

Appendix

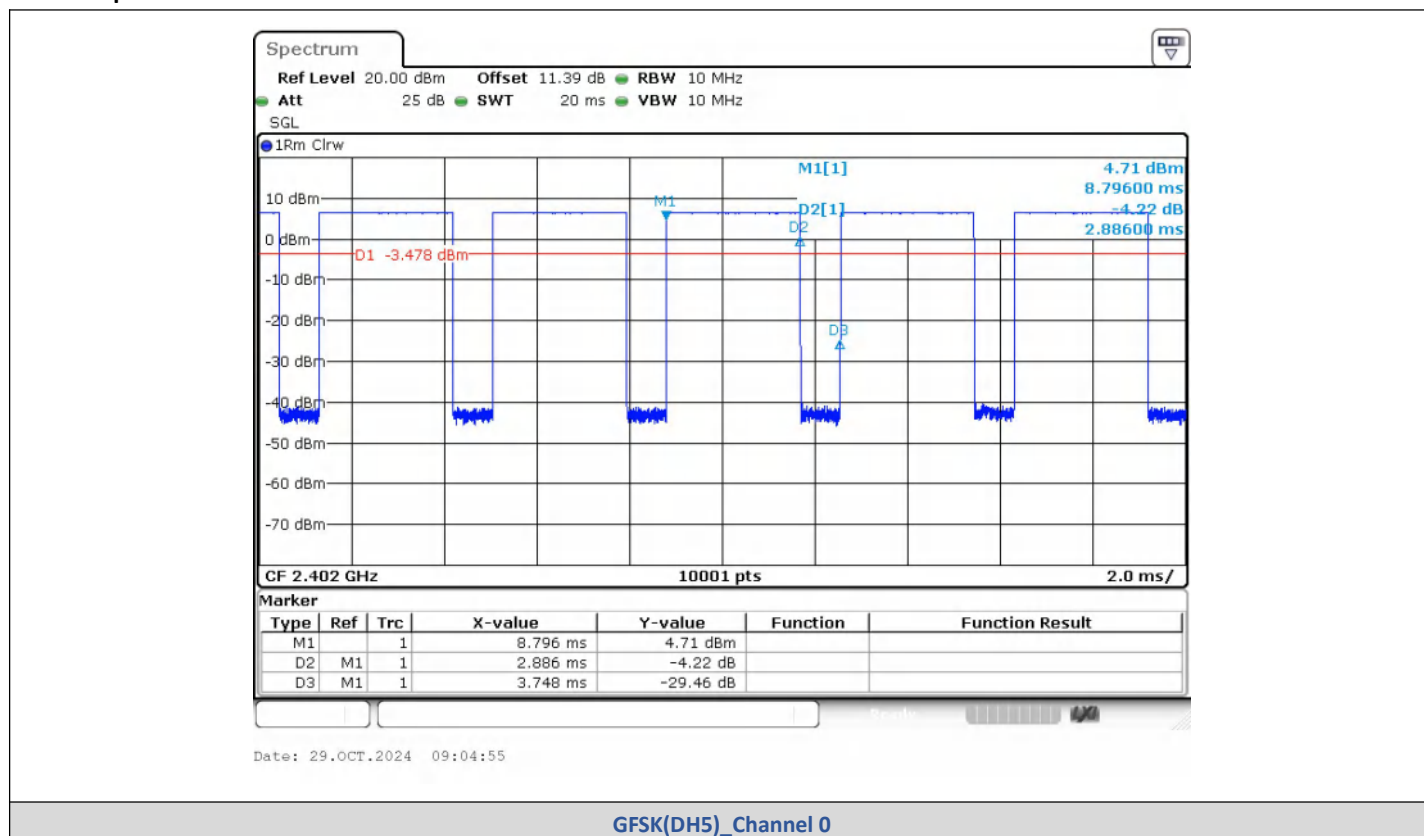
Report No.:	CISRR241025145
FCC ID:	2BLT4-C7
Product Name:	Bluetooth audio
Model No.:	C7
Test Engineer:	Mark Fu
Supervised by:	Rory Huang

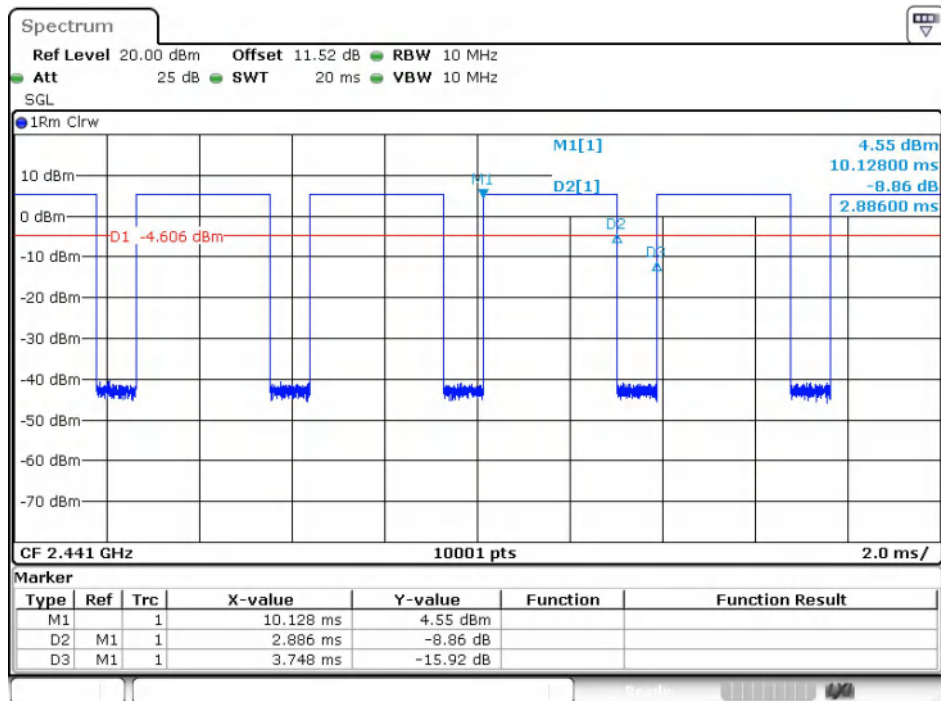
1) Duty Cycle

Test Result

Modulation	Packets	Channel	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)	1/T
GFSK	DH5	0	2.886	3.748	77.00	0.7700	1.1351	0.3465
		39	2.886	3.748	77.00	0.7700	1.1351	0.3465
		78	2.884	3.748	76.95	0.7695	1.1379	0.3467
$\pi/4$ DQPSK	2-DH5	0	2.892	3.748	77.16	0.7716	1.1261	0.3458
		39	2.892	3.748	77.16	0.7716	1.1261	0.3458
		78	2.890	3.748	77.11	0.7711	1.1289	0.3460
8DPSK	3-DH5	0	2.894	3.748	77.21	0.7721	1.1233	0.3455
		39	2.894	3.748	77.21	0.7721	1.1233	0.3455
		78	2.892	3.748	77.16	0.7716	1.1261	0.3458

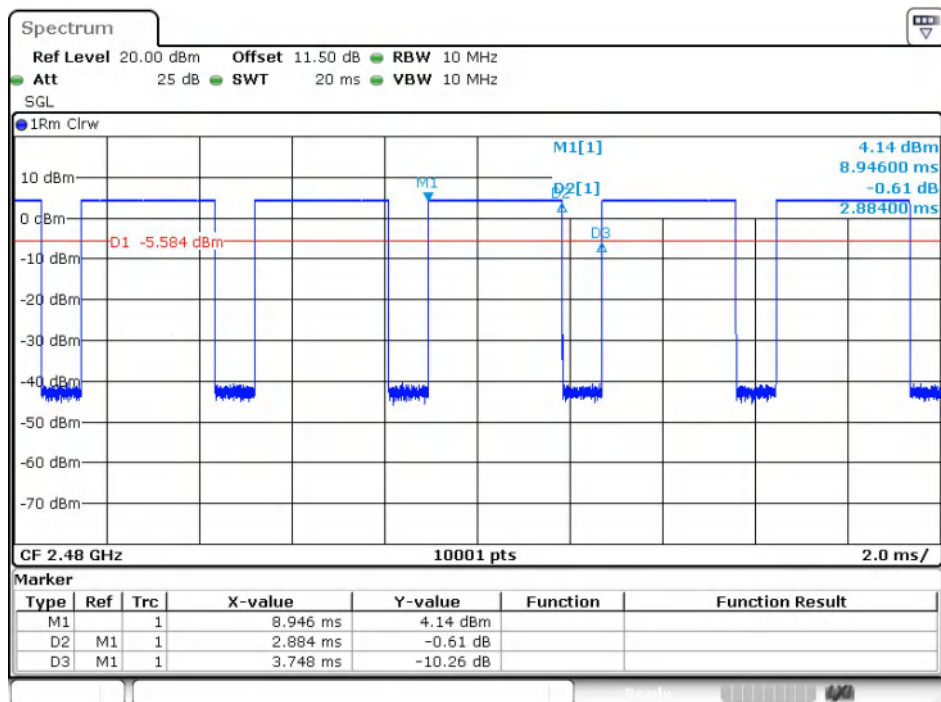
Test Graphs





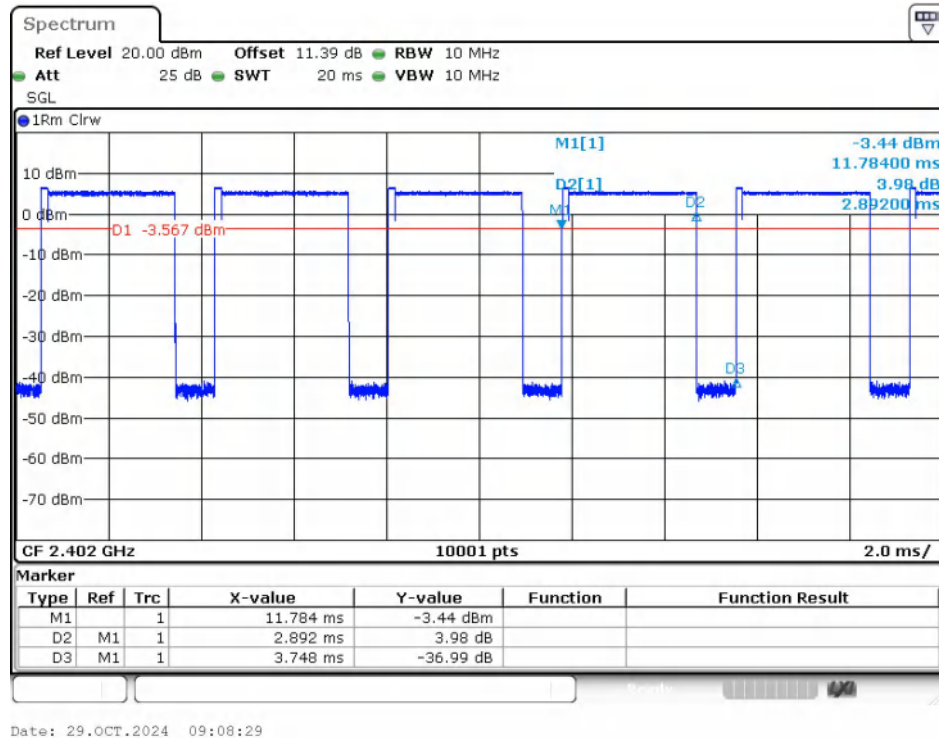
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GFSK(DH5)_Channel 39

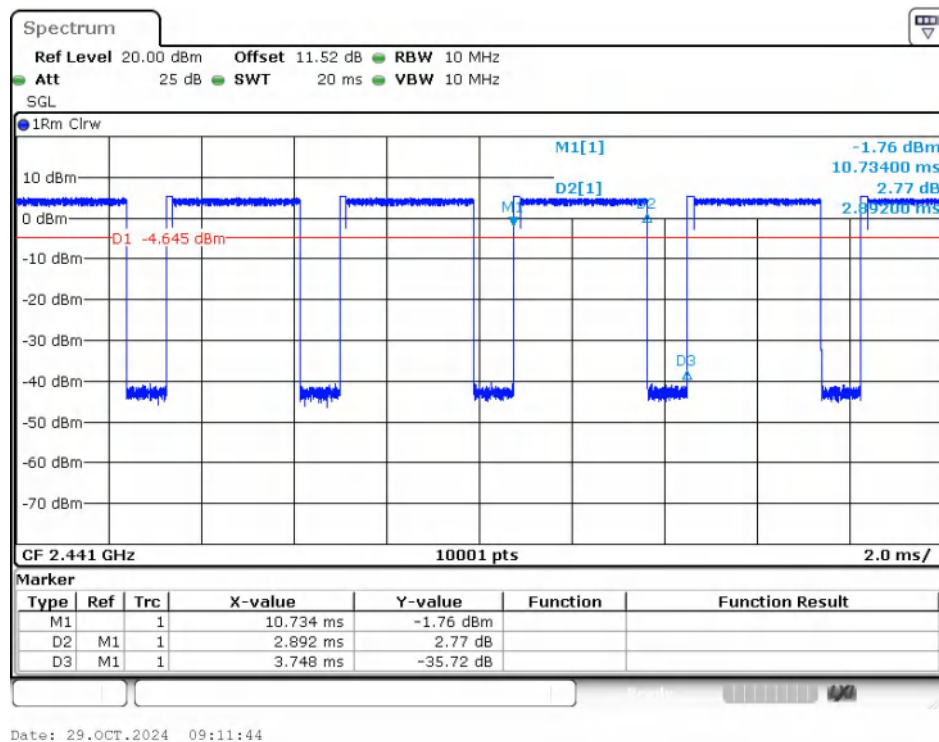


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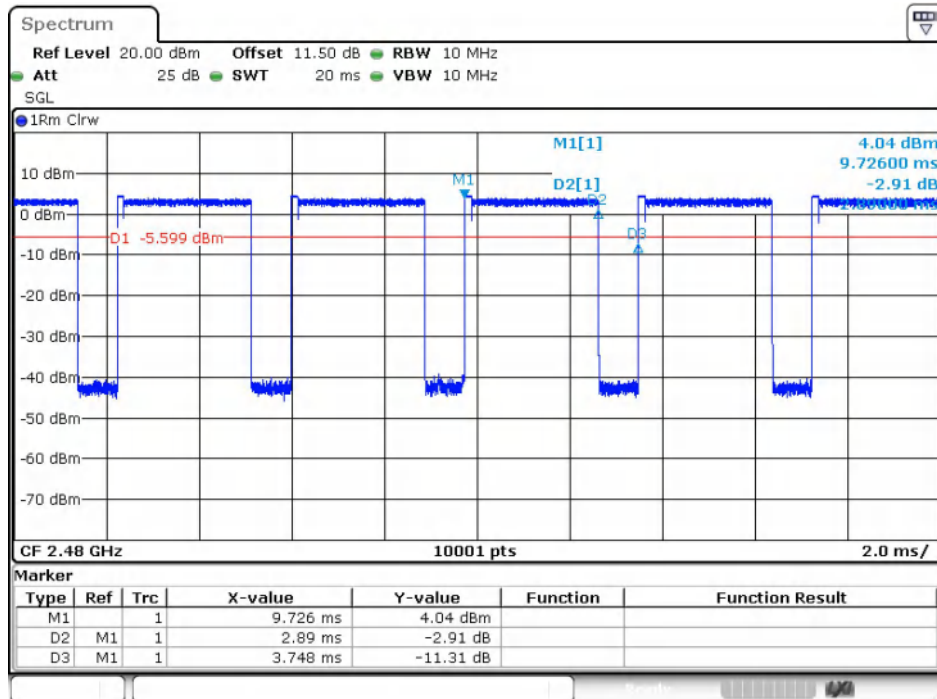
GFSK(DH5)_Channel 78



$\pi/4$ DQPSK(2-DH5)_Channel 0

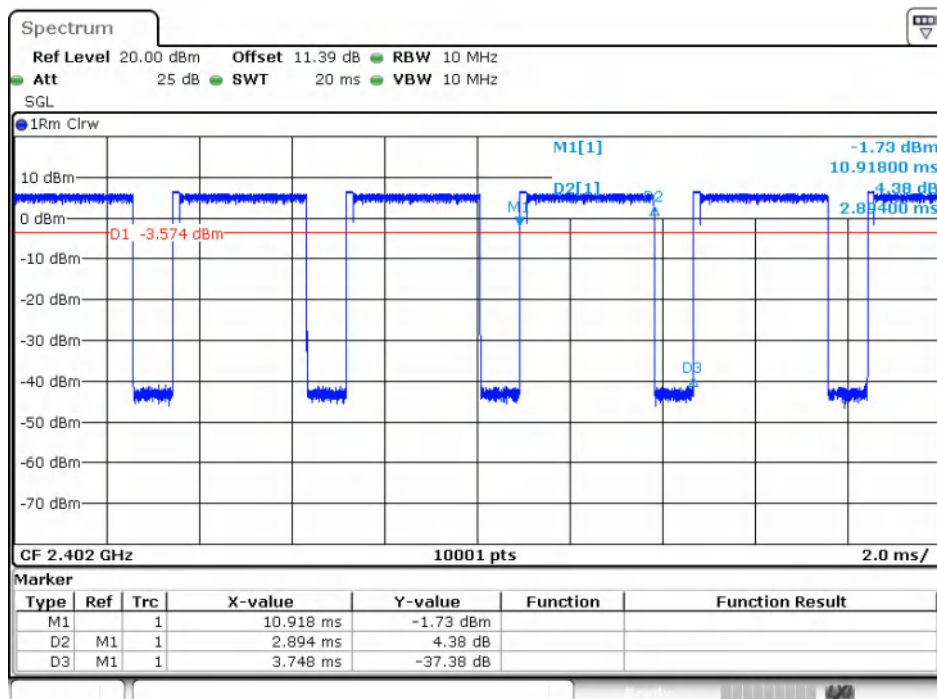


$\pi/4$ DQPSK(2-DH5)_Channel 39



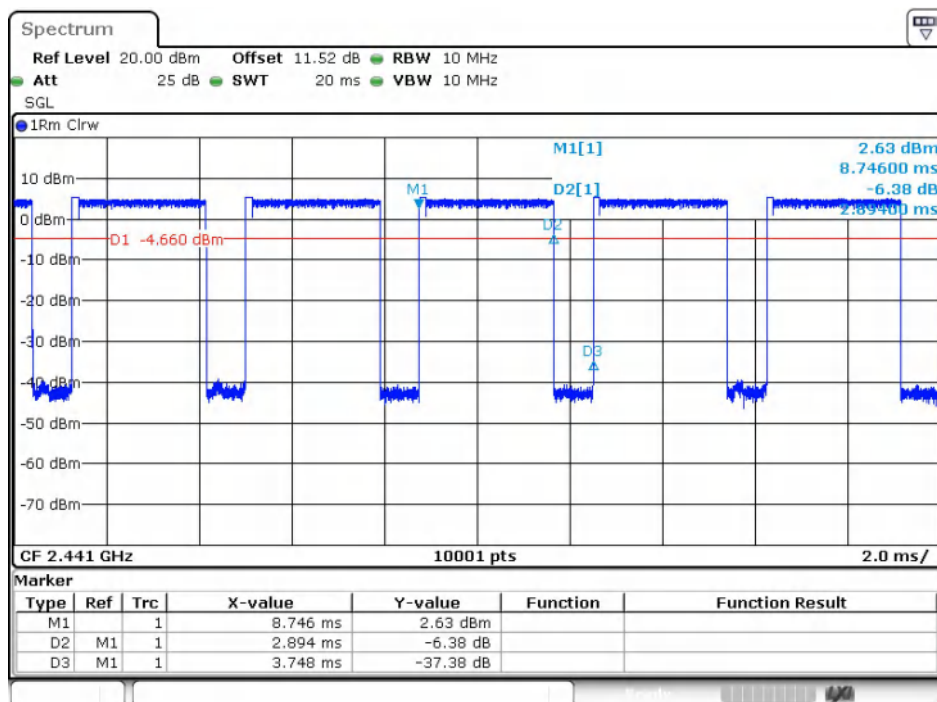
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$\pi/4$ DQPSK(2-DH5)_Channel 78



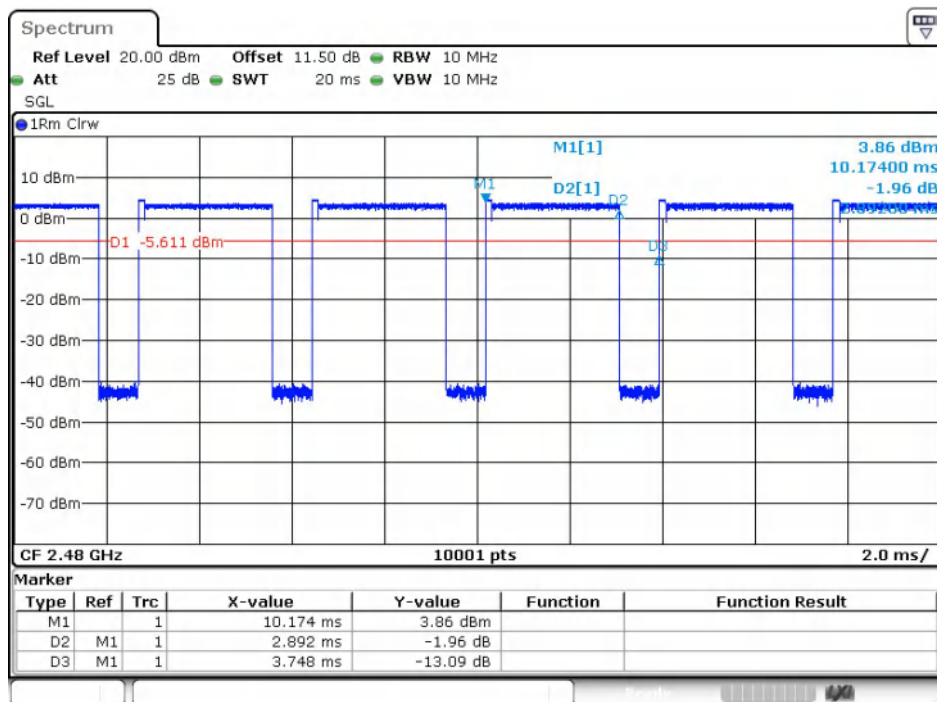
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8DPSK(3-DH5)_Channel 0



Date: 29.OCT.2024 09:14:33

8DPSK(3-DH5)_Channel 39



Date: 29.OCT.2024 09:15:05

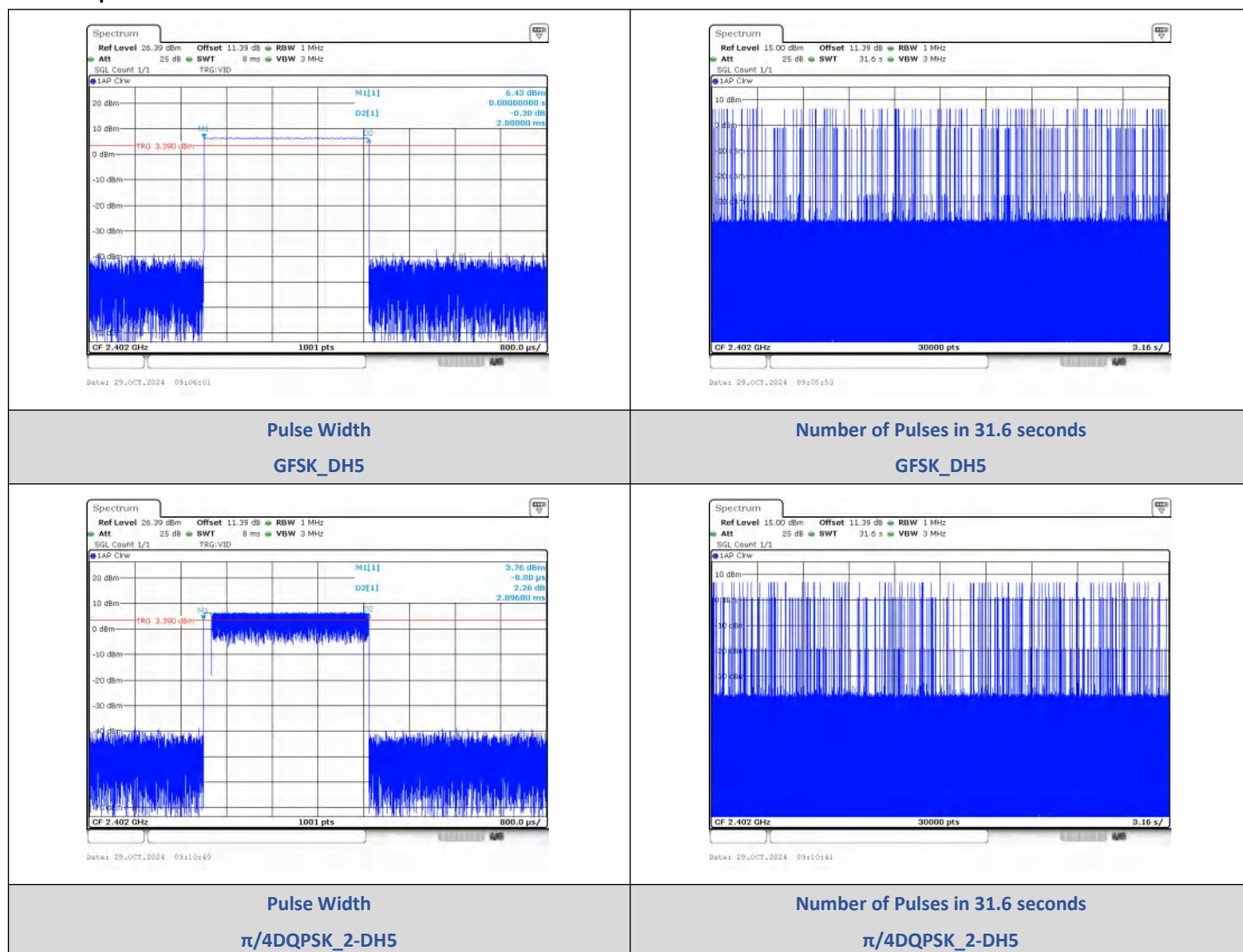
8DPSK(3-DH5)_Channel 78

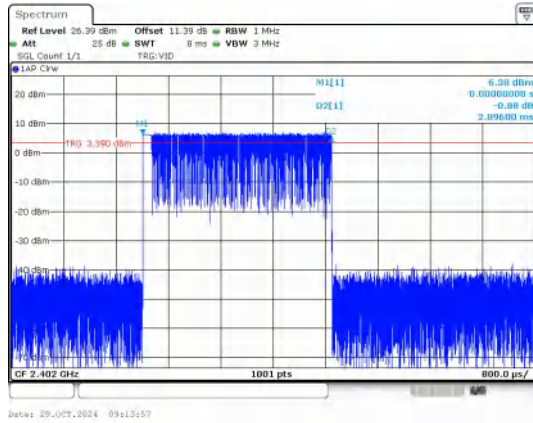
2) Dwell Time

Test Result

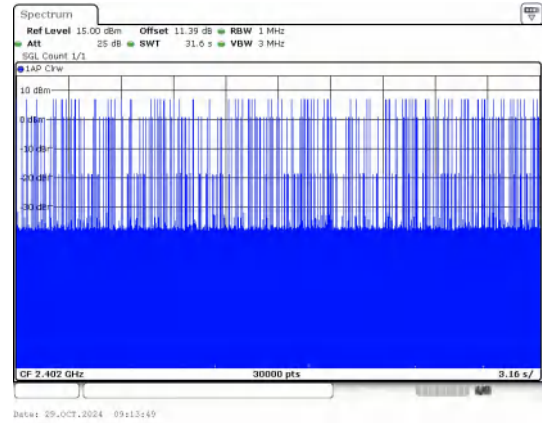
Modulation	Packet	Channel	Pulse Width (ms)	Number of Pulses in 31.6 seconds	Dwell Time (ms)	Limit (ms)	Result
GFSK	DH5	CH0 (2402MHz)	2.888	108	311.9	< 400	PASS
$\pi/4$ DQPSK	2-DH5		2.896	99	286.7		PASS
8DPSK	3-DH5		2.896	97	280.91		PASS

Test Graphs





Pulse Width
8DPSK_3-DH5



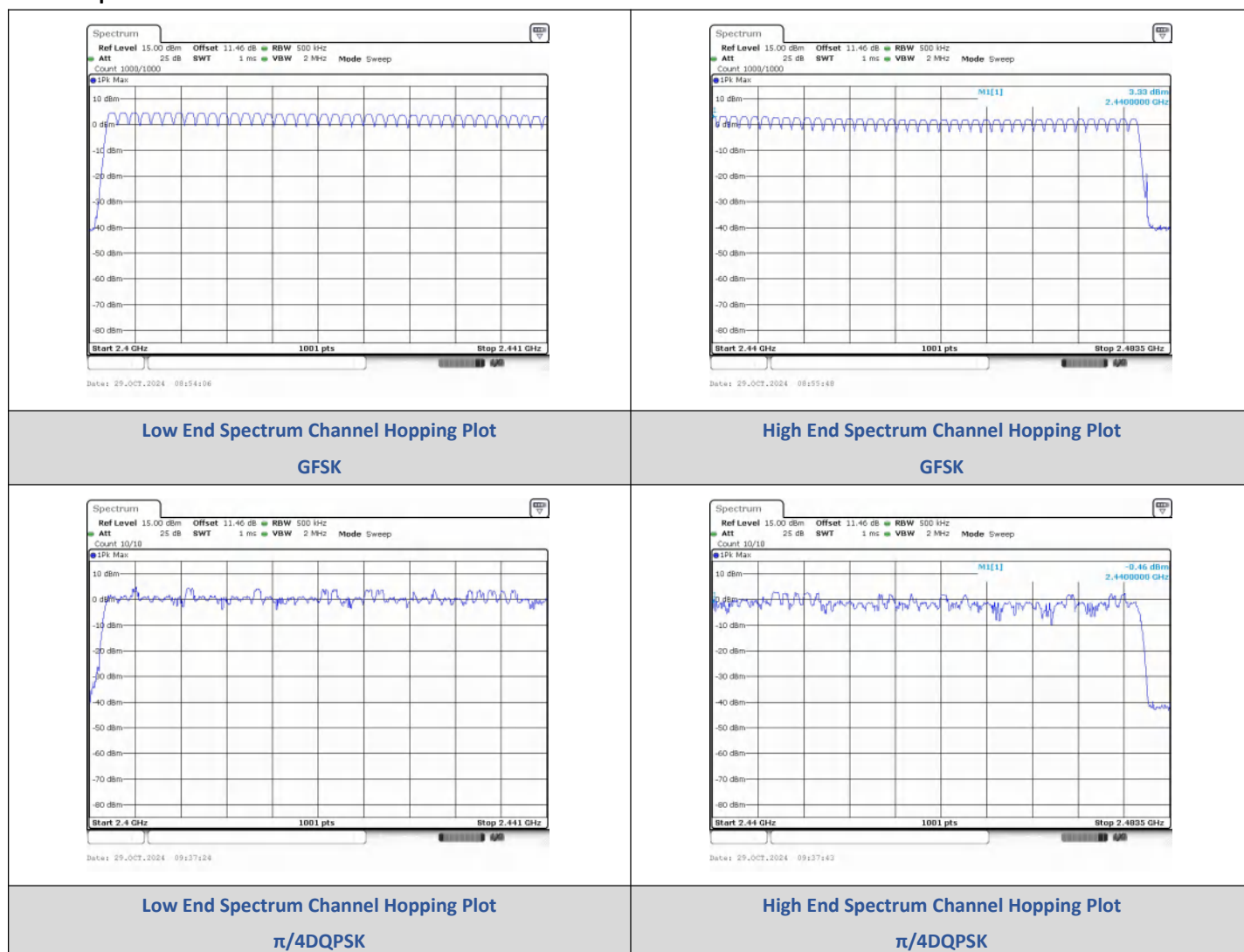
Number of Pulses in 31.6 seconds
8DPSK_3-DH5

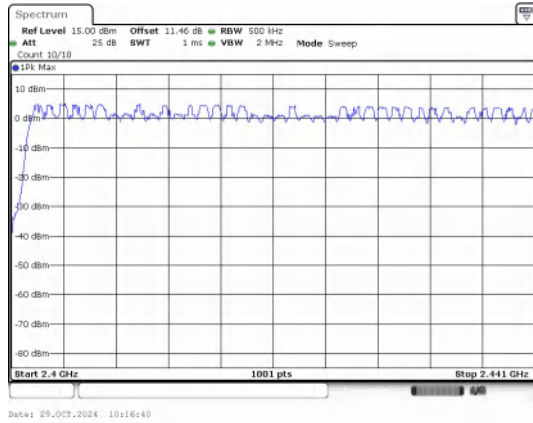
3) Number Of Hopping Channel

Test Result

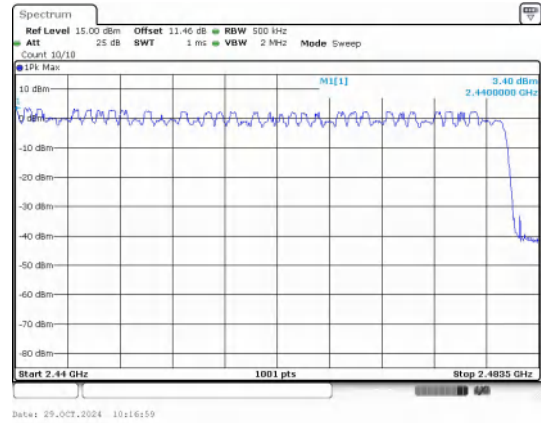
Modulation	Packet	Number of Hopping Channel	Limit	Result
GFSK	DH5	79	15	PASS
$\pi/4$ DQPSK	2-DH5	79	15	PASS
8DPSK	3-DH5	79	15	PASS

Test Graphs





Low End Spectrum Channel Hopping Plot
8DPSK



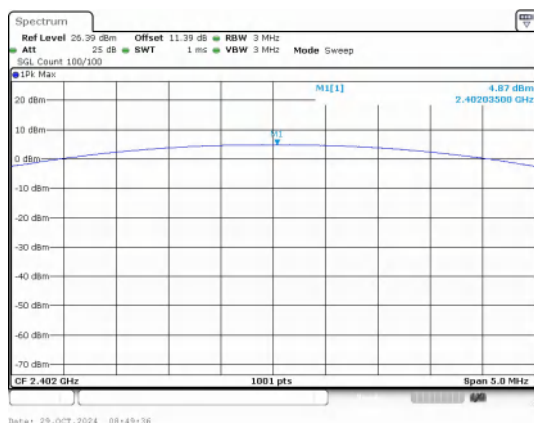
High End Spectrum Channel Hopping Plot
8DPSK

4) Conducted Peak Output Power

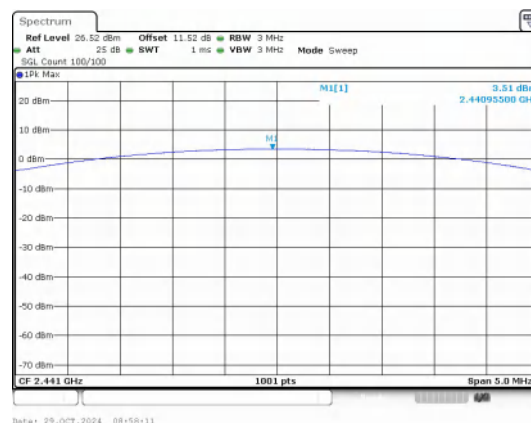
Test Result

Modulation	Packet Type	Channel	Peak Output Power (dBm)	Peak Output Power (mW)	Limit (dBm)	Result
GFSK	DH5	0	4.87	3.07	≤30	PASS
		39	3.51	2.24		PASS
		78	2.46	1.76		PASS
$\pi/4$ DQPSK	2-DH5	0	4.84	3.05	≤20.97	PASS
		39	3.72	2.35		PASS
		78	2.53	1.79		PASS
8DPSK	3-DH5	0	4.96	3.13	≤20.97	PASS
		39	3.72	2.35		PASS
		78	2.55	1.80		PASS

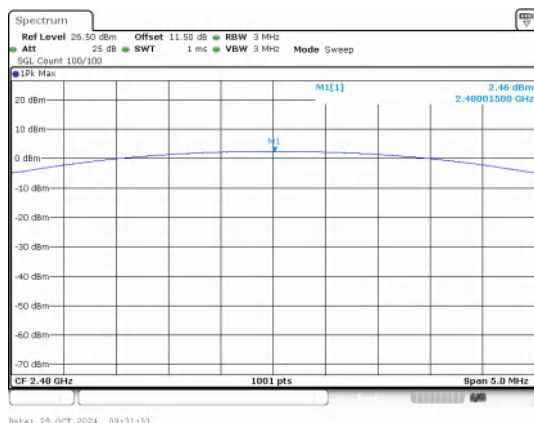
Test Graphs



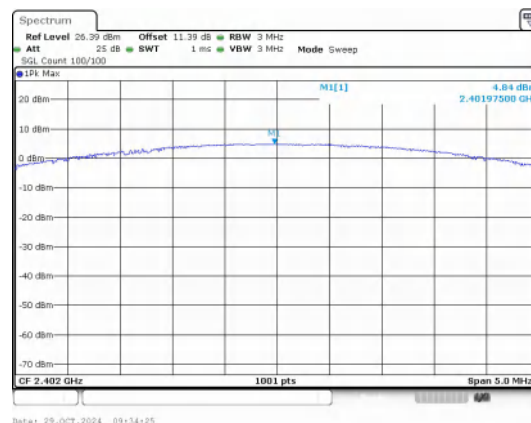
Peak Output Power
GFSK_Channel 0



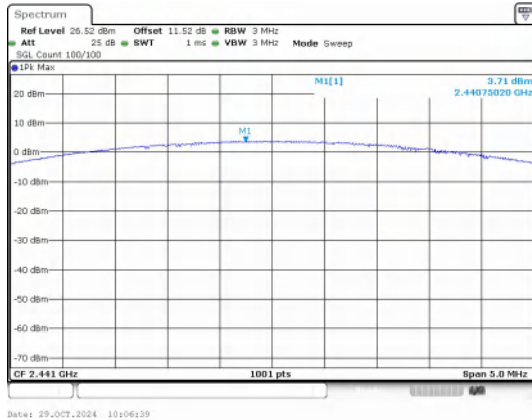
Peak Output Power
GFSK_Channel 39



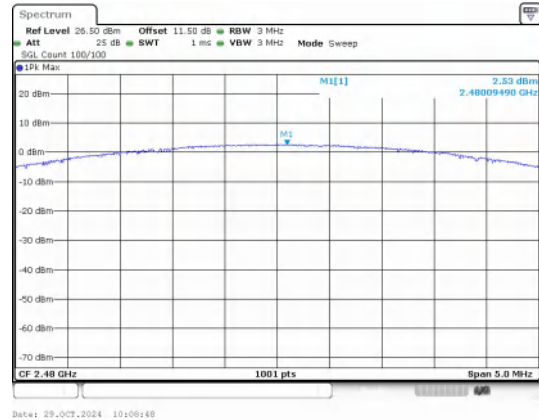
Peak Output Power
GFSK_Channel 78



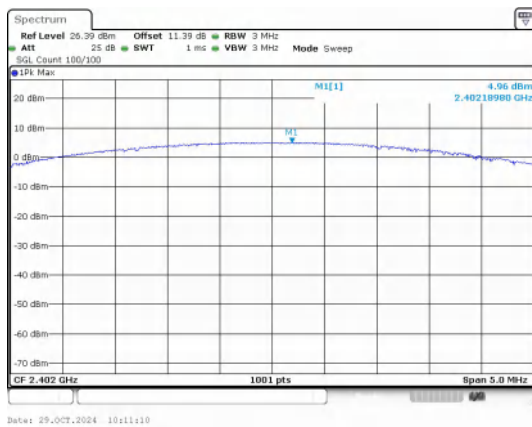
Peak Output Power
 $\pi/4$ DQPSK_Channel 0



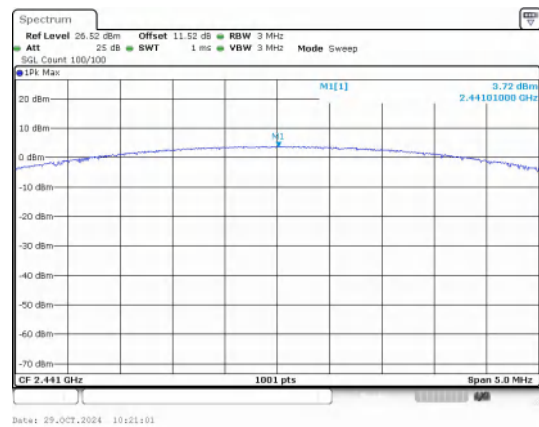
Peak Output Power
 $\pi/4$ DQPSK_Channel 39



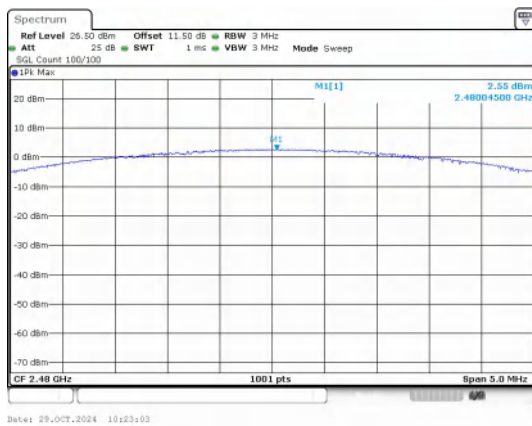
Peak Output Power
 $\pi/4$ DQPSK_Channel 78



Peak Output Power
8DPSK_Channel 0



Peak Output Power
8DPSK_Channel 39



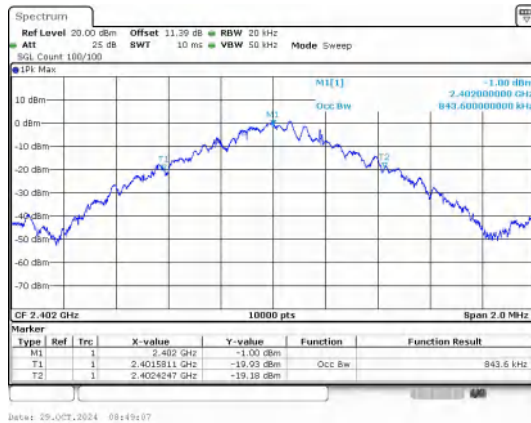
Peak Output Power
8DPSK_Channel 78

5) 99% Bandwidth

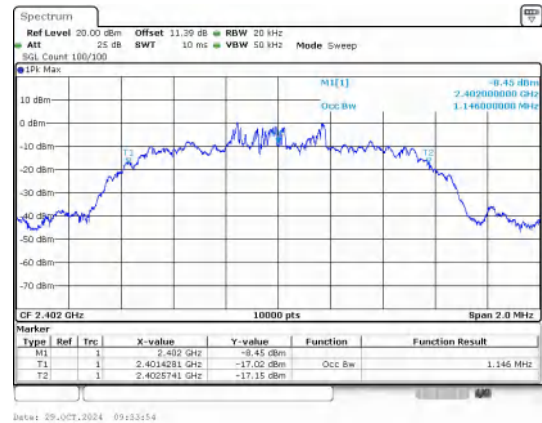
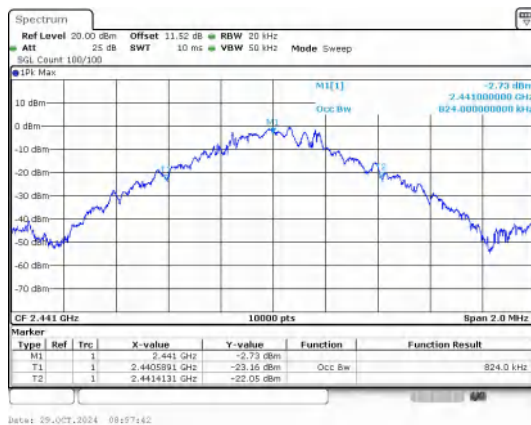
Test Result

Modulation	Channel	Center Frequency (MHz)	99% BW (MHz)
GFSK	0	2402	0.84360
	39	2441	0.82400
	78	2480	0.82060
$\pi/4$ DQPSK	0	2402	1.1460
	39	2441	1.1556
	78	2480	1.1572
8DPSK	0	2402	1.1528
	39	2441	1.1544
	78	2480	1.1514

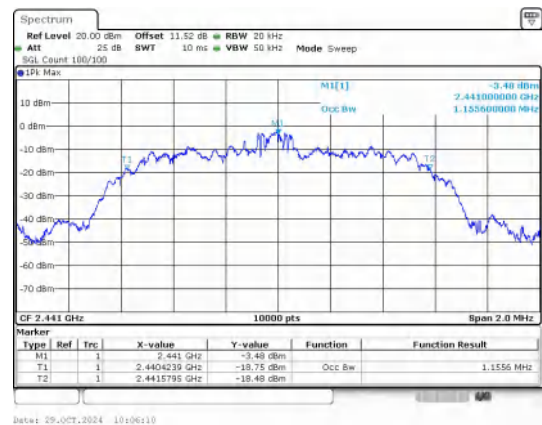
Test Graphs



GFSK_DH5_Channel 0

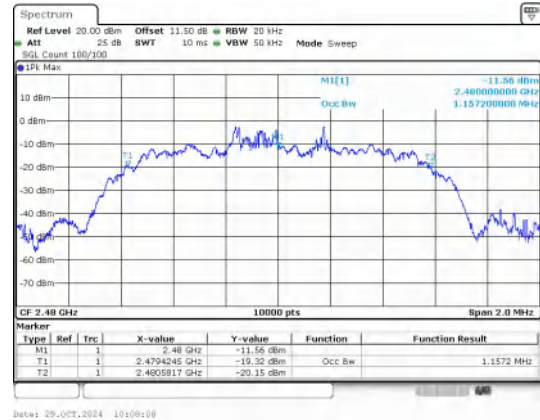

 $\pi/4$ DQPSK_2-DH5_Channel 0


GFSK_DH5_Channel 39

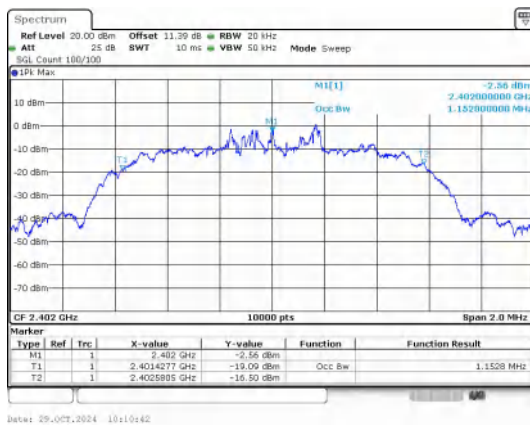

 $\pi/4$ DQPSK_2-DH5_Channel 39



GFSK_DH5_Channel 78



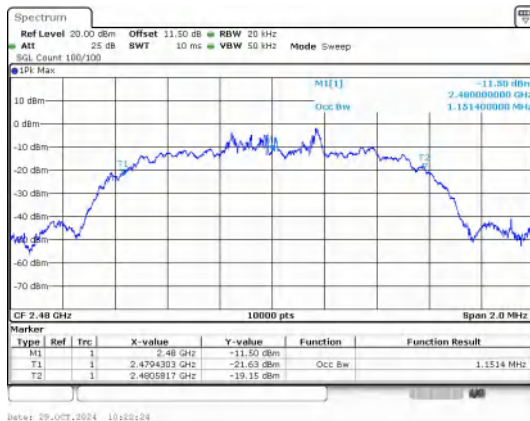
$\pi/4$ DQPSK_2-DH5_Channel 78



8DPSK_3-DH5_Channel 0



8DPSK_3-DH5_Channel 39



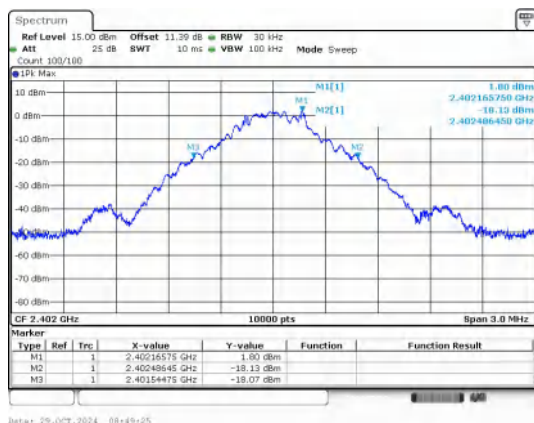
8DPSK_3-DH5_Channel 78

6) 20dB Bandwidth

Test Result

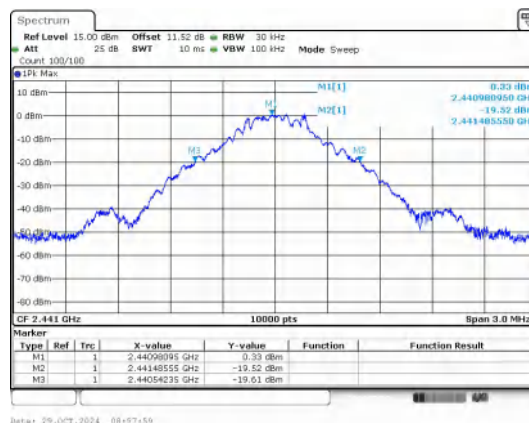
Modulation	Channel	Center Frequency (MHz)	20 dB Bandwidth (MHz)
GFSK	0	2402 MHz	0.9500
	39	2441 MHz	0.9500
	78	2480 MHz	0.9500
$\pi/4$ DQPSK	0	2402 MHz	1.190
	39	2441 MHz	1.200
	78	2480 MHz	1.200
8DPSK	0	2402 MHz	1.230
	39	2441 MHz	1.240
	78	2480 MHz	1.250

Test Graphs



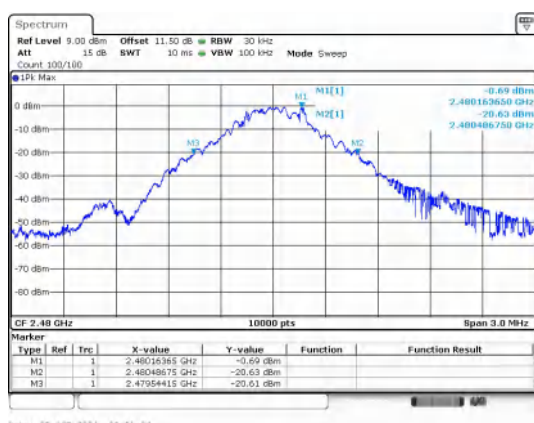
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GFSK_DH5_Channel 0



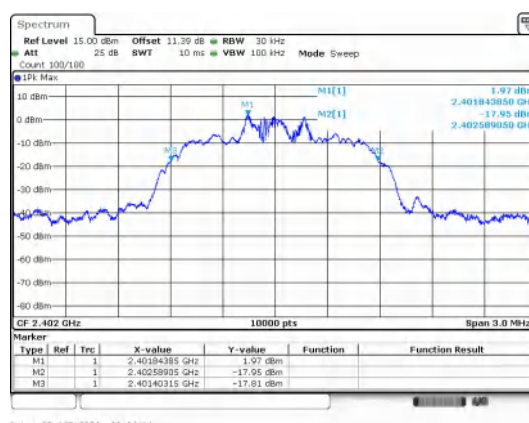
Date: 29-OCT-2024 09:47:59

GFSK_DH5_Channel 39



Date: 29-OCT-2024 09:51:26

GFSK_DH5_Channel 78



Date: 29-OCT-2024 09:54:11

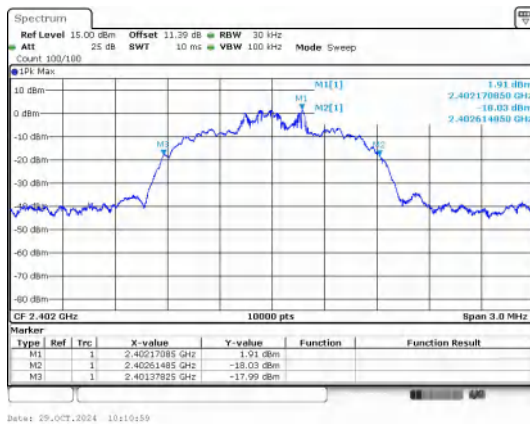
$\pi/4$ DQPSK_2-DH5_Channel 0



$\pi/4$ DQPSK_2-DH5_Channel 39



$\pi/4$ DQPSK_2-DH5_Channel 78



8DPSK_3-DH5_Channel 0



8DPSK_3-DH5_Channel 39



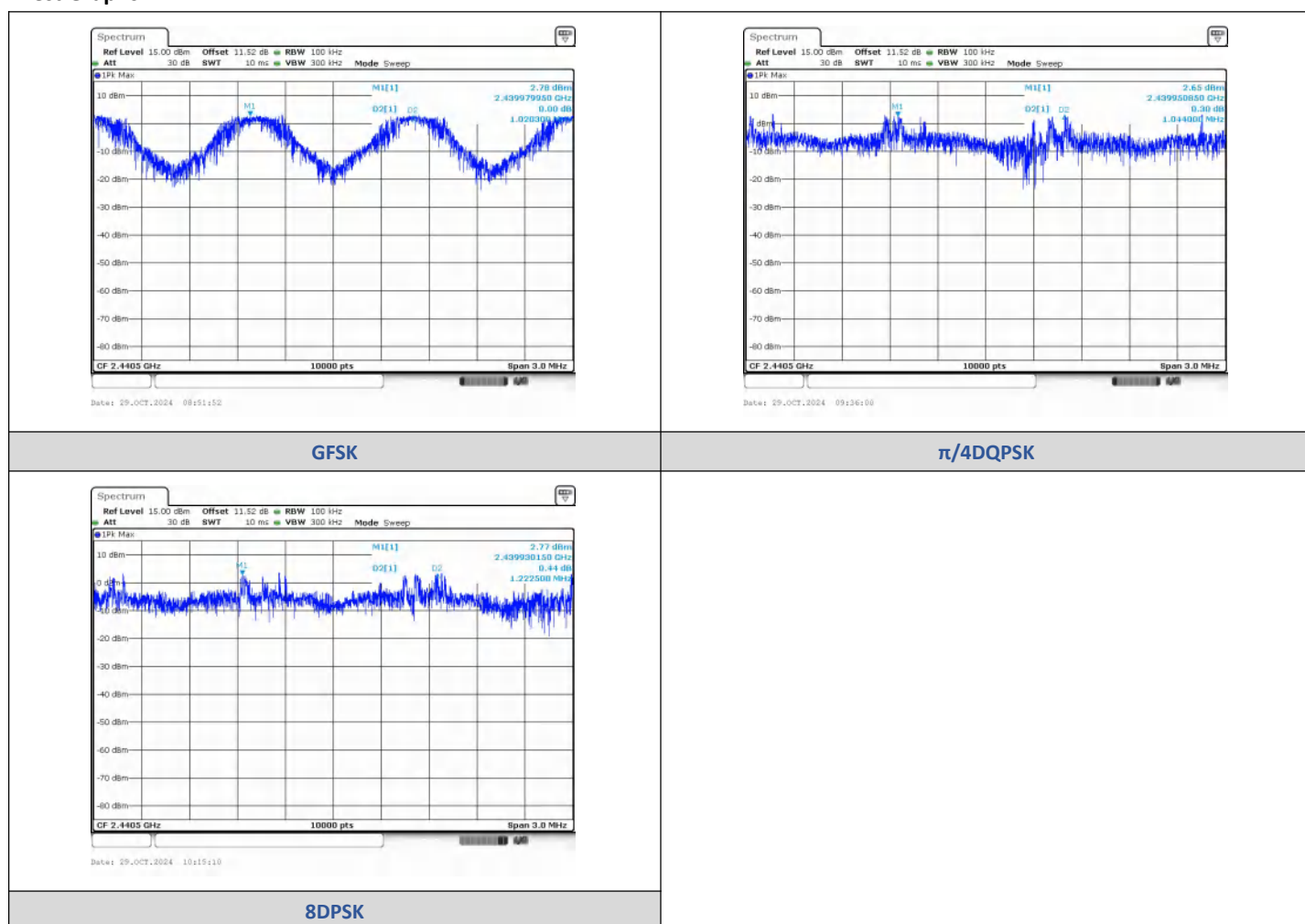
8DPSK_3-DH5_Channel 78

7) Carrier Frequencies Separation

Test Result

Modulation	Packet	Left Center frequency (MHz)	Right Center frequency (MHz)	Hopping Frequency Separation (MHz)	Limit (MHz)	Result
GFSK	DH5	2439.9799	2441.0003	1.0203	0.95	PASS
$\pi/4$ DQPSK	2-DH5	2439.9509	2440.9949	1.0440	0.793	PASS
8DPSK	3-DH5	2439.9302	2441.1526	1.2225	0.82	PASS

Test Graphs



8) Conducted Out Of Band Emission

Test Result

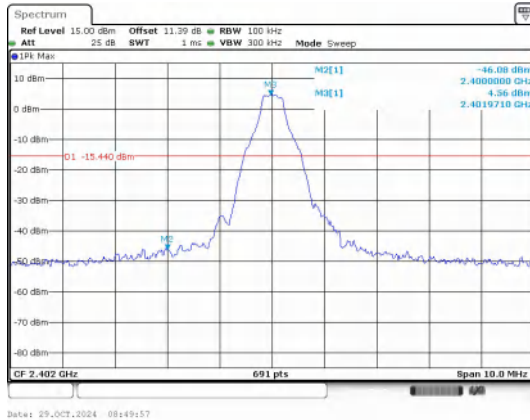
Non-Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	0	2400.00	-46.085	-15.44	-30.645	PASS
			4803.85	-44.344	-15.44	-28.904	PASS
		39	4882.09	-46.179	-16.8	-29.379	PASS
		78	120.31	-47.750	-17.85	-29.900	PASS
			2483.50	-50.449	-17.85	-32.599	PASS
$\pi/4$ DQPSK	2-DH5	0	120.31	-47.923	-15.68	-32.243	PASS
			2400.00	-46.879	-15.68	-31.199	PASS
		39	120.31	-48.050	-16.57	-31.480	PASS
		78	1914.82	-46.912	-17.61	-29.302	PASS
			2483.50	-49.327	-17.61	-31.717	PASS
8DPSK	3-DH5	0	2400.00	-46.185	-14.98	-31.205	PASS
			4803.85	-44.291	-14.98	-29.311	PASS
		39	120.31	-47.829	-16.37	-31.459	PASS
		78	120.31	-48.020	-17.75	-30.270	PASS
			2483.50	-50.972	-17.75	-33.222	PASS

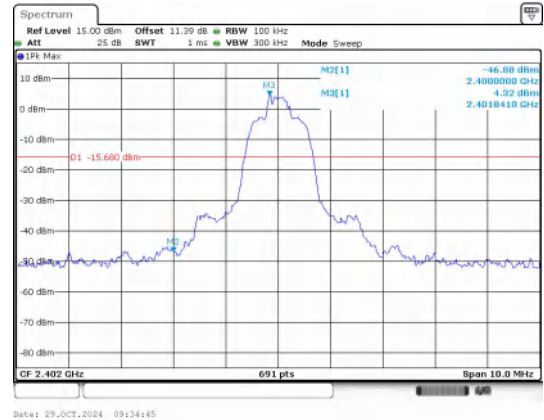
Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	Hopping	2397.08	-48.925	-16.03	-32.895	PASS
			2400.00	-49.454	-16.03	-33.424	PASS
			2483.50	-49.730	-18.99	-30.740	PASS
$\pi/4$ DQPSK	2-DH5		2398.31	-48.285	-15.02	-33.265	PASS
			2400.00	-49.544	-15.02	-34.525	PASS
			2483.50	-47.987	-17.59	-30.397	PASS
8DPSK	3-DH5		2398.48	-47.930	-15.94	-31.990	PASS
			2400.00	-49.440	-15.94	-33.500	PASS
			2483.50	-49.479	-18.45	-31.029	PASS

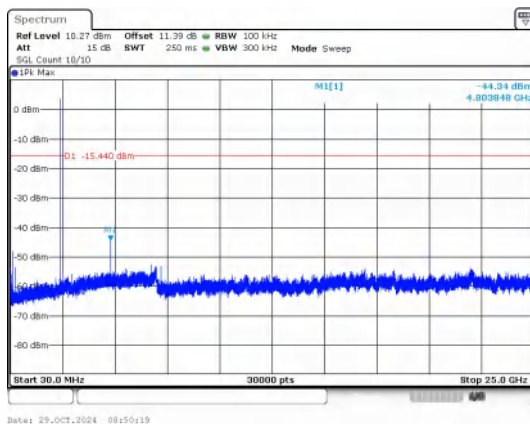
Test Graphs



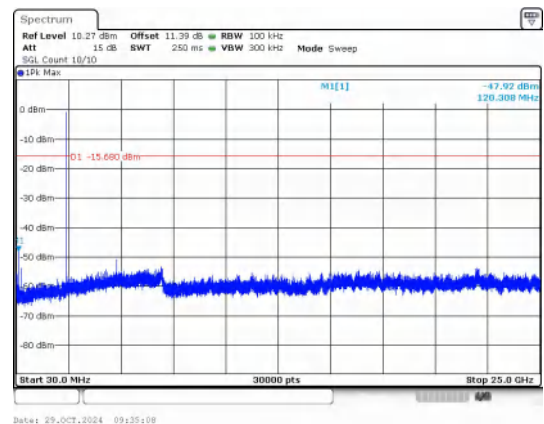
Out Of Band Emission
GFSK_DH5_Channel 0



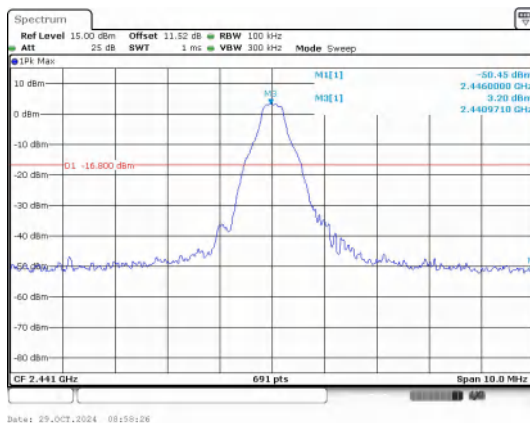
Out Of Band Emission
 $\pi/4$ DQPSK_2-DH5_Channel 0



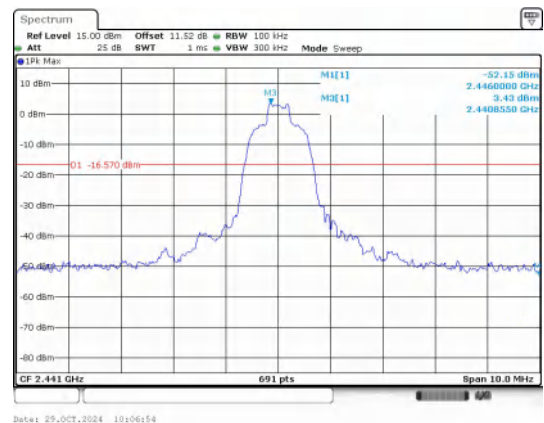
30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 0



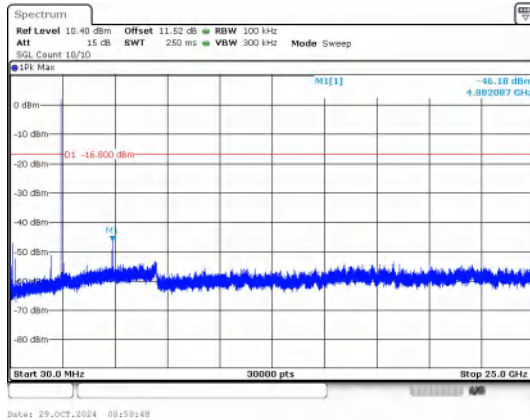
30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 0



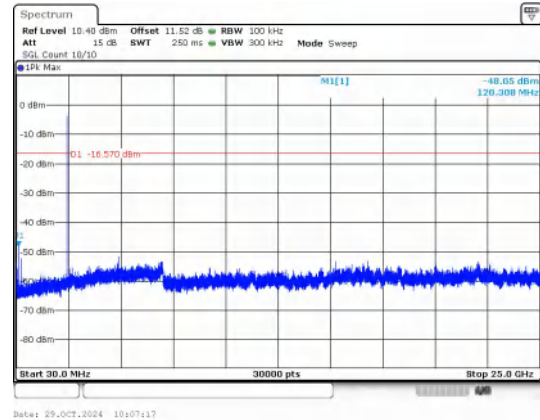
Out Of Band Emission
GFSK_DH5_Channel 39



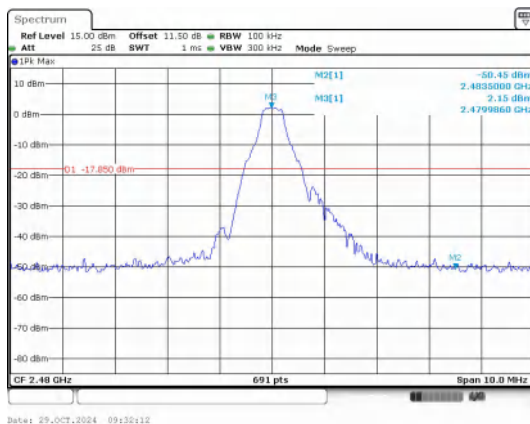
Out Of Band Emission
 $\pi/4$ DQPSK_2-DH5_Channel 39



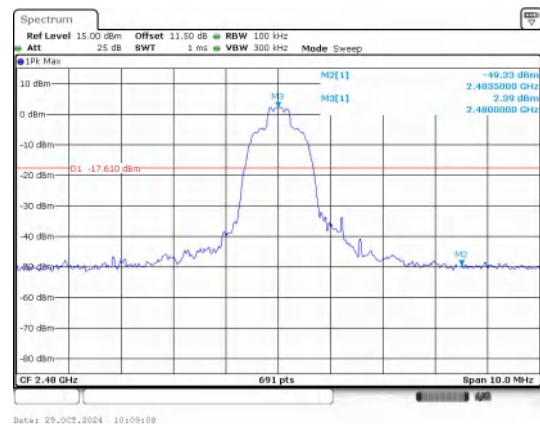
30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 39



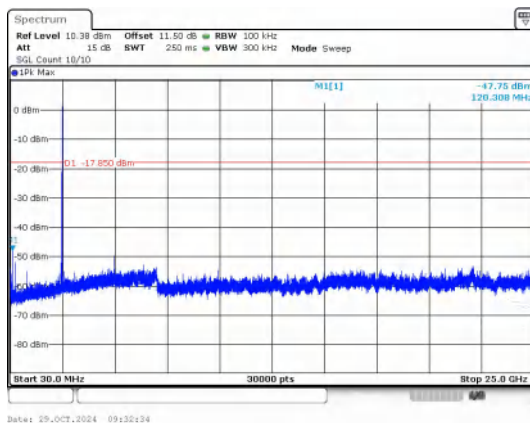
30.0 MHz - 25000.0 MHz
 $\pi/4$ QPSK_2-DH5_Channel 39



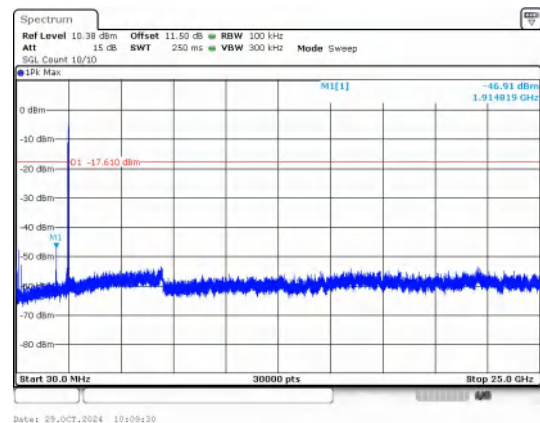
Out Of Band Emission
GFSK_DH5_Channel 78



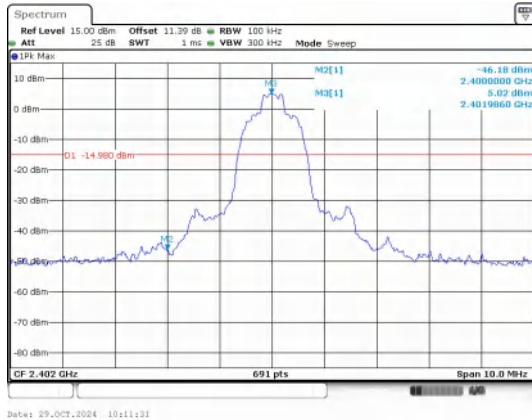
Out Of Band Emission
 $\pi/4$ QPSK_2-DH5_Channel 78



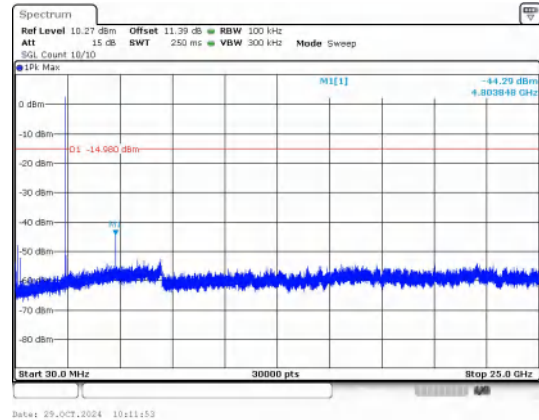
30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 78



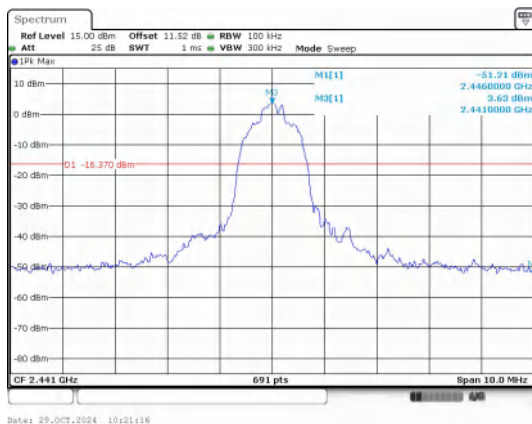
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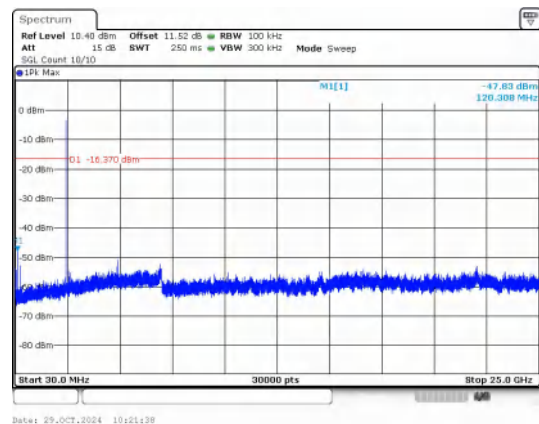
Out Of Band Emission
8DPSK_3-DH5_Channel 0



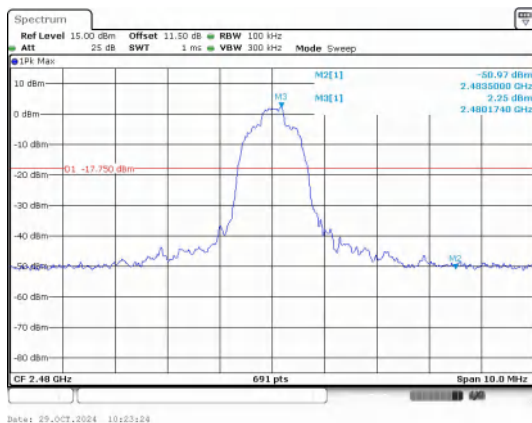
30.0 MHz - 25000.0 MHz
8DPSK_3-DH5_Channel 0



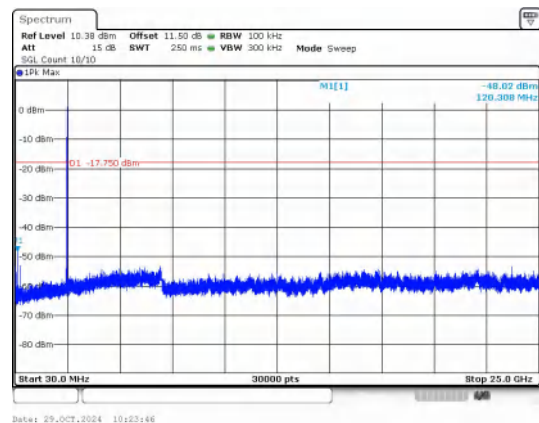
Out Of Band Emission
8DPSK_3-DH5_Channel 39



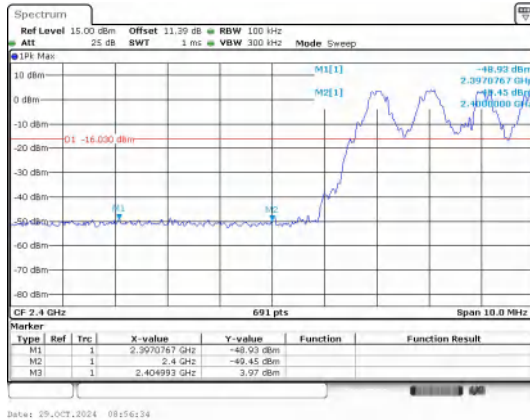
30.0 MHz - 25000.0 MHz
8DPSK_3-DH5_Channel 39



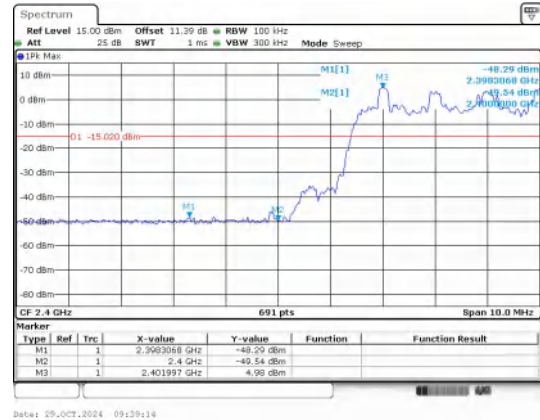
Out Of Band Emission
8DPSK_3-DH5_Channel 78



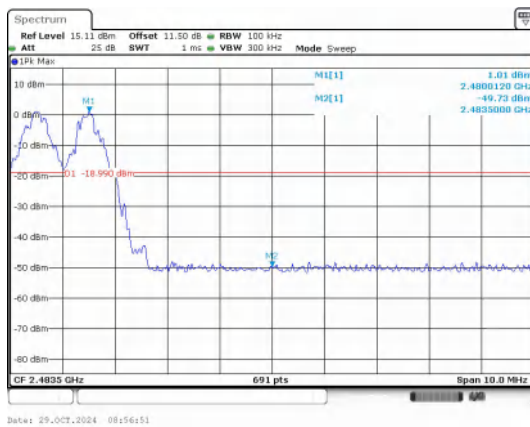
30.0 MHz - 25000.0 MHz
8DPSK_3-DH5_Channel 78



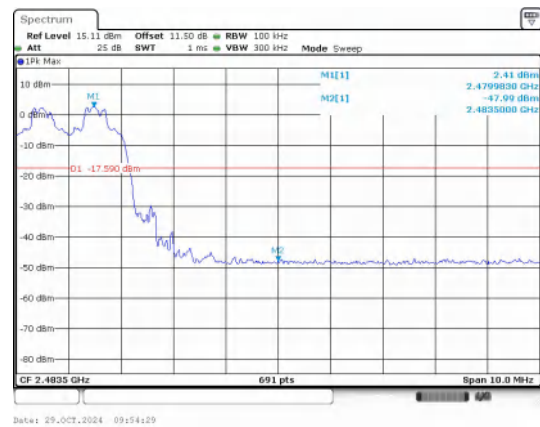
Out Of Band Emission(Left)
GFSK_DH5_Channel Hopping



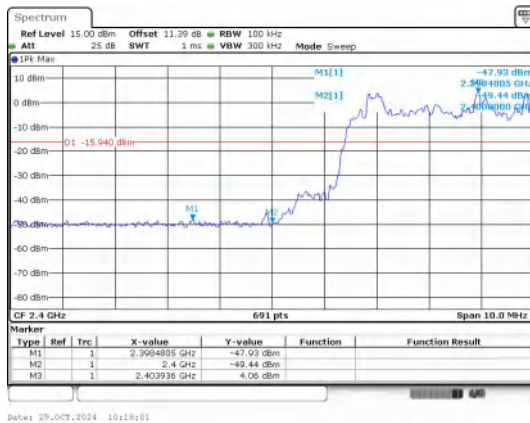
Out Of Band Emission(Left)
 $\pi/4$ DQPSK_2-DH5_Channel Hopping



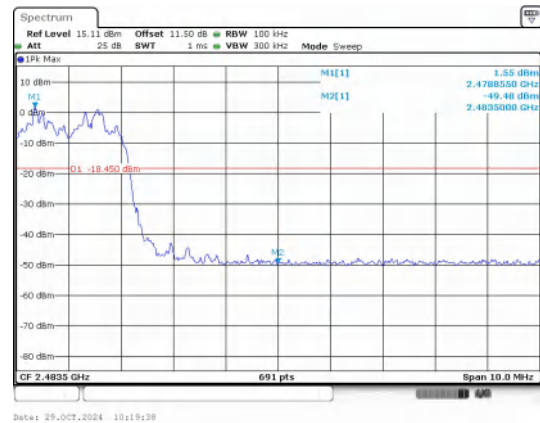
Out Of Band Emission(Right)
GFSK_DH5_Channel Hopping



Out Of Band Emission(Right)
 $\pi/4$ DQPSK_2-DH5_Channel Hopping



Out Of Band Emission(Left)
8DPSK_3-DH5_Channel Hopping



Out Of Band Emission(Right)
8DPSK_3-DH5_Channel Hopping