



Appendix E for BT Test Data

Product Name: Smartphone

Test Model: NOTE 60

Environmental Conditions

Temperature:	24.5° C
Relative Humidity:	53.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Paddi Chen
Supervised by:	Nick Peng



Shenzhen LCS Compliance Testing Laboratory Ltd.
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E.1 RF Output Power

Condition	Mode	Packet Type	Max EIRP (dBm)	Limit (dBm)	Verdict
NTNV	GFSK	DH5	3.47	20	Pass
NTNV	Pi/4DQPSK	2DH5	2.94	20	Pass
NTNV	8DPSK	3DH5	2.96	20	Pass
HTNV	GFSK	DH5	3.43	20	Pass
HTNV	Pi/4DQPSK	2DH5	2.95	20	Pass
HTNV	8DPSK	3DH5	2.92	20	Pass
LTVN	GFSK	DH5	3.42	20	Pass
LTVN	Pi/4DQPSK	2DH5	2.95	20	Pass
LTVN	8DPSK	3DH5	2.94	20	Pass

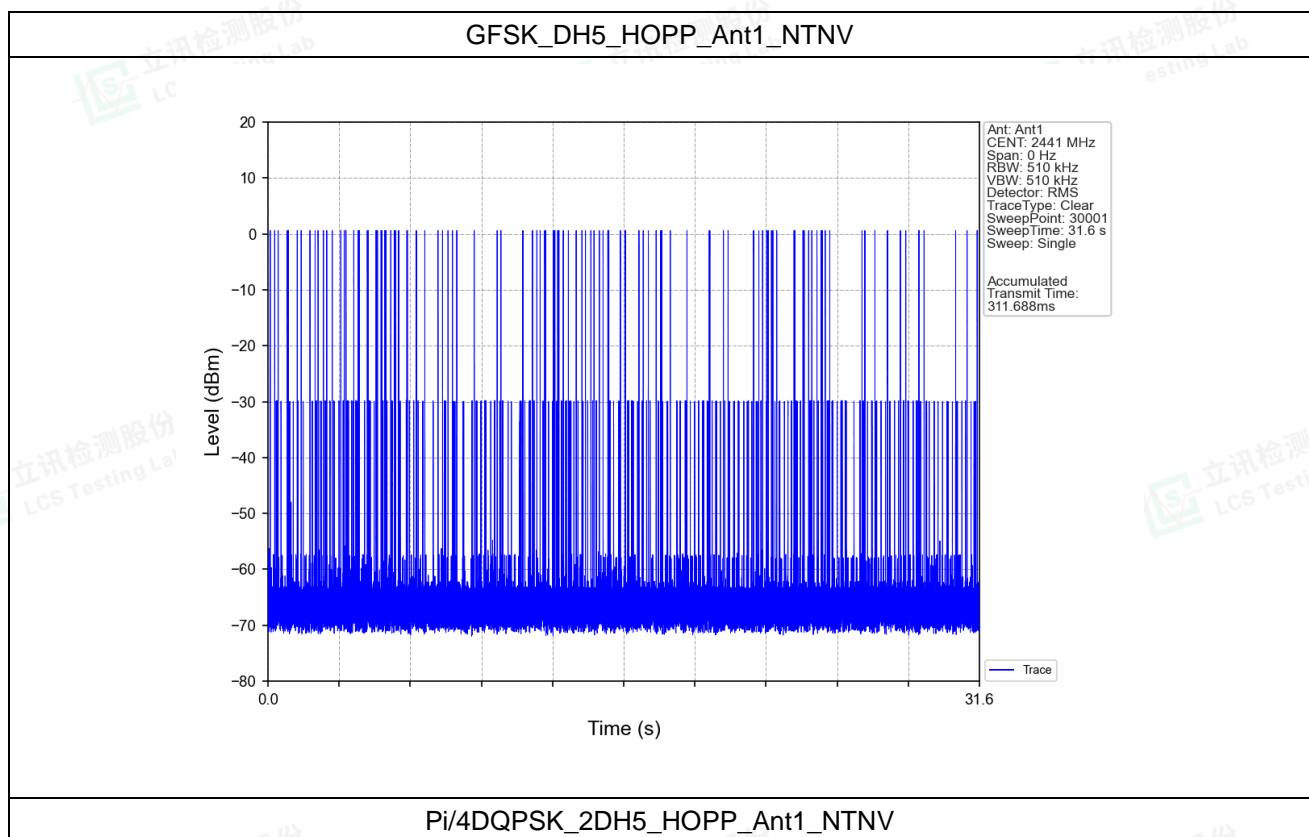
Note: 20 bursts had been captured for power measurement.

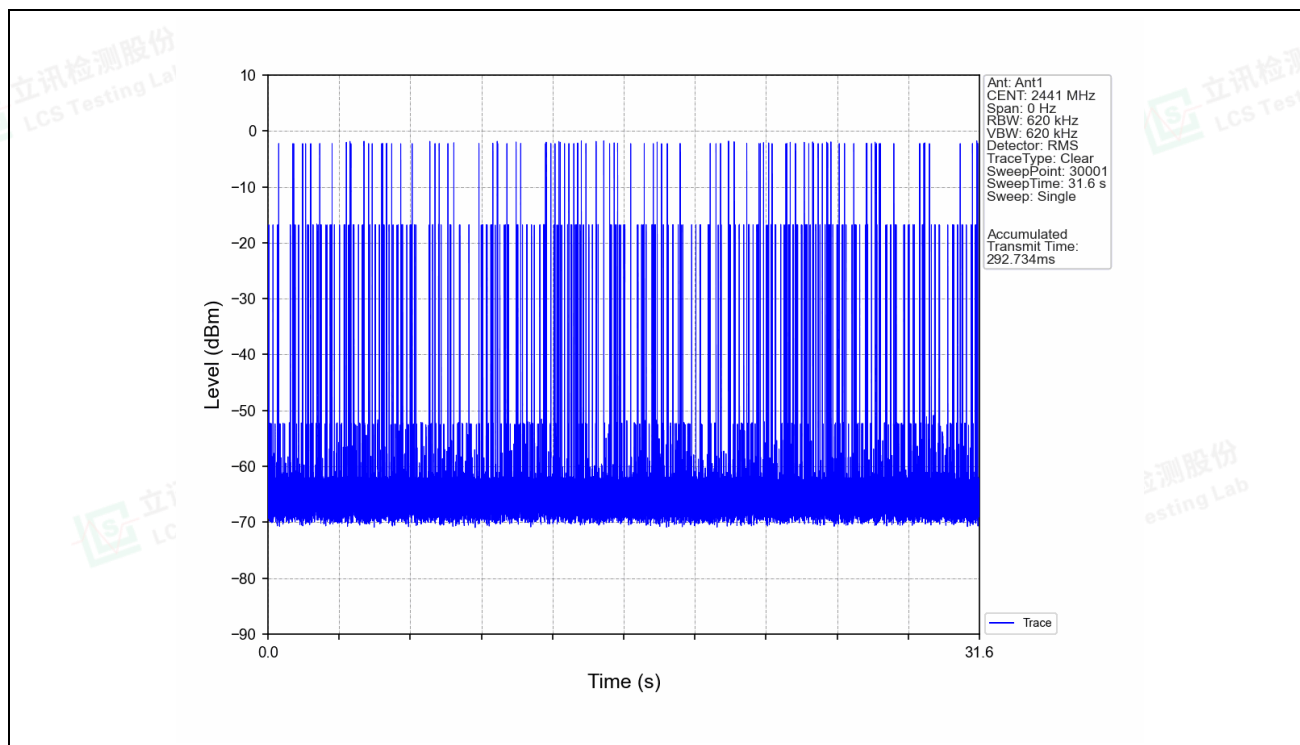


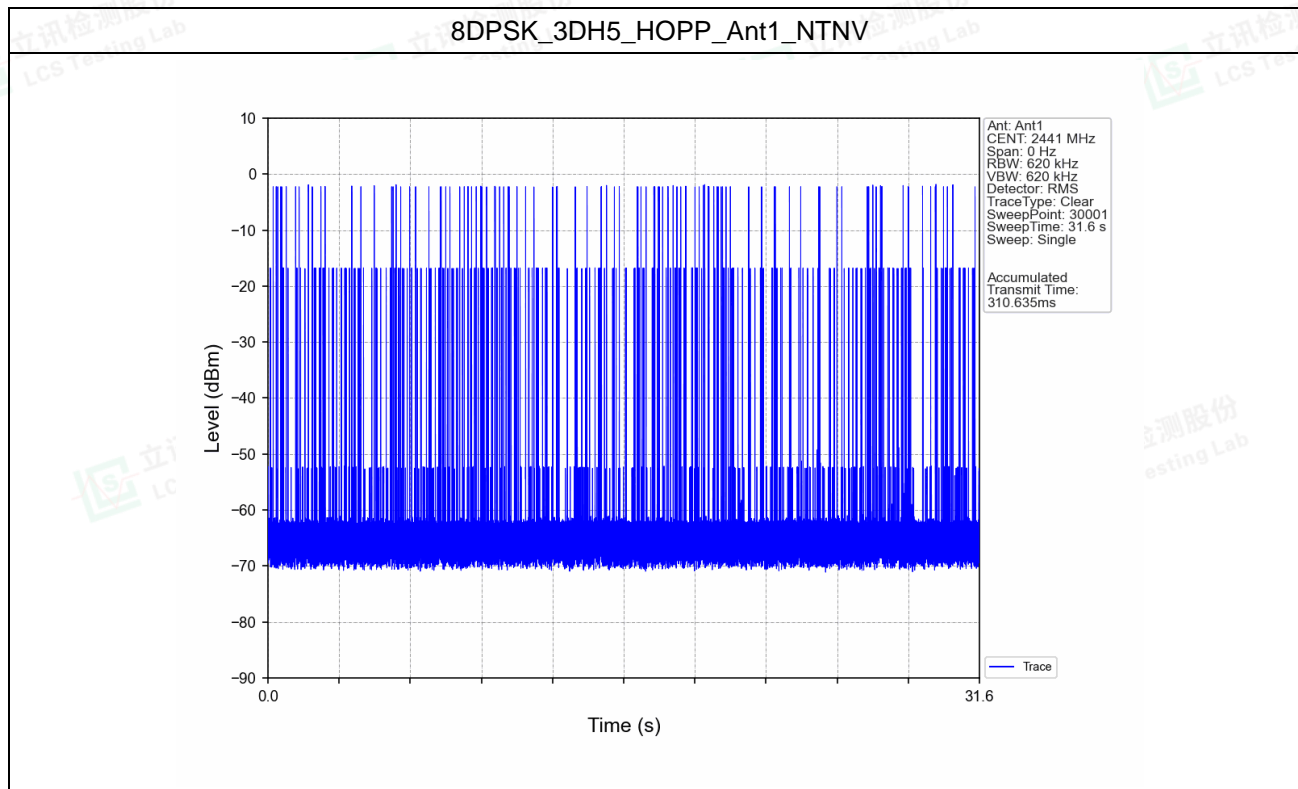


E.2 Accumulated Transmit Time

Ant1										
ENV	Mode	TX Type	Frequency (MHz)	Packet Type	HOPP Num_Mini	Data Points Of T_on	Duration Of One Point (ms)	Accumulated Transmit Time (ms)		Verdict
								Result	Limit	
NTNV	GFSK	SISO	HOPP	DH5	79	296	1.053	311.688	<=400	Pass
	Pi/4DQPSK	SISO	HOPP	2DH5	79	278	1.053	292.734	<=400	Pass
	8DPSK	SISO	HOPP	3DH5	79	295	1.053	310.635	<=400	Pass



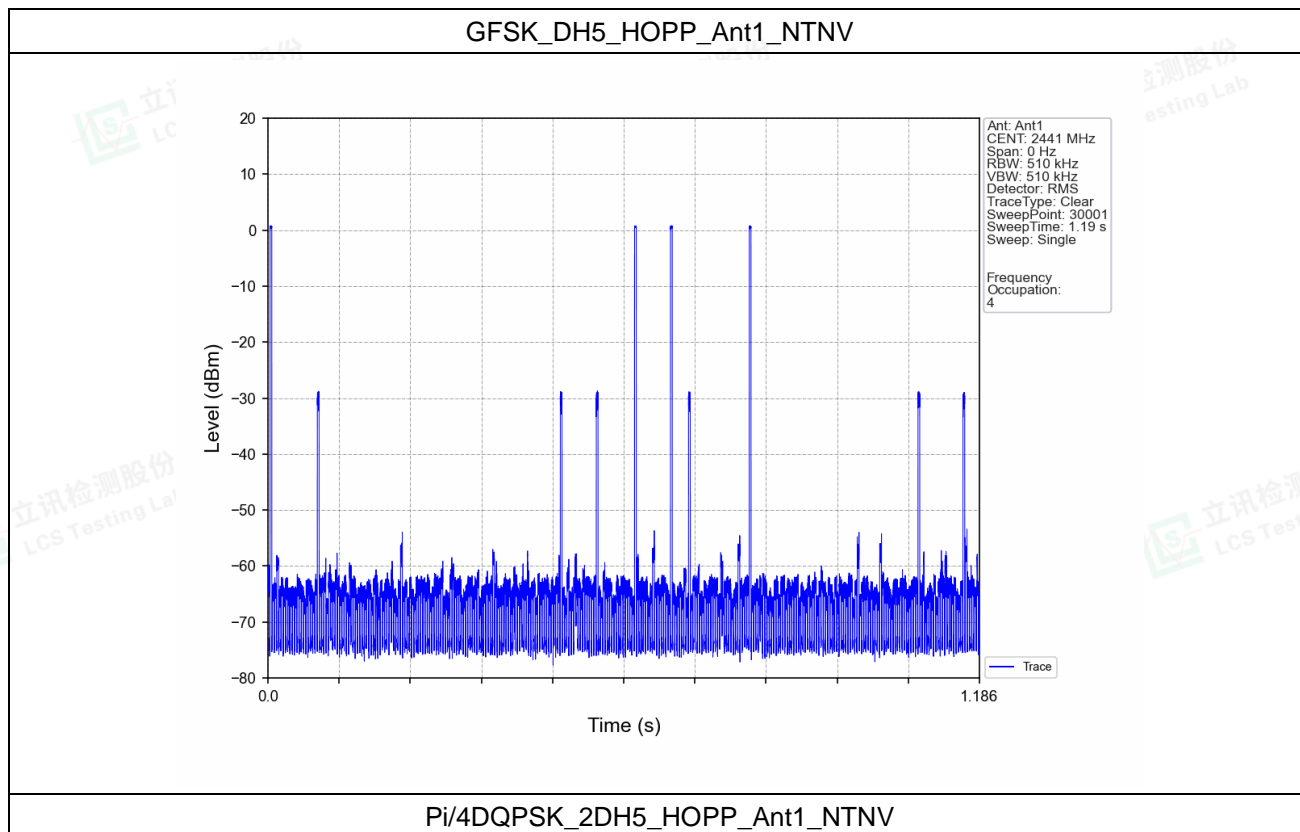


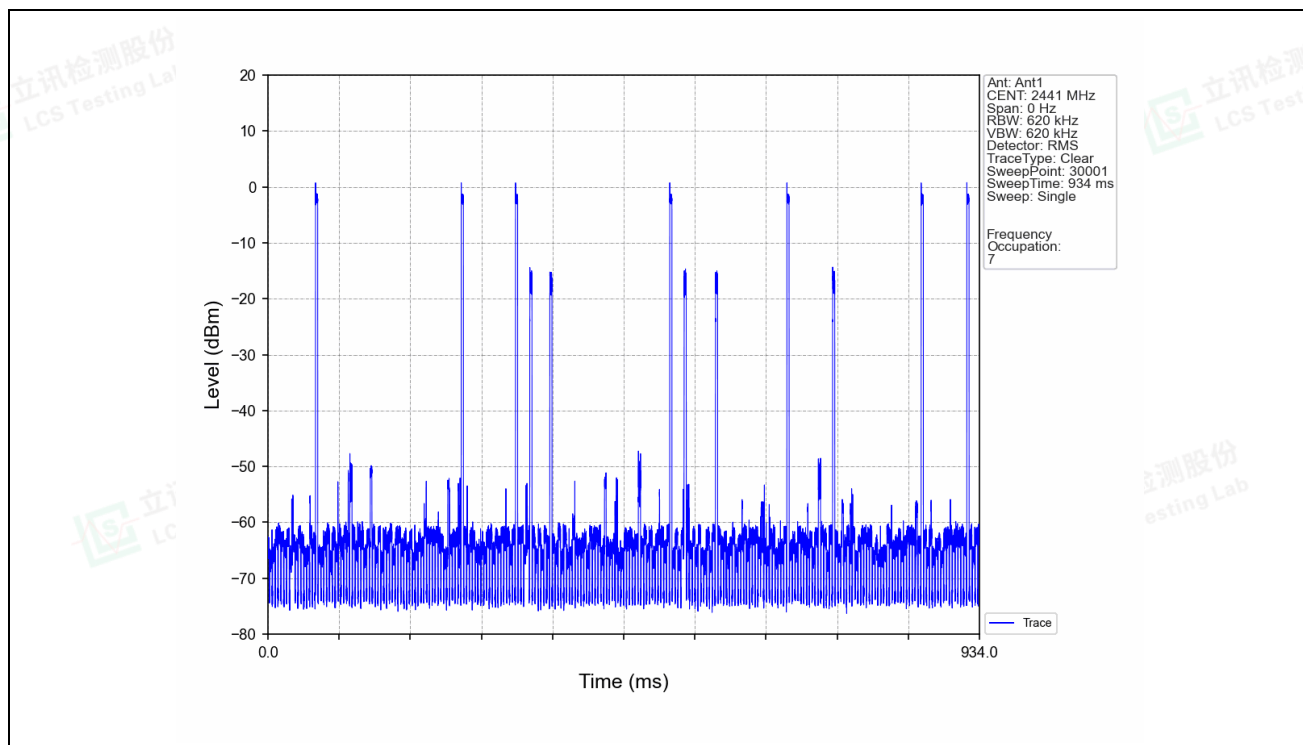


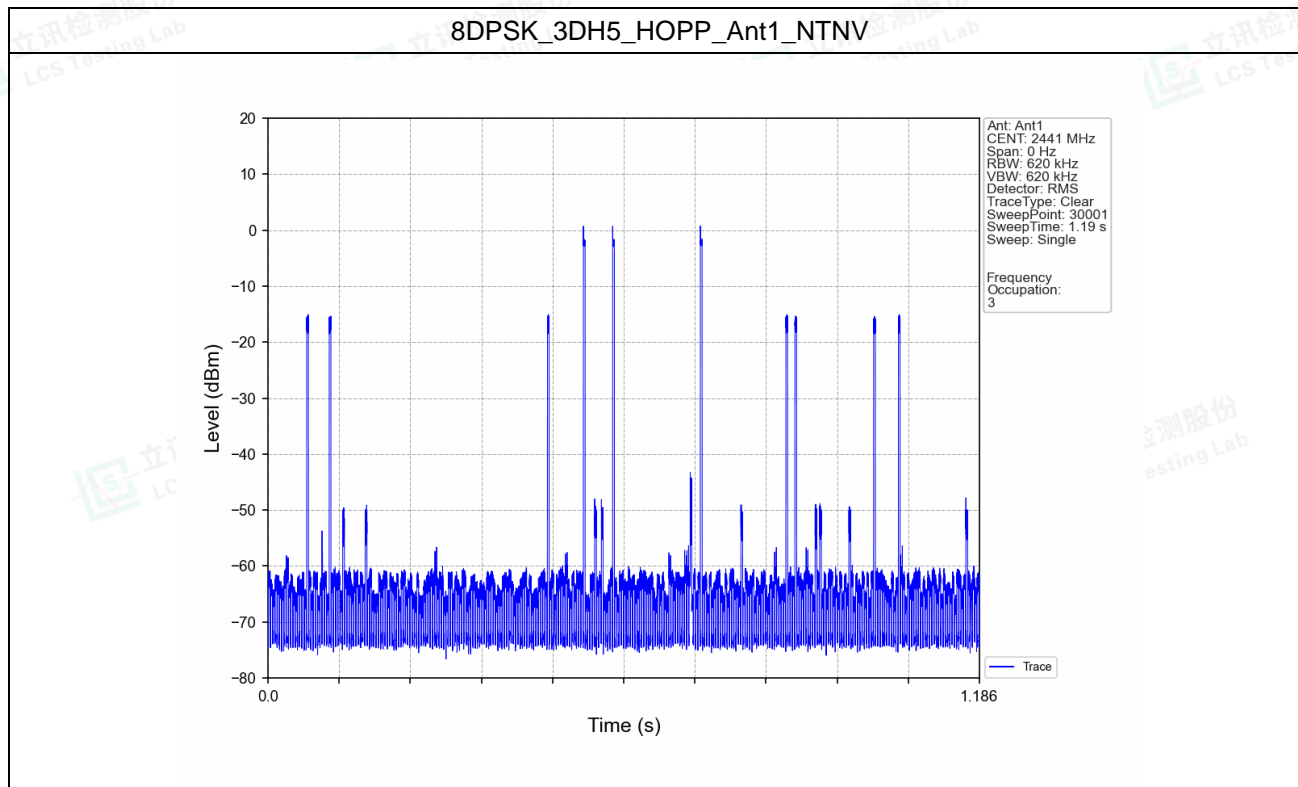


E.3 Frequency Occupation

Ant1									
ENV	Mode	TX Type	Frequency (MHz)	Packet Type	HOPP Num_Mini	Dwell Time (ms)	Frequency Occupation (N)		Verdict
							Result	Limit	
NTNV	GFSK	SISO	HOPP	DH5	79	3.750	4	>=1	Pass
	Pi/4DQPSK	SISO	HOPP	2DH5	79	2.951	7	>=1	Pass
	8DPSK	SISO	HOPP	3DH5	79	3.750	3	>=1	Pass



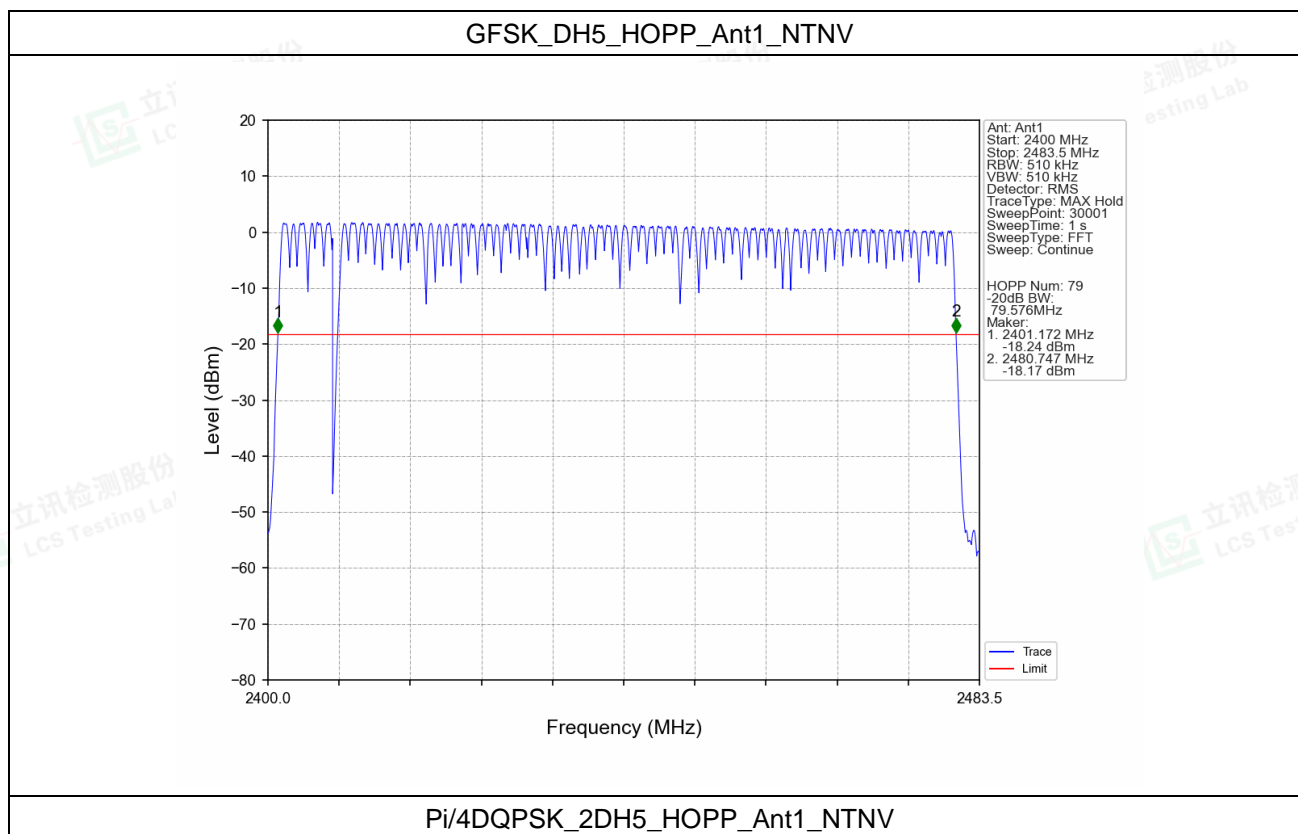


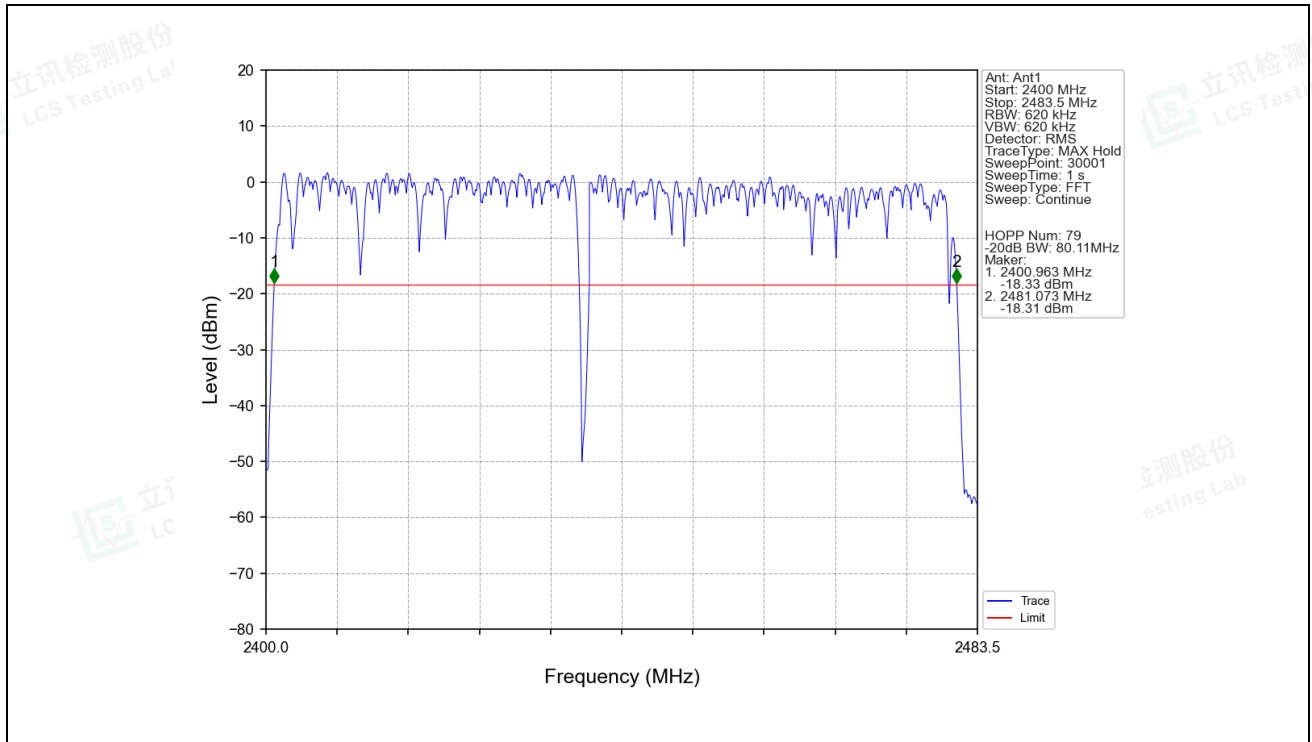


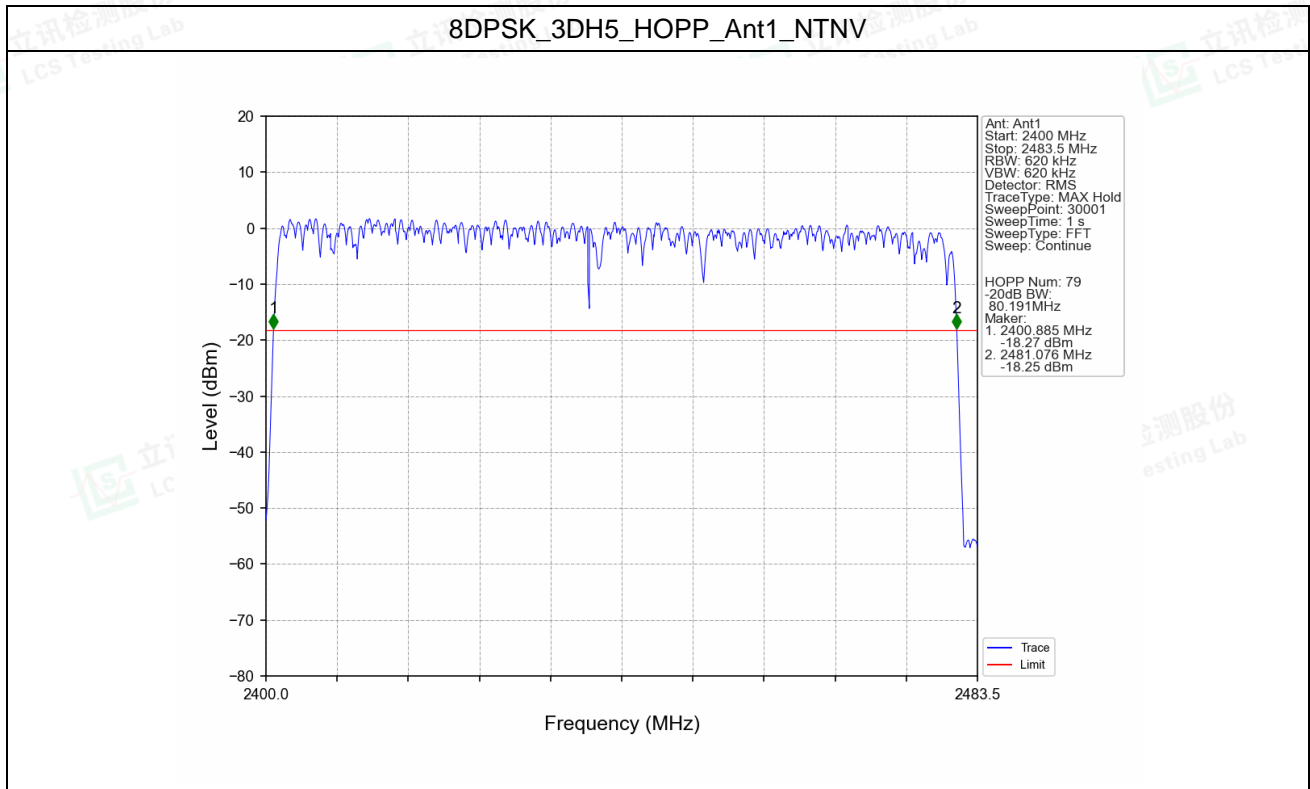


E.4 Hopping Sequence

Ant1									
ENV	Mode	TX Type	Frequency (MHz)	Packet Type	HOPP Num (N)		-20 dB Bandwidth (MHz)		Verdict
					Result	Limit	Result	Limit	
NTNV	GFSK	SISO	HOPP	DH5	79	≥ 15	79.576	≥ 58.45	Pass
	Pi/4DQPSK	SISO	HOPP	2DH5	79	≥ 15	80.110	≥ 58.45	Pass
	8DPSK	SISO	HOPP	3DH5	79	≥ 15	80.191	≥ 58.45	Pass



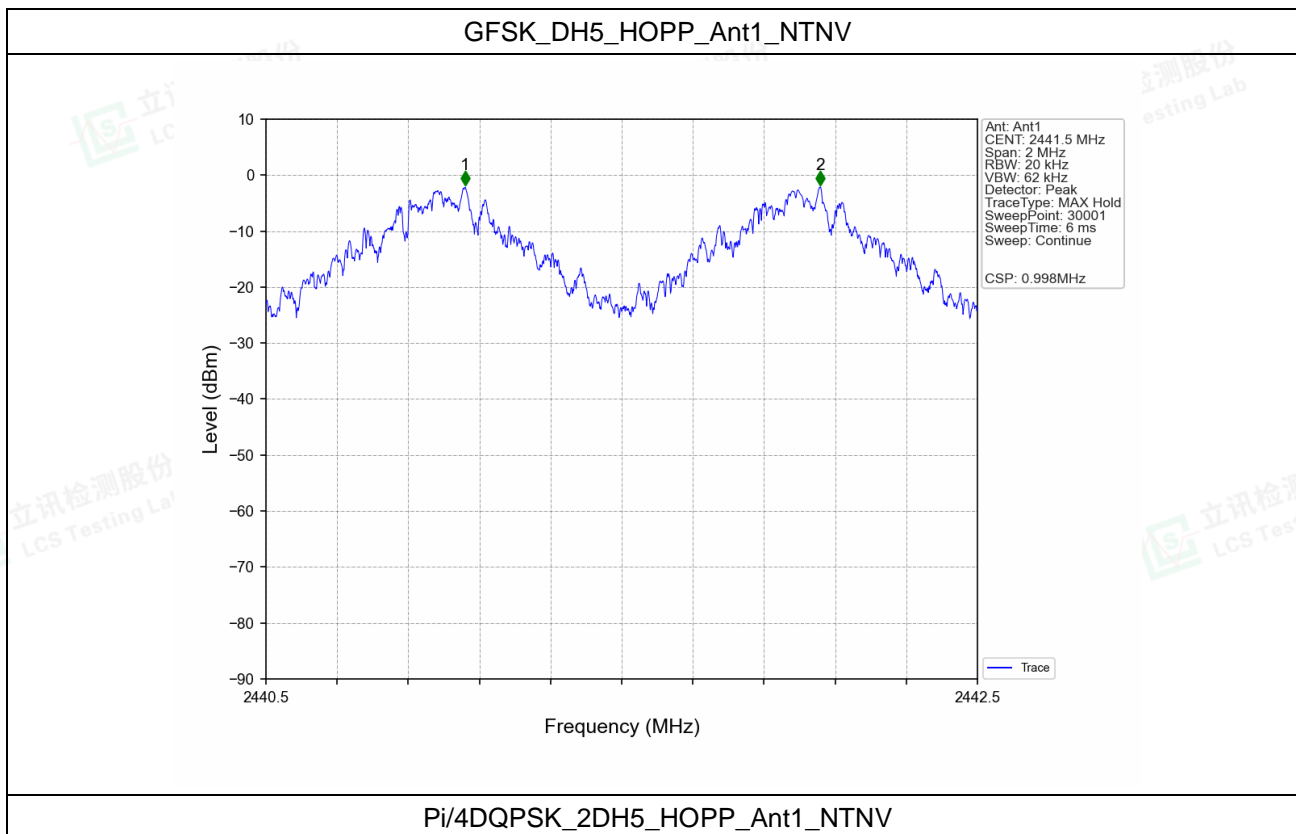


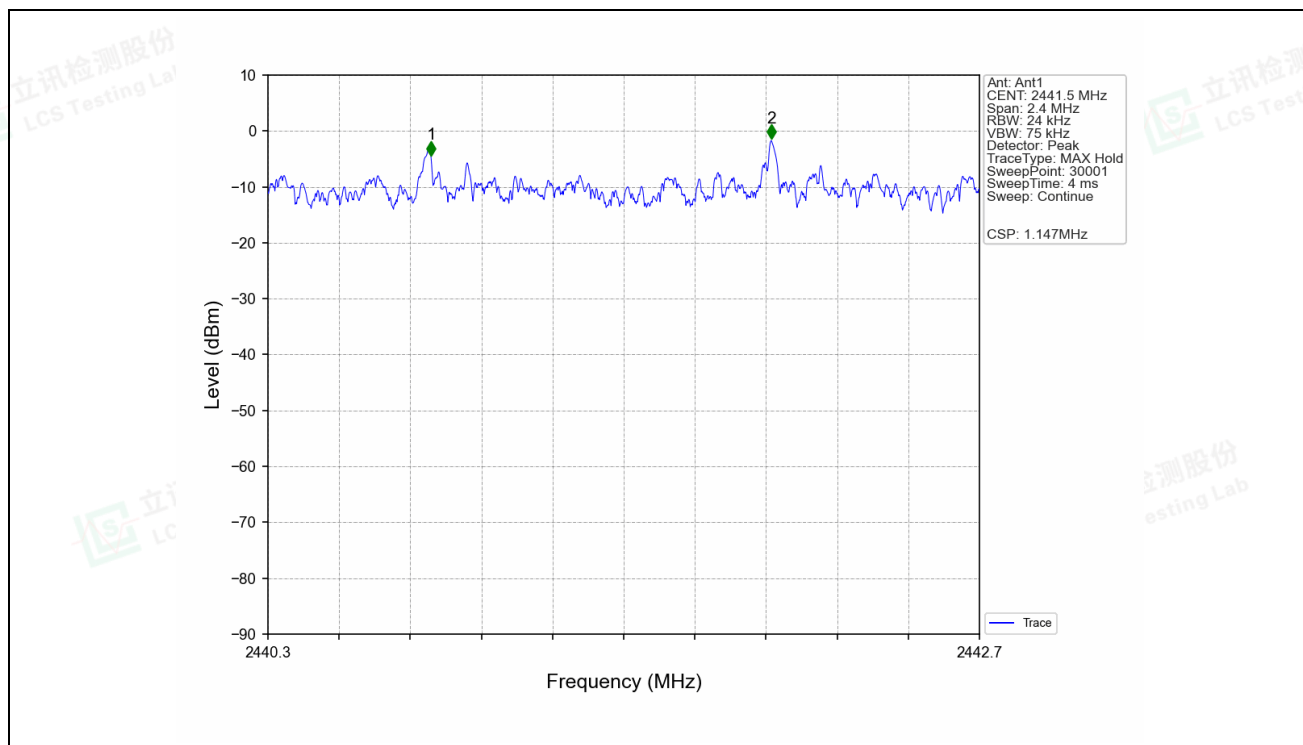


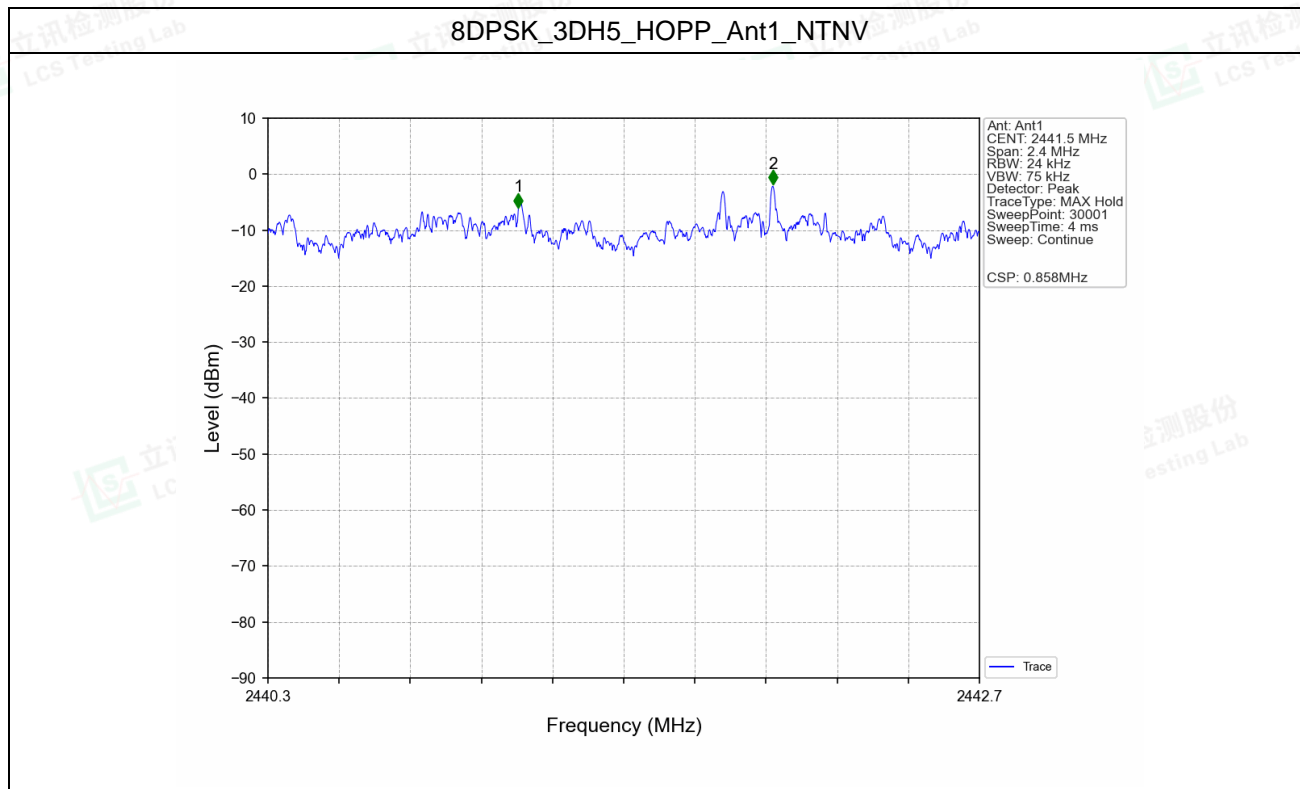


E.5 Hopping Frequency Separation

Ant1							
ENV	Mode	TX Type	Frequency (MHz)	Packet Type	Channel Separation (MHz)	Limit (MHz)	Verdict
NTNV	GFSK	SISO	HOPP	DH5	0.998	≥ 0.1	Pass
	Pi/4DQPSK	SISO	HOPP	2DH5	1.147	≥ 0.1	Pass
	8DPSK	SISO	HOPP	3DH5	0.858	≥ 0.1	Pass





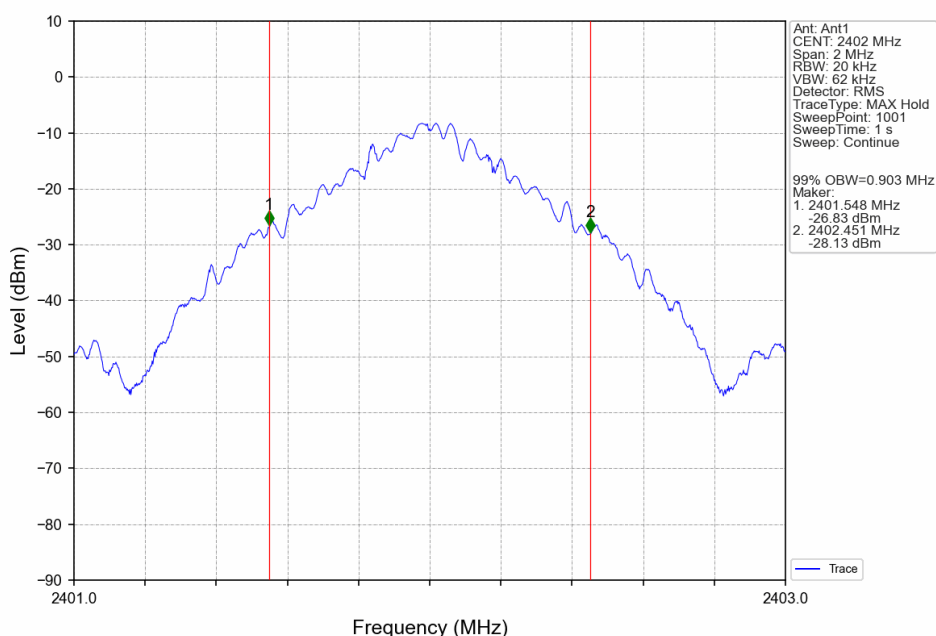




E.6 Occupied Channel Bandwidth

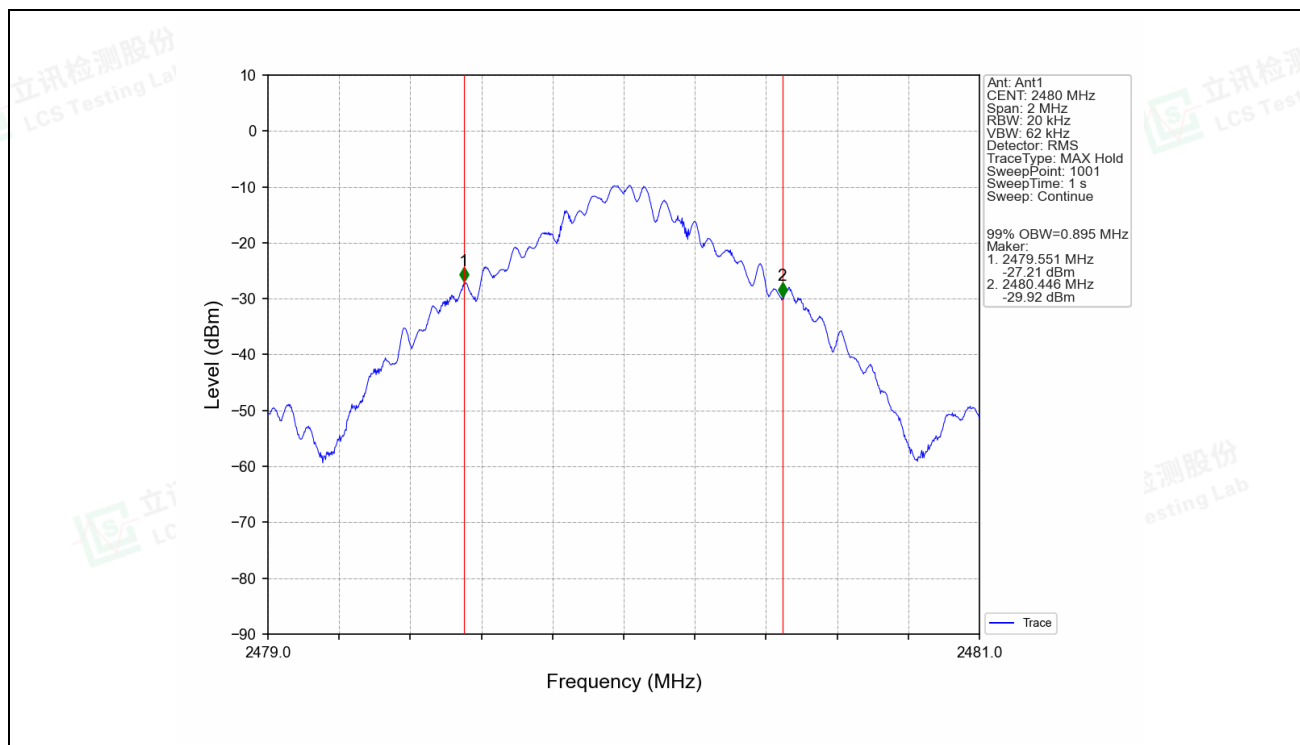
Ant1									
ENV	Mode	TX Type	Frequency (MHz)	Packet Type	OBW (MHz)	Frequency Range (MHz)			Verdict
					Result	FL	FH	Limit	
NTNV	GFSK	SISO	2402	DH5	0.903	2401.548	/	>=2400	Pass
			2480	DH5	0.895	/	2480.446	<=2483.5	Pass
	Pi/4DQPSK	SISO	2402	2DH5	1.209	2401.400	/	>=2400	Pass
			2480	2DH5	1.205	/	2480.605	<=2483.5	Pass
	8DPSK	SISO	2402	3DH5	1.217	2401.389	/	>=2400	Pass
			2480	3DH5	1.213	/	2480.602	<=2483.5	Pass

GFSK_DH5_2402MHz_Ant1_NTNV



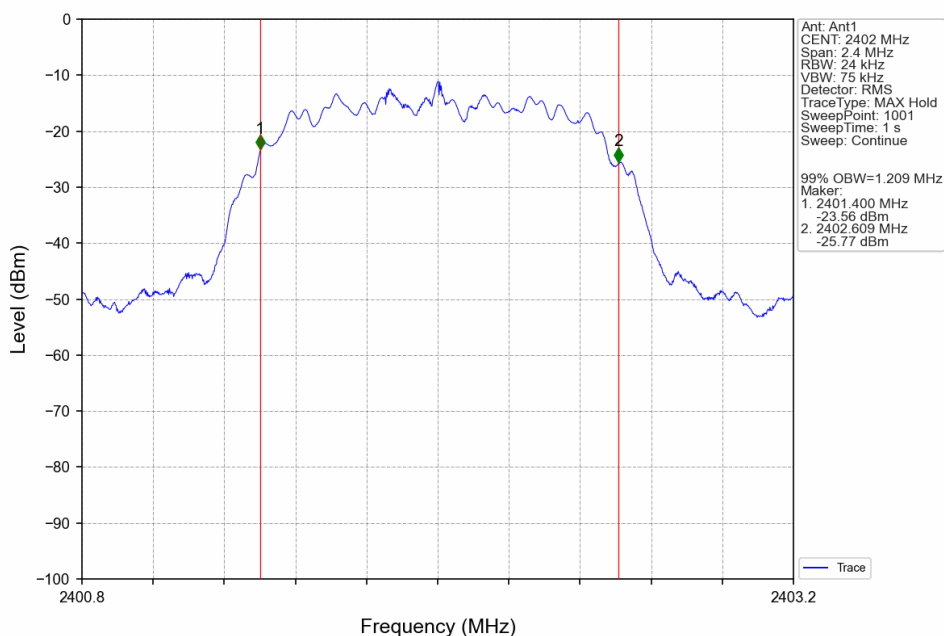
GFSK_DH5_2480MHz_Ant1_NTNV



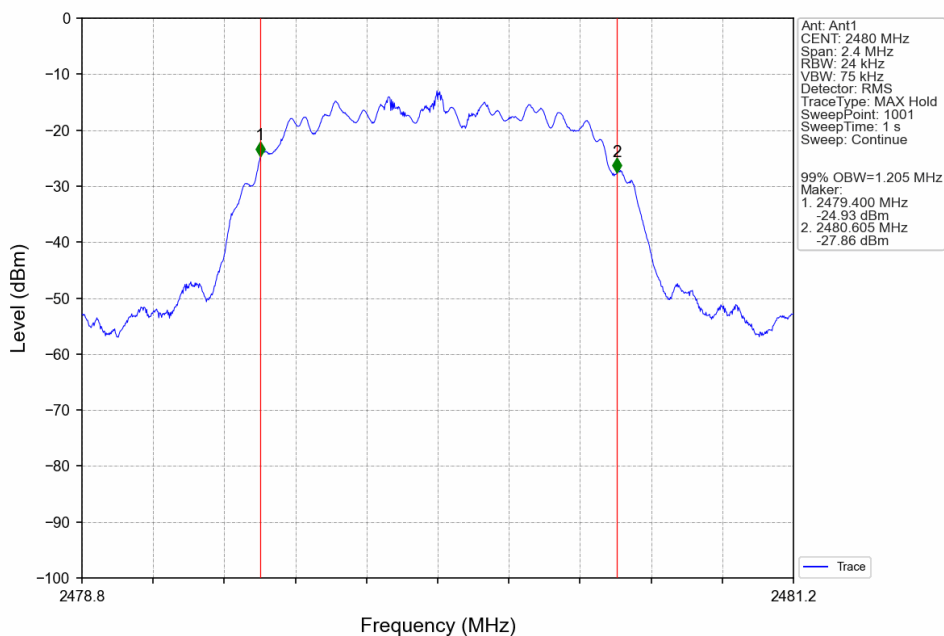




Pi/4DQPSK_2DH5_2402MHz_Ant1_NTNV

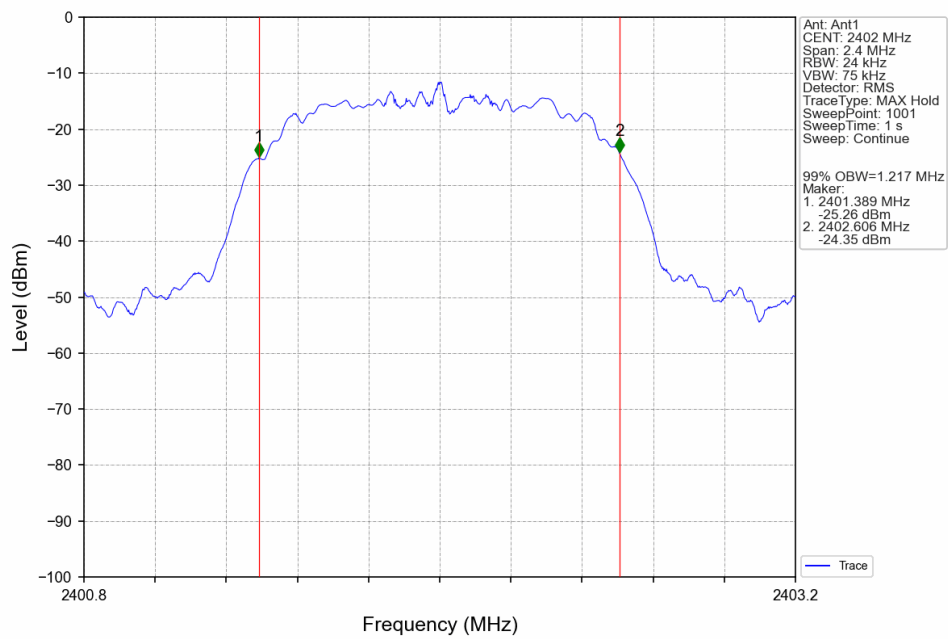


Pi/4DQPSK_2DH5_2480MHz_Ant1_NTNV

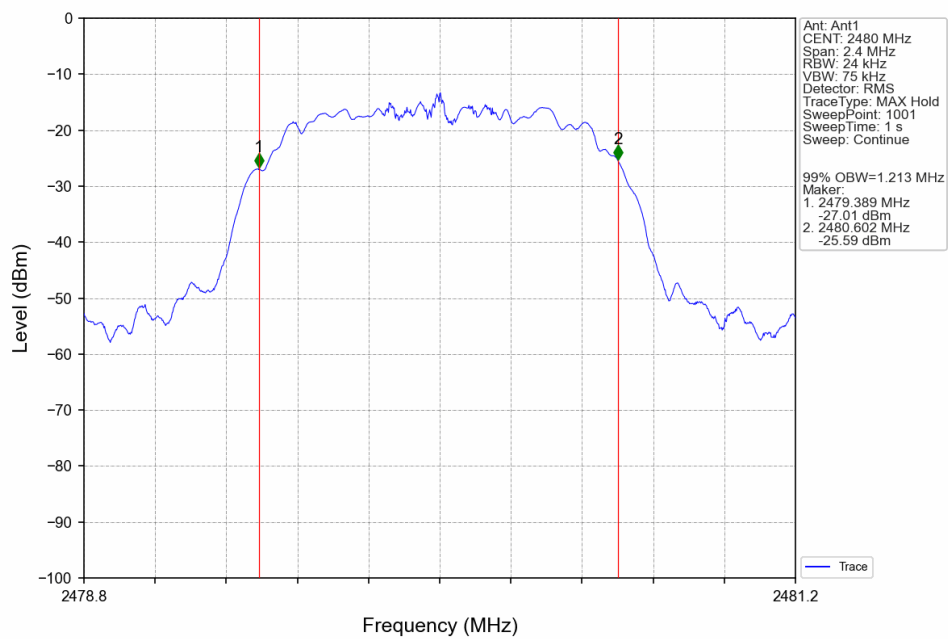




8DPSK_3DH5_2402MHz_Ant1_NTNV



8DPSK_3DH5_2480MHz_Ant1_NTNV





E.7 Transmitter unwanted emissions in the out-of-band domain

Ant1_NTNV								
Mode	TX Type	Frequency (MHz)	Packet Type	ANT	Test Freq. (MHz)	Result (dBm/MHz)	Limit (dBm/MHz)	Verdict
GFSK	SISO	HOPP	DH5	1	2398.500	-62.77	<=-20	Pass
					2399.500	-60.76	<=-10	Pass
		HOPP	DH5	1	2484.000	-65.77	<=-10	Pass
					2485.000	-62.11	<=-20	Pass

Ant1_NTNV								
Mode	TX Type	Frequency (MHz)	Packet Type	ANT	Test Freq. (MHz)	Result (dBm/MHz)	Limit (dBm/MHz)	Verdict
Pi/4DQPSK	SISO	HOPP	2DH5	1	2398.082	-66.30	<=-20	Pass
					2398.291	-63.10	<=-20	Pass
					2399.291	-61.27	<=-10	Pass
					2399.500	-61.68	<=-10	Pass
		HOPP	2DH5	1	2484.000	-66.50	<=-10	Pass
					2484.205	-66.86	<=-10	Pass
					2485.205	-64.00	<=-20	Pass
					2485.410	-69.46	<=-20	Pass

Ant1_NTNV								
Mode	TX Type	Frequency (MHz)	Packet Type	ANT	Test Freq. (MHz)	Result (dBm/MHz)	Limit (dBm/MHz)	Verdict
8DPSK	SISO	HOPP	3DH5	1	2398.066	-62.30	<=-20	Pass
					2398.283	-62.76	<=-20	Pass
					2399.283	-62.64	<=-10	Pass
					2399.500	-64.11	<=-10	Pass
		HOPP	3DH5	1	2484.000	-65.41	<=-10	Pass
					2484.213	-64.37	<=-10	Pass
					2485.213	-64.91	<=-20	Pass
					2485.426	-66.15	<=-20	Pass



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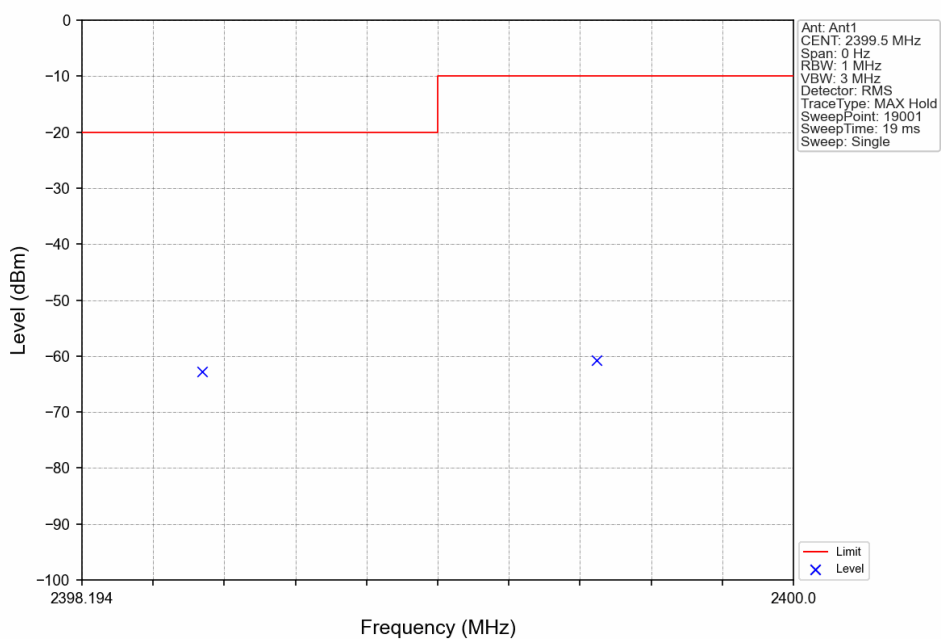
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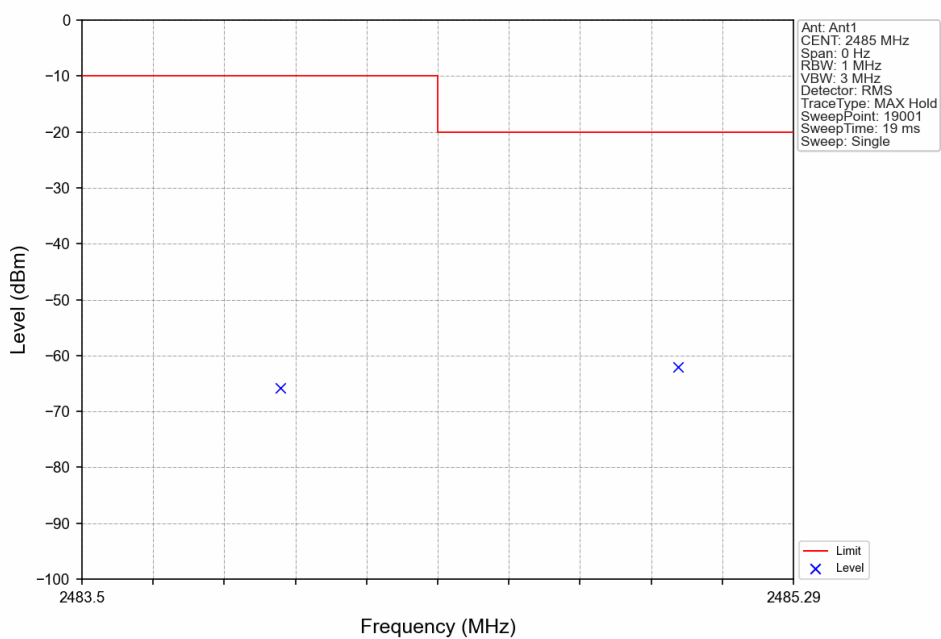
Scan code to check authenticity



GFSK_DH5_HOPP_Ant1_NTNV

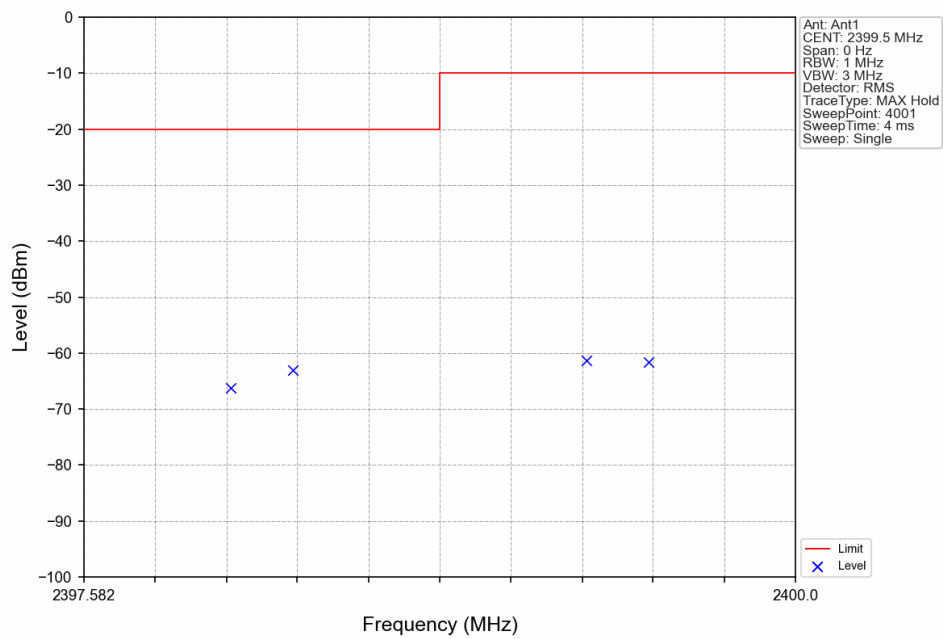


GFSK_DH5_HOPP_Ant1_NTNV

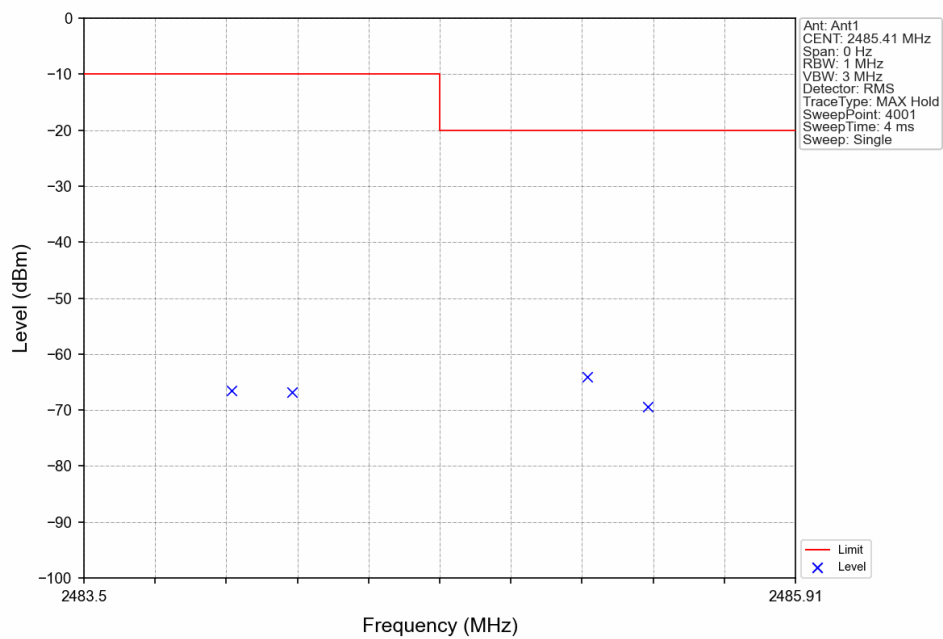




Pi/4DQPSK_2DH5_HOPP_Ant1_NTNV

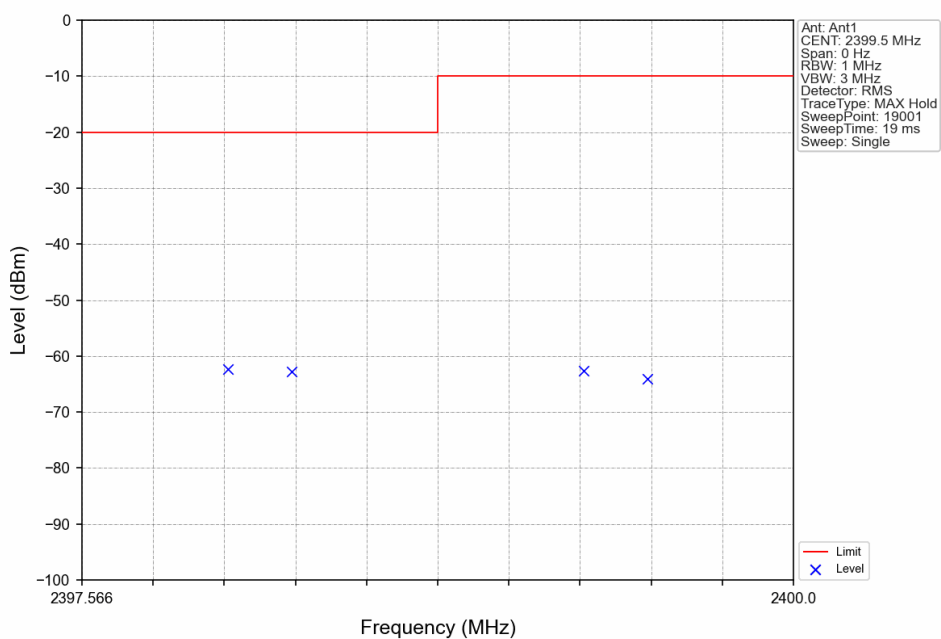


Pi/4DQPSK_2DH5_HOPP_Ant1_NTNV

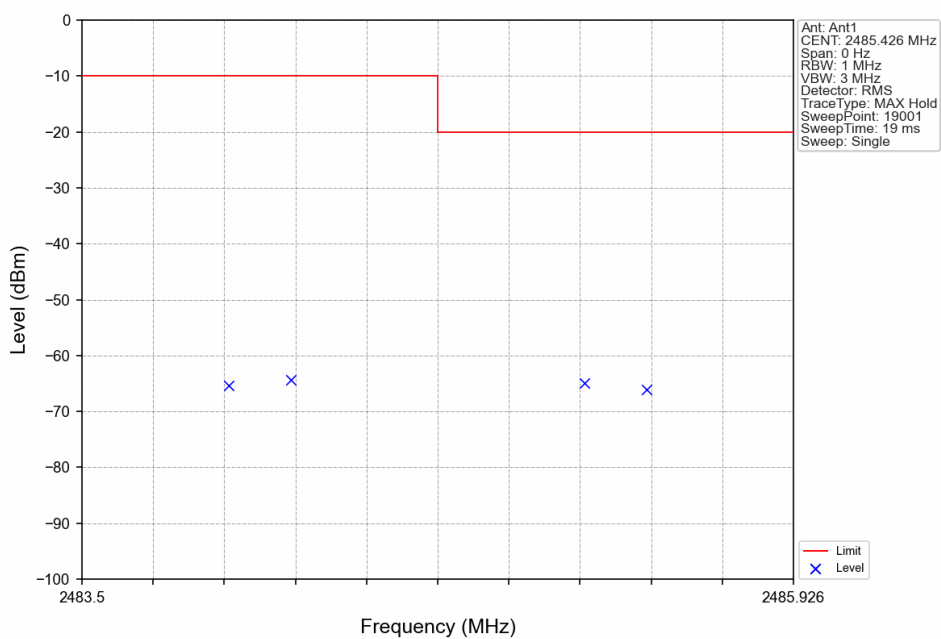




8DPSK_3DH5_HOPP_Ant1_NTNV



8DPSK_3DH5_HOPP_Ant1_NTNV

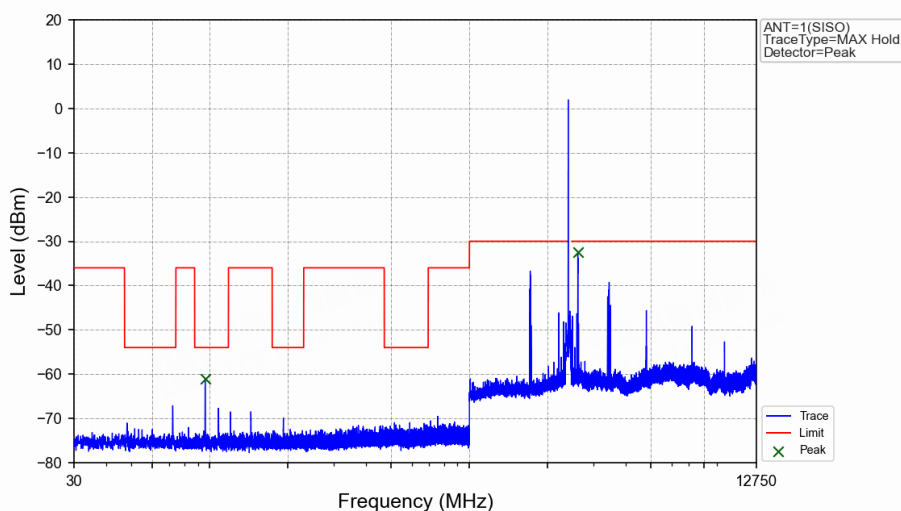




E.8 Transmitter unwanted emissions in the spurious domain

ENV	Mode	TX Type	Frequency (MHz)	Packet Type	ANT	Test Result	Limit	Verdict
NTNV	GFSK	SISO	2402	DH5	1	Refer To Test Graph		Pass
			2480	DH5	1	Refer To Test Graph		Pass
	Pi/4DQPSK	SISO	2402	2DH5	1	Refer To Test Graph		Pass
			2480	2DH5	1	Refer To Test Graph		Pass
	8DPSK	SISO	2402	3DH5	1	Refer To Test Graph		Pass
			2480	3DH5	1	Refer To Test Graph		Pass

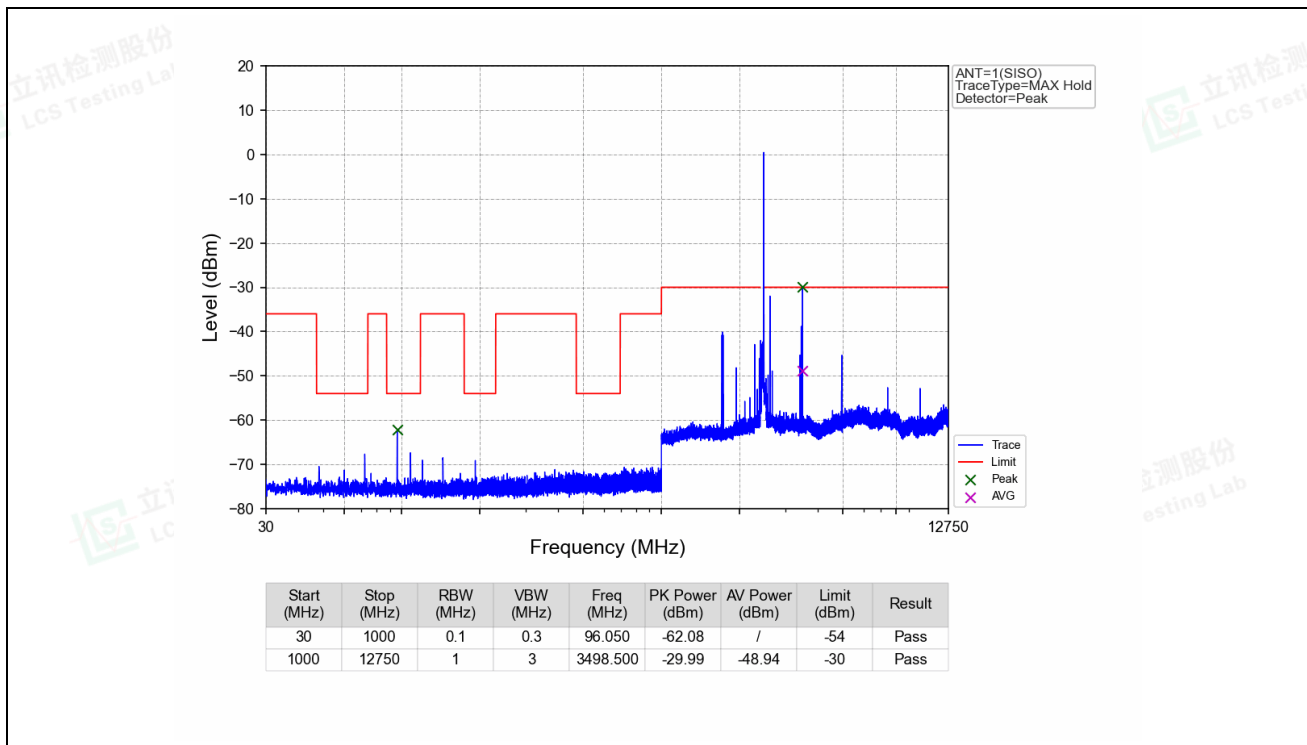
GFSK_DH5_2402MHz_Ant1_NTNV

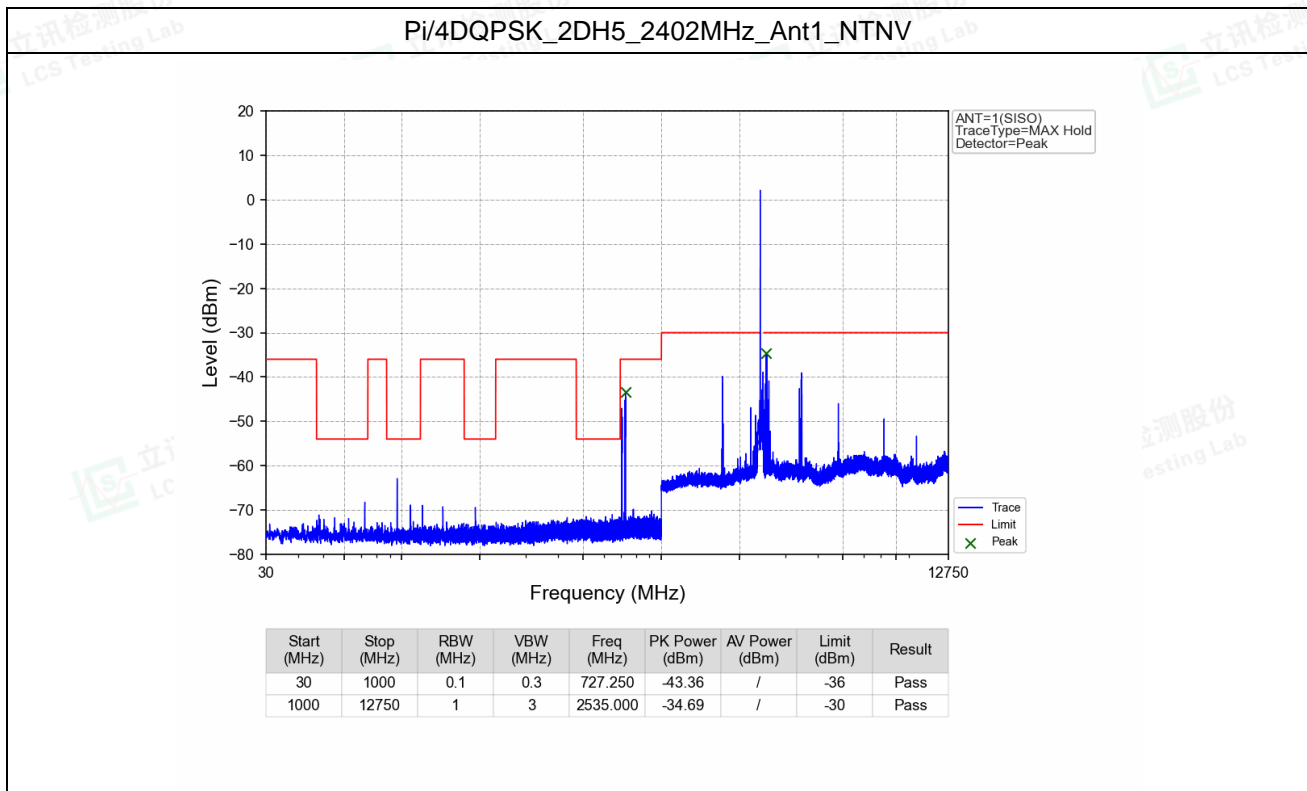


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.3	96.000	-61.00	/	-54	Pass
1000	12750	1	3	2616.000	-32.53	/	-30	Pass

GFSK_DH5_2480MHz_Ant1_NTNV

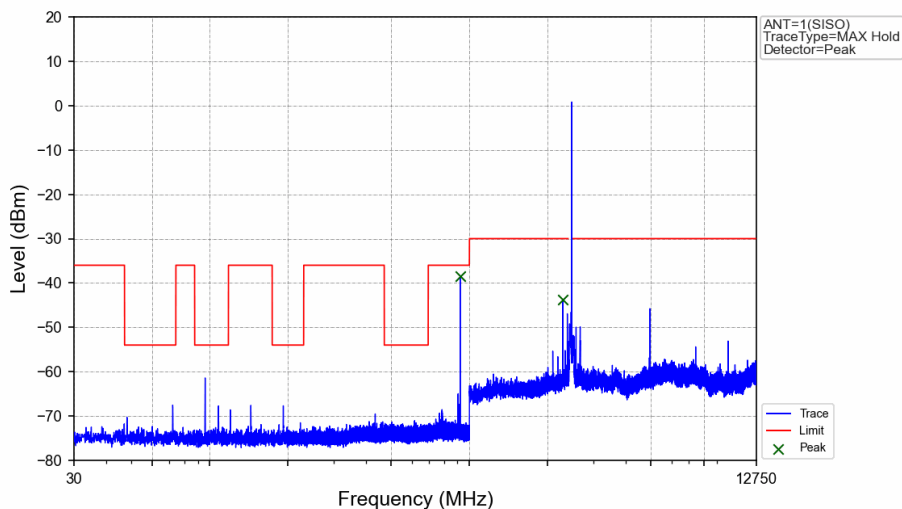






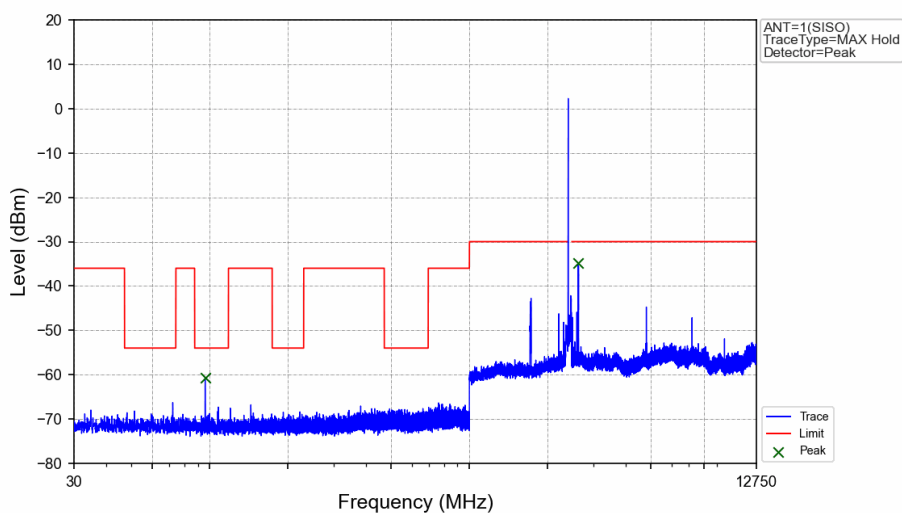


Pi/4DQPSK_2DH5_2480MHz_Ant1_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.3	921.800	-38.41	/	-36	Pass
1000	12750	1	3	2288.000	-43.75	/	-30	Pass

8DPSK_3DH5_2402MHz_Ant1_NTNV

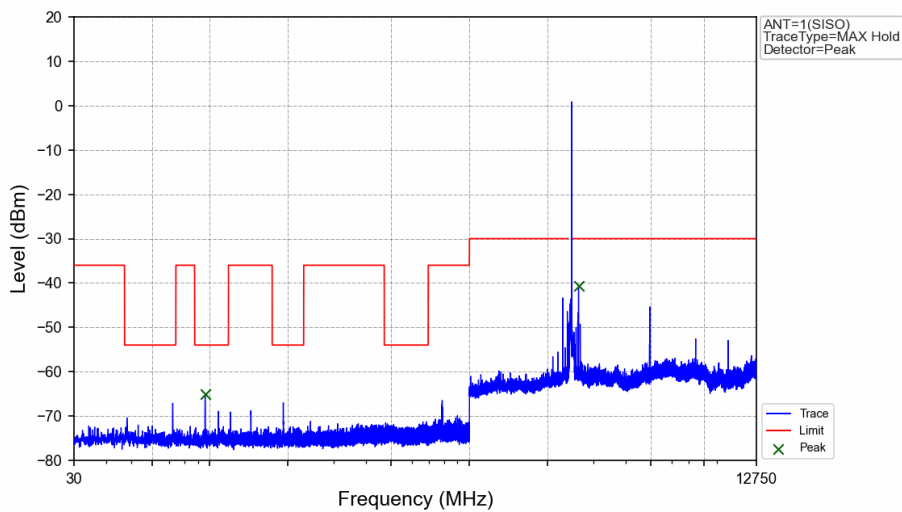


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.3	96.000	-60.75	/	-54	Pass
1000	12750	1	3	2618.500	-34.88	/	-30	Pass





8DPSK_3DH5_2480MHz_Ant1_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.3	96.000	-65.03	/	-54	Pass
1000	12750	1	3	2633.500	-40.66	/	-30	Pass

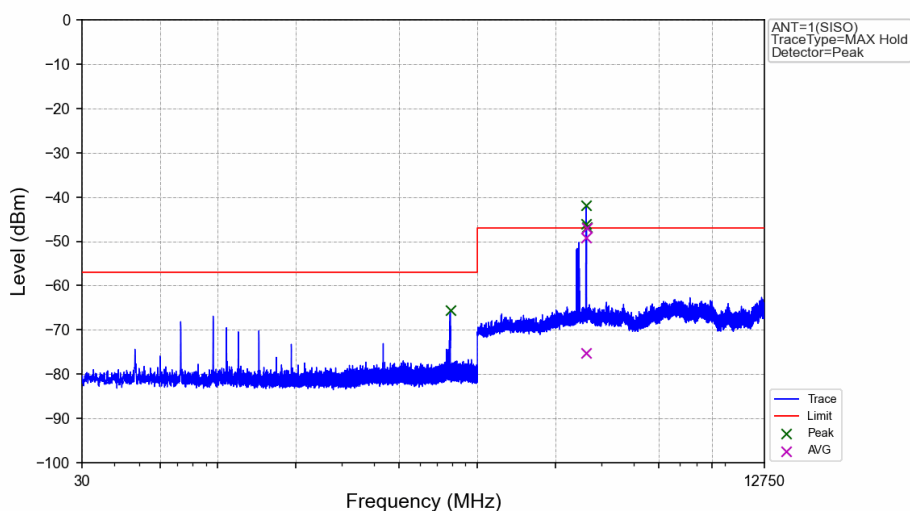




E.9 Receiver spurious emissions

ENV	Mode	TX Type	Frequency (MHz)	Packet Type	ANT	Test Result	Limit	Verdict
NTNV	GFSK	SISO	2402	DH5	1	Refer To Test Graph		Pass
			2480	DH5	1	Refer To Test Graph		Pass
	Pi/4DQPSK	SISO	2402	2DH5	1	Refer To Test Graph		Pass
			2480	2DH5	1	Refer To Test Graph		Pass
	8DPSK	SISO	2402	3DH5	1	Refer To Test Graph		Pass
			2480	3DH5	1	Refer To Test Graph		Pass

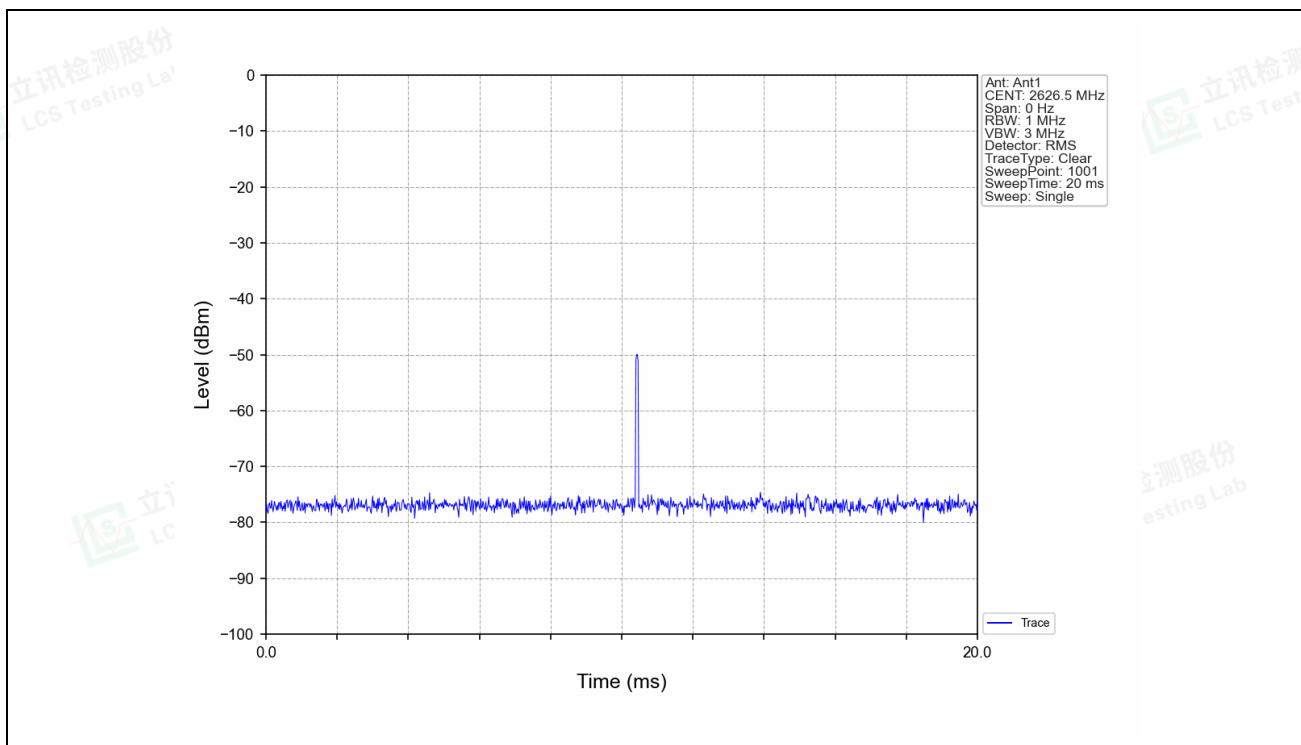
GFSK_DH5_2402MHz_Ant1_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.3	786.450	-65.63	/	-57	Pass
1000	12750	1	3	2626.500	-41.84	-49.22	-47	Pass
1000	12750	1	3	2629.500	-46.06	-75.24	-47	Pass
1000	12750	1	3	2633.500	-46.79	-47.00	-47	Pass

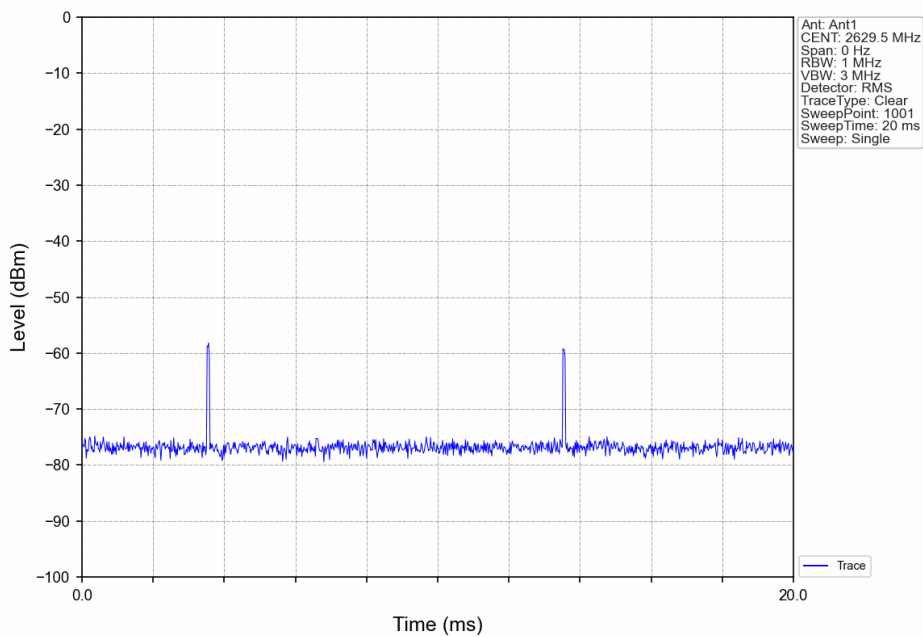
GFSK_DH5_2402MHz_Ant1_NTNV



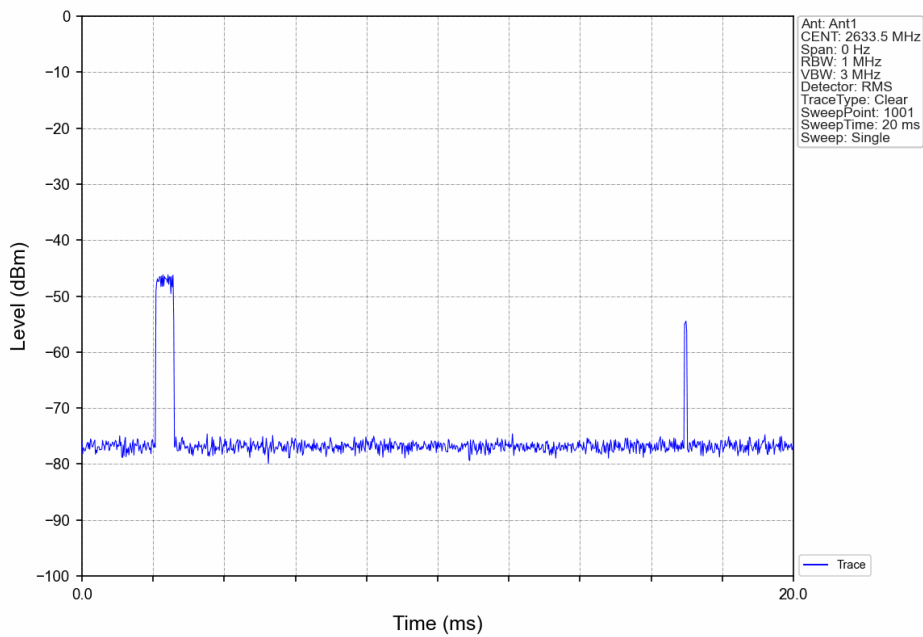




GFSK_DH5_2402MHz_Ant1_NTNV

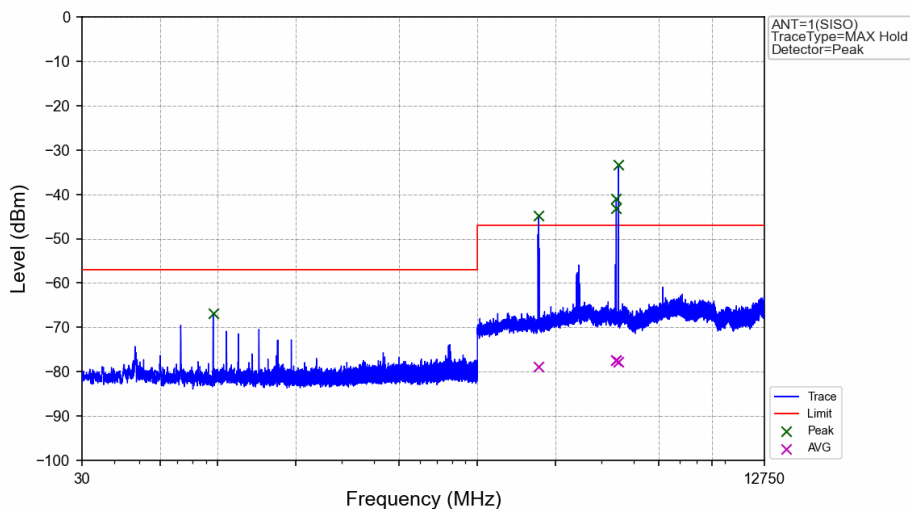


GFSK_DH5_2402MHz_Ant1_NTNV



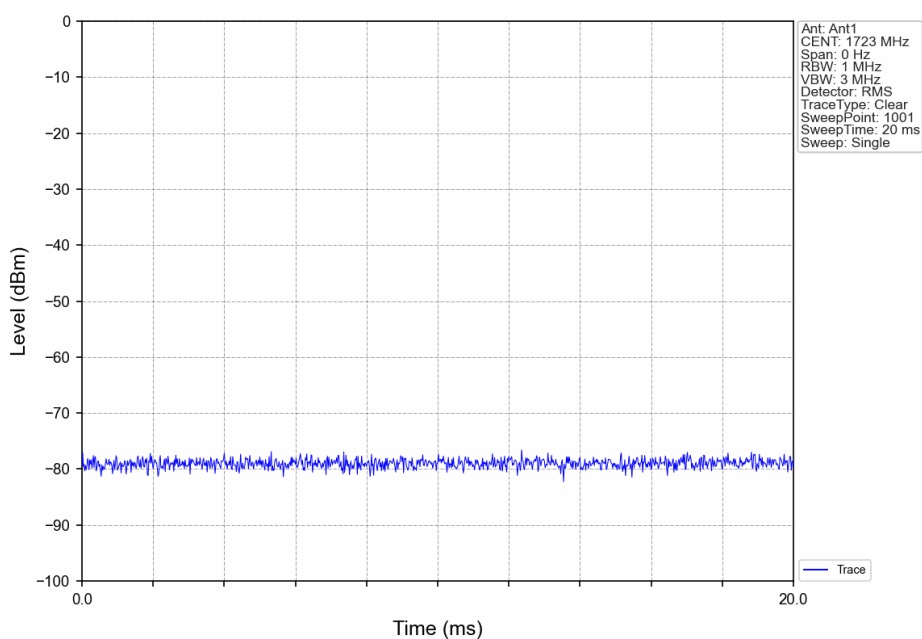


GFSK_DH5_2480MHz_Ant1_NTNV



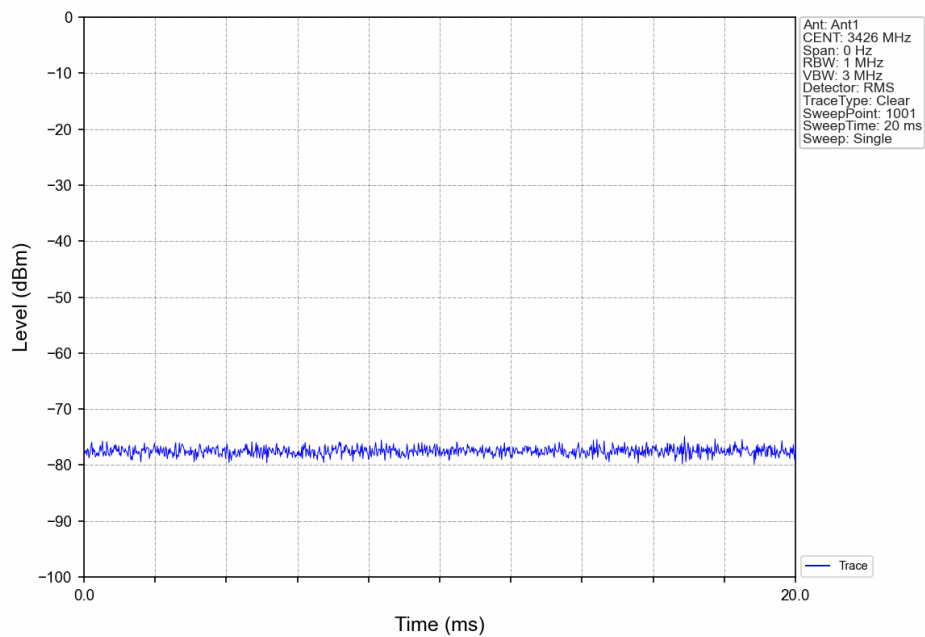
Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.3	96.100	-66.87	/	-57	Pass
1000	12750	1	3	1723.000	-44.78	-78.93	-47	Pass
1000	12750	1	3	3426.000	-41.00	-77.47	-47	Pass
1000	12750	1	3	3429.000	-43.22	-77.42	-47	Pass
1000	12750	1	3	3498.000	-33.27	-77.79	-47	Pass

GFSK_DH5_2480MHz_Ant1_NTNV

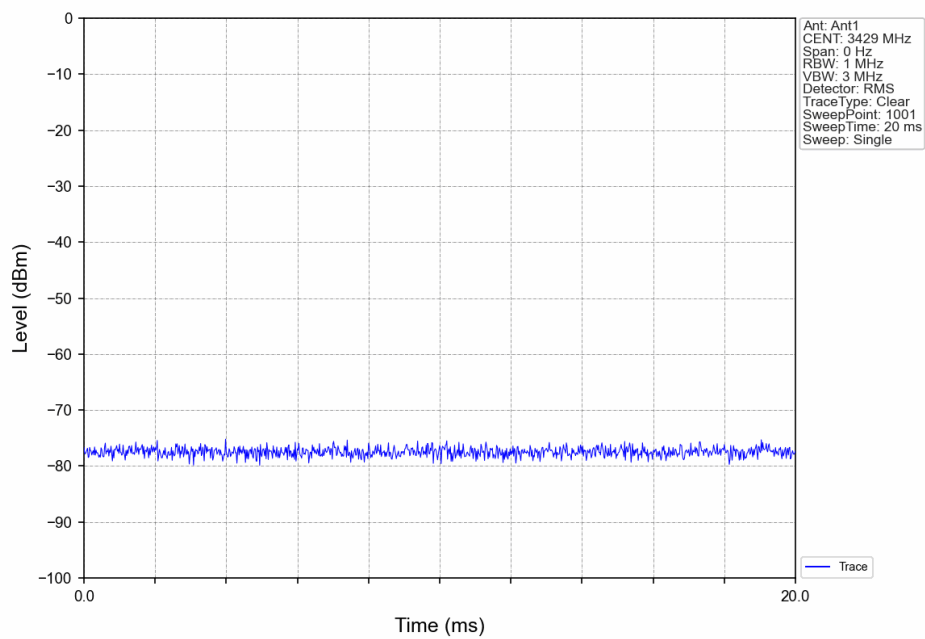




GFSK_DH5_2480MHz_Ant1_NTNV

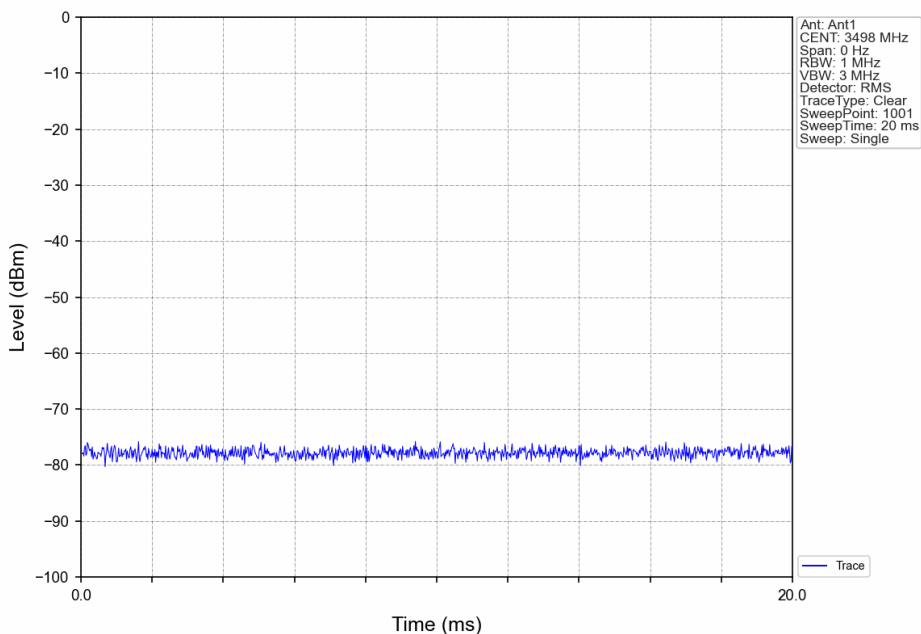


GFSK_DH5_2480MHz_Ant1_NTNV

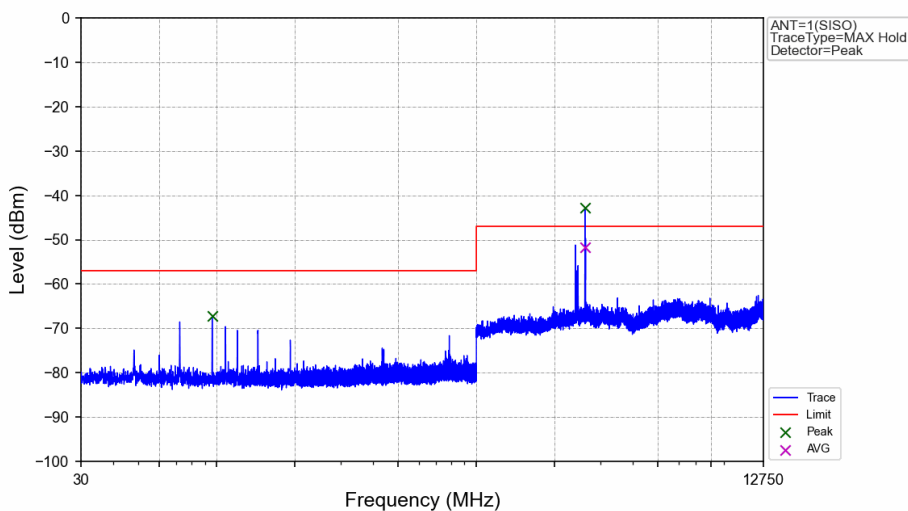




GFSK_DH5_2480MHz_Ant1_NTNV



Pi/4DQPSK_2DH5_2402MHz_Ant1_NTNV

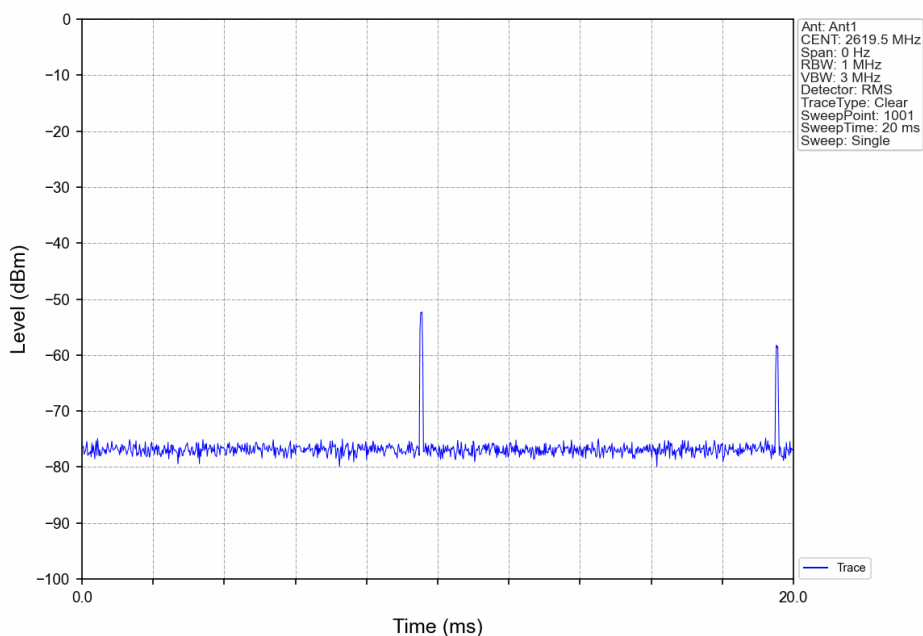


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.3	96.100	-67.27	/	-57	Pass
1000	12750	1	3	2619.500	-42.89	-51.80	-47	Pass

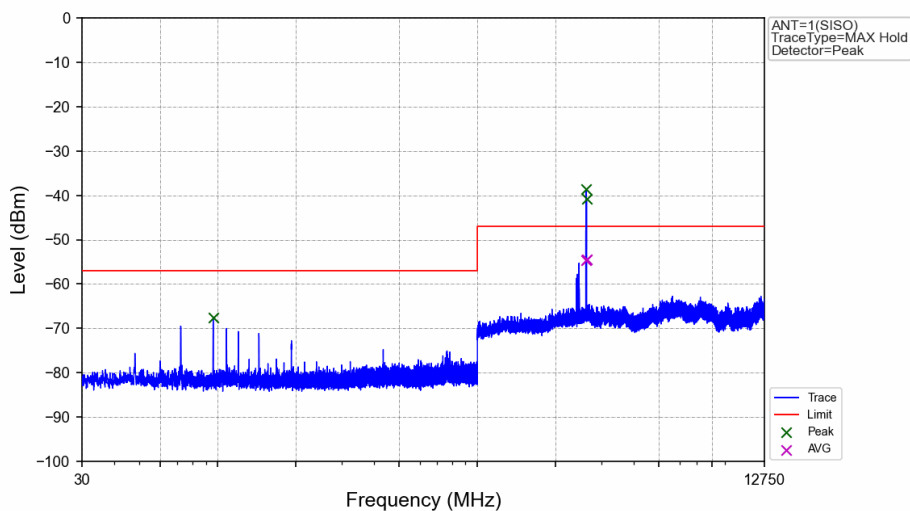




Pi/4DQPSK_2DH5_2402MHz_Ant1_NTNV



Pi/4DQPSK_2DH5_2480MHz_Ant1_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.3	96.000	-67.66	/	-57	Pass
1000	12750	1	3	2621.000	-38.65	-54.66	-47	Pass
1000	12750	1	3	2633.500	-40.84	-54.40	-47	Pass



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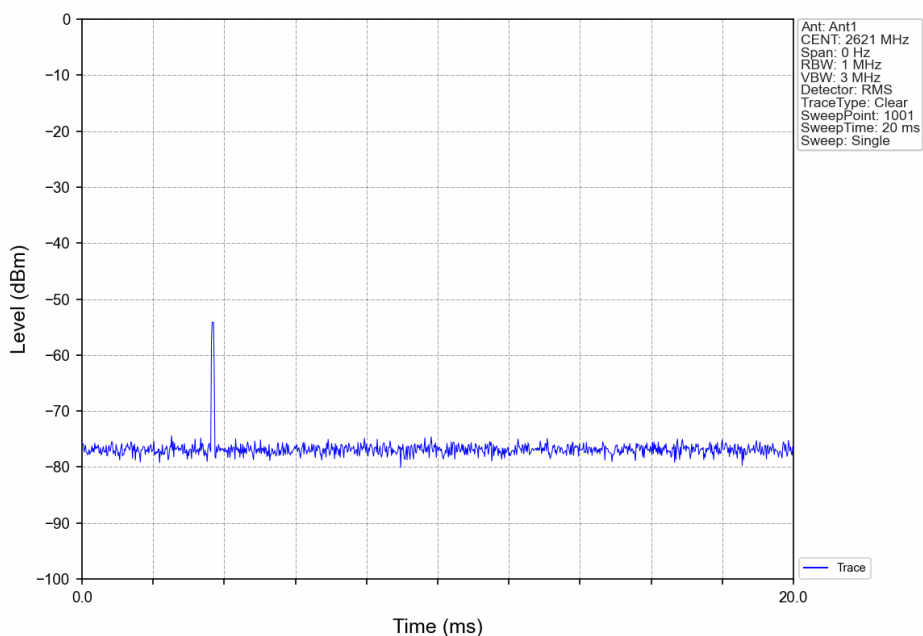
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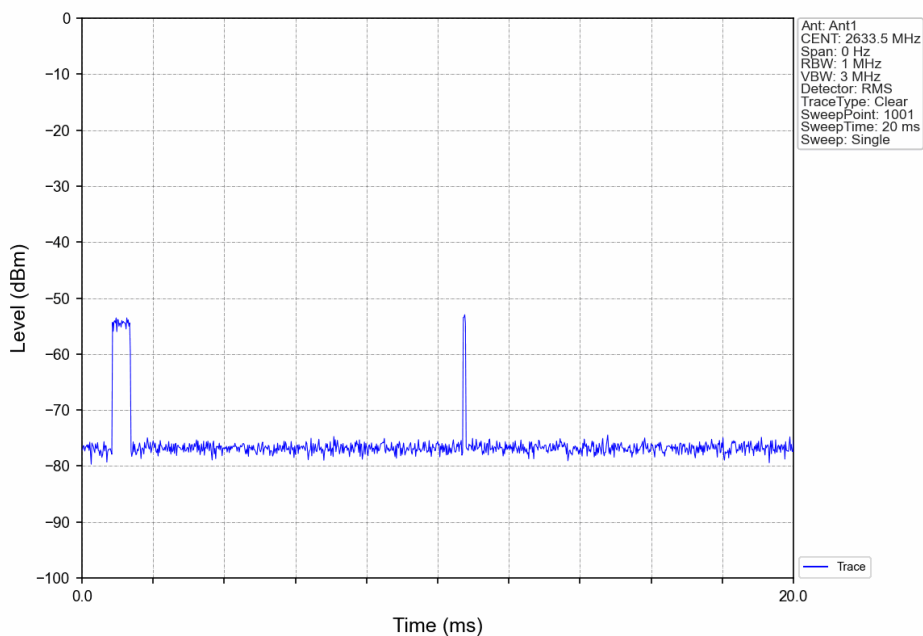
Scan code to check authenticity



Pi/4DQPSK_2DH5_2480MHz_Ant1_NTNV

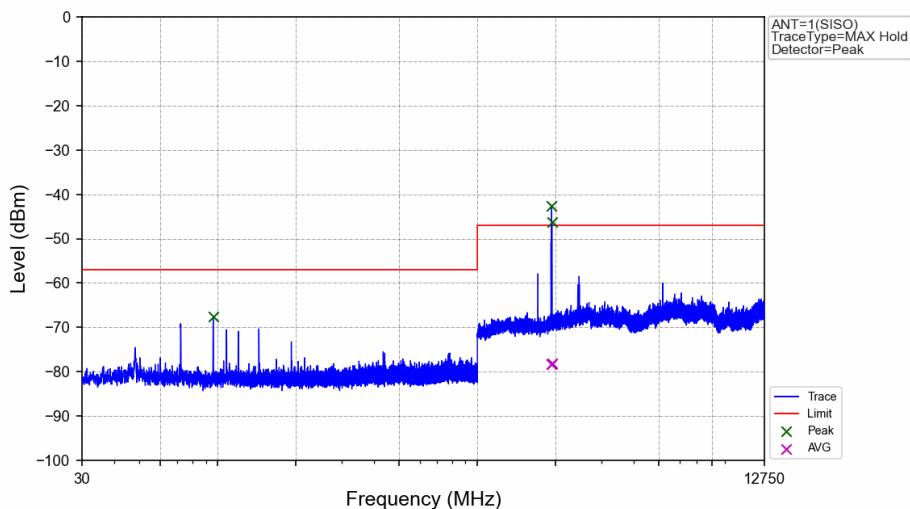


Pi/4DQPSK_2DH5_2480MHz_Ant1_NTNV



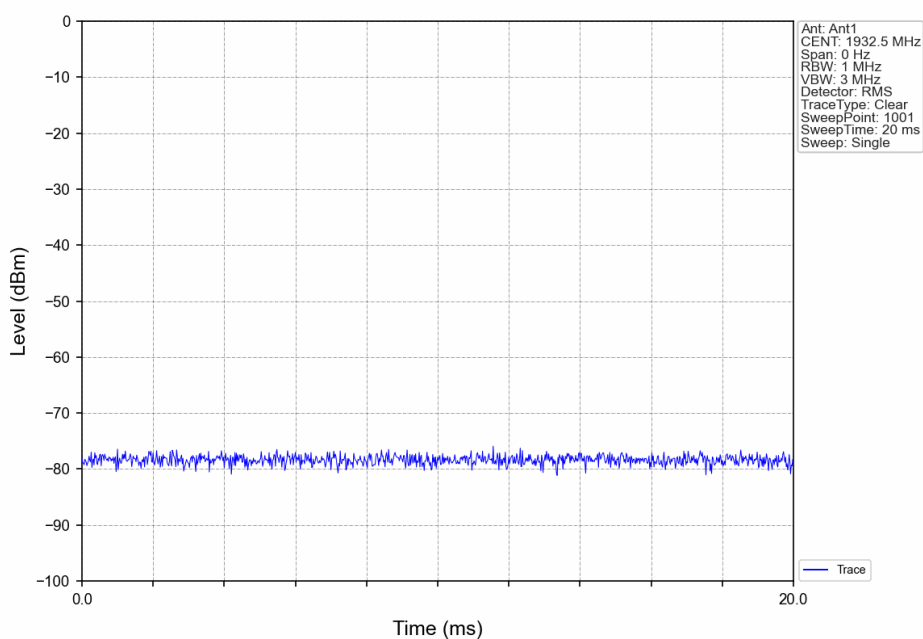


8DPSK_3DH5_2402MHz_Ant1_NTNV



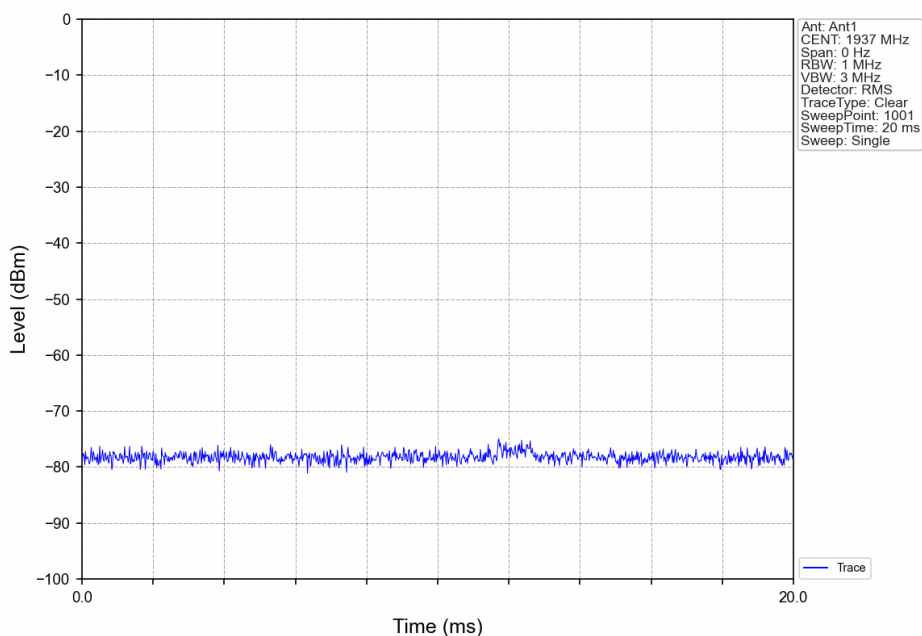
Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.3	96.050	-67.62	/	-57	Pass
1000	12750	1	3	1932.500	-42.67	-78.31	-47	Pass
1000	12750	1	3	1937.000	-46.22	-78.15	-47	Pass

8DPSK_3DH5_2402MHz_Ant1_NTNV

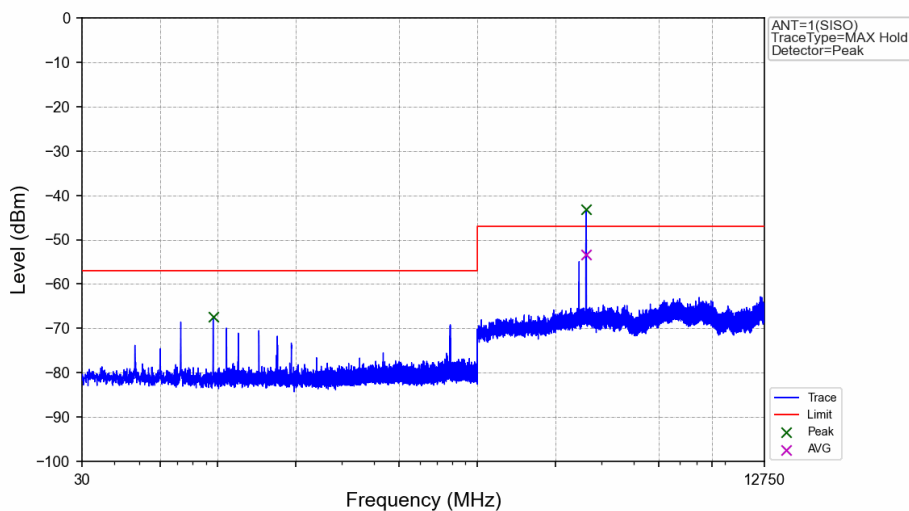




8DPSK_3DH5_2402MHz_Ant1_NTNV



8DPSK_3DH5_2480MHz_Ant1_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.3	96.050	-67.39	/	-57	Pass
1000	12750	1	3	2626.000	-43.23	-53.34	-47	Pass

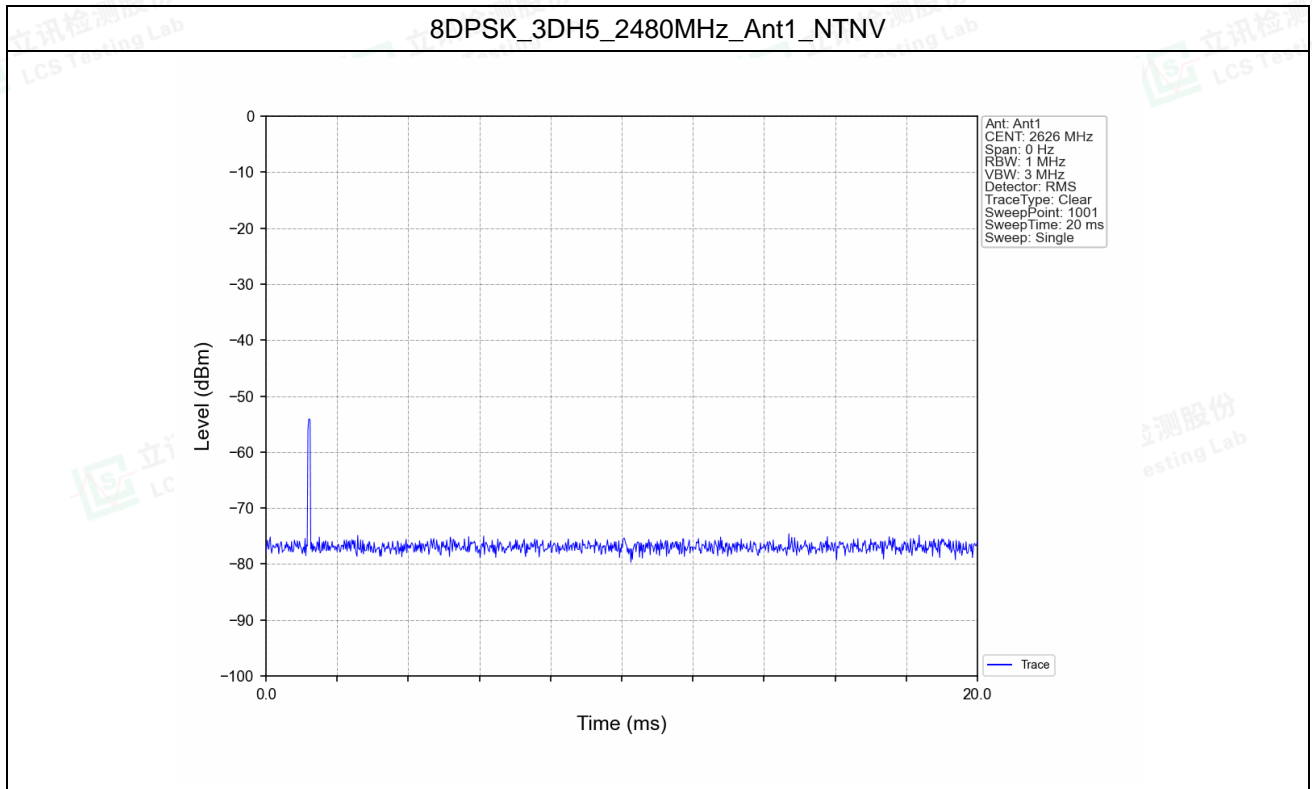


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Scan code to check authenticity





E.10 Receiver Blocking

Test Mode	Test Channel (MHz)	Wanted Signal Mean Power from Companion Device (dBm)	Blocking Signal Frequency (MHz)	Blocking Signal Power (dBm)		Type of Blocking Signal	PER(%)		Test Result
				Test Value	Limit		Test Value	Limit	
DH5	2402	-70	2380	-28	≥-34	CW	2.86	10	Pass
			2504	-22	≥-34	CW	3.02	10	Pass
			2300	-27	≥-34	CW	1.60	10	Pass
			2584	-24	≥-34	CW	1.46	10	Pass
	2480	-70	2380	-31	≥-34	CW	3.71	10	Pass
			2504	-25	≥-34	CW	3.26	10	Pass
			2300	-29	≥-34	CW	2.51	10	Pass
			2584	-21	≥-34	CW	2.83	10	Pass
2DH5	2402	-68	2380	-20	≥-34	CW	5.35	10	Pass
			2504	-21	≥-34	CW	2.38	10	Pass
			2300	-28	≥-34	CW	1.41	10	Pass
			2584	-27	≥-34	CW	2.70	10	Pass
	2480	-68	2380	-24	≥-34	CW	3.04	10	Pass
			2504	-28	≥-34	CW	1.82	10	Pass
			2300	-24	≥-34	CW	2.52	10	Pass
			2584	-20	≥-34	CW	2.51	10	Pass
3DH5	2402	-68	2380	-23	≥-34	CW	1.67	10	Pass
			2504	-24	≥-34	CW	2.46	10	Pass
			2300	-25	≥-34	CW	1.91	10	Pass
			2584	-26	≥-34	CW	2.50	10	Pass
	2480	-68	2380	-30	≥-34	CW	1.88	10	Pass
			2504	-25	≥-34	CW	4.57	10	Pass
			2300	-22	≥-34	CW	5.33	10	Pass
			2584	-25	≥-34	CW	5.20	10	Pass

