

Appendix A

Report No.:	CISRR240522140
FCC ID:	2BGLV-951
Product Name:	Bluetooth earphones
Model No.:	951
Test Engineer:	Lucas Huang
Supervised by:	Rory Huang

Conducted Peak Output Power

Test Result

Left

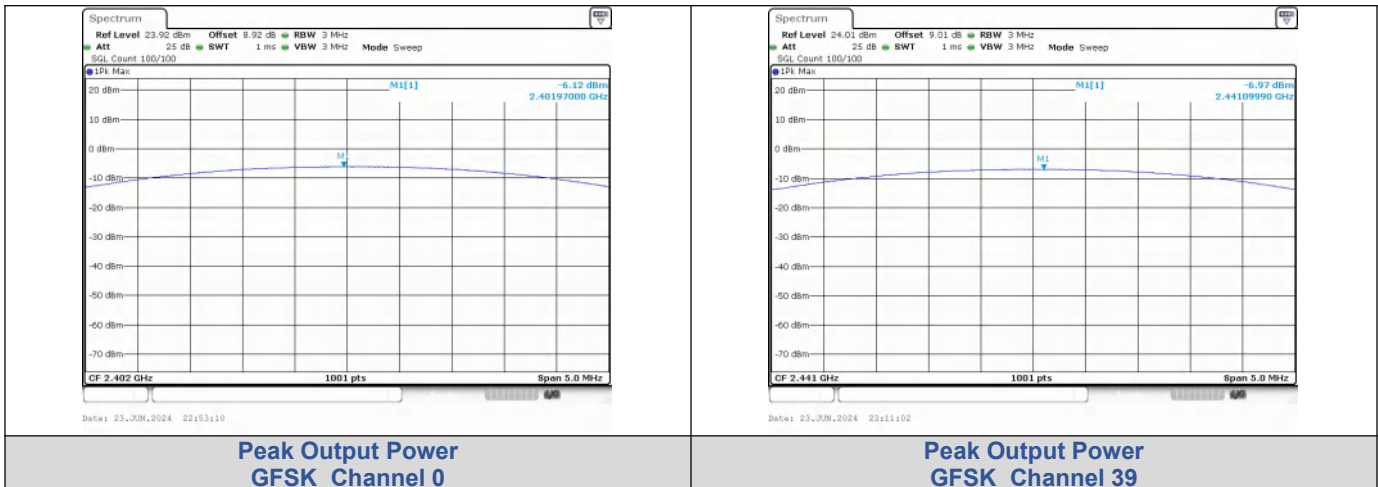
Modulation	Packet Type	Channel	Peak Output Power (dBm)	Peak Output Power (mW)	Limit (dBm)	Result
GFSK	DH5	0	-6.12	0.24	30	PASS
		39	-6.97	0.20		PASS
		78	-6.05	0.25		PASS
$\pi/4$ DQPSK	2-DH5	0	-5.89	0.26	20.97	PASS
		39	-6.66	0.22		PASS
		78	-5.60	0.28		PASS

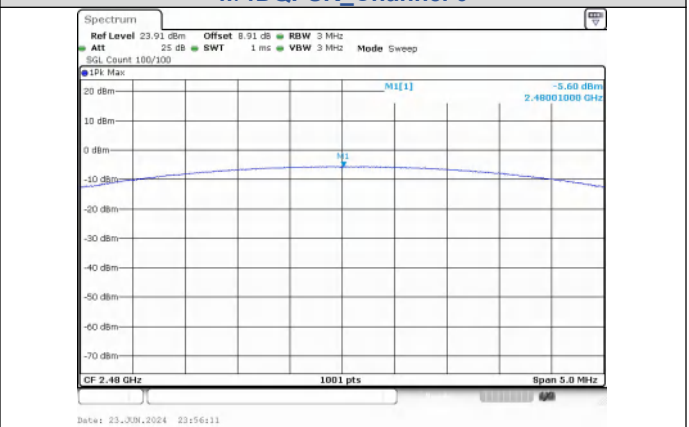
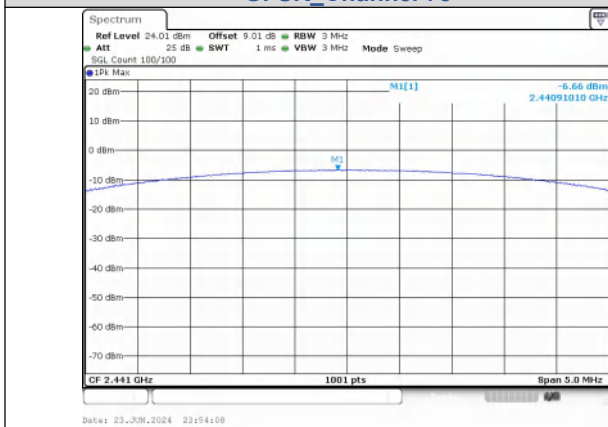
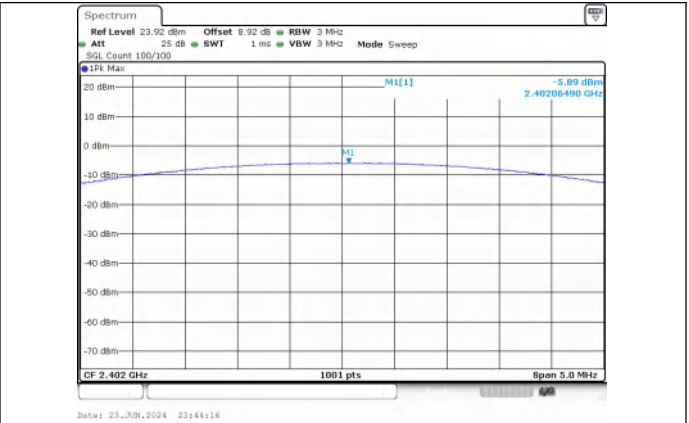
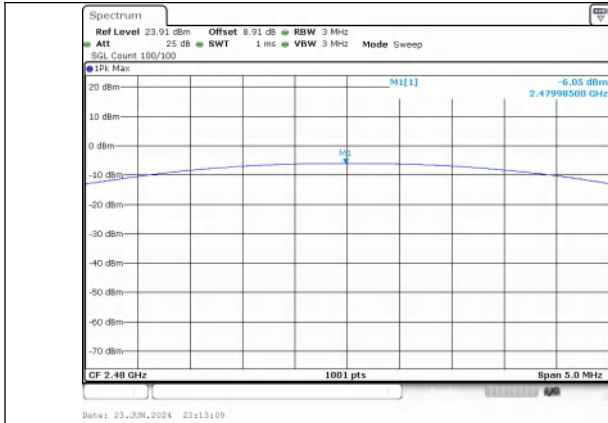
Right

Modulation	Packet Type	Channel	Peak Output Power (dBm)	Peak Output Power (mW)	Limit (dBm)	Result
GFSK	DH5	0	-6.15	0.24	30	PASS
		39	-6.96	0.20		PASS
		78	-6.11	0.24		PASS
$\pi/4$ DQPSK	2-DH5	0	-5.79	0.26	20.97	PASS
		39	-6.52	0.22		PASS
		78	-5.55	0.28		PASS

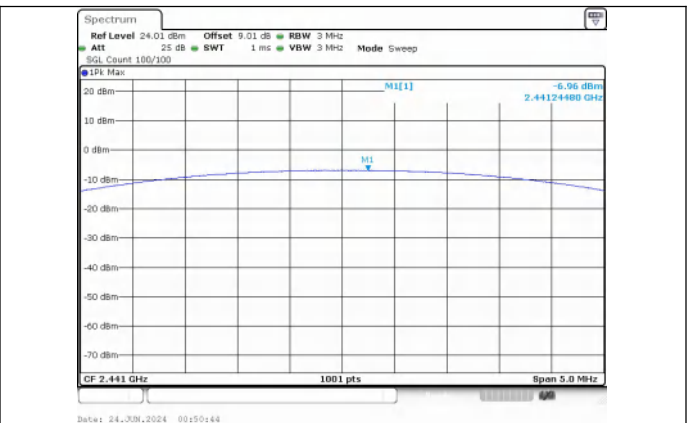
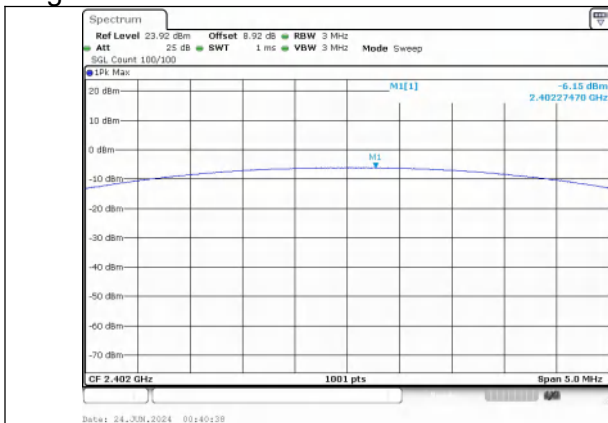
Test Graphs

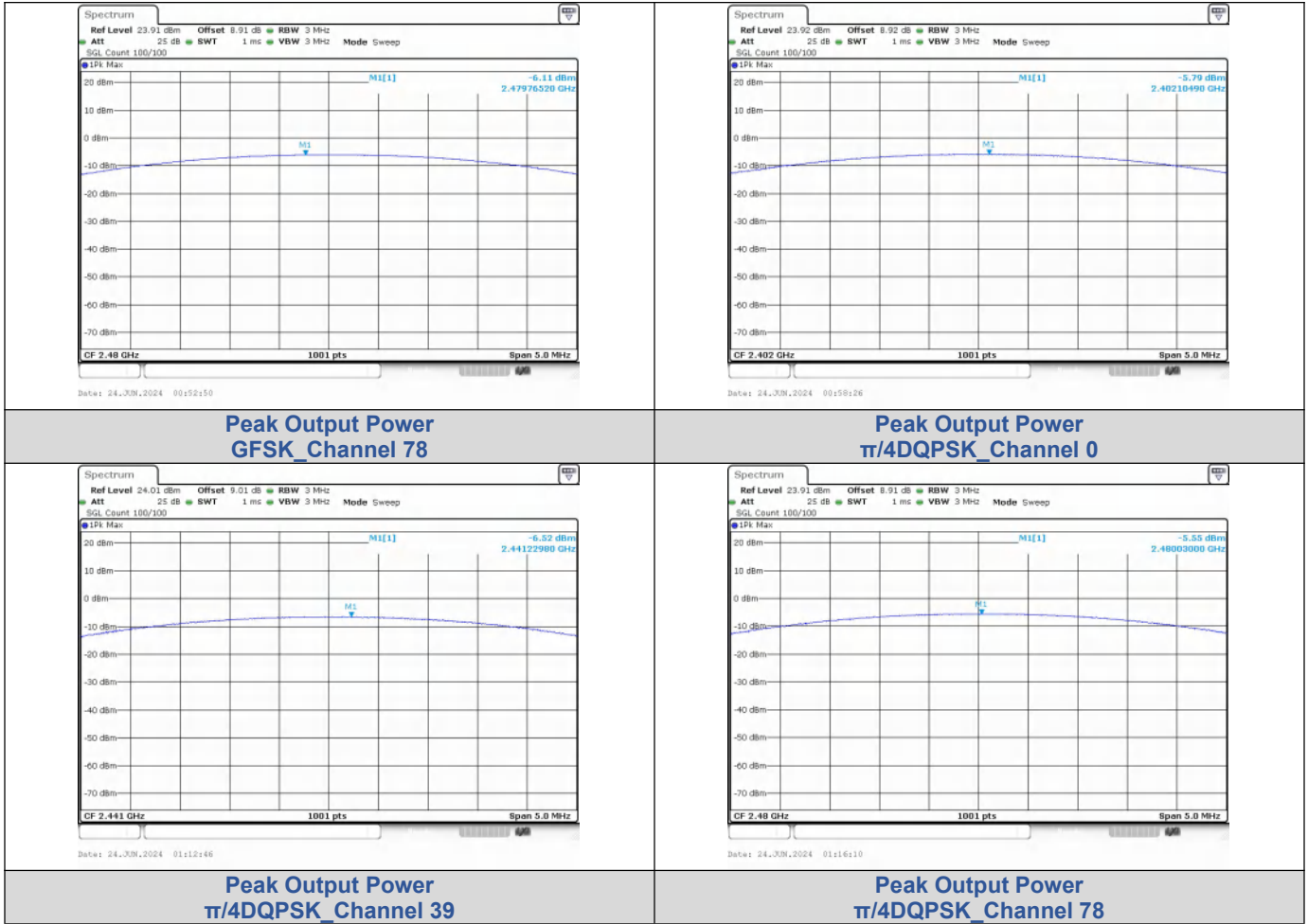
Left





Right





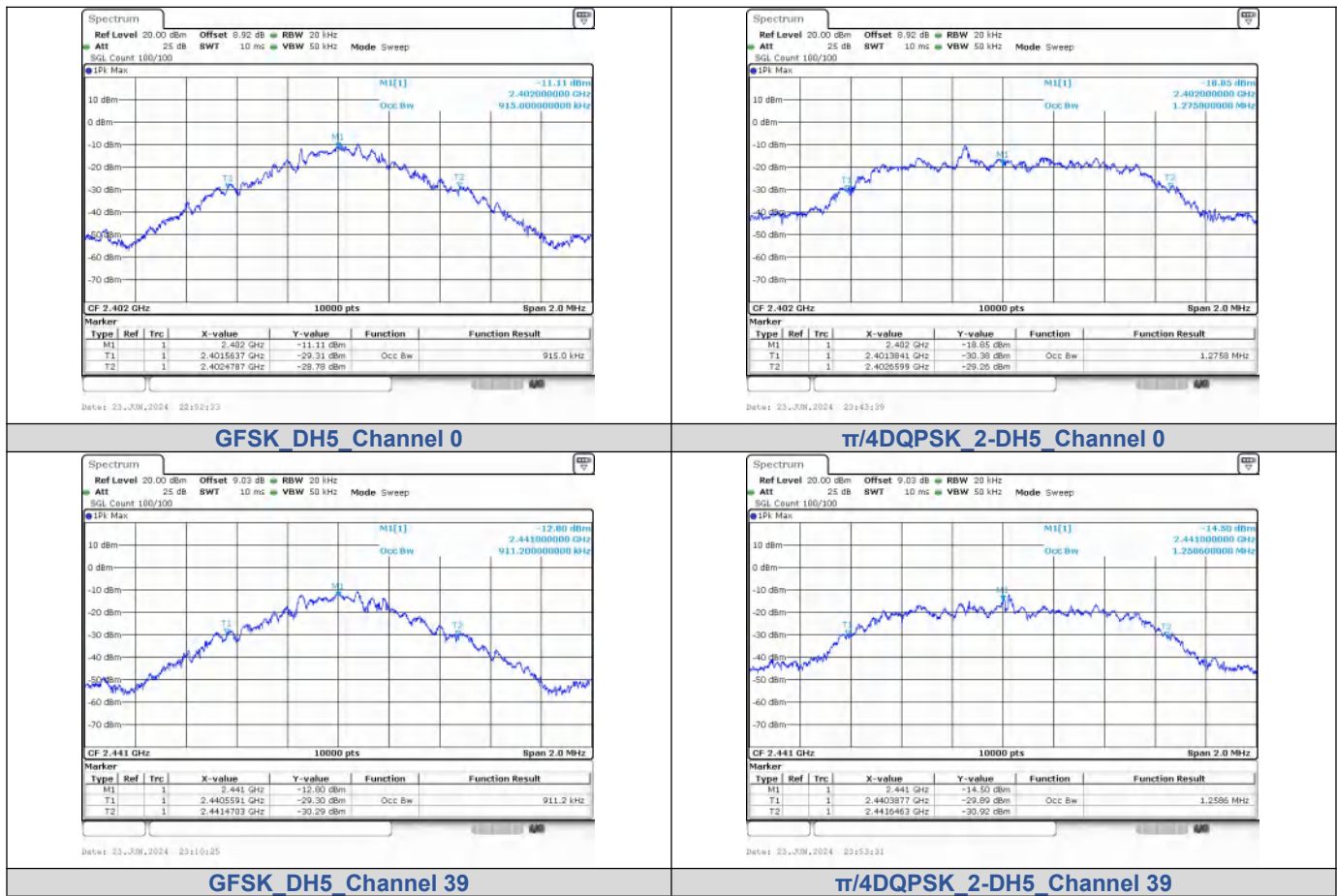
99% Bandwidth

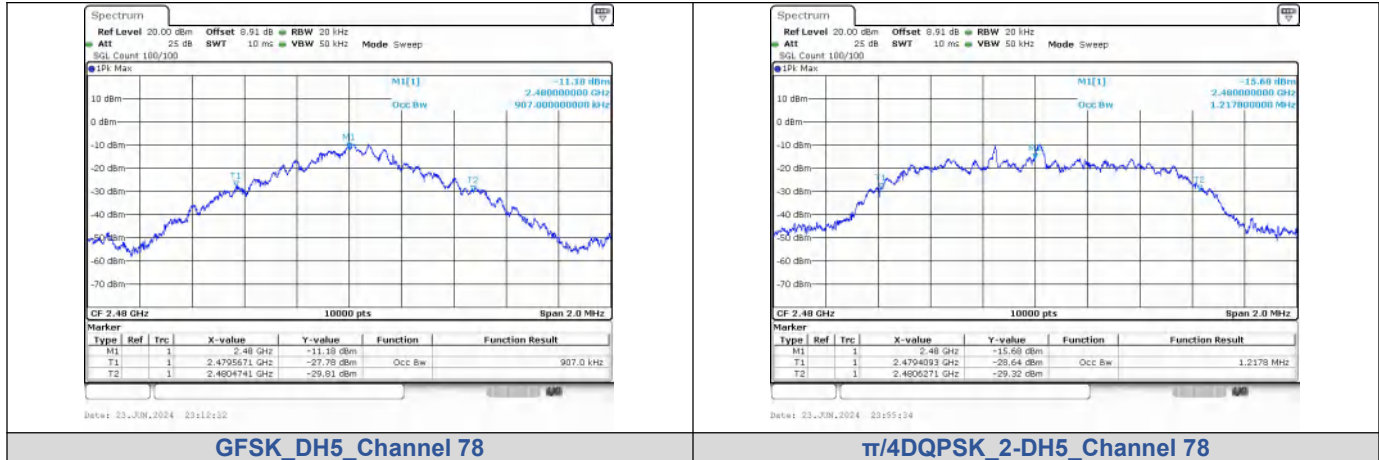
Test Result

Left

Modulation	Channel	Center Frequency (MHz)	99% BW (MHz)
GFSK	0	2402	0.9150
	39	2441	0.9112
	78	2480	0.9070
$\pi/4$ DQPSK	0	2402	1.2758
	39	2441	1.2586
	78	2480	1.2178

Test Graphs



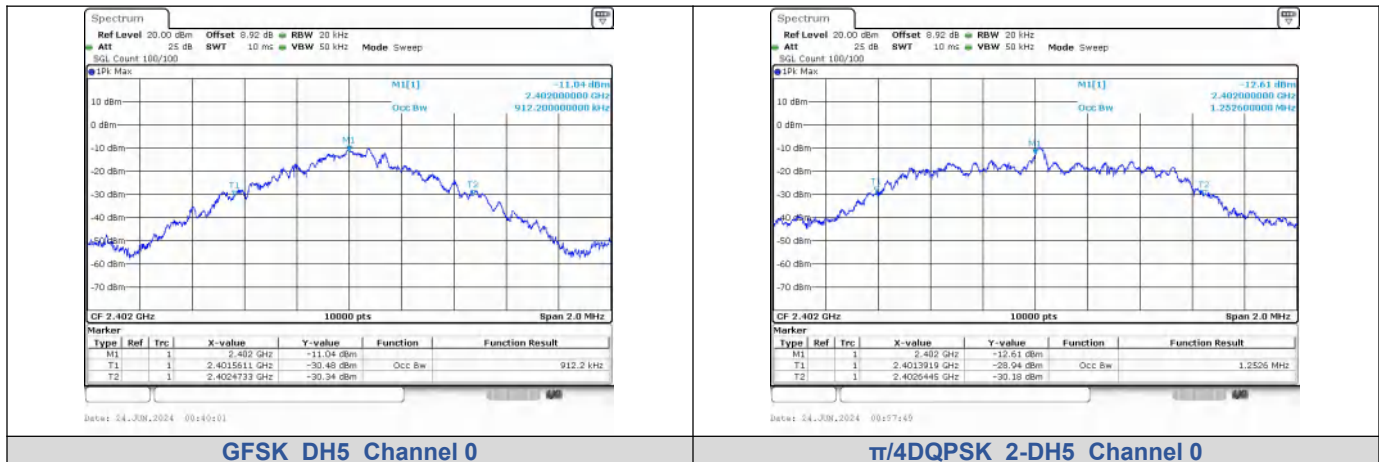


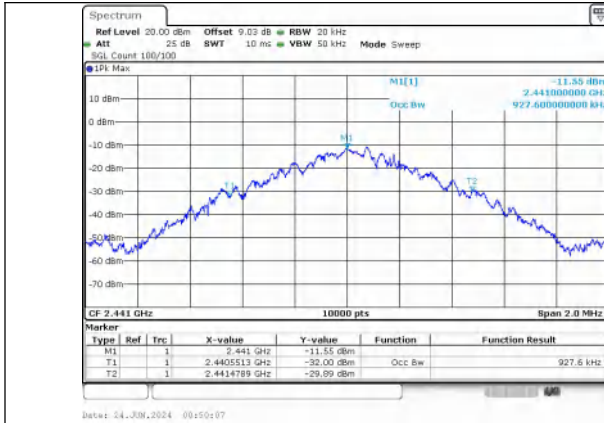
Right

Test Result

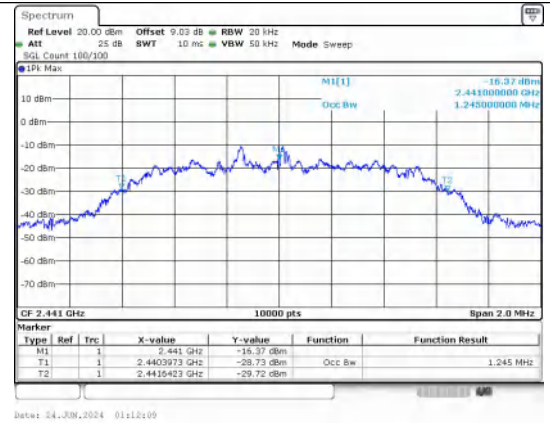
Modulation	Channel	Center Frequency (MHz)	99% BW (MHz)
GFSK	0	2402	0.9122
	39	2441	0.9276
	78	2480	0.9062
$\pi/4$ DQPSK	0	2402	1.2526
	39	2441	1.2450
	78	2480	1.2162

Test Graphs

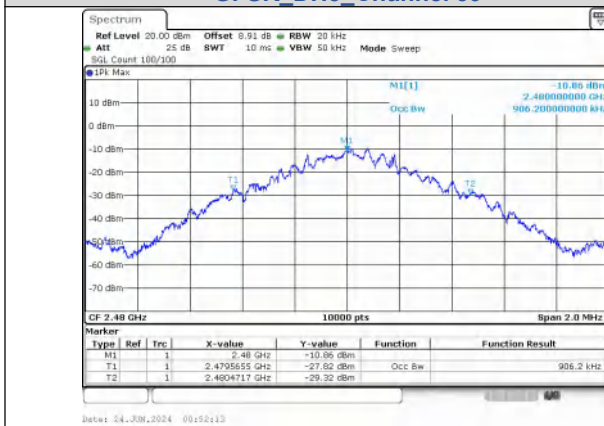




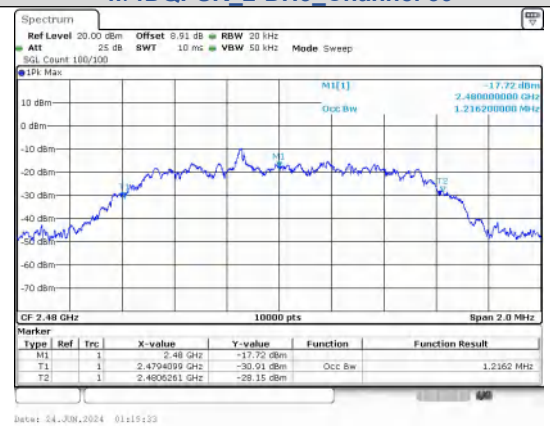
GFSK_DH5_Channel 39



$\pi/4$ DQPSK_2-DH5_Channel 39



GFSK_DH5_Channel 78



$\pi/4$ DQPSK_2-DH5_Channel 78

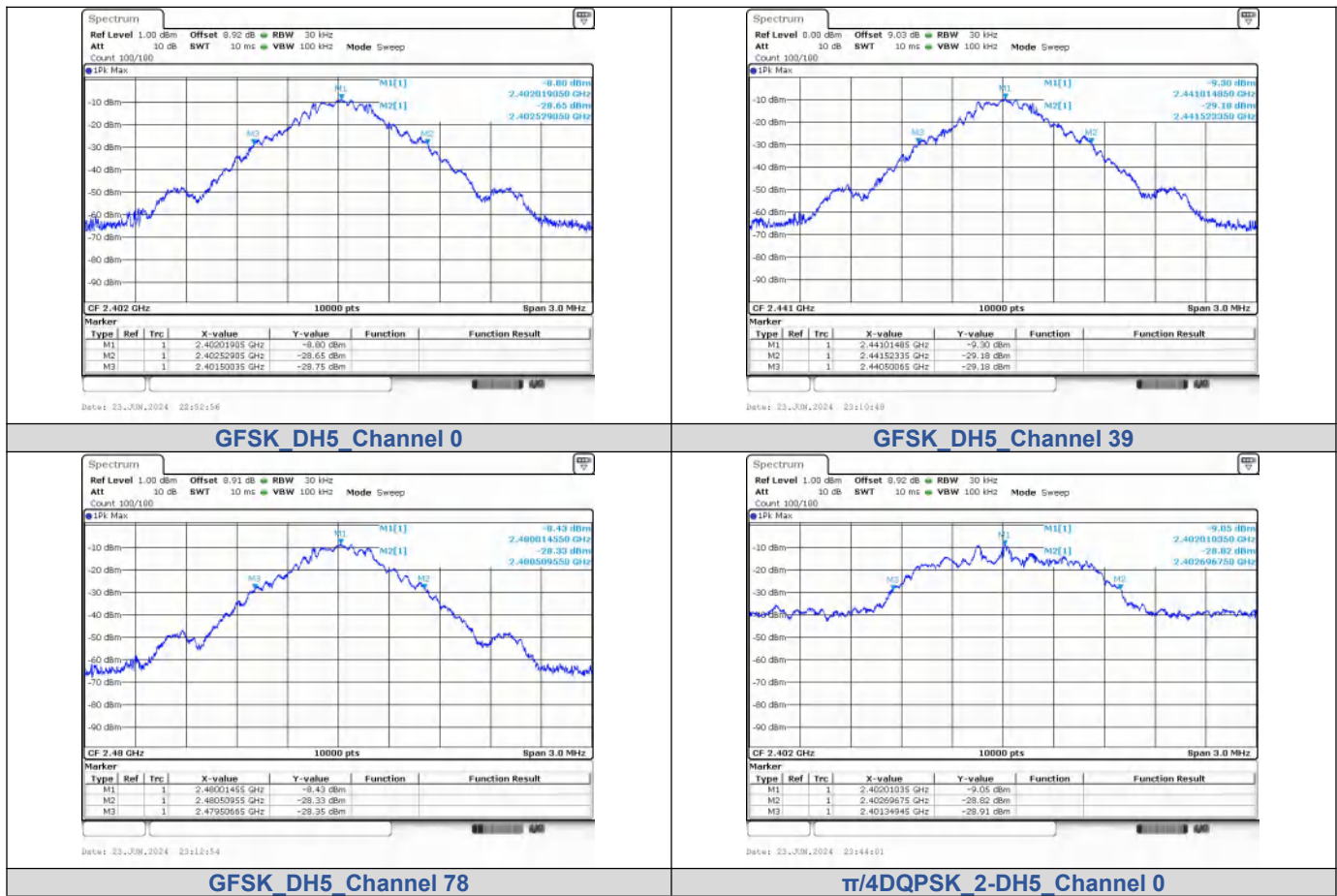
20dB Bandwidth

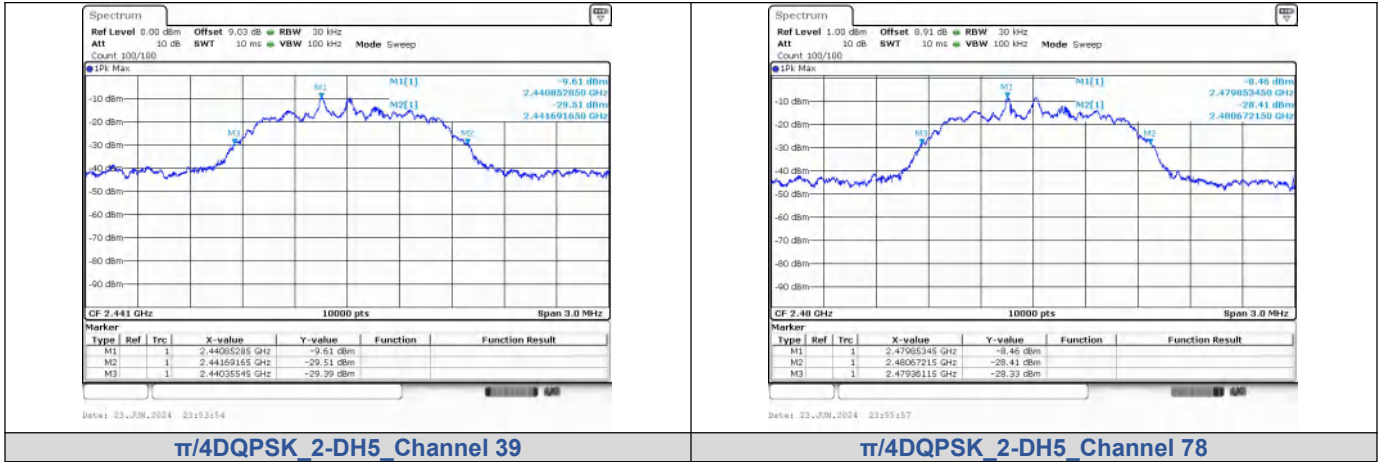
Test Result

Left

Modulation	Channel	Center Frequency (MHz)	20 dB Bandwidth (MHz)
GFSK	0	2402 MHz	1.030
	39	2441 MHz	1.020
	78	2480 MHz	1.000
$\pi/4$ DQPSK	0	2402 MHz	1.350
	39	2441 MHz	1.330
	78	2480 MHz	1.310

Test Graphs



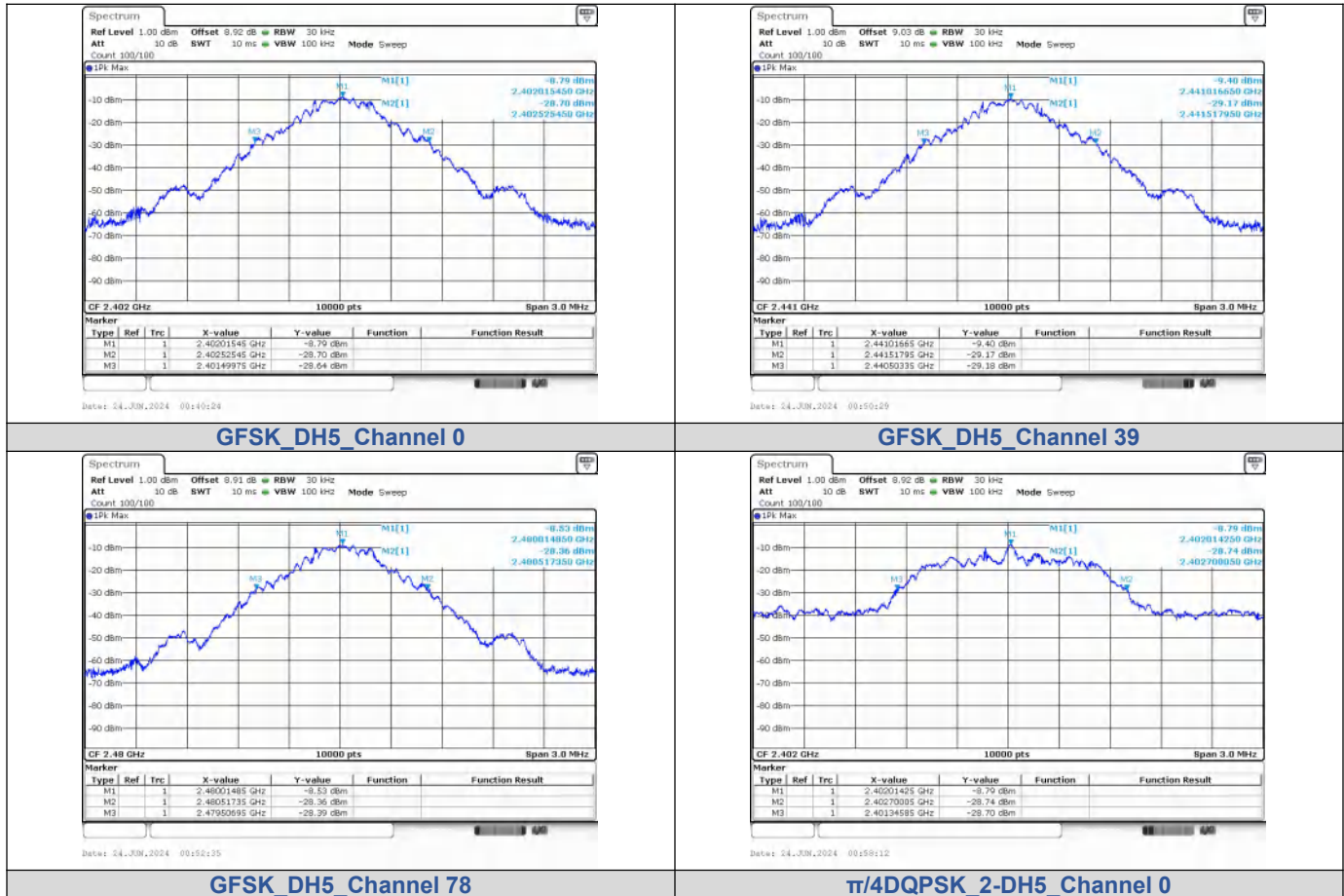


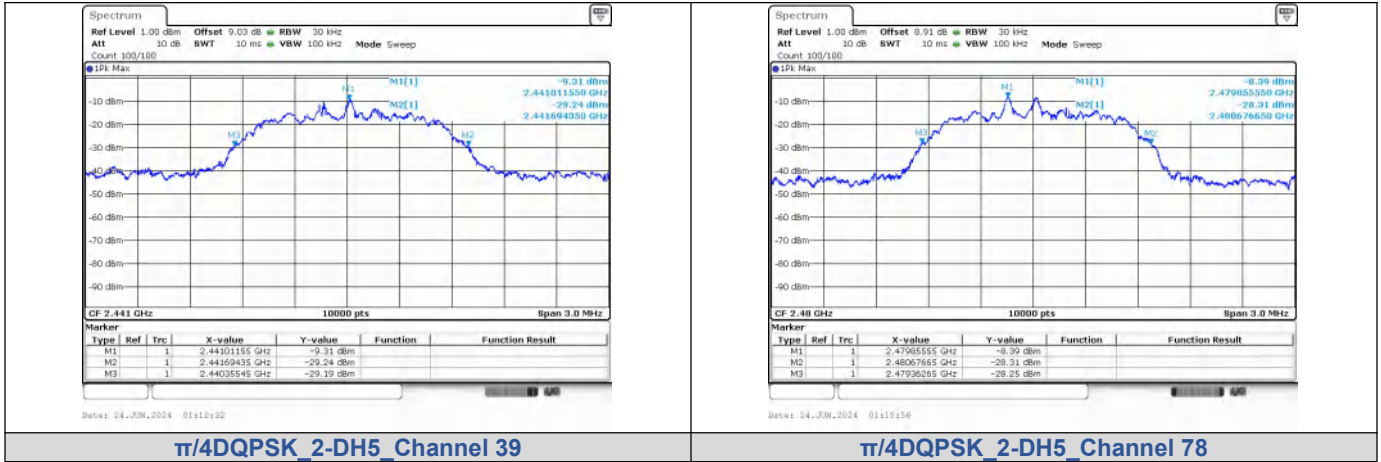
Right

Test Result

Modulation	Channel	Center Frequency (MHz)	20 dB Bandwidth (MHz)
GFSK	0	2402 MHz	1.030
	39	2441 MHz	1.020
	78	2480 MHz	1.010
$\pi/4$ DQPSK	0	2402 MHz	1.350
	39	2441 MHz	1.330
	78	2480 MHz	1.320

Test Graphs





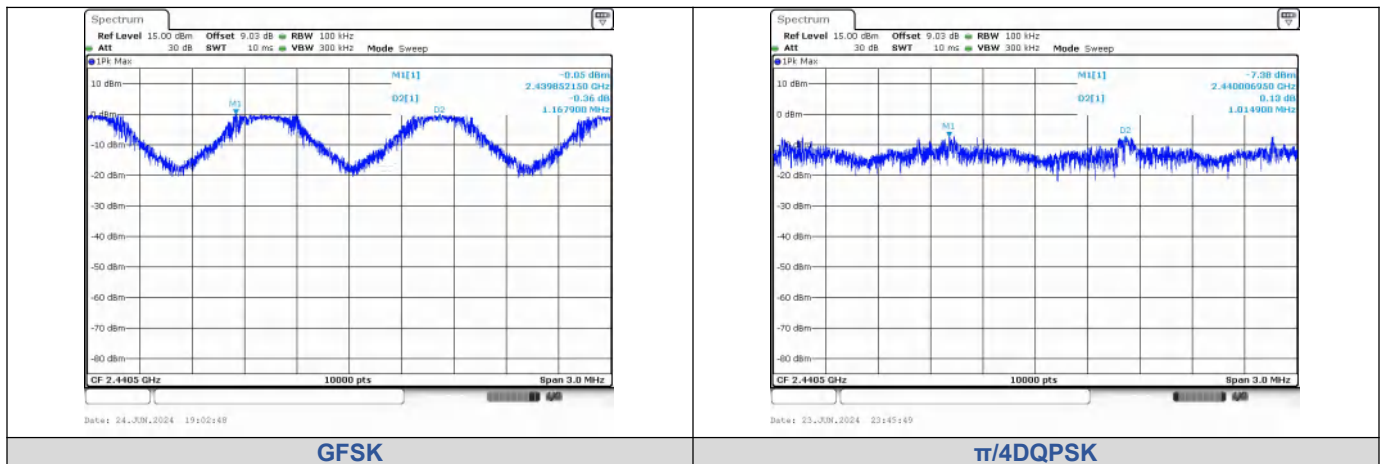
Carrier Frequencies Separation

Test Result

Left

Modulation	Packet	Left Center frequency (MHz)	Right Center frequency (MHz)	Hopping Frequency Separation (MHz)	Limit (MHz)	Result
GFSK	DH5	2439.8522	2441.0201	1.1679	1.030	PASS
$\pi/4$ DQPSK	2-DH5	2440.0069	2441.0219	1.0149	0.9	PASS

Test Graphs

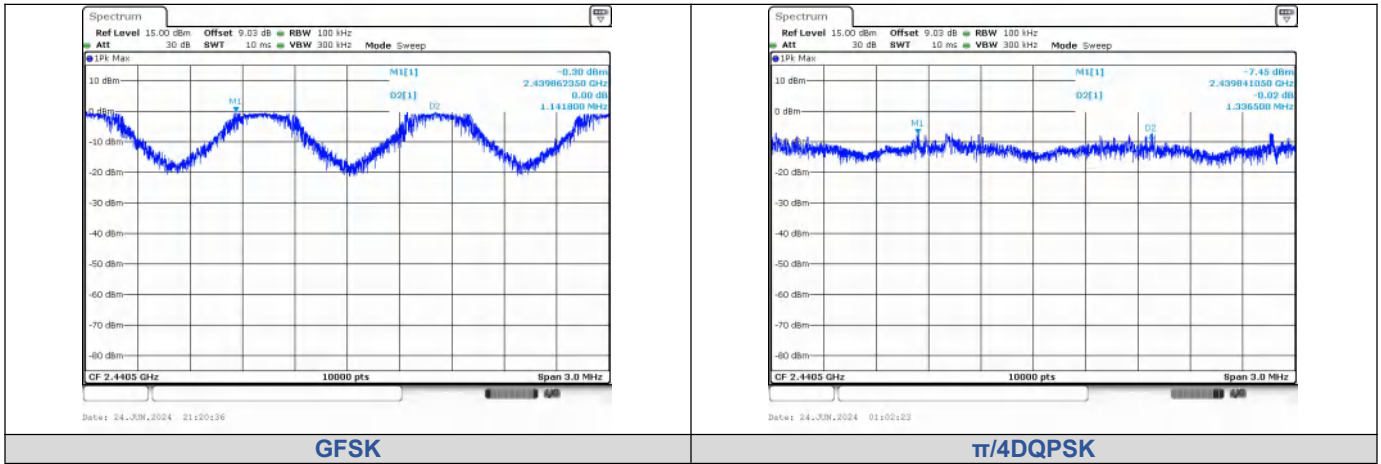


Right

Test Result

Modulation	Packet	Left Center frequency (MHz)	Right Center frequency (MHz)	Hopping Frequency Separation (MHz)	Limit (MHz)	Result
GFSK	DH5	2439.8623	2441.0042	1.1418	1.030	PASS
$\pi/4$ DQPSK	2-DH5	2439.841	2441.1775	1.3365	0.9	PASS

Test Graphs



Conducted Out Of Band Emission

Test Result

Left

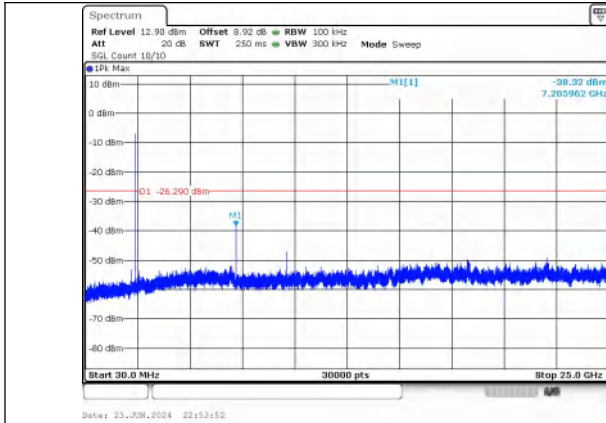
Non-Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	0	2397.90	-52.160	-26.29	-25.870	PASS
			2400.00	-52.311	-26.29	-26.021	PASS
			7206.00	-38.317	-26.29	-12.027	PASS
		39	9763.72	-42.147	-27.05	-15.097	PASS
		78	2483.50	-52.739	-26.21	-26.529	PASS
			9920.20	-42.096	-26.21	-15.886	PASS
$\pi/4$ DQPSK	2-DH5	0	2400.00	-47.268	-26.55	-20.718	PASS
			7205.96	-41.889	-26.55	-15.339	PASS
		39	9763.72	-41.912	-27.35	-14.562	PASS
		78	2483.50	-54.290	-26.33	-27.960	PASS
			9920.20	-41.042	-26.33	-14.712	PASS

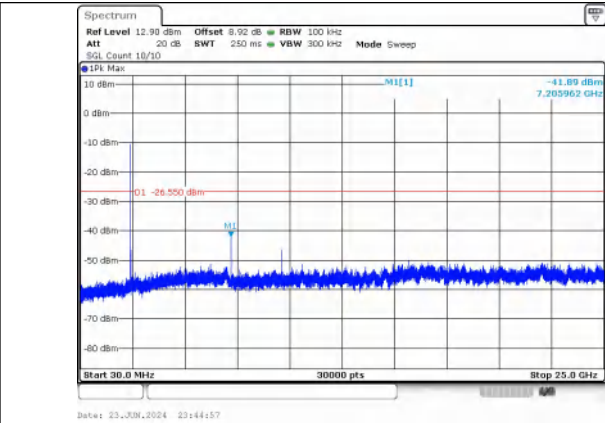
Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	Hopping	2398.19	-50.543	-26.41	-24.133	PASS
			2400.00	-52.752	-26.41	-26.342	PASS
			2483.50	-52.209	-26.26	-25.949	PASS
			2396.11	-50.997	-26.22	-24.777	PASS
			2400.00	-52.541	-26.22	-26.321	PASS
			2483.50	-52.249	-26.56	-25.689	PASS
π/4DQPSK	2-DH5		2400.00	-50.278	-26.97	-23.308	PASS
			2483.50	-51.141	-26.34	-24.801	PASS
			2400.00	-48.683	-26.39	-22.293	PASS
			2483.50	-52.224	-26.49	-25.734	PASS

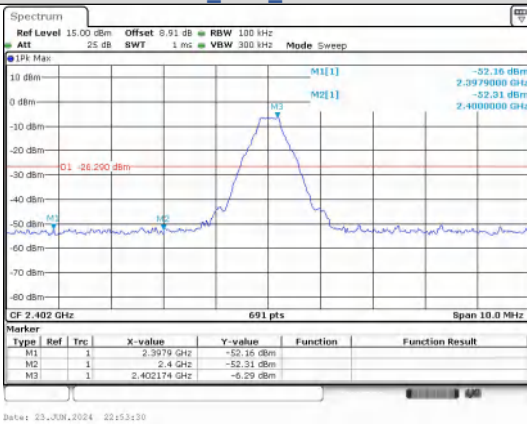
Test Graphs



30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 0



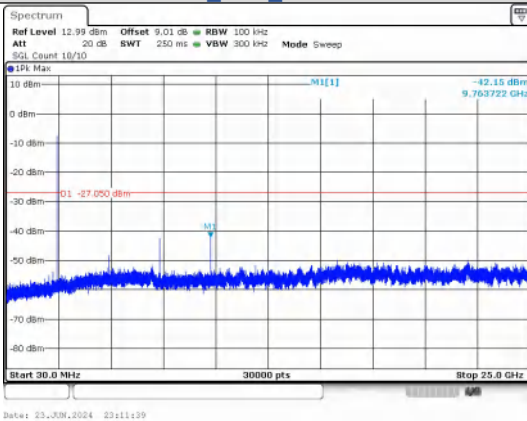
30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 0



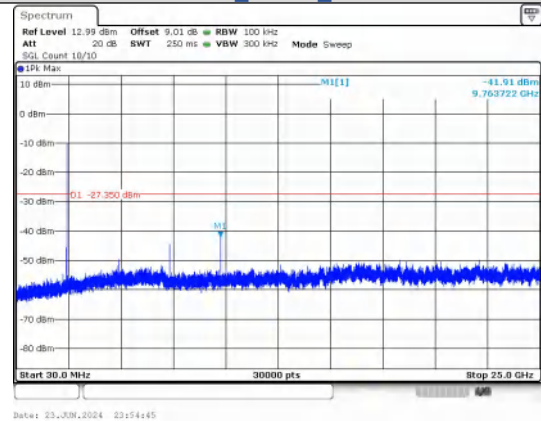
Out Of Band Emission
GFSK_DH5_Channel 0



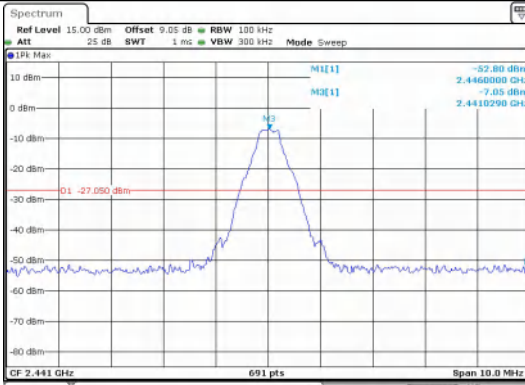
Out Of Band Emission
 $\pi/4$ DQPSK_2-DH5_Channel 0



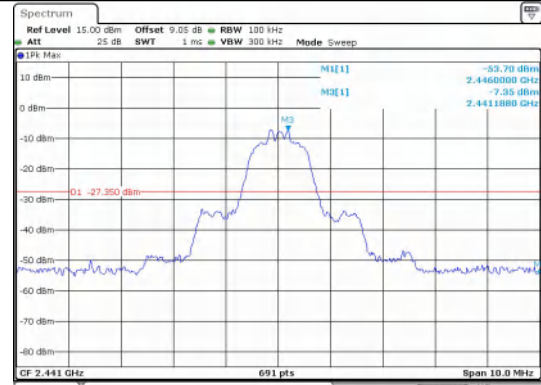
30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 39



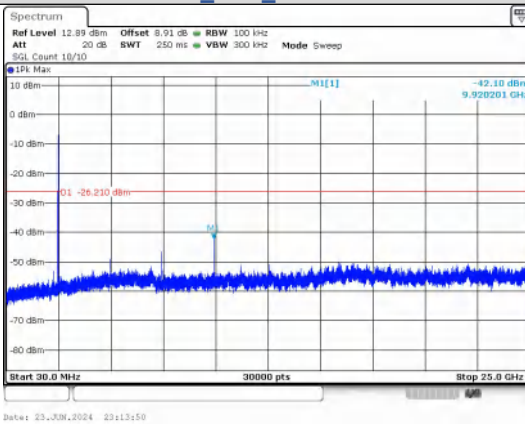
30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 39



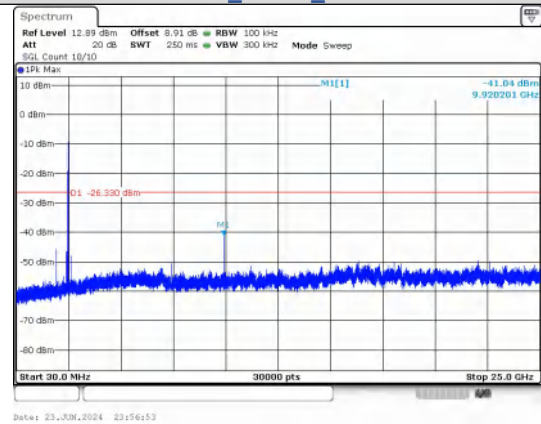
**Out Of Band Emission
GFSK_DH5_Channel 39**



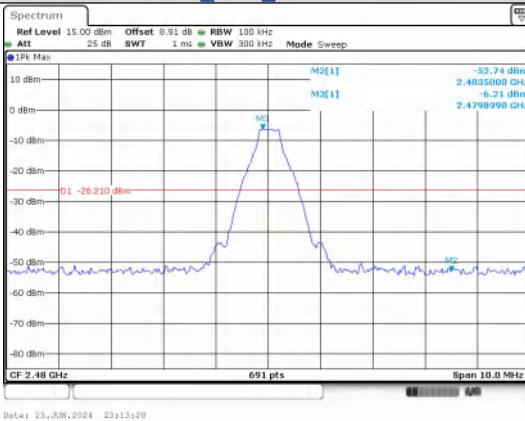
**Out Of Band Emission
 $\pi/4$ DQPSK_2-DH5_Channel 39**



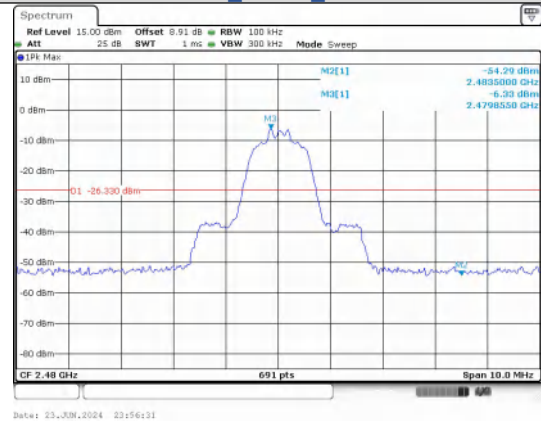
**30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 78**



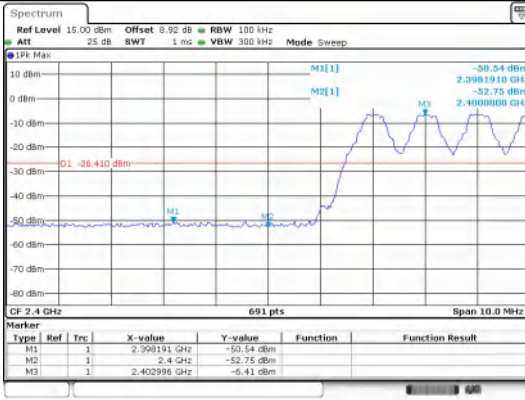
**30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 78**



**Out Of Band Emission
GFSK_DH5_Channel 78**

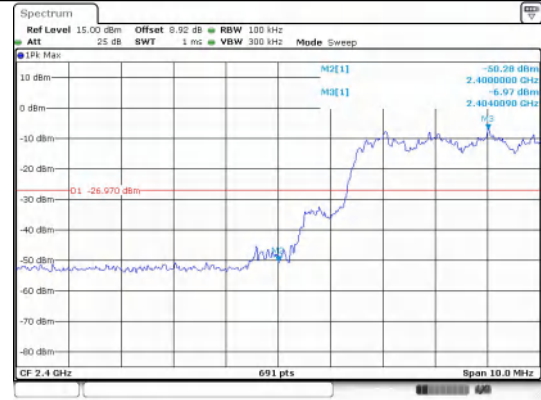


**Out Of Band Emission
 $\pi/4$ DQPSK_2-DH5_Channel 78**



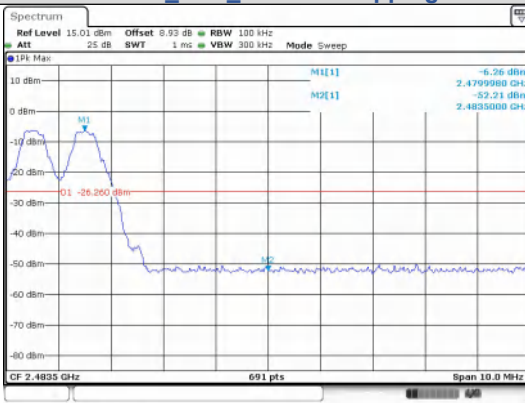
Date: 23_JUN,2024 23:07:05

**Out Of Band Emission(Left)
GFSK_DH5_Channel Hopping**



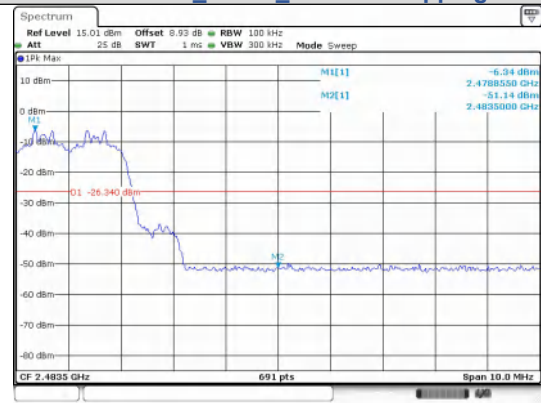
Date: 23_JUN,2024 23:10:10

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



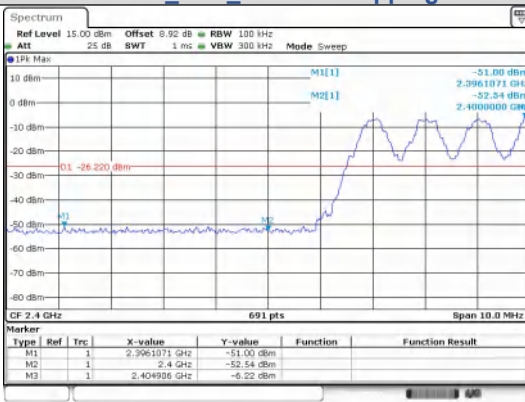
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**Out Of Band Emission(Right)
GFSK_DH5_Channel Hopping**



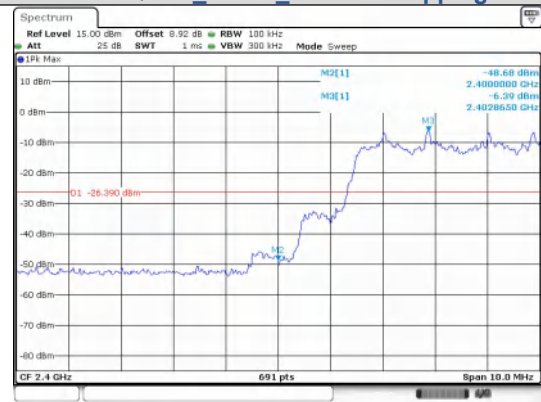
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**Out Of Band Emission(Right)
 $\pi/4$ DQPSK_2-DH5_Channel Hopping**



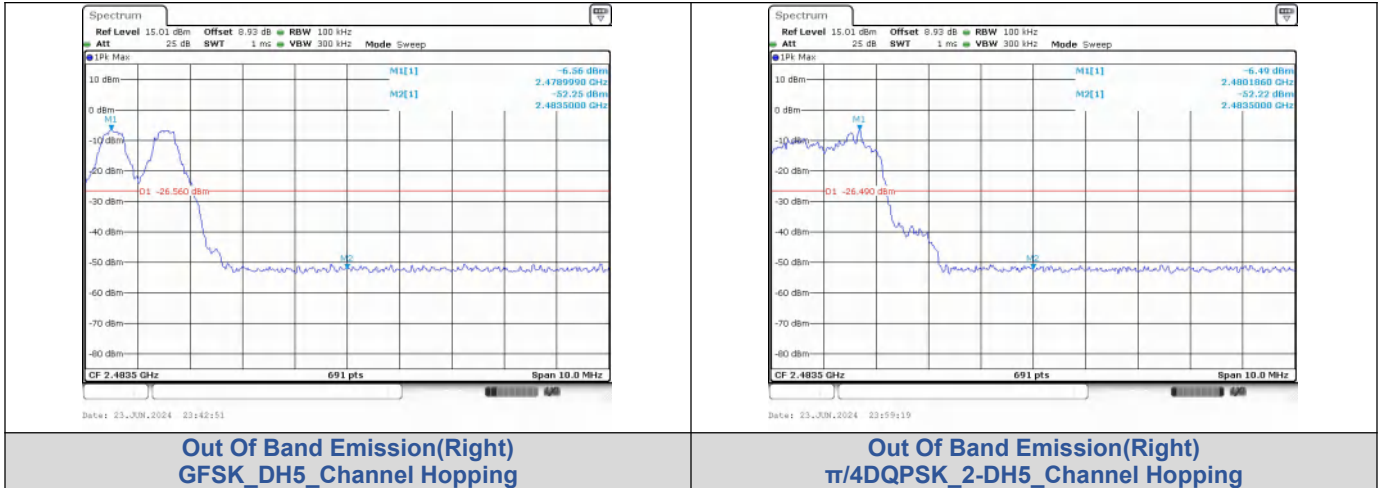
Date: 23_JUN,2024 23:42:11

**Out Of Band Emission(Left)
GFSK_DH5_Channel Hopping**



Date: 23_JUN,2024 23:58:33

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



Right

Test Result

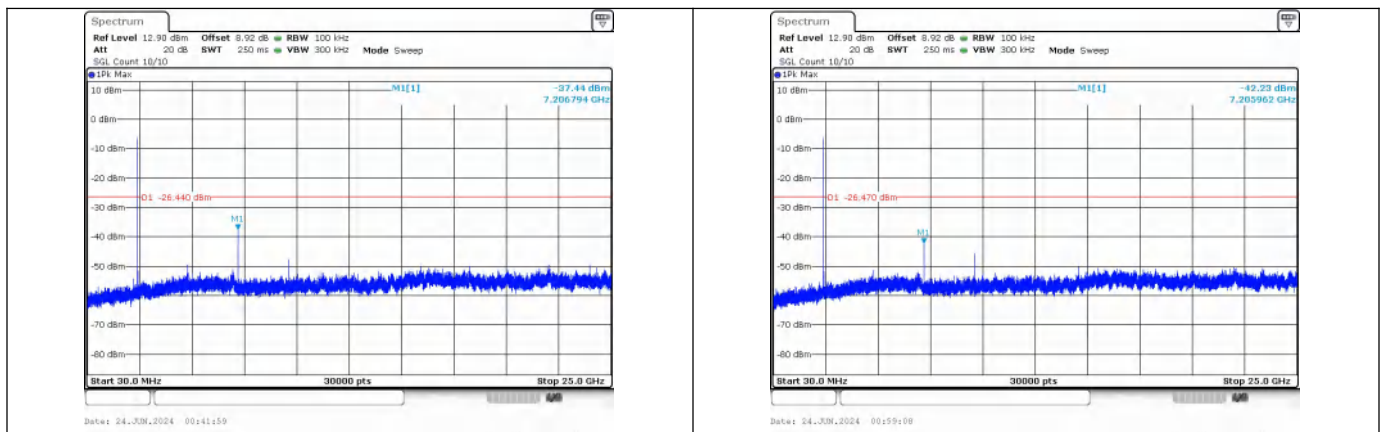
Non-Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	0	2398.24	-51.606	-26.44	-25.166	PASS
			2400.00	-52.531	-26.44	-26.091	PASS
			7206.80	-37.444	-26.44	-11.004	PASS
		39	7323.32	-40.232	-27.13	-13.102	PASS
		78	2483.50	-53.542	-26.33	-27.212	PASS
			9920.20	-41.325	-26.33	-14.995	PASS
π /4DQPSK	2-DH5	0	2400.00	-47.008	-26.47	-20.538	PASS
			7205.96	-42.225	-26.47	-15.755	PASS
		39	9763.72	-41.515	-27.13	-14.385	PASS
		78	2483.50	-52.620	-26.25	-26.370	PASS
			9920.20	-40.927	-26.25	-14.677	PASS

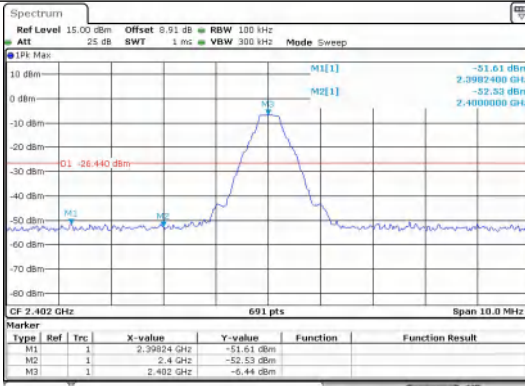
Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	Hopping	2397.13	-50.265	-26.55	-23.715	PASS
			2400.00	-52.007	-26.55	-25.457	PASS
			2483.50	-51.425	-26.76	-24.665	PASS
			2396.66	-50.040	-26.28	-23.760	PASS
			2400.00	-53.345	-26.28	-27.065	PASS
			2483.50	-52.248	-26.36	-25.888	PASS
π/4DQPSK	2-DH5		2400.00	-46.876	-26.3	-20.576	PASS
			2483.50	-51.383	-26.31	-25.073	PASS
			2400.00	-47.524	-26.23	-21.294	PASS
			2483.50	-52.108	-26.5	-25.608	PASS

Test Graphs

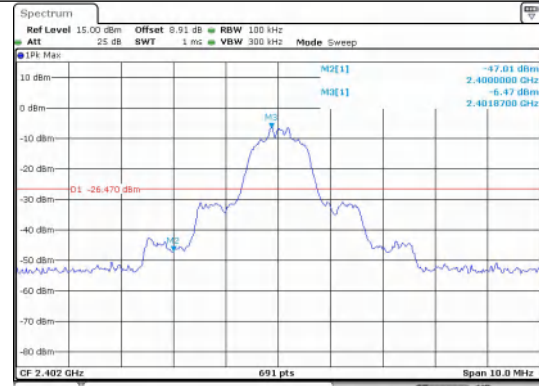


**30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 0**



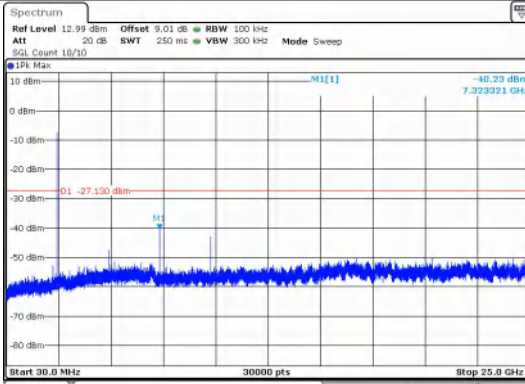
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**30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 0**



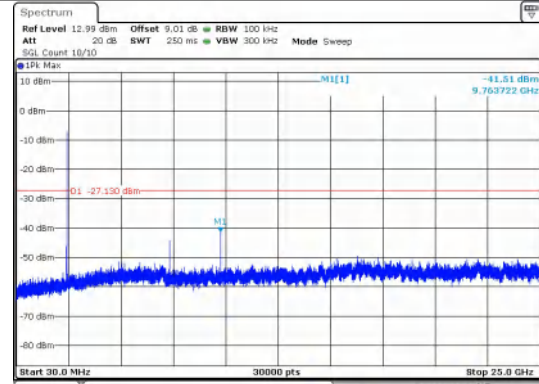
Date: 24 JUN 2024 00:58:46

**Out Of Band Emission
GFSK_DH5_Channel 0**



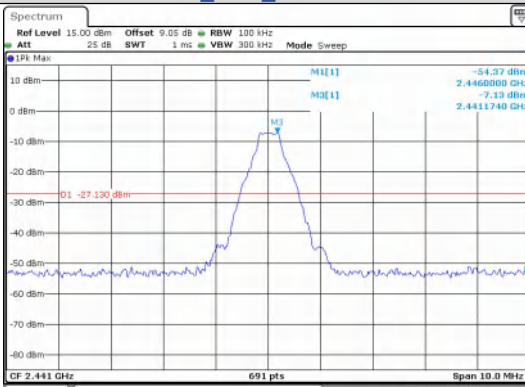
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**Out Of Band Emission
 $\pi/4$ DQPSK_2-DH5_Channel 0**



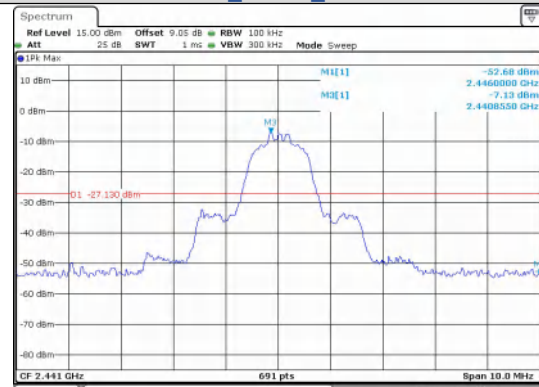
Date: 24 JUN 2024 01:13:23

**30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 39**



Date: 24 JUN 2024 00:50:58

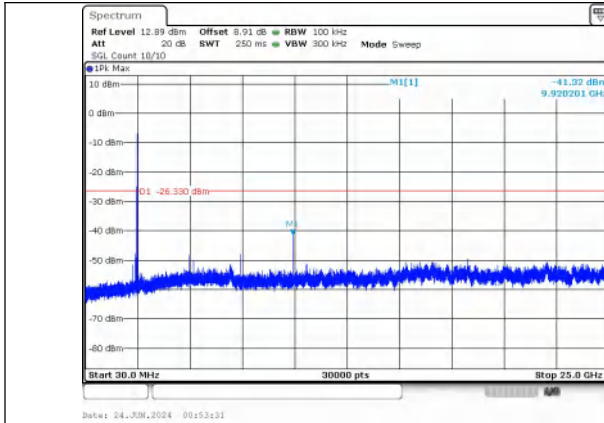
**30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 39**



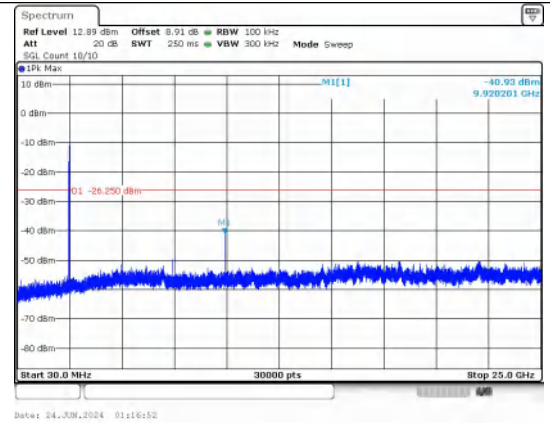
Date: 24 JUN 2024 01:13:01

**Out Of Band Emission
GFSK_DH5_Channel 39**

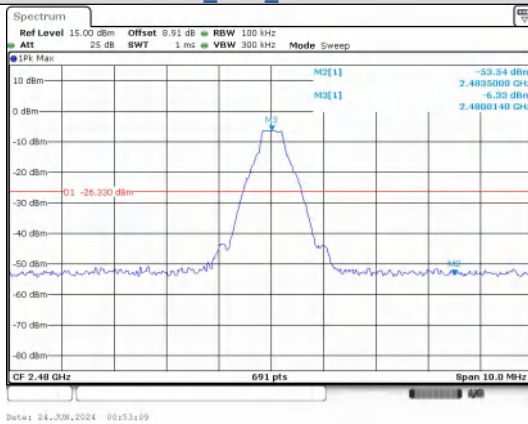
**Out Of Band Emission
 $\pi/4$ DQPSK_2-DH5_Channel 39**



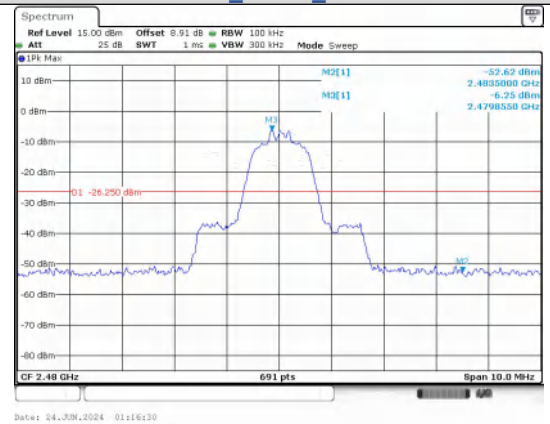
**30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 78**



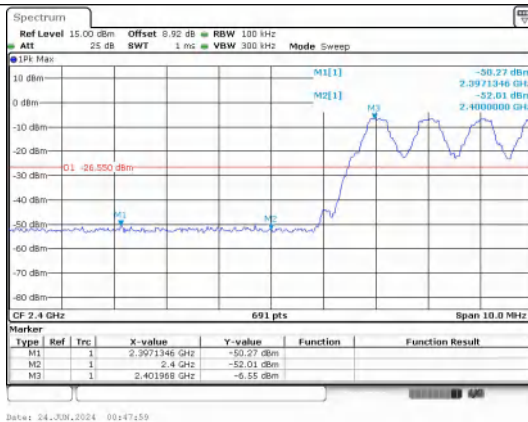
**30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 78**



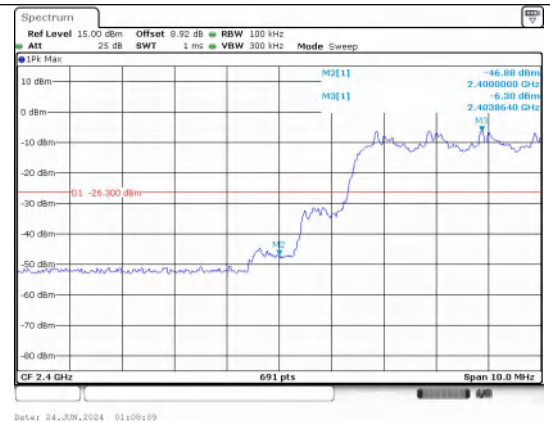
**Out Of Band Emission
GFSK_DH5_Channel 78**



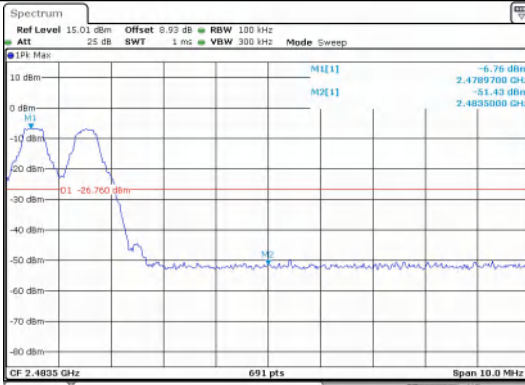
**Out Of Band Emission
 $\pi/4$ DQPSK_2-DH5_Channel 78**



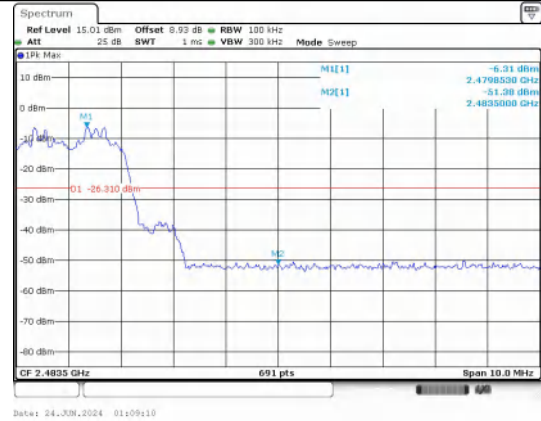
**Out Of Band Emission(Left)
GFSK_DH5_Channel Hopping**



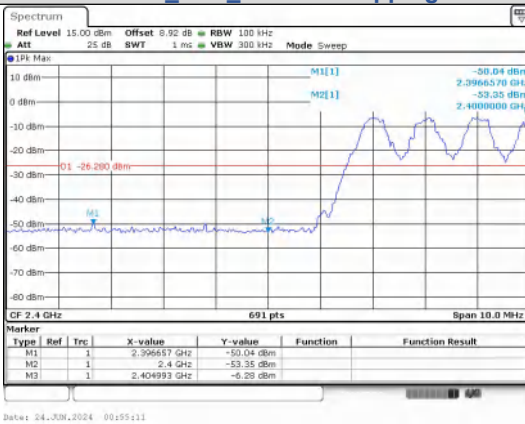
**Out Of Band Emission(Left)
 $\pi/4$ DQPSK_2-DH5_Channel Hopping**



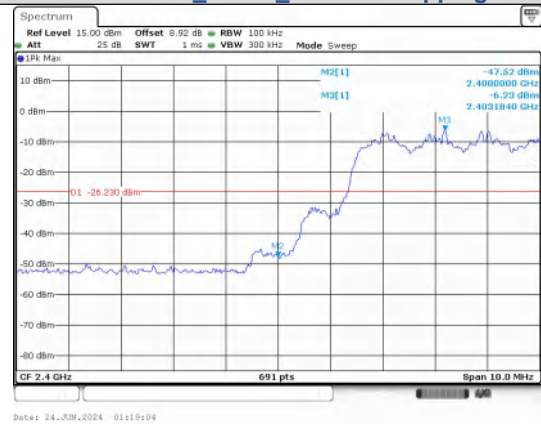
**Out Of Band Emission(Right)
GFSK_DH5_Channel Hopping**



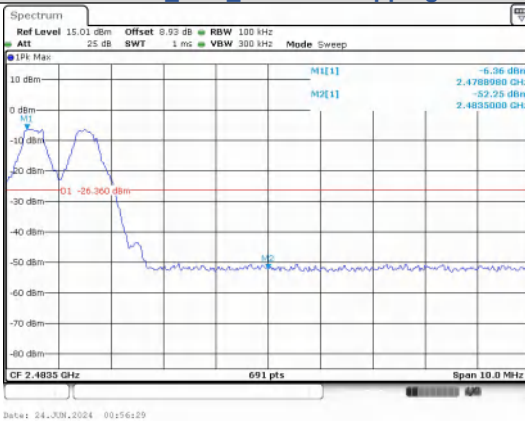
**Out Of Band Emission(Right)
 $\pi/4$ DQPSK_2-DH5_Channel Hopping**



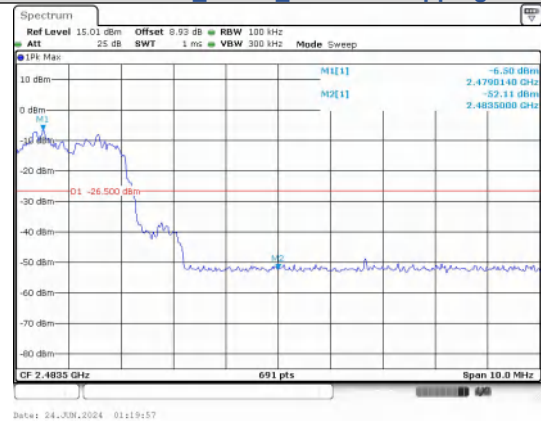
**Out Of Band Emission(Left)
GFSK_DH5_Channel Hopping**



**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**

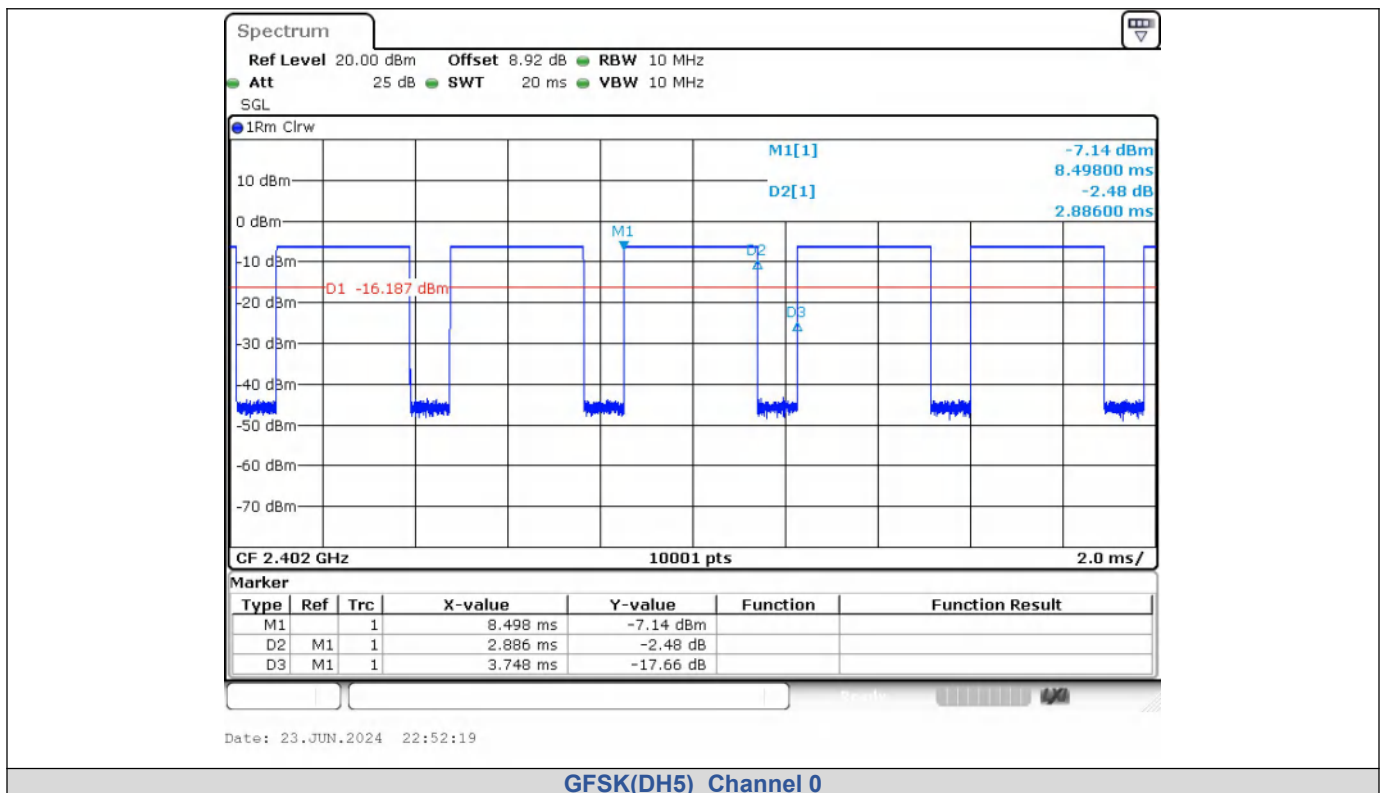
Duty Cycle

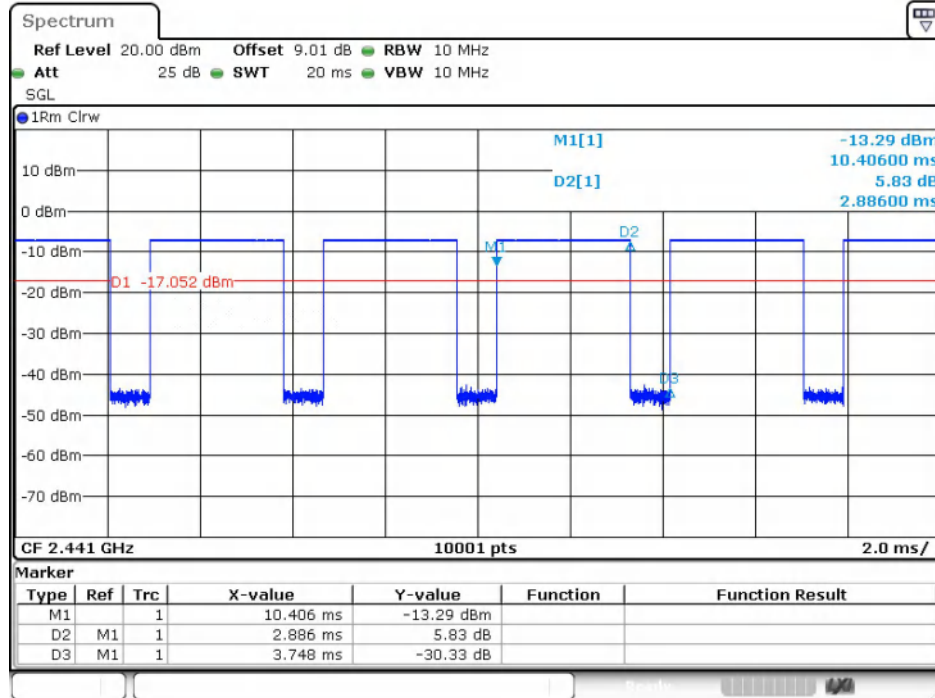
Left

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	0.35
		39	2.886	3.748	77.00	0.7700	1.1351	0.35
		78	2.886	3.748	77.00	0.7700	1.1351	0.35
$\pi/4$ DQPSK	2-DH5	0	2.890	3.748	77.11	0.7711	1.1289	0.35
		39	2.892	3.748	77.16	0.7716	1.1261	0.35
		78	2.890	3.748	77.11	0.7711	1.1289	0.35

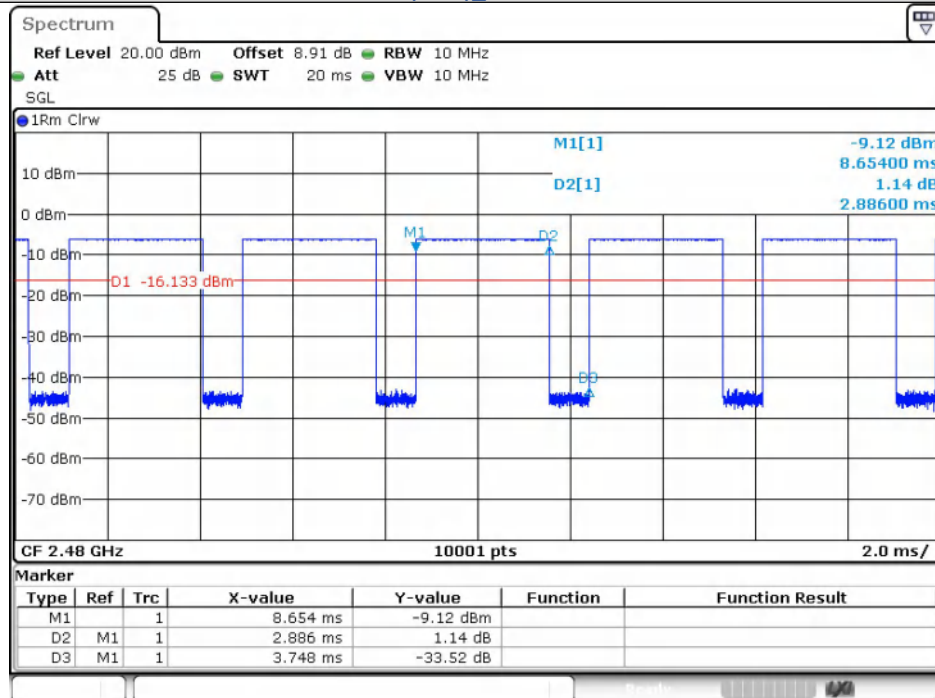
Test Graphs





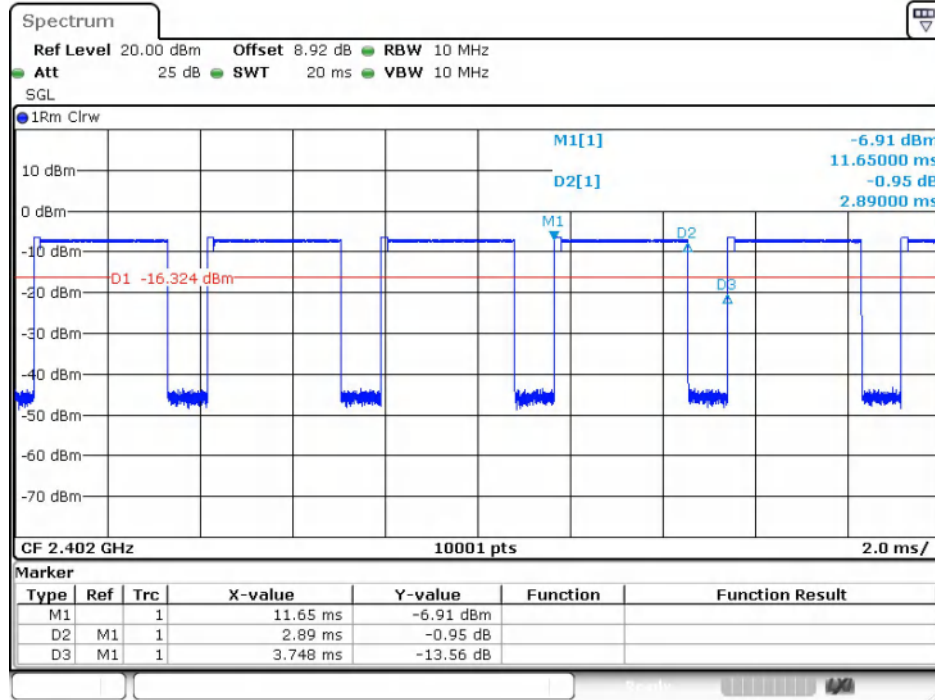
Date: 23.JUN.2024 23:10:11

GFSK(DH5)_Channel 39



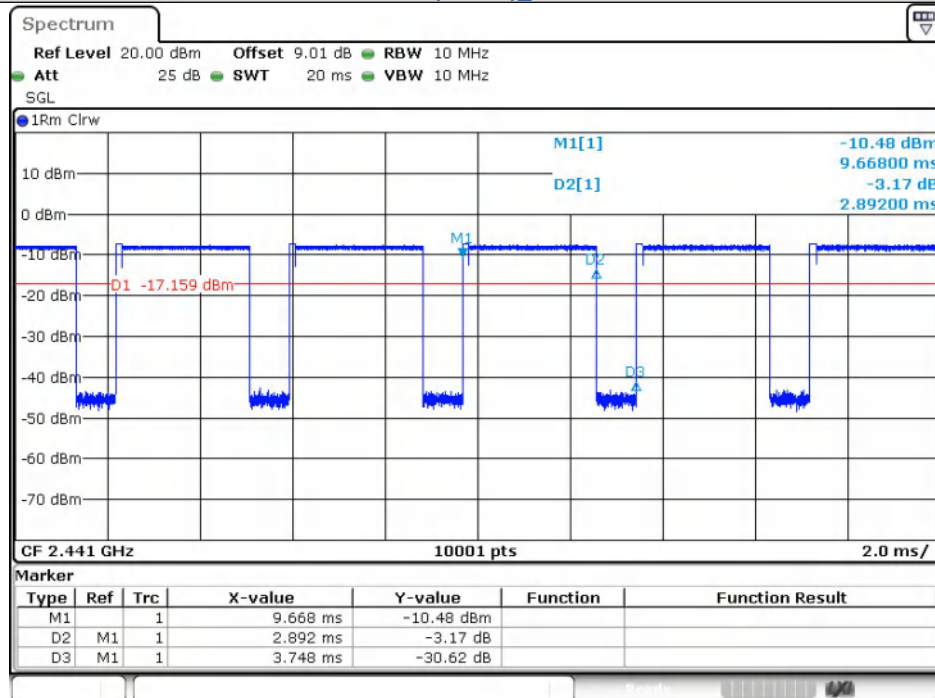
Date: 23.JUN.2024 23:12:17

GFSK(DH5)_Channel 78



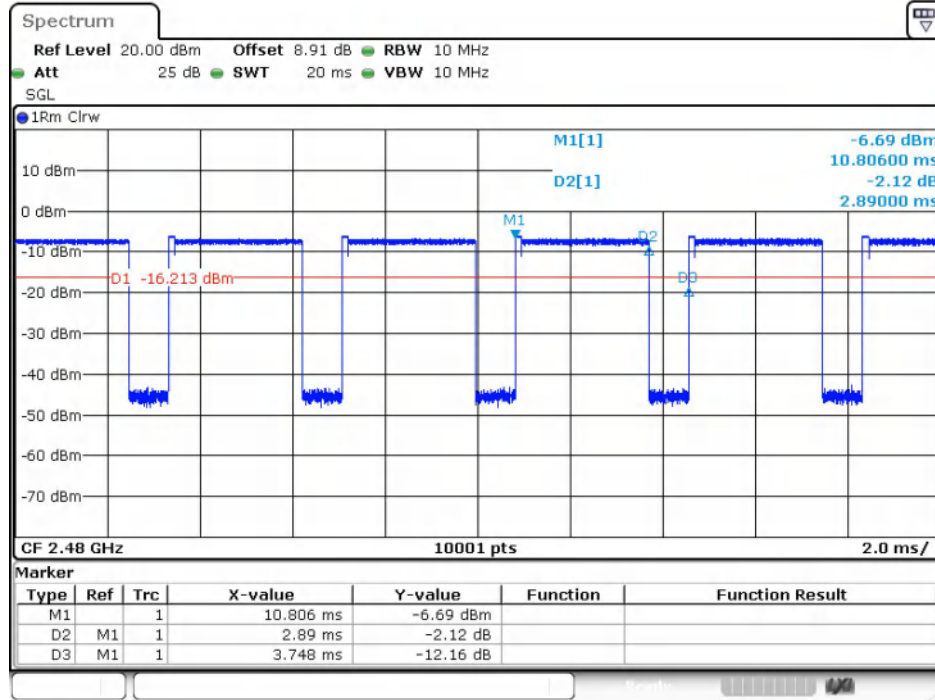
Date: 23.JUN.2024 23:43:24

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



Date: 23.JUN.2024 23:53:17

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



Date: 23.JUN.2024 23:55:20

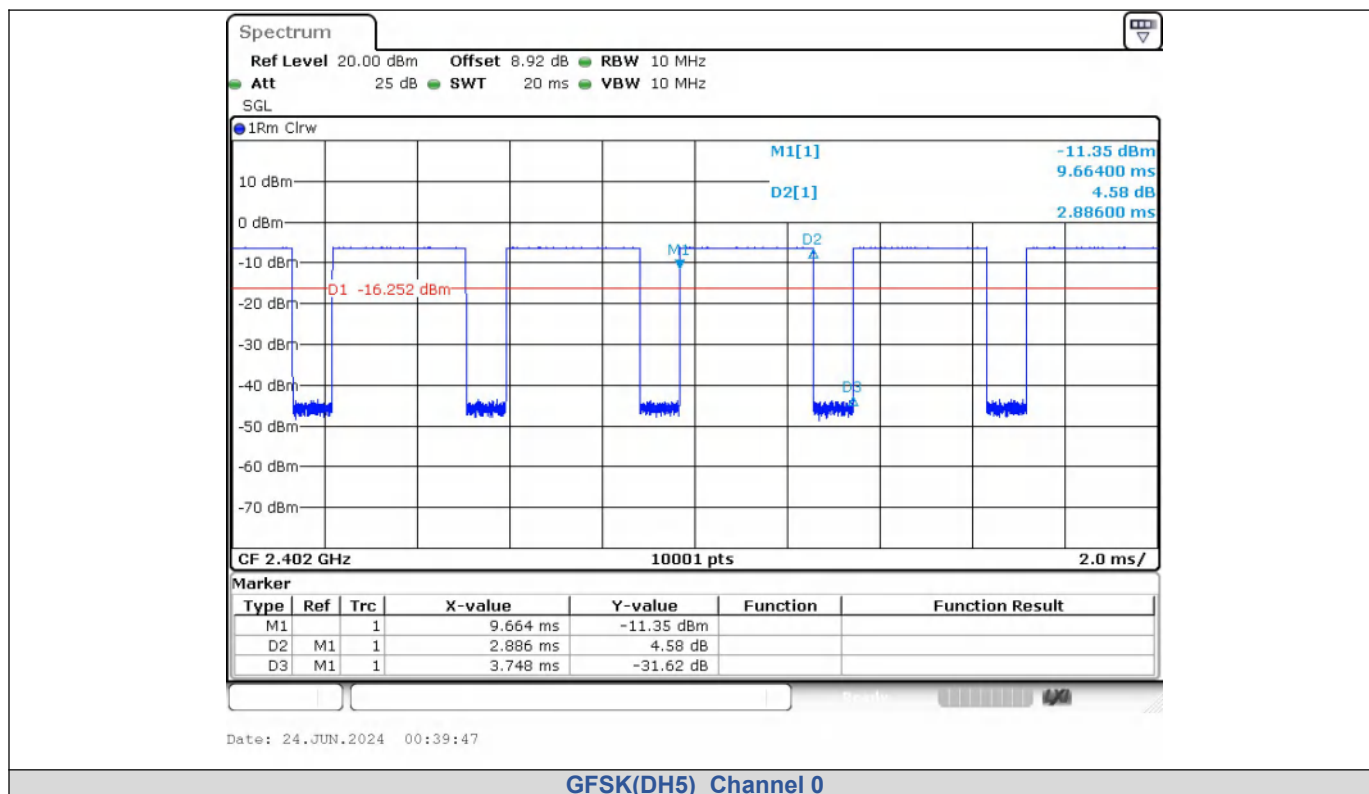
$\pi/4$ DQPSK(2-DH5)_Channel 78

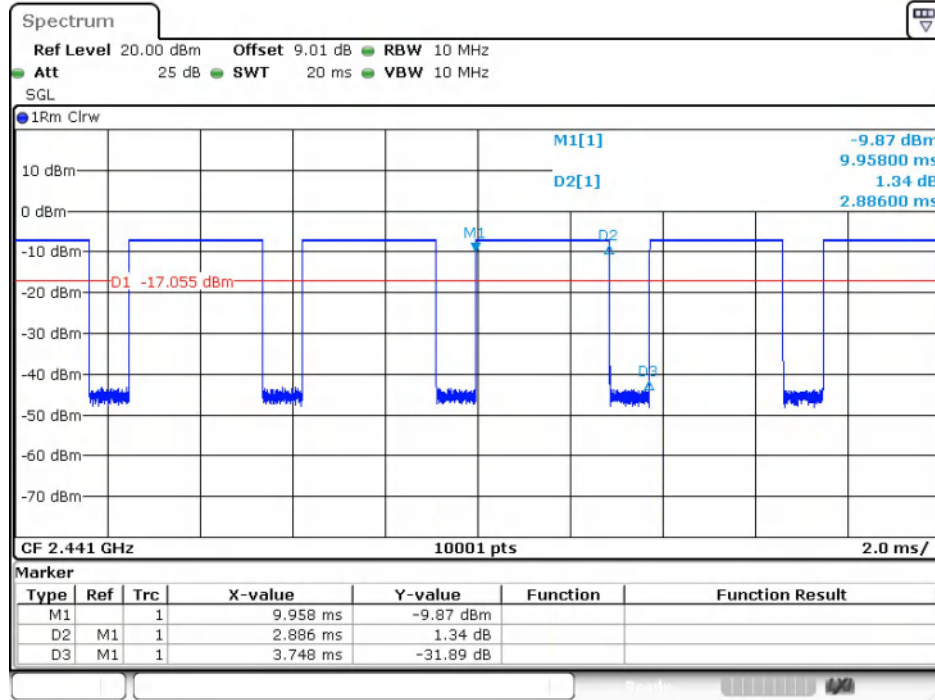
Right

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	0.35
		39	2.886	3.748	77.00	0.7700	1.1351	0.35
		78	2.886	3.748	77.00	0.7700	1.1351	0.35
$\pi/4$ DQPSK	2-DH5	0	2.890	3.748	77.11	0.7711	1.1289	0.35
		39	2.892	3.748	77.16	0.7716	1.1261	0.35
		78	2.890	3.748	77.11	0.7711	1.1289	0.35

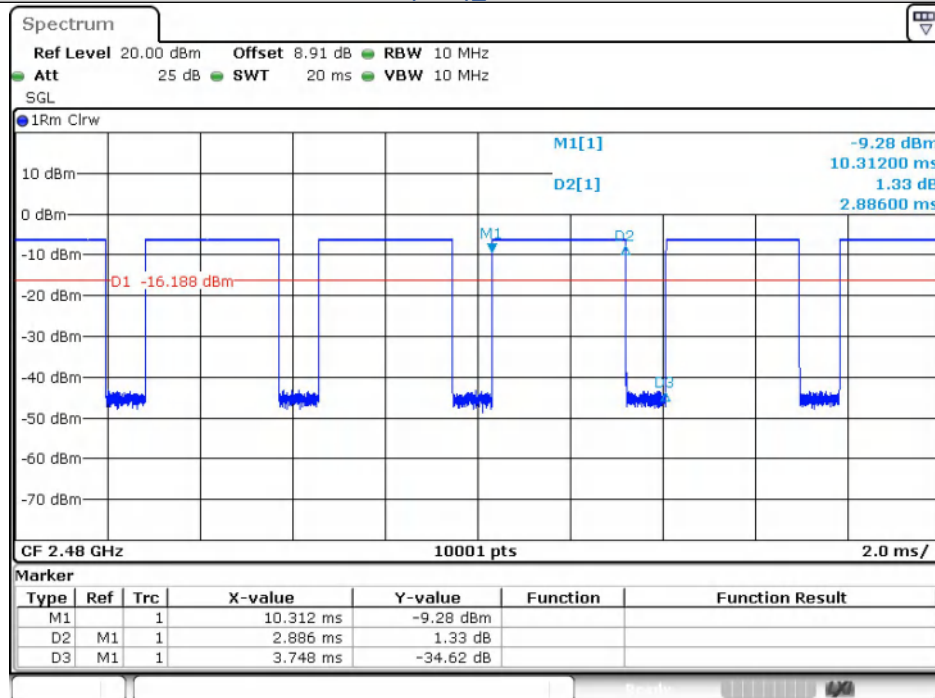
Test Graphs





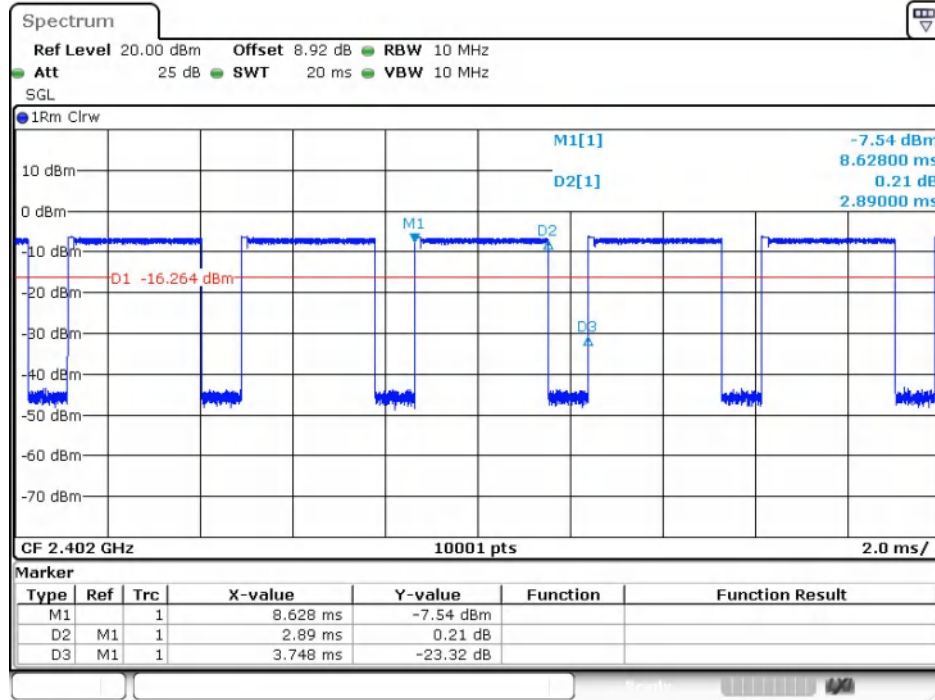
Date: 24.JUN.2024 00:49:53

GFSK(DH5)_Channel 39



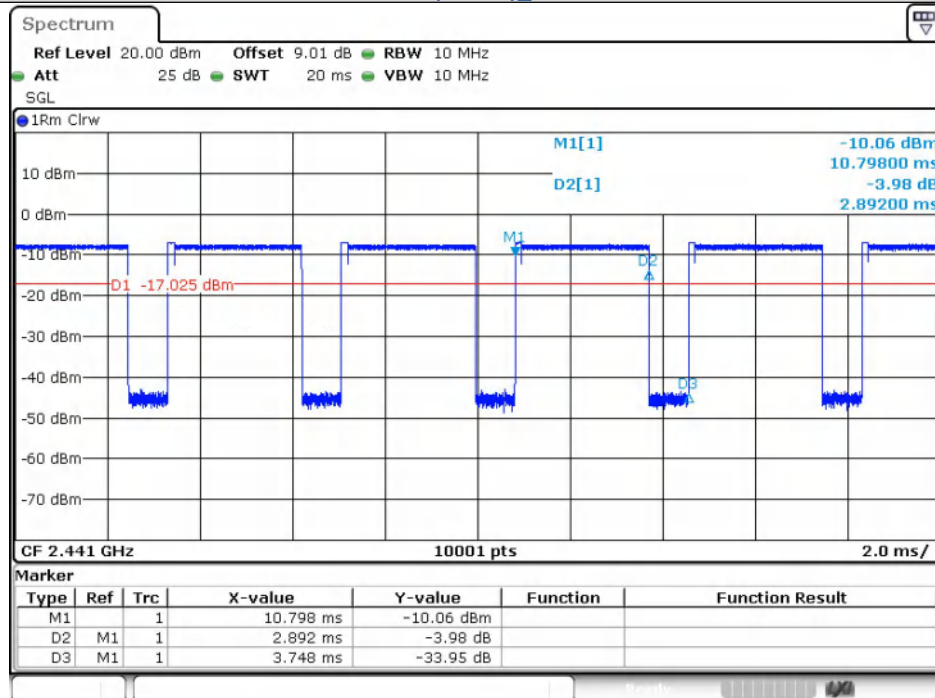
Date: 24.JUN.2024 00:51:58

GFSK(DH5)_Channel 78



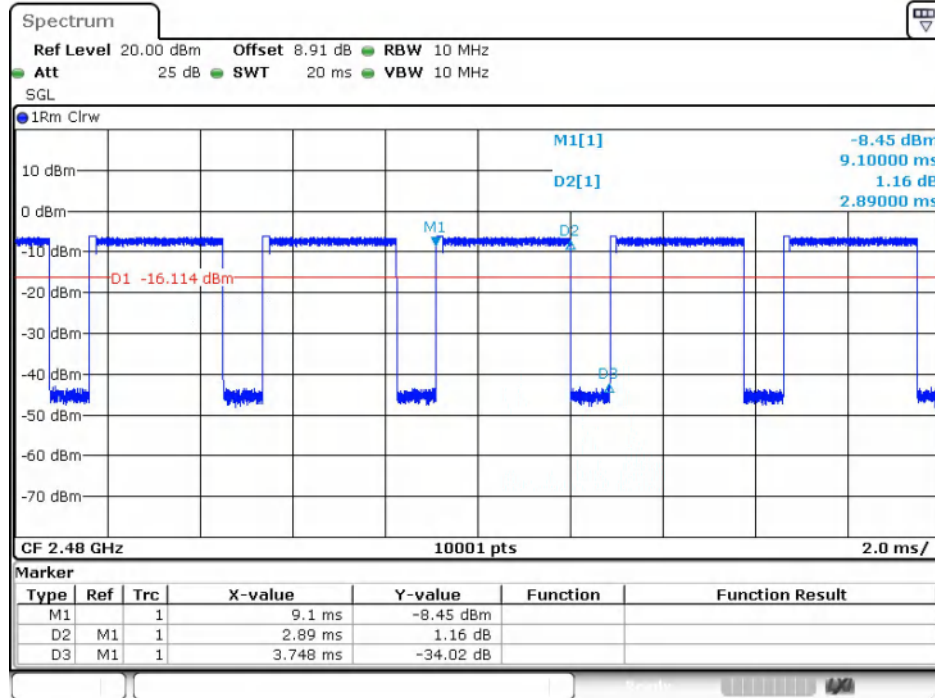
Date: 24.JUN.2024 00:57:35

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



Date: 24.JUN.2024 01:11:55

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



Date: 24.JUN.2024 01:15:19

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

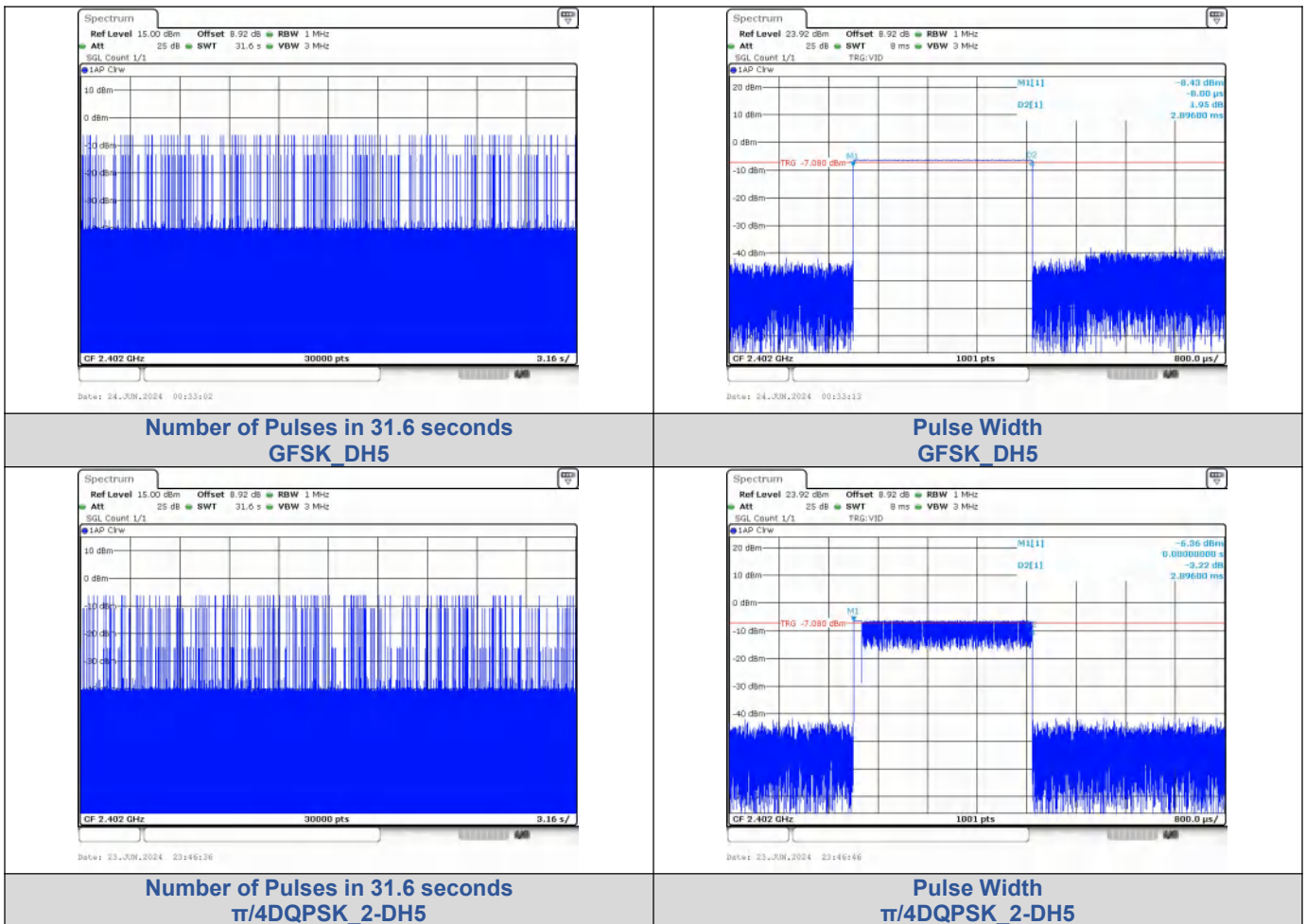
Dwell Time

Left

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)	2.896	99	286.7	< 400	PASS
$\pi/4$ DQPSK	2-DH5		2.896	118	341.73		PASS

Test Graphs

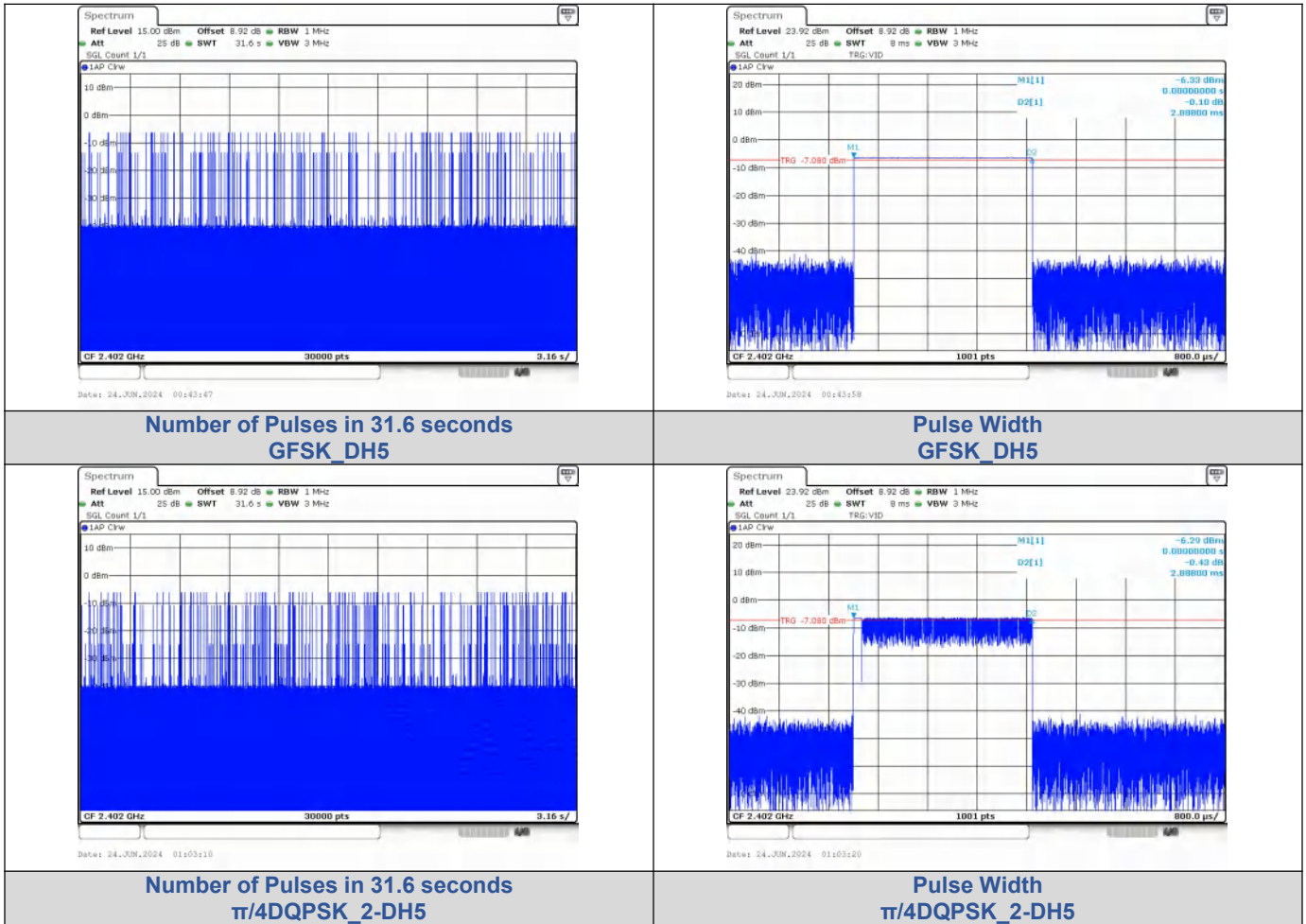


Right

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	97	280.14	< 400	PASS
$\pi/4$ DQPSK	2-DH5		2.888	101	291.69		PASS

Test Graphs



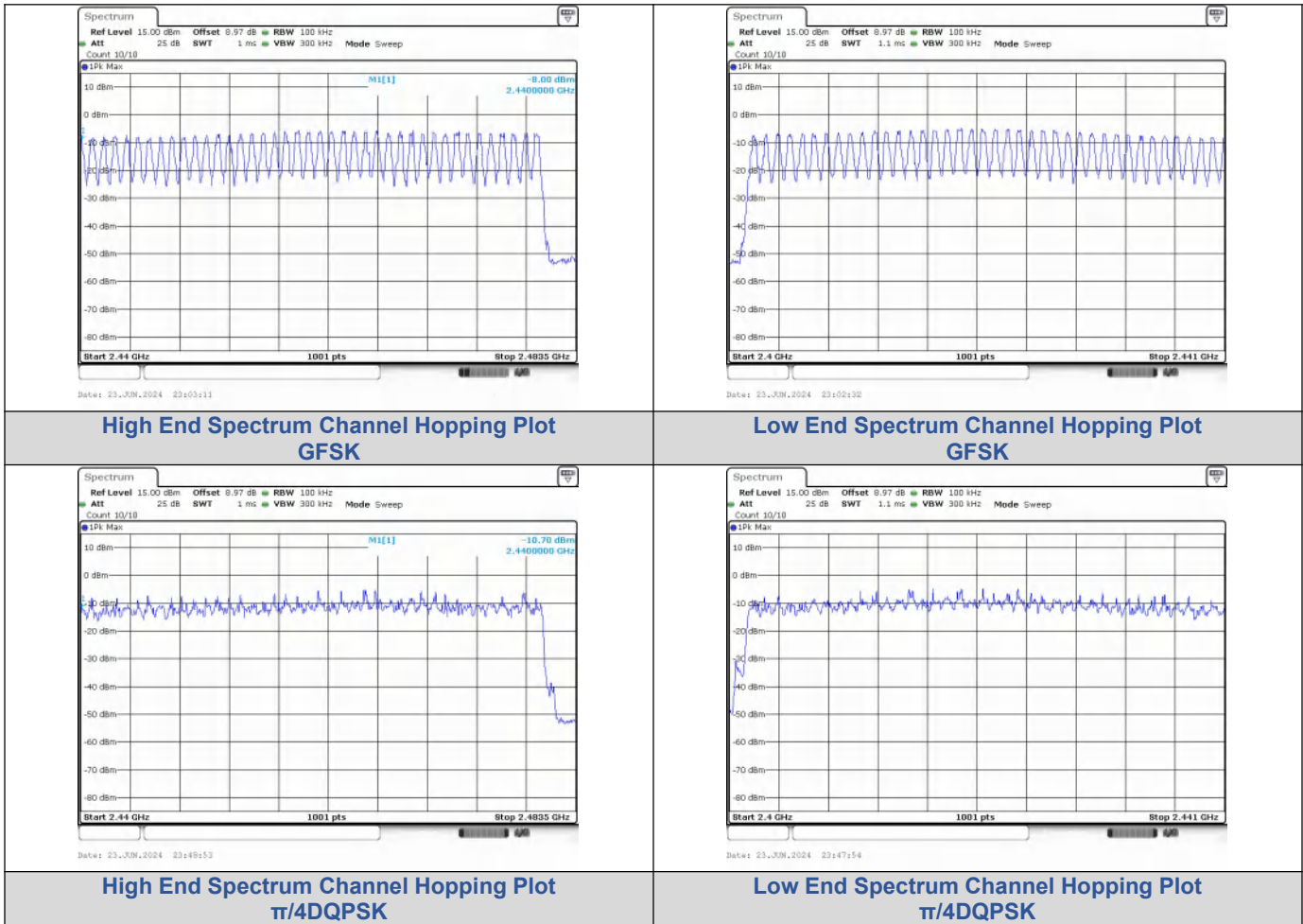
Number Of Hopping Channel

Left

Test Result

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

Test Graphs



Right Test Result

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

Test Graphs

