

FCC Radio Test Report

FCC ID: 2AJ8T-JT116K-H03

Original Grant

Report No. : TB-FCC174444
Applicant : Shen Zhen JoyHong Technology CO., Ltd
Equipment Under Test (EUT)
EUT Name : Digital photo Frame
Model No. : JT116K-H03(JT116M-H03 AFT11F)
Series Model No. : See page 4 Appendix
Brand Name : ----
Sample ID : TBBJ-20200720-04-1#& TBBJ-20200720-04-2#
Receipt Date : 2020-07-27
Test Date : 2020-07-28 to 2020-08-12
Issue Date : 2020-08-13
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** :

Jack

Jack Deng

Engineer Supervisor :

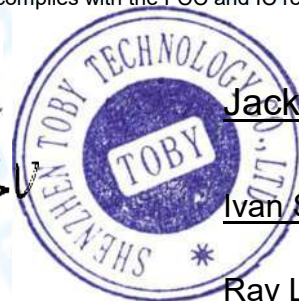
IVAN SU

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-FCC174444	Rev.01	Initial issue of report	2020-08-13

Appendix

Series Model No.:

JT065X-XXX, JT070X-XXX, JT071X-XXX, JT080X-XXX, JT081X-XXX, JT090X-XXX, JT097X-XXX, JT100X-XXX, JT101X-XXX, JT102X-XXX, JT104X-XXX, JT110X-XXX, JT114X-XXX, JT116X-XXX, JT120X-XXX, JT121X-XXX, JT130X-XXX, JT133X-XXX, JT140X-XXX, JT141X-XXX, JT142X-XXX, JT150X-XXX, JT154X-XXX, JT156X-XXX, JT170X-XXX, JT171X-XXX, JT172X-XXX, JT173X-XXX, JT185X-XXX, JT190X-XXX, JT192X-XXX, JT215X-XXX, JT11GX-XXX

JD065X-XXX, JD070X-XXX, JD071X-XXX, JD080X-XXX, JD081X-XXX, JD090X-XXX, JD097X-XXX, JD100X-XXX, JD101X-XXX, JD102X-XXX, JD104X-XXX, JD110X-XXX, JD114X-XXX, JD116X-XXX, JD120X-XXX, JD121X-XXX, JD130X-XXX, JD133X-XXX, JD140X-XXX, JD141X-XXX, JD142X-XXX, JD150X-XXX, JD154X-XXX, JD156X-XXX, JD170X-XXX, JD171X-XXX, JD172X-XXX, JD173X-XXX, JD185X-XXX, JD190X-XXX, JD192X-XXX, JD215X-XXX, JD11GX-XXX (X stands for 0~9 or A~Z)

1. General Information about EUT

1.1 Client Information

Applicant	:	Shen Zhen JoyHong Technology CO., Ltd
Address	:	4th Floor, Building 1, Zhongtai Road NO. 18, Loucun Second Industrial Park, Xinhua Street, Guangming, Shenzhen, China.
Manufacturer	:	Shen Zhen JoyHong Technology CO., Ltd
Address	:	4th Floor, Building 1, Zhongtai Road NO. 18, Loucun Second Industrial Park, Xinhua Street, Guangming, Shenzhen, China.

1.2 General Description of EUT (Equipment Under Test)

EUT Name	:	Digital photo Frame
Models No.	:	JT116K-H03(JT116M-H03 AFT11F) Series Model No See page 4 Appendix
Model Difference	:	All these models are in the same PCB, layout and electrical circuit, the only difference is model name
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)
	E.I.R.P:	802.11b: 2.76dBm 802.11g: 3.14 dBm 802.11n (HT20): 7.90 dBm 802.11n (HT40): 7.86 dBm
	Modulation Type:	802.11b: DSSS(CCK, DQPSK, DBPSK) 802.11g/n: OFDM(BPSK,QPSK,16QAM,64QAM)
	Antenna Gain:	1.2dBi PIFA Antenna
Power Supply	:	(Adapter:JHD-AP015U-050250BA) Input: AC 100-240V, 50/60Hz, 0.45A Output: DC 5V 2.5A
Software Version	:	8.1.0
Hardware Version	:	RF102
Connecting I/O Port(S)	:	Please refer to the User's Manual
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 DTS Meas Guidance v05.
- (2) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

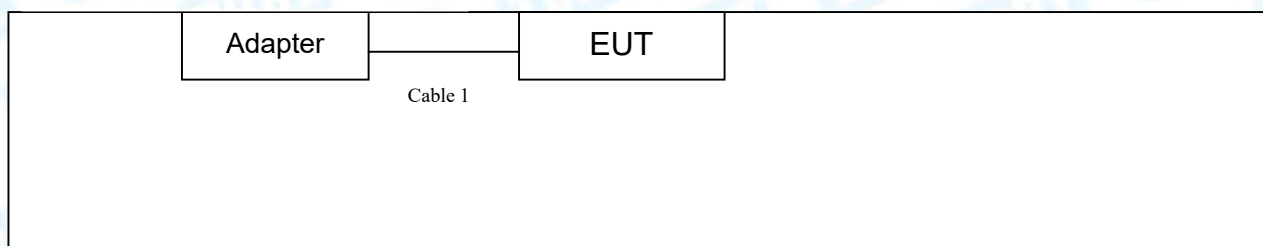
(3) Channel List:

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

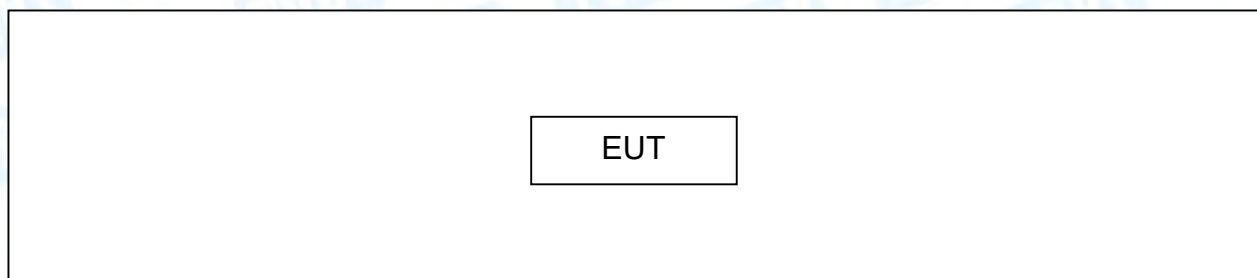
(4) The Antenna information about the equipment is provided by the applicant.

1.3 Block Diagram Showing the Configuration of System Tested

Charging Mode+TX mode



TX Mode



1.4 Description of Support Units

Equipment Information				
Name	Model	FCC ID/VOC	Manufacturer	Used “√”
Adapter	JHD-AP015U-050250BA	----	----	√
Cable Information				
Number	Shielded Type	Ferrite Core	Length	Note
Cable 1	Yes	NO	1.0M	Accessory

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

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 (1 Mbps)
- 802.11g Mode: OFDM (6 Mbps)
- 802.11n (HT20) Mode: MCS 0 (6.5 Mbps)
- 802.11n (HT40) Mode: MCS 0 (13 Mbps)

- (2) During the testing procedure, the continuously transmitting with the maximum power mode was programmed by the customer.
- (3) The EUT is Fixed 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	LaunchEngmode		
Channel	CH 01	CH 06	CH 11
IEEE 802.11b DSSS	15	15	15
IEEE 802.11g OFDM	30	30	30
IEEE 802.11n (HT20)	40	40	40
Test Software Version	n/a		
Channel	CH 03	CH 06	CH 09
IEEE 802.11n (HT40)	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})
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 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)

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)/RSS 247 Issue 2					
Standard Section		Test Item	Test Sample(s)	Judgment	Remark
FCC	IC				
15.203		Antenna Requirement	TBBJ-20200720-04-2#	PASS	N/A
15.207(a)	RSS-GEN 7.2.4	Conducted Emission	TBBJ-20200720-04-1#	PASS	N/A
15.205&15.247(d)	RSS-GEN 7.2.2	Band-Edge & Unwanted Emissions into Restricted Frequency	TBBJ-20200720-04-2#	PASS	N/A
15.247(a)(2)	RSS 247 5.2 (1)	6dB Bandwidth	TBBJ-20200720-04-2#	PASS	N/A
15.247(b)(3)	RSS 247 5.4 (4)	Conducted Max Output Power	TBBJ-20200720-04-2#	PASS	N/A
15.247(e)	RSS 247 5.2 (2)	Power Spectral Density	TBBJ-20200720-04-2#	PASS	N/A
15.205, 15.209&15.247(d)	RSS 247 5.5	Transmitter Radiated Spurious & Unwanted Emissions into Restricted Frequency	TBBJ-20200720-04-1# TBBJ-20200720-04-2#	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

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, 2021
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. 06, 2020	Jul. 05, 2021
Pre-amplifier	Sonoma	310N	185903	Mar.01, 2020	Feb. 28, 2021
Pre-amplifier	HP	8449B	3008A00849	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	ESCI	100010/007	Jul. 06, 2020	Jul. 05, 2021
MXA Signal Analyzer	Agilent	N9020A	MY49100060	Sep. 16, 2019	Sep. 15, 2020
Vector Signal Generator	Agilent	N5182A	MY50141294	Sep. 16, 2019	Sep. 15, 2020
Analog Signal Generator	Agilent	N5181A	MY50141953	Sep. 16, 2019	Sep. 15, 2020
RF Power Sensor	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO26	Sep. 16, 2019	Sep. 15, 2020
	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO29	Sep. 16, 2019	Sep. 15, 2020
	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO31	Sep. 16, 2019	Sep. 15, 2020
	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO33	Sep. 16, 2019	Sep. 15, 2020

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

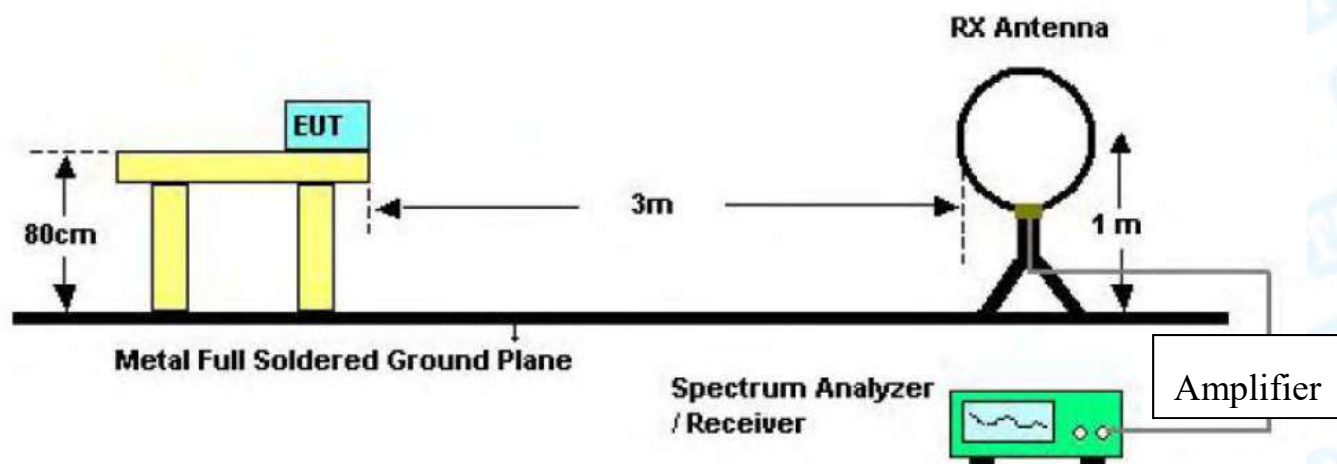
Radiated Emission Limit (Above 1000MHz)

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

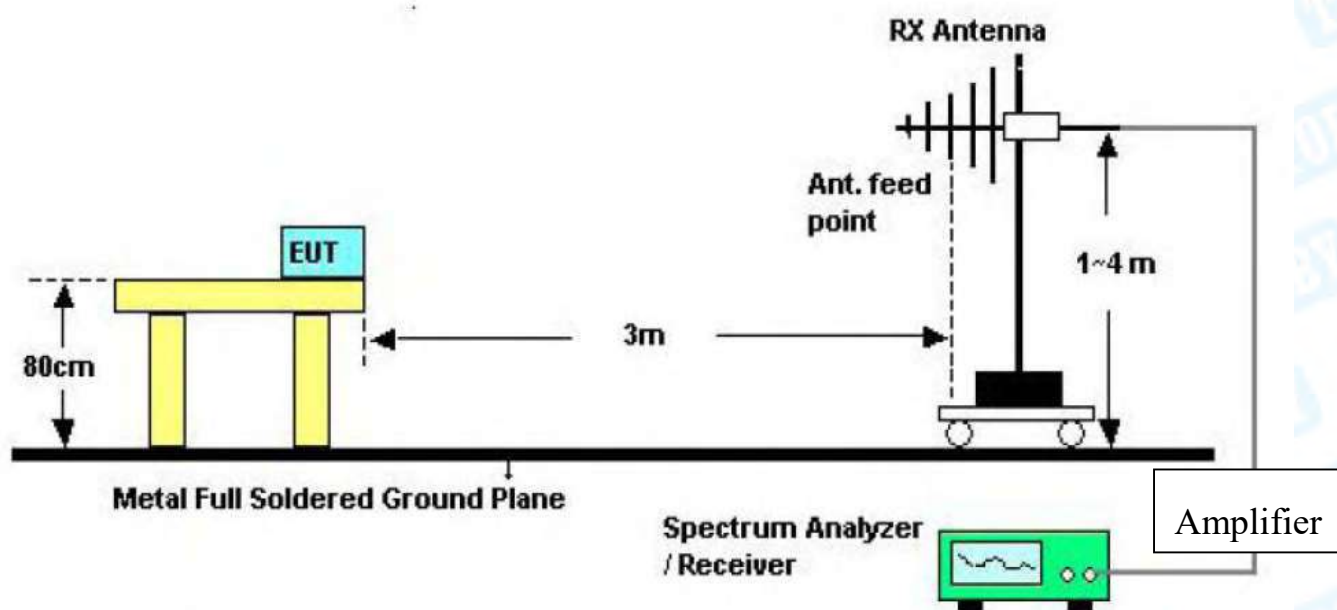
Note:

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

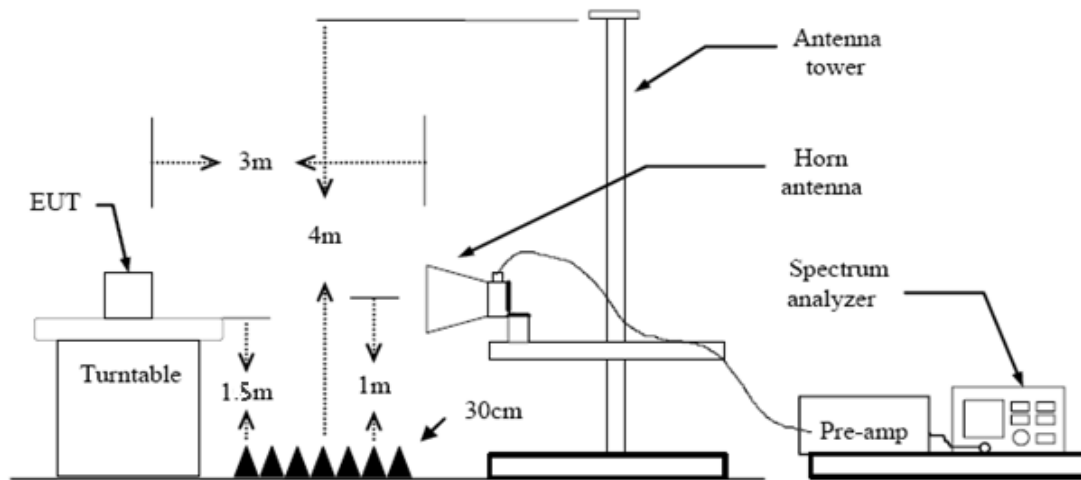
6.2 Test Setup



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 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 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)

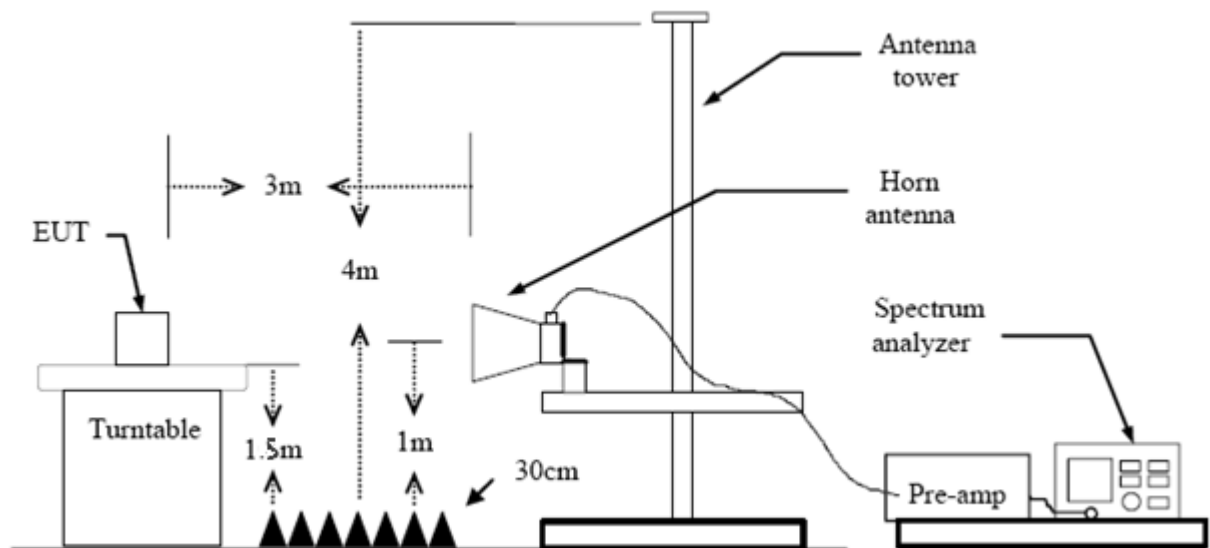
FCC Part 15.209

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 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.

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.

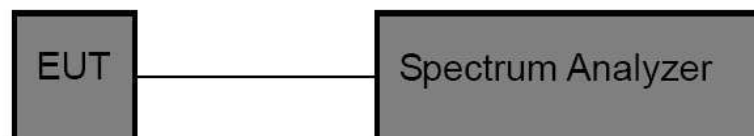
8. Bandwidth Test

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.

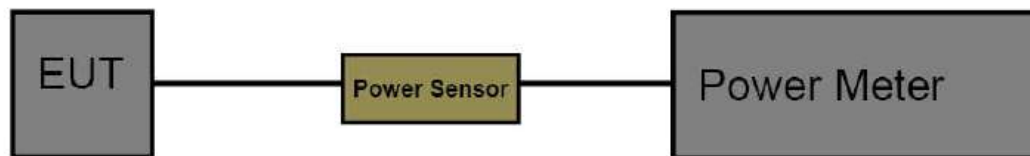
9. Peak Output Power Test

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 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.

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

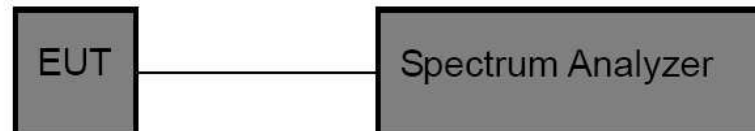
10.1.1 Test Standard

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 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 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 1.2dBi, and the antenna de-signed with permanent attachment and no consideration of replacement. Please see the EUT photo for details.

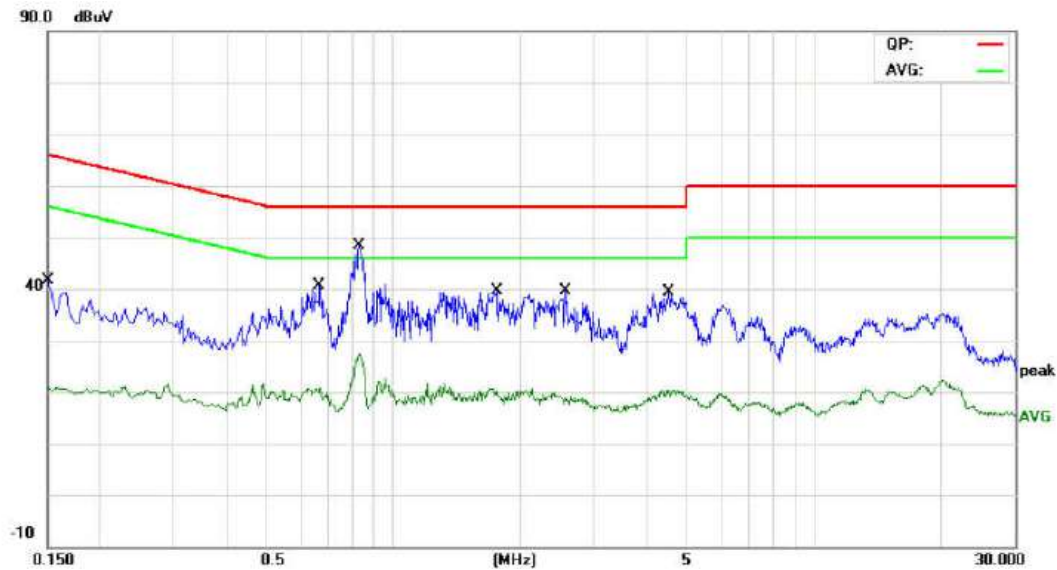
Result

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

Antenna Type
☐ Permanent attached antenna
☒ Unique connector antenna
☐ Professional installation antenna

Attachment A-- Conducted Emission Test Data

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz		
Terminal:	Line		
Test Mode:	Charging with TX B Mode		
Remark:	Only worse case is reported		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		0.1500	22.87	9.70	32.57	65.99	-33.42	QP
2		0.1500	9.46	9.70	19.16	55.99	-36.83	AVG
3		0.6660	21.10	9.70	30.80	56.00	-25.20	QP
4		0.6660	9.74	9.70	19.44	46.00	-26.56	AVG
5	*	0.8300	30.81	9.74	40.55	56.00	-15.45	QP
6		0.8300	16.83	9.74	26.57	46.00	-19.43	AVG
7		1.7540	21.17	9.72	30.89	56.00	-25.11	QP
8		1.7540	9.35	9.72	19.07	46.00	-26.93	AVG
9		2.5620	18.33	9.81	28.14	56.00	-27.86	QP
10		2.5620	7.76	9.81	17.57	46.00	-28.43	AVG
11		4.5220	20.65	9.90	30.55	56.00	-25.45	QP
12		4.5220	9.16	9.90	19.06	46.00	-26.94	AVG

Emission Level= Read Level+ Correct Factor

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz		
Terminal:	Neutral		
Test Mode:	Charging with TX B Mode		
Remark:	Only worse case is reported		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.1500	22.02	9.80	31.82	65.99	-34.17	QP
2		0.1500	10.17	9.80	19.97	55.99	-36.02	AVG
3		0.5020	15.92	9.80	25.72	56.00	-30.28	QP
4		0.5020	8.27	9.80	18.07	46.00	-27.93	AVG
5	*	0.8220	28.75	9.80	38.55	56.00	-17.45	QP
6		0.8220	18.47	9.80	28.27	46.00	-17.73	AVG
7		1.7940	20.06	9.80	29.86	56.00	-26.14	QP
8		1.7940	9.48	9.80	19.28	46.00	-26.72	AVG
9		4.6340	17.55	9.80	27.35	56.00	-28.65	QP
10		4.6340	8.79	9.80	18.59	46.00	-27.41	AVG
11		20.4180	22.11	10.01	32.12	60.00	-27.88	QP
12		20.4180	12.33	10.01	22.34	50.00	-27.66	AVG

Emission Level= Read Level+ Correct Factor

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:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz		
Ant. Pol.	Horizontal		
Test Mode:	TX B Mode 2412MHz		
Remark:	Only worse case is reported		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		47.9940	45.90	-22.40	23.50	40.00	-16.50	QP
2		57.5939	46.86	-23.94	22.92	40.00	-17.08	QP
3		127.2176	42.91	-22.28	20.63	43.50	-22.87	QP
4		279.0436	48.42	-16.69	31.73	46.00	-14.27	QP
5		651.9417	38.69	-7.94	30.75	46.00	-15.25	QP
6	*	869.1302	39.00	-5.26	33.74	46.00	-12.26	QP

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

Emission Level= Read Level+ Correct Factor

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz		
Ant. Pol.	Vertical		
Test Mode:	TX B Mode 2412MHz		
Remark:	Only worse case is reported		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	*	48.3318	56.65	-22.50	34.15	40.00	-5.85	QP
2		67.2022	53.03	-23.62	29.41	40.00	-10.59	QP
3		144.3348	50.50	-21.93	28.57	43.50	-14.93	QP
4		312.1794	38.89	-15.88	23.01	46.00	-22.99	QP
5		434.0651	42.41	-12.04	30.37	46.00	-15.63	QP
6		562.6624	43.32	-8.77	34.55	46.00	-11.45	QP

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

Emission Level= Read Level+ Correct Factor

Above 1GHz

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Horizontal		
Test Mode:	TX B Mode 2412MHz		
Remark:	No report for the emission which more than 20 dB below the prescribed limit.		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4824.332	39.15	13.16	52.31	54.00	-1.69	AVG
2		4824.463	49.11	13.16	62.27	74.00	-11.73	peak

Emission Level= Read Level+ Correct Factor

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Vertical		
Test Mode:	TX B Mode 2412MHz		
Remark:	No report for the emission which more than 20 dB below the prescribed limit.		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4824.264	49.30	13.16	62.46	74.00	-11.54	peak
2	*	4824.492	39.48	13.16	52.64	54.00	-1.36	AVG

Emission Level= Read Level+ Correct Factor

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Horizontal		
Test Mode:	TX B Mode 2437MHz		
Remark:	No report for the emission which more than 20 dB below the prescribed limit.		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4874.622	48.97	13.16	62.13	74.00	-11.87	peak
2	*	4874.592	39.06	13.53	52.59	54.00	-1.41	AVG

Emission Level= Read Level+ Correct Factor

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Vertical		
Test Mode:	TX B Mode 2437MHz		
Remark:	No report for the emission which more than 20 dB below the prescribed limit.		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4874.269	48.60	13.53	62.13	74.00	-11.87	peak
2	*	4874.463	37.93	13.53	51.46	54.00	-2.54	AVG

Emission Level= Read Level+ Correct Factor

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Horizontal		
Test Mode:	TX B Mode 2462MHz		
Remark:	No report for the emission which more than 20 dB below the prescribed limit.		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4924.266	39.30	13.16	52.46	54.00	-1.54	AVG
2		4924.246	48.66	13.89	62.55	74.00	-11.45	peak

Emission Level= Read Level+ Correct Factor

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Vertical		
Test Mode:	TX B Mode 2462MHz		
Remark:	No report for the emission which more than 20 dB below the prescribed limit.		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4924.235	38.32	13.89	52.21	54.00	-1.79	AVG
2		4924.532	48.35	13.89	62.24	74.00	-11.76	peak

Emission Level= Read Level+ Correct Factor

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Horizontal		
Test Mode:	TX G Mode 2412MHz		
Remark:	No report for the emission which more than 20 dB below the prescribed limit.		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4823.659	49.47	13.16	62.63	74.00	-11.37	peak
2	*	4832.642	39.17	13.22	52.39	54.00	-1.61	AVG

Emission Level= Read Level+ Correct Factor

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Vertical		
Test Mode:	TX G Mode 2412MHz		
Remark:	No report for the emission which more than 20 dB below the prescribed limit.		

No. Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	4824.213	49.40	13.16	62.56	74.00	-11.44	peak
2	* 4825.262	38.96	13.17	52.13	54.00	-1.87	AVG

Emission Level= Read Level+ Correct Factor

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Horizontal		
Test Mode:	TX G Mode 2437MHz		
Remark:	No report for the emission which more than 20 dB below the prescribed limit.		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4874.291	38.79	13.53	52.32	54.00	-1.68	AVG
2		4874.592	49.03	13.53	62.56	74.00	-11.44	peak

Emission Level= Read Level+ Correct Factor

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Vertical		
Test Mode:	TX G Mode 2437MHz		
Remark:	No report for the emission which more than 20 dB below the prescribed limit.		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB Detector
1		4874.236	48.70	13.53	62.23	74.00	-11.77 peak
2	*	4874.263	38.93	13.53	52.46	54.00	-1.54 AVG

Emission Level= Read Level+ Correct Factor

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Horizontal		
Test Mode:	TX G Mode 2462MHz		
Remark:	No report for the emission which more than 20 dB below the prescribed limit.		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4923.562	38.45	13.89	52.34	54.00	-1.66	AVG
2		4924.461	51.37	13.89	65.26	74.00	-8.74	peak

Emission Level= Read Level+ Correct Factor

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Vertical		
Test Mode:	TX G Mode 2462MHz		
Remark:	No report for the emission which more than 20 dB below the prescribed limit.		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4924.563	37.46	13.89	51.35	54.00	-2.65	AVG
2		4925.264	47.32	13.91	61.23	74.00	-12.77	peak

Emission Level= Read Level+ Correct Factor

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Horizontal		
Test Mode:	TX N(HT20) Mode 2412MHz		
Remark:	No report for the emission which more than 20 dB below the prescribed limit.		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4824.261	44.10	13.16	57.26	74.00	-16.74	peak
2	*	4824.432	33.97	13.16	47.13	54.00	-6.87	AVG

Emission Level= Read Level+ Correct Factor

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Vertical		
Test Mode:	TX N(HT20) Mode 2412MHz		
Remark:	No report for the emission which more than 20 dB below the prescribed limit.		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB Detector
1		4823.612	48.97	13.16	62.13	74.00	-11.87 peak
2	*	4824.653	39.30	13.16	52.46	54.00	-1.54 AVG

Emission Level= Read Level+ Correct Factor

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Horizontal		
Test Mode:	TX N(HT20) Mode 2437MHz		
Remark:	No report for the emission which more than 20 dB below the prescribed limit.		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB
							Detector
1		4873.565	48.03	13.53	61.56	74.00	-12.44 peak
2	*	4874.346	37.99	13.53	51.52	54.00	-2.48 AVG

Emission Level= Read Level+ Correct Factor

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Vertical		
Test Mode:	TX N(HT20) Mode 2437MHz		
Remark:	No report for the emission which more than 20 dB below the prescribed limit.		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4874.231	32.70	13.53	46.23	54.00	-7.77	AVG
2		4874.635	42.97	13.53	56.50	74.00	-17.50	peak

Emission Level= Read Level+ Correct Factor

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Horizontal		
Test Mode:	TX N(HT20) Mode 2462MHz		
Remark:	No report for the emission which more than 20 dB below the prescribed limit.		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4824.613	45.07	13.16	58.23	74.00	-15.77	peak
2	*	4924.562	34.37	13.89	48.26	54.00	-5.74	AVG

Emission Level= Read Level+ Correct Factor

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Vertical		
Test Mode:	TX N(HT20) Mode 2462MHz		
Remark:	No report for the emission which more than 20 dB below the prescribed limit.		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4923.562	28.67	13.89	42.56	74.00	-31.44	peak
2	*	4924.623	38.46	13.89	52.35	54.00	-1.65	AVG

Emission Level= Read Level+ Correct Factor

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Horizontal		
Test Mode:	TX N(HT40) Mode 2422MHz		
Remark:	No report for the emission which more than 20 dB below the prescribed limit.		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB Detector
1		4844.231	50.94	13.31	64.25	74.00	-9.75 peak
2	*	4844.232	34.92	13.31	48.23	54.00	-5.77 AVG

Emission Level= Read Level+ Correct Factor

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Vertical		
Test Mode:	TX N(HT40) Mode 2422MHz		
Remark:	No report for the emission which more than 20 dB below the prescribed limit.		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4845.263	50.82	13.31	64.13	74.00	-9.87	peak
2	*	4845.523	33.92	13.31	47.23	54.00	-6.77	AVG

Emission Level= Read Level+ Correct Factor

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Horizontal		
Test Mode:	TX N(HT40) Mode 2437MHz		
Remark:	No report for the emission which more than 20 dB below the prescribed limit.		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4874.463	50.70	13.53	64.23	74.00	-9.77	peak
2	*	4875.365	34.92	13.54	48.46	54.00	-5.54	AVG

Emission Level= Read Level+ Correct Factor

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Vertical		
Test Mode:	TX N(HT40) Mode 2437MHz		
Remark:	No report for the emission which more than 20 dB below the prescribed limit.		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4874.562	34.82	13.53	48.35	54.00	-5.65	AVG
2		4875.316	50.75	13.54	64.29	74.00	-9.71	peak

Emission Level= Read Level+ Correct Factor

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Horizontal		
Test Mode:	TX N(HT40) Mode 2452MHz		
Remark:	No report for the emission which more than 20 dB below the prescribed limit.		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB Detector
1		4904.235	51.48	13.75	65.23	74.00	-8.77 peak
2	*	4905.264	34.53	13.76	48.29	54.00	-5.71 AVG

Emission Level= Read Level+ Correct Factor

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Vertical		
Test Mode:	TX N(HT40) Mode 2452MHz		
Remark:	No report for the emission which more than 20 dB below the prescribed limit.		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4904.230	50.48	13.75	64.23	74.00	-9.77	peak
2	*	4904.562	34.80	13.76	48.56	54.00	-5.44	AVG

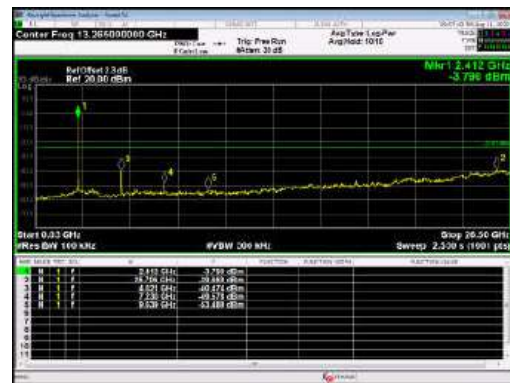
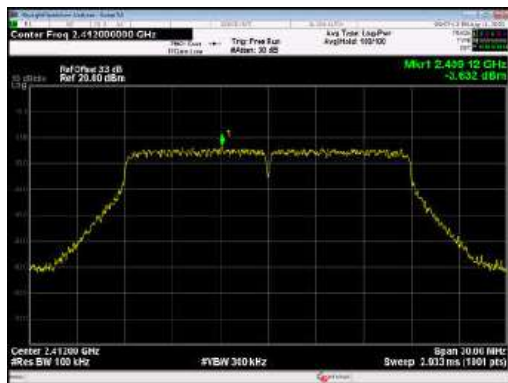
Emission Level= Read Level+ Correct Factor

Conducted RF Spurious Emission Test Data

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 3.7V		
Test Mode:	TX N(HT20) Mode		
Remark:	This report only shall the worst case mode for TX N(HT20)		

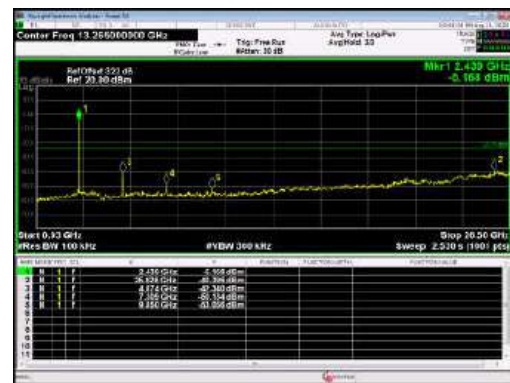
2412 MHz

0.03GHz-26.5GHz



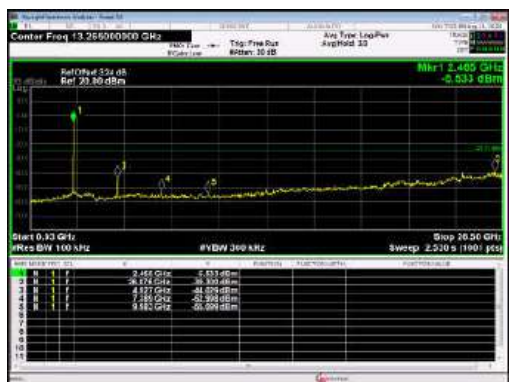
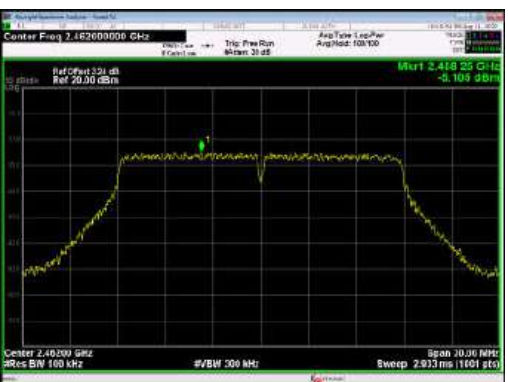
2437 MHz

0.03GHz-26.5GHz



2462 MHz

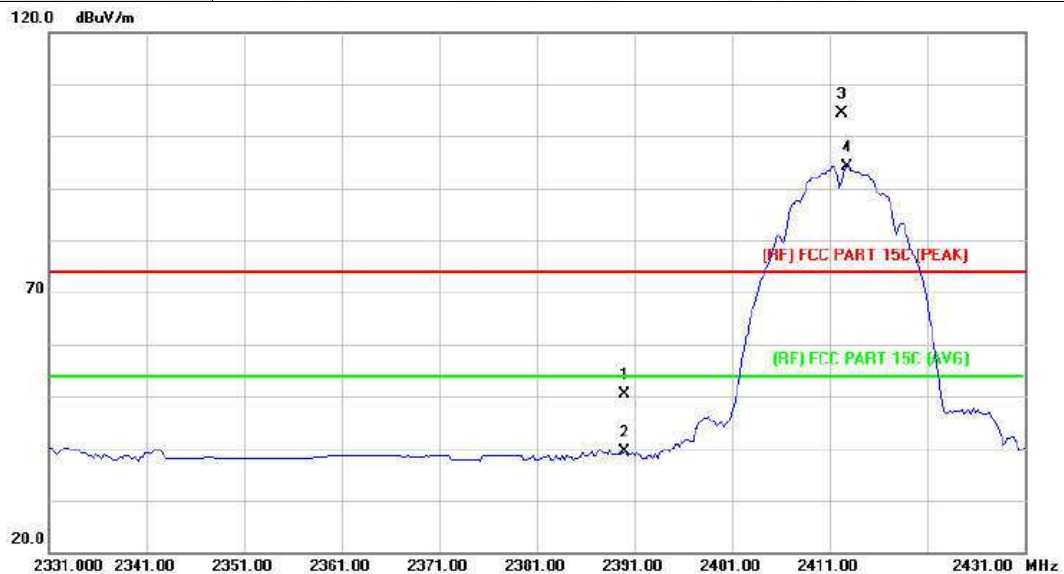
0.03GHz-26.5GHz



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

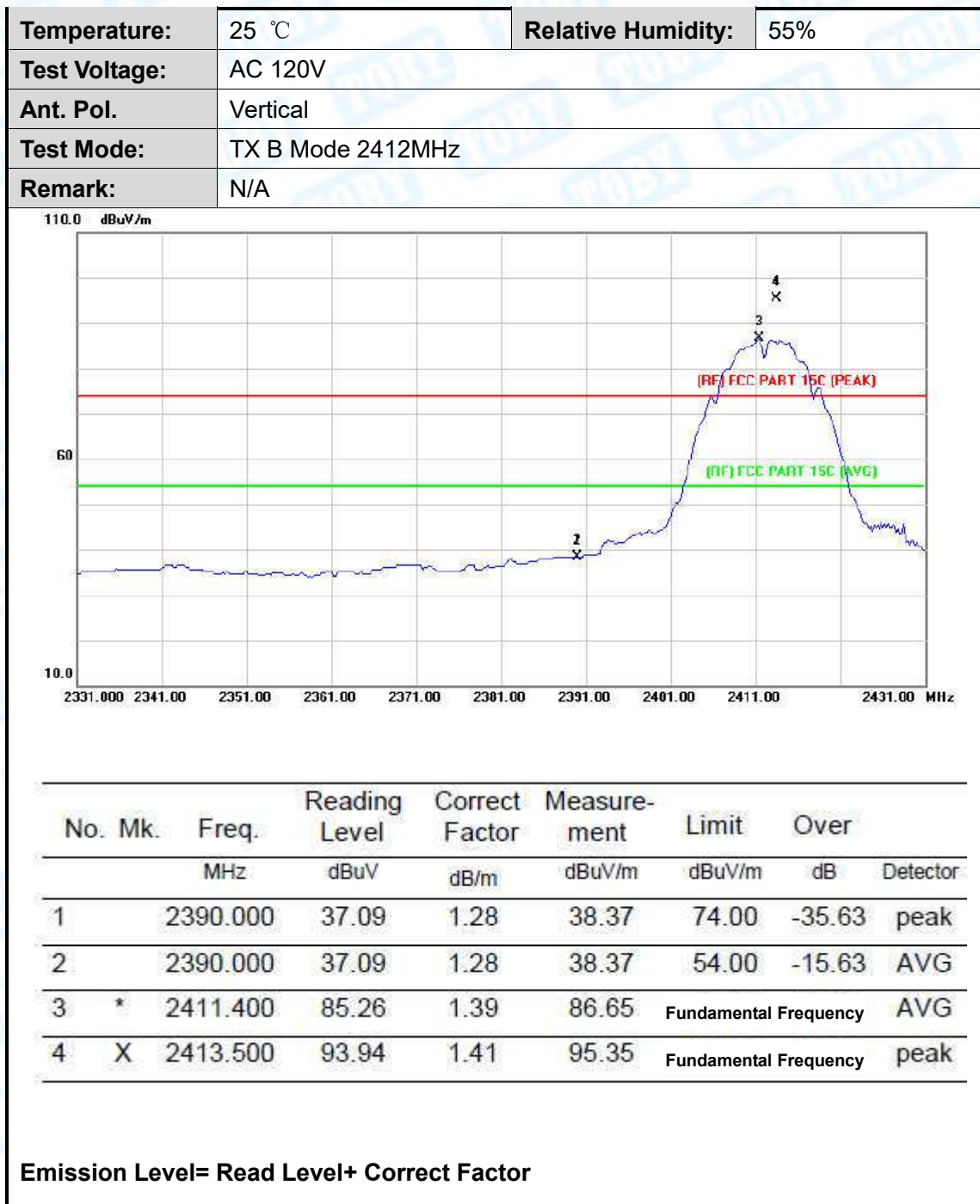
(1) Radiation Test

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Horizontal		
Test Mode:	TX B Mode 2412MHz		
Remark:	N/A		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		2390.000	49.03	1.28	50.31	74.00	-23.69	peak
2		2390.000	38.15	1.28	39.43	54.00	-14.57	AVG
3	X	2412.300	102.87	1.39	104.26	Fundamental Frequency		peak
4	*	2412.800	92.74	1.40	94.14	Fundamental Frequency		AVG

Emission Level= Read Level+ Correct Factor



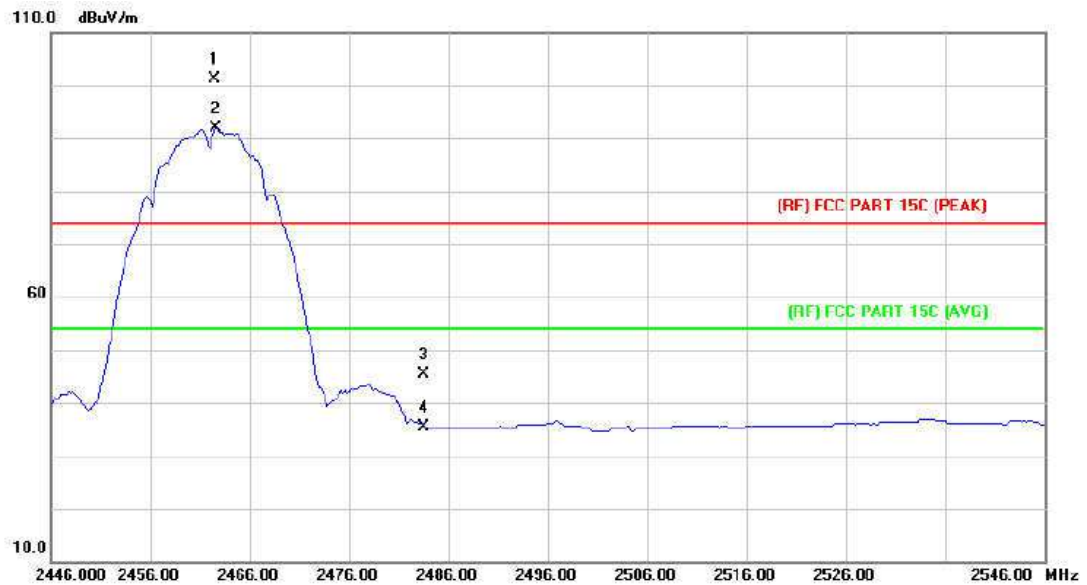
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Horizontal		
Test Mode:	TX B Mode 2462MHz		
Remark:	N/A		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	X	2461.200	105.40	1.73	107.13	Fundamental Frequency		peak
2	*	2461.200	96.34	1.73	98.07	Fundamental Frequency		AVG
3		2483.500	47.68	1.88	49.56	74.00	-24.44	peak
4		2483.500	37.91	1.88	39.79	54.00	-14.21	AVG

Emission Level= Read Level+ Correct Factor

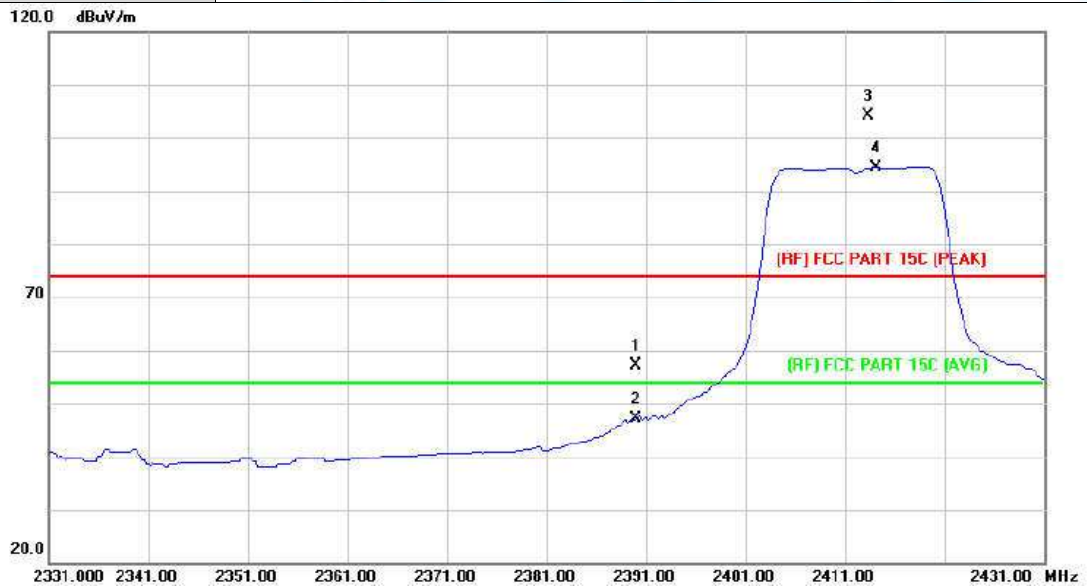
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Vertical		
Test Mode:	TX B Mode 2462MHz		
Remark:	N/A		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	X	2462.500	99.49	1.74	101.23	Fundamental Frequency		peak
2	*	2462.600	90.02	1.74	91.76	Fundamental Frequency		AVG
3		2483.500	43.47	1.88	45.35	74.00	-28.65	peak
4		2483.500	33.62	1.88	35.50	54.00	-18.50	AVG

Emission Level= Read Level+ Correct Factor

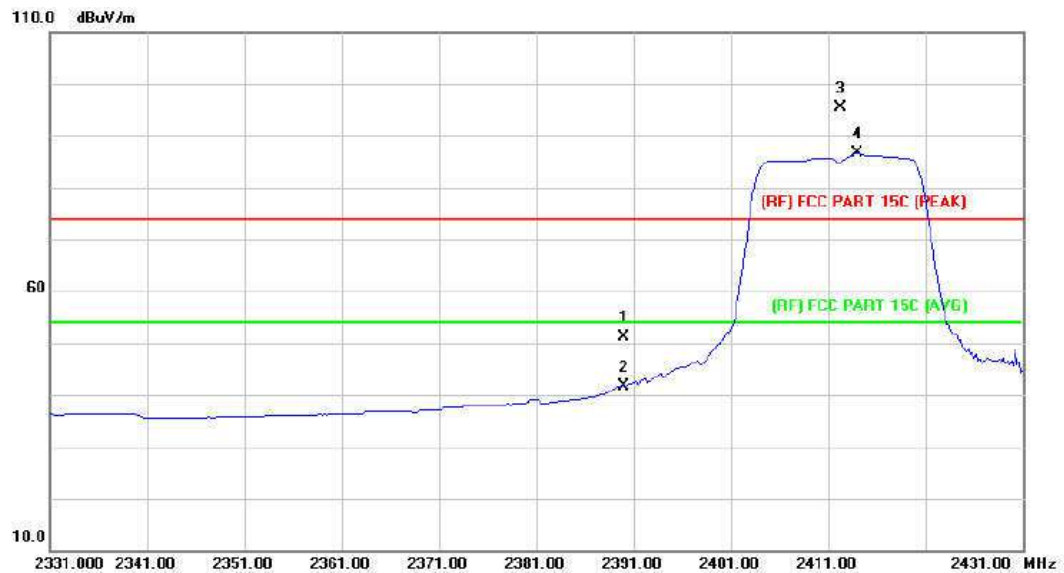
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Horizontal		
Test Mode:	TX G Mode 2412MHz		
Remark:	N/A		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		2390.000	55.95	1.28	57.23	74.00	-16.77	peak
2		2390.000	45.91	1.28	47.19	54.00	-6.81	AVG
3	X	2413.300	102.70	1.41	104.11	Fundamental Frequency		peak
4	*	2414.200	92.98	1.41	94.39	Fundamental Frequency		AVG

Emission Level= Read Level+ Correct Factor

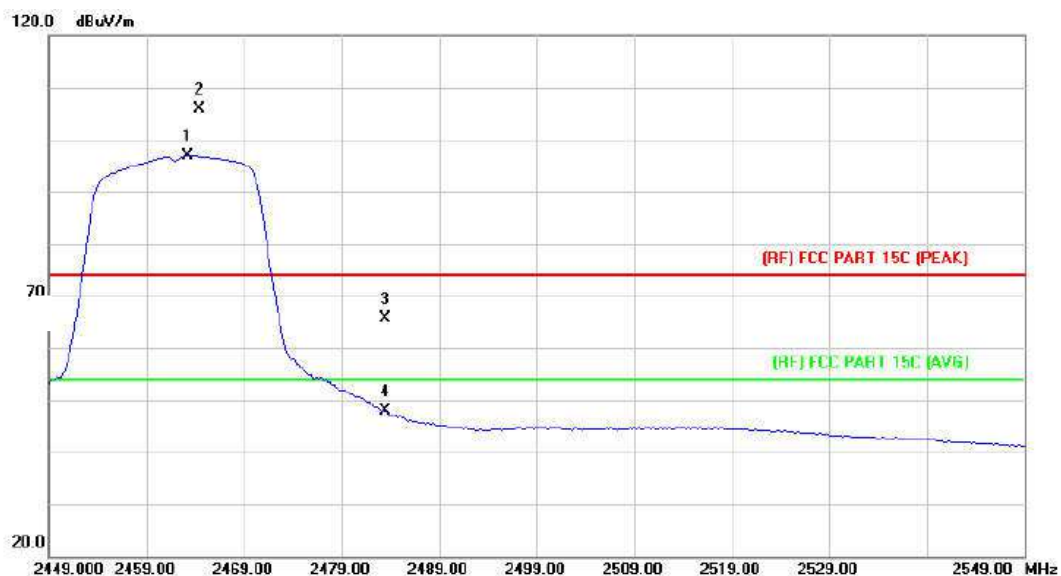
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Vertical		
Test Mode:	TX G Mode 2412MHz		
Remark:	N/A		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		2390.000	49.93	1.28	51.21	74.00	-22.79	peak
2		2390.000	40.29	1.28	41.57	74.00	-32.43	peak
3	*	2412.300	93.91	1.39	95.30	Fundamental Frequency		AVG
4	X	2414.000	85.14	1.41	86.55	Fundamental Frequency		AVG

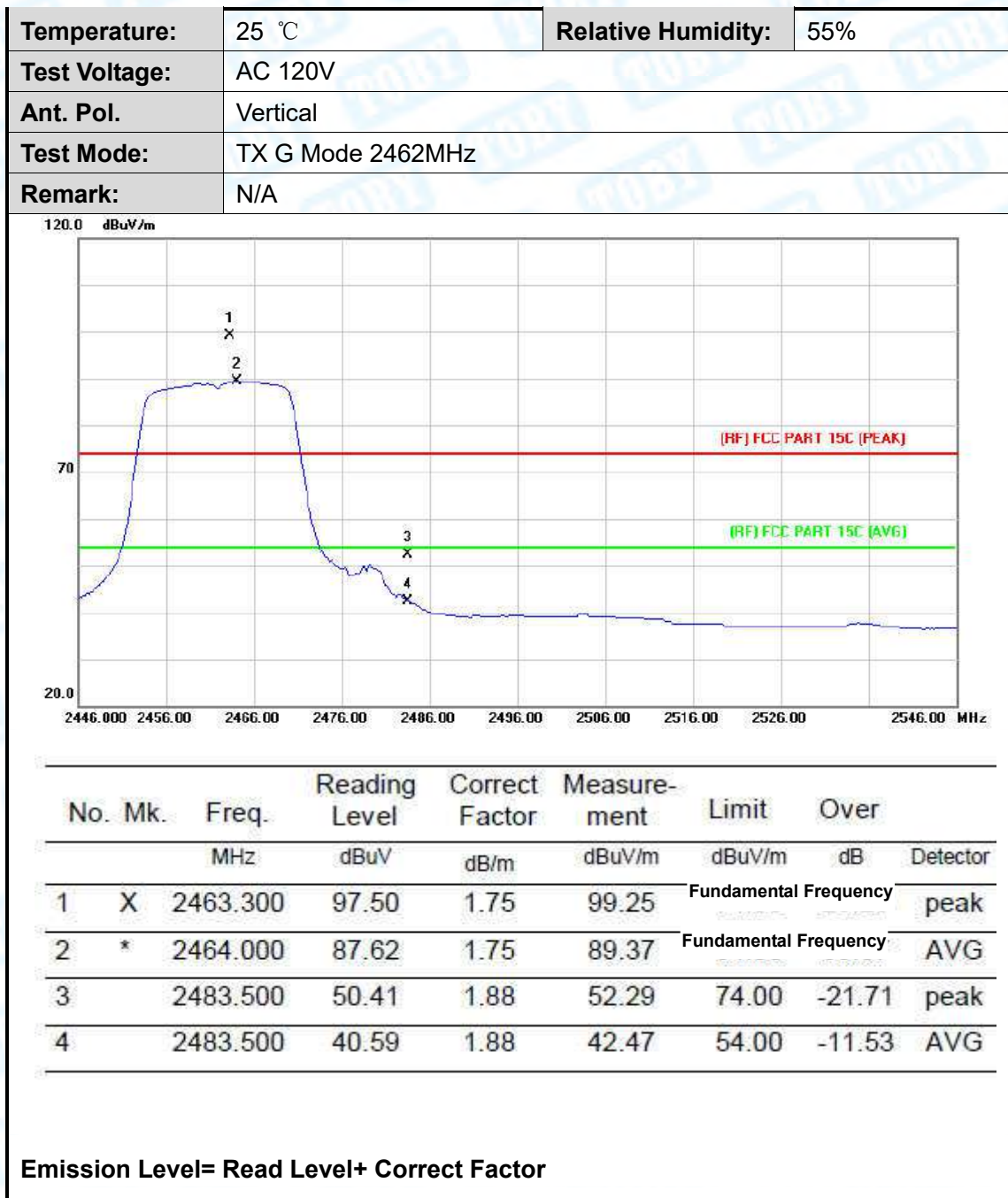
Emission Level= Read Level+ Correct Factor

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Horizontal		
Test Mode:	TX G Mode 2462MHz		
Remark:	N/A		

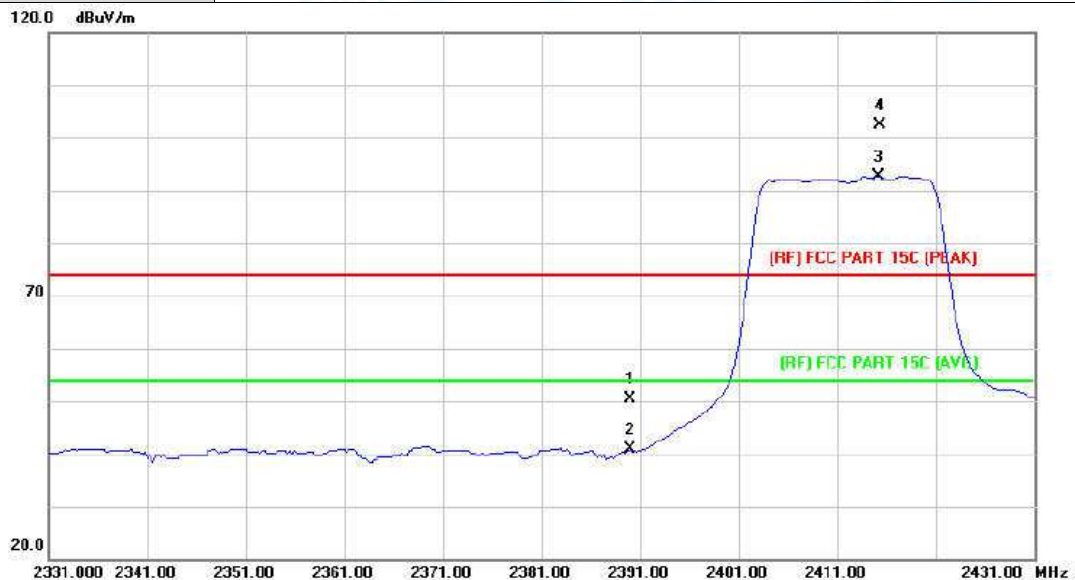


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2463.200	95.22	1.75	96.97	Fundamental Frequency		AVG
2	X	2464.400	104.02	1.75	105.77	Fundamental Frequency		peak
3		2483.500	63.65	1.88	65.53	74.00	-8.47	peak
4		2483.500	45.94	1.88	47.82	54.00	-6.18	AVG

Emission Level= Read Level+ Correct Factor



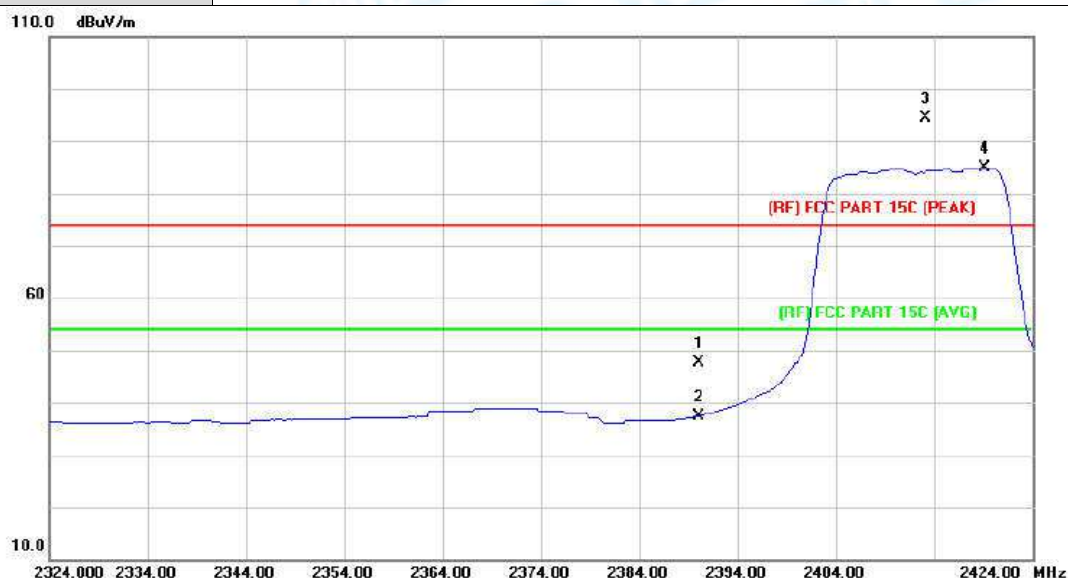
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Horizontal		
Test Mode:	TX N(HT20) Mode 2412MHz		
Remark:	N/A		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		2390.000	49.01	1.28	50.29	74.00	-23.71	peak
2		2390.000	39.70	1.28	40.98	54.00	-13.02	AVG
3	*	2415.200	91.18	1.42	92.60	Fundamental Frequency		AVG
4	X	2415.300	100.93	1.42	102.35	Fundamental Frequency		peak

Emission Level= Read Level+ Correct Factor

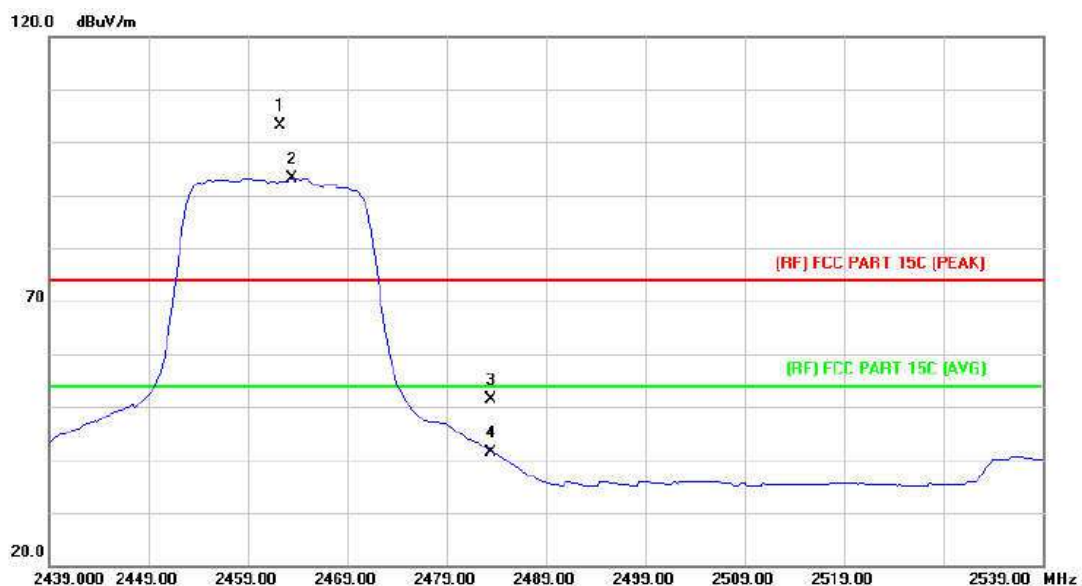
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Vertical		
Test Mode:	TX N(HT20) Mode 2412MHz		
Remark:	N/A		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		2390.000	46.28	1.28	47.56	74.00	-26.44	peak
2		2390.000	36.20	1.28	37.48	54.00	-16.52	AVG
3	X	2413.200	92.85	1.41	94.26	Fundamental Frequency		peak
4	*	2419.200	83.46	1.45	84.91	Fundamental Frequency		AVG

Emission Level= Read Level+ Correct Factor

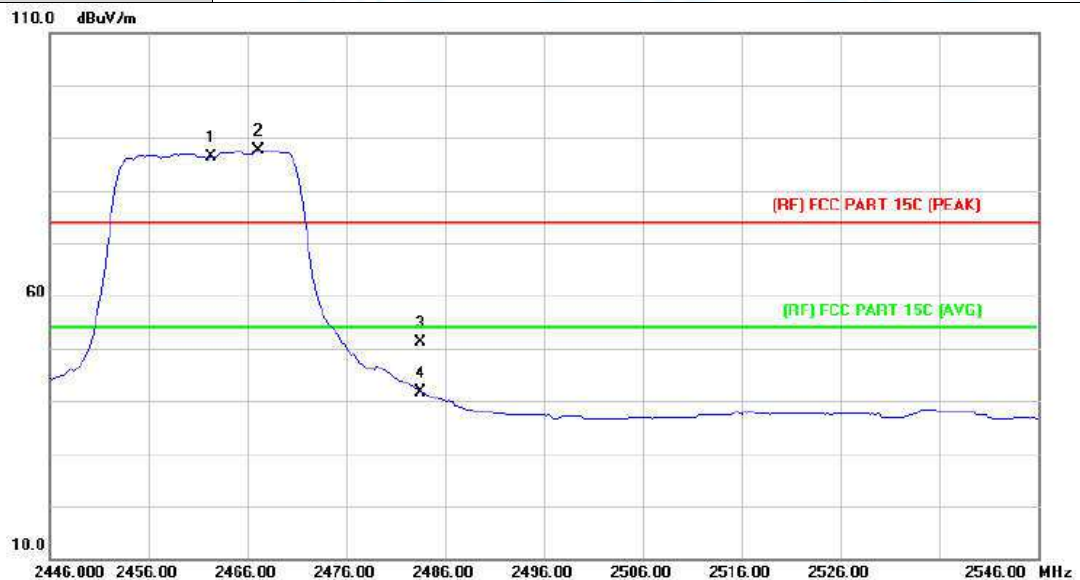
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Horizontal		
Test Mode:	TX N(HT20) Mode 2462MHz		
Remark:	N/A		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	X	2462.300	101.51	1.73	103.24	Fundamental Frequency		peak
2	*	2463.400	91.39	1.75	93.14	Fundamental Frequency		AVG
3		2483.500	49.58	1.88	51.46	74.00	-22.54	peak
4		2483.500	39.51	1.88	41.39	54.00	-12.61	AVG

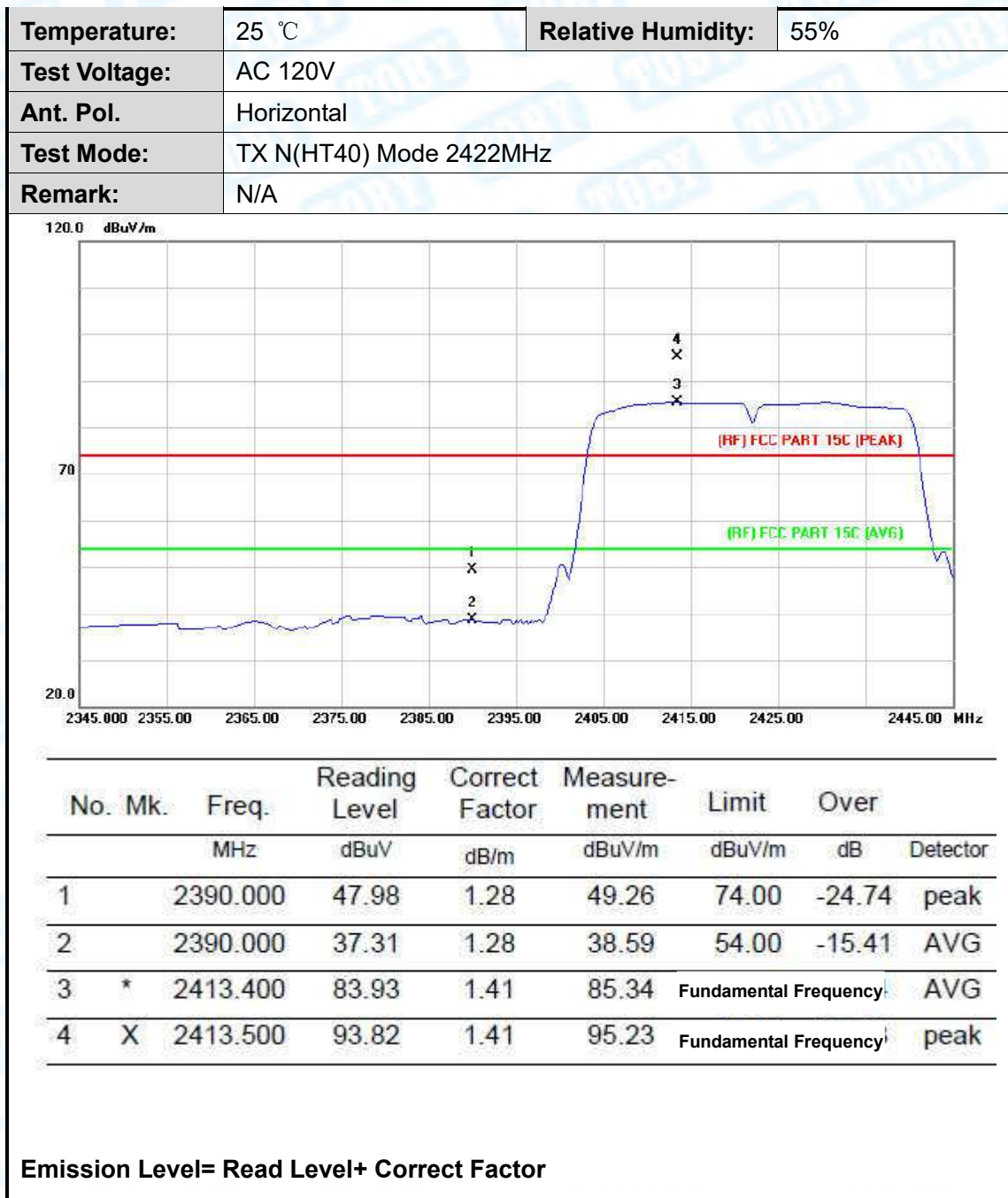
Emission Level= Read Level+ Correct Factor

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Vertical		
Test Mode:	TX N(HT20) Mode 2462MHz		
Remark:	N/A		

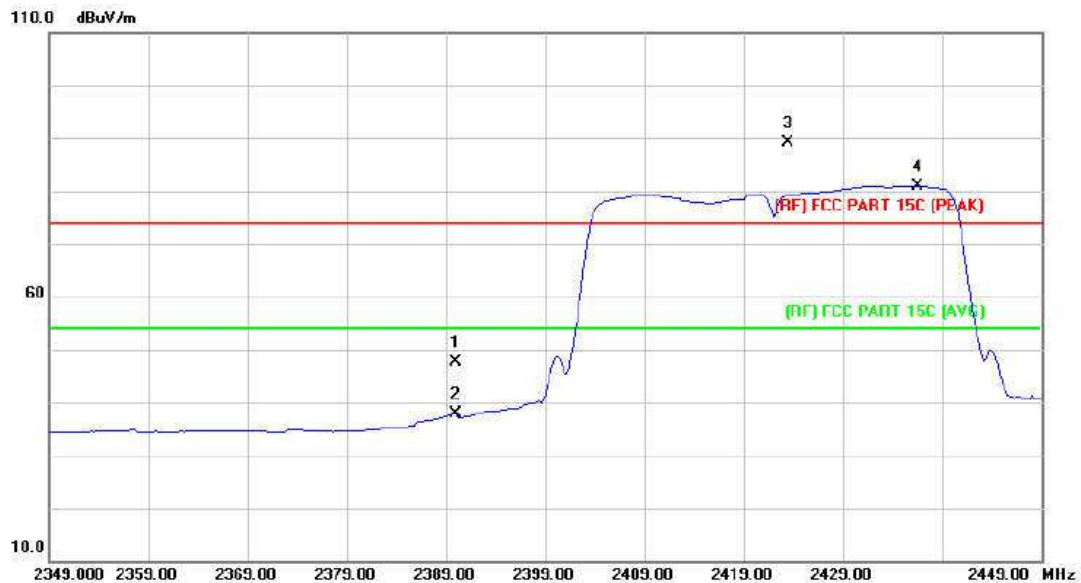


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	X	2462.300	84.74	1.73	86.47	Fundamental Frequency		peak
2	*	2467.200	85.78	1.78	87.56	Fundamental Frequency		AVG
3		2483.500	49.28	1.88	51.16	74.00	-22.84	peak
4		2483.500	39.82	1.88	41.70	54.00	-12.30	AVG

Emission Level= Read Level+ Correct Factor



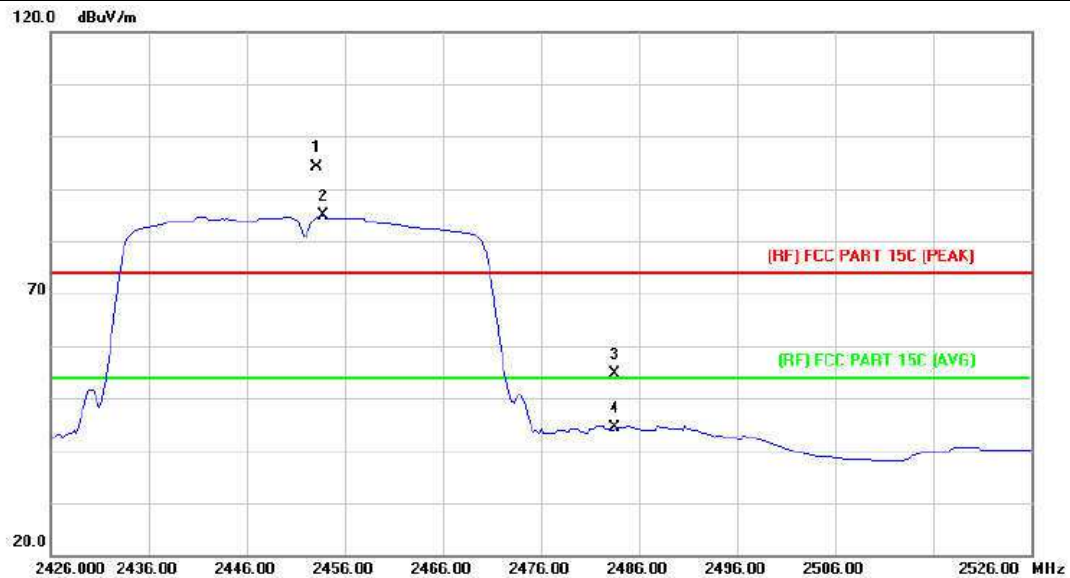
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Vertical		
Test Mode:	TX N(HT40) Mode 2422MHz		
Remark:	N/A		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		2390.000	46.28	1.28	47.56	74.00	-26.44	peak
2		2390.000	36.61	1.28	37.89	54.00	-16.11	AVG
3	X	2423.500	87.76	1.48	89.24	Fundamental Frequency		peak
4	*	2436.600	79.31	1.55	80.86	Fundamental Frequency		AVG

Emission Level= Read Level+ Correct Factor

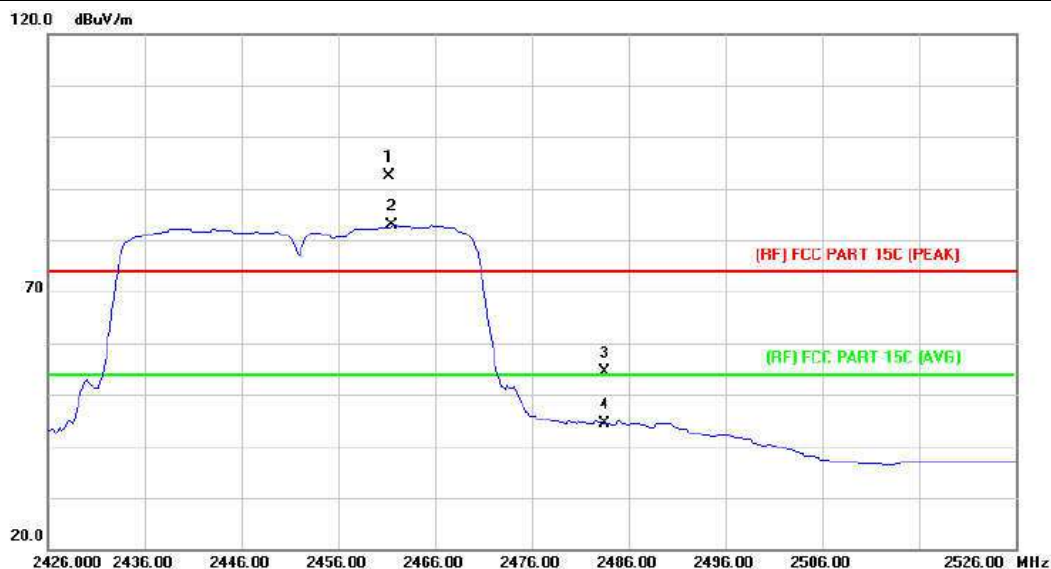
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Horizontal		
Test Mode:	TX N(HT40) Mode 2452MHz		
Remark:	N/A		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	X	2453.200	92.56	1.68	94.24	Fundamental Frequency		peak
2	*	2453.800	83.17	1.68	84.85	Fundamental Frequency		AVG
3		2483.500	52.68	1.88	54.56	74.00	-19.44	peak
4		2483.500	42.52	1.88	44.40	54.00	-9.60	AVG

Emission Level= Read Level+ Correct Factor

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Ant. Pol.	Vertical		
Test Mode:	TX N(HT40) Mode 2452MHz		
Remark:	N/A		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	X	2461.300	90.63	1.73	92.36	Fundamental Frequency		peak
2	*	2461.600	81.10	1.73	82.83	Fundamental Frequency		AVG
3		2483.500	52.58	1.88	54.46	74.00	-19.54	peak
4		2483.500	42.43	1.88	44.31	54.00	-9.69	AVG

Emission Level= Read Level+ Correct Factor

(2) Conducted Test

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



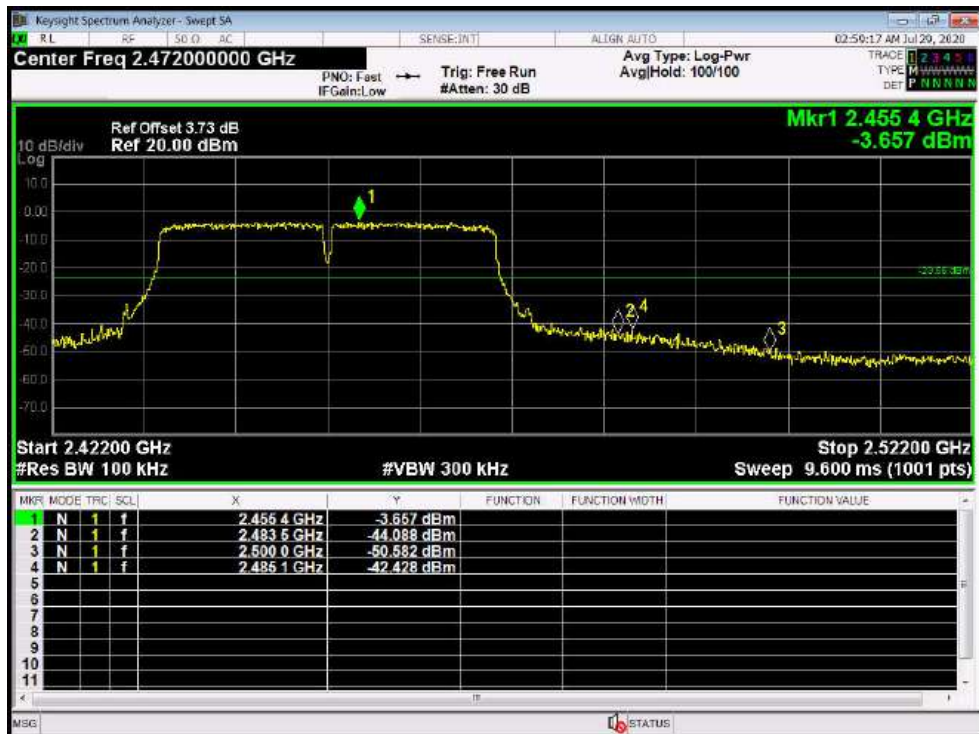
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Test Mode:	TX G Mode 2412MHz / TX G Mode 2462MHz		
Remark:	The EUT is programed in continuously transmitting mode		



Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Test Mode:	TX N(HT20) Mode 2412MHz / TX N(HT20) Mode 2462MHz		
Remark:	The EUT is programed in continuously transmitting mode		



Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Test Mode:	TX N(HT40) Mode 2422MHz / TX N(HT40) Mode 2452MHz		
Remark:	The EUT is programed in continuously transmitting mode		



Attachment D-- Bandwidth Test Data

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Test Mode:	TX 802.11B Mode		
Channel frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)
2412	9.046	13.157	>=0.5
2437	9.034	13.241	
2462	9.160	13.236	

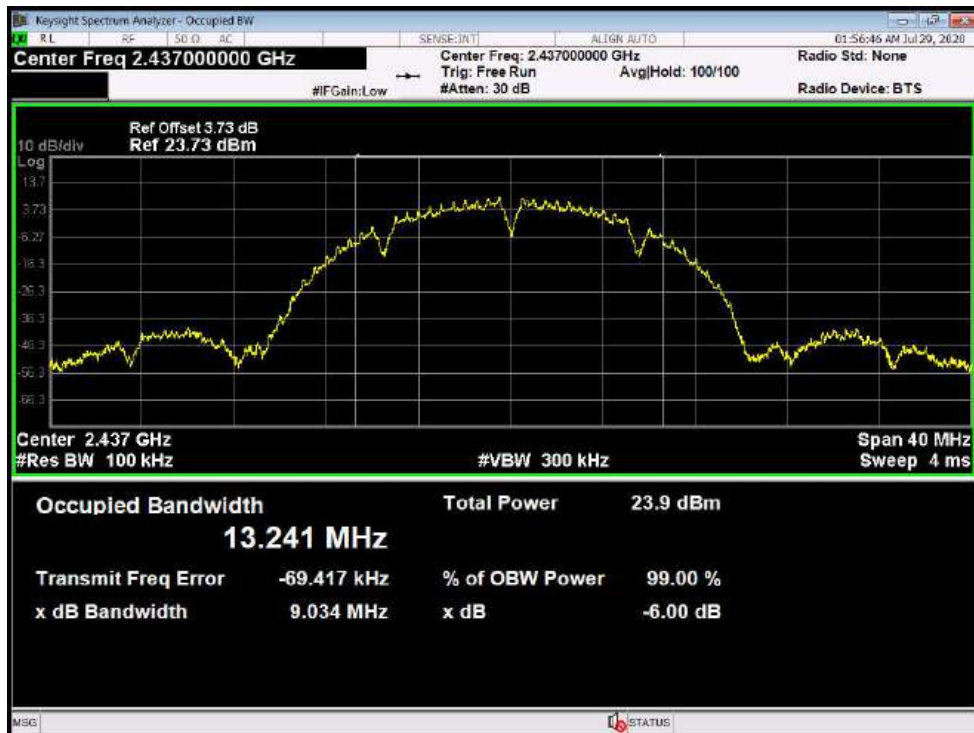
802.11B Mode

2412 MHz



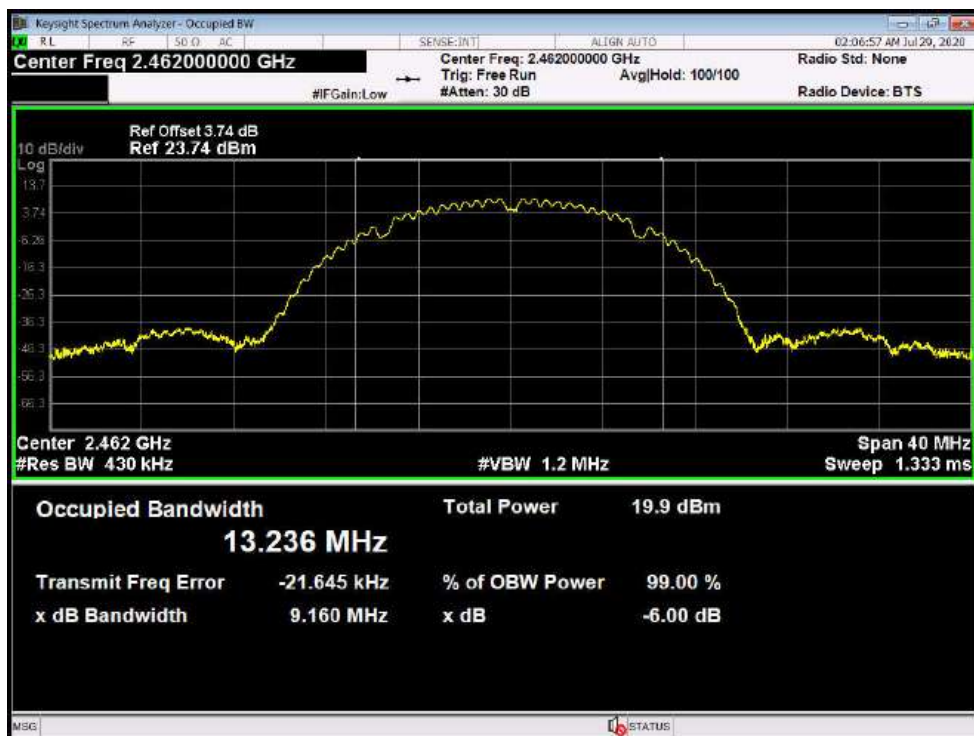
802.11B Mode

2437 MHz



802.11B Mode

2462 MHz



Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Test Mode:	TX 802.11G Mode		
Channel frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)
2412	16.55	16.507	>=0.5
2437	16.55	16.500	
2462	16.57	16.489	

802.11G Mode

2412 MHz

Keysight Spectrum Analyzer - Occupied BW

RLRF50 OAC

SENSE:INT

ALIGN: AUTO

02:16:09 AM Jul 29, 2020

Center Freq 2.412000000 GHz

#IF Gain: Low

Center Freq: 2.412000000 GHz

Trig: Free Run

#Atten: 30 dB

Avg/Hold: 100/100

Radio Std: None

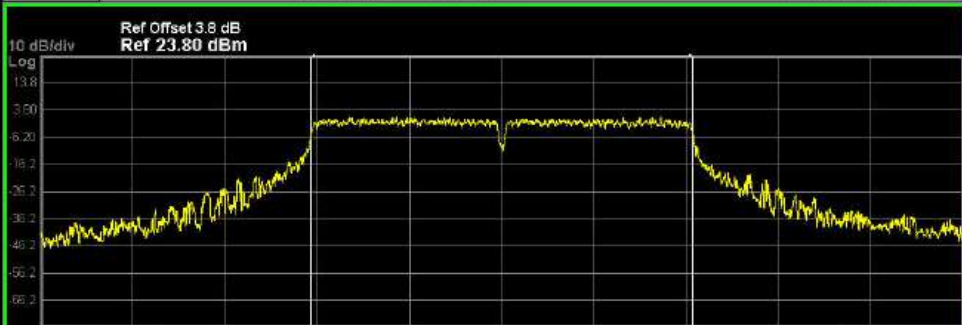
Radio Device: BTS

10 dB/div

Log

Ref Offset 3.8 dB

Ref 23.80 dBm



Center 2.412 GHz

#Res BW 100 kHz

#VBW 300 kHz

Span 40 MHz

Sweep 4 ms

Occupied Bandwidth

16.507 MHz

Total Power

21.2 dBm

Transmit Freq Error

-11.996 kHz

% of OBW Power

99.00 %

x dB Bandwidth

16.55 MHz

x dB

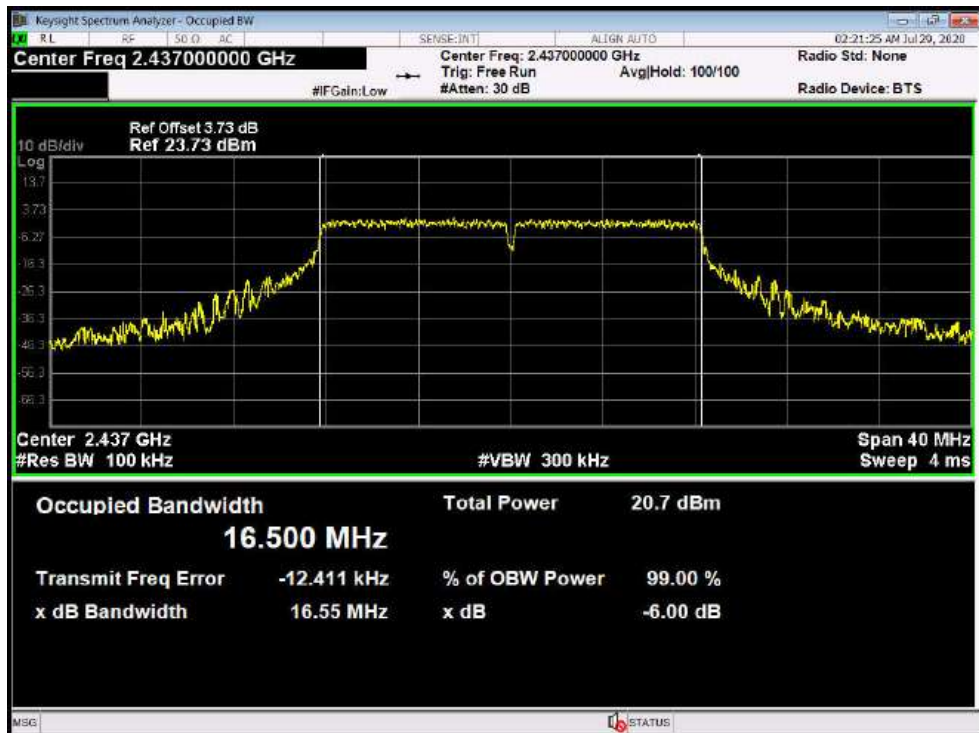
-6.00 dB

MSG

STATUS

802.11G Mode

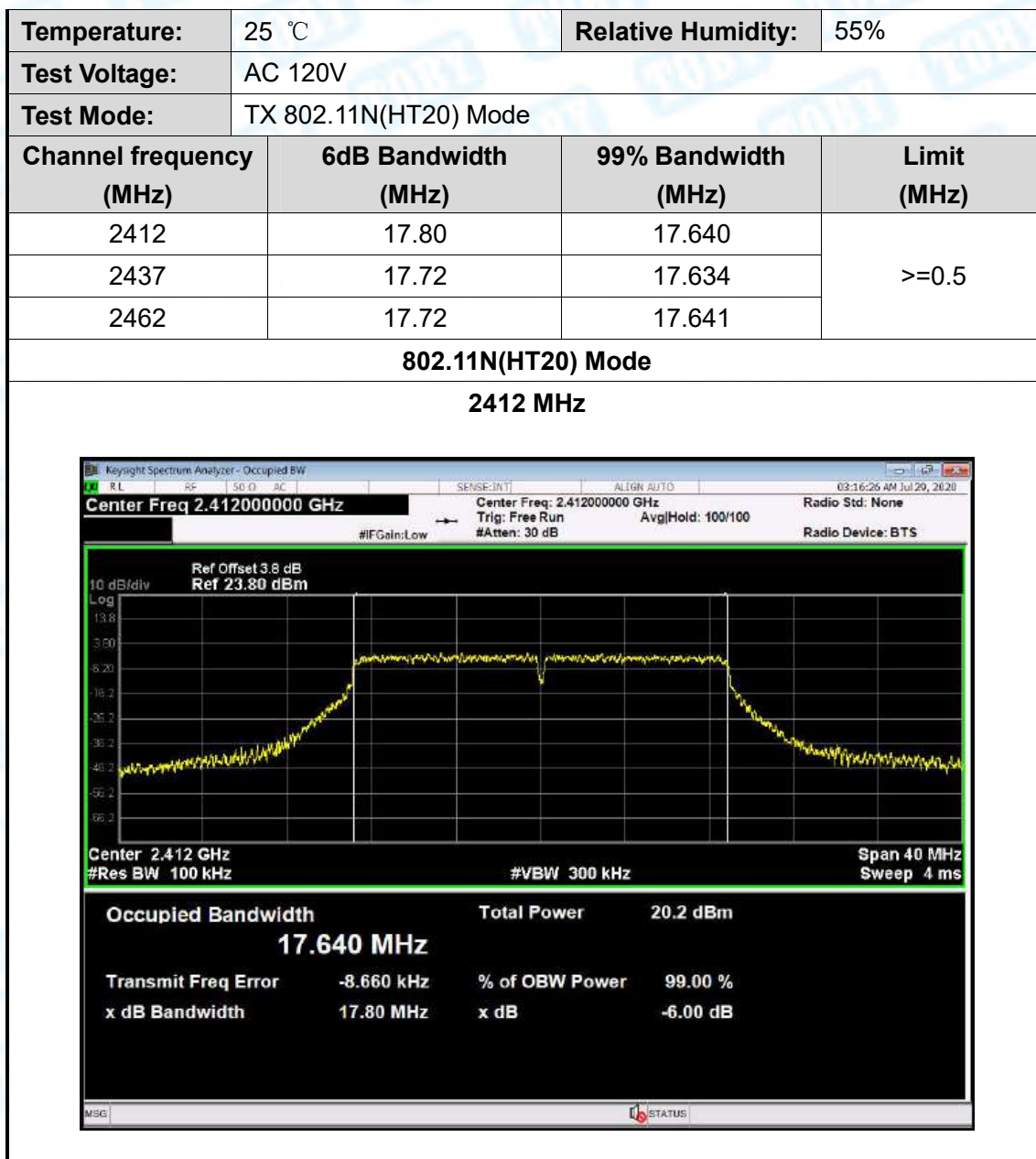
2437 MHz



802.11G Mode

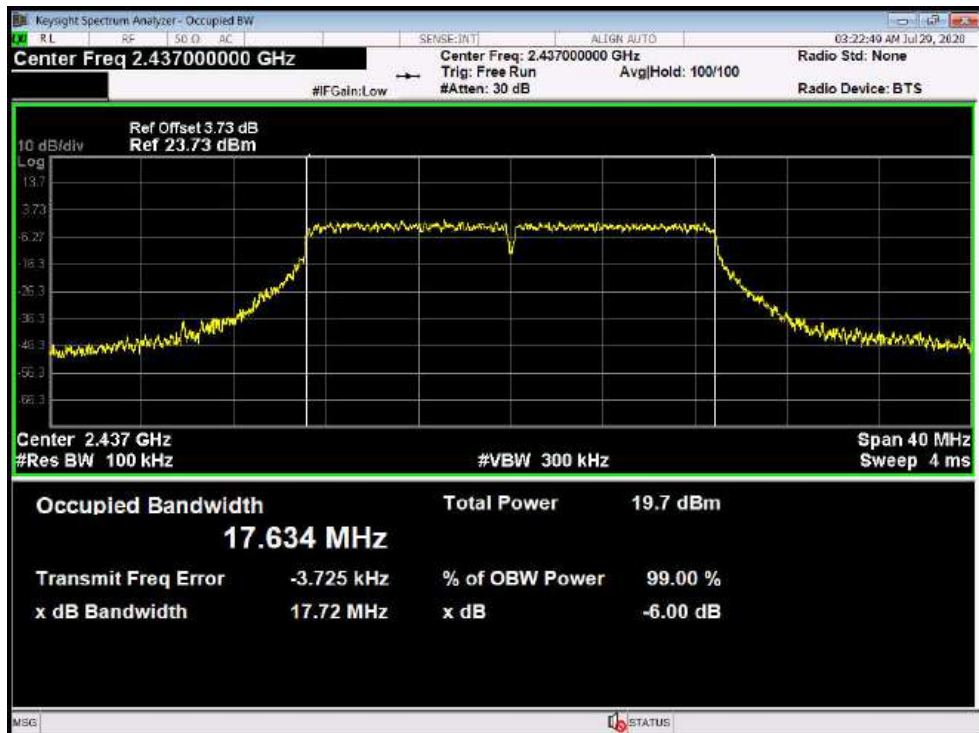
2462 MHz





802.11N(HT20) Mode

2437 MHz

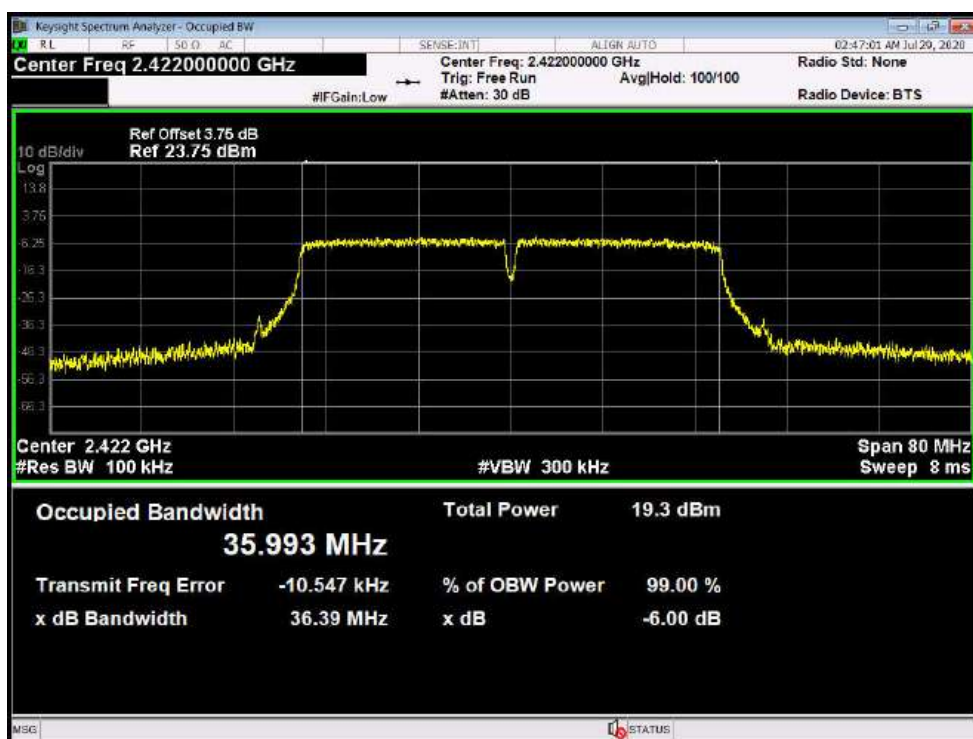


802.11N(HT20) Mode

2462 MHz

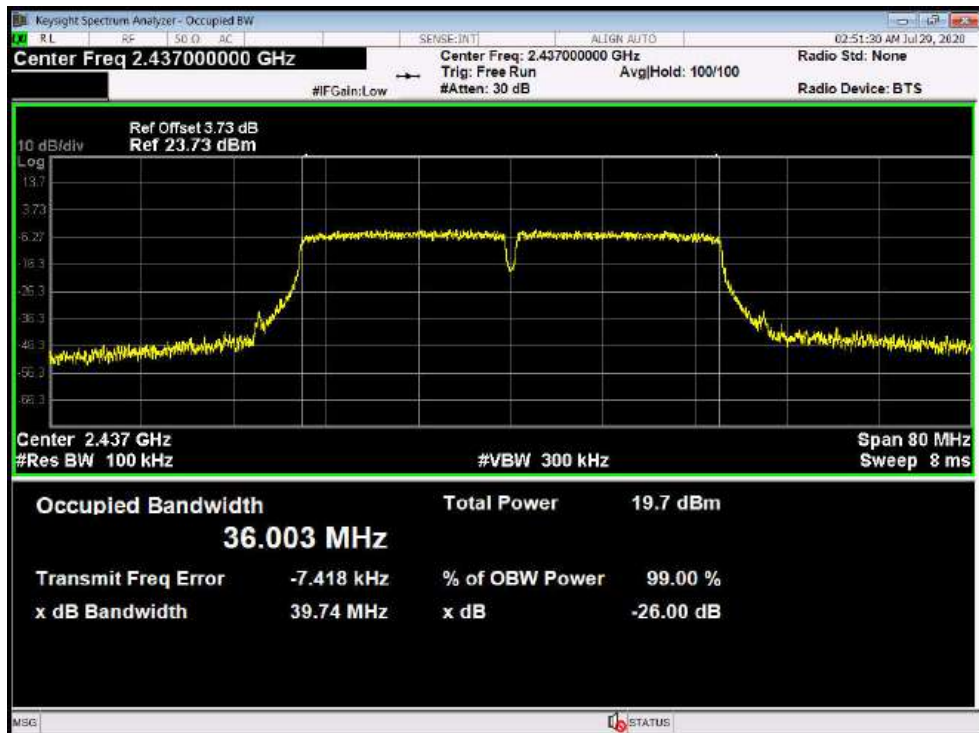


Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Test Mode:	TX 802.11N(HT40) Mode		
Channel frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)
2422	36.39	35.993	>=0.5
2437	39.74	36.003	
2452	39.10	35.978	

802.11N(HT40) Mode**2422 MHz**

802.11N(HT40) Mode

2437 MHz



802.11N(HT40) Mode

2452 MHz



Attachment E-- Peak Output Power Test Data

Test Conditions:		Continuous Transmitting Mode	
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Mode	Channel frequency (MHz)	Test Result (dBm)	Limit (dBm)
802.11b	2412	2.76	30
	2437	2.35	
	2462	2.71	
802.11g	2412	3.14	
	2437	2.30	
	2462	2.93	
802.11n (HT20)	2412	7.59	
	2437	7.08	
	2462	7.90	
802.11n (HT40)	2422	7.86	
	2437	7.45	
	2452	7.52	
Result: PASS			

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

802.11 B Mode 2437 MHz



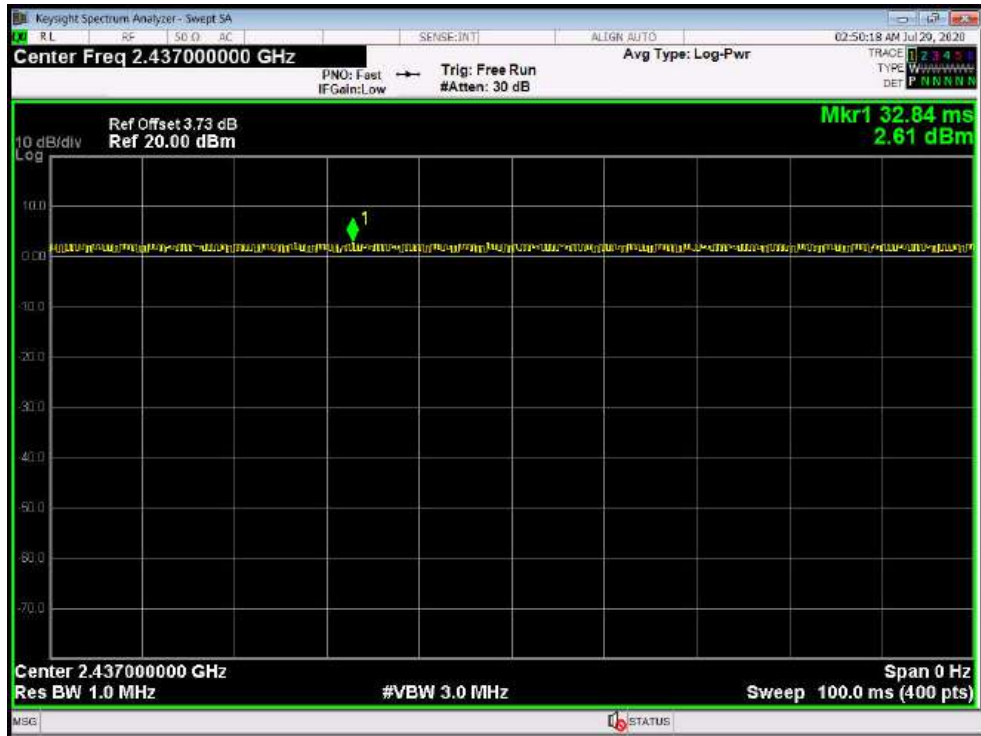
802.11 G Mode 2437 MHz



802.11 N20 Mode 2437 MHz



802.11 N40 Mode 2437 MHz



Attachment F-- Power Spectral Density Test Data

Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V		
Test Mode:	TX 802.11B Mode		
Channel Frequency (MHz)	Power Density (dBm/3 kHz)	Limit (dBm/3 kHz)	
2412	-24.698	8	
2437	-25.191		
2462	-24.999		
802.11B Mode			
2412 MHz			



Keysight Spectrum Analyzer - Swept SA

Center Freq 2.41200000 GHz

PNO: Fast IF Gain: Low Trig: Free Run #Atten: 30 dB

Avg Type: Log-Pwr Avg/Hold: 3/3

Ref Offset 3.3 dB Ref 20.00 dBm

Mkr1 2.412 00 GHz -24.698 dBm

10 dB/div Log

Center 2.41200 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 30.00 MHz Sweep 3.163 s (1001 pts)

802.11B Mode

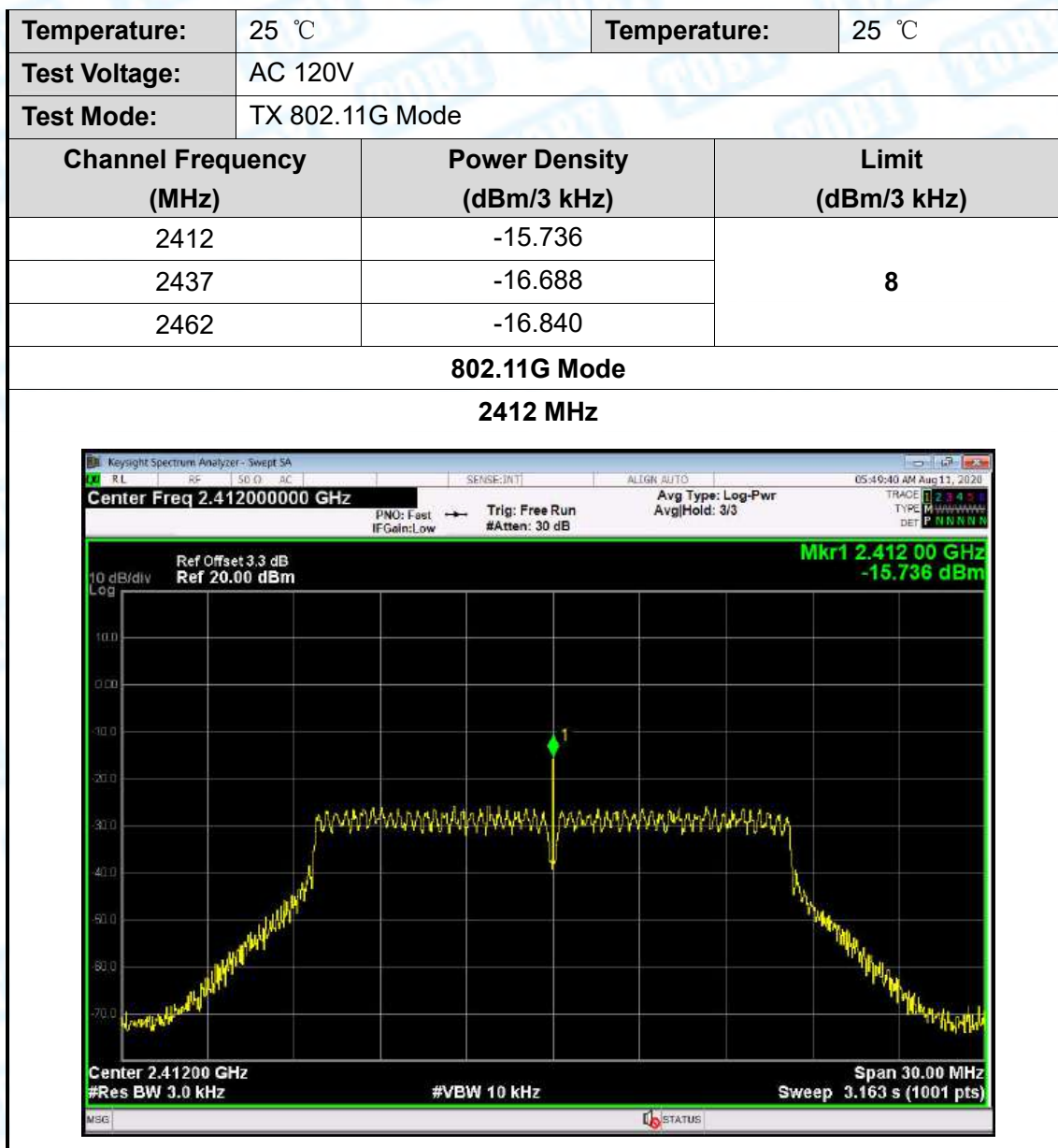
2437 MHz



802.11B Mode

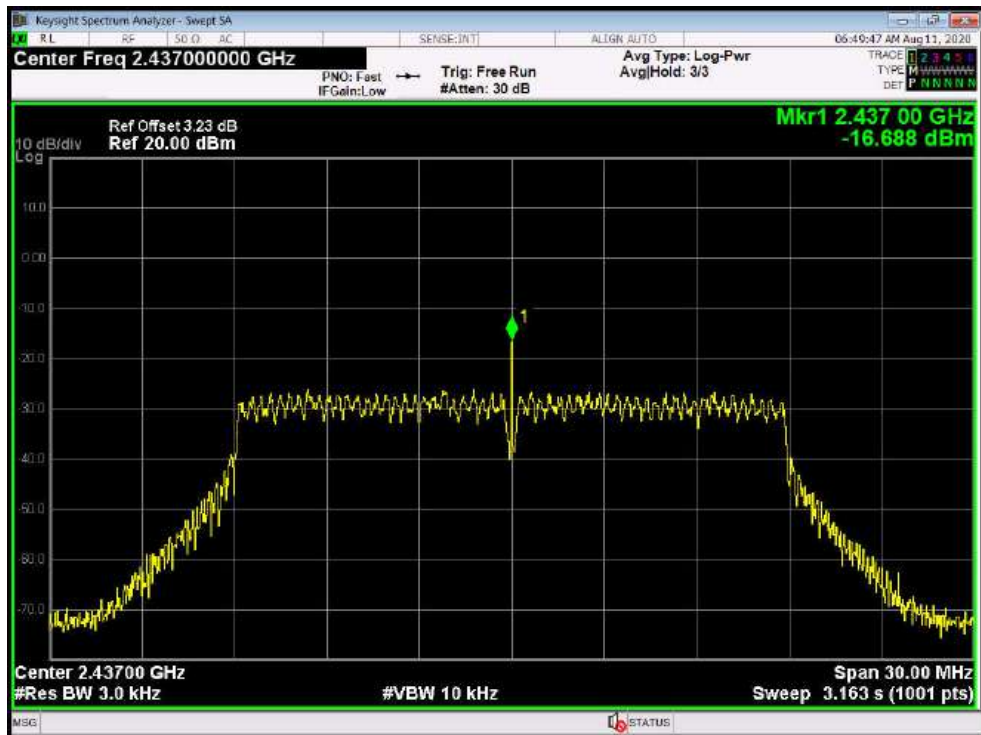
2462 MHz





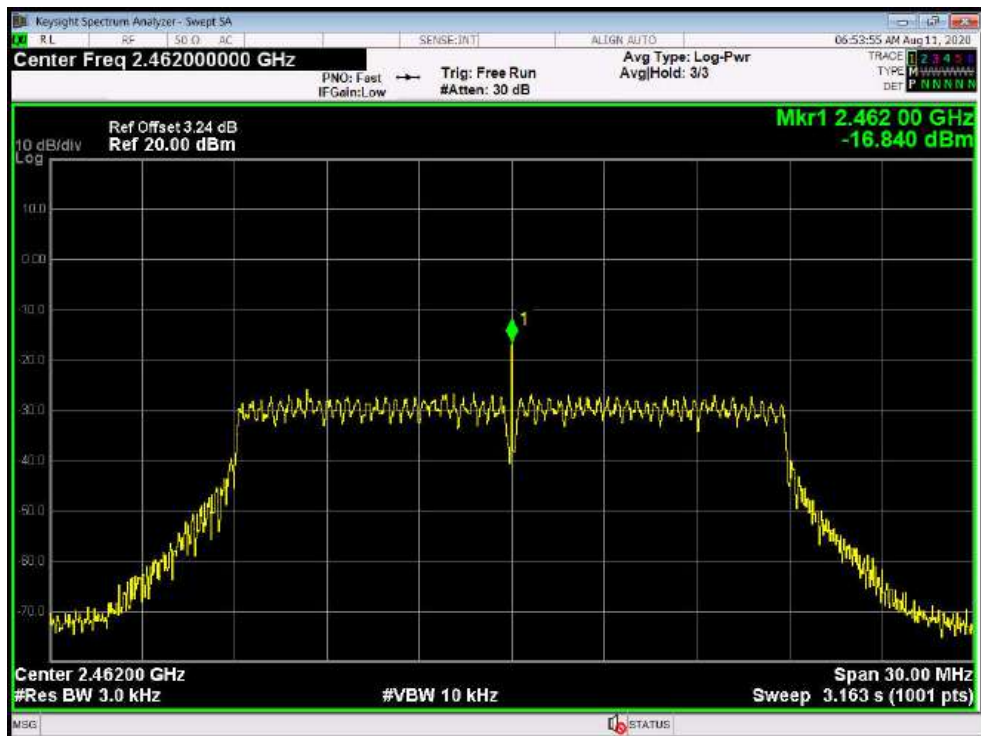
802.11G Mode

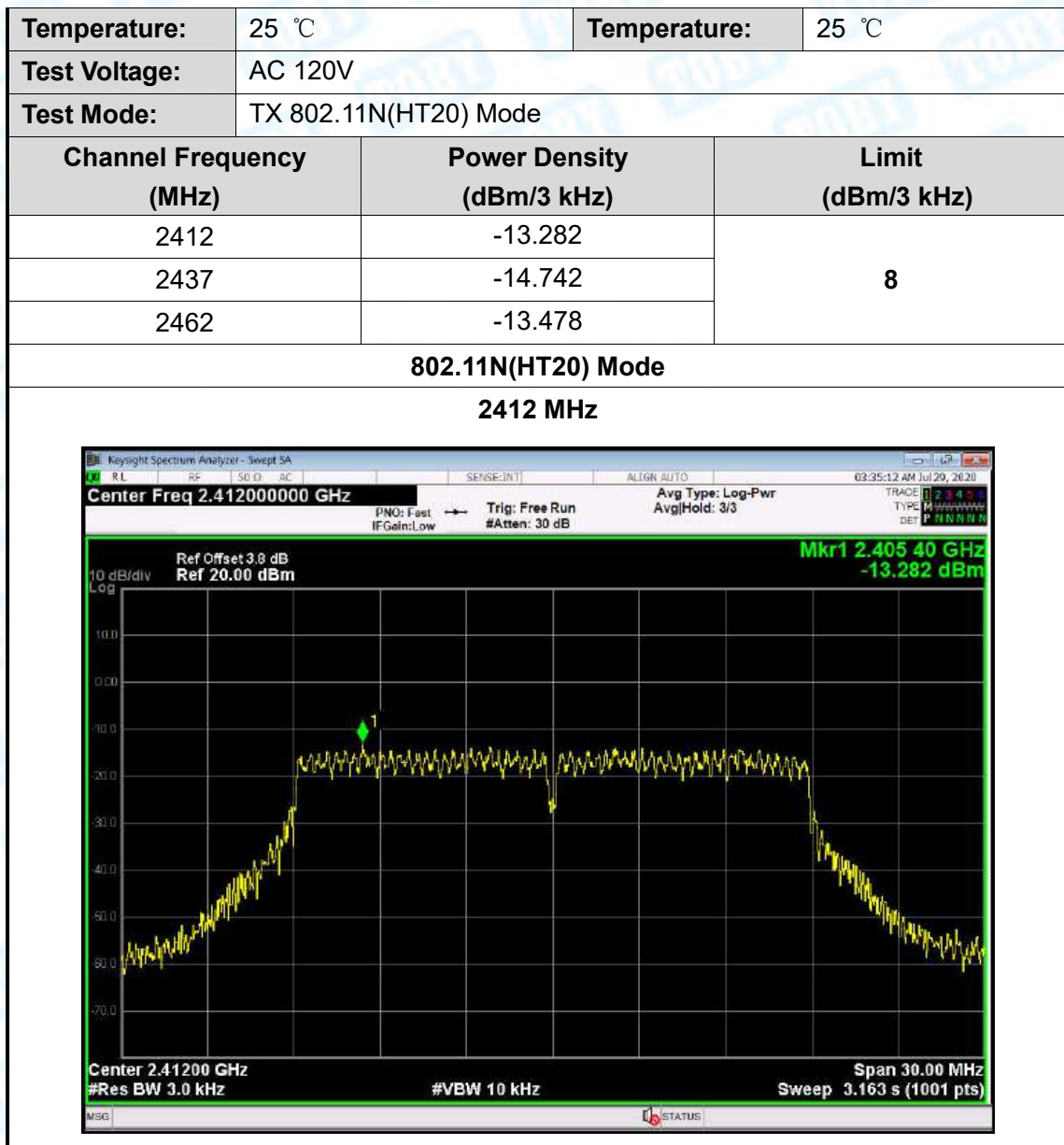
2437 MHz



802.11G Mode

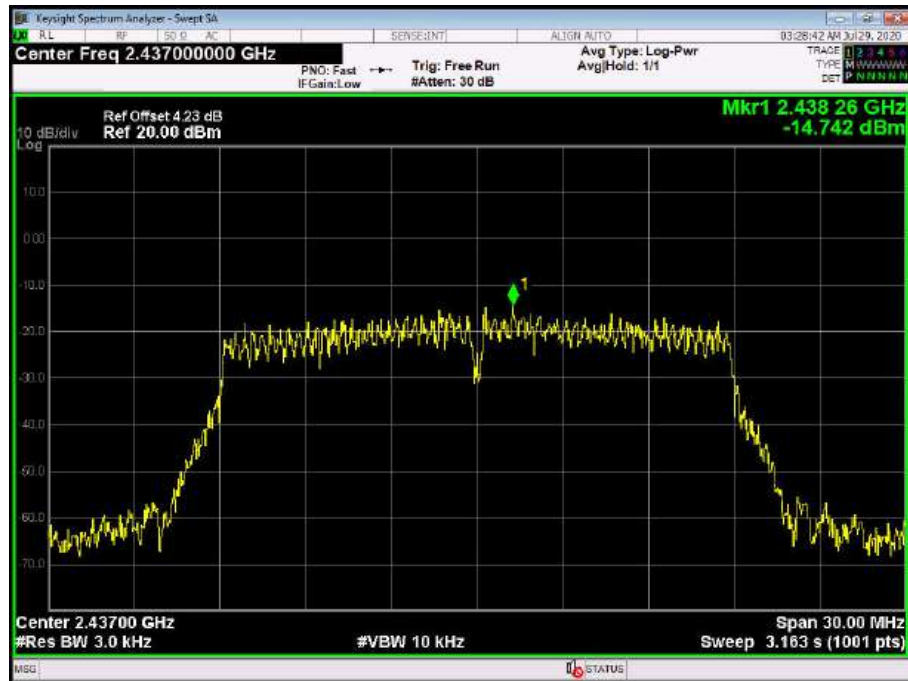
2462 MHz





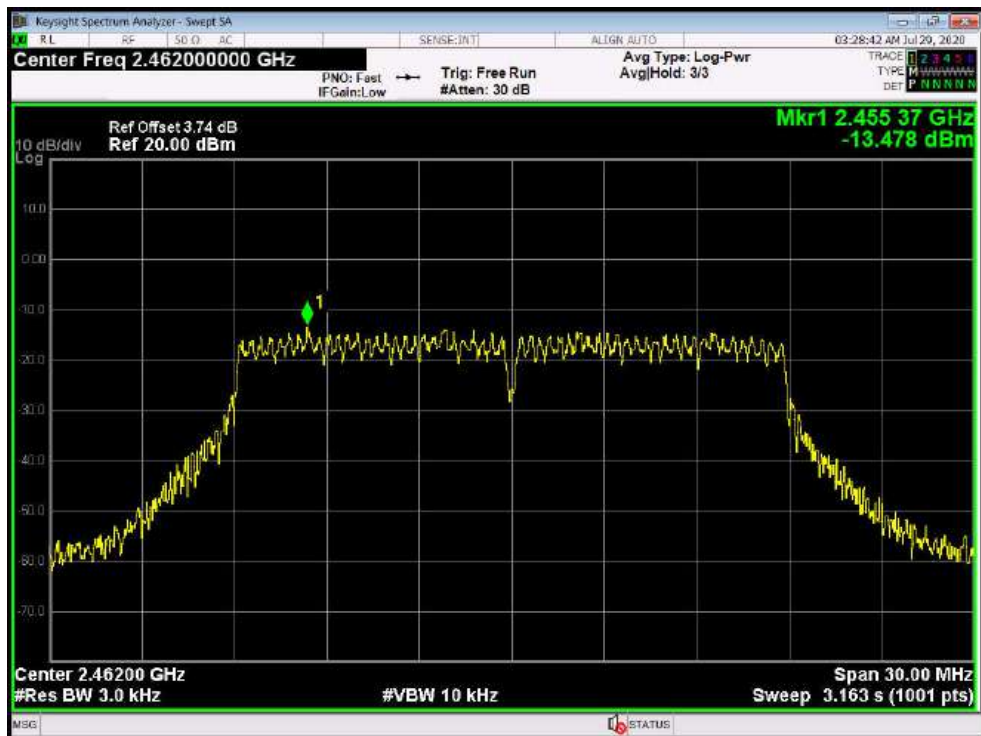
802.11N(HT20) Mode

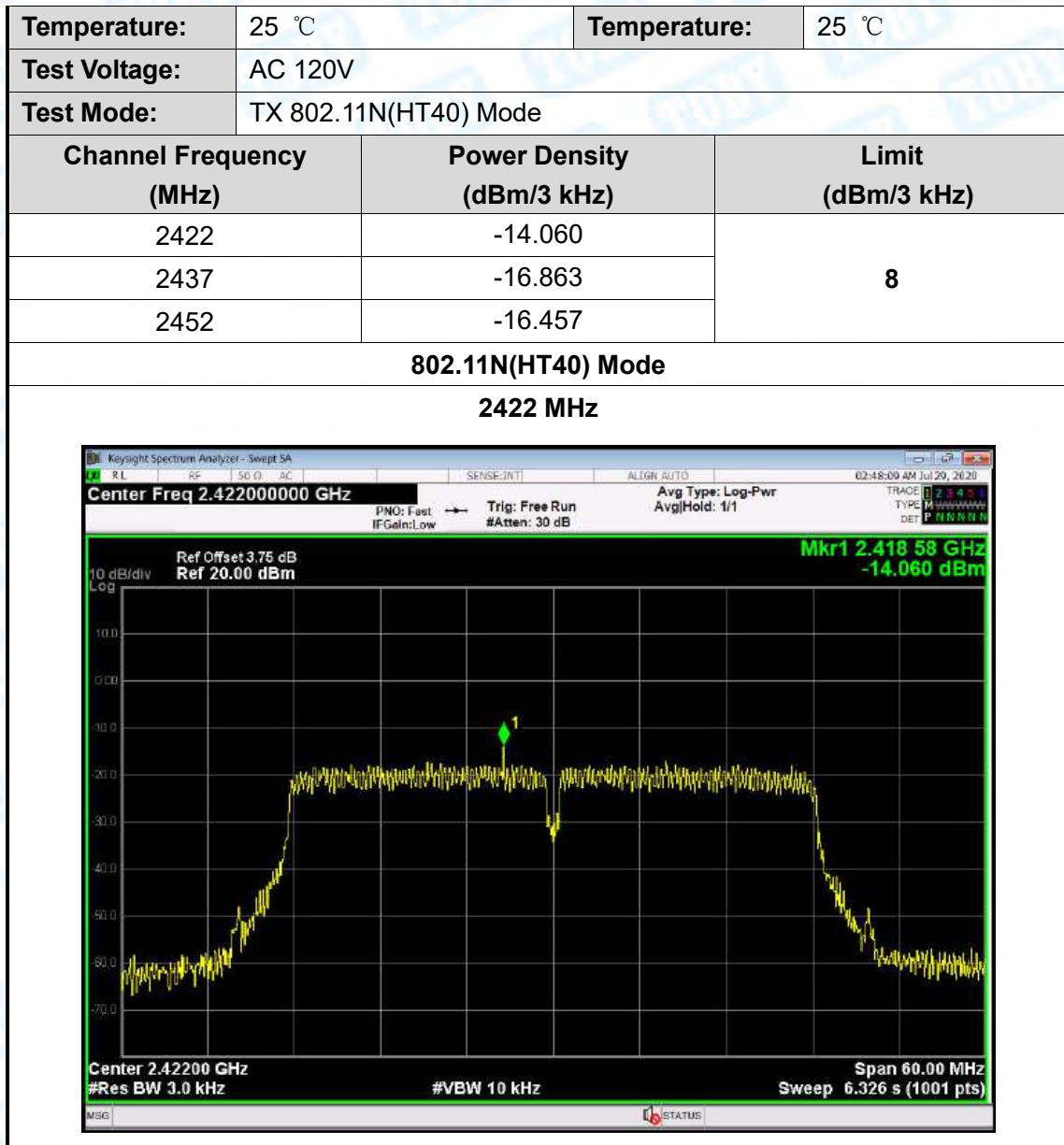
2437 MHz



802.11N(HT20) Mode

2462 MHz





802.11N(HT40) Mode

2437 MHz



802.11N(HT40) Mode

2452 MHz



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