

Shenzhen Toby Technology Co., Ltd.

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FCC Radio Test Report FCC ID: 2ARR-YZHA24

Original Grant

Report No.	÷	TB-FCC162241
Applicant	200	Shenzhen Yuzehang Industrial Co., Ltd
Equipment Under 1	Test	(EUT)
EUT Name	-	Smart Platooninsert
Model No.	12	YZH-A24
Series Model No.	197	N/A
Brand Name	:	
Receipt Date	BI	2018-10-10
Test Date	a:	2018-10-10 to 2018-10-17
Issue Date	-	2018-10-18
Standards	1	FCC Part 15, Subpart C (15.247: 2018)
Test Method	-	ANSI C63.10: 2013
Conclusions	1	PASS
		In the configuration tested, the EUT complied with the standards specified above,

Jason xu

WAN SU foy to.

The EUT technically complies with the FCC and IC requirements

H Jason Xu

Wan Su

Test/Witness Engineer

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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Revision History

Report No.	Version	Description	Issued Date
TB-FCC162241	Rev.01	Initial issue of report	2018-10-18
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1. General Information about EUT

1.1 Client Information

Applicant	-	Shenzhen Yuzehang Industrial Co., Ltd			
Address		Floor 3, Unit 3, Building 2, Guijing Garden, Songgang Avenue, Songgang Street, Baoan District, Shenzhen, China			
Manufacturer	:	Shenzhen Yuzehang Industrial Co., Ltd			
Address	•	Floor 3, Unit 3, Building 2, Guijing Garden, Songgang Avenue, Songgang Street, Baoan District, Shenzhen, China			

1.2 General Description of EUT (Equipment Under Test)

EUT Name	1	Smart Platooninsert			
Models No.	:	YZH-A24			
Model Different	:	N/A			
		Operation Frequency:	802.11b/g/n(HT20): 2412MHz~2462MHz		
		Number of Channel:	802.11b/g/n(HT20):11 channels see note(3)		
	0	RF Output Power:	802.11b: 0.02dBm 802.11g: 15.32dBm 802.11n (HT20): 14.33dBm		
Product		Antenna Gain:	1dBi PCB Antenna		
Description	AVE	Modulation Type:	802.11b: DSSS(CCK, DQPSK, DBPSK) 802.11g/n: OFDM(BPSK,QPSK,16QAM, 64QAM)		
		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	1	AC Voltage supplied			
Power Rating		Input: AC 100~240V, 1 Output: AC 100~240V, 15A, 50 DC 5V 3.1A(USB Port))/60Hz		
Software Version	:	VI.0			
Hardware Version	:	V1.0	V1.0		
Connecting I/O Port(S)	1	Please refer to the User's Manual			



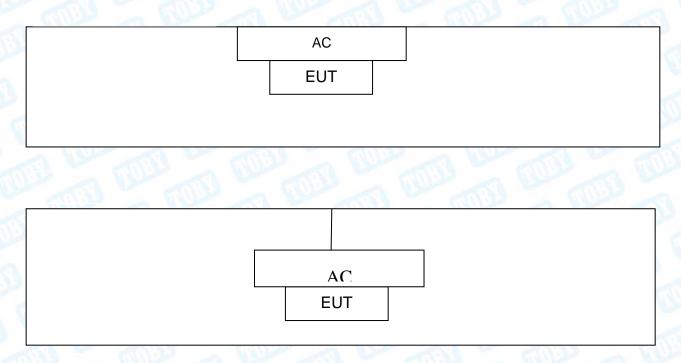
Note:

- (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 v05.
- (2) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
- (3) Channel List:

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		
Note: CH 01~CH 1	1 for 802.11b/g/n(HT2	20)	·		

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

1.3 Block Diagram Showing the Configuration of System Tested



1.4 Description of Support Units

The EUT has been tested as an independent unit.



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	Normal Working with TX B Mode		

For Radiated Test			
Final Test Mode Description			
Mode 2 TX Mode B Mode Channel 01/06/11			
Mode 3	Mode 3 TX Mode G Mode Channel 01/06/11		
Mode 4 TX Mode N(HT20) Mode Channel 01/06/11			

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 C63.10 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)

- (2) During the testing procedure, the continuously transmitting with the maximum power mode was programmed by the customer.
- (3) The EUT is considered a portable 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.

Test Software Version	SecureCRT.exe		
Channel	CH 01	CH 06	CH 11
IEEE 802.11b DSSS	70	70	70
IEEE 802.11g OFDM	35	35	35
IEEE 802.11n (HT20)	40	40	40

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})
	Level Accuracy:	
Conducted Emission	9kHz~150kHz	±3.42 dB
	150kHz to 30MHz	±3.42 dB
Redicted Emission	Level Accuracy:	±4.60 dB
Radiated Emission	9kHz to 30 MHz	±4.00 dB
Radiated Emission	Level Accuracy:	±4.40 dB
	30MHz to 1000 MHz	±4.40 dB
Dedicted Emission	Level Accuracy:	±4.20 dB
Radiated Emission	Above 1000MHz	±4.20 ub



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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.

A2LA Certificate No.: 4750.01

The laboratory has been accredited by American Association for Laboratory Accreditation(A2LA) to ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories for the technical competence in the field of Electrical Testing. And the A2LA Certificate No.: 4750.01. FCC Accredited Test Site Number: 854351.

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.



2. Test Summary

		t 15 Subpart C(15.247)/ RSS 247			
Standard Section		Test Item	Judgment	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 247 5.2 (1)	6dB Bandwidth	PASS	N/A	
15.247(b)	RSS 247 5.4 (4)	Peak Output Power	PASS	N/A	
15.247(e)	RSS 247 5.2 (2)	Power Spectral Density	PASS	N/A	
15.247(d)	RSS 247 5.5	Band Edge	PASS	N/A	
15.247(d)& 15.209	RSS 247 5.5	Transmitter Radiated Spurious Emission	PASS	N/A	

N/A is an abbreviation for Not Applicable.



3. Test Equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
EMI Test Receiver	Rohde & Schwarz	ESCI	100321	Jul. 18, 2018	Jul. 17, 2019
RF Switching Unit	Compliance Direction Systems Inc	RSU-A4	34403	Jul. 18, 2018	Jul. 17, 2019
AMN	SCHWARZBECK	NNBL 8226-2	8226-2/164	Jul. 18, 2018	Jul. 17, 2019
LISN	Rohde & Schwarz	ENV216	101131	Jul. 18, 2018	Jul. 17, 2019
Radiation Emissio	on Test			<u>.</u>	-1
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jul. 18, 2018	Jul. 17, 2019
EMI Test Receiver	Rohde & Schwarz	ESPI	100010/007	Jul. 18, 2018	Jul. 17, 2019
Bilog Antenna	ETS-LINDGREN	3142E	00117537	Mar.16, 2018	Mar. 15, 2019
Bilog Antenna	ETS-LINDGREN	3142E	00117542	Mar.16, 2018	Mar. 15, 2019
Horn Antenna	ETS-LINDGREN	3117	00143207	Mar.16, 2018	Mar. 15, 2019
Horn Antenna	ETS-LINDGREN	3117	00143209	Mar.16, 2018	Mar. 15, 2019
Loop Antenna	SCHWARZBECK	FMZB 1519 B	1519B-059	Jul. 14, 2018	Jul. 13, 2019
Pre-amplifier	Sonoma	310N	185903	Mar.17, 2018	Mar. 16, 2019
Pre-amplifier	HP	8449B	3008A00849	Mar.17, 2018	Mar. 16, 2019
Cable	HUBER+SUHNER	100	SUCOFLEX	Mar.17, 2018	Mar. 16, 2019
Positioning Controller	ETS-LINDGREN	2090	N/A	N/A	N/A
Antenna Conducte	ed Emission				
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jul. 18, 2018	Jul. 17, 2019
Spectrum Analyzer	Rohde & Schwarz	ESCI	100010/007	Jul. 18, 2018	Jul. 17, 2019
MXA Signal Analyzer	Agilent	N9020A	MY49100060	Oct. 26, 2017	Oct. 25, 2018
Vector Signal Generator	Agilent	N5182A	MY50141294	Oct. 26, 2017	Oct. 25, 2018
Analog Signal Generator	Agilent	N5181A	MY50141953	Oct. 26, 2017	Oct. 25, 2018
	DARE!! Instruments	RadiPowerRPR3006W	17100015SNO26	Oct. 26, 2017	Oct. 25, 2018
	DARE!! Instruments	RadiPowerRPR3006W	17100015SNO29	Oct. 26, 2017	Oct. 25, 2018
RF Power Sensor	DARE!! Instruments	RadiPowerRPR3006W	17100015SNO31	Oct. 26, 2017	Oct. 25, 2018
	DARE!! Instruments	RadiPowerRPR3006W	17100015SNO33	Oct. 26, 2017	Oct. 25, 2018



4. Conducted Emission Test

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

Eroquonov	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	

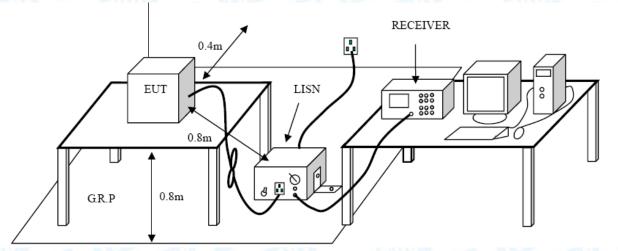
Notes:

(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.

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 refer to the Attachment A.



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 Limits (9 kHz~1000 MHz)

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	Distance of 3	8m (dBuV/m)
(MHz)	Peak	Average
Above 1000	74	54

Note:

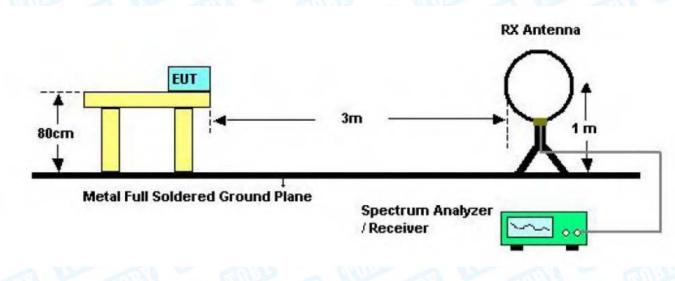
(1) The tighter limit applies at the band edges.

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

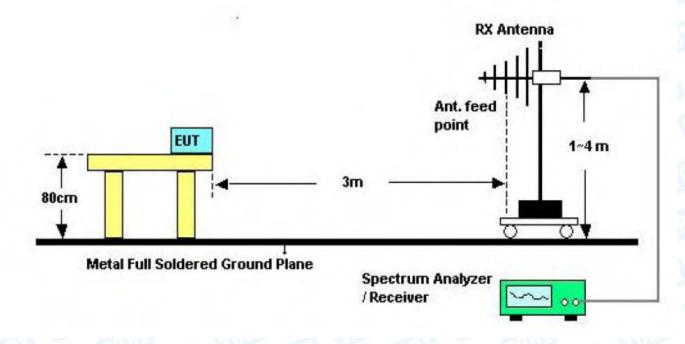


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5.2 Test Setup

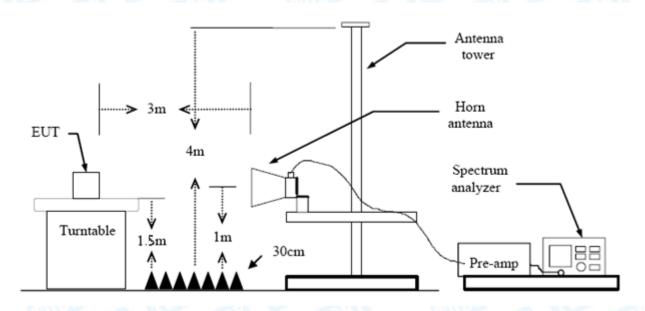


Below 30MHz Test Setup



Below 1000MHz Test Setup





Above 1GHz Test Setup

5.3 Test Procedure

- (1) 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.
- (2) Measurements at frequency Below 1GHz. The EUT was placed on a rotating 0.8m 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.
- 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. Please refer to the Attachment B.

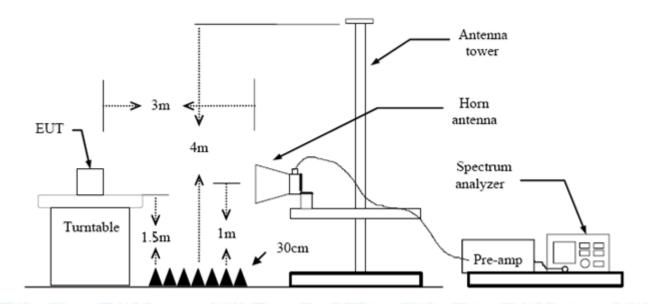


6. Restricted Bands Requirement

- 6.1 Test Standard and Limit
 - 6.1.1 Test Standard FCC Part 15.247(d) FCC Part 15.209 FCC Part 15.205 6.1.2 Test Limit

Restricted Frequency	Distance of 3m (dBuV/m)		
Band (MHz)	Peak	Average	
310 ~2390	74	54	
483.5 ~2500	74	54	

6.2 Test Setup



6.3 Test Procedure

- (1) The measuring distance of 3m shall be used for measurements at frequency Below 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) 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.

6.5 Test Data

Please refer to the Attachment C.

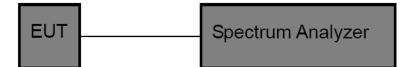


7. Bandwidth Test

- 7.1 Test Standard and Limit
 - 7.1.1 Test Standard
 - FCC Part 15.247 (a)(2)
 - 7.1.2 Test Limit

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

7.2 Test Setup



7.3 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.

7.4 EUT Operating Condition

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

7.5 Test Data

Please refer to the Attachment D.

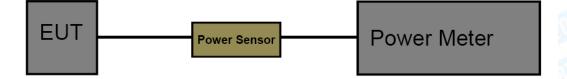


8. Peak Output Power Test

- 8.1 Test Standard and Limit
 - 8.1.1 Test Standard FCC Part 15.247 (b)
 - 8.1.2 Test Limit

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

8.2 Test Setup



8.3 Test Procedure

The measurement is according to section 9.1.2 of KDB 558074 D01 DTS Meas Guidance v05. 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.

8.4 EUT Operating Condition

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

8.5 Test Data

Please refer to the Attachment E.

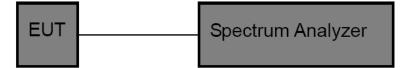


9. Power Spectral Density Test

- 9.1 Test Standard and Limit
 - 9.1.1 Test Standard FCC Part 15.247 (e)
 - 9.1.2 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				

9.2 Test Setup



9.3 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 v05.

- (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.

9.4 EUT Operating Condition

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

9.5 Test Data

Please refer to the Attachment F.



10. Antenna Requirement

10.1 Standard Requirement

10.1.1 Standard

FCC Part 15.203

10.1.2 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.

10.2 Antenna Connected Construction

The gains of the antenna used for transmitting is 1dBi, and the antenna de-signed with permanent attachment and no consideration of replacement. Please see the EUT photo for details.

Result

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

Antenna Type		
D - D	Permanent attached antenna	OBT
a Doub	Unique connector antenna	2
	Professional installation antenna	6

Attachment A-- Conducted Emission Test Data

Temperature:	24 ℃		Relative Hu	midity:	56%	2
Test Voltage:	AC 120\	//60Hz	(TOP)		N.C.	N From
Ferminal:	Line	CON CON		063	28	U.S.
Fest Mode:	Normal	working with TX	B Mode	10	LED -	20
Remark:	Only wo	rse case is repo	rted	<u>3</u> 3	1191	
90.0 dBuV	n n n n n n n n n n n n n n n n n n n	V X X X X				IP:
0.150		eading Corre			Over	30.000
			or ment	Limit	Over	
	MHz d	IBuV dB	or ment dBuV	dBuV	dB	Detector
1 0.			dBuV			Detector
	.6700 2	IBuV dB	dBuV 38.01	dBuV 56.00	dB	
2 0.	.6700 2 .6700 1	IBuV dB 8.40 9.61	dBuV 38.01 29.59	dBuV 56.00 46.00	dB -17.99	QP
2 0. 3 0.	6700 2 6700 1 8260 3	IBuV dB 8.40 9.61 9.98 9.61	dBuV 38.01 29.59 39.65	dBuV 56.00 46.00 56.00	dB -17.99 -16.41	QP AVG
2 0. 3 0. 4 * 0.	6700 2 6700 1 8260 3 8260 2	IBuV dB 8.40 9.61 9.98 9.61 0.04 9.61 0.98 9.61	dBuV 38.01 29.59 39.65 30.59	dBuV 56.00 46.00 56.00 46.00	dB -17.99 -16.41 -16.35 -15.41	QP AVG QP AVG
2 0. 3 0. 4 * 0. 5 0.	6700 2 6700 1 8260 3 8260 2 9860 2	IBuV dB 8.40 9.61 9.98 9.61 0.04 9.61 0.98 9.61 6.62 9.60	dBuV 38.01 29.59 39.65 30.59 36.22	dBuV 56.00 46.00 56.00 46.00 56.00	dB -17.99 -16.41 -16.35 -15.41 -19.78	QP AVG QP AVG QP
2 0. 3 0. 4 * 0. 5 0. 6 0.	6700 2 6700 1 8260 3 8260 2 9860 2 9860 1	IBuV dB 8.40 9.61 9.98 9.61 0.04 9.61 0.98 9.61 6.62 9.60 7.70 9.60	dBu∨ 38.01 29.59 39.65 30.59 36.22 27.30	dBuV 56.00 46.00 56.00 46.00 56.00 46.00	dB -17.99 -16.41 -16.35 -15.41 -19.78 -18.70	QP AVG QP AVG QP AVG
2 0. 3 0. 4 * 0. 5 0. 6 0. 7 1.	6700 2 6700 1 8260 3 8260 2 9860 2 9860 1 2059 2	IBuV dB 8.40 9.61 9.98 9.61 0.04 9.61 0.98 9.61 6.62 9.60 7.70 9.60 5.22 9.60	dBu∨ 38.01 29.59 39.65 30.59 36.22 27.30 34.82	dBuV 56.00 46.00 56.00 46.00 56.00 46.00 56.00	dB -17.99 -16.41 -16.35 -15.41 -19.78 -19.78 -18.70 -21.18	QP AVG QP AVG QP AVG QP
2 0. 3 0. 4 * 0. 5 0. 6 0. 7 1. 8 1.	6700 2 6700 1 8260 3 8260 2 9860 2 9860 1 2059 1	IBuV dB 8.40 9.61 9.98 9.61 0.04 9.61 0.98 9.61 6.62 9.60 7.70 9.60 5.22 9.60 5.51 9.60	dBuV 38.01 29.59 39.65 30.59 36.22 27.30 34.82 25.11	dBuV 56.00 46.00 56.00 46.00 56.00 46.00 46.00	dB -17.99 -16.41 -16.35 -15.41 -19.78 -19.78 -18.70 -21.18 -20.89	QP AVG QP AVG QP AVG QP AVG
2 0. 3 0. 4 * 0. 5 0. 6 0. 7 1. 8 1. 9 1.	6700 2 6700 1 8260 3 8260 2 9860 2 9860 1 2059 1 6180 2	IBuV dB 8.40 9.61 9.98 9.61 0.04 9.61 0.98 9.61 6.62 9.60 7.70 9.60 5.22 9.60 5.51 9.60 4.32 9.61	dBuV 38.01 29.59 39.65 30.59 36.22 27.30 27.30 34.82 25.11 33.93	dBuV 56.00 46.00 46.00 56.00 46.00 56.00 46.00 56.00	dB -17.99 -16.41 -16.35 -15.41 -19.78 -18.70 -21.18 -20.89 -22.07	QP AVG QP AVG QP AVG QP AVG QP
2 0. 3 0. 4 * 0. 5 0. 6 0. 7 1. 8 1. 9 1. 10 1.	.6700 2 .6700 1 .8260 3 .8260 2 .9860 2 .9860 1 .2059 1 .6180 1	IBuV dB 8.40 9.61 9.98 9.61 0.04 9.61 0.98 9.61 0.98 9.61 6.62 9.60 7.70 9.60 5.22 9.60 5.51 9.60 4.32 9.61	dBuV 38.01 29.59 39.65 30.59 36.22 27.30 34.82 25.11 33.93 24.34	dBuV 56.00 46.00 56.00 46.00 56.00 46.00 56.00 46.00 56.00 46.00	dB -17.99 -16.41 -16.35 -15.41 -19.78 -18.70 -21.18 -20.89 -22.07 -21.66	QP AVG QP AVG QP AVG QP AVG QP AVG
2 0. 3 0. 4 * 5 0. 6 0. 7 1. 8 1. 9 1. 10 1. 11 13.	6700 2 6700 1 8260 3 8260 2 9860 2 9860 1 2059 1 6180 1 0219 2	IBuV dB 8.40 9.61 9.98 9.61 0.04 9.61 0.98 9.61 6.62 9.60 7.70 9.60 5.22 9.60 5.51 9.60 4.32 9.61	dBuV 38.01 29.59 39.65 30.59 36.22 27.30 34.82 25.11 33.93 24.34 36.34	dBuV 56.00 46.00 56.00 46.00 56.00 46.00 56.00 46.00 56.00 46.00 60.00	dB -17.99 -16.41 -16.35 -15.41 -19.78 -18.70 -21.18 -20.89 -22.07	QP AVG QP AVG QP AVG QP AVG QP



Temperature:	24 ℃	Relative H	umidity:	56%	
Test Voltage:	AC 120V/60Hz	TUD A			
Terminal:	Neutral	- AU122	AU		
Test Mode:	Normal working with TX B Mode				
Remark:	Only worse case	is reported	and a	-	
90.0 dBuV 40 X M M M M M M M M M	mmm Mmm			QP:	
0.150	0.5	(MHz)	5	30.000	

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.1580	30.97	9.64	40.61	65.56	-24.95	QP
2		0.1580	16.57	9.64	26.21	55.56	-29.35	AVG
3		0.6860	27.21	9.59	36.80	56.00	-19.20	QP
4		0.6860	18.28	9.59	27.87	46.00	-18.13	AVG
5		0.8260	28.09	9.59	37.68	56.00	-18.32	QP
6	*	0.8260	19.62	9.59	29.21	46.00	-16.79	AVG
7		0.9380	25.92	9.59	35.51	56.00	-20.49	QP
8		0.9380	12.89	9.59	22.48	46.00	-23.52	AVG
9		1.3500	25.33	9.60	34.93	56.00	-21.07	QP
10		1.3500	12.91	9.60	22.51	46.00	-23.49	AVG
11		17.3740	24.60	10.63	35.23	60.00	-24.77	QP
12		17.3740	11.72	10.63	22.35	50.00	-27.65	AVG



Temperature:	24 ℃	Relative Humidity:	56%
Test Voltage:	AC 240V/60Hz	TOD A W	
Terminal:	Line	The second	
Test Mode:	Normal working wit	th TX B Mode	1
Remark:	Only worse case is	reported	
90.0 dBu¥			
			QP:
			AVb:
40			
mon	MARKEN AND AND	. x .	man
Mr. M. Markey M.	a marine a	manner	
N WM WM	water with the south	M MAAA	man 1
124.	W" " "		P
10			A
0.150	0.5	(MHz) 5	30.000

No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1	0.4460	30.29	9.60	39.89	56.95	-17.06	QP
2	0.4460	21.17	9.60	30.77	46.95	-16.18	AVG
3	0.9540	29.66	9.60	39.26	56.00	-16.74	QP
4	0.9540	20.18	9.60	29.78	46.00	-16.22	AVG
5	1.1260	30.23	9.60	39.83	56.00	-16.17	QP
6 *	1.1260	20.63	9.60	30.23	46.00	-15.77	AVG
7	1.2700	29.35	9.60	38.95	56.00	-17.05	QP
8	1.2700	20.11	9.60	29.71	46.00	-16.29	AVG
9	1.9540	27.53	9.61	37.14	56.00	-18.86	QP
10	1.9540	18.15	9.61	27.76	46.00	-18.24	AVG
11	15.2140	28.17	10.47	38.64	60.00	-21.36	QP
12	15.2140	17.03	10.47	27.50	50.00	-22.50	AVG



Temperature:	24 ℃	Relative Humidity	/: 56%
Test Voltage:	AC 240V/60Hz	TUP A LUP	
Terminal:	Neutral		U A
Test Mode:	Normal working	with TX B Mode	~
Remark:	Only worse case	e is reported	The second
90.0 dBuV			
			QP: —
			AVG:
40	X X X X X X X X X X X X X X X X X X X		a. marking
		. marine and and and	m N
Marine	WWWWWWWWWWWWWWWWWWWWWWWW	m ~ ~ ~ ~ ~	and the second and the
/			P
			A
0.150	0.5	(MHz) 5	30.000

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.4660	27.96	9.58	37.54	56.58	-19.04	QP
2	*	0.4660	19.83	9.58	29.41	46.58	-17.17	AVG
3		0.6300	27.34	9.59	36.93	56.00	-19.07	QP
4		0.6300	18.44	9.59	28.03	46.00	-17.97	AVG
5		1.0620	26.60	9.59	36.19	56.00	-19.81	QP
6		1.0620	16.56	9.59	26.15	46.00	-19.85	AVG
7		2.0180	25.50	9.61	35.11	56.00	-20.89	QP
8		2.0180	17.43	9.61	27.04	46.00	-18.96	AVG
9		10.4620	24.33	10.27	34.60	60.00	-25.40	QP
10		10.4620	13.88	10.27	24.15	50.00	-25.85	AVG
11		17.6580	25.73	10.63	36.36	60.00	-23.64	QP
12		17.6580	12.23	10.63	22.86	50.00	-27.14	AVG



Attachment B-- Radiated Emission Test Data

9KHz~30MHz

From 9KHz to 30MHz: Conclusion: PASS

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

30MHz~1GHz

emperature:	24 ℃	Relative Humidity:	56%
est Voltage:	AC 120V/60HZ	EU - RUD	A VE
nt. Pol.	Horizontal		U.S.
est Mode:	TX B Mode 2412MHz		EN LINE
Remark:	Only worse case is reported	ed	
80.0 dBuV/m			
30			15C 3M Radiation Margin -6 dB 3 4 5 6 4 7 7 4 7 4 7 4 7 4 7 4 7 4 7 4 7 4 7 4

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	İ	240.8304	59.02	-17.69	41.33	46.00	-4.67	QP
2	*	482.2156	52.94	-11.10	41.84	46.00	-4.16	QP
3	İ	562.6624	49.05	-8.96	40.09	46.00	-5.91	QP
4		642.8613	46.91	-8.18	38.73	46.00	-7.27	QP
5		724.2611	46.45	-6.70	39.75	46.00	-6.25	QP
6		804.6028	43.98	-5.53	38.45	46.00	-7.55	QP

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



Temperature:	24 ℃	Relative I	Humidity: 56°	%	
Test Voltage:	AC 120V/60HZ	TO SA A	No.	1 2	1100
Ant. Pol.	Vertical	- RUDD	1	- 01	10
Test Mode:	TX B Mode 2412	MHz	TO DE	CIO2	-
Remark:	Only worse case	is reported	TOPS	-	Chille
30.0 dBuV/m			(RF)FCC 15	C 3M Radiation Nargin -6	dB
-20	60 70	(MHz)	300 400 50	0 600 700	1000.00
	Reading	Correct Measu	IFO		
No. Mk. F	req. Level	Factor men		Over	
N	MHz dBuV	dB/m dBuV	//m dBuV/m	dB	Detecto
1 160.	3456 54.71	-20.86 33.8	35 43.50	-9.65	QP
2 240.	.8304 54.76	-17.69 37.0	07 46.00	-8.93	QP
	2156 43.33	-11.10 32.2		-13.77	QP
	6624 47.53	-8.96 38.5		-7.43	QP
. 002.	11.00	0.00 00.0	10.00	1.10	
5 * 642.	.8613 47.54	-8.18 39.3	36 46.00	-6.64	QP

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

Emission Level= Read Level+ Correct Factor



Above 1GHz

em	perature	:	24 ℃	1	en no		Rel	ative	Humio	dity: 5	56%	C G M			
ſest	Voltage:		AC 12	C 120V/60HZ											
۹nt.	Pol.		Horiz	lorizontal											
ſest	Mode:		TX B	Mod	e 2412N	/Hz	5	- 1	RUE.	2	1 18		3		
Rem	nark:		No re limit.	port	for the e	missio	on whic	h mor	e than	10 dB b	elow the	e prescril	be		
110.0	dBuV/m												_		
													1		
-															
										(RF) FCC	PART 15C (PEAK)			
		2											1		
60		2 X								(RF) FC	C PART 15C	(AVG)			
		1													
		×													
10.0													1		
L	00.000 3550.0	0	6100.00	8650	0.00 112	00.00	13750.00	16300.0	0 188	50.00 214	00.00	26500.00) MF		

No.	Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4824.120	29.66	14.55	44.21	54.00	-9.79	AVG
2		4825.440	43.11	14.57	57.68	74.00	-16.32	peak



emp	erature:		24 ℃			Relative H	lumidity:	56%	
est V	/oltage:		AC 120	V/60HZ	muse			20	100
ht. F	Pol.		Vertica	- TRU	5	1000	a W		av
est N	Node:		TXBN	lode 2412	2MHz	610	20	1 Pros	-
Rema	rk:		-	ort for the bed limit.	emission	which more th	nan 10 dB	below the	9
110.0	dBu∀/m			1					
							(RF) FCC	PART 15C (PE	AK)
		•							
60		2 X					(BE) EC	C PART 15C (A	VGI
		1 X					().		
10.0 1000.	.000 3550.00	6	100.00 8	650.00 11:	200.00 13750.	00 16300.00 1	8850.00 2140	0.00	26500.00 MH
			D	eading	Correct	Measure-			
No.	Mk.	Fre		Level	Factor	ment	Limit	Over	
		MH	z	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detecto

		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4823.980	35.04	14.55	49.59	54.00	-4.41	AVG
2		4824.040	46.69	14.55	61.24	74.00	-12.76	peak



2

Гетр	eratu	re:	24 °(24 °CRelative Humidity:56%									
Test \	/oltag	e:	AC 1	AC 120V/60HZ									
Ant. F	Pol.		Horiz	zonta	al		ang	2	aU	-	2 2		
Fest N	Mode:		TX E	8 Moo	de 243	7MHz		611	20 -	a			
Rema	ırk:				t for the d limit.	emissior	which	more th	nan 10 dE	3 below the	9		
110.0	dBu¥/m												
									(BF) FC	C PART 15C (PE	AKI		
60		2											
		2 X							(RF) F	VG)			
		1 X											
10.0	.000 355	0.00 0	100.00	8650	00 11	200.00 1375	0.00 103	00.00 14	8850.00 214	400.00	26500.00 MH		
1000.	.000 333	0.00 0	100.00	00.00	.00 11	200.00 1373	0.00 103	00.00 1	0000.00 214	+00.00	20300.00 MH		
No	ML	E.			ading	Correc		asure-	Limit	Over			
INO.	. Mk.		· ·		evel	Facto							
		MH	z	d	BuV	dB/m	dB	uV/m	dBuV/n	n dB	Detector		
4	*	4874.	080	20	9.29	14.86	4	4.15	54.00	-9.85	AVG		

Emission Level= Read Level+ Correct Factor

41.32

14.86

56.18

74.00

-17.82

peak

4874.460



Temperature:			24 °	0	1010	-	Relat	ive Hum	nidity:	56%	32	
Test	Voltag	je:	AC 120V/60HZ									
Ant.	Pol.		Verti	cal	33		RUP	2	1 13		10	
Test	Mode	:	TX E	Mode	2437	MHz	-	600	2	2 199	-	
Rema	ark:			eport fo		emissior	ı which	more tha	an 10 dE	3 below the	The second	
110.0	dBuV/m											
									(RF) FC	C PART 15C (PEAK)	
60		1 X							(RF) F	CC PART 15C (AVG	1	
		X										
_												
10.0												
1000	.000 355	0.00 61	100.00	8650.00	1120	00.00 1375	D.OO 163	00.00 188	50.00 214	100.00 2	6500.DO MH	
No	. Mk	Fre	eq.	Read Lev	<u> </u>	Correc Facto		asure- nent	Limit	Over		
		MH	z	dBu	V	dB/m	dE	BuV/m	dBuV/r	m dB	Detect	
1		4873.	840	45.4	18	14.86	6	0.34	74.00	0 -13.66	pea	
	*	4874.										



Tem	Temperature: 24			2	1110		Relat	ive Hu	midity:	56%	38	
Test	t Voltag	e:	AC 1	AC 120V/60HZ								
Ant.	Pol.		Horiz	ontal	83		ann		a	-		
Test	t Mode:		TX B	Mode	2462	2MHz	-	00	20	C.C.C.	-	
Rem	nark:			port fo		emission	which	more th	nan 10 dB	below the	100	
110.0	dBuV/m											
									(BE) ECC	PART 15C (PEA	n	
										I AITI TJU (FEA	r j	
60		2 X										
		×							(RF) FC	C PART 15C (AV	6)	
-		1 X										
-												
-												
10.0												
100	00.000 355	0.00 6	100.00	8650.00	112	00.00 13750).00 1630	00.00 14	8850.00 2140	0.00	26500.00 M	
		_		Read		Correct		sure-		-		
No	o. Mk.	Fre	q.	Leve	el	Factor	m	ent	Limit	Over		
		MH:	z	dBu	/	dB/m	dB	uV/m	dBuV/m	dB	Detect	
1	*	4923.4	125	29.5	9	15.17	44	.76	54.00	-9.24	AVC	



Temp	eratu	re:	24 °	24 °CRelative Humidity:56%									
Test \	Voltag	ge:	AC 120V/60HZ										
Ant. I	Pol.		Verti	cal	R)		an	2	aU				
Test I	Mode	:	TX E	B Mod	e 2462	2MHz		(UI)	20 _	a Vue	-		
Rema	ark:			eport cribed		emission	which	more th	nan 10 dB	below the	The second		
10.0	dBu¥/m												
									(RF) FC	C PART 15C (PEA	.K)		
		2											
60		×											
		1 X							(BF) F	6)			
10.0													
	000 355	i0.00 6 [.]	00.00	8650.0	0 112	00.00 13750).00 163	00.00 18	850.00 214	100.00	26500.00 MH		
					ding	Correc		asure-					
No	.Mk.Fre		eq.	Le	vel	Factor	r m	ent	Limit	Over			
		MH	z	dB	uV	dB/m	dE	8uV/m	dBuV/m	n dB	Detector		
1	*	4924.	040	35	.63	15.17	5	0.80	54.00	-3.20	AVG		
2		4924.	100	47	.43	15.17	6	2.60	74.00	-11.40	peak		



1

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iem	nperature:	24 °	С		Relativ	e Humidity	: 569	%	33
Tes	t Voltage:	AC 1	120V/60HZ		2	LUL-	1990	1	100
Ant	. Pol.	Hori	zontal	5	MUP		Jul P	1	
Tes	t Mode:	TX (G Mode 24	12MHz		MUBE	~	and the second	
Ren	nark:		eport for th cribed limi		which m	ore than 10	dB bel	ow the	
110.0	D dBuV/m								
	·								
						(05		15C (PEAK)	
						(Br	J FLL PANI	TOU (PEAK)	
	1								
60		×				(B	F) FCC PAR	T 15C (AVG)	1
		2							
10.0		6100.00	8650.00 1	11200.00 1375	0.00 16300.	00 18850.00	21400.00	26	500.00 MH
10.0 10	000.000 3550.00	6100.00							
	000.000 3550.00	6100.00							
	000.000 3550.00	6100.00							
	00.000 3550.00	6100.00	Dest						
10			Reading				nit		
10	lo. Mk. F	-req.	Level	Facto	or me	nt Lin		Over	
10	lo. Mk. F				or me	nt Lin	nit JV/m	Over dB	Detect

Emission Level= Read Level+ Correct Factor

31.13

14.55

45.68

54.00

4824.480

AVG

-8.32



10111	peratu	re:	24 °(2			Relat	ive Hur	nidity:	56%	
Test	Voltag	je:	AC 1	20V/	60HZ	(NO)	~	2 13		2 12	
Ant.	Pol.		Verti	cal	181		(AR)		3 8		
Test	Mode	:	TX G) Moc	de 241	2MHz		6401	2	a UU	
Rem	nark:				for the d limit.	emission	which	more th	an 10 dE	3 below the	
110.0	dBuV/m										
									(RF) FC	C PART 15C (PE	AK)
		1									
60 _		×									
-		2							(RF) F	CC PART 15C (A	VG)
		×									
-											
		0 00 C*	00.00	8650.0)0 112	200.00 1375	0.00 163	00.00 18	850.00 21	400.00	26500.00 M
	0.000 355	0.00 0									
	0.000 355	0.00 8									
	0.000 355										
100					ding	Correc		asure-	Limit	Over	
100	o.ooo 355 D. Mk.	Fre	·	Le	vel	Correc Facto	r m	ent	Limit	Over	
100			·	Le			r m		Limit dBuV/r		Detecto
		Fre	z	Le dE	vel	Facto	r m dB	ent		m dB	



2

Tem	peratu	re:	24 ℃		190	Rela	ative Hur	nidity:	56%	100
Test	Voltag	e:	AC 12	20V/60H	ΗZ	20	A V		20	The second
Ant.	Pol.		Horizo	ontal	33 -	199		av		10
Test	Mode:		TX G	Mode 2	2437MHz		E COD	20	a	-
Rem	ark:			port for ribed lir		on whic	h more th	an 10 dE	3 below the	100
110.0	dBuV/m									
								(BE) EC	C PART 15C (PEA	n
60		2								
		x						(BF) F	CC PART 15C (AV	6)
		1 X								
-		^								
_										
10.0										
	0.000 355	0.00 6	100.00	8650.00	11200.00 1	3750.00 1	6300.00 18	850.00 21	400.00	26500.00 MI
				Qoadin	og Com	act M	oacuro			
No	. Mk.	Fre		Readin Level			easure- ment	Limit	Over	
No). Mk.	Fre MH	q.		Fac	tor i		Limit dBuV/r		Detect

74.00

57.50

-16.50

peak

Emission Level= Read Level+ Correct Factor

42.63

14.87

4875.240



Tem	nperatur	e:	24 °	C	all'	1	Relat	ive Hur	nidity:	56%	28
Tes	t Voltage	e :	AC 1	20V/	60HZ	and a	-			01	100
Ant	. Pol.		Verti	cal	181		MAR		3 13	1	
Test	t Mode:		TX G	6 Moo	de 243	7MHz		EUD.	2	a lue	
Ren	nark:			-	for the		which	more th	an 10 dE	below the	CON CON
110.0) dBuV/m							1	1		
									(BE) EC	C PART 15C (PEAF	a
											*
60		1									
		×							(BF) F	CC PART 15C (AVC	i)
		2 X									
10.0											
10	00.000 3550	.00 6	100.00	8650.	00 11	200.00 1375	0.00 163	00.00 18	850.00 214	100.00 2	6500.00 M
				Rea	adina	Correc	t Mea	asure-			
N	o. Mk.	Fre	q.		ading evel	Correc Facto		asure- ient	Limit	Over	
N	o. Mk.	Fre	·	Le			r m		Limit dBuV/r		Detect
N 1			z	Le	evel	Facto	r m dB	ent		n dB	Detect



1CII	nperature:	24 ℃	(TUS		Relative Hu	midity:	56%	18
Tes	t Voltage:	AC 120	OV/60HZ	MOR		and the second second	20	5
Ant	. Pol.	Horizo	ntal		RUEL	au		
Tes	t Mode:	TXG	Node 246	2MHz	100	20	3 14	-
Ren	nark:		ort for the bed limit.	emission	which more t	han 10 dE	3 below the	100
110.0) dBu∀/m							
						(BE) EC	C PART 15C (PEA	JK1
								,
60	1 X							
	×					(RF) F	CC PART 15C (AV	(6)
	2 X							
10.0								
10	00.000 3550.00	6100.00 8	650.00 112	200.00 13750).00 16300.00 1	8850.00 214	400.00	26500.00 N
			eading	Correct	Measure-			
No	o.Mk.Fre		eading Level	Correct Factor		Limit	Over	
N	o.Mk.Fre	eq.				Limit dBuV/n		Detect
No 1		əq. Iz	Level	Factor	ment		n dB	



2

Temp	erature	: :	24	°C			20	Relati	ve Hur	nidity:	56%	
Test \	Voltage	:	AC	120V	//60HZ	Z	NEE				5	Ino
Ant. I	Pol.		Vert	ical	and i	3		alle		2 3	5	av
Test I	Mode:		TX (G Mo	de 24	62MH	z		all	20 _	a W	-
Rema	ark:			100	t for tl ed limi		ssion w	hich n	nore th	an 10 dE	below the	9
110.0	dBuV/m											
										(RF) FC	C PART 15C (PE	AKJ
		1										
60		×								(BF) F	CC PART 15C (A	V6)
		2										
		×										
10.0	.000 3550.0	<u> </u>	100.00	8650	1 00	11200.00	13750.0	0 1630	0 00 18	850.00 214	400.00	26500.00 MH;
N.	N.U.	F	_		ading		rrect		sure-	Limit	0	
N0.	Mk.	Fre	q.	Le	evel	Fa	actor	me	ent	Limit	Over	
		MH	z	d	BuV	d	3/m	dBu	ıV/m	dBuV/n	n dB	Detector

Emission Level= Read Level+ Correct Factor

29.78

15.21

44.99

4928.800

AVG

-9.01

54.00



peratu	re:	24 °C	2	2 1	Relative	Humidity:	56%	
Voltag	je:	AC 1	20V/60HZ	(mu is				
Pol.		Horiz	contal	5	RUPP	10		10
Mode		TX N	(HT20) M	ode 2412N	lHz	000	a	-
ark:					which mor	e than 10 dl	B below the	1000
dBuV/m								
		_				(86) 60		1
						(in) to		,
	2							
	×					(BF) F	CC PART 15C (AVG)
	1 X							
0.000 355	0.00 61	00.00	8650.00 1	1200.00 1375	D.00 16300.00	18850.00 21	400.00 2	6500.00 MH:
			Reading	Correc	t Measu	re-		
				Facto			Over	
. Mk.	Fre	q.	Level	Facto	i inoni			
. Mk.	Fre MH	·	Level dBuV	dB/m	dBuV/		/m dB	Detecto
. Mk.		z			dBuV/	m dBuV/		Detecto
	Voltag Pol. Mode ark: dBuV/m	Mode: ark: dBuV/m ///////////////////////////////////	Voltage: AC 1 Pol. Horiz Mode: TX N ark: No re preso dBuV/m 2 X 1 X	Voltage: AC 120V/60HZ Pol. Horizontal Mode: TX N(HT20) Marking ark: No report for the prescribed limit dBuW/m Image: Comparison of the prescribed limit 2 X 1 X 1 X 1 X	Voltage: AC 120V/60HZ Pol. Horizontal Mode: TX N(HT20) Mode 2412N ark: No report for the emission prescribed limit. dBuV/m Image: Comparison of the emission prescribed limit. dBuV/m Image: Comparison of the emission prescribed limit. dBuV/m Image: Comparison of the emission prescribed limit. dBuV/m Image: Comparison of the emission of the emis	Voltage: AC 120V/60HZ Pol. Horizontal Mode: TX N(HT20) Mode 2412MHz ark: No report for the emission which morprescribed limit. dBuV/m Image: Comparison of the emission of t	Voltage: AC 120V/60HZ Pol. Horizontal Mode: TX N(HT20) Mode 2412MHz ark: No report for the emission which more than 10 dl prescribed limit. dBuV/m (RF) FC 2 2 2 (RF) FC 1 3 3 3 3 1 3 3 3 3 3 1 4 4 4 4 4 4 4 1 4 </td <td>Voltage: AC 120V/60HZ Pol. Horizontal Mode: TX N(HT20) Mode 2412MHz ark: No report for the emission which more than 10 dB below the prescribed limit. dBuV/m</td>	Voltage: AC 120V/60HZ Pol. Horizontal Mode: TX N(HT20) Mode 2412MHz ark: No report for the emission which more than 10 dB below the prescribed limit. dBuV/m



2

Гетр	erature	:	24	°С			Relat	ive Hu	midity:	56%	
Test \	Voltage:		AC	120V	/60HZ	(NUE	2			5	1100
Ant. F	Pol.		Vert	ical	an a		ang		aU	1	2 2
Test N	Mode:		1 XT	N(HT)	20) Mo	de 2412N	lHz	au		a lu	
Rema	ark:				t for the d limit.		which	more th	nan 10 dE	below the	,
110.0	dBuV/m										
									(BF) FC	C PART 15C (PE	AKI
60		1 X									
									(RF) F	CC PART 15C (A	VG)
		2 X									
10.0											
1000.	.000 3550.0	0 6	100.00	8650	.00 11	200.00 1375	0.00 163	00.00 18	3850.00 214	100.00	26500.00 MH
				Rea	ading	Correc	t Mea	asure-			
No	Mk.	Fre	q.	Le	evel	Facto	r m	ent	Limit	Over	
INU.											
NU.		MH	z	d	BuV	dB/m	dB	uV/m	dBuV/m	n dB	Detector

Emission Level= Read Level+ Correct Factor

31.60

14.55

46.15

54.00

-7.85

AVG

4822.740



emp	erature:	24 ℃			Relativ	e Humidit	t y: {	56%	
lest V	/oltage:	AC 120	0V/60HZ	000		Level and	-		5
Ant. P	ol.	Horizo	ntal		CU DE	-	Con the		20
lest N	lode:	TX N(H	-T20) Mo	de 2437M	Hz	1000		100	
Rema	rk:		ort for the ibed limit.	emission	which m	ore than 1	0 dB b	below the	9
110.0 0	lBu¥/m								
						(RF) FCC F	PART 15C (PI	EAK)
60	1 ×						(RF) FCC	: PART 15C (/	AVG)
	2								
	×								
10.0									
	00 3550.00	6100.00 8	3650.00 112	200.00 13750	0.00 16300	0.00 18850.00	21400	0.00	26500.00 M

4873.840

4873.840

1

*

41.71

28.98

14.86

14.86

56.57

43.84

-17.43

-10.16

74.00

54.00

peak

AVG



1

2

*

empe	rature:	24 ℃			Relative	e Humidity	: 56%	
Test Vo	oltage:	AC 120	0V/60HZ	(all a)	-	Mar -	1900	
Ant. Po	ol.	Vertica			Maps		Ser and	20
Fest M	ode:	TX N(F	IT20) Mod	de 2437M	Hz	NUPE	A 14	
Remar	k:		ort for the bed limit.	emission	which mo	ore than 10	dB below th	ne
110.0 de	Bu¥/m					i	1	
						(RF) FCC PART 15C (PEAK)
60	1 X					(B	F) FCC PART 15C	(AVG)
	2							
	×							
10.0			650.00 112					

14.85

14.89

57.82

44.36

74.00

54.00

42.97

29.47

Emission Level= Read Level+ Correct Factor

4872.320

4878.620

peak

AVG

-16.18

-9.64



Ten	nperatu	re:	24 °(20	Relative Hu	umidity:	56%	2.6
Tes	t Voltag	je:	AC 1	20V/60HZ	MORE	AU		0 2	
Ant	t. Pol.		Horiz	ontal	5	AUG L	2 19	-	
Tes	t Mode	:	TX N	(HT20) Mc	de 2462MH	lz (M)	2	A REAL	-
Rer	nark:			eport for the cribed limit.		which more th	an 10 dB t	pelow the	
110.0) dBuV/m	1		1					
							(BE) ECC P	ART 15C (PEA)	a
							()		
60		2							
		×					(RF) FCC	PART 15C (AVG)	
		1 X							
10.0									
10	00.000 355	0.00 61	100.00	8650.00 11	200.00 13750.0	00 16300.00 188	850.00 21400	1.00 2	26500.00 M
				Reading	Correct	Measure-			
N	lo. Mk	. Fre	eq.	Level	Factor	ment	Limit	Over	
				dBuV	dB/m	dBuV/m	dBuV/m	dB	Detect
		MH	z	abuv	ab/m	ab a min			0.000
1	*	M⊦ 4924.		29.43	15.18	44.61	54.00	-9.39	AV



Tem	peratu	re:	24 °	С	400	200	Re	ative H	umidity:	56%	
Test	t Voltag	ge:	AC 1	20V/	60HZ	mus			Charles and	2 2	6
Ant	. Pol.		Verti	cal	(B)	-	AUT		a		
Test	t Mode	:	TXN	I(HT2	20) Mo	de 2462M	Hz	RU	20	C.C.C.	-
Ren	nark:				for the d limit.	emission	which	more th	nan 10 dB	below the	
110.0	dBuV/m										
									(RF) FCC	PART 15C (PEA	K]
60		1 X							(BE) EC	C PART 15C (AV	61
		2							(11)		u)
		ž									
10.0 10	00.000 355	i0.00 6 [.]	100.00	8650.	DO 112	200.00 13750	.00 16	300.00 1	8850.00 2140	0.00	26500.00 M
				Rea	ding	Correct	Me	asure-			
No	o. Mk.	Fre	q.		vel	Factor	'n	nent	Limit	Over	
		MH	z	dE	BuV	dB/m	d	BuV/m	dBuV/m	dB	Detect
1		4919.	740	43	.78	15.15	5	8.93	74.00	-15.07	pea
2	*	4928.9			.78	15.21		4.99	54.00	-9.01	AV



(1)

Attachment C-- Restricted Bands Requirement Test Data

Temp	peratu	ire:	24	°C	S		Rela	ative H	umidity:	56%	
Test		ge:	AC	120V/60H	IZ						
Ant.			Hor	izontal		-	3		and	2	EU.
Test		:	TX	B Mode 2	412MH	z		and l		MB	
Rema		N/A		AUG	1	a	S.F.	TOTAL STATE		ARE	
110.0		1								3	
60								1 × 2 ×	(RF) FC	PART 15C (PE	
10.0 2323	8.000 23	33.00 23	43.00	2353.00	2363.00	2373.00	2383	3.00 23	393.00 2403	. OD	2423.00 M
				Readin	g Co	orrect	Mea	sure-			
No.	. Mk	. Fre	q.	Level	F	actor	me	ent	Limit	Over	
		MHz	2	dBuV	d	B/m	dBu	ıV/m	dBuV/m	dB	Detecto
1		2390.0	00	54.97	2	.82	57	.79	74.00	-16.21	peak
2		2390.0	00	43.62	2	.82	46	.44	54.00	-7.56	AVG
3	Х	2413.0	00	101.83	3 2	.94	104	4.77	Fundamental	I Frequency	peak
4	*	2413.0	00	92.25	2	.94	95	.19	Fundamental	Frequency	AVG



Temp	peratu	re:	24 °	С	100		R	lelati	ve Hur	nidity:	56%	197
Test	t. Pol. st Mode: mark: 0 dBuV/m	AC 1	20V/60	ΗZ	60 B	2	~	N W		2 2	100	
Ant.	at Voltage: at Voltage: at Node: mark: 0 dBuV/m		Verti	cal	35		5	10		2 13		
Test	t. Pol. st Mode: mark: 0 dBuV/m 	:	TX E	B Mode	2412	2MHz		_	EM.	2	A RUE	
Rema			N/A	-			50	33	1	(mOx	-	CUL-
110.0	dBuV/m											
											э х	
											4	
											\sim	
-										(RF) FCC	PART 15C (PEA	K)
											1	
60									- 1		[
-									x	(RF) FC	C PART 15C (AV	6)
	324.000 2334.00							/	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			
-								/				
10.0	000 00	1.00.0	044.00	0051.00		4 00 007	1.00					
2324	.000 23	54.UU Z	344.UU	2354.00	236	i4.00 237	4.00	2384	1.UU 23	94.00 240	¥.UU	2424.00 MH
				Read	ina	Corre	ct	Mea	asure-			
No	. Mk	Fre	eq.	Leve		Facto			ent	Limit	Over	
		MH	łz	dBu	v	dB/m		dB	uV/m	dBuV/n	n dB	Detecto
1		2390.	000	52.5	3	2.82		55	5.35	74.00	-18.65	j peal
2		2390.	000	41.7	2	2.82		44	1.54	54.00	-9.46	AVG
3	Х	2411.	200	99.1	6	2.94		10	2.10	- Fundament	al Frequency	peal
	*	2411.		89.5	-	2.94		~ ~ ~	2.49		al Frequency	AVG



Tem	peratu	ire:	24	°C	2	Relat	tive Hu	midity:	56%	100
Test	452.000 2462.00	ge:	AC	120V/60H	Z					
Ant	Pol.		Hor	izontal	2	WW		a	-	10
Test	t Voltage: Pol. t Mode: nark: dBuV/m 2 x 1 x x 1 x x 1 x x x x x x x x x x x x x	:	TX	B Mode 24	462MHz	-	1097	20	1 Mars	
Ren	nark:		N/A	1	~	THE P		(MOR	2	1 Store
110.0	dBuV/m									
		2 X								
		1								
	$- \int$	×								
		\rightarrow						(RF) FCC	PART 15C (PEAK	9
60	1							(RF) FC	C PART 15C (AVC	i)
	/			3 X						
				4						
10.0										
24	52.000 24	52.00 24	472.00	2482.00	2492.00 2503	2.00 251	2.00 2	522.00 2532	.00 2	552.00 MH
N		F	-	Readin			asure-		Over	
N	D. IVIK.		·	Level	Facto		nent	Limit	Over	
		MH	Z	dBuV	dB/m	dE	3uV/m	dBuV/m	dB	Detecto
1	*	2462.8	300	90.18	3.27	9	3.45		I Frequency	AVG
2	Х	2463.4	400	99.79	3.28	10	03.07	Fundament	al Frequency	peak
3		2483.5	500	47.12	3.41	5	0.53	74.00	-23.47	peak
									-13.99	



Temp	eratu	re:	24	°C		Relative Hu	umidity:	56%	19.1
Test \	Voltag	je:	AC	120V/60HZ	(MOB				
Ant. F	Pol.		Vert	ical	5	MUPP	AU	-00	
Test I	Mode	:	TXI	B Mode 246	62MHz	199	المعالمة	1 Mars	-
Rema	ark:		N/A	(Internet	6	TEL T	(nob		1 Str
110.0	dBuV/m								
	1 X								
	2								
		\sim							
	1						(RF) FCC	PART 15C (PEA	K)
	(
60									
H				3 3			(RF) FC	C PART 15C (AV	6)
				4					
			~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	`				
10.0									
2452.	000 246	2.00 24	72.00	2482.00 2	492.00 2502.0	0 2512.00 2	2522.00 2532	2.00	2552.00 MH
No	. Mk.	Fre	a	Reading Level	Correct Factor		Limit	Over	
NO.			·						
		MH		dBuV	dB/m	dBuV/m	dBuV/m	dB	Detecto
1	Х	2460.6	600	97.51	3.26	100.77	Fundamenta	I Frequency	peak
2	*	2461.0	000	87.87	3.26	91.13		Frequency	AVG
3		2483.5	500	47.02	3.41	50.43	74.00	-23.57	peak
·									



Temp	eratu	re: 24	°C		Relativ	e Humidit	: y: 56	%	
Test \	/oltag	e: AC	C 120V/60HZ	mus:	-	ALC: N	1000		110
Ant. F	Pol.	Ho	orizontal	5	RUPT	-	Charles and the	-	10
Test I	Node	: T>	G Mode 241	2MHz		ROPP	-	and a	-
Rema	rk:	N/	A		CE D		055	2	(BBE
110.0	nark:								
								4 X	
							3 ×		
						0	RF) FCC PAR	T 15C [PEAI	k]
					1				
60					×		(RF) FCC PAI		61
					2 ————————————————————————————————————				
10.0 2332.	000 234	2.00 2352.00	0 2362.00 23	72.00 2382.0	0 2392.0	0 2402.00	2412.00		2432.00 MH
			Reading	Correct	Meas	sure-			
No	Mk.	Freq.	Level	Factor			mit	Over	
		MHz	dBuV	dB/m	dBu	V/m dB	8uV/m	dB	Detecto
1		2390.000	0 61.32	2.82	64.	14 74	4.00	-9.86	peak
2		2390.000	39.67	2.82	42.	49 54	4.00 ·	-11.51	AVG
3	*	2414.600	0 81.97	2.95	84.	92 Fund	lamental Fr	equency	AVG
4	Х	2416.200) 98.44	2.97	101	/1 Euro	lamental Fr		peak



tage: - de:	Verti		r mor	2				
de:			5					
	TX C			2	A 12	-01	10	
		6 Mode 24	12MHz	-	521	المعالم	Charles and	-
	N/A	E.	V c	m l		a man	-	C C C
//m								
							4	
							×	
							3	
						(RF) FCC]
					1			
					×	(BE) EC	2 PART 150 (4V6	
						().c		\sim
					2 X			
2338.00	2348.00	2358.00 2	368.00 2378	3.00 23	88.00	2398.00 2408	.00 2	428.00 MH
		Reading	Corre	ct Me	easure) -		
1k. F	req.	Level				Limit	Over	
Ν	MHz	dBuV	dB/m	d	BuV/m	dBuV/m	ı dB	Detecto
239	0.000	59.19	2.82	6	62.01	74.00	-11.99	peak
239	0.000	37.94	2.82	4	10.76	54.00	-13.24	AVG
241	0.400	78.79	2.93	8	31.72	Fundament	al Frequency	AVG
241	0.600	95.02	2.93	ç	97.95	 Fundamenta	- al Frequency	peak
	1k. F 239 239 239 241	Nk. Freq. MHz 2390.000 2390.000 2410.400	Reading Ik. Freq. Level MHz dBuV 2390.000 59.19 2390.000 37.94 2410.400 78.79	Reading LevelCorrec FactorMHzdBuVdB/m2390.00059.192.822390.00037.942.822410.40078.792.93	Reading Correct Me /lk. Freq. Level Factor r MHz dBuV dB/m d 2390.000 59.19 2.82 6 2390.000 37.94 2.82 4 2410.400 78.79 2.93 8	2338.00 2348.00 2358.00 2368.00 2378.00 2388.00 2338.00 2348.00 2358.00 2368.00 2378.00 2388.00 1 Reading Level Correct Factor Measure ment MHz dBuV dB/m dBuV/m 2390.000 59.19 2.82 62.01 2390.000 37.94 2.82 40.76 2410.400 78.79 2.93 81.72	1 1	2338.00 2348.00 2358.00 2368.00 2378.00 2388.00 2398.00 2408.00 2 Mk. Freq. Reading Level Correct Factor Measure- ment Limit Diation Over MHz dBuV dB/m dBuV/m dBuV/m dBuV/m dB 2390.000 59.19 2.82 62.01 74.00 -11.99 2390.000 37.94 2.82 40.76 54.00 -13.24 2410.400 78.79 2.93 81.72 Fundamental Frequency



Temp	eratu	re:	24	°C	an.			Relati	ve Hu	midity:	56%	
Test \	/oltag	ge:	AC	120V/	60HZ							
Ant. F	Pol.		Hori	zonta			5	100		all		10
Test I	Mode		TX	G Moo	de 246	2MHz			600	20	A VUE	-
Rema	ark:		N/A	-	152		1	33		000		C
110.0	dBuV/m									1	i	
		1 X										
		Ŷ										
			2									
	- ((RF) FCC	PART 15C (PEAI	9
					3							
60 _					x							
				\prec						(KF)FL	C PART 15C (AVI	i]
					4							
					×				_			
-												
			_				_					
10.0	000 045	0.00 0.	100.00	0476	00 04	00.00 01	00.00	2500		510.00 252		
2446.	000 245	6.UU 24	466.00	2476.	UU 24	86.00 24	96.00	2506	.00 23	516.00 252	6.00	2546.00 MI
				Dog	ading	Corr	act	Moa	sure-			
No.	Mk.	Fre	eq.		evel	Fac			ent	Limit	Over	
		MH	·		BuV	dB/n			uV/m	dBuV/n	n dB	Detect
1	х	2460.			5.04	3.26			9.30	_		
											I Frequency)	peal
2	*	2464.4			9.88	3.20			3.16	Fundament	al Frequency	AVG
3		2483.	500	59	9.41	3.4	1	62	2.82	74.00	-11.18	pea
		2483.		-	1.82	3.4			3.23	54.00	-15.77	AVG



Temp	eratu	re:	24 °	С		Relative Hu	umidity:	56%	
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				Reading	Correct	Measure-			
No.	Mk.	Fre	eq.	Level	Factor	ment	Limit	Over	
		MH	z	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detecto
1	Х	2458.2	200	77.45	3.24	80.69		al Frequency	AVG
2	*	2460.2	200	93.61	3.26	96.87	Fundamenta	al Frequency	peak
			- 00	34.62	3.41	38.03	74.00	-35.97	AVG
3		2483.	500	J4.0Z	0.41	00.00			



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4	Х	2/10	.800	96.69	9	2.99		Q	9.68	 Fundamen	tal Frequenc	× n	eak



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				Readi	na	Correc	rt I	Measur	re-			
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		N	ſHz	dBuV	,	dB/m		dBuV/n	n	dBuV/m	dB	Detecto
1		2390	0.000	58.40)	2.82		61.22	2	74.00	-12.78	peal
2		2390	0.000	37.43	3	2.82		40.25	5	74.00	-33.75	AVG
3	*	2407	7.600	93.61	1	2.91		96.52	2 Fu	ndamental	Frequency	peak
4	Х	2410	0.800	77.46	6	2.93		80.39) Fu	ndamental	- Frequency	AVG



Temp	peratu	re:	24	C	10.2		Rela	tive H	lumidity:	56%	20
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1	Х	2464	.400	94.1	9	3.28	97	7.47		- Frequency	peal
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3		2483	.500	57.2	6	3.41	60).67	74.00	-13.33	peal
4		2483	500	34.7	0	3.41	- 38	3.11	54.00	-15.89	AVG



Ten	nperati	ure:	24	°C			Relat	ive Hu	midity:	56%	33
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				Read	<u> </u>	Correc		asure-			
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1	Х	2455.	800	92.	05	3.23	9	5.28	– Fundamenta	I Frequency	pea
2	*	2459.4	400	75.	88	3.25	7	9.13	Fundamenta	I Frequency	AV
3		2483.	500	57.	29	3.41	6	0.70	74.00	-13.30	pea
1		2483.	500	34.	51	3.41	3	7.92	54.00	-16.08	AV



(2) Conducted Test

mperature:	24 ℃		Relative Humidity	: 56%
st Voltage:	AC 120V/60H	Z	TOPP TO	1
st Mode:	TX B Mode 24	12MHz / TX	B Mode 2462MHz	a Bur
mark:	The EUT is pr	ogramed in c	continuously transmitting	ng mode
	m Analyzer - Swept SA RF 75 Ω AC CORREC	CENCE INT		01:30:14 PM Oct 15, 2018
	2.377000000 GHz	SENSE:INT		TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P N N N N
R		n:Low Atten: 30 di		(r1 2.411 5 GHz
10 dB/div R Log 13.6	ef Offset 3.63 dB ef 23.63 dBm			-10.874 dBm
3.63				<u></u> 1
-6.37 -16.4				mmun
-26.4			N	-30.85 dBm
-46.4	J. Advances and a stated so an in state	unternative and allowed to a des		
-56.4				
Start 2.3270 #Res BW 10	0 GHz 0 kHz	#VBW 300 kHz	Sweep 9	Stop 2.42700 GHz 0.600 ms (1001 pts)
MKR MODE TRC S	CL X	Y FUNCT	-	TION VALUE
2 N 1 3 N 1 4 N 1	f 2.400 0 GHz f 2.390 0 GHz	-52.483 dBm -51.863 dBm -51.240 dBm		
5	2.000 0 GHZ	-01.240 0.011		E
8 9				
		m		~
9		m	STATUS	, ·
9 10 MSG Keysight Spectrur	m Analyzer - Swept SA RF 175 Ω AC CORREC	III		01:33:54 PM Oct 15, 2018
S 10 MSG Keysight Spectrur Q R	RF 75 Ω AC CORREC 2.497000000 GHz PNO	sense:iNT Fast Trig: Free R Atten: 30 di	ALIGN AUTO Avg Type: Log-Pwr un Avg Hold:>100/100	01:33:54 PM OC 15, 2018 TRACE [2 34 5 01 TYPE WWWW DET PNNNN
9 10 11 Keysight Spectrur Center Freq	rf 75 Ω AC CORREC 2.497000000 GHz PN0 IFGai		ALIGN AUTO Avg Type: Log-Pwr un Avg Hold:>100/100 B	01:33:54 PM Oct 15, 2018 TRACE 2 3 4 5 6 TYPE MWWWWW DET P N N N N Kr1 2.461 5 GHz
9 10 11 Keysight Spectrur Center Freq	RF 75 Ω AC CORREC 2.497000000 GHz PNO	: Fast 😱 Trig: Free R	ALIGN AUTO Avg Type: Log-Pwr un Avg Hold:>100/100 B	01:33:54 PM Oct 15, 2018 TRACE 1 2 3 4 5 6 TYPE MWWWW DET PNNNNN
Keysight Spectrur MSG Center Freq 10 dB/div 13.6 3.60	rf 75 Ω AC CORREC 2.497000000 GHz PN0 IFGai	: Fast 😱 Trig: Free R	ALIGN AUTO Avg Type: Log-Pwr un Avg Hold:>100/100 B	01:33:54 PM Oct 15, 2018 TRACE 2 3 4 5 6 TYPE MWWWWW DET P N N N N Kr1 2.461 5 GHz
9 10 11 MSG W R Center Freq 10 dB/div R 13.6	rf 75 Ω AC CORREC 2.497000000 GHz PN0 IFGai	: Fast 😱 Trig: Free R	ALIGN AUTO Avg Type: Log-Pwr un Avg Hold:>100/100 B	01:33:54 PM Oct 15, 2018 TRACE 2 3 4 5 6 TYPE MWWWWW DET P N N N N Kr1 2.461 5 GHz
Keysight Spectrur MSG Center Freq 10 dB/div R 13.6 3.60 -6.40	rf 75 Ω AC CORREC 2.497000000 GHz PN0 IFGai	: Fast 😱 Trig: Free R	ALIGN AUTO Avg Type: Log-Pwr un Avg Hold:>100/100 B	01:33:54 PM Oct 15, 2018 TRACE 2 3 4 5 6 TYPE MWWWWW DET P N N N N Kr1 2.461 5 GHz
Image: Sector of the sector	rf 75 Ω AC CORREC 2.497000000 GHz PNO IFGai	: Fast Trig: Free R Atten: 30 dl	ALIGN AUTO Avg Type: Log-Pwr un Avg Hold:>100/100 B	01:33:54 PM 0r.15, 2018 TRACE 2 3 4 5 0 TYPE WWWWW DET P WWWWW CT 2.461 5 GHz -14.016 dBm
© 10 11 MSG Keysight Spectrur (X R Center Freq 13.6 3.60 -6.40 -16.4 -26.4 -36.4	PF 75 02 AC CORREC 2.497000000 GHZ PNO IFGai ef Offset 3.6 dB ef 23.60 dBm	: Fast 😱 Trig: Free R	ALIGN AUTO Avg Type: Log-Pwr un Avg Hold:>100/100 3	01:33:54 PMOr15, 2018 TRACE 02 3 4 3 6 TYPE 02 3 4 5 7 TYPE 02 3 5 7 TYPE 02 3 5 7 TYPE 02 3 5 7 TYPE 02 3 5 7 TYPE 02 3 5 7 TYPE 02 3 5 7 TYPE 02 3 5 7 TYPE 02 3 5 7 TYPE 02 3 5 7 TYPE 02 3 5 7 TYPE 02 3 5 7 TYPE 02 3 5 7 TYPE 02
MSG Keysight Spectrur MSG Center Freq 10 dB/div R Center Freq 13 6 3 60 -6.40 -16.4 -66.4 Start 2,44700	PF 75 0. AC CORREC 2.497000000 GHz PNO ef Offset 3.6 dB From the second secon	Fast Trig: Free R Atten: 30 dl	ALIGN AUTO Avg Type: Log-Pwr AvgJHold:>100/100	01:33:54 PM 0r.15, 2018 TR-20
Image: Sector of the sector	PF I 75 0. AC CORREC 1 2.497000000 GHz PNO ef Offset3.6 dB ef 23.60 dBm Image: Constant of the second of the seco	Fast Trig: Free R Atten: 30 dl	ALIGN AUTO Avg Type: Log-Pwr Avg]Hold:>100/100	013354 PM 0415,2018 TRUE 23 4 5 0 TYPE 24 4 5 GHz - 14.016 dBm - 34.05 dbm
9 10 11 1 MSG MSG Image: Conter Frequency of the second	PF I 75 Ω AC CORREC 1 2.497000000 GHz PNO ef Offset3.6 dB ef 23.60 dBm Image: Constant of the second of the se	Fast Trig: Free R Atten: 30 dl	ALIGN AUTO Avg Type: Log-Pwr Avg]Hold:>100/100	01:33:54 PM 0r.15, 2018 TRVE 23.45 (23.4 + 5) TVPE 23.4 + 5) cr1 2.461 5 GHz -14.016 dBm -34.05 dBn -34.05 dBn
Image: Sector of the sector	PF I 75 Ω AC CORREC 1 2.497000000 GHz PNO ef Offset3.6 dB ef 23.60 dBm Image: Constant of the second of the se	Fast Fast Trig: Free R Atten: 30 dl	ALIGN AUTO Avg Type: Log-Pwr Avg]Hold:>100/100	01:33:54 PM 0r.15, 2018 TRVE 23.45 (23.4 + 5) TVPE 23.4 + 5) cr1 2.461 5 GHz -14.016 dBm -34.05 dBn -34.05 dBn
i i	PF I 75 Ω AC CORREC 1 2.497000000 GHz PNO ef Offset3.6 dB ef 23.60 dBm Image: Constant of the second of the se	Fast Trig: Free R Atten: 30 dl	ALIGN AUTO Avg Type: Log-Pwr Avg]Hold:>100/100	01:33:54 PM 0r.15, 2018 TRVE 23.45 (23.4 + 5) TVPE 23.4 + 5) cr1 2.461 5 GHz -14.016 dBm -34.05 dBn -34.05 dBn



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erature:	24 °C	Relative	Humidity:	56%
/oltage:	AC 120V/60HZ		Mar and	2 5 0
Node:	TX G Mode 2412M	Hz / TX G Mode 24	62MHz	
rk:	The EUT is program	med in continuously	transmitting	g mode
Keysight Spectrum				
Center Freq	2.377000000 GHz	Trig: FreeRun Avg Hold	pe: Log-Pwr d:>100/100	10:03:00 AM Oct 12, 2018 TRACE 1 2 3 4 5 6 TYPE M
Re	IFGaln:Low	Atlen: 30 dB	Mkr	1 2.405 8 GHz
10 dB/div Re	ef 23.63 dBm			-0.872 dBm
3.63			1	which all
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-45.4	warmer all get a start of the start and the start of the	man and erow & Book	<i>«</i>	
-55.4				
Start 2.32700 #Res BW 100		BW 300 kHz		top 2.42700 GH∠ 00 ms (1001 pts)
MKR MODE TRC SC	L X Y	FUNCTION FUNCTION WOTH	FUNCTION	
2 N 1 1 3 N 1 1	2.400 0 GHz -27.729 2.390 0 GHz -46.466	i dBm		
4 N 1 f 5 6 7	2.381 0 GHz -41.826			r
8				
10				
NSG		STATUS		
Keysight Spectrum		SENSE:INT ALIGN AUTO	1	10:07:05 AM Cct 12, 2018
	2.497000000 GHz	Avg Typ	pe: Log-Pwr d:>100/100	TRACE 12 3 4 5
Re	f Offset 36 dB ef 23.60 dBm	ADM1: 30 DD	Mkr	1 2.463 3 GHz
10 dB/div Re	ef 23.60 dBm			-0.653 dBm
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-6.40	and a start of			-20.75 (0)+-
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Start 2.44700 #Res BW 100		SW 300 kHz		top 2.54700 GHz 00 ms (1001 pts)
MKR MODE TRO SO	L X Y	FUNCTION FUNCTION WOTH	Sweep 9.0 FUNCTION	
1 N 1 f 2 N 1 f 3 N 1 f 4 N 1 f	2.463 3 GHz -0.653 2.483 5 GHz -46.805 2.500 0 GHz -49.627	dBm		
4 N 1 f	2.495 6 GHz -46.060			
5				
5				
5 6 7 8				

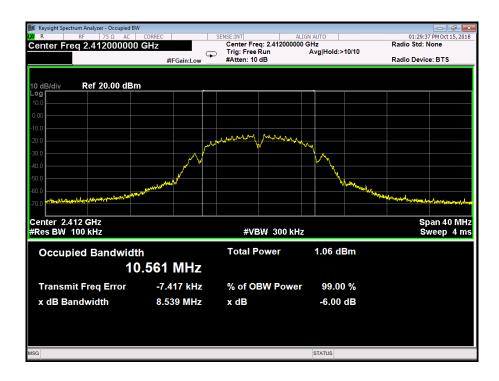


erature:	24 ℃	Relative Humidity	: 56%
oltage:	AC 120V/60HZ	alles a liter	100 L
lode:	TX N(HT20) Mode 2	2412MHz / TX N(HT20) Mod	e 2462MHz
'k:	The EUT is program	ned in continuously transmitti	ng mode
Keysight Spectru	um Analyzer - Swept SA RF 75 0 AC CORREC	SENSE:INT ALIGN ALITO	10:13:40 AM Oct 12, 2018
Center Free	q 2.377000000 GHz PNO: Fast IFGain:Low	Avg Type: Log-Pwr Trig: FreeRun Avg Hold:>100/100 Atten: 30 dB	TRACE 2 3 4 5 6 TYPE M WHANNY DFT P N N NN N
	Ref Offset 363 dB Ref 23.63 dBm		Mkr1 2.405 8 GHz -1.943 dBm
13.6			
-6.37			1 Adda and the feature
-16,4			21.54 (En
-36.4		A Barran A B	
-45.4	and many and the sources	and the manufacture of the party of the part	
-66.4			PL
Start 2.3270 #Res BW 10	00 kHz #V		Stop 2.42700 GHz 9.600 ms (1001 pts)
MKR MODE TRC S	f 2.405 8 GHz -1.94 f 2.400 0 GHz -28.70	43 dBm 08 dBm	UNCTION VALUE
3 N 1 4 N 1 5	f 2.390 0 GHz -47.2* f 2.379 8 GHz -43.00	13 dBm 88 dBm	
6 7 8			
9 10 11			
9		m STATUS	
9 10 NSG Keysight Spectru	um Andyzer - Swept SA	er Status	
9 10 NSG Keysight Spectru 00 R	RF 75 Ω AC CORREC q 2.4970D0000 GHz	SENSE:NT ALION AUTO Avg Type: Log-Pwr Trig: FreeRun Avg[Hold>100/100	10:17:11 AM Oct 12, 2018 TRACE 1 2 3 4 5 0 Type M 00000000
9 10 11 NSG M. Keysight Spectru C. R. Center Free	RF 75 R AC CORREC q 2.497000000 GHz PNO: Fast C IFGain:Lew	SENSE:IVT ALION AUTO Avg Type: Log-Pwr Trig: FreeRun Atten: 30 dB	10:17:11 AM Oct 12, 2018 TRACE 0 2 3 4 5 TYPE M DET P NNNNN Mkr1 2.463 3 GHz
9 10 11 ×sa 8 Keysight Spectru & R Center Fred 10 dB:ktiv -09	RF 75 Ω AC CORREC q 2.497000000 GHz PNO: Fast CORREC	SENSE:IVT ALION AUTO Avg Type: Log-Pwr Trig: FreeRun Atten: 30 dB	10:17:11 AM Cct 12, 2018 TRACE 1 2 3 4 5 TYPE MUNICIPAL DET P N N NN N
9 10 11 wsg Keysight Spectru Can R Center Fred Conter Fred 10 dBkdiv -9 13.6 3.60	RF 75.9. AC CORREC q 2.497000000 GHz PN0: Fast PN0: Fast Fa	SENSE:IVT ALION AUTO Avg Type: Log-Pwr Trig: FreeRun Atten: 30 dB	10:17:11 AM Oct 12, 2018 TRACE 0 2 3 4 5 TYPE M DET P NNNNN Mkr1 2.463 3 GHz
9 10 11 × Scaladiv Keysight Spectru G R Center Freco	RF 75.9. AC CORREC q 2.497000000 GHz PN0: Fast FR0: Fast <td>SENSE:IVT ALION AUTO Avg Type: Log-Pwr Trig: FreeRun Atten: 30 dB</td> <td>10:17:11 AM Oct 12, 2018 TRACE 0 2 3 4 5 TYPE M DET P NNNNN Mkr1 2.463 3 GHz</td>	SENSE:IVT ALION AUTO Avg Type: Log-Pwr Trig: FreeRun Atten: 30 dB	10:17:11 AM Oct 12, 2018 TRACE 0 2 3 4 5 TYPE M DET P NNNNN Mkr1 2.463 3 GHz
9 10 11 ×sci Secondar Fred Center Fred 10 dBkdiv R -9 13.c 3.c0 5.40	RF 25.9. AC CORREC q 2.497000000 GHz PN0: Fast FRom State Ref Offset 36 dB Ref 23.60 dBm If Calmer and the state If Calmer and the state	SENSE:IVT ALION AUTO Avg Type: Log-Pwr Avg[Hold>100/100	10:17:11 AM OC 12, 2018 TRACE 10, 24 AS TYPE M MANANANA DET P NAMANANANANANANANANANANANANANANANANANAN
9 10 11 xsca	RF 25.9. AC CORREC q 2.497000000 GHz PN0: Fast FRom State Ref Offset 36 dB Ref 23.60 dBm If Control of the state If Control of the state	SENSE:IVT ALION AUTO Trig: FreeRun Atten: 30 dB Atten: 30 dB	10:17:11 AM OC 12, 2018 TRACE 10, 24 45 TYPE M MANANANA DET P NAMANANA DET P NAMANANANANANANANANANANANANANANANANANAN
9 10 11 xsci	RF 25.9. AC CORREC q 2.497000000 GHz PN0: Fast FRom State Ref Offset 36 dB Ref 23.60 dBm If Calmer and the state If Calmer and the state	SENSE:IVT ALION AUTO Trig: FreeRun Atten: 30 dB Atten: 30 dB	10:17:11 AM OC 12, 2018 TRACE 10, 24 45 TYPE M MANANANA DET P NAMANANA DET P NAMANANANANANANANANANANANANANANANANANAN
9 9 10 11 xsci	RF 75.9. AC CORREC q.2.497000000 GHz PN0: Fast FRom State Ref Offset 36 dB Ref 23.60 dBm France	SENSE:NT ALIGN AUTO Trig: FreeRun Atten: 30 dB	10:17:11 AMOC 11.2:018 TRACE 11.2:2:45 TYPE OFT HILLING Mkr1 2.463 3 GHz -1.697 dBm
9 9 10 11 10 10 10 10 10 10 10 10	RF 25.9. AC CORREC q 2.497000000 GHz PN0: Fast Ref 0/fset 36 dB Ref 23.60 dBm	SENSE:INT ALION AUTO Trig: FreeRun Atten: 30 dB 3 4 4 4 4 4 4 4 4 4 4 4 4 4	10:17:11 AM OC 12, 2018 TRACE [] 2 4 45 TYPE [] MMMMM CET P NILLION OF Mkr1 2.463 3 GHz -1.697 dBm
9 10 11 vsci xsci	RF 75.9. AC CORREC q 2.497000000 GHz PN0: Fast Frain:Low Ref Offset 36 dB Ref 23.60 dBm IFEain:Low IFEain:Low 00 CHz 00 CHz #V Y 00 CHz #V Y 1.65	SENSE:IVT ALION AUTO Trig: FreeRun Atten: 30 dB Avg Type: Log-Pwr Avg[Hold>100/100 # Atten: 30 dB Avg[Hold>100/100 ////////////////////////////////////	10:17:11 AMOC 11.2:018 TRACE 11.2:2:453 TYPE MILLION OF TYPE MILLIONO TYPE MILLIONO
9 10 11 xsci	RF 75.9. AC CORREC q 2.497000000 GHz PN0: Fast Frain:Low Ref Offset 36 dB Ref 23.60 dBm IFEain:Low IFEain:Low 00 CHz 00 CHz #V Y 00 CHz #V Y 1.65	SENSE:INT ALION AUTO Trig: FreeRun Avg Type: Log-Pwr Avg[Hold>100/100 Trig: StreeRun Avg[Hold>100/100 // Write and the streen streem str	10:17:11 AMOC 11.2:018 TRACE 11.2:2:453 TYPE MILLION OF TYPE MILLIONO TYPE MILLIONO
9 10 11 NSG 10 10 10 10 10 10 10 10 10 10	RF 75.9. AC CORREC q 2.497000000 GHz PN0: Fast Frain:Low Ref Offset 36 dB Ref 23.60 dBm IFEain:Low IFEain:Low 00 CHz 00 CHz #V Y 00 CHz #V Y 1.65	SENSE:IVT ALION AUTO Trig: FreeRun Atten: 30 dB Avg Type: Log-Pwr Avg[Hold>100/100 # Atten: 30 dB Avg[Hold>100/100 ////////////////////////////////////	10:17:11 AM OC 12.2018 TRACE [] 2:43 TYPE

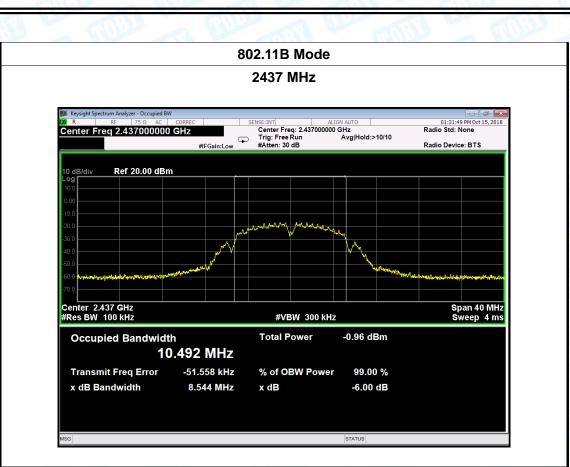


Attachment D-- Bandwidth Test Data

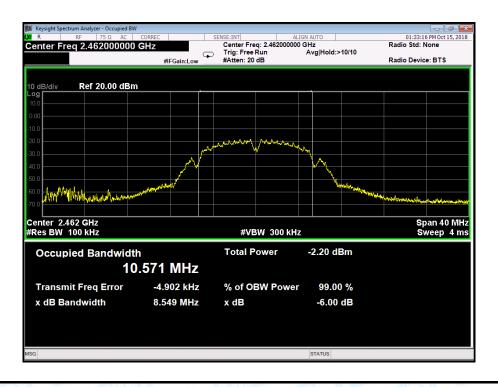
Temperature:	24	°C	Relative Humidity:	56%	
Test Voltage:	AC 120V/60HZ				
Test Mode:	ΤX	802.11B Mode	6000	a muse	
Channel frequency (MHz)		6dB Bandwidth	99% Bandwidth	Limit	
		(MHz)	(MHz)	(MHz)	
2412		8.539	10.561		
24378.54424628.549		2437 8.544		>=0.5	
		8.549	10.571		
	•	802.11E	Mode		





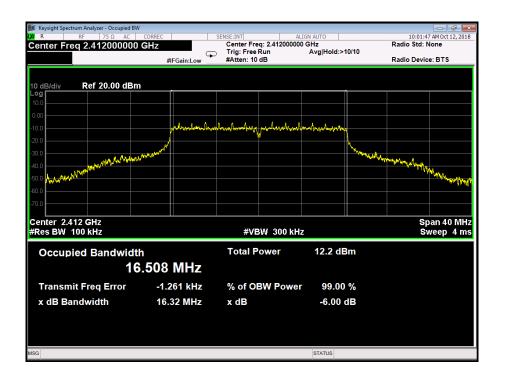


802.11B Mode

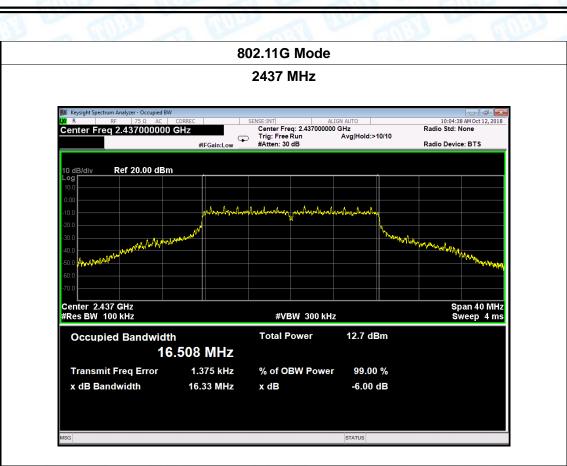




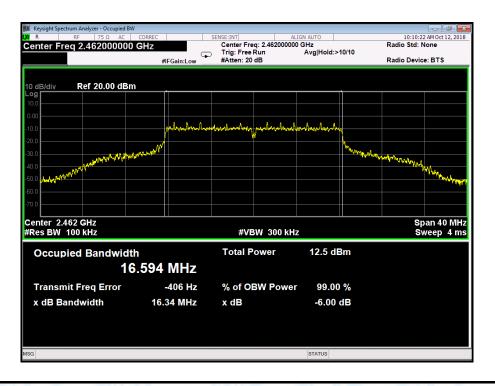
Temperature:	24	l °C	Relative Humidity:	56%
Test Voltage:	A	C 120V/60HZ		a -
Test Mode:	Т	K 802.11G Mode		A L
Channel frequen	су	6dB Bandwidth	99% Bandwidth	Limit
(MHz)		(MHz)	(MHz)	(MHz)
2412		16.32	16.508	
2437		2437 16.33		>=0.5
2462		16.34	16.594	
		802.11G	Mode	







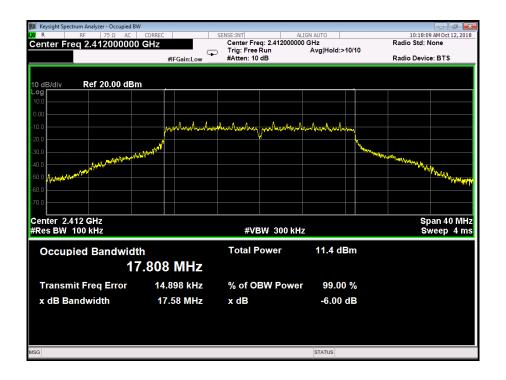
802.11G Mode



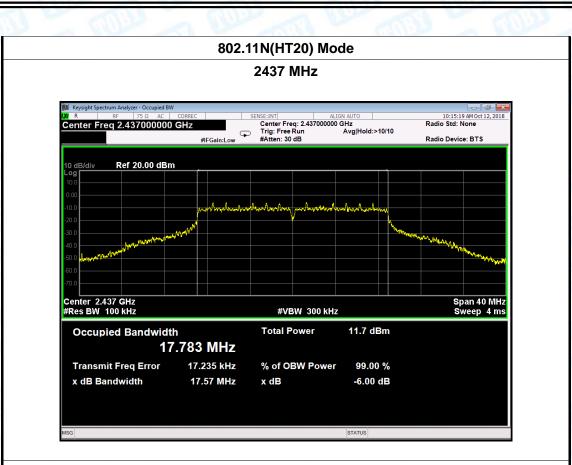


Temperature:	24	°C	Relative Humidity:	56%		
Test Voltage:	AC	: 120V/60HZ		a bear		
Test Mode:	ΤХ	TX 802.11N(HT20) Mode				
Channel frequen	су	6dB Bandwidth	99% Bandwidth	Limit		
(MHz)		(MHz)	(MHz)	(MHz)		
2412		17.58	17.808			
2437		17.57	17.783	>=0.5		
2462		17.58	17.875			
				1		

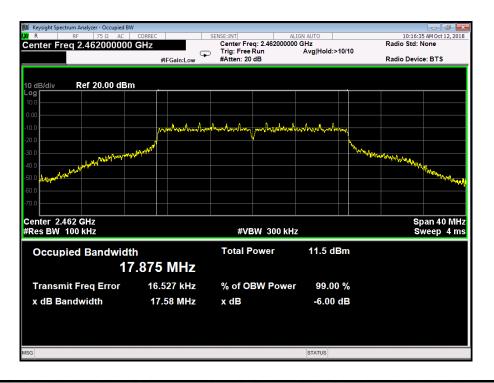
802.11N(HT20) Mode







802.11N(HT20) Mode





Attachment E-- Peak Output Power Test Data

Test Conditions	s: Continuous transm	itting Mode	
Temperature:	24 ℃	Relative Humidity:	56%
Test Voltage:	AC 120V/60HZ		2 1000
Mode	Channel frequency (MHz)	Test Result (dBm)	Limit (dBm)
	2412	0.02	
802.11b	2437	-2.06	
	2462	-3.19	
	2412	15.10	
802.11g	2437	15.30	30
	2462	15.32	
200.44	2412	14.27	
802.11n	2437	14.33	
(HT20)	2462	14.29	
I	Resu	ult: PASS	

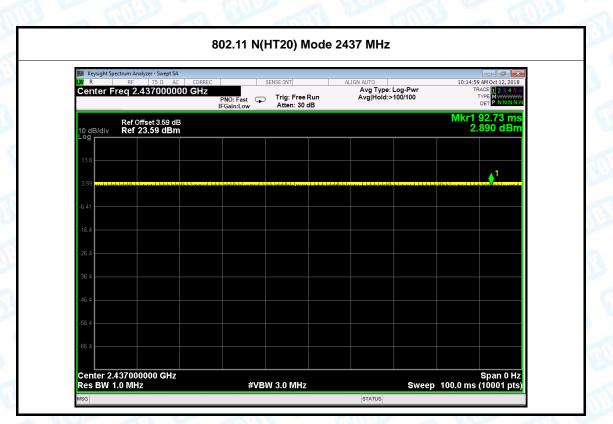
Duty Cycle					
Mode	Channel frequency (MHz)	Test Result			
	2412				
802.11b	2437				
	2462				
	2412				
802.11g	2437	>98%			
	2462				
000 44	2412				
802.11n	2437				
(HT20)	2462				





			Gain:Low	Atten: 30	dB				DET
0 dB/div	Ref Offset 3.59 dl Ref 23.59 dBn	3 1						Mkr1 5.	87.76 ms 580 dBm
13.6									
	t na station and a station of the	THE CONTRACTOR		n an		Transition and the state of the state of the		1 	Transferration and the second
.41									
5.4									
5.4									
5.4									
5.4									
5.4									
6.4									
	437000000 GHz 1.0 MHz		#VB	W 3.0 MHz	I	I	Sweep	100.0 ms	Span 0 Hz (10001 pts)
G						STATUS			

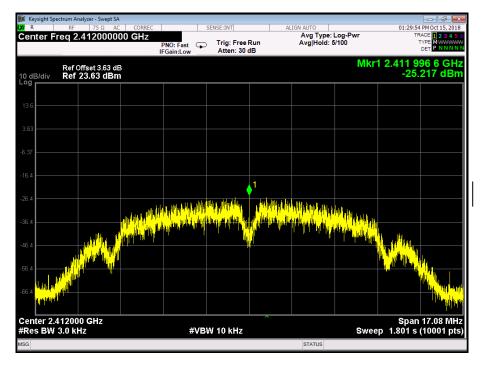




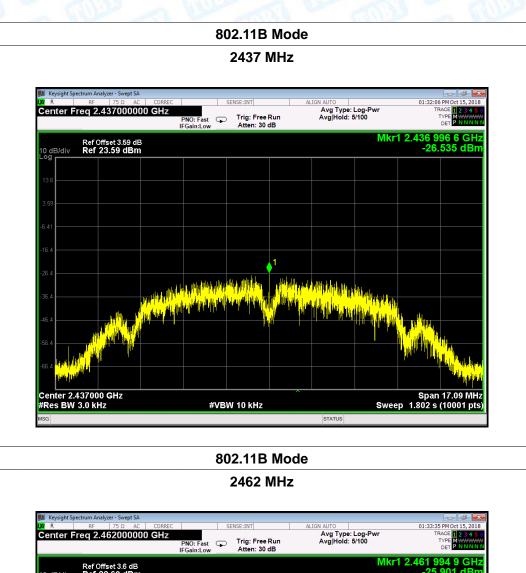
Attachment F-- Power Spectral Density Test Data

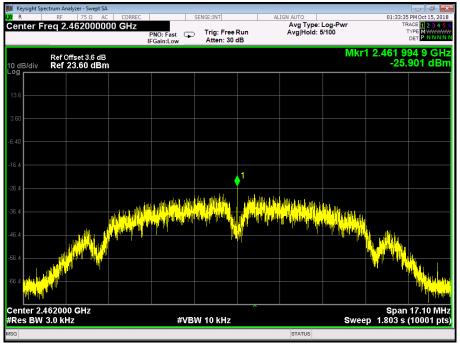
TOBY

Temperature:	24 ℃	24 °CRelative Humidity:56%				
Test Voltage:	AC 120V/	AC 120V/60HZ				
Test Mode:	TX 802.1	TX 802.11B Mode				
Channel Free	quency	Power De	ensity	Limit		
(MHz)	i i	(dBm/3	kHz)	(dBm/3kHz)		
2412		-25.2	17			
2437		-26.535		8		
2462	2462 -25.901					
		802.11B	Mode			



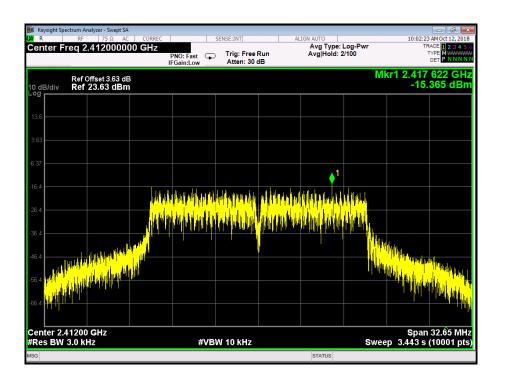




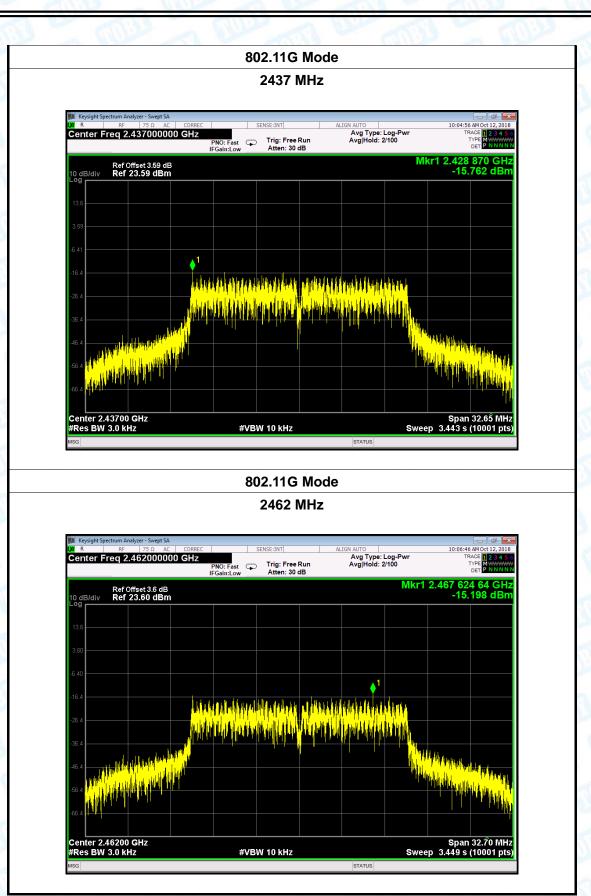




Temperature:	24 ℃	MOL A	Temperature:	24 ℃		
Test Voltage:	AC 120V/	AC 120V/60HZ				
Test Mode:	TX 802.1	TX 802.11G Mode				
Channel Freq	luency	Power Den	Limit			
(MHz)		(dBm/3 k⊦	łz)	(dBm/3kHz)		
2412		-15.365				
2437		-15.762		8		
2462 -15.198						
		802.11G M	ode			



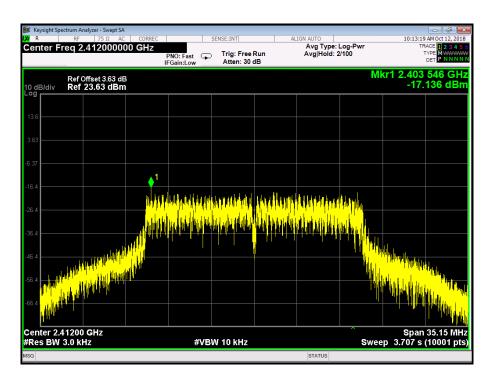






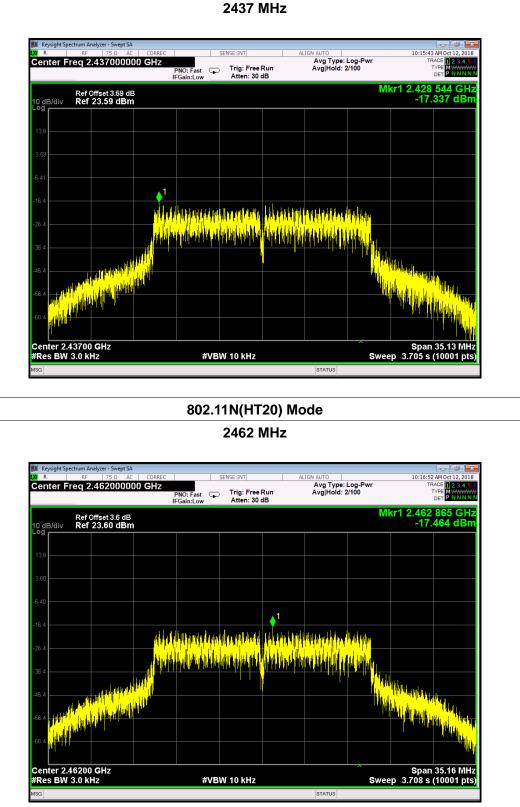
Temperature:	24 °C	Temperatu		24 °C
Test Voltage:	AC 120V/	60HZ	a lun	
Test Mode:	TX 802.11N(HT20) Mode			
Channel Freq	Channel Frequency Power Density		Limit	
(MHz)		(dBm/3 k	Hz)	(dBm/3kHz)
2412	2412		6	
2437		-17.337		8
2462		-17.464		

802.11N(HT20) Mode









802.11N(HT20) Mode

TOBY

-----END OF REPORT----