

Appendix A Test Data:

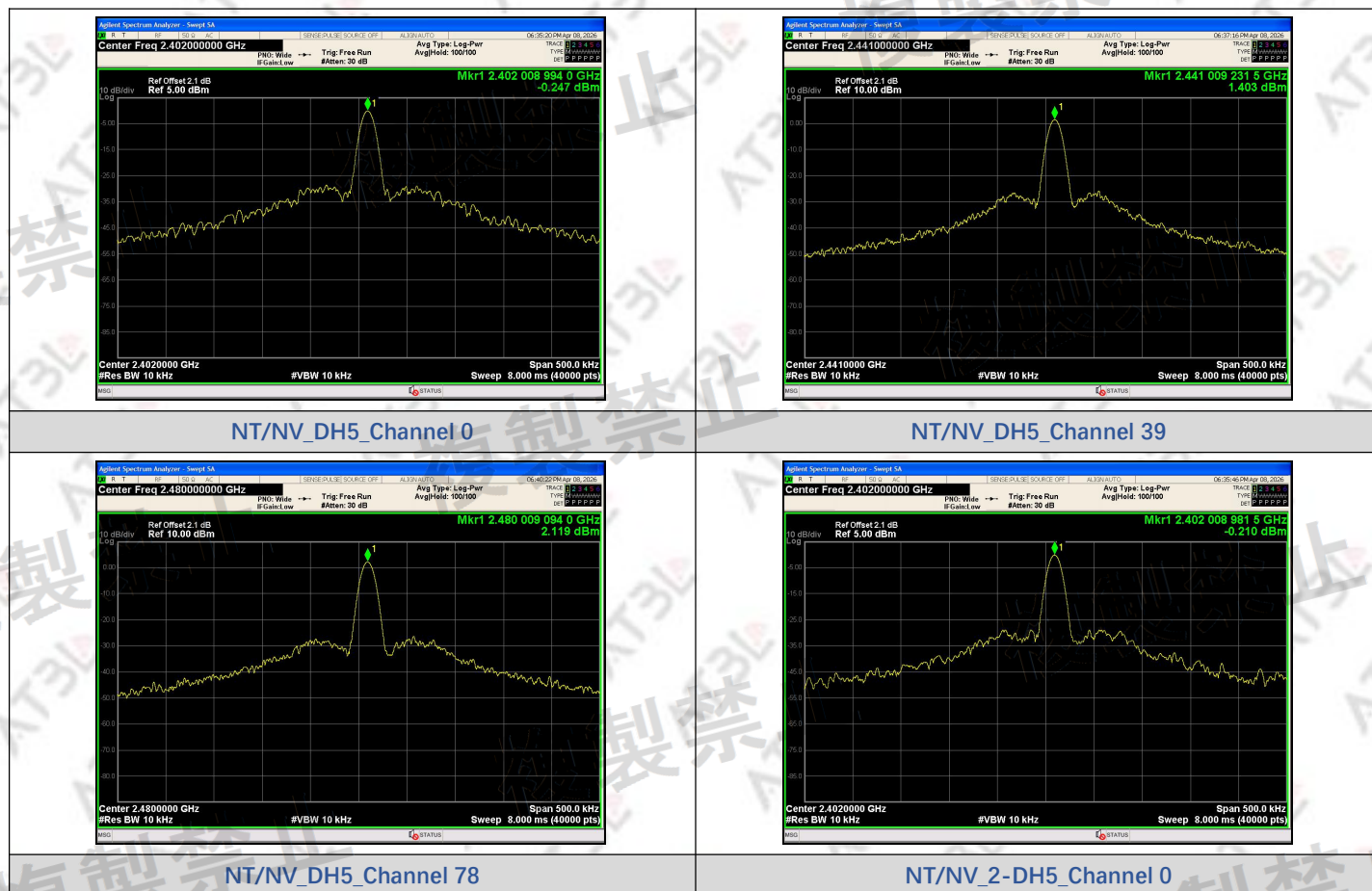
A1.Frequency Tolerance Measurement

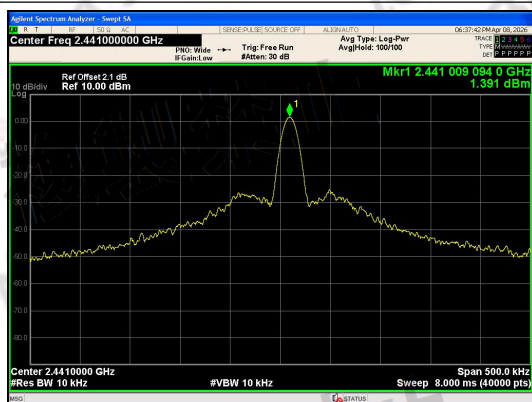
Test Result

Condition	Mode	Ch.	Center Frequency (MHz)	Measured Value (MHz)	Result (ppm)	Limit (ppm)	Result
NT/NV	GFSK(CW)	0	2402	2402.0089940	3.74	± 50	PASS
NT/NV	GFSK(CW)	39	2441	2441.0092315	3.78	± 50	PASS
NT/NV	GFSK(CW)	78	2480	2480.0090940	3.67	± 50	PASS
NT/NV	$\pi/4$ DQPSK(CW)	0	2402	2402.0089815	3.74	± 50	PASS
NT/NV	$\pi/4$ DQPSK(CW)	39	2441	2441.0090940	3.73	± 50	PASS
NT/NV	$\pi/4$ DQPSK(CW)	78	2480	2480.0091565	3.69	± 50	PASS
NT/NV	8DPSK(CW)	0	2402	2402.0089065	3.71	± 50	PASS
NT/NV	8DPSK(CW)	39	2441	2441.0087315	3.58	± 50	PASS
NT/NV	8DPSK(CW)	78	2480	2480.0090690	3.66	± 50	PASS

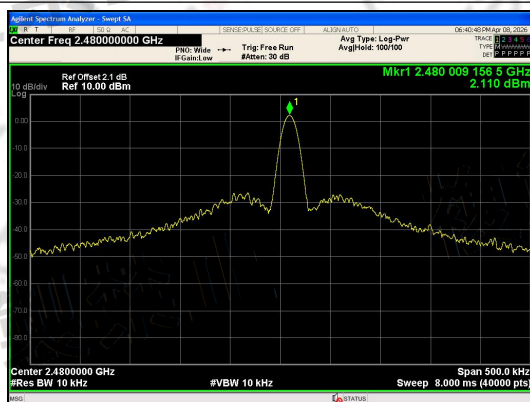
Test Graphs

NT/NV

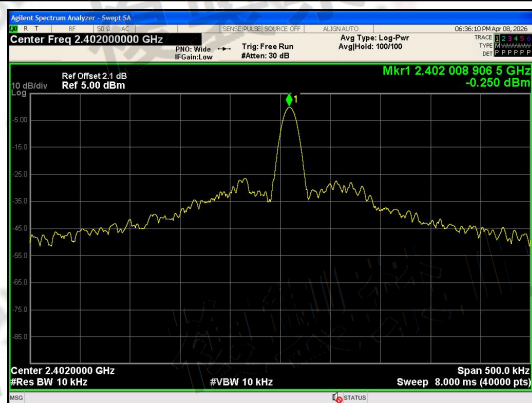




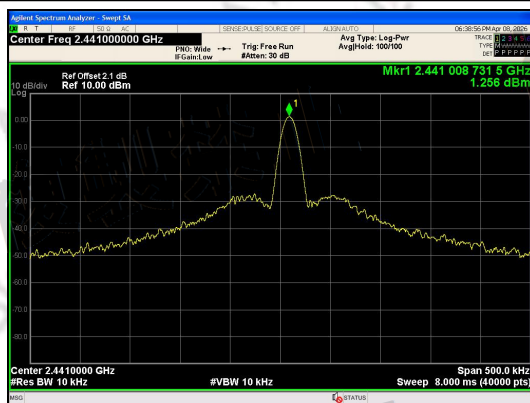
NT/NV_2-DH5_Channel 39



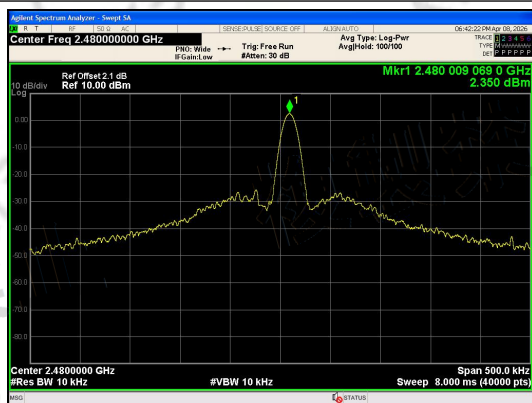
NT/NV_2-DH5_Channel 78



NT/NV_3-DH5_Channel 0



NT/NV_3-DH5_Channel 39



NT/NV_3-DH5_Channel 78

A2.Occupied bandwidth (99% power bandwidth)

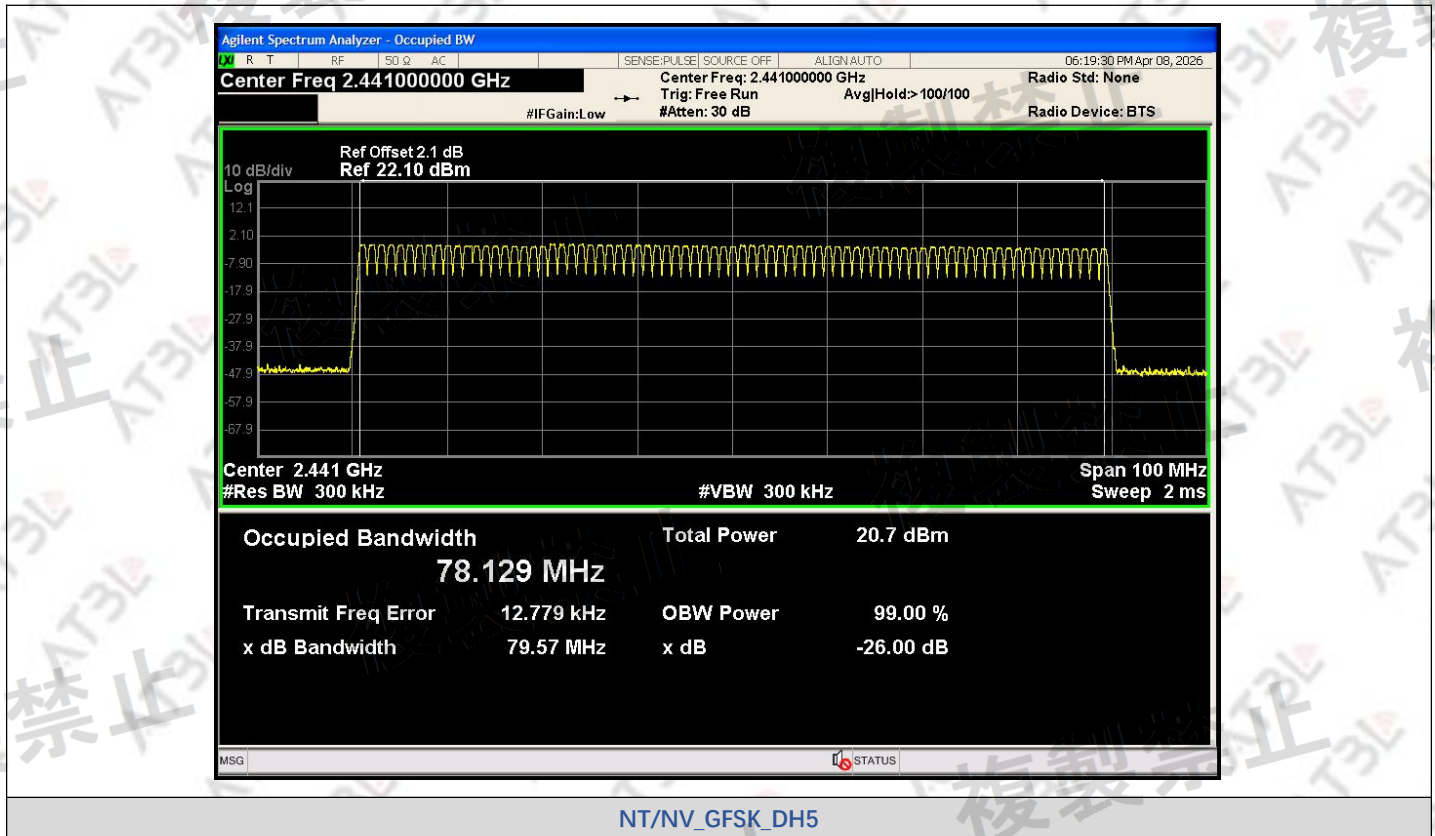
Test Result

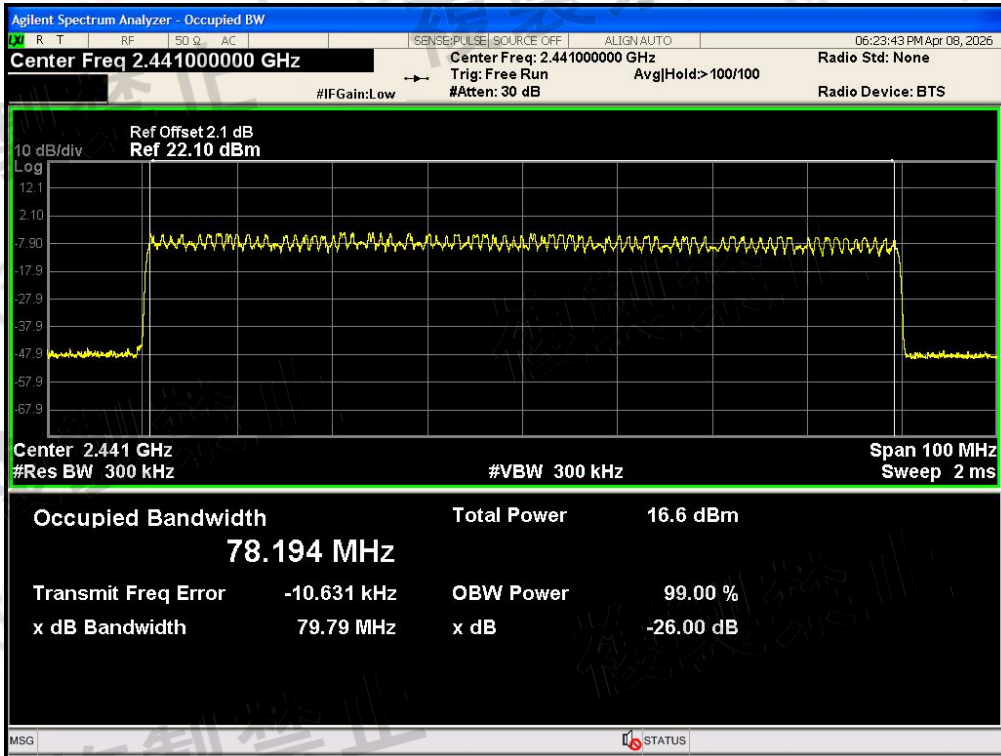
Normal Mode

Condition	Modulation	99% BW (MHz)	Limit (MHz)	Result
NT/NV	GFSK_DH5	78.129	≤83.5	PASS
	$\pi/4$ DQPSK_2-DH5	78.194		PASS
	8DPSK_3-DH5	78.156		PASS

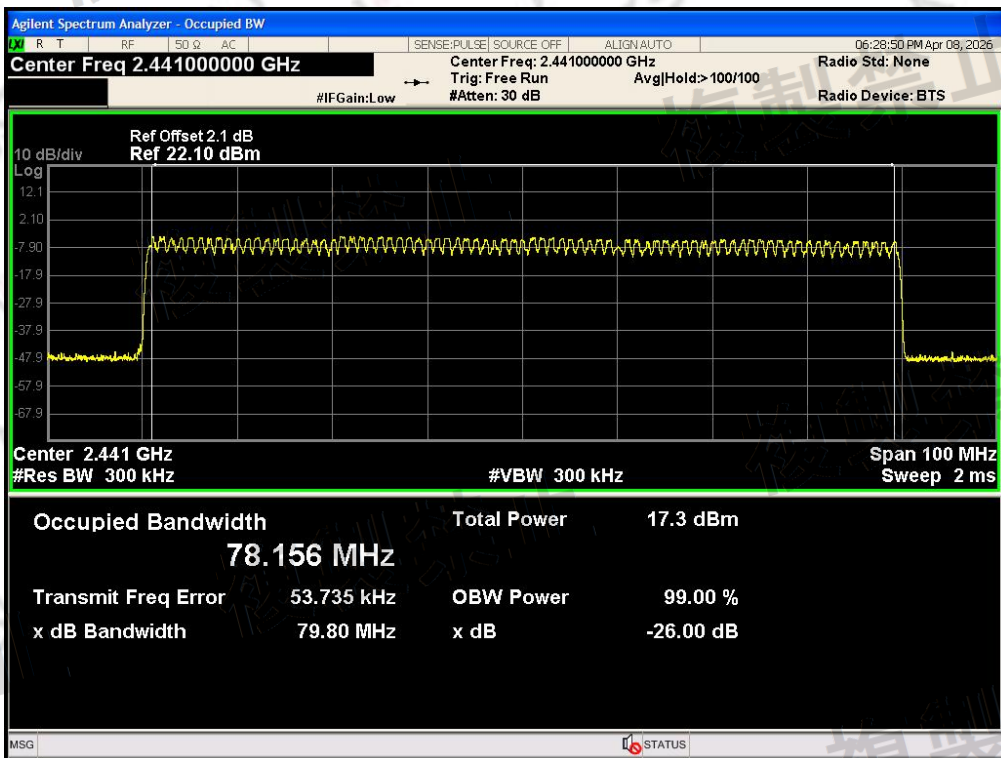
Test Graphs

Normal Mode





NT/NV_π/4DQPSK_2-DH5



NT/NV_8DPSK_3-DH5

A3.Spreading bandwidth (90% power bandwidth)

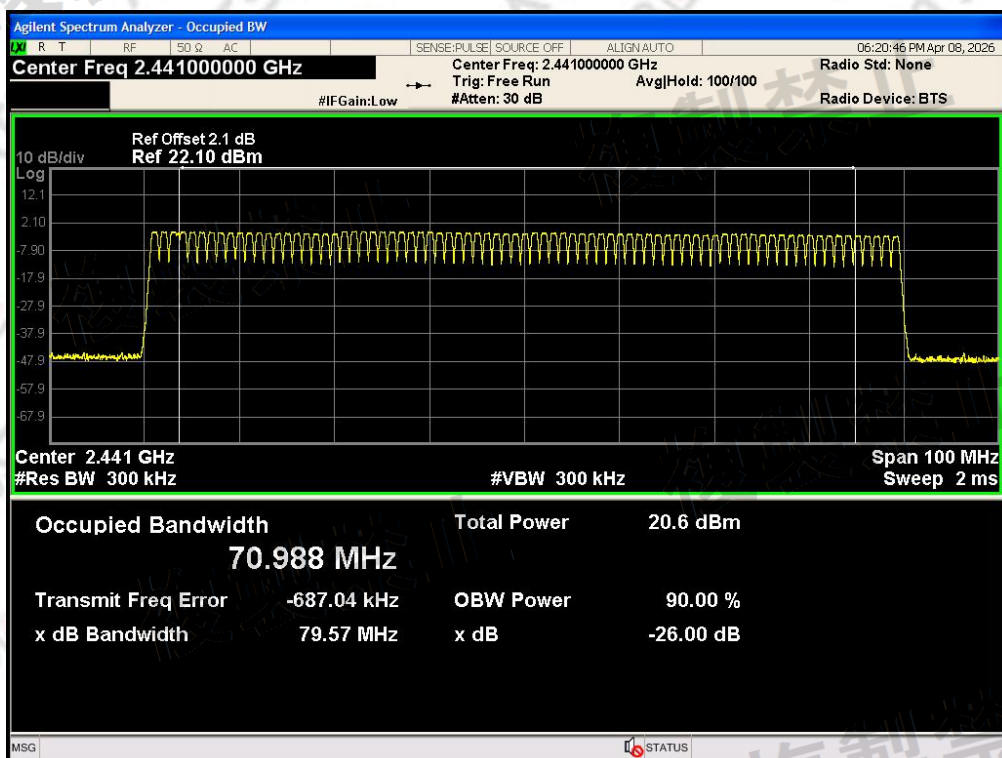
Test Result

Normal Mode

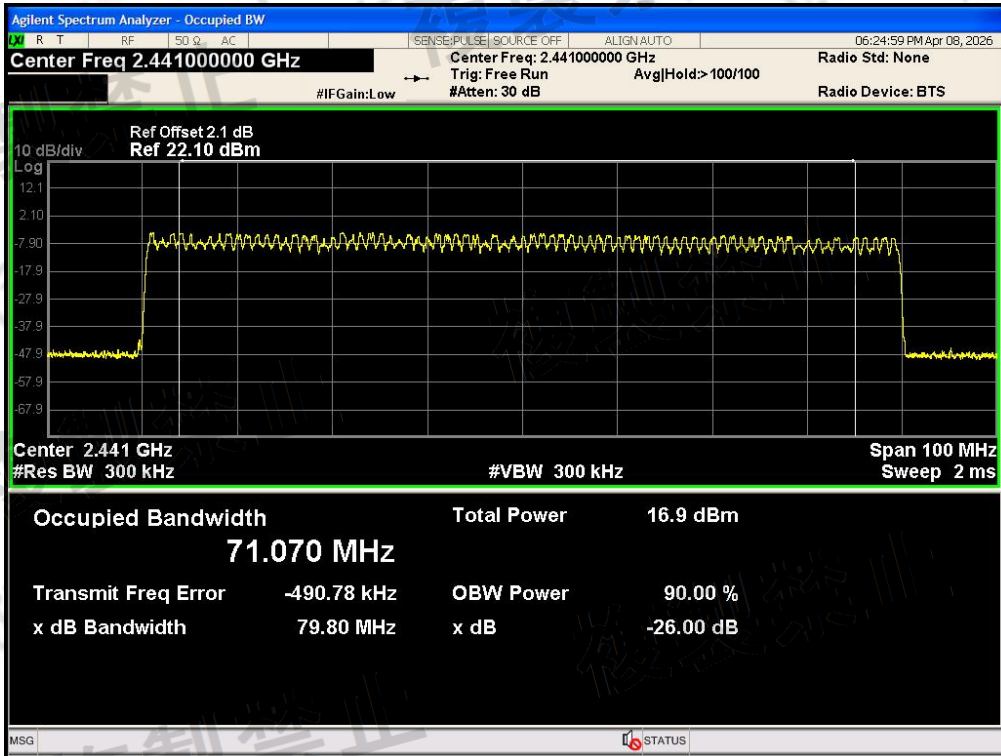
Condition	Mode	90% SBW (MHz)	Result
NT/NV	GFSK_DH5	70.988	PASS
NT/NV	$\pi/4$ DQPSK_2-DH5	71.070	PASS
NT/NV	8DPSK_3-DH5	70.733	PASS

Test Graphs

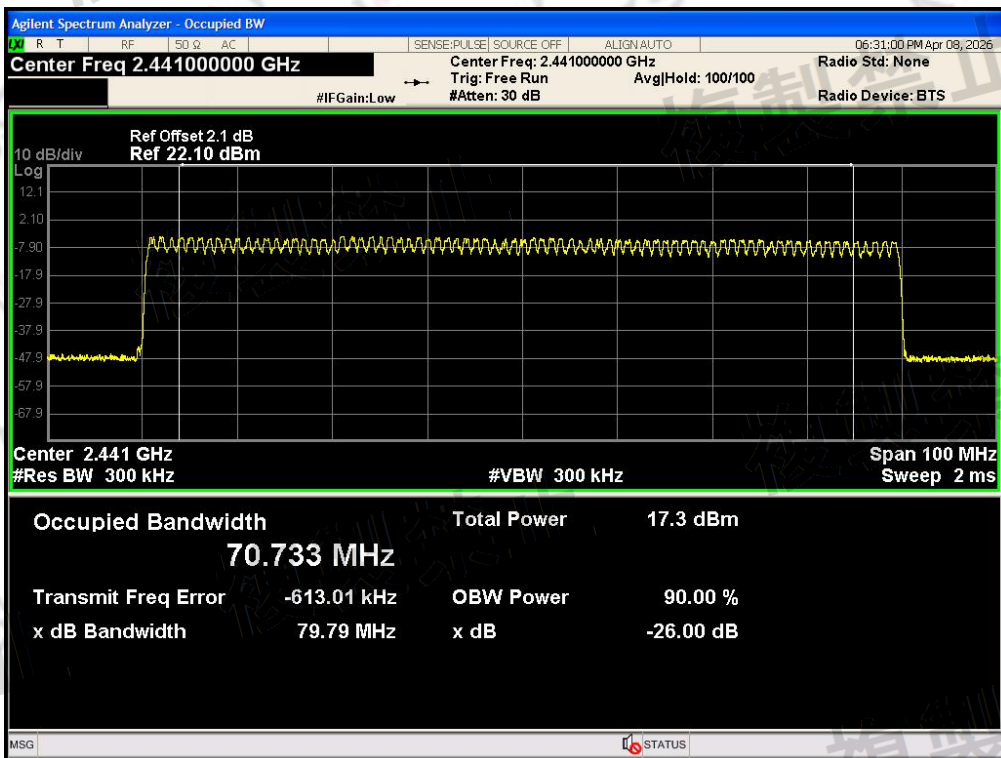
Normal Mode



NT/NV_GFSK_DH5



NT/NV_π/4DQPSK_2-DH5



NT/NV_8DPSK_3-DH5

A4.Spurious emissions for transmitter measurement

Test Result
GFSK_DH5

Condition	Channel	Frequency Range	Peak (MHz)	Measured Value (dBm)		Limit (uW)	Result
				dBm	uW		
NT/NV	0	30 to 2387	33.300	-40.611	0.087	≤2.5	PASS
		2387 to 2400	2399.997	-40.322	0.093	≤25	PASS
		2483.5 to 2496.5	2491.165	-51.976	0.006	≤25	PASS
		2496.5 to 12500	4804.923	-48.483	0.014	≤2.5	PASS
NT/NV	39	30 to 2387	33.418	-41.279	0.074	≤2.5	PASS
		2387 to 2400	2393.281	-48.769	0.013	≤25	PASS
		2483.5 to 2496.5	2489.043	-50.926	0.008	≤25	PASS
		2496.5 to 12500	4882.954	-49.244	0.012	≤2.5	PASS
NT/NV	78	30 to 2387	32.475	-41.243	0.075	≤2.5	PASS
		2387 to 2400	2394.048	-51.647	0.007	≤25	PASS
		2483.5 to 2496.5	2490.705	-48.005	0.016	≤25	PASS
		2496.5 to 12500	5177.072	-44.536	0.035	≤2.5	PASS

π/4DQPSK_2-DH5

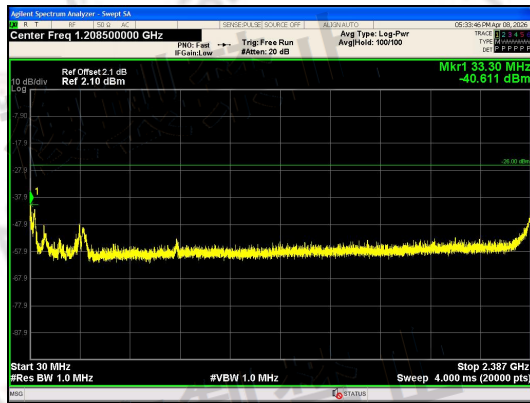
Condition	Channel	Frequency Range	Peak (MHz)	Measured Value (dBm)		Limit (uW)	Result
				dBm	uW		
NT/NV	0	30 to 2387	33.064	-40.871	0.082	≤2.5	PASS
		2387 to 2400	2399.982	-39.485	0.113	≤25	PASS
		2483.5 to 2496.5	2487.364	-52.550	0.006	≤25	PASS
		2496.5 to 12500	5203.082	-45.838	0.026	≤2.5	PASS
NT/NV	39	30 to 2387	33.536	-41.549	0.07	≤2.5	PASS
		2387 to 2400	2393.398	-50.592	0.009	≤25	PASS
		2483.5 to 2496.5	2485.932	-52.111	0.006	≤25	PASS
		2496.5 to	2548.521	-53.538	0.004	≤2.5	PASS

		12500					
NT/NV	78	30 to 2387	33.536	-40.847	0.082	≤2.5	PASS
		2387 to 2400	2387.798	-51.741	0.007	≤25	PASS
		2483.5 to 2496.5	2492.147	-48.143	0.015	≤25	PASS
		2496.5 to 12500	5226.091	-51.237	0.008	≤2.5	PASS

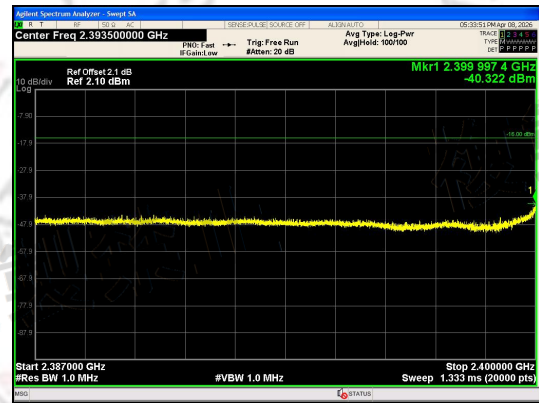
8DQPSK_3-DH5

Condition	Channel	Frequency Range	Peak (MHz)	Measured Value (dBm)		Limit (uW)	Result
				dBm	uW		
NT/NV	0	30 to 2387	33.064	-40.954	0.08	≤2.5	PASS
		2387 to 2400	2399.992	-39.424	0.114	≤25	PASS
		2483.5 to 2496.5	2493.142	-51.563	0.007	≤25	PASS
		2496.5 to 12500	4804.423	-53.054	0.005	≤2.5	PASS
NT/NV	39	30 to 2387	33.654	-40.677	0.086	≤2.5	PASS
		2387 to 2400	2392.712	-52.594	0.006	≤25	PASS
		2483.5 to 2496.5	2495.360	-48.764	0.013	≤25	PASS
		2496.5 to 12500	2496.500	-51.600	0.007	≤2.5	PASS
NT/NV	78	30 to 2387	32.593	-41.137	0.077	≤2.5	PASS
		2387 to 2400	2394.948	-51.170	0.008	≤25	PASS
		2483.5 to 2496.5	2487.581	-47.238	0.019	≤25	PASS
		2496.5 to 12500	5220.089	-50.753	0.008	≤2.5	PASS

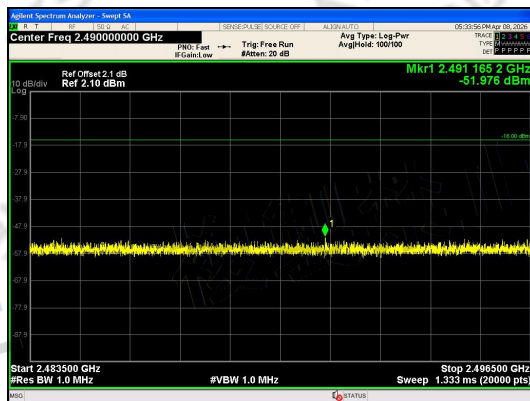
Test Graphs



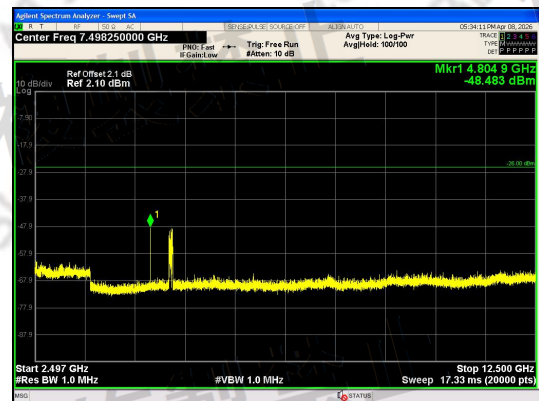
30 to 2387MHz
NT/NV_GFSK_DH5_Channel 0



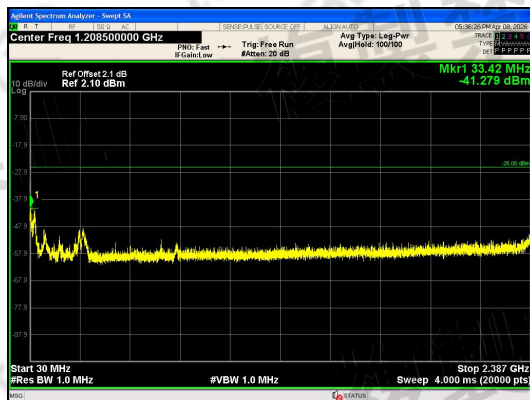
2387 to 2400MHz
NT/NV_GFSK_DH5_Channel 0



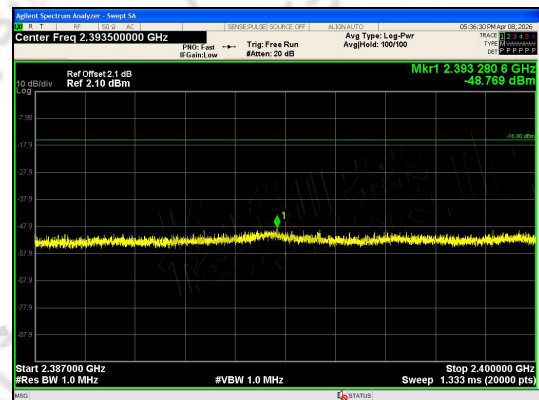
2483.5 to 2496.5MHz
NT/NV_GFSK_DH5_Channel 0



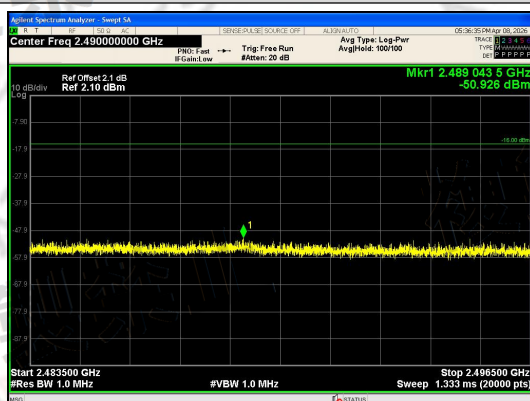
2496.5 to 12500MHz
NT/NV_GFSK_DH5_Channel 0



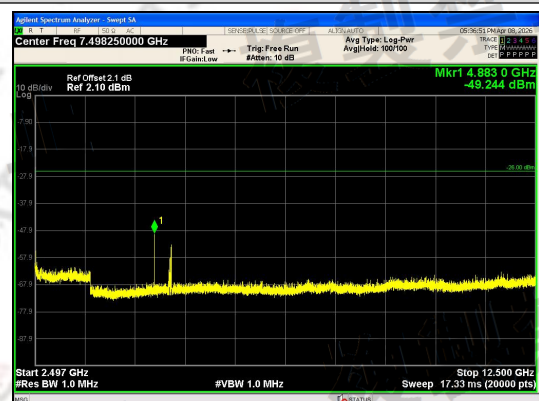
30 to 2387MHz
NT/NV_GFSK_DH5_Channel 39



2387 to 2400MHz
NT/NV_GFSK_DH5_Channel 39

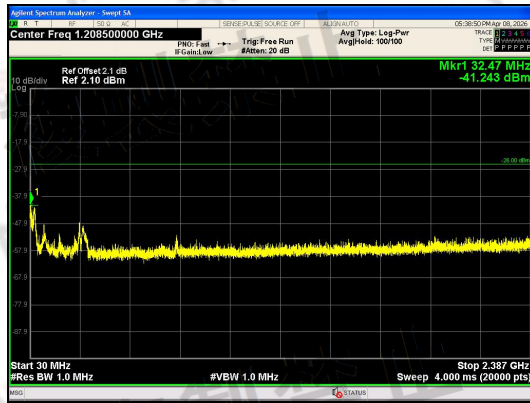


2483.5 to 2496.5MHz

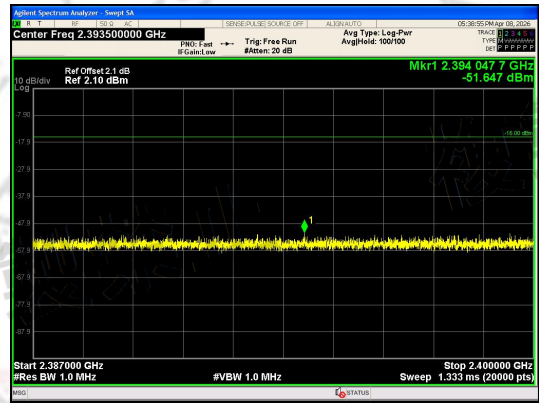


2496.5 to 12500MHz

NT/NV_GFSK_DH5_Channel 39

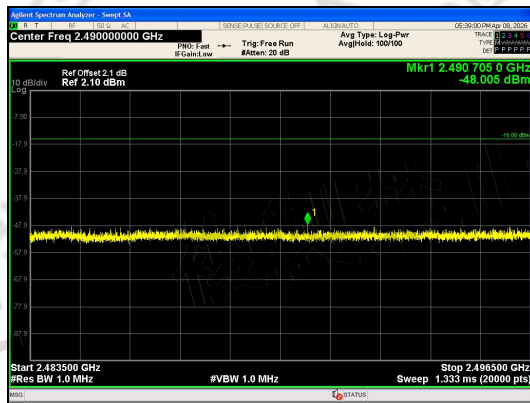


NT/NV_GFSK_DH5_Channel 39



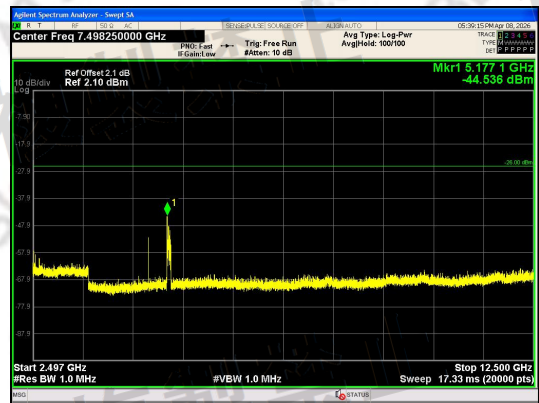
30 to 2387MHz

NT/NV_GFSK_DH5_Channel 78



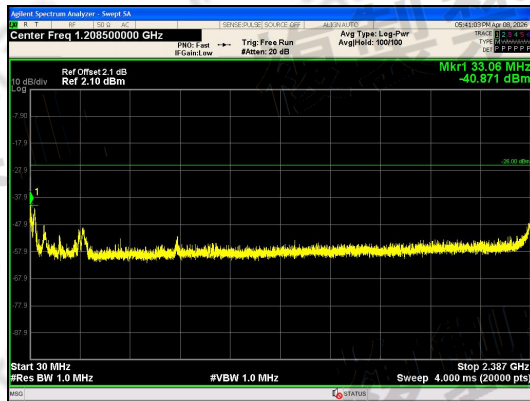
2387 to 2400MHz

NT/NV_GFSK_DH5_Channel 78



2483.5 to 2496.5MHz

NT/NV_GFSK_DH5_Channel 78



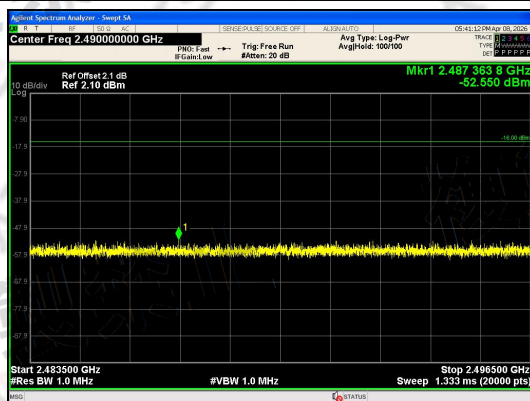
2496.5 to 12500MHz

NT/NV_GFSK_DH5_Channel 78



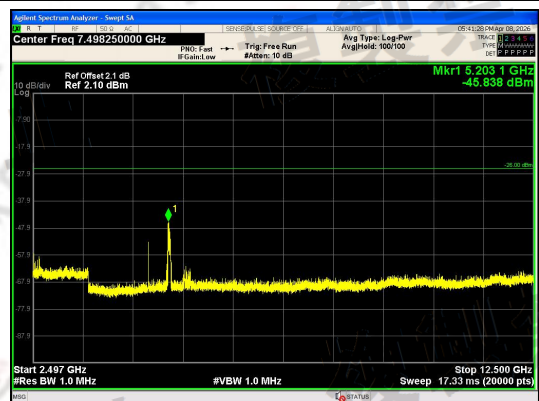
30 to 2387MHz

NT/NV_π/4DQPSK_2-DH5_Channel 0



2387 to 2400MHz

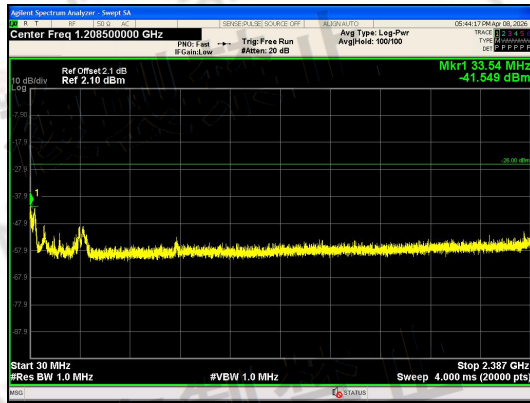
NT/NV_π/4DQPSK_2-DH5_Channel 0



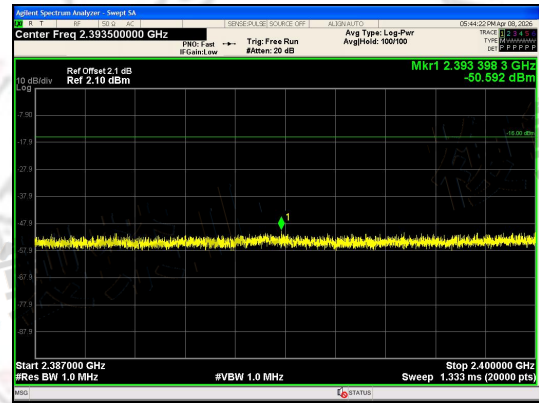
2483.5 to 2496.5MHz

2496.5 to 12500MHz

NT/NV_π/4DQPSK_2-DH5_Channel 0

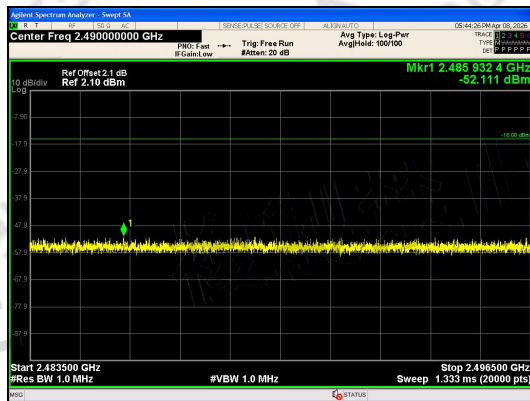


NT/NV_π/4DQPSK_2-DH5_Channel 0



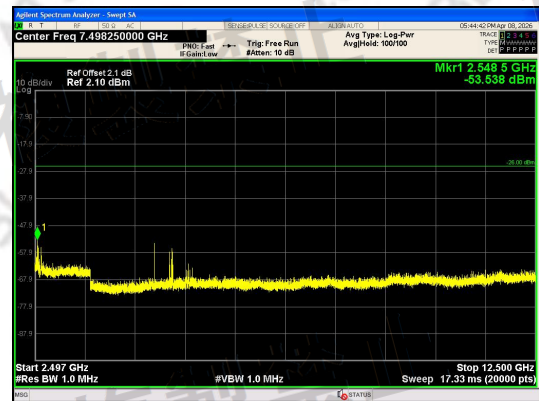
30 to 2387MHz

NT/NV_π/4DQPSK_2-DH5_Channel 39



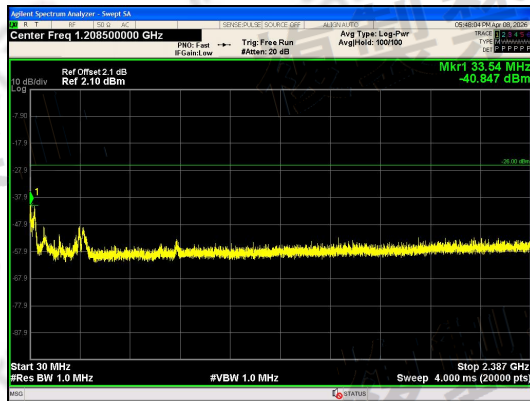
2387 to 2400MHz

NT/NV_π/4DQPSK_2-DH5_Channel 39



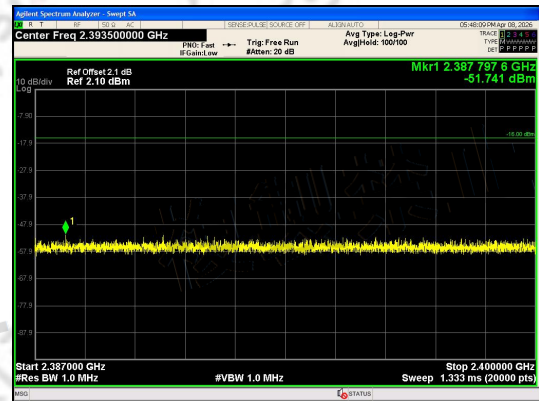
2483.5 to 2496.5MHz

NT/NV_π/4DQPSK_2-DH5_Channel 39



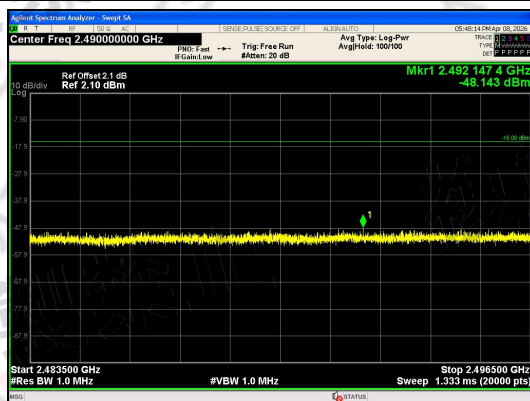
2496.5 to 12500MHz

NT/NV_π/4DQPSK_2-DH5_Channel 39



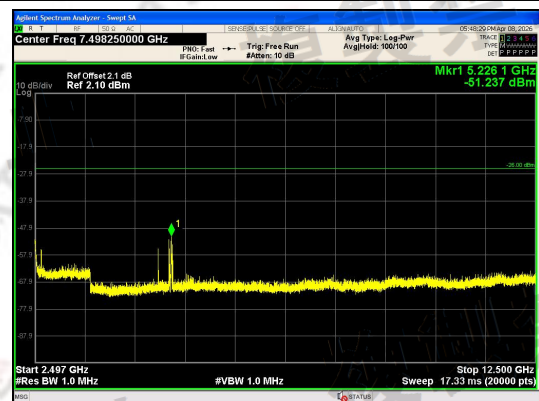
30 to 2387MHz

NT/NV_π/4DQPSK_2-DH5_Channel 78



2387 to 2400MHz

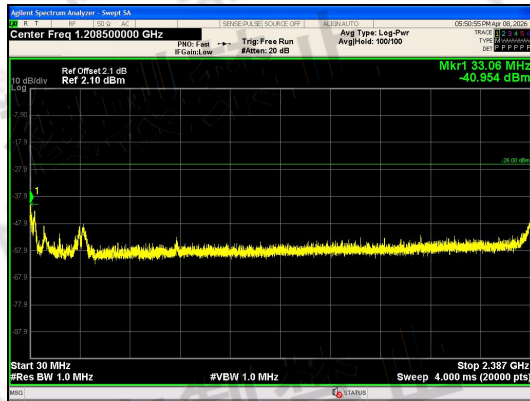
NT/NV_π/4DQPSK_2-DH5_Channel 78



2483.5 to 2496.5MHz

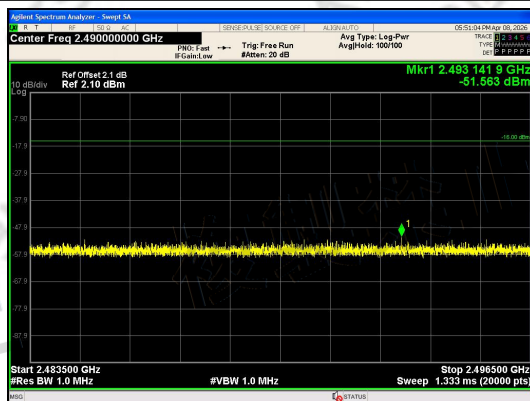
2496.5 to 12500MHz

NT/NV_π/4DQPSK_2-DH5_Channel 78



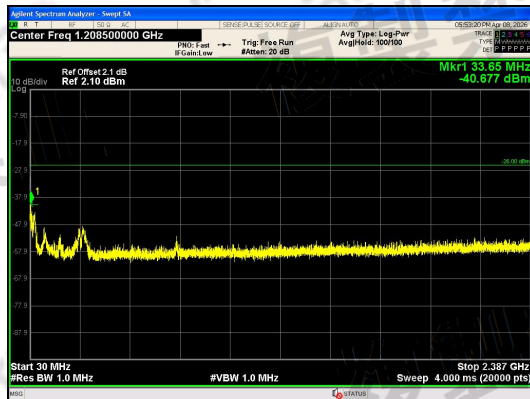
30 to 2387MHz

NT/NV_8DPSK_3-DH5_Channel 0



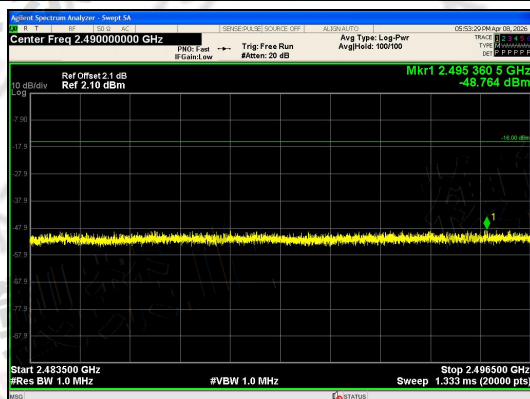
2483.5 to 2496.5MHz

NT/NV_8DPSK_3-DH5_Channel 0



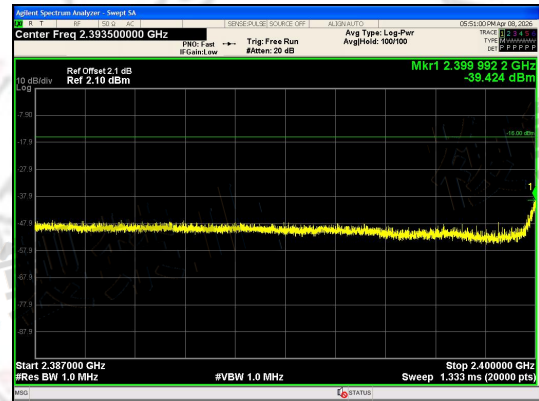
30 to 2387MHz

NT/NV_8DPSK_3-DH5_Channel 39



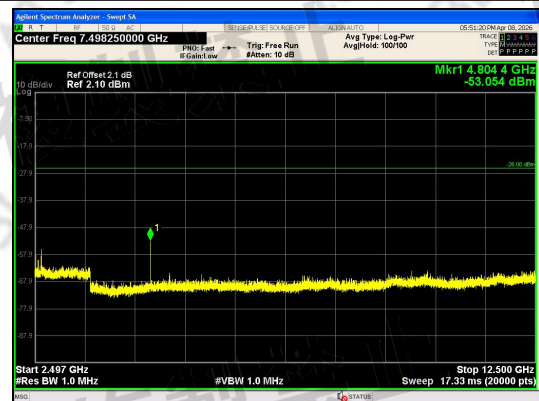
2483.5 to 2496.5MHz

NT/NV_π/4DQPSK_2-DH5_Channel 78



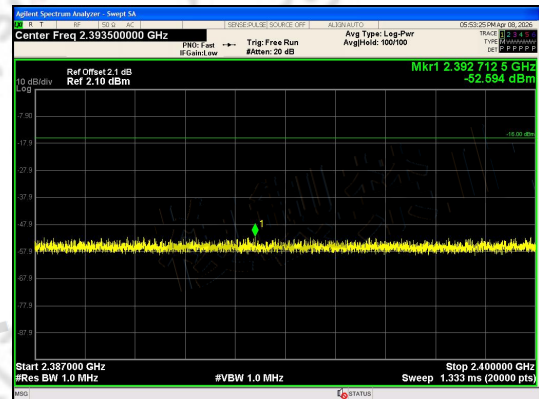
2387 to 2400MHz

NT/NV_8DPSK_3-DH5_Channel 0



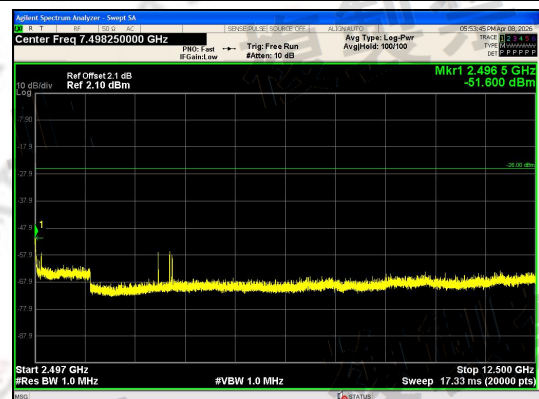
2496.5 to 12500MHz

NT/NV_8DPSK_3-DH5_Channel 0

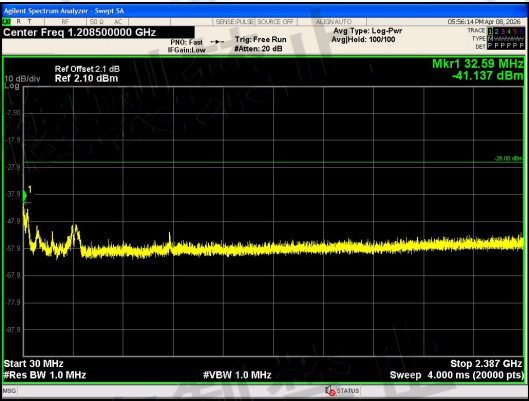
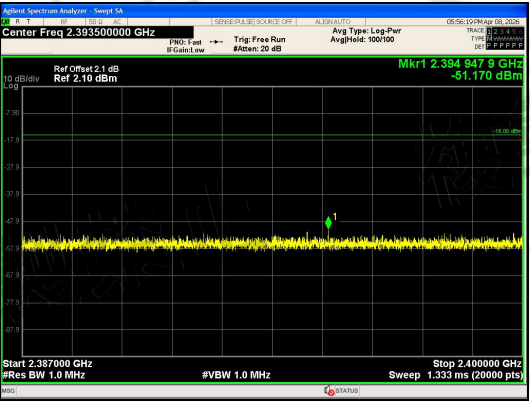
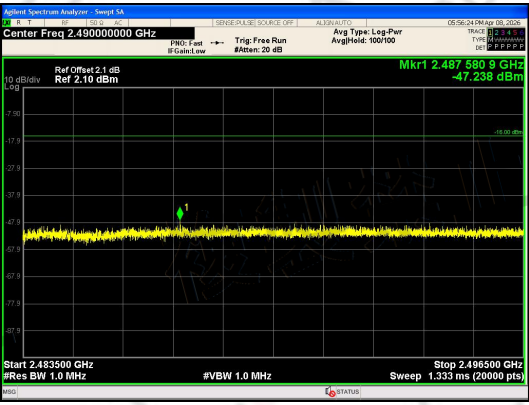
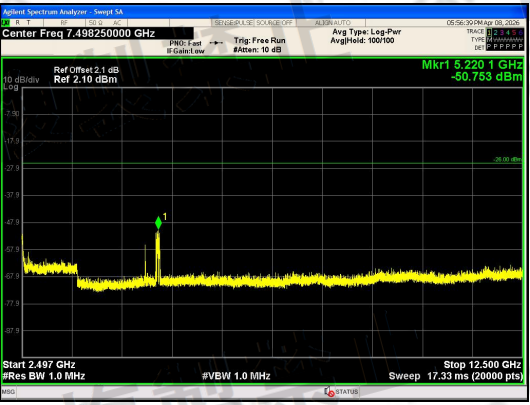


2387 to 2400MHz

NT/NV_8DPSK_3-DH5_Channel 39



2496.5 to 12500MHz

NT/NV_8DPSK_3-DH5_Channel 39 	NT/NV_8DPSK_3-DH5_Channel 39 
30 to 2387MHz NT/NV_8DPSK_3-DH5_Channel 78	2387 to 2400MHz NT/NV_8DPSK_3-DH5_Channel 78
	
2483.5 to 2496.5MHz NT/NV_8DPSK_3-DH5_Channel 78	2496.5 to 12500MHz NT/NV_8DPSK_3-DH5_Channel 78

A5.Antenna power measurement

Test Result

Test result of Antenna power

Left ear headphones

Condition	Modulation	Frequency (MHz)	Antenna power (dBm/MHz)	Antenna power density (mW/MHz)	Limit (mW/MHz)	Result
NT/NV	GFSK_DH5	2402	-1.329	0.7364	3	PASS
		2441	-2.3526	0.5818	3	PASS
		2480	-3.1084	0.4888	3	PASS
	$\pi/4$ DQPSK_2-DH5	2402	-7.6962	0.1700	3	PASS
		2441	-8.6463	0.1366	3	PASS
		2480	-9.6659	0.1080	3	PASS
	8DPSK_3-DH5	2402	-7.877	0.1630	3	PASS
		2441	-8.7234	0.1342	3	PASS
		2480	-9.8849	0.1027	3	PASS

Condition	Modulation	Frequency (MHz)	Tolerance (%)	Tolerance Limit (%)	Rated power (mW/MHz)	Result
NT/NV	GFSK_DH5	2402	-38.63%	+20	1.2	PASS
		2441	-51.52%	+20	1.2	PASS
		2480	-59.27%	+20	1.2	PASS
	$\pi/4$ DQPSK_2-DH5	2402	-43.33%	+20	0.3	PASS
		2441	-54.47%	+20	0.3	PASS
		2480	-64.00%	+20	0.3	PASS
	8DPSK_3-DH5	2402	-45.67%	+20	0.3	PASS
		2441	-55.27%	+20	0.3	PASS
		2480	-65.77%	+20	0.3	PASS

Condition	Mode	Frequency (MHz)	EIRP (dBm/MHz)	EIRP (mW/MHz)	Gain (dBi)	Limit (dBm/MHz)	Result
NT/NV	GFSK_DH5	2402	1.371	1.37	2.7	12.14	PASS
	GFSK_DH5	2441	0.3474	1.08	2.7	12.14	PASS
	GFSK_DH5	2480	-0.4084	0.91	2.7	12.14	PASS
	$\pi/4$ DQPSK_2-DH5	2402	-4.9962	0.32	2.7	12.14	PASS
	$\pi/4$ DQPSK_2-DH5	2441	-5.9463	0.25	2.7	12.14	PASS
	$\pi/4$ DQPSK_2-DH5	2480	-6.9659	0.20	2.7	12.14	PASS
	8DPSK_3-DH5	2402	-5.177	0.30	2.7	12.14	PASS
	8DPSK_3-DH5	2441	-6.0234	0.25	2.7	12.14	PASS
	8DPSK_3-DH5	2480	-7.1849	0.19	2.7	12.14	PASS

Right ear headphones

Condition	Modulation	Frequency (MHz)	Antenna power (dBm/MHz)	Antenna power density (mW/MHz)	Limit (mW/MHz)	Result
NT/NV	GFSK_DH5	2402	-1.4937	0.7090	3	PASS
		2441	-2.5073	0.5614	3	PASS
		2480	-3.2641	0.4716	3	PASS
	$\pi/4$ DQPSK_2-DH5	2402	-7.8829	0.1628	3	PASS
		2441	-8.8025	0.1317	3	PASS
		2480	-9.8316	0.1040	3	PASS
	8DPSK_3-DH5	2402	-8.1117	0.1545	3	PASS
		2441	-8.8721	0.1297	3	PASS
		2480	-10.0816	0.0981	3	PASS

Condition	Modulation	Frequency (MHz)	Tolerance (%)	Tolerance Limit (%)	Rated power (mW/MHz)	Result
NT/NV	GFSK_DH5	2402	-40.92%	+20	1.2	PASS
		2441	-53.22%	+20	1.2	PASS
		2480	-60.70%	+20	1.2	PASS
	$\pi/4$ DQPSK_2-DH5	2402	-45.73%	+20	0.3	PASS
		2441	-56.10%	+20	0.3	PASS
		2480	-65.33%	+20	0.3	PASS
	8DPSK_3-DH5	2402	-48.50%	+20	0.3	PASS
		2441	-56.77%	+20	0.3	PASS
		2480	-67.30%	+20	0.3	PASS

Condition	Mode	Frequency (MHz)	EIRP (dBm/MHz)	EIRP (mW/MHz)	Gain (dBi)	Limit (dBm/MHz)	Result
NT/NV	GFSK_DH5	2402	1.2063	1.32	2.7	12.14	PASS
	GFSK_DH5	2441	0.1927	1.05	2.7	12.14	PASS
	GFSK_DH5	2480	-0.5641	0.88	2.7	12.14	PASS
	$\pi/4$ DQPSK_2-DH5	2402	-5.1829	0.30	2.7	12.14	PASS
	$\pi/4$ DQPSK_2-DH5	2441	-6.1025	0.25	2.7	12.14	PASS
	$\pi/4$ DQPSK_2-DH5	2480	-7.1316	0.19	2.7	12.14	PASS
	8DPSK_3-DH5	2402	-5.4117	0.29	2.7	12.14	PASS
	8DPSK_3-DH5	2441	-6.1721	0.24	2.7	12.14	PASS
	8DPSK_3-DH5	2480	-7.3816	0.18	2.7	12.14	PASS

A6.Spurious Emissions for Receiver

Test Result

Normal mode_GFSK_DH5

Condition	Channel	Frequency Range (MHz)	Peak (MHz)	Measured Value (dBm)	Limit		Result
					dBm	nW	
NT/NV	0	30 to 1000	831.291	-83.674	-54	≤4	PASS
		1000 to 12500	3184.689	-71.449	-47	≤20	PASS
	39	30 to 1000	868.993	-84.145	-54	≤4	PASS
		1000 to 12500	3221.107	-71.534	-47	≤20	PASS
	78	30 to 1000	954.998	-84.663	-54	≤4	PASS
		1000 to 12500	3293.176	-71.416	-47	≤20	PASS

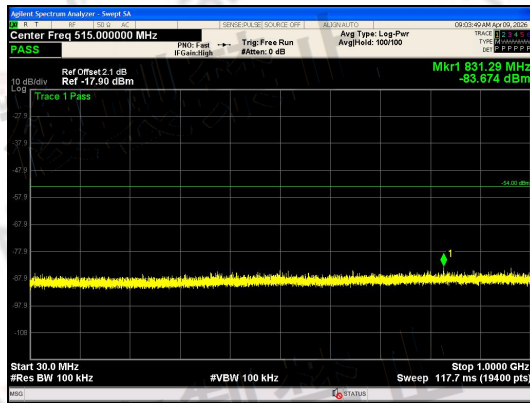
Normal mode_π/4DQPSK_2-DH5

Condition	Channel	Frequency Range (MHz)	Peak (MHz)	Measured Value (dBm)	Limit		Result
					dBm	nW	
NT/NV	0	30 to 1000	815.640	-84.268	-54	≤4	PASS
		1000 to 12500	2669.856	-72.065	-47	≤20	PASS
	39	30 to 1000	788.789	-84.529	-54	≤4	PASS
		1000 to 12500	3274.009	-71.357	-47	≤20	PASS
	78	30 to 1000	827.291	-83.178	-54	≤4	PASS
		1000 to 12500	3269.792	-71.884	-47	≤20	PASS

Normal mode_8DPSK_3-DH5

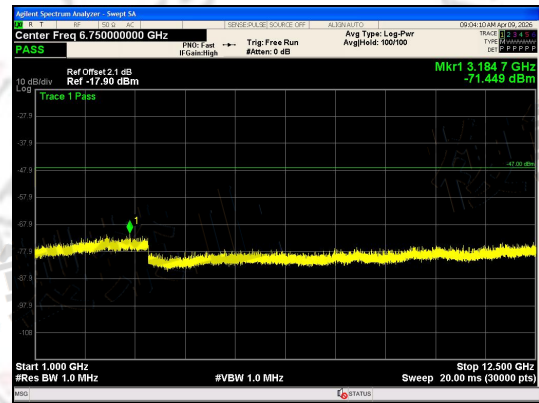
Condition	Channel	Frequency Range (MHz)	Peak (MHz)	Measured Value (dBm)	Limit		Result
					dBm	nW	
NT/NV	0	30 to 1000	930.296	-84.537	-54	≤4	PASS
		1000 to 12500	3132.938	-71.940	-47	≤20	PASS
	39	30 to 1000	916.696	-84.386	-54	≤4	PASS
		1000 to 12500	3306.210	-72.097	-47	≤20	PASS
	78	30 to 1000	949.297	-83.873	-54	≤4	PASS
		1000 to 12500	3468.366	-72.282	-47	≤20	PASS

Test Graphs



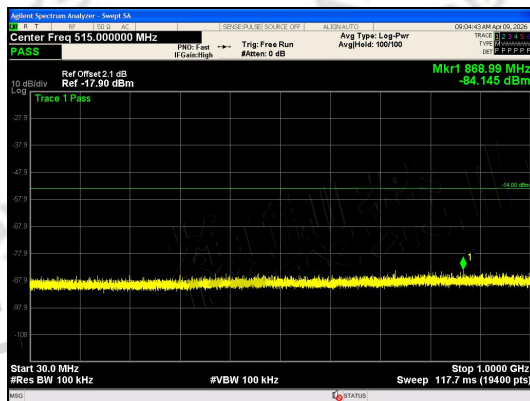
30MHz - 1000MHz

NT/NV_GFSK_DH5_Channel 0



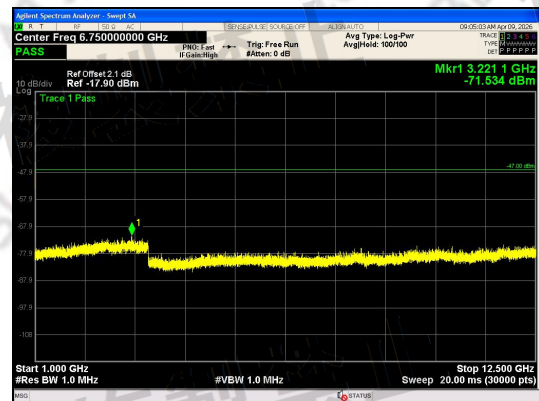
> 1GHz

NT/NV_GFSK_DH5_Channel 0



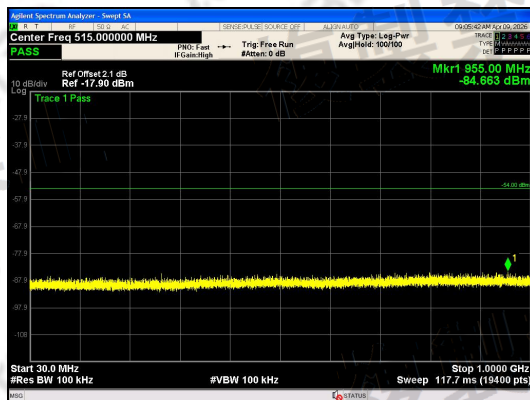
30MHz - 1000MHz

NT/NV_GFSK_DH5_Channel 39



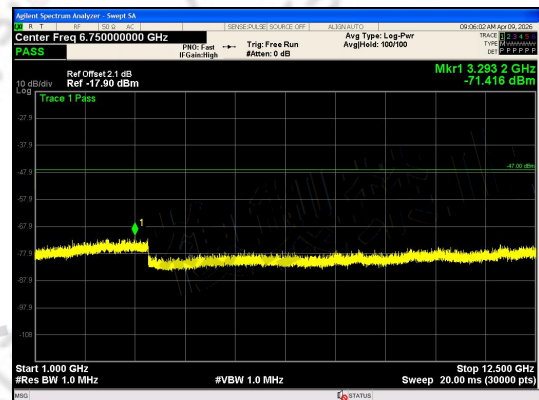
> 1GHz

NT/NV_GFSK_DH5_Channel 39



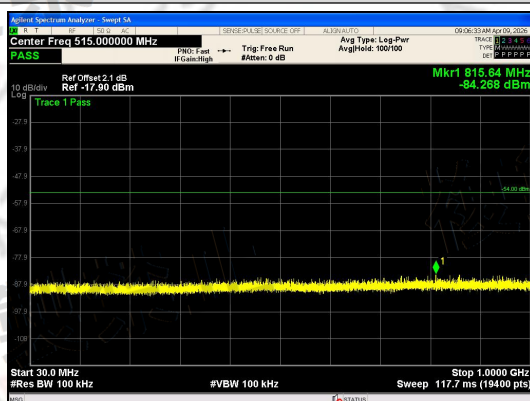
30MHz - 1000MHz

NT/NV_GFSK_DH5_Channel 78

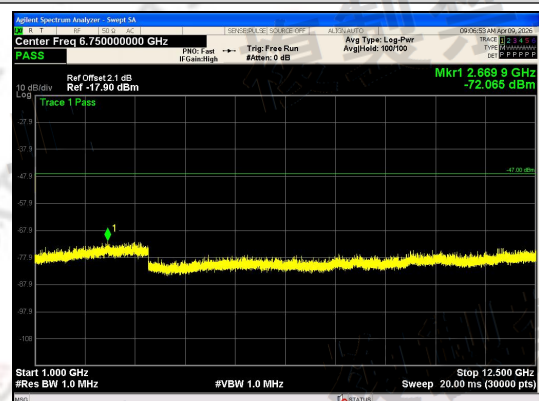


> 1GHz

NT/NV_GFSK_DH5_Channel 78

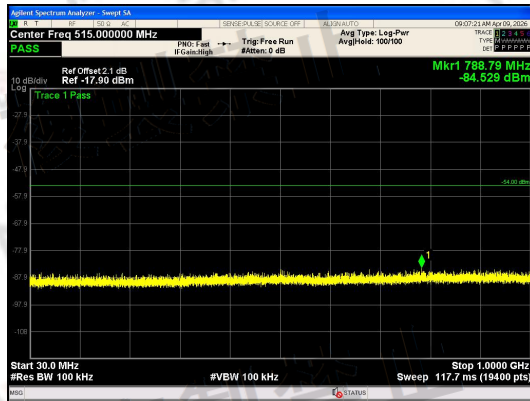


30MHz - 1000MHz

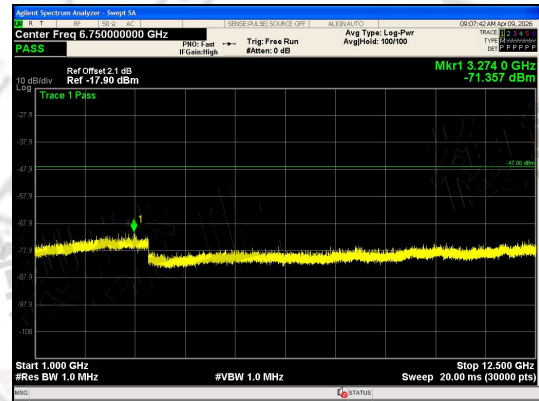


> 1GHz

NT/NV_π/4DQPSK_2-DH5_Channel 0



NT/NV_π/4DQPSK_2-DH5_Channel 0



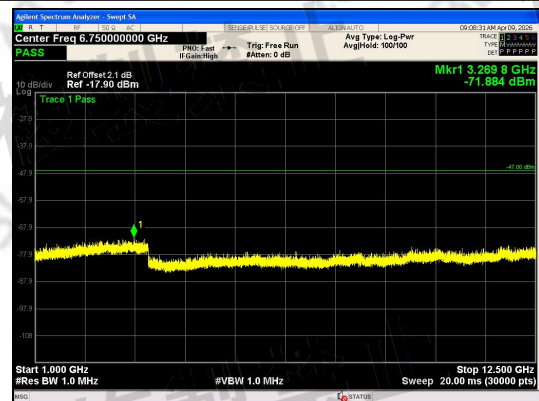
30MHz - 1000MHz

> 1GHz

NT/NV_π/4DQPSK_2-DH5_Channel 39



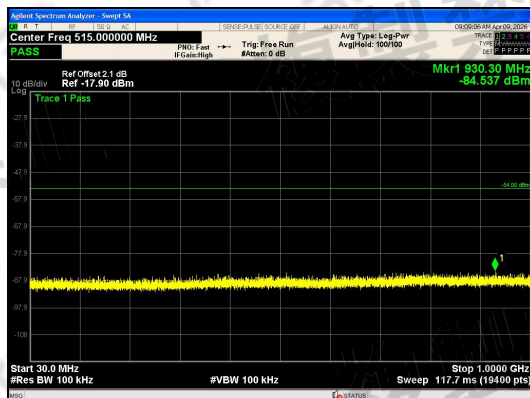
NT/NV_π/4DQPSK_2-DH5_Channel 39



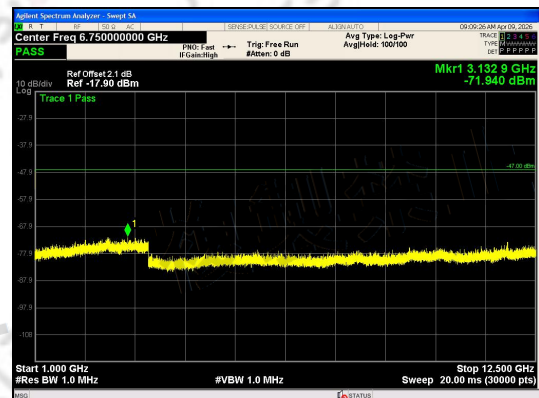
30MHz - 1000MHz

> 1GHz

NT/NV_π/4DQPSK_2-DH5_Channel 78



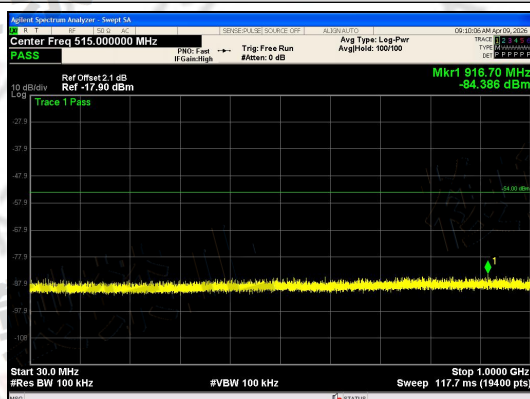
NT/NV_π/4DQPSK_2-DH5_Channel 78



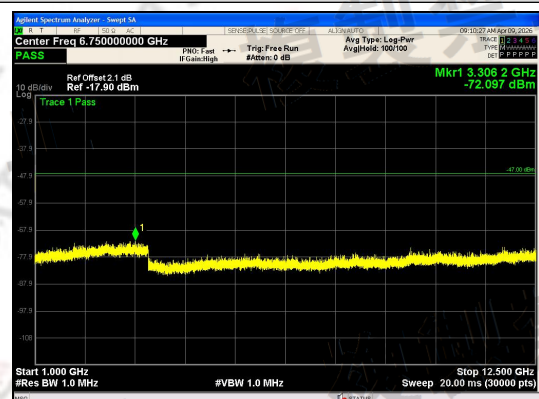
30MHz - 1000MHz

> 1GHz

NT/NV_8DPSK_3-DH5_Channel 0



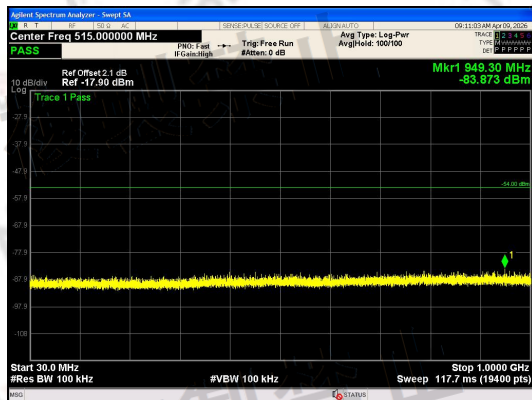
NT/NV_8DPSK_3-DH5_Channel 0



30MHz - 1000MHz

> 1GHz

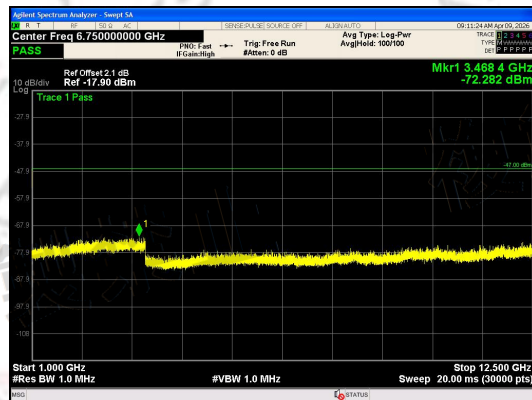
NT/NV_8DPSK_3-DH5_Channel 39



30MHz - 1000MHz

NT/NV_8DPSK_3-DH5_Channel 78

NT/NV_8DPSK_3-DH5_Channel 39



> 1GHz

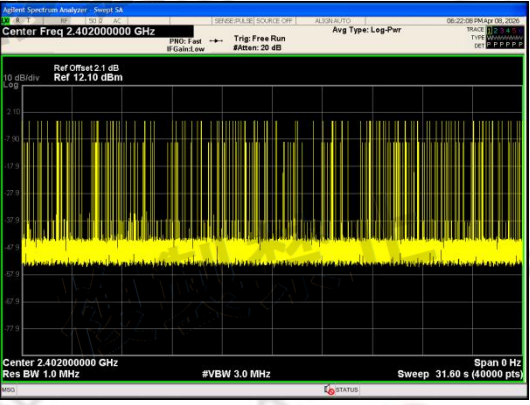
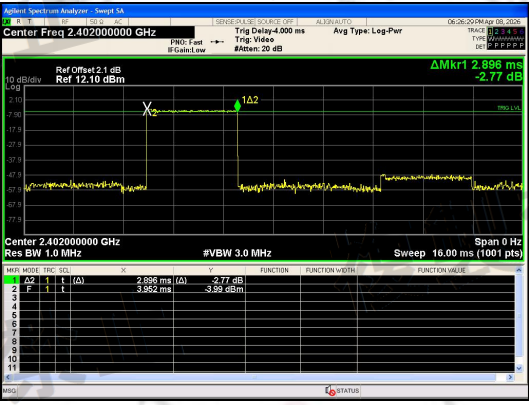
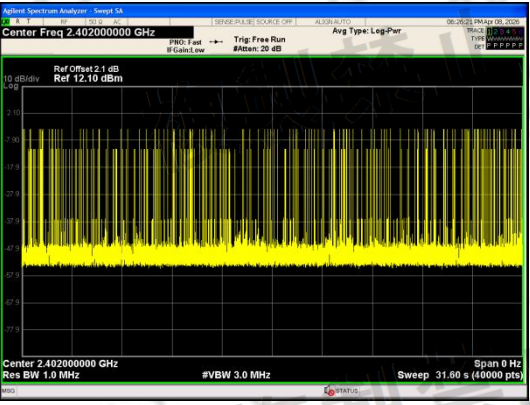
NT/NV_8DPSK_3-DH5_Channel 78

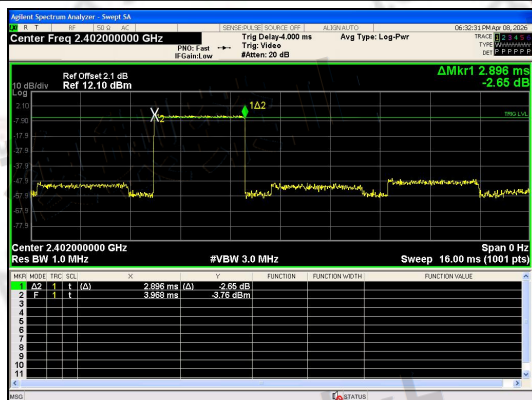
A7.Dwell Time of Frequency Hopping

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	111	321.46	< 400	PASS
π/4DQPSK	2-DH5		2.896	118	341.73		PASS
8DPSK	3-DH5		2.896	94	272.22		PASS
Note: Dwell time=Pulse time(ms)*Number of Pulses in 31.6 seconds							

Test Graphs

	
Pulse Width GFSK_DH5	Number of Pulses in 31.6 seconds GFSK_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

-----END OF THE REPORT-----