



Keyway Testing Technology (Guangdong) Co., Ltd
21 Floor,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:	Sound Column Audio System
Model Number:	POLAR 8 MK2
Trade Name:	
Sample Number:	33000261557
Date of Receipt:	Jan. 11, 2026
Date of Test:	Jan. 12, ~ Jan. 28, 2026



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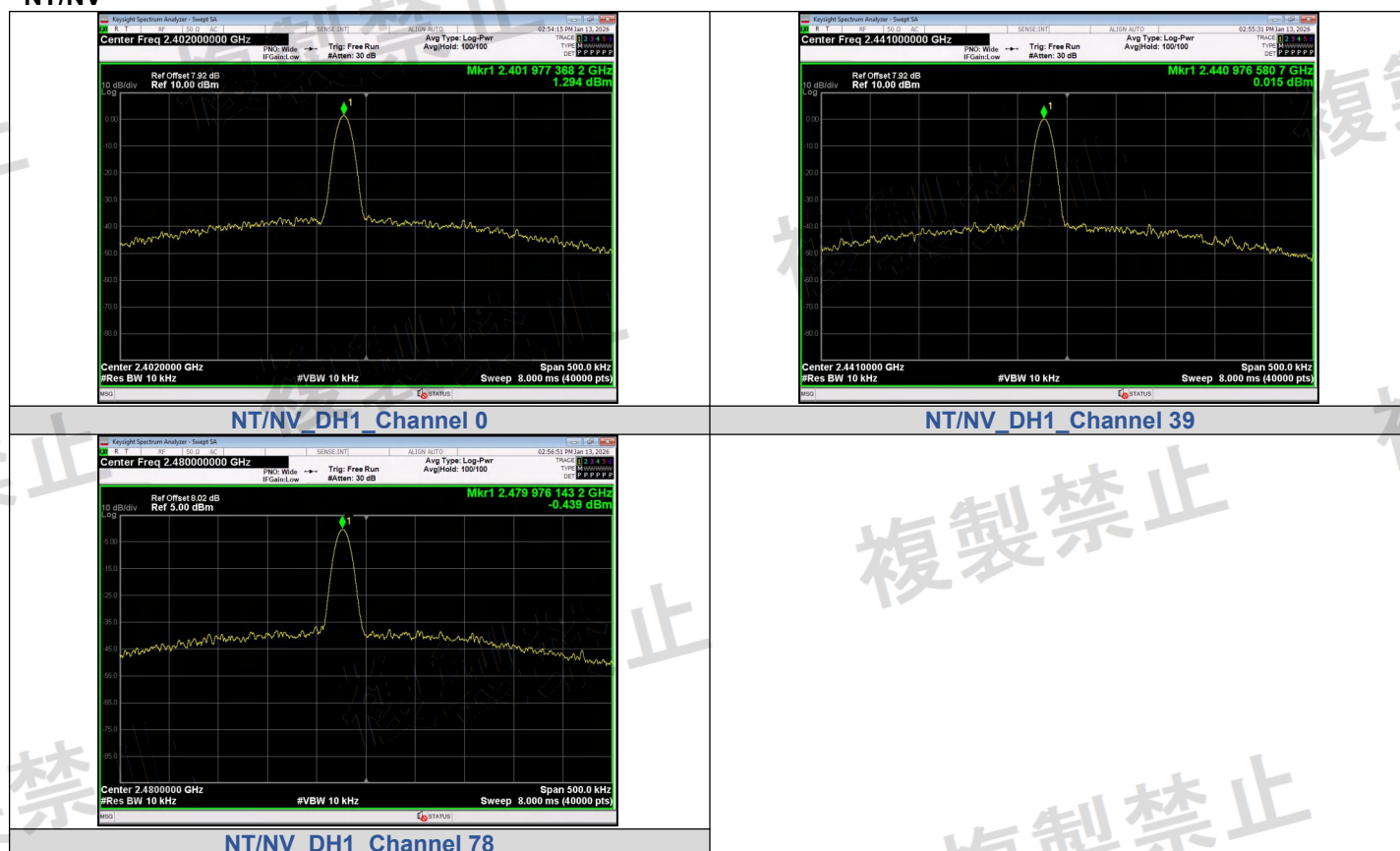
A.1 FREQUENCY TOLERANCE

Test Result

Condition	Mode	Ch.	Center Frequency (MHz)	Measured Value (MHz)	Result (ppm)	Limit (ppm)	Result
NT/NV	GFSK(CW)	0	2402	2401.9773682	-9.42	± 50	PASS
NT/NV	GFSK(CW)	39	2441	2440.9765807	-9.59	± 50	PASS
NT/NV	GFSK(CW)	78	2480	2479.9761432	-9.62	± 50	PASS

Test Graphs

NT/NV





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A.2 ANTENNA POWER

Test Result

Operation Mode	Power (dBm)	Power (mW)	Spread Bandwidth (MHz)	Power (mW/MHz)	Limit (mW/MHz)	Rated power (mW/MHz)	Tolerance (%)	Limit	Result
GFSK	1.17	1.309	71.109	0.021	3	0.020	6.15	20%	Pass
$\pi/4$ -DQPSK	1.15	1.303	71.369	0.021	3	0.020	4.23		
8DPSK	1.12	1.294	71.296	0.020	3	0.020	1.61		

Test Mode	Conducted RF output power (mW/MHz)	Conducted RF output power (dBm/MHz)	Antenna Gain	EIRP RF output power (dBm/MHz)	Limit (dBm/MHz)	Result
GFSK	0.115	-9.40	-5.31	-14.71	6.91	Pass
$\pi/4$ -DQPSK	0.071	-11.49	-5.31	-16.8	6.91	Pass
8DPSK	0.073	-11.38	-5.31	-16.69	6.91	Pass



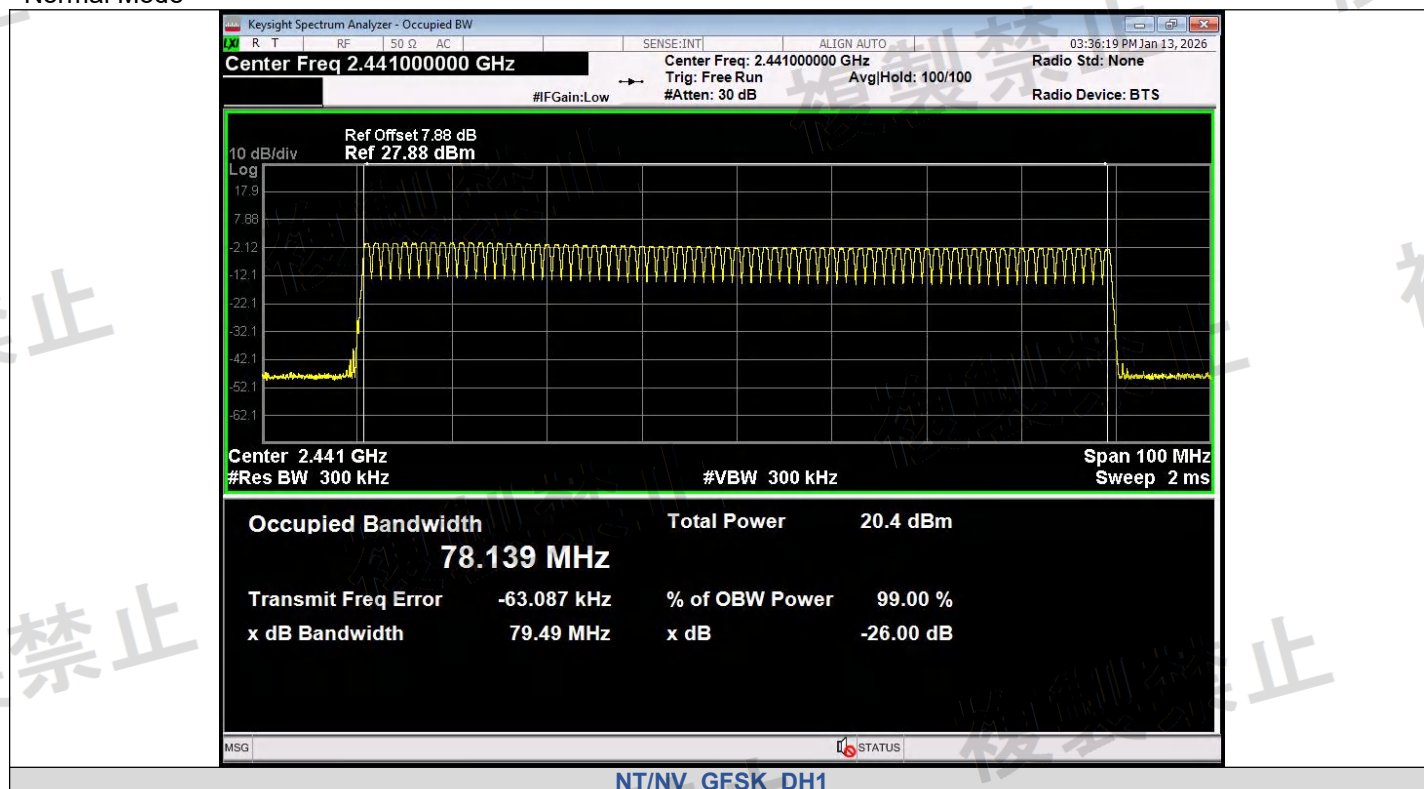
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A.3 OCCUPIED BANDWIDTH (99% BW)

Test Result
Normal Mode

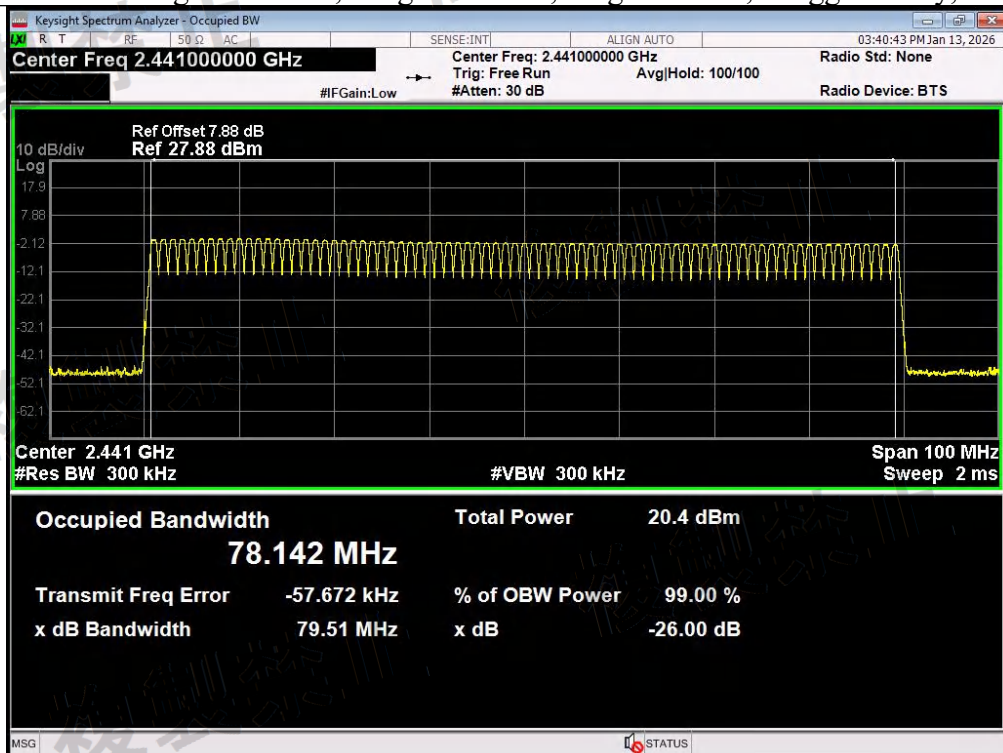
Condition	Modulation	99% BW (MHz)	Limit (MHz)	Result
NT/NV	GFSK_DH1	78.139	83.5	PASS
	GFSK_DH3	78.142		PASS
	GFSK_DH5	78.120		PASS
	$\pi/4$ DQPSK_2-DH1	78.308		PASS
	$\pi/4$ DQPSK_2-DH3	78.311		PASS
	$\pi/4$ DQPSK_2-DH5	78.318		PASS
	8DPSK_3-DH1	78.281		PASS
	8DPSK_3-DH3	78.296		PASS
	8DPSK_3-DH5	78.317		PASS

Test Graphs
Normal Mode

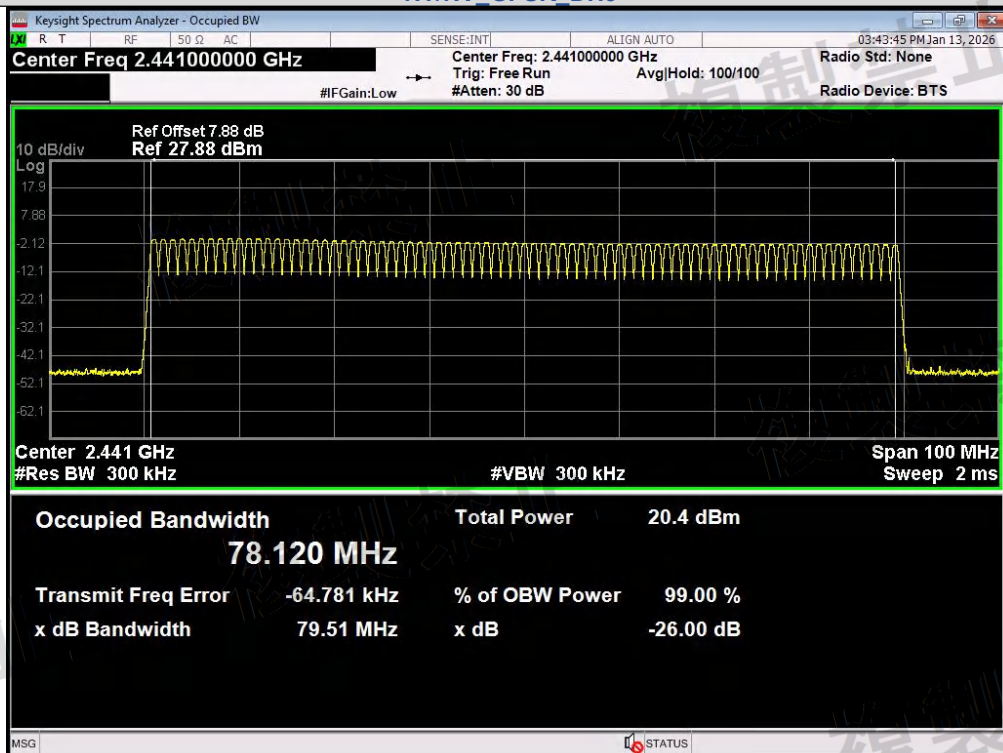




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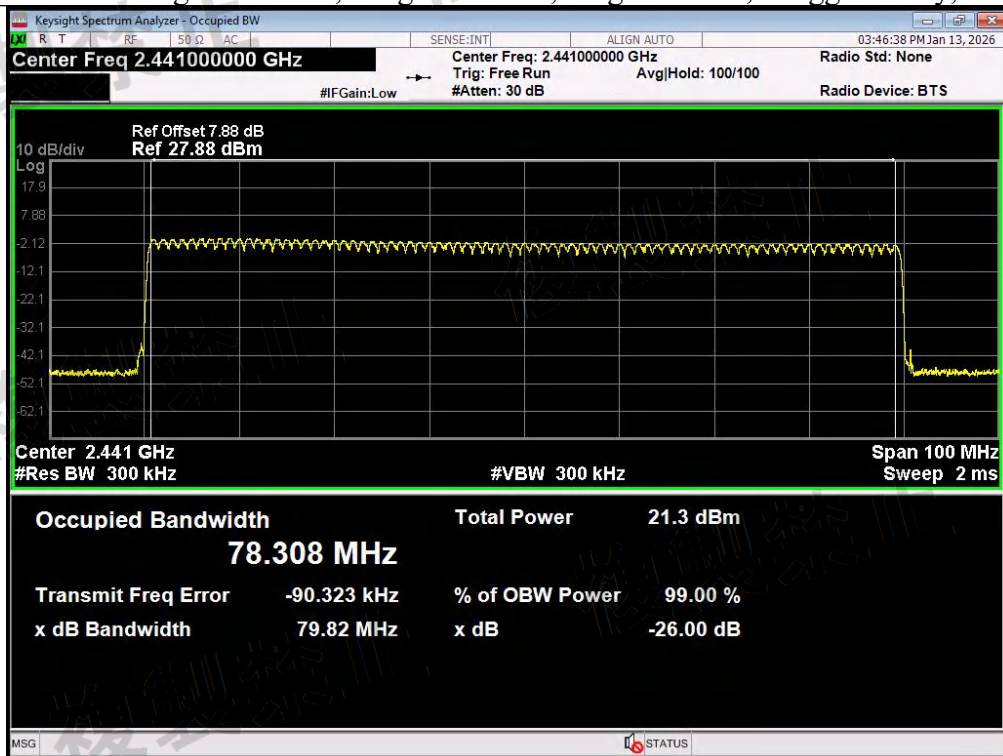
NT/NV_GFSK_DH3



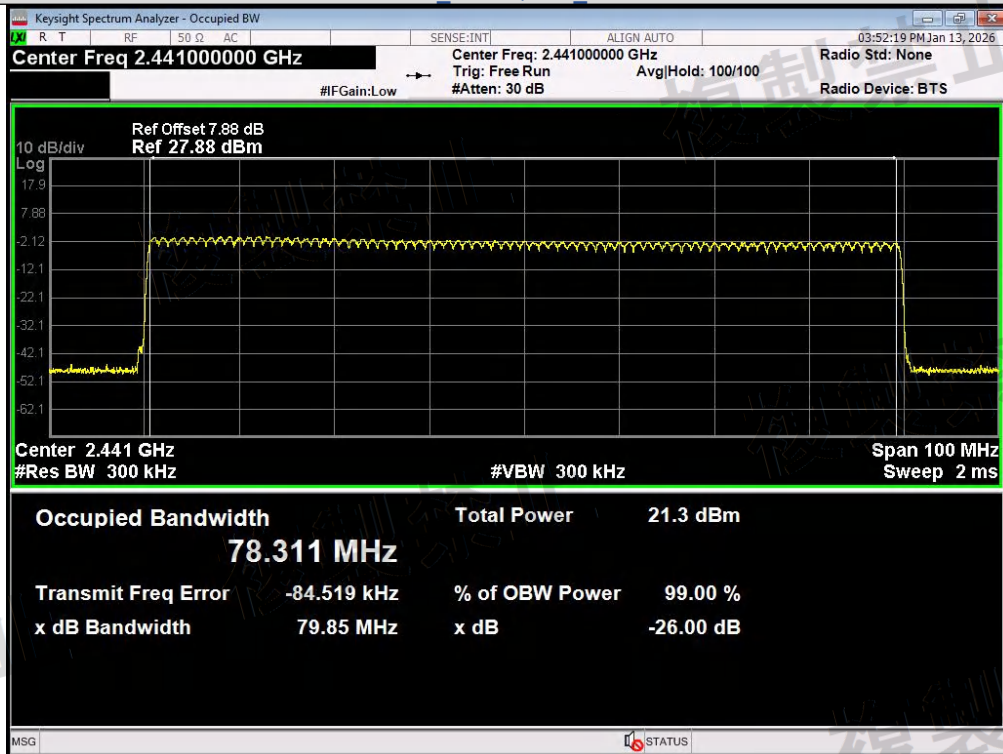
NT/NV_GFSK_DH5



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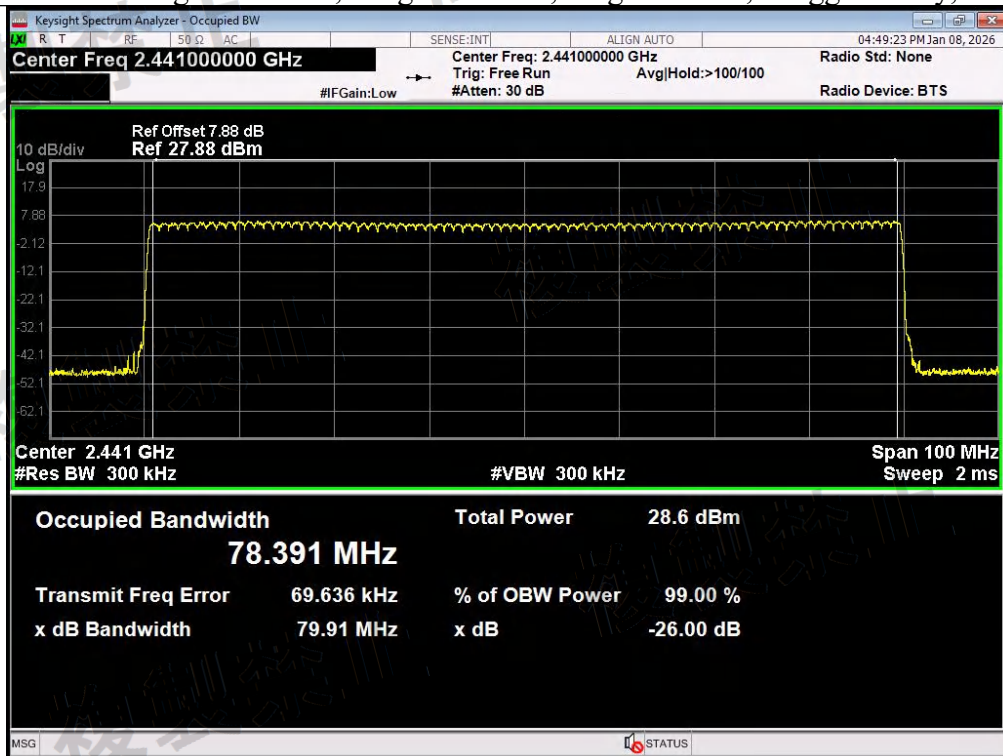
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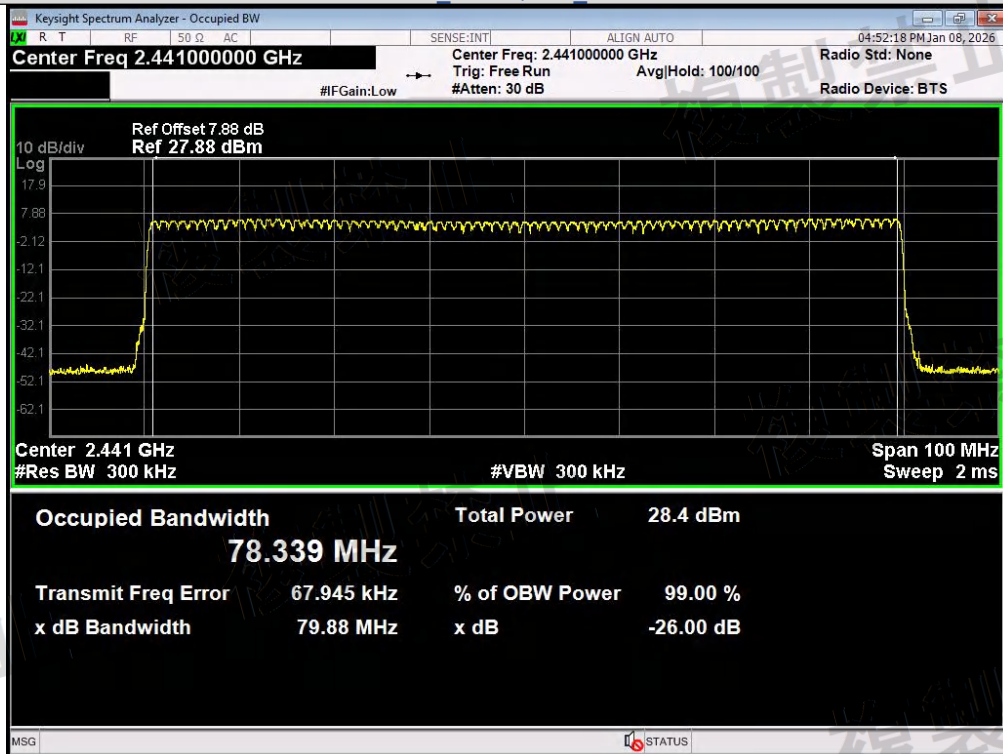
NT/NV_π/4DQPSK_2-DH3



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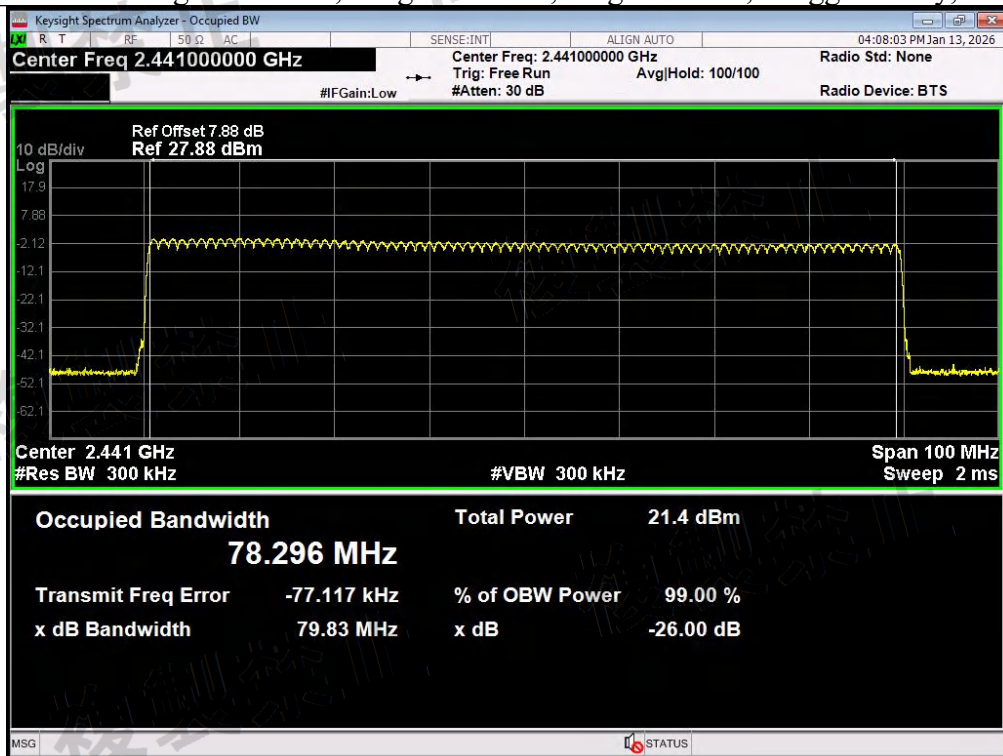
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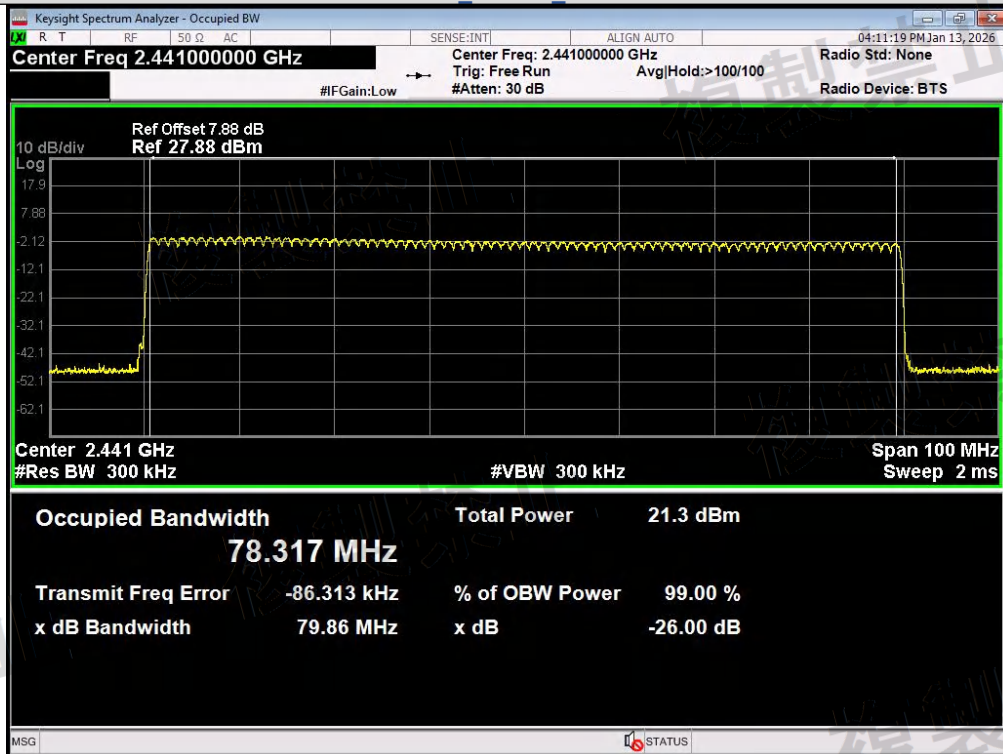
NT/NV_8DPSK_3-DH1



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NT/NV_8DPSK_3-DH3



NT/NV_8DPSK_3-DH5



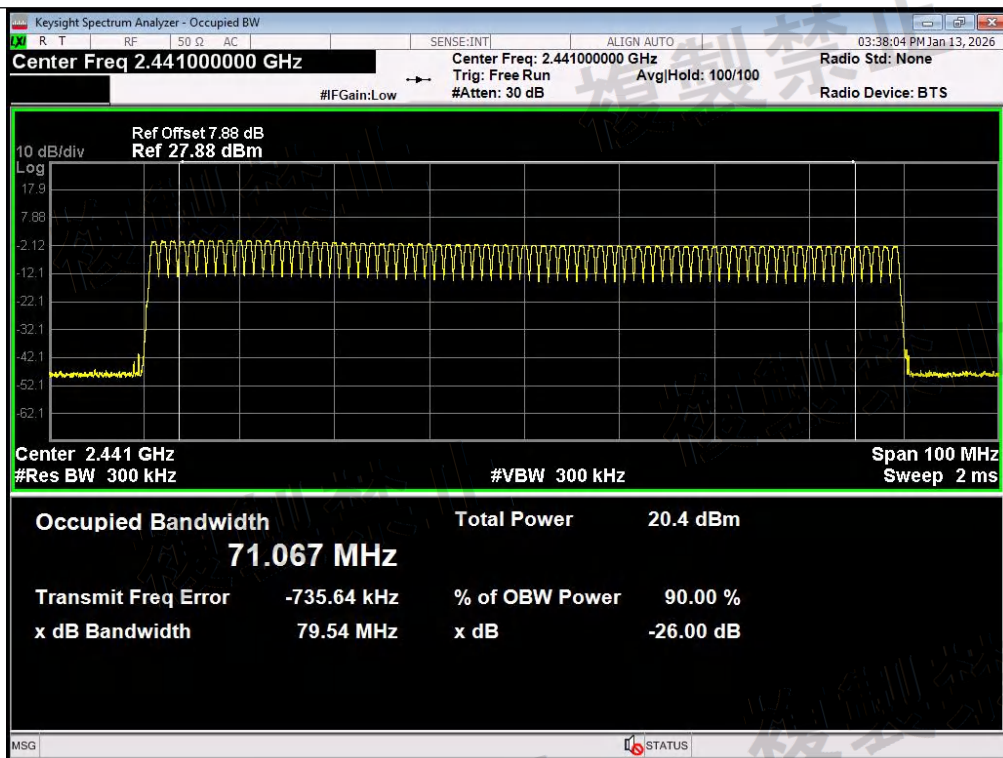
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A.4 SPREADING BANDWIDTH (90% BW)

Test Result
Normal Mode

Condition	Mode	90% SBW (MHz)	Spreading factor	Result
NT/NV	GFSK_DH1	71.067	71.067	PASS
NT/NV	GFSK_DH3	71.103	71.103	PASS
NT/NV	GFSK_DH5	71.109	71.109	PASS
NT/NV	$\pi/4$ DQPSK_2-DH1	71.369	35.684	PASS
NT/NV	$\pi/4$ DQPSK_2-DH3	71.306	35.653	PASS
NT/NV	$\pi/4$ DQPSK_2-DH5	71.335	35.667	PASS
NT/NV	8DPSK_3-DH1	71.296	23.765	PASS
NT/NV	8DPSK_3-DH3	71.230	23.743	PASS
NT/NV	8DPSK_3-DH5	71.255	23.752	PASS

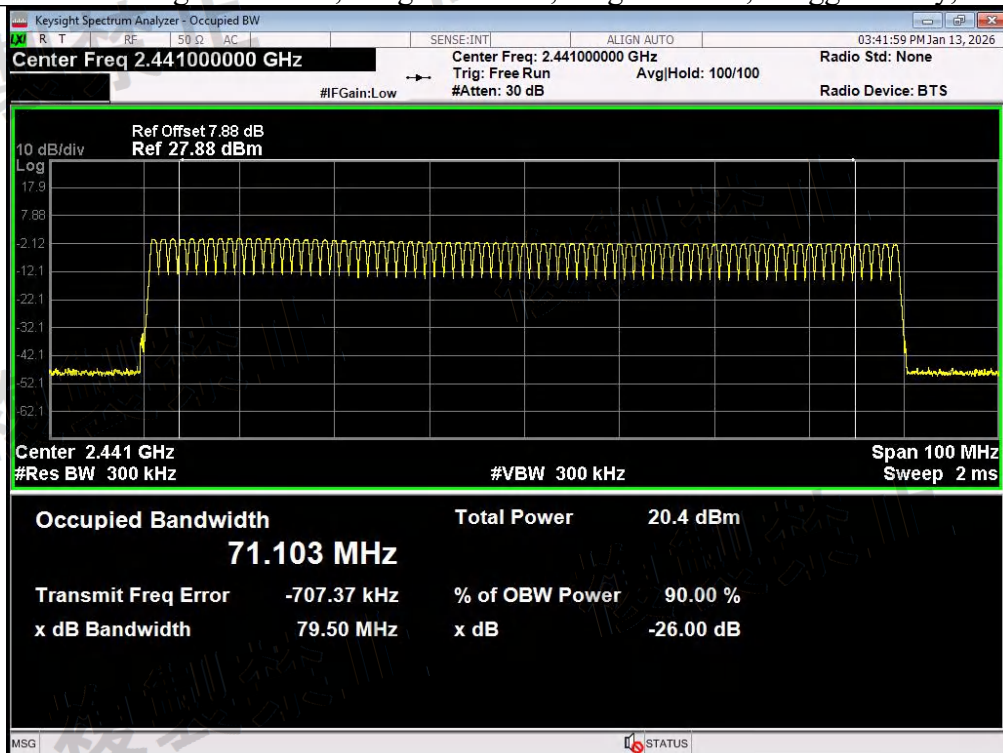
Test Graphs
Normal Mode



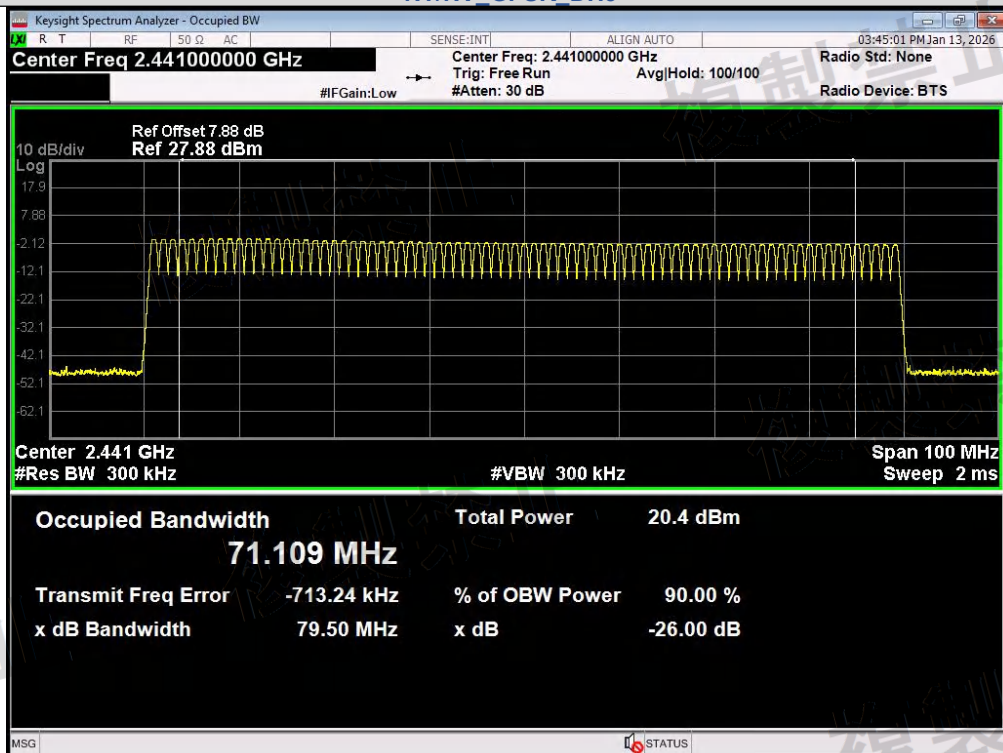
NT/NV_GFSK_DH1



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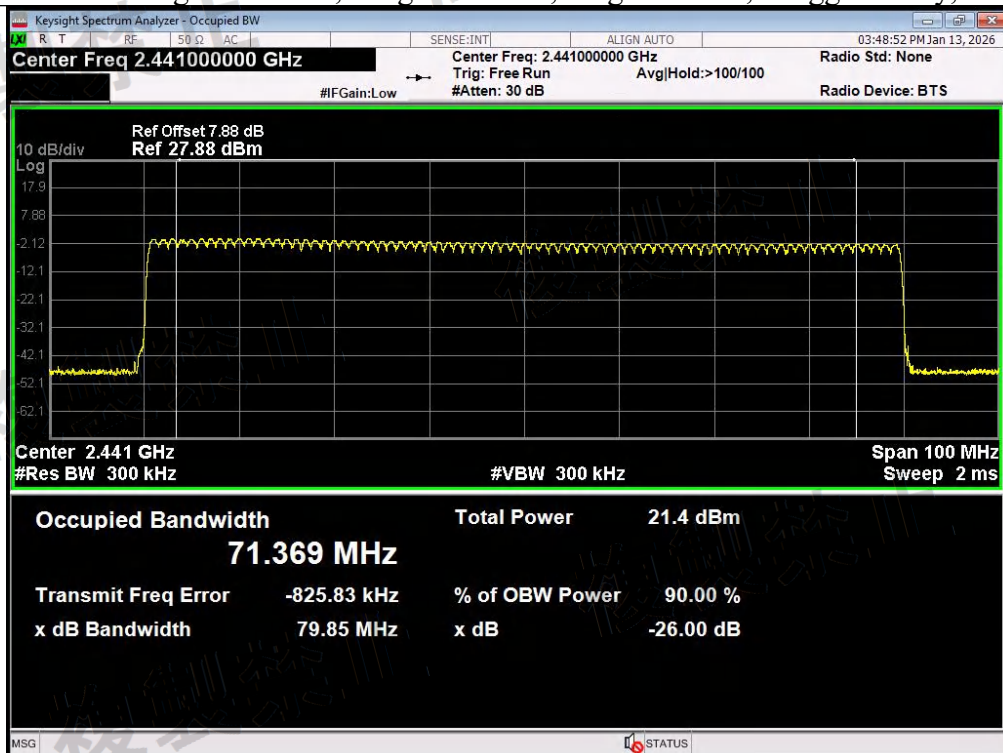
NT/NV_GFSK_DH3



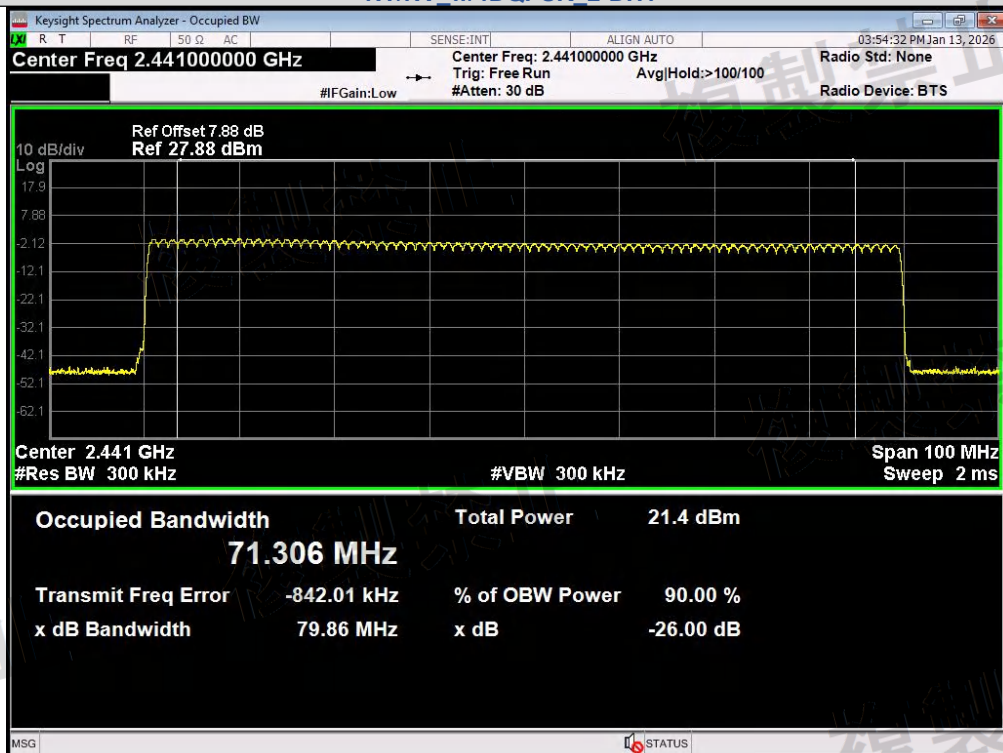
NT/NV_GFSK_DH5



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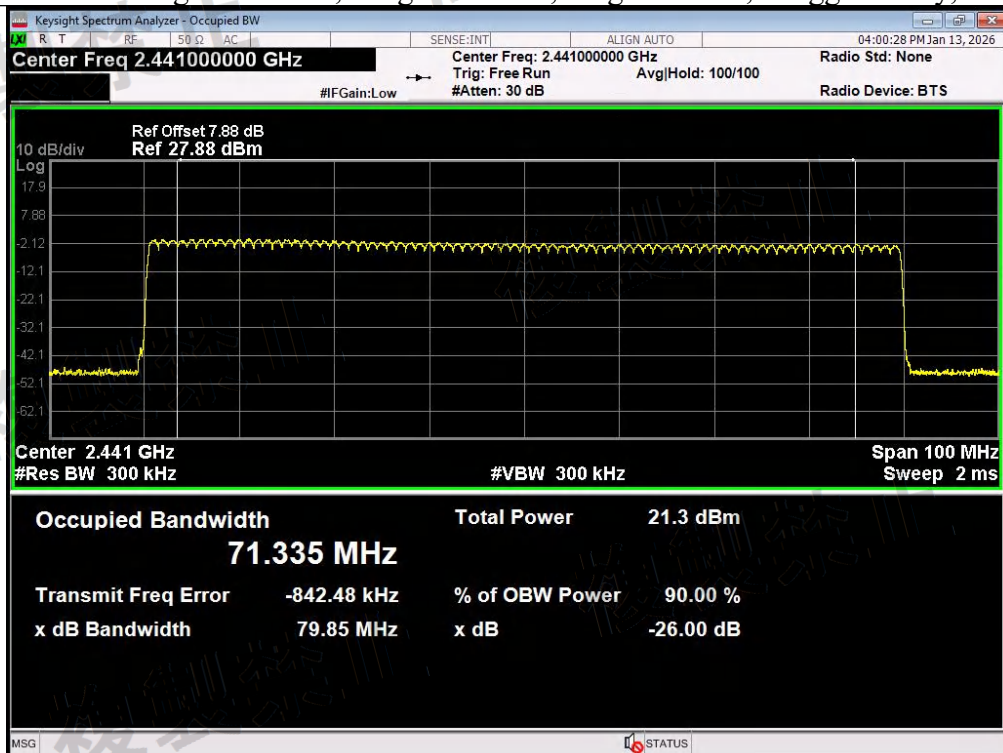
NT/NV_π/4DQPSK_2-DH1



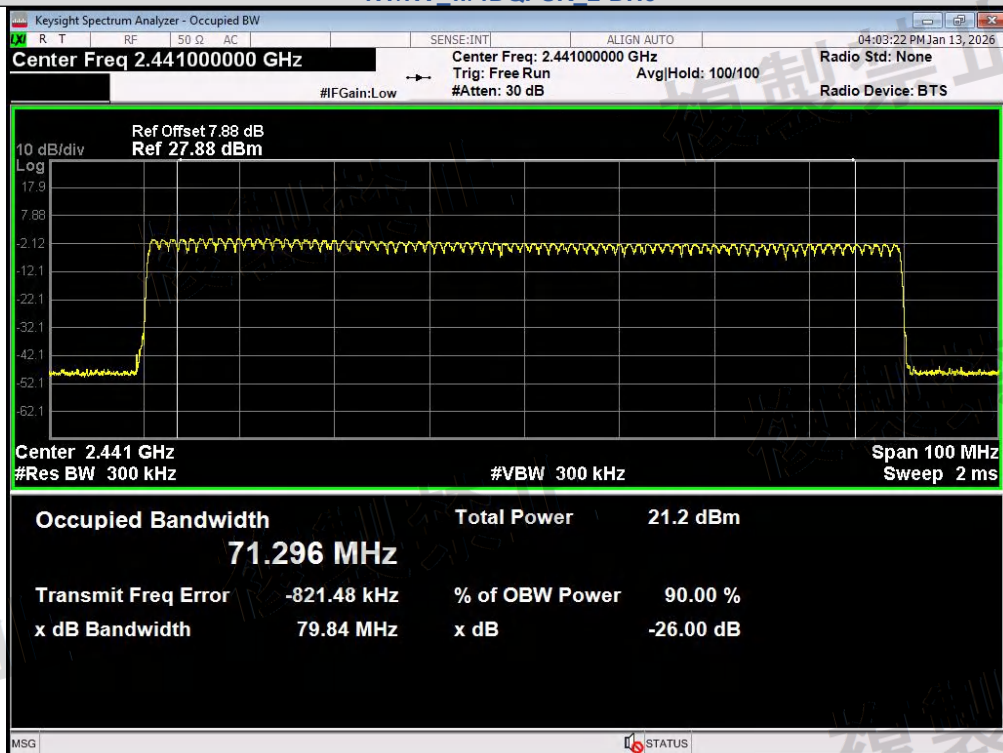
NT/NV_π/4DQPSK_2-DH3



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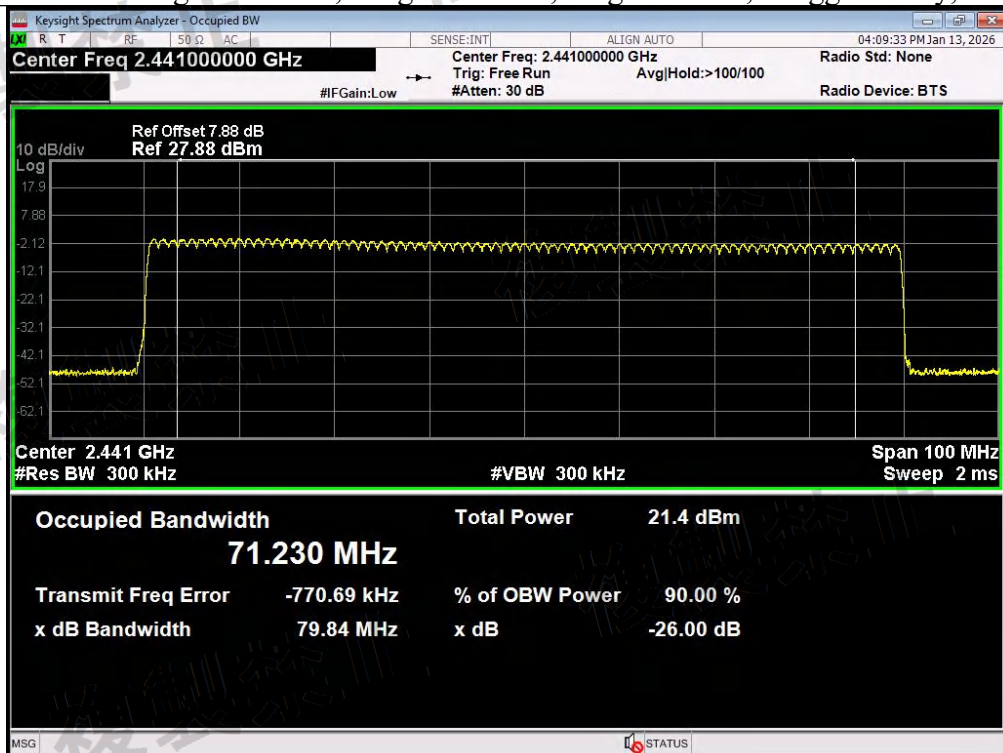
NT/NV_π/4DQPSK_2-DH5



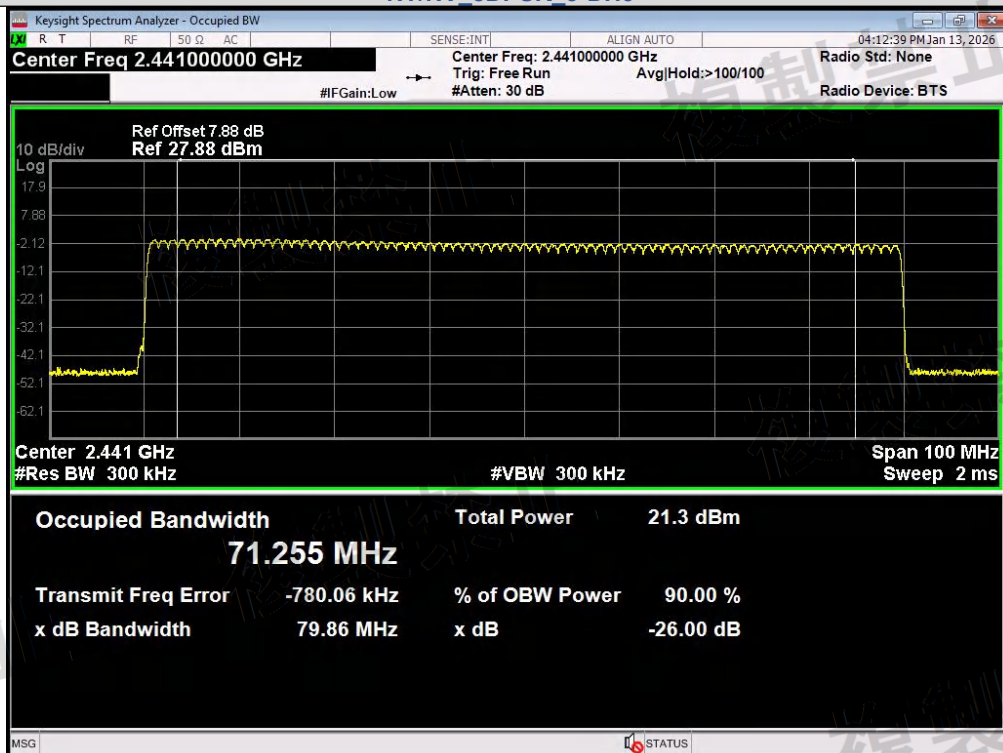
NT/NV_8DPSK_3-DH1



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NT/NV_8DPSK_3-DH3



NT/NV_8DPSK_3-DH5



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A.5 DWELL TIME

Test Result
Normal Mode

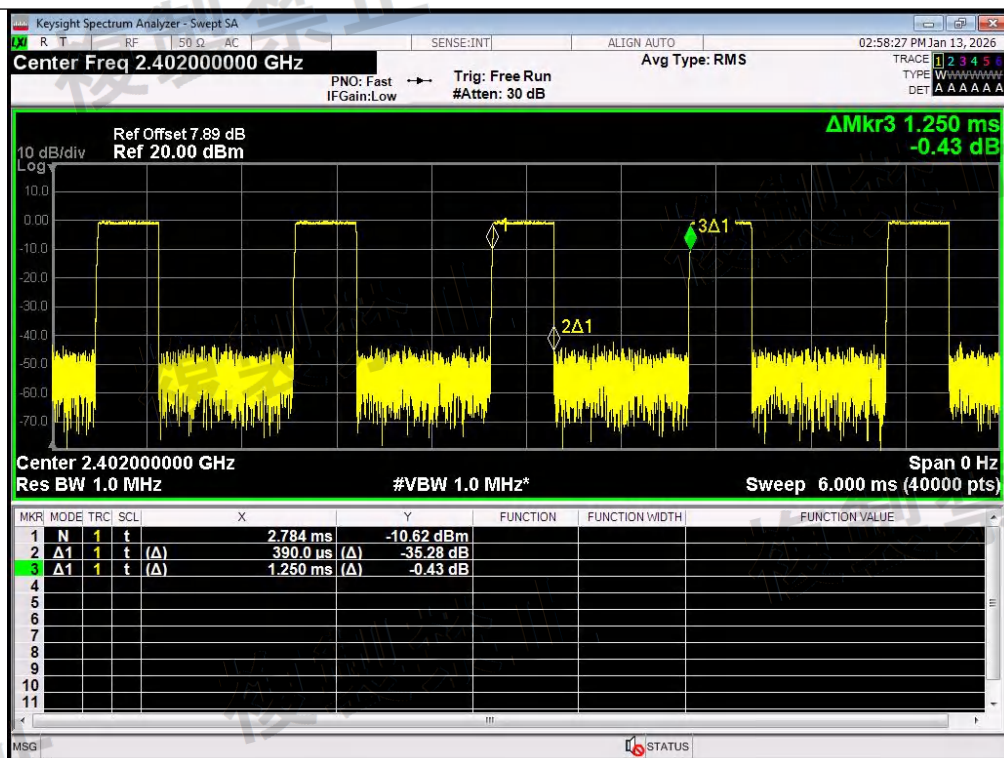
Condition	Modulation	Packet	Spreading Rate	(Spreading Rate / 79) * 0.4	Burst Ratio	Dwell Time (ms)	Limit (ms)	Result
NT/NV	GFSK	DH1	71.0674	0.3598	0.312	112	400	PASS
		DH3	71.0674	0.3598	0.66	237	400	PASS
		DH5	71.0674	0.3598	0.771	277	400	PASS
	π/4DQPSK	2-DH1	71.369	0.3614	0.32	115	400	PASS
		2-DH3	71.369	0.3614	0.66	238	400	PASS
		2-DH5	71.369	0.3614	0.773	279	400	PASS
	8DPSK	3-DH1	71.2956	0.361	0.32	115	400	PASS
		3-DH3	71.2956	0.361	0.66	238	400	PASS
		3-DH5	71.2956	0.361	0.773	279	400	PASS

Note:

- 1) Spreading Rate = Spreading factor;
- 2) Normal mode Dwell time = (Spreading rate/79) x Burst Ratio x 0.4 seconds.
- 3) Burst Ratio = Duty Cycle = On Time / Period.

Test Graphs

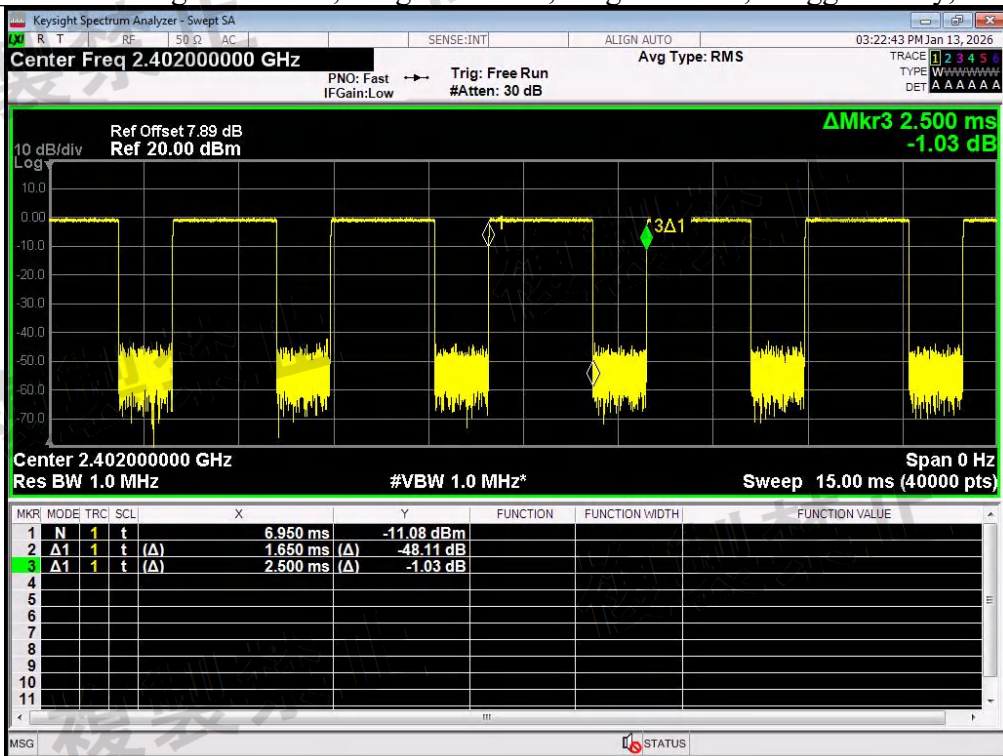
Normal Mode



Dwell Time
NT/NV_GFSK_DH1



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Dwell Time
NT/NV_GFSK_DH3



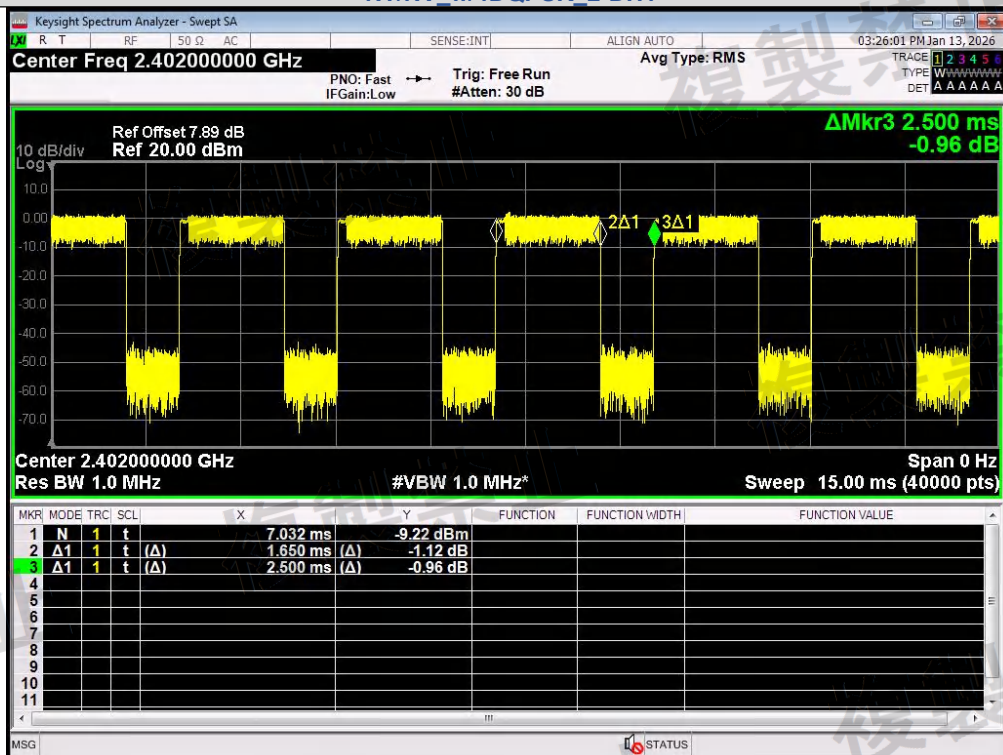
Dwell Time
NT/NV_GFSK_DH5



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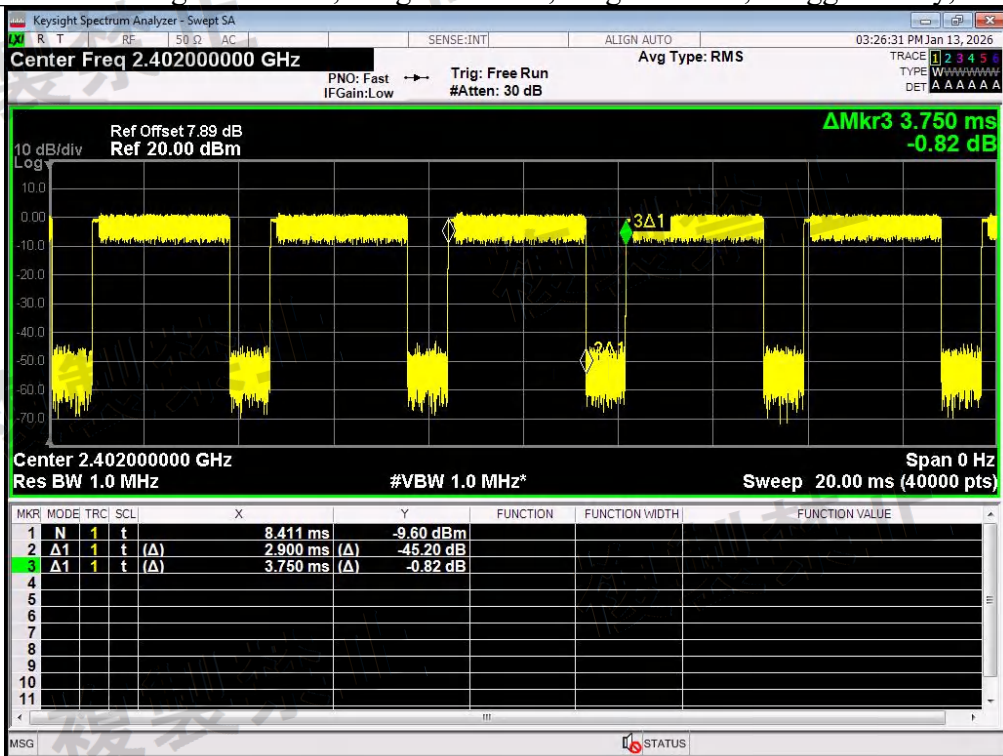
Dwell Time
NT/NV $\pi/4$ DQPSK 2-DH1



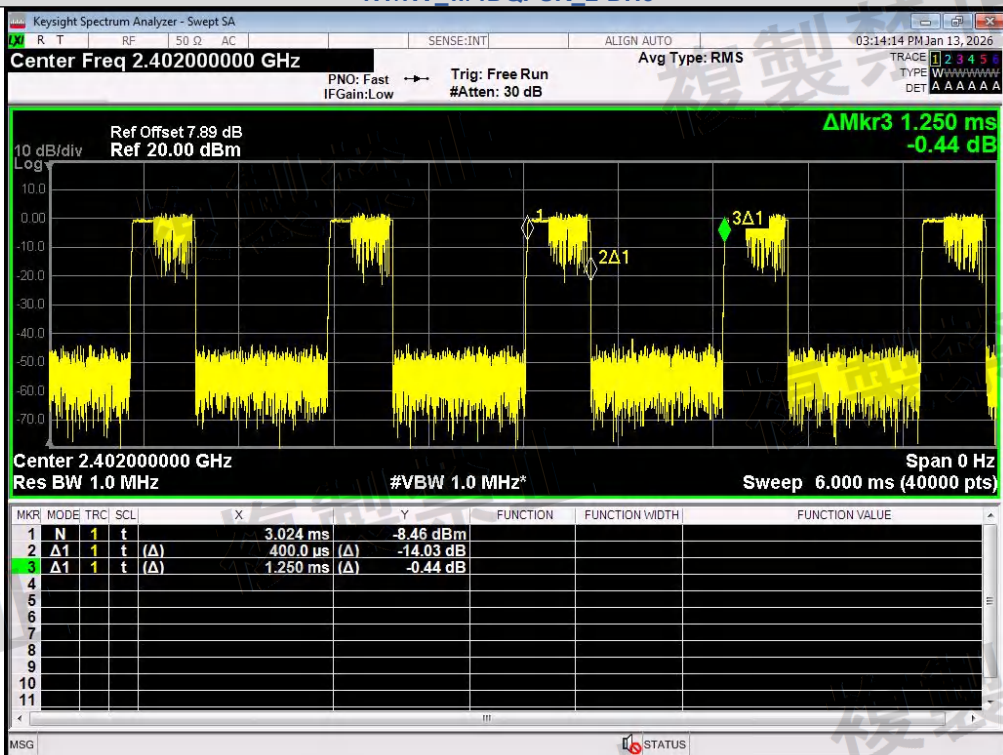
Dwell Time
NT/NV $\pi/4$ DQPSK 2-DH3



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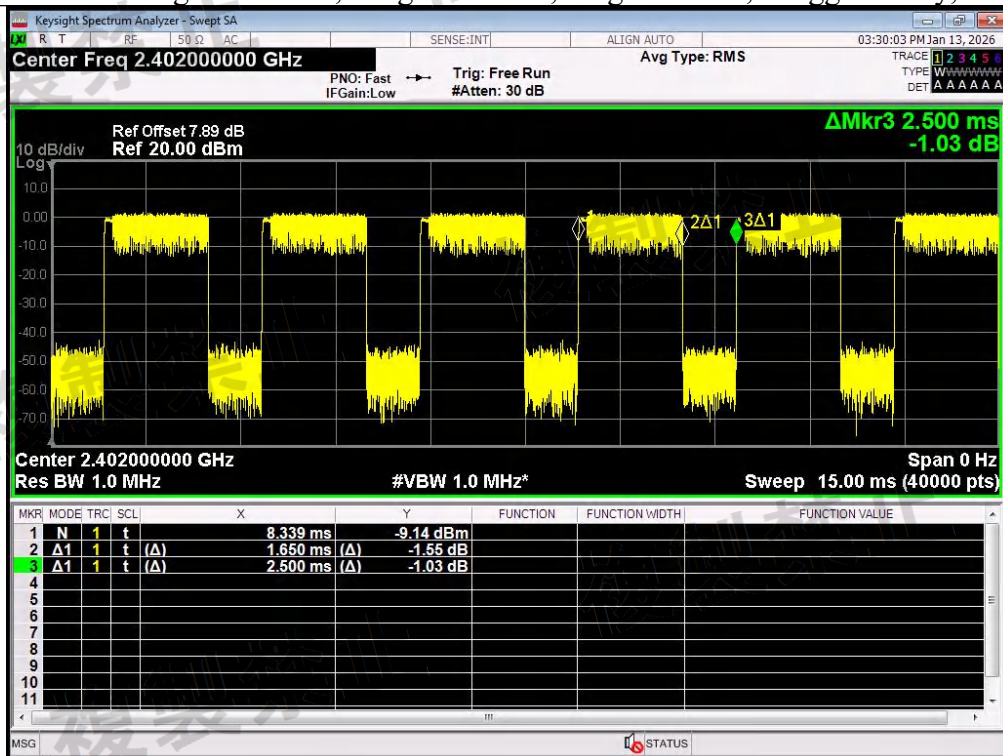
Dwell Time
NT/NV π/4QPSK 2-DH5



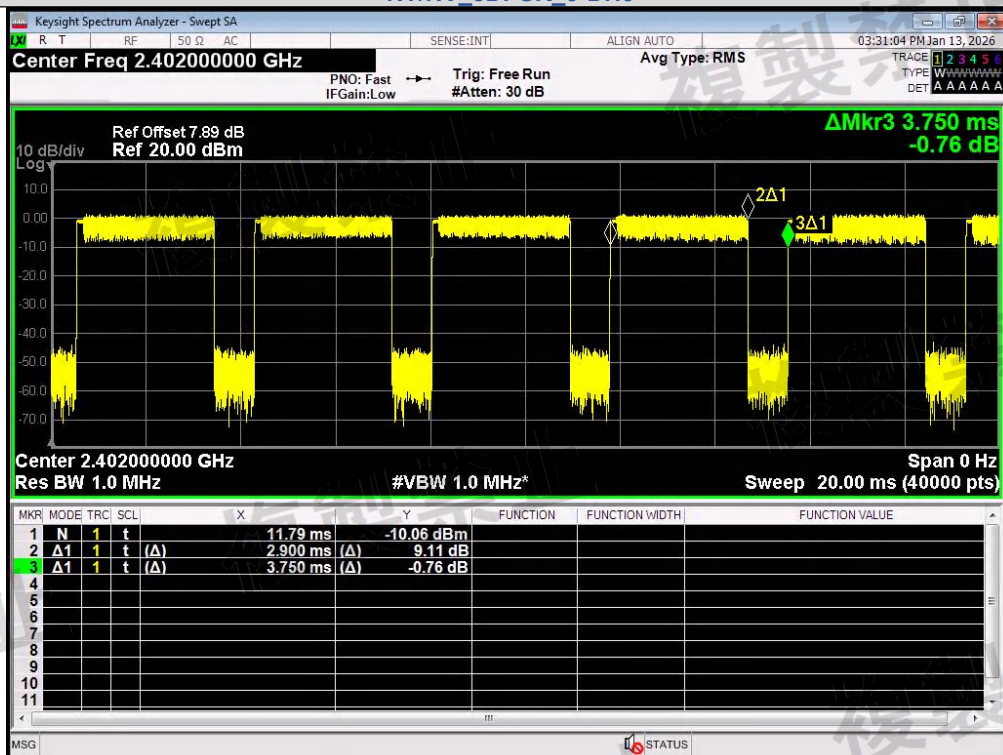
Dwell Time
NT/NV 8DPSK 3-DH1



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Dwell Time
NT/NV_8DPSK_3-DH3



Dwell Time
NT/NV_8DPSK_3-DH5



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A.6 SPURIOUS EMISSIONS

Test Result
GFSK_DH1

Condi on	Frequen cy Range	Lowest Channel			Middle Channel			Highest Channel			Limit (μ W/MH z)
		Peak (Mhz)	Measur ed Value (dbm)	Measur ed Value (μ W/MH z)	Peak (Mhz)	Measur ed Value (dbm)	Measur ed Value (μ W/MH z)	Peak (Mhz)	Measur ed Value (dbm)	Measur ed Value (μ W/MH z)	
NT/NV	30 to 1000	208.634	-51.822	0.007	890.530	-52.453	0.006	182.201	-52.963	0.005	0.25
NT/NV	1000 to 2387	2349.896	-50.208	0.01	2384.295	-51.265	0.007	2029.968	-52.358	0.006	2.5
NT/NV	2387 to 2400	2399.940	-32.098	0.617	2399.996	-45.475	0.028	2393.743	-52.051	0.006	25
NT/NV	2483.5 to 2496.5	2484.940	-51.218	0.008	2490.913	-51.580	0.007	2483.551	-51.141	0.008	25
NT/NV	2496.5 to 12500	9459.284	-54.732	0.003	2517.508	-45.472	0.028	3827.532	-54.255	0.004	2.5
Result:PASS											

π /4DQPSK_2-DH1

Condi on	Frequen cy Range	Lowest Channel			Middle Channel			Highest Channel			Limit (μ W/MH z)
		Peak (Mhz)	Measur ed Value (dbm)	Measur ed Value (μ W/MH z)	Peak (Mhz)	Measur ed Value (dbm)	Measur ed Value (μ W/MH z)	Peak (Mhz)	Measur ed Value (dbm)	Measur ed Value (μ W/MH z)	
NT/NV	30 to 1000	188.312	-53.244	0.005	863.757	-52.804	0.005	51.972	-52.756	0.005	0.25
NT/NV	1000 to 2387	2350.312	-50.620	0.009	2356.068	-51.124	0.008	2064.298	-52.245	0.006	2.5
NT/NV	2387 to 2400	2399.986	-32.426	0.572	2394.122	-47.857	0.016	2394.473	-51.666	0.007	25
NT/NV	2483.5 to 2496.5	2495.563	-51.031	0.008	2496.039	-50.615	0.009	2483.538	-46.862	0.021	25
NT/NV	2496.5 to 12500	9409.764	-54.534	0.004	4885.955	-53.710	0.004	5351.141	-54.299	0.004	2.5
Result:PASS											

8DPSK_3-DH1

Condi on	Frequen cy Range	Lowest Channel			Middle Channel			Highest Channel			Limit (μ W/MH z)
		Peak (Mhz)	Measur ed Value (dbm)	Measur ed Value (μ W/MH z)	Peak (Mhz)	Measur ed Value (dbm)	Measur ed Value (μ W/MH z)	Peak (Mhz)	Measur ed Value (dbm)	Measur ed Value (μ W/MH z)	
NT/NV	30 to 1000	251.317	-52.727	0.005	52.020	-52.783	0.005	764.036	-52.954	0.005	0.25
NT/NV	1000 to 2387	2350.243	-50.934	0.008	2358.912	-49.732	0.011	2140.448	-51.917	0.006	2.5
NT/NV	2387 to 2400	2399.993	-33.704	0.426	2399.964	-36.159	0.242	2397.592	-51.879	0.006	25
NT/NV	2483.5 to 2496.5	2495.123	-51.695	0.007	2483.661	-49.535	0.011	2483.679	-49.314	0.012	25
NT/NV	2496.5 to 12500	4803.422	-53.262	0.005	2523.511	-47.678	0.017	9507.804	-54.378	0.004	2.5
Result:PASS											

Hopping

Mode	Ch.	Range	Peak (MHz)	Emission (dBm)	Limit	Margin (dBm)	Result
GFSK_DH1	Hopping	30 to 1000	890.530027	-52.453	-36	-16.45	PASS
GFSK_DH1	Hopping	1000 to 2387	2384.295215	-51.265	-26	-25.27	PASS
GFSK_DH1	Hopping	2387 to 2400	2399.9961	-45.475	-16	-29.48	PASS
GFSK_DH1	Hopping	2483.5 to 2496.5	2490.912971	-51.58	-16	-35.58	PASS

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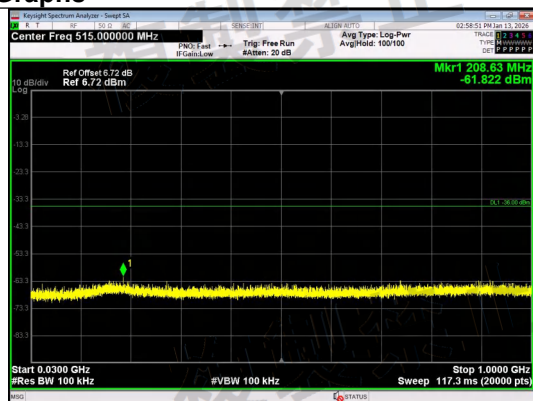
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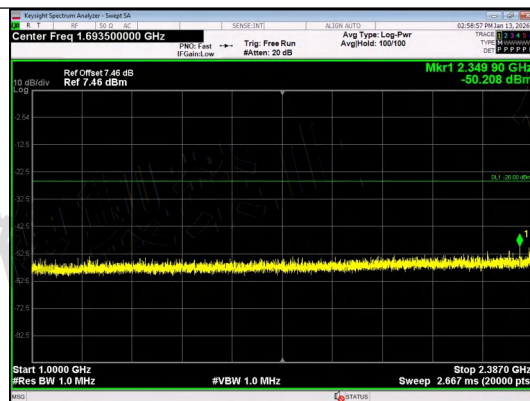
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GFSK_DH1	Hopping	2517.5084	-45.472	-26	-19.47	2517.5084	PASS
$\pi/4$ DQPSK_2-DH1	Hopping	863.756688	-52.804	-36	-16.8	863.756688	PASS
$\pi/4$ DQPSK_2-DH1	Hopping	2356.068353	-51.124	-26	-25.12	2356.068353	PASS
$\pi/4$ DQPSK_2-DH1	Hopping	2394.121756	-47.857	-16	-31.86	2394.121756	PASS
$\pi/4$ DQPSK_2-DH1	Hopping	2496.039127	-50.615	-16	-34.62	2496.039127	PASS
$\pi/4$ DQPSK_2-DH1	Hopping	4885.955448	-53.71	-26	-27.71	4885.955448	PASS
8DPSK_3-DH1	Hopping	52.020101	-52.783	-36	-16.78	52.020101	PASS
8DPSK_3-DH1	Hopping	2358.911846	-49.732	-26	-23.73	2358.911846	PASS
8DPSK_3-DH1	Hopping	2399.964248	-36.159	-16	-20.16	2399.964248	PASS
8DPSK_3-DH1	Hopping	2483.660558	-49.535	-16	-33.53	2483.660558	PASS
8DPSK_3-DH1	Hopping	2523.510801	-47.678	-26	-21.68	2523.510801	PASS

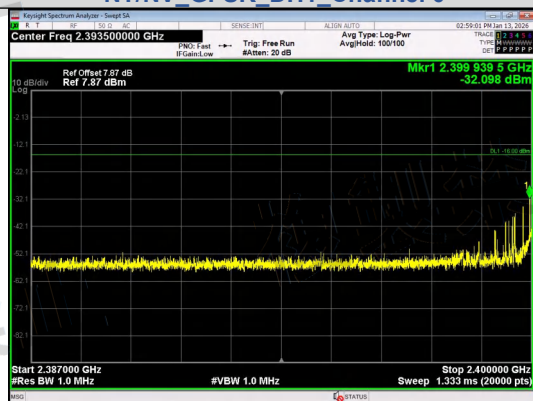
Test Graphs



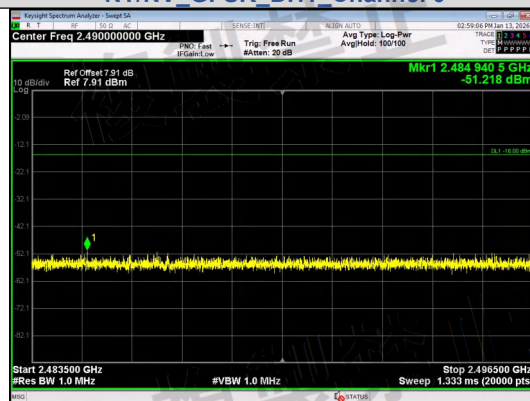
30 to 1000MHz
NT/NV_GFSK_DH1_Channel 0



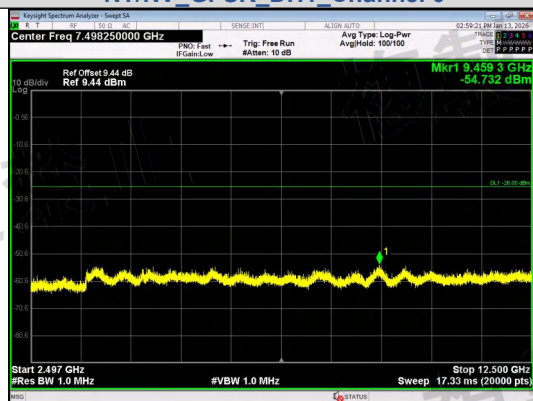
1000 to 2387MHz
NT/NV_GFSK_DH1_Channel 0



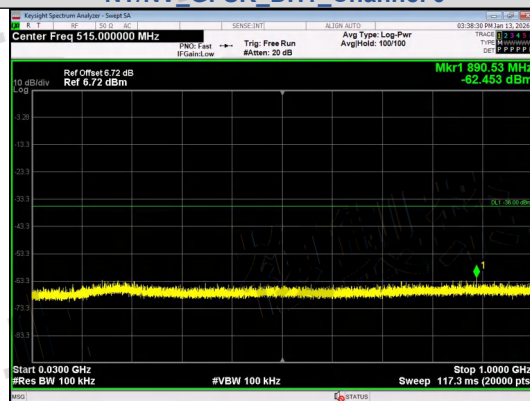
2387 to 2400MHz
NT/NV_GFSK_DH1_Channel 0



2483.5 to 2496.5MHz
NT/NV_GFSK_DH1_Channel 0



2496.5 to 12500MHz
NT/NV_GFSK_DH1_Channel 0



30 to 1000MHz
NT/NV_GFSK_DH1_Channel 39