



Keyway Testing Technology (Guangdong) Co., Ltd
Room 2102,Building 6,Dongyi Intelligent Equipment New Energy Vehicle Park,N.30
of Tangxia District,Dongshen Road,Tangxia Town,Dongguan City,Guangdong,China

E.U.T:	TWS Bluetooth Headphones
Model Number:	MLF-A7
Trade Name:	MLF
Date of Receipt:	Aug. 19, 2025
Date of Test:	Aug 19 ~ Sep 05, 2025
FCC ID:	FCC ID: 2BRZO-MLF-A7



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A.1 DUTY CYCLE

Test Result

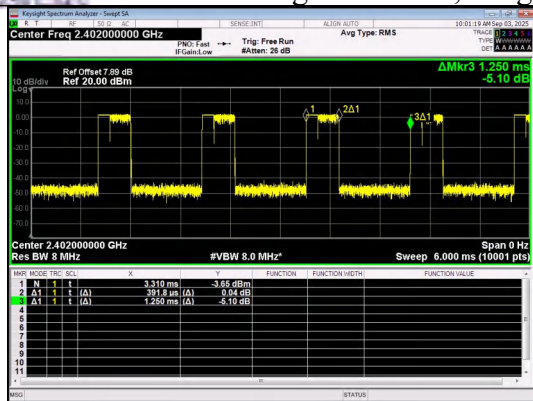
Modulation	Packets	Channel	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)	1/T
GFSK	DH1	0	0.382	1.249	30.55	0.3055	5.1499	2.6178
		39	0.382	1.250	30.58	0.3058	5.1456	2.6178
		78	0.382	1.249	30.55	0.3055	5.1499	2.6178
π /4DQPSK	2-DH1	0	0.392	1.250	31.35	0.3135	5.0376	2.5510
		39	0.392	1.250	31.35	0.3135	5.0376	2.5510
		78	0.391	1.249	31.32	0.3132	5.0418	2.5575
8DPSK	3-DH1	0	0.392	1.250	31.35	0.3135	5.0376	2.5510
		39	0.391	1.249	31.32	0.3132	5.0418	2.5575
		78	0.392	1.249	31.36	0.3136	5.0362	2.5510

Test Graphs





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8DPSK(3-DH1)_Channel 0



8DPSK(3-DH1)_Channel 39



8DPSK(3-DH1)_Channel 78



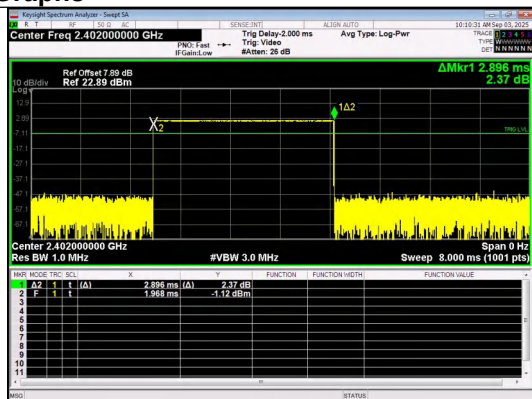
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A.2 DWELL TIME

Test Result

Modulation	Packet	Channel	Pulse Width (ms)	Number of Pulses in 31.6 seconds	Dwell Time (ms)	Limit (ms)	Result
GFSK	DH5	Hopping	2.896	97	280.91	< 400	PASS
	DH5		2.880	115	331.2		PASS
	DH5		2.880	123	354.24		PASS
$\pi/4$ DQPSK	2-DH5		2.896	102	295.39		PASS
	2-DH5		2.896	102	295.39		PASS
	2-DH5		2.880	118	339.84		PASS
8DPSK	3-DH5		2.880	104	299.52		PASS
	3-DH5		2.192	95	208.24		PASS
	3-DH5		2.896	116	335.94		PASS

Test Graphs



Pulse Width
GFSK_DH5



Number of Pulses in 31.6 seconds
GFSK_DH5



Pulse Width
GFSK_DH5



Number of Pulses in 31.6 seconds
GFSK_DH5



Pulse Width
GFSK_DH5



Number of Pulses in 31.6 seconds
GFSK_DH5



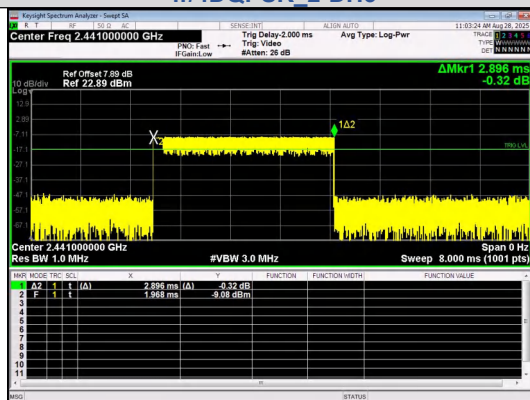
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Pulse Width
 $\pi/4$ DQPSK_2-DH5



Number of Pulses in 31.6 seconds
 $\pi/4$ DQPSK_2-DH5



Pulse Width
 $\pi/4$ DQPSK_2-DH5



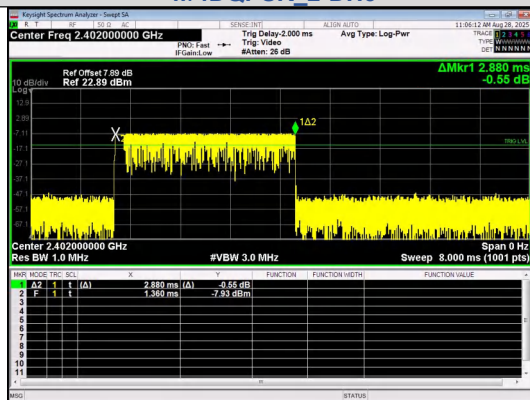
Number of Pulses in 31.6 seconds
 $\pi/4$ DQPSK_2-DH5



Pulse Width
 $\pi/4$ DQPSK_2-DH5



Number of Pulses in 31.6 seconds
 $\pi/4$ DQPSK_2-DH5



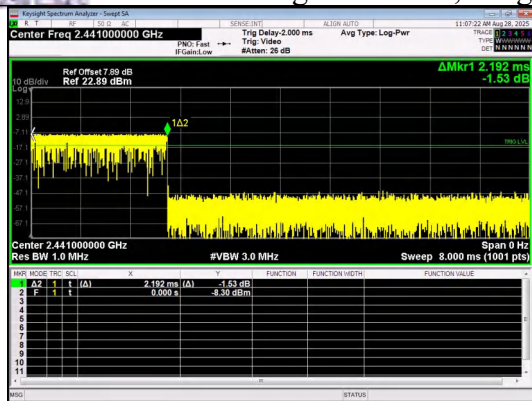
Pulse Width
8DPSK_3-DH5



Number of Pulses in 31.6 seconds
8DPSK_3-DH5



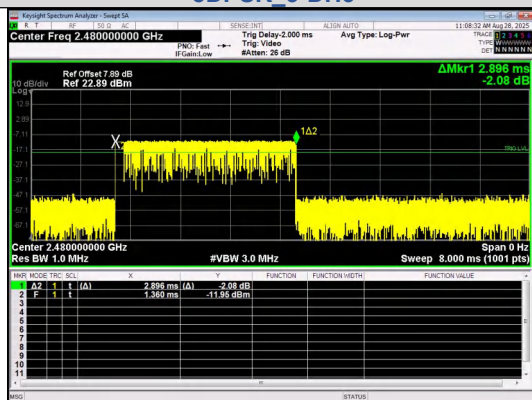
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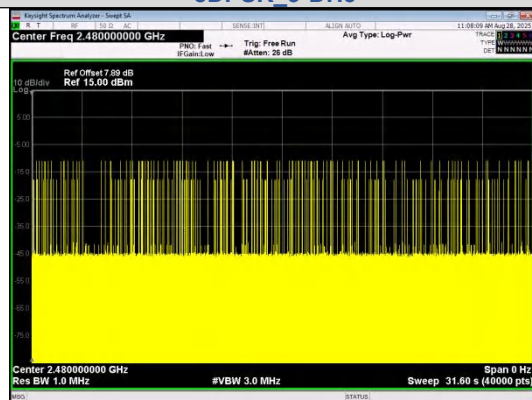
Pulse Width
8DPSK_3-DH5



Number of Pulses in 31.6 seconds
8DPSK_3-DH5



Pulse Width
8DPSK_3-DH5



Number of Pulses in 31.6 seconds
8DPSK_3-DH5

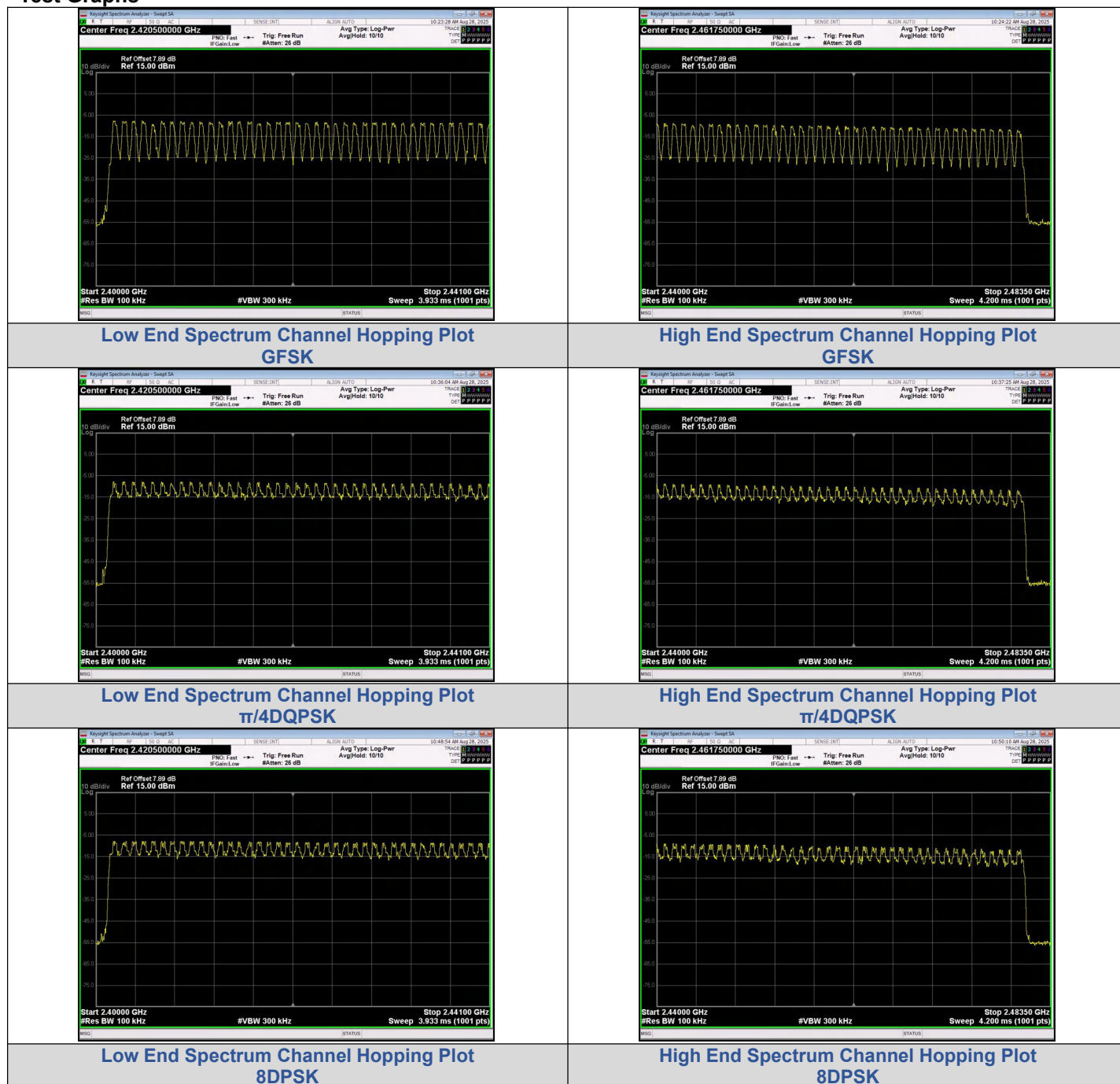


A.3 NUMBER OF HOPPING CHANNEL

Test Result

Modulation	Packet	Number of Hopping Channel	Limit	Result
GFSK	DH1	79	15	PASS
$\pi/4$ DQPSK	2-DH1	79	15	PASS
8DPSK	3-DH1	79	15	PASS

Test Graphs





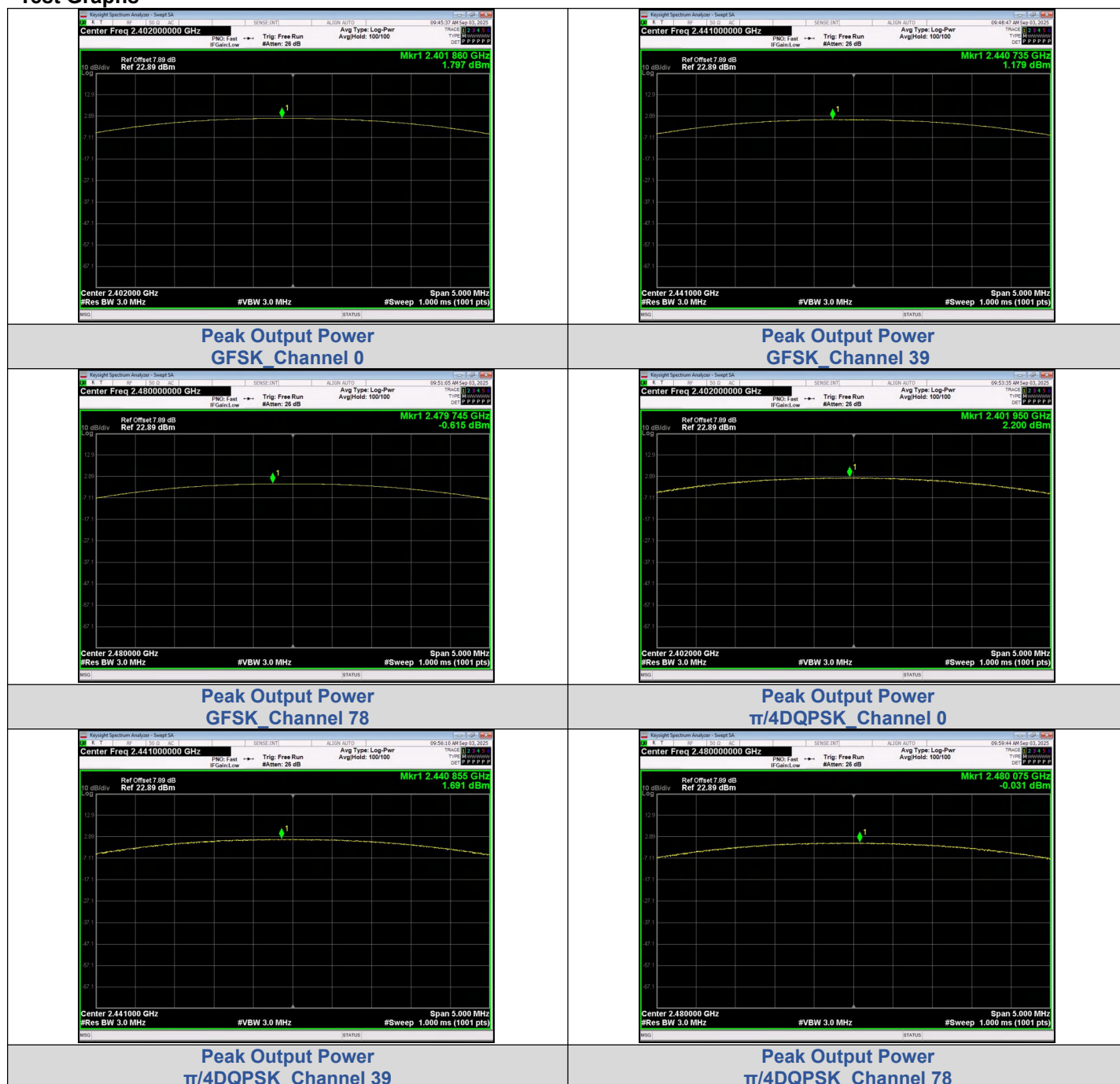
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A.4 CONDUCTED PEAK OUTPUT POWER

Test Result

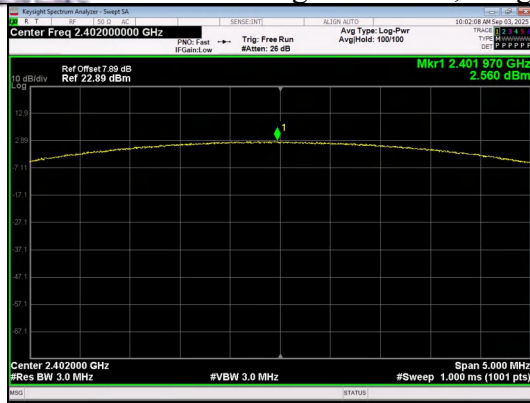
Modulation	Packet Type	Channel	Peak Output Power (dBm)	Peak Output Power (mW)	Max. Avg. Power (dBm)	Limit (dBm)	Result
GFSK	DH1	0	1.80	1.51	None	≤30	PASS
		39	1.18	1.31	None		PASS
		78	-0.61	0.87	None		PASS
$\pi/4$ DQPSK	2-DH1	0	2.20	1.66	None	≤20.97	PASS
		39	1.69	1.48	None		PASS
		78	-0.03	0.99	None		PASS
8DPSK	3-DH1	0	2.56	1.80	None		PASS
		39	2.13	1.63	None		PASS
		78	0.49	1.12	None		PASS

Test Graphs

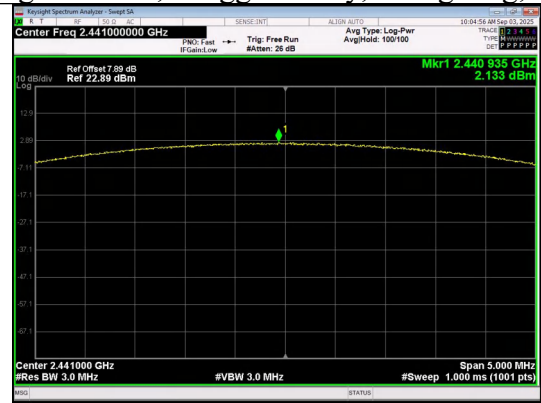




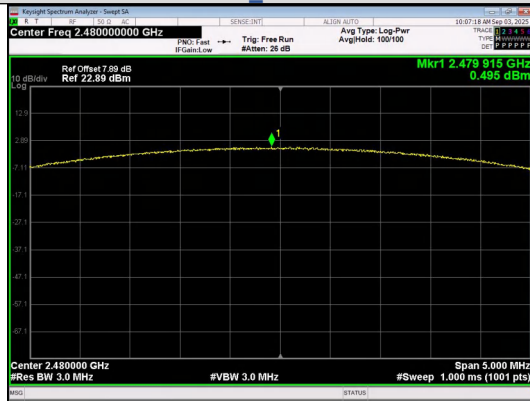
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Peak Output Power
8DPSK_Channel 0



Peak Output Power
8DPSK_Channel 39



Peak Output Power
8DPSK_Channel 78



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A.5 99% BANDWIDTH

Test Result

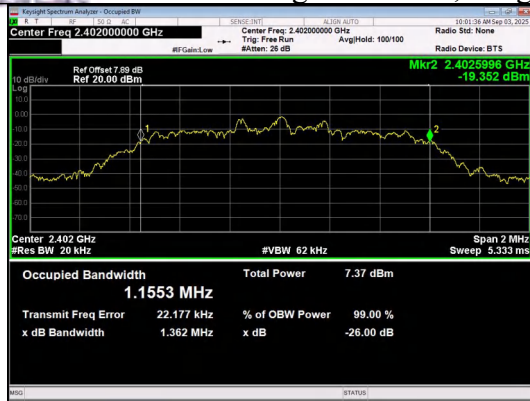
Modulation	Channel	Center Frequency (MHz)	99% BW (MHz)
GFSK	0	2402	0.84147
	39	2441	0.86446
	78	2480	0.84917
π /4DQPSK	0	2402	1.1633
	39	2441	1.1663
	78	2480	1.1670
8DPSK	0	2402	1.1553
	39	2441	1.1519
	78	2480	1.1554

Test Graphs

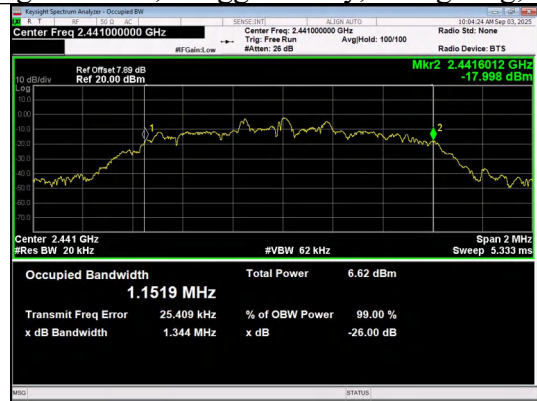




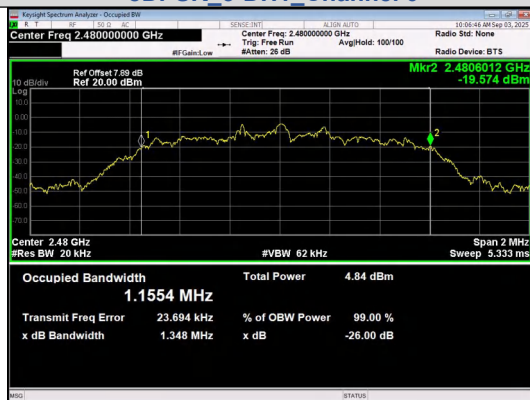
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8DPSK_3-DH1_Channel 0



8DPSK_3-DH1_Channel 39



8DPSK_3-DH1_Channel 78



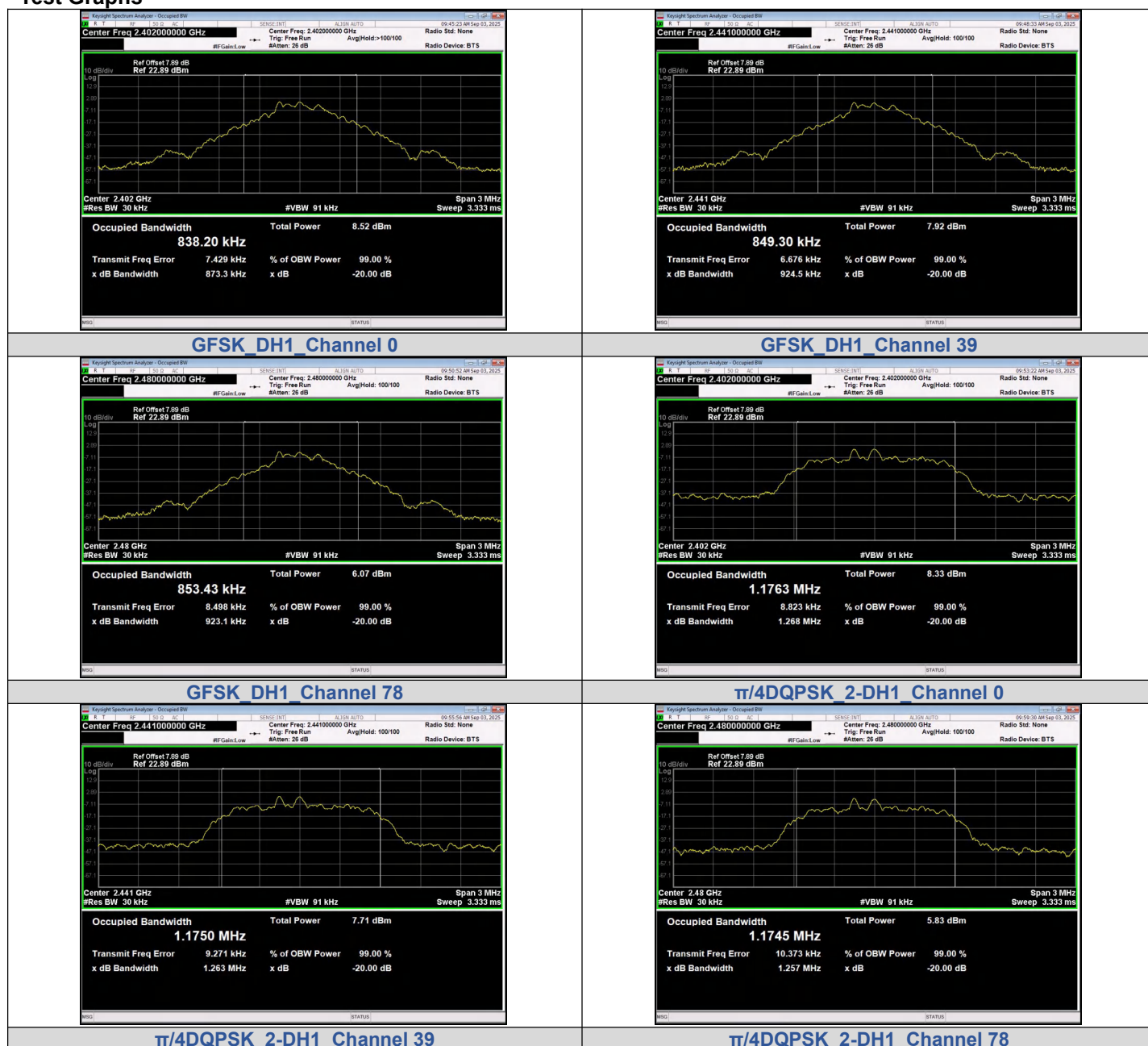
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A.6 20DB BANDWIDTH

Test Result

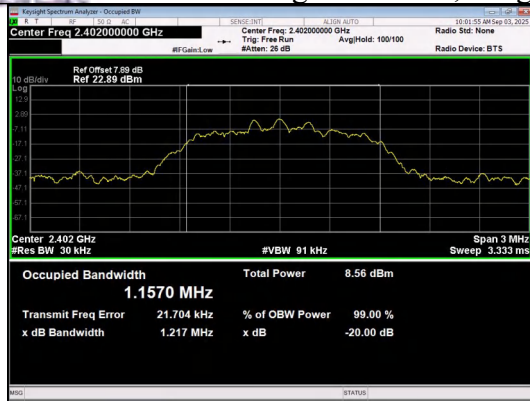
Modulation	Channel	Center Frequency (MHz)	20 dB Bandwidth (MHz)
GFSK	0	2402 MHz	0.8700
	39	2441 MHz	0.9200
	78	2480 MHz	0.9200
π /4DQPSK	0	2402 MHz	1.270
	39	2441 MHz	1.260
	78	2480 MHz	1.260
8DPSK	0	2402 MHz	1.220
	39	2441 MHz	1.220
	78	2480 MHz	1.220

Test Graphs

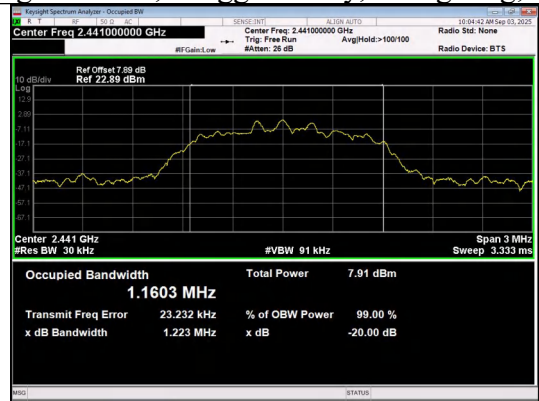




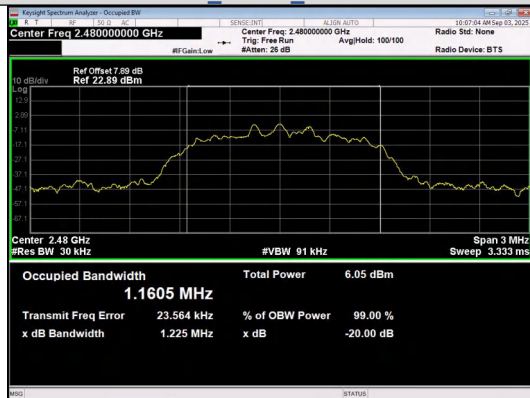
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8DPSK_3-DH1_Channel 0



8DPSK_3-DH1_Channel 39



8DPSK_3-DH1_Channel 78



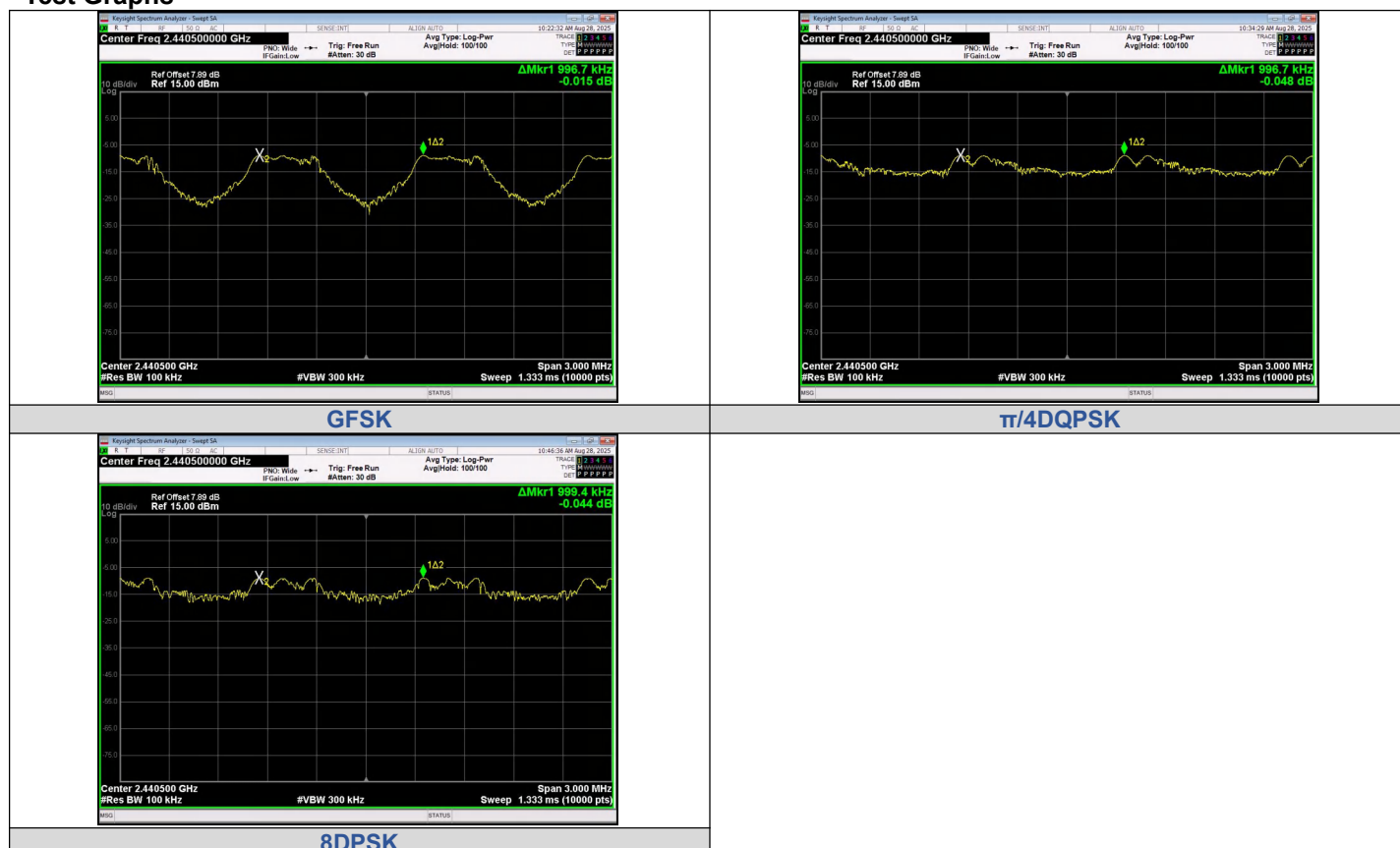
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A.7 CARRIER FREQUENCIES SEPARATION

Test Result

Modulation	Packet	Left Center frequency (MHz)	Right Center frequency (MHz)	Hopping Frequency Separation (MHz)	Limit (MHz)	Result
GFSK	DH1	2439.8506	2440.8473	0.9967	0.587	PASS
$\pi/4$ DQPSK	2-DH1	2439.8515	2440.8482	0.9967	0.833	PASS
8DPSK	3-DH1	2439.8488	2440.8482	0.9994	0.833	PASS

Test Graphs





A.8 CONDUCTED OUT OF BAND EMISSION

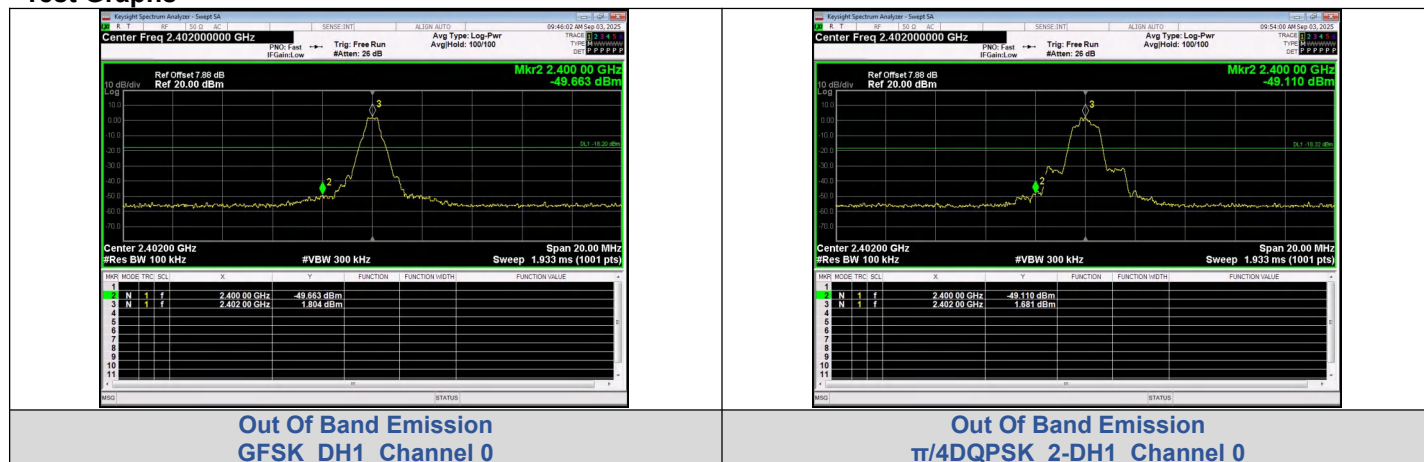
Test Result Non-Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH1	0	2400.00	-49.660	-18.2	-31.460	PASS
			7205.93	-45.504	-18.2	-27.304	PASS
		39	2249.26	-43.343	-18.9	-24.443	PASS
		78	2287.97	-42.443	-20.7	-21.743	PASS
			2483.50	-56.630	-20.7	-35.930	PASS
$\pi/4$ DQPSK	2-DH1	0	2209.94	-44.818	-18.32	-26.498	PASS
			2400.00	-49.110	-18.32	-30.790	PASS
		39	2249.26	-44.638	-18.9	-25.738	PASS
		78	2483.50	-56.050	-20.79	-35.260	PASS
			2671.89	-44.173	-20.79	-23.383	PASS
8DPSK	3-DH1	0	2209.94	-45.598	-18.31	-27.288	PASS
			2400.00	-49.680	-18.31	-31.370	PASS
		39	2249.26	-43.050	-18.91	-24.140	PASS
		78	2287.97	-40.895	-20.74	-20.155	PASS
			2483.50	-55.590	-20.74	-34.850	PASS

Hopping

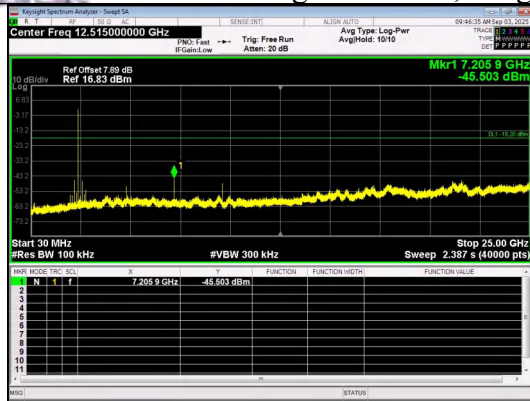
Hopping							
Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH1	Hopping	2396.60	-53.365	-27.79	-25.575	PASS
			2400.00	-54.770	-27.79	-26.980	PASS
			2483.50	-55.280	-31.29	-23.990	PASS
π/4DQPSK	2-DH1		2391.92	-53.350	-27.78	-25.570	PASS
			2400.00	-55.490	-27.78	-27.710	PASS
			2483.50	-54.420	-31.39	-23.030	PASS
8DPSK	3-DH1		2390.86	-53.807	-27.82	-25.987	PASS
			2400.00	-54.840	-27.82	-27.020	PASS
			2483.50	-55.340	-31.29	-24.050	PASS

Test Graphs

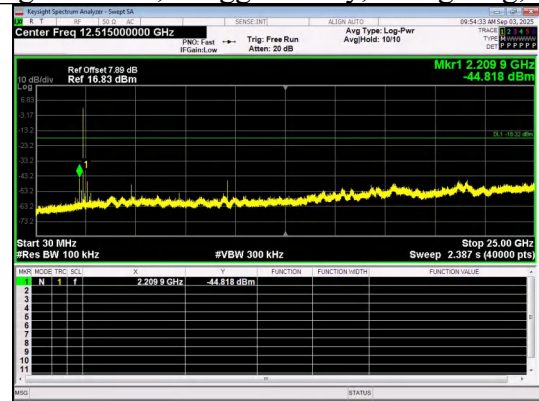




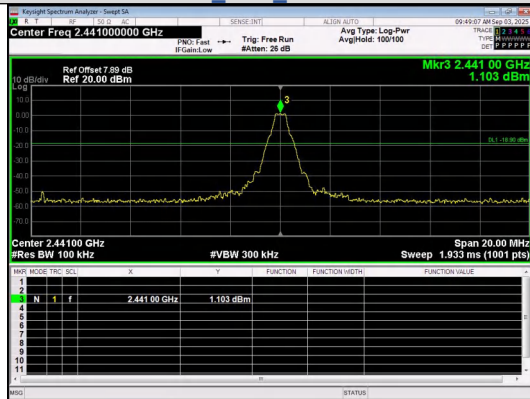
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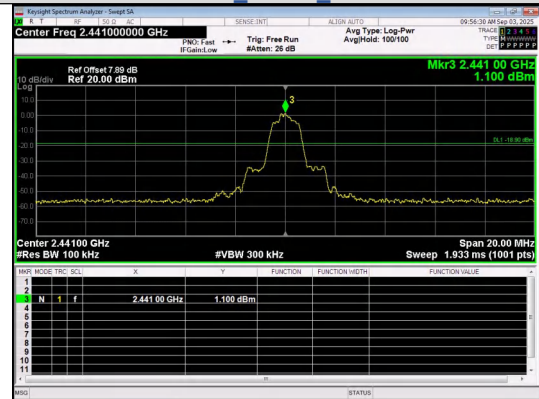
30.0 MHz - 25000.0 MHz
GFSK_DH1_Channel 0



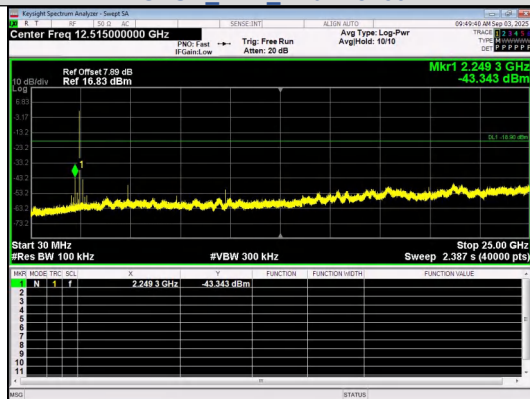
30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH1_Channel 0



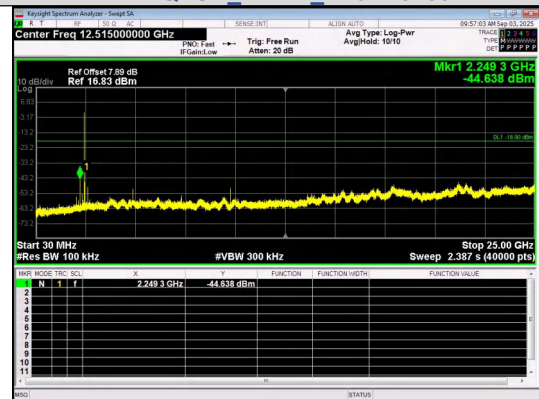
Out Of Band Emission
GFSK_DH1_Channel 39



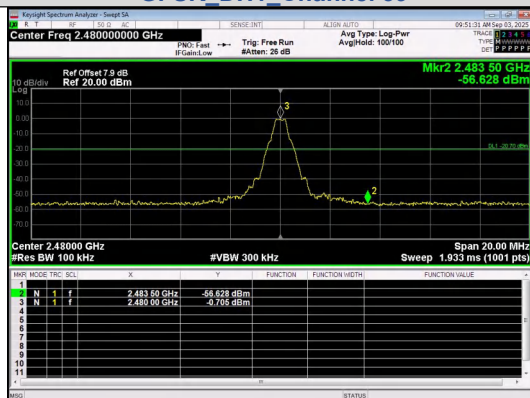
Out Of Band Emission
 $\pi/4$ DQPSK_2-DH1_Channel 39



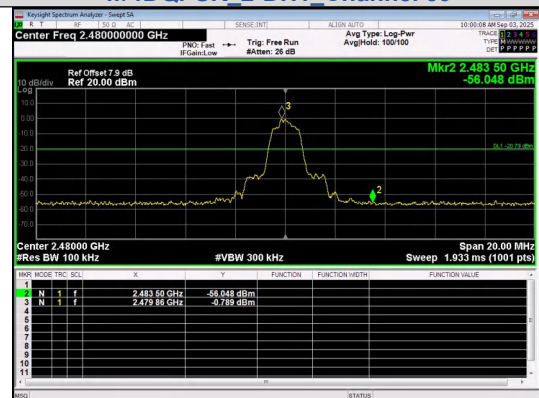
30.0 MHz - 25000.0 MHz
GFSK_DH1_Channel 39



30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH1_Channel 39



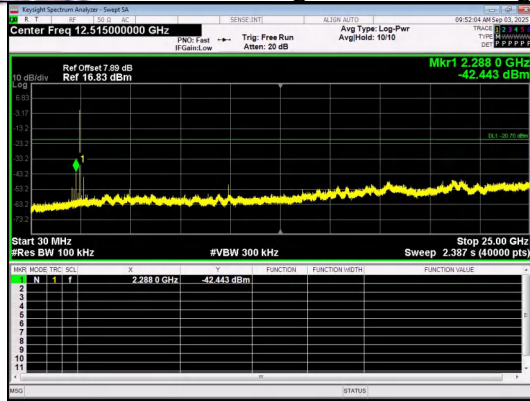
Out Of Band Emission
GFSK_DH1_Channel 78



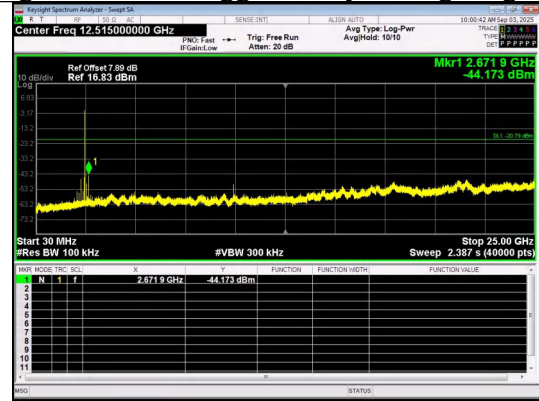
Out Of Band Emission
 $\pi/4$ DQPSK_2-DH1_Channel 78



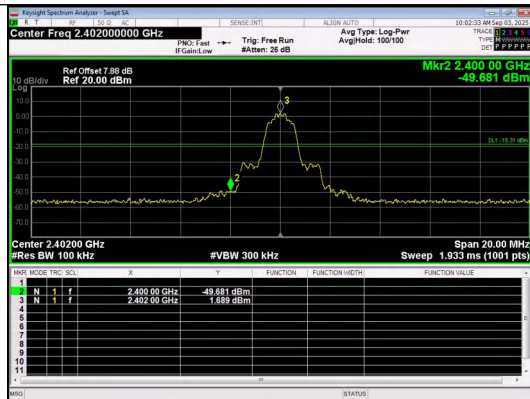
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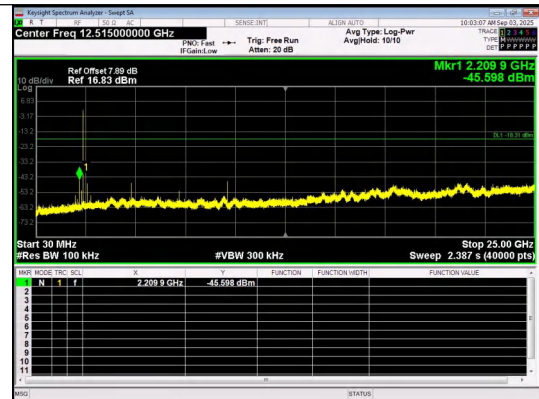
30.0 MHz - 25000.0 MHz
GFSK_DH1_Channel 78



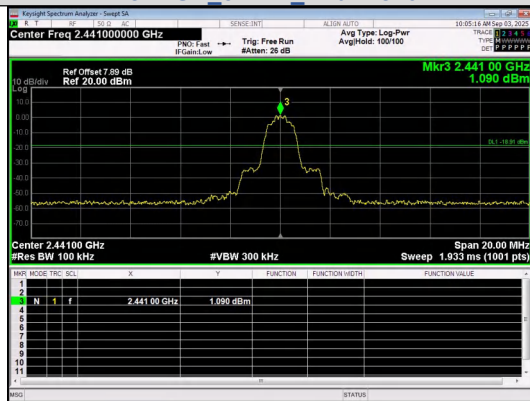
30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH1_Channel 78



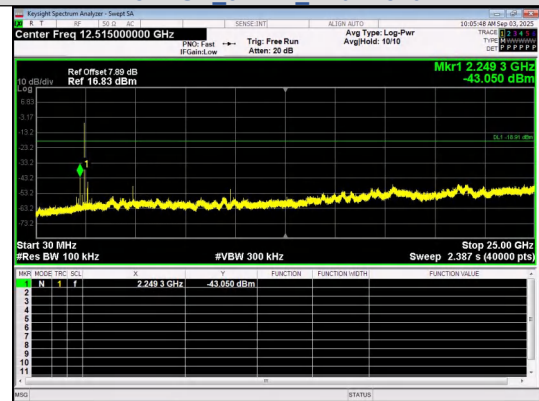
Out Of Band Emission
8DPSK_3-DH1_Channel 0



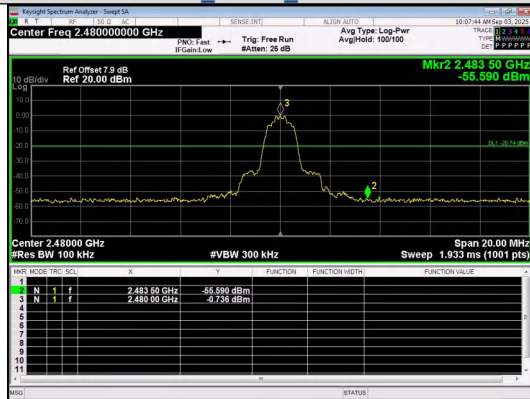
30.0 MHz - 25000.0 MHz
8DPSK_3-DH1_Channel 0



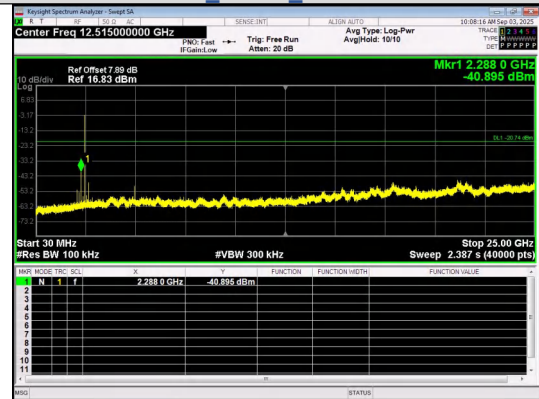
Out Of Band Emission
8DPSK_3-DH1_Channel 39



30.0 MHz - 25000.0 MHz
8DPSK_3-DH1_Channel 39



Out Of Band Emission
8DPSK_3-DH1_Channel 78



30.0 MHz - 25000.0 MHz
8DPSK_3-DH1_Channel 78

