

Shenzhen Toby Technology Co., Ltd.

Report No.: TB-FCC143144 Page: 1 of 86

FCC Radio Test Report FCC ID: XMF-MID8001

Original Grant

Report No. : TB-FCC143144

Applicant: Lightcomm Technology Co., Ltd.

Equipment Under Test (EUT)

EUT Name: MID

Model No. : MID8001-IB

Series Model No. : DL801W

Brand Name : N/A

Receipt Date : 2015-01-20

Test Date : 2015-01-20 to 2015-01-26

Issue Date : 2015-01-27

Standards : FCC Part 15, Subpart C (15.247:2014)

Test Method : ANSI C63.4:2003

Conclusions : PASS

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

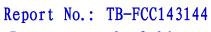
The EUT technically complies with the FCC and IC requirements

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.

TB-RF-074-1.0





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1. General Information about EUT

1.1 Client Information

Applicant: Lightcomm Technology Co., Ltd.

Address : RM 1708-10, 17/F, PROSPERITY CENTRE, 25 CHONG YIP

STREET, KWUN TONG, KOWLOON, HONG KONG

Manufacturer : 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			
	<u> </u>				
Models No.	:	MID8001-IB, DL801W			
Model	:	All models are identical in the same PCB layout, interior structure and			
Difference		electrical circuit, The only difference is model name for commercial			
purpose.					
		Operation Frequency:			
		802.11b/g/n(HT20): 2412	MHz~2462MHz		
		802.11n(HT40): 2422MH:	z~2452MHz		
		Number of Channel:	802.11b/g/n(HT20):11 channels see note(3)		
			802.11n(HT40): 7 channels see note(3)		
		RF Output Power:	802.11b: 9.09 dBm		
			802.11g: 8.95dBm		
Product			802.11n (HT20): 8.89dBm		
Description	:		802.11n (HT40): 8.97dBm		
		Antenna Gain:	0 dBi (FPC Antenna)		
		Modulation Type:	802.11b: DSSS (CCK, QPSK, BPSK)		
			802.11g: OFDM		
			802.11n: OFDM		
		Bit Rate of Transmitter:	802.11b:11/5.5/2/1 Mbps		
			802.11g:54/48/36/24/18/12/9/6 Mbps		
			802.11n:up to 150Mbps		
Power Supply	:	DC power supplied by AC	C/DC Adapter		
	DC Voltage supplied from Li-ion battery.				
Power Rating	:	Input: AC 100~240V 50/6	0Hz 0.35A Max		
		Output: 5V 2A			
		DC 3.7V from Li-ion batte	ery		
Connecting	:	Please refer to the User's	s Manual		
I/O Port(S)					
Note: More detaile	d fe	eatures description, please refe	er to the manufacturer's specifications or the User's		

Note: More detailed features description, please refer to the manufacturer's specifications or the User's



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Manual.

Note:

- (1) This Test Report is FCC Part 15.247 for 802.11b/g/n, the test procedure follows the FCC KDB 558074 D01 DTS Meas Guidance v03r02.
- (2) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
- (3) Antenna information provided by the applicant.
- (4) Channel List:

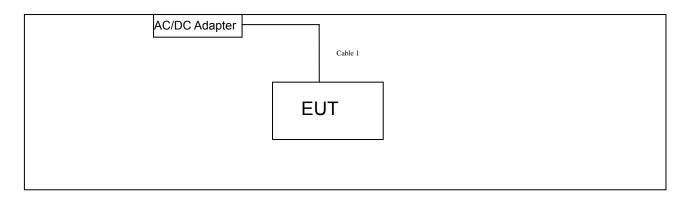
CH 01~CH 11 for 802.11b/g/n(HT20)

CH 03~CH 09 for 802.11n(HT40)

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	05	2432	09	2452
02	2417	06	2437	10	2457
03	2422	07	2442	11	2462
04	2427	08	2447		

1.3 Block Diagram Showing the Configuration of System Tested

TX Mode



1.4 Description of Support Units

_	Equipment Information					
Name	Model	S/N	Manufacturer	Used "√"		
1	1	1	1	/		
Cable Information						
Number	Shielded Type	Ferrite Core	Length	Note		
Cable 1	YES	NO	1.1M	Accessories		



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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 B Mode			

For Radiated Test			
Final Test Mode Description			
Mode 3	TX Mode B Mode Channel 01/06/11		
Mode 4	TX Mode G Mode Channel 01/06/11		
Mode 5	TX Mode N(HT20) Mode Channel 01/06/11		
Mode 6	TX Mode N(HT40) Mode Channel 03/06/09		

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.

According to ANSI C63.4 standards, the measurements are performed at the highest, MIDdle, lowest available channels, and the worst case data rate as follows:

802.11b Mode: CCK (1 Mbps) 802.11g Mode: OFDM (6 Mbps)

802.11n (HT20) Mode: MCS 0 (6.5 Mbps) 802.11n (HT40) Mode: MCS 0 (13 Mbps)

- (2) During the testing procedure, the continuously transmitting with the maximum power mode was programmed by the customer.
- (3) The EUT is considered a mobile unit; in normal use it was positioned on X-plane. The worst case was found positioned on X-plane. 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 WLAN.



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Test Software Version	Realtek 11n 8723B SDIO WLAN MP Diagnostic Program 31.06.20140627		
Channel	CH 01	CH 06	CH 11
IEEE 802.11b DSSS	29	28	23
IEEE 802.11g OFDM	36	35	34
IEEE 802.11n (HT20)	36	35	33
Channel	CH 03	CH 06	CH 09
IEEE 802.11n (HT40)	38	37	36

1.7 Test Facility

The testing was 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.



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2. Test Summary

FCC Part 15 Subpart C(15.247)/RSS-210: 2010				
Standaı	rd Section	Test Item	ludamont	Remark
FCC	IC	rest item	Judgment	Remark
15.203	1	Antenna Requirement	PASS	N/A
15.207	RSS-GEN 7.2.4	Conducted Emission	PASS	N/A
15.205	RSS-GEN 7.2.2	Restricted Bands	PASS	N/A
15.247(a)(2)	RSS-210	6dB Bandwidth	PASS	N/A
	A.8.2(a)	Cab banaman		
15.247(b)	RSS-210	Peak Output Power	PASS	N/A
13.247(0)	A.8.4(4)	Feak Output Fower		
45.047(a)	RSS-210	Dower Chaptral Daneity	PASS	N/A
15.247(e)	A.8.2(b)	Power Spectral Density		
45.047(4)	RSS-210	Transmitter Radiated Spurious	D4.00	NI/A
15.247(d)	Annex 8 (A8.5)	Emission	PASS	N/A
4E 047(d)	RSS-210	Antenna Conducted	PASS	NI/A
15.247(d)	Annex 8 (A8.5)	Spurious Emission		N/A

Note: "/" for no requirement for this test item.

N/A is an abbreviation for Not Applicable.



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3. Conducted Emission Test

3.1 Test Standard and Limit

3.1.1Test Standard FCC Part 15.207

3.1.2 Test Limit

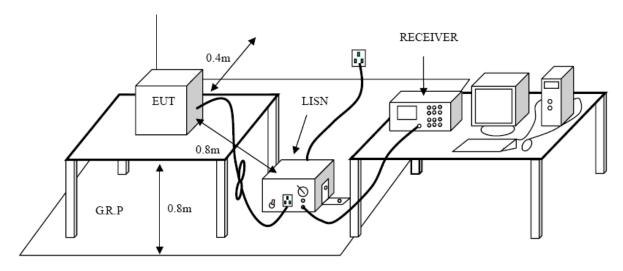
Conducted Emission Test Limit

Fraguency	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	

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.

3.2 Test Setup



3.3 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.



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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.

3.4 Test Equipment Used

Description	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test	ROHDE&		400004	Aug. 09. 2014	Aug 07 2015
Receiver	SCHWARZ	ESCI	100321	Aug. 08, 2014	Aug. 07, 2015
50ΩCoaxial	Anritsu	MP59B	X10321	Aug. 08, 2014	Aug. 07, 2015
Switch	Aiiiisu	MESSE	X10321	Aug. 08, 2014	Aug. 07, 2013
L.I.S.N	Rohde & Schwarz	ENV216	101131	Aug. 08, 2014	Aug. 07, 2015
L.I.S.N	SCHWARZBECK	NNBL 8226-2	8226-2/164	Aug. 08, 2014	Aug. 07, 2015

3.5 EUT Operating Mode

Please refer to the description of test mode.

3.6 Test Data

Please see the next page.





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EUT:	MID	Model Name :	MID8001-IB
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz	·	
Terminal:	Line		
Test Mode:	AC Charging with T	X B Mode	
Remark:	Only worse case is	reported	
90.0 dBuV			
			QP: —
			11121
	M M Ad Add Add Add Add A	, h, (X), , X	
40 7 74 8	My / / / / / / / / / / / / / / / / / / /	The part of the same of the sa	my water water
Ym Man Ar	Mr. January	A A COURT AN	*\
	\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Mayor James	man Make
			peak
			ALL WALLES
			AVG
-10			
0.150	0.5	(MHz) 5	30.000
	Reading C	orrect Measure-	
No. Mk. Fre	eq. Level F	actor ment Limit	Over
MH		dB dBuV dBuV	dB Detector
1 0.46	20 31.10 1	0.02 41.12 56.66	-15.54 QP
2 0.46	20 22.58 1	0.02 32.60 46.66	-14.06 AVG
3 * 1.07	80 34.72 1	0.06 44.78 56.00	-11.22 QP
4 1.07	80 23.33 1	0.06 33.39 46.00	-12.61 AVG
5 1.33	00 30.27 1	0.06 40.33 56.00	-15.67 QP
6 1.33	00 22.05 1	0.06 32.11 46.00	-13.89 AVG
7 2.48	20 30.06 1	0.04 40.10 56.00	-15.90 QP
8 2.48	20 21.08 1	0.04 31.12 46.00	-14.88 AVG
9 3.57	00 27.93 1	0.01 37.94 56.00	-18.06 QP
10 3.57	00 19.91 1	0.01 29.92 46.00	-16.08 AVG
			-24.95 QP
11 15.57			
11 15.570 12 15.570	00 13.41 1	0.25 23.66 50.00	-26.34 AVG



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EUT:	MID	N	Model Name :	MID800	01-IB					
Temperature:	25 ℃	F	Relative Humidity	55%						
Test Voltage:	AC 120V/60 Hz									
Terminal:	Neutral	Neutral								
Test Mode:	AC Charging with TX B Mode									
Remark: Only worse case is reported										
90.0 dBuV										
-10 0.150	0.5	Military May Market Mar	White the state of	QP AVI						
No. Mk. Fr	Reading eq. Level	Correct Factor	Measure- ment Limit	Over						
M	Hz dBuV	dB	dBuV dBu√	dB	Detector					
1 0.1	539 37.47	9.93	47.40 65.78	3 -18.38	QP					
2 0.1	539 26.57	9.93	36.50 55.78	3 -19.28	AVG					
3 0.4	580 34.56	10.02	44.58 56.73	3 -12.15	QP					
4 0.4		10.02		3 -13.96	AVG					
5 * 0.5		10.05		-11.10	QP					
	580 21.99	10.05		-13.96	AVG					
	260 31.42	10.06		-14.52	QP					
	260 20.19	10.06		15.75	AVG					
9 2.29		10.05		16.37	QP					
10 2.29		10.05		-17.30	AVG					
11 14.99		10.26		25.73	QP					
*:Maximum data x:Ove	er limit	10.26) -25.65	AVG					



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4. Radiated Emission Test

4.1 Test Standard and Limit

4.1.1 Test Standard FCC Part 15.209

4.1.2 Test Limit

Radiated Emission Limits (9kHz~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					

Radiated Emission Limit (Above 1000MHz)

Frequency	Class A (dBuV	/m)(at 3 M)	Class B (dBuV/m)(at 3 M)		
(MHz)	Peak	Average	Peak	Average	
Above 1000	80	60	74	54	

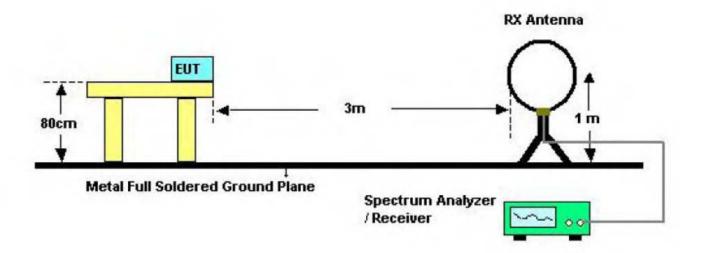
Note:

- (1) The tighter limit applies at the band edges.
- (2) Emission Level(dBuV/m)=20log Emission Level(uV/m)

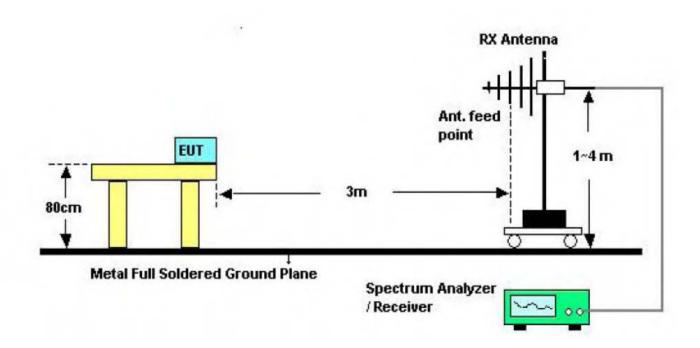


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4.2 Test Setup



Below 30MHz Test Setup



Below 1000MHz Test Setup





Turntable

EUT

0.8 m lm to 4m

Test
Receiver

Coaxial Cable

Above 1GHz Test Setup

4.3 Test Procedure

- (1) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz and above 1 GHz. 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) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.
- (3) 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.
- (4) 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.
- (5) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
- (6) 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.
- (7) For the actual test configuration, please see the test setup photo.

4.4 EUT Operating Condition

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



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4.5 Test Equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Mar. 20, 2014	Mar. 19, 2015
Spectrum Analyzer	Rohde & Schwarz	FSP30	DE25181	Aug. 08, 2014	Aug. 07, 2015
EMI Test Receiver	Rohde & Schwarz	ESCI	101165	Aug. 08, 2014	Aug. 07, 2015
Bilog Antenna	ETS-LINDGREN	3142E	00117537	Mar. 07, 2014	Mar.06, 2015
Bilog Antenna	ETS-LINDGREN	3142E	00117542	Mar. 07, 2014	Mar.06, 2015
Horn Antenna	ETS-LINDGREN	3117	00143207	Mar. 07, 2014	Mar.06, 2015
Horn Antenna	ETS-LINDGREN	3117	00143209	Mar. 07, 2014	Mar.06, 2015
Pre-amplifier	HP	11909A	185903	Mar. 07, 2014	Mar.06, 2015
Pre-amplifier	HP	8447B	3008A00849	Mar. 07, 2014	Mar.06, 2015
Cable	HUBER+SUHNE R	100	SUCOFLEX	Mar. 07, 2014	Mar.06, 2015
Signal Generator	Rohde & Schwarz	SML03	IKW682-054	Feb. 11, 2014	Feb.10, 2015
Positioning Controller	ETS-LINDGREN	2090	N/A	N/A	N/A

4.6 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.



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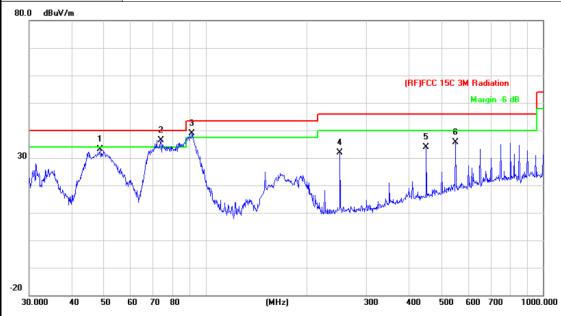
EUT:	MID	Mod	lel:	MID8001-IB		
Temperature:	25 °C Relative Humidity: 55%					
Test Voltage:	AC 120V/60 Hz					
Ant. Pol.	Horizontal					
Test Mode:	TX B Mode 2412	MHz				
Remark:	Only worse case	is reported				
80.0 dBu∀/m						
-20 30.000 40 50	60 70 80	(MHz)	300 400	500 600 700 1000.000		
No. Mk. Fr	Reading eq. Level	Correct N Factor	leasure- ment Limit			
MI		dB/m	dBuV/m dBuV			
1 89.9	047 53.27	-22.69	30.58 43.5	50 -12.92 peak		
2 150.0	0108 51.06	-21.17	29.89 43.5	50 -13.61 peak		
3 * 193.0	945 56.75	-20.75	36.00 43.5	50 -7.50 peak		
4 250.3	3012 55.79	-18.11	37.68 46.0	00 -8.32 peak		
5 451.1	1350 47.70	-12.41	35.29 46.0	00 -10.71 peak		
6 851.0	353 43.50	-6.65	36.85 46.0	00 -9.15 peak		
*:Maximum data x:O Emission Level=	over limit !:over margin	rect Factor				



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4	\mathbf{r}	DV
	U	DI

EUT:	MID	Model:	MID8001-IB		
Temperature:	25 ℃	Relative Humidity:	55%		
Test Voltage:	AC 120V/60 Hz				
Ant. Pol.	Vertical				
Test Mode:	TX B Mode 2412MHz				
Remark:	rk: Only worse case is reported				



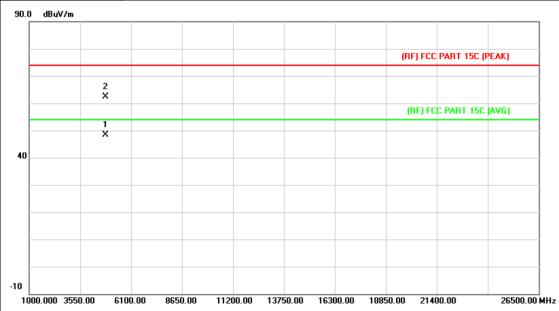
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		48.6719	56.87	-23.84	33.03	40.00	-6.97	peak
2	*	73.6170	59.95	-23.49	36.46	40.00	-3.54	peak
3	İ	91.1746	61.36	-22.59	38.77	43.50	-4.73	peak
4		250.3012	49.93	-18.11	31.82	46.00	-14.18	peak
5		451.1350	46.27	-12.41	33.86	46.00	-12.14	peak
6		550.9480	45.80	-10.12	35.68	46.00	-10.32	peak

^{*:}Maximum data x:Over limit !:over margin



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EUT:	MID	Model:	MID8001-IB			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60 Hz					
Ant. Pol.	Horizontal					
Test Mode:	TX B Mode 2412MHz					
Remark:	No report for the emission which more than 10 dB below the prescribed limit.					

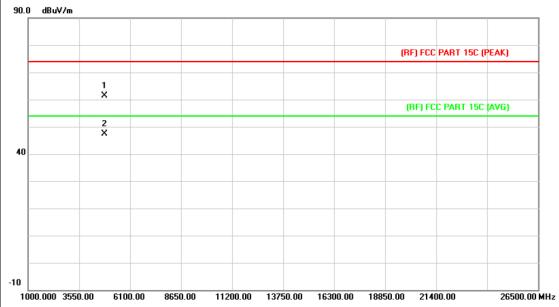


١	No. Mł	c. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4823.931	34.79	13.56	48.35	54.00	-5.65	AVG
2		4824.279	48.78	13.56	62.34	74.00	-11.66	peak



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EUT:	MID	Model:	MID8001-IB		
Temperature:	25 ℃	Relative Humidity:	55%		
Test Voltage:	AC 120V/60 Hz				
Ant. Pol.	Vertical				
Test Mode:	TX B Mode 2412MHz				
Remark:	No report for the emission which more than 10 dB below the prescribed limit.				

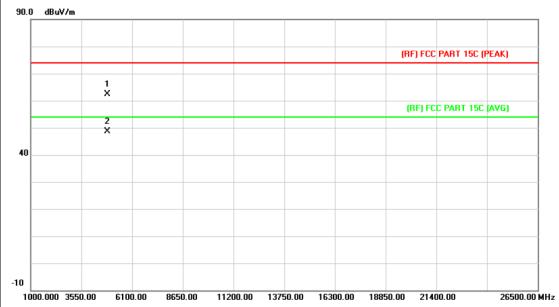


No	. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4823.838	47.91	13.56	61.47	74.00	-12.53	peak
2	*	4823.949	33.94	13.56	47.50	54.00	-6.50	AVG



Report No.: TB-FCC143144
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EUT:	MID	Model:	MID8001-IB			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60 Hz					
Ant. Pol.	Horizontal					
Test Mode:	TX B Mode 2437MHz					
Remark:	No report for the emission which more than 10 dB below the prescribed limit.					
proceinou mine						

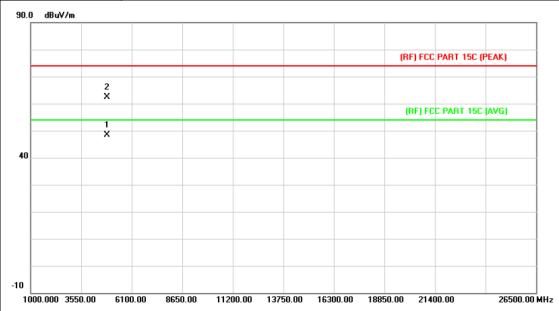


No	. Mk	Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4873.727	48.60	13.86	62.46	74.00	-11.54	peak
2	*	4873.928	34.72	13.86	48.58	54.00	-5.42	AVG



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EUT:	MID	Model:	MID8001-IB			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60 Hz					
Ant. Pol.	Vertical					
Test Mode:	TX B Mode 2437MHz					
Remark:	No report for the emission which more than 10 dB below the prescribed limit.					

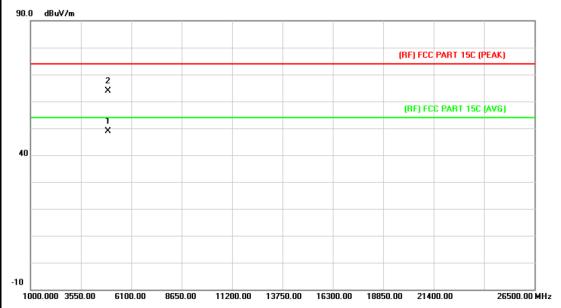


No	. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4874.027	34.46	13.86	48.32	54.00	-5.68	AVG
2		4874.357	48.59	13.86	62.45	74.00	-11.55	peak



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EUT:	MID	MID8001-IB				
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60 Hz					
Ant. Pol.	Horizontal	Horizontal				
Test Mode:	TX B Mode 2462MHz					
Remark:	No report for the emissio prescribed limit.	No report for the emission which more than 10 dB below the prescribed limit.				

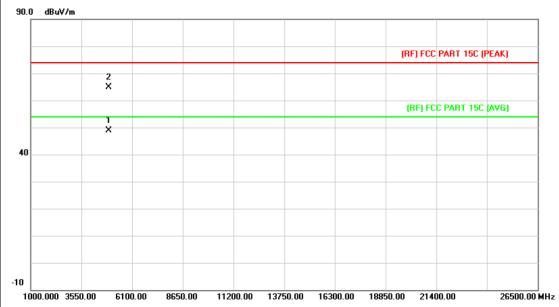


No	. Mk	. Freq.	_	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4924.090	34.80	14.15	48.95	54.00	-5.05	AVG
2		4924.186	49.78	14.15	63.93	74.00	-10.07	peak



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EUT:	MID	Model:	MID8001-IB				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60 Hz						
Ant. Pol.	Vertical	Vertical					
Test Mode:	TX B Mode 2462MHz						
Remark:	No report for the emission which more than 10 dB below the prescribed limit.						

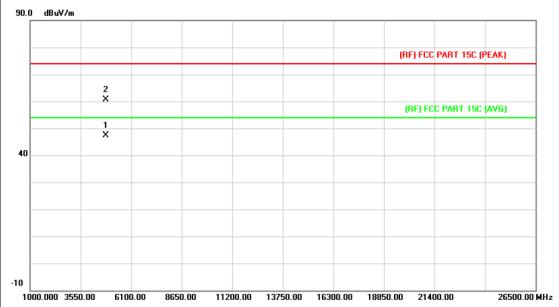


Ν	lo.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
			MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		*	4924.030	34.79	14.15	48.94	54.00	-5.06	AVG
2			4924.900	50.73	14.15	64.88	74.00	-9.12	peak



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EUT:	MID	Model:	MID8001-IB			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	/oltage : AC 120V/60 Hz					
Ant. Pol.	Horizontal	Horizontal				
Test Mode:	TX G Mode 2412MHz					
Remark: No report for the emission which more than 10 dB below the prescribed limit.						

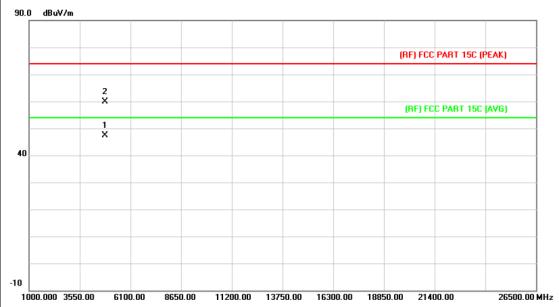


	10.	Mk.	Freq.		Correct Factor	Measure- ment	Limit	Over	
			MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		*	4823.970	33.73	13.56	47.29	54.00	-6.71	AVG
2			4824.063	47.04	13.56	60.60	74.00	-13.40	peak

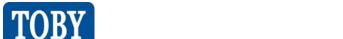


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EUT:	MID	Model:	MID8001-IB		
Temperature:	25 ℃	Relative Humidity:	55%		
Test Voltage:	AC 120V/60 Hz				
Ant. Pol.	Vertical				
Test Mode:	TX G Mode 2412MHz				
Remark:	No report for the emission which more than 10 dB below the prescribed limit.				

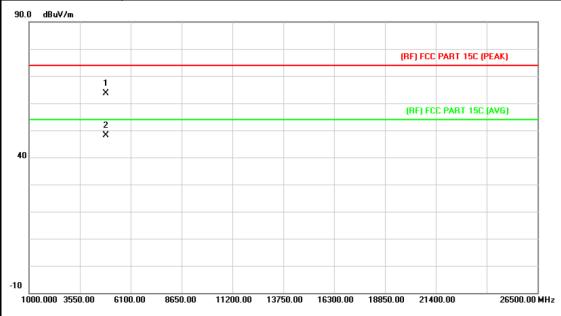


No	o. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4824.051	33.71	13.56	47.27	54.00	-6.73	AVG
2		4824.057	46.40	13.56	59.96	74.00	-14.04	peak



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EUT:	MID	Model:	MID8001-IB			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60 Hz					
Ant. Pol.	Horizontal					
Test Mode:	TX G Mode 2437MHz					
Remark:	No report for the emission which more than 10 dB below the prescribed limit.					

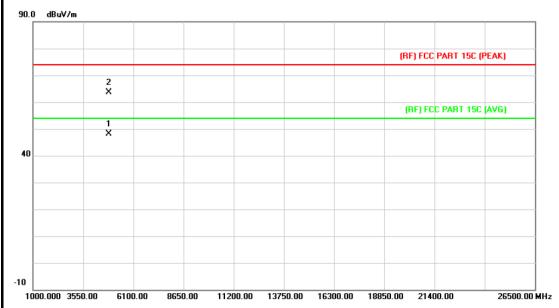


	No.	Mk.	Freq.	_	Correct Factor	Measure- ment	Limit	Over	
			MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1			4873.637	49.66	13.86	63.52	74.00	-10.48	peak
2		*	4873.910	34.31	13.86	48.17	54.00	-5.83	AVG



28 of 86 Page:

EUT:	MID	Model:	MID8001-IB			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60 Hz					
Ant. Pol.	Vertical					
Test Mode:	TX G Mode 2437MHz					
Remark:	No report for the emission which more than 10 dB below the prescribed limit.					

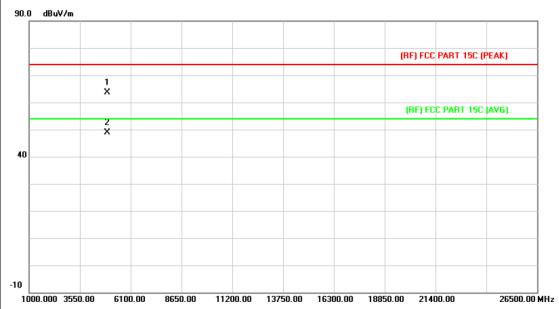


N	o. Ml	κ. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4873.076	34.31	13.86	48.17	54.00	-5.83	AVG
2		4875.014	49.66	13.87	63.53	74.00	-10.47	peak



Report No.: TB-FCC143144
Page: 29 of 86

EUT:	MID	Model:	MID8001-IB		
Temperature:	25 ℃	Relative Humidity:	55%		
Test Voltage:	AC 120V/60 Hz				
Ant. Pol.	Horizontal				
Test Mode:	TX G Mode 2462MHz				
Remark:	No report for the emission which more than 10 dB below the prescribed limit.				

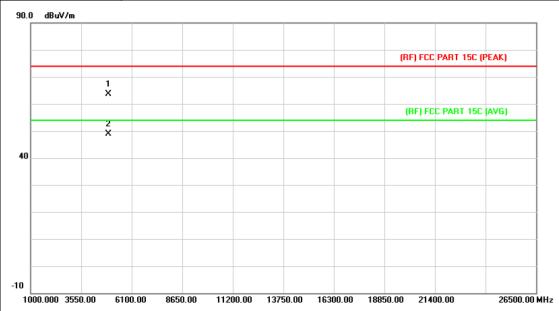


No.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4923.737	49.54	14.15	63.69	74.00	-10.31	peak
2	*	4924.348	34.63	14.15	48.78	54.00	-5.22	AVG



Report No.: TB-FCC143144
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EUT:	MID	Model:	MID8001-IB		
Temperature:	25 ℃	Relative Humidity:	55%		
Test Voltage:	AC 120V/60 Hz				
Ant. Pol.	Vertical				
Test Mode:	TX G Mode 2462MHz				
Remark:	No report for the emission which more than 10 dB below the prescribed limit.				

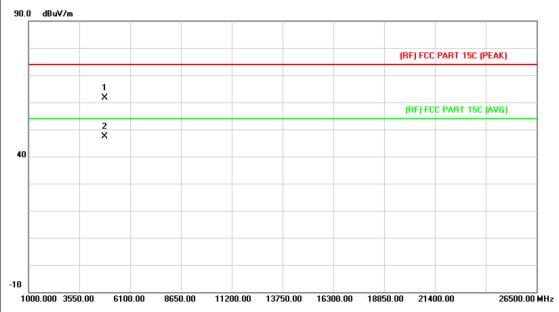


No	. Mk	. Freq.	_	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4925.338	49.52	14.16	63.68	74.00	-10.32	peak
2	*	4925.419	34.62	14.16	48.78	54.00	-5.22	AVG



Report No.: TB-FCC143144
Page: 31 of 86

EUT:	MID	Model:	MID8001-IB		
Temperature:	25 ℃	Relative Humidity:	55%		
Test Voltage:	AC 120V/60 Hz				
Ant. Pol.	Horizontal				
Test Mode:	TX N(HT20) Mode 2412N	ИHz			
Remark:	No report for the emission which more than 10 dB below the prescribed limit.				

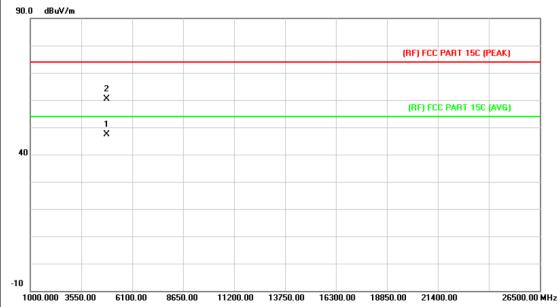


N	lo.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
			MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1			4824.018	48.19	13.56	61.75	74.00	-12.25	peak
2		*	4824.030	33.73	13.56	47.29	54.00	-6.71	AVG



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EUT:	MID	Model:	MID8001-IB			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60 Hz	AC 120V/60 Hz				
Ant. Pol.	Vertical					
Test Mode:	TX N(HT20) Mode 2412N	ИHz				
Remark:	No report for the emission which more than 10 dB below the prescribed limit.					
	precented mine					

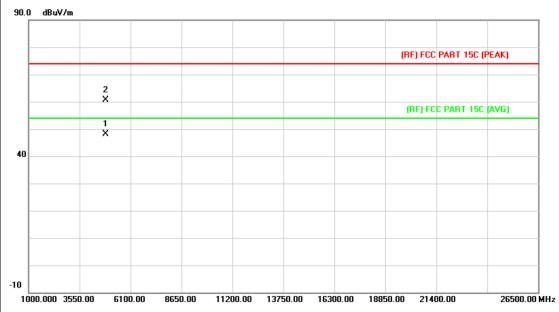


No	. Mk	. Freq.	_	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4823.985	33.75	13.56	47.31	54.00	-6.69	AVG
2		4823.994	46.76	13.56	60.32	74.00	-13.68	peak

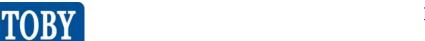


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EUT:	MID	Model:	MID8001-IB				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60 Hz	AC 120V/60 Hz					
Ant. Pol.	Horizontal						
Test Mode:	TX N(HT20) Mode 2437MHz						
Remark:	No report for the emission which more than 10 dB below the prescribed limit.						

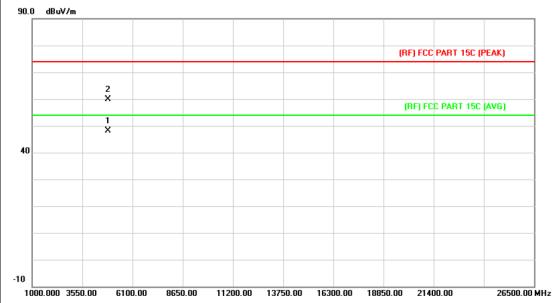


N	o. MI	k. Freq.	_	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4874.015	34.24	13.86	48.10	54.00	-5.90	AVG
2		4874.027	46.84	13.86	60.70	74.00	-13.30	peak



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EUT:	MID	Model:	MID8001-IB			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60 Hz					
Ant. Pol.	Vertical					
Test Mode:	TX N(HT20) Mode 2437MHz					
Remark:	No report for the emission which more than 10 dB below the prescribed limit.					

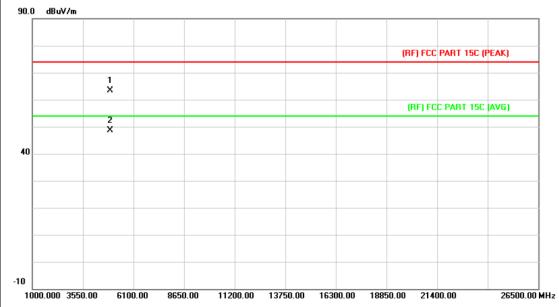


No	o. Mk	. Freq.	_	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4874.045	34.23	13.86	48.09	54.00	-5.91	AVG
2		4874.057	45.98	13.86	59.84	74.00	-14.16	peak



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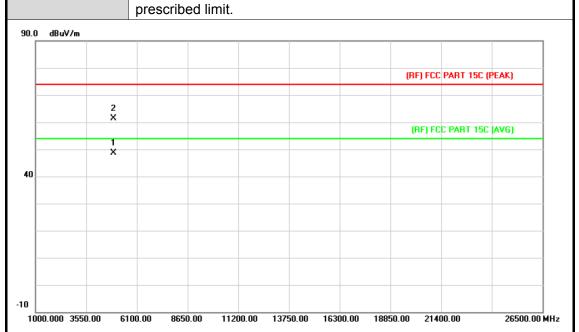
EUT:	MID	Model:	MID8001-IB			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60 Hz					
Ant. Pol.	Horizontal					
Test Mode:	TX N(HT20) Mode 2462MHz					
Remark:	No report for the emission which more than 10 dB below the prescribed limit.					



No.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4924.006	49.19	14.15	63.34	74.00	-10.66	peak
2	*	4924.273	34.53	14.15	48.68	54.00	-5.32	AVG



EUT: MID Model: MID8001-IB Temperature: **25** ℃ **Relative Humidity:** 55% Test Voltage: AC 120V/60 Hz Ant. Pol. Vertical **Test Mode:** TX N(HT20) Mode 2462MHz Remark: No report for the emission which more than 10 dB below the

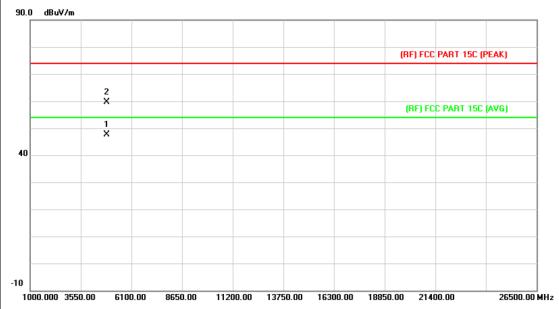


No. Mk.		κ. Freq.	_	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4924.045	34.53	14.15	48.68	54.00	-5.32	AVG
2		4924.069	47.35	14.15	61.50	74.00	-12.50	peak



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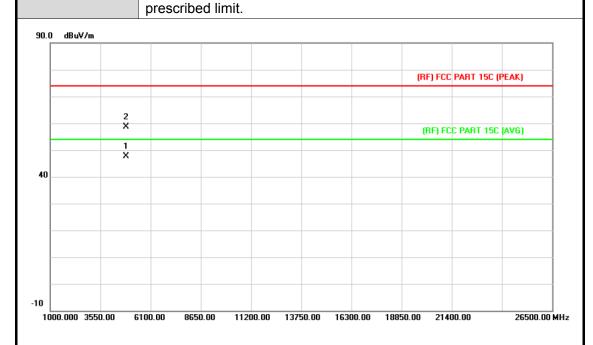
EUT:	MID	Model:	MID8001-IB			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60 Hz	AC 120V/60 Hz				
Ant. Pol.	Horizontal					
Test Mode:	TX N(HT40) Mode 2422N	ИHz				
Remark:	No report for the emission which more than 10 dB below the prescribed limit.					
	presented innit.					



No	. Mk	. Freq.		Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4843.961	33.99	13.68	47.67	54.00	-6.33	AVG
2		4844.012	46.05	13.68	59.73	74.00	-14.27	peak



EUT: MID Model: MID8001-IB Temperature: **25** ℃ **Relative Humidity:** 55% Test Voltage: AC 120V/60 Hz Ant. Pol. Vertical **Test Mode:** TX N(HT40) Mode 2422MHz Remark: No report for the emission which more than 10 dB below the



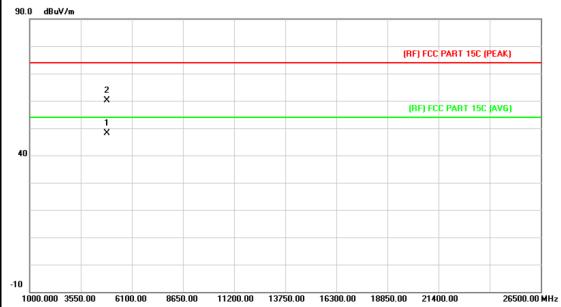
No	o. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4844.024	33.96	13.68	47.64	54.00	-6.36	AVG
2		4844.030	45.06	13.68	58.74	74.00	-15.26	peak



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EUT:	MID	Model:	MID8001-IB			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60 Hz	AC 120V/60 Hz				
Ant. Pol.	Horizontal					
Test Mode:	TX N(HT40) Mode 2437N	ИHz				
Remark:	No report for the emission which more than 10 dB below the prescribed limit.					

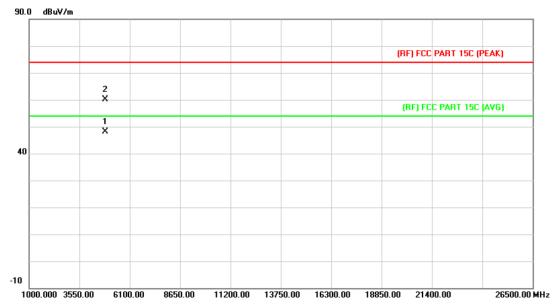


١	No.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
			MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		*	4874.033	34.26	13.86	48.12	54.00	-5.88	AVG
2			4874.045	46.24	13.86	60.10	74.00	-13.90	peak



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EUT:	MID	Model:	MID8001-IB		
Temperature:	25 ℃	Relative Humidity:	55%		
Test Voltage:	AC 120V/60 Hz				
Ant. Pol.	Vertical				
Test Mode:	TX N(HT40) Mode 2437N	ИНz			
Remark:	No report for the emission which more than 10 dB below the prescribed limit.				

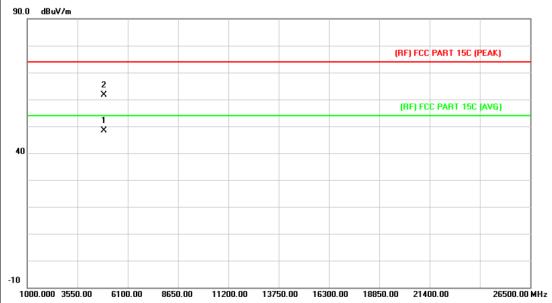


1	No.	Mk.	Freq.	_	Correct Factor	Measure- ment	Limit	Over	
			MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		*	4873.985	34.23	13.86	48.09	54.00	-5.91	AVG
2			4873.991	46.28	13.86	60.14	74.00	-13.86	peak



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EUT:	MID	Model:	MID8001-IB		
Temperature:	25 ℃	Relative Humidity:	55%		
Test Voltage:	AC 120V/60 Hz				
Ant. Pol.	Horizontal				
Test Mode:	TX N(HT40) Mode 2452N	ИHz			
Remark:	No report for the emission which more than 10 dB below the prescribed limit.				

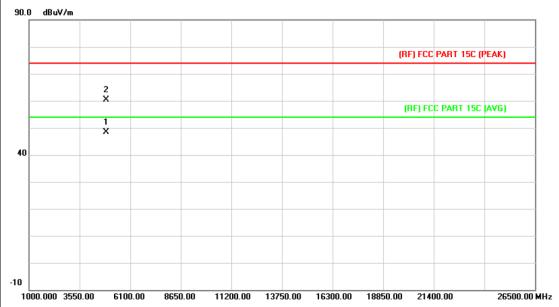


	No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
			MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		*	4903.991	34.41	14.03	48.44	54.00	-5.56	AVG
2			4904.024	47.51	14.03	61.54	74.00	-12.46	peak



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EUT:	MID	Model:	MID8001-IB			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60 Hz	AC 120V/60 Hz				
Ant. Pol.	Vertical					
Test Mode:	TX N(HT40) Mode 2452N	ИHz				
Remark:	No report for the emission which more than 10 dB below the prescribed limit.					



	No.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
			MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		*	4904.042	34.44	14.03	48.47	54.00	-5.53	AVG
2			4904.048	46.25	14.03	60.28	74.00	-13.72	peak



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5. Restricted Bands Requirement

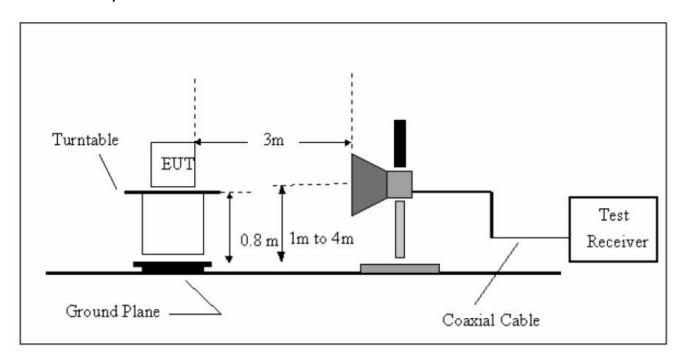
5.1 Test Standard and Limit

5.1.1 Test Standard FCC Part 15.209 FCC Part 15.205

5.1.2 Test Limit

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

5.2 Test Setup



5.3 Test Procedure

- (1) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz and above 1 GHz. The EUT was placed on a rotating 0.8m high above ground, the table was rotated 360 degrees to determine the position of the highest radiation.
- (2) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.
- (3) 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.
- (4) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit



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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.

- (5) (5) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
- (6) 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.
- (7) For the actual test configuration, please see the test setup photo.

5.4 EUT Operating Condition

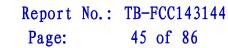
The Equipment Under Test was set to Continual Transmitting in maximum power.

5.5 Test Equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Mar. 20, 2014	Mar. 19, 2015
Spectrum Analyzer	Rohde & Schwarz	FSP30	DE25181	Aug. 08, 2014	Aug. 07, 2015
EMI Test Receiver	Rohde & Schwarz		101165	Aug. 08, 2014	Aug. 07, 2015
Bilog Antenna	ETS-LINDGREN	3142E	00117537	Mar. 07, 2014	Mar.06, 2015
Bilog Antenna	ETS-LINDGREN	3142E	00117542	Mar. 07, 2014	Mar.06, 2015
Horn Antenna	ETS-LINDGREN	3117	00143207	Mar. 07, 2014	Mar.06, 2015
Horn Antenna	ETS-LINDGREN	3117	00143209	Mar. 07, 2014	Mar.06, 2015
Pre-amplifier	HP	11909A	185903	Mar. 07, 2014	Mar.06, 2015
Pre-amplifier	HP	8447B	3008A00849	Mar. 07, 2014	Mar.06, 2015
Cable	HUBER+SUHNER	100	SUCOFLEX	Mar. 07, 2014	Mar.06, 2015
Signal Generator	Rohde & Schwarz	SML03	IKW682-054	Feb. 11, 2014	Feb.10, 2015
Positioning Controller	ETS-LINDGREN	2090	N/A	N/A	N/A

5.6 Test Data

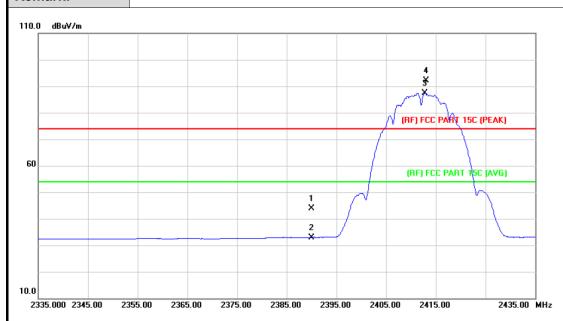
Please see the next page.





(1) Radiation Test

EUT:	MID	Model:	MID8001-IB
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz		
Ant. Pol.	Horizontal		
Test Mode:	TX B Mode 2412MHz		
Remark:	N/A		

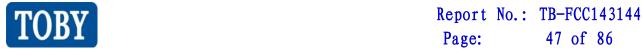


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	43.11	0.77	43.88	74.00	-30.12	peak
2		2390.000	32.17	0.77	32.94	54.00	-21.06	AVG
3	*	2412.800	86.56	0.86	87.42	Fundamental Frequency		AVG
4	Χ	2413.100	91.29	0.86	92.15	Fundamental Frequency		peak

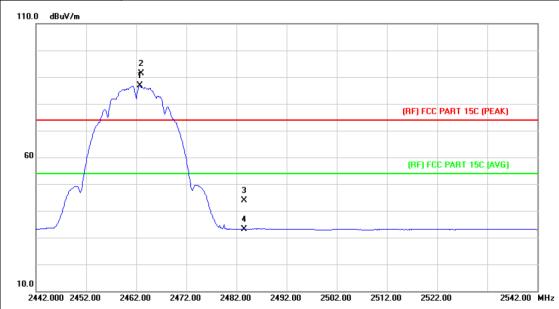


TOBY

No. Mk. Freq. Reading Level Correct Factor Measurement Measurement Limit Over MHz dBuV dB/m dBuV/m dBuV/m dB uV/m dB uV/m <th></th>	
Ant. Pol.	
Test Mode: TX B Mode 2412MHz Remark: N/A 110.0 dBuV/m 10.0 2335.000 2345.00 2365.00 2365.00 2375.00 2385.00 2395.00 2405.00 2415.00 2435 No. Mk. Freq. Reading Correct Measure—	
No. Mk. Freq. Reading Correct Measure Factor ment Limit Over	
110.0 dBuV/m 10.0 2335.000 2345.00 2355.00 2365.00 2375.00 2385.00 2395.00 2405.00 2415.00 2435 No. Mk. Freq. Reading Correct Measure— Level Factor ment Limit Over MHz dBuV dB/m dBuV/m dBuV/m dB D 1 2390.000 44.00 0.77 44.77 74.00 -29.23 2 2390.000 32.30 0.77 33.07 54.00 -20.93 3 * 2411.300 87.54 0.86 88.40 Fundamental Frequency	
10.0	
10.0 (RF) FCC PART 15C (PEAK) 10.0 (RF) FCC PART 15C (PEAK) 1	
10.0 10.0 2345.00 2345.00 2365.00 2375.00 2385.00 2395.00 2405.00 2415.00 2435.00 2415.00 2435.00 2395.00 2405.00 2415.00 2435.00 2415.00 2435.00 2415.00 2435.00 2415.00 2435.00 2415.00 2435.00 2415.00 2435.00 2415.00 2435.00 2415.00 2435.00 2415.00 2435.00 2415.00 2435.00 2415.00 2435.00 2415.00 2435.00 2415.00 2435.00 2415.00 2415.00 2435.00 2415.00 2415.00 2435.00 2415.00 2415.00 2435.00 2415.00 2415.00 2435.00 2415.00	
No. Mk. Freq. Reading Correct Measure Limit Over	
No. Mk. Freq. Reading Correct Measure- Limit Over	
No. Mk. Freq. Reading Correct Measure- Limit Over	
No. Mk. Freq. Reading Correct Measure- Level Factor ment Limit Over MHz dBuV dB/m dBuV/m dBuV/m dB D 1 2390.000 44.00 0.77 44.77 74.00 -29.23 2 2390.000 32.30 0.77 33.07 54.00 -20.93 3 * 2411.300 87.54 0.86 88.40 Fundamental Frequency	
No. Mk. Freq. Reading Correct Measure- No. Mk. Freq. Level Factor ment Limit Over	
No. Mk. Freq. Reading Correct Measure- Level Factor ment Limit Over MHz dBuV dB/m dBuV/m dBuV/m dB E 1 2390.000 44.00 0.77 44.77 74.00 -29.23 2 2390.000 32.30 0.77 33.07 54.00 -20.93 3 * 2411.300 87.54 0.86 88.40 Fundamental Frequency	
No. Mk. Freq. Reading Correct Measure- Limit Over MHz dBuV dB/m dBuV/m dBuV/m dB D 1 2390.000 44.00 0.77 44.77 74.00 -29.23 2 2390.000 32.30 0.77 33.07 54.00 -20.93 3 * 2411.300 87.54 0.86 88.40 Fundamental Frequency	
No. Mk. Freq. Reading Correct Measure- Heading	- Julia
Reading Correct Measure- Limit Over	
Reading Correct Measure- Limit Over	
No. Mk. Freq. Reading Level Correct Factor Measurement Limit Over MHz dBuV dBm dBuV/m dBu	5.00 MHz
No. Mk. Freq. Level Factor ment Limit Over MHz dBuV dBuV dBuV/m dBuV/m dBuV/m dBuV/m dB D 1 2390.000 44.00 0.77 44.77 74.00 -29.23 2 2390.000 32.30 0.77 33.07 54.00 -20.93 3 * 2411.300 87.54 0.86 88.40 Fundamental Frequency	3.00 MII2
No. Mk. Freq. Level Factor ment Limit Over MHz dBuV dBuV dBuV/m dBuV/m dBuV/m dBuV/m dB 1 2390.000 44.00 0.77 44.77 74.00 -29.23 2 2390.000 32.30 0.77 33.07 54.00 -20.93 3 * 2411.300 87.54 0.86 88.40 Fundamental Frequency	
MHz dBuV dB/m dBuV/m dBuV/m dB D 1 2390.000 44.00 0.77 44.77 74.00 -29.23 2 2390.000 32.30 0.77 33.07 54.00 -20.93 3 * 2411.300 87.54 0.86 88.40 Fundamental Frequency	
1 2390.000 44.00 0.77 44.77 74.00 -29.23 2 2390.000 32.30 0.77 33.07 54.00 -20.93 3 * 2411.300 87.54 0.86 88.40 Fundamental Frequency	Detector
2 2390.000 32.30 0.77 33.07 54.00 -20.93 3 * 2411.300 87.54 0.86 88.40 Fundamental Frequency	
3 * 2411.300 87.54 0.86 88.40 Fundamental Frequency	peak
	AVG
4 V 2412 100 02 10 0.96 02.05	AVG
4 X 2413.100 92.19 0.86 93.05 Fundamental Frequency	peak



EUT: MID Model: MID8001-IB Temperature: **25** ℃ **Relative Humidity:** 55% **Test Voltage:** AC 120V/60 Hz Ant. Pol. Horizontal **Test Mode:** TX B Mode 2462MHz Remark: N/A



No	o. Mk	c. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2462.700	85.73	1.08	86.81	Fundamental	Frequency	AVG
2	Χ	2463.000	90.37	1.08	91.45	Fundamental	Frequency	peak
3		2483.500	42.70	1.17	43.87	74.00	-30.13	peak
4		2483.500	31.94	1.17	33.11	54.00	-20.89	AVG



Relative Humidity:	est Voltage: nt. Pol.	A V	AC 120V	//60 Hz		Re	lativ	a Ll	idity	EEG			
Ant. Pol. TX B Mode 2462MHz Remark: N/A 110.0	nt. Pol.	V		//60 Hz		_	iativ	е пин	iuity.	55	7 0		
TX B Mode 2462MHz N/A				700 112									
No. Mk. Freq. Reading Correct Measure Limit Over	est Mode:		/ertical										
10.0 dBuV/m (RF) FCC PART 15C (PEAK) (RF)		l	X B Mo	de 2462	2MHz								
Internal	emark:	N	N/A										
10.0 (RF) FCC PART 15C (PEAK) (RF) FCC PART 15C (AVG) (RF) FCC	10.0 dBuV/m												_
10.0 (RF) FCC PART 15C (PEAK) (RF) FCC PART 15C (AVG) (RF) FCC													
No. Mk. Freq. Reading Correct Measure Limit Over		1	2 X										
No. Mk. Freq. Reading Correct Measure Limit Over		X V	my										1
No. Mk. Freq. Reading Correct Measure- Level Factor ment Limit Over MHz dBuV dB/m dBuV/m dBuV/m dB Detector 1 * 2461.300 88.44 1.07 89.51 Fundamental Frequency AVG 2 X 2463.000 93.08 1.08 94.16 Fundamental Frequency peak 3 2483.500 43.03 1.17 44.20 74.00 -29.80 peak		\wedge	-						(RF) F	CC PAR	T 15C (PEAK)		-
No. Mk. Freq. Reading Correct Measure- Level Factor ment Limit Over MHz			1										1
No. Mk. Freq. Reading Correct Measure-Level Factor ment Limit Over MHz	60												
No. Mk. Freq. Reading Correct Measure- Heading Correct Measure- Factor Measure- MHz dBuV dB/m dBuV/m dBuV/m dB Detector 1 * 2461.300 88.44 1.07 89.51 Fundamental Frequency AVG 2 X 2463.000 93.08 1.08 94.16 Fundamental Frequency peak 3 2483.500 43.03 1.17 44.20 74.00 -29.80 peak	+			\vdash					(RF)	FCC PA	RT 15C (AVG))	-
No. Mk. Freq. Reading Correct Measure- Level Factor ment Limit Over MHz dBuV dB/m dBuV/m dBuV/m dB Detector 1 * 2461.300 88.44 1.07 89.51 Fundamental Frequency AVG 2 X 2463.000 93.08 1.08 94.16 Fundamental Frequency peak 3 2483.500 43.03 1.17 44.20 74.00 -29.80 peak					X 3								
No. Mk. Freq. Reading Level Correct Factor Measure- Factor Measure- Measur	MAN			Vun	4 ×								
No. Mk. Freq. Reading Level Correct Factor Measure- Factor Measure- Measur													1
No. Mk. Freq. Level Level Level Factor Measure- Factor Measure- MHz Limit Over Over 1 * 2461.300 88.44 1.07 89.51 Fundamental Frequency Frequency Peak AVG 2 X 2463.000 93.08 1.08 94.16 Fundamental Frequency Peak Peak 3 2483.500 43.03 1.17 44.20 74.00 -29.80 peak													-
No. Mk. Freq. Reading Level Correct Factor Measurement Limit Over MHz dBuV dB/m dBuV/m dBuV/m dBuV/m dB Detector 1 * 2461.300 88.44 1.07 89.51 Fundamental Frequency AVG 2 X 2463.000 93.08 1.08 94.16 Fundamental Frequency peak 3 2483.500 43.03 1.17 44.20 74.00 -29.80 peak		2462	000 247	0.00 240	2.00 240	2.00	2502	00 25	12.00 2	522.00	26	42.00	J Mu-
No. Mk. Freq. Level Factor ment Limit Over MHz dBuV dBuV dBuV/m d	2442.000 2432.00	2402	00 2472	2.00 240	2.00 243	2.00	2302.	00 23	12.00 2.	J22.00	2.	J42.00	MIIZ
No. Mk. Freq. Level Factor ment Limit Over MHz dBuV dBuV dBuV/m d													
MHz dBuV dB/m dBuV/m dBuV/m dB uV/m dA uV/m dB uV/m dA uV/m dB uV/m dA uV/m dA uV/m dA uV/m dB uV/m <th>No Mk</th> <th>Fred</th> <th></th> <th>_</th> <th></th> <th></th> <th></th> <th></th> <th>Limi</th> <th>t</th> <th>Over</th> <th></th> <th></th>	No Mk	Fred		_					Limi	t	Over		
1 * 2461.300 88.44 1.07 89.51 Fundamental Frequency AVG 2 X 2463.000 93.08 1.08 94.16 Fundamental Frequency peak 3 2483.500 43.03 1.17 44.20 74.00 -29.80 peak	INO. IVIK.											D-4	4
2 X 2463.000 93.08 1.08 94.16 Fundamental Frequency peak 3 2483.500 43.03 1.17 44.20 74.00 -29.80 peak									abuv	/m	ав		
3 2483.500 43.03 1.17 44.20 74.00 -29.80 peak	1 * 24	461.30	8 00	88.44	1.07		89	9.51	Fundam	ental	Frequency	Α'	VG
·	2 X 2	463.00	00 9	3.08	1.08		94	1.16	Fundam	ental	Frequency	ре	eak
4 2483.500 32.26 1.17 33.43 54.00 -20.57 AVG	3 24	483.50	00 4	3.03	1.17	'	44	1.20	74.0	00	-29.80	ре	eak
	4 24	483.50	00 3	2.26	1.17	,	33	3.43	54.0	00	-20.57	A'	VG



EUT: MID Model: MID8001-IB Temperature: 25 ℃ **Relative Humidity:** 55% **Test Voltage:** AC 120V/60 Hz Ant. Pol. Horizontal **Test Mode:** TX G Mode 2412MHz Remark: N/A 110.0 dBuV/m 3 3 (RF) FCC PART 15C (PEAK) 60 (RF) FCC PART 15C (AVG) 1 X 2 X W M 10.0 2335.000 2345.00 2355.00 2365.00 2375.00 2385.00 2395.00 2405.00 2415.00 2435.00 MHz Reading Correct Measure-Limit Over No. Mk. Freq. Factor Level ment dBuV MHz dBuV/m dBuV/m dΒ Detector dB/m 1 2390.000 43.12 0.77 43.89 -30.11 74.00 peak 2 2390.000 32.34 0.77 33.11 54.00 -20.89 AVG 3 2418.300 90.44 91.33 Χ 0.89 peak **Fundamental Frequency** 4 2419.200 79.90 80.79 AVG 0.89 **Fundamental Frequency**



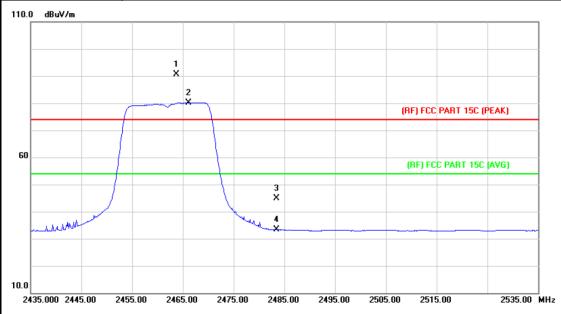
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EUT:	:		MID			Model:			MID8001-I	В
Tem	peratu	re:	25 °C	C		Relativ	e Hum	idity:	55%	
Test	Voltag	je:	AC 1	20V/60 Hz						
Ant.	Pol.		Verti	cal						
Test	Mode		TX G	Mode 2412	2MHz					
Rem	ark:		N/A							
110.0	0 dBuV/n	n								
								3 X		
								4 X		
								/~	PART 15C (PEA	ıK)
60								(DE) E(CC PART 15C (AV	(C)
						1		(NF) FC	C PART ISC IAV	
						×			, A	
						2 X				Mount
10.0 23	335.000 23	345.00	2355.00	2365.00 237	75.00 2385	.00 239	5.00 24	105.00 241	5.00	2435.00 MH
				Reading	Correc	t Mea	sure-			
Ν	o. Mk	. Fre	eq.	Level	Factor		ent	Limit	Over	
		MH	Ηz	dBuV	dB/m	dBı	uV/m	dBuV/m	dB	Detector
1		2390.	.000	44.93	0.77	45	5.70	74.00	-28.30	peak
2		2390.	.000	32.50	0.77	33	3.27	54.00	-20.73	AVG
	Х	0.400	000	92.52	0.85	93	3.37	Fundamen	tal Frequency	peak
3	^	2408.	.800	02.02						



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EUT:	MID	Model:	MID8001-IB
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz		
Ant. Pol.	Horizontal		
Test Mode:	TX G Mode 2462MHz		
Remark:	N/A		
110 0 dRuV/m			



No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	Χ	2463.700	89.57	1.08	90.65	Fundamenta	al Frequency	peak
2	*	2466.100	79.13	1.09	80.22	Fundamenta	al Frequency	AVG
3		2483.500	43.79	1.17	44.96	74.00	-29.04	peak
4		2483.500	32.10	1.17	33.27	54.00	-20.73	AVG



EUT: MID Model: MID8001-IB Temperature: 25 ℃ **Relative Humidity:** 55% **Test Voltage:** AC 120V/60 Hz Ant. Pol. Vertical **Test Mode:** TX G Mode 2462MHz Remark: N/A 110.0 dBuV/m 1 X (RF) FCC PART 15C (PEAK) 60 (RF) FCC PART 15C (AVG) MANAMA 10.0 2435.000 2445.00 2455.00 2465.00 2475.00 2485.00 2495.00 2505.00 2515.00 2535.00 MHz Reading Correct Measure-Limit Over No. Mk. Freq. Factor Level ment dBuV MHz dBuV/m dBuV/m dΒ Detector dB/m 1 Χ 2458.600 92.55 1.06 93.61 peak **Fundamental Frequency** 2 2459.500 83.01 AVG 81.95 1.06 **Fundamental Frequency** 3 46.19 2483.500 45.02 1.17 74.00 -27.81peak 4 2483.500 32.60 1.17 33.77 54.00 -20.23 AVG



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2435.00 MHz

EUT:	MID		Model:			MID800	1-IB
Temperature:	25 ℃		Relativ	e Humidi	ty:	55%	
Test Voltage:	AC 120V/60 Hz				•		
Ant. Pol.	Horizontal						
Test Mode:	TX N(HT20) Mod	de 2412N	ЛНz				
Remark:	N/A						
110.0 dBuV/m							
						4 ×	
						3	
					(RF) FO	CC PART 15C	(PEAK)
60					(RF) I	FCC PART 150	(AVG)
			1 X				
			2 X				manual Am
10.0							

No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	44.47	0.77	45.24	74.00	-28.76	peak
2		2390.000	32.42	0.77	33.19	54.00	-20.81	AVG
3	*	2417.400	78.89	0.89	79.78	Fundamenta	al Frequency	AVG
4	Χ	2419.200	89.72	0.89	90.61	Fundament	al Frequency	peak

2385.00

2395.00

2405.00

2415.00

Emission Level= Read Level+ Correct Factor

2335.000 2345.00

2355.00

2365.00

2375.00



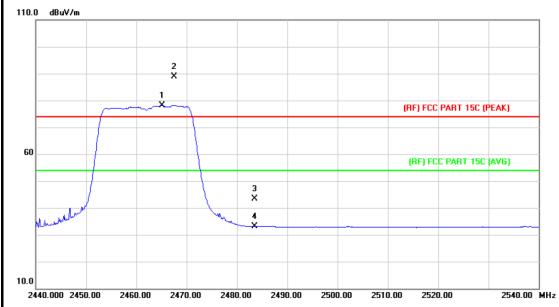
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D8001-IB
%
RT 15C (PEAK)
ART 15C (AVG)
ART TOC (AVG)
Maran
2435.00 MH:
Over
dB Detecto
-25.76 peak
-20.48 AVG
_{Frequency} peak
Frequency AVG
F



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EUT:	MID	Model:	MID8001-IB			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60 Hz	AC 120V/60 Hz				
Ant. Pol.	Horizontal	Horizontal				
Test Mode:	TX N(HT20) Mode 2462MHz					
Remark:	N/A					



No.	Mk	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2465.100	77.05	1.09	78.14	Fundamenta	I Frequency	AVG
2	Χ	2467.600	87.70	1.10	88.80	Fundamenta	al Frequency	peak
3		2483.500	42.25	1.17	43.42	74.00	-30.58	peak
4		2483.500	31.93	1.17	33.10	54.00	-20.90	AVG



EUT: MID Model: MID8001-IB Temperature: 25 ℃ **Relative Humidity:** 55% **Test Voltage:** AC 120V/60 Hz Ant. Pol. Vertical **Test Mode:** TX N(HT20) Mode 2462MHz N/A Remark: 110.0 dBuV/m 1 X (RF) FCC PART 15C (PEAK) 60 (RF) FCC PART 15C (AVG) 3 X 10.0 2440.000 2450.00 2460.00 2470.00 2480.00 2490.00 2500.00 2510.00 2520.00 2540.00 MHz Reading Correct Measure-Limit Over No. Mk. Freq. Level Factor ment MHz dBuV dBuV/m dBuV/m dΒ Detector dB/m 1 2454.800 91.44 1.05 92.49 Χ peak **Fundamental Frequency** 2 AVG 2455.100 81.70 80.65 1.05 **Fundamental Frequency** 3 2483.500 44.29 45.46 1.17 74.00 -28.54 peak

Emission Level= Read Level+ Correct Factor

32.48

1.17

33.65

54.00

-20.35

AVG

2483.500

4



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EUT	:		MID				Mc	del:			MID8001	-IB
Tem	peratui	e:	25 °C	25 °C Relati				lativ	e Hu	midity:	55%	
Test	Voltag	e:	AC 1	20V/60) Hz							
Ant.	Pol.		Horiz	zontal								
Test	Mode:		TX N	TX N(HT40) Mode 2422MHz								
Rem	nark:		N/A	N/A								
110.0	0 dBuV/m											
									3			
									×			
										4 × (RF) F	CC PART 15C (PE	EAK)
							f			V	+	
60										(BF)	FCC PART 15C (A	AVG)
					1					(447)		^
					×	1					V	\
					2 X							
10.0												
	 353.000 236	63.00 2	2373.00	2383.00	239	3.00 2403	3.00	2413	.00	2423.00 2	433.00	2453.00 MHz
_				Dand	:	0	n	11				
١	No. Mk	. Fr	eq.	Read Lev		Correct Facto		vieas me	sure- ent	Limit	Over	
		M	•	dBu		dB/m		dBu		dBuV/r	n dB	Detector
1		2390	.000	45.5	3	0.77		46.	.30	74.00	-27.70	peak
2		2390	.000	33.0)4	0.77		33.	.81	54.00	-20.19	AVG
3	Х	2419	.000	86.4	13	0.89		87.	32	Fundame	ntal Frequency	peak
4	*	2425	.000	75.6	0	0.93		76.	.53	Fundame	ntal Frequency	AVG

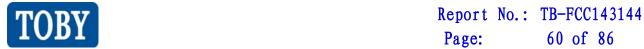


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EUT	:		MID				M	odel:			١	ЛID8001-	IB
Tem	peratur	e:	25 °	25 °C Relative Humidity: 55%									
Test	Voltage) :	AC 1	AC 120V/60 Hz									
Ant.	Pol.		Verti	cal									
Test	Mode:		TX N	TX N(HT40) Mode 2422MHz									
Ren	nark:		N/A	N/A									
110.0	0 dBuV/m												
										3 X			
										4 X (RF	JFCC	PART 15C (PEA	AK)
60													
					1					Н	F) FCL	PART 15¢ (A	∨G)
					×	/ \						Y	
					2 X	\nearrow							
10.0	353.000 2363	3.00 2	373.00	2383.00	239	3.00 240	3.00	2413	3.00 2	2423.00	2433	.00	2453.00 MHz
	No. Mk	_,		Read		Corre			sure-	Lim	iŧ	Over	
_	NO. IVIK		eq.	Lev		Facto			ent				
_			Hz	dBu		dB/m			uV/m	dBu\		dB	Detector
1		2390		45.2	22	0.77			5.99	74.	00	-28.01	peak
2		2390	.000	33.4	14	0.77		34	1.21	54.	00	-19.79	AVG
3	X	2425	.000	88.7	78	0.93		89	9.71	Funda	menta	I Frequency	peak
4	*	2425	.000	77.9	92	0.93		78	3.85	Funda	menta	al Frequency	AVG

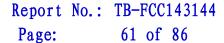


EUT: MID Model: MID8001-IB Temperature: 25 ℃ **Relative Humidity:** 55% **Test Voltage:** AC 120V/60 Hz Ant. Pol. Horizontal **Test Mode:** TX N(HT40) Mode 2452MHz Remark: N/A 110.0 dBuV/m 1 X (RF) FCC PART 15C (PEAK) 60 (RF) FCC PART 15C (AVG) 10.0 2414.000 2424.00 2434.00 2444.00 2454.00 2494.00 2514.00 MHz 2464.00 2474.00 2484.00 Reading Correct Measure-Over No. Mk. Limit Freq. Level Factor ment dBuV dBuV/m dΒ MHz dBuV/m Detector dB/m 84.71 85.73 1 Χ 2448.300 1.02 peak Fundamental Frequency 2 2450.000 73.86 74.88 AVG 1.02 Fundamental Frequency 3 2483.500 43.77 1.17 44.94 74.00 -29.06 peak 4 2483.500 32.24 1.17 33.41 -20.59 AVG 54.00



EUT: MID Model: MID8001-IB Temperature: **25** ℃ **Relative Humidity:** 55% **Test Voltage:** AC 120V/60 Hz Ant. Pol. Vertical **Test Mode:** TX N(HT40) Mode 2452MHz Remark: N/A 110.0 dBuV/m 2 X (RF) FCC PART 15C (PEAK) (RF) FCC PART 15C (AVG) 2414.000 2424.00 2514.00 MHz 2434.00 2454.00 2464.00

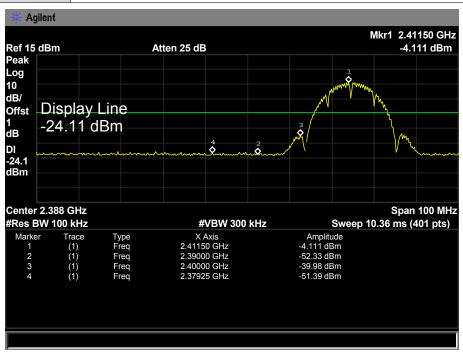
No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2447.500	78.51	1.01	79.52	Fundamenta	I Frequency	AVG
2	Χ	2449.600	89.44	1.02	90.46	Fundamenta	I Frequency	peak
3		2483.500	45.26	1.17	46.43	74.00	-27.57	peak
4		2483.500	33.37	1.17	34.54	54.00	-19.46	AVG

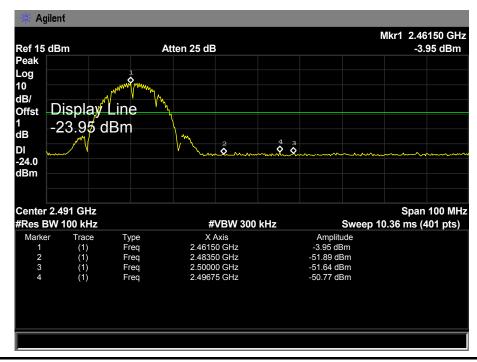


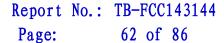


(2) Conducted Test

EUT:	MID	Model:	MID8001-IB			
Temperature:	25 °C Relative Humidity:		55%			
Test Voltage:	AC 120V/60 Hz					
Test Mode:	TX B Mode 2412MHz / TX B Mode 2462MHz					
Remark:	The EUT is programed in	The EUT is programed in continuously transmitting mode				









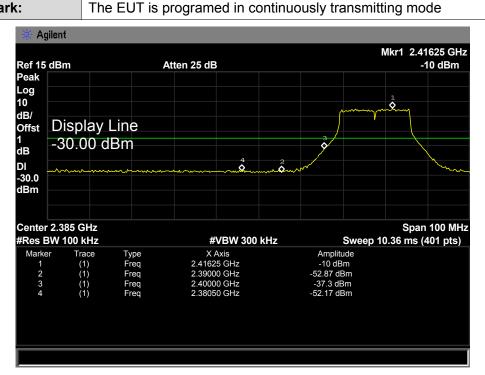
EUT: MID Model: MID8001-IB

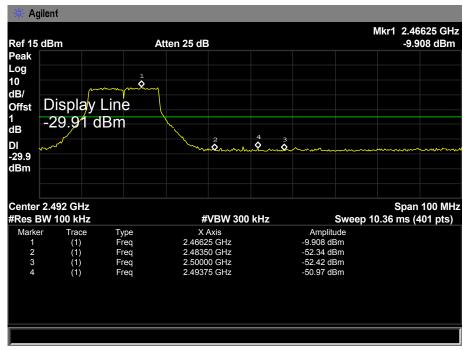
Temperature: 25 °C Relative Humidity: 55%

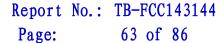
Test Voltage: AC 120V/60 Hz

Test Mode: TX G Mode 2412MHz / TX G Mode 2462MHz

Remark: The EUT is programed in continuously transmitting mode

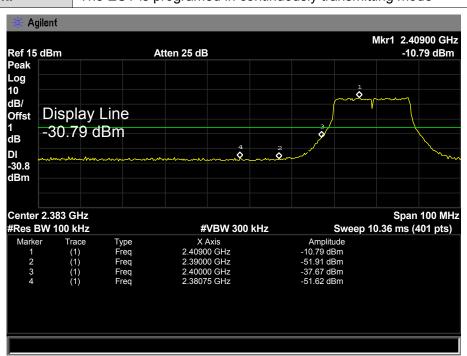


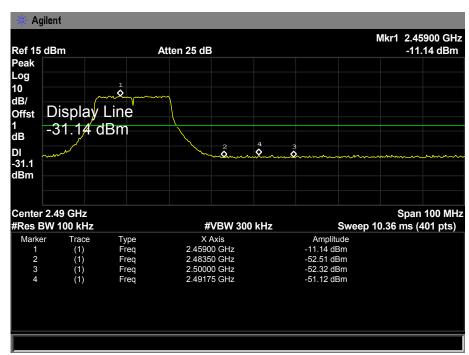






EUT:MIDModel:MID8001-IBTemperature:25 °CRelative Humidity:55%Test Voltage:AC 120V/60 HzTest Mode:TX N(HT20) Mode 2412MHz / TX N(HT20) Mode 2462MHzRemark:The EUT is programed in continuously transmitting mode

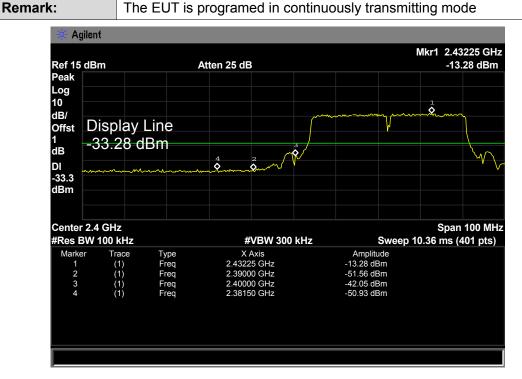


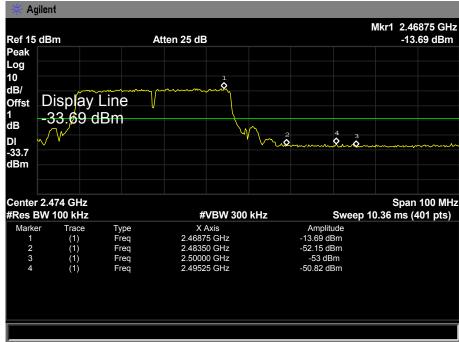






EUT:MIDModel:MID8001-IBTemperature:25 °CRelative Humidity:55%Test Voltage:AC 120V/60 HzTest Mode:TX N(HT40) Mode 2422MHz / TX N(HT40) Mode 2452MHz







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6. Bandwidth Test

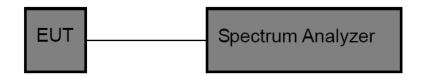
6.1 Test Standard and Limit

6.1.1 Test Standard FCC Part 15.247 (a)(2)

6.1.2 Test Limit

FCC Part 15 Subpart C(15.247)/RSS-210						
Test Item	Test Item Limit Frequency Range(MHz)					
Bandwidth	>=500 KHz (6dB bandwidth)	2400~2483.5				

6.2 Test Setup



6.3 Test Procedure

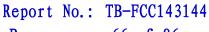
- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) The bandwidth is measured at an amplitude level reduced 6dB from the reference level. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst –case (i.e the widest) bandwidth.
- (3)Measure the channel separation the spectrum analyzer was set to Resolution Bandwidth:100 kHz, and Video Bandwidth:300 kHz, Detector: Peak, Sweep Time set auto.

6.4 EUT Operating Condition

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

6.5 Test Equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Mar. 20, 2014	Mar. 19, 2015





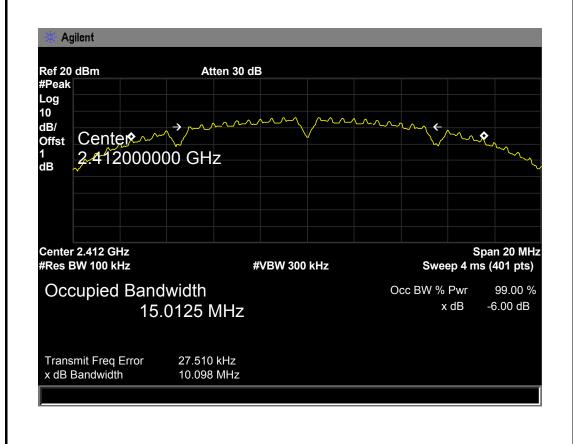
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6.6 Test Data

EUT:	MID	Model:	MID8001-IB		
Temperature:	25 ℃	Relative Humidity:	55%		
Test Voltage:	AC 120V/60 Hz				
Test Mode:	TX 802.11B Mode				
Channel frequency 6dB Bandwidth		99% Bandwidth	Limit		
(MHz)	(MHz)	(MHz)	(MHz)		
2412	10.098	15.0125			
2437	10.053	14.9967	>=0.5		
2462	10.063	15.0040			
000 (4D M. J.					

802.11B Mode

2412 MHz







Center 2.462 GHz

#Res BW 100 kHz

Transmit Freq Error

x dB Bandwidth

Occupied Bandwidth

15.0040 MHz

42.409 kHz

10.063 MHz

802.11B Mode 2437 MHz Agilent Ref 20 dBm Atten 30 dB #Peak Log 10 dB/ Center ? Offst 1 dB 2.437000000 GHz Center 2.437 GHz Span 20 MHz #Res BW 100 kHz **#VBW 300 kHz** Sweep 4 ms (401 pts) Occupied Bandwidth Occ BW % Pwr 99.00 % -6.00 dB x dB 14.9967 MHz Transmit Freq Error x dB Bandwidth 21.733 kHz 10.053 MHz 802.11B Mode 2462 MHz Agilent Ref 20 dBm Atten 30 dB #Peak Log 10 dB/ Offst Center 1 dB 2.462000000 GHz

#VBW 300 kHz

Span 20 MHz

99.00 % -6.00 dB

Sweep 4 ms (401 pts)

Occ BW % Pwr

x dB



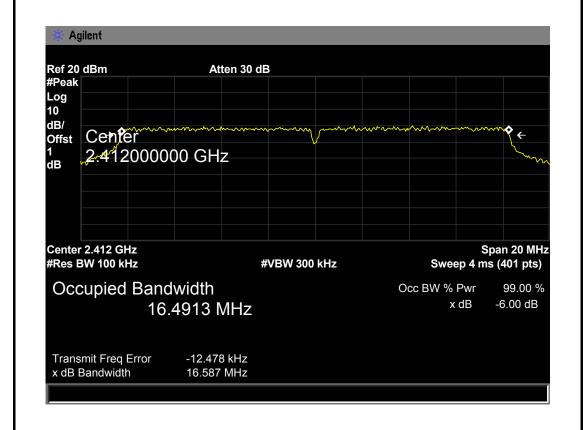


EUT:MIDModel:MID8001-IBTemperature:25 °CRelative Humidity:55%Test Voltage:AC 120V/60 HzTest Mode:TX 802 11G Mode

rest wode.	1 × 602.11G Mode					
Channel frequence	y 6dB Bandwidth	99% Bandwidth	Limit			
(MHz)	(MHz)	(MHz)	(MHz)			
2412	16.587	16.4913				
2437	16.559	16.4799	>=0.5			
2462	16.556	16.4757				

802.11G Mode

2412 MHz







Center 2.462 GHz

#Res BW 100 kHz

Transmit Freq Error

x dB Bandwidth

Occupied Bandwidth

16.4757 MHz

-6.211 kHz

16.556 MHz

802.11G Mode 2437 MHz Agilent Ref 20 dBm Atten 30 dB #Peak Log 10 dB/ Center Offst 1 dB 2:437000000 GHz Center 2.437 GHz Span 20 MHz #Res BW 100 kHz **#VBW 300 kHz** Sweep 4 ms (401 pts) Occupied Bandwidth Occ BW % Pwr 99.00 % -6.00 dB x dB 16.4799 MHz Transmit Freq Error x dB Bandwidth -16.973 kHz 16.579 MHz 802.11G Mode 2462 MHz Agilent Ref 20 dBm #Peak Atten 30 dB Log 10 dB/ Center Offst 1 dB 2.462000000 GHz

#VBW 300 kHz

Span 20 MHz

99.00 % -6.00 dB

Sweep 4 ms (401 pts)

Occ BW % Pwr

x dB





EUT: MID Model: MID8001-IB

Temperature: 25 ℃ Relative Humidity: 55%

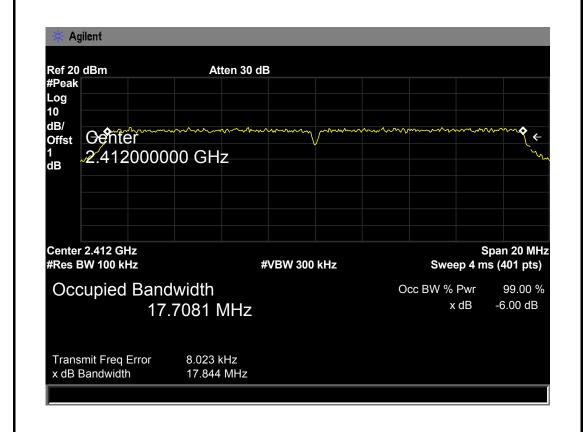
Test Voltage: AC 120V/60 Hz

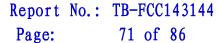
Test Mode: TX 802.11N(HT20) Mode

	(-,		
Channel frequency	6dB Bandwidth	99% Bandwidth	Limit
(MHz)	(MHz)	(MHz)	(MHz)
2412	17.844	17.7081	
2437	17.852	17.7026	>=0.5
2462	17.803	17.6893	

802.11N(HT20) Mode

2412 MHz







Center 2.462 GHz

#Res BW 100 kHz

Transmit Freq Error

x dB Bandwidth

Occupied Bandwidth

17.6893 MHz

5.101 kHz

17.803 MHz

802.11N(HT20) Mode 2437 MHz Agilent Ref 20 dBm Atten 30 dB #Peak Log 10 dB/ Genter Offst 1 dB 2.437000000 GHz Center 2.437 GHz Span 20 MHz #Res BW 100 kHz **#VBW 300 kHz** Sweep 4 ms (401 pts) Occupied Bandwidth Occ BW % Pwr 99.00 % -6.00 dB x dB 17.7026 MHz Transmit Freq Error x dB Bandwidth 2.915 kHz 17.852 MHz 802.11N(HT20) Mode 2462 MHz Agilent Ref 20 dBm #Peak Atten 30 dB Log 10 dB/ Genter Offst 1 dB 2.462000000 GHz

#VBW 300 kHz

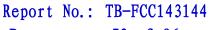
Span 20 MHz

99.00 % -6.00 dB

Sweep 4 ms (401 pts)

Occ BW % Pwr

x dB



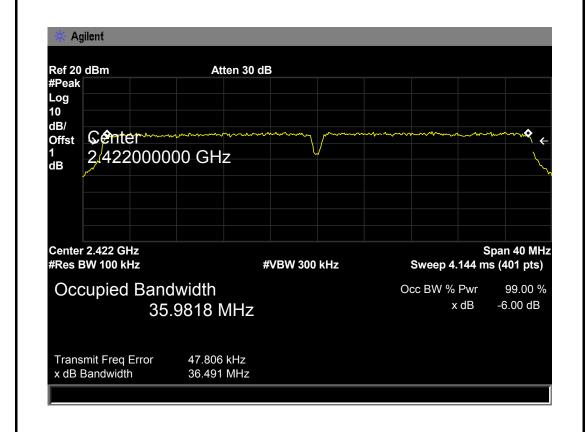


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EUT:	MID	Model:	MID8001-IB			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60 Hz					
Test Mode:	TX 802.11N(HT40) Mode					
Channel frequency 6dB Bandwidt		99% Bandwidth	Limit			
(MHz)	(MHz)	(MHz)	(MHz)			
2422	36.491	35.9818				
2437	36.491	35.9944	>=0.5			
2452 36.475		35.9661				
	802.11N(HT40) Mode					

.....

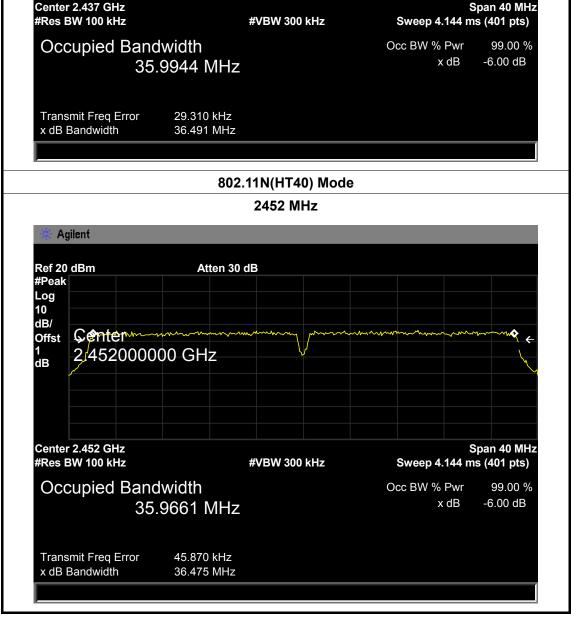
2422 MHz







802.11N(HT40) Mode 2437 MHz Agilent Ref 20 dBm Atten 30 dB #Peak Log 10 dB/ **Cênter** Offst 1 dB 2,437000000 GHz Center 2.437 GHz Span 40 MHz #Res BW 100 kHz **#VBW 300 kHz** Sweep 4.144 ms (401 pts) Occupied Bandwidth Occ BW % Pwr 99.00 % -6.00 dB x dB 35.9944 MHz Transmit Freq Error x dB Bandwidth 29.310 kHz 36.491 MHz 802.11N(HT40) Mode 2452 MHz Agilent Ref 20 dBm #Peak Atten 30 dB Log 10 dB/





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7. Peak Output Power Test

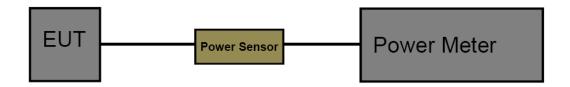
7.1 Test Standard and Limit

7.1.1 Test Standard FCC Part 15.247 (b)

7.1.2 Test Limit

FCC Part 15 Subpart C(15.247)/RSS-210			
Test Item Limit Frequency Range(MHz)			
Peak Output Power	1 Watt or 30 dBm	2400~2483.5	

7.2 Test Setup



7.3 Test Procedure

The measurement is according to section 9.1.2 of KDB 558074 D01 DTS Meas Guidance v03r02.

The EUT was connected to RF power meter via a broadband power sensor as show the block above. The power sensor video bandwidth is greater than or equal to the DTS bandwidth of the equipment.

7.4 EUT Operating Condition

The EUT was set to continuously transmitting in the max power during the test.

7.5 Test Equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Power Meter	Anritsu	ML2495A	25406005	Aug. 08, 2014	Aug. 07, 2015
Power Sensor	Anritsu	ML2411B	25406005	Aug. 08, 2014	Aug. 07, 2015



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7.6 Test Data

EUT:	MID	Model:	MID8001-IB
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz		
Mode	Channel frequency (MHz)	Test Result (dBm)	Limit (dBm)
	2412	9.03	
802.11b	2437	9.02	
	2462	9.09	
	2412	8.94	
802.11g	2437	8.73	
	2462	8.95	20
000 44	2412	8.89	30
802.11n	2437	8.73	
(HT20)	2462	8.88	
000 44	2422	8.97	
802.11n	2437	8.79	
(HT40)	2452	8.55	



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8. Power Spectral Density Test

8.1 Test Standard and Limit

8.1.1 Test Standard FCC Part 15.247 (e)

8.1.2 Test Limit

FCC Part 15 Subpart C(15.247)			
Test Item Limit Frequency Range(MHz)			
Power Spectral Density	8dBm(in any 3 kHz)	2400~2483.5	

8.2 Test Setup



8.3 Test Procedure

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 v03r02.

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) Set analyser center frequency to DTS channel center frequency.
- (3) Set the span to 1.5 times the DTS bandwidth.
- (4) Set the RBW to: 3 kHz(5) Set the VBW to: 10 kHz
- (6) Detector: peak (7) Sweep time: auto
- (8) Allow trace to fully stabilize. Then use the peak marker function to determine the maximum amplitude level.

8.4 EUT Operating Condition

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



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8.5 Test Equipment

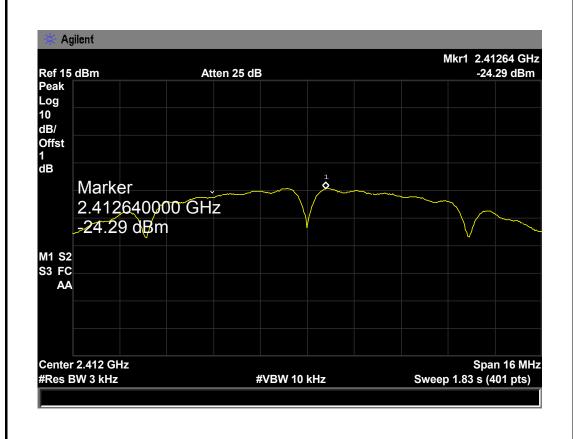
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Mar. 20, 2014	Mar. 19, 2015

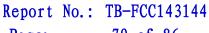


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8.6 Test Data

EUT:	MID		Model:		MID8001-IB
Temperature:	25 ℃	Relative Humid		idity:	55%
Test Voltage:	AC 120V/	AC 120V/60 HZ			
Test Mode:	Dde: TX 802.11B Mode				
Channel Frequency	uency	Power Density		Limit (dBm)	
(MHz)		(3 kHz/dBm)			
2412		-24	.29		
2437		-24.21 -24.05		8	
2462					
802.11B Mode					

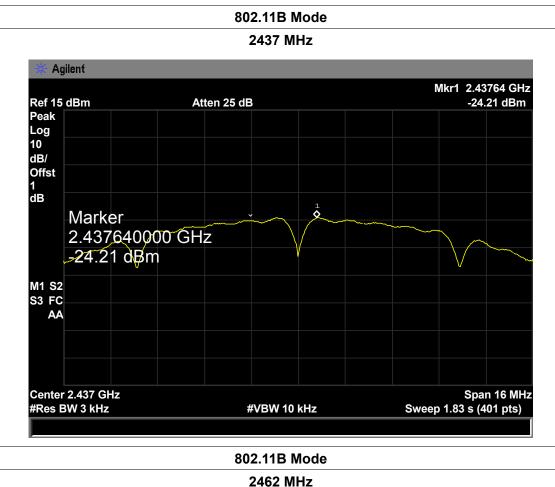






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802.11B Mode



2462 MHz Agilent Mkr1 2.46264 GHz -24.05 dBm Ref 15 dBm Atten 25 dB Peak Log 10 dB/ Offst 1 dB 1 Marker 2.462640000 GHz -24.05 dBm M1 S2 S3 FC AA Center 2.462 GHz Span 16 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 1.83 s (401 pts)

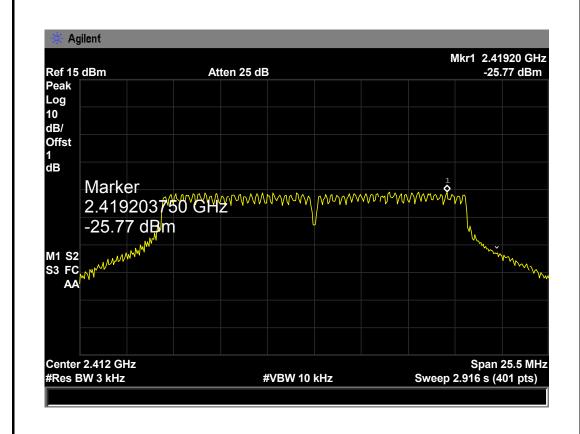


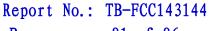


EUT:MIDModel:MID8001-IBTemperature:25 °CRelative Humidity:55%Test Voltage:AC 120V/60 HZTest Mode:TX 802.11G Mode

Channel Frequency	Power Density	Limit (dBm)
(MHz)	(3 kHz/dBm)	
2412	-25.77	
2437	-25.75	8
2462	-25.68	

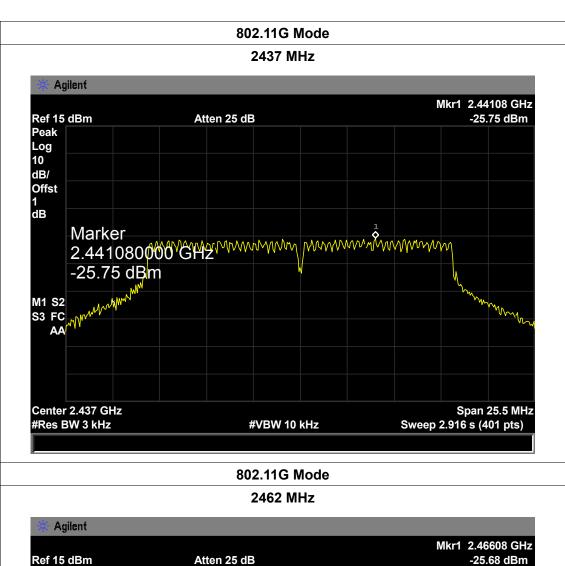
802.11G Mode







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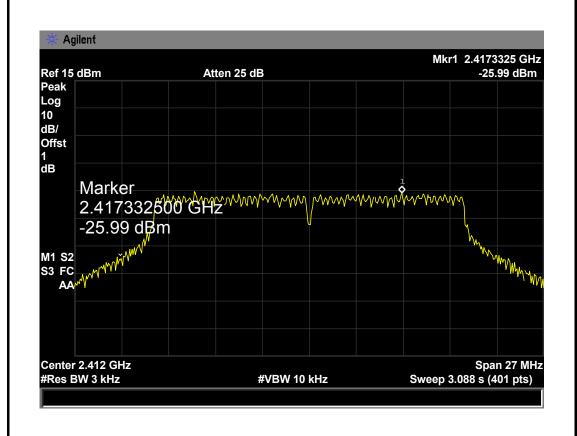


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EUT:	MID		Model:		MID8001-IB
Temperature:	25 °C Relative		Relative Hum	idity:	55%
Test Voltage:	AC 120V/60 HZ				
Test Mode:	TX 802.1	TX 802.11N(HT20) Mode			
Channel Frequency	uency	Power Density			Limit (dBm)

Channel Frequency	Power Density	Limit (dBm)
(MHz)	(3 kHz/dBm)	
2412	-25.99	
2437	-25.59	8
2462	-25.59	

802.11N(HT20) Mode







Center 2.462 GHz

#Res BW 3 kHz

802.11N(HT20) Mode 2437 MHz Agilent Mkr1 2.4434800 GHz -25.59 dBm Ref 15 dBm Atten 25 dB **Peak** Log 10 dB/ Offst 1 dB Marker 2.443480000 GHZ MMM / MMMMMMM -25.59 dBm M1 S2 Center 2.437 GHz Span 27 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 3.088 s (401 pts) 802.11N(HT20) Mode 2462 MHz Agilent Mkr1 2.4553850 GHz -25.59 dBm Ref 15 dBm Atten 25 dB Peak Log 10 dB/ Offst 1 dB 1 **?** Marker 2.455385000 GHZ WWWW WWW WWW WWW WWW -25.59 dBm M1 S2 AAMMAMMAM S3 FC

#VBW 10 kHz

Span 27 MHz

Sweep 3.088 s (401 pts)

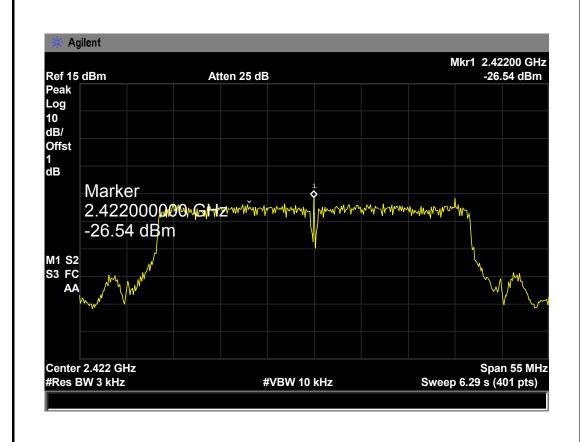


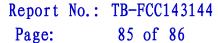
EUT:MIDModel:MID8001-IBTemperature:25 °CRelative Humidity:55%Test Voltage:AC 120V/60 HZ

Test Mode: TX 802.11N(HT40) Mode

ı		,	
	Channel Frequency	Power Density	Limit (dBm)
	(MHz)	(3 kHz/dBm)	
	2422	-26.54	
	2437	-26.66	8
	2452	-27.88	
ı			

802.11N(HT40) Mode







Center 2.452 GHz

#Res BW 3 kHz

802.11N(HT40) Mode 2437 MHz Agilent Mkr1 2.44484 GHz -26.66 dBm Ref 15 dBm Atten 25 dB **Peak** Log 10 dB/ Offst 1 dB Ayw Marker -26.66 dBm M1 S2 S3 FC AA Center 2.437 GHz Span 55 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 6.29 s (401 pts) 802.11N(HT40) Mode 2452 MHz Agilent Mkr1 2.45984 GHz Ref 15 dBm -27.88 dBm Atten 25 dB Peak Log 10 dB/ Offst 1 dB Marker 2.459837500~GHz~~~~~ -27.88 dBm M1 S2 S3 FC

#VBW 10 kHz

Span 55 MHz

Sweep 6.29 s (401 pts)



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9. Antenna Requirement

9.1 Standard Requirement

9.1.1 Standard FCC Part 15.203

9.1.2 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.

9.2 Antenna Connected Construction

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

9.3 Result

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

Antenna Type
✓ Permanent attached antenna
□ Unique connector antenna
☐ Professional installation antenna