

Shenzhen Toby Technology Co., Ltd.

Report No.: TB-FCC145092 Page: 1 of 48

FCC Radio Test Report FCC ID: XMF-MID8001

FCC Class II Permissive Change

Report No.	10P	TB-FCC145092
Applicant		Lightcomm Technology Co., Ltd.
Equipment Under To	est (El	(TL
EUT Name	. 5	MID
Model No.	:	MID8001-IB
Series Model No.	di	DL801W, DL808W
Brand Name		N/A
Receipt Date	-	2015-08-12
Test Date	Rife	2015-08-12 to 2015-08-17
Issue Date		2015-08-18
Standards	185	FCC Part 15: 2014, Subpart C(15.247)
Test Method	: (ANSI C63.10:2013
Conclusions		PASS
		In the configuration tested, the ELIT complied with the standards specified above

WAN SI

In the configuration tested, the EUT complied with the standards specified above

Test/Witness Engineer

Approved& Authorized

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in the report.

The EUT technically complies with the FCC requirements

TB-RF-074-1.0



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1. General Information about EUT

1.1 Client Information

Applicant	61	Lightcomm Technology Co., Ltd.
Address		RM 1708-10, 17/F, PROSPERITY CENTRE, 25 CHONG YIP
		STREET, KWUN TONG, KOWLOON, HONG KONG
Manufacturer	1	Huizhou Hengdu Electronics Co.,Ltd.
Address	-	DIP South Area, Huiao Highway, Huizhou, Guangdong, China

1.2 General Description of EUT (Equipment Under Test)

EUT Name	:	MID		
Models No.	:	MID8001-IB, DL801W, DL808W		
Model Difference		All models are identical in the same PCB layout, interior structure and electrical circuit, The only difference is model name for commercial purpose.		
n Duss		Operation Frequency: Bluetooth:2402~2480MHz		
		Number of Channel:	Bluetooth:79 Channels see note (2)	
Product Description		Max Peak Output Power:	GFSK:4.204dBm (Conducted Power)	
Description		Antenna Gain:	0 dBi FPC Antenna	
		DI LU	Modulation Type:	GFSK 1Mbps(1 Mbps) π /4-DQPSK(2 Mbps) 8-DPSK(3 Mbps)
Power Supply	:	DC power supplied by AC/	DC Adapter.	
		DC Voltage supplied from	Li-ion battery.	
Power Rating		Input: AC 100~240V 50/60Hz 0.35A Max. Output: 5V 2A. DC 3.7V from 4500mA Li-ion battery.		
Connecting I/O Port(S)	:	Please refer to the User's Manual		

Note:

- (1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
- (2) This Test Report is FCC Part 15.247 for Bluetooth, and test procedure in accordance with Public Notice: DA 00-705.
- (3) Channel List:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	2402	27	2429	54	2456



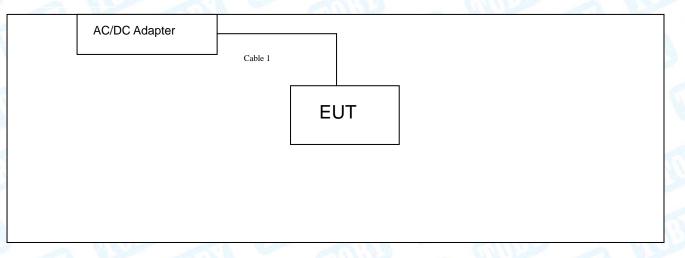
		C IIII			
01	2403	28	2430	55	2457
02	2404	29	2431	56	2458
03	2405	30	2432	57	2459
04	2406	31	2433	58	2460
05	2407	32	2434	59	2461
06	2408	33	2435	60	2462
07	2409	34	2436	61	2463
08	2410	35	2437	62	2464
09	2411	36	2438	63	2465
10	2412	37	2439	64	2466
11	2413	38	2440	65	2467
12	2414	39	2441	66	2468
13	2415	40	2442	67	2469
14	2416	41	2443	68	2470
15	2417	42	2444	69	2471
16	2418	43	2445	70	2472
17	2419	44	2446	71	2473
18	2420	45	2447	72	2474
19	2421	46	2448	73	2475
20	2422	47	2449	74	2476
21	2423	48	2450	75	2477
22	2424	49	2451	76	2478
23	2425	50	2452	77	2479
24	2426	51	2453	78	2480
25	2427	52	2454		
26	2428	53	2455		1140

(4) The Antenna information about the equipment is provided by the applicant.



1.3 Block Diagram Showing the Configuration of System Tested

TX Mode



1.4 Description of Support Units

	Equipment Information					
	Name	Model	FCC ID/DOC	Manufacturer	Used "√"	
	\checkmark	~	\checkmark	\checkmark	~	
h	Cable Information					
2	Number	Shielded Type	Ferrite Core	Length	Note	
1	Cable 1	YES	NO	1.1M	Accessories	

1.5 Description of Test Mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned follow was evaluated respectively.

For Conducted Test				
Final Test Mode Description				
Mode 1	AC Charging with TX GFSK Mode			



For Radiated Test			
Description			
AC Charging with TX GFSK Mode			
TX Mode(GFSK) Channel 00/39/78			
TX Mode(π /4-DQPSK) Channel 00/39/78			
TX Mode(8-DPSK) Channel 00/39/78			
Hopping Mode(GFSK)			
Hopping Mode(π /4-DQPSK)			
Hopping Mode(8-DPSK)			

Note:

(1) For all test, we have verified the construction and function in typical operation. And all the test modes were carried out with the EUT in transmitting operation in maximum power with all kinds of data rate. We have pretested all the test mode above.

According to ANSI C63.10 standards, the measurements are performed at the highest, middle, lowest available channels, and the worst case data rate as follows:

TX Mode: GFSK (1 Mbps)

TX Mode: 8-DPSK (3 Mbps)

(2) The EUT is considered a portable unit; it was pre-tested on the positioned of each 3 axis, X-plane, Y-plane and Z-plane. The worst case was found positioned on X-plane as the normal use. Therefore only the test data of this X-plane was used for radiated emission measurement test.

1.6 Description of Test Software Setting

During testing channel& Power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of Bluetooth mode.

Test Software Version	Realtek Bluetooth MPRTK_BT_CHIP_ID_RTL8723B			
Frequency	2402 MHz	2441MHz	2480 MHz	
GFSK	DEF	DEF	DEF	
π /4-DQPSK	DEF	DEF	DEF	
8-DPSK	DEF	DEF	DEF	



1.7 Measurement Uncertainty

The reported uncertainty of measurement y \pm U, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

Test Item	Parameters	Expanded Uncertainty (U _{Lab})
Conducted Emission	Level Accuracy: 9kHz~150kHz	±3.42 dB
	150kHz to 30MHz	±3.42 dB
Radiated Emission	Level Accuracy: 9kHz to 30 MHz	±4.60 dB
Radiated Emission	Level Accuracy: 30MHz to 1000 MHz	±4.40 dB
Radiated Emission	Level Accuracy: Above 1000MHz	±4.20 dB

1.8 Test Facility

The testing report were performed by the Shenzhen Toby Technology Co., Ltd., in their facilities located at 1A/F., Bldg.6, Yusheng Industrial Zone, The National Road No.107 Xixiang Section 467, Xixiang, Bao'an, Shenzhen, Guangdong, China. At the time of testing, the following bodies accredited the Laboratory:

CNAS (L5813)

The Laboratory has been accredited by CNAS to ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories for the competence in the field of testing. And the Registration No.: CNAS L5813.

FCC List No.: (811562)

The Laboratory is listed in the United States of American Federal Communications Commission (FCC), and the registration number is 811562.

IC Registration No.: (11950A-1)

The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing. The site registration: Site# 11950A-1.

May 22, 2014 certificated by TUV Rheinland(China) Co., Ltd. with TUV certificate No.: UA 50282953 0001 and report No.: 17026822 002. The certificate is valid until the next scheduled audit or up to 18 months, at the discretion of TUV Rhineland.



2. Test Summary

	FCC Part 15 Subpart C(15.247)/ RSS 247 Issue 1					
Standard S	ection	-		Describ		
FCC	IC	- Test Item	Judgment	Remark		
15.203	2	Antenna Requirement	PASS	N/A		
15.207	RSS-GEN 7.2.2	Conducted Emission	PASS	N/A		
15.205	RSS-Gen 7.2.3	Restricted Bands	PASS	N/A		
15.247(a)(1)	RSS 247 5.1 (2)	Hopping Channel Separation	PASS	N/A Note(3)		
15.247(a)(1)	RSS 247 5.1 (4)	Dwell Time	PASS	N/A Note(3)		
15.247(b)(1)	RSS 247 5.4 (2)	Peak Output Power	PASS	N/A Note(3)		
15.247(b)(1)	RSS 247 5.1 (4)	Number of Hopping Frequency	PASS	N/A Note(3)		
15.247(c)	RSS 247 5.5	Radiated Spurious Emission	PASS	N/A		
15.247(a)	RSS 247 5.1 (1)	99% Occupied Bandwidth & 20dB Bandwidth	PASS	99%OBW GFSK:917.1511kHz 8-DPSK: 1185.80kHz Note(3)		

Note (1): "/" for no requirement for this test item.

(2): N/A is an abbreviation for Not Applicable.

(3): This report is Class II change report for the original equipment have changed, the transmitter module itself has not changed. More information about the test data please refer to the original test report.



3. Test Equipment

Conducted Emission Test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
EMI Test Receiver	Rohde & Schwarz	ESCI	100321	Aug. 07, 2015	Aug. 06, 2016
RF Switching Unit	Compliance Direction Systems Inc	RSU-A4	34403	Aug. 07, 2015	Aug. 06, 2016
AMN	SCHWARZBECK	NNBL 8226-2	8226-2/164	Aug. 07, 2015	Aug. 06, 2016
LISN	Rohde & Schwarz	ENV216	101131	Aug. 07, 2015	Aug. 06, 2016

Radiation Emission Test

Equipment Manufacturer		Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Sep. 01, 2014	Aug. 31, 2015
EMI Test Receiver	Rohde & Schwarz	ESCI	100010/007	Aug. 07, 2015	Aug. 06, 2016
Bilog Antenna	ETS-LINDGREN	3142E	00117537	Mar. 28, 2015	Mar. 27, 2016
Bilog Antenna	ETS-LINDGREN	3142E	00117542	Mar. 28, 2015	Mar. 27, 2016
Horn Antenna	ETS-LINDGREN	3117	00143207	Mar. 28, 2015	Mar. 27, 2016
Horn Antenna	ETS-LINDGREN	3117	00143209	Mar. 28, 2015	Mar. 27, 2016
Pre-amplifier	Sonoma	310N	185903	Mar. 28, 2015	Mar. 27, 2016
Pre-amplifier	HP	8447B	3008A00849	Mar. 28, 2015	Mar. 27, 2016
Cable	HUBER+SUHNER	100	SUCOFLEX	Mar. 28, 2015	Mar. 27, 2016
Positioning Controller	ETS-LINDGREN	2090	N/A	N/A	N/A



4. Conducted Emission Test

- 4.1 Test Standard and Limit
 - 4.1.1Test Standard FCC Part 15.207
 - 4.1.2 Test Limit

Crosses (1)	Maximum RF Line Voltage (dBµV)			
Frequency	Quasi-peak Level	Average Level		
150kHz~500kHz	66 ~ 56 *	56 ~ 46 *		
500kHz~5MHz	56	46		
5MHz~30MHz	60	50		

Conducted Emission Test Limit

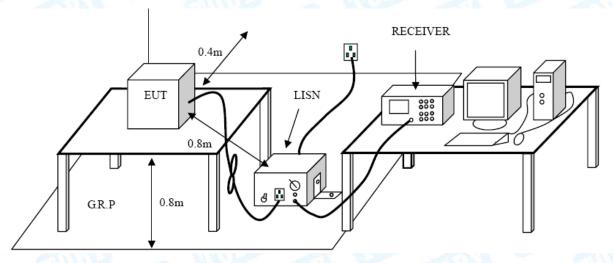
Notes:

(1) *Decreasing linearly with logarithm of the frequency.

(2) The lower limit shall apply at the transition frequencies.

(3) The limit decrease in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.2 Test Setup



4.3 Test Procedure

The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.



I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

LISN at least 80 cm from nearest part of EUT chassis

The bandwidth of EMI test receiver is set at 9kHz, and the test frequency band is from 0.15MHz to 30MHz.

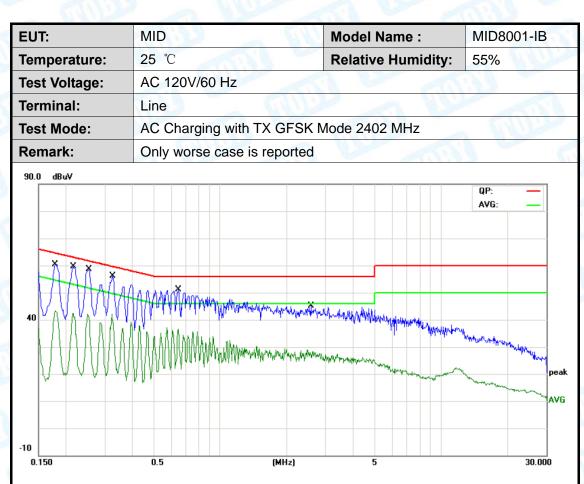
4.4 EUT Operating Mode

Please refer to the description of test mode.

4.5 Test Data

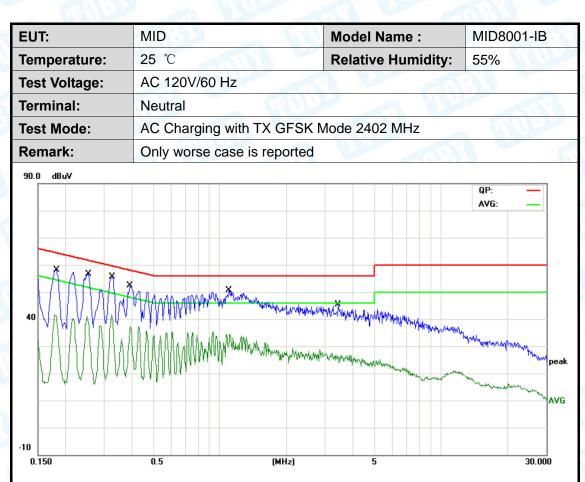
Please see the next page.





No. MI	k. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
	MHz	dBuV	dB	dBuV	dBu∨	dB	Detector
1	0.1779	50.47	9.98	60.45	64.58	-4.13	QP
2	0.1779	33.35	9.98	43.33	54.58	-11.25	AVG
3	0.2149	49.62	10.02	59.64	63.01	-3.37	QP
4	0.2149	31.18	10.02	41.20	53.01	-11.81	AVG
5 *	0.2540	48.53	10.02	58.55	61.62	-3.07	QP
6	0.2540	30.90	10.02	40.92	51.62	-10.70	AVG
7	0.3260	46.14	10.02	56.16	59.55	-3.39	QP
8	0.3260	29.58	10.02	39.60	49.55	-9.95	AVG
9	0.6460	41.12	10.09	51.21	56.00	-4.79	QP
10	0.6460	26.61	10.09	36.70	46.00	-9.30	AVG
11	2.5698	35.00	10.04	45.04	56.00	-10.96	QP
12	2.5698	16.02	10.04	26.06	46.00	-19.94	AVG





No.	Mk.	Freq.	Reading Le∨el	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.1819	48.15	9.98	58.13	64.39	-6.26	QP
2		0.1819	30.02	9.98	40.00	54.39	-14.39	AVG
3		0.2540	46.66	10.02	56.68	61.62	-4.94	QP
4		0.2540	28.98	10.02	39.00	51.62	-12.62	AVG
5	*	0.3260	45.60	10.02	55.62	59.55	-3.93	QP
6		0.3260	30.71	10.02	40.73	49.55	-8.82	AVG
7		0.3912	42.24	10.02	52.26	58.04	-5.78	QP
8		0.3912	26.68	10.02	36.70	48.04	-11.34	AVG
9		1.0980	40.63	10.06	50.69	56.00	-5.31	QP
10		1.0980	20.61	10.06	30.67	46.00	-15.33	AVG
11		3.4220	35.39	10.01	45.40	56.00	-10.60	QP
12		3.4220	16.10	10.01	26.11	46.00	-19.89	AVG



EUT:	MID	Model Name :	MID8001-IB
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 240V/60 Hz		
Terminal:	Line		
Test Mode:	AC Charging with TX GFSK I	Mode 2402 MHz	The second
Remark:	Only worse case is reported		6
			QP: AVG:

No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1	0.1758	49.71	9.97	59.68	64.68	-5.00	QP
2	0.1758	30.46	9.97	40.43	54.68	-14.25	AVG
3	0.2099	49.61	10.02	59.63	63.21	-3.58	QP
4	0.2099	32.24	10.02	42.26	53.21	-10.95	AVG
5 *	0.2419	49.17	10.02	59.19	62.03	-2.84	QP
6	0.2419	36.02	10.02	46.04	52.03	-5.99	AVG
7	0.3140	46.30	10.02	56.32	59.86	-3.54	QP
8	0.3140	35.65	10.02	45.67	49.86	-4.19	AVG
9	0.7980	39.68	10.10	49.78	56.00	-6.22	QP
10	0.7980	28.49	10.10	38.59	46.00	-7.41	AVG
11	1.1539	39.98	10.06	50.04	56.00	-5.96	QP
12	1.1539	25.36	10.06	35.42	46.00	-10.58	AVG



EUT:	MID	Model Name :	MID8001-IB
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 240V/60 Hz		0.0
Terminal:	Neutral		
Fest Mode:	AC Charging with TX	GFSK Mode 2402 MHz	A TUP
Remark:	Only worse case is rep	ported	
40			QP:
10			

			Reading	Correct	Measure-			
No.	Mk.	Freq.	Level	Factor	ment	Limit	O∨er	
		MHz	dBuV	dB	dBuV	dBu∨	dB	Detector
1		0.1739	49.86	10.12	59.98	64.77	-4.79	QP
2		0.1739	28.29	10.12	38.41	54.77	-16.36	AVG
3		0.2419	46.38	10.11	56.49	62.03	-5.54	QP
4		0.2419	31.49	10.11	41.60	52.03	-10.43	AVG
5	*	0.3140	45.04	10.08	55.12	59.86	-4.74	QP
6		0.3140	32.14	10.08	42.22	49.86	-7.64	AVG
7		0.3780	43.40	10.06	53.46	58.32	-4.86	QP
8		0.3780	30.19	10.06	40.25	48.32	-8.07	AVG
9		1.1539	39.38	10.14	49.52	56.00	-6.48	QP
10		1.1539	24.27	10.14	34.41	46.00	-11.59	AVG
11		2.4300	38.51	10.06	48.57	56.00	-7.43	QP
12		2.4300	25.43	10.06	35.49	46.00	-10.51	AVG



5. Radiated Emission Test

- 5.1 Test Standard and Limit
 - 5.1.1 Test Standard
 - FCC Part 15.209
 - 5.1.2 Test Limit

Radiated Emission Limit (9 kHz~1000MHz)

Frequency (MHz	Field Strength (microvolt/meter)	Measurement Distance (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		
Above 960	500	3		

Frequency	Class B (dBuV/m)(at 3m)		
(MHz)	Peak	Average	
bove 1000	74	54	

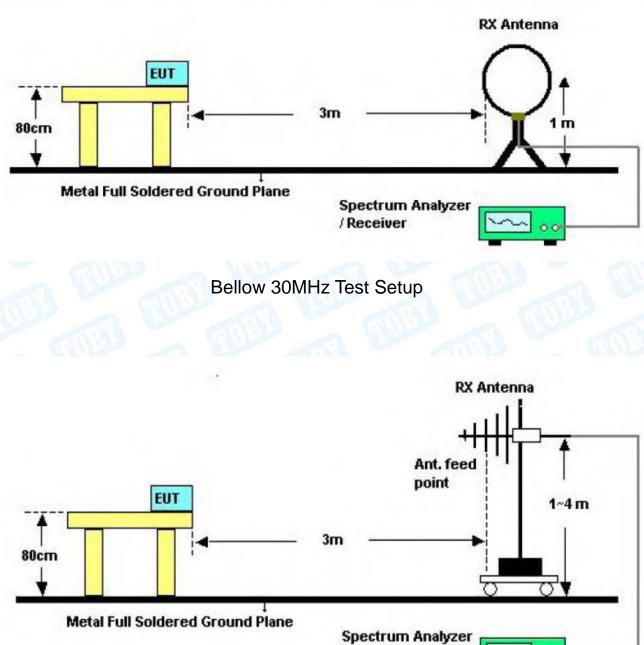
Note:

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

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



5.2 Test Setup

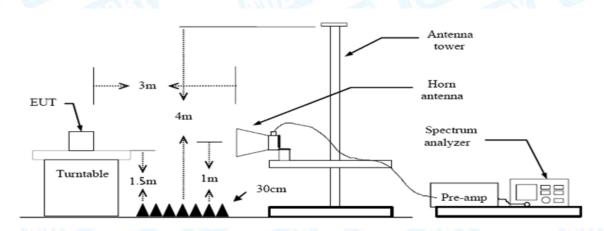


/Receiver

Bellow 1000MHz Test Setup

0.0





Above 1GHz Test Setup

5.3 Test Procedure

- (1) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz. The EUT was placed on a rotating 0.8m high above the ground, the table was rotated 360 degrees to determine the position of the highest radiation.
- (2) Measurements at frequency above 1GHz. The EUT was placed on a rotating 1.5m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. The table was rotated 360 degrees to determine the position of the highest radiation.
- (3) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.
- (4) The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- (5) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Bellow 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.
- (6) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
- (7) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.
- (8) For the actual test configuration, please see the test setup photo.

5.4 EUT Operating Condition

The Equipment Under Test was set to Continual Transmitting in maximum power in TX mode.

5.5 Test Data

Remark: During testing above 1GHz the measuring instrument use RBW=1 MHz and VBW=3



MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values. Test data please refer the following pages.



EUT:	MID		Model Name :		MID8001-	D
	MID 25 ℃				-	B
Temperature:			Relative Hum	iaity:	55%	
Test Voltage:	AC 120V/60	ΗZ	8		123	-
Ant. Pol.	Horizontal	ALC:		180		
Test Mode:		ode 2402MHz	6112	21		U.S.
Remark:	Only worse of	case is reported		and a		
80.0 dBuV/m	2 2 10 10 10 10 10 10 10 10 10 10 10 10 10	Marine and a second	A A A A A A A A A A A A A A A A A A A	(RF)FCC 1	5C 3M Radiation Margin -6	
30.000 40 50	60 70 80	(MHz)	300	400 5	00 600 700	1000.000
No. Mk. Fr	Readi req. Leve	-	Measure- ment	Limit	Over	
М	Hz dBu\	/ dB/m	dBuV/m	dBuV/m	dB	Detector
1 45.0	583 41.1	1 -22.30	18.81	40.00	-21.19	peak
2 68.8	3721 44.0	5 -23.71	20.34	40.00	-19.66	peak
3 89.9	0047 51.7	7 -22.69	29.08	43.50	-14.42	peak
	0107 50.5	6 -21.17	29.39	43.50	-14.11	peak
5 * 193.0	0945 55.2	5 -20.75	34.50	43.50	-9.00	peak
6 250.3	3009 53.7	9 -18.11	35.68	46.00	-10.32	peak



EUT:	MID		Model Name :	Ν	/ID8001-I	В
Temperature:	25 ℃		Relative Hum	idity: 5	5%	RUP
Test Voltage:	AC 120V/60)Hz			23.5	
Ant. Pol.	Vertical		2	A B		5
Test Mode:	TX GFSK M	lode 2402MHz	Can be		1 64	1990
Remark:	Only worse	case is reported	ł	-	1	6
80.0 dBuV/m 2 3 30 1 × ×		home war and	Made and Mary and Market		3M Radiation Margin -6 c	
20 30.000 40 50	60 70 80	(MHz)	300	400 500	600 700	1000.000
No. Mk. F	Read Freq. Lev	-	Measure- ment	Limit	O∨er	
1	MHz dBu	ıV dB/m	dBuV/m	dBuV/m	dB	Detector
1 31.	.3992 42.	70 -14.83	27.87	40.00	-12.13	peak
	.9004 53.4	81 -22.23	31.58	40.00	-8.42	peak
2 44.			00.50	40.00	-7.47	peak
	.6719 56.3	37 -23.84	32.53	40.00	-11	
3 48.	.6719 56. .3593 58.		32.53	40.00	-4.95	-
3 48. 4 * 73.		55 -23.50				peak peak



EUT:	MID			Model Name	. د	MID8001-I	B
Temperature:	25 ℃	-		Relative Hun		55%	L .
Test Voltage:		0V/60Hz			many.	0070	
Ant. Pol.	Horizoi		CITI I				
Test Mode:		SK Mode 2	2441MHz	-		65	832-
Remark:	-		-	1			
	Offity w	orse case	is reported				
80.0 dBuV/m							
					(RF)FCC	15C 3M Radiation	
		$\left - \right - $				Margin -6 c	dB
					-		
30		2	3		5 X		6 X
30 1		Х.	MJM			Level of	. apply
in the	Mr	Mar have a	will have my them of	Winter The Art	C. MARKAN AND AND AND AND AND AND AND AND AND A	Aparta hand hand have been and	A A A A A A A A A A A A A A A A A A A
when when	Munit	WWW	r				
-20	60 70 8	80	(MHz)	300	400	500 600 700	1000.000
					100	300 000 100	1000.000
No. Mk. Fr	F req.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
M	1Hz	dBu∨	dB/m	dBuV/m	dBuV/m	n dB l	Detector
1 44.1	1200	41.50	-21.90	19.60	40.00	-20.40	peak
2 89.2	2762	50.26	-22.74	27.52	43.50	-15.98	peak
3 175.0	0365	49.90	-20.88	29.02	43.50	-14.48	peak
4 247.0	6819	48.22	-18.23	29.99	46.00	-16.01	peak
5 * 344.3	3854	49.46	-14.96	34.50	46.00	-11.50	peak

-6.32

32.15

46.00

-13.85

peak

*:Maximum data x:Over limit !:over margin

821.7103

6

Emission Level= Read Level+ Correct Factor

38.47



EUT:		MIE	C			Model Nam	е:	MID	08001-	IB
Temperatur	e:	25	°C	-0		Relative Hu	midity:	55%	6	N.A
Fest Voltag	e:	AC	120V	//60Hz					1	
Ant. Pol.		Ver	rtical		Un	2		2		5
Test Mode:		TX	GFS	< Mod	e 2441MHz	inn'i	19	-	18	18
Remark:		On	ly wor	se cas	se is reported	k	-			
80.0 dBuV/m										
			+	+			(RF)FCC	: 15C 3M	Radiatior	
									Margin -6	
				r						
	2	—	4							
30 1 X		3 X	Martin	Mn			6		1	Lu
- M			H-	+	5		×	- Juliand Greek	Henrichmenner	aphieters are
		V	<u> </u>	- Yuu	Weber war alman	apple before the second and a	Her Hell ADDA			
		+		+						
20 30.000 40	50	60 7	70 80		(MHz)	300	400	500 6	500 700	1000.00
										-
51 - 5 4 1.	-			eading	-	Measure-	l inn if	<i>с</i>		
No. Mk.		eq.	L	.evel	Factor	ment	Limit)∨er	
	MF									Detect
		Hz	C	dBu∨	dB/m	dBuV/m	dBuV/r	n	dB	Delect
1	30.96			dBu∨ 39.30	dB/m -14.55	dBuV/m 24.75	dBuV/r 40.00		aB 15.25	pea
1		618	3) -		
•	30.90	618 658	3 5	9.30	-14.55	24.75	40.00) - ´) - ´	15.25	pea
2	30.90 43.90	618 658 938	3 5 5	9.30 51.53	-14.55 -21.84	24.75 29.69	40.00) -') -') -'	15.25 10.31	peal peal
2 3	30.90 43.90 57.59	618 658 938 027	3 5 5 5	9.30 51.53 50.80	-14.55 -21.84 -24.50 -22.89	24.75 29.69 26.30	40.00 40.00 40.00) - () - () - () - (15.25 10.31 13.70	peal peal peal



EUT:	MID		10 ~	Model Name	:	MID80	01-IB		
Temperature:	25 ℃	-		Relative Hun	nidity:	55%	1		2
Test Voltage:	AC 12	20V/60Hz			1	20.9			
Ant. Pol.	Horizo	ontal	CTU D				1	1	
Test Mode:	TX GF	SK Mode	2480MHz	Can B		~	40		P
Remark:	Only v	worse case	is reported		000				6
80.0 dBu∀/m									
30				5.	(RF)FCC	15C 3M Rac Mar	liation gin -6 dB		
-20 30.000 40 50	3 2 3 3 4 4 4 4 60 70	80	4 ////////////////////////////////////	300	400	500 600	700	1000.0	100
-20	60 70		(MHz) Correct Factor	300 Measure- ment	400 Limit	500 600 Ove		1000.0	100
-20 30.000 40 50 No. Mk. F	50 70	80 Reading	Correct	Measure-		Ove	r	1000.0	
-20 30.000 40 50 No. Mk. F	60 70	80 Reading Level	Correct Factor	Measure- ment	Limit	Ove dB	r D		or
-20 30.000 40 50 No. Mk. F 1 35.3	60 70	80 Reading Level dBuV	Correct Factor	Measure- ment dBuV/m	Limit dBuV/m	Ove dB	r D 25	etect	or k
-20 30.000 40 50 No. Mk. F 1 35.2 2 57.3	60 70 Freq. //Hz 3750	80 Reading Level dBu∨ 38.04	Correct Factor dB/m -17.29	Measure- ment dBuV/m 20.75	Limit dBuV/m 40.00	Ove dB -19.2	r 25 26	etect pea	or k
-20 30.000 40 50 No. Mk. F 1 35.3 2 57.3 3 74.3	бо 70 Freq. ИНz 3750 5938	80 Reading Level dBu∨ 38.04 40.24	Correct Factor dB/m -17.29 -24.50	Measurement dBuV/m 20.75 15.74	Limit dBuV/m 40.00 40.00	Ove dB -19.2 -24.2	er 25 26 12	etect pea pea	or k k

417.6409

*

6

Emission Level= Read Level+ Correct Factor

44.81

-12.89

31.92

46.00 -14.08

peak



UT:	MID	Model Name :	MID8001-IB
emperature:	25 ℃	Relative Humidity:	55%
est Voltage:	AC 120V/60Hz		
nt. Pol.	Vertical		
est Mode:	TX GFSK Mode 2480)MHz	A DULL
emark:	Only worse case is re	eported	
30 1 2		s Market Market Market Market S Market Market Market Market Market S Market Market Market Market Market S Market Market M	C 15C 3M Radiation Margin -6 dB

No.	. Mk	Freq.	Level	Factor	ment	Limit	O∨er	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		35.3750	43.05	-17.29	25.76	40.00	-14.24	peak
2		45.3755	50.88	-22.44	28.44	40.00	-11.56	peak
3		57.5938	51.71	-24.50	27.21	40.00	-12.79	peak
4		89.9047	53.75	-22.69	31.06	43.50	-12.44	peak
5	*	95.7622	54.17	-22.19	31.98	43.50	-11.52	peak
6		167.8241	48.53	-21.04	27.49	43.50	-16.01	peak

EU1	Γ:	MID	Model Name :	MID8001-IB			
Terr	perature:	25 ℃	Relative Humidit	t y: 55%			
Test	t Voltage:	AC 120V/60Hz					
Ant	. Pol.	Horizontal					
Test	t Mode:	TX GFSK Mode	2402MHz	A DUP			
Ren	n ark :	No report for the emission which more than 10 dB below the prescribed limit.					
90.0	dBu∀/m						
			(RF) FCC PART 15C (PEAK)			
	1 ×						
-	2 X		(R	F) FCC PART 15C (AVG)			
40							
-10	00.000 3550.00	6100.00 8650.00 1120	0.00 13750.00 16300.00 18850.00	21400.00 26500.00			

No	b. Mk	. Freq.		Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4803.984	48.43	13.44	61.87	74.00	-12.13	peak
2	*	4804.017	34.45	13.44	47.89	54.00	-6.11	AVG

EUT:		MID		Model Name	e :	MID8001-IB			
Tempe	rature:	25 ℃		Relative Hu	midity:	55%			
Test Vo	ltage:	AC 120V/60	Hz			CBD -			
Ant. Po	ol.	Vertical	11	م من					
Test M	ode:	TX GFSK M	lode 2402M	Hz		- <u>nu</u>			
Remar	k:	No report fo prescribed I		on which more th	nan 10 di	0 dB below the			
90.0 dB	ıV∕m								
					(RF) FC	C PART 15C (PEAK)			
	2 X								
					(RF) F	CC PART 15C (AVG)			
	1 X								
40									
-10									

No	. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4803.937	34.57	13.44	48.01	54.00	-5.99	AVG
2		4804.084	48.10	13.44	61.54	74.00	-12.46	peak

EUT:		MID		Model Na	ame :	MID8001-IE			
Temperatu	re:	25 ℃		Relative	Humidity:	55%			
Test Voltag	e:	AC 120	V/60Hz	-	0				
Ant. Pol.		Horizor	ntal	TUP					
Test Mode:		TX GFS	SK Mode 244	1MHz	1:32	60			
Remark:	emark: No report for the emission which more than 10 dB below the prescribed limit.								
90.0 dBu∀/m									
					(RF) F	CC PART 15C (PEAK)			
	1								
	×				(RF)	FCC PART 15C (AVG)			
	2 X								
40									

No	. Mk	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4882.054	46.52	13.90	60.42	74.00	-13.58	peak
2	*	4882.067	34.67	13.90	48.57	54.00	-5.43	AVG

EUT	Г:	MID	Model Na	me :	MID8001-IB				
Ten	perature:	25 ℃	Relative H	lumidity:	55%				
Tes	t Voltage:	AC 120V/60Hz	AC 120V/60Hz						
Ant	. Pol.	Vertical							
Test Mode: TX GFSK Mode 2441MHz				A FILL					
Rer	nark:	No report for the eprescribed limit.	emission which more t	han 10 dB I	pelow the				
90.0	dBu∀/m								
				(RF) FCC P	ART 15C (PEAK)				
	2 X								
	, X			(RF) FCC	PART 15C (AVG)				
40									
-10									

No	o. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4881.947	35.24	13.90	49.14	54.00	-4.86	AVG
2		4881.957	46.84	13.90	60.74	74.00	-13.26	peak

EUT:		MID	Model Name :	MID8001-IE		
Temp	perature:	25 ℃	Relative Humidity:	55%		
Test '	Voltage:	AC 120V/60Hz		COD.		
Ant.	Pol.	Horizontal	zontal			
Fest	Mode:	ode: TX GFSK Mode 2480MHz				
Rema	ark:	No report for the prescribed limit.	emission which more than 10 o	0 dB below the		
90.0	dBuV/m					
			(RF) I	FCC PART 15C (PEAK)		
	1 X					
	2		(RF)	FCC PART 15C (AVG)		
	×					
40						

No	o. Mk. Freq.		Reading Correct Measu Mk. Freq. Level Factor ment			Limit	O∨er	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4961.954	46.36	14.38	60.74	74.00	-13.26	peak
2	*	4961.987	35.49	14.38	49.87	54.00	-4.13	AVG

EUT:		MID		Model	Name :	MID8001-IB			
Temperat	ture:	25 ℃	- COL	Relati	ve Humidity:	55%			
Test Volta	age:	AC 120)V/60Hz						
Ant. Pol.		Vertica	Vertical						
Test Mod	e:	TX GF	TX GFSK Mode 2480MHz						
Remark:			ort for the er bed limit.	mission which	more than 10 d	B below the			
90.0 dBuV/	m								
					(BF) F	CC PART 15C (PEAK)			
	2 X								
					(RF)	FCC PART 15C (AVG)			
40	×								
-10									

N	o. Mk	. Freq.	Reading Level		Measure- ment	Limit	O∨er	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4960.053	34.41	14.36	48.77	54.00	-5.23	AVG
2		4960.847	46.62	14.36	60.98	74.00	-13.02	peak

EU	Т:	MID		Model Name	e :	MID8001-IB		
Ter	nperature:	25 ℃	A COL	Relative Hu	midity:	55%		
Tes	st Voltage:	AC 120	V/60Hz	//60Hz				
An	t. Pol.	Horizon	ital	TUP -				
Tes	st Mode:	TX 8-D	PSK Mode 24	02MHz	3			
Re	mark:		ort for the emi bed limit.	ssion which more th	nan 10 dB	0 dB below the		
90.	D dBuV/m							
					(RF) FCC	PART 15C (PEAK)		
	1 X							
	2 X				(RF) FC	C PART 15C (AVG)		
40								
-10								

No	b. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4803.947	47.07	13.44	60.51	74.00	-13.49	peak
2	*	4803.987	35.30	13.44	48.74	54.00	-5.26	AVG

EUT:	:	MID			Mode	I Name :		MID8	001-IB
Tem	perature:	25 ℃	-		Relati	ive Humi	idity:	55%	11
Test	Voltage:	AC 120	V/60Hz			1000	1	20	-
Ant.	Pol.	Vertical		193					-
Test	Mode:					~ \	NU.		
Rem	ark:	No report for the emission which more than 10 dB below the prescribed limit.				ne			
90.0	dBuV/m								
							(RF) FCC	PART 15C (I	PEAK)
	2 X								
	1 X						(RF) FC	C PART 15C	(AVG)
40	^								
-10									

N	o. Mk	. Freq.	Reading Correct Measure Level Factor ment			Limit Over		
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4804.038	35.20	13.44	48.64	54.00	-5.36	AVG
2		4804.047	46.70	13.44	60.14	74.00	-13.86	peak

EUT:		MID		Mo	del Name :		MID8001-IE
Temperatur					55%		
Test Voltage):	AC 120	0V/60Hz			1	BU Y
Ant. Pol.		Horizo	ntal	GUUS			
Test Mode:		TX 8-DPSK Mode 2441MHz				- GU	
Remark:			ort for the e bed limit.	mission wh	which more than 10 dB below the		
90.0 dBu∀/m							
						(RF) FCC	PART 15C (PEAK)
	2 X						
	×					(RF) FC	C PART 15C (AVG)
40							
-10 1000.000 3550.		100.00 80	650.00 11200.	00 13750.00	16300.00 1885	0.00 2140	0.00 265

N	No. Mk. Freq.		No. Mk. Freq.		Reading Correct Measure- b. Mk. Freq. Level Factor ment		Limit	O∨er	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	
1	*	4882.024	35.14	13.90	49.04	54.00	-4.96	AVG	
2		4882.029	47.64	13.90	61.54	74.00	-12.46	peak	

EUT: Temperature:		MID 25 ℃			Model Name :			MID8001-IB	
				21	Relative Humidity:			55%	
Test Voltag	e:	AC 120V/60Hz							
Ant. Pol.		Vertical							
Test Mode:	TX 8-0	TX 8-DPSK Mode 2441MHz							
Remark:		No report for the emission which more than 10 dB below the prescribed limit.							
90.0 dBu∀/m									
							(RF) FCC	PART 15C (PEAK)	
	1 X						(05) 50	C PART 15C (AVG)	
	ž						(nr) ru	C FANT TOC (AYO)	
40									
-10									

No	b. Mk.	Freq.	Reading Level		Measure- ment	Limit	O∨er	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4881.984	46.84	13.90	60.74	74.00	-13.26	peak
2	*	4882.847	35.17	13.90	49.07	54.00	-4.93	AVG

EUT: Temperature:		MID 25 ℃		Model Name :	MID8001-IB				
				Relative Humidity	: 55%				
Test \	Voltage:	AC 120V/60Hz							
Ant. I	Pol.	Horizontal							
Test	Mode:	TX 8-DPSK	Mode 2480MH	łz	- AUL				
Rema	ark:	No report for prescribed line		which more than 10 d	B below the				
90.0	dBu∀/m								
				(RF) FC	C PART 15C (PEAK)				
	1 X								
	2			(RF) F	CC PART 15C (AVG)				
40	×								
_									
-10									
1000.	000 3550.00 6	100.00 8650.00	11200.00 13750.	00 16300.00 18850.00 214	100.00 26500.00				

No	o. Mk	. Freq.	Reading Level		Measure- ment	Limit	O∨er	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4959.785	47.21	14.36	61.57	74.00	-12.43	peak
2	*	4959.874	34.50	14.36	48.86	54.00	-5.14	AVG

EUT:	MID		Model Name :	MID8001-IB
Temperature:	25 ℃	199	Relative Humidity:	55%
Fest Voltage:	AC 120V/6	0Hz	AN LO A	
Ant. Pol.	Vertical	11		
fest Mode:	TX 8-DPS	K Mode 2480	ИНz	A DUP
Remark:	No report for prescribed		on which more than 10 d	B below the
90.0 dBuV/m				
			(RF) F	CC PART 15C (PEAK)
1				
	<		(RF)	FCC PART 15C (AVG)
	2 <			
40				
10				

No	. Mk	Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4960.457	45.82	14.36	60.18	74.00	-13.82	peak
2	*	4960.578	34.87	14.36	49.23	54.00	-4.77	AVG

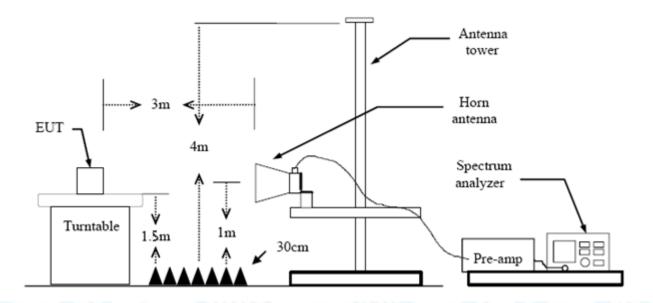


6. Restricted Bands Requirement

- 6.1 Test Standard and Limit
 - 6.1.1 Test Standard FCC Part 15.209 FCC Part 15.205
 - 6.1.2 Test Limit

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

6.2 Test Setup



6.3 Test Procedure

- (1) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz. The EUT was placed on a rotating 0.8m high above the ground, the table was rotated 360 degrees to determine the position of the highest radiation.
- (2) Measurements at frequency above 1GHz. The EUT was placed on a rotating 1.5m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. The table was rotated 360 degrees to determine the position of the highest radiation.



- (3) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.
- (4) The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- (5) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Bellow 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.
- (6) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
- (7) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.
- (8) For the actual test configuration, please see the test setup photo.

6.4 EUT Operating Condition

The Equipment Under Test was set to Continual Transmitting in maximum power.

6.4 Test Data

Remark: During testing above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=1 KHz with Peak Detector for Average Values.

All restriction bands have been tested, only the worst case is reported.



(1) Radiation Test

25 ℃ AC 120V/60Hz Horizontal TX GFSK Mode 2402 N/A	Relative Humidity: 55% 2MHz	
Horizontal TX GFSK Mode 2402		
TX GFSK Mode 2402		
N/A		
	(RF) FCC PART 15C (PE	

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	45.11	0.77	45.88	74.00	-28.12	peak
2		2390.000	31.85	0.77	32.62	54.00	-21.38	AVG
3		2400.000	65.23	0.81	66.04	Fundamenta	I Frequency	peak
4	Х	2400.000	63.88	0.81	64.69	Fundamenta	I Frequency	AVG
5	Х	2401.900	90.91	0.82	91.73	74.00	17.73	peak
6	*	2402.100	89.86	0.82	90.68	54.00	36.68	AVG

EUT:	MID			Model N	lame :	MID8001-IB	3
Temperature:	25 °C	;		Relative	Humidity:	55%	J
Fest Voltage:	AC 1	20V/60Hz					
Ant. Pol.	Vertic	cal	Und .	2			5
Fest Mode:	TX G	FSK Mode	2402MHz	(In			Z
Remark:	N/A	anue	-		-00		
110.0 dBuV/m							
						5 X	
							_
					(BE) ECC	PART (15C (PEAK)	
						2	_
60						*	
					(RF) FCC	PART (SC (AVG)	_
					1 X		
					2		
			+		X/		4
10.0							
2318.000 2328.00	2338.00	2348.00 235	58.00 2368.00) 2378.00	2388.00 2398.	8.00 2418.0	J <u>O</u>

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	43.41	0.77	44.18	74.00	-29.82	peak
2		2390.000	31.95	0.77	32.72	54.00	-21.28	AVG
3		2400.000	65.73	0.81	66.54	Fundamenta	I Frequency	peak
4	Х	2400.000	64.70	0.81	65.51	Fundamenta	al Frequency	AVG
5	Х	2401.900	91.75	0.82	92.57	74.00	18.57	peak
6	*	2402.000	90.69	0.82	91.51	54.00	37.51	AVG

Emission Level= Read Level+ Correct Factor



EUT:	MID		Model Nar	me :	MID8001-IB
Temperature:	25 ℃	100	Relative H	lumidity:	55%
Test Voltage:	AC 12	20V/60Hz			100
Ant. Pol.	Horizo	ontal	MUL -		-
Test Mode:	TX GI	FSK Mode 248	0 MHz	39	TUP
Remark:	N/A	ALC: N		-	
110.0 dBuV/m	·				
	3				
	Ň				
	\bigwedge			(RF) FCC	PART 15C (PEAK)
	1				
60					
	3			(RF) FC	C PART 15C (AVG)
	Ť				
10.0					

No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	Х	2479.700	89.89	1.15	91.04	Fundamenta	I Frequency	peak
2	*	2480.000	88.24	1.15	89.39	Fundamenta	I Frequency	AVG
3		2483.500	51.97	1.17	53.14	74.00	-20.86	peak
4		2483.500	47.50	1.17	48.67	54.00	-5.33	AVG



EUT:	MID		Model Name :	MID8	3001-IB
Temperature:	25 ℃	1997	Relative Humidit	:y: 55%	011
Test Voltage:	AC 120V/6	0Hz			
Ant. Pol.	Vertical	10		N.Y.	
Test Mode:	TX GFSK M	/lode 2480 M	IHz	~	ADR
Remark:	N/A		0 0	Ligar .	
110.0 dBuV/m					
	հ ჯ				
	Å				
			(F	RF) FCC PART 15C	(PEAK)
60					
	3 ¥			(RF) FCC PART 150	C (AVG)
	X				
10.0					
2463.000 2473.00	2483.00 2493.00	2503.00 2	513.00 2523.00 2533.00	2543.00	2563.00

No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	Х	2479.700	91.32	1.15	92.47	Fundamental	Frequency	peak
2	*	2480.000	89.83	1.15	90.98	Fundamental	Frequency	AVG
3		2483.500	54.32	1.17	55.49	74.00	-18.51	peak
4		2483.500	49.05	1.17	50.22	54.00	-3.78	AVG

Emission Level= Read Level+ Correct Factor



%
TOPY
TOPY
(TU)
15C (PEAK)
T SC (AVG)

Emission Level= Read Level+ Correct Factor

2390.000

2390.000

2400.000

2400.000

2401.800

2402.000

44.40

31.95

65.97

64.70

91.52

90.19

0.77

0.77

0.81

0.81

0.82

0.82

45.17

32.72

66.78

65.51

92.34

91.01

74.00

54.00

74.00

54.00

Fundamental Frequency

Fundamental Frequency

-28.83

-21.28

18.34

37.01

peak

AVG

peak

AVG

peak

AVG

1

2

3

4

5

6

Х

Х

*

UT:	MID	MID		Model Name :					
Temperature:	25 ℃		Relative Hu	imidity:	55%				
Fest Voltage:	AC 120	V/60Hz							
Ant. Pol.	Vertical	Vertical							
Fest Mode:	TX 8-D	PSK Mode 240	2MHz	39	A AU				
Remark:	N/A	NUM	A 12		119				
110.0 dBuV/m									
					5×				
					\uparrow \land				
				(RF) FC	CC PART 15C (PEAK)				
					2				
60				(BE) I	FCC/PART (5C (AVG)				
				1					
				×					
				2 ×					
10.0 2318.000 2328.00	2338.00 23	348.00 2358.00	2368.00 2378.00		98.00 2418.0				

1 2390.000 43.73 0.77 44.50 74.00 -29.50 2 2390.000 31.84 0.77 32.61 54.00 -21.39 3 2400.000 65.78 0.81 66.59 Fundamental Frequency	^{Detector} peak
2 2390.000 31.84 0.77 32.61 54.00 -21.39 3 2400.000 65.78 0.81 66.59 Fundamental Frequency	peak
3 2400.000 65.78 0.81 66.59 Fundamental Frequency	
	AVG
4 X 2400.000 65.02 0.94 65.94	peak
4 X 2400.000 65.03 0.81 65.84 Fundamental Frequency	AVG
5 X 2401.800 91.66 0.82 92.48 74.00 18.48	peak
6 * 2402.100 90.52 0.82 91.34 54.00 37.34	

Emission Level= Read Level+ Correct Factor



EUT:	MID		Model Name :		MID8001-IB
Femperature:	25 ℃	683	Relative Humi	idity:	55%
Fest Voltage:	AC 120V/6	0Hz		1	
Ant. Pol.	Horizontal	5		11	
Fest Mode:	TX 8-DPS	K Mode 2480)MHz		A RUL
Remark:	N/A		2	-	31
110.0 dBuV/m					
1.25					
Ň					
				(RF) FCC	PART 15C (PEAK)
60					
	3			(RF) FC	C PART 15C (AVG)
	1				
	<u> </u>		~		
10.0					

No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	Х	2479.500	91.42	1.15	92.57	Fundamental	Frequency	peak
2	*	2480.000	89.23	1.15	90.38	Fundamental	Frequency	AVG
3		2483.500	53.57	1.17	54.74	74.00	-19.26	peak
4		2483.500	48.49	1.17	49.66	54.00	-4.34	AVG

Emission Level= Read Level+ Correct Factor



EUT:		MID		Model Name	:	MID8001-IB	
Temperature	Temperature:		1990	Relative Hur	nidity:	55%	
Test Voltage:	1	AC 120)V/60Hz			ALL N	
Ant. Pol.		Vertical					
Test Mode:		TX 8-D	PSK Mode 24	80MHz	9		
Remark:		N/A		1	-	31	
110.0 dBuV/m							
	2 k						
	Ň						
	$-\Lambda$				(RF) FC	C PART 15C (PEAK)	
60							
		3 X			(RF) F	CC PART 15C (AVG)	
	1	×					
		\uparrow					
				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			
10.0							

No	. Mk	. Freq.	Reading Le∨el	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2480.000	88.08	1.15	89.23	Fundamenta	I Frequency	AVG
2	Х	2480.400	90.63	1.15	91.78	Fundamental	Frequency	peak
3		2483.500	53.52	1.17	54.69	74.00	-19.31	peak
4		2483.500	47.25	1.17	48.42	54.00	-5.58	AVG



# 7. Antenna Requirement

- 7.1 Standard Requirement
  - 7.1.1 Standard

FCC Part 15.203

7.1.2 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 shall be considered sufficient to comply with the provisions of this Section. 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.

#### 7.2 Antenna Connected Construction

The directional gains of the antenna used for transmitting is 0 dBi, and the antenna connector is de-signed with permanent attachment and no consideration of replacement. Please see the EUT photo for details.

The EUT antenna is a FPC Antenna. It complies with the standard requirement.

	Antenna Type
a	▼ Permanent attached antenna
and	□ Unique connector antenna
	Professional installation antenna