

FCC Radio Test Report

FCC ID: 2AEP6-XM-JPRZ-2R

Original Grant

Report No. : TB-FCC179275
Applicant : Hangzhou Xiongmai Technology Co., Ltd.
Equipment Under Test (EUT)
EUT Name : Robot Camera
Model No. : XM-JPRZ-2R
Series Model No. : XM-JPRZ-3R, XM-JPRZ-3D, XM-JPRZ-4R, XM-JPRZ-5R,
XM-JPRZ-2D, XM-JPRZ-4D, XM-JPRZ-5D
S/N : N/A
Brand Name : N/A
Sample ID : 20210309-22-1#& 20210309-22-2#
Receipt Date : 2021-03-24
Test Date : 2021-03-25 to 2021-05-19
Issue Date : 2021-05-21
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 :

Engineer Supervisor :

Engineer Manager :

Wade Lv

Ivan Su

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-FCC179275	Rev.01	Initial issue of report	2021-05-21

1. General Information about EUT

1.1 Client Information

Applicant	:	Hangzhou Xiongmai Technology Co., Ltd.
Address	:	9th Floor,Building 9, Yinhu Innovation Center, No.9 Fuxian Road, Yinhu Street, Hangzhou, China.
Manufacturer	:	Hangzhou Xiongmai Technology Co., Ltd.
Address	:	9th Floor,Building 9, Yinhu Innovation Center, No.9 Fuxian Road, Yinhu Street, Hangzhou, China.

1.2 General Description of EUT (Equipment Under Test)

EUT Name	:	Robot Camera	
Models No.	:	XM-JPRZ-2R, XM-JPRZ-3R, XM-JPRZ-3D, XM-JPRZ-4R, XM-JPRZ-5R, XM-JPRZ-2D, XM-JPRZ-4D, XM-JPRZ-5D	
Model Difference	:	All these models are identical 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)
		RF Output Power:	802.11b: 18.304 dBm 802.11g: 19.154 dBm 802.11n(HT20): 19.16 dBm 802.11n(HT40): 17.847 dBm
		Modulation Type:	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g/n: OFDM (BPSK, QPSK,16QAM, 64QAM)
		Antenna Gain:	3.0dBi Internal Antenna
Power Supply	:	DC 5V from adapter: Input: AC 100-240V 50/60Hz Output: DC 5V1.2A	
Software Version	:	V1.0	
Hardware Version	:	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.

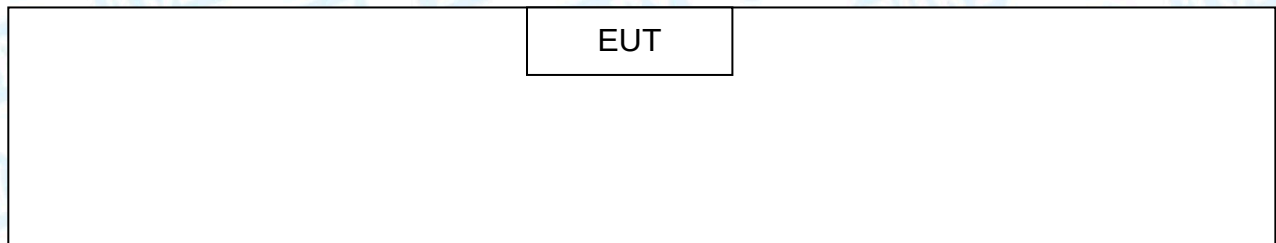
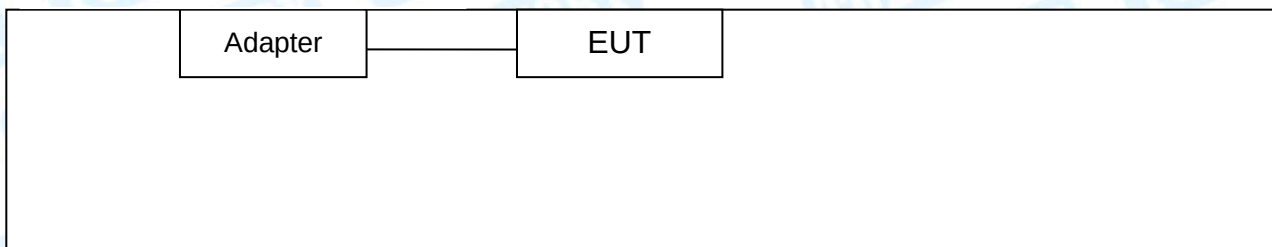
(3) Channel List:

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/SDOC	Manufacturer	Used “√”
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Cable Information				
Number	Shielded Type	Ferrite Core	Length	Note
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1.5 Description of Test Mode

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

For Conducted Test	
Final Test Mode	Description
Mode 1	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: AltoBeam WIFI GUI 2.10.9			
	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 FCC	Test Item	Test Sample(s)	Judgment	Remark
15.203	Antenna Requirement	20210309-22-2#	PASS	N/A
15.207(a)	Conducted Emission	20210309-22-1#	PASS	N/A
15.205&15.247(d)	Band-Edge & Unwanted Emissions into Restricted Frequency	20210309-22-2#	PASS	N/A
15.247(a)(2)	6dB Bandwidth	20210309-22-2#	PASS	N/A
15.247(b)(3)	Conducted Max Output Power	20210309-22-2#	PASS	N/A
15.247(e)	Power Spectral Density	20210309-22-2#	PASS	N/A
15.205, 15.209&15.247(d)	Transmitter Radiated Spurious & Unwanted Emissions into Restricted Frequency	20210309-22-1# 20210309-22-2#	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.24, 2021	Feb. 25, 2022
Pre-amplifier	HP	8449B	3008A00849	Mar.24, 2021	Feb. 25, 2022
Cable	HUBER+SUHNER	100	SUCOFLEX	Mar.24, 2021	Feb. 25, 2022
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

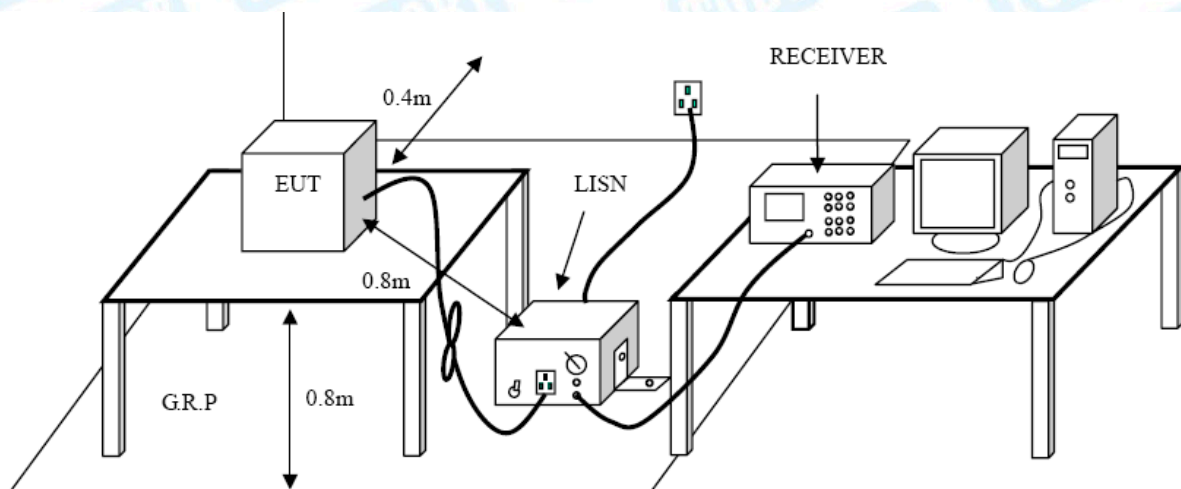
Notes:

(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

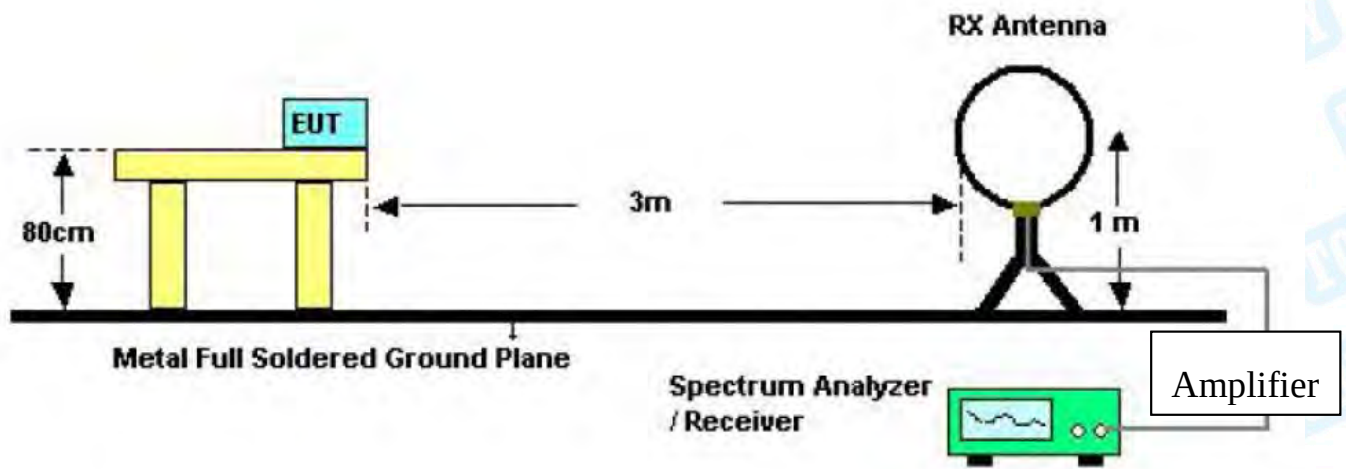
Radiated Emission Limit (Above 1000MHz)

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

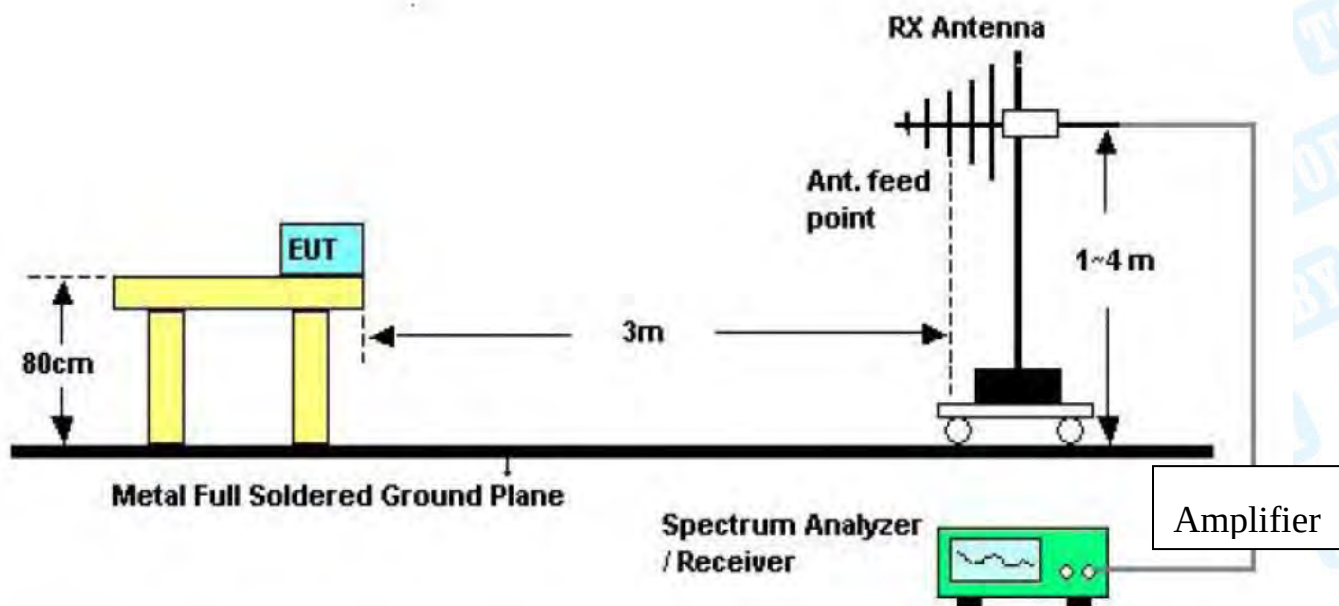
Note:

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

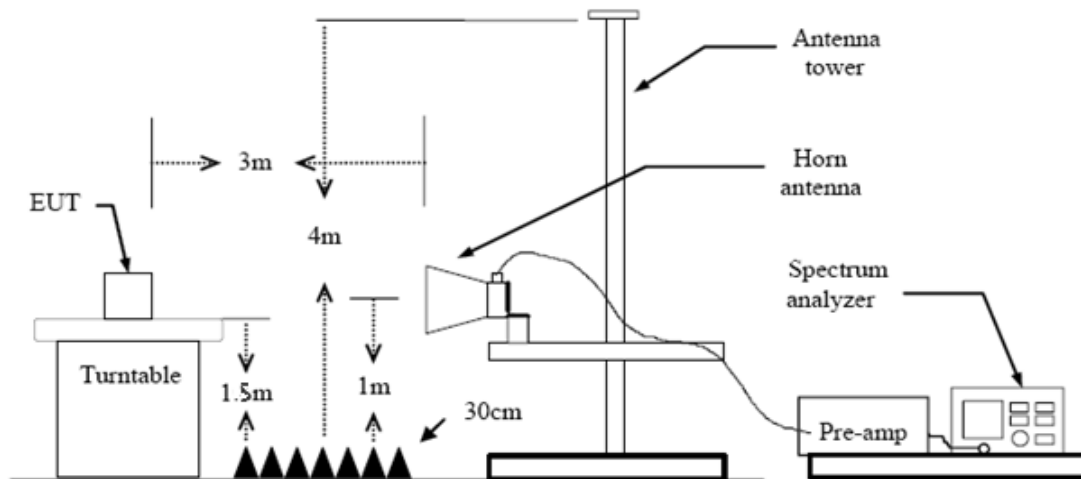
6.2 Test Setup



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 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)

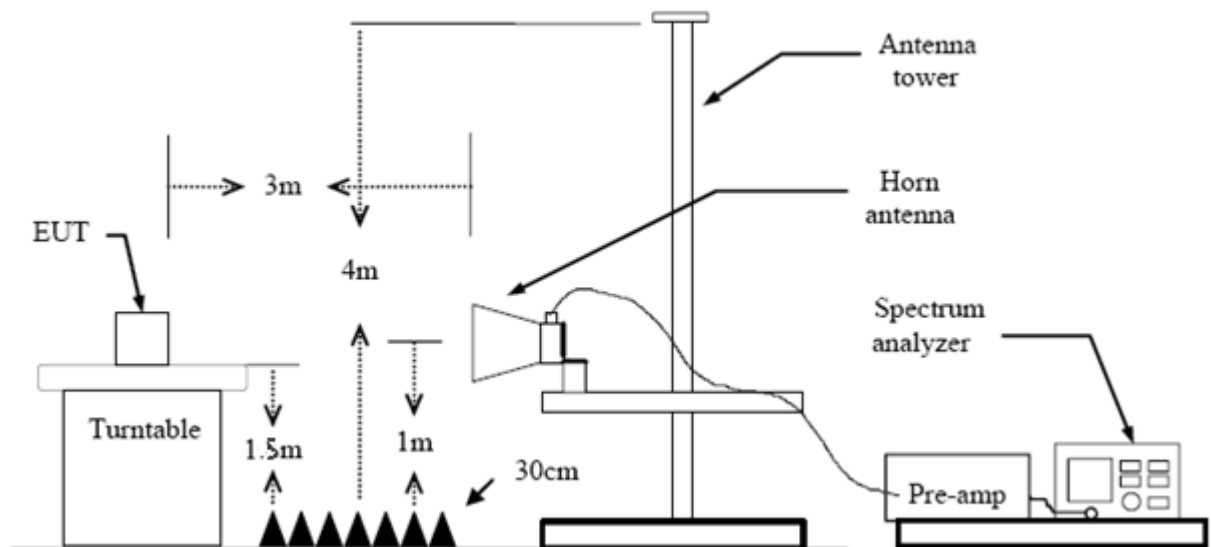
FCC Part 15.209

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

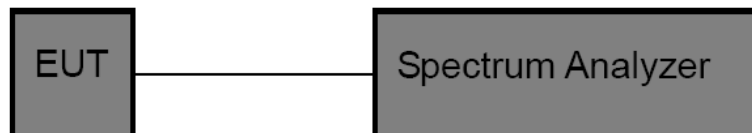
8.1.1 Test Standard

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

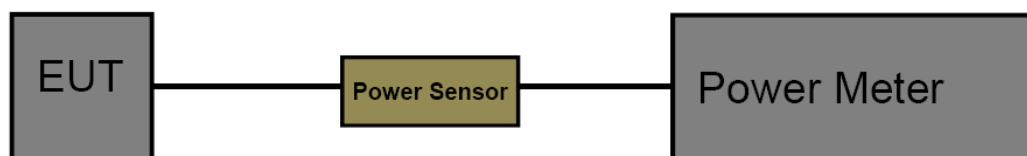
9.1.1 Test Standard

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 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

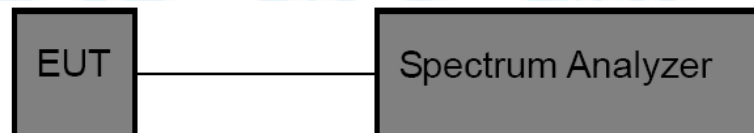
10.1.1 Test Standard

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 2 dBi, and the antenna de-signed with unique connector antenna and no consideration of replacement. Please see the EUT photo for details.

Result

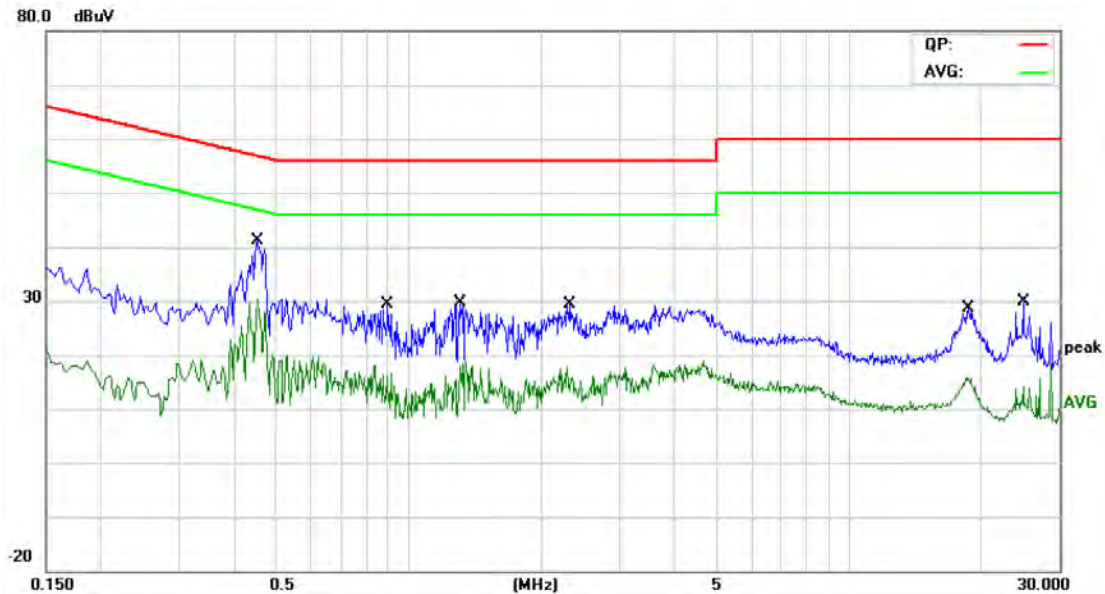
The EUT antenna is a PIFA Antenna. It complies with the standard requirement.

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

Attachment A-- Conducted Emission Test Data

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

Temperature:	24.6°C	Relative Humidity:	42%
Test Voltage:	AC 120V/60Hz		
Terminal:	Line		
Test Mode:	Mode 1(Charging + TX B Mode Channel 01)		
Remark:	Only worst case is reported		



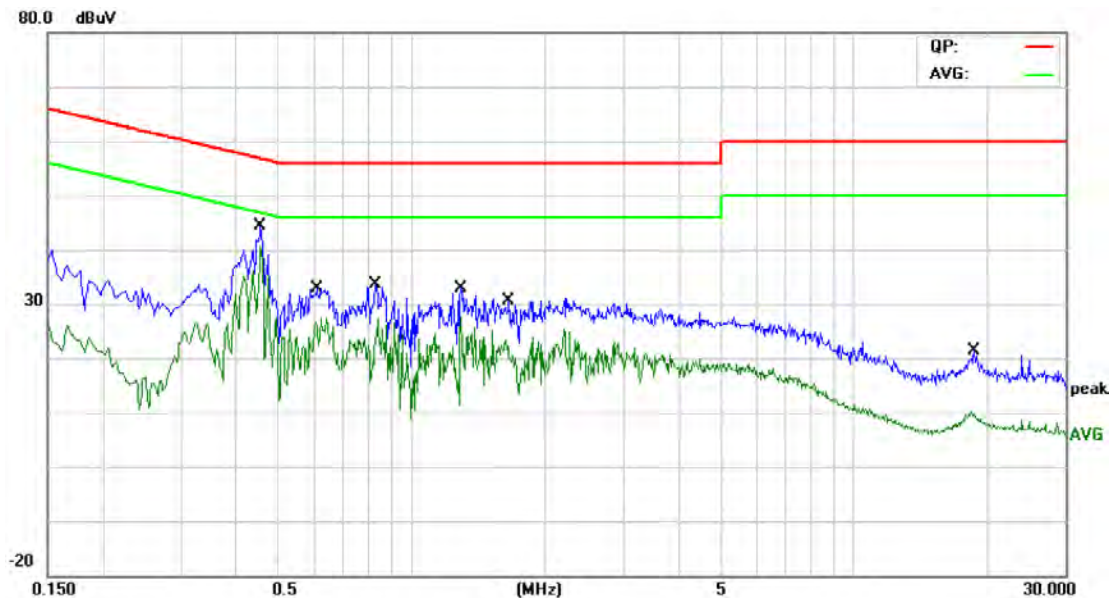
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.4540	29.52	9.70	39.22	56.80	-17.58	QP
2	*	0.4540	19.61	9.70	29.31	46.80	-17.49	AVG
3		0.8980	15.41	9.77	25.18	56.00	-30.82	QP
4		0.8980	2.28	9.77	12.05	46.00	-33.95	AVG
5		1.3140	15.02	9.77	24.79	56.00	-31.21	QP
6		1.3140	1.91	9.77	11.68	46.00	-34.32	AVG
7		2.3220	13.77	9.76	23.53	56.00	-32.47	QP
8		2.3220	3.98	9.76	13.74	46.00	-32.26	AVG
9		18.6820	11.27	10.00	21.27	60.00	-38.73	QP
10		18.6820	3.52	10.00	13.52	50.00	-36.48	AVG
11		24.8580	15.16	10.12	25.28	60.00	-34.72	QP
12		24.8580	3.12	10.12	13.24	50.00	-36.76	AVG

Remark:

1. Corr. Factor (dB) = LISN Factor (dB) + Cable Loss (dB)

2. Margin (dB) = QuasiPeak/Average (dBuV) - Limit (dBuV)

Temperature:	24.6°C	Relative Humidity:	42%
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. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		0.4540	33.55	9.80	43.35	56.80	-13.45	QP
2	*	0.4540	30.44	9.80	40.24	46.80	-6.56	AVG
3		0.6100	19.40	9.80	29.20	56.00	-26.80	QP
4		0.6100	13.57	9.80	23.37	46.00	-22.63	AVG
5		0.8300	20.66	9.80	30.46	56.00	-25.54	QP
6		0.8300	13.11	9.80	22.91	46.00	-23.09	AVG
7		1.2940	19.12	9.80	28.92	56.00	-27.08	QP
8		1.2940	8.02	9.80	17.82	46.00	-28.18	AVG
9		1.6540	15.93	9.80	25.73	56.00	-30.27	QP
10		1.6540	10.48	9.80	20.28	46.00	-25.72	AVG
11		18.6420	3.98	10.00	13.98	60.00	-46.02	QP
12		18.6420	-1.50	10.00	8.50	50.00	-41.50	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

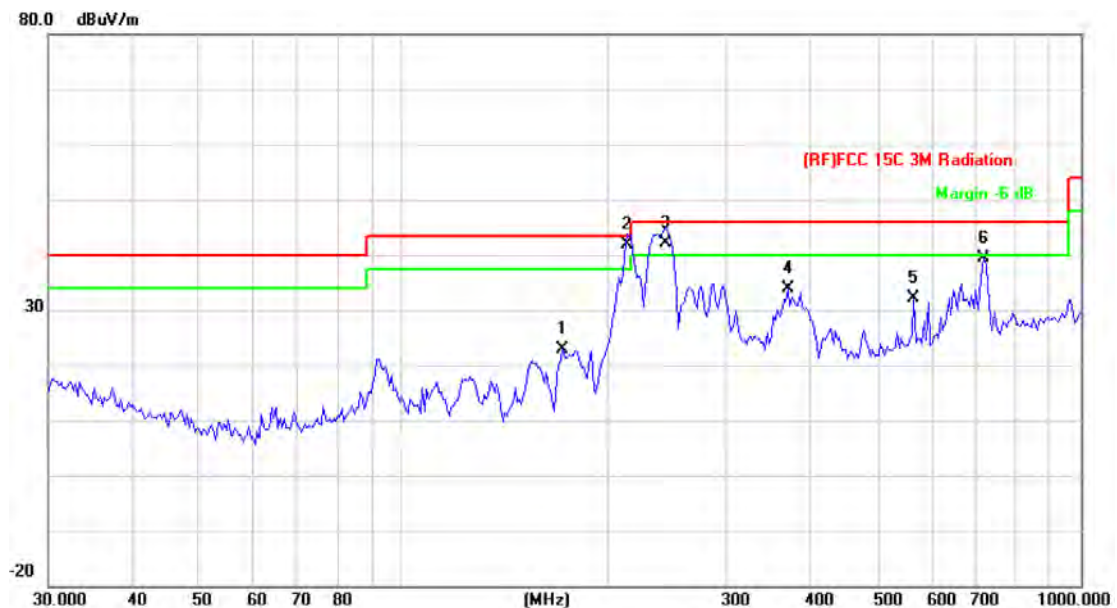
9KHz~30MHz

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:	23.4℃	Relative Humidity:	43%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Horizontal		
Test Mode:	TX B Mode 2412MHz		
Remark:	Only worst 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		171.9946	43.39	-20.40	22.99	43.50	-20.51	peak
2	*	213.7634	61.02	-19.19	41.83	43.50	-1.67	QP
3	!	244.2321	59.57	-17.53	42.04	46.00	-3.96	QP
4		369.4047	47.55	-13.74	33.81	46.00	-12.19	peak
5		566.6223	40.91	-8.73	32.18	46.00	-13.82	peak
6		719.1995	46.05	-6.69	39.36	46.00	-6.64	peak

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

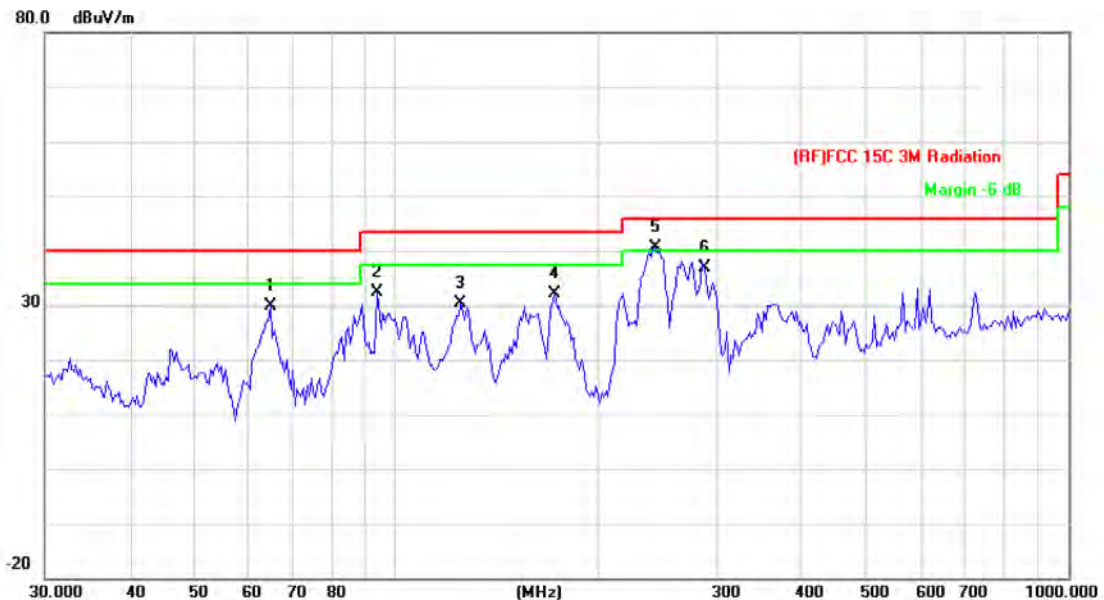
Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)

2. QuasiPeak (dBμV/m)= Corr. (dB/m)+ Read Level (dBμV)

3. Margin (dB) = QuasiPeak (dBμV/m)-Limit QPK(dBμV/m)

Temperature:	23.4°C	Relative Humidity:	43%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Vertical		
Test Mode:	TX B Mode 2412MHz		
Remark:	Only worst 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		64.8865	53.77	-23.82	29.95	40.00	-10.05	peak
2		93.4402	54.15	-21.89	32.26	43.50	-11.24	peak
3		124.5690	52.49	-22.23	30.26	43.50	-13.24	peak
4		171.9946	52.57	-20.40	32.17	43.50	-11.33	peak
5	*	242.5253	58.35	-17.63	40.72	46.00	-5.28	peak
6		286.9823	53.49	-16.54	36.95	46.00	-9.05	peak

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

Remark:

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

Above 1GHz

Temperature:	23.9℃	Relative Humidity:	41%					
Test Voltage:	AC 120V/60Hz							
Ant. Pol.	Horizontal							
Test Mode:	TX B Mode 2412MHz							
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4824.038	43.10	13.16	56.26	74.00	-17.74	peak
2	*	4824.044	32.88	13.16	46.04	54.00	-7.96	AVG
Remark:								
1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)								
2. Peak/AVG (dBμV/m)= Corr. (dB/m)+ Read Level (dBμV)								
3. Margin (dB) = Peak/AVG (dBμV/m)-Limit PK/AVG(dBμV/m)								
4. The tests evaluated1-26.5GHz,The testing has been conformed to the 10th harmonic of the highest fundamental frequency.								
5. No report for the emission which more than 20dB below the prescribed limit.								

Temperature:	23.9℃	Relative Humidity:	41%					
Test Voltage:	AC 120V/60Hz							
Ant. Pol.	Vertical							
Test Mode:	TX B Mode 2412MHz							
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4823.644	44.60	13.16	57.76	74.00	-16.24	peak
2	*	4823.884	37.66	13.16	50.82	54.00	-3.18	AVG
Remark:								
1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)								
2. Peak/AVG (dBμV/m)= Corr. (dB/m)+ Read Level (dBμV)								
3. Margin (dB) = Peak/AVG (dBμV/m)-Limit PK/AVG(dBμV/m)								
4. The tests evaluated1-26.5GHz,The testing has been conformed to the 10th harmonic of the highest fundamental frequency.								
5. No report for the emission which more than 20dB below the prescribed limit.								

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Horizontal		
Test Mode:	TX B Mode 2437MHz		

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Vertical		
Test Mode:	TX B Mode 2437MHz		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB Detector
1		4873.952	45.28	13.53	58.81	74.00	-15.19 peak
2	*	4874.062	38.69	13.53	52.22	54.00	-1.78 AVG

Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
2. Peak/AVG (dBμV/m)= Corr. (dB/m)+ Read Level (dBμV)
3. Margin (dB) = Peak/AVG (dBμV/m)-Limit PK/AVG(dBμV/m)
4. The tests evaluated1-26.5GHz,The testing has been conformed to the 10th harmonic of the highest fundamental frequency.
5. No report for the emission which more than 20dB below the prescribed limit.

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Horizontal		
Test Mode:	TX B Mode 2462MHz		

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Vertical		
Test Mode:	TX B Mode 2462MHz		

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Horizontal		
Test Mode:	TX G Mode 2412MHz		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4823.518	28.15	13.16	41.31	54.00	-12.69	AVG
2		4824.236	41.66	13.16	54.82	74.00	-19.18	peak

Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)

2. Peak/AVG (dBμV/m)= Corr. (dB/m)+ Read Level (dBμV)

3. Margin (dB) = Peak/AVG (dBμV/m)-Limit PK/AVG(dBμV/m)

4. The tests evaluated1-26.5GHz,The testing has been conformed to the 10th harmonic of the highest fundamental frequency.

5. No report for the emission which more than 20dB below the prescribed limit.

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Vertical		
Test Mode:	TX G Mode 2412MHz		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4824.146	31.73	13.16	44.89	54.00	-9.11	AVG
2		4824.246	45.03	13.16	58.19	74.00	-15.81	peak

Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
2. Peak/AVG (dBμV/m)= Corr. (dB/m)+ Read Level (dBμV)
3. Margin (dB) = Peak/AVG (dBμV/m)-Limit PK/AVG(dBμV/m)
4. The tests evaluated1-26.5GHz,The testing has been conformed to the 10th harmonic of the highest fundamental frequency.
5. No report for the emission which more than 20dB below the prescribed limit.

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Horizontal		
Test Mode:	TX G Mode 2437MHz		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4873.506	28.68	13.53	42.21	54.00	-11.79	AVG
2		4874.000	41.80	13.53	55.33	74.00	-18.67	peak

Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)

2. Peak/AVG (dBμV/m)= Corr. (dB/m)+ Read Level (dBμV)

3. Margin (dB) = Peak/AVG (dBμV/m)-Limit PK/AVG(dBμV/m)

4. The tests evaluated1-26.5GHz,The testing has been conformed to the 10th harmonic of the highest fundamental frequency.

5. No report for the emission which more than 20dB below the prescribed limit.

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Vertical		
Test Mode:	TX G Mode 2437MHz		
</			

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Horizontal		
Test Mode:	TX G Mode 2462MHz		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB Detector
1		4923.564	43.36	13.89	57.25	74.00	-16.75 peak
2	*	4924.098	30.18	13.89	44.07	54.00	-9.93 AVG

Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
2. Peak/AVG (dBμV/m)= Corr. (dB/m)+ Read Level (dBμV)
3. Margin (dB) = Peak/AVG (dBμV/m)-Limit PK/AVG(dBμV/m)
4. The tests evaluated1-26.5GHz,The testing has been conformed to the 10th harmonic of the highest fundamental frequency.
5. No report for the emission which more than 20dB below the prescribed limit.

Temperature:	23.9℃	Relative Humidity:	41%				
Test Voltage:	AC 120V/60Hz						
Ant. Pol.	Vertical						
Test Mode:	TX G Mode 2462MHz						
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB Detector
1	*	4923.600	32.48	13.89	46.37	54.00	-7.63 AVG
2		4923.776	44.41	13.89	58.30	74.00	-15.70 peak

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Horizontal		
Test Mode:	TX n(HT20) Mode 2412MHz		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB Detector
1		4824.292	41.36	13.16	54.52	74.00	-19.48 peak
2	*	4824.370	28.11	13.16	41.27	54.00	-12.73 AVG

Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
2. Peak/AVG (dBμV/m)= Corr. (dB/m)+ Read Level (dBμV)
3. Margin (dB) = Peak/AVG (dBμV/m)-Limit PK/AVG(dBμV/m)
4. The tests evaluated1-26.5GHz,The testing has been conformed to the 10th harmonic of the highest fundamental frequency.
5. No report for the emission which more than 20dB below the prescribed limit.

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Vertical		
Test Mode:	TX n(HT20) Mode 2412MHz		

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Horizontal		
Test Mode:	TX n(HT20) Mode 2437MHz		

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Vertical		
Test Mode:	TX n(HT20) Mode 2437MHz		

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Horizontal		
Test Mode:	TX n(HT20) Mode 2462MHz		

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Vertical		
Test Mode:	TX n(HT20) Mode 2462MHz		

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Horizontal		
Test Mode:	TX n(HT40) Mode 2422MHz		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB Detector
1		4844.182	42.06	13.31	55.37	74.00	-18.63 peak
2	*	4844.338	27.97	13.31	41.28	54.00	-12.72 AVG

Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
2. Peak/AVG (dBμV/m)= Corr. (dB/m)+ Read Level (dBμV)
3. Margin (dB) = Peak/AVG (dBμV/m)-Limit PK/AVG(dBμV/m)
4. The tests evaluated1-26.5GHz,The testing has been conformed to the 10th harmonic of the highest fundamental frequency.
5. No report for the emission which more than 20dB below the prescribed limit.

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Vertical		
Test Mode:	TX n(HT40) Mode 2422MHz		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB Detector
1		4843.512	43.90	13.30	57.20	74.00	-16.80 peak
2	*	4844.242	30.36	13.31	43.67	54.00	-10.33 AVG

Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)

2. Peak/AVG (dBμV/m)= Corr. (dB/m)+ Read Level (dBμV)

3. Margin (dB) = Peak/AVG (dBμV/m)-Limit PK/AVG(dBμV/m)

4. The tests evaluated1-26.5GHz,The testing has been conformed to the 10th harmonic of the highest fundamental frequency.

5. No report for the emission which more than 20dB below the prescribed limit.

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Horizontal		
Test Mode:	TX n(HT40) Mode 2437MHz		

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Vertical		
Test Mode:	TX n(HT40) Mode 2437MHz		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4873.686	30.66	13.53	44.19	54.00	-9.81	AVG
2		4873.958	44.41	13.53	57.94	74.00	-16.06	peak

Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)

2. Peak/AVG (dBμV/m)= Corr. (dB/m)+ Read Level (dBμV)

3. Margin (dB) = Peak/AVG (dBμV/m)-Limit PK/AVG(dBμV/m)

4. The tests evaluated1-26.5GHz,The testing has been conformed to the 10th harmonic of the highest fundamental frequency.

5. No report for the emission which more than 20dB below the prescribed limit.

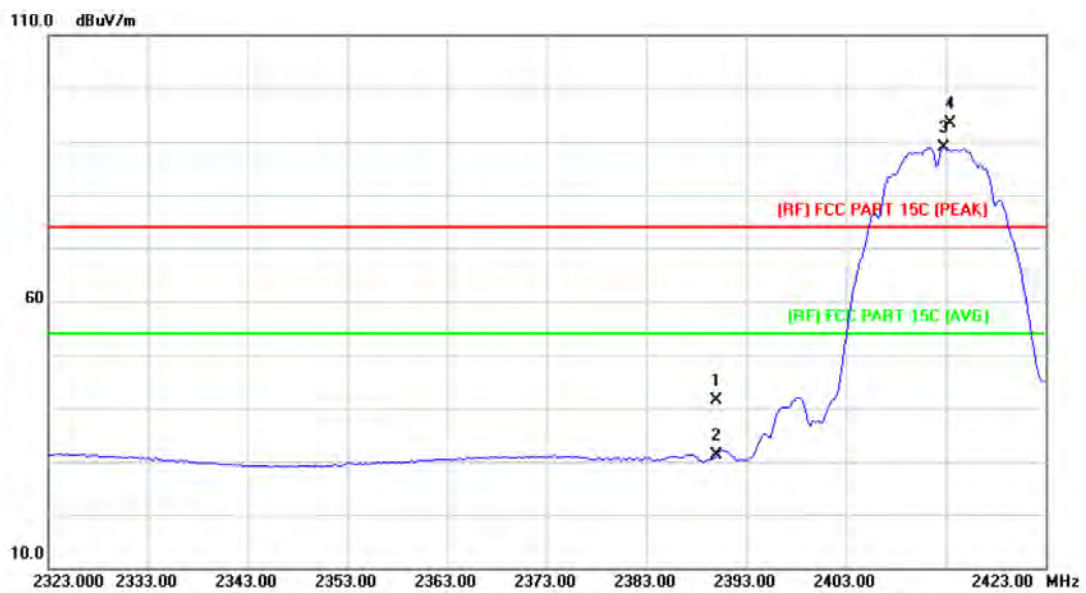
Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Horizontal		
Test Mode:	TX n(HT40) Mode 2452MHz		

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Vertical		
Test Mode:	TX n(HT40) Mode 2452MHz		

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

(1) Radiation Test

Temperature:	23.9°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	40.11	1.28	41.39	74.00	-32.61	peak
2		2390.000	29.88	1.28	31.16	54.00	-22.84	AVG
3	*	2412.800	87.53	1.40	88.93	Fundamental Frequency		AVG
4	X	2413.400	92.04	1.41	93.45	Fundamental Frequency		peak

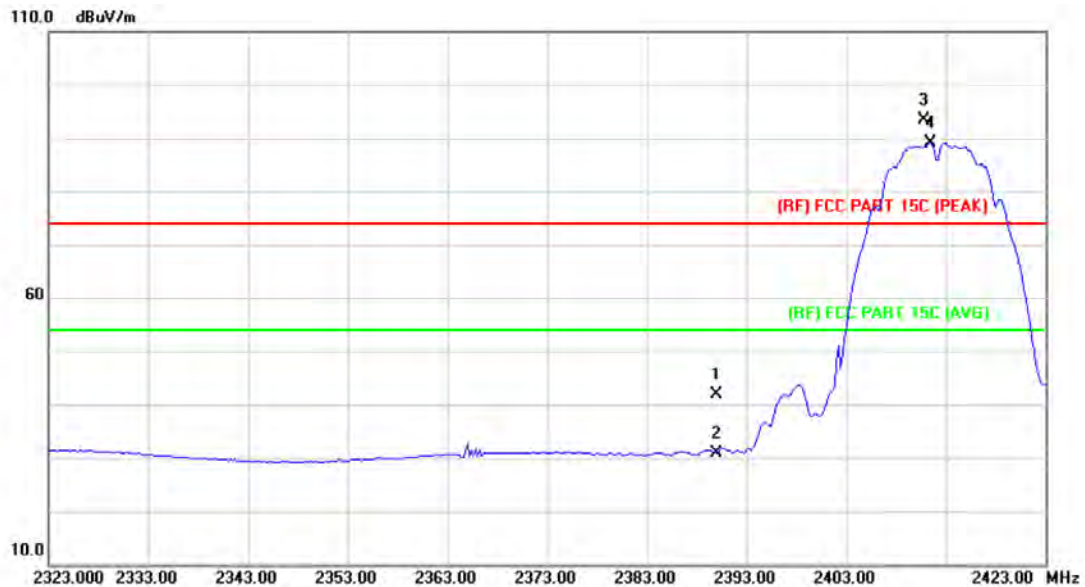
Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)

2. Peak/AVG (dBuV/m) = Corr. (dB/m) + Read Level (dBuV)

3. Margin (dB) = Peak/AVG (dBuV/m) - Limit PK/AVG (dBuV/m)

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Vertical		
Test Mode:	TX B Mode 2412MHz		
Remark:	Only show the worst case.		

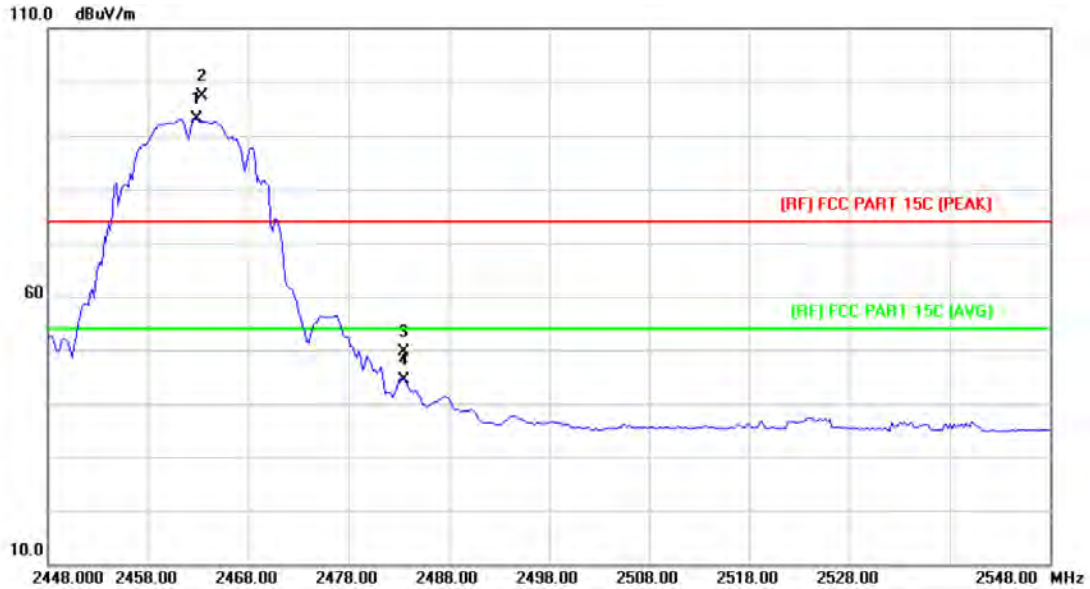


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		2390.000	40.50	1.28	41.78	74.00	-32.22	peak
2		2390.000	29.71	1.28	30.99	54.00	-23.01	AVG
3	X	2410.800	91.94	1.38	93.32	Fundamental Frequency		peak
4	*	2411.400	87.84	1.39	89.23	Fundamental Frequency		AVG

Remark:

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

Temperature:	23.9℃	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. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	*	2462.800	91.36	1.74	93.10	54.00	39.10	AVG
2	X	2463.400	95.73	1.75	97.48	74.00	23.48	peak
3		2483.500	47.69	1.88	49.57	Fundamental Frequency		peak
4		2483.500	42.52	1.88	44.40	Fundamental Frequency		AVG

Remark:

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

Temperature:	23.6°C	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Vertical		
Test Mode:	TX B Mode 2462MHz		
Remark:	Only show the worst case.		

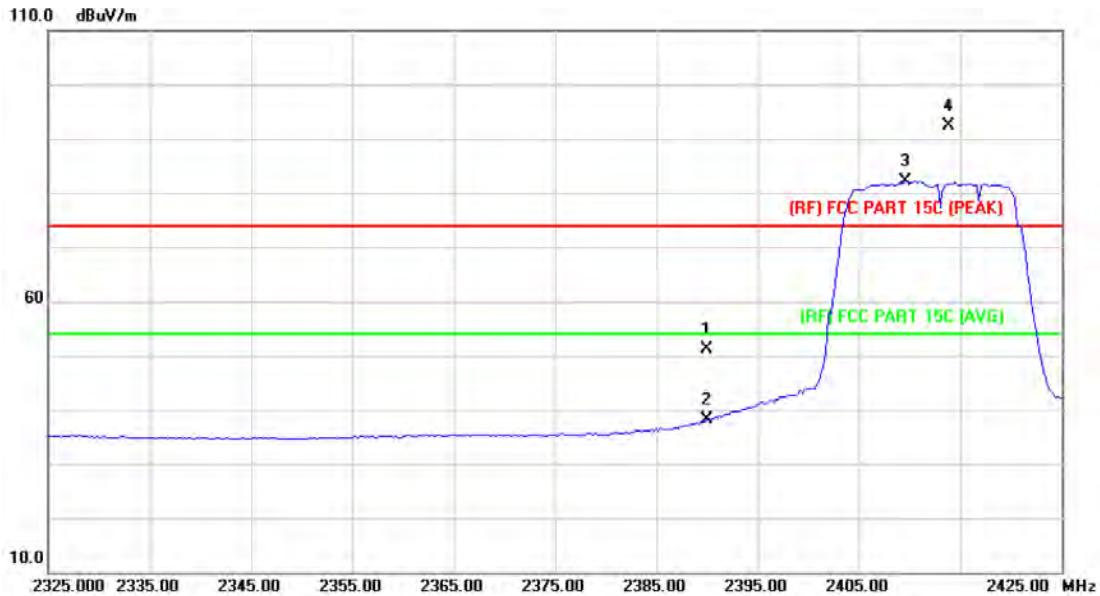


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	*	2461.200	89.51	1.73	91.24	Fundamental Frequency		AVG
2	X	2463.400	93.42	1.75	95.17	Fundamental Frequency		peak
3		2483.500	46.88	1.88	48.76	74.00	-25.24	peak
4		2483.500	39.72	1.88	41.60	54.00	-12.40	AVG

Remark:

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

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Horizontal		
Test Mode:	TX G Mode 2412MHz		
Remark:	Only show the worst case.		

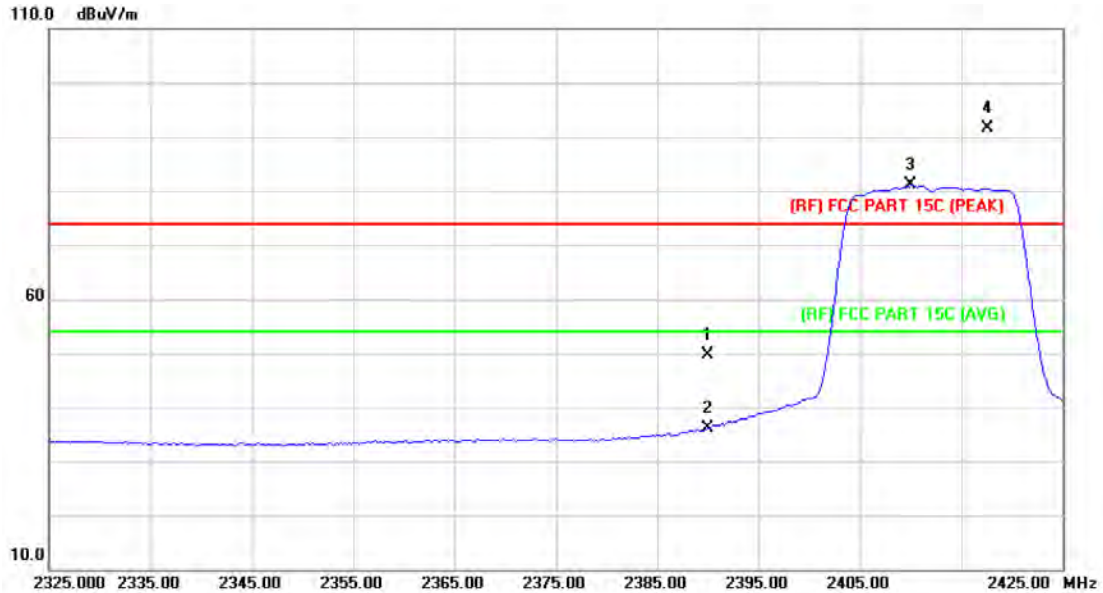


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		2390.000	49.97	1.28	51.25	74.00	-22.75	peak
2		2390.000	36.86	1.28	38.14	54.00	-15.86	AVG
3	*	2409.600	80.64	1.38	82.02	Fundamental Frequency		AVG
4	X	2413.800	90.89	1.41	92.30	Fundamental Frequency		peak

Remark:

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

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Vertical		
Test Mode:	TX G Mode 2412MHz		
Remark:	Only show the worst case.		

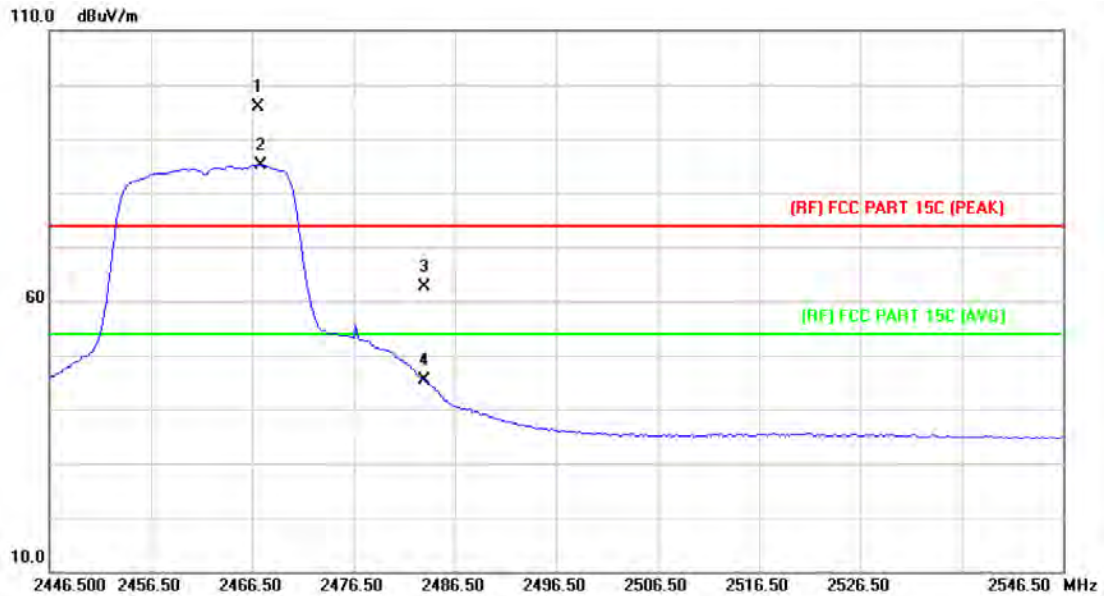


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		2390.000	48.27	1.28	49.55	74.00	-24.45	peak
2		2390.000	34.95	1.28	36.23	54.00	-17.77	AVG
3	*	2410.000	79.73	1.38	81.11	Fundamental Frequency		AVG
4	X	2417.600	90.10	1.44	91.54	Fundamental Frequency		peak

Remark:

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

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Horizontal		
Test Mode:	TX G Mode 2462MHz		
Remark:	Only show the worst case.		

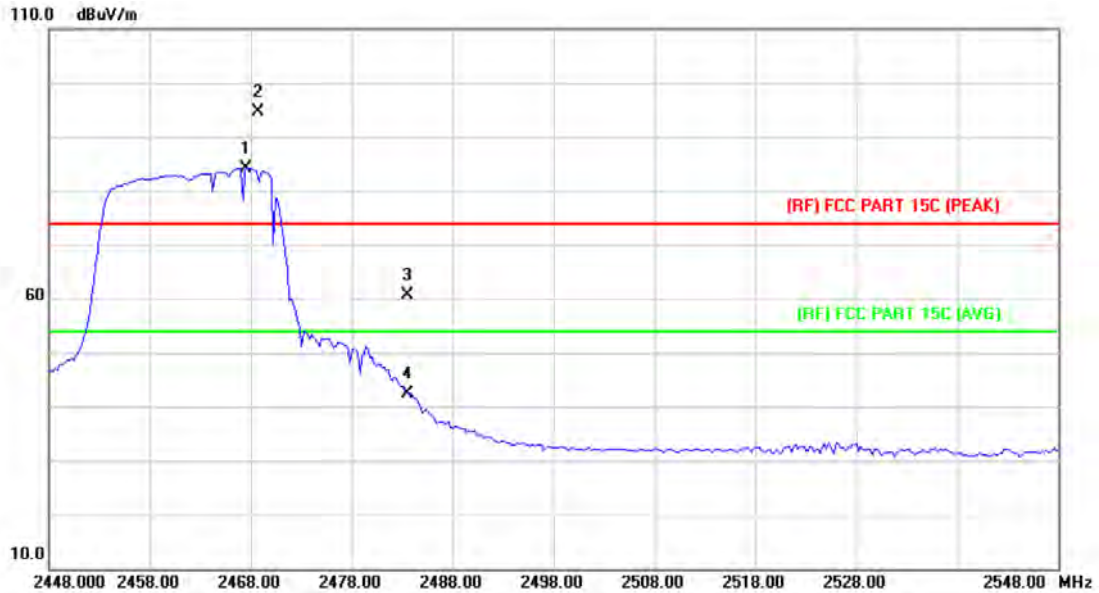


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	X	2467.100	94.09	1.78	95.87	Fundamental Frequency		peak
2	*	2467.300	83.43	1.78	85.21	Fundamental Frequency		AVG
3		2483.500	60.73	1.88	62.61	74.00	-11.39	peak
4		2483.500	43.48	1.88	45.36	54.00	-8.64	AVG

Remark:

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

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Vertical		
Test Mode:	TX G Mode 2462MHz		
Remark:	Only show the worst case.		

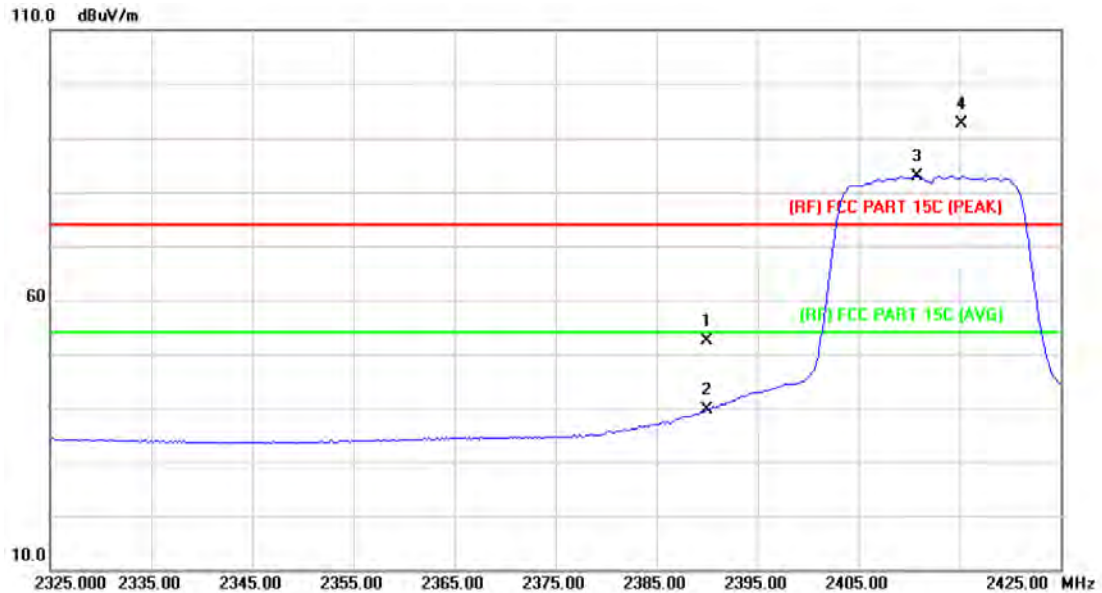


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	*	2467.600	82.38	1.78	84.16	Fundamental Frequency		AVG
2	X	2468.700	92.75	1.78	94.53	Fundamental Frequency		peak
3		2483.500	58.82	1.88	60.70	74.00	-13.30	peak
4		2483.500	40.62	1.88	42.50	54.00	-11.50	AVG

Remark:

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

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Horizontal		
Test Mode:	TX N(HT20) Mode 2412MHz		
Remark:	Only show the worst case.		

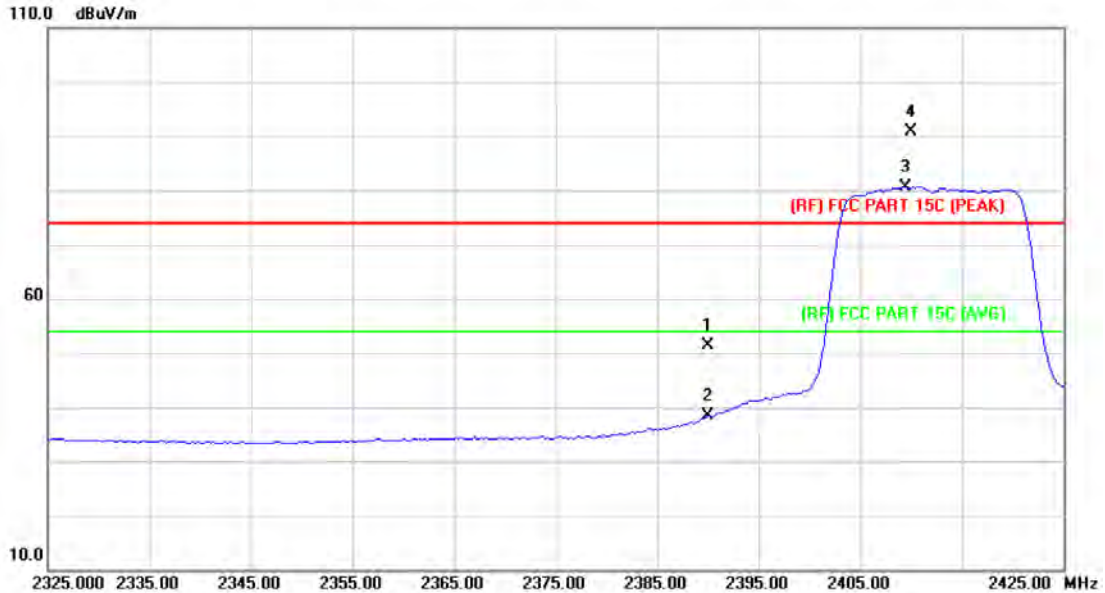


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		2390.000	51.04	1.28	52.32	74.00	-21.68	peak
2		2390.000	38.45	1.28	39.73	54.00	-14.27	AVG
3	*	2410.800	81.59	1.38	82.97	Fundamental Frequency		AVG
4	X	2415.200	91.21	1.42	92.63	Fundamental Frequency		peak

Remark:

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

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Vertical		
Test Mode:	TX N(HT20) Mode 2412MHz		
Remark:	Only show the worst case.		

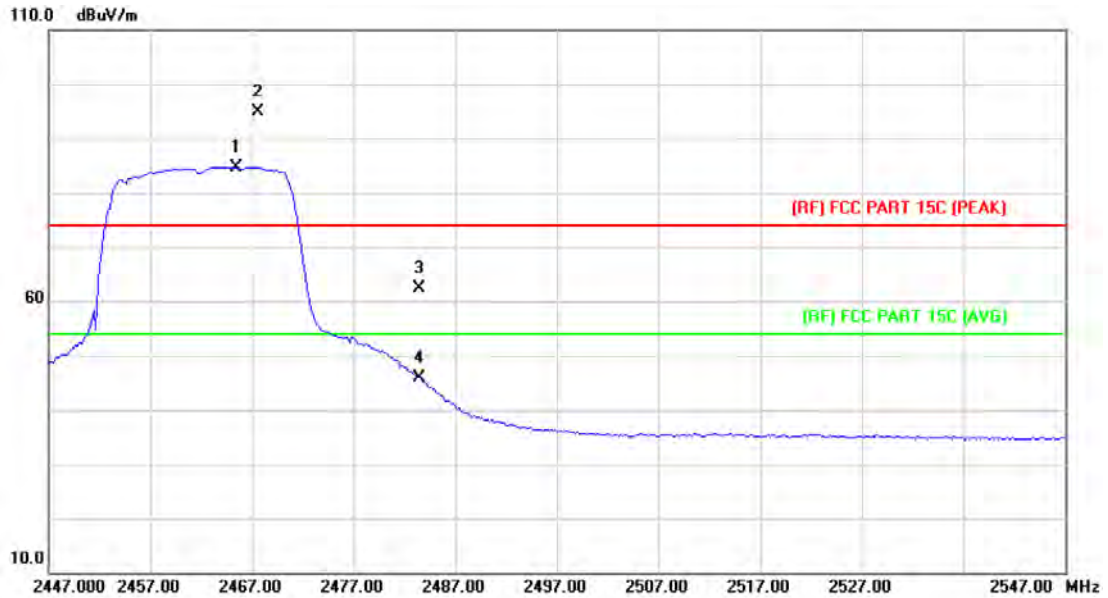


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		2390.000	50.08	1.28	51.36	74.00	-22.64	peak
2		2390.000	37.00	1.28	38.28	54.00	-15.72	AVG
3	*	2409.400	79.31	1.38	80.69	Fundamental Frequency		AVG
4	X	2410.000	89.46	1.38	90.84	Fundamental Frequency		peak

Remark:

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

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Horizontal		
Test Mode:	TX N(HT20) Mode 2462MHz		
Remark:	Only show the worst case.		

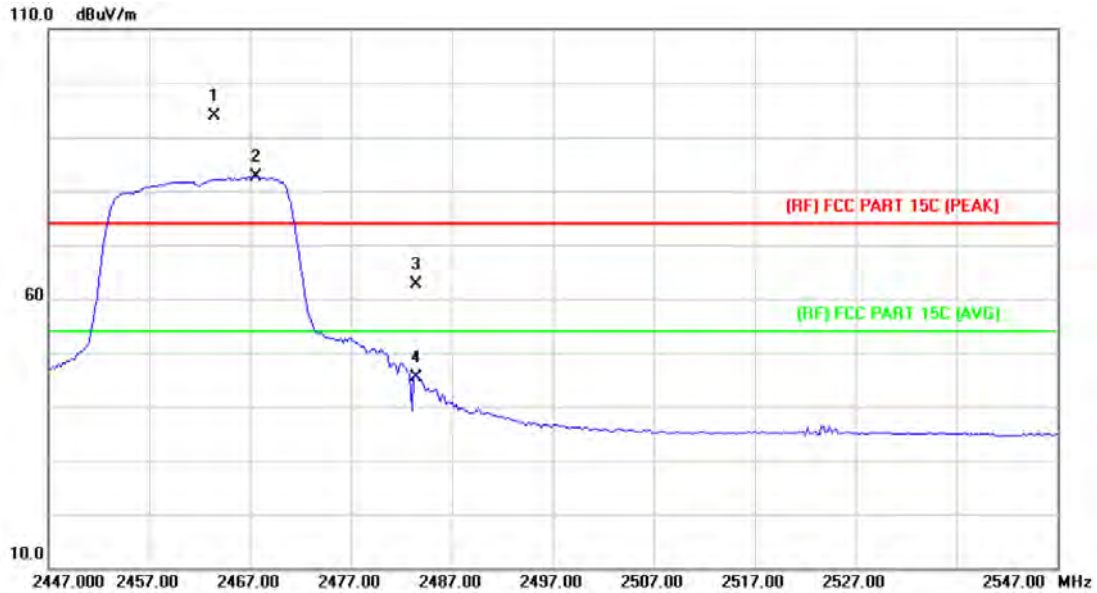


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	*	2465.400	82.96	1.76	84.72	Fundamental Frequency		AVG
2	X	2467.600	93.22	1.78	95.00	Fundamental Frequency		peak
3		2483.500	60.61	1.88	62.49	74.00	-11.51	peak
4		2483.500	43.88	1.88	45.76	54.00	-8.24	AVG

Remark:

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

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Vertical		
Test Mode:	TX N(HT20) Mode 2462MHz		
Remark:	Only show the worst case.		

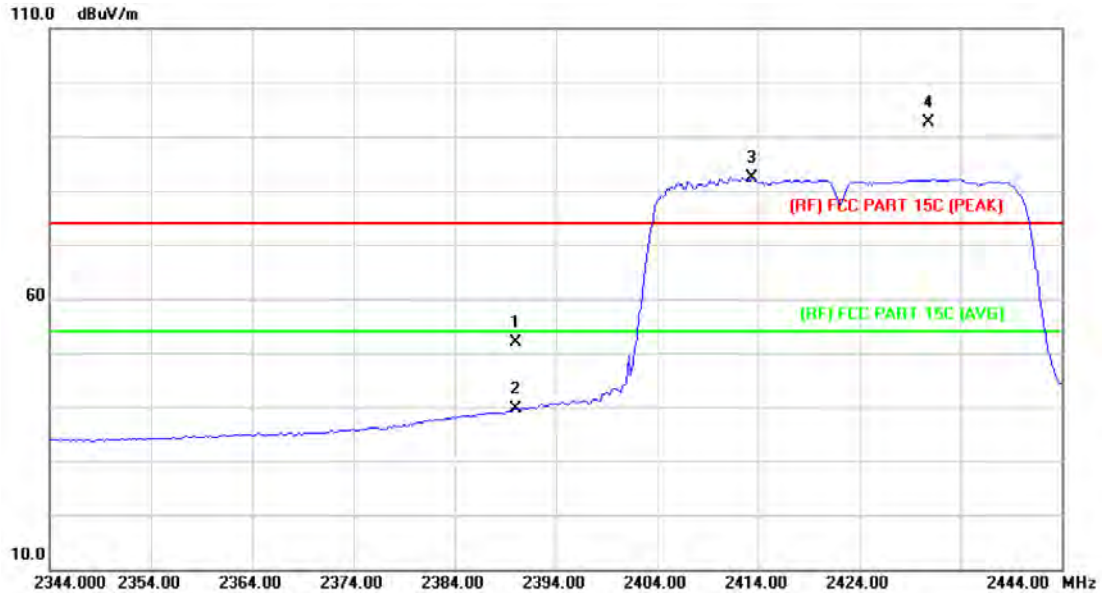


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	X	2463.400	92.10	1.75	93.85	Fundamental Frequency		peak
2	*	2467.600	80.80	1.78	82.58	Fundamental Frequency		AVG
3		2483.500	60.78	1.88	62.66	74.00	-11.34	peak
4		2483.500	43.50	1.88	45.38	54.00	-8.62	AVG

Remark:

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

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Horizontal		
Test Mode:	TX N(HT40) Mode 2422MHz		
Remark:	Only show the worst case.		

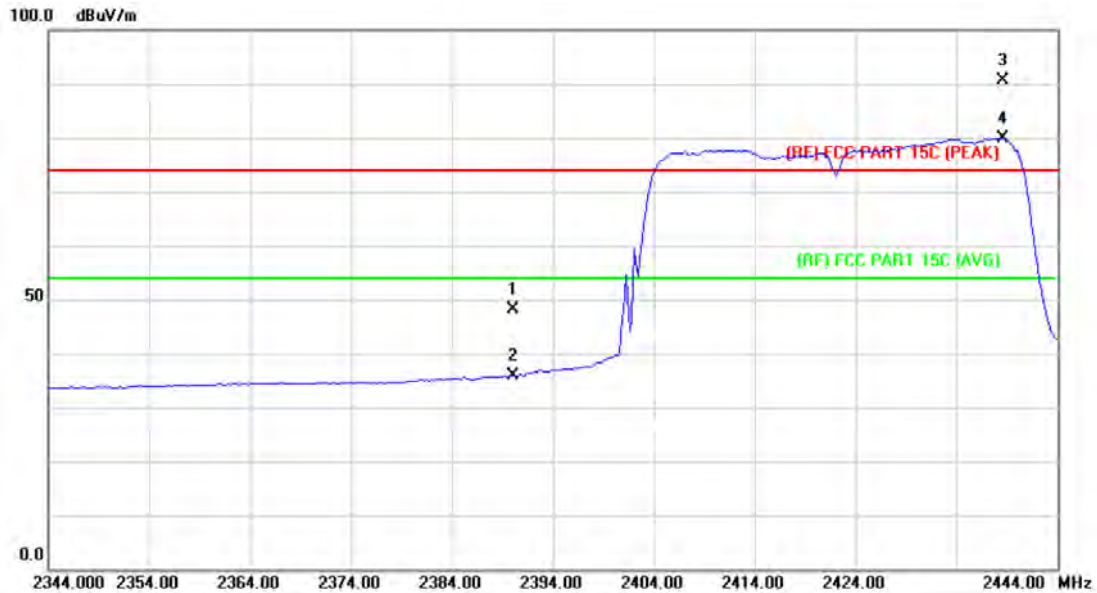


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		2390.000	50.61	1.28	51.89	74.00	-22.11	peak
2		2390.000	38.26	1.28	39.54	54.00	-14.46	AVG
3	*	2413.400	81.00	1.41	82.41	Fundamental Frequency		AVG
4	X	2430.800	91.23	1.52	92.75	Fundamental Frequency		peak

Remark:

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

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Vertical		
Test Mode:	TX N(HT40) Mode 2422MHz		
Remark:	Only show the worst case.		

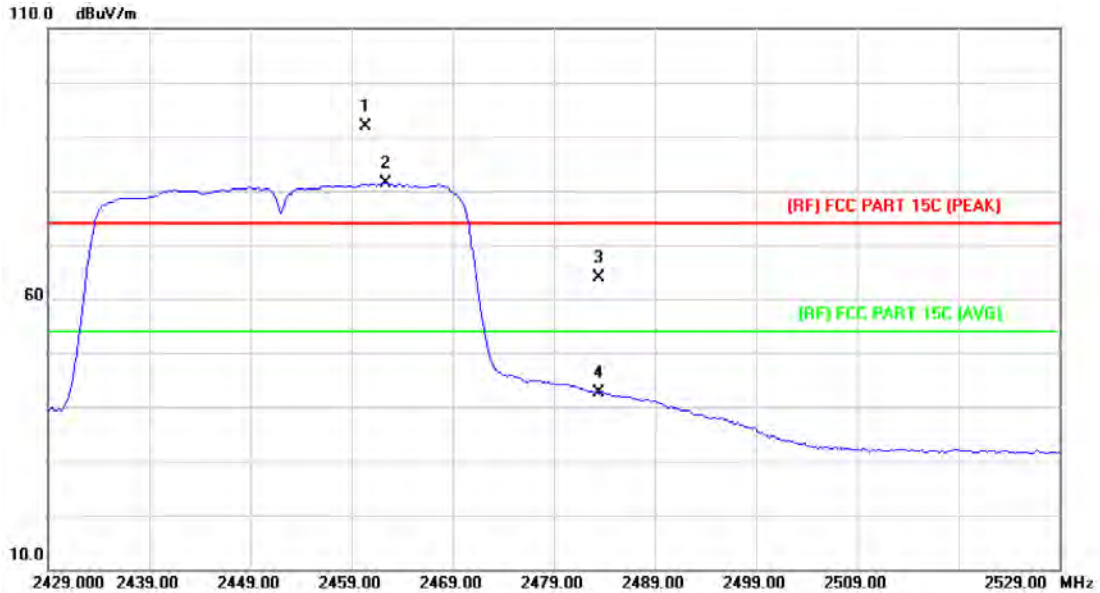


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		2390.000	46.76	1.28	48.04	74.00	-25.96	peak
2		2390.000	34.62	1.28	35.90	54.00	-18.10	AVG
3	X	2438.600	88.95	1.58	90.53	Fundamental Frequency		peak
4	*	2438.600	78.28	1.58	79.86	Fundamental Frequency		AVG

Remark:

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

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Horizontal		
Test Mode:	TX N(HT40) Mode 2452MHz		
Remark:	Only show the worst case.		

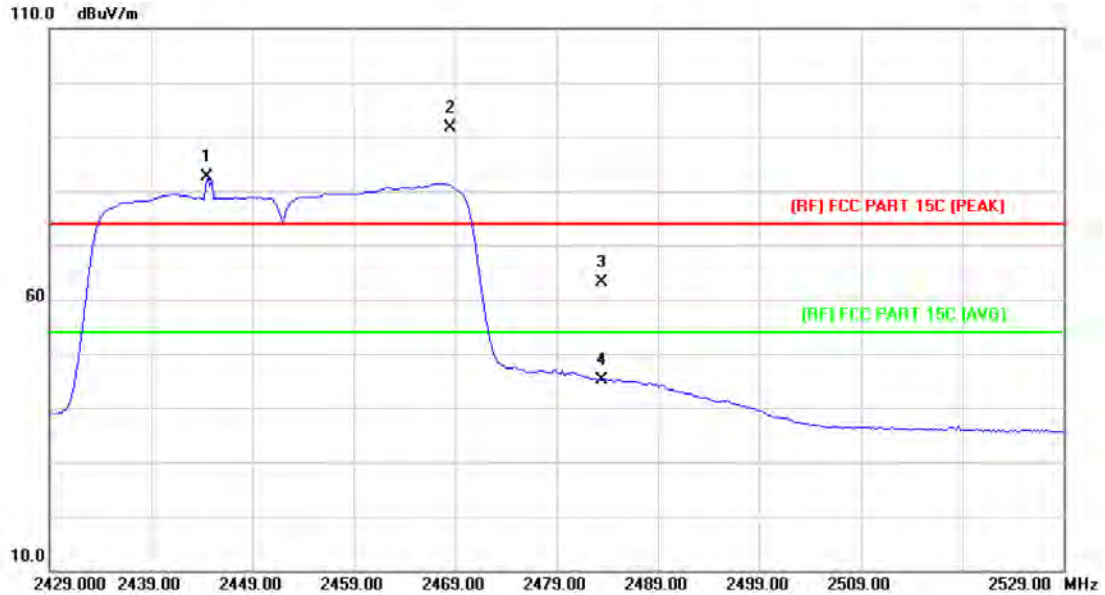


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	X	2460.400	90.13	1.72	91.85	Fundamental Frequency		peak
2	*	2462.400	79.69	1.73	81.42	Fundamental Frequency		AVG
3		2483.500	62.09	1.88	63.97	74.00	-10.03	peak
4		2483.500	40.87	1.88	42.75	54.00	-11.25	AVG

Remark:

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

Temperature:	23.9℃	Relative Humidity:	41%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Vertical		
Test Mode:	TX N(HT40) Mode 2452MHz		
Remark:	Only show the worst case.		



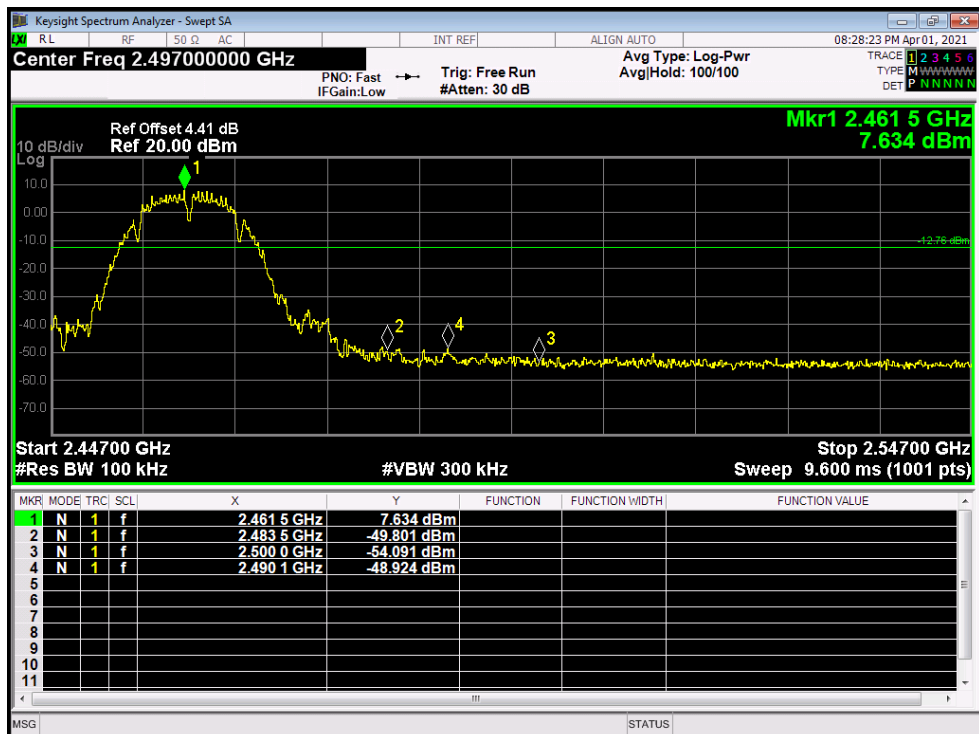
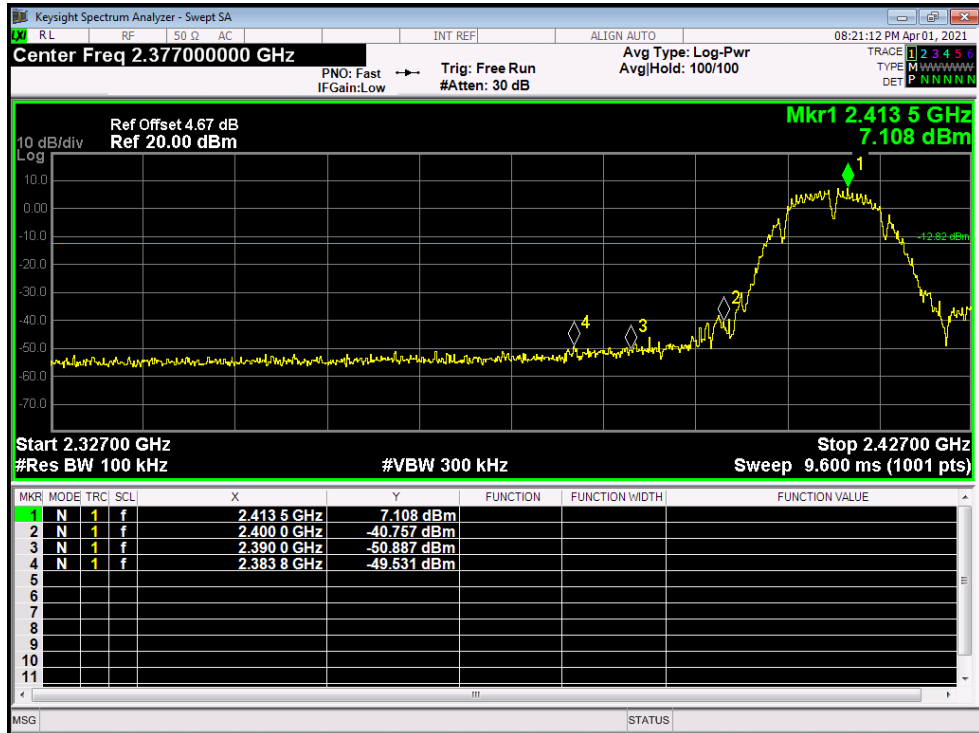
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	*	2444.600	81.08	1.61	82.69	Fundamental Frequency		AVG
2	X	2468.600	89.73	1.78	91.51	Fundamental Frequency		peak
3		2483.500	61.15	1.88	63.03	74.00	-10.97	peak
4		2483.500	43.37	1.88	45.25	54.00	-8.75	AVG

Remark:

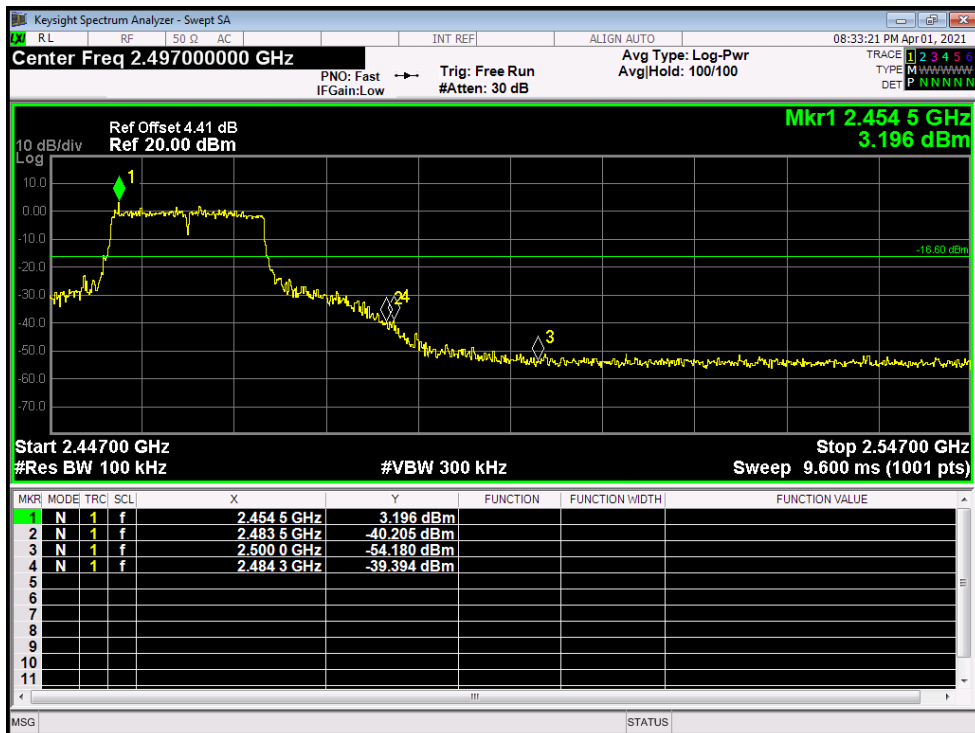
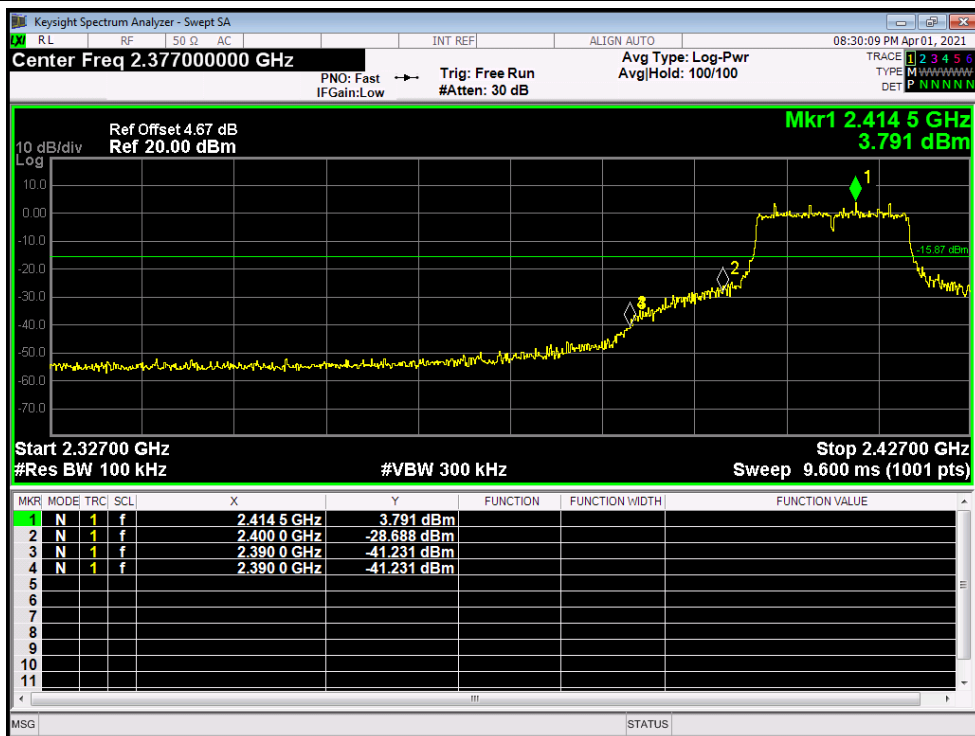
1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
2. Peak/AVG (dBuV/m)= Corr. (dB/m)+ Read Level (dBuV)
3. Margin (dB) = Peak/AVG (dBuV/m)-Limit PK/AVG(dBuV/m)

(2) Conducted Test

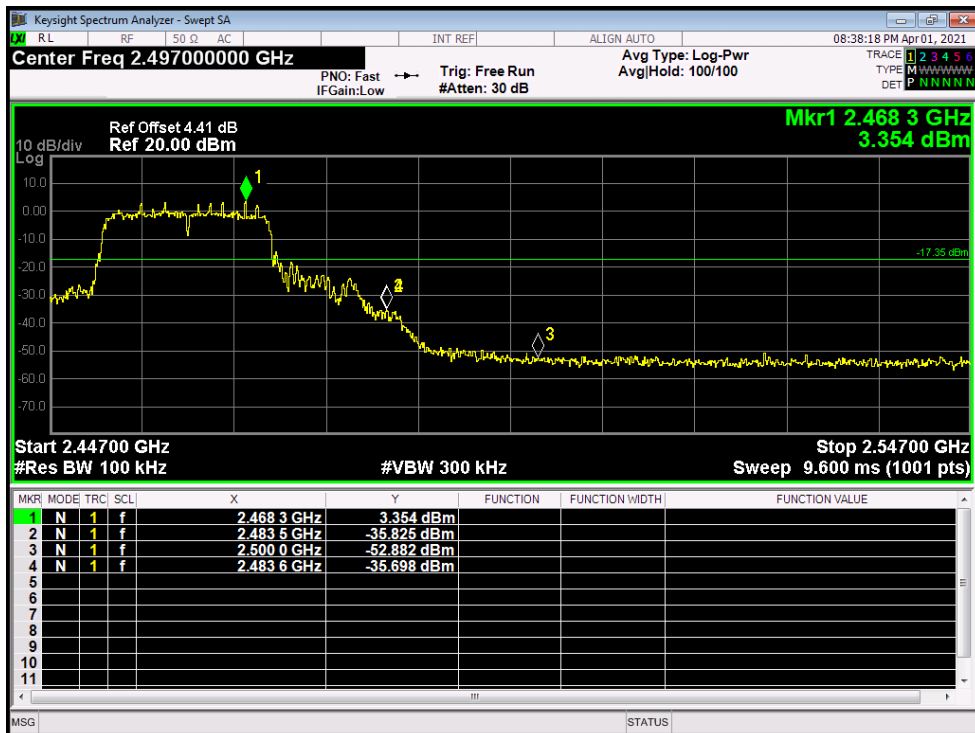
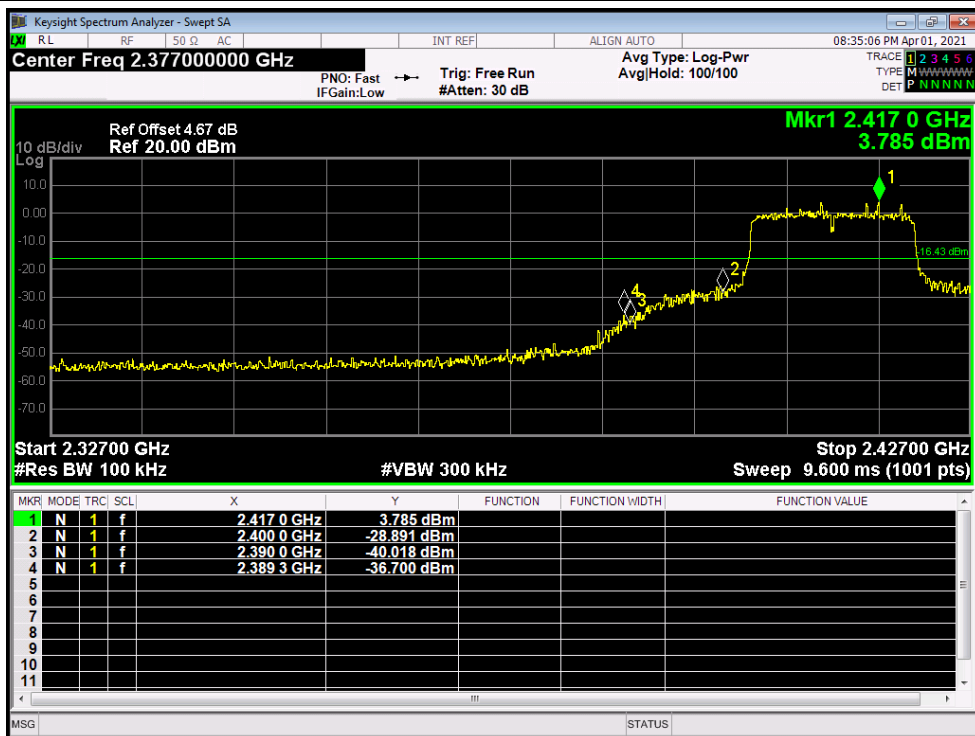
Temperature:	25°C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Test Mode:	TX B Mode 2412MHz / TX B Mode 2462MHz		
Remark:	The EUT is programmed in continuously transmitting mode		



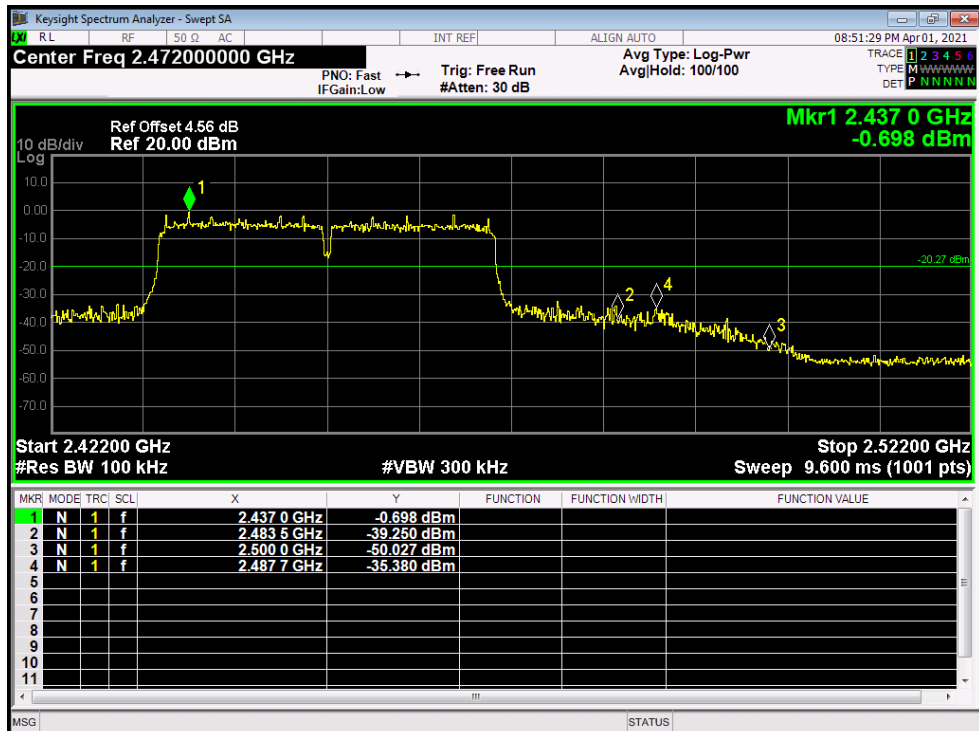
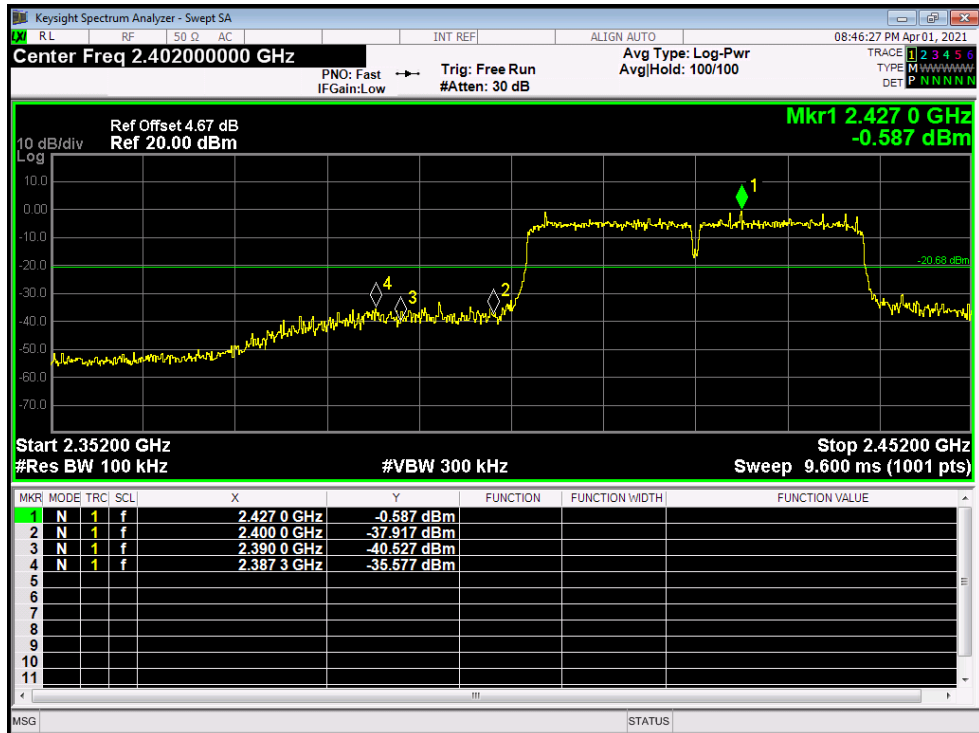
Temperature:	25°C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Test Mode:	TX G Mode 2412MHz / TX G Mode 2462MHz		
Remark:	The EUT is programmed in continuously transmitting mode		



Temperature:	25°C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Test Mode:	TX N(HT20) Mode 2412MHz / TX N(HT20) Mode 2462MHz		
Remark:	The EUT is programmed in continuously transmitting mode		



Temperature:	25°C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Test Mode:	TX N(HT40) Mode 2422MHz / TX N(HT40) Mode 2452MHz		
Remark:	The EUT is programmed in continuously transmitting mode		



Attachment D-- Bandwidth Test Data

Temperature:	25°C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Test Mode:	TX 802.11b Mode		
Channel frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)
2412	9.764	/	>=0.5
2437	9.048	/	
2462	9.058	/	

802.11b Mode

2412 MHz Bandwidth

Keysight Spectrum Analyzer - Occupied BW

RLRF50ΩACINT REFALIGN AUTOTime: 08:20:27 PM Apr 01, 2021

Center Freq 2.412000000 GHzCenter Freq: 2.412000000 GHzTrig: Free RunAvg/Hold: 100/100Radio Std: None

#IF Gain: Low#Atten: 30 dBRadio Device: BTS

Ref Offset 4.67 dBRef 24.67 dBm

Mkr3 2.416995 GHz-1.0718 dBm

10 dB/divLog

14.7

4.67

-5.33

-15.3

-25.3

-35.3

-45.3

-55.3

-65.3

Center 2.412 GHz#Res BW 100 kHz

#VBW 300 kHz

Span 30 MHzSweep 3.333 ms

Occupied Bandwidth

13.290 MHz

Total Power

22.4 dBm

Transmit Freq Error

112.80 kHz

% of OBW Power

99.00 %

x dB Bandwidth

9.764 MHz

x dB

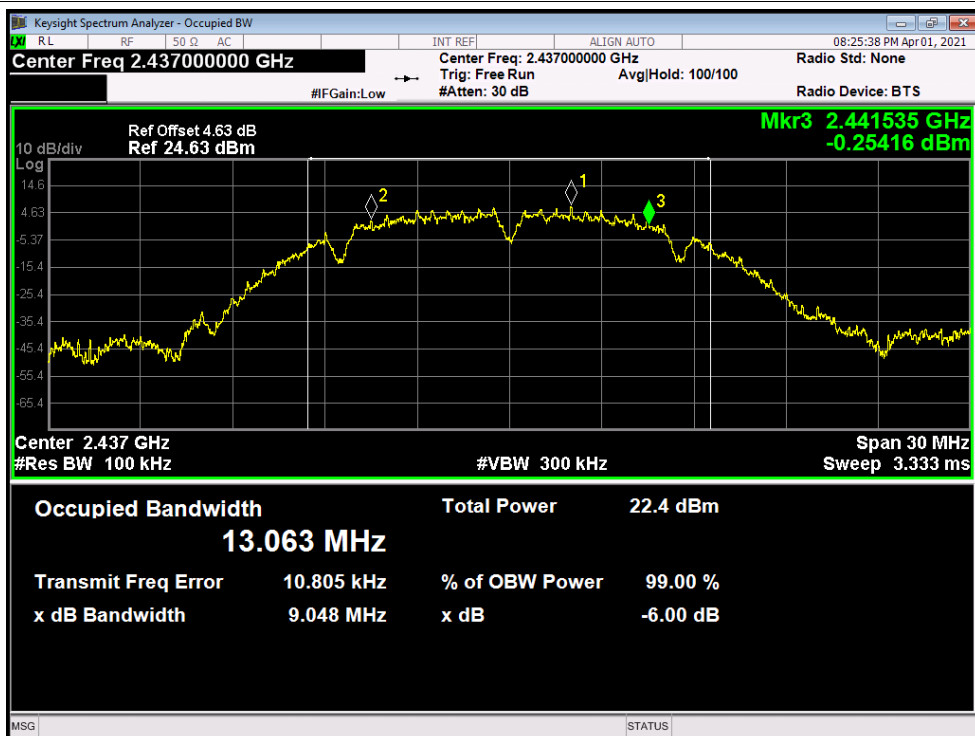
-6.00 dB

MSG

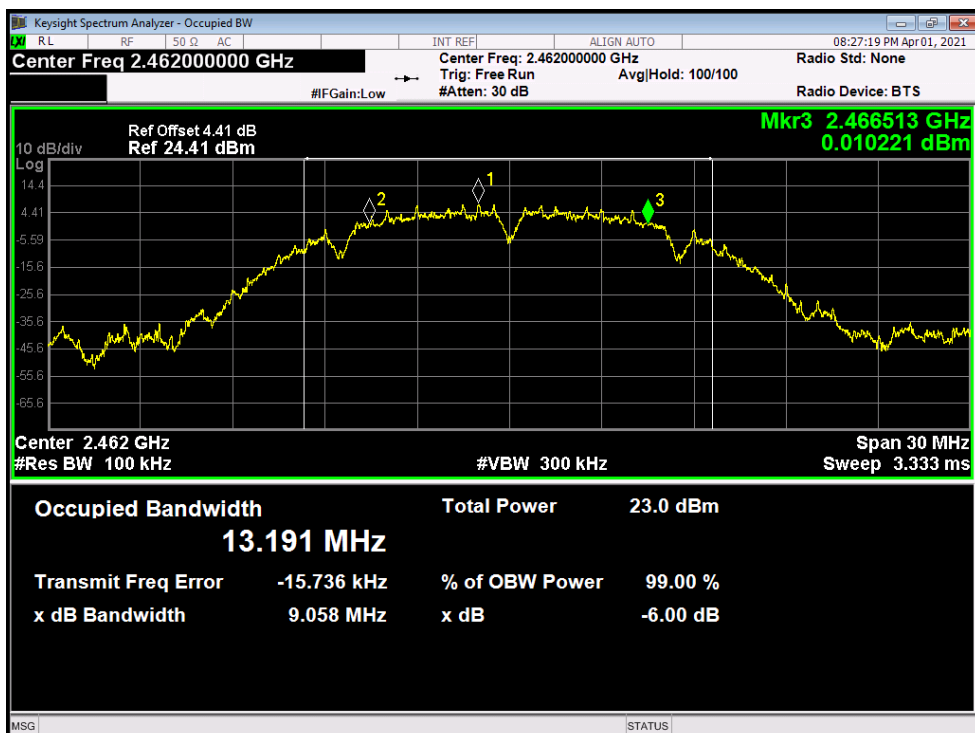
STATUS

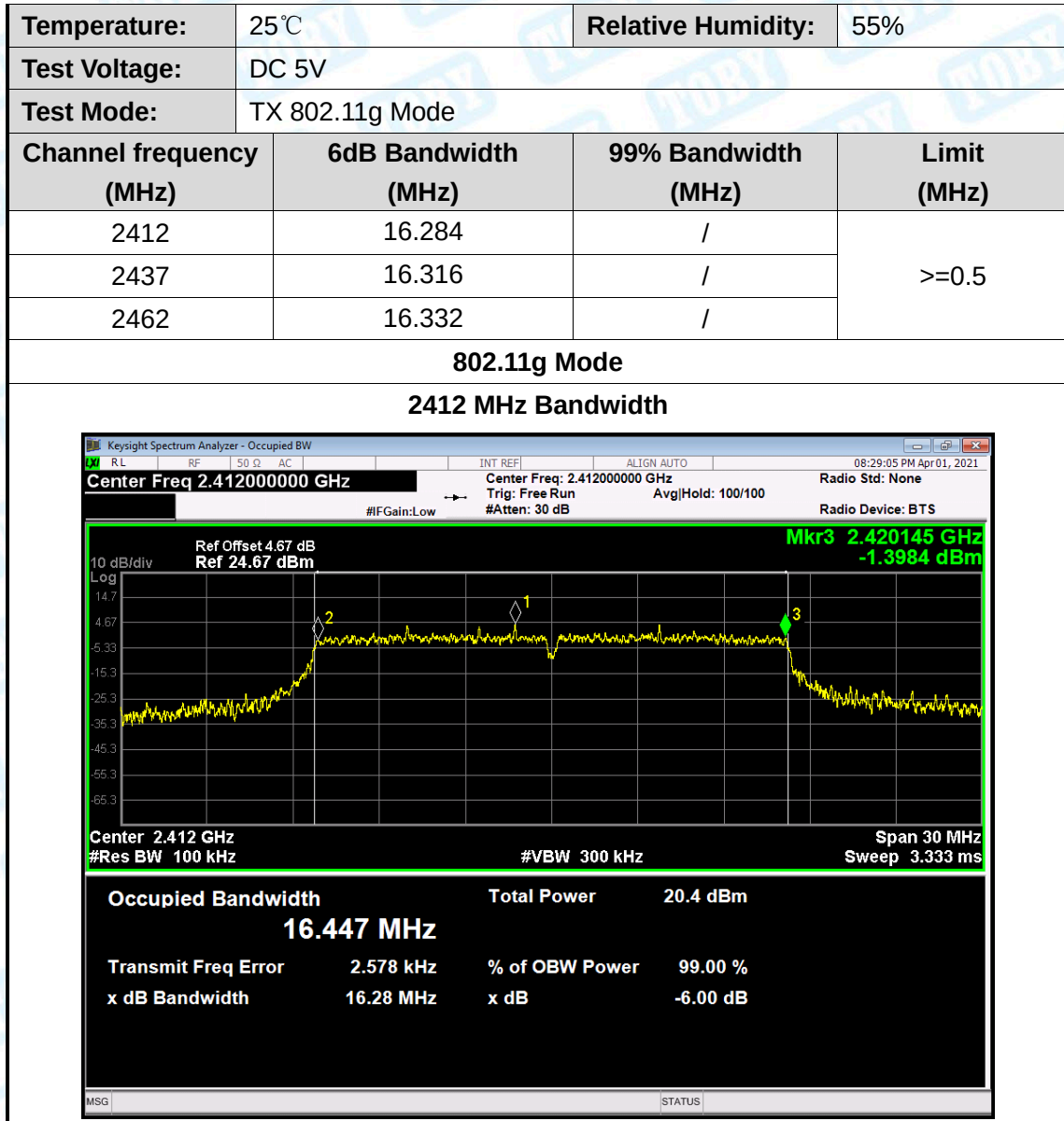
802.11b Mode

2437 MHz Bandwidth



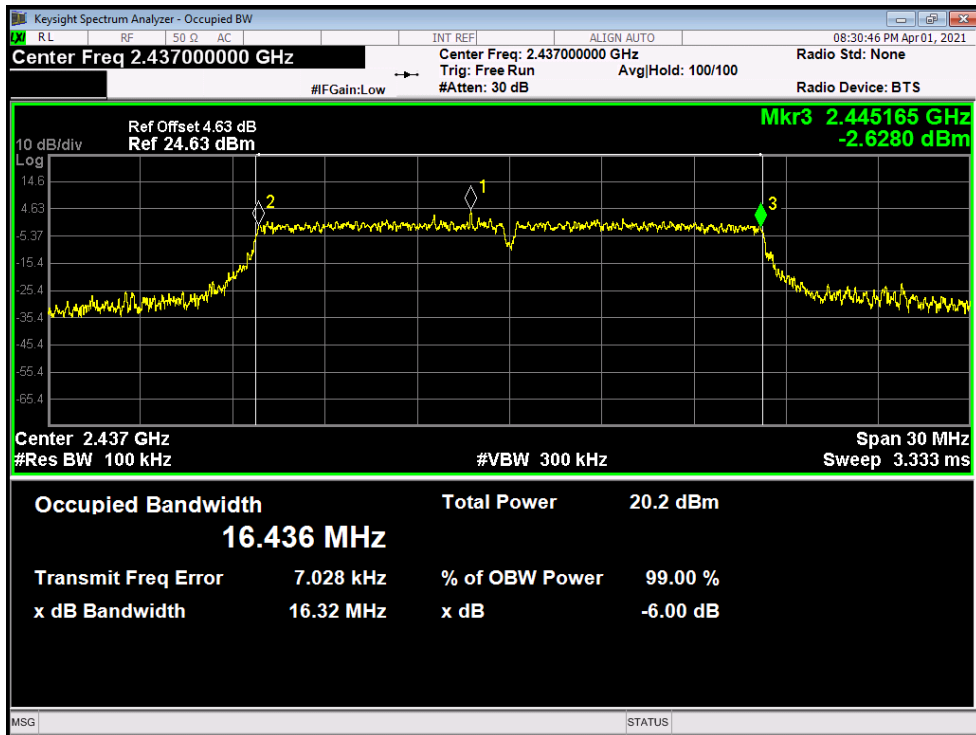
2462 MHz Bandwidth



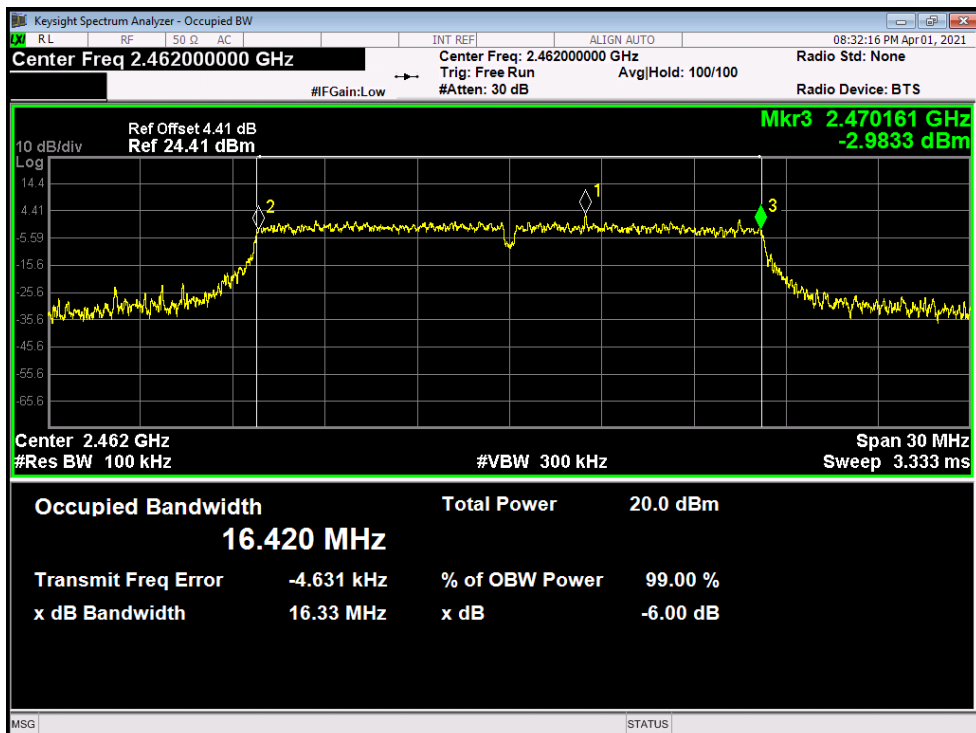


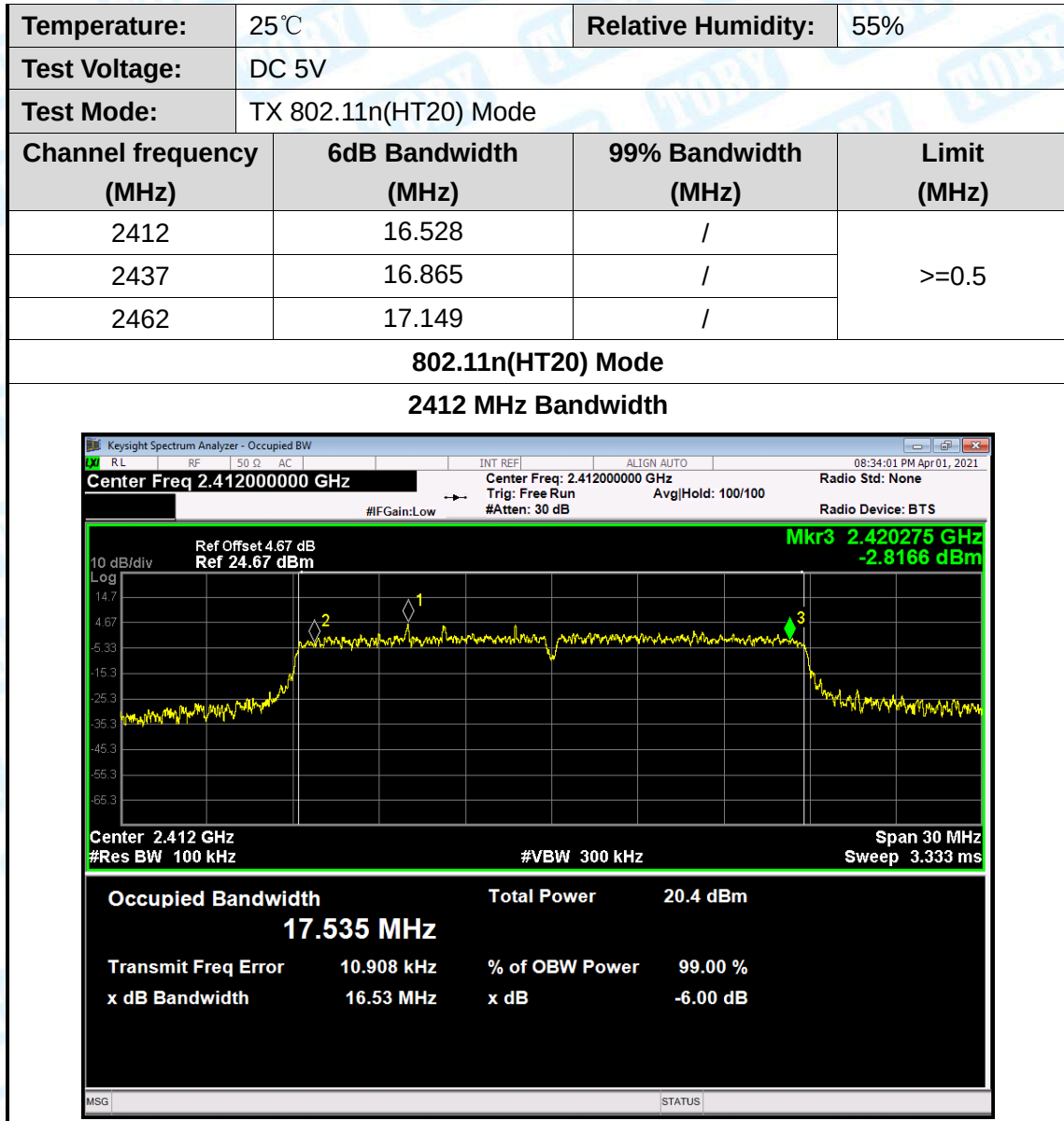
802.11g Mode

2437 MHz Bandwidth



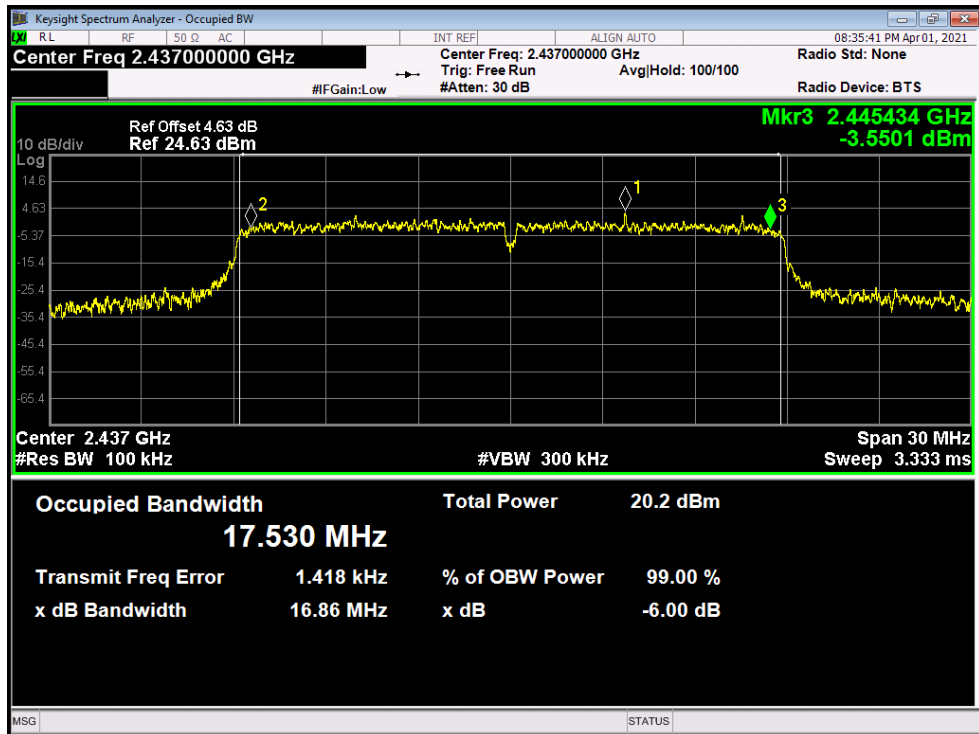
2462 MHz Bandwidth



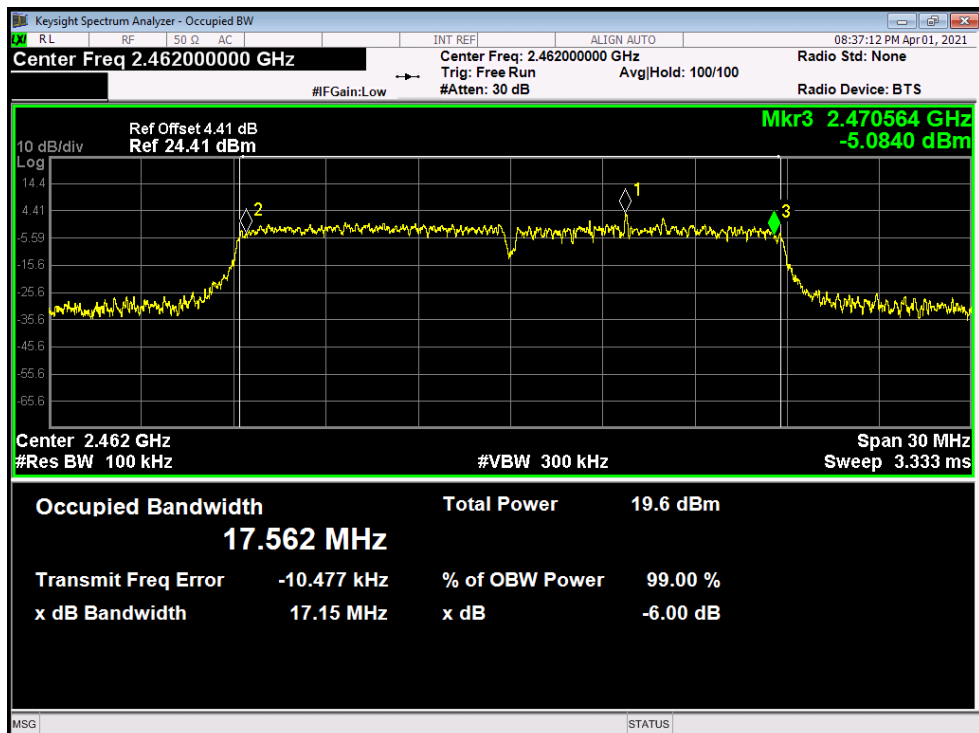


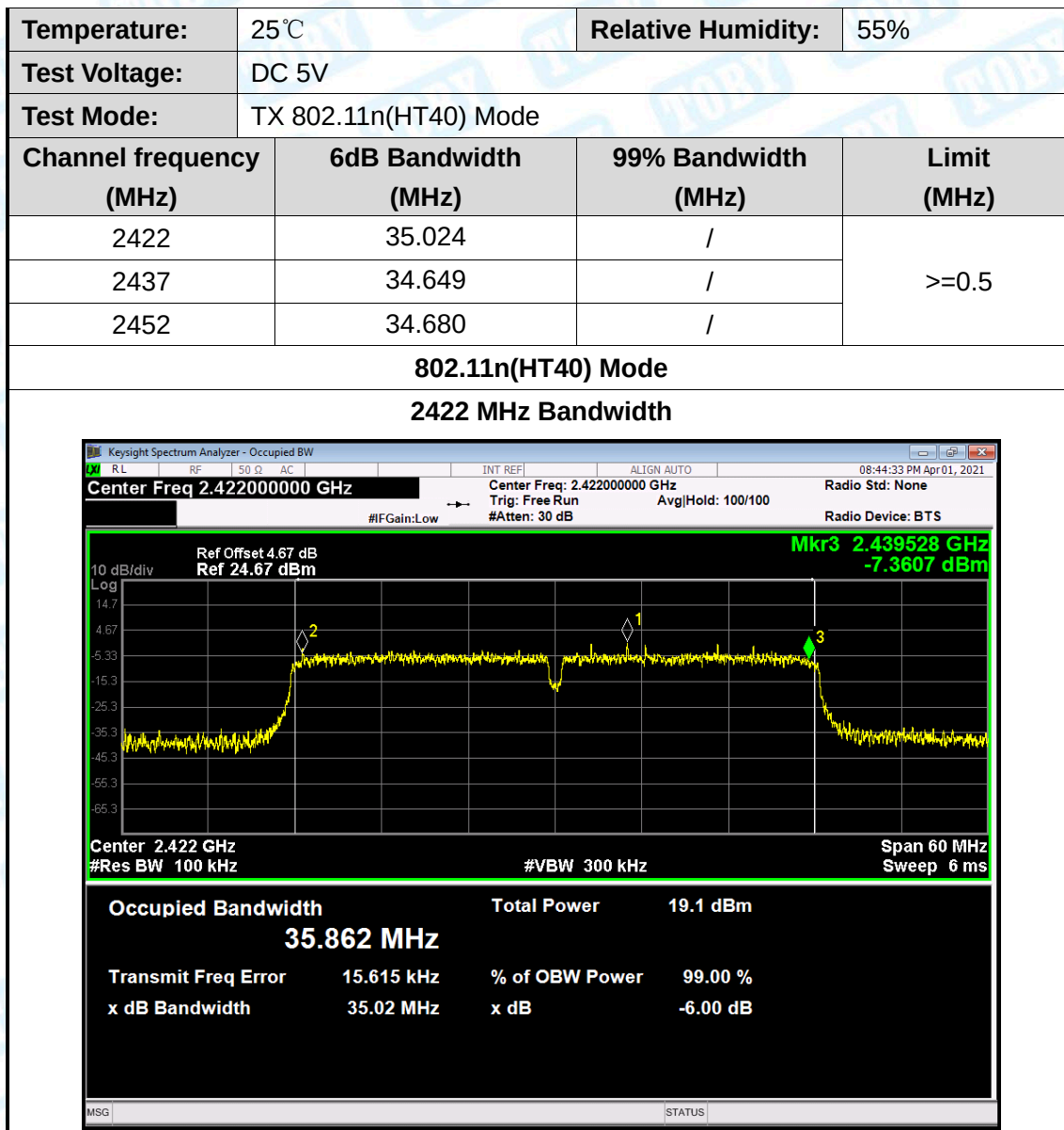
802.11n(HT20) Mode

2437 MHz Bandwidth



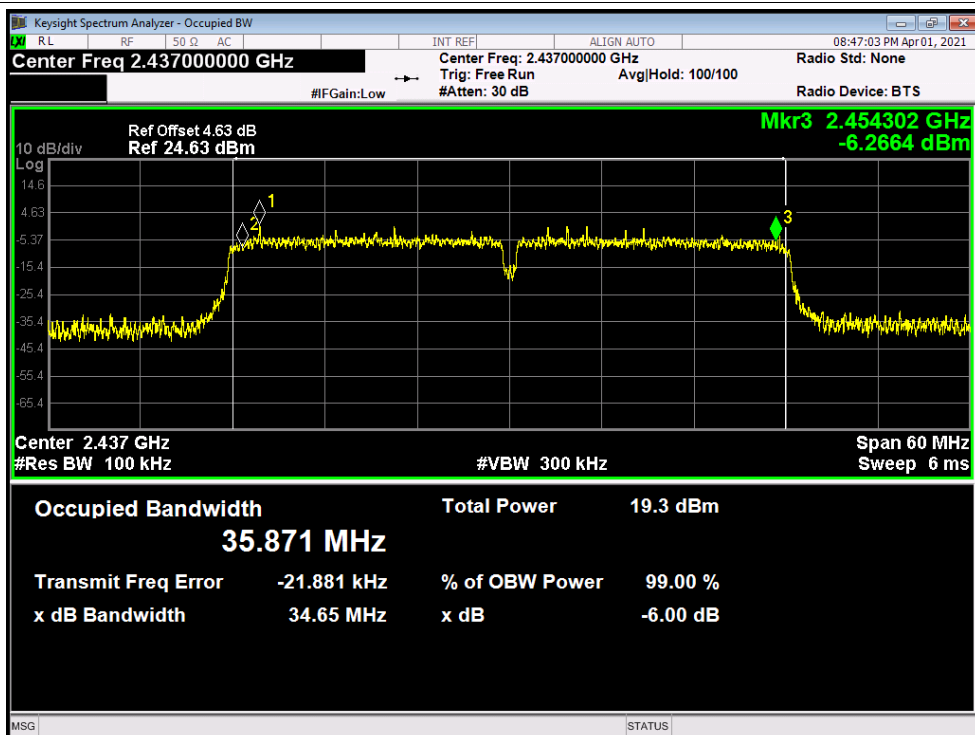
2462 MHz Bandwidth



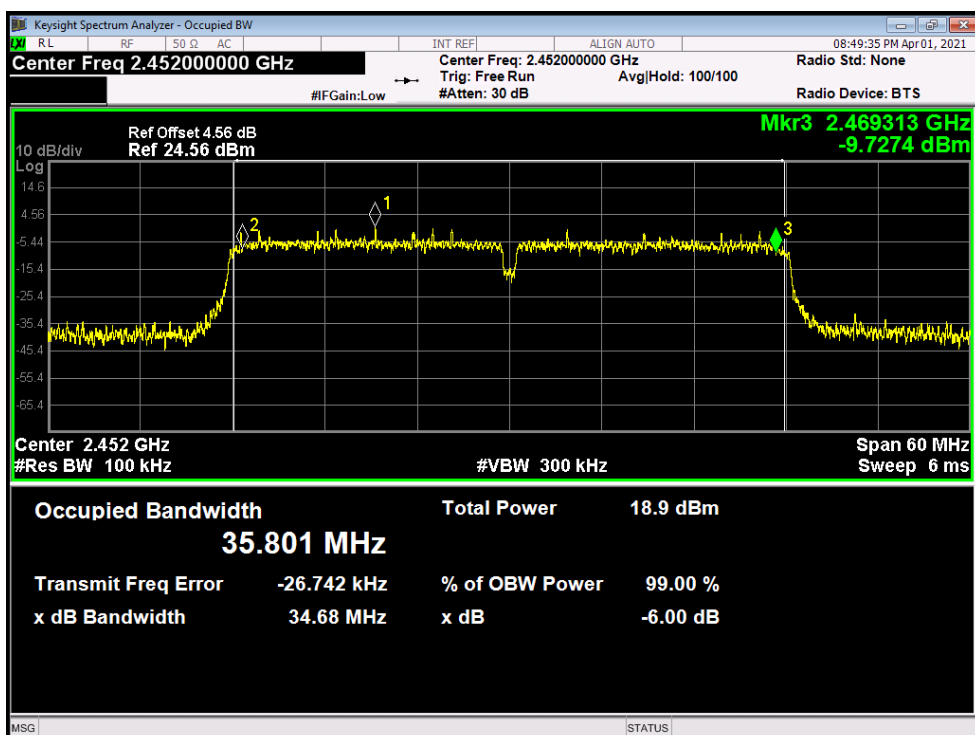


802.11n(HT40) Mode

2437 MHz Bandwidth



2452 MHz Bandwidth

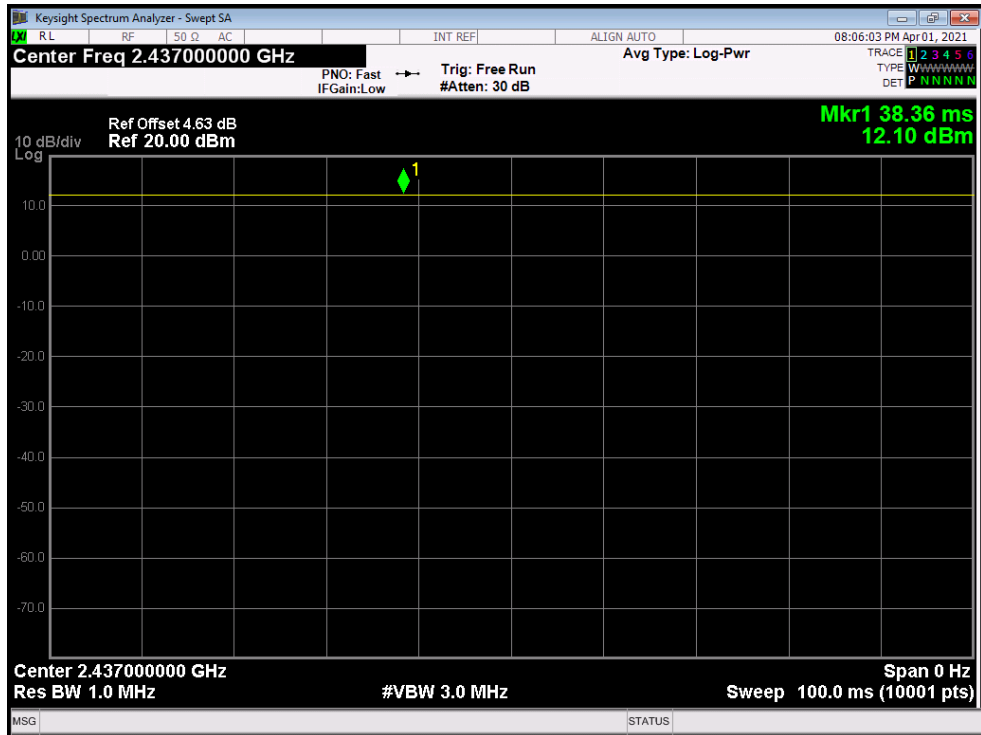


Attachment E-- Peak Output Power and E.I.R.P Data

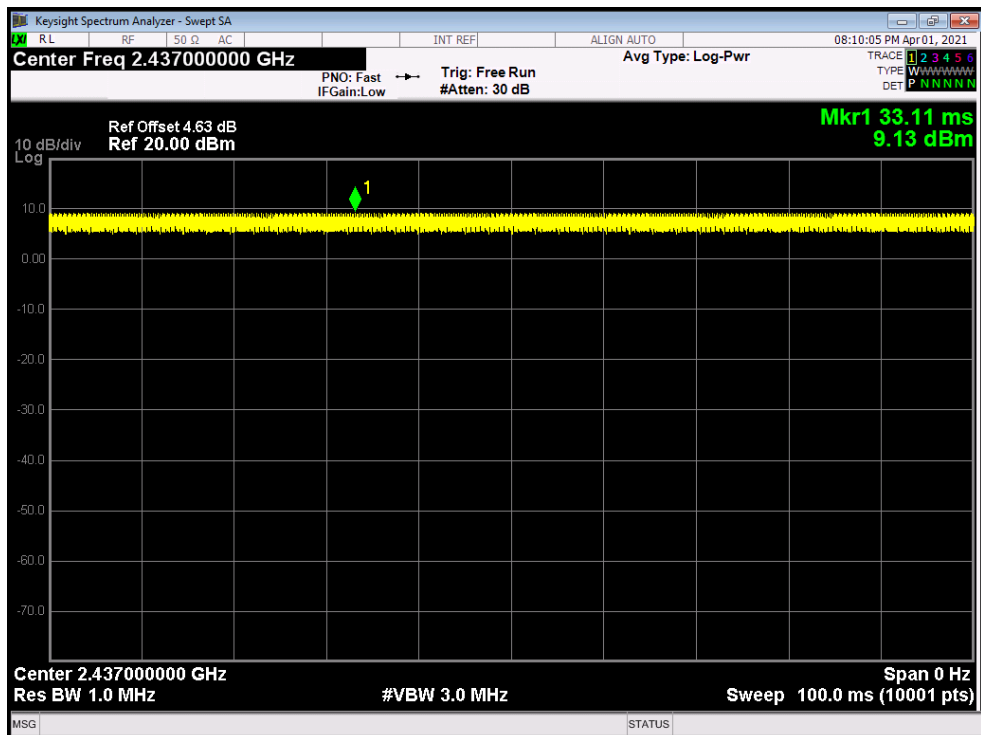
Test Conditions:		Continuous Transmitting Mode	
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Mode	Channel frequency (MHz)	Test Result (dBm)	Limit (dBm)
802.11b	2412	18.082	30
	2437	17.665	
	2462	18.304	
802.11g	2412	19.154	
	2437	19.114	
	2462	18.847	
802.11n (HT20)	2412	18.561	
	2437	19.160	
	2462	18.658	
802.11n (HT40)	2422	17.441	
	2437	17.847	
	2452	17.380	
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		

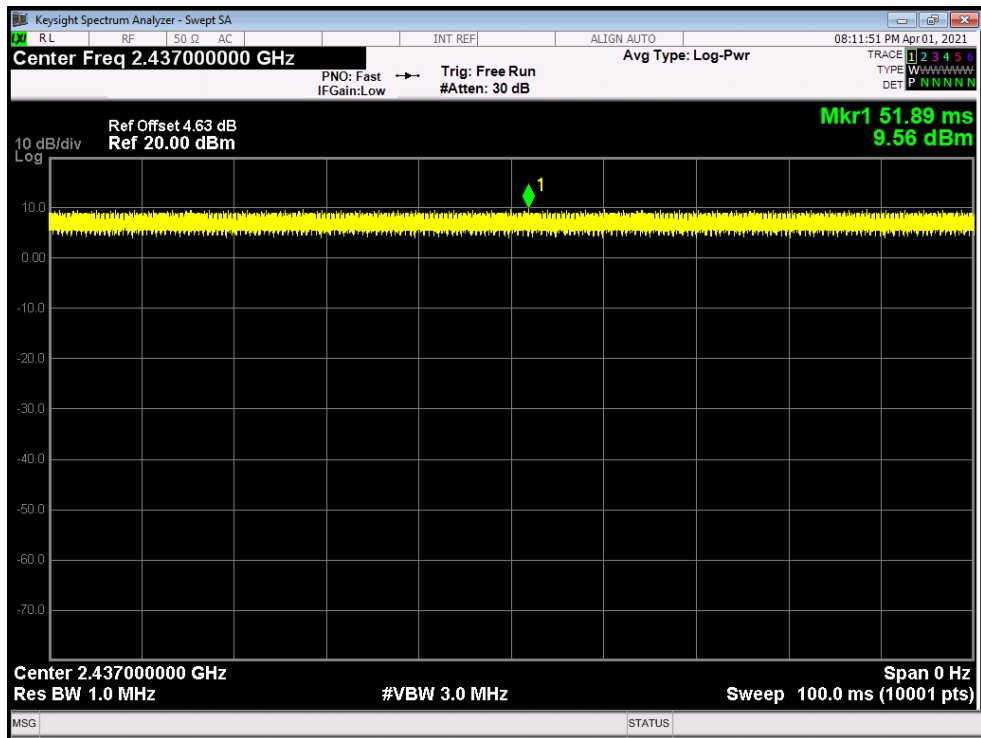
802.11 B Mode 2437 MHz



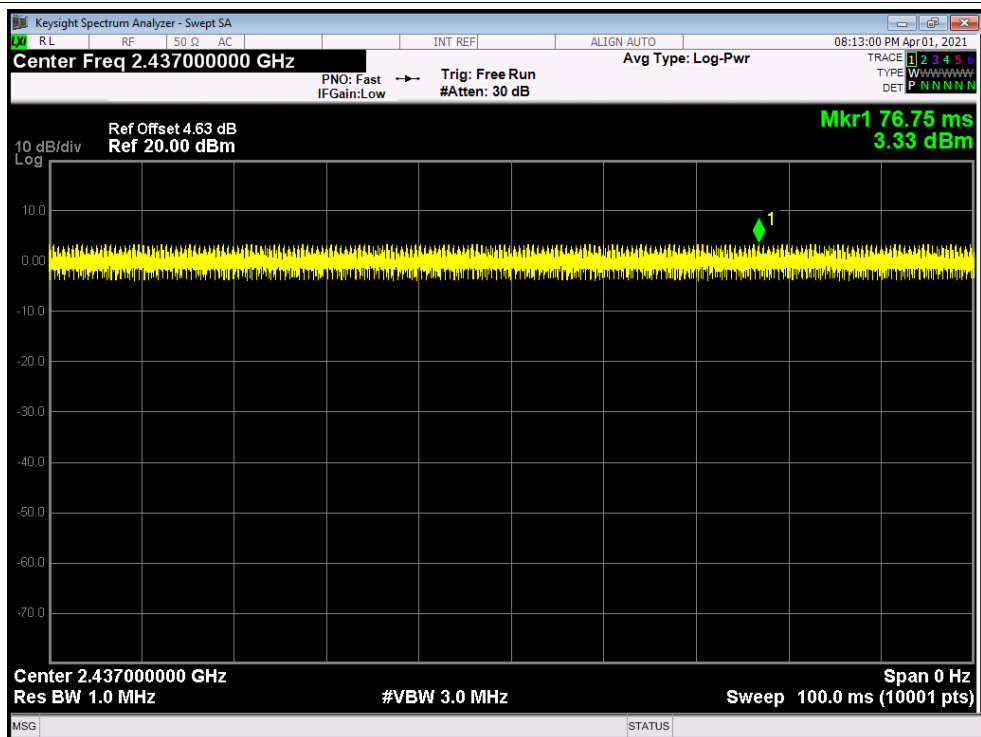
802.11 G Mode 2437 MHz



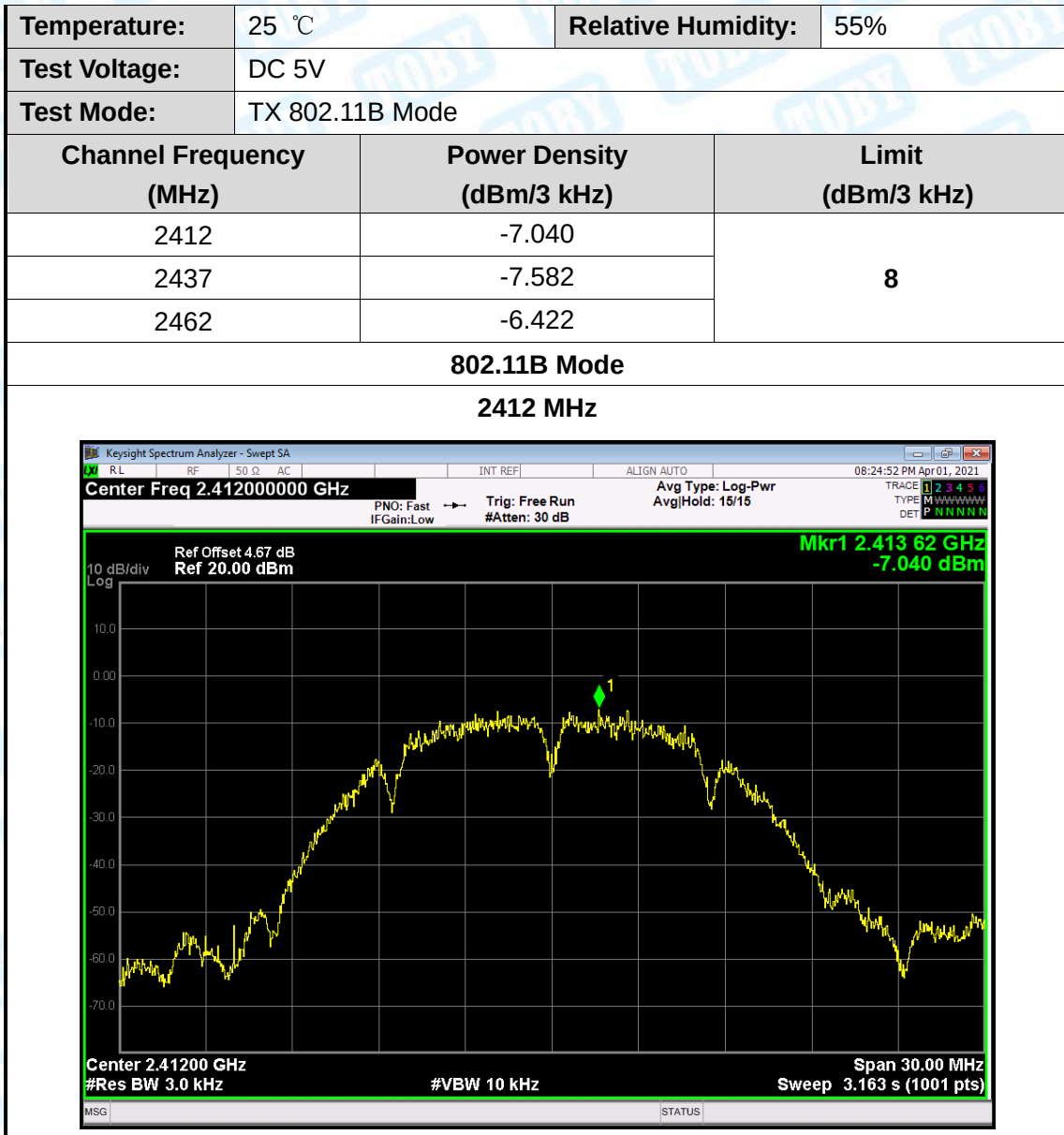
802.11 N(HT20) Mode 2437 MHz



802.11 N(HT40) Mode 2437 MHz

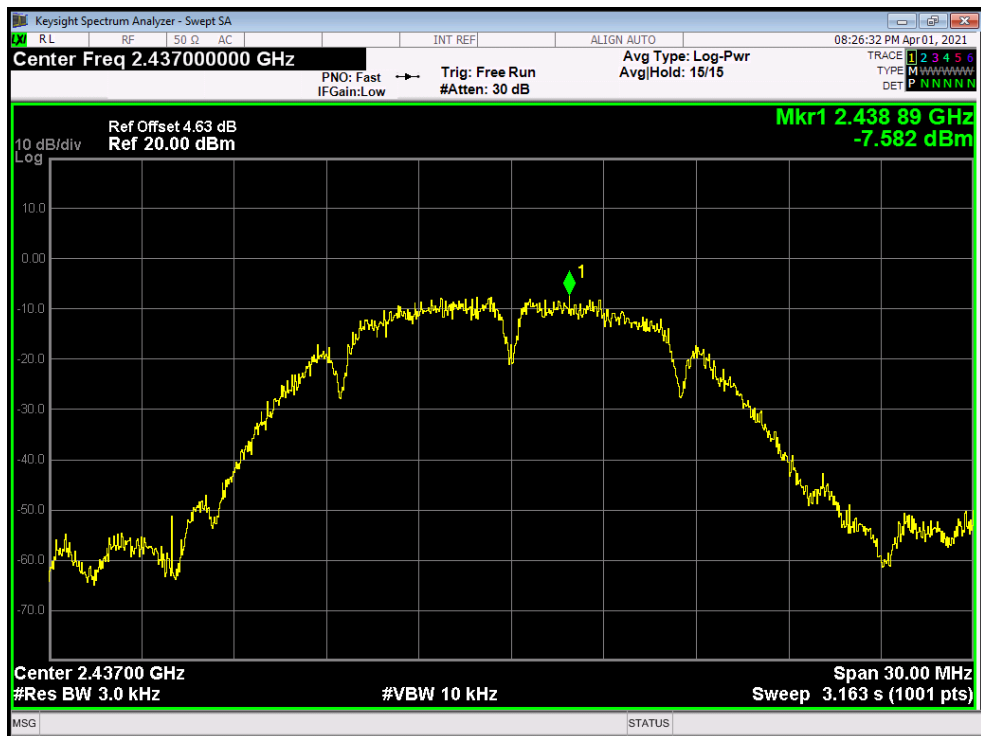


Attachment F-- Power Spectral Density Test Data



802.11B Mode

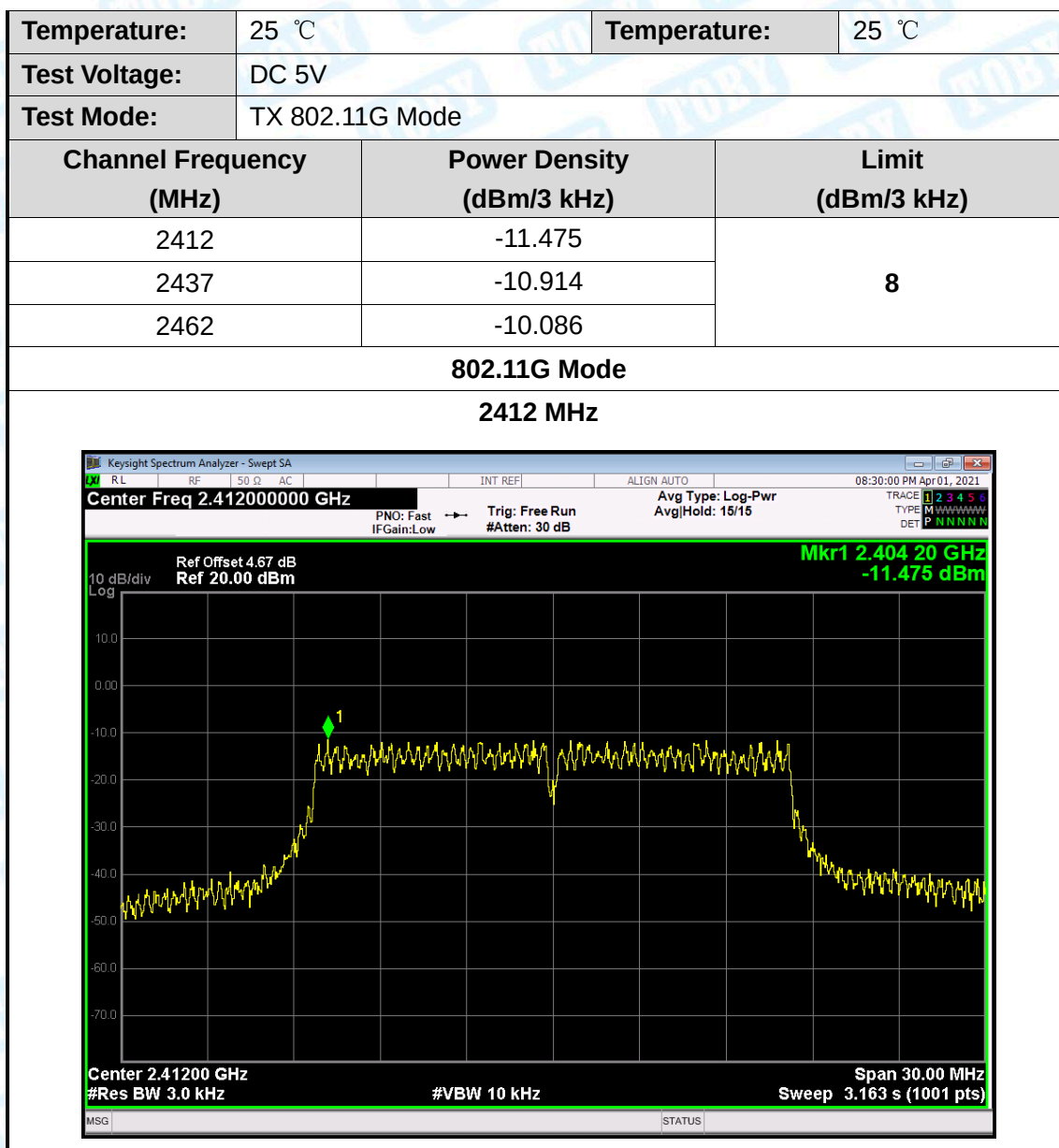
2437 MHz



802.11B Mode

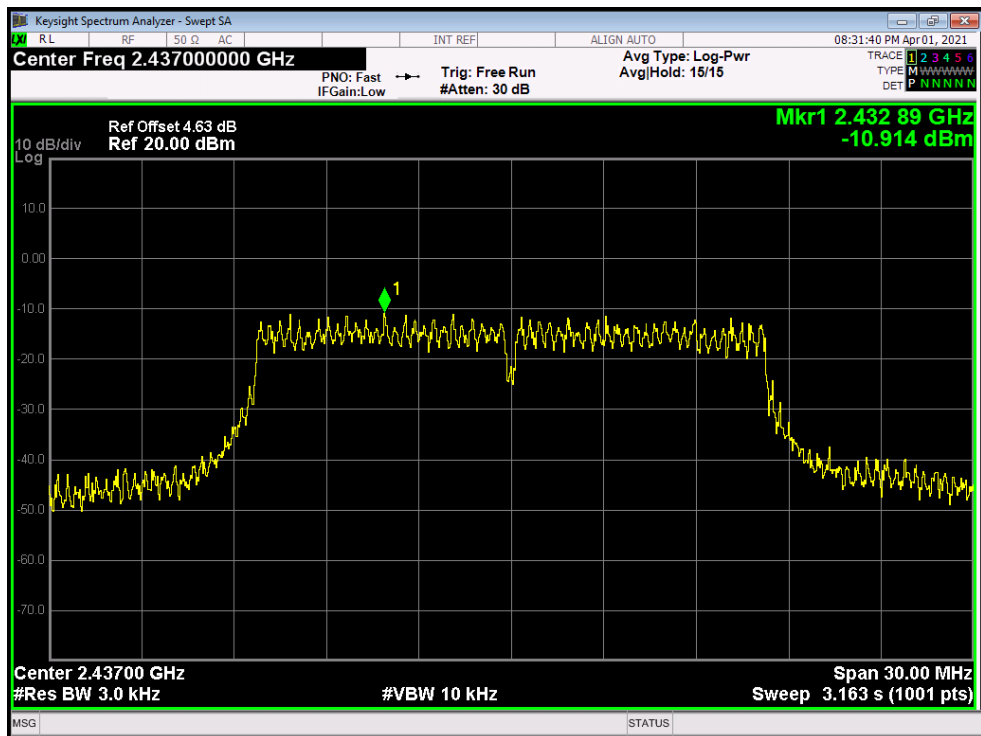
2462 MHz





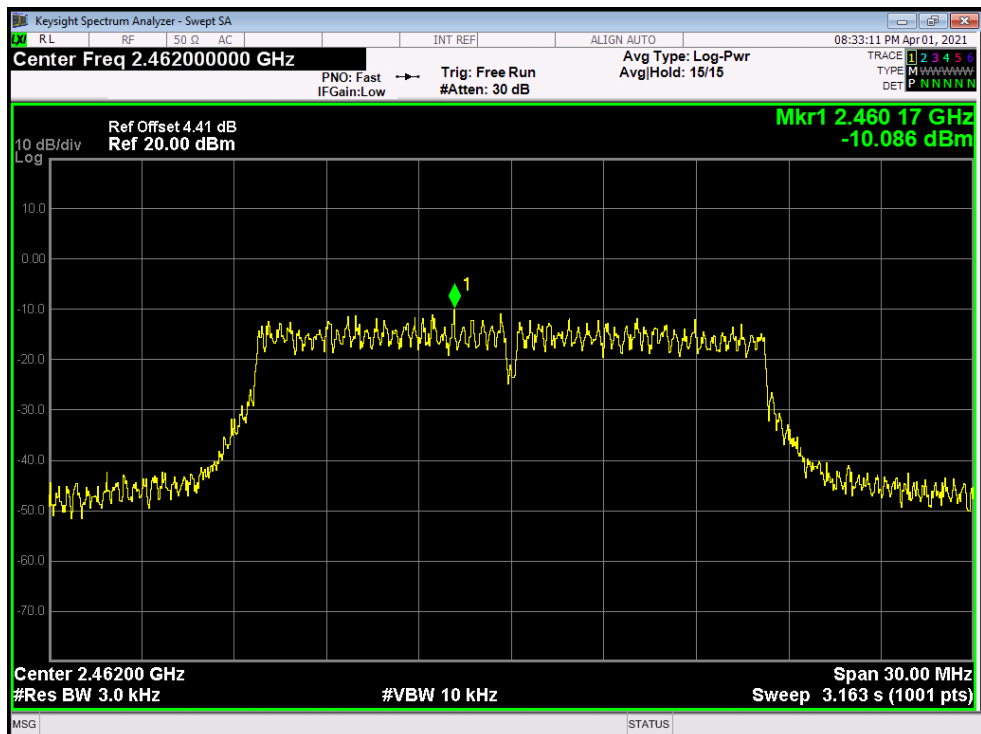
802.11G Mode

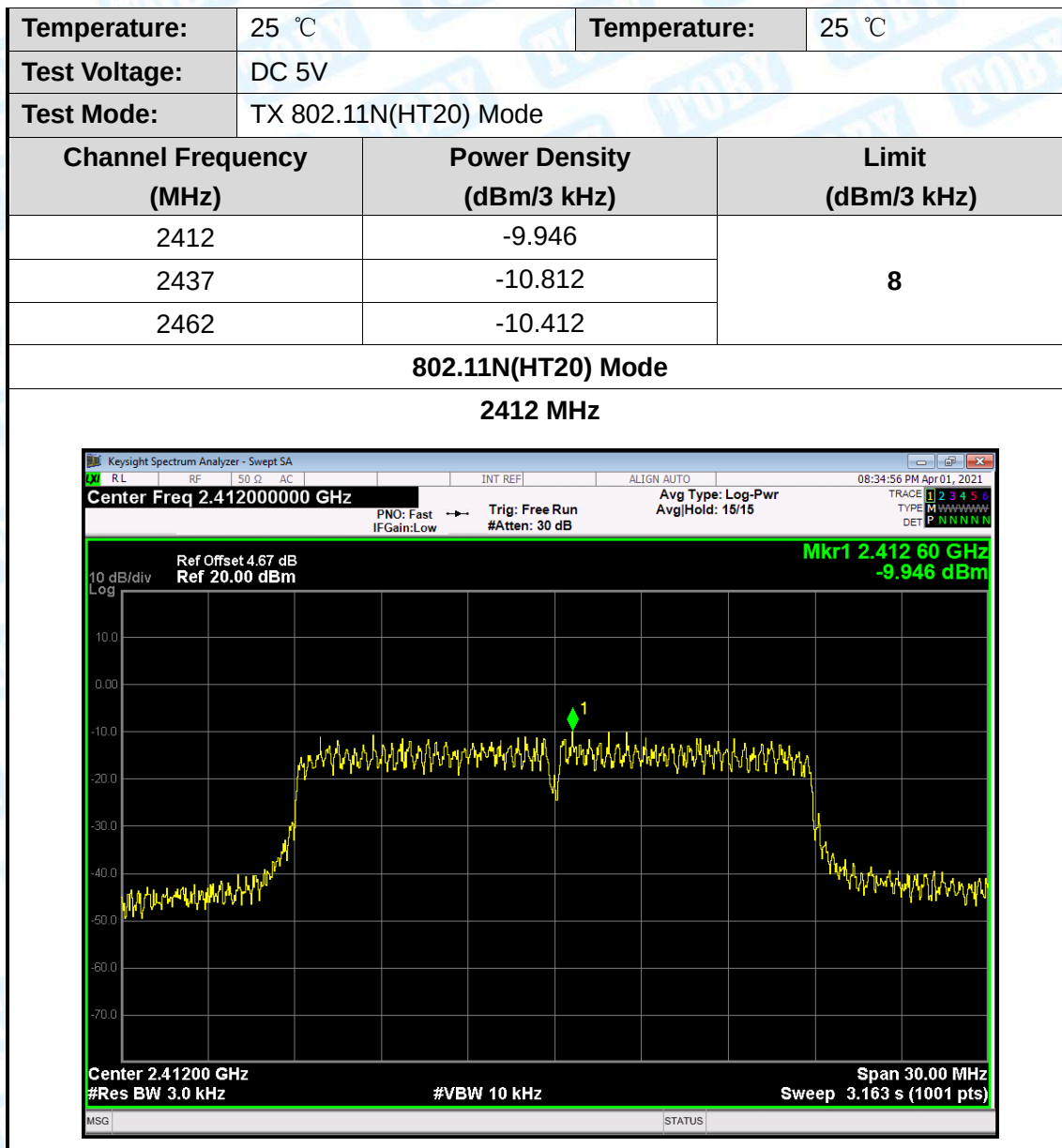
2437 MHz



802.11G Mode

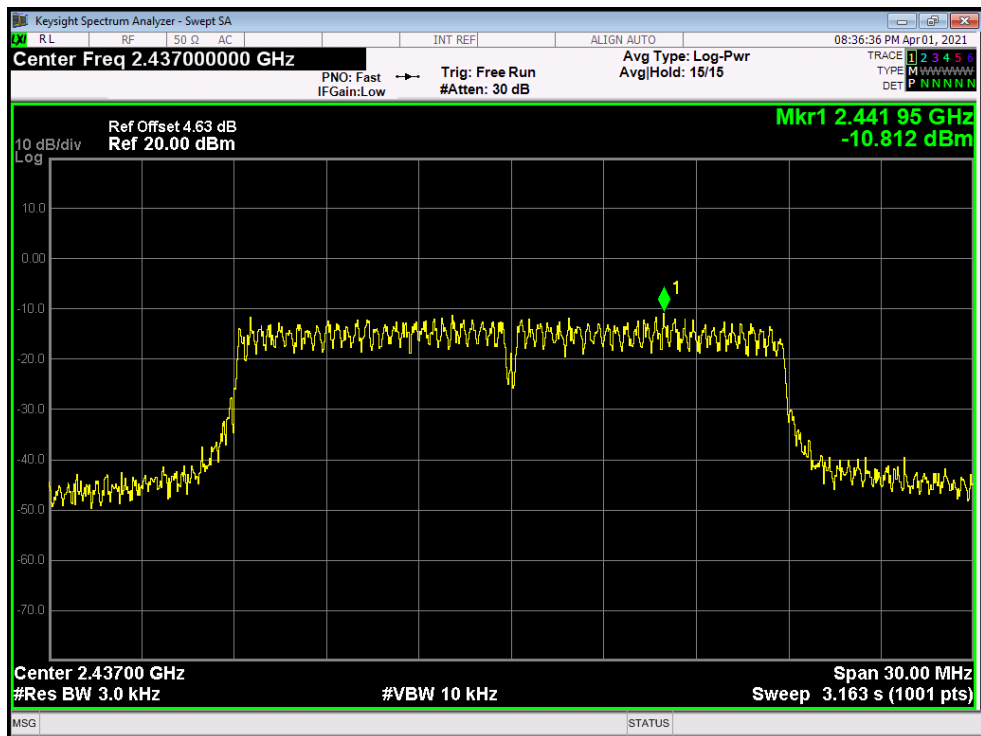
2462 MHz





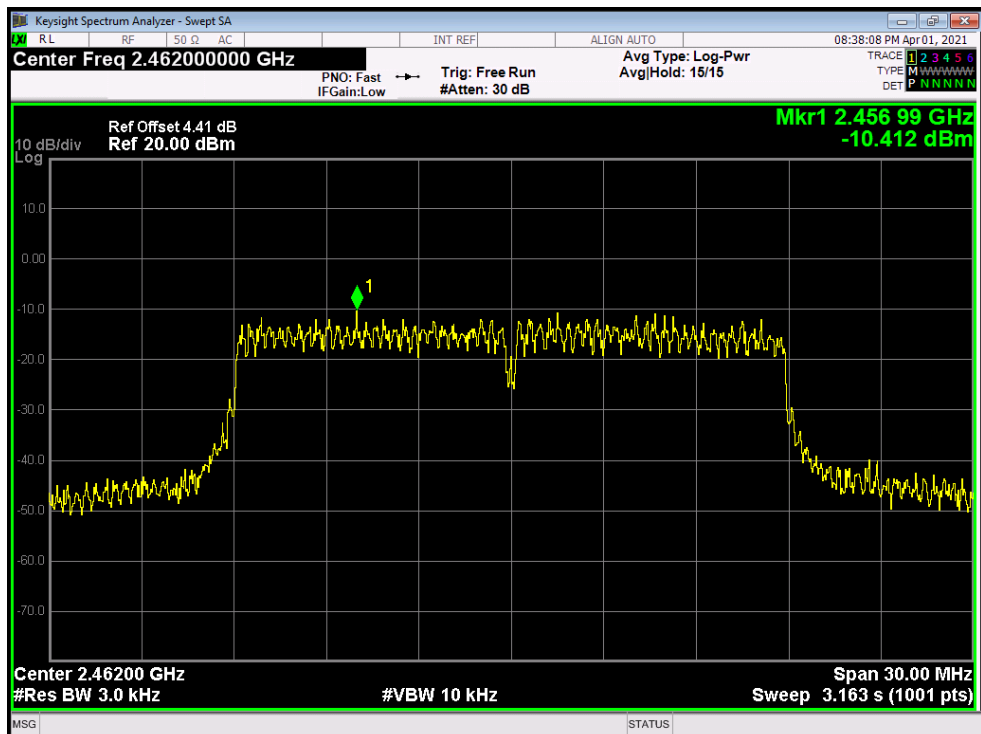
802.11N(HT20) Mode

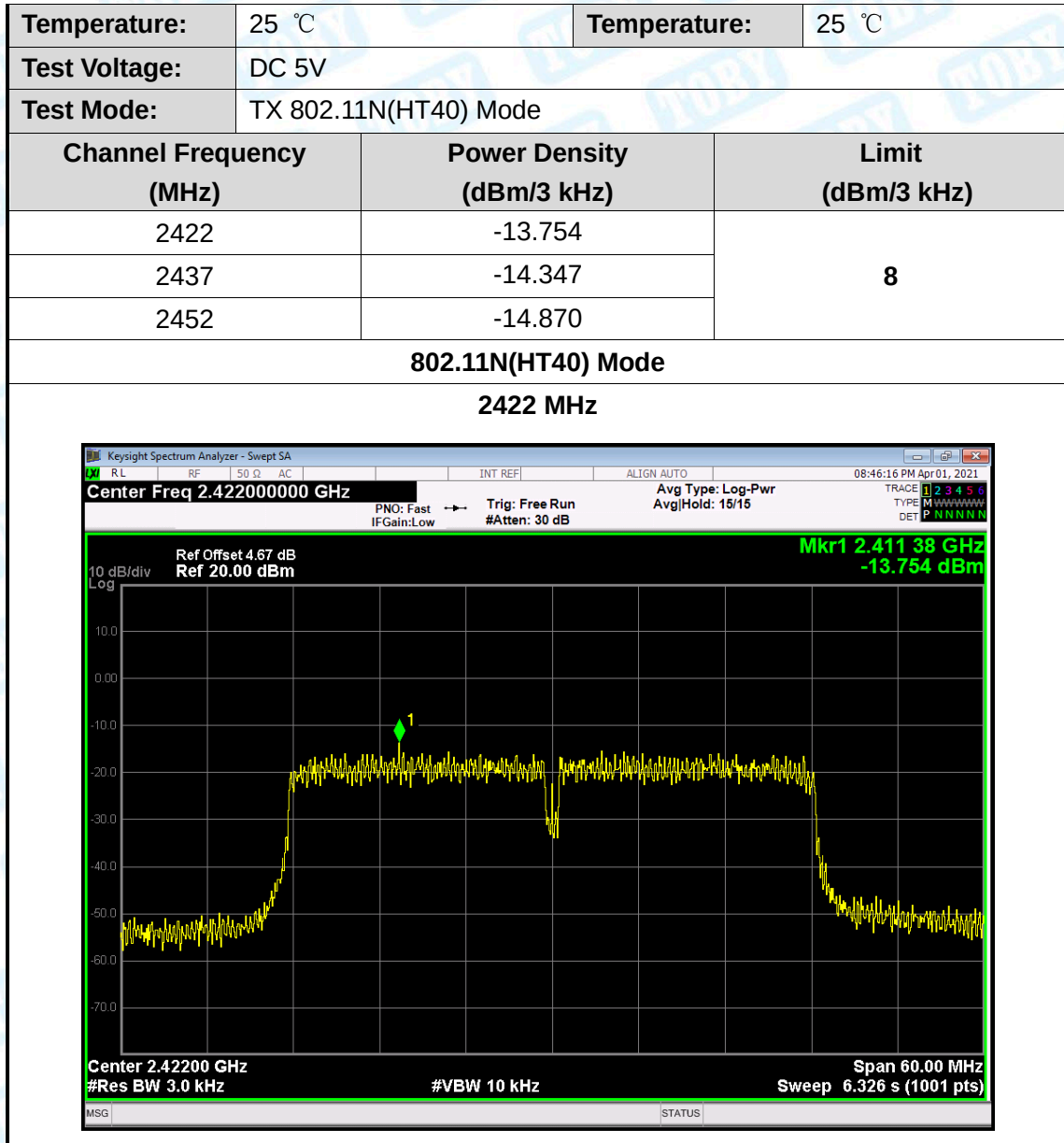
2437 MHz



802.11N(HT20) Mode

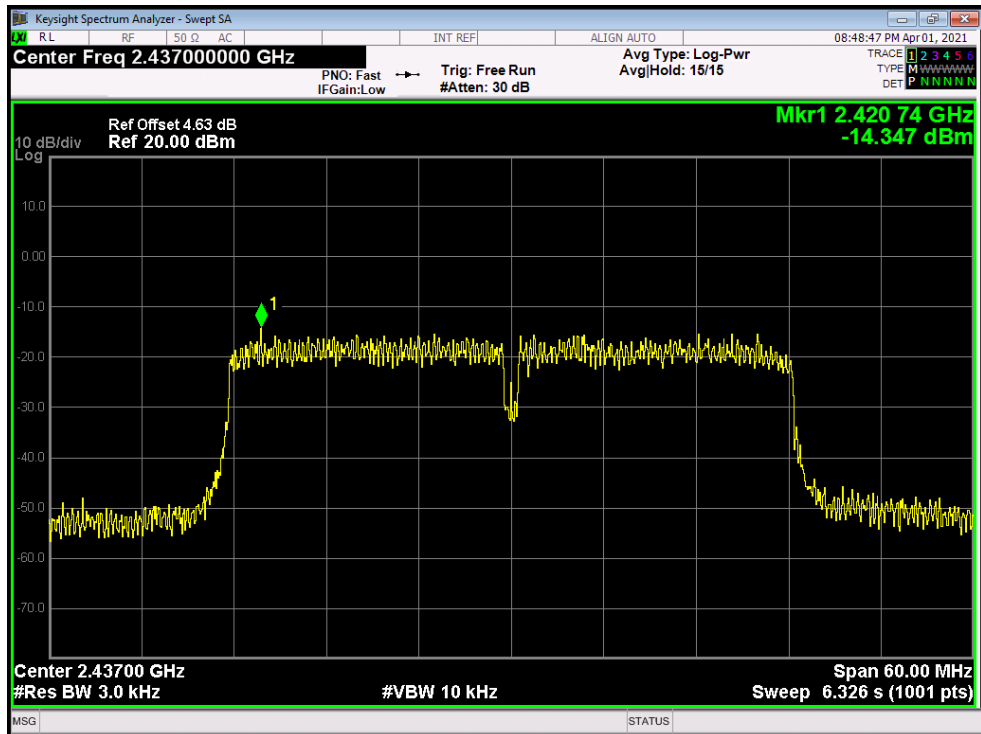
2462 MHz





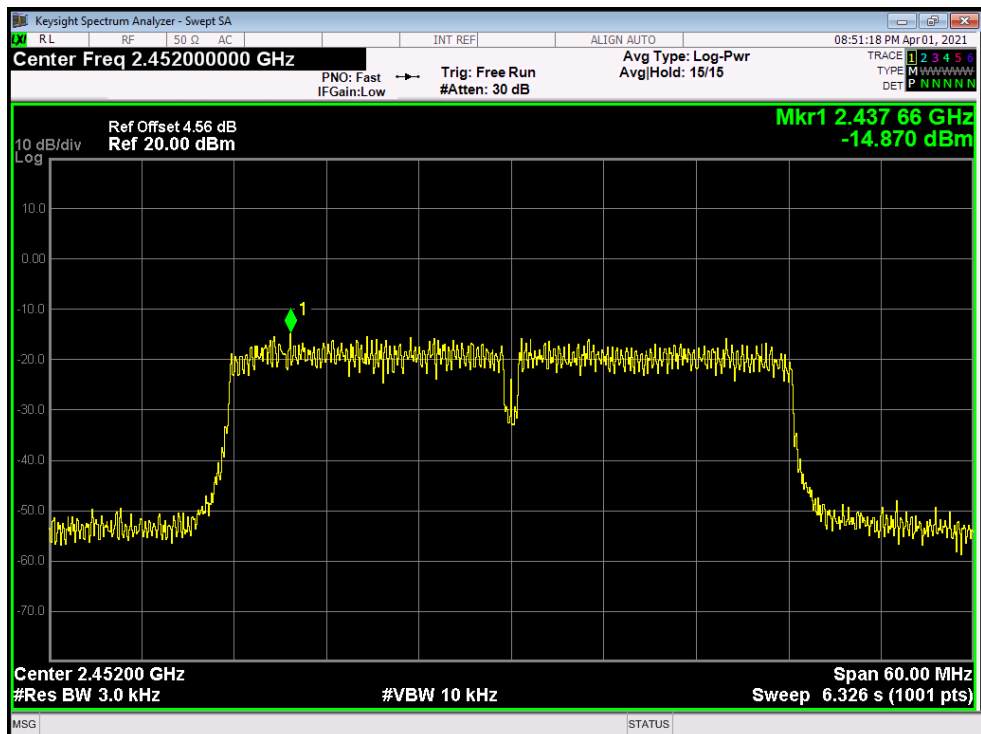
802.11N(HT40) Mode

2437 MHz



802.11N(HT40) Mode

2452 MHz



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