

FCC Radio Test Report

FCC ID: 2AWNK-TS100

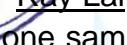
Original Grant

Report No. : TB-FCC178657
Applicant : Shenzhen Apeman Innovations Technology Co.,Ltd.

Equipment Under Test (EUT)

EUT Name : Teckin shooter
Model No. : TS100
Series Model No. : TS200, TS300, TS400, TS500
S/N : 01205300025, 01205300026
Brand Name : Teckin
Sample ID : 20201226-05-1# & 20201226-05-2#
Receipt Date : 2021-01-12
Test Date : 2021-01-13 to 2021-01-30
Issue Date : 2021-02-01
Standards : FCC Part 15, Subpart C 15.247
Test Method : ANSI C63.10: 2013
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 : Rebecca  Rebecca
Engineer Supervisor : Ivan Su  Ivan Su
Engineer Manager : Ray Lai  Ray Lai

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.

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Revision History

Report No.	Version	Description	Issued Date
TB-FCC178657	Rev.01	Initial issue of report	2021-02-01

1. General Information about EUT

1.1 Client Information

Applicant	:	Shenzhen Apeman Innovations Technology Co.,Ltd.
Address	:	1808, Heng Lu E Times Building, No. 159, North Pingji Road, Hehua Community, Pinghu Street, Longgang District, Shenzhen, Guangdong, CHINA
Manufacturer	:	Shenzhen Apeman Innovations Technology Co.,Ltd.
Address	:	1808, Heng Lu E Times Building, No. 159, North Pingji Road, Hehua Community, Pinghu Street, Longgang District, Shenzhen, Guangdong, CHINA

1.2 General Description of EUT (Equipment Under Test)

EUT Name	:	Teckin shooter
Models No.	:	TS100, TS200, TS300, TS400, TS500
Model Difference	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is appearance.
Product Description	Operation Frequency:	802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz~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: 17.17dBm 802.11g: 17.58dBm 802.11n(HT20): 17.49dBm 802.11n(HT40): 16.47dBm
	Modulation Type:	802.11b: DSSS(CCK, DQPSK, DBPSK) 802.11g/n: OFDM(BPSK,QPSK,16QAM,64QAM)
	Antenna Gain:	4.06 dBi Dipole Antenna
Power Supply	:	DC 5V from Adapter(TPA-46050100UU): Input: AC 100-240V, 50/60Hz 0.2A Output: DC 5V, 1000mA
Software Version	:	20201208_V1.2.11
Hardware Version	:	TIO2_MB_V1.0
Remark	:	The antenna gain and adapter provided by the applicant, the verified for the RF conduction test and adapter provided by TOBY test lab.

Note:

- (1) This Test Report is FCC Part 15.247 for 802.11b/g/n, the test procedure follows the FCC KDB 558074 D01 15.247 Meas Guidance v05r02.
- (2) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

(3) Channel List:

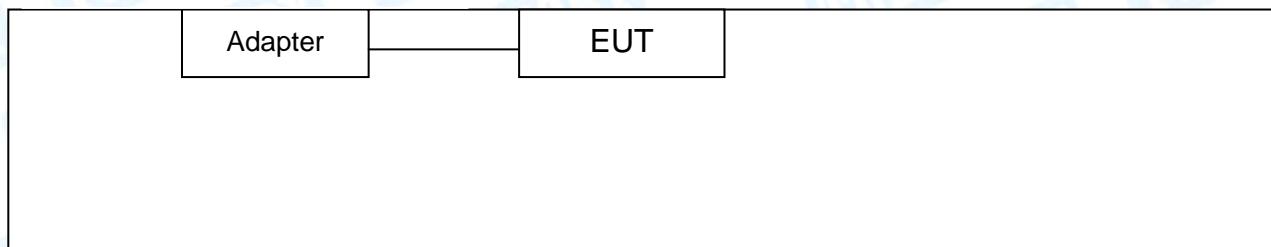
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	05	2432	09	2452
02	2417	06	2437	10	2457
03	2422	07	2442	11	2462
04	2427	08	2447		

Note: CH 01~CH 11 for 802.11b/g/n(HT20)
CH 03~CH 9 for 802.11n(HT40)

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

1.3 Block Diagram Showing the Configuration of System Tested

Charging Mode+TX mode



1.4 Description of Support Units

Equipment Information				
Name	Model	FCC ID/VOC	Manufacturer	Used “√”
---	----	---	---	---
Cable Information				
Number	Shielded Type	Ferrite Core	Length	Note
---	----	---	---	---

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	Charging + TX B Mode Channel 01

For Radiated Test	
Final Test Mode	Description
Mode 2	TX Mode B Mode Channel 01/06/11
Mode 3	TX Mode G Mode Channel 01/06/11
Mode 4	TX Mode N(HT20) Mode Channel 01/06/11
Mode 5	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 C63.10 standards, the measurements are performed at the highest, Middle, lowest available channels, and the worst case data rate as follows:

802.11b Mode: CCK

802.11g Mode: OFDM

802.11n (HT20) Mode: MCS 0

802.11n (HT40) Mode: MCS 0

- (2) During the testing procedure, the continuously transmitting with the maximum power mode was programmed by the customer.
- (3) The EUT is 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: REALTEK 11n 8188FU USB WLAN NIC Massproduction Kit			
Test Mode: Continuously transmitting			
Mode	Data Rate	Channel	Parameters
802.11b	CCK/ 1Mbps	01	DEF
	CCK/ 1Mbps	06	DEF
	CCK/ 1Mbps	11	DEF
802.11g	OFDM/ 6Mbps	01	DEF
	OFDM/ 6Mbps	06	DEF
	OFDM/ 6Mbps	11	DEF
802.11n(HT20)	MCS 0	01	DEF
	MCS 0	06	DEF
	MCS 0	11	DEF
802.11n(HT40)	MCS 0	03	DEF
	MCS 0	06	DEF
	MCS 0	09	DEF

1.7 Measurement Uncertainty

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

Test Item	Parameters	Expanded Uncertainty (U_{Lab})
Conducted Emission	Level Accuracy: 9kHz~150kHz 150kHz to 30MHz	± 3.50 dB ± 3.10 dB
Radiated Emission	Level Accuracy: 9kHz to 30 MHz	± 4.60 dB
Radiated Emission	Level Accuracy: 30MHz to 1000 MHz	± 4.50 dB
Radiated Emission	Level Accuracy: Above 1000MHz	± 4.20 dB

1.8 Test Facility

The testing report were performed by the Shenzhen Toby Technology Co., Ltd., in their facilities located at 1/F.,Building 6, Rundongsheng Industrial Zone, Longzhu, Xixiang, Bao'an District, 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: 2017 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: 2017 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. Designation Number: CN1223.

IC Registration No.: (11950A)

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

2. Test Summary

FCC Part 15 Subpart C(15.247)				
Standard Section	Test Item	Test Sample(s)	Judgment	Remark
FCC				
15.203	Antenna Requirement	20201226-05-2#	PASS	N/A
15.207(a)	Conducted Emission	20201226-05-1#	PASS	N/A
15.205&15.247(d)	Band-Edge & Unwanted Emissions into Restricted Frequency	20201226-05-2#	PASS	N/A
15.247(a)(2)	6dB Bandwidth	20201226-05-2#	PASS	N/A
15.247(b)(3)	Conducted Max Output Power	20201226-05-2#	PASS	N/A
15.247(e)	Power Spectral Density	20201226-05-2#	PASS	N/A
15.205, 15.209&15.247(d)	Transmitter Radiated Spurious &Unwanted Emissions into Restricted Frequency	20201226-05-1# 20201226-05-2#	PASS	N/A

Note: N/A is an abbreviation for Not Applicable.

3. Test Software

Test Item	Test Software	Manufacturer	Version No.
Conducted Emission	EZ-EMC	EZ	CDI-03A2
Radiation Emission	EZ-EMC	EZ	FA-03A2RE
RF Conducted Measurement	MTS-8310	MWRFtest	V2.0.0.0

4. Test Equipment

Conducted Emission Test					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
EMI Test Receiver	Rohde & Schwarz	ESCI	100321	Jul. 06, 2020	Jul. 05, 2021
RF Switching Unit	Compliance Direction Systems Inc	RSU-A4	34403	Jul. 06, 2020	Jul. 05, 2021
AMN	SCHWARZBECK	NNBL 8226-2	8226-2/164	Jul. 06, 2020	Jul. 05, 2021
LISN	Rohde & Schwarz	ENV216	101131	Jul. 06, 2020	Jul. 05, 2021
Radiation Emission Test					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jul. 06, 2020	Jul. 05, 2021
EMI Test Receiver	Rohde & Schwarz	ESPI	100010/007	Jul. 06, 2020	Jul. 05, 2021
Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102197	Jul. 06, 2020	Jul. 05, 2021
Bilog Antenna	ETS-LINDGREN	3142E	00117537	Mar.01, 2020	Feb. 28, 2022
Horn Antenna	ETS-LINDGREN	3117	00143207	Mar.01, 2020	Feb. 28, 2022
Horn Antenna	ETS-LINDGREN	BBHA 9170	BBHA9170582	Mar.01, 2020	Feb. 28, 2022
Loop Antenna	SCHWARZBECK	FMZB 1519 B	1519B-059	Jul. 07, 2020	Jul. 06, 2021
Pre-amplifier	Sonoma	310N	185903	Mar.01, 2020	Feb. 28, 2021
Pre-amplifier	HP	8449B	3008A00849	Mar.01, 2020	Feb. 28, 2021
Pre-amplifier	SKET	LNPA_1840G-50	SK201904032	Mar.01, 2020	Feb. 28, 2021
Cable	HUBER+SUHNER	100	SUCOFLEX	Mar.01, 2020	Feb. 28, 2021
Positioning Controller	ETS-LINDGREN	2090	N/A	N/A	N/A
Antenna Conducted Emission					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jul. 06, 2020	Jul. 05, 2021
Spectrum Analyzer	Rohde & Schwarz	ESPI	100010/007	Jul. 06, 2020	Jul. 05, 2021
MXA Signal Analyzer	Agilent	N9020A	MY49100060	Sep. 11, 2020	Sep. 10, 2021
Vector Signal Generator	Agilent	N5182A	MY50141294	Sep. 11, 2020	Sep. 10, 2021
Analog Signal Generator	Agilent	N5181A	MY50141953	Sep. 11, 2020	Sep. 10, 2021
RF Power Sensor	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO26	Sep. 11, 2020	Sep. 10, 2021
	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO29	Sep. 11, 2020	Sep. 10, 2021
	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO31	Sep. 11, 2020	Sep. 10, 2021
	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO33	Sep. 11, 2020	Sep. 10, 2021

5. Conducted Emission Test

5.1 Test Standard and Limit

5.1.1 Test Standard

FCC Part 15.207

5.1.2 Test Limit

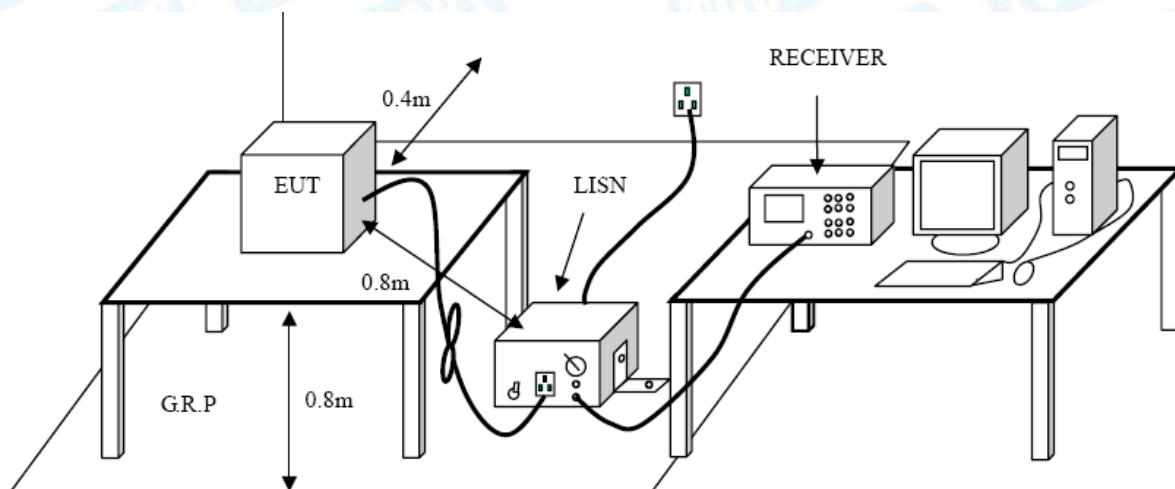
Conducted Emission Test Limit

Frequency	Maximum RF Line Voltage (dB μ V)	
	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.

5.2 Test Setup



5.3 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.

5.4 Deviation From Test Standard

No deviation

5.5 EUT Operating Mode

Please refer to the description of test mode.

5.6 Test Data

Please refer to the Attachment A.

6. Radiated Emission Test

6.1 Test Standard and Limit

6.1.1 Test Standard

FCC Part 15.209

6.1.2 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

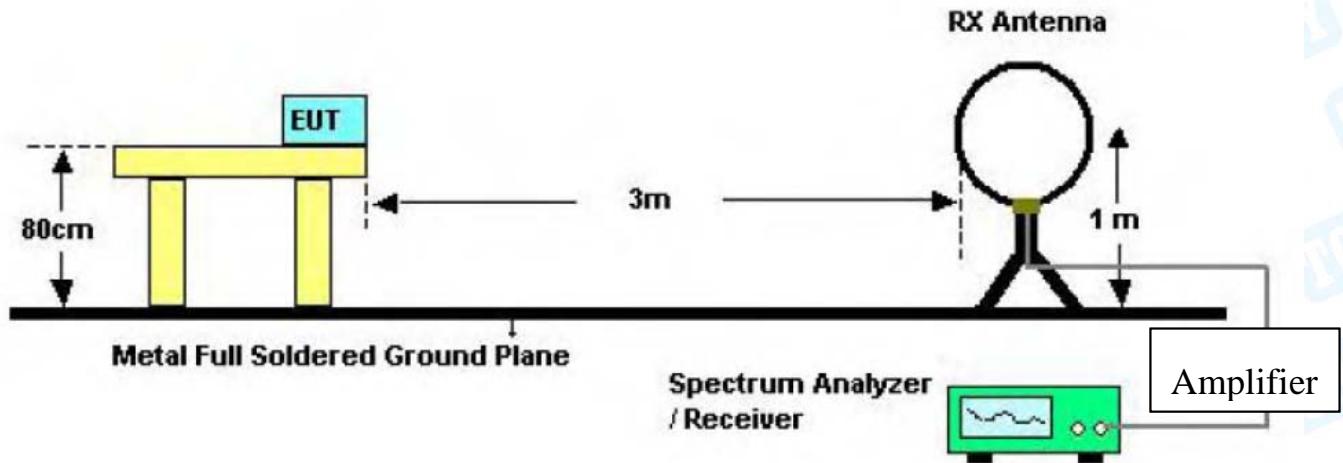
Radiated Emission Limit (Above 1000MHz)

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

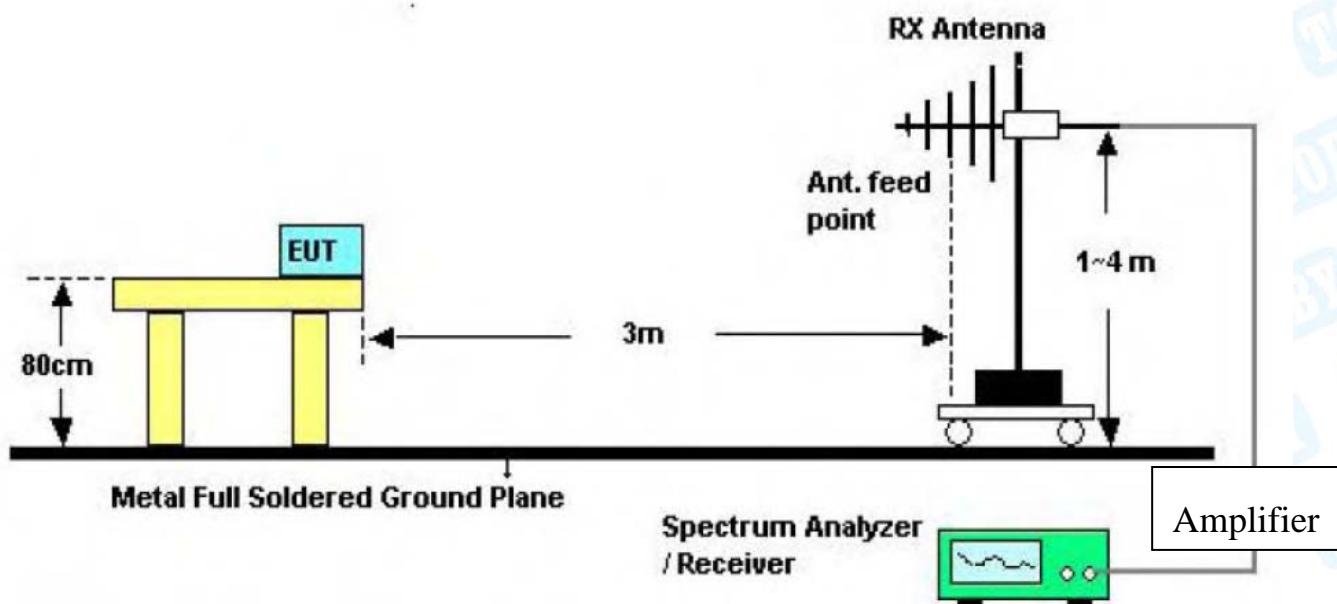
Note:

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

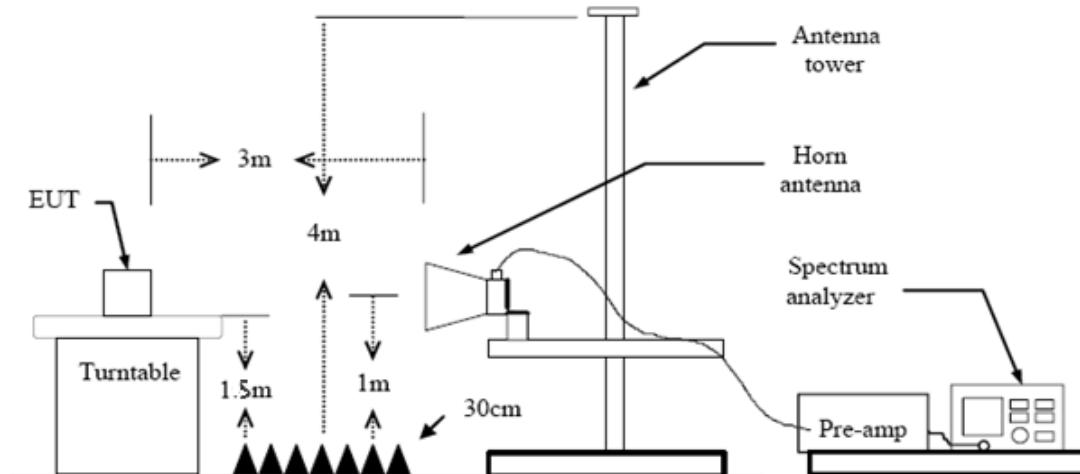
6.2 Test Setup



Below 30MHz Test Setup



Below 1000MHz Test Setup



Above 1GHz Test Setup

6.3 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. 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 Below 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 Deviation From Test Standard

No deviation

6.5 EUT Operating Condition

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

6.6 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.

Please refer to the Attachment B.

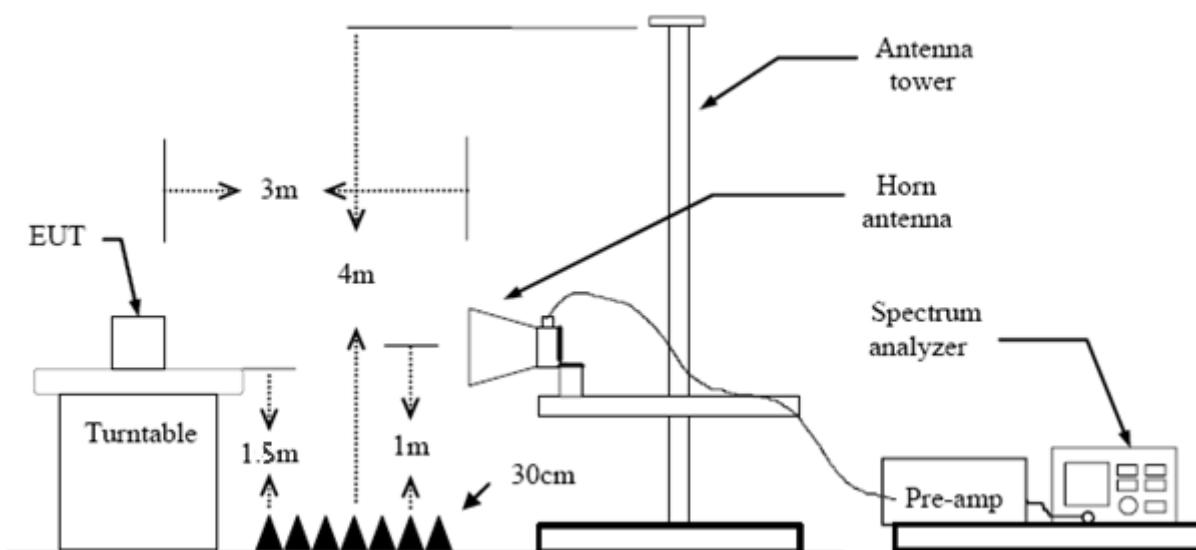
7. Restricted Bands Requirement

7.1 Test Standard and Limit

- 7.1.1 Test Standard
 - FCC Part 15.247(d)
 - FCC Part 15.209
 - FCC Part 15.205
- 7.1.2 Test Limit

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

7.2 Test Setup



7.3 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 Below 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.

7.4 Deviation From Test Standard

No deviation

7.5 EUT Operating Condition

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

7.6 Test Data

Please refer to the Attachment C.

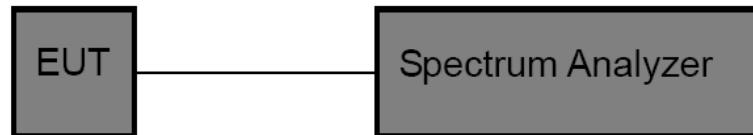
8. Bandwidth Test

8.1 Test Standard and Limit

- 8.1.1 Test Standard
FCC Part 15.247 (a)(2)
- 8.1.2 Test Limit

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

8.2 Test Setup



8.3 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.

8.4 Deviation From Test Standard

No deviation

8.5 EUT Operating Condition

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

8.6 Test Data

Please refer to the Attachment D.

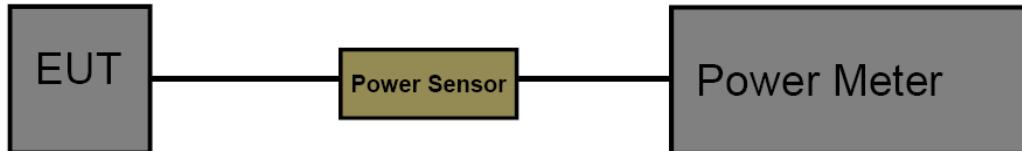
9. Peak Output Power Test

9.1 Test Standard and Limit

- 9.1.1 Test Standard
FCC Part 15.247 (b)
- 9.1.2 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

9.2 Test Setup



9.3 Test Procedure

The measurement is according to section 9.1.2 of KDB 558074 D01 DTS Meas Guidance v05r02.

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.

9.4 Deviation From Test Standard

No deviation

9.5 EUT Operating Condition

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

9.6 Test Data

Please refer to the Attachment E.

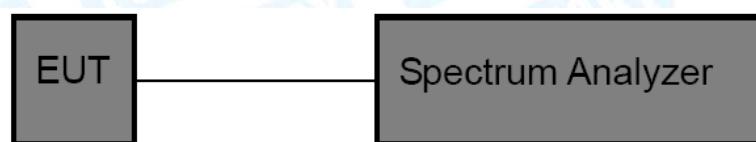
10. Power Spectral Density Test

10.1 Test Standard and Limit

- 10.1.1 Test Standard
FCC Part 15.247 (e)
- 10.1.2 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

10.2 Test Setup



10.3 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 v05r02.

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) Set analyser centre frequency to DTS channel centre 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 Deviation From Test Standard

No deviation

9.5 EUT Operating Condition

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

9.6 Test Data

Please refer to the Attachment F.

11. Antenna Requirement

11.1 Standard Requirement

11.1.1 Standard

FCC Part 15.203

11.1.2 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.

11.2 Deviation From Test Standard

No deviation

11.3 Antenna Connected Construction

The gains of the antenna used for transmitting is 4.06dBi, and the antenna de-signed with unique connector antenna and no consideration of replacement. Please see the EUT photo for details.

Result

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

Antenna Type
<input type="checkbox"/> Permanent attached antenna
<input checked="" type="checkbox"/> Unique connector antenna
<input type="checkbox"/> Professional installation antenna

Attachment A-- Conducted Emission Test Data

Remark: All channels have been tested and Shows only the worst channels.

Temperature:	23.3°C	Relative Humidity:	41%					
Test Voltage:	AC 120V/60Hz							
Terminal:	Line							
Test Mode:	Mode 1(Charging + TX B Mode Channel 01)							
Remark:	Only worst case is reported							
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
		MHz	dBuV	dB	dBuV	dBuV	dB	
1	*	0.1500	36.37	9.70	46.07	65.99	-19.92	QP
2		0.1500	20.20	9.70	29.90	55.99	-26.09	AVG
3		1.1580	21.42	9.78	31.20	56.00	-24.80	QP
4		1.1580	15.75	9.78	25.53	46.00	-20.47	AVG
5		1.9340	19.12	9.71	28.83	56.00	-27.17	QP
6		1.9340	14.20	9.71	23.91	46.00	-22.09	AVG
7		2.7060	11.26	9.84	21.10	56.00	-34.90	QP
8		2.7060	6.51	9.84	16.35	46.00	-29.65	AVG
9		3.4780	11.67	9.90	21.57	56.00	-34.43	QP
10		3.4780	6.47	9.90	16.37	46.00	-29.63	AVG
11		4.6380	12.09	9.90	21.99	56.00	-34.01	QP
12		4.6380	6.67	9.90	16.57	46.00	-29.43	AVG

Remark:

1. Corr. Factor (dB) = LISN Factor (dB) + Cable Loss (dB)
2. Margin (dB) =QuasiPeak/Average (dBuV)-Limit (dBuV)

Temperature:	23.3°C	Relative Humidity:	41%					
Test Voltage:	AC 120V/60Hz							
Terminal:	Neutral							
Test Mode:	Mode 1(Charging + TX B Mode Channel 01)							
Remark:	Only worst case is reported							
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.1500	35.01	9.80	44.81	65.99	-21.18	QP
2		0.1500	19.05	9.80	28.85	55.99	-27.14	AVG
3		0.1900	30.89	9.80	40.69	64.03	-23.34	QP
4		0.1900	15.77	9.80	25.57	54.03	-28.46	AVG
5		0.4860	27.16	9.80	36.96	56.24	-19.28	QP
6		0.4860	17.30	9.80	27.10	46.24	-19.14	AVG
7		1.1660	25.63	9.80	35.43	56.00	-20.57	QP
8 *		1.1660	21.53	9.80	31.33	46.00	-14.67	AVG
9		1.9420	20.91	9.80	30.71	56.00	-25.29	QP
10		1.9420	17.07	9.80	26.87	46.00	-19.13	AVG
11		2.7180	16.65	9.80	26.45	56.00	-29.55	QP
12		2.7180	12.87	9.80	22.67	46.00	-23.33	AVG

Remark:

1. Corr. Factor (dB) = LISN Factor (dB) + Cable Loss (dB)
2. Margin (dB) =QuasiPeak/Average (dBuV)-Limit (dBuV)

Attachment B-- Radiated Emission Test Data

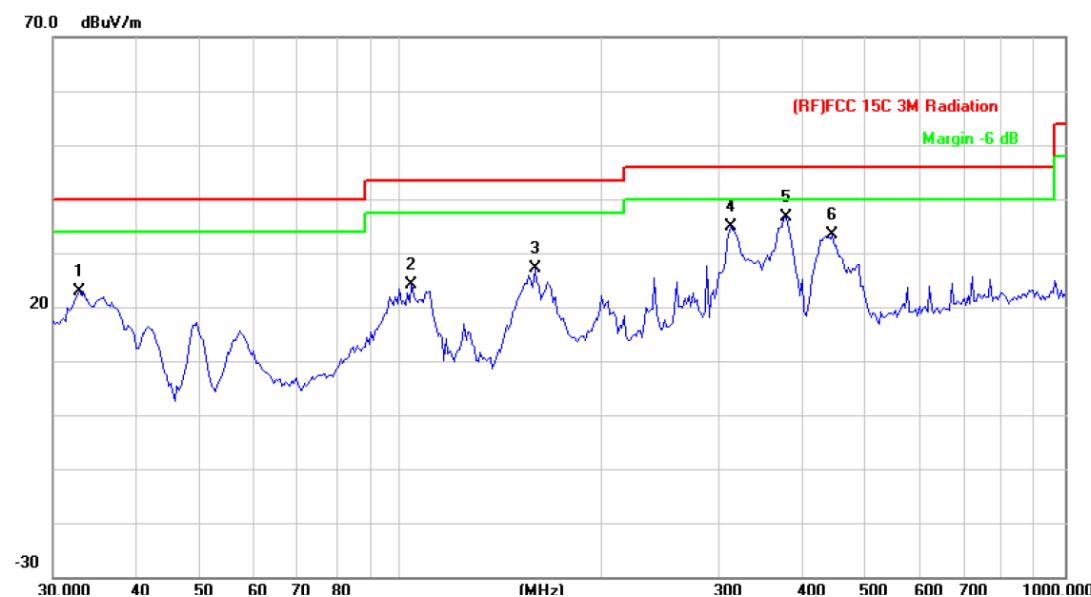
9KHz~30MHz

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

Temperature:	23.2 °C	Relative Humidity:	41%
Test Voltage:	AC 120V/60HZ		
Ant. Pol.	Horizontal		
Test Mode:	TX B Mode 2412MHz		
Remark:	Only worst case is reported.		

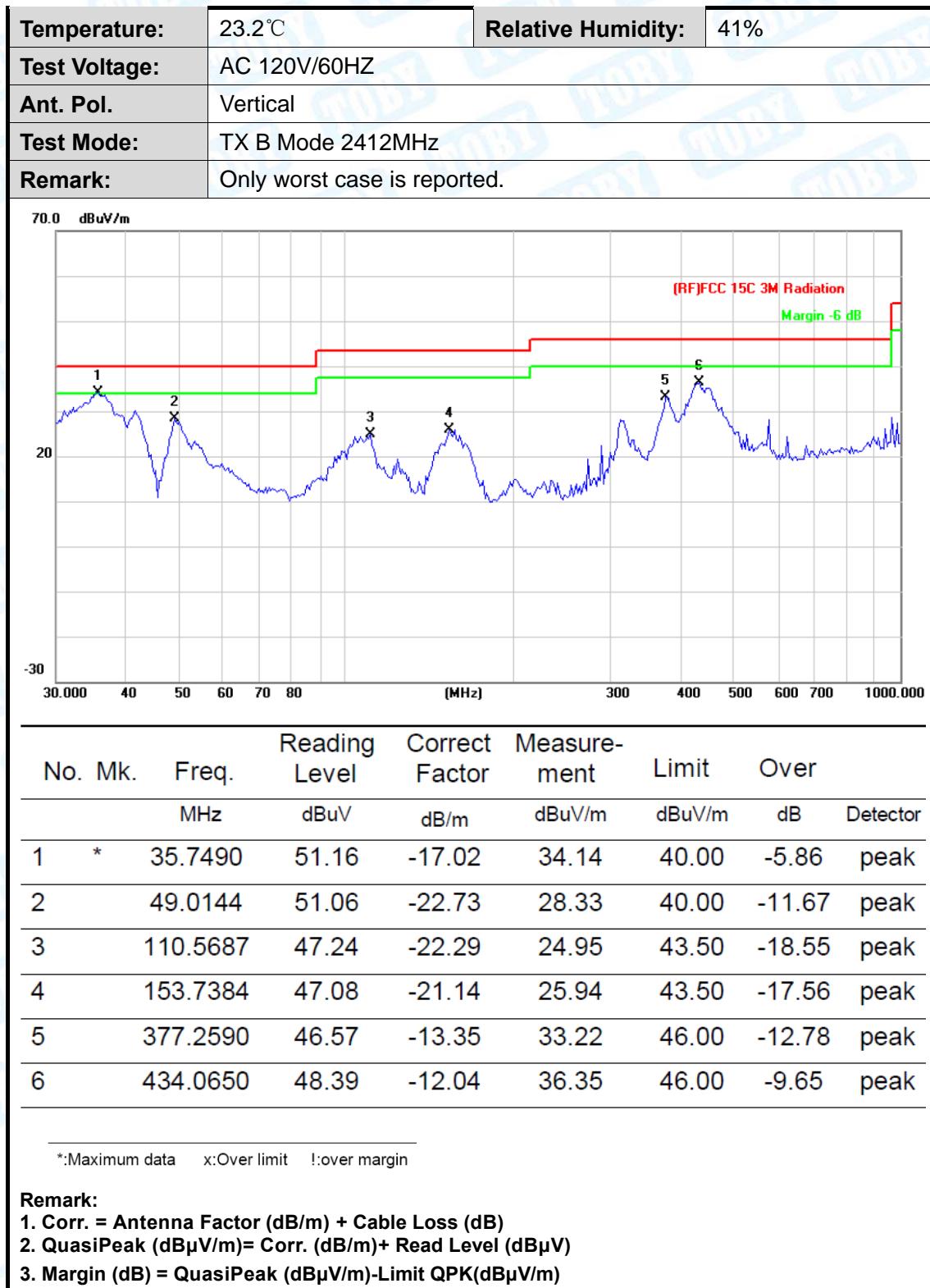


No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over
			Level	Factor	ment		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB
1		32.8637	38.01	-15.09	22.92	40.00	-17.08 peak
2		103.8055	46.08	-22.07	24.01	43.50	-19.49 peak
3		159.2251	47.92	-20.85	27.07	43.50	-16.43 peak
4		314.3765	50.62	-15.82	34.80	46.00	-11.20 peak
5	*	379.9141	49.88	-13.23	36.65	46.00	-9.35 peak
6		446.4141	45.41	-11.95	33.46	46.00	-12.54 peak

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

Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
2. QuasiPeak (dB μ V/m)= Corr. (dB/m)+ Read Level (dB μ V)
3. Margin (dB) = QuasiPeak (dB μ V/m)-Limit QPK(dB μ V/m)



Above 1GHz

Temperature:	23.2°C	Relative Humidity:	41%				
Test Voltage:	AC 120V/60 Hz						
Ant. Pol.	Horizontal						
Test Mode:	TX B Mode 2412MHz						
Remark:	No report for the emission which more than 20dB below the prescribed limit.						
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over
		MHz	dB _u V	dB/m	dB _u V/m	dB _u V/m	dB
1	*	4823.788	49.73	13.16	62.89	74.00	-11.11 peak
2	*	4824.034	37.28	13.16	50.44	54.00	-3.56 AVG

Remark:
 1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
 2. Peak/AVG (dB_uV/m)= Corr. (dB/m)+ Read Level (dB_uV)
 3. Margin (dB) = Peak/AVG (dB_uV/m)-Limit PK/AVG(dB_uV/m)

Temperature:	23.2°C	Relative Humidity:	41%				
Test Voltage:	AC 120V/60 Hz						
Ant. Pol.	Vertical						
Test Mode:	TX B Mode 2412MHz						
Remark:	No report for the emission which more than 20dB below the prescribed limit.						
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over
		MHz	dB _u V	dB/m	dB _u V/m	dB _u V/m	dB
1	*	4823.988	37.52	13.16	50.68	54.00	-3.32 AVG
2		4824.172	50.04	13.16	63.20	74.00	-10.80 peak

Remark:
 1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
 2. Peak/AVG (dB_uV/m)= Corr. (dB/m)+ Read Level (dB_uV)
 3. Margin (dB) = Peak/AVG (dB_uV/m)-Limit PK/AVG(dB_uV/m)

Temperature:	23.2°C	Relative Humidity:	41%																																			
Test Voltage:	AC 120V/60 Hz																																					
Ant. Pol.	Horizontal																																					
Test Mode:	TX B Mode 2437MHz																																					
Remark:	No report for the emission which more than 20dB below the prescribed limit.																																					
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No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over																															
		MHz	dB μ V	dB/m	dB μ V/m	dB	Detector																															
1	*	4874.014	38.21	13.53	51.74	54.00	-2.26 AVG																															
2		4874.054	49.23	13.53	62.76	74.00	-11.24 peak																															
Remark:	1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB) 2. Peak/AVG (dB μ V/m)= Corr. (dB/m)+ Read Level (dB μ V) 3. Margin (dB) = Peak/AVG (dB μ V/m)-Limit PK/AVG(dB μ V/m)																																					

Temperature:	23.2°C	Relative Humidity:	41%																																			
Test Voltage:	AC 120V/60 Hz																																					
Ant. Pol.	Vertical																																					
Test Mode:	TX B Mode 2437MHz																																					
Remark:	No report for the emission which more than 20dB below the prescribed limit.																																					
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No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over																															
		MHz	dB μ V	dB/m	dB μ V/m	dB	Detector																															
1	*	4874.000	37.58	13.53	51.11	54.00	-2.89 AVG																															
2		4874.070	50.10	13.53	63.63	74.00	-10.37 peak																															
Remark:	1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB) 2. Peak/AVG (dB μ V/m)= Corr. (dB/m)+ Read Level (dB μ V) 3. Margin (dB) = Peak/AVG (dB μ V/m)-Limit PK/AVG(dB μ V/m)																																					

Temperature:	23.2°C	Relative Humidity:	41%
Test Voltage:	AC 120V/60 Hz		
Ant. Pol.	Horizontal		
Test Mode:	TX B Mode 2462MHz		
Remark:	No report for the emission which more than 20dB below the prescribed limit.		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB
1	*	4924.010	37.45	13.89	51.34	54.00	-2.66 AVG
2		4924.290	50.53	13.89	64.42	74.00	-9.58 peak

Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
2. Peak/AVG (dB μ V/m)= Corr. (dB/m)+ Read Level (dB μ V)
3. Margin (dB) = Peak/AVG (dB μ V/m)-Limit PK/AVG(dB μ V/m)

Temperature:	23.2°C	Relative Humidity:	41%
Test Voltage:	AC 120V/60 Hz		
Ant. Pol.	Vertical		
Test Mode:	TX B Mode 2462MHz		
Remark:	No report for the emission which more than 20dB below the prescribed limit.		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB
1	*	4924.080	37.92	13.89	51.81	54.00	-2.19 AVG
2		4924.112	50.05	13.89	63.94	74.00	-10.06 peak

Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
2. Peak/AVG (dB μ V/m)= Corr. (dB/m)+ Read Level (dB μ V)
3. Margin (dB) = Peak/AVG (dB μ V/m)-Limit PK/AVG(dB μ V/m)

Temperature:	23.2°C	Relative Humidity:	41%
Test Voltage:	AC 120V/60 Hz		
Ant. Pol.	Horizontal		
Test Mode:	TX G Mode 2412MHz		
Remark:	No report for the emission which more than 20dB below the prescribed limit.		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over
		MHz	dB μ V	dB/m	dB μ V/m	dB	Detector
1		4823.718	48.49	13.16	61.65	74.00	-12.35 peak
2	*	4824.132	34.66	13.16	47.82	54.00	-6.18 AVG

Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
2. Peak/AVG (dB μ V/m)= Corr. (dB/m)+ Read Level (dB μ V)
3. Margin (dB) = Peak/AVG (dB μ V/m)-Limit PK/AVG(dB μ V/m)

Temperature:	23.2°C	Relative Humidity:	41%
Test Voltage:	AC 120V/60 Hz		
Ant. Pol.	Vertical		
Test Mode:	TX G Mode 2412MHz		
Remark:	No report for the emission which more than 20dB below the prescribed limit.		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over
		MHz	dB μ V	dB/m	dB μ V/m	dB	Detector
1		4823.850	47.90	13.16	61.06	74.00	-12.94 peak
2	*	4824.146	34.62	13.16	47.78	54.00	-6.22 AVG

Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
2. Peak/AVG (dB μ V/m)= Corr. (dB/m)+ Read Level (dB μ V)
3. Margin (dB) = Peak/AVG (dB μ V/m)-Limit PK/AVG(dB μ V/m)

Temperature:	23.2°C		Relative Humidity:	41%																												
Test Voltage:	AC 120V/60 Hz																															
Ant. Pol.	Horizontal																															
Test Mode:	TX G Mode 2437MHz																															
Remark:	No report for the emission which more than 20dB below the prescribed limit.																															
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No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over																									
		MHz	dB μ V	dB/m	dB μ V/m	dB	Detector																									
1		4873.604	49.90	13.53	63.43	74.00	-10.57 peak																									
2	*	4873.690	35.19	13.53	48.72	54.00	-5.28 AVG																									

Remark:
 1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
 2. Peak/AVG (dB μ V/m)= Corr. (dB/m)+ Read Level (dB μ V)
 3. Margin (dB) = Peak/AVG (dB μ V/m)-Limit PK/AVG(dB μ V/m)

Temperature:	23.2°C		Relative Humidity:	41%																												
Test Voltage:	AC 120V/60 Hz																															
Ant. Pol.	Vertical																															
Test Mode:	TX G Mode 2437MHz																															
Remark:	No report for the emission which more than 20dB below the prescribed limit.																															
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No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over																									
		MHz	dB μ V	dB/m	dB μ V/m	dB	Detector																									
1		4873.952	48.77	13.53	62.30	74.00	-11.70 peak																									
2	*	4874.394	34.94	13.53	48.47	54.00	-5.53 AVG																									

Remark:
 1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
 2. Peak/AVG (dB μ V/m)= Corr. (dB/m)+ Read Level (dB μ V)
 3. Margin (dB) = Peak/AVG (dB μ V/m)-Limit PK/AVG(dB μ V/m)

Temperature:	23.2°C	Relative Humidity:	41%																																					
Test Voltage:	AC 120V/60 Hz																																							
Ant. Pol.	Horizontal																																							
Test Mode:	TX G Mode 2462MHz																																							
Remark:	No report for the emission which more than 20dB below the prescribed limit.																																							
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No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over																																	
		MHz	dBuV	dB/m	dBuV/m	dB	Detector																																	
1	*	4923.726	35.22	13.89	49.11	54.00	-4.89	AVG																																
2		4923.748	49.12	13.89	63.01	74.00	-10.99	peak																																
Remark:	1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB) 2. Peak/AVG (dB μ V/m)= Corr. (dB/m)+ Read Level (dB μ V) 3. Margin (dB) = Peak/AVG (dB μ V/m)-Limit PK/AVG(dB μ V/m)																																							

Temperature:	23.2°C	Relative Humidity:	41%																																					
Test Voltage:	AC 120V/60 Hz																																							
Ant. Pol.	Vertical																																							
Test Mode:	TX G Mode 2462MHz																																							
Remark:	No report for the emission which more than 20dB below the prescribed limit.																																							
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Test Voltage:	AC 120V/60 Hz																																					
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Test Mode:	TX n(HT20) Mode 2412MHz																																					
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No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over																															
		MHz	dB μ V	dB/m	dB μ V/m	dB	Detector																															
1	*	4823.572	34.60	13.16	47.76	54.00	-6.24 AVG																															
2		4824.048	48.58	13.16	61.74	74.00	-12.26 peak																															
Remark:	1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB) 2. Peak/AVG (dB μ V/m)= Corr. (dB/m)+ Read Level (dB μ V) 3. Margin (dB) = Peak/AVG (dB μ V/m)-Limit PK/AVG(dB μ V/m)																																					

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No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over																															
		MHz	dB μ V	dB/m	dB μ V/m	dB	Detector																															
1		4823.812	48.28	13.16	61.44	74.00	-12.56 peak																															
2	*	4823.844	34.58	13.16	47.74	54.00	-6.26 AVG																															
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No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over																															
		MHz	dB μ V	dB/m	dB μ V/m	dB μ V/m	dB																															
1	*	4873.570	35.09	13.53	48.62	54.00	-5.38																															
2		4873.620	48.83	13.53	62.36	74.00	-11.64																															
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No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over																															
		MHz	dB μ V	dB/m	dB μ V/m	dB μ V/m	dB																															
1	*	4873.530	34.85	13.53	48.38	54.00	-5.62																															
2		4873.562	48.59	13.53	62.12	74.00	-11.88																															
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Temperature:	23.2°C	Relative Humidity:	41%
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 20dB below the prescribed limit.		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Detector
		MHz	dB μ V	dB/m	dB μ V/m	dB μ V/m	dB	
1	*	4924.110	35.26	13.89	49.15	54.00	-4.85	AVG
2		4924.154	49.61	13.89	63.50	74.00	-10.50	peak

Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
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3. Margin (dB) = Peak/AVG (dB μ V/m)-Limit PK/AVG(dB μ V/m)

Temperature:	23.2°C	Relative Humidity:	41%
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 20dB below the prescribed limit.		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Detector
		MHz	dB μ V	dB/m	dB μ V/m	dB μ V/m	dB	
1		4923.904	49.08	13.89	62.97	74.00	-11.03	peak
2	*	4924.146	35.26	13.89	49.15	54.00	-4.85	AVG

Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
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No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over																															
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No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over																															
		MHz	dB μ V	dB/m	dB μ V/m	dB μ V/m	dB																															
1	*	4844.044	34.56	13.31	47.87	54.00	-6.13																															
2		4844.388	48.95	13.31	62.26	74.00	-11.74																															
Remark: 1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB) 2. Peak/AVG (dB μ V/m)= Corr. (dB/m)+ Read Level (dB μ V) 3. Margin (dB) = Peak/AVG (dB μ V/m)-Limit PK/AVG(dB μ V/m)																																						

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No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over																									
		MHz	dB μ V	dB/m	dB μ V/m	dB	Detector																									
1		4874.142	48.88	13.53	62.41	74.00	-11.59 peak																									
2	*	4874.448	34.87	13.53	48.40	54.00	-5.60 AVG																									
Remark:	1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB) 2. Peak/AVG (dB μ V/m)= Corr. (dB/m)+ Read Level (dB μ V) 3. Margin (dB) = Peak/AVG (dB μ V/m)-Limit PK/AVG(dB μ V/m)																															

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No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over																									
		MHz	dB μ V	dB/m	dB μ V/m	dB	Detector																									
1		4873.876	48.42	13.53	61.95	74.00	-12.05 peak																									
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No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over																															
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Test Mode:	TX n(HT40) Mode 2452MHz																																					
Remark:	No report for the emission which more than 20dB below the prescribed limit.																																					
<table border="1"> <thead> <tr> <th>No.</th> <th>Mk.</th> <th>Freq.</th> <th>Reading Level</th> <th>Correct Factor</th> <th>Measure-ment</th> <th>Limit</th> <th>Over</th> </tr> <tr> <th></th> <th></th> <th>MHz</th> <th>dBuV</th> <th>dB/m</th> <th>dBuV/m</th> <th>dB</th> <th>Detector</th> </tr> </thead> <tbody> <tr> <td>1</td> <td></td> <td>4904.356</td> <td>48.58</td> <td>13.75</td> <td>62.33</td> <td>74.00</td> <td>-11.67 peak</td> </tr> <tr> <td>2</td> <td>*</td> <td>4904.408</td> <td>35.22</td> <td>13.75</td> <td>48.97</td> <td>54.00</td> <td>-5.03 AVG</td> </tr> </tbody> </table>							No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over			MHz	dBuV	dB/m	dBuV/m	dB	Detector	1		4904.356	48.58	13.75	62.33	74.00	-11.67 peak	2	*	4904.408	35.22	13.75	48.97	54.00	-5.03 AVG
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over																															
		MHz	dBuV	dB/m	dBuV/m	dB	Detector																															
1		4904.356	48.58	13.75	62.33	74.00	-11.67 peak																															
2	*	4904.408	35.22	13.75	48.97	54.00	-5.03 AVG																															
Remark:	1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB) 2. Peak/AVG (dB μ V/m)= Corr. (dB/m)+ Read Level (dB μ V) 3. Margin (dB) = Peak/AVG (dB μ V/m)-Limit PK/AVG(dB μ V/m)																																					

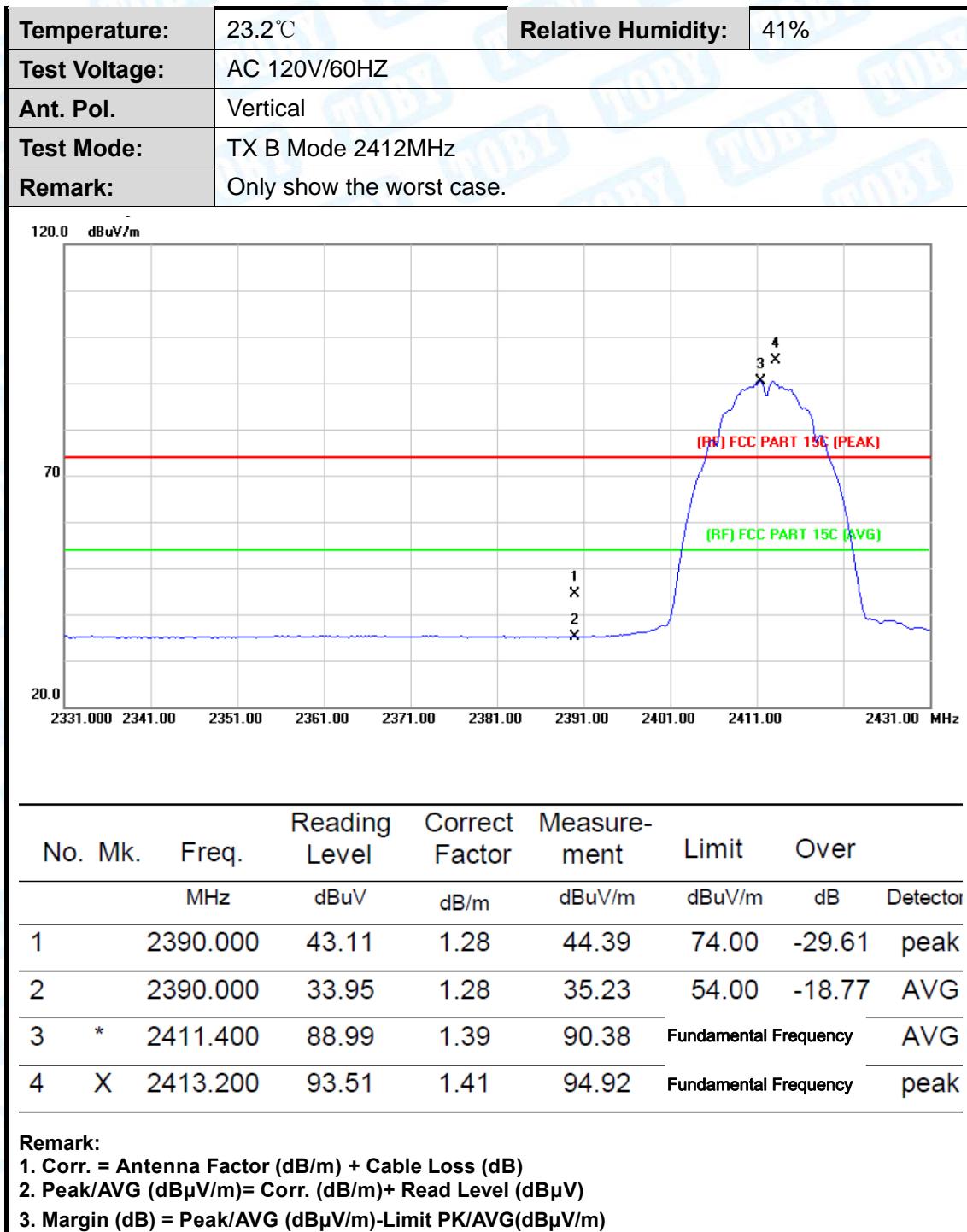
Attachment C-- Restricted Bands Requirement and Band-edge Test Data

(1) Radiation Test

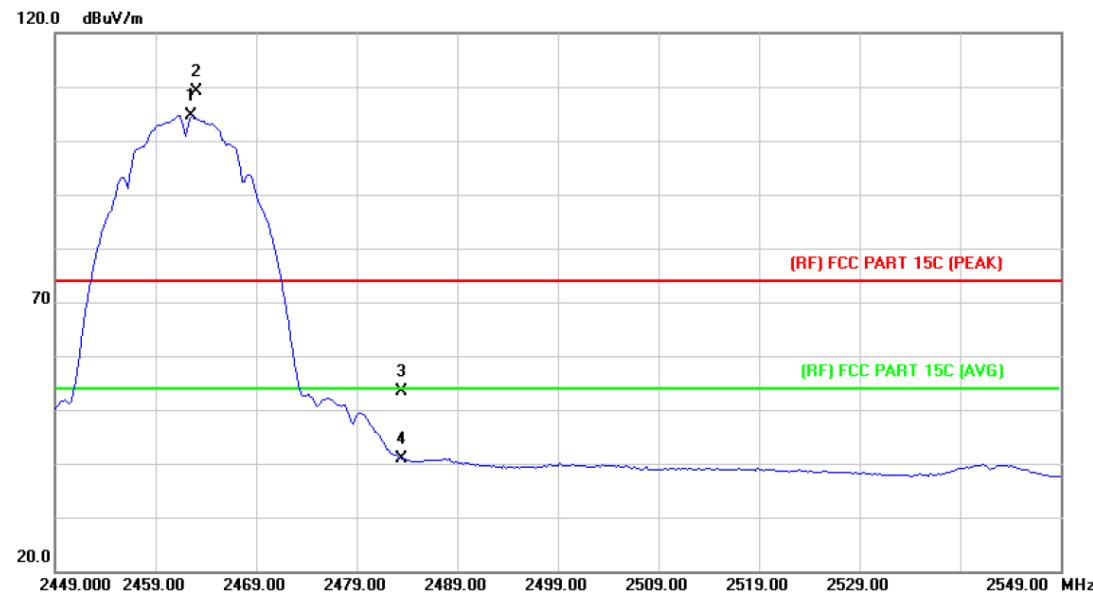
Temperature:	23.2°C	Relative Humidity:	41%					
Test Voltage:	AC 120V/60HZ							
Ant. Pol.	Horizontal							
Test Mode:	TX B Mode 2412MHz							
Remark:	Only show the worst case.							
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		2390.000	47.98	1.28	49.26	74.00	-24.74	peak
2		2390.000	37.04	1.28	38.32	54.00	-15.68	Avg
3	X	2411.000	105.60	1.38	106.98	Fundamental Frequency		peak
4	*	2411.400	101.19	1.39	102.58	Fundamental Frequency		Avg

Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
2. Peak/Avg (dB μ V/m)= Corr. (dB/m)+ Read Level (dB μ V)
3. Margin (dB) = Peak/Avg (dB μ V/m)-Limit PK/Avg(dB μ V/m)



Temperature:	23.2°C	Relative Humidity:	41%
Test Voltage:	AC 120V/60HZ		
Ant. Pol.	Horizontal		
Test Mode:	TX B Mode 2462MHz		
Remark:	Only show the worst case.		

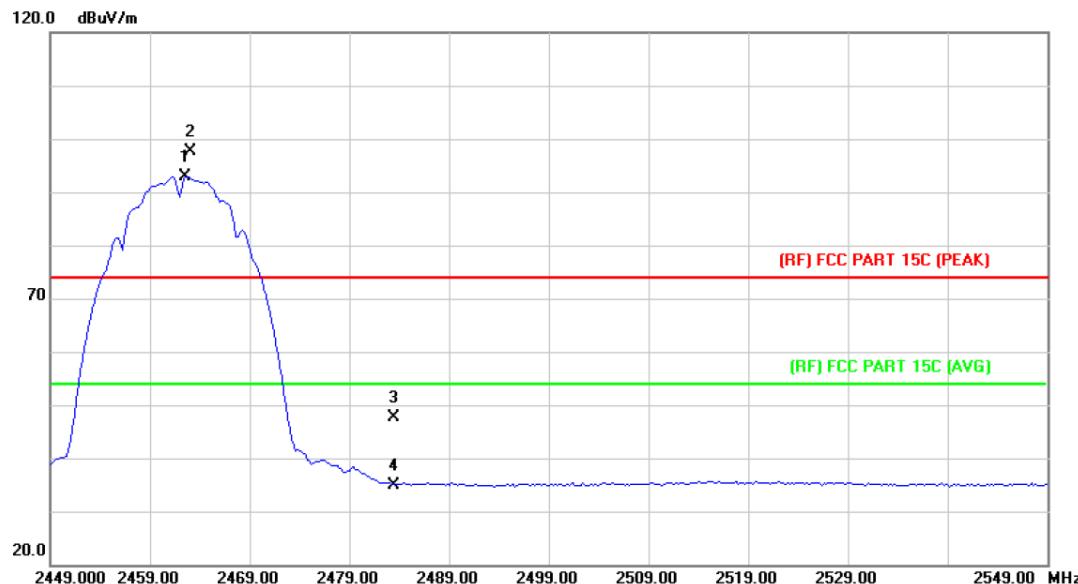


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over
		MHz	dBuV	dB/m	dBuV/m	dB	Detector
1	*	2462.600	102.83	1.74	104.57	Fundamental Frequency	AVG
2	X	2463.000	107.38	1.74	109.12	Fundamental Frequency	peak
3		2483.500	51.54	1.88	53.42	74.00	-20.58
4		2483.500	39.05	1.88	40.93	54.00	-13.07

Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
2. Peak/AVG (dB μ V/m)= Corr. (dB/m)+ Read Level (dB μ V)
3. Margin (dB) = Peak/AVG (dB μ V/m)-Limit PK/AVG(dB μ V/m)

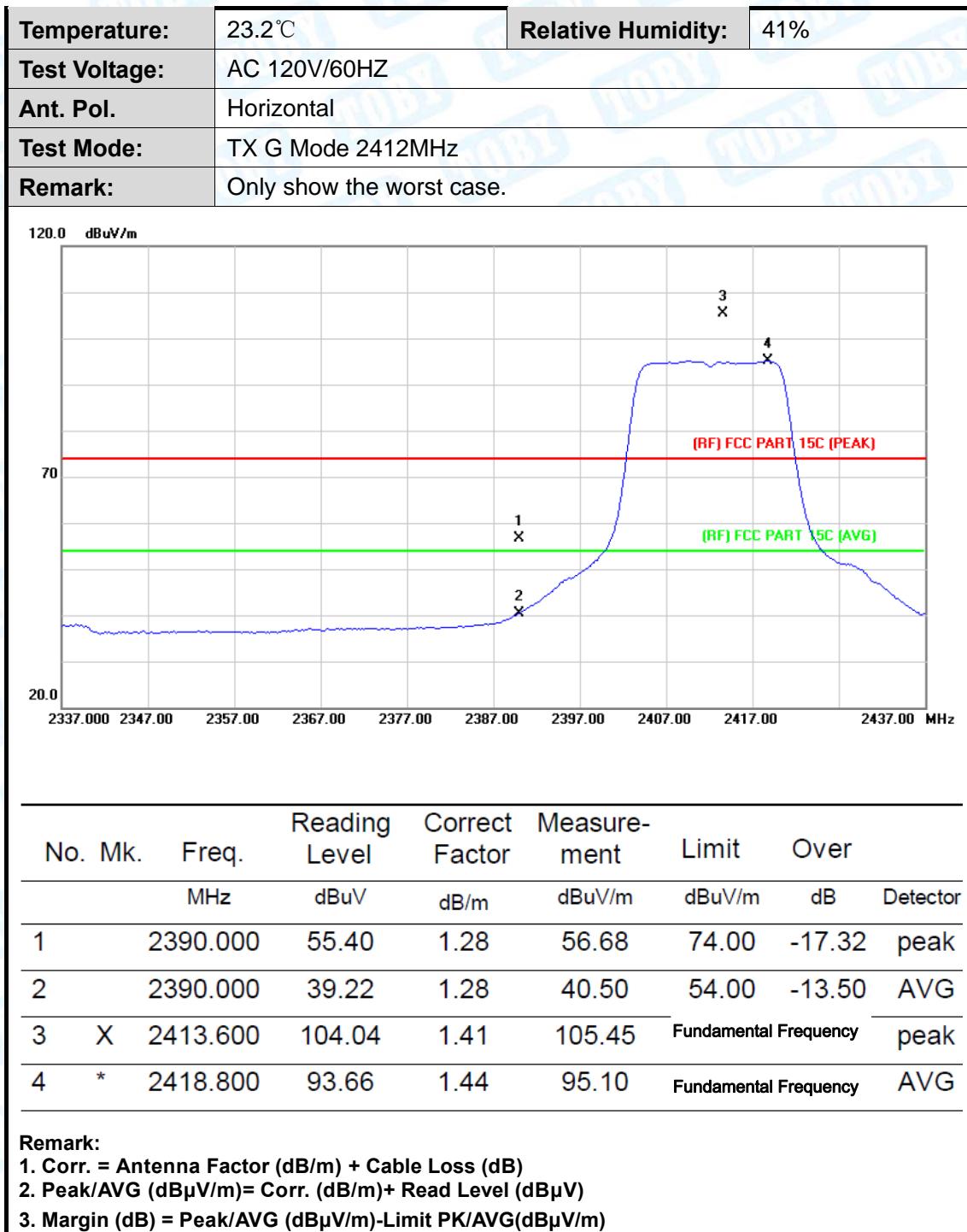
Temperature:	23.2°C	Relative Humidity:	41%
Test Voltage:	AC 120V/60HZ		
Ant. Pol.	Vertical		
Test Mode:	TX B Mode 2462MHz		
Remark:	Only show the worst case.		

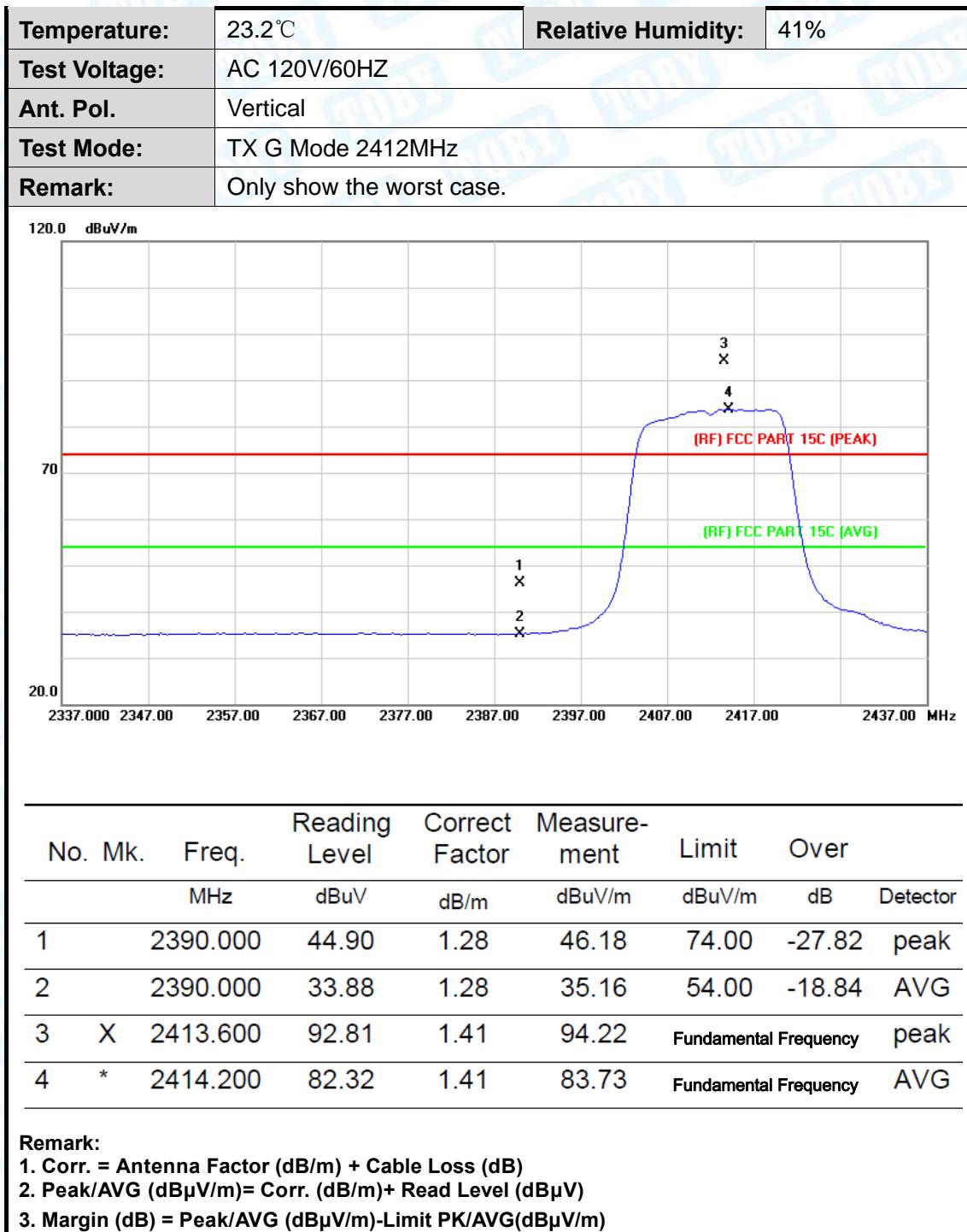


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	*	2462.600	91.25	1.74	92.99	Fundamental Frequency		AVG
2	X	2463.000	95.86	1.74	97.60	Fundamental Frequency		peak
3		2483.500	45.74	1.88	47.62	74.00	-26.38	peak
4		2483.500	33.09	1.88	34.97	54.00	-19.03	AVG

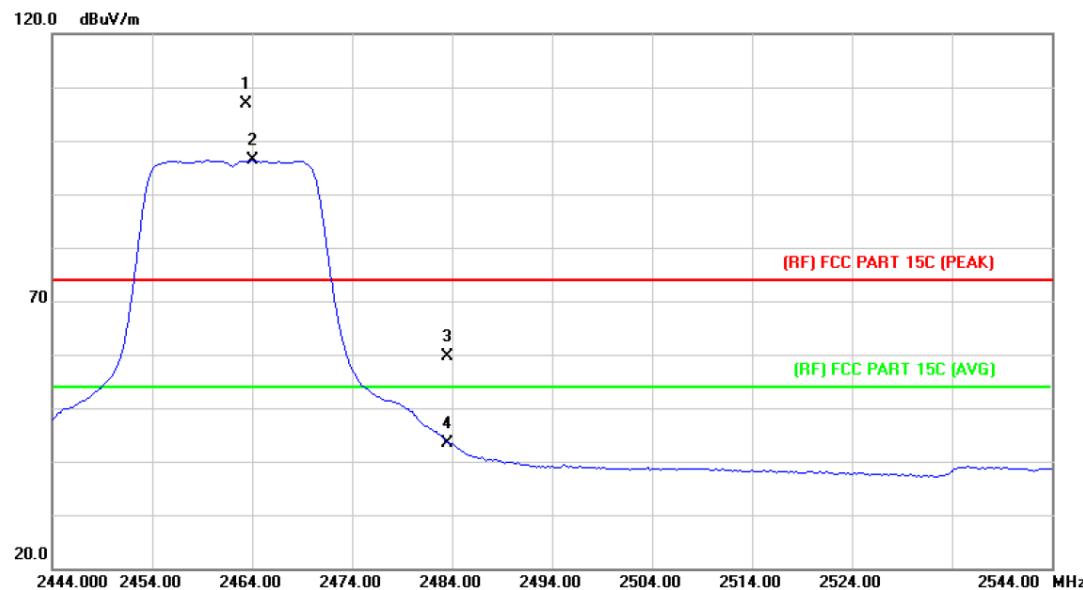
Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
2. Peak/AVG (dB μ V/m)= Corr. (dB/m)+ Read Level (dB μ V)
3. Margin (dB) = Peak/AVG (dB μ V/m)-Limit PK/AVG(dB μ V/m)





Temperature:	23.2°C	Relative Humidity:	41%
Test Voltage:	AC 120V/60HZ		
Ant. Pol.	Horizontal		
Test Mode:	TX G Mode 2462MHz		
Remark:	Only show the worst case.		

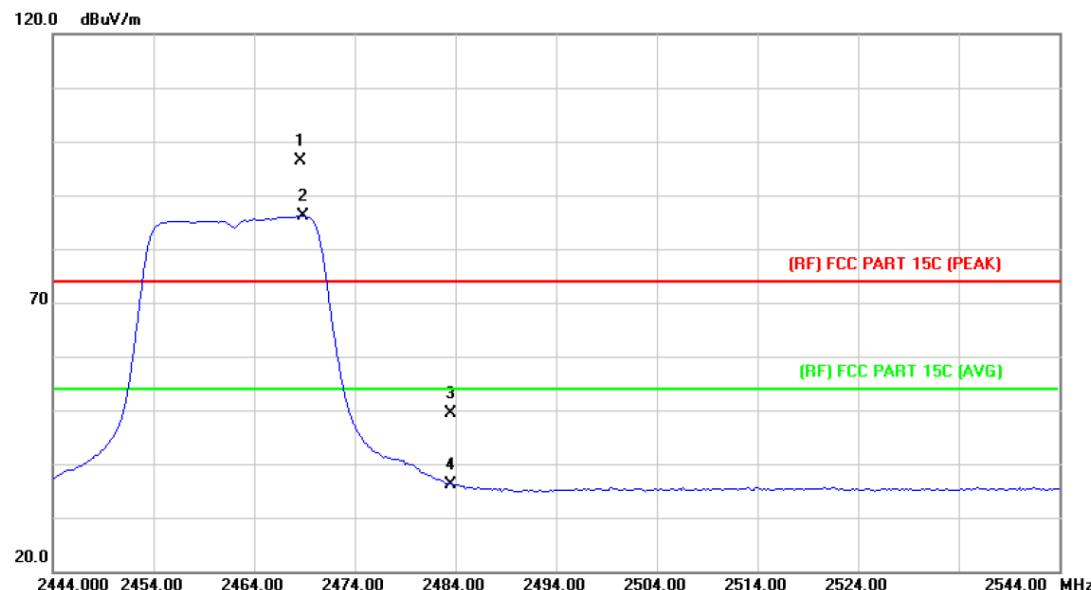


No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over
			Level	Factor	ment		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB
1	X	2463.400	105.12	1.75	106.87	Fundamental Frequency	peak
2	*	2464.000	94.55	1.75	96.30	Fundamental Frequency	AVG
3		2483.500	57.83	1.88	59.71	74.00	-14.29 peak
4		2483.500	41.60	1.88	43.48	54.00	-10.52 AVG

Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
2. Peak/AVG (dB μ V/m)= Corr. (dB/m)+ Read Level (dB μ V)
3. Margin (dB) = Peak/AVG (dB μ V/m)-Limit PK/AVG(dB μ V/m)

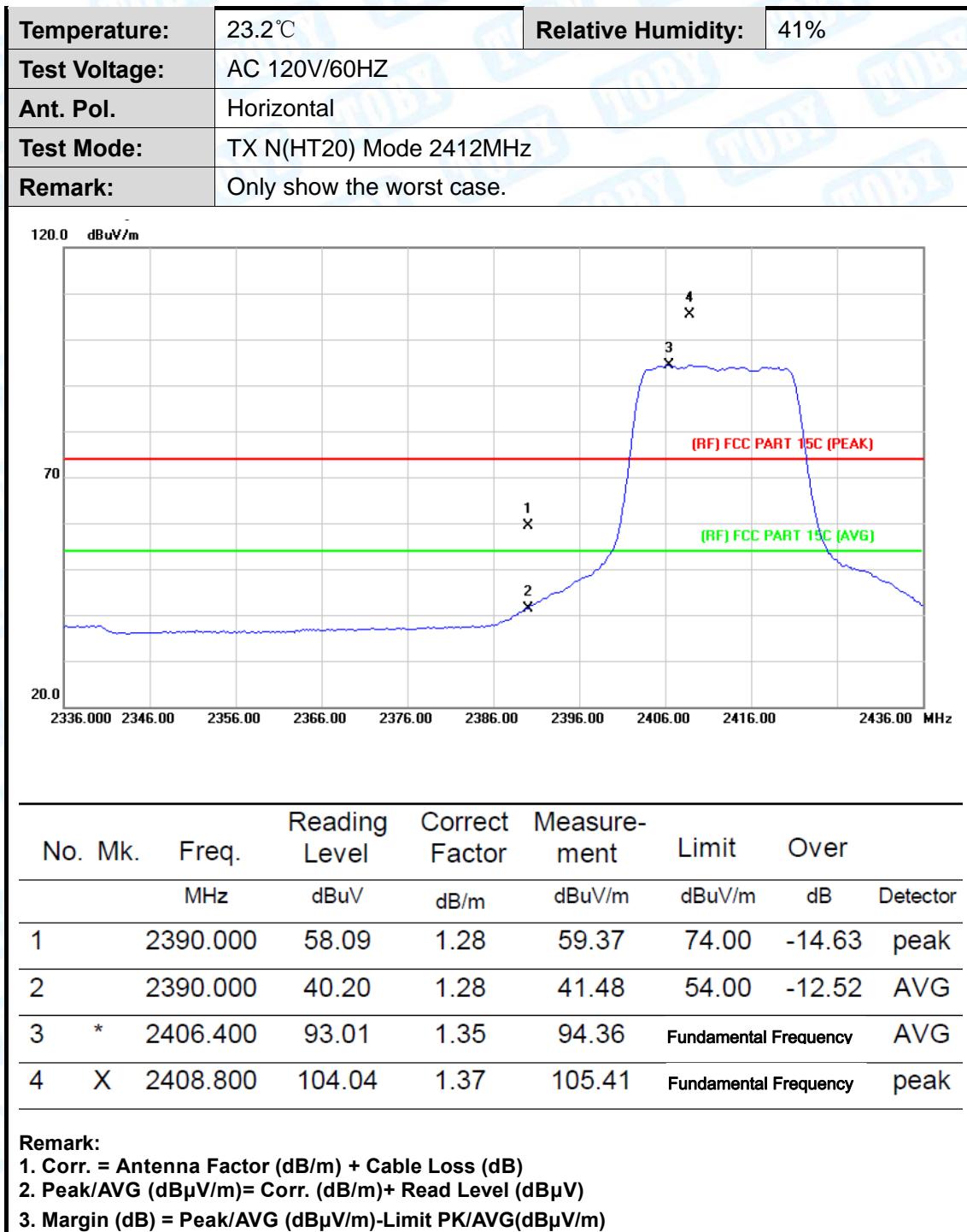
Temperature:	23.2°C	Relative Humidity:	41%
Test Voltage:	AC 120V/60HZ		
Ant. Pol.	Vertical		
Test Mode:	TX G Mode 2462MHz		
Remark:	Only show the worst case.		



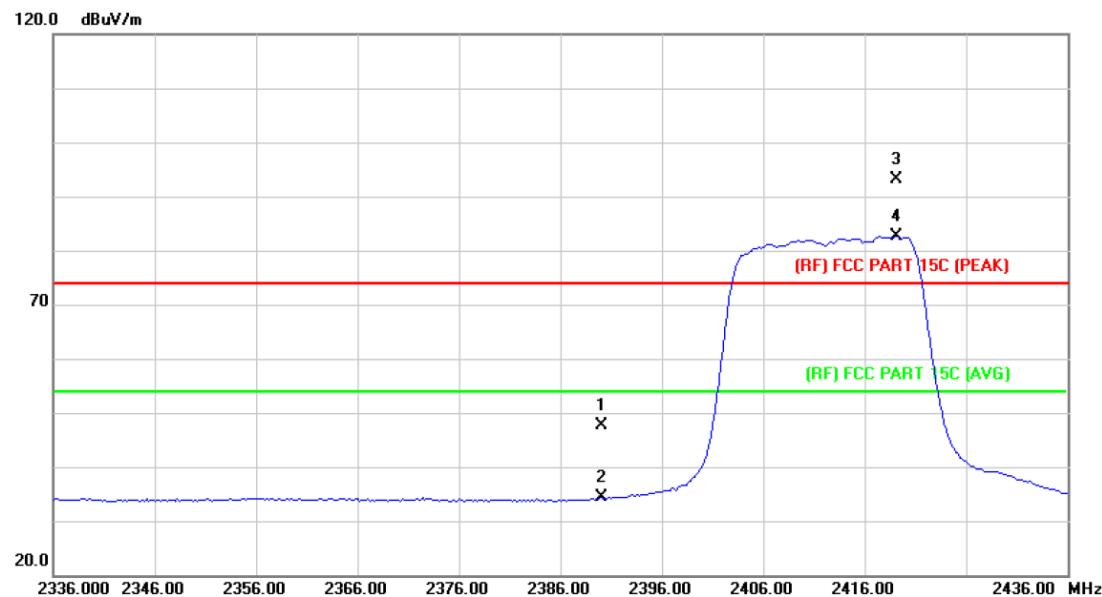
No.	Mk.	Freq. MHz	Reading	Correct	Measure-	Limit	Over
			Level dBuV	Factor dB/m	ment dBuV/m		
1	X	2468.600	94.59	1.78	96.37	Fundamental Frequency	peak
2	*	2468.800	84.44	1.78	86.22	Fundamental Frequency	AVG
3		2483.500	47.44	1.88	49.32	74.00	-24.68 peak
4		2483.500	34.21	1.88	36.09	54.00	-17.91 AVG

Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
2. Peak/AVG (dB μ V/m)= Corr. (dB/m)+ Read Level (dB μ V)
3. Margin (dB) = Peak/AVG (dB μ V/m)-Limit PK/AVG(dB μ V/m)



Temperature:	23.2°C	Relative Humidity:	41%
Test Voltage:	AC 120V/60HZ		
Ant. Pol.	Vertical		
Test Mode:	TX N(HT20) Mode 2412MHz		
Remark:	Only show the worst case.		



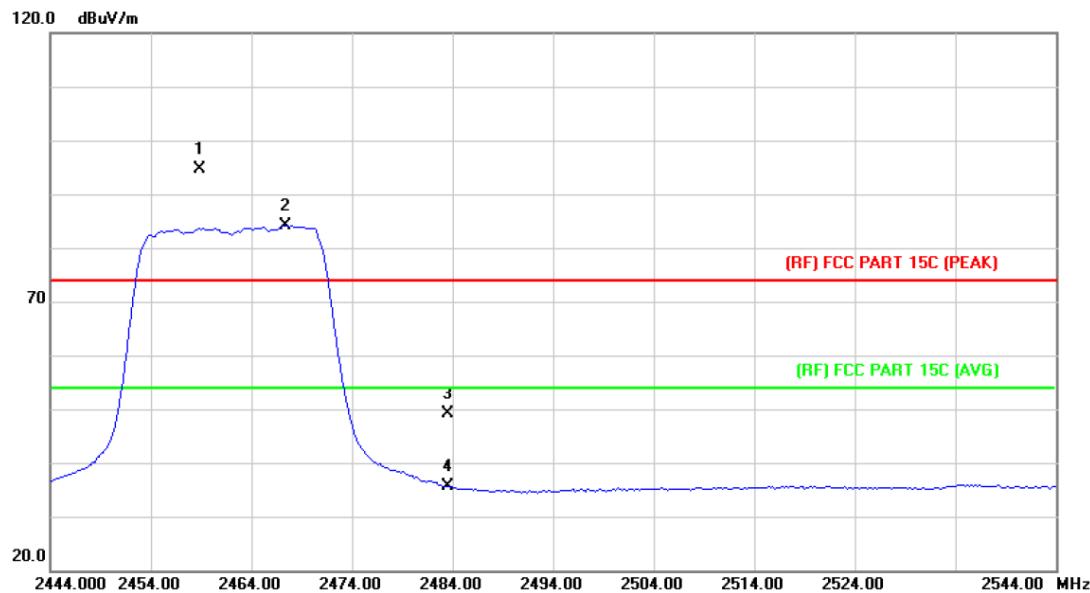
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over
		MHz	dBuV	dB/m	dBuV/m	dB	Detector
1		2390.000	46.47	1.28	47.75	74.00	-26.25 peak
2		2390.000	32.98	1.28	34.26	54.00	-19.74 AVG
3	X	2419.200	91.65	1.45	93.10	Fundamental Frequency	peak
4	*	2419.200	81.20	1.45	82.65	Fundamental Frequency	AVG

Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
2. Peak/AVG (dB μ V/m)= Corr. (dB/m)+ Read Level (dB μ V)
3. Margin (dB) = Peak/AVG (dB μ V/m)-Limit PK/AVG(dB μ V/m)

Temperature:	23.2°C	Relative Humidity:	41%																																																					
Test Voltage:	AC 120V/60HZ																																																							
Ant. Pol.	Horizontal																																																							
Test Mode:	TX N(HT20) Mode 2462MHz																																																							
Remark:	Only show the worst case.																																																							
<table border="1"> <thead> <tr> <th>No.</th> <th>Mk.</th> <th>Freq.</th> <th>Reading Level</th> <th>Correct Factor</th> <th>Measure-ment</th> <th>Limit</th> <th>Over</th> </tr> <tr> <th></th> <th></th> <th>MHz</th> <th>dBuV</th> <th>dB/m</th> <th>dBuV/m</th> <th>dBuV/m</th> <th>dB</th> <th>Detector</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>X</td> <td>2458.800</td> <td>105.17</td> <td>1.70</td> <td>106.87</td> <td>Fundamental Frequency</td> <td>peak</td> <td></td> </tr> <tr> <td>2</td> <td>*</td> <td>2467.400</td> <td>94.06</td> <td>1.78</td> <td>95.84</td> <td>Fundamental Frequency</td> <td>AVG</td> <td></td> </tr> <tr> <td>3</td> <td></td> <td>2483.500</td> <td>60.66</td> <td>1.88</td> <td>62.54</td> <td>74.00</td> <td>-11.46</td> <td>peak</td> </tr> <tr> <td>4</td> <td></td> <td>2483.500</td> <td>42.99</td> <td>1.88</td> <td>44.87</td> <td>54.00</td> <td>-9.13</td> <td>AVG</td> </tr> </tbody> </table>				No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over			MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	1	X	2458.800	105.17	1.70	106.87	Fundamental Frequency	peak		2	*	2467.400	94.06	1.78	95.84	Fundamental Frequency	AVG		3		2483.500	60.66	1.88	62.54	74.00	-11.46	peak	4		2483.500	42.99	1.88	44.87	54.00	-9.13	AVG
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over																																																	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector																																																
1	X	2458.800	105.17	1.70	106.87	Fundamental Frequency	peak																																																	
2	*	2467.400	94.06	1.78	95.84	Fundamental Frequency	AVG																																																	
3		2483.500	60.66	1.88	62.54	74.00	-11.46	peak																																																
4		2483.500	42.99	1.88	44.87	54.00	-9.13	AVG																																																
Remark:																																																								
1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)																																																								
2. Peak/AVG (dB μ V/m)= Corr. (dB/m)+ Read Level (dB μ V)																																																								
3. Margin (dB) = Peak/AVG (dB μ V/m)-Limit PK/AVG(dB μ V/m)																																																								

Temperature:	23.2°C	Relative Humidity:	41%
Test Voltage:	AC 120V/60HZ		
Ant. Pol.	Vertical		
Test Mode:	TX N(HT20) Mode 2462MHz		
Remark:	Only show the worst case.		

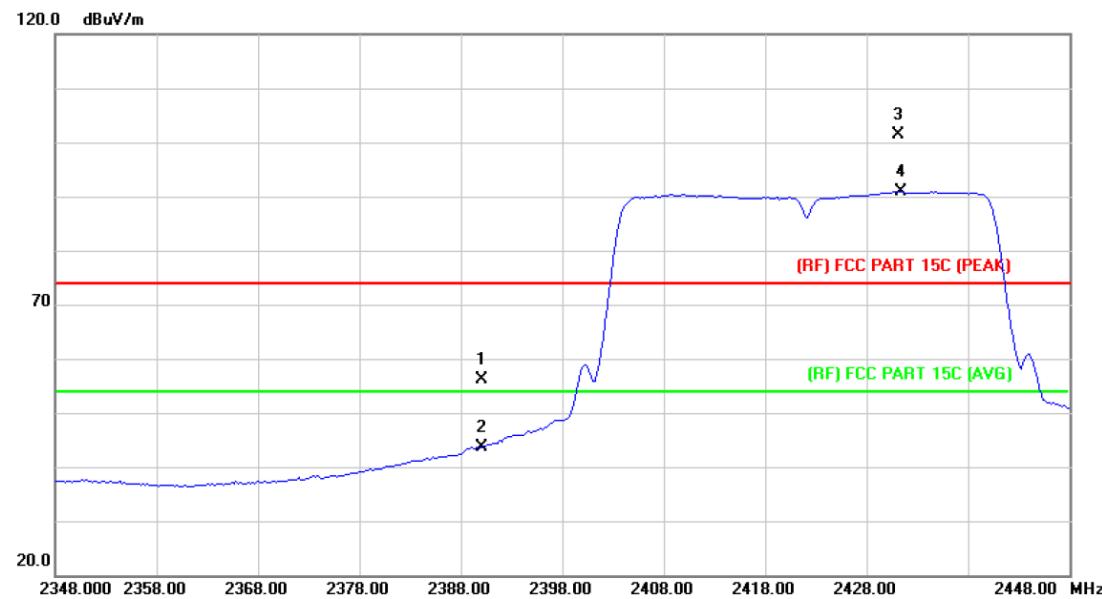


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	X	2458.800	92.86	1.70	94.56	Fundamental Frequency	peak	
2	*	2467.400	82.39	1.78	84.17	Fundamental Frequency	AVG	
3		2483.500	47.37	1.88	49.25	74.00	-24.75	peak
4		2483.500	33.76	1.88	35.64	54.00	-18.36	AVG

Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
2. Peak/AVG (dB μ V/m)= Corr. (dB/m)+ Read Level (dB μ V)
3. Margin (dB) = Peak/AVG (dB μ V/m)-Limit PK/AVG(dB μ V/m)

Temperature:	23.2°C	Relative Humidity:	41%
Test Voltage:	AC 120V/60HZ		
Ant. Pol.	Horizontal		
Test Mode:	TX N(HT40) Mode 2422MHz		
Remark:	Only show the worst case.		

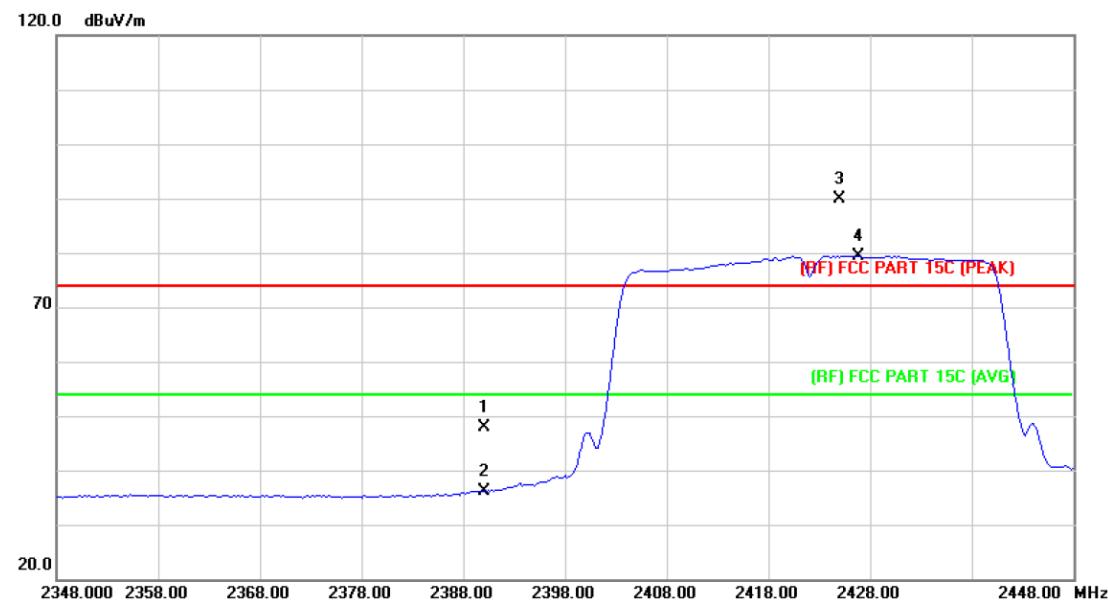


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over
		MHz	dBuV	dB/m	dBuV/m	dB	Detector
1		2390.000	54.88	1.28	56.16	74.00	-17.84 peak
2		2390.000	42.45	1.28	43.73	54.00	-10.27 AVG
3	X	2431.200	99.93	1.53	101.46	Fundamental Frequency	peak
4	*	2431.400	89.33	1.53	90.86	Fundamental Frequency	AVG

Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
2. Peak/AVG (dB μ V/m)= Corr. (dB/m)+ Read Level (dB μ V)
3. Margin (dB) = Peak/AVG (dB μ V/m)-Limit PK/AVG(dB μ V/m)

Temperature:	23.2°C	Relative Humidity:	41%
Test Voltage:	AC 120V/60HZ		
Ant. Pol.	Vertical		
Test Mode:	TX N(HT40) Mode 2422MHz		
Remark:	Only show the worst case.		

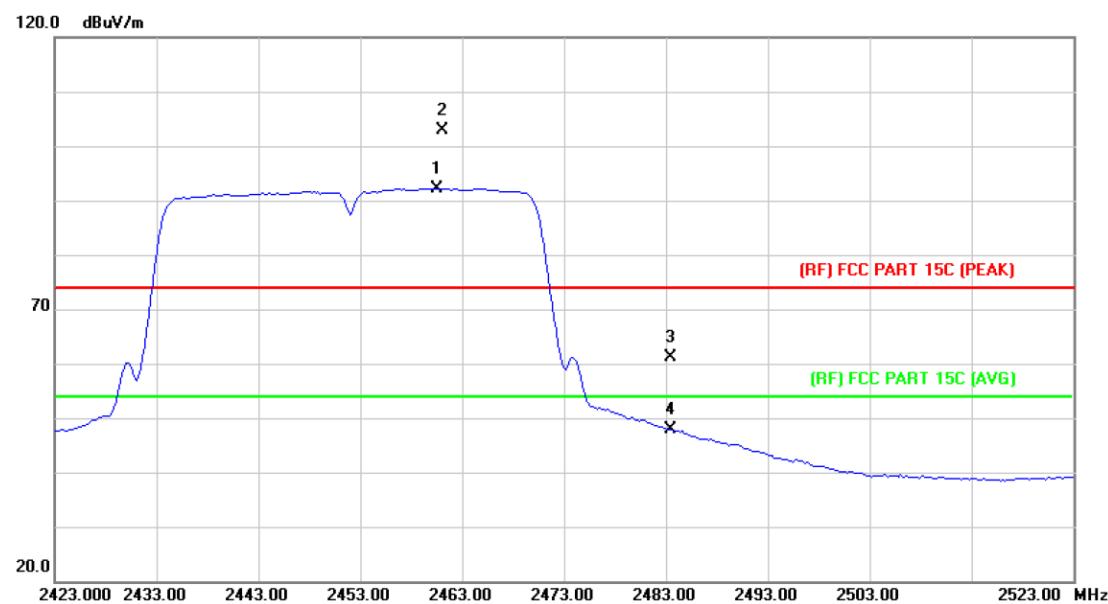


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	46.63	1.28	47.91	74.00	-26.09	peak
2		2390.000	34.80	1.28	36.08	54.00	-17.92	Avg
3	X	2425.000	88.39	1.48	89.87	Fundamental Frequency	peak	
4	*	2426.800	77.91	1.49	79.40	Fundamental Frequency	Avg	

Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
2. Peak/AVG (dB μ V/m)= Corr. (dB/m)+ Read Level (dB μ V)
3. Margin (dB) = Peak/AVG (dB μ V/m)-Limit PK/AVG(dB μ V/m)

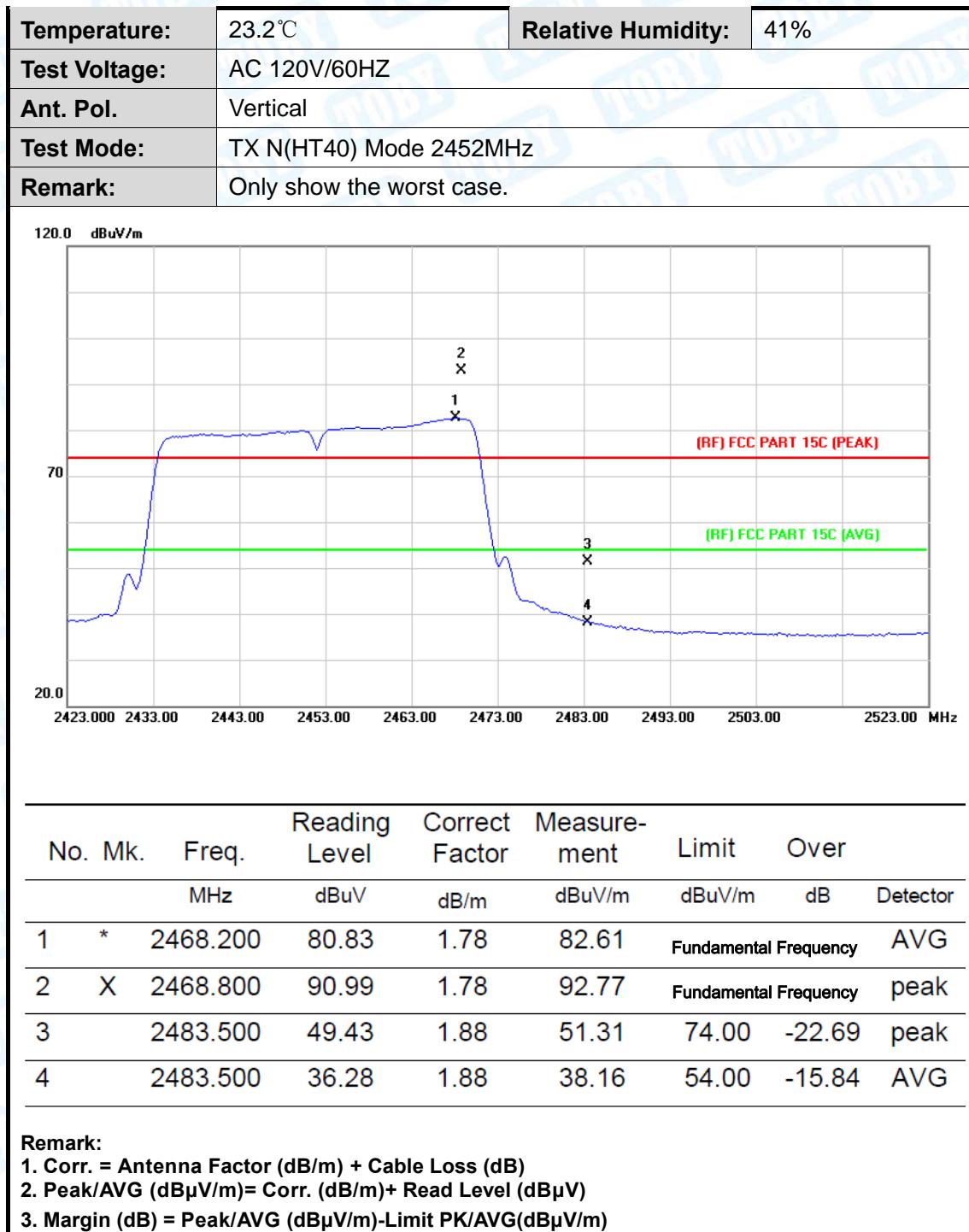
Temperature:	23.2°C	Relative Humidity:	41%
Test Voltage:	AC 120V/60HZ		
Ant. Pol.	Horizontal		
Test Mode:	TX N(HT40) Mode 2452MHz		
Remark:	Only show the worst case.		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Over Detector
1	*	2460.600	90.52	1.72	92.24	Fundamental Frequency		AVG
2	X	2461.000	101.13	1.72	102.85	Fundamental Frequency		peak
3		2483.500	59.33	1.88	61.21	74.00	-12.79	peak
4		2483.500	45.91	1.88	47.79	54.00	-6.21	AVG

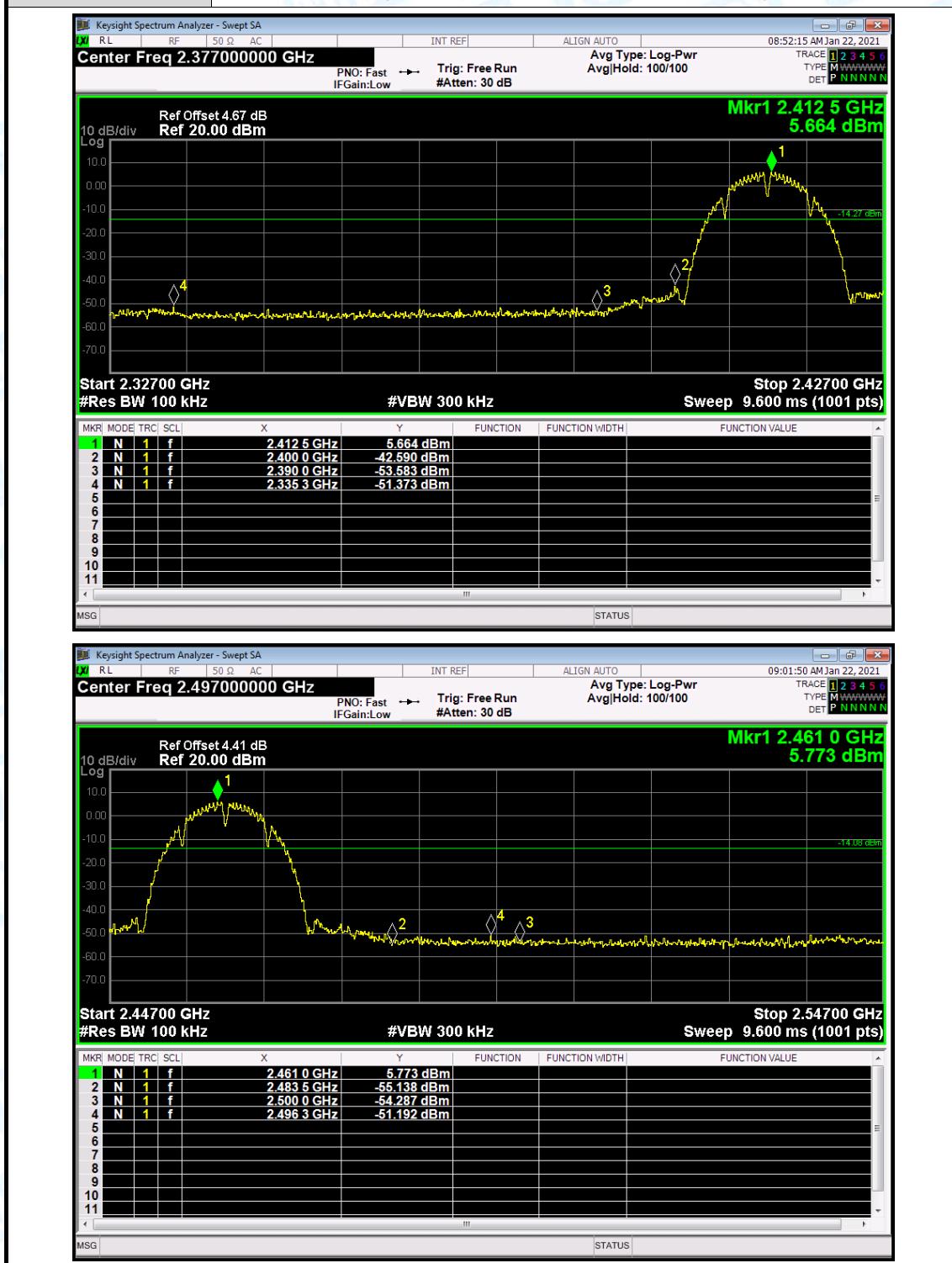
Remark:

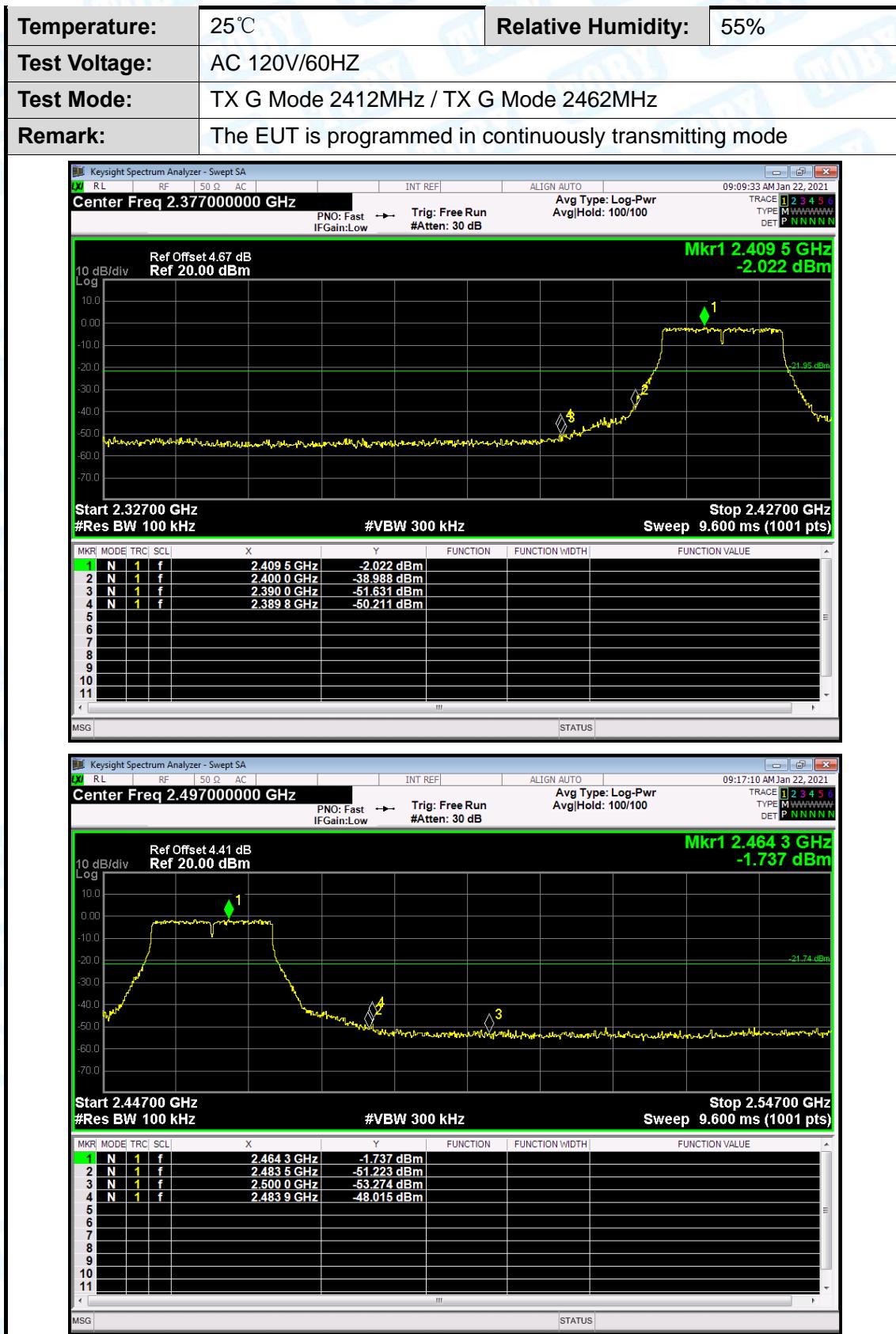
1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
2. Peak/AVG (dB μ V/m)= Corr. (dB/m)+ Read Level (dB μ V)
3. Margin (dB) = Peak/AVG (dB μ V/m)-Limit PK/AVG(dB μ V/m)

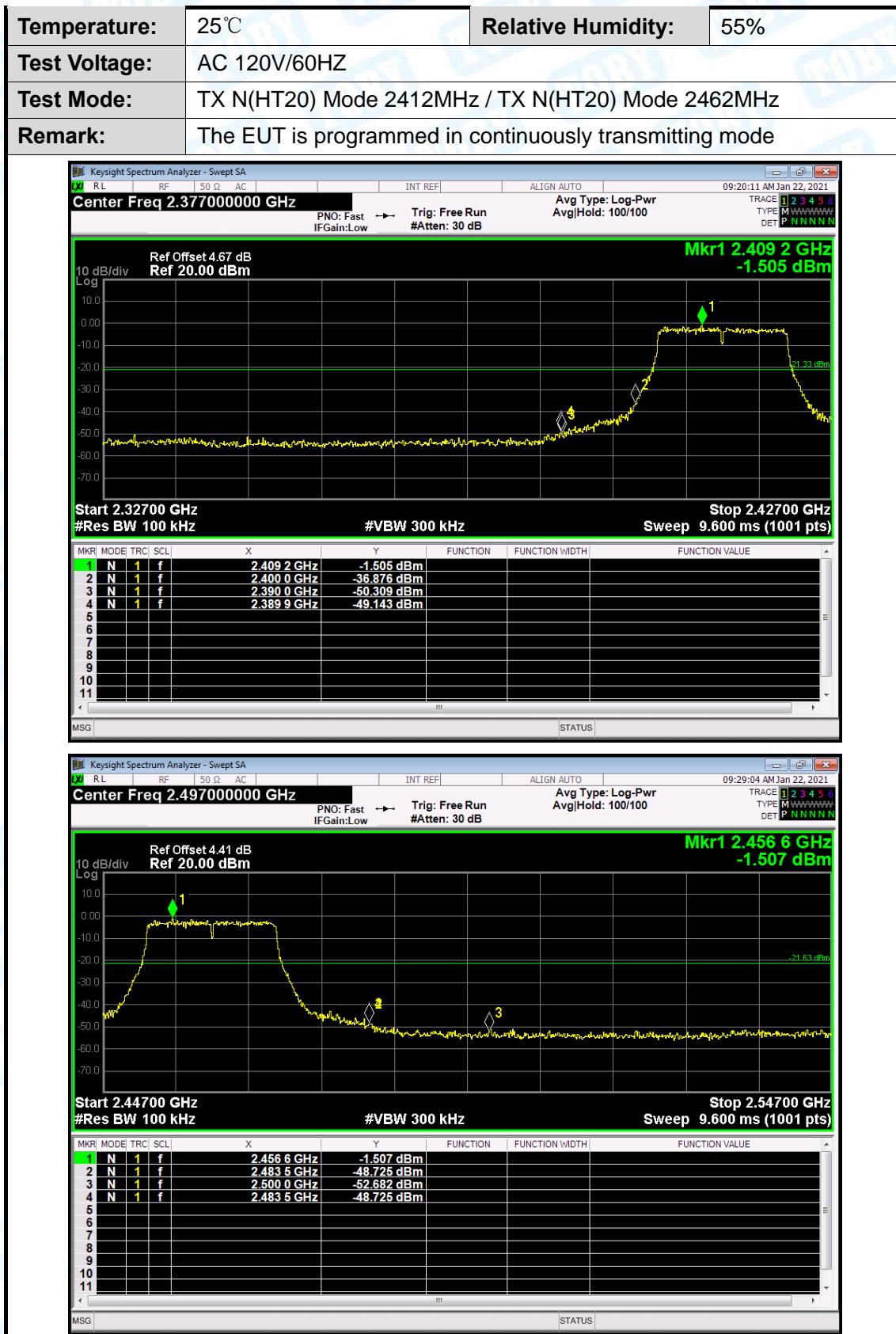


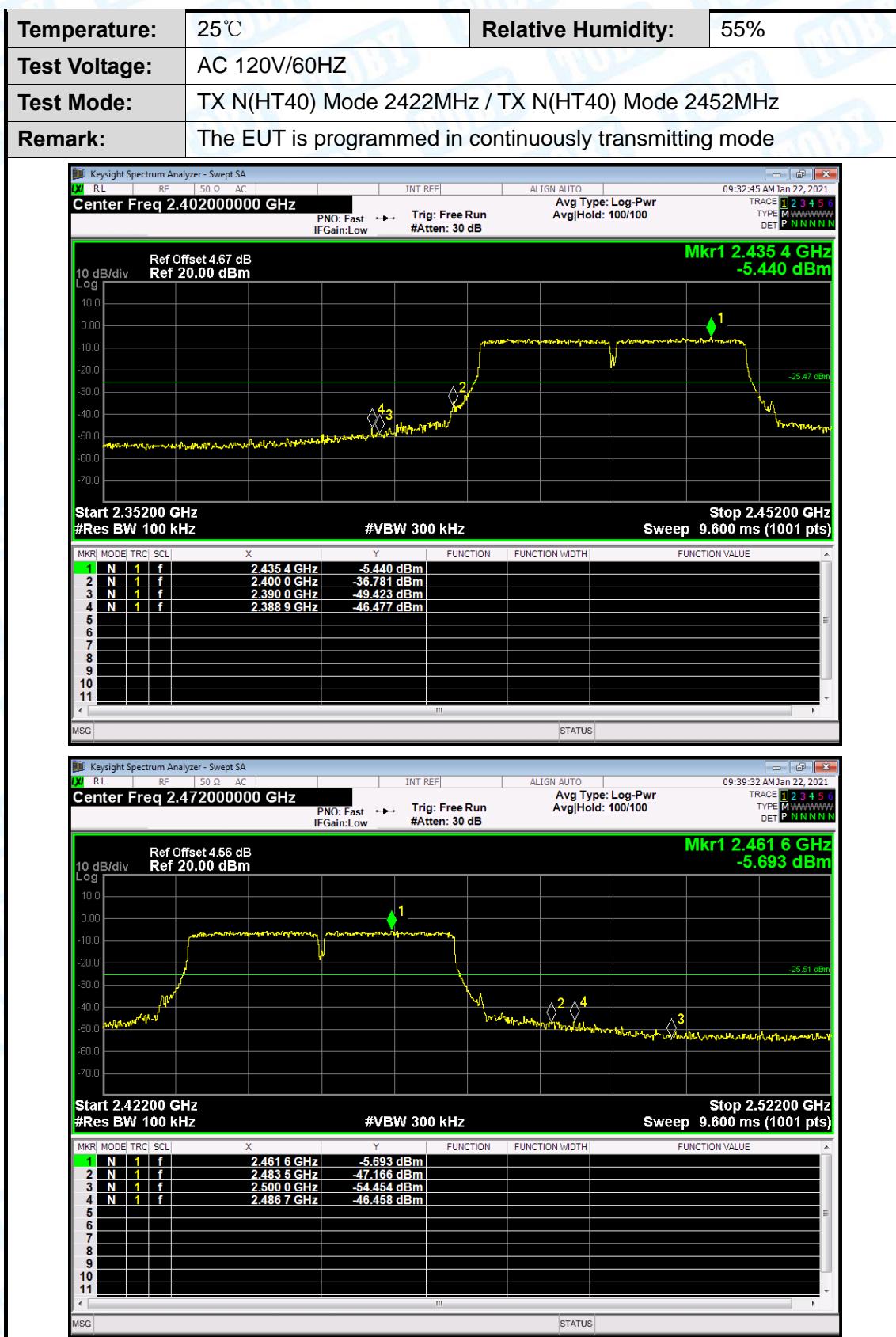
(2) Conducted Test

Temperature:	25°C	Relative Humidity:	55%
Test Voltage:	AC 120V/60HZ		
Test Mode:	TX B Mode 2412MHz / TX B Mode 2462MHz		
Remark:	The EUT is programmed in continuously transmitting mode		





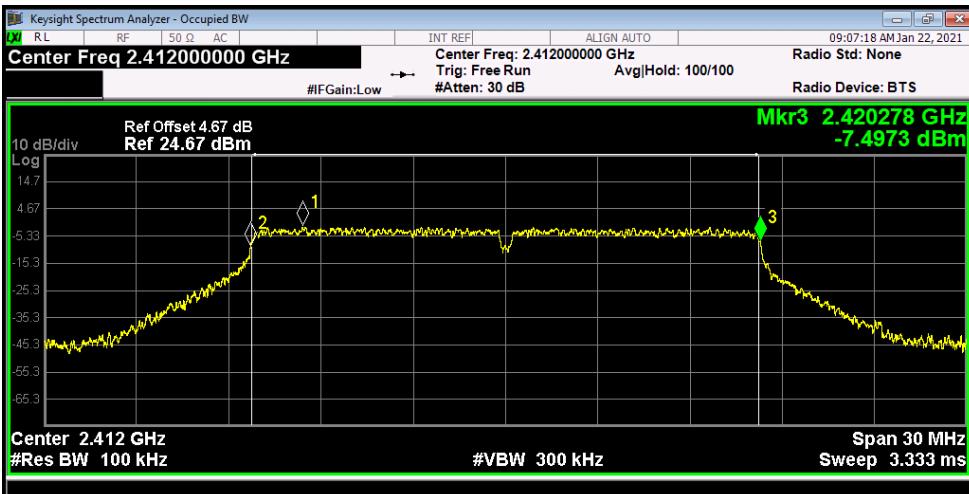


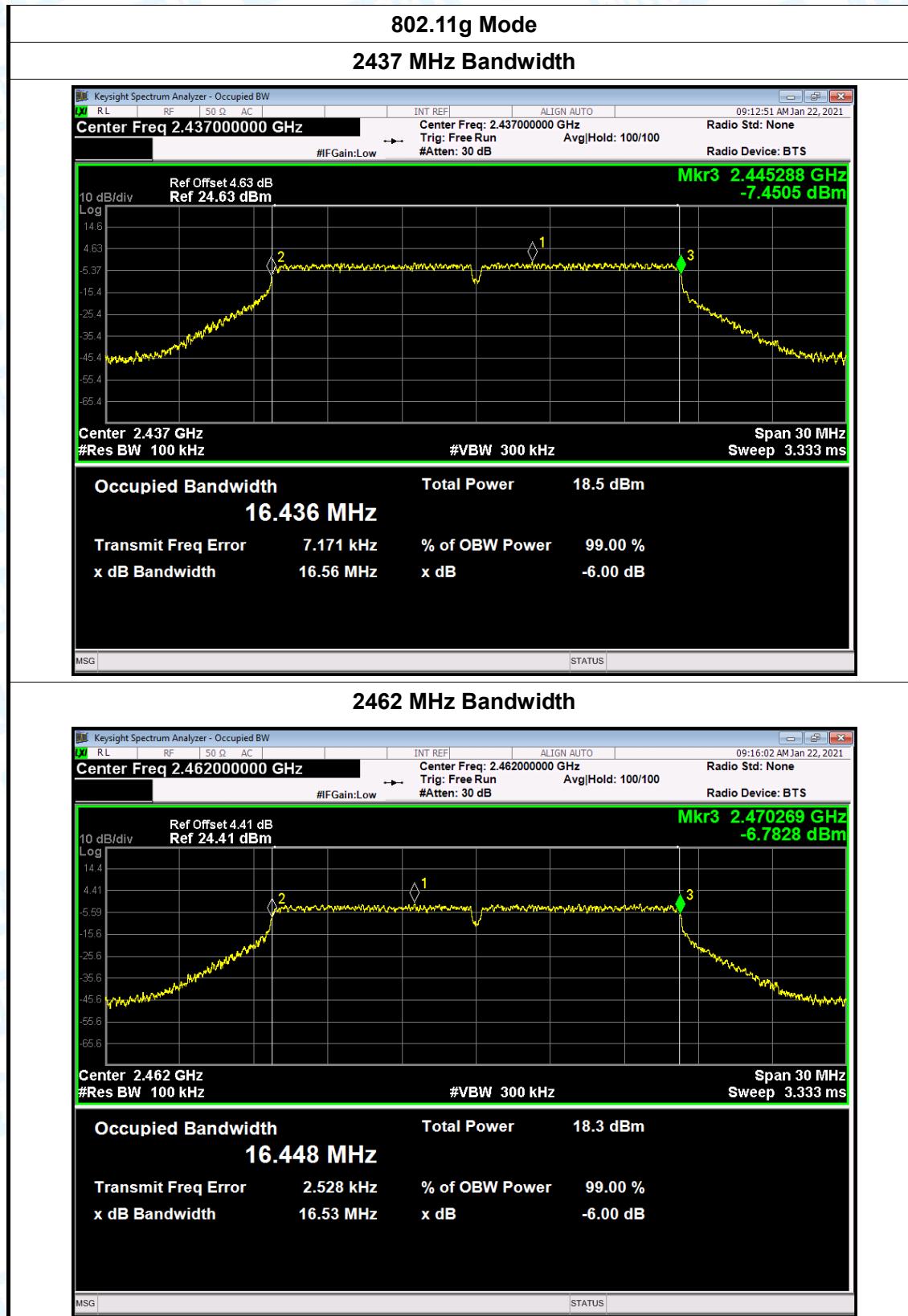


Attachment D-- Bandwidth Test Data

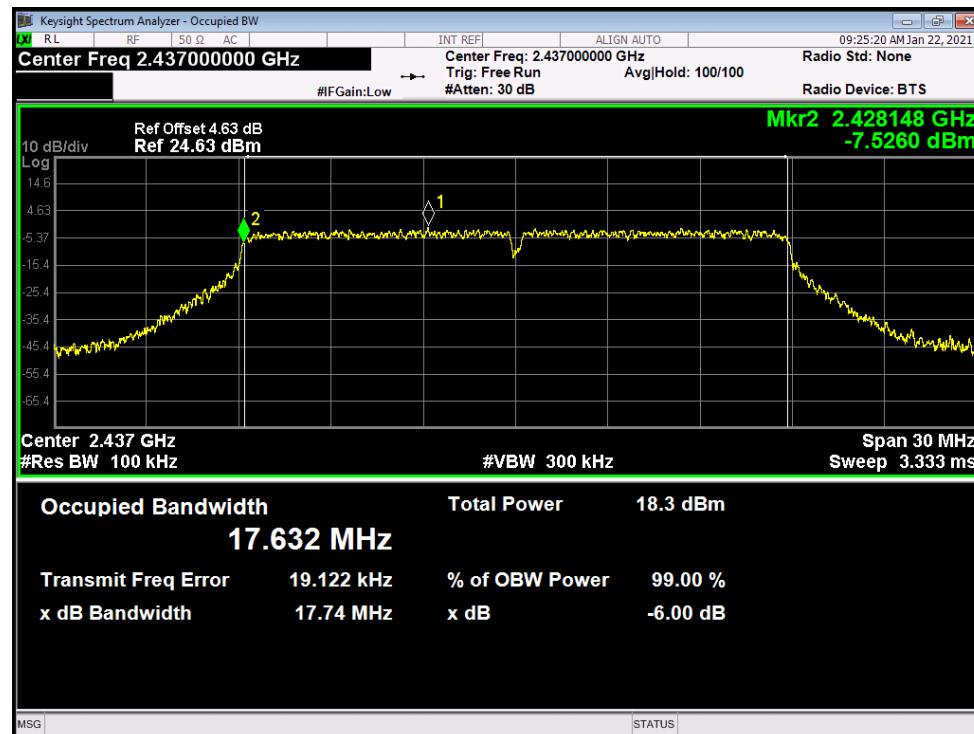
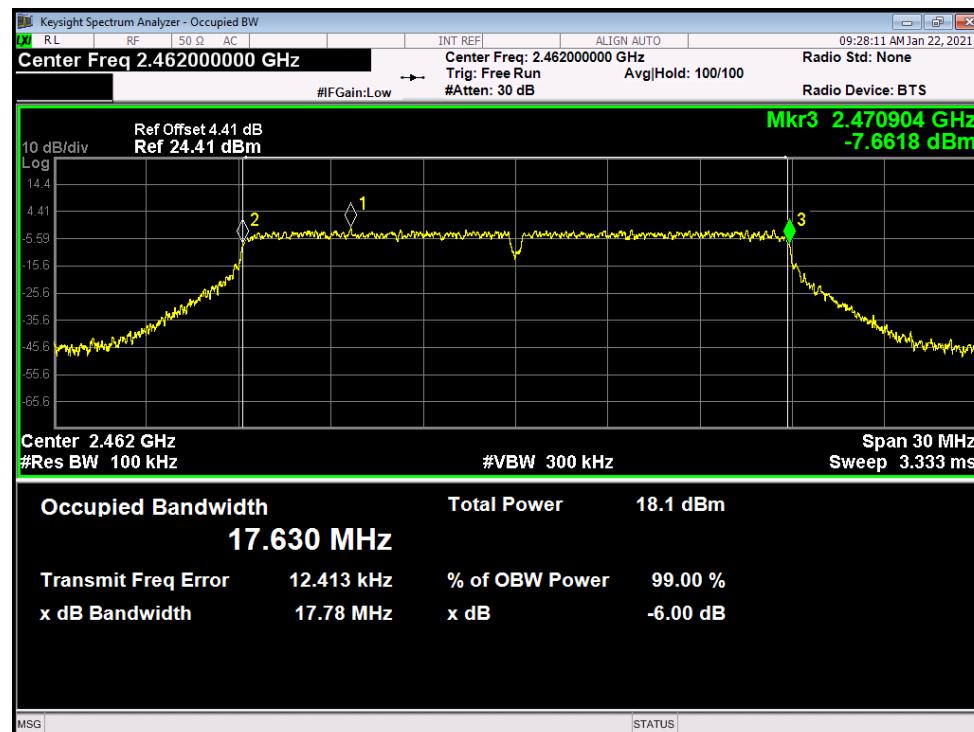
Temperature:	25°C	Relative Humidity:	55%
Test Voltage:	AC 120V/60HZ		
Test Mode:	TX 802.11b Mode		
Channel frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)
2412	9.055	/	>=0.5
2437	9.046	/	
2462	9.049	/	
802.11b Mode			
2412 MHz Bandwidth			
 <p>Keysight Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.412000000 GHz</p> <p>Ref Offset 4.67 dB Ref 24.67 dBm</p> <p>Mkr3 2.41649 GHz 0.084492 dBm</p> <p>10 dB/div Log</p> <p>Span 30 MHz Sweep 3.333 ms</p> <p>Center 2.412 GHz #VBW 300 kHz</p> <p>Occupied Bandwidth 13.505 MHz Total Power 21.9 dBm</p> <p>Transmit Freq Error -37.268 kHz % of OBW Power 99.00 %</p> <p>x dB Bandwidth 9.055 MHz x dB -6.00 dB</p>			

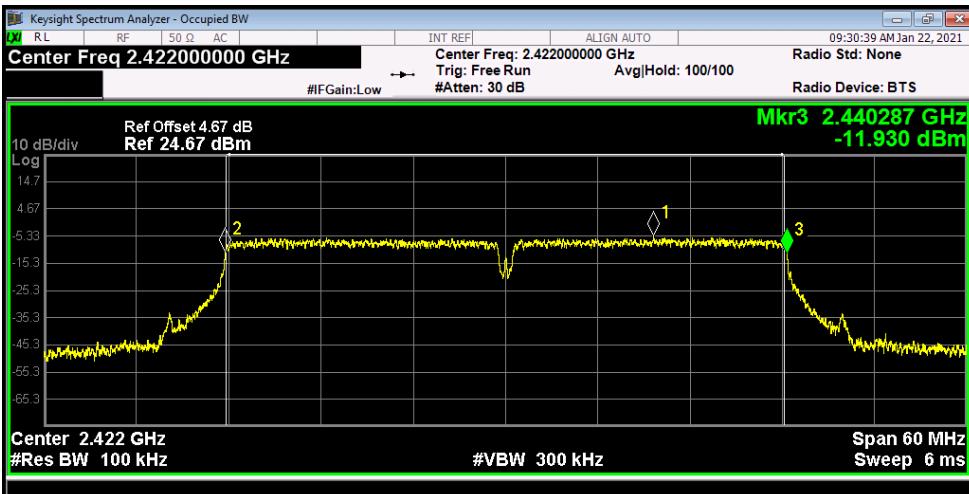


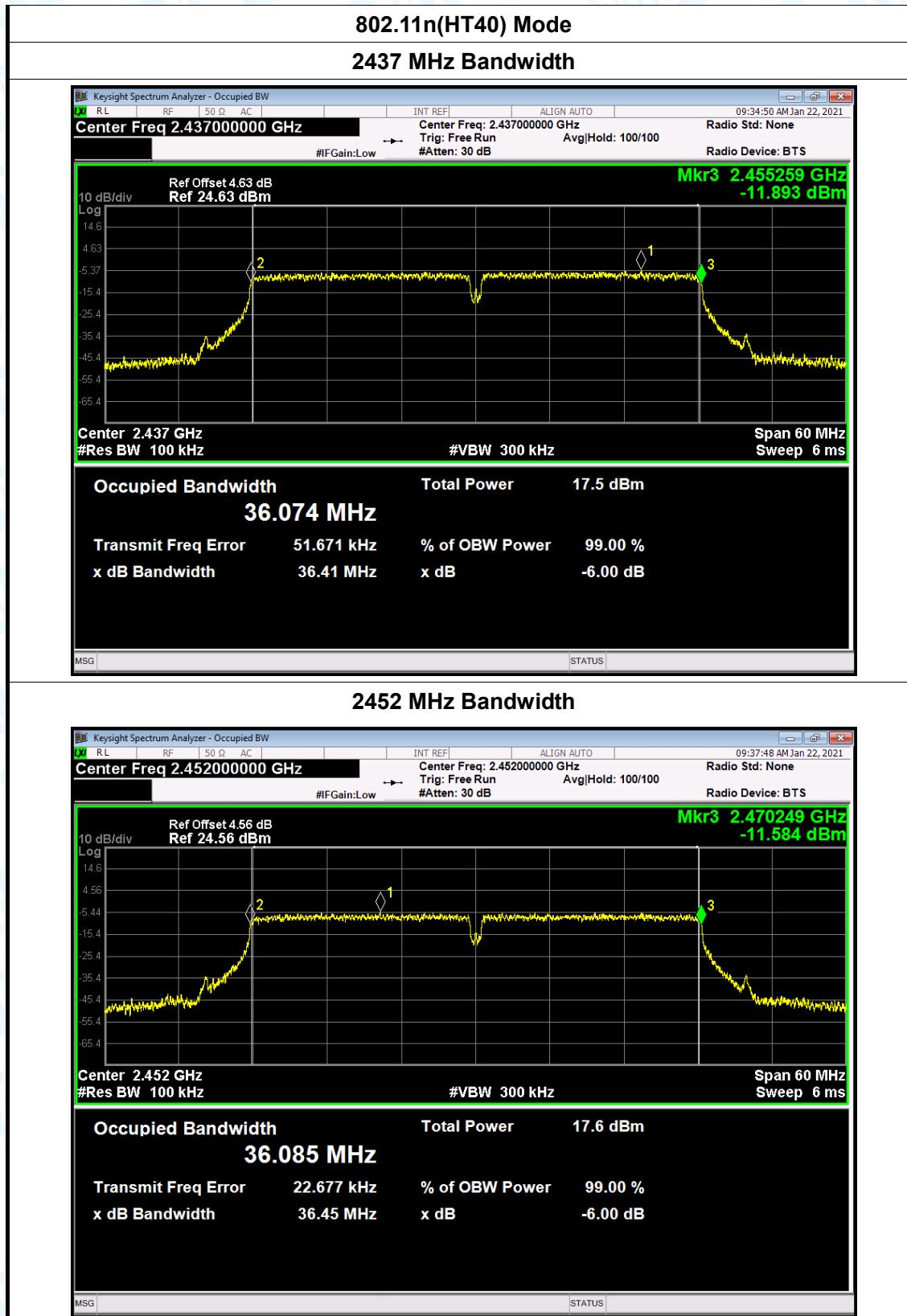
Temperature:	25°C	Relative Humidity:	55%	
Test Voltage:	AC 120V/60HZ			
Test Mode:	TX 802.11g Mode			
Channel frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)	
2412	16.57	/	>=0.5	
2437	16.56	/		
2462	16.53	/		
802.11g Mode				
2412 MHz Bandwidth				
 <p>Keysight Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.412000000 GHz</p> <p>Center Freq: 2.412000000 GHz</p> <p>Trig: Free Run</p> <p>Avg Hold: 100/100</p> <p>Radio Std: None</p> <p>Radio Device: BTS</p> <p>Ref Offset 4.67 dB</p> <p>Ref 24.67 dBm</p> <p>Mkr3 2.420278 GHz</p> <p>-7.4973 dBm</p> <p>10 dB/div</p> <p>Log</p> <p>14.7</p> <p>4.67</p> <p>-5.33</p> <p>-15.3</p> <p>-25.3</p> <p>-35.3</p> <p>-45.3</p> <p>-55.3</p> <p>-65.3</p> <p>Center 2.412 GHz</p> <p>#Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 30 MHz</p> <p>Sweep 3.333 ms</p> <p>Occupied Bandwidth</p> <p>16.456 MHz</p> <p>Total Power</p> <p>18.0 dBm</p> <p>Transmit Freq Error</p> <p>-8.104 kHz</p> <p>% of OBW Power</p> <p>99.00 %</p> <p>x dB Bandwidth</p> <p>16.57 MHz</p> <p>x dB</p> <p>-6.00 dB</p>				



Temperature:	25°C	Relative Humidity:	55%	
Test Voltage:	AC 120V/60HZ			
Test Mode:	TX 802.11n(HT20) Mode			
Channel frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)	
2412	17.77	/	>=0.5	
2437	17.74	/		
2462	17.78	/		
802.11n(HT20) Mode				
2412 MHz Bandwidth				
 <p>Keysight Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.412000000 GHz</p> <p>Center Freq: 2.412000000 GHz</p> <p>Trig: Free Run</p> <p>Avg Hold: 100/100</p> <p>Radio Std: None</p> <p>Radio Device: BTS</p> <p>Ref Offset 4.67 dB</p> <p>Ref 24.67 dBm</p> <p>Mkr3 2.420889 GHz</p> <p>-7.3516 dBm</p> <p>10 dB/div</p> <p>Log</p> <p>14.7</p> <p>4.67</p> <p>-5.33</p> <p>-15.3</p> <p>-25.3</p> <p>-35.3</p> <p>-45.3</p> <p>-55.3</p> <p>-65.3</p> <p>Center 2.412 GHz</p> <p>#Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 30 MHz</p> <p>Sweep 3.333 ms</p> <p>Occupied Bandwidth</p> <p>17.652 MHz</p> <p>Total Power</p> <p>18.1 dBm</p> <p>Transmit Freq Error</p> <p>4.875 kHz</p> <p>% of OBW Power</p> <p>99.00 %</p> <p>x dB Bandwidth</p> <p>17.77 MHz</p> <p>x dB</p> <p>-6.00 dB</p>				

802.11n(HT20) Mode**2437 MHz Bandwidth****2462 MHz Bandwidth**

Temperature:	25°C	Relative Humidity:	55%	
Test Voltage:	AC 120V/60HZ			
Test Mode:	TX 802.11n(HT40) Mode			
Channel frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)	
2422	36.52	/	>=0.5	
2437	36.51	/		
2452	36.45	/		
802.11n(HT40) Mode				
2422 MHz Bandwidth				
 <p>Keysight Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.422000000 GHz</p> <p>Center Freq: 2.422000000 GHz</p> <p>Trig: Free Run</p> <p>Avg Hold: 100/100</p> <p>Radio Std: None</p> <p>Radio Device: BTS</p> <p>Ref Offset 4.67 dB</p> <p>Ref 24.67 dBm</p> <p>Mkr3 2.440287 GHz</p> <p>-11.930 dBm</p> <p>10 dB/div</p> <p>Log</p> <p>14.7</p> <p>4.67</p> <p>-5.33</p> <p>-15.3</p> <p>-25.3</p> <p>-35.3</p> <p>-45.3</p> <p>-55.3</p> <p>-65.3</p> <p>Center 2.422 GHz</p> <p>#Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 60 MHz</p> <p>Sweep 6 ms</p> <p>Occupied Bandwidth</p> <p>36.141 MHz</p> <p>Total Power</p> <p>17.4 dBm</p> <p>Transmit Freq Error</p> <p>27.795 kHz</p> <p>% of OBW Power</p> <p>99.00 %</p> <p>x dB Bandwidth</p> <p>36.52 MHz</p> <p>x dB</p> <p>-6.00 dB</p>				

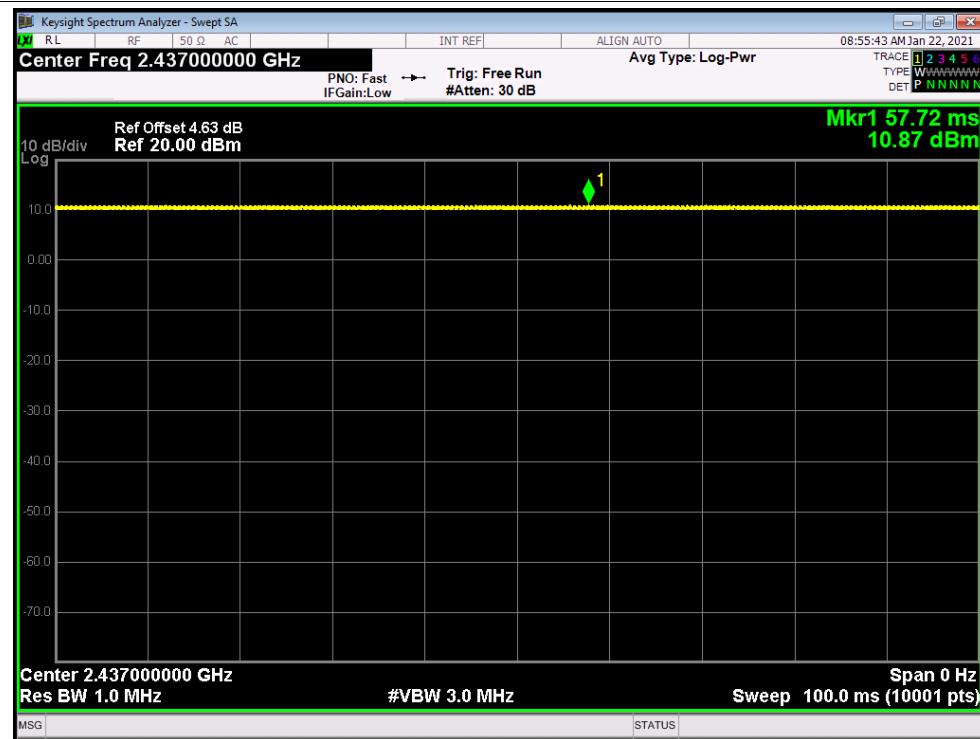


Attachment E-- Peak Output Power and E.I.R.P Data

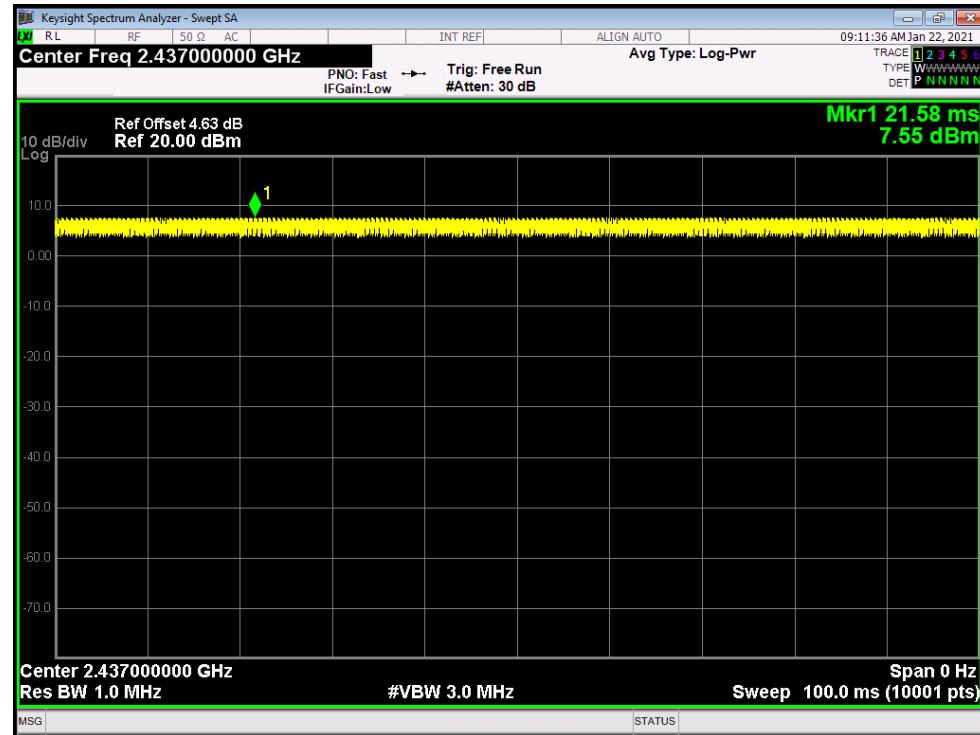
Test Conditions:		Continuous Transmitting Mode		
Temperature:		25 °C	Relative Humidity:	55%
Test Voltage:		AC 120V/60HZ		
Mode		Channel frequency (MHz)	Test Result (dBm)	Limit (dBm)
802.11b	2412	17.17		
	2437	16.72		
	2462	16.77		
802.11g	2412	16.97		
	2437	17.58		
	2462	17.19		
802.11n (HT20)	2412	17.37		30
	2437	17.49		
	2462	17.35		
802.11n (HT40)	2422	16.27		
	2437	16.45		
	2452	16.47		
Result: PASS				

Duty Cycle		
Mode	Channel frequency (MHz)	Test Result
802.11b	2412	
	2437	
	2462	
802.11g	2412	
	2437	
	2462	
802.11n (HT20)	2412	
	2437	
	2462	>98%
802.11n (HT40)	2422	
	2437	
	2452	
Please see below plots		

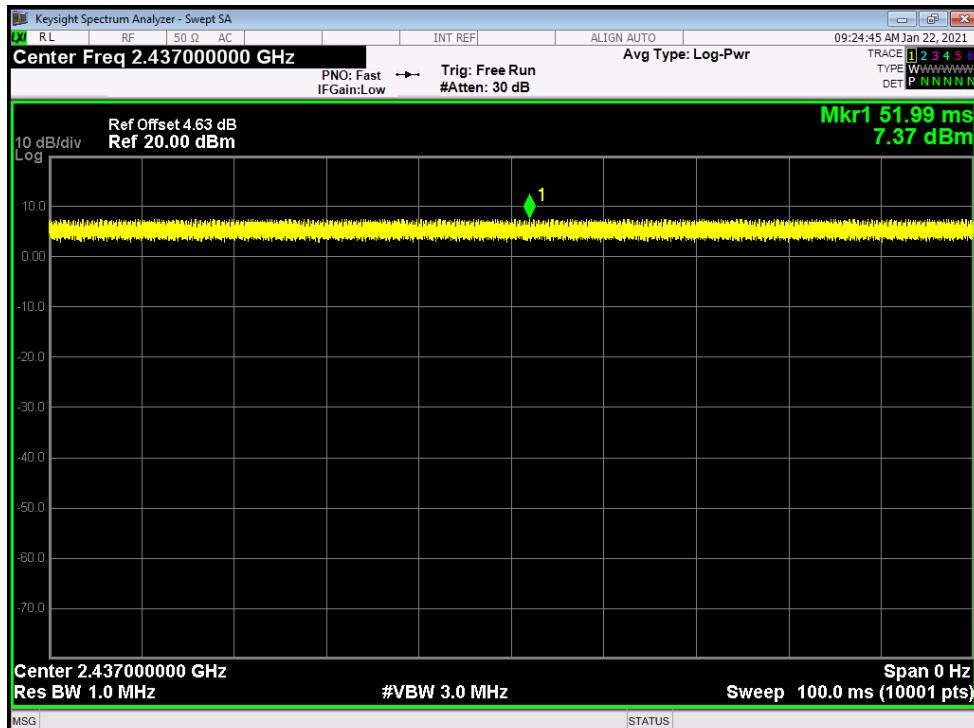
802.11 B Mode 2437 MHz



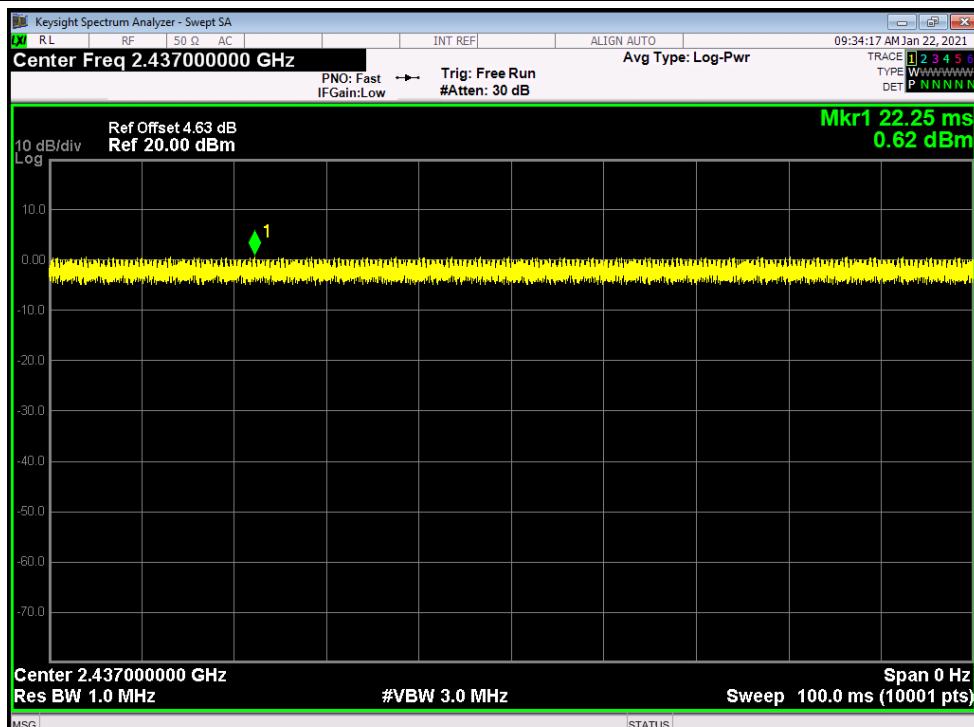
802.11 G Mode 2437 MHz



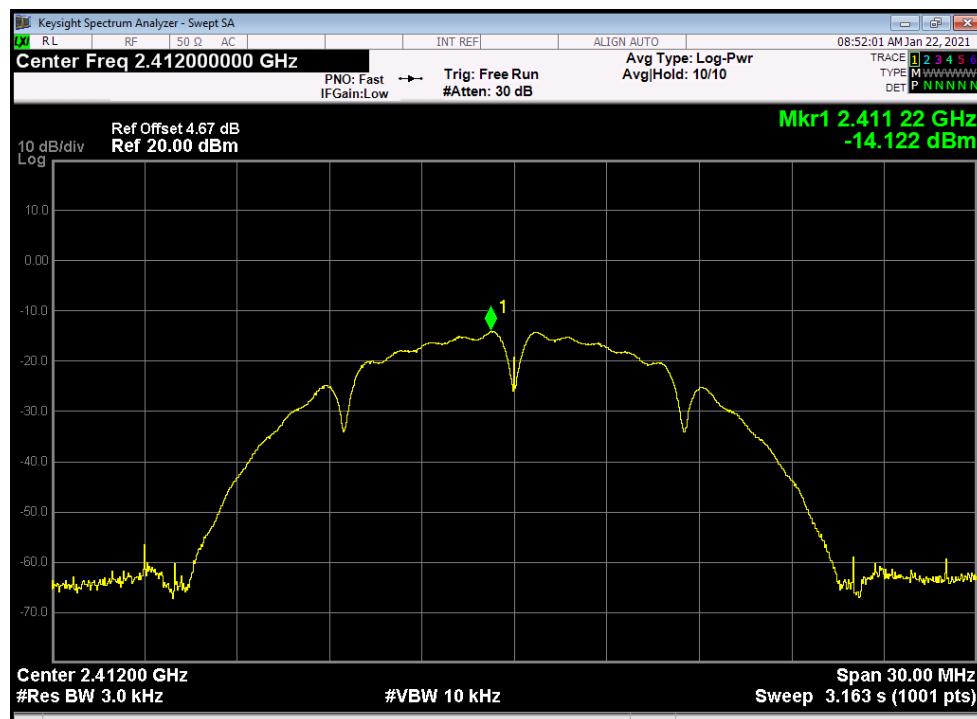
802.11 N(HT20) Mode 2437 MHz



802.11 N(HT40) Mode 2437 MHz



Attachment F-- Power Spectral Density Test Data

Temperature:	25 °C	Relative Humidity:	55%	
Test Voltage:	AC 120V/60 HZ			
Test Mode:	TX 802.11B Mode			
Channel Frequency (MHz)		Power Density (dBm/3 kHz)	Limit (dBm/3 kHz)	
2412		-14.122	8	
2437		-14.116		
2462		-14.010		
802.11B Mode				
2412 MHz				
				

802.11B Mode

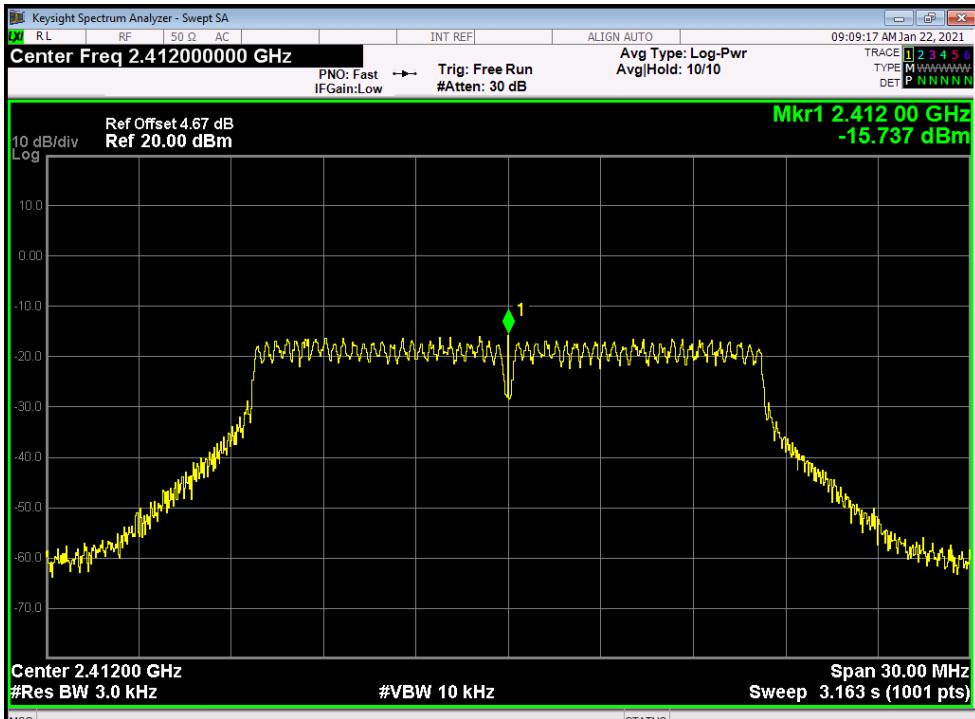
2437 MHz

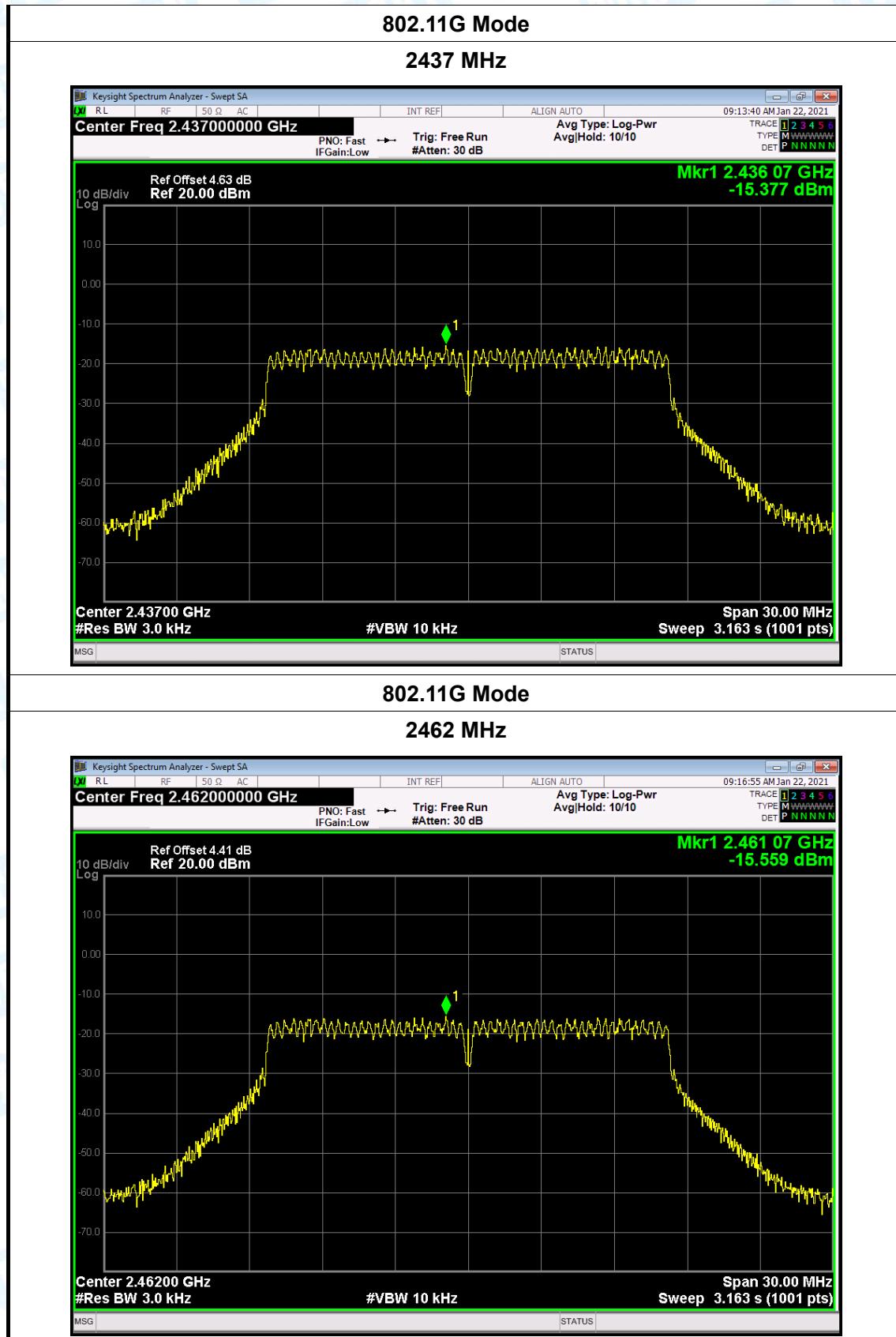


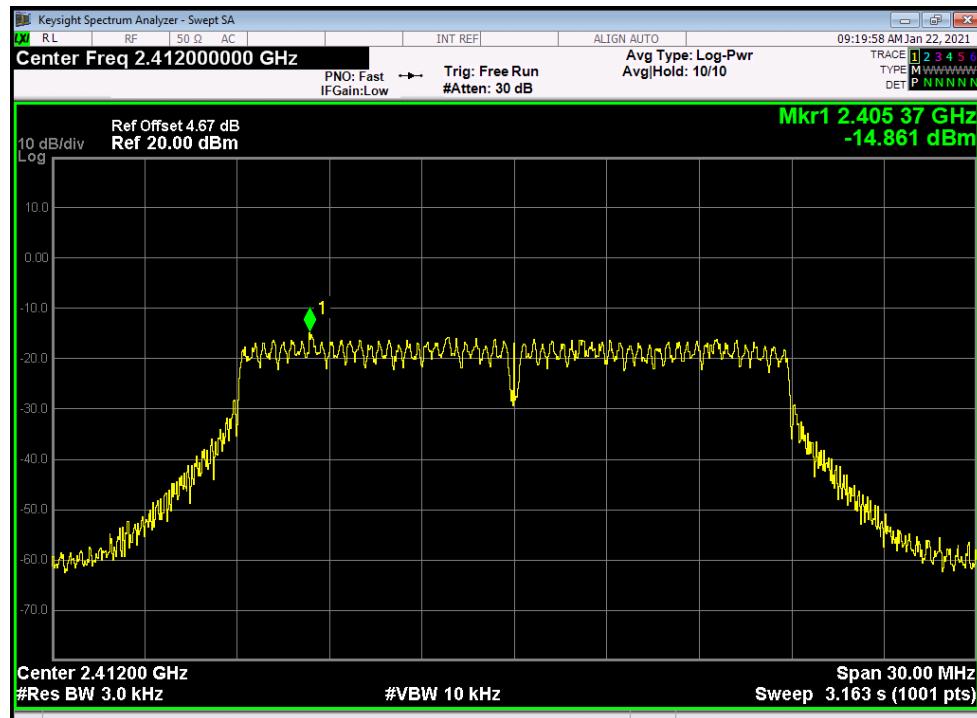
802.11B Mode

2462 MHz



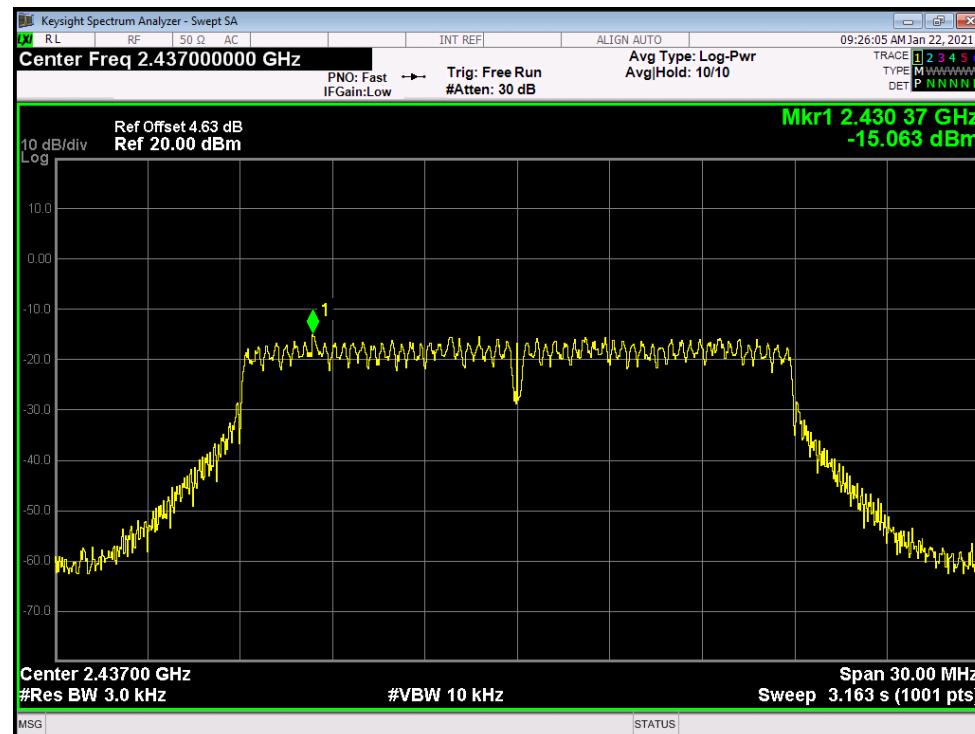
Temperature:	25 °C	Temperature:	25 °C	
Test Voltage:	AC 120V/60 HZ			
Test Mode:	TX 802.11G Mode			
Channel Frequency (MHz)		Power Density (dBm/3 kHz)	Limit (dBm/3 kHz)	
2412		-15.737	8	
2437		-15.377		
2462		-15.559		
802.11G Mode				
2412 MHz				
				



Temperature:	25 °C	Temperature:	25 °C				
Test Voltage:	AC 120V/60 HZ						
Test Mode:	TX 802.11N(HT20) Mode						
Channel Frequency (MHz)	Power Density (dBm/3 kHz)		Limit (dBm/3 kHz)				
2412	-14.861		8				
2437	-15.063						
2462	-15.114						
802.11N(HT20) Mode							
2412 MHz							
							

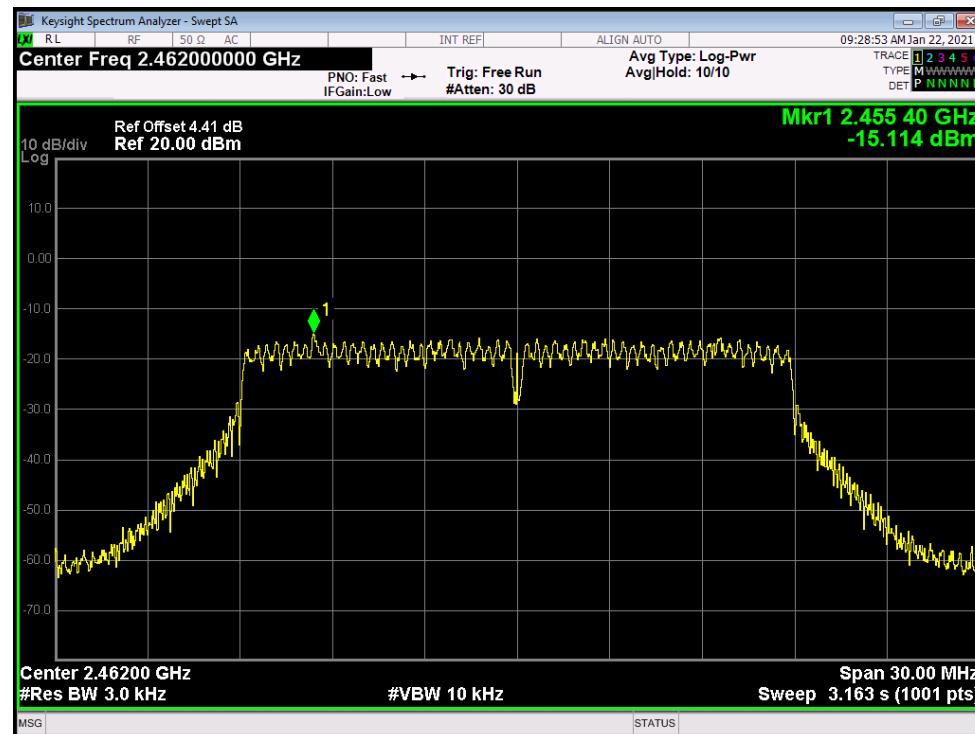
802.11N(HT20) Mode

2437 MHz



802.11N(HT20) Mode

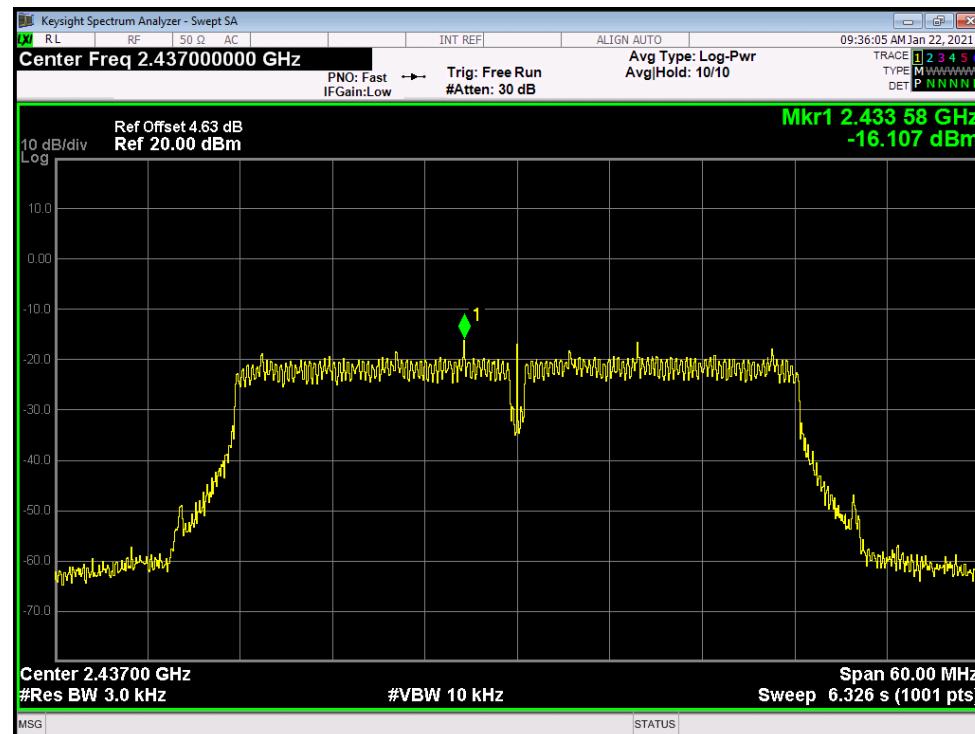
2462 MHz



Temperature:	25 °C	Temperature:	25 °C	
Test Voltage:	AC 120V/60 HZ			
Test Mode:	TX 802.11N(HT40) Mode			
Channel Frequency (MHz)		Power Density (dBm/3 kHz)	Limit (dBm/3 kHz)	
2422		-16.331	8	
2437		-16.107		
2452		-16.500		
802.11N(HT40) Mode				
2422 MHz				
				

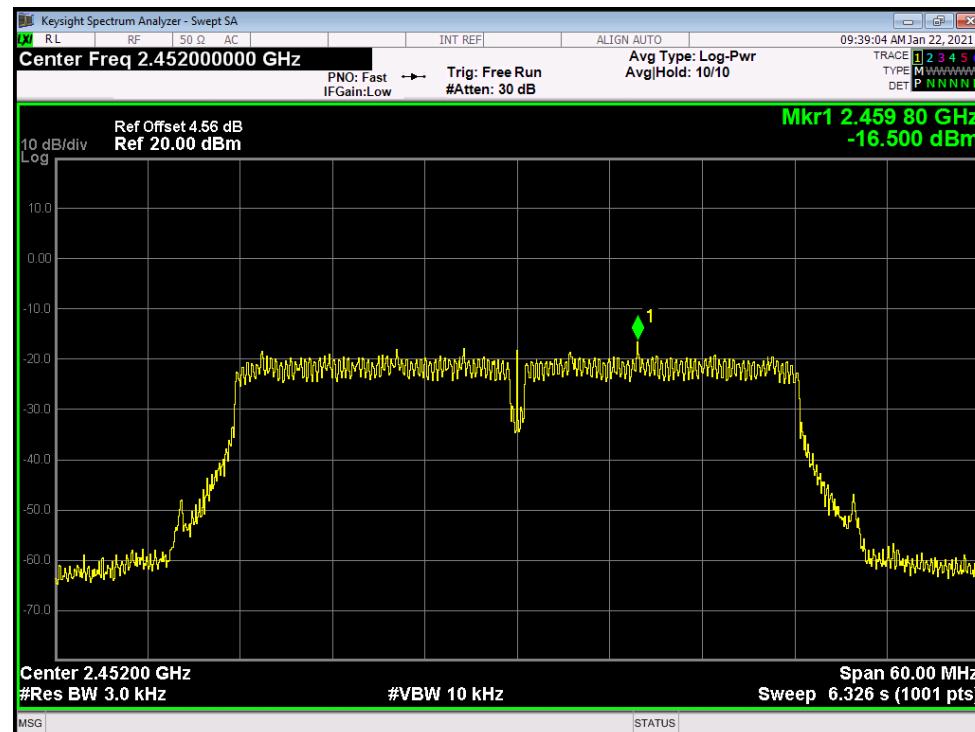
802.11N(HT40) Mode

2437 MHz



802.11N(HT40) Mode

2452 MHz



----END OF REPORT----