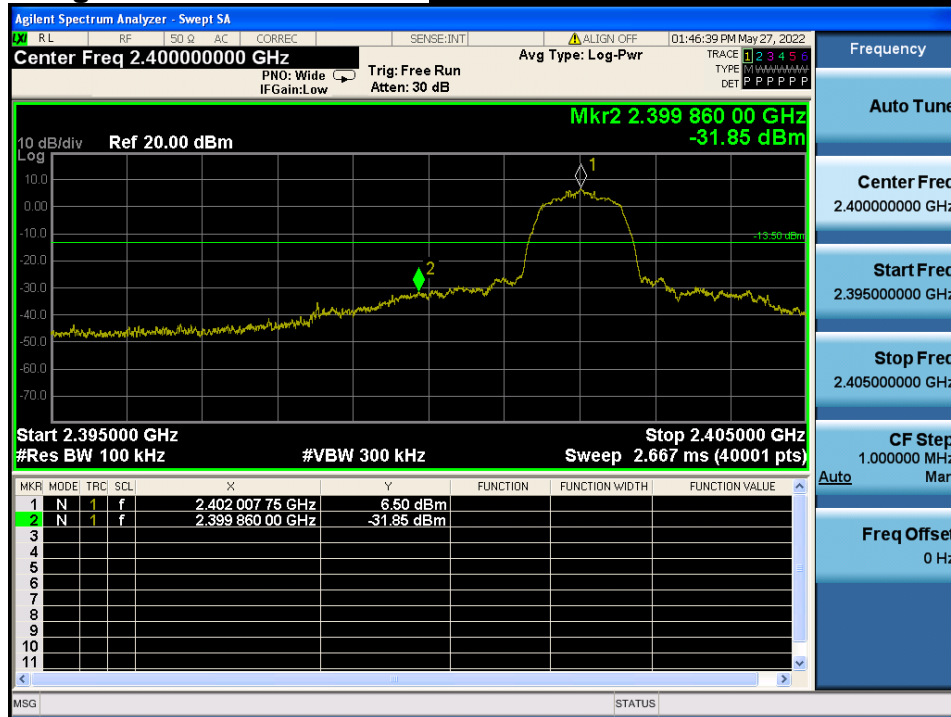


Conducted Spurious Emissions **Highest Channel & Modulation : GFSK**



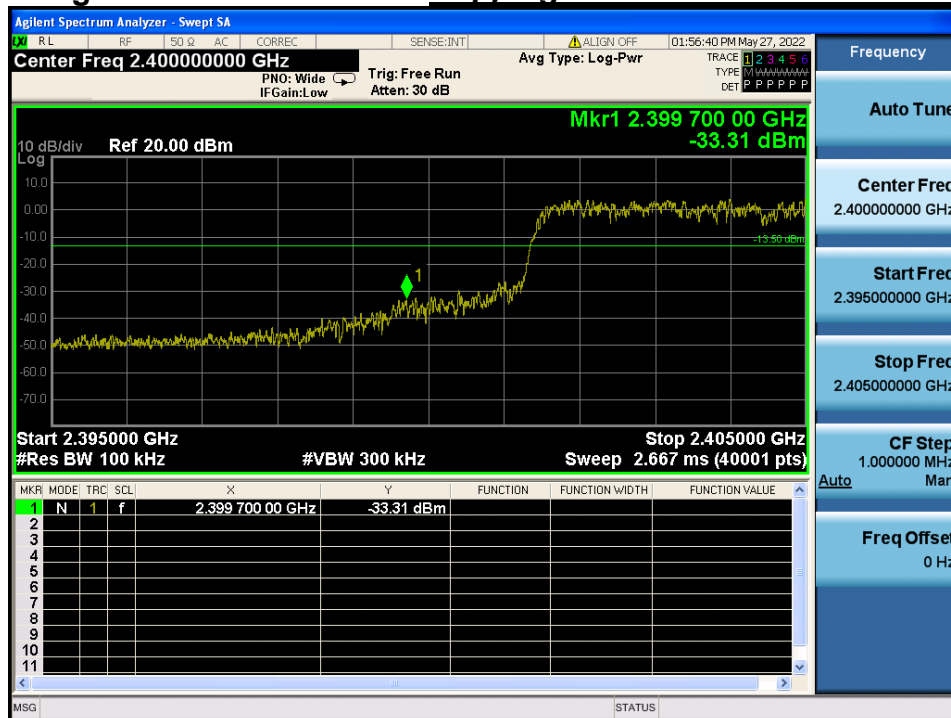
Low Band-edge

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

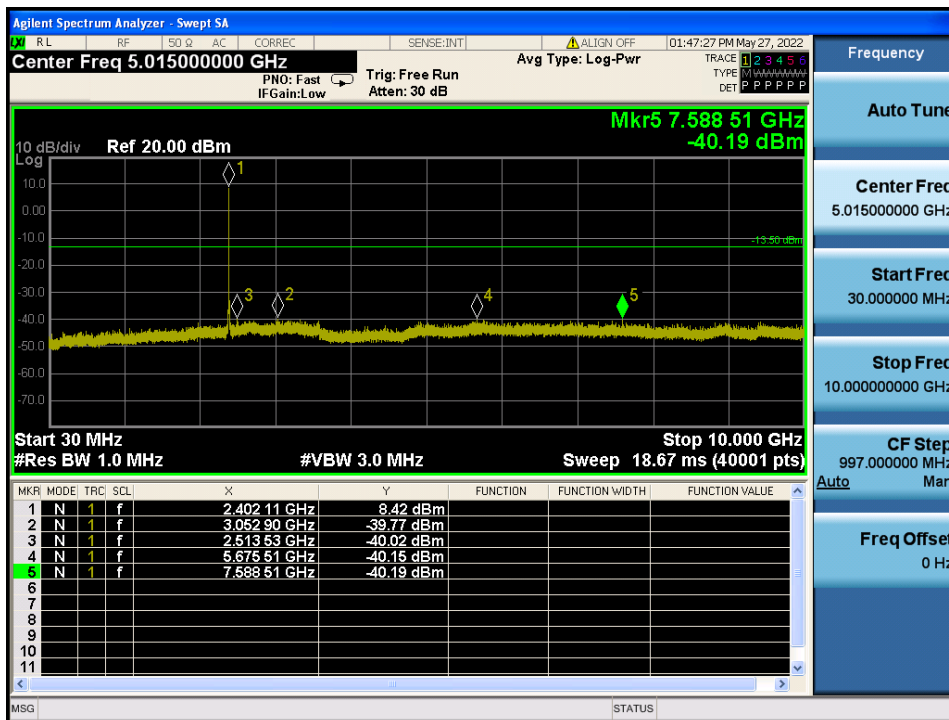
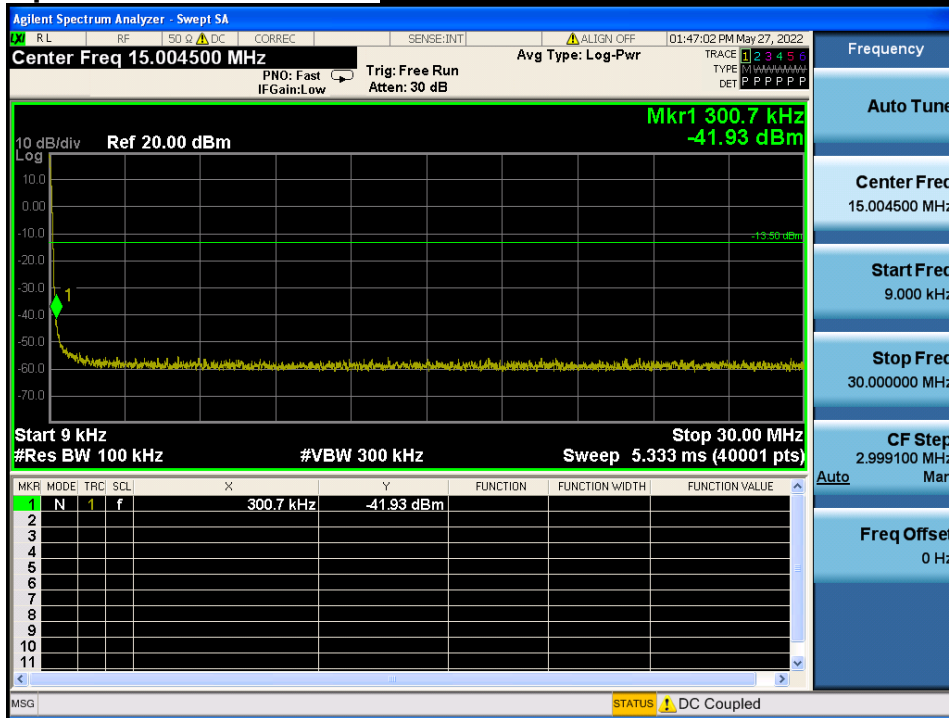


Low Band-edge

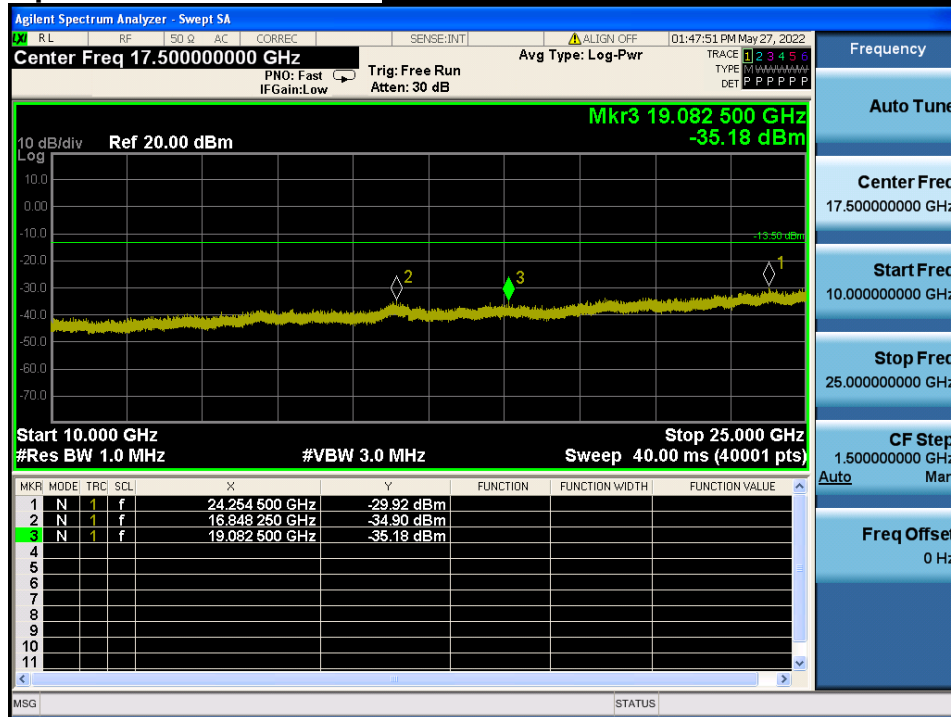
Hopping mode & Modulation : $\pi/4$ DQPSK



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

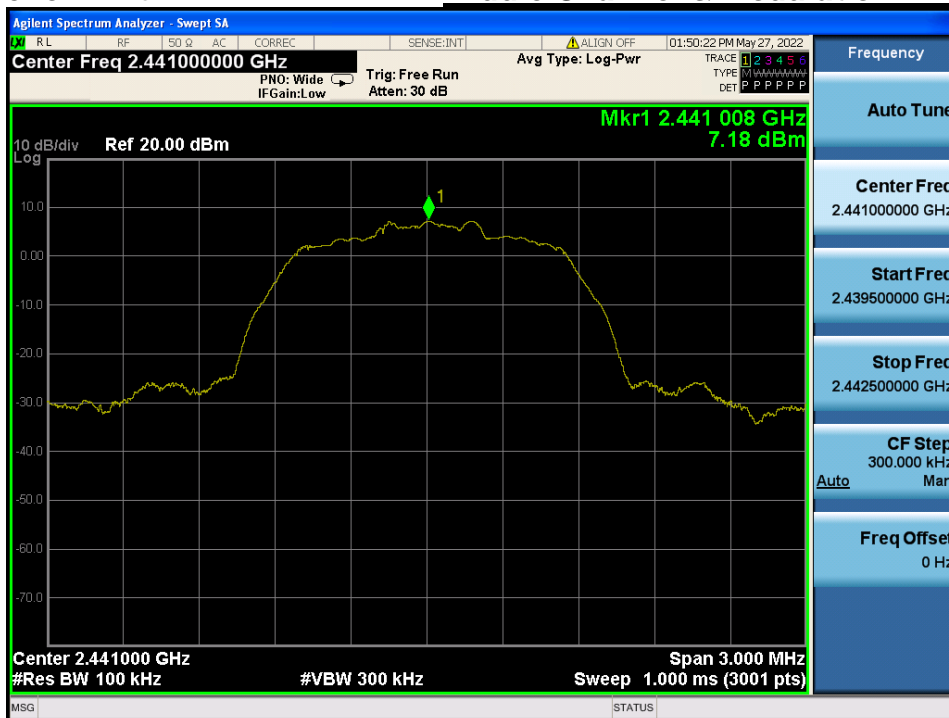


Conducted Spurious Emissions **Lowest Channel & Modulation : $\pi/4$ DQPSK**



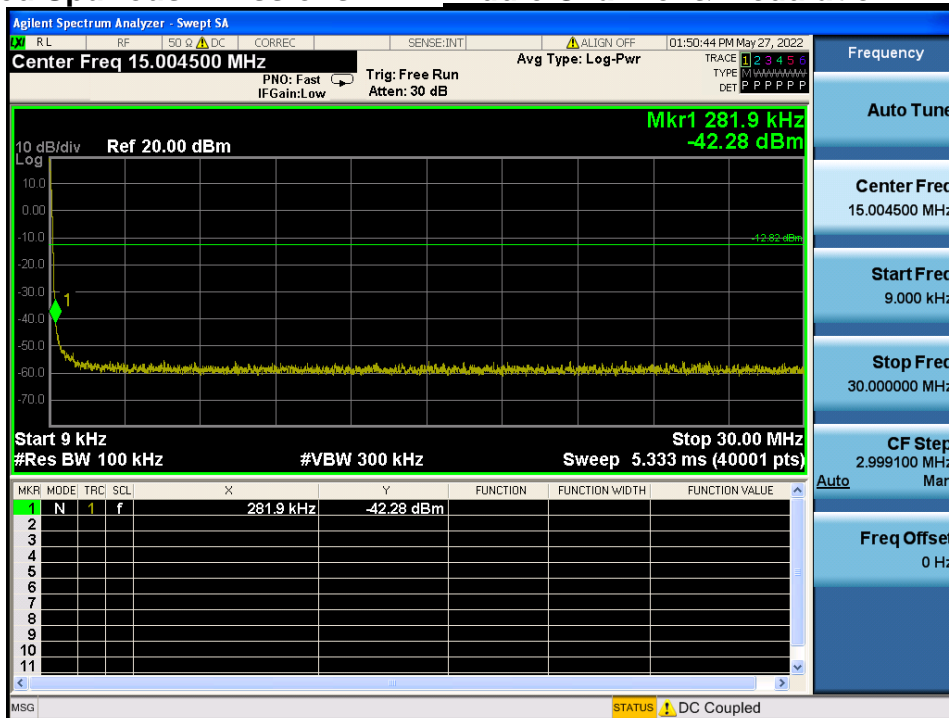
Reference for limit

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

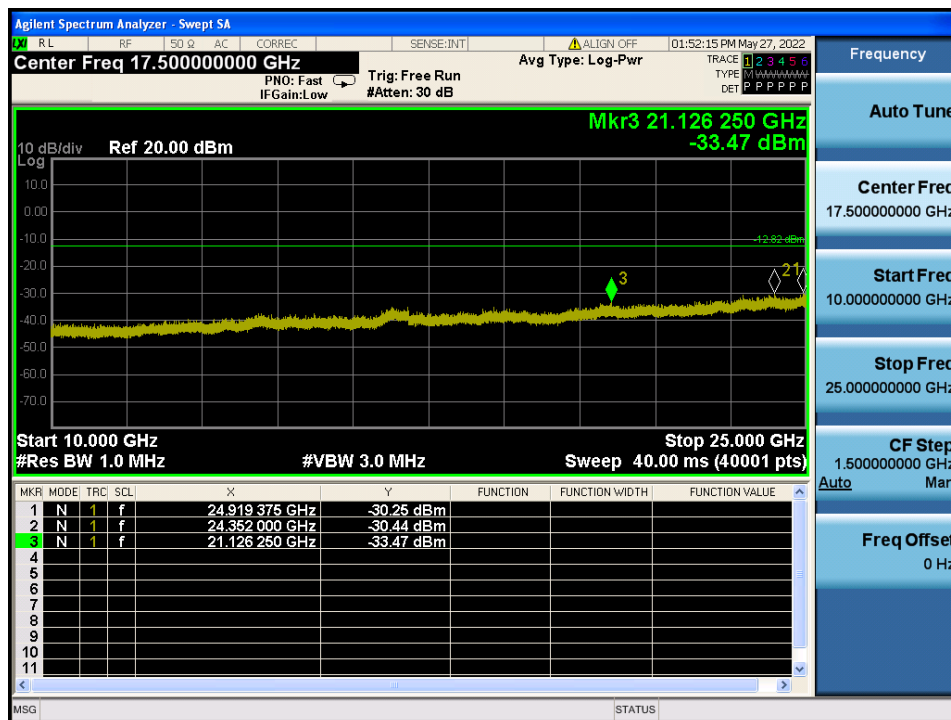
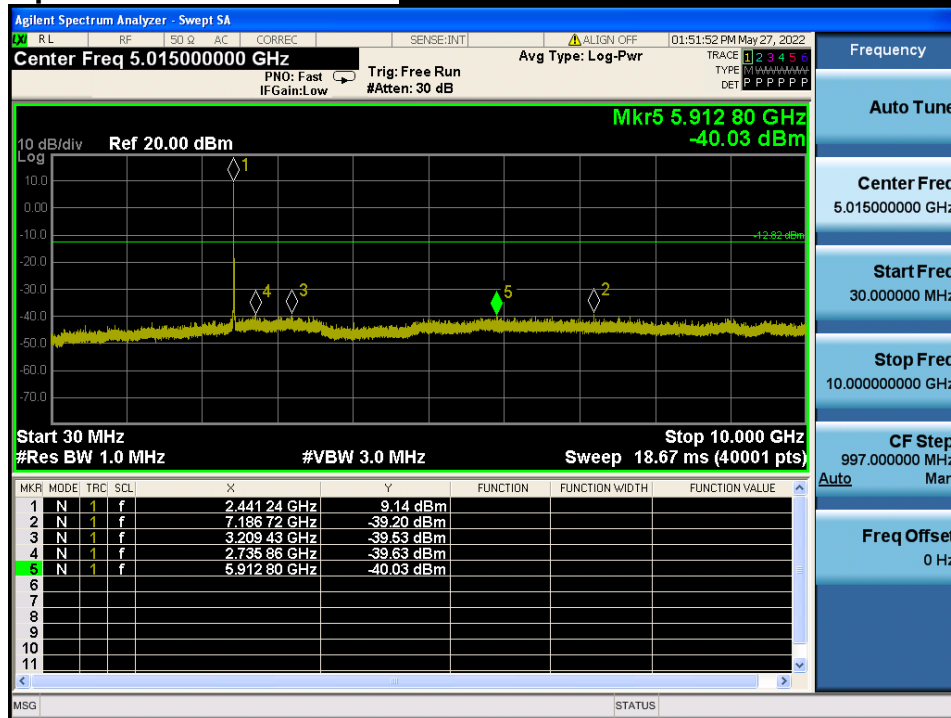


Conducted Spurious Emissions

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

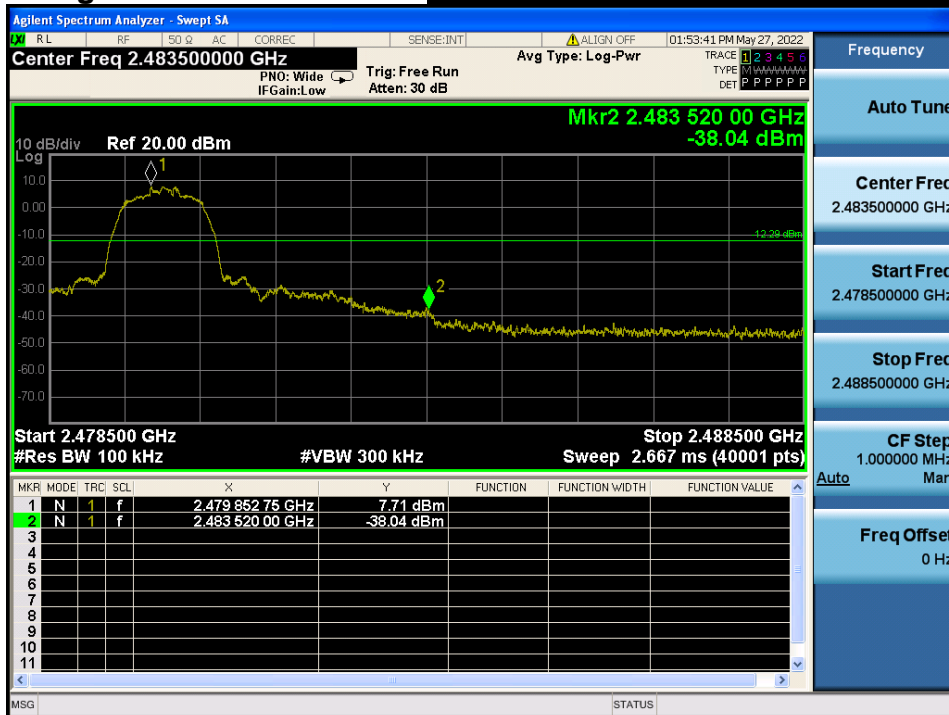


Conducted Spurious Emissions ***Middle Channel & Modulation : $\pi/4$ DQPSK***



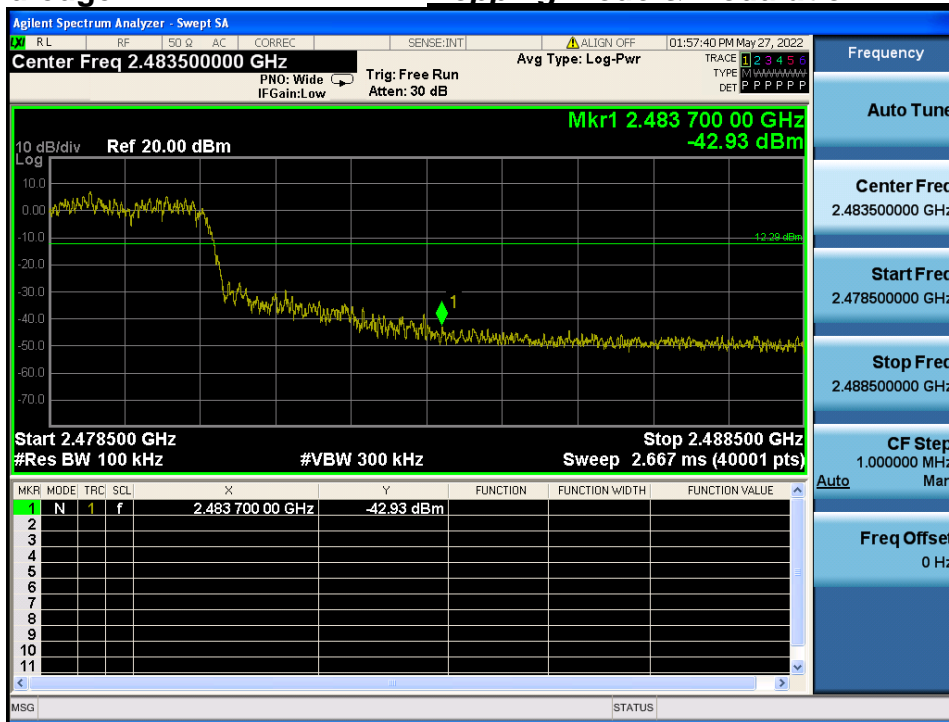
High Band-edge

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



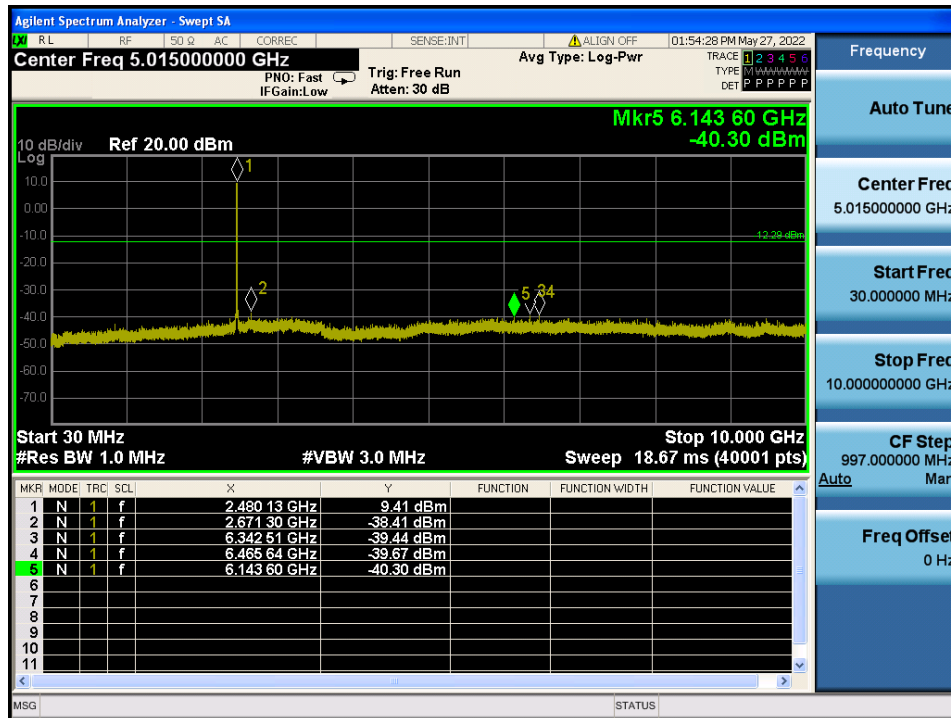
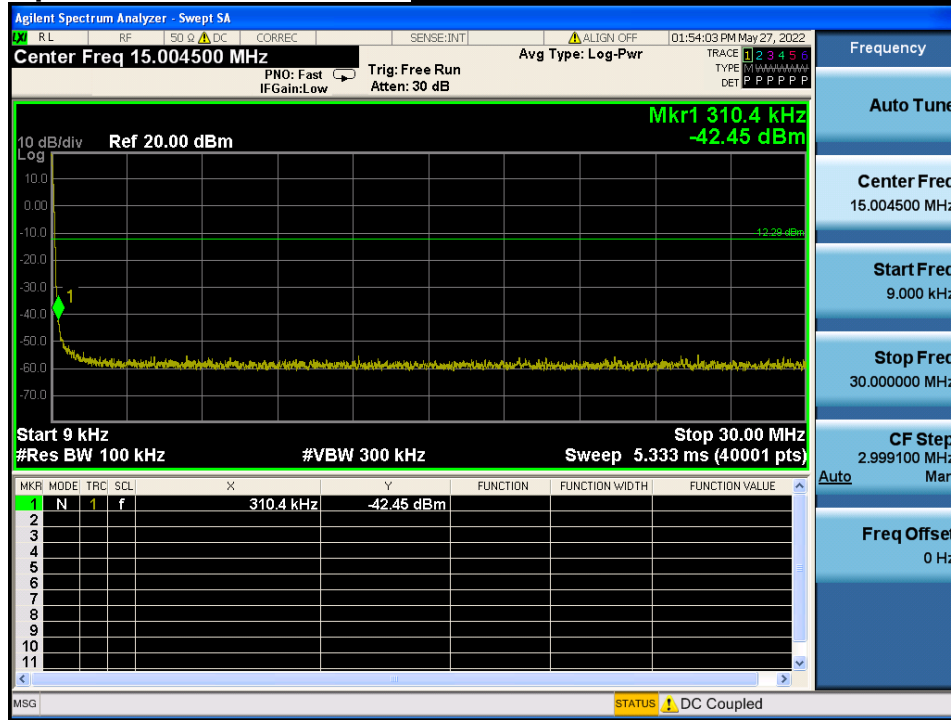
High Band-edge

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



Conducted Spurious Emissions

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

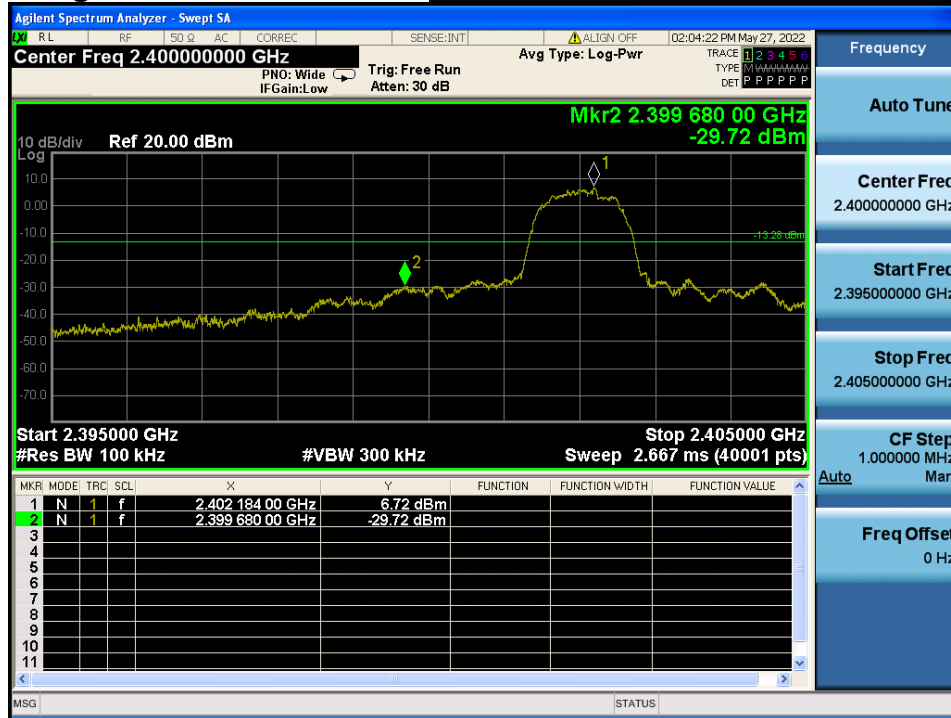


Conducted Spurious Emissions *Highest Channel & Modulation : $\pi/4$ DQPSK*



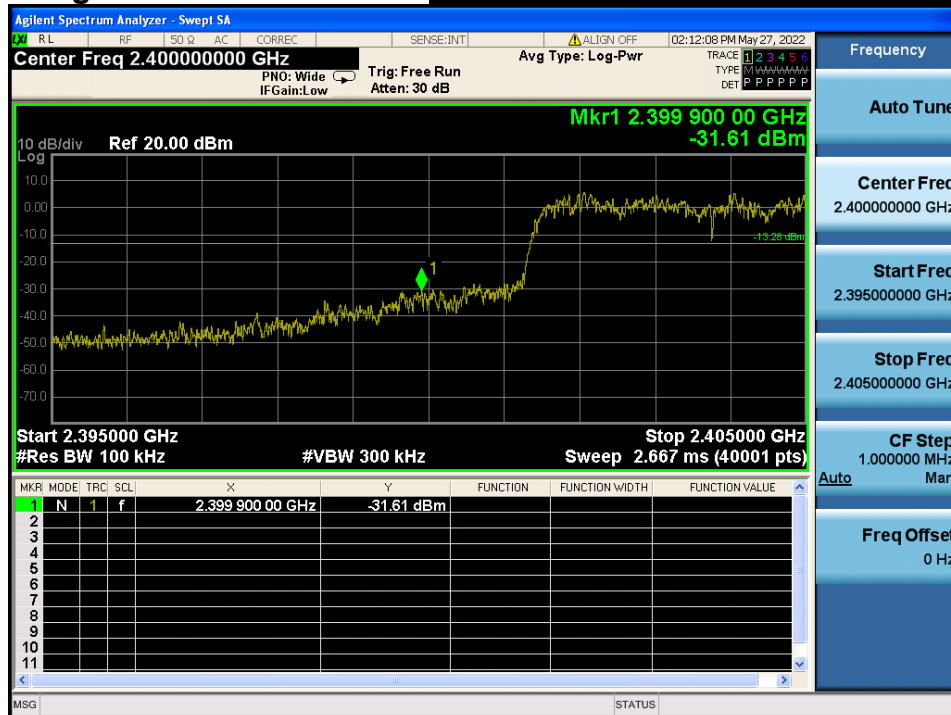
Low Band-edge

Lowest Channel & Modulation : 8DPSK

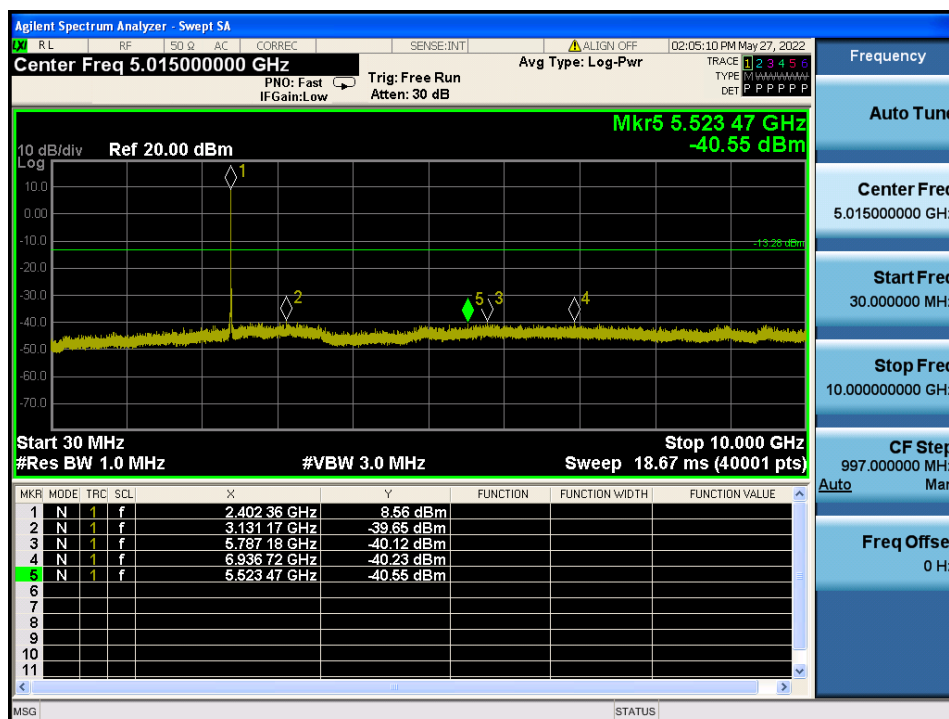
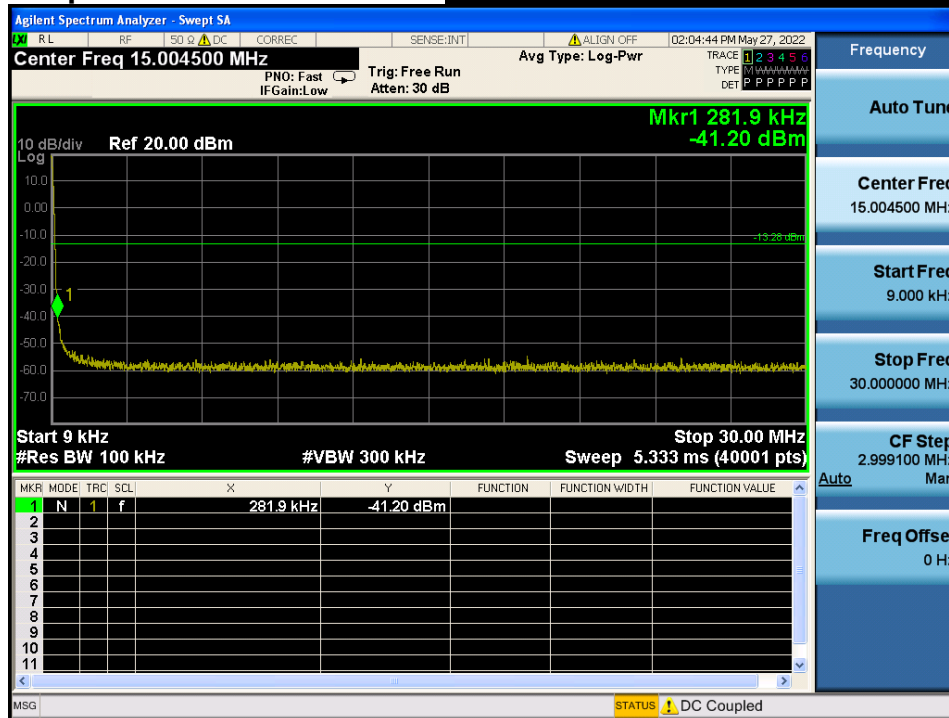


Low Band-edge

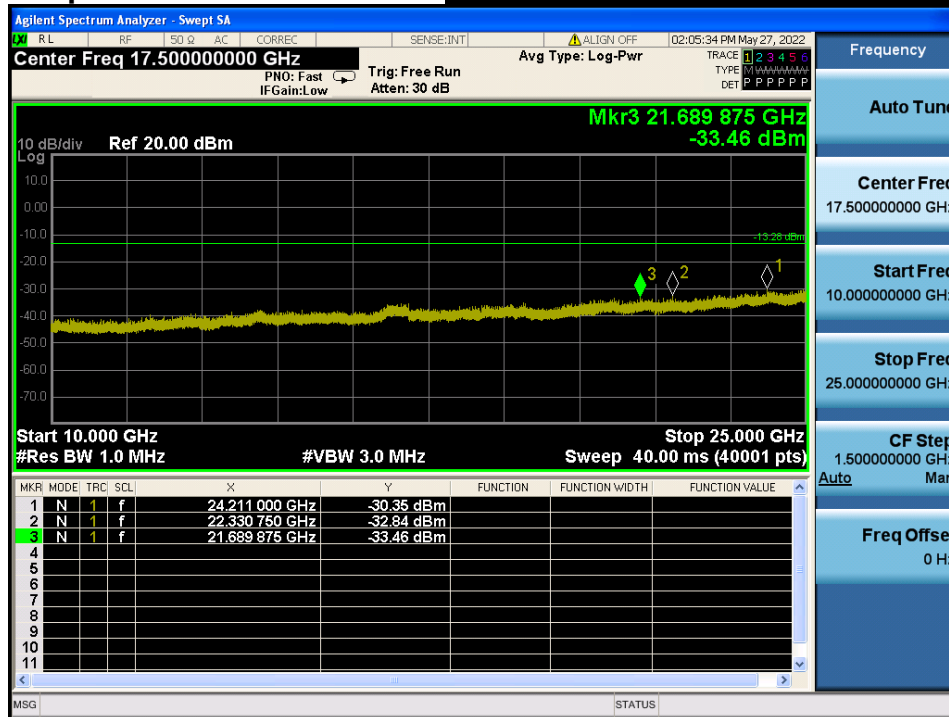
Hopping mode & Modulation : 8DPSK



Conducted Spurious Emissions *Lowest Channel & Modulation : 8DPSK*

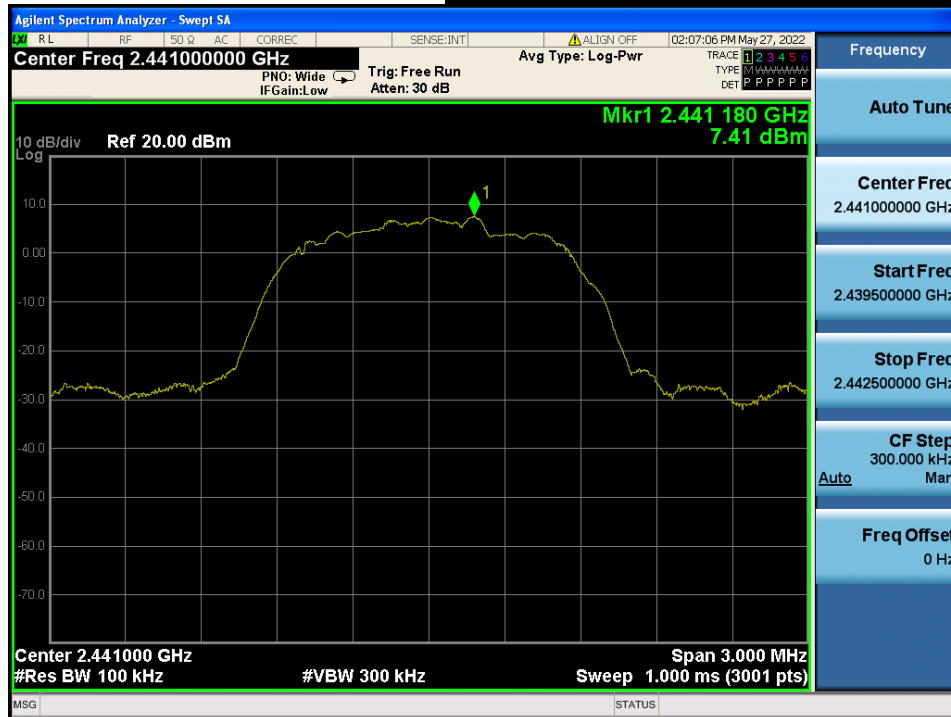


Conducted Spurious Emissions *Lowest Channel & Modulation : 8DPSK*



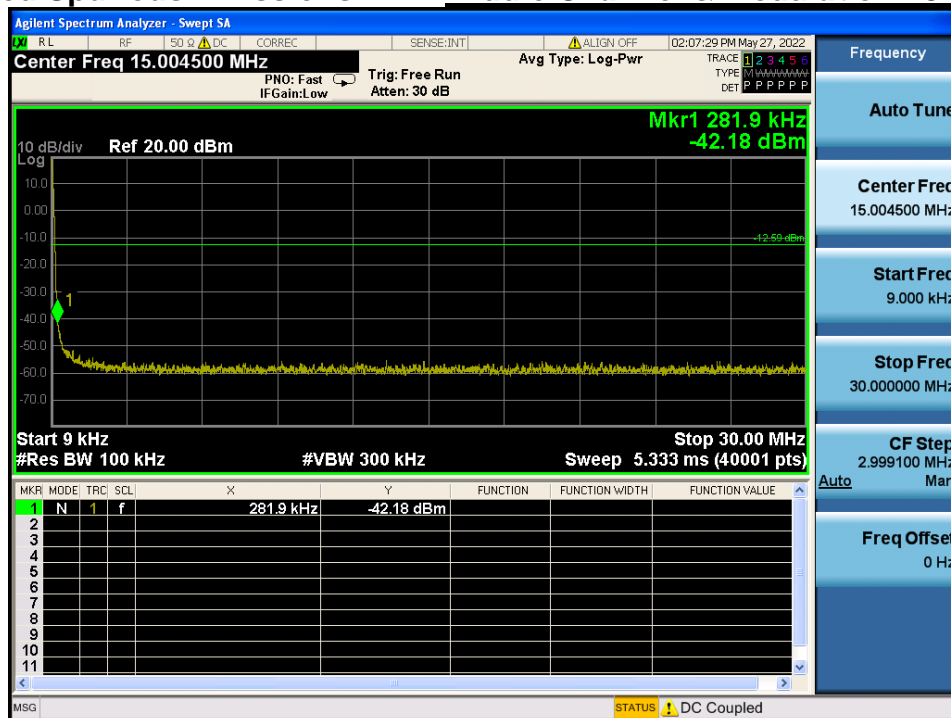
Reference for limit

Middle Channel & Modulation : 8DPSK

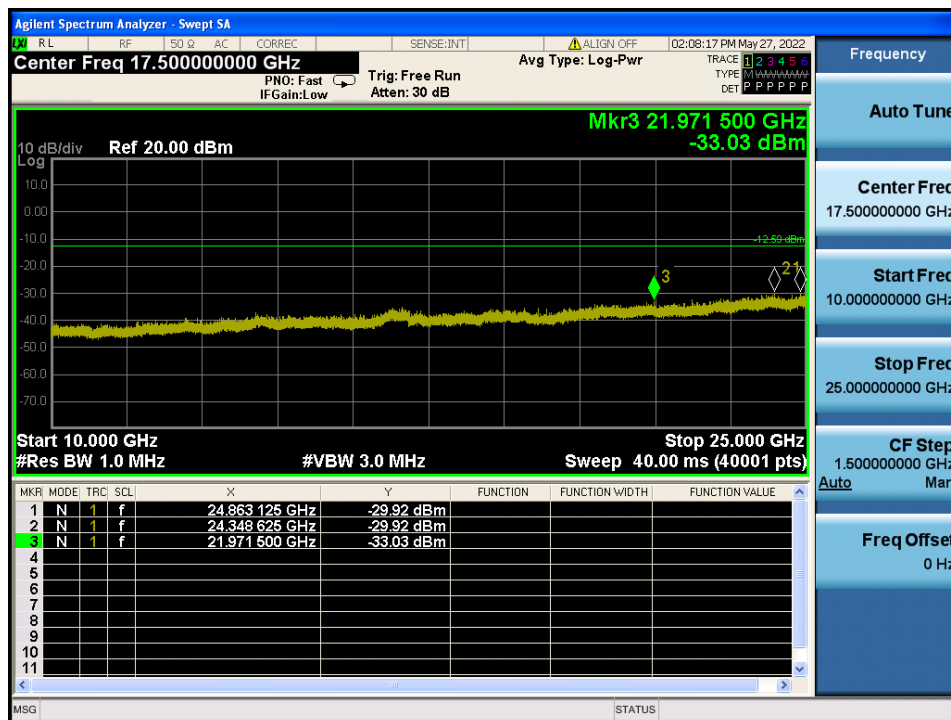
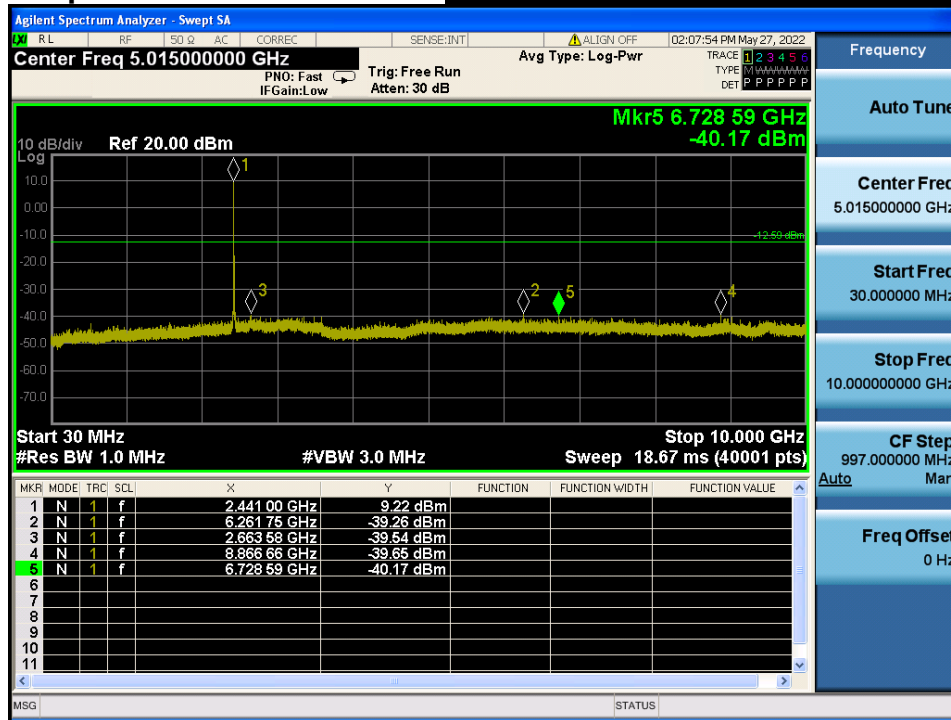


Conducted Spurious Emissions

Middle Channel & Modulation : 8DPSK

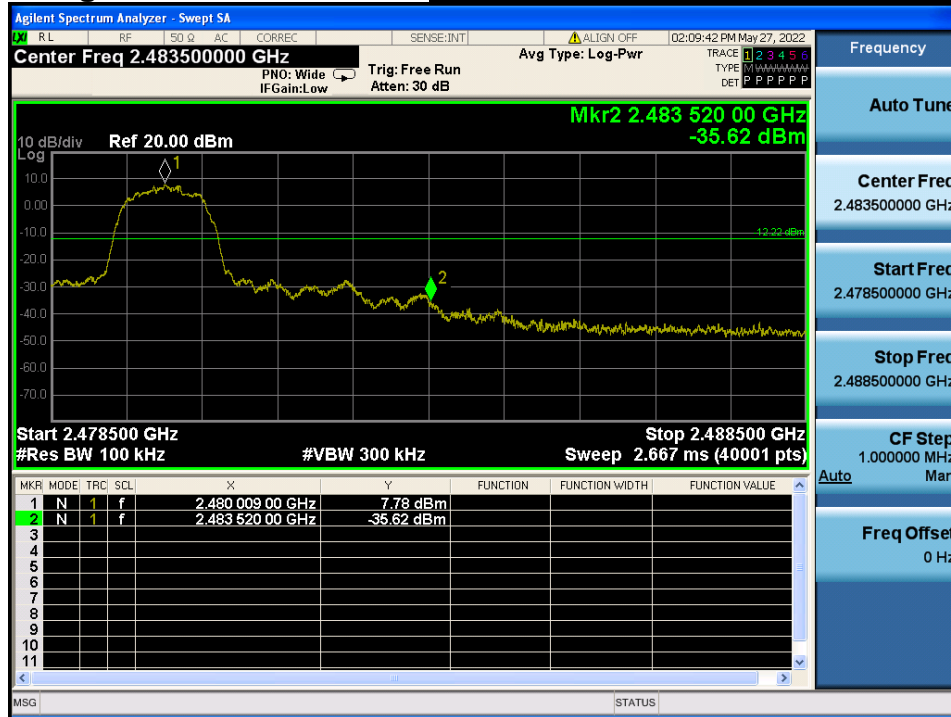


Conducted Spurious Emissions *Middle Channel & Modulation : 8DPSK*



High Band-edge

Highest Channel & Modulation : 8DPSK

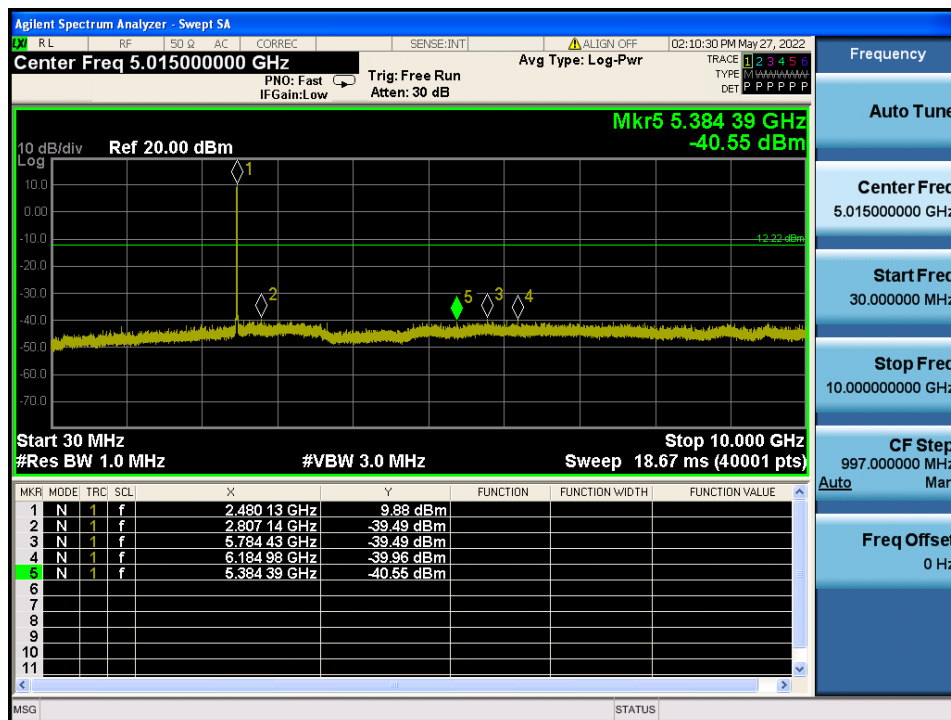
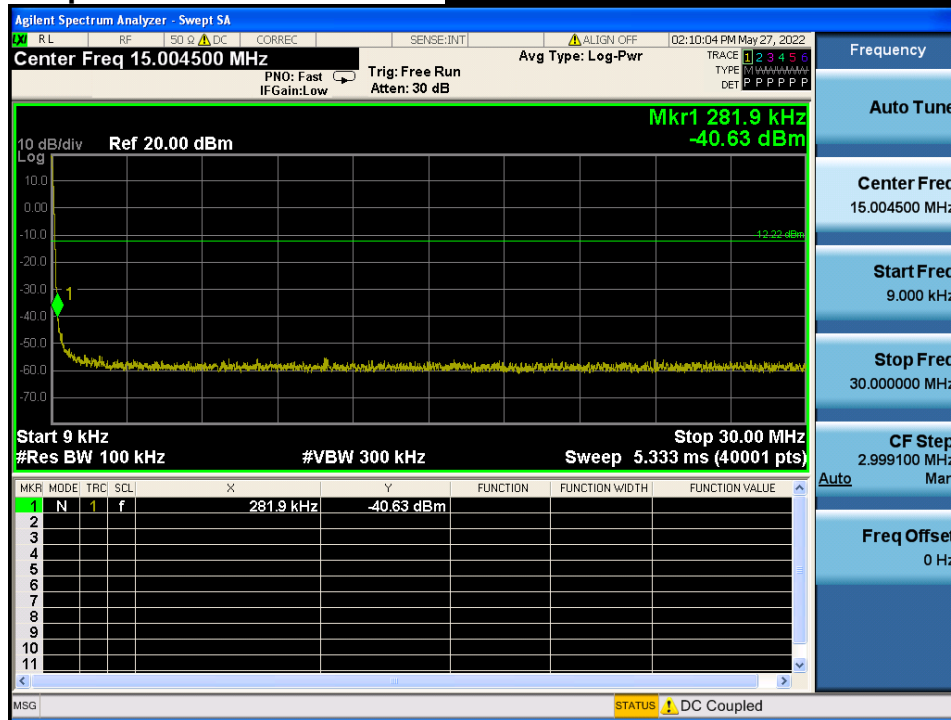


High Band-edge

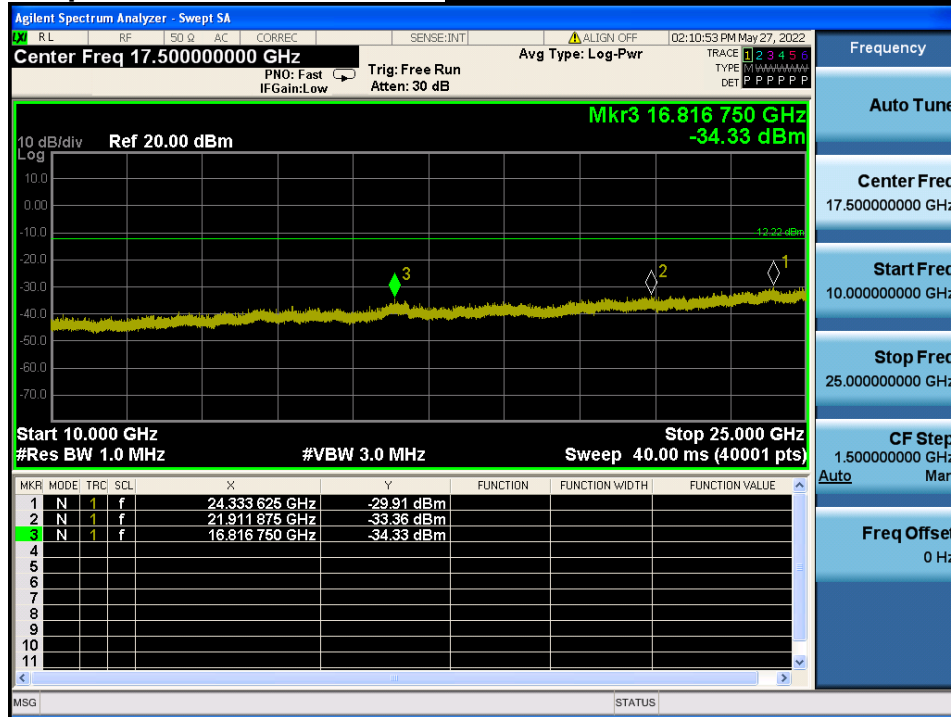
Hopping mode & Modulation : 8DPSK



Conducted Spurious Emissions ***Highest Channel & Modulation : 8DPSK***



Conducted Spurious Emissions *Highest Channel & Modulation : 8DPSK*



10. AC Power-Line Conducted Emissions

10.1. Test Setup

- See test photographs for the actual connections between EUT and support equipment.

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

AC Power-Line Conducted Emissions (Graph) – Charging Mode

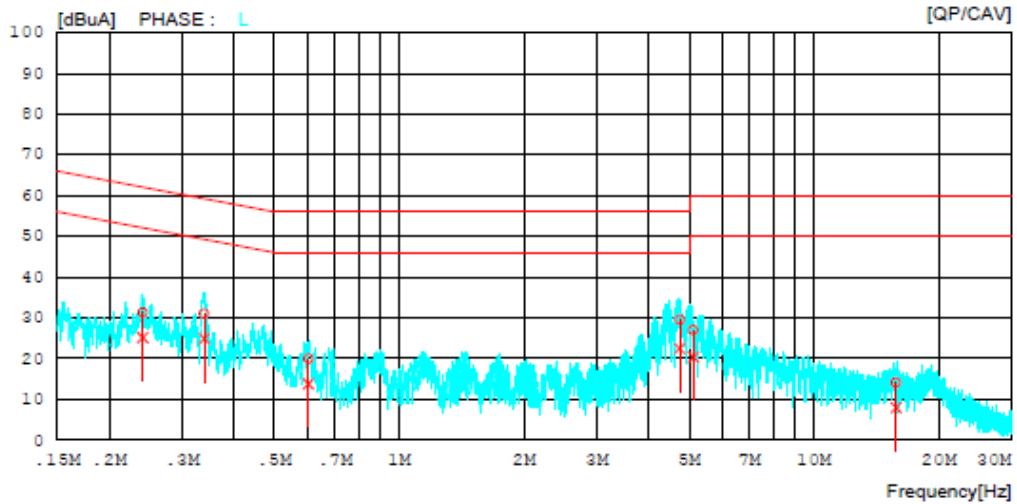
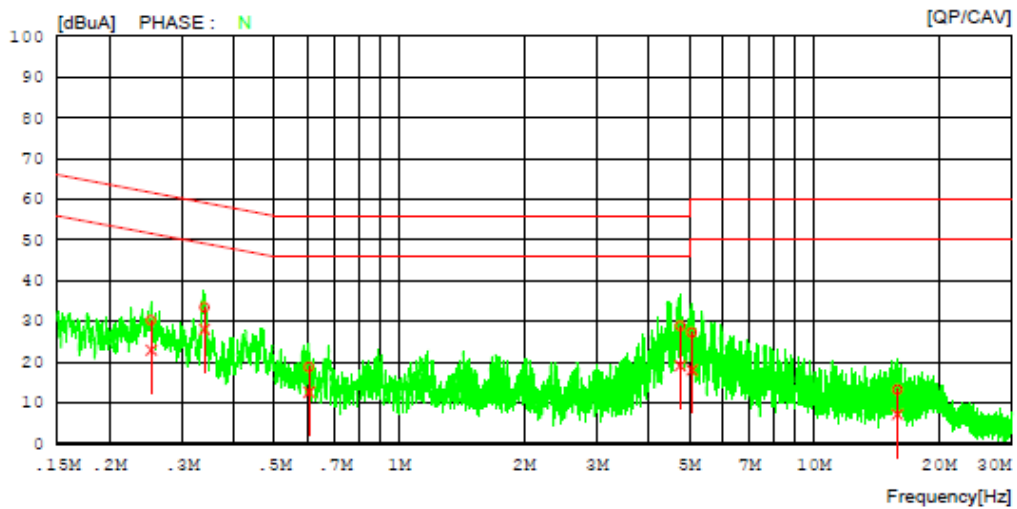
Results of Conducted Emission

DTNC Date 2022-05-13

Order No.	DTNC2204-02785	Reference No.	
Model No.	SP104	Power Supply	
Serial No.		Temp/Humi.	21 °C / 41 %
Test Condition	Charging	Operator	C.W.Lee

Memo

LIMIT : FCC P15.207 AV
FCC P15.207 QP



AC Power-Line Conducted Emissions (List) – Charging Mode

Results of Conducted Emission

DTNC

Date 2022-05-13

Order No.	DTNC2204-02765	Reference No.	
Model No.	SP104	Power Supply	
Serial No.		Temp/Humi.	21 °C / 41 %
Test Condition	Charging	Operator	C.W.Lee

Memo

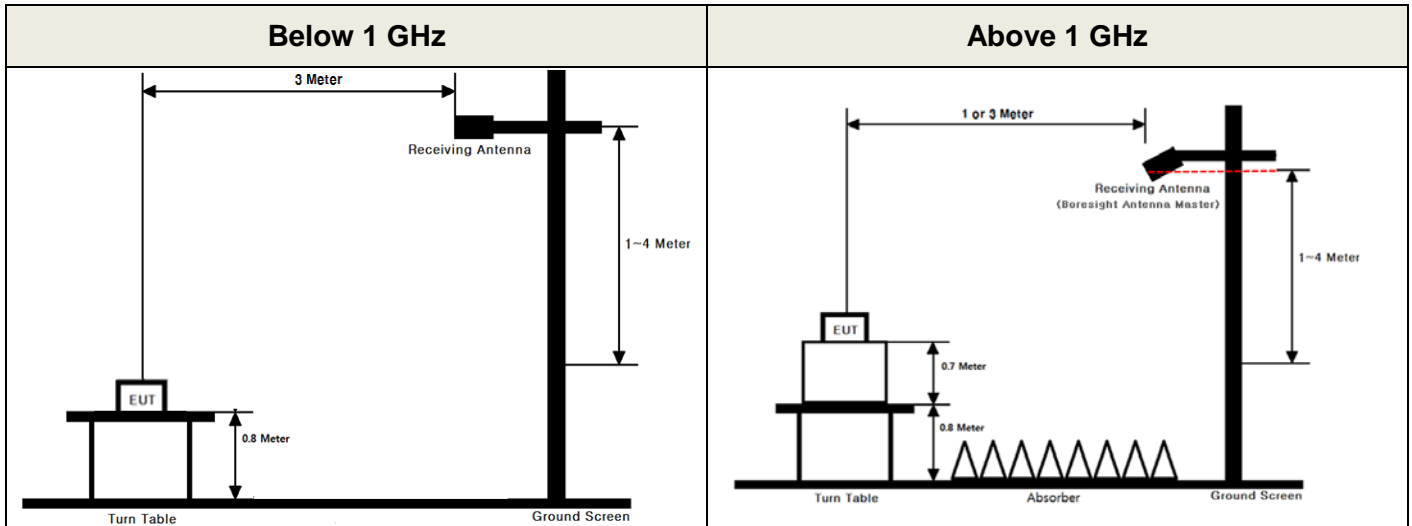
 LIMIT : FCC P15.207 AV
 FCC P15.207 QP

NO	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuA]	CAV [dBuA]		QP [dBuA]	CAV [dBuA]	QP [dBuA]	CAV [dBuA]	QP [dBuA]	CAV [dBuA]	
1	0.25226	20.28	12.97	10.00	30.28	22.97	61.68	51.68	31.40	28.71	N
2	0.33955	23.42	18.12	10.00	33.42	28.12	59.21	49.21	25.79	21.09	N
3	0.60649	8.84	2.69	10.01	18.85	12.70	56.00	46.00	37.15	33.30	N
4	4.76568	16.77	8.69	10.21	28.98	19.10	56.00	46.00	27.02	26.90	N
5	5.08249	17.04	7.93	10.21	27.25	18.14	60.00	50.00	32.75	31.86	N
6	15.89128	2.82	-3.30	10.50	13.32	7.20	60.00	50.00	46.68	42.80	N
7	0.24094	21.32	15.13	10.00	31.32	25.13	62.06	52.06	30.74	26.93	L
8	0.33877	20.97	14.85	10.00	30.97	24.85	59.23	49.23	28.26	24.38	L
9	0.60368	9.89	3.78	10.01	19.90	13.79	56.00	46.00	36.10	32.21	L
10	4.75226	19.23	12.28	10.21	29.44	22.49	56.00	46.00	26.56	23.51	L
11	5.12335	16.71	10.16	10.21	26.92	20.37	60.00	50.00	33.08	29.63	L
12	15.77756	3.65	-2.54	10.49	14.14	7.95	60.00	50.00	45.86	42.05	L

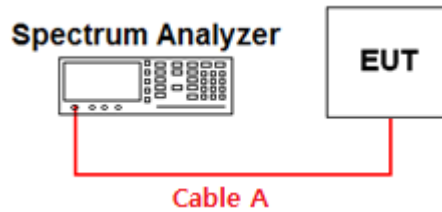
APPENDIX I

Test set up diagrams

▪ Radiated Measurement



▪ Conducted Measurement



Path loss information

Frequency (GHz)	Path Loss (dB)	Frequency (GHz)	Path Loss (dB)
0.03	0.22	15	1.74
1	0.70	20	1.99
2.402 & 2.441 & 2.480	0.93	25	2.59
5	1.19	-	-
10	1.52	-	-

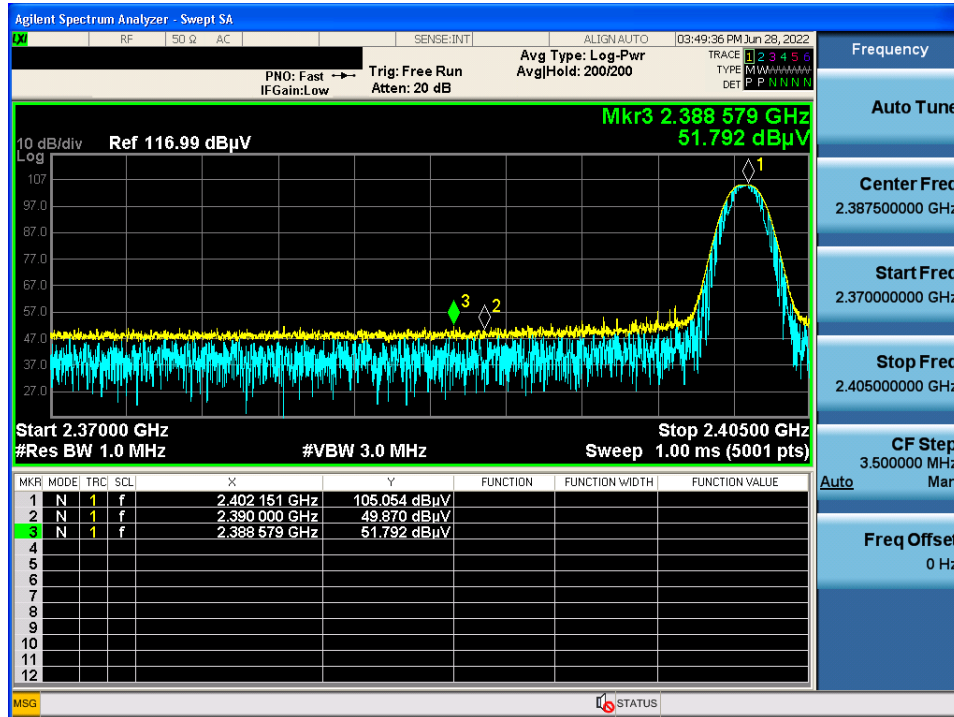
Note 1: The path loss from EUT to Spectrum analyzer was measured and used for test.
 Path loss (S/A's correction factor) = Cable A + Power Splitter

APPENDIX II

Unwanted Emissions (Radiated) Test Plot

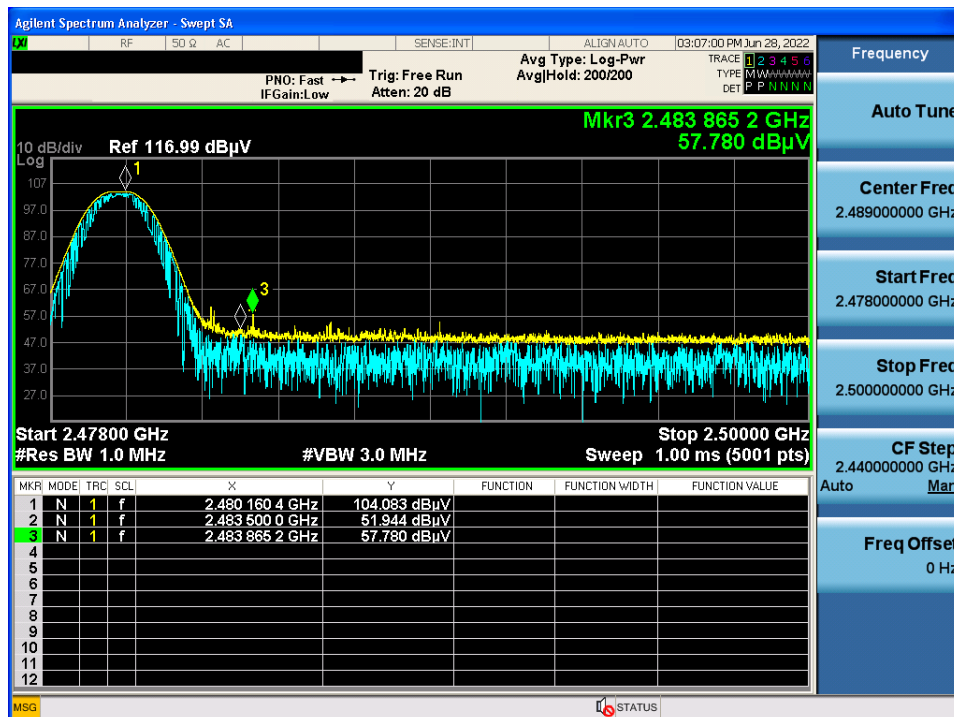
GFSK & Lowest & X & Hor

Detector Mode : PK



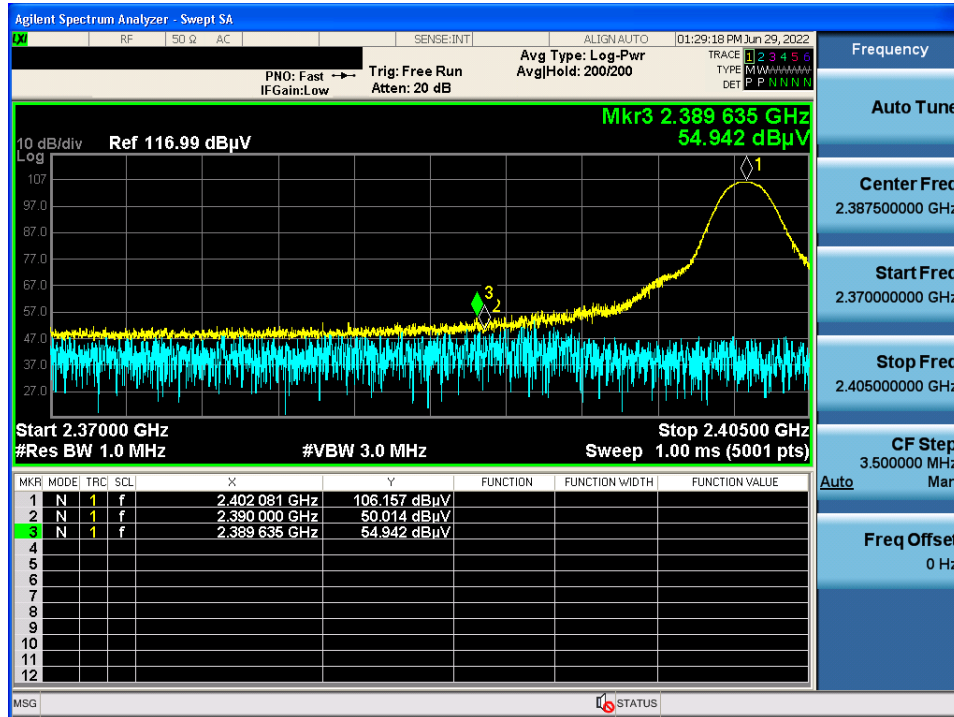
GFSK & Highest & X & Hor

Detector Mode : PK



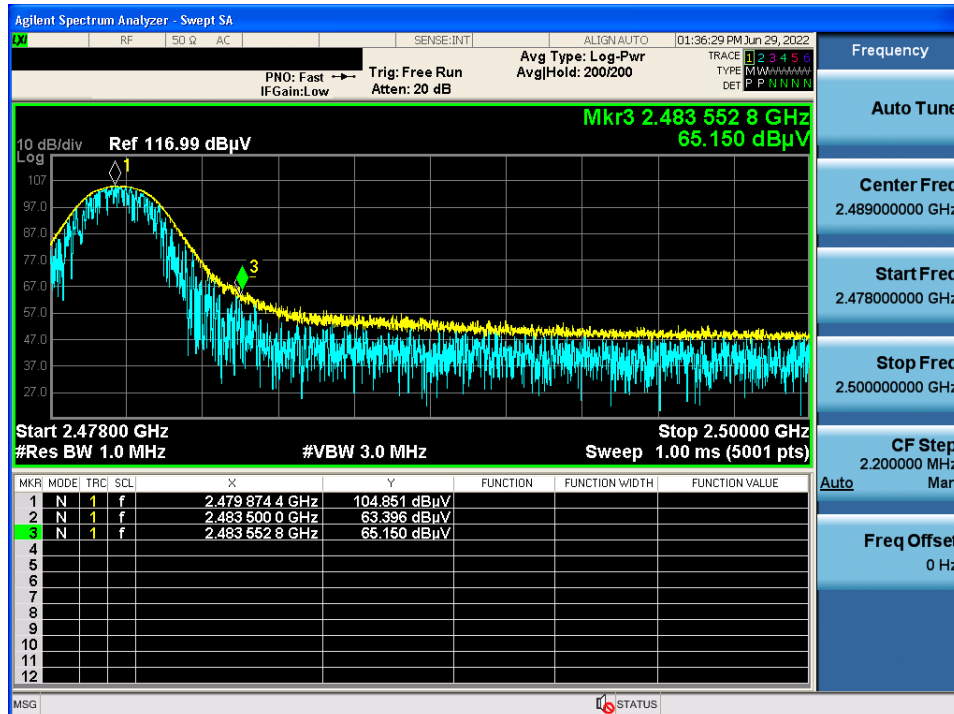
$\pi/4$ DQPSK & Lowest & Z & Ver

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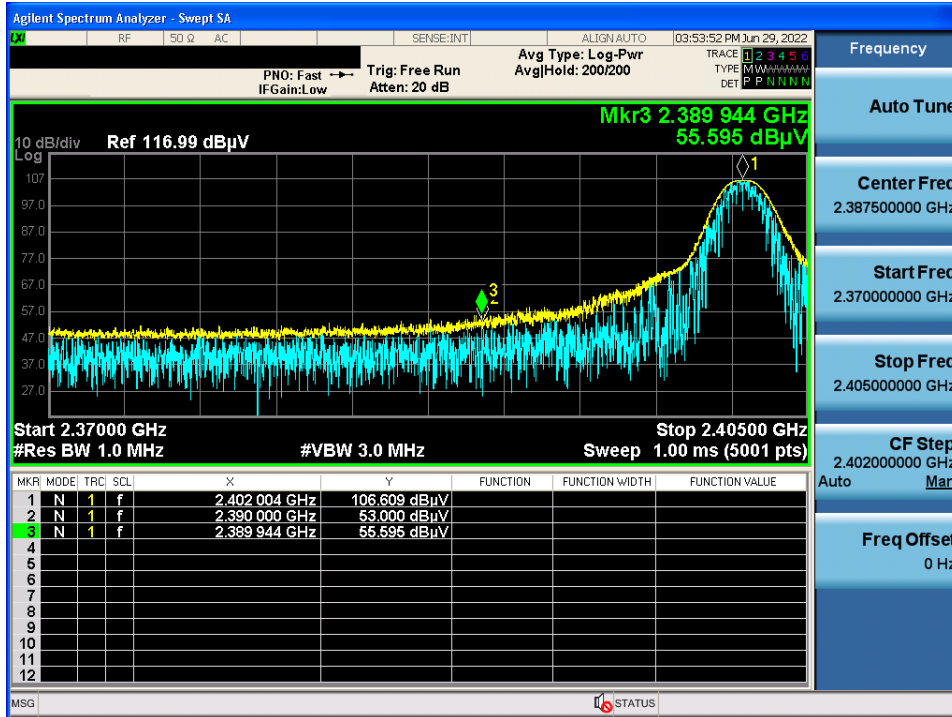
$\pi/4$ DQPSK & Highest & Z & Ver

Detector Mode : PK



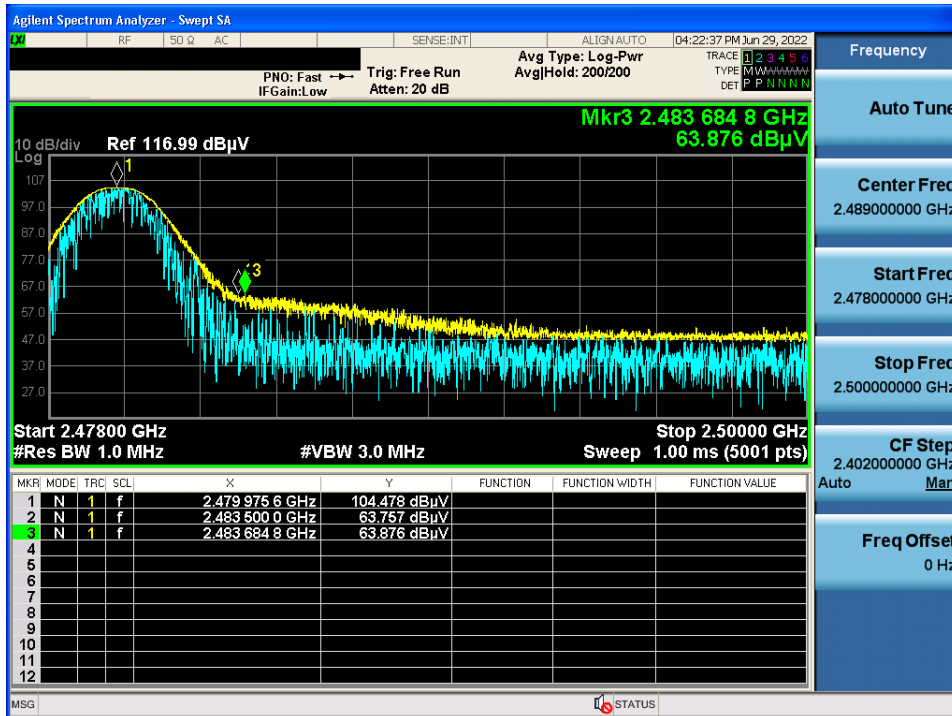
8DPSK & Lowest & X & Hor

Detector Mode : PK



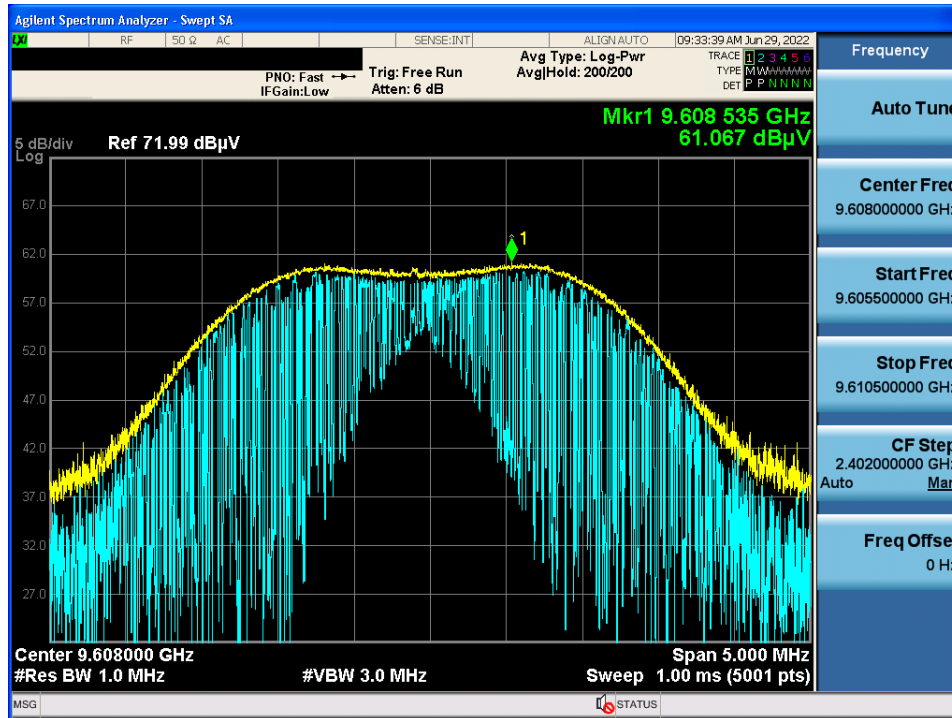
8DPSK & Highest & X & Hor

Detector Mode : PK



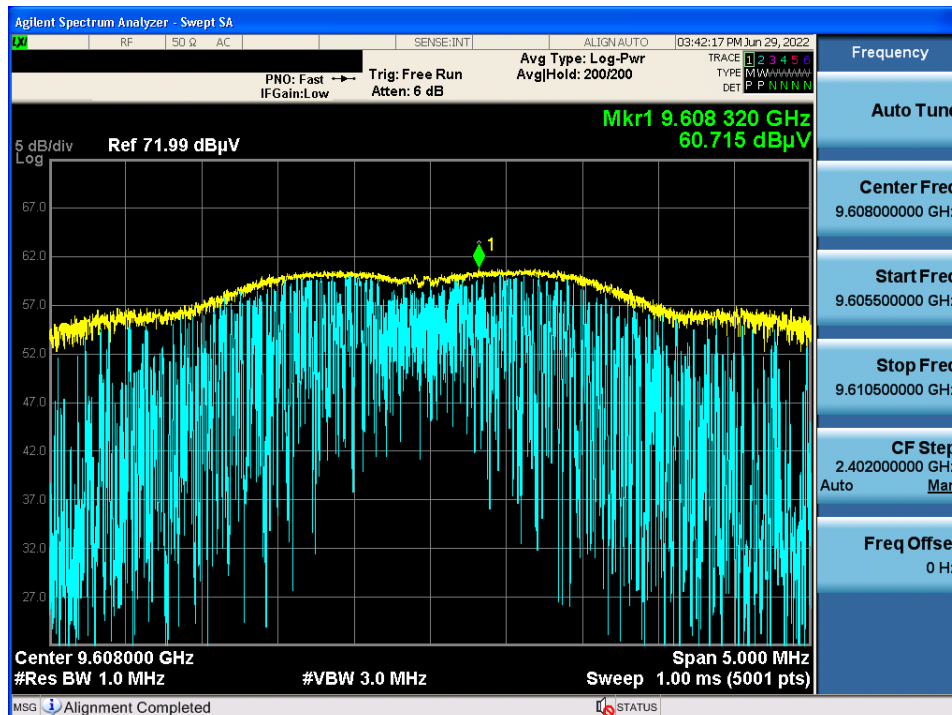
GFSK & Lowest & Z & Hor

Detector Mode : PK



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

Detector Mode : PK



8DPSK & Lowest & X & Ver

Detector Mode : PK

