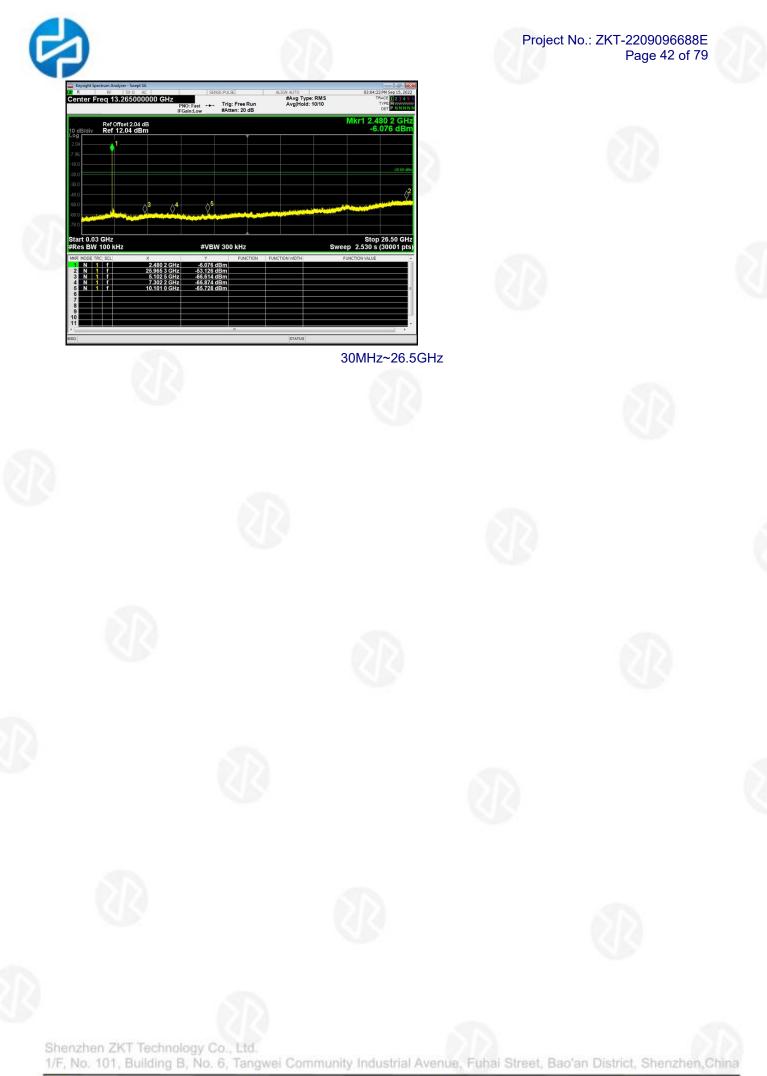


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GFSK No-hopping Band edge-left side 02:37:57 PM #Avg Type: RMS Avg|Hold: 100/100 2.356000000 GH +++ Trig: Free Run #Atten: 30 dB PNO: Fast IFGain:Low Mkr1 2.402 0 GHz 1.564 dBm Ref Offset 2.01 dB Ref 20.00 dBm ∆³ Start 2.30600 GHz #Res BW 100 kHz Stop 2.40600 GHz 9.600 ms (1001 pts) #VBW 300 kHz Sweep

GFSK Hopping Band edge-left side

R	RF	lyzer - Swept SA 50 Ω AC	1	SENS	E:PULSE	ALIGN AUTO	1		45 PM Sep 15, 2
enter Fr	eq 2.3	356000000	PN	O: Fast ↔ ain:Low	Trig: Free Run #Atten: 30 dB	#Avg Ty Avg Hold	pe: RMS d: 2000/2000		TYPE MWAAV DET P N N I
dB/div		ffset 2.01 dB 20.00 dBm						Mkr1 2.4 1	103 8 G .149 dE
o.0					ĭ				
.00									M
1.0									-10.90
0.0			.4					~	A2
0.0 0.0 drading	una	ana malanga manga	magnatur	manulo	minner	Nondestannar	an the last of the spectrum		minut
0.0									
tart 2.30 Res BW				#VBW	300 kHz		Swee	Stop 2 p 9.600 m	2.40600 G Is (1001 p
		х		Y	FUNCTION	FUNCTION WIDTH	F	UNCTION VALUE	
1 N 1 2 N 1	f		403 8 GHz 400 0 GHz	1.149 di -54.571 di	Bm				
3 N 1	f	2.	390 0 GHz	-56.757 di	Bm				
4 N 1	f	2.	335 0 GHz	-54.551 di	Bm				
6									
7									
9									
0	و زي ا								
1									

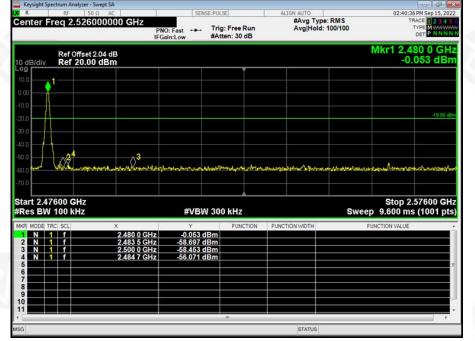








GFSK No-hopping Band edge-right side

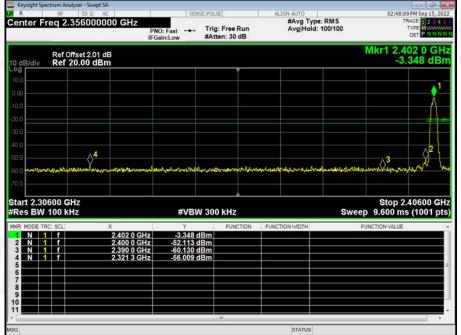


GFSK Hopping Band edge-right side

R	RF		c I I	SEI	SE:PULSE		ALIGN AU				7 PM Sep 15, 20
enter	Freq	2.5260000	F	PNO: Fast +++	Trig: Free #Atten: 3			g Type: I Hold: 20			RACE 1 2 3 4 TYPE MWWW DET P N N N
0 dB/div		f Offset 2.04 d f 20.00 dBr								Mkr1 2.4 -0	79 2 GI 003 dB
10.0	1-										
	1										
0.0	 										-19.57 (
0.0		4									
0.0	1.0		<u>3</u>								
0.0		homenul	union tand	unnunu	unnin	Junik	mann	win	MMMM	vann	MUUMAN
	PLX-/	hmerichan	handra handd	waanna	unnun	Junik	man	www	MMM	Williams	MUUUU
0.0 tart 2.4	₽./‰/ 47600 W 100		hand and a star will		M. 300 kH:		hunn	www.			.57600 G
tart 2.4 Res Bi		kHz	x	#VB\ Y	N 300 kH		FUNCTION WI		Sweep	Stop 2	.57600 G
tart 2.4 Res B	W 100	kHz	× 2.479 2 GHz	#VB\ -0.003	N 300 kH FU dBm	z			Sweep	Stop 2 9.600 m	.57600 G
tart 2.4 Res Bi	W 100	kHz	X 2.479 2 GHz 2.483 5 GHz 2.500 0 GHz	#VB	N 300 kH FU dBm dBm dBm	z			Sweep	Stop 2 9.600 m	.57600 G
0.0 Res B Res B R N 0 R N 0 N 0 N 0 N 0 N 0 N 0 N 0 N 0	W 100	kHz	X 2.479 2 GHz 2.483 5 GHz	#VB\ -0.003 -55.925	N 300 kH FU dBm dBm dBm	z			Sweep	Stop 2 9.600 m	.57600 G
0.0 tart 2.4 Res Bi KR MODE 1 N 2 N 3 N 4 N 5 6	W 100	kHz	X 2.479 2 GHz 2.483 5 GHz 2.500 0 GHz	#VB	N 300 kH FU dBm dBm dBm	z			Sweep	Stop 2 9.600 m	.57600 G
tart 2. Res B Res B 1 N 2 N 3 N 4 N 5 6 7 7	W 100	kHz	X 2.479 2 GHz 2.483 5 GHz 2.500 0 GHz	#VB	N 300 kH FU dBm dBm dBm	z			Sweep	Stop 2 9.600 m	.57600 G
tart 2.4 Res B) KR MODE 1 N 3 N 4 N 5 6 7 7 8 9	W 100	kHz	X 2.479 2 GHz 2.483 5 GHz 2.500 0 GHz	#VB	N 300 kH FU dBm dBm dBm	z			Sweep	Stop 2 9.600 m	.57600 G
Res B KR MODE 1 N 2 N 3 N 4 N 5 6 7	W 100	kHz	X 2.479 2 GHz 2.483 5 GHz 2.500 0 GHz	#VB	N 300 kH FU dBm dBm dBm	z			Sweep	Stop 2 9.600 m	.57600 G
tart 2. Res Bl RR MODE 1 N 2 N 3 N 4 N 5 6 6 6 7 7 7 8 8 9 0	W 100	kHz	X 2.479 2 GHz 2.483 5 GHz 2.500 0 GHz	#VB	N 300 kH FU dBm dBm dBm	z	FUNCTION WI		Sweep	Stop 2 9.600 m	.57600 G



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



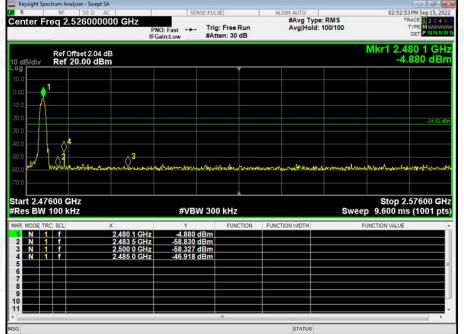
$\pi/4\text{-}DQPSK$ Hopping Band edge-left side

		nalyzer - Swept SA							
R Center F	req 2	50 Ω AC 2.356000000 G			g: Free Run tten: 30 dB	ALIGN AUTO #Avg Type Avg Hold:			8 PM Sep 15, 202 RACE 1 2 3 4 5 TYPE MWWWW DET P N N N N
10 dB/div		Offset 2.01 dB 20.00 dBm						Mkr1 2.4 -3	05 0 GH 517 dBn
10.0 0.00									
-10.0									14
-30.0									
-50.0	endlowed		worknown	an a	handhuanana	Neutronomoutoonaa	4	3	marrie 2
-70.0									
Start 2.30 #Res BW				#VBW 30	0 kHz		Swee	Stop 2 p 9.600 m	.40600 GH s (1001 pt
MKR MODE TH	RC SCL		5 0 GHz	Y -3.517 dBm	FUNCTION	FUNCTION WIDTH	F	UNCTION VALUE	
2 N 3 N 4 N 5	f	2.39	0 0 GHz	-56.229 dBm -57.462 dBm -55.379 dBm					
7 8 9	ندی او ایری او ایری او								
					m				
6G						STATUS			





π/4-DQPSK No-hopping Band edge-right side



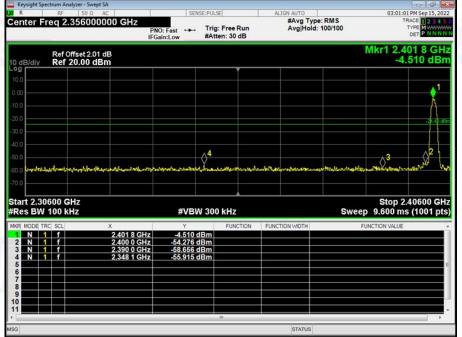
$\pi/4$ -DQPSK Hopping Band edge-right side

enter Freq 2			g: Free Run ten: 30 dB	#Avg Type: Avg Hold: 2		TRACE 1 2 3 4 TYPE MWAA DET P N N 1
	Offset 2.04 dB 20.00 dBm				Mk	r1 2.477 0 G -4.756 dB
0.0						
0.0 0.0						
0.0						-24.46
0.0						
0.0 2						
0.0	an na hara na mana na m	n maan dinametrika sa ka		and and and a second	**************	hhillminnerenanden.
tart 2.47600 (247					Stop 2.57600 G
Res BW 100 I		#VBW 30	0 kHz		Sweep 9	.600 ms (1001 p
KR MODE TRC SCL	× 2.477 0 GHz	Y -4,756 dBm	FUNCTION	FUNCTION WIDTH	FUNCT	ION VALUE
2 N 1 f 3 N 1 f	2.483 5 GHz 2.500 0 GHz	-56.870 dBm				
4 N 1 f	2.484 0 GHz	-44.299 dBm				
6						
7						





8-DPSK No-hopping Band edge-left side



8-DPSK Hopping Band edge-left side

		Analyzer - Swept SA							0
R	RF			SENSE:PUI	SE	ALIGN AUTO #Avg Type	DMS		PM Sep 15, 2
enter	Freq	2.35600000	PNC		g: Free Run tten: 30 dB	Avg Hold:	2000/2000	т	
) dB/div		Offset 2.01 dE f 20.00 dBm						4.3 Wkr1 2.40	02 0 GI 371 dB
.00									
1.0									<u>f</u> a
									-28.52
0.0						♦		3	A2
0.0	New Merry	matrona	ishe was a far the second	anderson and a second	entransferienter et an en	Alige Adam Brandwood gas	والمراجع وال	₳₼₼₼ <u></u> ₯₰ _₽ ₼ _₩ ₩	and the
0.0									
tart 2.3 Res Bl				#VBW 30	0 kHz		Sweep	Stop 2.4 9.600 ms	
R MODE	TRC SCL	1	x	Y	FUNCTION	FUNCTION WIDTH	FU	NCTION VALUE	
1 N	1 1		2.402 0 GHz 2.400 0 GHz	-4.371 dBm -57.076 dBm					
3 N	1 f		2.390 0 GHz	-57.935 dBm					
4 N	1 f		2.368 2 GHz	-55.268 dBm					
6									
7									
8									
0	کا ا								
1	_				,m				
G						STATUS			
A									

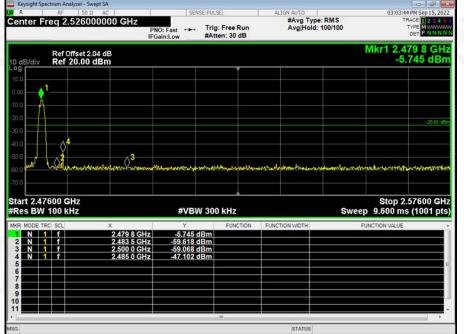








8-DPSK No-hopping Band edge-right side



8-DPSK Hopping Band edge-right side

Keysight Sj R	pectrum An RF	salyzer - Swept SA 50 Ω AC	1 1	SEN	SE:PULSE		AL	IGN AUTO		03:14:	43 PM Sep 15, 2
enter F		.52600000	PI	NO: Fast 🔸	Trig: Free #Atten: 30			#Avg Typ	e: RMS 2000/2000		TYPE MUNIT
0 dB/div		0ffset 2.04 dE 20.00 dBm								Mkr1 2.4 -5	180 0 G .948 dE
10.0	1										
0.00 0.00 AAAA											
0.0											-25.53
40.0											
50.0	h h	untur series	3	مهاردور اسام استجارو	townships	made	marales	www.apple.com	manshawa	hormontheman	- Confronterior
70.0											
tart 2.4 Res BW				#VBW	/ 300 kHz	•			Swee	Stop 2 p 9.600 m	.57600 G s (1001 p
KR MODE 1		3	2.480 0 GHz	Y -5,948 d		CTION	FUNCT	ION WIDTH	1	FUNCTION VALUE	
2 N 3 N	1 1		2.483 5 GHz 2.500 0 GHz	-57.362 d -55.186 d	Bm Bm						
4 N 5	1 1		2.494 0 GHz	-55.176 d	Bm						
7											
0											
1											1.1





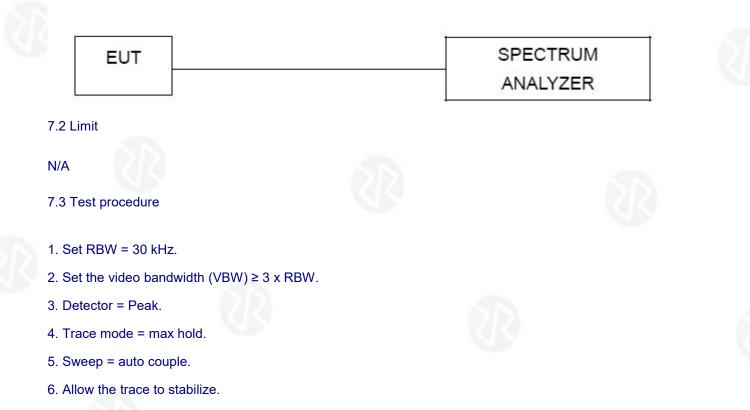




7. 20DB&99% BANDWIDTH

Test Requirement:	FCC Part15 C Section 15.247 (a)(1)
Test Method:	ANSI C63.10:2013

7.1 Test Setup



7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

7.4 DEVIATION FROM STANDARD

No deviation.

7.5 Test Result

Mode	Test channel	20dB Emission Bandwidth (MHz)	Result
	Lowest	0.85010	
GFSK	Middle	0.86620	Pass
	Highest	0.87520	-
19.04	Lowest	1.41400	
π/4-DQPSK	Middle	1.41900	Pass
	Highest	1.41200	-
	Lowest	1.41300	
8-DPSK	Middle	1.42400	Pass
	Highest	1.45300	



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Test plots





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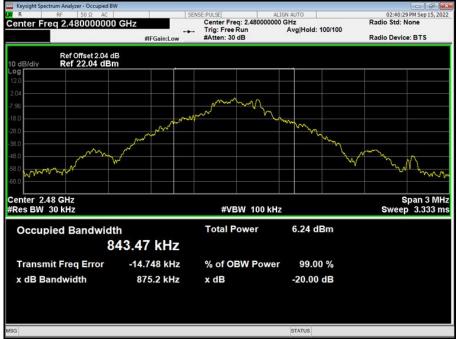
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GFSK Middle Channel



GFSK High Channel







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π/4-DQPSK Low Channel



π/4-DQPSK Middle Channel

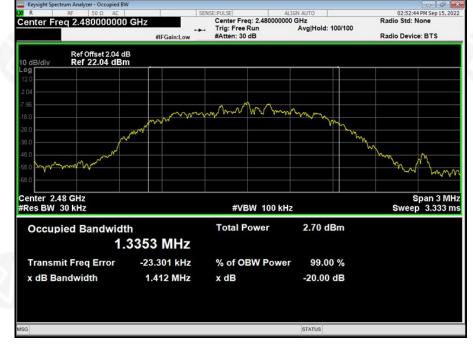








π/4-DQPSK High Channel







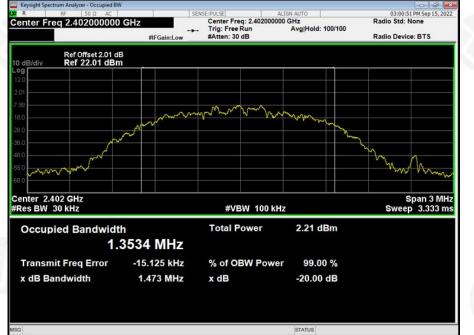








8-DPSK Low Channel





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8-DPSK Middle Channel



8-DPSK High Channel







8. Maximum Peak Output Power

Test Requirement:	FCC Part15 C Section 15.247 (b)(1)
Test Method:	ANSI C63.10:2013
Limit:	GFSK:30 dBm π/4-DQPSK & 8-DPSK:20.97 dBm

8.1 Block Diagram Of Test Setup

EUT	SPECTRUM
	ANALYZER

8.2 Limit

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

For FHSs operating in the band 2400-2483.5 MHz, the maximum peak conducted output power shall not exceed 1.0 W if the hopset uses 75 or more hopping channels; the maximum peak conducted output power shall not exceed 0.125 W if the hopset uses less than 75 hopping channels. The e.i.r.p. shall not exceed 4 W.

8.3 Test procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.

- 2. Set the spectrum analyzer: RBW = 2MHz. VBW =6MHz. Sweep = auto; Detector Function = Peak.
- 3. Keep the EUT in transmitting at lowest, medium and highest channel individually. Record the max value.

8.4 DEVIATION FROM STANDARD

No deviation.

8.5 Test Result

Mode	Test channel	Peak Output Power (dBm)	FCC Limit (dBm)	Result
	Lowest	1.457		
GFSK	Middle	0.988	30.00	Pass
	Highest	0.163		
	Lowest	-1.313		
π/4-DQPSK	Middle	-1.770	21.00	Pass
	Highest	-2.396		
	Lowest	-2.327		
8-DPSK	Middle	-2.778	21.00	Pass
	Highest	-3.506		
0-DFSK			21.00	Fass

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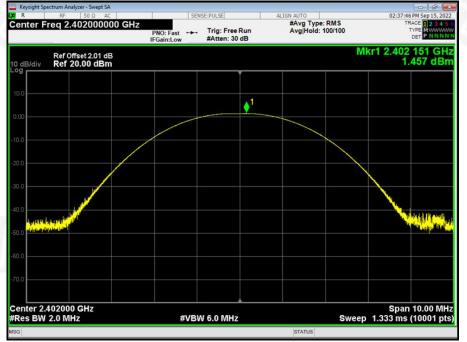
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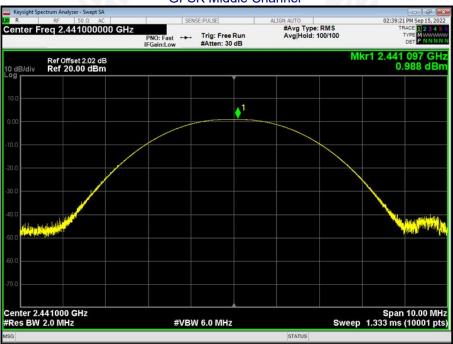


Test plots

GFSK Low Channel



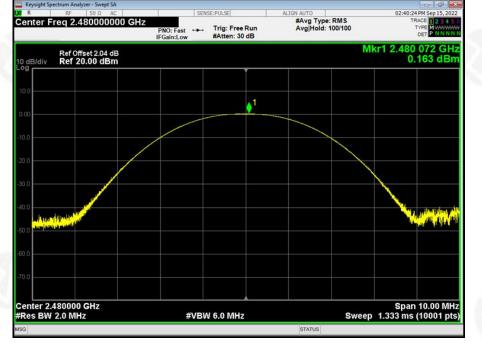
GFSK Middle Channel



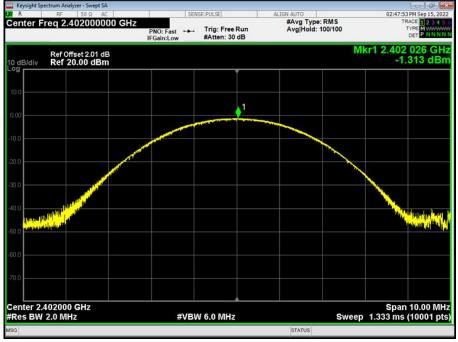




GFSK High Channel

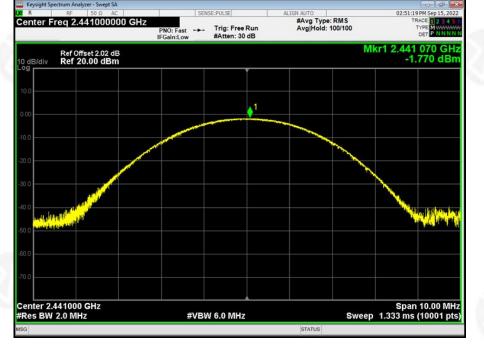


π/4-DQPSK Low Channel

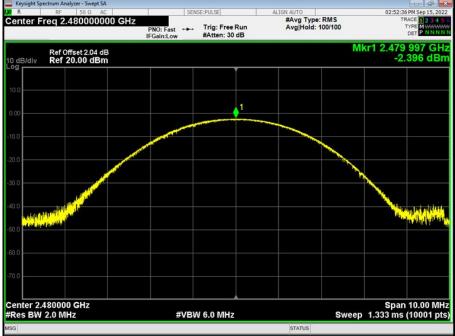




π/4-DQPSK Middle Channel



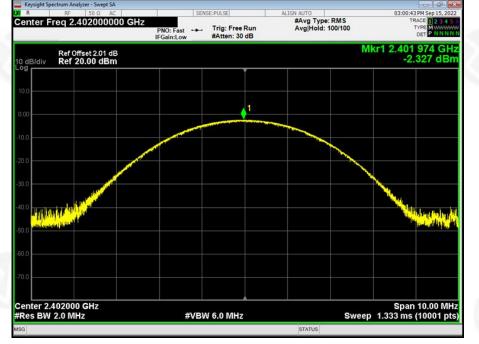
π/4-DQPSK High Channel



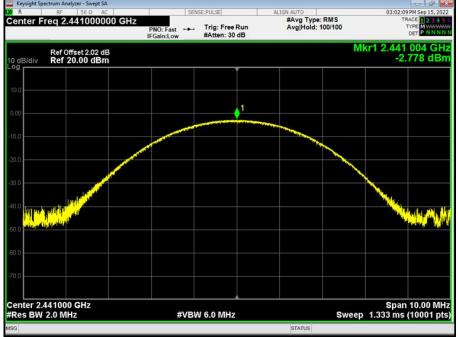




8-DPSK Low Channel



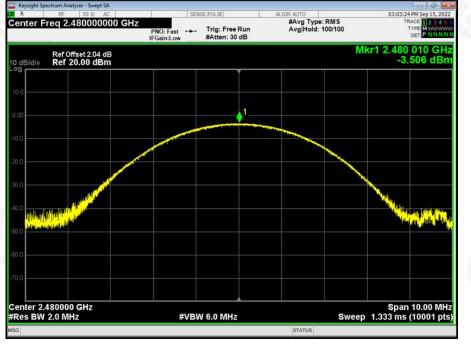
8-DPSK Middle Channel

















9. HOPPING CHANNEL SEPARATION

Test Requirement:	FCC Part15 C Section 15.247 (a)(1)
Test Method:	ANSI C63.10:2013
Receiver setup:	RBW=30KHz, VBW=100KHz, detector=Peak
Limit:	GFSK: 20dB bandwidth $\pi/4$ -DQPSK & 8DSK: 0.025MHz or 2/3 of the 20dB bandwidth (whichever is greater)

9.1 Test Setup

UT	SPECTRUM
	ANALYZER

9.2 Test procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port

to the spectrum.

2. Set the spectrum analyzer: RBW = 30kHz. VBW = 100kHz , Span = 2.0MHz. Sweep = auto; Detector Function = Peak. Trace = Max hold.

3. Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels. The limit is specified in one of the subparagraphs of this Section Submit this plot.

9.3 DEVIATION FROM STANDARD No deviation.

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Modulation	Test Channel	Separation (MHz)	Limit(MHz)	Result
GFSK	Low	0.996	0.850	PASS
GFSK	Middle	0.999	0.866	PASS
GFSK	High	1.140	0.875	PASS
π/4-DQPSK	Low	1.002	0.943	PASS
π/4-DQPSK	Middle	1.005	0.946	PASS
π/4-DQPSK	High	1.014	0.941	PASS
8-DPSK	Low	0.996	0.942	PASS
8-DPSK	Middle	1.167	0.949	PASS
8-DPSK	High	1.014	0.969	PASS

Test plots GFSK Low Channel

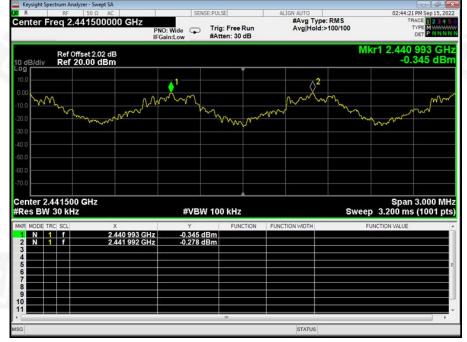






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GFSK Middle Channel



GFSK High Channel





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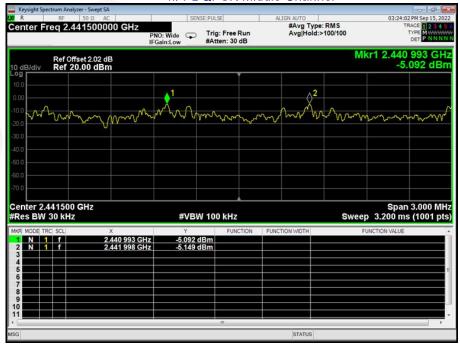




zer - Swept SJ Sep 15 #Avg Type: RMS Avg|Hold:>100/100 eq 2.402500000 GH Center F Trig: Free Run Atten: 28 dB PNO: Wide IFGain:Low Mkr1 2.401 999 GHz -4.726 dBm Ref Offset 2.01 dB Ref 20.00 dBm <u>1</u> Center 2.402500 GHz #Res BW 30 kHz Span 3.000 MHz Sweep 3.200 ms (1001 pts) #VBW 100 kHz 2.401 999 GHz 2.403 001 GHz -4.726 dBn -4.894 dBn N 1 f N 1 f

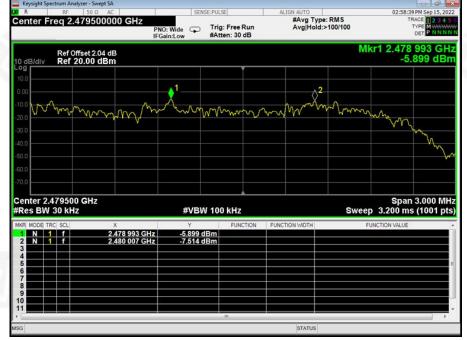
π/4-DQPSK Low Channel



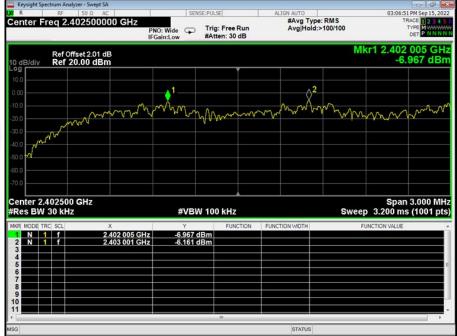




π/4-DQPSK High Channel



8-DPSK Low Channel

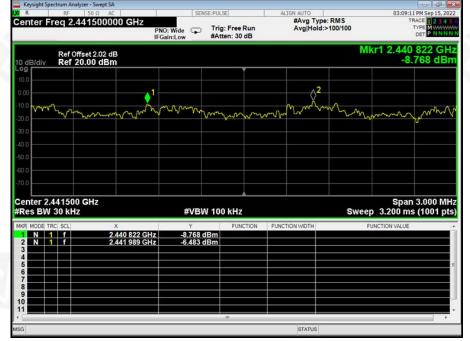




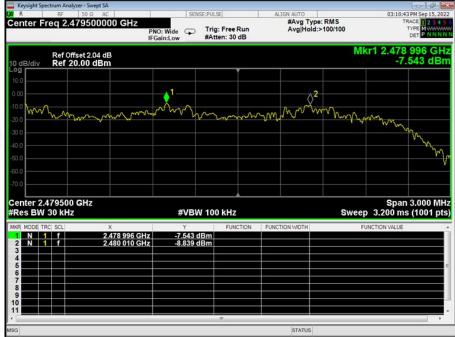




8-DPSK Middle Channel



8-DPSK High Channel



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10.NUMBER OF HOPPING FREQUENCY

Test Requirement:	FCC Part15 C Section 15.247 (a)(1)(iii)
Test Method:	ANSI C63.10:2013
Receiver setup:	RBW=100kHz, VBW=300kHz, Frequency range=2400MHz-2483.5MHz, Detector=Peak
Limit:	15 channels

10.1 Test Setup

EUT	SPECTRUM
	ANALYZER

10.2 Test procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.

2. Set the spectrum analyzer: RBW = 100kHz. VBW = 300kHz. Sweep = auto; Detector Function = Peak. Trace = Max hold.

3. Allow the trace to stabilize. It may prove necessary to break the span up to sections. in order to clearly show all of the hopping frequencies. The limit is specified in one of the subparagraphs of this Section.

4. Set the spectrum analyzer: Start Frequency = 2.4GHz, Stop Frequency = 2.4835GHz. Sweep=auto;

10.3 DEVIATION FROM STANDARD

No deviation.

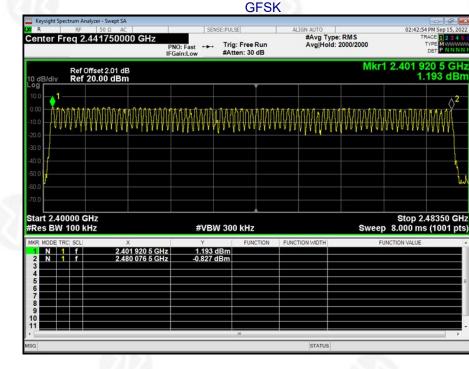
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Test Plots: 79 Channels in total







Mkr1 2.401 503 0 GH -8.397 dBn



Trig: Free Run Ref Offset 2.01 dB 10 dB/div Ref 20.00 dBm 10 dB/div Ref 20.00 dBm

n hanna	approximate	MARAAAAA	n MARAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	penantin	AUGARAR	dradwayway	mmuu	MAY
es BW 100 kHz	×	#VBW	300 kHz		TION WOTH		p 8.000 ms	.48350 s (1001
es BW 100 kHz	X 2.401 503 0 GHz 2.480 494 0 GHz	Y -8.397 dE	FUN		TION WIDTH		Stop 2. p 8.000 ms	48350 s (1001
MODE TRC SCL	2.401 503 0 GHz	Y -8.397 dE	FUN		TION WIDTH		p 8.000 ms	48350 \$ (1001
	2.401 503 0 GHz	Y -8.397 dE	FUN		TION WIDTH		p 8.000 ms	.48350 s (1001

ALIGN AUTO #Avg Type: RMS Avg|Hold: 2000/2000

8-DPSK

on tor i toq	50 Ω AC 2.44175000	00 GHz		NSE:PULSE		#Avg Type:			PPM Sep 15, 20 RACE 2 3 4 TYPE M WAAAAA
			NO: Fast +++ Gain:Low	Trig: Free #Atten: 30		Avg Hold: 2	2000/2000		DET P NNN
	f Offset 2.01 dE f 20.00 dBm						Mkr	1 2.402 0 -4	04 0 GH .881 dB
0.0					1				
	MANYAAA	Annana	vite man	manana	MARAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	www	J. Sandy Start	WWW	MAN A
1.0 1.0									
0.0									
0.0									
0.0									
tart 2.40000			#VB	W 300 kHz			Swee		
tart 2.40000 Res BW 100	kHz	x	#VB	W 300 kHz		TION WDTH		Stop 2 p 8.000 m	.48350 GH s (1001 pt
tart 2.40000 Res BW 100 KR MODE TRC SCL 1 N 1 f 2 N 1 f	kHz 2.40	X 02 004 0 GHz 30 494 0 GHz		FUN		TION WIDTH		ep 8.000 m	
tart 2.40000 Res BW 100 KR MODE TRC SCL 1 N 1 f 2 N 1 f 3 4	kHz 2.40	02 004 0 GHz	Y -4.881	FUN		TION WDTH		ep 8.000 m	
tart 2.40000 Res BW 100 KR MODE TRC SCL 1 N 1 f 2 N 1 f 3 4 5 5 6	kHz 2.40	02 004 0 GHz	Y -4.881	FUN		TION WIDTH		ep 8.000 m	
tart 2.40000 Res BW 100 KR MODE TRC SCL 1 N 1 f 2 N 1 f 3 4 5 5 6 7 8	kHz 2.40	02 004 0 GHz	Y -4.881	FUN		CTION WIDTH		ep 8.000 m	
tart 2.40000 Res BW 100 R. MODE TRC SCL 1 N 1 f 2 N 1 f 3 4 6 6	kHz 2.40	02 004 0 GHz	Y -4.881	FUN		TION WIDTH		ep 8.000 m	





11. DWELL TIME

Test Requirement:	FCC Part15 C Section 15.247 (a)(1)(iii)
Test Method:	ANSI C63.10:2013
Receiver setup:	RBW=1MHz, VBW=3MHz, Span=0Hz, Detector=Peak
Limit:	0.4 Second

11.1 Test Setup

EUT	SPECTRUM
	ANALYZER

11.2 Test procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.

2. Set spectrum analyzer span = 0Hz;

3. Set RBW = 1MHz and VBW = 3MHz.Sweep = as necessary to capture the entire dwell time per hopping channel. Set the EUT for DH5, DH3 and DH1 packet transmitting.

4. Use the marker-delta function to determine the dwell time. If this value varies with different modes of operation (e.g., data rate, modulation format, etc.), repeat this test for each variation. The limit is specified in one of the subparagraphs of this Section. Submit this plot(s).

11.3 DEVIATION FROM STANDARD

No deviation.

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11.4 Test Result

GFSK mode:

Frequency	Packet	Dwell time(ms)	Limit(ms)	Result
2441MHz	DH1	121.600	400	Pass
2441MHz	DH3	261.760	400	Pass
2441MHz	DH5	307.520	400	Pass

Remarks:

The test period: T= 0.4 Second/Channel x 79 Channel = 31.6 s Test channel: as blow

CH:2441MHz time slot=0.380(ms)*(1600/ (2*79))*31.6=121.600ms

CH:2441MHz time slot=1.636(ms)*(1600/ (4*79))*31.6=261.760ms

CH:2441MHz time slot=2.883(ms)*(1600/ (6*79))*31.6=307.520ms

π/4-DQPSK mode:

Frequency	Packet	Dwell time(ms)	Limit(ms)	Result
2441MHz	2DH1	124.480	400	Pass
2441MHz	2DH3	262.560	400	Pass
2441MHz	2DH5	308.053	400	Pass

Remarks:

The test period: T= 0.4 Second/Channel x 79 Channel = 31.6 s Test channel: as blow

CH:2441MHz time slot=0.389(ms)*(1600/ (2*79))*31.6=124.480ms

CH:2441MHz time slot=1.641(ms)*(1600/ (4*79))*31.6=262.560ms

CH:2441MHz time slot=2.888(ms)*(1600/ (6*79))*31.6=308.053ms

8-DPSK mode:

Frequency	Packet	Dwell time(ms)	Limit(ms)	Result
2441MHz	3DH1	124.480	400	Pass
2441MHz	3DH3	262.400	400	Pass
2441MHz	3DH5	308.373	400	Pass

Remarks:

The test period: T= 0.4 Second/Channel x 79 Channel = 31.6 s Test channel: as blow CH:2441MHz time slot=0.389(ms)*(1600/ (2*79))*31.6=124.480ms CH:2441MHz time slot=1.640(ms)*(1600/ (4*79))*31.6=262.400ms CH:2441MHz time slot=2.891(ms)*(1600/ (6*79))*31.6=308.373ms

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Test Plots

GFSK DH1 2441MHz

nter Freq 2	50 Ω AC 2.44100000				elay-500.0 µ	s #Avg 1	ype: RMS	TE	2 PM Sep 15, 20 RACE 1 2 3 4 TYPE WWWW
			NO: Fast ++ Gain:Low	#Atten					DET P NNN
	Offset 2.02 dB f 20.00 dBm							ΔMkr1	380.0 j 2.57 d
0									
	1Δ2								TRIG
X-									
)									
							day billion day and Inggan day day ng k		anteriten ante
0	a. L. Mataladhaine	and no bland.		and width	ed and so they	and the last of the second	a dissing all the day	a state and a state of the stat	
nter 2.4410	00000 GHz								Span 0
			#VE	3W 3.0 M	Hz		Sweep	10.00 ms	
nter 2.4410 s BW 1.0 M	lHz >		Y		Hz FUNCTION	FUNCTION WIDTH		10.00 ms	
s BW 1.0 M	lHz >	× 380.0 به 479.0 به	γ (Δ) 2			FUNCTION WIDTH			
SBW 1.0 M MODE TRC SCL A2 1 t	lHz >	380.0 µs	γ (Δ) 2	.57 dB		FUNCTION WIDTH			
S BW 1.0 M	lHz >	380.0 µs	γ (Δ) 2	.57 dB		FUNCTION WIDTH			
S BW 1.0 M	lHz >	380.0 µs	γ (Δ) 2	.57 dB		FUNCTION WIDTH			
S BW 1.0 M	lHz >	380.0 µs	γ (Δ) 2	.57 dB		, FUNCTION WIDTH			
S BW 1.0 M	lHz >	380.0 µs	γ (Δ) 2	.57 dB		FUNCTION WIDTH			Span 0 (10001 p

GFSK DH3 2441MHz

Keysight Spectrum Analyzer - Swept SA R RF 50 Ω AC		SENSE:PU	ISE	ALIGN AUTO	5	03:15:17	PM Sep 15, 202
enter Freq 2.4410000	PNC	:Fast +++ Tri	g Delay-500.0 μ g: Video tten: 30 dΒ		RMS	TR	ACE 2 3 4 1 YPE WHITE DET PNNN
Ref Offset 2.02 dB dB/div Ref 20.00 dBn						∆Mkr1	1.636 m -1.27 d
	1∆2						
X2							TRIG L
.0							
10							
		<mark>al-lea-lebala</mark>	<mark>n dala san dan dala</mark> Managaran dan dalam		<mark>Ni^{pe}n (1911 m</mark>	haline en el anter e Ny statut en el poster en el post Ny statut en el poster en el post	alan <mark>alan ana</mark> Manana ang
		#VBW 3.0	0 MHz		Sweep	10.00 ms (Span 0 H 10001 pt
	X 1.636 ms //	Y	FUNCTION	FUNCTION WIDTH		10.00 ms	Span 0 H 10001 pt
es BW 1.0 MHz	× 1.636 ms (Δ 498.0 μs	Y		FUNCTION WIDTH		10.00 ms (Span 0 H 10001 pt
25 BW 1.0 MHz R MODE TRC SCL Δ2 1 t (Δ) F 1 t	1.636 ms (Δ	Y) -1.27 dB		FUNCTION WIDTH		10.00 ms (Span 0 H 10001 pi
Product The second secon	1.636 ms (Δ	Y) -1.27 dB		FUNCTION WIDTH		10.00 ms (Span 0 F 10001 pt
25 BW 1.0 MHz R MODE TRC SCL Δ2 1 t (Δ) F 1 t	1.636 ms (Δ	Y) -1.27 dB		FUNCTION WIDTH		10.00 ms (Span 0 H 10001 pt
ES BW 1.0 MHz R MODE TRC SCL Δ2 1 τ 1 δ2 1 δ3 1	1.636 ms (Δ	Y) -1.27 dB		FUNCTION WIDTH		10.00 ms (Span 0 H 10001 pt











GFSK DH5 2441MHz

eq 2.44	1000000	PI	NO: Fast ↔ Gain:Low	Trig Delay Trig: Vide #Atten: 30	b	#Avg Ty	pe: RMS	0	RACE 1 2 3 4 5 TYPE WWWWWW DET P NNNN
								ΔMkr1	2.883 ms -0.31 dB
/			1∆2						
×2									TRIG LVL
									rad ⁱ of the late
440000									Span 0 Hz
	JU GHZ		#VBW	/ 3.0 MHz			Sweep	10.00 ms	(10001 pts
	Х			dB	CTION	FUNCTION WIDTH	F	UNCTION VALUE	
t		498.0 µs	0.55 d	Bm					
				<u> </u>					
	Ref 20.	141000000 GHz .0 MHz I⊂ SCL X	IFC Ref Offset 2.02 dB Ref 20.00 dBm 2	IFGaint.cw Ref Offset 2.02 dB Ref 20.00 dBm 1Δ2 2 41000000 GHz 0 MHz 41000000 GHz 0 MHz 41000000 GHz 0 MHz 41000000 GHz 0 MHz 41000000 GHz 0 0 Hz 41000000 GHz 41000000 GHZ 410000000 GHZ 41000000 GHZ 41000000 GHZ 41000000 GHZ 41000000 GHZ 410000000 GHZ 41000000 GHZ 41000000 GHZ 41000000 GHZ 41000000 GHZ 41000000 GHZ 410000000 GHZ 41000000 GHZ 410000000 GHZ 4100000000 GHZ 4100000000 GHZ 4100000000 GHZ 410000000 GHZ 410000000 GHZ 410000000 GHZ 410000000 GHZ 4100000000 GHZ 410000000 GHZ 41000000 GHZ 41000000 GHZ 410000000 GHZ 41000000000000000000000000000000000000	If Gain:Low #Atten: 30 Ref Offset 2.02 dB 1Δ2 (2 1Δ2 (2 1Δ2 (2 1Δ2 (1000000 GHz #VBW 3.0 MHz (1000000 GHz Y (1000000 GHz Y	IFGain:Low #Atten: 30 dB Ref Offset 2.02 dB Ref 20.00 dBm	IFGein:Low #Atten: 30 dB Ref Offset 2.02 dB 1Δ2 1Δ2 1Δ2 1Δ3 14000000 GHz 0 MHz #VBW 3.0 MHz C SCI X Y FUNCTION VIDTH	IFGain:Low #Atten: 30 dB Ref Offset 2.02 dB Ref 20.00 dBm 1Δ2 1Δ2 1Δ2 1Δ3 1Δ2 1Δ4 1Δ4 1Δ4 1Δ4	IFGainLow #Atten: 30 dB Ref Offset 2.02 dB Ref 20.00 dBm ΔMkr1 (2 1Δ2 1 (2 1 1 1 (2 1 1 1 1 (2 1 1 1 1 1 (2 1 </td

π/4-DQPSK 2DH1 2441MHz

Keysight Spectrum Analy R RF	zer - Swept SA 50 Ω AC	SENS	SE:PULSE	ALIGN AUTO			PM Sep 15, 20
enter Freq 2.4		PNO: Fast 🔸	Trig Delay-500.0 μ Trig: Video #Atten: 30 dB	s #Avg Typ	e: RMS		ACE 1 2 3 4 TYPE WWWW DET P N N N
	set 2.02 dB 0.00 dBm					ΔMkr1	389.0 µ -0.88 d
10.0 1.00	2						
0.0							TRICI
0.0		_ /11					
			den ander de			and a state of the s	
enter 2.441000 es BW 1.0 MHz	000 GHz	#VBW	/ 3.0 MHz		Sweep	10.00 ms	Span 0 (10001 p
KR MODE TRC SCL 1 Δ2 1 t (Δ 2 F 1 t	× 389.0 µs 498.0 us			FUNCTION WIDTH	F	UNCTION VALUE	
3 4 5							
6 7 8 9							
			m				,
U.,							

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π/4-DQPSK 2DH3 2441MHz

	PNO: Fast IFGain:Low	#Atten: 30 d	Tar to be a sylicity and the sylicity		nlovi a til i Atayin	TRO LA
					nlovi a til i Atayin	-0.23 d
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1Δ2						galdaing i de son fan fyr op of son fan fyr
nter 2.441000000 GHz						
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
nter 2.441000000 GHz						
nter 2.441000000 GHz						
nter 2.441000000 GHz	1					
5 DV4 1.0 141112	#VB	W 3.0 MHz		S	Sweep 10.0	Span 0 H 0 ms (10001 pt
MODE TRC SCL X	Y	FUNCT	ION FUNCTION	WIDTH	FUNCTION	I VALUE
Δ2 1 t (Δ) 1.641 m F 1 t 355.0 μ						
		,ш.				

π/4-DQPSK 2DH5 2441MHz

R RF 50 Ω AC enter Freq 2.441000000 GH	Z SENSE:PULSE Trig Do PNO: Fast IFGain:Low #Atten		e: RMS	03:16:56 PM Sep 15, 20 TRACE 2 3 4 TYPE WANNA DET P NNN
Ref Offset 2.02 dB 0 dB/div Ref 20.00 dBm				ΔMkr1 2.888 m 1.61 d
99 9				
				TRIC-L
0.0				
	tata ta la alta da manda de la seconda da de	- I star be shall and a star be shall be shall be	Jourseland and Reported in	a sumble of the state of the state of the state of the
0.0 Line jenig	i adalah di dada di seri seri seri seri seri Kadapaten ang kalan seri pertang tanja teres			
				<mark>. B) m. Bu, a sta a sta an grand in give dentin y saw d</mark> d
enter 2.441000000 GHz		n di kayang panaliti di kayan di yana min	Hypologi, Augura Au	
enter 2.441000000 GHz es BW 1.0 MHz	##94194393.0 M	n di kayang panaliti di kayan di yana min	Sweep	Span 0 H
enter 2.441000000 GHz es BW 1.0 MHz s Du 1.0 MHz s Du 2.8 2 F 1 t 35	#vBw 3.0 M	nd a fragma sanda (dan a siliyana sarafa IHZ	Sweep	<mark>114 (1882 point different)</mark> Span 0 H 20.00 ms (10001 pt
Image: Constraint of the second sec	#Υσμής το στο τη στο τη στο τη στο #VBW 3.0 Μ 188 ms (Δ) 1.61 dB	nd a fragma sanda (dan a siliyana sarafa IHZ	Sweep	<mark>114 (1882 point different)</mark> Span 0 H 20.00 ms (10001 pt
Image: Second	#Υσμής το στο τη στο τη στο τη στο #VBW 3.0 Μ 188 ms (Δ) 1.61 dB	nd a fragma sasada (dan a siliyaran sara) IHZ	Sweep	<mark>114 II 114 - Joseph Joseph II 114 - Joseph II 1 20.00 ms (10001 pt</mark>
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	#Υσμής το στο τη στο τη στο τη στο #VBW 3.0 Μ 188 ms (Δ) 1.61 dB	nd a fragma sasada (dan a siliyaran sara) IHZ	Sweep	<mark>114 II 114 - Joseph Joseph II 114 - Joseph II 1 20.00 ms (10001 pt</mark>
μματηροί μα 00 μα	#Υσμής το στο τη στο τη στο τη στο #VBW 3.0 Μ 188 ms (Δ) 1.61 dB	nd a fragma sasada (dan a siliyaran sara) IHZ	Sweep	Span 0 H 20.00 ms (10001 pt



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8-DPSK 3DH1 2441MHz

enter Freq 2.44		PNO: Fast Tr	ig Delay-500.0 µ ig: Video tten: 30 dB	s #Avg Ty	pe: RMS		RACE 1 2 3 4 5 TYPE WWWWWW DET P NNNN
	et 2.02 dB 00 dBm					ΔMkr1	389.0 µs -0.46 dB
10.0							
							TRIG LVL
30.0							
60.0 1.1	<mark>handhan k</mark> hondaga kala na para na para na para	al de la contra de l		<mark>, shalikikika sh</mark>		PILIT I I I I I	na sé pola para para para para para para para pa
enter 2.4410000	<mark>Yaapii)taalla like po</mark> l	#VBW 3.	ortholity.W		andan (dirac) o (d	ngin h <mark>uu uu</mark>	Span 0 Hz (10001 pts)
50 0 70 0 Center 2.44100000 Res BW 1.0 MHz	۲۰۰۹ ^۳ مستقبل مستق X	#VBW 3.	0 MHz		and a pool of the second s	ngin h <mark>uu uu</mark>	Span 0 Hz
α 1	የማበ ^መ ስ በማሳት የሳ 00 GHz	#VBW 3.	0 MHz	<mark>n de la la la constante de la constante</mark>	and a pool of the second s	10.00 ms	Span 0 Hz
enter 2.4410000 es BW 1.0 MHz RR MODE TRC SCL 2 F 1 t	200 GHz X 389.0 µ	#VBW 3.	0 MHz	<mark>n de la la la constante de la constante</mark>	and a pool of the second s	10.00 ms	Span 0 Hz
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	200 GHz X 389.0 µ	#VBW 3.	0 MHz	<mark>n de la la la constante de la constante</mark>	and a pool of the second s	10.00 ms	Span 0 Hz

8-DPSK 3DH3 2441MHz

		ΔMkr	1 1.640 m -1.36 d
			1810-1
	ala distance si se s Si se si s	dalam Westerne din antara kan Kalan ya ta pasa kana din ana pana	in in herein
#VBW 3.0 MH	z	Sweep 10.00 m	Span 0 s (10001 p
Y FU () -1,36 dB -5.53 dBm	INCTION FUNCTION WIDTH	FUNCTION VALU	E
			,
		<i>m</i>	10 · · · · · · · · · · · · · · · · · · ·

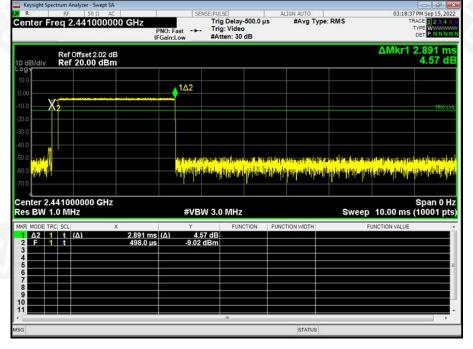








8-DPSK 3DH5 2441MHz

















12. Antenna Requirement

Standard requirement:	FCC Part15 C Section 15.203 /247(c)	

15.203 requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.247(c) (1)(i) requirement:

(i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

EUT Antenna:

The antenna is Chip antenna, the best case gain of the antennas is 1.6 dBi, reference to the appendix II for details

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Reference to the appendix I for details.

14. EUT Constructional Details

Reference to the appendix II for details.

***** END OF REPORT ****









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