

CTC Laboratories, Inc.

1-2/F., Building 2, Jiaquan Building, Guanlan High-Tech Park, Shenzhen, Guangdong, China Tel: +86-755- 27521059 Fax: +86-755- 27521011 Http://www.sz-ctc.org.cn

TEST REPORT					
Report No. ·····:	CTC20240101E15				
FCC ID······:	2AYD5-I23M03				
Applicant·····:	Imin Technology Pte Ltd				
Address	11 Bishan Street 21, #03-05 Bosch Buil	ding, Singapore, 573943			
Manufacturer	Imin Technology Pte Ltd				
Address:	11 Bishan Street 21, #03-05 Bosch Buil	ding, Singapore, 573943			
Product Name·····:	POS Device				
Trade Mark······	imin				
Model/Type reference······:	I23M03				
Listed Model(s) ······:	1				
Standard:	FCC CFR Title 47 Part 15 Subpart C Section 15.247				
Date of receipt of test sample:	Jan. 18, 2024				
Date of testing	Feb. 19, 2024 ~ Mar. 07, 2024				
Date of issue	Mar. 08, 2024				
Result:	PASS				
Compiled by:		Tanna Su			
(Printed name+signature)	Terry Su	Jerry Ju			
Supervised by:		Zizzhang			
(Printed name+signature)	Eric Zhang	Terry Su Zic zhang Jerros			
Approved by:		1 mas			
(Printed name+signature)	Totti Zhao				
Testing Laboratory Name:	CTC Laboratories, Inc.				
Address	1-2/F., Building 2, Jiaquan Building, Guanlan High-Tech Park, Shenzhen, Guangdong, China				
This test report may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use					

not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product endorsement by CTC. The test results in the report only apply to the tested sample. The test report shall be invalid without all the signatures of testing engineers, reviewer and approver. Any objections must be raised to CTC within 15 days since the date when the report is received. It will not be taken into consideration beyond this limit. The test report merely correspond to the test sample.



Table of Contents

Page

1. TE	EST SUMMARY	
1.1.	Test Standards	
1.2.	Report version	3
1.3.	TEST DESCRIPTION	4
1.4.	Test Facility	5
1.5.	Measurement Uncertainty	5
1.6.	Environmental conditions	6
2. GE	ENERAL INFORMATION	7
2.1.	CLIENT INFORMATION	7
2.2.	GENERAL DESCRIPTION OF EUT	7
2.3.	Accessory Equipment information	
2.4.	OPERATION STATE	9
2.5.	Measurement Instruments List	
3. TE	EST ITEM AND RESULTS	12
3.1.	CONDUCTED EMISSION	
3.2.	Radiated Emission	
3.3.	Band Edge Emissions (Radiated)	
3.4.	Band edge and Spurious Emissions (Conducted)	53
3.5.	20DB Bandwidth	65
3.6.	CHANNEL SEPARATION	69
3.7.	NUMBER OF HOPPING CHANNEL	71
3.8.	Dwell Time	73
3.9.	Peak Output Power	78
3.10.	DUTY CYCLE	82
3.11.	. ANTENNA REQUIREMENT	86



1. TEST SUMMARY

1.1. Test Standards

The tests were performed according to following standards:

FCC Rules Part 15.247: Operation within the bands of 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz.

<u>RSS-247 Issue 3:</u> Standard Specifications for Frequency Hopping Systems (FHSs) and Digital Transmission Systems (DTSs) Operating in the Bands 902-928MHz, 2400-2483.5MHz and 5725-5850MHz. <u>ANSI C63.10-2013</u>: American National Standard for Testing Unlicensed Wireless Devices. <u>RSS-Gen Issue 5</u>: General Requirements for Compliance of Radio Apparatus.

1.2. Report version

Revised No.	Date of issue	Description
01	Mar. 08, 2024	Original



1.3. Test Description

FCC Part 15 Subpart C (15.247)/ RSS-247 Issue 3					
Test litere	Standard	I Section	Decult		
Test Item	FCC IC		Result	Test Engineer	
Antenna Requirement	15.203	/	Pass	Alicia Liu	
Conducted Emission	15.207	RSS-Gen 8.8	Pass	Cecilia Luo	
Restricted Bands	15.205	RSS-Gen 8.10	Pass	Alicia Liu	
Hopping Channel Separation	15.247(a)(1)	RSS 247 5.1 (b)	Pass	Alicia Liu	
Dwell Time	15.247(a)(iii)	RSS 247 5.1 (d)	Pass	Alicia Liu	
Peak Output Power	15.247(b)(1)	o)(1) RSS 247 5.4 (b)		Alicia Liu	
Number of Hopping Frequency	15.247(a)(iii)	RSS 247 5.1 (d)	Pass	Alicia Liu	
Conducted Band Edge and Spu- rious Emissions	15.247(d)	RSS 247 5.5	Pass	Alicia Liu	
Radiated Band Edge and Spurious Emissions	15.205&15.209& 15.247(d)	RSS 247 5.5	Pass	Alicia Liu	
Radiated Spurious Emission	15.247(d)&15.20 9	RSS 247 5.5& RSS-Gen 8.9	Pass	Alicia Liu	
20dB Bandwidth	15.247(a)	RSS 247 5.1 (b)	Pass	Alicia Liu	

Note: The measurement uncertainty is not included in the test result.





CTC Laboratories, Inc.

Add: 1-2/F., Building 2, Jiaquan Building, Guanlan High-Tech Park, Shenzhen, Guangdong, China

Laboratory accreditation

The test facility is recognized, certified, or accredited by the following organizations:

A2LA-Lab Cert. No.: 4340.01

CTC Laboratories, Inc. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

Industry Canada (Registration No.: 9783A, CAB Identifier: CN0029)

CTC Laboratories, Inc. EMC Laboratory has been registered by Certification and Engineer Bureau of Industry Canada for the performance of with Registration NO.: 9783A on Jan, 2016.

FCC (Registration No.: 951311, Designation Number CN1208)

CTC Laboratories, Inc. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained inour files. Registration 951311, Aug 26, 2017.

1.5. Measurement Uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01" Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties radio equipment characteristics; Part 2" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 2 " and is documented in the CTC Laboratories, Inc. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Below is the best measurement capability for CTC Laboratories, Inc.



Test Items	Measurement Uncertainty	Notes
20dB Emission Bandwidth	±0.0196%	(1)
Carrier Frequency Separation	±1.9%	(1)
Number of Hopping Channel	±1.9%	(1)
Time of Occupancy	±0.028%	(1)
Max Peak Conducted Output Power	±0.743 dB	(1)
Band-edge Spurious Emission	±1.328 dB	(1)
Conducted RF Spurious Emission	9kHz-1GHz: ±0.746dB 1GHz-26GHz: ±1.328dB	(1)
Conducted Emissions 9kHz~30MHz	±3.08 dB	(1)
Radiated Emissions 30~1000MHz	±4.51 dB	(1)
Radiated Emissions 1~18GHz	±5.84 dB	(1)
Radiated Emissions 18~40GHz	±6.12 dB	(1)

Note (1): This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

1.6. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	21°C ~ 27°C
Relative Humidity:	40% ~ 60%
Air Pressure:	101kPa



2. GENERAL INFORMATION

2.1. Client Information

Applicant:	Imin Technology Pte Ltd	
Address:	11 Bishan Street 21, #03-05 Bosch Building, Singapore, 573943	
Manufacturer:	Imin Technology Pte Ltd	
Address:	11 Bishan Street 21, #03-05 Bosch Building, Singapore, 573943	
Factory 1:	Jiangxi Neostra Electronic Co. Ltd	
Address:	279 Shenzhen Road, Jinggangshan economic and Technological Development Zone, Ji'an, Jiangxi, China	
Factory 2:	Neosta Technology Sdn. Bhd.	
Address:	No. 78, Jln I-Park SAC 5, Taman Perindustrian i-Park SAC, 81400 Senai, Johor, Malaysia	

2.2. General Description of EUT

Product Name:	POS Device
Trade Mark:	imin
Model/Type reference:	I23M03
Listed Model(s):	1
Power supply:	5Vdc/2A from AC/DC Adapter 7.6Vdc from 2500mAh Li-ion Battery
Adapter 1 Model:	ADS-10LA-06 05010EPCU Input: 100-240V~ 50/60Hz 0.3A Max Output: 5Vdc/2A
Adapter 2 Model:	TPA-67050200UU Input: 100-240V~ 50/60Hz 0.3A Output: 5Vdc/2A
Hardware version:	1
Software version:	1
Bluetooth 5.0/ BR+EDR	
Modulation:	GFSK, π/4-DQPSK, 8-DPSK
Operation frequency:	2402MHz~2480MHz
Channel number:	79
Channel separation:	1MHz
Antenna type:	FPC Antenna
Antenna gain:	1.9dBi Max



2.3. Accessory Equipment information

Equipment Information						
Name	Manufacturer					
1	1	1	1			
Cable Information	Cable Information					
Name	Shielded Type	Ferrite Core	Length			
1	1	1	1			
Test Software Information						
Name	Versions	1	1			
Engineering mode	1	1	1			



2.4. Operation state

Operation Frequency List: The EUT has been tested under typical operating condition. The Applicant provides communication tools software to control the EUT for staying in continuous transmitting and receiving mode for testing. BT EDR, 79 channels are provided to the EUT. Channels 00/39/78 were selected for testing.

Operation Frequency List:

Channel	Frequency (MHz)
00	2402
01	2403
:	:
38	2440
39	2441
40	2442
:	÷
77	2479
78	2480

Note: The display in grey were the channel selected for testing.

Test mode

For RF test items:

The engineering test program was provided and enabled to make EUT continuous transmit

For AC power line conducted emissions:

The EUT was set to connect with the Bluetooth instrument under large package sizes transmission.

For Radiated spurious emissions test item:

The engineering test program was provided and enabled to make EUT continuous transmit. The EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data recorded in the report.



2.5. Measurement Instruments List

RF Tes	RF Test System					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated Until	
1	Spectrum Analyzer	R&S	FSV40-N	101331	Mar. 14, 2024	
2	Spectrum Analyzer	R&S	FSV40-N	101654	Aug. 07, 2024	
3	Spectrum Analyzer	R&S	FSU26	100105	Dec. 12, 2024	
4	MXA Signal Analyzer	Keysight	N9020A	MY46471737	Dec. 12, 2024	
5	MXA Signal Analyzer	Keysight	N9020A	MY52091402	Aug. 22, 2024	
6	MXG Vector Signal Generator	Agilent	N5182A	MY47420864	Dec. 12, 2024	
7	PSG Analog Signal Generator	Agilent	E8257D	MY46521908	Dec. 12, 2024	
8	EXG Analog Signal Generator	Keysight	N5173B	MY59100842	Dec. 12, 2024	
9	MXG Vector Signal Generator	Keysight	N5182B	MY59100212	Dec. 12, 2024	
10	Wideband Radio Com- munication Tester	R&S	CMW500	102257	May. 25, 2024	
11	Wideband Radio Com- munication Tester	R&S	CMW500	102414	Dec. 12, 2024	
12	High and low tempera- ture test chamber	ESPEC	MT3035	/	Mar. 24, 2024	
13	RF Control Unit	Tonscend	JS0806-2	/	Aug. 22, 2024	
14	Test Software	Tonscend	JS1120-3	V3.3.38	/	

Radiated Emission (3m chamber 2)					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated Until
1	Trilog-Broadband Antenna	Schwarzbeck	VULB 9168	9168-1013	Dec. 07, 2024
2	Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-648	Dec. 07, 2024
3	Spectrum Analyzer	R&S	FSU26	100105	Dec. 12, 2024
4	Spectrum Analyzer	R&S	FSV40-N	101331	Mar. 14, 2024
5	Pre-Amplifier	SONOMA	310	186194	Dec. 12, 2024
6	Low Noise Pre-Amplifier	EMCI	EMC051835	980075	Dec. 12, 2024
7	Test Receiver	R&S	ESCI7	100967	Dec. 12, 2024
8	3m chamber 2	Frankonia	EE025	/	Oct. 23, 2024
9	Test Software	FARA	EZ-EMC	FA-03A2	1

Radiate	d Emission (3m chamber 3	3)				
Item	Test Equipment	Manufacturer Model No.		Serial No.	Calibrated Until	
1	Trilog-Broadband Antenna	Schwarzbeck	VULB 9163	01026	Dec. 18, 2024	
2	Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-647	Dec. 01, 2024	
3	Test Receiver	Keysight	N9038A	MY56400071	Dec. 12, 2024	
4	Broadband Amplifier	SCHWARZBECK	BBV9743B	259	Dec. 12, 2024	
5	Mirowave Broadband Amplifier	SCHWARZBECK	BBV9718C	111	Dec. 12, 2024	

CTC Laboratories, Inc.



6	3m chamber 3	YIHENG	EE106	/	Aug. 28, 2026
7	Test Software	FARA	EZ-EMC	FA-03A2	1

Conduc	ted Emission				
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated Until
1	LISN	R&S	ENV216	101112	Dec. 12, 2024
2	LISN	R&S	ENV216	101113	Dec. 12, 2024
3	EMI Test Receiver	R&S	ESCS30	100353	Dec. 12, 2024
4	ISN CAT6	Schwarzbeck	NTFM 8158	CAT6-8158-0046	Dec. 12, 2024
5	ISN CAT5	Schwarzbeck	NTFM 8158	CAT5-8158-0046	Dec. 12, 2024
6	Test Software	R&S	EMC32	6.10.10	1

Note: 1. The Cal. Interval was one year.

2. The Cal. Interval was three year of the chamber

3. The cable loss has calculated in test result which connection between each test instruments.



3.1. Conducted Emission

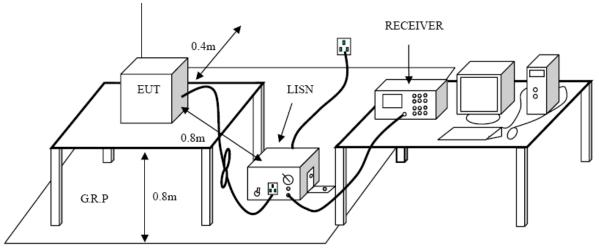
<u>Limit</u>

FCC CFR Title 47 Part 15 Subpart C Section 15.207/ RSS - Gen 8.8

	Limit (dBuV)				
Frequency range (MHz)	Quasi-peak	Average			
0.15-0.5	66 to 56*	56 to 46*			
0.5-5	56	46			
5-30	60	50			

* Decreases with the logarithm of the frequency.

Test Configuration



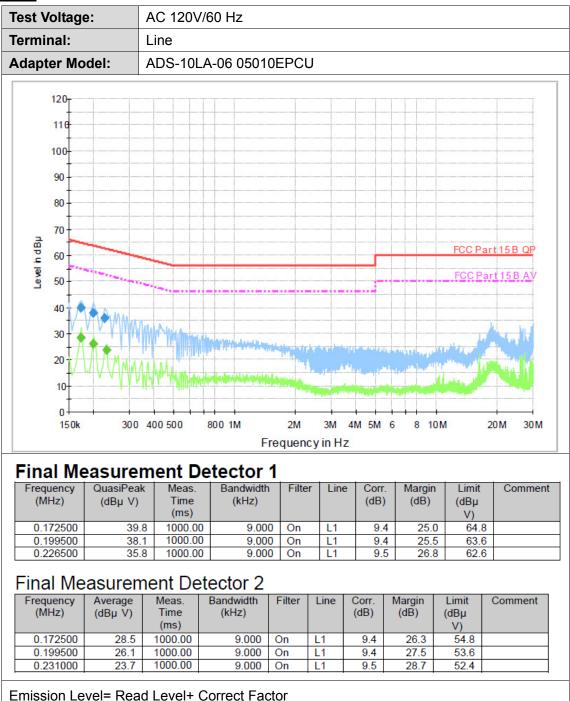
Test Procedure

- 1. The EUT was setup according to ANSI C63.10:2013 requirements.
- 2. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface.
- The EUT and simulators are connected to the main power through a line impedances stabilization network (LISN). The LISN provides a 50ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs)
- 4. Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.
- 5. The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
- 6. Conducted Emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.
- 7. During the above scans, the emissions were maximized by cable manipulation.

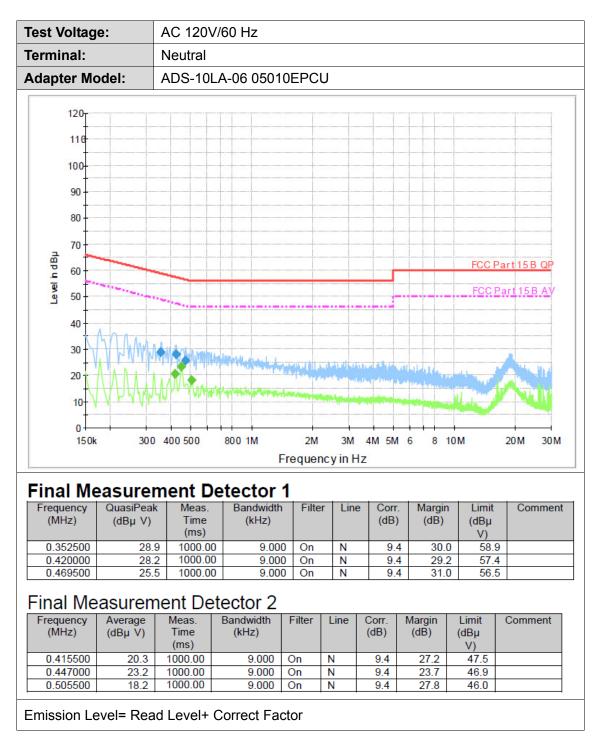
Test Mode

Please refer to the clause 2.4.



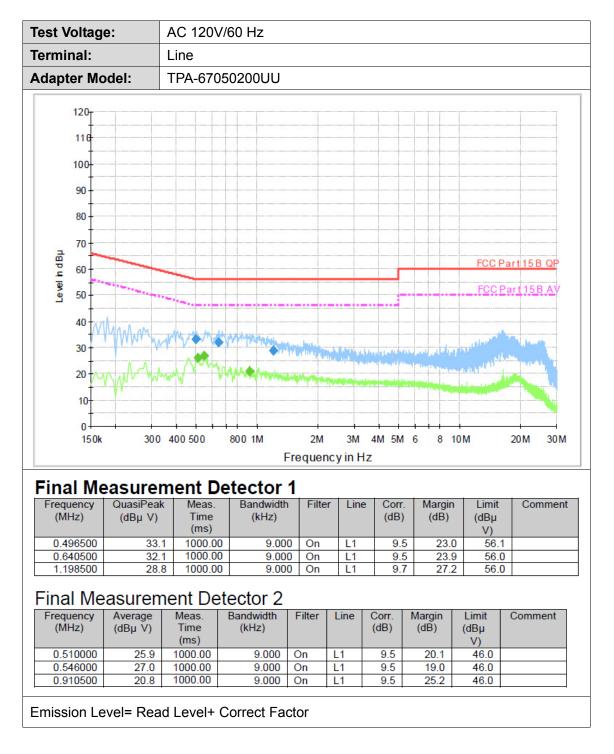




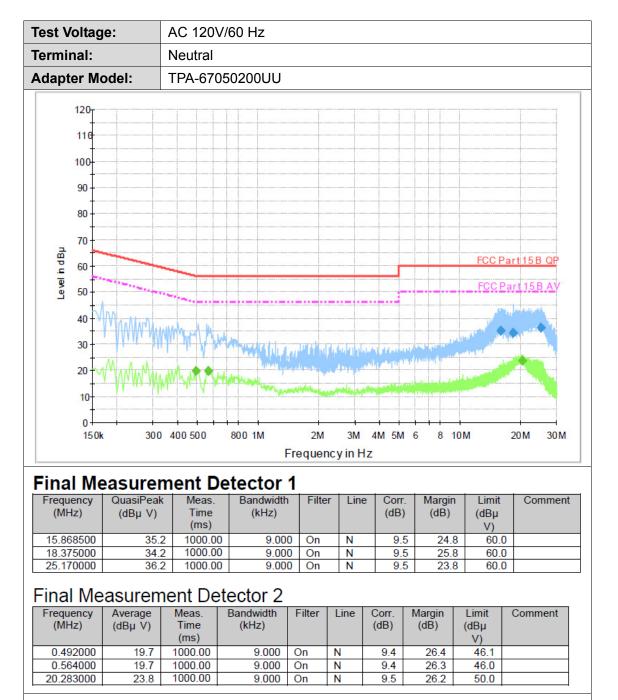


中国国家认证认可监督管理委员会









Emission Level= Read Level+ Correct Factor



3.2. Radiated Emission

<u>Limit</u>

FCC CFR Title 47 Part 15 Subpart C Section 15.209/ RSS – Gen 8.9

Frequency	Field Strength	Measurement Distance
(MHz)	(microvolts/meter)	(meters)
0.009~0.490	2400/F (kHz)	300
0.490~1.705	24000/F (kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
960~1000	500	3

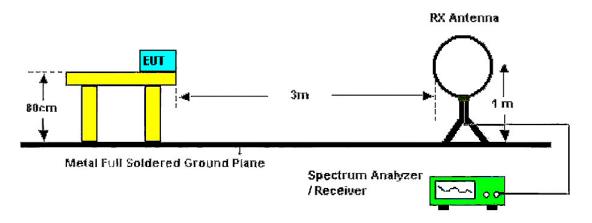
Frequency Pange (MHz)	dBµV/m (at	3 meters) Average 54
Frequency Range (MHz)	Peak	Average
Above 1000	74	54

Note:

(1) The tighter limit applies at the band edges.

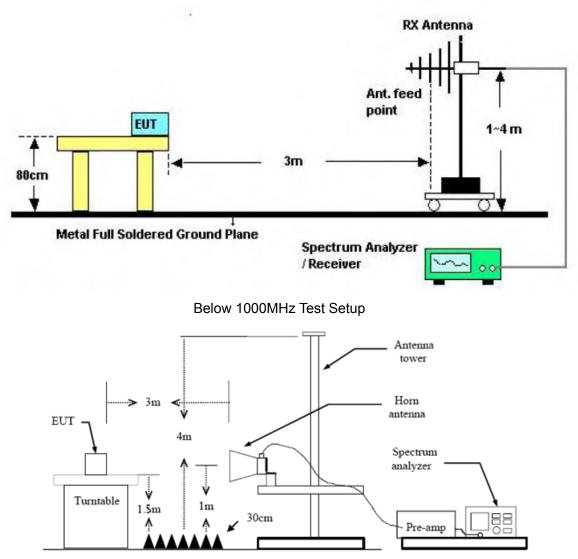
(2) Emission Level (dBuV/m)=20log Emission Level (uV/m).

Test Configuration



Below 30MHz Test Setup





Test Procedure

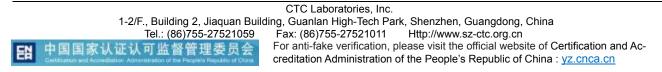
Above 1GHz Test Setup

- 1. The EUT was setup and tested according to ANSI C63.10:2013
- 2. The EUT is placed on a turn table which is 0.8 meter above ground for below 1 GHz, and 1.5 m for above 1 GHz. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
- 3. The EUT was set 3 meters from the receiving antenna, which was mounted on the top of a variable height antenna tower.
- 4. For each suspected emission, the EUT was arranged to its worst case and then tune the Antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level to comply with the guidelines.
- 5. Set to the maximum power setting and enable the EUT transmit continuously.
- 6. Use the following spectrum analyzer settings
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Below 30 MHz:

9kHz – 150kHz, RBW=200Hz, VBW \geq RBW, Sweep=auto, Detector function=peak, Trace=max hold; 150kHz – 30MHz, RBW=9kHz, VBW \geq RBW, Sweep=auto, Detector function=peak, Trace=max hold; If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

(3) 30 MHz - 1 GHz:

RBW=120 kHz, VBW=300 kHz, Sweep=auto, Detector function=peak, Trace=max hold;





If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

(4) From 1 GHz to 10th harmonic:

RBW=1MHz, VBW=3MHz Peak detector for Peak value.

RBW=1MHz, VBW \ge 1/T Peak detector for Average value.

Note 1: For the 1/T& Duty Cycle please refer to clause 3.10 Duty Cycle.

<u>Test Mode</u>

Please refer to the clause 2.4.

Test Result

9 KHz~30 MHz

From 9 KHz to 30 MHz Conclusion: PASS

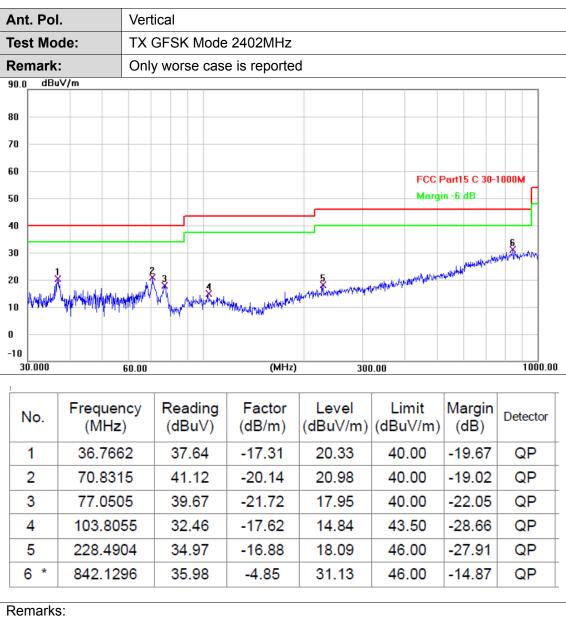
Note: The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

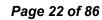


nt. Po	l.	Hori	izontal								
est Mo	ode:	TX	TX GFSK Mode 2402MHz								
Remark	c :	Only	y worse	e cas	e is reporte	d					
0.0 dBi	uV/m										
n											
D							FCC F	Part15 C 30-1	000M		
o							Margi	n -6 dB			
, 📖											
						+-			c		
0									6		
,						-		Antonio	Sheer, in .		
	IJ	z		3		4 5 4	warminderselyber	which the way of the	Sheer, in .		
	the	*	when which	ALAMANA A	hours and the second	5 Migroproduces with House De	watereliker	ntelation			
	the state of the s	* *	houth White House	a An an	hours and we have the	5 May remains with the set	enorphic policies historic	ndelan Alexandrea			
	tan tanan tang	MANY	hathyppatical	a Nummini	monthe product of the second	5 Winter and the state of the second	lengen nikres lubban				
	hay the stand of the stand	60.00	haphyppaperd	a Alin Maria	(MHz)		1.00		1000.6		
	tup tanul		hut hypothese	hu man							
	Frequen (MHz)	60.00 ICY	Read (dBu	ling		Level		Margin (dB)			
0 30.000	Frequen	60.00 ICY	Read	ling ıV)	(MHz) Factor	Level	Limit	Margin	1000.0		
No.	Frequen (MHz)	60.00 ICY 9	Read (dBu	ling ı∨) 70	(MHz) Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	1000.0		
No.	Frequen (MHz) 43.811	60.00 ICY 9 5	Read (dBu 31.7	ling ı∨) 70 73	(МНг) Factor (dB/m) -15.81	300 Level (dBuV/m) 15.89	Limit (dBuV/m) 40.00	Margin (dB) -24.11	1000.0		
No.	Frequen (MHz) 43.811 70.336	60.00 (cy) 9 5 13	Read (dBu 31.7 36.7	ling ı∨) 70 73 73	(MHz) Factor (dB/m) -15.81 -19.95	300 Level (dBuV/m) 15.89 16.78	Limit (dBuV/m) 40.00 40.00	Margin (dB) -24.11 -23.22	Detector QP QP		
No.	Frequen (MHz) 43.811 70.336 112.524	60.00 (Cy) 9 5 13 55	Read (dBu 31.7 36.7 32.7	ling ↓∨) 70 73 73 80	(MHz) Factor (dB/m) -15.81 -19.95 -18.16	300 Level (dBuV/m) 15.89 16.78 14.57	Limit (dBuV/m) 40.00 40.00 43.50	Margin (dB) -24.11 -23.22 -28.93	Detector QP QP QP		

2.Margin value = Level -Limit value









nt. Pol	l	Horiz	zontal									
est Mo	de:	TX O	TX GFSK Mode 2402MHz									
emark			eport for the ed limit.	emission v	vhich more t	han 10 dB b	elow the	pre-				
10. <u>0</u> dBu	uV/m											
00												
, ,												
						FCC Part15 (C-Above 10) PK				
		_										
						FCC Part15 (C-Above 10	AV				
	ş											
	X											
·	1×											
I												
·												
0	0 3500.00 6	000.00	8500.00 11	000.00 (MHz)	16000.00 1	8500.00 21000	.00 23500.	00 26000				
N	Freque	ncy	Reading	Factor	Level	Limit	Margin	Datasta				
No.	(MHz)	(dBuV)	(dB/m)		(dBuV/m)	(dB)	Detecto				
	4803.8	33	25.17	2.00	27.17	54.00	-26.83	AVG				
1 *	4803.9	<u></u>	39.70	2.00	41.70	74.00	-32.30	peak				





	le:		GFSK Mode	2402MHz						
emark:										
inn dBuV		No report for the emission which more than 10 dB below the pre- scribed limit.								
	//m									
0										
						FCC Part15 (C - Above 10	3 PK		
						FCC Part15 (C-Above 10	AV		
	1×									
	×	_								
	ş									
		_								
0										
1000.000	3500.00 6	000.00	8500.00 1	1000.00 (MHz)	16000.00 1	8500.00 21000	.00 23500.	00 26000		
				1	1					
No.	Frequency (MHz)		Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detecto		
1	4803.6	02	41.27	2.00	43.27	74.00	-30.73	peak		
2 *	4804.3	57	24.89	2.00	26.89	54.00	-27.11	AVG		





	-	Horiz	zontal							
est Mo	de:	TX G	SFSK Mode	2441MHz						
emark		No report for the emission which more than 10 dB below the pre- scribed limit.								
10.0 dBu	ıV/m									
0										
ı										
ı						FCC Part15	C - Above 1	G PK		
ı ⊨										
ı										
						FCC Part15	C - Above T			
,	1×									
ı	ş									
ı	×									
ı										
0) 3500.00 6	000.00	8500.00 11	000.00 (MHz)	16000.00 1	8500.00 2100	0.00 23500	.00 26000		
					I					
No.	Frequer (MHz		Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector		
1	4881.5	17	39.84	2.09	41.93	74.00	-32.07	peak		
	4881.8	01	24.55	2.09	26.64	54.00	-27.36	AVG		





		Verti	cal								
est Mod	le:	тх с	GFSK	Mode	2441MH	z					
emark:			eport ed lir		emissio	ר א	hich r	nore t	han 10 dB b	elow the	pre-
10.0 dBu\	V/m										
00											
0											
0		_							500 0 115		
0									FCC Part15	C - Above 1	G PK
0											
0									FCC Part15	C - Above 1	GAV
	ş										
0											
0	×										
0											
0											
		_									
1000.000	3500.00 6	000.00	850	0.00 11	000.00 (M	Hz)	160	00.00	18500.00 2100	0.00 23500	.00 26000
No.	Frequer			ading	Facto			vel	Limit	Margin	Detector
1 *	(MHz 4881.6	·	`	3uV) .60	(dB/m) 2.09)	`	V/m) .69	(dBuV/m) 54.00	(dB) -27.31	AVG
2	4882.0).21	2.09			.30	74.00	-31.70	peak





nt. Po	ol.	Horiz	zontal					
est M	ode:	TX G	GFSK Mode	2480MHz				
emar			eport for the ed limit.	e emission \	which more	than 10 dB t	pelow the	e pre-
10.0 di	BuV/m							
00								
o								
)						FCC Part15	C - Above 1	G PK
) 								
•						FCC Part15	C - Above 1	C AV
							C-Above I	
ı	×							
-	ž							
ı	^							
ı								
0	00 3500.00 6	000.00	8500.00 1	1000.00 (MHz)	16000.00	18500.00 2100	0.00 23500	0.00 2600
No.	Freque (MHz		Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4960.2	26	39.92	2.21	42.13	74.00	-31.87	peak
2 *	4960.2	59	24.39	2.21	26.60	54.00	-27.40	AVG
2	4300.2	00	24.00	2.21	20.00	34.00	-21.40	7,0





nt. Po	ol.	Verti	Vertical							
est Mo	ode:	тх с	GFSK Mode	2480MHz						
emarl	K :		eport for the ed limit.	e emission v	which more	than 10 dB l	below the	e pre-		
IO.O dB	uV/m									
0										
						FCC Part15	C - Above 1	G PK		
						FCC Part15	<u>C - Above 1</u>	G AV		
	$\frac{1}{2}$									
	ş									
o										
	0 3500.00 6	000.00	8500.00 11	000.00 (MHz)	16000.00	8500.00 2100	0.00 23500	.00 26000		
No.	Frequer (MHz	-	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector		
1	4959.5	, 	39.41	2.21	41.62	74.00	-32.38	peak		
2 *	4959.8		24.87	2.21	27.08	54.00	-26.92	AVG		
		1								



Ant	. Pol		Hori	zont	al							
Test	t Moo	de:	TX [·]	π/4-I	DQPSK	Mode 2	402	2MHz				
Ren	nark:		No r scrit			e emissic	n v	vhich	more t	than 10 dB	below the	e pre-
110.0) dBu	V/m										
100												
90			_									
80										FCC Part15	C - Above 1	G PK
70												
60										FCC Part15	C - Above 1	C AV
50		-								Teerung	C Above I	
40		×										
30		ş										
20												
10												
0												
-10 10	100.000	3500.00 6	000.00	850	0.00 11	000.00 (M	Hz)	160	00.00 1	18500.00 2100	0.00 23500	.00 26000.0
		Fraguer		Po	odina	Facto	r	Le		Limit	Margin	
N	0.	Frequer (MHz			ading BuV)	(dB/m		1	V/m)		Margin (dB)	Detector
1	1	4804.1	90	4(0.67	2.00		42.	.67	74.00	-31.33	peak
2	*	4804.4	23	24	4.68	2.00		26.	.68	54.00	-27.32	AVG
Pon												

Page 28 of 86

Remarks:



Ant. P	ol.	Vertic	cal					
Test N	lode:	TX τ	t/4-DQPSK	Mode 2402	2MHz			
Rema	rk:		eport for the ed limit.	emission v	which more f	than 10 dB l	below the	; pre-
110.0 d	BuV/m							
100								
90								
80						FCC Part15	C - Above 1	G PK
70								
60						FCC Part15	C About 1	
50							C - Above T	
40	1 X							
30	ş							
20	^							
10								
0								
-10	00 3500.00 6	000.00	8500.00 11	000.00 (MHz)	16000.00	18500.00 2100	0.00 23500	.00 26000.0
1000.0	00 3300.00 0	000.00	000.00 11	000.00 (MHZ)	16000.00	18500.00 2100	0.00 23500	.00 20000.u
1								
No.	Frequer (MHz		Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4803.8	49	40.27	2.00	42.27	74.00	-31.73	peak
2 *	4804.1	13	24.97	2.00	26.97	54.00	-27.03	AVG
L			1					L

Page 29 of 86

Remarks:





No	Tribed limit.			han 10 dB b	C-Above 1G	i PK
		emission w	/hich more t	FCC Part15 (C-Above 1G	i PK
				FCC Part15 (C - Above 1G	AV
Š						
^						
0.00 0.000 00	0 0500.00 110	000.00 (1411-)	16000.00 1	9500.00 21000	00 005000	00 26000.
requency	Reading	Factor	Level	Limit	Margin	
(MHz)	(dBuV)	(dB/m)			(dB)	Detector
882.091	39.91	2.09	42.00	74.00	-32.00	peak
882.390	24.76	2.09	26.85	54.00	-27.15	AVG
r	equency (MHz) 882.091	equency (MHz) Reading (dBuV) 882.091 39.91	equency Reading Factor (MHz) (dBuV) (dB/m) 882.091 39.91 2.09	equency Reading Factor Level (dBuV) (dBuV) (dB/m) 882.091 39.91 2.09 42.00	equency Reading Factor Level Limit (MHz) (dBuV) (dB/m) (dBuV/m) (dBuV/m) 882.091 39.91 2.09 42.00 74.00	equency Reading Factor Level Limit Margin (MHz) (dBuV) (dB/m) (dBuV/m) (dBuV/m) (dB) 882.091 39.91 2.09 42.00 74.00 -32.00



Ant	. Pol	•	Verti	cal								
Tes	t Mo	de:	TX 1	τ/4-DQ	PSK	Mode 2	2441	IMHz				
Rer	nark:			eport fo ed limit		e emissi	on v	vhich	more t	han 10 d	B below th	e pre-
110.) dBu'	V/m										
100												
90												
80										FCC Part	15 C - Above 1	G PK
70							-					
60										ECC Ded	5 C - Above 1	C AV
50										FLUPan	5 C - Above T	GAV
40		Š										
30		1					_					
20		^					-					
10							-					
0							-					
-10	00 000	3500.00 6	000.00	8500.00	11	000.00 (N	IHz)	160	00.00 1	8500.00 21	000.00 23500	.00 26000.0
						<u> </u>	,					
I												
N	lo.	Frequer (MHz		Readi (dBu'		Facto (dB/n			vel iV/m)	Limit (dBuV/n	n) (dB)	Detector
	1 *	4882.0	69	24.5	3	2.09)	26	.62	54.00	-27.38	AVG
	2	4882.2	86	40.3	1	2.09)	42	.40	74.00	-31.60	peak
Ror	narks					1		1				·

Page 31 of 86

Remarks:



Ant	. Pol		Horiz	onta	al							
Test	t Moo	de:	ΤΧ τ	τ/4-[DQPSK	Mode 2	480)MHz				
Ren	nark:		No re scrib			e emissio	on v	vhich	more t	han 10 dB t	pelow the	pre-
110.0) dBu	V/m										
100							-					
90							-					
80							-			FCC Part15	C - Above 1	G PK
70							-					
60							-			FCC Part15	C - Above 1	AV
50			_				-					
40		×					-					
30		ş					-					
20							-					
10			_				-					
0												
-10 10	00.000	3500.00 6	000.00	850	0.00 11	000.00 (N	(Hz)	160	100.00 1	8500.00 2100	0.00 23500	.00 26000.0
1		-				F 4				1 5 1		
N	lo.	Freque (MHz			ading BuV)	Facto (dB/n			vel iV/m)	Limit (dBuV/m)	Margin (dB)	Detector
	1	4959.6	30	3	9.55	2.21		41	.76	74.00	-32.24	peak
2	2 *	4960.2	30	2	4.31	2.21		26	.52	54.00	-27.48	AVG

Page 32 of 86

Remarks:





nt. Po	Ι.	Vert	ical								
est Mo	ode:	ТΧ	π/4-C	DQPSK	Mode 248	0MHz					
emark			epor bed li		e emission	which I	nore	than 10 dB	below the	e pre-	
10.0 dE	luV/m										
0											
								500 5 115			
								FCC Part15	C - Above 1	IG PK	
								FCC Part15	C - Above 1	IG AV	
	1										
	Š										
		_									
0											
	10 3500.00 E	000.00	850	0.00 1	1000.00 (MHz) 160	00.00	18500.00 2100	0.00 2350	0.00 2600	
	Frequer		Po	ading	Factor	Lev	(el	Limit	Margin		
No.	(MHz			aung BuV)	(dB/m)	1		(dBuV/m)	(dB)	Detector	
1	4959.8	93	40	0.06	2.21	42.	27	74.00	-31.73	peak	
2 *	4960.4	78	24	1.40	2.21	26.	61	54.00	-27.39	AVG	





): /m	No re	eport for th													
'm			e emission v	which more t		TX 8-DPSK Mode 2402MHz									
m	No report for the emission which more than 10 dB below the pre- scribed limit.														
					FCC Part15 (C - Above 10	à PK								
					ECC Part15 (C - Above 1(
0															
\$															
1.															
500.00 6	000 00	8500.00	11000.00 (MHz)	16000.00 1	8500.00 21000	1.00 23500	00 26000.								
	-	Reading (dBu∀)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector								
4803.7	72	25.62	2.00	27.62	54.00	-26.38	AVG								
4803.7	95	40.27	2.00	42.27	74.00	-31.73	peak								
	500.00 6 Frequer (MHz 4803.7	<u></u>	1 2 500.00 6000.00 8500.00 500.00 6000.00 8500.00 Frequency (MHz) Reading (dBuV) 4803.772 25.62	1 A A A X A A A A 500.00 6000.00 8500.00 11000.00 (MHz) Frequency (MHz) Reading (dBuV) Factor (dB/m) 4803.772 25.62 2.00	1 1 1 1 X 1 1 1 1 500.00 6000.00 8500.00 11000.00 (MHz) 16000.00 1 Frequency (MHz) Reading (dBuV) Factor (dB/m) Level (dBuV/m) 4803.772 25.62 2.00 27.62	k FCC Part 5 (k Image: state sta	1 1 <th1< th=""> <th1< th=""> <th1< th=""></th1<></th1<></th1<>								





est Mod			cal					
	le:	TX 8-	DPSK Mod	le 2402MHz	Z			
emark:			port for the ed limit.	emission v	hich more t	han 10 dB b	elow the	pre-
10.0 dBu\	V/m							
00								
0								
D						FCC Part15 (- Ahove 1(PK
D						Teerans		
D							2 Ab 14	
)		_				FCC Part15 (J-Above II	
)	Š							
ı	1. 							
)	*	_						
D (
0	2500.00 6	000.00	8500.00 11	000.00 (MHz)	16000.00 1	8500.00 21000	.00 23500.	00 26000.
					1			
No.	Frequer (MHz		Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4804.0	90	24.60	2.00	26.60	54.00	-27.40	AVG
2	4804.4	45	40.13	2.00	42.13	74.00	-31.87	peak





	No	8-DPSK Mod report for the bed limit.			nan 10 dB b		
10.0 dBu∀/m 00 0 0 0 0 0 0 0 0 0 0 0 0			emission w	/hich more t			
10.0 dBuV/m 00 0 0 0 0 0 0 0 0 0 0 0 0					FCC Part15 (C - Above 1	
	<u>}</u>				FCC Part15 (C - Above 1	
	<u>}</u>				FCC Part15 (C - Above 1	
	ł				FCC Part15 (C - Above 1	
	ż.				Тестанть		
	1×						
	1×						
)	X				FCC Part15 (C-Above 1	
	ş						
)	×						
D							
0 1000.000 3500.0	00 6000.00	8500.00 11	000.00 (MHz)	16000.00 1	8500.00 21000).00 23500	.00 26000
	equency (MHz)	Reading (dBuV)	Factor (dB/m)		Limit (dBuV/m)	Margin (dB)	Detector
		. ,					
	81.811	40.38	2.09	42.47	74.00	-31.53	peak
2 * 48	82.039	24.23	2.09	26.32	54.00	-27.68	AVG



nt. Po		Verti		K Mar	10 0444	N 41 1-					
est Mo emark		No r		for the	de 2441 e emissi			more t	han 10 dB	below the	e pre-
0.0 dB	uV/m	30110									
0											
									ECC Dett	C - Above 1	CDK
									FUC Partis	C-ADUVE I	
									FCC Part15	C - Above 1	GAV
	1×										
	×										
	ş										
	^										
	0 3500.00 6	000.00	8500.0	0 11	000.00 (1	MHz)	16	000.00 1	8500.00 2100	0.00 23500	.00 26000
No.	Freque (MHz		Rea (dB		Fact (dB/r			evel uV/m)	Limit (dBuV/m	Margin (dB)	Detector
1	4882.1	50	40.	76	2.09	9	42	2.85	74.00	-31.15	peak
2 *	4882.2	59	24.	82	2.09	9	26	6.91	54.00	-27.09	AVG





nt. Po	l.	Horiz	zontal					
est Mo	de:	TX 8	-DPSK Mod	de 2480MH	z			
emark			eport for the ed limit.	e emission v	vhich more t	han 10 dB t	pelow the	e pre-
0.0 dB	uV/m							
0								
						FCC Part15	C - Above 1	G PK
						FCC Part15	C - Above 1	GAV
	2							
	Š							
	- ł							
_								
0 1000.00	0 3500.00 6	000.00	8500.00 11	000.00 (MHz)	16000.00	18500.00 2100	0.00 23500	.00 26000
No.	Freque (MHz		Reading (dBu∀)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4959.5	<i>'</i>	24.20	2.21	26.41	54.00	-27.59	AVG
2	4959.7		39.98	2.21	42.19	74.00	-31.81	peak
	1			1	1	1	1	,

Remarks:





nt. Po	ol.	Vertica	al					
est Mo	ode:	TX 8-0	OPSK Mo	de 2480MH	z			
emark	(:	No rep scribe		e emission	which more	than 10 dB	below the	e pre-
0.0 dB	uV/m							
0								
						F00 D-+1F	0.411	C DK
						FCC Part15	C-Above I	GPK
						FCC Part15	C - Above 1	GAV
	1×							
	Š							
0								
	0 3500.00 60	000.00	3500.00 11	000.00 (MHz)	16000.00	18500.00 2100	0.00 23500	.00 26000
No.	Frequen		leading	Factor		Limit	Margin	Detector
	(MHz)		dBuV)	(dB/m)		(dBuV/m)	(dB)	
1	4959.57		40.39	2.21	42.60	74.00	-31.40	peak
2 *	4960.04	10	24.24	2.21	26.45	54.00	-27.55	AVG

Remarks:



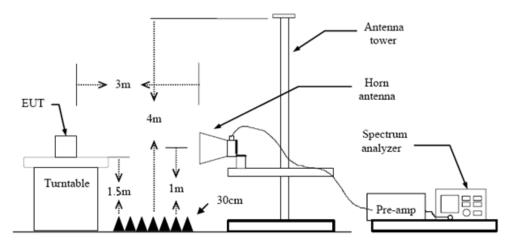
3.3. Band Edge Emissions (Radiated)

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (d):

Restricted Frequency Band	(dBuV/m	n)(at 3m)
(MHz)	Peak	Average
2310 ~ 2390	74	54
2483.5 ~ 2500	74	54

Test Configuration



Test Procedure

- 1. The EUT was setup and tested according to ANSI C63.10:2013 requirements.
- The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 de-2. grees to determine the position of the maximum emission level.
- 3. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
- The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is re-4. peated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10:2013 on radiated measurement.
- 5. The receiver set as follow:

RBW=1MHz, VBW=3MHz Peak detector for Peak value.

RBW=1MHz, VBW see note 1 with Peak Detector for Average Value.

Note 1: For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 1/T video bandwidth with peak detector for average measurements. For the Duty Cycle please refer to clause 3.10 Duty Cycle.

Test Mode

Please refer to the clause 2.4.



Test Results

nt. Pol	•	Horiz	zontal					
est Mo		GFS	K Mode 240	2MHz				
20.0 dBu'	V/m							
10								
00								
0								
0								
						FCC Part15 (C-Above 10	<u>3 PK</u>
						FCC Part15 (Above 10	3 AV
	har managementaria	man	here was a second	-	man and so we have a stranger	warman with a star with a star with	Brunn	a hu
0								
0								
0.0 2306.000	2316.00 2	326.00	2336.00 234	16.00 (MHz)	2366.00 2	376.00 2386.	00 2396.0	0 2406.0
	Freque		Reading	Factor	Level	Limit	Margin	
No.				(dB/m)				Detector
No.	(MHz 2390.0	2)	(dBuV)	(dB/m) 31.31		(dBuV/m) 74.00	(dB) -21.25	Detector peak

Remarks:





nt. Pol		Verti	cal					
est Mo	de:	GFS	K Mode 240	2MHz				
20.0 dBu	V/m							
0								
00								
								$-\Delta$
						FCC Part15	C-Above 1	GPK
, 1								
						FCC Part15	<u>C-1Above 1</u> X	GAV
,								-1
**********	an and the second second	alson Control Annothe	han terretained and the second se	drawlan markana kan	an a		moline	man (
,								
,								
.0								
2305.000	2315.00 2	325.00	2335.00 23	45.00 (MHz)	2365.00	2375.00 2385	.00 2395.	00 2405.
Ne	Freque	ncy	Reading	Factor	Level	Limit	Margin	Datasta
No.	(MHz		(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector
1	2390.0	00	21.29	31.31	52.60	74.00	-21.40	peak
2 *	2390.0	00	5.12	31.31	36.43	54.00	-17.57	AVG
	-					-		
emarks	8:							



nt. Po)I.	Hori	izontal					
'est Mo	ode:	GFS	SK Mode 24	80 MHz				
20.0 dE	Bu∀/m							
10								
00								
0								
30 🗛						FCC Part15	C - Above 1	C PK
70							C Above I	
50	1							
50	1 X					FCC Part15	<u>C - Above 1</u>	
10								
0	and the second		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~					
:0								
0.0	0 2487.00	2497.00	2507.00 25	517.00 (MHz)	2537.00	2547.00 2557.	.00 2567.0	00 2577.00
	1						1	
No.	Freque (MH		Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2483.	500	23.55	31.48	55.03	74.00	-18.97	peak
2 *	2483.	500	5.63	31.48	37.11	54.00	-16.89	AVG
			I					

Page 43 of 86



nt. P	ol.		Verti	cal										
est N	lod	e:	GFS	K №	lode	248	80 MF	Ιz						
20.0 dl	BuV/	'm												
0												-		
0												+		
												_		
											500.5			0.0%
											FCC Par	t15 C	- Above 1	G PK
	1 X										FCC Par	t15 C	- Above 1	GAV
\square	X											+		
	3									Andrewsonation	alation Provide March		un an	the standard and the standard
í –	~~													
												-		
.0 2476.5	00 2	486.50	2496.50	250	6.50	251	6.50	(MHz)	25	36.50 2	546.50 2	556.5	0 2566.	50 2576.5
No.		Freque (MH			adin BuV			ctor /m)		evel uV/m)	Limit (dBuV/		Margin (dB)	Detector
1	-	2483.	500	2	0.54		31	.48	52	2.02	74.00)	-21.98	peak
2 *	,	2483.			1.98			.48		6.46	54.00		-17.54	AVG
emar														
.Fact	or (dB/m) = value =					B/m)	+Cab	e Fa	ctor (dE	8)-Pre-an	npli	fier Fact	or





nt. Po	ol.	Horiz	zontal										
est Mo	ode:	π/4-	DQPSK I	Mode	2402	ЛНz	Z						
0. <u>0</u> dB	uV/m												
0													
													Λ
									FCC	Part15 (C - Above	e 1G F	к
									_				
									FCC	Part15 (C1 Abov	e 1G	<u></u>
											^		
mund	man	anoralan	-			muh	man		n denske ver Anne	mana	<u> </u>	und	he.
.0 2306.00	0 2316.00	2326.00	2336.00	2346.0	00 (MI	lz)	2366	.00 2	376.00	2386.	00 239	36.00	2406.0
	Freau	uency	Readin	a	Facto	r	Lev	vel	Lir	nit	Marg	in .	
No.		Hz)	(dBuV	-	(dB/m				(dBu				Detecto
1	2390	0.000	21.53		31.31		52.	84	74.	.00	-21.1	6	peak
2 *	2390	000.	5.82		31.31		37.	13	54.	00	-16.8	37	AVG

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value

CTC Laboratories, Inc. 1-2/F., Building 2, Jiaquan Building, Guanlan High-Tech Park, Shenzhen, Guangdong, China Tel.: (86)755-27521059 中国国家认证认可监督管理委员会 中国国家认证认可监督管理委员会





nt. I	Pol.		Verti	cal								
est	Мос	le:	π/4-	DQF	PSK Mo	de 240)2MH	z				
20.0	dBu∖	//m							1			
10												
0												
										FCC Part15	C - Above 1	
-										FCC Part15	C- b bove 1	GAV
ן ו											C XUOVE I	
1	hour	g%42.5+4845746%+742%-1484-44744***	marm	w	manna	man			-	an march the services		
0.0 2305	5.000	2315.00 2	325.00	233	35.00 23	45.00	(MHz)	23	65.00 2	375.00 238	5.00 2395.0	00 2405.0
No).	Frequer (MHz			ading BuV)	Fac (dB/			evel uV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1		2390.0	00	2	2.80	31.	31	54	.11	74.00	-19.89	peak
2	*	2390.0	00	Ę	5.61	31.	31	36	6. <mark>9</mark> 2	54.00	-17.08	AVG
ema	arks	:						1			1	1
.Fac	ctor					dB/m)+	Cabl	e Fac	tor (dE	8)-Pre-amp	lifier Facto	or





nt. P	ol.		Hor	izonta	al									
est M	lode):	π/4	-DQP	SKI	Лос	le 24	80MF	lz					
0.0 d	BuV/	m	_											
o														
0														
Н											FCC	Part15	C - Above	1G PK
	¥										FCC	Part15	<u>C - Above</u>	16 AV
1	12mm		averagen i Seconda	whenoughd	owne	mm	Amand	tween	harrown	analista	and a second and the		mental	more an a
.0														
2477.0	00 2	187.00	2497.00	250	7.00	251	7.00	(MHz)	25	37.00	2547.00	2557.	.00 256	7.00 2577.
No.		Frequ (Mł			adin BuV	-		ctor 3/m)		evel uV/m)		nit Ⅳ/m)	Margi (dB)	n Detecto
1		2483	.500	2	2.48		31	.48	5	3.96	74	.00	-20.04	1 peak
2 *	*	2483	.500	5	5.83		31	.48	3	7.31	54	.00	-16.69	AVG
				1							1			





nt. I	Pol.			Verti	cal													
est I	Mod	e:		π/4-I	DQF	SK	Mo	de 24	80N	IHz	Z							
20.0	dBu∨	/m																
10																		
	٨																	
ר י	Δ_												1	FCC F	art15	C - Al	bove 1	IG PK
ם ו																		
י ד														FCC F	art15	C - Al	bove 1	GAV
י ד	×																	
י ₩	Ę	man	han		m		مادمين	unn	renner	mon		www.chemas.org	m		mma	man	w.em.	and and the second
<u>ו</u>															_			
)																		
)															_			
).0	5 500	2486.50	24	36.50	950	6.50	95	16.50	(M⊢	1-1	953	6.50	2546	ED	2556	ED	2566.	50 2576.
No	b .	Freq (M	uen Hz)	су		adir Bu∀			actor 3/m)			vel iV/m)		Lim Bu∨			rgin B)	Detector
1		248	3.50	0	2	1.02	2	31	.48		52	.50		74.0	0	-21	.50	peak
2	*	248	3.50	0	5	5.21		31	.48		36	.69		54.0	0	-17	.31	AVG
																-		-

Remarks:





nt. Po	I	Hori	zontal					
est Mo	de:	8-DF	PSK Mode 2	402MHz				
20.0 dBu	JV/m							
10								
00								
								Λ
, <u> </u>						FCC Part15 (C-Above 10	3 PK
						FCC Part15 (Above 10	
)								
	www.	www.www	and and an or	adarran and former	h.m.	***		J \.
)								
)								
D D.0								
	D 2316.00	2326.00	2336.00 23	46.00 (MHz)	2366.00 2	376.00 2386.	00 2396.0	0 2406.0
No.	Freque (MH		Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2390.0	000	21.86	31.31	53.17	74.00	-20.83	peak
2 *	2390.0	000	5.33	31.31	36.64	54.00	-17.36	AVG
	1		<u> </u>		1	1	1	I
emark		Anton	na Factor (c				С .	

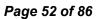


Ant	. Pol		Verti	cal					
	Test Mode: 8-DPSK Mode 2402MHz								
120.) dBu	V/m							
110									
100									
90									
80									Λ
70							FCC Part15 (C - Above 10	G PK
60									
50							FCC Part15 (C- <u> Above 1</u>	GAV
40	water and the second	her have been some	where where	and a second	-	monorporterenterest		-szaran	
30									
20									
10 0.0									
	05.000	2315.00 2	325.00	2335.00 23	45.00 (MHz)	2365.00 2	375.00 2385.	00 2395.0	10 2405.00
<u> </u>									
N	lo.	Freque (MHz	-	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
	1	2390.0	00	22.53	31.31	53.84	74.00	-20.16	peak
2	2 *	2390.0	00	4.81	31.31	36.12	54.00	-17.88	AVG
							·		. <u> </u>
1.Fa		$(dB/m) = \lambda$		na Factor (c Limit value	IB/m)+Cabl	e Factor (dB)-Pre-ampli	fier Facto	or

Page 50 of 86



No. Frequency (MHz) Reading (dBuV) Factor (dB/m) Level (dBuV/m) Limit (dBuV/m) Margin (dB) D 1 2483.500 20.83 31.48 52.31 74.00 -21.69 g		
Indext FCC Part15 C - Above 1G P 0 0 FCC Part15 C - Above 1G P 0 0 FCC Part15 C - Above 1G P 0 0 FCC Part15 C - Above 1G P 0 0 FCC Part15 C - Above 1G P 0 0 FCC Part15 C - Above 1G P 0 0 FCC Part15 C - Above 1G P 0 2 FCC Part15 C - Above 1G P 0 2 FCC Part15 C - Above 1G P 0 2 FCC Part15 C - Above 1G P 0 2 FCC Part15 C - Above 1G P 0 2 FCC Part15 C - Above 1G P 0 2 FCC Part15 C - Above 1G P 2 7 FCC Part15 C - Above 1G P 2 7 FCC Part15 C - Above 1G P 0 2 FCC Part15 C - Above 1G P 1 2 FCC Part15 C - Above 1G P 1 2 2 5 1 2 2 2		
No. Frequency (MHz) Reading (dBuV) Factor (dB/m) Level (dBuV/m) Limit (dBuV/m) Margin (dBuV/m) D 1 2483.500 20.83 31.48 52.31 74.00 -21.69 g		
No. Frequency (MHz) Reading (dBuV) Factor (dBuV) Level (dBuV/m) Limit (dBuV/m) Margin (dBuV/m) Margin (dBuV/m) D 1 2483.500 20.83 31.48 52.31 74.00 -21.69 p		
No. Frequency (MHz) Reading (dBuV) Factor (dBm) Level (dBuV/m) Limit (dBuV/m) Margin (dBuV/m) D 1 2483.500 20.83 31.48 52.31 74.00 -21.69 p		
No. Frequency (MHz) Reading (dBuV) Factor (dB/m) Level (dBuV/m) Limit (dBuV/m) Margin (dB) D 1 2483.500 20.83 31.48 52.31 74.00 -21.69 g		
No. Frequency (MHz) Reading (dBuV) Factor (dB/m) Level (dBuV/m) Limit (dBuV/m) Margin (dBuV/m) D 1 2483.500 20.83 31.48 52.31 74.00 -21.69 p		
No. Frequency (MHz) Reading (dBuV) Factor (dB/m) Level (dBuV/m) Limit (dBuV/m) Margin (dB) D 1 2483.500 20.83 31.48 52.31 74.00 -21.69 p	C Part15 C - Above 1G F	ж
Image: No. Frequency (MHz) Reading (dBuV) Factor (dB/m) Level (dBuV/m) Limit (dBuV/m) Margin (dB) D 1 2483.500 20.83 31.48 52.31 74.00 -21.69 p		
No. Frequency (MHz) Reading (dBuV) Factor (dB/m) Level (dBuV/m) Limit (dBuV/m) Margin (dBuV/m) D 1 2483.500 20.83 31.48 52.31 74.00 -21.69 p		
No. Frequency (MHz) Reading (dBuV) Factor (dB/m) Level (dBuV/m) Limit (dBuV/m) Margin (dB) D 1 2483.500 20.83 31.48 52.31 74.00 -21.69 p	<u>C Part15 C - Above 1G A</u>	<u> </u>
No. Frequency (MHz) Reading (dBuV) Factor (dB/m) Level (dBuV/m) Limit (dBuV/m) Margin (dB) D 1 2483.500 20.83 31.48 52.31 74.00 -21.69 p		
No. Frequency (MHz) Reading (dBuV) Factor (dB/m) Level (dBuV/m) Limit (dBuV/m) Margin (dB) D 1 2483.500 20.83 31.48 52.31 74.00 -21.69 p	and the second	mar
0 0		
0.0 2477.000 2487.00 2497.00 2507.00 2517.00 (MHz) 2537.00 2547.00 2557.00 2567.00 No. Frequency (MHz) Reading (dBuV) Factor (dB/m) Level (dBuV/m) Limit (dBuV/m) Margin (dB) D 1 2483.500 20.83 31.48 52.31 74.00 -21.69 p		
2477.000 2487.00 2497.00 2507.00 2517.00 (MHz) 2537.00 2547.00 2557.00 2567.00 No. Frequency (MHz) Reading (dBuV) Factor (dB/m) Level (dBuV/m) Limit (dBuV/m) Margin (dB) D 1 2483.500 20.83 31.48 52.31 74.00 -21.69 p		
No. Frequency (MHz) Reading (dBuV) Factor (dB/m) Level (dBuV/m) Limit (dBuV/m) Margin (dB) D 1 2483.500 20.83 31.48 52.31 74.00 -21.69 p) 2557.00 2567.00	2577.0
(MHz) (dBuV) (dB/m) (dBuV/m) (dBuV/m) (dB) 1 2483.500 20.83 31.48 52.31 74.00 -21.69 p		etector
	uV/m) (dB)	
2 * 2483.500 5.48 31.48 36.96 54.00 -17.04	4.00 -21.69	peak
	4.00 -17.04	AVG
Remarks:		





nt. Pol	-	Vert	ical					
est Mo	de:	8-DF	PSK Mode 2	480MHz				
20. <u>0</u> dBu	V/m							
10								
0								
Ϋ́						FCC Part15	C - Above 10	G PK
י								
	1.					FCC Part15 (C - Above 10	AV E
' FT	x							
• 	<u>z</u>	uno presenta da con	and a start of the second s	mannon	Mumounitan	mannen	and and the second	للفالينام يالحان
I								
ı								
)								
2476.500		2496.50	2506.50 25	16.50 (MHz)	2536.50 2	546.50 2556.	50 2566.5	0 2576.5
No.	Frequ (MF		Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2483.	500	21.42	31.48	52.90	74.00	-21.10	peak
2 *	2483.	500	5.51	31.48	36.99	54.00	-17.01	AVG

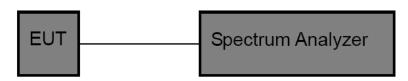


3.4. Band edge and Spurious Emissions (Conducted)

<u>Limit</u>

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (d):In any 100 kHz 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 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

Test Configuration



Test Procedure

- 1. The transmitter output was connected to the spectrum analyzer through an attenuator, the path loss was compensated to the results for each measurement.
- 2. Set to the maximum power setting and enable the EUT transmit continuously
- Use the following spectrum analyzer settings: RBW = 100 kHz, VBW ≥ RBW, scan up through 10th harmonic. Sweep = auto, Detector function = peak, Trace = max hold
- Measure and record the results in the test report.

Test Mode

Please refer to the clause 2.4.

Test Results

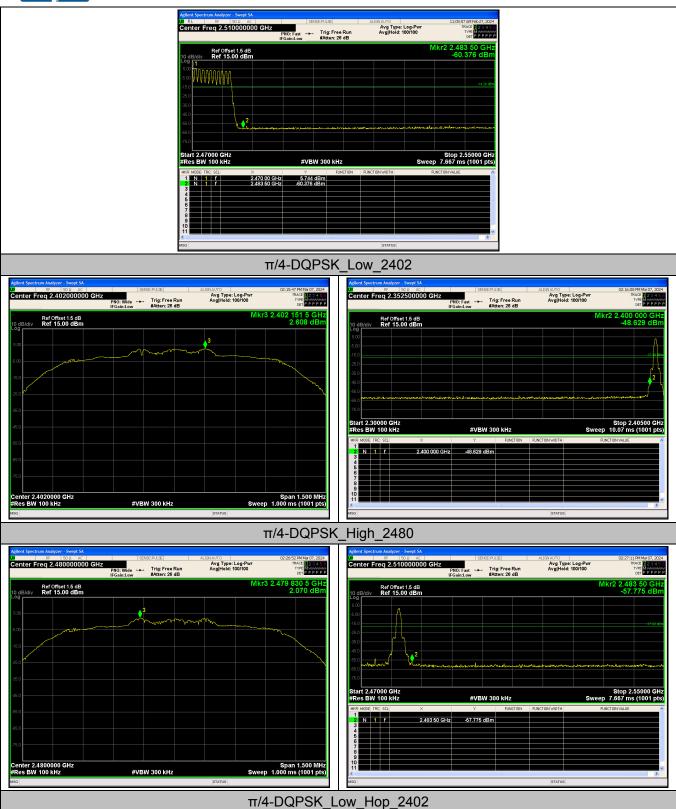
(1) Band edge Conducted Test

Test Mode	Frequency[MHz]	Ref Level[dBm]	Result[dBm]	Limit[dBm]	Verdict
	2402	3.189	-57.722	≤-16.84	PASS
GFSK	2480	2.629	-61.009	≤-17.37	PASS
GFSK	Hop_2402	5.294	-56.749	≤-14.71	PASS
	Hop_2480	5.744	-60.376	≤-14.26	PASS
	2402	2.608	-48.629	≤-17.39	PASS
	2480	2.070	-57.775	≤-17.93	PASS
π/4-DQPSK	Hop_2402	3.605	-49.790	≤-16.39	PASS
	Hop_2480	4.869	-58.583	≤-15.13	PASS
	2402	2.771	-50.212	≤-17.23	PASS
8-DPSK	2480	1.986	-56.333	≤-18.01	PASS
0-DP3K	Hop_2402	3.595	-47.536	≤-16.41	PASS
	Hop_2480	6.803	-58.815	≤-13.20	PASS

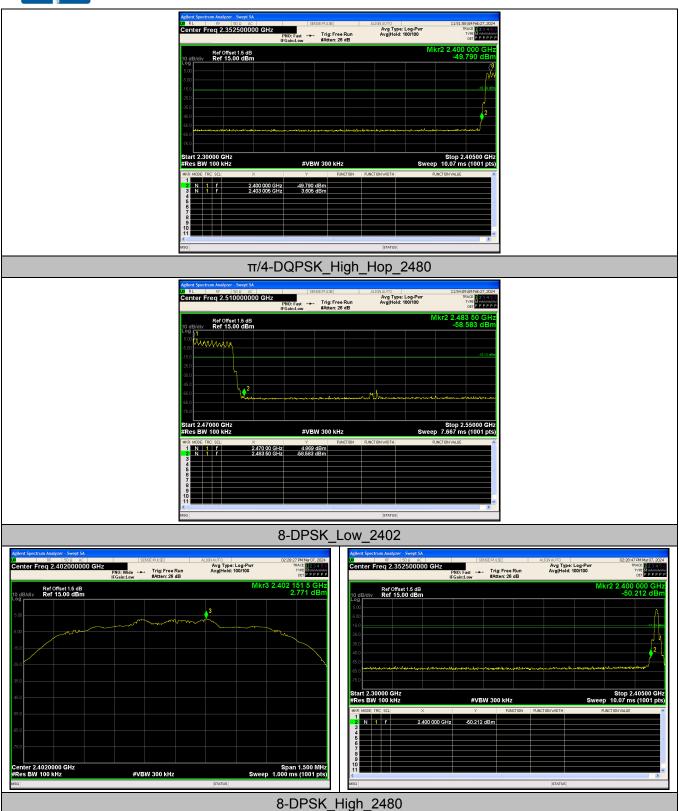














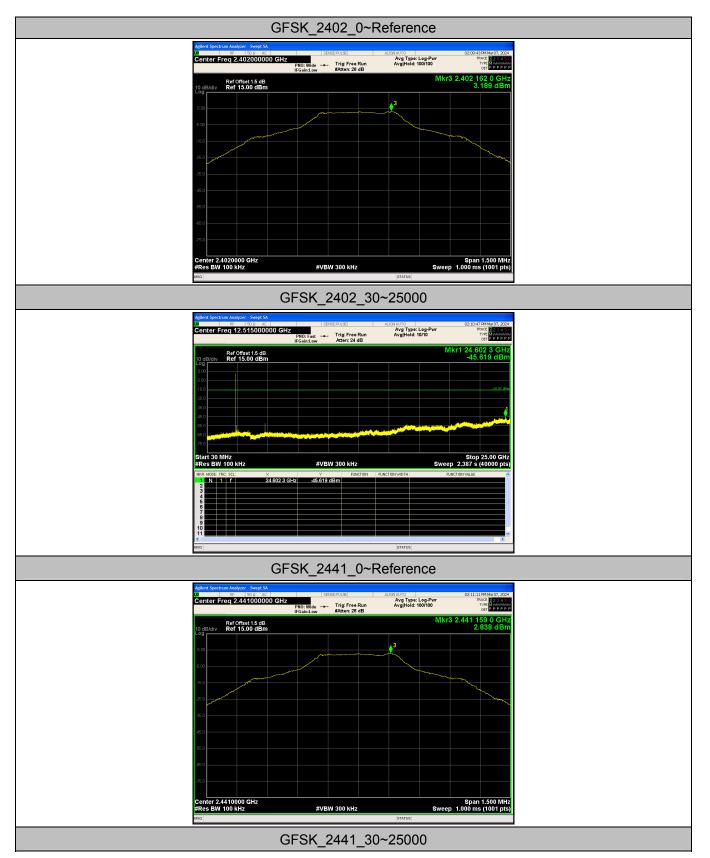




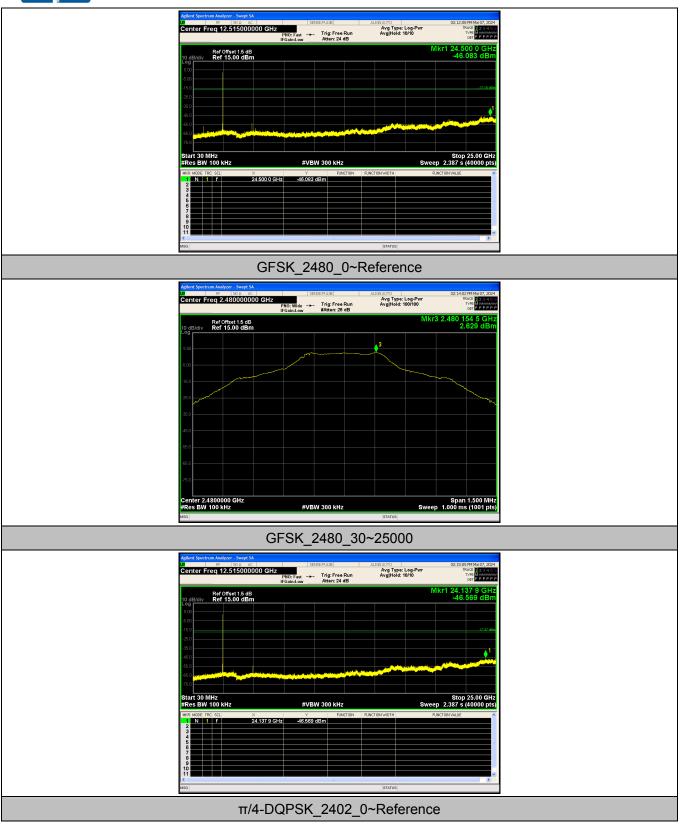
(2) Conducted Spurious Emissions Test

Test Mode	Freq(MHz)	Freq Range [MHz]	Ref Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
	2402	Reference	3.189	3.189		PASS
	2402	30~25000	3.189	-45.619	≤-16.81	PASS
GFSK	2441	Reference	2.838	2.838		PASS
Gron	2441	30~25000	2.838	-46.083	≤-17.16	PASS
	2480	Reference	2.629	2.629		PASS
	2400	30~25000	2.629	-46.569	≤-17.37	PASS
	2402	Reference	2.608	2.608		PASS
	2402	30~25000	2.608	-45.874	≤-17.39	PASS
π/4-DQPSK	2441	Reference	2.300	2.300		PASS
11/4-DQF3K		30~25000	2.300	-45.082	≤-17.70	PASS
	2480	Reference	2.070	2.070		PASS
		30~25000	2.070	-46.026	≤-17.93	PASS
	2402	Reference	2.771	2.771		PASS
	2402	30~25000	2.771	-45.293	≤-17.23	PASS
	2444	Reference	2.178	2.178		PASS
8-DPSK	2441	30~25000	2.178	-27.810	≤-17.82	PASS
	2480	Reference	1.986	1.986		PASS
	2400	30~25000	1.986	-45.332	≤-18.01	PASS





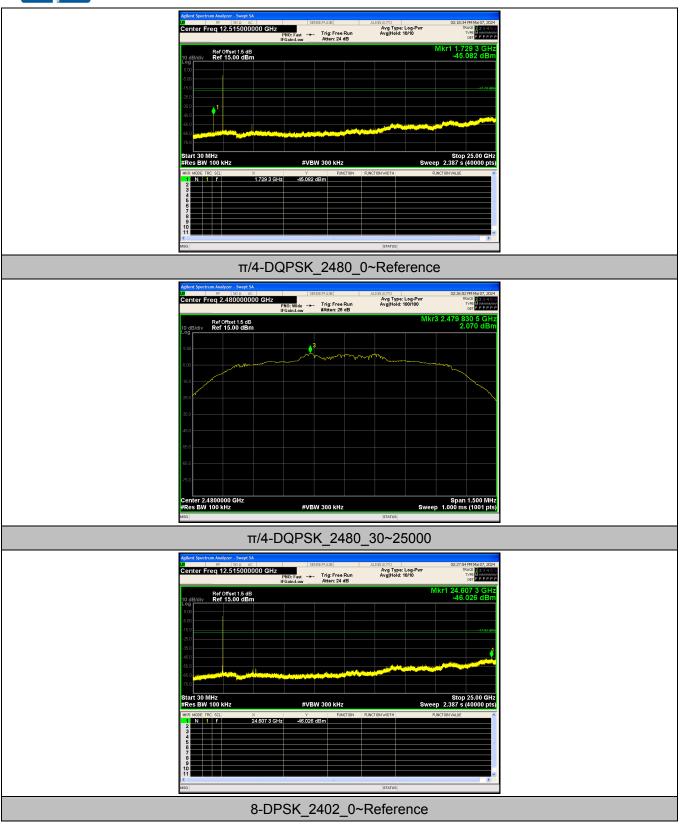




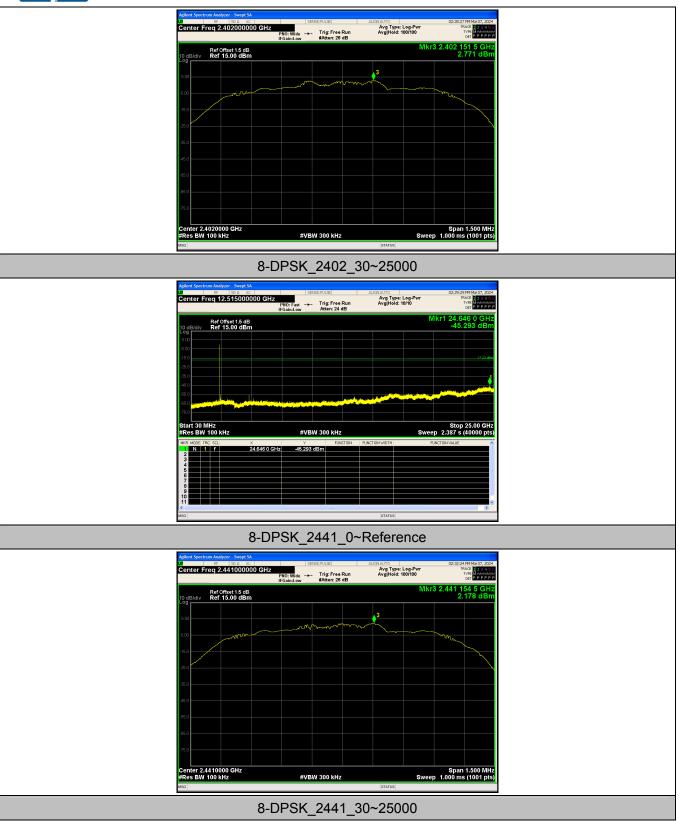




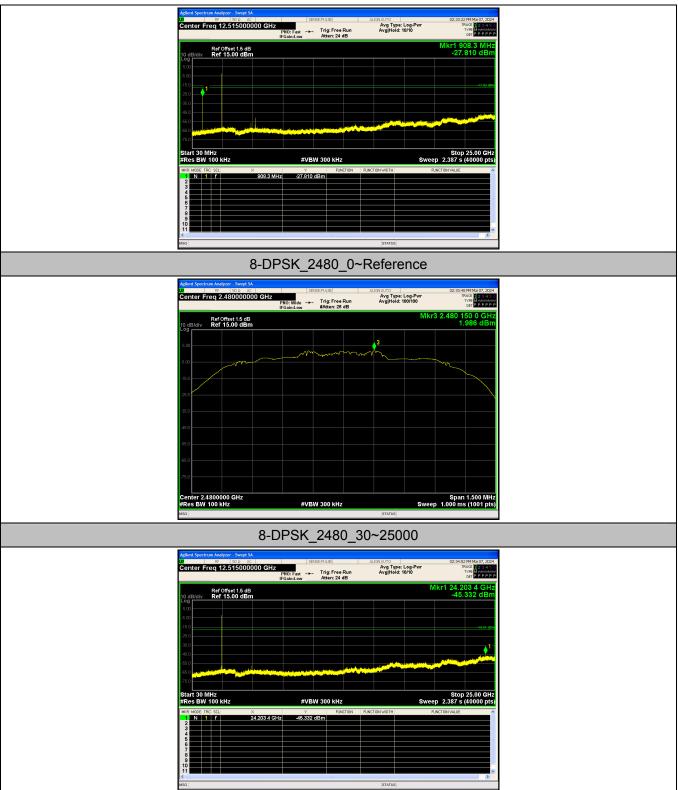












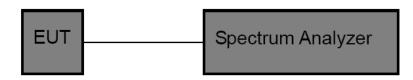


3.5. 20DB Bandwidth

<u>Limit</u>

N/A

Test Configuration



Test Procedure

- 5. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- 6. OCB and 20dB Spectrum Setting:
 - (1) Set RBW = $1\% \sim 5\%$ occupied bandwidth.
 - (2) Set the video bandwidth (VBW) \geq 3 RBW.
 - (3) Detector = Peak.
 - (4) Trace mode = Max hold.
 - (5) Sweep = Auto couple.

Note: The EUT was set to continuously transmitting in each mode and low, Middle and high channel for the test.

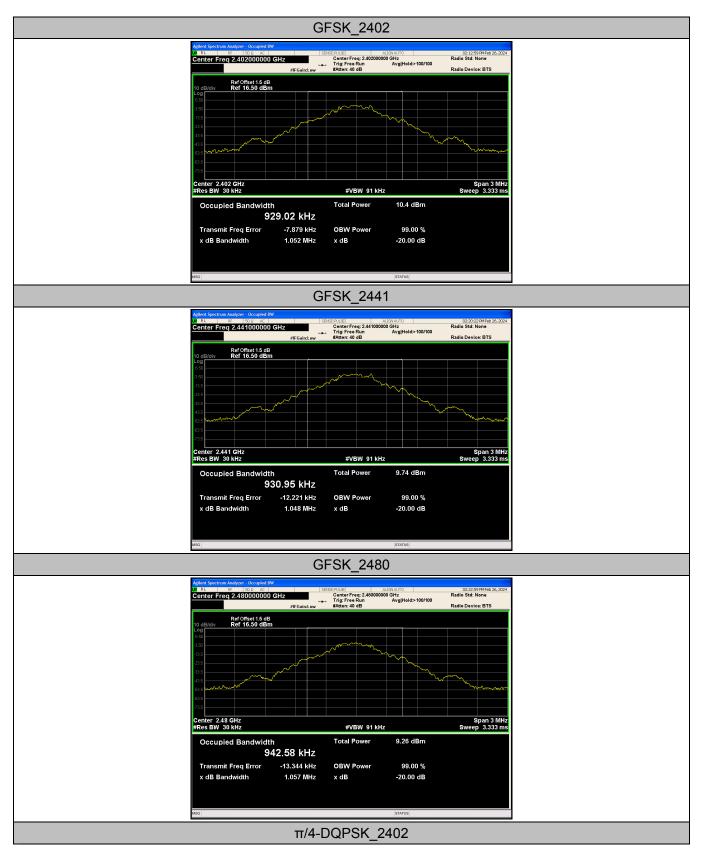
Test Mode

Please refer to the clause 2.4.

Test Results

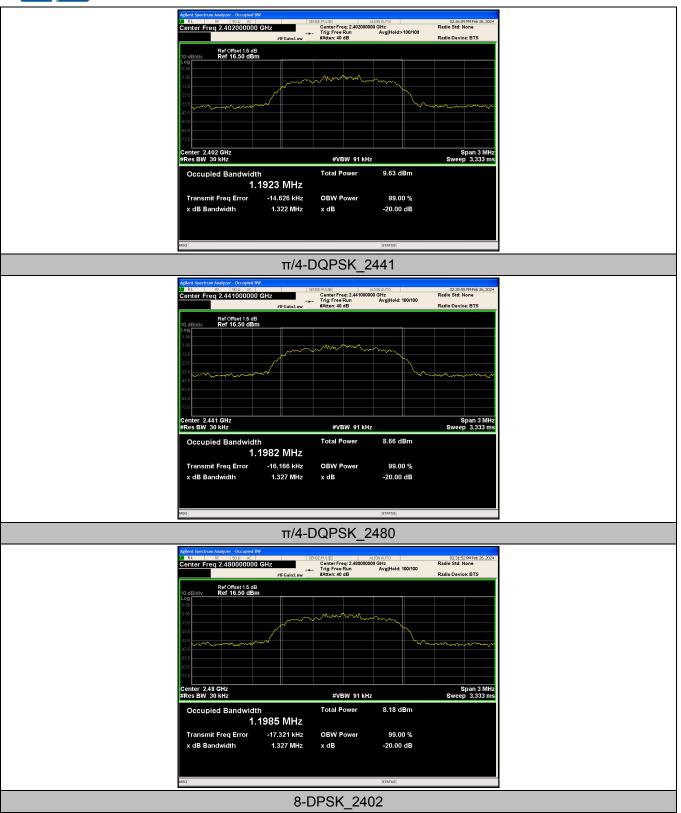
Test Mode	Frequency[MHz]	20db EBW[MHz]	20dB Bandwidth *2/3 (kHz)	Verdict
	2402	1.052	701	PASS
GFSK	2441	1.048	699	PASS
	2480	1.057	705	PASS
	2402	1.322	881	PASS
π/4-DQPSK	2441	1.327	885	PASS
	2480	1.327	885	PASS
	2402	1.304	869	PASS
8-DPSK	2441	1.299	866	PASS
	2480	1.318	879	PASS







Page 67 of 86









3.6. Channel Separation

<u>Limit</u>

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (a)(1)/ RSS-247 5.1 b :

Test Item	Limit	Frequency Range(MHz)
Channel Separation	>25KHz or >two-thirds of the 20 dB bandwidth Which is greater	2400~2483.5

Test Configuration

EUT	Spectrum Analyzer
EOT	

Test Procedure

- 7. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- 8. Spectrum Setting:

(1) Set RBW = Set the RBW to less than 30% of the channel spacing or the 20 dB bandwidth,

whichever is smaller.

- (2) Set the video bandwidth (VBW) \ge 3 RBW.
- (3) Detector = Peak.
- (4) Trace mode = Max hold.
- (5) Sweep = Auto couple.

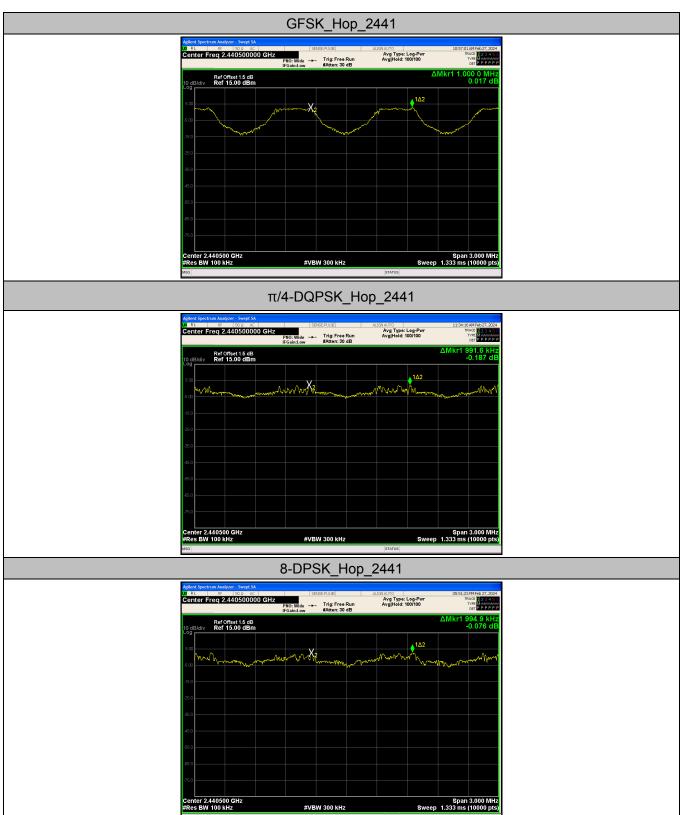
Test Mode

Please refer to the clause 2.4.

Test Results

Test Mode	Frequency[MHz]	Result[MHz]	Limit[kHz]	Verdict
GFSK	Hop_2441	1.0000	>699	PASS
π/4-DQPSK	Hop_2441	0.9916	>885	PASS
8-DPSK	Hop_2441	0.9949	>866	PASS







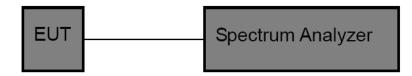
3.7. Number of Hopping Channel

<u>Limit</u>

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (a)(iii)/ RSS-247 5.1 d:

Section	Test Item	Limit
15.247 (a)(iii)/ RSS-247 5.1 d:	Number of Hopping Channel	>15

Test Configuration



Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.

- 2. Spectrum Setting:
 - (1) Peak Detector: RBW=100 kHz, VBW≥RBW, Sweep time= Auto.

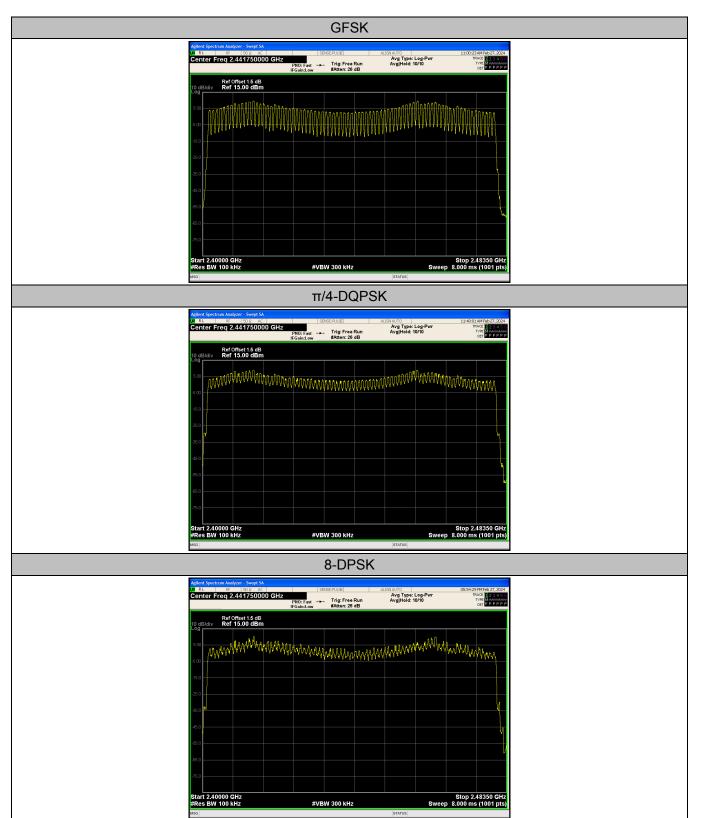
<u>Test Mode</u>

Please refer to the clause 2.4.

Test Result

Test Mode	Freq(MHz)	Result[Num]	Limit[Num]	Verdict
GFSK	Нор	79	≥15	PASS
π/4-DQPSK	Нор	79	≥15	PASS
8-DPSK	Нор	79	≥15	PASS





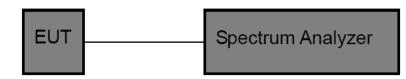


3.8. Dwell Time

<u>Limit</u>

Section	Test Item	Limit
15.247(a)(iii)/ RSS-247 5.1 d	Average Time of Occupancy	0.4 sec

Test Configuration



Test Procedure

- 1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- 2. Spectrum Setting:
 - (1) Spectrum Setting: RBW=1MHz, VBW≥RBW.
 - (2) Use video trigger with the trigger level set to enable triggering only on full pulses.
 - (3) Sweep Time is more than once pulse time.
- (4) Set the center frequency on any frequency would be measure and set the frequency span to zero.
 - (5) Measure the maximum time duration of one single pulse.
 - (6) Set the EUT for packet transmitting.

Test Mode

Please refer to the clause 2.4.

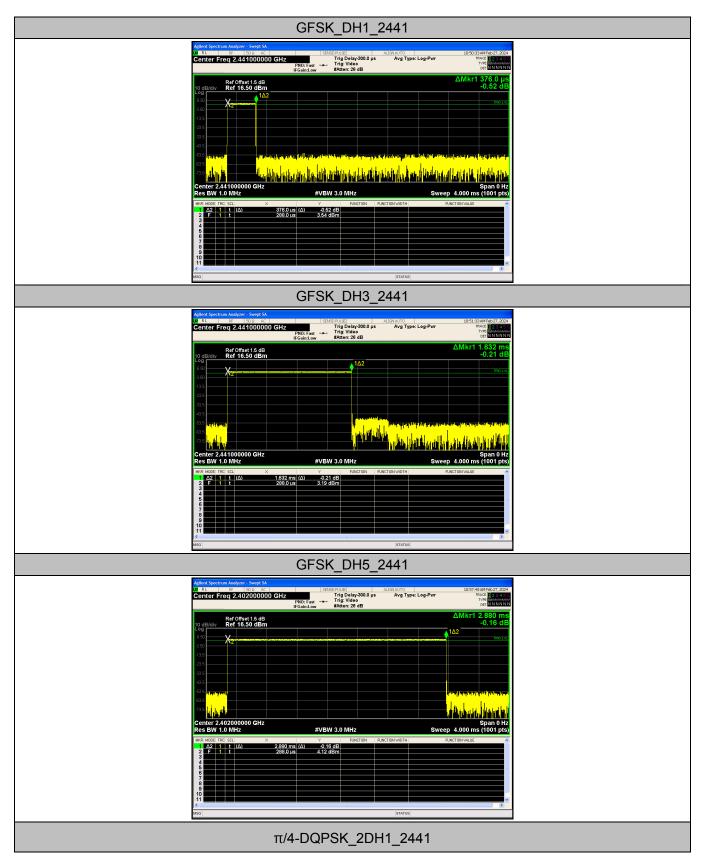


<u>Test Result</u>

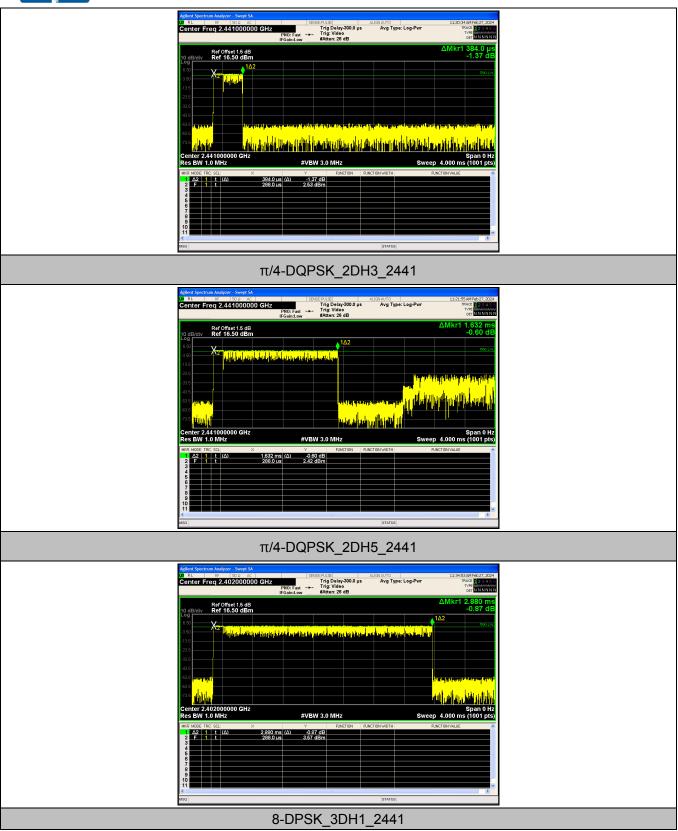
Modulation type	Channel	Frequency [MHz]	Pulse Time (ms)	Total of Dwell (ms)	Period Time (ms)	Limit (Second)	Result
	DH1	2441	0.376	120.320	31.60		
GFSK	DH3	2441	1.632	261.120	31.60	≤ 0.40	Pass
	DH5	2441	2.880	307.200	31.60		
	2DH1	2441	0.384	122.880	31.60		
π/4-DQPSK	2DH3	2441	1.632	261.120	31.60	≤ 0.40	Pass
	2DH5	2441	2.880	307.200	31.60		
	3DH1	2441	0.384	122.880	31.60		
8-DPSK	3DH3	2441	1.632	261.120	31.60	≤ 0.40	Pass
	3DH5	2441	2.880	307.200	31.60		

Note: 1DH1/2DH1/3DH1Total of Dwell= Pulse Time*(1600/2)*31.6/79 1DH3/2DH3/3DH3 Total of Dwell= Pulse Time*(1600/4)*31.6/79 1DH5/2DH5/3DH5 Total of Dwell= Pulse Time*(1600/6)*31.6/79



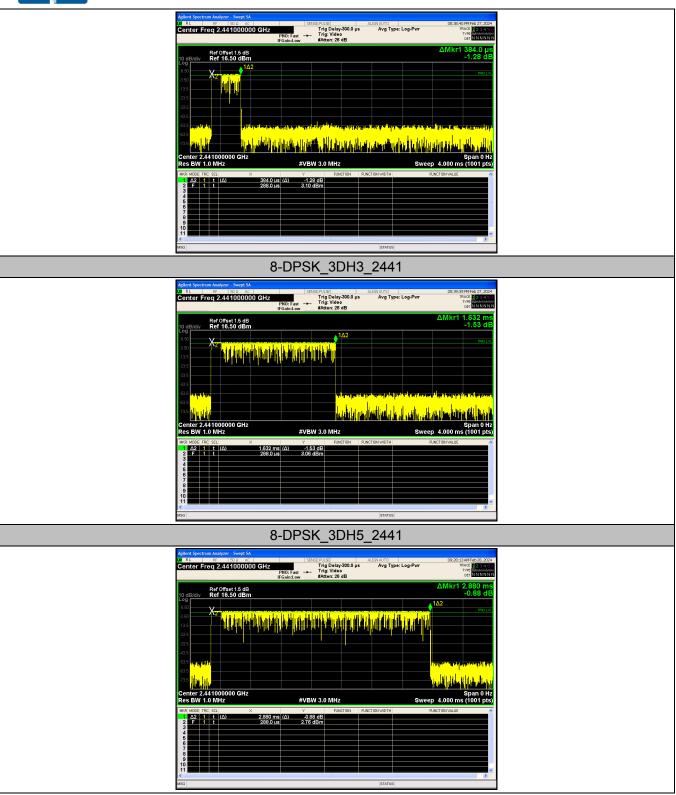








EN





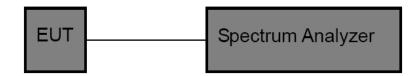
3.9. Peak Output Power

<u>Limit</u>

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (b)(1) / RSS-247 5.4 b:

Test Item	Limit	Frequency Range(MHz)
Maximum Conducted Peak Output Power	Hopping Channels>75 Pow- er<1W(30dBm) Other <125mW(21dBm)	2400~2483.5
E.I.R.P	4 Watt or 36dBm	2400~2483.5

Test Configuration



Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.

- 2. Spectrum Setting:
 - (1) Set RBW> 20DB Bandwidth.
 - (2) Set the video bandwidth (VBW) \ge RBW.
 - (3) Detector = Peak.
 - (4) Trace mode = Max hold.
 - (5) Sweep = Auto couple.

Test Mode

Please refer to the clause 2.4.

Test Result

Test Mode	Frequency[MHz]	Result[dBm]	Limit[dBm]	Verdict
	2402	4.013	<=30	PASS
GFSK	2441	3.073	<=30	PASS
-	2480	2.846	<=30	PASS
π/4-DQPSK	2402	3.956	<=30	PASS
	2441	2.966	<=30	PASS
	2480	2.778	<=30	PASS
8-DPSK	2402	3.901	<=30	PASS
	2441	2.884	<=30	PASS
	2480	2.604	<=30	PASS

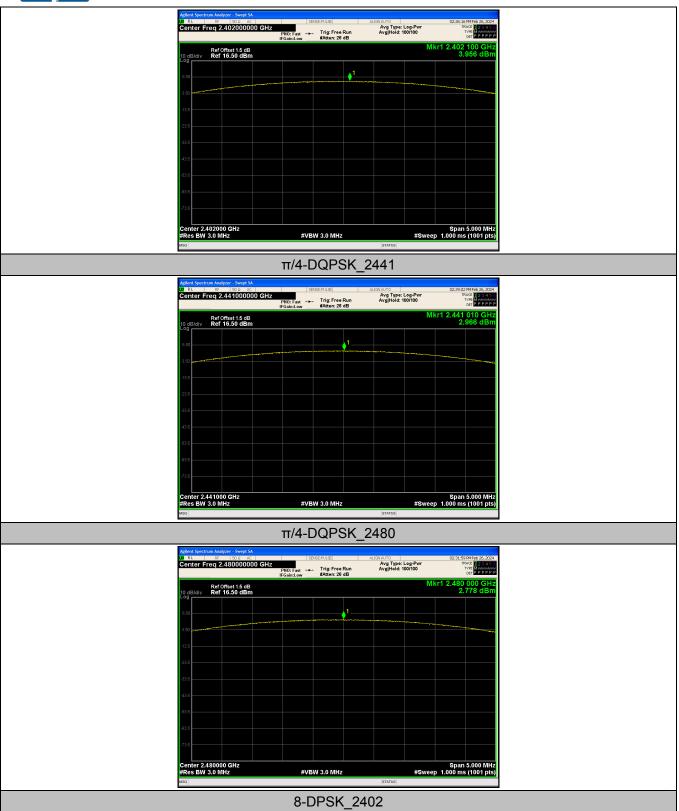


EN





EN





Center Freq 2.402000000 GHz PN0: Fast IFGain:Low Ref Offset 15 dB	YSE:PULSE . Trig: Free Run #Atten: 26 dB	NISYALITO 0219500 Avg Type: Leg-Pwr n Avg Heid: 100/100 Mkr1 2.402 3.	SMMad 20 2024 Mar Backar Mar Backar Dec CHZ 901 dBm
10 gB/div Ref 16.50 dBm	∳ 1		
-13.5 			
435 435			
735 Center 2.402000 GHz #Res BW 3.0 MHz #VB	W 3.0 MHz	Span #Sweep 1.000 ms	5.000 MHz s (1001 pts)
8-C	PSK_24	41	
Agilent Spectrum Analyzer - Swept SA (VI RL RF 50 g AC SE Center Freq 2.441000000 GHz	NSE:PULSE	ALIGNAUTO 02:37:45 Avg Type: Log-Pwr 1 Avg Hoid: 100/100	
Ref Offset 1.5 dB	Trig: Free Run #Atten: 26 dB	Avg Hoid: 100/100 Mkr1 2.441 2.	
10 dB/div Ref 16.50 dBm	.1	2.	884 GBm
3.60	••••••		
-13.5			
-23 5			
-43.5			
-635			
-73.5			
Center 2.441000 GHz #Res BW 3.0 MHz #VB	W 3.0 MHz	Span #Sweep 1.000 m	s 5.000 MHz s (1001 pts)
MSG		STATUS	
	PSK_248	80	
Aglient Spectrum Analyzer - Swept SA MIR RL RF 50 Ω AC 58 Center Freq 2.480000000 GHz PRO:Feat	vse:PULse	ALIGN AUTO 02:40:50 Avg Type: Log-Pwr 11 Avg Hold: 100/100	5 FM Feb 26, 2024 NACE 2 25 4 5 10 NVME (XNAMMAND C 2 26 1 9 12
IFGain:Low Ref Offset 1.5 dB 10 dB/div Ref 16.50 dBm Log		Mkr1 2.479 2.	
6.50	1		
3.50			
-13.5			
-33.5			
-43.5			
-63.5			
-73.5			
Center 2.480000 GHz #Res BW 3.0 MHz #VB	W 3.0 MHz	Span #Sweep 1.000 ms	s (1001 pts)

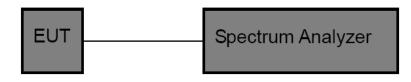


3.10. Duty Cycle

Limit

None, for report purposes only.

Test Configuration



Test Procedure

- 1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- 2. The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement according to section 10.2 of KDB 558074 D01 DTS Meas Guidance v05r02.

Spectrum Setting: 3.

Set analyzer center frequency to test channel center frequency. Set the span to 0Hz Set the RBW to 8MHz Set the VBW to 8MHz Detector: Peak Sweep time: Auto Allow trace to fully stabilize. Then use the peak marker function to determine the maximum amplitude level.

Test Mode

Please refer to the clause 2.4.

Test Result

Test Mode	Frequency [MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T Minimum VBW (kHz)	Final setting For VBW (kHz)
	2402	2.870	3.732	76.88	0.348	1
GFSK	2441	2.890	3.732	77.42	0.346	1
	2480	2.890	3.732	77.42	0.346	1
	2402	2.870	3.712	77.30	0.348	1
π/4-DQPSK	2441	2.890	3.732	77.42	0.346	1
	2480	2.870	3.732	76.88	0.348	1
	2402	2.870	3.732	76.88	0.348	1
8-DPSK	2441	2.870	3.712	77.30	0.348	1
	2480	2.890	3.732	77.42	0.346	1















3.11. Antenna requirement

Requirement

FCC CFR Title 47 Part 15 Subpart C Section 15.203:

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 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.

FCC CFR Title 47 Part 15 Subpart C Section 15.247(c) (1)(i):

(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.

<u>Test Result</u>

The directional gain of the antenna less than 6dBi, please refer to the EUT internal photographs antenna photo.