

# 4. Number of Hopping Frequencies

## 4.1 HoppNum

### 4.1.1 Test Result

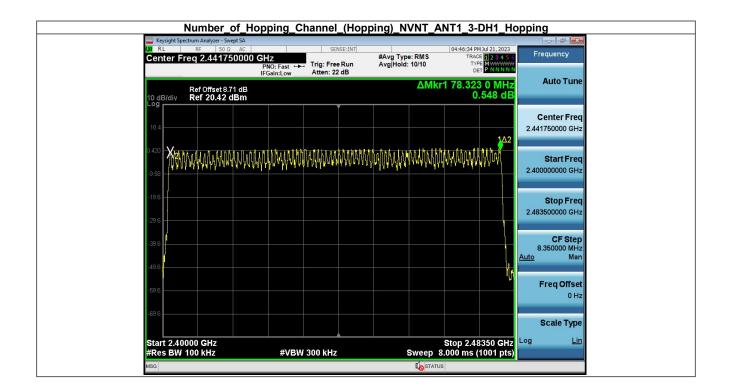
Mode	TX	Frequency	Packet	Num of Hoppir	Verdict	
NIUGe	Туре	(MHz)	Туре	ANT1	Limit	Verdict
GFSK	SISO	HOPP	DH1	79	>=15	Pass
Pi/4DQPSK	SISO	HOPP	2DH1	79	>=15	Pass
8DPSK	SISO	HOPP	3DH1	79	>=15	Pass



### 4.1.2 Test Graph









# 5. Time of Occupancy (Dwell Time)

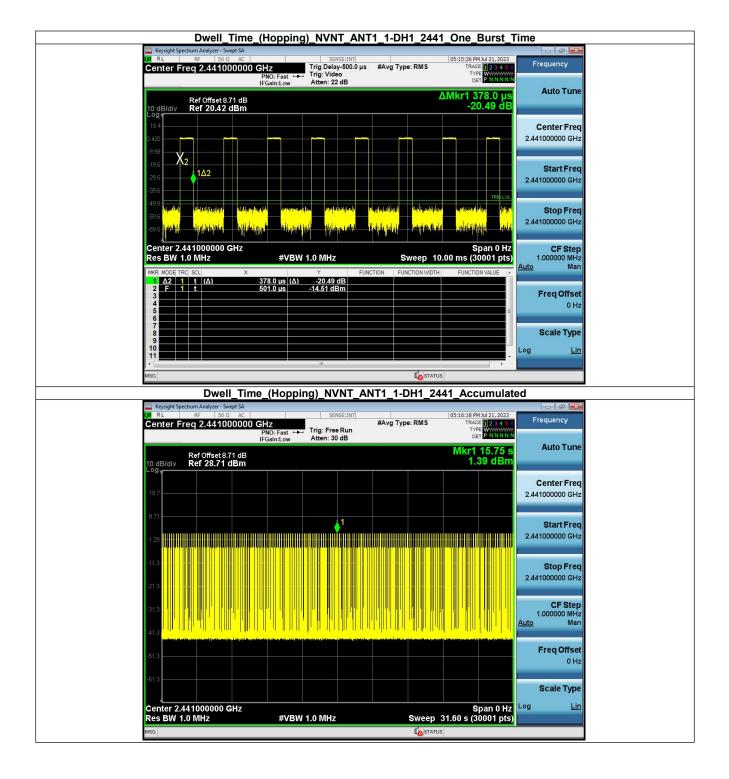
### 5.1 Ant1

## 5.1.1 Test Result

Condition	Antenna	Packet Type	Pulse Time(ms)	Hops	Dwell Time(ms)	Limit(s)	Result
NVNT	ANT1	1-DH1	0.378	320.00	120.960	0.40	Pass
NVNT	ANT1	1-DH3	1.633	161.00	262.913	0.40	Pass
NVNT	ANT1	1-DH5	2.882	110.00	317.020	0.40	Pass

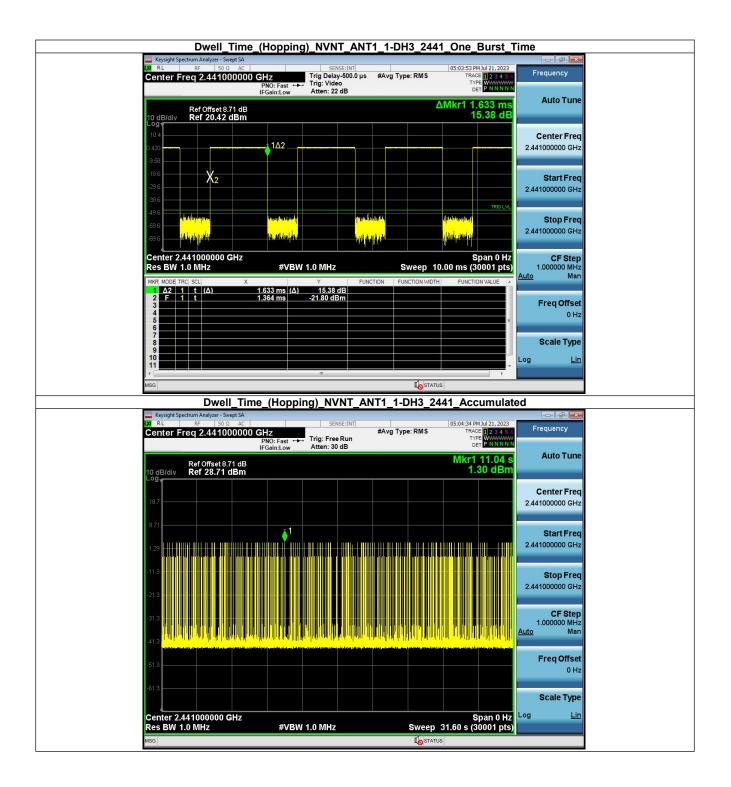


## 5.1.2 Test Graph

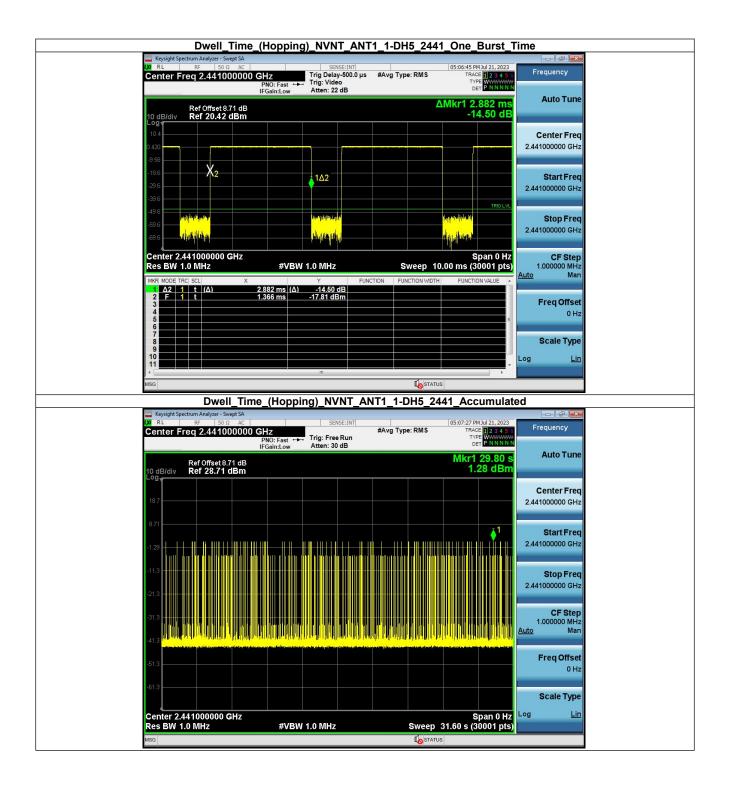


Total or partial reproduction of this document without permission of the Laboratory is not allowed. BTF Testing Lab (Shenzhen) Co., Ltd.







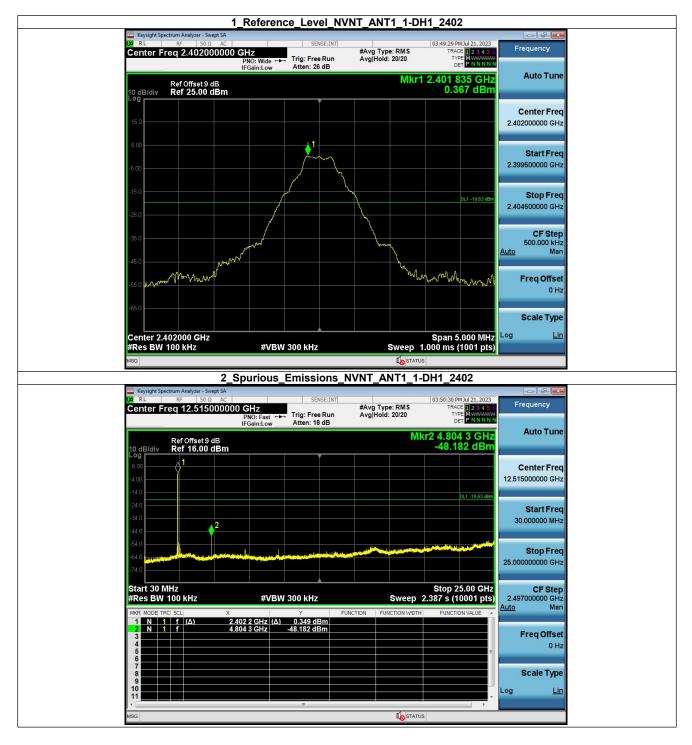


Total or partial reproduction of this document without permission of the Laboratory is not allowed. BTF Testing Lab (Shenzhen) Co., Ltd.



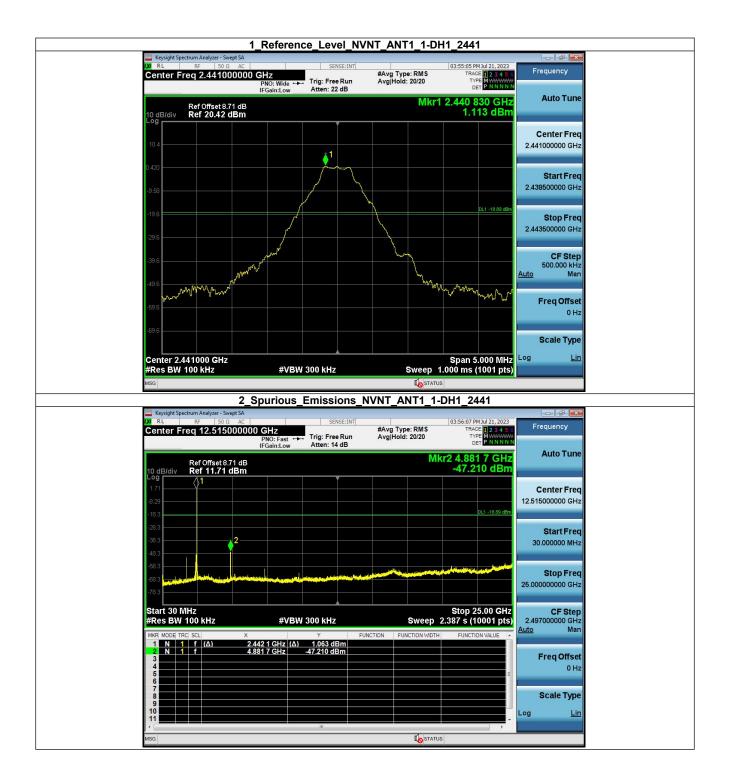
## 6. Unwanted Emissions In Non-restricted Frequency Bands

## 6.1 Test Graph

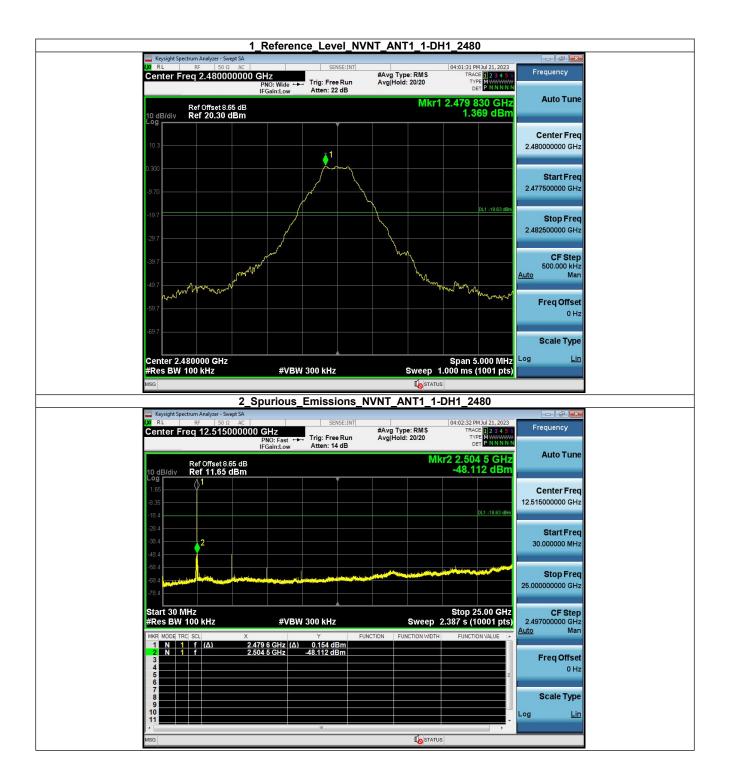


Total or partial reproduction of this document without permission of the Laboratory is not allowed. BTF Testing Lab (Shenzhen) Co., Ltd.

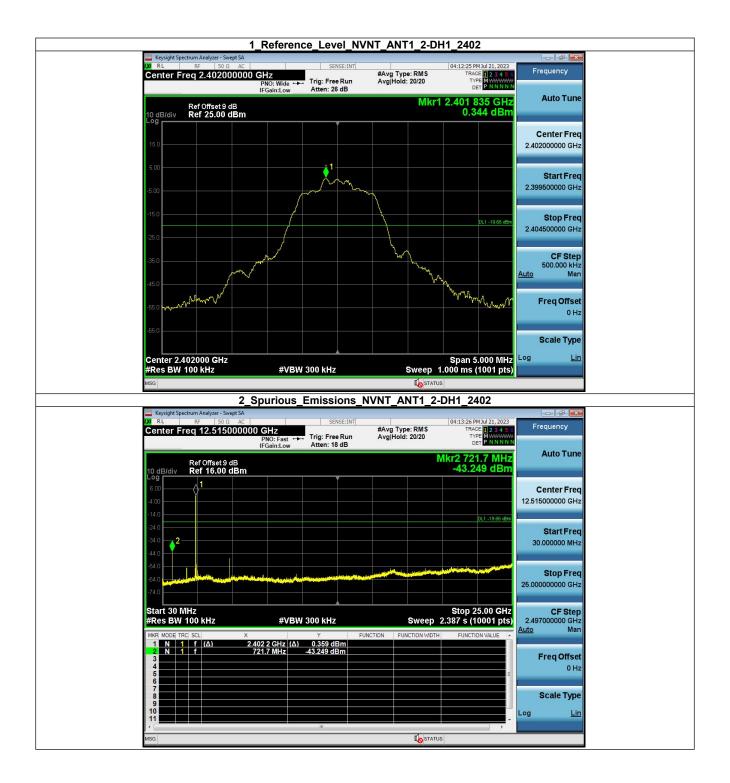








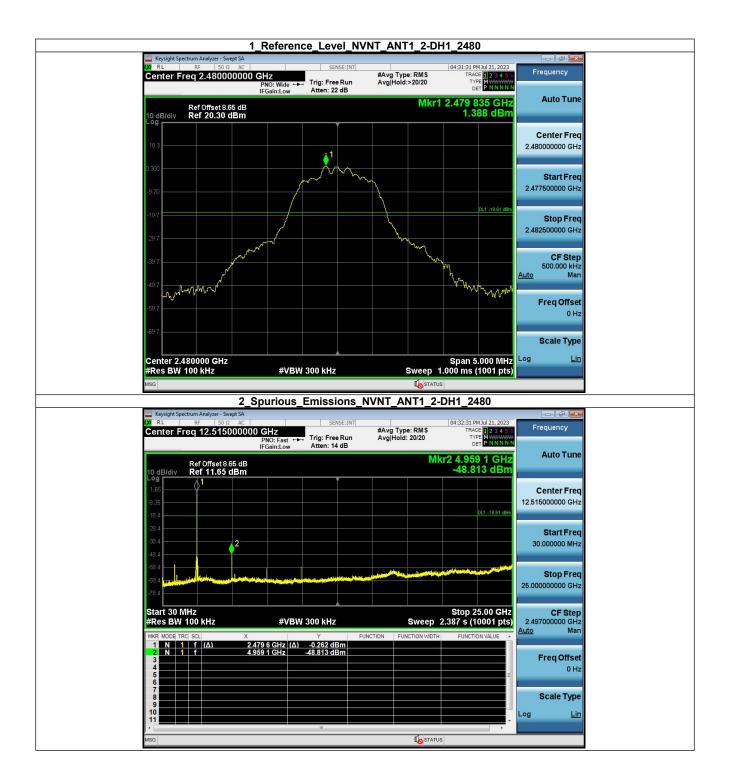






















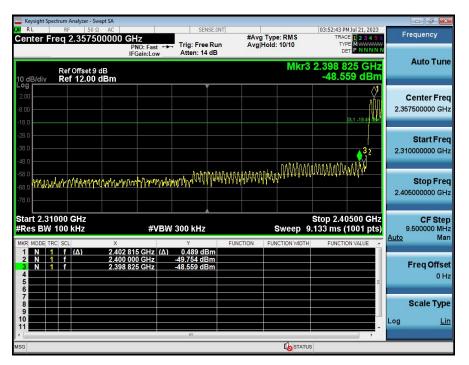




	ctrum Analyzer - S					1		
Center Fr	RF 50		GHz	SENSE:II	#Av	g Type: RMS	03:50:49 PM Jul 21, 2023 TRACE 1 2 3 4 5	Frequency
			PNO: Fast ↔	Atten: 18 dB	n Avg	Hold: 20/20	DET P N N N N	
			II GUIII.EGW			Mkr3	2.399 870 GH	Auto Tune
10 dB/div	Ref Offset 9 Ref 16.00						-50.678 dBn	
- <b>og</b> 6.00				Ĭ				Center Free
4.00							L Y	2.357500000 GH;
14.0	2				A. 53			
24.0							DL1 -19.63 dBr	
-34.0								Start Free
-44.0					0		3	2.310000000 GH:
54.0						ħ	<u></u> γ⁻ ५	
-64.0	-	and In		h.	mound	wardowner hardeneres	Maryan Manganan de	Stop Free
74.0								2.405000000 GH
Start 2.31 Res BW			#VB)	N 300 kHz		Sween 0	Stop 2.40500 GH	
MKRI MODEI TR		X	#909	Y JOO KHZ	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	Auto Mar
	f (Δ)	2.40	865 GHz (Δ)	0.486 dBm	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	
2 N 1 3 N 1	f	2.400	000 GHz	-52.471 dBm -50.678 dBm				Freq Offse
4						-		0 H
6								
7 8								Scale Type
9								
11								Log <u>Lir</u>
				.III.		Lo STATU:	•	
SG						LOSTATU:	5	

#### GFSK No-hopping Band edge-left side





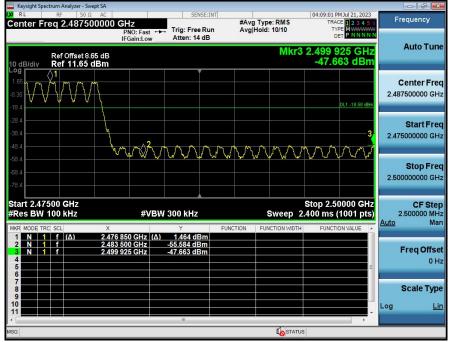
BTF Testing Lab (Shenzhen) Co., Ltd. F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China



	ectrum Analyzer - Swi										
Center F	RF 50 Ω req 2.48750		GHZ PNO: Fast		NSE:INT	#Avg Ty Avg Hol	pe: RMS d: 20/20	TRA	M Jul 21, 2023 CE 1 2 3 4 5 6 PE M WWWWW	Fr	equency
10 dB/div	Ref Offset 8.6 <b>Ref 11.65</b> (		IFGain:Low		4 dB		Mkr3	2.491 5	500 GHz 37 dBm		Auto Tune
Log 1.65 -8.35 -18.4									DL1 -18.63 dBm	1000	<b>Center Freq</b> 7500000 GHz
-28.4			w			<b>3</b>				2.47	Start Freq 5000000 GHz
-58.4	Auto 144			lanan naming tindu cana	harrow	n n n n n n n n n n n n n n n n n n n	maria and a second	hours	Land Margan Carlina	2.500	Stop Freq 0000000 GHz
Start 2.47 #Res BW	100 kHz	X	#VI	BW 300 kHz		NCTION FI	Sweep 2	.400 ms (	0000 GHz (1001 pts)	2 <u>Auto</u>	<b>CF Step</b> .500000 MHz Man
1 N 1 2 N 1 3 N 1 4 5 6	f (∆) f	2.479 2.483	850 GHz ( 500 GHz 500 GHz		Bm 3m	NCTION PI	JNC TION WIDTH	FUNCT		1	Freq Offset 0 Hz
7 8 9 10 11										Log	Scale Type Lin
MSG				m			<b>I</b> ostatu:	S	•		

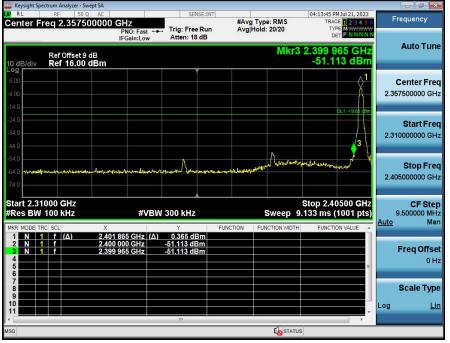
### GFSK No-hopping Band edge-right side

GFSK Hopping Band edge-right side



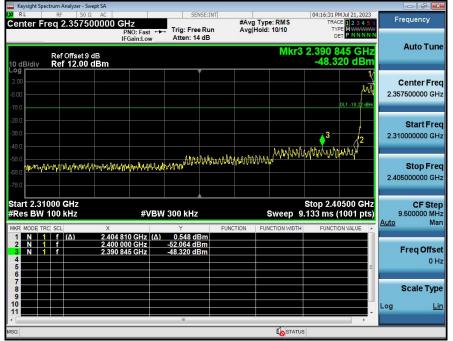
Total or partial reproduction of this document without permission of the Laboratory is not allowed. BTF Testing Lab (Shenzhen) Co., Ltd.



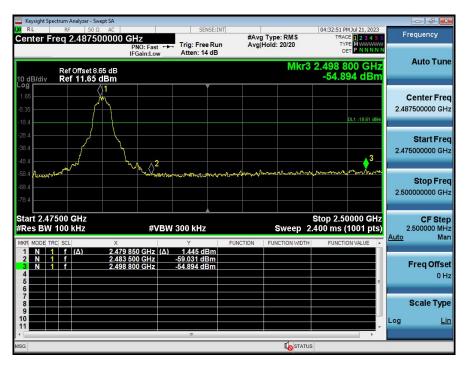


 $\pi$ /4-DQPSK No-hopping Band edge-left side

 $\pi$ /4-DQPSK Hopping Band edge-left side

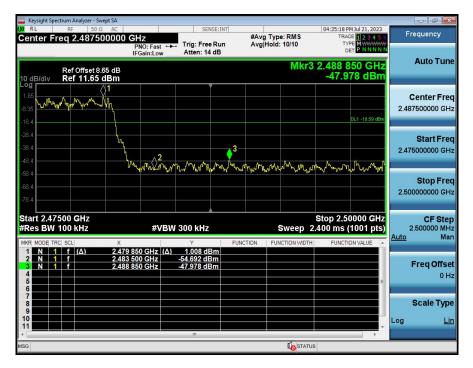






### $\pi/4\text{-}DQPSK$ No-hopping Band edge-right side

 $\pi$ /4-DQPSK Hopping Band edge-right side

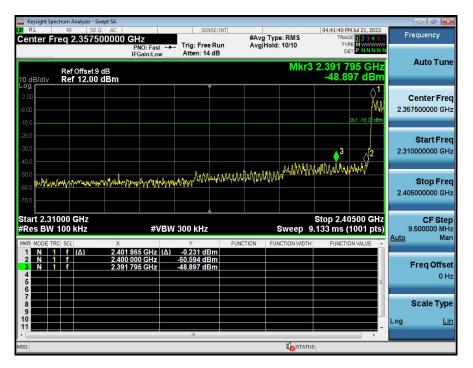




Keysight Sp	ectrum Analyzer - Swept SA RF 50 Ω AC		SENSE:INT		04:39:00 PM Jul 21, 2023	
	req 2.3575000	00 GHz PNO: Fast ↔		#Avg Type: RMS Avg Hold: 20/20	TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P N N N N N	Frequency
10 dB/div	Ref Offset 9 dB Ref 16.00 dBn	IFGain:Low	Atten: 16 db	Mkr3	2.399 965 GHz -52.856 dBm	Auto Tune
6.00 -4.00 -14.0						Center Freq 2.357500000 GHz
-24.0 -34.0 -44.0					3	Start Fred 2.310000000 GHz
-54.0 -64.0 <b>444 - 444</b> -74.0	d graddau eina af Rhad Concellad Prog	herennellytherestalister	an water and the second second	mand what have not	Man Malana Managara A	Stop Fred 2.405000000 GHz
	1000 GHz 100 kHz	#VBV	/ 300 kHz	Sweep 9	Stop 2.40500 GHz 0.133 ms (1001 pts)	CF Step 9.500000 MHz Auto Mar
1 N 2 2 N 3 3 N 4 5 6	1 f 2	.401 865 GHz (Δ) .400 000 GHz .399 965 GHz	0.489 dBm -52.856 dBm -52.856 dBm		E	Freq Offset 0 Hz
7 8 9 10						Scale Type
۲. Contraction of the second			m	<b>K</b> STATU	s	

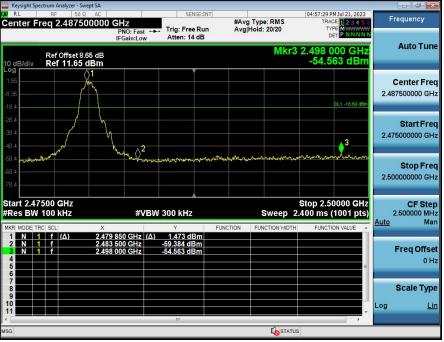
### 8-DPSK No-hopping Band edge-left side

8-DPSK Hopping Band edge-left side



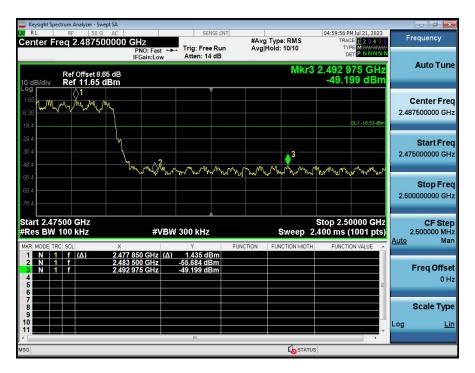
Total or partial reproduction of this document without permission of the Laboratory is not allowed. BTF Testing Lab (Shenzhen) Co., Ltd. F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China





### 8-DPSK No-hopping Band edge-right side

8-DPSK Hopping Band edge-right side



Total or partial reproduction of this document without permission of the Laboratory is not allowed. BTF Testing Lab (Shenzhen) Co., Ltd.



Test Report Number: BTF230719R00601



BTF Testing Lab (Shenzhen) Co., Ltd.

F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China

www.btf-lab.com

## -- END OF REPORT --

Total or partial reproduction of this document without permission of the Laboratory is not allowed. Page 81 of 81 BTF Testing Lab (Shenzhen) Co., Ltd. F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China