Report No.: UNIA20092210ER-01

. TIME OF OCCUPANCY (DWELL TIME)

9.1 Measurement Procedure

Average Channel Occupancy Time, FCC Ref:15.247(a)(1)(iii):

Connect EUT antenna terminal to the spectrum analyzer with a low loss cable. The spectrum analyzer center frequency was set to one of the known hopping channels. The Sweep was set to 10 ms, the SPAN was set to Zero SPAN. The time duration of the transmissions so captured was measured with the Marker Delta function

9.2 Limit

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

9.3 Test SET-UP (Block Diagram of Configuration)

EUT		Low Loss	 Spectrum Analyzer
1.2	1		Spectrum Analyzei

9.4 Measurement Results

Refer to attached data chart.



The maximum number of hopping channels in 31.6s (0.4s/Channel x 79 Channel)

RBW:	1MHz	Temperature:	24 °C
VBW:	3MHz	Humidity:	50 %
Spectrum Detector:	PK	Test By:	PEI
Test Result:	PASS	Test Date:	August 27, 2020

Packet	Frequency		Result		Limit	
	(MHz)		(msec)		(msec)	
			GFSK			
DH1	2441	0.380	(ms)*(1600/(2*79))*31.6=	121.92	400	
DH3	2441	1.637	(ms)*(1600/(4*79))*31.6=	261.92	400	
DH5	2441	3.077	(ms)*(1600/(6*79))*31.6=	307.73	400	
π/4-DQPSK						
2-DH1	2441	0.389	(ms)*(1600/(2*79))*31.6=	124.48	400	
2-DH3	2441	1.642	(ms)*(1600/(4*79))*31.6=	262.72	400	
2-DH5	2441	2.889	(ms)*(1600/(6*79))*31.6=	308.16	400	
8DPSK						
3-DH1	2441	0.390	(ms)*(1600/(2*79))*31.6=	124.80	400	
3-DH3	2441	1.641	(ms)*(1600/(4*79))*31.6=	262.56	400	
3-DH5	2441	2.892	(ms)*(1600/(6*79))*31.6=	380.48	400	

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GFSK (DH1)

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D T DE EQ.O AC				ē 🗾
Center Freq 2.441000000 GHz	PNO: Fast +++ Trig: IFGain:Low #Atte	T SOURCE OFF Delay-1.000 ms Video en: 30 dB	ALIGN AUTO Avg Type: Log-Pwr	11:30:49 AM Aug 27, 2020 TRACE 2 3 4 5 TYPE WWWWMM DET P N N N N
Ref Offset 1.89 dB 10 dB/div Ref 20.00 dBm				ΔMkr1 381.0 μs 1.44 dE
				TROLVI
20.0 30.0 				
-50.0 Hiteory at 1999 -60.0 Hereit Alexandre H Alexandre Hereit Alexandre Hereit Alexandre Hereit Alexandre Hereit Alexandre Hereit Alexandre Hereit Alexandre	North Constraints and the standard sector of the standard sector of the standard sector of the standard sector North Constraints and the standard sector of the standard sector of the standard sector of the standard sector s	and <mark>Allen and Anderson and Allen and All Allen and Allen and Al Allen and Allen and Al</mark>	and have the provident of the provident	an an an an talah an
				Span 0 H
Res BW 1.0 MHz	#VBW 3.0	MHZ	Sweep	10.00 ms (10001 pts
Center 2:441000000 GHZ Res BW 1.0 MHz MRR MODE TRC SCL X 1 A2 1 t (A) 381.0 2 F 1 t 998.0 3 998.0	#VBW 3.0 Υ μs (Δ) 1.44 dB μs 1.60 dBm	FUNCTION FUN	Sweep ICTION WIDTH F	10.00 ms (10001 pts
Center 2:441000000 GH2 Res BW 1.0 MHz MKR MODE TRC SCL X 1 Δ2 F 1 t (Δ) 381.0 2 F 1 t 998.0 3 5 6 6 7 6 8 9 9	#VBW 3.0 γ μs (Δ) 1.44 dB μs 1.60 dBm		Sweep	10.00 ms (10001 pts

GFSK (DH3)



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GFSK (DH5)

Keysight Spectrum Analyzer - Swept SA			
XIR T RF 50Ω AC	SENSE:INT SOURCE OFF	ALIGN AUTO	11:44:36 AM Aug 27, 2020
Center Freq 2.441000000 GHz PNC IFGa	Trig Delay-1.000 m D: Fast →→→ Trig: Video in:Low #Atten: 30 dB	s Avg Type: Log-Pwr	TRACE 1 2 3 4 5 TYPE WWWWW DET PNNNN
Ref Offset 1.89 dB			ΔMkr1 2.885 ms -5.98 dE
10.0	1Δ2		
0.00			TRIG LVL
-20.0			
-30,0			
-50.0 11 11 11 11 11 11 11 11 11 11 11 11 11	in the later, special products the first bit state	union in a literate postales in provident and the second	in denimistri provens della la sia denomica della della di com
-60.0 <mark>19 0 19 19 19 19 19 19 19 19 19 19 19 19 19 </mark>	and because where the second	A long to be a particular of the second s	<mark>Muditan de la delacerada ana</mark>
Center 2.441000000 GHz Res BW 1.0 MHz	#VBW 3.0 MHz	Sweep	Span 0 Hz 10.00 ms (10001 pts
MKR MODE TRC SCL X	Y FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1 Δ2 1 t Δ2 1 t Δ2 S S Δ2 Δ2 F 1 t 2 F 1 t 998.0 μs μs 3 3 Δ2 S	-5.98 dB 5.84 dBm		
4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5			
9 10 11			
	m		

π/4-DQPSK (2-DH1)



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π/4-DQPSK (2-DH3)

Keysight Spectrum Analyzer - Swept SA			-				
Center Freq 2.44100000) GHz PNO: Fa IFGain:L	st → Trig ow #Att	Delay-1.000 m : Video en: 30 dB	ALIGN AUTO IS Avg Type:	Log-Pwr	12:05:5 T	2 PM Aug 27, 202 RACE 1 2 3 4 5 TYPE WWWWW DET PNNN
Ref Offset 1.89 dB			7			∆Mkr1	1.642 m -3.75 di
10.0 0.00 X	<u>1Δ2</u>						
20.0							TRIGIL
30,0							
-50.0 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	<mark>lantati ka </mark>		n an	<mark>alah dan kabupatèn dinter</mark> u	edeli di alte de cella da Politica par granda della	<mark>geb_ergegine gine</mark>	n an
Center 2.441000000 GHz Res BW 1.0 MHz	Å	#VBW 3.0	MHz		Sweep	10.00 ms	Span 0 H (10001 pt
MKR MODE TRC SCL X 1 Δ2 1 t (Δ) 2 F 1 t	1.642 ms (Δ) 998.0 μs	Ƴ -3.75 dB -0.60 dBm	FUNCTION	FUNCTION WIDTH	FU	UNCTION VALUE	
4 5 6							
7							
			m				
SG				STATUS			

π/4-DQPSK (2-DH5)



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http://www.uni-lab.hk



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8DPSK (3-DH1)

Keysight Spectrum Analyzer - Swept SA						- F
R T RF 50Ω AC enter Freq 2.441000000 GHz	SENSE:IN Trig PNO: Fast ↔ Trig IFGain:Low #Att	Delay-1.000 ms Video ten: 30 dB	ALIGN AUTO Avg Type:	: Log-Pwr	12:14:22 PM/ TRACE TYPE DET	Aug 27, 202 1 2 3 4 5 WWWWW P N N N
Ref Offset 1.89 dB dB/div Ref 20.00 dBm		1		T.	ΔMkr1 39 5	0.0 µ .66 d
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no <mark>harada dan bahara</mark>			ing of a final taken <mark>Filip (</mark> Filip) pinan		and have been and the second	
enter 2.441000000 GHz es BW 1.0 MHz	#VBW 3.0	MHz	<mark>in dia dia 1990. In 1 In 1990. In 1 In 1990. In 1</mark>	Sweep	Sp 10.00 ms (10	an 0 001 p
Number of the second	#VBW 3.0 0 μs (Δ) - 5.66 dB 0 μs - 6.07 dBm	MHz FUNCTION F		Sweep	Sp 10.00 ms (10	an 0 001 p
Model and M Model and M a a a b a a c b a c b a c b a c b a c b a c b a c b a c a a c a a d a a d a a d a b	#Userplud and the second seco	MHz FUNCTION F		Sweep	All Mild Mild Anno All Anno Anno Sp 10.00 ms (10 UNCTION VALUE	an 0 001 p
Novel 10 Novel 10 enter 2.441000000 GHz estimation estimation Model BW 1.0 MHz X A2 1 F 1 997.4	#VBW 3.0 0 μs (Δ) 5.56 dB 0 μs –6.07 dBm	MHZ FUNCTION F		Sweep Fl	All and the second s	an 0 001 p
And Market (a) And Market (a) Content of the market (a) And Market (a) Content (a) And Market (a) <	#VBW 3.0 0 μs (Δ) 5.56 dB 0 μs –6.07 dBm	MHZ FUNCTION F		Sweep Fl	All and All an	an 0 I 001 p

8DPSK (3-DH3)



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8DPSK (3-DH5)

and a group and a strategy and a strategy and							
R T RF 50 Ω AC enter Freq 2.441000000) GHz PNO: Fa IFGain:L	sense In Trig ast I Trig ow #Att	IT SOURCE OFF Delay-1.000 m : Video :en: 30 dB	ALIGN AUTO Avg Type	: Log-Pwr	12:25:5 T	3 PM Aug 27, 20 RACE 1 2 3 4 TYPE WWWW DET P N N N
Ref Offset 1.89 dB dB/div Ref 20.00 dBm						ΔMkr1	2.892 n 5.26 c
		1Δ2					
м <mark>Х2</mark>							TRIG
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enter 2.441000000 GHz s BW 1.0 MHz		#VBW 3.0	MHz	Alf Destroyation of the state	Sweep	10.00 ms	Span 0 (10001 j
mter 2.441000000 GHz s BW 1.0 MHz	2.892 ms (A)	#VBW 3.0	MHZ FUNCTION		Sweep	10.00 ms	Span 0 (10001 p
Image: Second state Second state Image: Second state Second s	2.892 ms (Δ) 997.0 μs	#VBW 3.0 7 5.26 dB -5.98 dBm	MHZ FUNCTION		Sweep	10.00 ms	Span 0 (10001 p
Image: set of the set	2.892 ms (Δ) 997.0 μs	#VBW 3.0 • 5.26 dB	MHz FUNCTION		Sweep	10.00 ms	Span 0 (10001 p
AD Manuffer Contert 2.441000000 GHz Senter 2.441000000 GHz SBW 1.0 MHz X A2 1 t (A) 2 F 1 t 3 S Sentert 2.441000000 GHz 42 1 t (A) 2 F 1 t 3 S Sentert 2.441000000 GHz	2.892 ms (Δ) 997.0 μs	#VBW 3.0	MHZ FUNCTION	FUNCTION WIDTH	Sweep	10.00 ms	Span 0 (10001 p
20 Image: Additional and the second sec	2.892 ms (Δ) 997.0 μs	#VBW 3.0	MHz FUNCTION		Sweep	10.00 ms	Span 0 (10001 p

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0. MAXIMUM PEAK OUTPUT POWER

10.1 Measurement Procedure

Maximum Conducted Output Power at Antenna Terminals, FCC Rules 15.247(b)(1):

Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum. The analyzer was set for RBW > 20dB bandwidth and power was read directly in dBm. Cable loss was considered during this measurement.

10.2 Limit

For all other frequency hopping systems in the 2400-2483.5MHz band: 0.125 watts. **10.3** Test SET-UP (Block Diagram of Configuration)

EUT Low Loss Spectrum Analyzer

10.4 Measurement Results

RBW:	3MHz	Temperature:	24 ℃
VBW:	10MHz	Humidity:	50 %
Spectrum Detector:	РК	Test By:	PEI
Packet:	DH1, 2DH1, 3DH1(Worst case)	Test Date:	August 27, 2020

Channel Frequency (MHz)	Peak Power output (dBm)	Peak Power output (W)	Peak Power Limit (dBm/W)	Results
	-	GFSK		
2402.00	6.725	0.0047	21 / 0.125	PASS
2441.00	6.868	0.0048	21 / 0.125	PASS
2480.00	5.953	0.0039	21 / 0.125	PASS
		π/4-DQPSK		
2402.00	4.829	0.0030	21 / 0.125	PASS
2441.00	4.837	0.0030	21 / 0.125	PASS
2480.00	3.888	0.0024	21/0.125	PASS
		8DPSK		
2402.00	4.221	0.0026	21 / 0.125	PASS
2441.00	4.236	0.0026	21 / 0.125	PASS
2480.00	3.307	0.0021	21 / 0.125	PASS

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GFSK Lowest Channel



GFSK Middle Channel



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GFSK Highest Channel



π/4-DQPSK Lowest Channel



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π /4-DQPSK Middle Channel



π/4-DQPSK Highest Channel



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8DPSK Lowest Channel



8DPSK Middle Channel



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8DPSK Highest Channel



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11. BAND EDGE 11.1 Measurement Procedure

Out of Band Emissions, FCC Rule 15.247(d):

During the radiated emission test, the spectrum analyzer was set with the following configurations:

1. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for peak measurement with peak detector at frequency above 1GHz.

2.The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average measurement with peak detection at frequency above 1GHz.

During the conducted emission test, the spectrum analyzer was set with the following configurations:

The transmitter output is connected to spectrum analyzer. The resolution bandwidth is set to100KHz, and the video bandwidth set to 300kHz.

11.2 Limit

15.247(d)In any 100KHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100KHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

11.3 Measurement Results

Please see below test table and plots.

Note: All modes of operation were investigated and the worst case (GFSK Mode) emissions are reported.

For Radiated restricted band:

E.U.T:	MDK-100	Polarization:	Horizontal
Model No.:	MDK-100	Temperature:	23 °C
Test Mode:	TX 2402MHz (GFSK)	Humidity:	48 %
Test Distance:	3m	Test By:	PEI
Test Results:	PASS	Test Voltage	DC 11.1V

Job No.: Data 2020 #71	Polarization: Horizontal
Standard: FCC (Band Edge)	Power Source: DC 11.1V
Test item: Radiation Test	Date: 2020/09/07
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: MDK-100	Engineer Signature: WADE
Mode: TX 2402MHz	Distance: 3m
Model: MDK-100	
Manufacturer: Estone	

Note:



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E.U.T:	MDK-100	Polarization:	Vertical	-
Model No.:	MDK-100	Temperature:	23 ℃	12
Test Mode:	TX 2402MHz (GFSK)	Humidity:	48 %	
Test Distance:	3m	Test By:	PEI	
Test Results:	PASS	Test Voltage	DC 11.1V	

Job No.: Data 2020 #72	Polarization: Vertical
Standard: FCC (Band Edge)	Power Source: DC 11.1V
Test item: Radiation Test	Date: 2020/09/07
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: MDK-100	Engineer Signature: WADE
Mode: TX 2402MHz	Distance: 3m
Model: MDK-100	
Manufacturer: Estone	

Note:

									limit1:		
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60								********			
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30 20 10 0.0	2310.000 Freq.	Reading	Factor	Result		Margin		Height		2:	330.0 M
30 20 10 0.0	2310.000 Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	2: Ren	УЦ(V2 390.0 м nark
30 20 10 0.0	2310.000 Freq. (MHz) 2389.760	Reading (dBuV/m) 43.72	Factor (dB) 0.79	Result (dBuV/m) 44.51	Limit (dBuV/m) 74.00	Margin (dB) -29.49	Detector	Height (cm)	Degree (deg.)	2: Ren	УД(V2 390.0 м nark

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LNI

E.U.T:	MDK-100	Polarization:	Horizontal	~
Model No.:	MDK-100	Temperature:	23 ℃	12
Test Mode:	TX 2480MHz (GFSK)	Humidity:	48 %	
Test Distance:	3m	Test By:	PEI	
Test Results:	PASS	Test Voltage	DC 11.1V	

	•
Job No.: Data 2020 #74	Polarization: Horizontal
Standard: FCC (Band Edge)	Power Source: DC 11.1V
Test item: Radiation Test	Date: 2020/09/07
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: MDK-100	Engineer Signature: WADE
Mode: TX 2480MHz	Distance: 3m
Model: MDK-100	
Manufacturer: Estone	

Note:



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LNi

E.U.T:	MDK-100	Polarization:	Vertical	~
Model No.:	MDK-100	Temperature:	25 ℃	12
Test Mode:	TX 2480MHz (GFSK)	Humidity:	50 %	
Test Distance:	3m	Test By:	PEI	
Test Results:	PASS	Test Voltage	DC 11.1V	\



Note:

(1) Result= Reading + Factor

- (2) Factor= Antenna Gain + Cable Loss Amplifier Gain
- (3) Horn antenna used for the emission over 1000MHz.

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For RF Conducted restricted band:



GFSK Lowest Channel



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GFSK Highest Channel

Keysight Spectrum Analyzer - Swept SA				_		d ×
	SENSE(I)	NT SOURCE OFF	ALIGN AUTO	log-Pwr	11:39:01 AM A	ug 27, 2020
Center Freq 2.526000000 GHz	PNO: Fast ↔ Trig IFGain:Low #Att	: Free Run ten: 30 dB	Avg Hold	: 100/100	TYPE	
Ref Offset 1.94 dB					Mkr1 2.480 5.86	1 GHz 7 dBm
10.0		1				
.10.0						-14.54 dBm
-20.0						
40.0						
-50.0 M + V 2 + 3	adamatic and the and the state of the state	delan and the	antigental confidences and		ant a low providence and the only	our montend
70.0 Start 2.47600 GHz #Res BW 100 kHz	#VBW 300) kHz		Swee	Stop 2.576	00 GHz 001 pts)
MKR MODE TRC SCL X	Y	FUNCTION	FUNCTION WIDTH		UNCTION VALUE	
1 N 1 f 2.48010 2 N 1 f 2.48350 3 N 1 f 2.60000 4 N 1 f 2.49000	GHz 5.867 dBm GHz -57.811 dBm GHz -60.785 dBm GHz -54.923 dBm					
5 6 7						
8 9 10						
11		ÛI.				
MSG			STATUS			-

Keysight Sp	ectrum Analyzer	- Swept SA	SENSE (1)	IT SOURCE OFF	ALIGN AUTO	_	11-38-3	
enter F	req 2.526	000000 GHz PNC IFGa): Fast ↔ Trig in:Low #Att	: Free Run en: 30 dB	Avg Type: Avg Hold: :	Log-Pwr 2000/2000	TI	ACE 1 2 3 4 1
0 dB/div	Ref Offset Ref 20.0	1.94 dB 0 dBm					Mkr1 2.4 5.	78 0 GH 957 dBn
								-14.91 di
0.0	 							
0.0	1 At	3		routure and dama at the s flat				
0.0 <u> </u>								
tart 2.47 Res BW	7600 GHz 100 kHz		#VBW 300) kHz		Swee	Stop 2. p 9.600 ms	57600 GH (1001 pt
KR MODE T	RC SCL	X	Y	FUNCTION	FUNCTION WIDTH	F	FUNCTION VALUE	
1 N 2	1 f 1 f	2.478 0 GHz 2.483 5 GHz	5.957 dBm -58.024 dBm					
3 N 4 N 5	1 f 1 f	2.500 0 GHz 2.484 0 GHz	-59.745 dBm -50.170 dBm					
6 7 8								
9								
20				m	STATIS			

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π/4-DQPSK Lowest Channel

Keysight S	Spect	rum An	alyzer - Swept SA	1	CENC	STATLCOUR	off off		T	11/54	
enter	Fre	q 2.	356000000 0	SHZ PNC IFGa): Fast ↔ T in:Low #	rig: Free I Atten: 30	Run dB	Avg Typ Avg Hold	e: Log-Pwr i: 100/100	11.54	TRACE 1 2 3 4 TYPE MWWW DET P N N N
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π/4-DQPSK Highest Channel

Keysight Spectrum Analyzer - Swept SA	Y 1	-			100	×
Center Freq 2.526000000 GHz	PNO: Fast +++ Trig IFGain:Low #At	source off ree Run ten: 30 dB	ALIGN AUTO Avg Type Avg Hold	e: Log-Pwr : 100/100	12:03:43 TF	PM Aug 27, 2020 ACE 1 2 3 4 5 TYPE MWWWW DET PNNNN
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Keysight	Spectr	um Ana	yzer - Swept S	A		CENCE (NT COURCE OFF	AL TON	AUTO		12,02,12	DM Aug 27, 2
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art 2. es B	476 W 1	00 GI 00 kH	lz Iz			#VBW 30	0 kHz			Sweep	Stop 2. 9.600 ms	57600 ((1001
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N	1	f		2.483 5 GH	z -50	0.379 dBm						
N	1	f		2.484 0 GH	z -42	2.477 dBm						
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8DPSK Lowest Channel

Keysight Sp	ectrum A	nalyzer - Swept SA						- F
RT	RF	50 Ω AC		SENSE(IN	IT SOURCE OFF	ALIGN AUTO	log-Pwr	12:11:31 PM Aug 27, 20
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N N N N	1 f 1 f 1 f 1 f	2,402 0 2,400 0 2,390 0 2,357 1	GHz 2 GHz -46. GHz -60. GHz -57.	192 dBm 276 dBm 742 dBm 434 dBm				
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8DPSK Highest Channel

Keysight Spectrum Analyzer - Swept SA					
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2. ANTENNA APPLICATION 12.1 Antenna requirement

According to of FCC part 15C section 15.203 and 15.240:

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

12.2 Measurement Results

The EUT antenna is PIFA antenna. It comply with the standard requirement.

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Report No.: UNIA20092210ER-01

3. CONDUCTED SPURIOUS EMISSIONS

13.1 Measurement Procedure

Out of Band Conducted Spurious Emissions, FCC Rule 15.247(d):

The transmitter output is connected to spectrum analyzer. All spurious emission and up tp the tenth harmonic was measured and they were found to be at least 20dB below the highest level of the desired power in the passband.

13.2 Limit

In any 100kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

13.3 Test SET-UP (Block Diagram of Configuration)



13.4 Measurement Results

Pass

Please refer to following plots.



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GFSK Highest Channel

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8DPSK Middle Channel



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onitor		9 9 1	51203000	0000 0	PNC IFGa):Fast ↔ Tr in:Low #A	ig: Free Run Atten: 20 dB	Avg Hold: 1	10/10	TYPE MWWW DET PNNN
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art 0. Res Bl	03 (W 1	GHz 00 k	Hz	×	×4	#VBW 31		FUNCTION W/DTH	Swee	Stop 26.50 G p 2.530 s (30001 p
art 0. Res Bl	03 (W 1	GHz IOO k	Hz	× 2.480 2		#VBW 30	DO KHZ FUNCTION	FUNCTION WIDTH	Swee	Stop 26.50 G p 2.530 s (30001 p unction value
art 0. R MODE N	03 (W 1 TRC 1 1	GHz IOO k SCL	Hz	× 2.480 2 25.162 4 4 855 5	2 GHz 4 GHz 5 GHz	#VBW 30	DO KHZ	FUNCTION WIDTH	Swee	Stop 26.50 G p 2.530 s (30001 p INCTION VALUE
art 0. Res Bl Mode N N N N	03 0 W 1 IRC 1 1	GHz IOO k SCL f f f	Hz	× 2.480 2 4.855 5 7.487 5	2 GHz 4 GHz 5 GHz 5 GHz 5 GHz	#VBW 30 -0.609 dBm -52.415 dBm -63.830 dBm -64.118 dBm	DO KHZ	FUNCTION WIDTH	Swee	Stop 26.50 G p 2.530 s (30001 p JNCTION VALUE
art 0. tes Bl N N N N N	03 (W 1 1 1 1	GHz IOO k F F F F F F	Hz	× 2.480 2 25.162 4 4.865 6 7.487 8 10.033 9	2 GHz 4 GHz 5 GHz 5 GHz 9 GHz	*VBW 31 *VBW 31 -0.609 dBm -52.415 dBm -63.830 dBm -64.118 dBm -64.357 dBm	DO KHZ	FUNCTION V/IDTH	Swee	Stop 26.50 G p 2.530 s (30001 p JNCTION VALUE
art 0. Res Bi R MODE N N A N S N	03 (W 1 1 1 1 1	GHz 100 k f f f f	Hz	× 2480 2 25.162 4 4.855 5 7.487 8 10.033 9	2 GHz 4 GHz 5 GHz 5 GHz 9 GHz	*VBW 30 *VBW 30 -0.609 dBm -52.415 dBm -63.830 dBm -64.118 dBm -64.357 dBm	DO KHZ FUNCTION	FUNCTION V/IDTH	Swee	Stop 26.50 G p 2.530 s (30001 p JNCTION VALUE
ant 0. Res Bi R MODE I N 2 N 3 N 4 N 5 7	03 0 W 1 1 1 1	GHz IOO k f f f f	Hz	× 2.480 2 25.162 4 4.855 5 7.487 { 10.033 \$	2 GHz 4 GHz 5 GHz 5 GHz 9 GHz	*VBW 30 *VBW 30 -0.609 dBm -63.830 dBm -64.118 dBm -64.357 dBm	DO KHZ FUNCTION	FUNCTION V/IDTH	Swee	Stop 26.50 G p 2.530 s (30001 p UNCTION VALUE
art 0. Res Bi R MODE N 3 N 4 N 5 N 5	03 (W 1 1 1 1	GHz IOO k f f f f f	Hz	× 2.480 / 25.162 / 4.855 / 7.487 / 10.033 9	2 GHz 4 GHz 5 GHz 5 GHz 9 GHz	*VBW 31 +0.609 dBm -02.415 dBm -63.830 dBm -64.118 dBm -64.357 dBm	DO KHZ FUNCTION	FUNCTION WIDTH	Swee	Stop 26.50 G p 2.530 s (30001 p UNCTION VALUE
art 0. Res Bl R MODE N N N N N N N N N N N N N	03 (W 1 1 1 1	GHz 100 k SCL f f f	Hz	× 2.480 / 25.162 / 4.855 / 7.487 / 10.033 9	2 GHz 4 GHz 5 GHz 5 GHz 9 GHz	¢5 #VBW 31 -0.609 dBm -62.415 dBm -63.430 dBm -64.118 dBm -64.357 dBm	DO KHZ FUNCTION	FUNCTION WIDTH	Swee	Stop 26.50 G p 2.530 s (30001 p JINCTION VALUE
art 0. tes Bi R MODE N N N N N N	03 (W 1 1 1 1 1 1	GHz 100 k f f f f	Hz	× 2.480 / 25.162 / 4.855 / 7.487 / 10.033 /	2 GHz 4 GHz 5 GHz 5 GHz 9 GHz	¢5 #VBW 31 -0.609 dBm -52.830 dBm -64.118 dBm -64.357 dBm	DO KHZ FUNCTION	FUNCTION W/DTH	Swee	Stop 26.50 G p 2.530 s (30001 p

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14. TEST EQUIPMENT LIST

Item	Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	Conducted Emission Test Software	EZ-EMC	Ver.CCS-3A1-CE	N/A	N/A
2	AMN	Schwarzbeck	NNLK8121	8121370	2021.10.15
3	AMN	ETS	3810/2	00020199	2021.10.15
4	AAN	TESEQ	T8-Cat6	38888	2021.10.15
5	Pulse Limiter	CYBRTEK	EM5010	E115010056	2021.05.25
6	EMI Test Receiver	Rohde&Schwarz	ESCI	101210	2020.10.15
1	Radiated Emission Test Software	EZ-EMC	Ver.CCS-03A1	N/A	N/A
2	Horn Antenna	Sunol	DRH-118	A101415	2021.10.08
3	Broadband Hybrid Antenna	Sunol	JB1	A090215	2022.03.01
4	PREAMP	HP	8449B	3008A00160	2020.10.21
5	PREAMP	HP	8447D	2944A07999	2021.05.25
6	EMI TEST RECEIVER	Rohde&Schwarz	ESR3	101891	2021.10.15
7	VECTOR Signal Generator	Rohde&Schwarz	SMU200A	101521	2021.10.15
8	Signal Generator	Agilent	E4421B	MY4335105	2021.10.15
9	MXA Signal Analyzer	Agilent	N9020A	MY50510140	2021.10.15
10	MXA Signal Analyzer	Keysight	N9020A	MY51110104	2021.10.15
11	RF Power sensor	DARE	RPR3006W	15100041SNO88	2021.05.25
12	RF Power sensor	DARE	RPR3006W	15100041SNO89	2021.05.25
13	RF power divider	Anritsu	K241B	992289	2020.10.28
14	Wideband radio communication tester	Rohde&Schwarz	CMW500	154987	2020.11.19
15	Active Loop Antenna	Com-Power	AL-130R	10160009	2021.05.25
16	Broadband Hybrid Antennas	Schwarzbeck	VULB9163	VULB9163#958	2021.05.25
17	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1680	2021.05.25
18	Horn Antenna	A-INFOMW	LB-180400-KF	J211060660	2020.10.23
19	Microwave Broadband Preamplifier	Schwarzbeck	BBV 9721	100472	2021.05.25
20	Signal Generator	Agilent	N5183A	MY47420153	2021.05.25
21	Spctrum Analyzer	Rohde&Schwarz	FSP 40	100501	2021.05.25
22	Power Meter	KEYSIGHT	N1911A	MY50520168	2021.05.25
23	Frequency Meter	VICTOR	VC2000	997406086	2021.05.25
24	DC Power Source	HYELEC	HY5020E	055161818	2021.05.25

APPENDIX-PHOTOS OF TEST SETUP

Note: See test photos in setup photo document for the actual connections between Product and support equipment.

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