

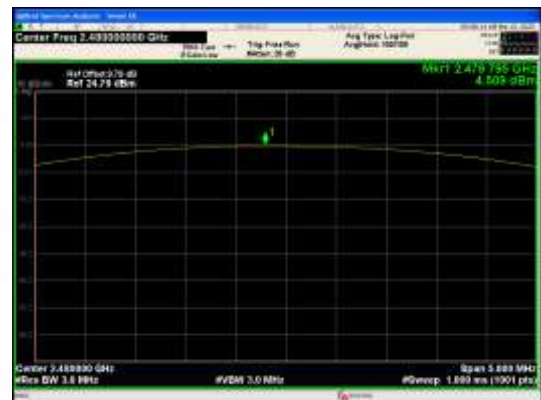
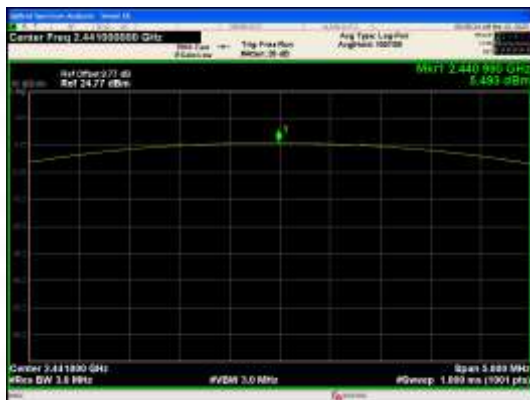
Conducted Test Data

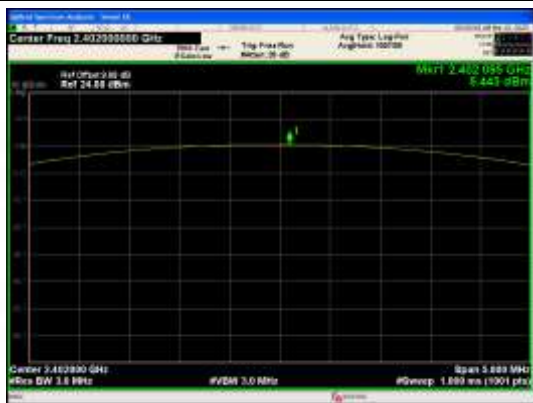
Conducted Output Power

Test Result

Modulation	Packet Type	Channel	Peak Output Power (dBm)	Peak Output Power (mW)	Max. Avg. Power (dBm)	Limit (dBm)	Result
GFSK	DH1	0	5.53	3.57	5.35	≤30	PASS
		39	5.59	3.63	5.28		PASS
		78	4.55	2.85	4.19		PASS
	DH3	0	5.49	3.54	5.06		PASS
		39	5.49	3.54	5.03		PASS
		78	4.51	2.82	4.08		PASS
	DH5	0	5.44	3.50	4.82		PASS
		39	5.46	3.52	5.08		PASS
		78	4.47	2.80	4.12		PASS
π/4DQPSK	2-DH1	0	5.79	3.79	3.91	≤20.97	PASS
		39	5.91	3.90	3.95		PASS
		78	5.00	3.16	3.33		PASS
	2-DH3	0	6.61	4.58	3.64		PASS
		39	6.87	4.86	3.57		PASS
		78	5.34	3.42	2.93		PASS
	2-DH5	0	5.91	3.90	3.76		PASS
		39	6.08	4.06	3.43		PASS
		78	5.14	3.27	2.78		PASS
8DPSK	3-DH1	0	6.41	4.37	3.73	≤20.97	PASS
		39	6.76	4.74	3.54		PASS
		78	5.41	3.48	2.76		PASS
	3-DH3	0	6.14	4.11	3.95		PASS
		39	6.50	4.47	4.15		PASS
		78	5.42	3.48	3.36		PASS
	3-DH5	0	6.04	4.02	3.83		PASS
		39	6.33	4.30	3.66		PASS
		78	5.24	3.34	2.78		PASS

Test Graphs





Peak Output Power
GFSK_Channel 0



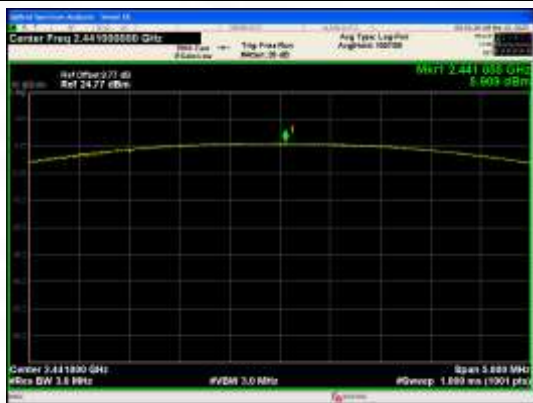
Peak Output Power
GFSK_Channel 39



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
 $\pi/4$ DQPSK_Channel 0



Peak Output Power
 $\pi/4$ DQPSK_Channel 39



Peak Output Power
 $\pi/4$ DQPSK_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



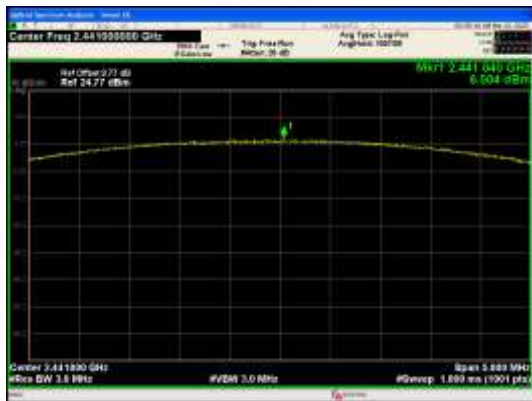
Peak Output Power
8DPSK_Channel 39



Peak Output Power
8DPSK_Channel 78



Peak Output Power
8DPSK_Channel 0



Peak Output Power
8DPSK_Channel 39



Peak Output Power
8DPSK_Channel 78



Peak Output Power
8DPSK_Channel 0



Peak Output Power
8DPSK_Channel 39



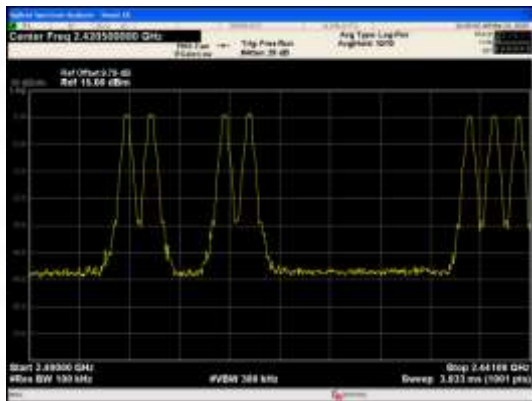
Peak Output Power
8DPSK_Channel 78

Number of Hopping Frequencies

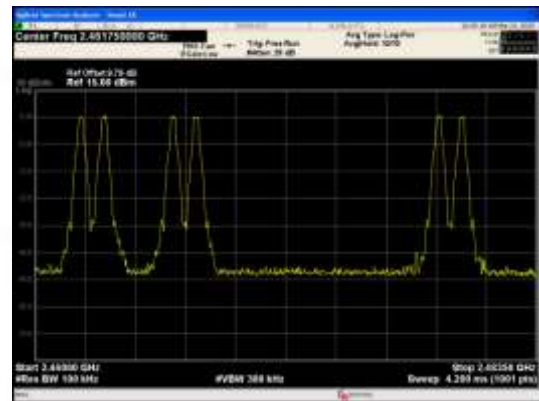
Test Result

Modulation	Packet	Number of Hopping Channel	Limit	Result
GFSK	DH5	79	15	PASS
$\pi/4$ DQPSK	2-DH1	79	15	PASS
8DPSK	3-DH1	79	15	PASS

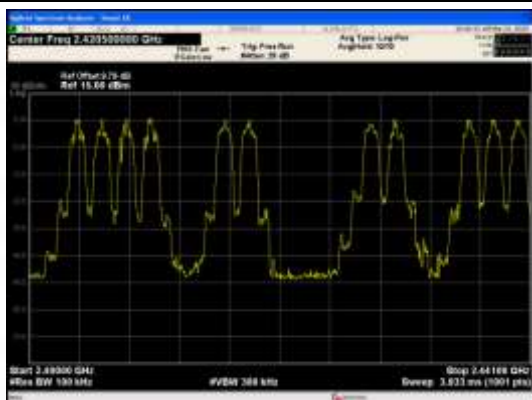
Test Graphs



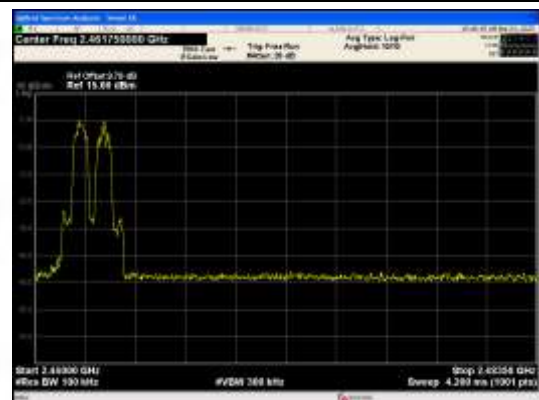
Low End Spectrum Channel Hopping Plot
GFSK



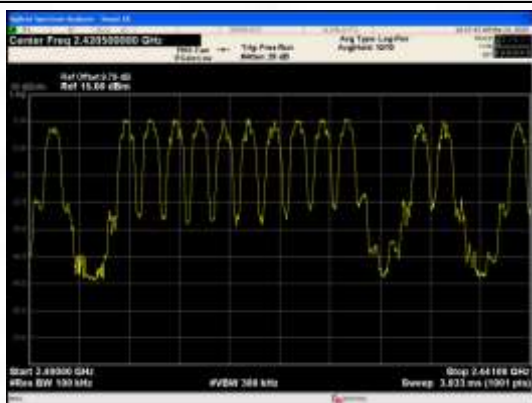
High End Spectrum Channel Hopping Plot
GFSK



Low End Spectrum Channel Hopping Plot
 $\pi/4$ DQPSK



High End Spectrum Channel Hopping Plot
 $\pi/4$ DQPSK



Low End Spectrum Channel Hopping Plot
8DPSK



High End Spectrum Channel Hopping Plot
8DPSK

Duty Cycle

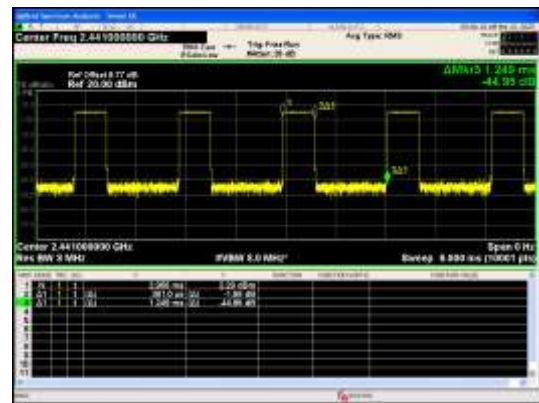
Duty Cycle Test Result

Modulation	Packets	Channel	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)	1/T
GFSK	DH1	0	0.381	1.249	30.50	0.3050	5.157	2.6247
		39	0.381	1.249	30.50	0.3050	5.157	2.6247
		78	0.381	1.249	30.50	0.3050	5.157	2.6247
	DH3	0	1.638	2.499	65.52	0.6552	1.8363	0.6105
		39	1.636	2.498	65.50	0.6550	1.8376	0.6112
		78	1.636	2.498	65.50	0.6550	1.8376	0.6112
	DH5	0	2.884	3.748	76.95	0.7695	1.1379	0.3467
		39	2.884	3.748	76.95	0.7695	1.1379	0.3467
		78	2.884	3.748	76.95	0.7695	1.1379	0.3467
$\pi/4$ DQPSK	2-DH1	0	0.387	1.249	30.98	0.3098	5.0892	2.5840
		39	0.387	1.249	30.98	0.3098	5.0892	2.5840
		78	0.387	1.250	30.96	0.3096	5.092	2.5840
	2-DH3	0	2.888	4.998	57.78	0.5778	2.3822	0.3463
		39	2.888	4.998	57.78	0.5778	2.3822	0.3463
		78	2.888	4.998	57.78	0.5778	2.3822	0.3463
	2-DH5	0	2.380	3.748	63.50	0.6350	1.9723	0.4202
		39	2.378	3.748	63.45	0.6345	1.9757	0.4205
		78	2.380	3.748	63.50	0.6350	1.9723	0.4202
8DPSK	3-DH1	0	1.145	1.250	91.65	0.9165	0.3787	0.8734
		39	1.145	1.250	91.65	0.9165	0.3787	0.8734
		78	1.145	1.249	91.64	0.9164	0.3791	0.8734
	3-DH3	0	0.386	2.498	15.47	0.1547	8.1051	2.5907
		39	0.386	2.498	15.47	0.1547	8.1051	2.5907
		78	0.386	2.498	15.47	0.1547	8.1051	2.5907
	3-DH5	0	2.888	3.748	77.05	0.7705	1.1323	0.3463
		39	2.888	3.748	77.05	0.7705	1.1323	0.3463
		78	2.888	3.748	77.05	0.7705	1.1323	0.3463

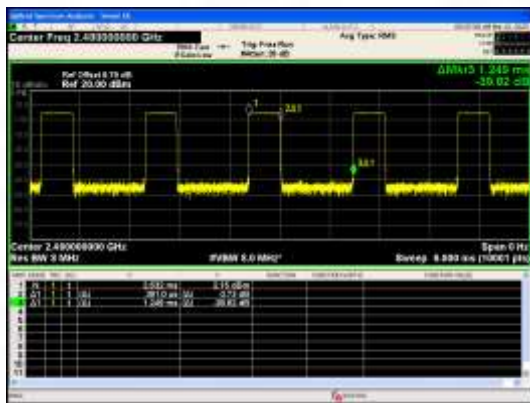
Test Graphs



GFSK(DH1)_Channel 0



GFSK(DH1)_Channel 39



GFSK(DH1)_Channel 78



GFSK(DH3)_Channel 0



GFSK(DH3)_Channel 39



GFSK(DH3)_Channel 78



GFSK(DH5)_Channel 0



GFSK(DH5)_Channel 39



GFSK(DH5)_Channel 78


 $\pi/4$ DQPSK(2-DH1)_Channel 0

 $\pi/4$ DQPSK(2-DH1)_Channel 39

 $\pi/4$ DQPSK(2-DH1)_Channel 78

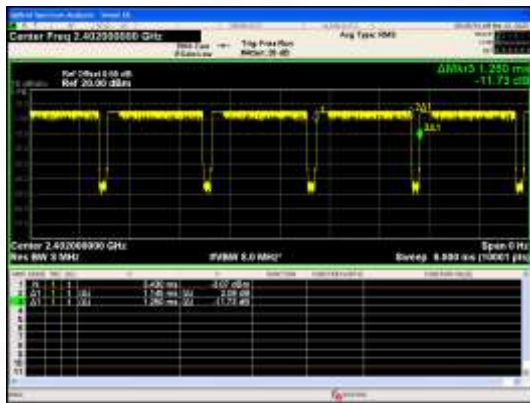
 $\pi/4$ DQPSK(2-DH3)_Channel 0

 $\pi/4$ DQPSK(2-DH3)_Channel 39

 $\pi/4$ DQPSK(2-DH3)_Channel 78

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

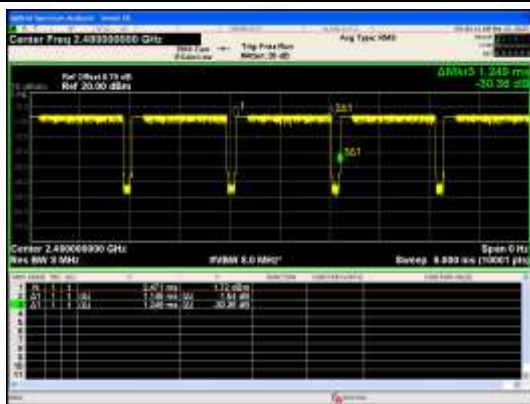

 $\pi/4$ DQPSK(2-DH5)_Channel 39

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


8DPSK(3-DH1)_Channel 0



8DPSK(3-DH1)_Channel 39



8DPSK(3-DH1)_Channel 78



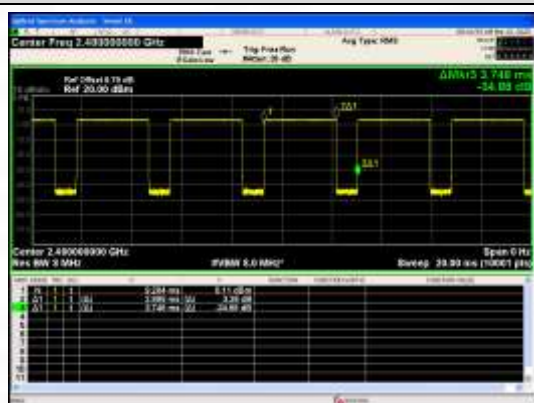
8DPSK(3-DH3)_Channel 0



8DPSK(3-DH3)_Channel 39



8DPSK(3-DH3)_Channel 78

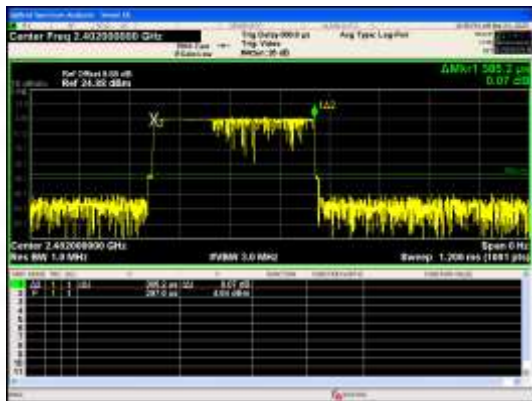


Dwell Time

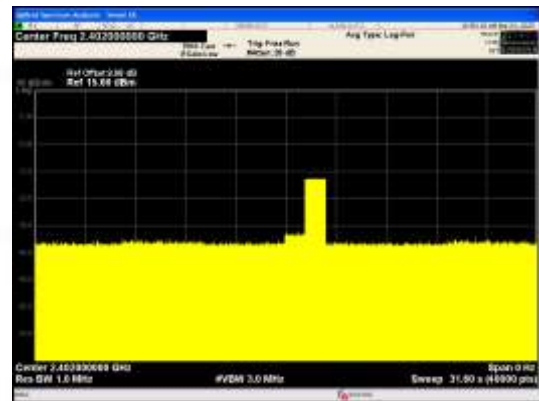
Test Result

Modulation	Packet	Channel	Pulse Width (ms)	Number of Pulses in 31.6 seconds	Dwell Time (ms)	Limit (ms)	Result
8DPSK	3-DH1	CH0(2402MHz)	0.3852	1	0.39	< 400	PASS
	3-DH1	CH39(2441MHz)	0.3708	1	0.37		PASS
	3-DH1	CH78(2480MHz)	0.3672	1	0.37		PASS

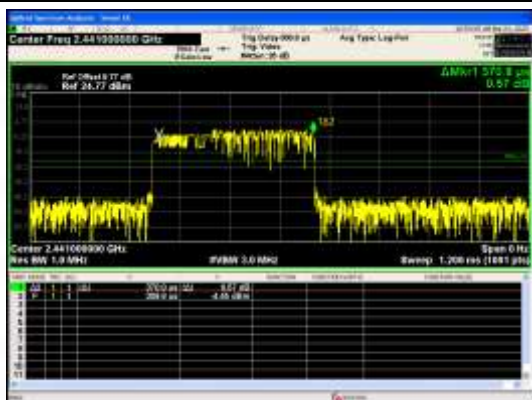
Test Graphs



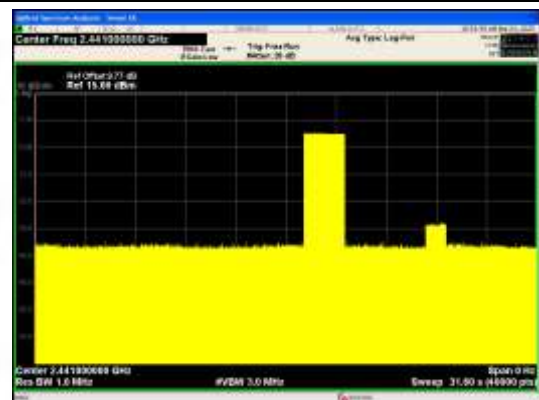
Pulse Width
8DPSK_3-DH1



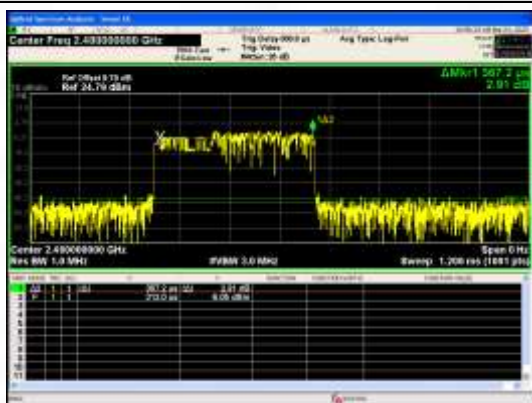
Number of Pulses in 31.6 seconds
8DPSK_3-DH1



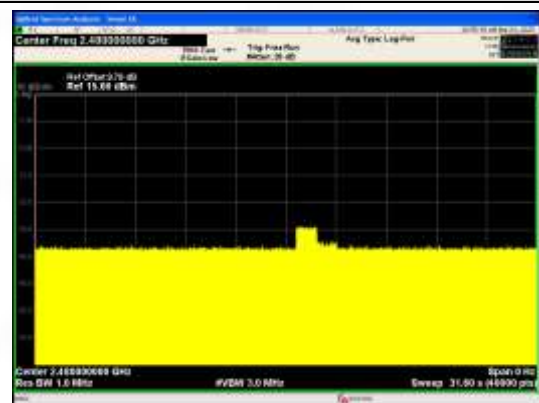
Pulse Width
8DPSK_3-DH1



Number of Pulses in 31.6 seconds
8DPSK_3-DH1



Pulse Width
8DPSK_3-DH1



Number of Pulses in 31.6 seconds
8DPSK_3-DH1

99% Bandwidth

Test Result

Modulation	Channel	Center Frequency (MHz)	99% BW (MHz)
GFSK	0	2402	0.82378
	39	2441	0.82192
	78	2480	0.82494
	0	2402	0.83769
	39	2441	0.84887
	78	2480	0.84697
	0	2402	0.84345
	39	2441	0.85904
	78	2480	0.84574
$\pi/4$ DQPSK	0	2402	1.1754
	39	2441	1.1715
	78	2480	1.1776
	0	2402	1.1989
	39	2441	1.1901
	78	2480	1.2044
	0	2402	1.1952
	39	2441	1.1902
	78	2480	1.2086
8DPSK	0	2402	1.2041
	39	2441	1.1930
	78	2480	1.1989
	0	2402	1.1618
	39	2441	1.1562
	78	2480	1.1513
	0	2402	1.2099
	39	2441	1.1997
	78	2480	1.2053

Test Graphs



GFSK_DH1_Channel 0



GFSK_DH3_Channel 0



GFSK_DH1_Channel 39



GFSK_DH3_Channel 39



GFSK_DH1_Channel 78



GFSK_DH3_Channel 78

20dB Bandwidth

Test Result

Modulation	Channel	Center Frequency (MHz)	20 dB Bandwidth (MHz)
GFSK	0	2402 MHz	0.8691
	39	2441 MHz	0.8570
	78	2480 MHz	0.8639
	0	2402 MHz	0.9382
	39	2441 MHz	0.9359
	78	2480 MHz	0.9379
	0	2402 MHz	0.9412
	39	2441 MHz	0.9415
	78	2480 MHz	0.9401
$\pi/4$ DQPSK	0	2402 MHz	1.256
	39	2441 MHz	1.258
	78	2480 MHz	1.253
	0	2402 MHz	1.308
	39	2441 MHz	1.286
	78	2480 MHz	1.283
	0	2402 MHz	1.286
	39	2441 MHz	1.281
	78	2480 MHz	1.288
8DPSK	0	2402 MHz	1.296
	39	2441 MHz	1.294
	78	2480 MHz	1.294
	0	2402 MHz	1.219
	39	2441 MHz	1.221
	78	2480 MHz	1.216
	0	2402 MHz	1.292
	39	2441 MHz	1.296
	78	2480 MHz	1.293

Test Graphs



GFSK_DH1_Channel 0



GFSK_DH1_Channel 39



GFSK_DH1_Channel 78



GFSK_DH3_Channel 0



GFSK_DH3_Channel 39



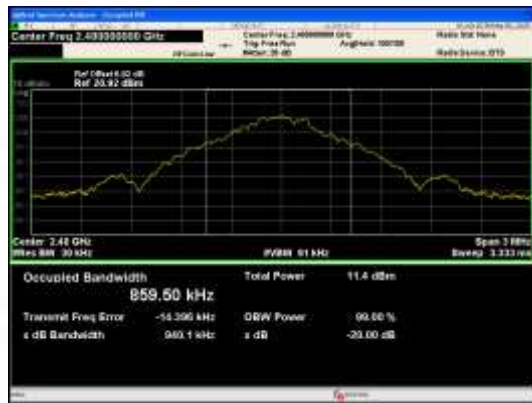
GFSK_DH3_Channel 78



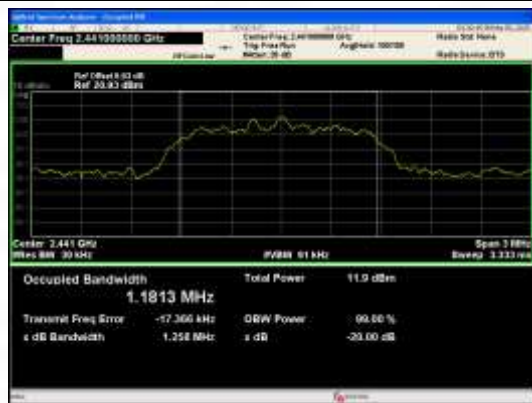
GFSK_DH5_Channel 0



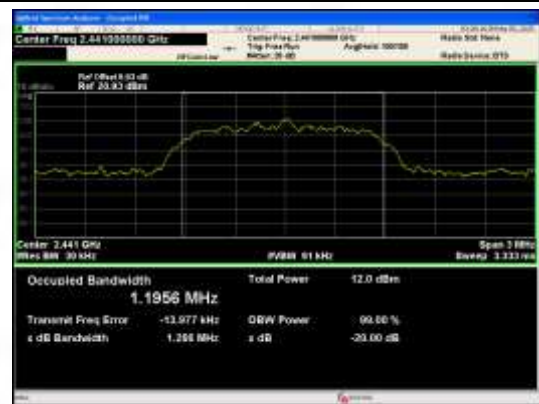
GFSK_DH5_Channel 39



GFSK_DH5_Channel 78

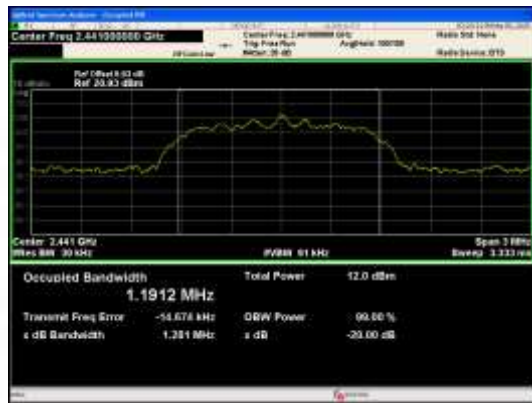

 $\pi/4$ DQPSK_2-DH1_Channel 0

 $\pi/4$ DQPSK_2-DH1_Channel 39

 $\pi/4$ DQPSK_2-DH1_Channel 78

 $\pi/4$ DQPSK_2-DH3_Channel 0

 $\pi/4$ DQPSK_2-DH3_Channel 39

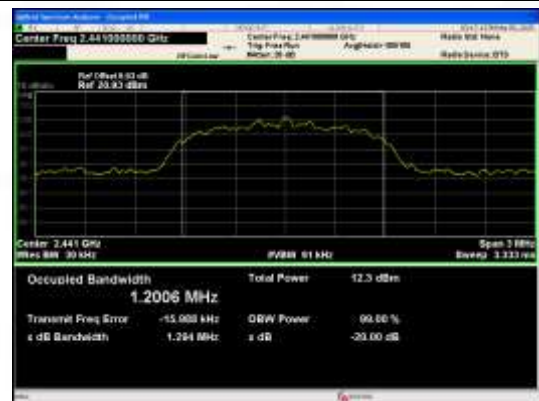
 $\pi/4$ DQPSK_2-DH3_Channel 78

 $\pi/4$ DQPSK_2-DH5_Channel 0


 $\pi/4$ DQPSK_2-DH5_Channel 39

 $\pi/4$ DQPSK_2-DH5_Channel 78


8DPSK_3-DH1_Channel 0



8DPSK_3-DH1_Channel 39



8DPSK_3-DH1_Channel 78



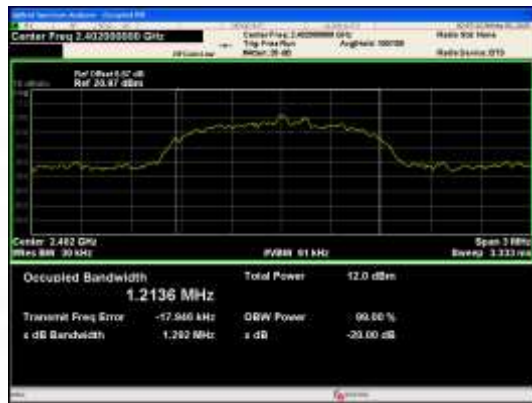
8DPSK_3-DH3_Channel 0



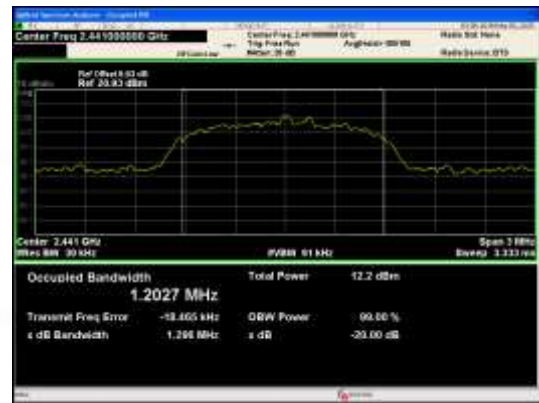
8DPSK_3-DH3_Channel 39



8DPSK_3-DH3_Channel 78



8DPSK_3-DH5_Channel 0



8DPSK_3-DH5_Channel 39



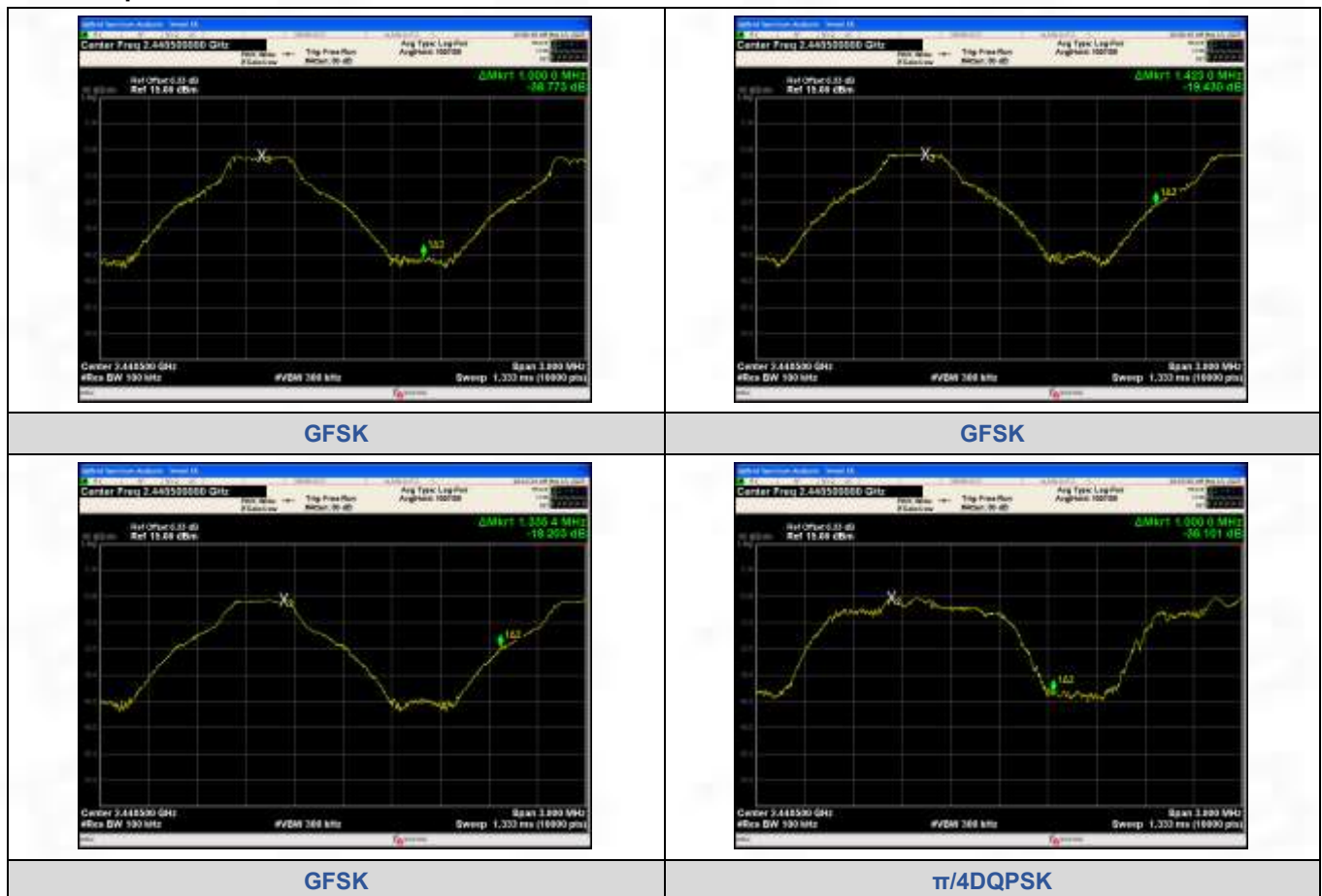
8DPSK_3-DH5_Channel 78

Carrier Frequency Separation

Test Result

Modulation	Packet	Left Center frequency (MHz)	Right Center frequency (MHz)	Hopping Frequency Separation (MHz)	Limit (MHz)	Result
GFSK	DH1	2439.9982	2441.4338	1	0.579	PASS
GFSK	DH3	2440.0459	2441.4689	1.4230	0.625	PASS
GFSK	DH5	2440.1353	2441.4707	1.3354	0.628	PASS
$\pi/4$ DQPSK	2-DH1	2439.8365	2441.5068	1	0.839	PASS
$\pi/4$ DQPSK	2-DH3	2439.8359	2441.6322	1.7963	0.872	PASS
$\pi/4$ DQPSK	2-DH5	2439.988	2441.6352	1.6472	0.859	PASS
8DPSK	3-DH1	2439.8389	2441.6145	1.7756	0.864	PASS
8DPSK	3-DH3	2439.9877	2441.4944	1.5068	0.814	PASS
8DPSK	3-DH5	2440.1464	2441.6094	1.4629	0.864	PASS

Test Graphs




 $\pi/4$ DQPSK

 $\pi/4$ DQPSK


8DPSK



8DPSK



8DPSK

Conducted Out Of Band Emission

Note:The maximum loss of the test system for testing at 30MHz-26.5GHz is 17.2dB. The offset on the test chart is the offset of the main frequency, and the margin is sufficient to offset the difference between the maximum loss of the system and the offset of the main frequency.

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	-46.581	-14.56	-32.021	PASS
			4803.64	-67.323	-14.56	-52.763	PASS
			7205.13	-67.700	-14.56	-53.140	PASS
			9608.49	-67.790	-14.56	-53.230	PASS
			24740.3	-54.867	-14.56	-40.306	PASS
		39	4881.05	-67.696	-14.49	-53.206	PASS
			7323.11	-67.853	-14.49	-53.363	PASS
			9763.31	-68.102	-14.49	-53.612	PASS
			24677.9	-54.021	-14.49	-39.531	PASS
		78	2483.50	-55.214	-15.91	-39.304	PASS
			4960.95	-67.314	-15.91	-51.404	PASS
			7439.85	-67.034	-15.91	-51.124	PASS
			9920.62	-68.963	-15.91	-53.053	PASS
			24936.3	-54.334	-15.91	-38.424	PASS
	DH3	0	2400.00	-53.105	-14.87	-38.235	PASS
			4804.26	-67.546	-14.87	-52.676	PASS
			7205.75	-66.743	-14.87	-51.873	PASS
			9607.87	-67.028	-14.87	-52.158	PASS
			24657.3	-54.748	-14.87	-39.878	PASS
		39	4881.67	-66.442	-14.71	-51.732	PASS
			7323.11	-68.417	-14.71	-53.707	PASS
			9763.31	-68.008	-14.71	-53.298	PASS
			24715.3	-55.433	-14.71	-40.723	PASS
		78	2483.50	-55.618	-15.71	-39.908	PASS
			4959.70	-67.602	-15.71	-51.892	PASS
			7439.22	-67.689	-15.71	-51.979	PASS
			9919.37	-69.523	-15.71	-53.813	PASS
			24619.8	-54.577	-15.71	-38.867	PASS
	DH5	0	2400.00	-47.146	-14.74	-32.406	PASS
			4803.02	-67.103	-14.74	-52.363	PASS
			7205.75	-65.667	-14.74	-50.927	PASS
			9608.49	-67.158	-14.74	-52.418	PASS
			24558.7	-54.420	-14.74	-39.680	PASS

π/4DQPSK		39	4881.05	-67.734	-14.55	-53.184	PASS
			7323.74	-67.966	-14.55	-53.416	PASS
			9764.55	-67.959	-14.55	-53.409	PASS
			24407.6	-54.357	-14.55	-39.807	PASS
		78	2483.50	-55.374	-15.86	-39.514	PASS
			4960.95	-67.621	-15.86	-51.761	PASS
			7439.85	-67.469	-15.86	-51.609	PASS
			9919.99	-68.271	-15.86	-52.411	PASS
			24831.5	-54.421	-15.86	-38.561	PASS
	2-DH1	0	2400.00	-45.287	-15.04	-30.247	PASS
			4803.64	-66.869	-15.04	-51.829	PASS
			7205.13	-66.090	-15.04	-51.050	PASS
			9607.24	-67.991	-15.04	-52.951	PASS
			24776.5	-55.093	-15.04	-40.053	PASS
		39	4881.67	-68.395	-15.13	-53.265	PASS
			7322.49	-67.522	-15.13	-52.392	PASS
			9763.93	-67.867	-15.13	-52.737	PASS
			24706.0	-55.331	-15.13	-40.201	PASS
		78	2483.50	-56.480	-15.94	-40.540	PASS
			4960.33	-67.357	-15.94	-51.417	PASS
			7439.85	-68.835	-15.94	-52.895	PASS
			9920.62	-67.958	-15.94	-52.018	PASS
			24692.9	-55.117	-15.94	-39.177	PASS
	2-DH3	0	2398.49	-44.145	-15.98	-28.165	PASS
			2400.00	-46.334	-15.98	-30.354	PASS
			4803.60	-67.653	-15.98	-51.673	PASS
			7205.10	-67.534	-15.98	-51.554	PASS
			9607.20	-67.936	-15.98	-51.956	PASS
			24693.5	-54.950	-15.98	-38.971	PASS
		39	4881.05	-66.937	-15.26	-51.677	PASS
			7322.49	-67.680	-15.26	-52.420	PASS
			9763.93	-68.237	-15.26	-52.977	PASS
			24641.1	-54.615	-15.26	-39.355	PASS
		78	2483.50	-46.715	-16.1	-30.615	PASS
			2486.42	-51.354	-16.1	-35.254	PASS
			4959.70	-67.455	-16.1	-51.355	PASS
			7440.47	-68.132	-16.1	-52.032	PASS
			9919.99	-70.251	-16.1	-54.151	PASS
	2-DH5	0	2400.00	-45.924	-15.3	-30.624	PASS
			4804.89	-67.664	-15.3	-52.364	PASS
			7205.13	-68.434	-15.3	-53.134	PASS
			9608.49	-68.682	-15.3	-53.382	PASS
			24848.3	-55.165	-15.3	-39.865	PASS
		39	4881.67	-67.563	-15.33	-52.233	PASS
			7323.11	-66.794	-15.33	-51.464	PASS

			9764.55	-68.783	-15.33	-53.453	PASS
			24922.0	-55.044	-15.33	-39.714	PASS
		78	2483.50	-55.429	-16.1	-39.329	PASS
			4959.08	-67.944	-16.1	-51.844	PASS
			7439.85	-69.419	-16.1	-53.319	PASS
			9920.62	-69.894	-16.1	-53.794	PASS
			24959.4	-54.394	-16.1	-38.294	PASS
8DPSK	3-DH1	0	2397.16	-49.111	-15.46	-33.651	PASS
			2400.00	-35.955	-15.46	-20.495	PASS
			4804.89	-68.102	-15.46	-52.642	PASS
			7206.38	-67.520	-15.46	-52.060	PASS
			9607.87	-67.642	-15.46	-52.182	PASS
		39	4882.30	-67.001	-15.27	-51.731	PASS
			7323.11	-68.517	-15.27	-53.247	PASS
			9763.31	-69.616	-15.27	-54.346	PASS
			24702.2	-54.285	-15.27	-39.015	PASS
		78	2483.50	-49.196	-16.42	-32.776	PASS
			2487.05	-53.638	-16.42	-37.218	PASS
			4959.70	-68.230	-16.42	-51.809	PASS
			7439.22	-67.338	-16.42	-50.918	PASS
			9919.37	-70.010	-16.42	-53.590	PASS
	3-DH3	0	2400.00	-45.874	-15.21	-30.664	PASS
			4803.02	-66.691	-15.21	-51.481	PASS
			7205.75	-67.160	-15.21	-51.950	PASS
			9608.49	-66.133	-15.21	-50.923	PASS
			24711.0	-55.321	-15.21	-40.111	PASS
		39	4881.05	-67.624	-15.26	-52.364	PASS
			7323.74	-68.464	-15.26	-53.204	PASS
			9763.31	-69.582	-15.26	-54.322	PASS
			24740.3	-55.142	-15.26	-39.882	PASS
		78	2483.50	-55.016	-16.19	-38.826	PASS
			4959.70	-69.324	-16.19	-53.134	PASS
			7440.47	-69.211	-16.19	-53.021	PASS
			9919.37	-70.603	-16.19	-54.413	PASS
			24655.4	-53.989	-16.19	-37.799	PASS
	3-DH5	0	2400.00	-45.454	-15.22	-30.234	PASS
			4803.64	-67.602	-15.22	-52.382	PASS
			7206.38	-66.953	-15.22	-51.733	PASS
			9607.24	-68.196	-15.22	-52.976	PASS
			24729.1	-54.489	-15.22	-39.269	PASS
		39	4882.92	-65.683	-15.24	-50.443	PASS
			7323.74	-68.795	-15.24	-53.555	PASS
			9763.31	-70.020	-15.24	-54.780	PASS
			24727.2	-55.392	-15.24	-40.152	PASS
		78	2483.50	-55.951	-16.15	-39.801	PASS

			4959.08	-64.551	-16.15	-48.401	PASS
			7439.22	-69.155	-16.15	-53.005	PASS
			9919.99	-68.776	-16.15	-52.626	PASS
			24707.2	-54.657	-16.15	-38.507	PASS

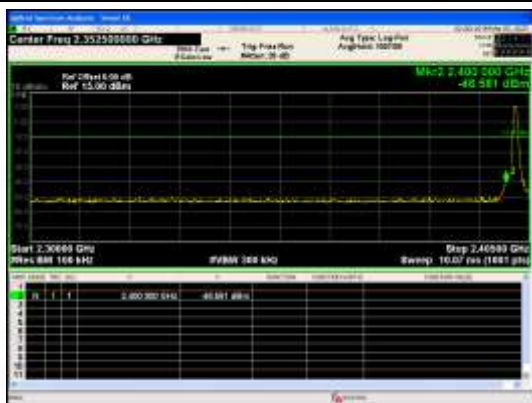
Test Graphs



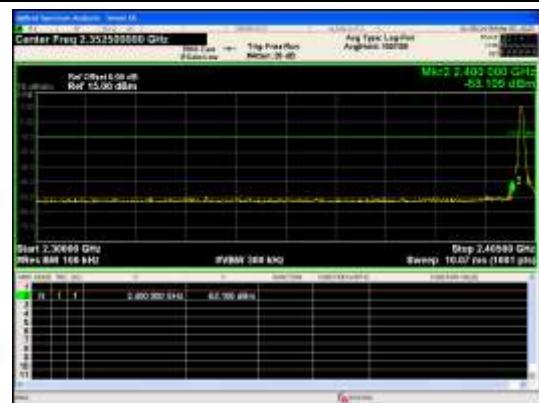
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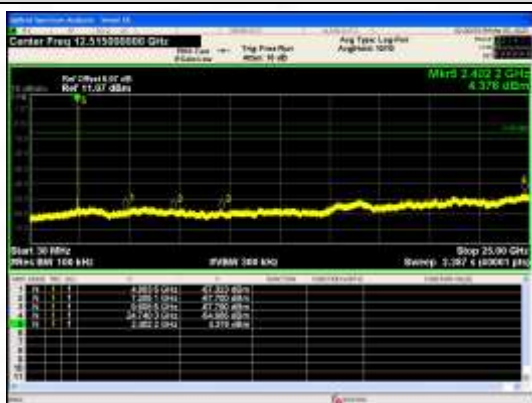
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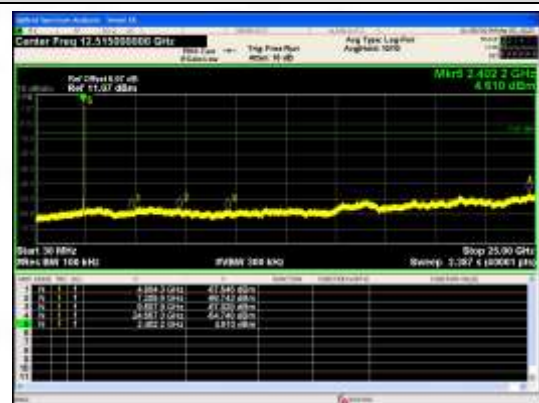
Out Of Band Emission
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Out Of Band Emission
GFSK_DH3_Channel 0



30.0 MHz - 25000.0 MHz
GFSK_DH1_Channel 0



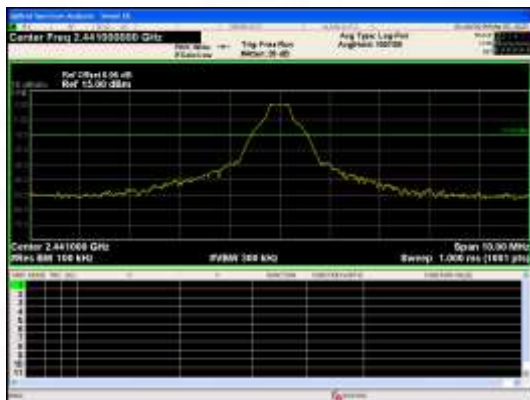
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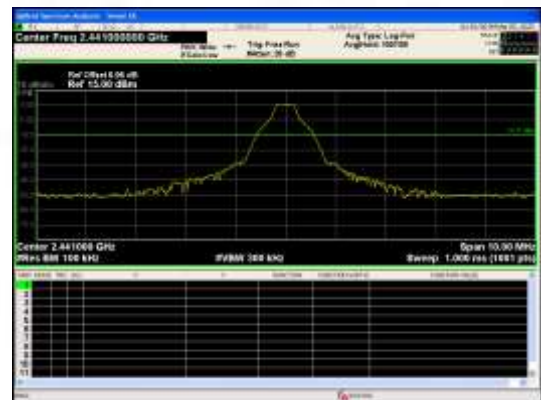
In-Band Reference Level
GFSK_DH1_Channel 39



In-Band Reference Level
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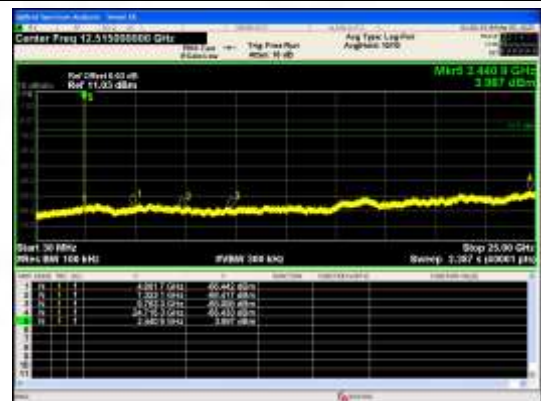
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GFSK_DH1_Channel 39



Out Of Band Emission
GFSK_DH3_Channel 39



30.0 MHz - 25000.0 MHz
GFSK_DH1_Channel 39



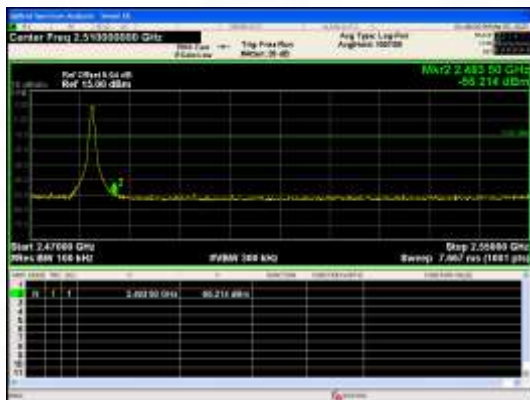
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GFSK_DH3_Channel 39



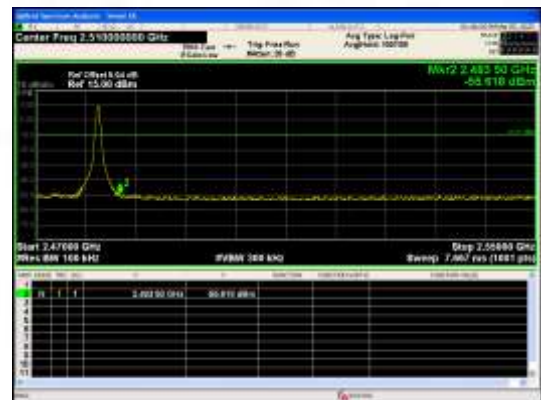
In-Band Reference Level
GFSK_DH1_Channel 78



In-Band Reference Level
GFSK_DH3_Channel 78



Out Of Band Emission
GFSK_DH1_Channel 78



Out Of Band Emission
GFSK_DH3_Channel 78



30.0 MHz - 25000.0 MHz
GFSK_DH1_Channel 78



30.0 MHz - 25000.0 MHz
GFSK_DH3_Channel 78

*****END OF APPENDIX*****