

**47 CFR PART 15 SUBPART C TEST REPORT**

**for**

**Optical Heart Rate Sensor**

**Model No.: OHR-30**

**FCC ID: ON5-OHR30**

**of**

**Applicant: CATEYE Co., Ltd.**

**Address: 2-8-25, Kuwazu, Higashi-Sumiyoshi- Ku, Osaka 546-0041, Japan**

**Tested and Prepared**

**by**

**Worldwide Testing Services (Taiwan) Co., Ltd.**

**FCC Registration No.: TW1477, TW0020, TW1072**

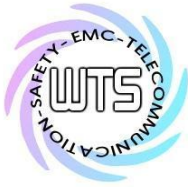
**Industry Canada filed test laboratory Reg. No. 20037**

**A2LA Accredited No.: 2732.01**



**Report No.: W6M22004-19822-C-1**

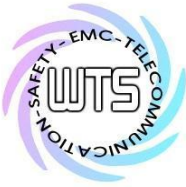
6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU TAIPEI 114, TAIWAN, R.O.C.  
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Registration number: W6M22004-19822-C-1  
FCC ID: ON5-OHR30

## **TABLE OF CONTENTS**

<b>1</b>	<b>GENERAL INFORMATION.....</b>	<b>2</b>
1.1	NOTES .....	2
1.2	TESTING LABORATORY .....	3
1.2.1	Location .....	3
1.2.2	Details of accreditation status .....	3
1.3	DETAILS OF APPROVAL HOLDER .....	3
1.4	APPLICATION DETAILS.....	4
1.5	GENERAL INFORMATION OF TEST ITEM.....	4
1.6	TEST STANDARDS .....	5
<b>2</b>	<b>TECHNICAL TEST.....</b>	<b>6</b>
2.1	SUMMARY OF TEST RESULTS.....	6
2.2	TEST ENVIRONMENT .....	6
2.3	TEST EQUIPMENT LIST.....	7
2.4	GENERAL TEST PROCEDURE.....	10
<b>3</b>	<b>TEST RESULTS (ENCLOSURE) .....</b>	<b>12</b>
3.1	PEAK OUTPUT POWER (TRANSMITTER).....	13
3.2	EQUIVALENT ISOTROPIC RADIATED POWER (EIRP).....	16
3.4	TRANSMITTER RADIATED EMISSIONS IN RESTRICTED BANDS .....	18
3.5	SPURIOUS EMISSIONS (TX).....	19
3.6	RADIATED EMISSION ON THE BAND EDGE.....	21
3.7	MINIMUM 6 DB BANDWIDTH.....	24
3.8	PEAK POWER SPECTRAL DENSITY .....	27
3.9	RADIATED EMISSION FROM RECEIVER PART .....	30
3.10	POWER LINE CONDUCTED EMISSION .....	31



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M22004-19822-C-1

FCC ID: ON5-OHR30

## 1 General Information

### 1.1 Notes

The purpose of conformity testing is to increase the probability of adherence to the essential requirements or conformity specifications, as appropriate.

The complexity of the technical specifications, however, means that full and thorough testing is impractical for both technical and economic reasons.

Furthermore, there is no guarantee that a test sample which has passed all the relevant tests conforms to a specification.

Neither is there any guarantee that such a test sample will interwork with other genuinely open systems. The existence of the tests nevertheless provides the confidence that the test sample possesses the qualities as maintained and that its performance generally conforms to representative cases of communications equipment.

The test results of this test report relate exclusively to the item tested as specified in 1.5.

The test report may only be reproduced or published in full.

Reproduction or publication of extracts from the report requires the prior written approval of the Worldwide Testing Services(Taiwan) Co., Ltd.

#### Specific Conditions:

Usage of the hereunder tested device in combination with other integrated or external antennas requires at least additional output power measurements, spurious emission measurements, conducted emission measurements (AC supply lines) and radio frequency exposure evaluations for each individual configuration performed, for certification by FCC.

#### **Tester:**

April 29, 2020

Sora Kuo

Date

WTS-Lab.

Name

Signature

#### **Technical responsibility for area of testing:**

April 29, 2020

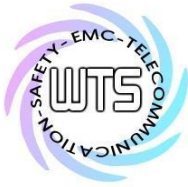
Kevin Wang

Date

WTS

Name

Signature



# **Worldwide Testing Services(Taiwan) Co., Ltd.**

Registration number: W6M22004-19822-C-1

FCC ID: ON5-OHR30

## **1.2 Testing laboratory**

### **1.2.1 Location**

OATS

No.5-1, Lishui, Shuang Sing Village,  
Wanli Dist., New Taipei City 207,  
Taiwan (R.O.C.)

3 meter semi-anechoic chamber

No.35, Aly. 21, Ln. 228, Ankang Rd., Neihu Dist., Taipei City 114, Taiwan (R.O.C.)

TEL:886-2-6613-0228

FAX:886-2-2791-5046

Company

Worldwide Testing Services(Taiwan) Co., Ltd.

6F, NO. 58, LANE 188, RUEY-KUANG RD.

NEIHU, TAIPEI 114, TAIWAN R.O.C.

Tel : 886-2-66068877

Fax : 886-2-66068879

### **1.2.2 Details of accreditation status**

Accredited testing laboratory

A2LA accredited number: 2732.01

FCC filed test laboratory Reg. No. TW1477, TW0020, TW1072

Industry Canada filed test laboratory Reg. No. 20037

**Test location, where different from Worldwide Testing Services (Taiwan) Co., Ltd. :**

Name: ./.

Accredited number: ./.

Street: ./.

Town: ./.

Country: ./.

Telephone: ./.

Fax: ./.

## **1.3 Details of approval holder**

Name: CATEYE Co., Ltd.

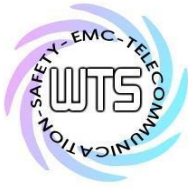
Street: 2-8-25, Kuwazu, Higashi-Sumiyoshi- Ku,

Town: Osaka 546-0041,

Country: Japan

Telephone: ./.

Fax: ./.



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FCC ID: ON5-OHR30

## **1.4 Application details**

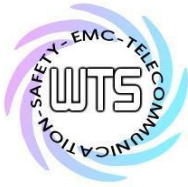
Date of receipt of test item: April 22, 2020  
Date of test: from April 23, 2020 to April 29, 2020

## **1.5 General information of Test item**

Type of test item: Optical Heart Rate Sensor  
Model Number: OHR-30  
Brand Name: CATEYE  
Multi-listing model number: ./.  
Photos: ./.

### **Technical data**

Frequency band: 2400 MHz – 2483.5 MHz  
BLE  
Frequency (ch 0 or A): 2402 MHz  
Frequency (ch 19 or B): 2440 MHz  
Frequency (ch 39 or C): 2480 MHz  
ANT+  
Frequency: 2457 MHz  
Number of Channels: 40 (BLE) / 1 (ANT+)  
Operation modes: Duplex  
Modulation Type: GFSK  
Fixed point-to-point operation:  Yes /  No  
Type of Antenna: Monopole antenna  
Antenna gain: 0 dBi  
Power supply: Charge: USB input 5 Vd.c.  
Battery: 3.7 Vd.c. 50 mAh  
Emission designator (BLE): 1M04G1D  
Emission designator (ANT+): 1M20G1D



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Registration number: W6M22004-19822-C-1  
FCC ID: ON5-OHR30

Host device: none

Classification:

Fixed Device	<input type="checkbox"/>
Mobile Device (Human Body distance > 20cm)	<input type="checkbox"/>
Portable Device (Human Body distance < 20cm)	<input checked="" type="checkbox"/>

## Transmitter

## Unom

### **BLE**

<b>Power ( ch 0 or A):</b>	Conducted: -3.11 dBm
<b>Power ( ch 19 or B):</b>	Conducted: -3.12 dBm
<b>Power ( ch 39 or C):</b>	Conducted: -3.12 dBm

### **ANT+**

<b>Power:</b>	Conducted: -3.30 dBm
---------------	----------------------

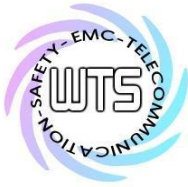
## **Manufacturer: (if applicable)**

Name:	Dongguan YongDong Electronic Technology Co., LTD.
Street:	No. 10, Fuzhu Street 4, Zhangmutou Industrial District,
Town:	Dongguan City, Guandong Province,
Country:	China

Additional information: ./.

## **1.6 Test standards**

Technical standard: 47 CFR SUBPART C § 15.247 (2019-10)



Registration number: W6M22004-19822-C-1

FCC ID: ON5-OHR30

**2 Technical test**

**2.1 Summary of test results**

No deviations from the technical specification(s) were ascertained in the course of the tests performed.

**or**

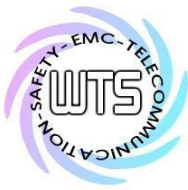
The deviations were ascertained in the course of the tests performed.

**2.2 Test environment**

Relative humidity content: 20 ... 75 %  
 Air pressure: 86 ... 103 kPa  
 Power supply: Charge: USB input 5 Vd.c.  
 Battery: 3.7 Vd.c. 50 mAh  
 Extreme conditions parameters: ./.

Test item Name	Uncertainty
Estimation Result of Uncertainty of Conducted Emission	Expanded Uncertainty : AMN : 1.06 dB Voltage probe : 1.12 dB
Estimation Result of Uncertainty of Radiated Emission(3M)	Expanded Uncertainty : 0.009-30 MHz : 1.88 dB 30-1000 MHz : 2.79 dB 1-18 GHz : 2.36 dB 18-40 GHz : 1.55 dB
Estimation Result of Uncertainty of Bandwidth Measurement 20 dB Bandwidth, Occupied bandwidth, Channel bandwidth, Necessary Bandwidth	Expanded Uncertainty : 0.45 kHz
Estimation Result of Uncertainty of Conducted Output Power Measurement Output power	Expanded Uncertainty : 1.14 dB
Estimation Result of Uncertainty of Power Density Measurement Power density	Expanded Uncertainty : 1.45 dB
Estimation Result of Uncertainty of Band Edge Measurement	Expanded Uncertainty : 1.01 dBc

The decision rule is: Measurement uncertainty is not included in the calculation of test results.



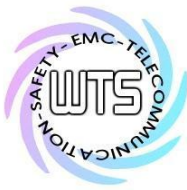
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Registration number: W6M22004-19822-C-1  
FCC ID: ON5-OHR30

## 2.3 Test Equipment List

No.	Test equipment	Type	Serial No.	Manufacturer	Cal. Date	Next Cal. Date
ETSTW-CE 001	EMI TEST RECEIVER	ESHS10	842121/013	R&S	2019/6/4	2020/6/3
ETSTW-CE 003	AC POWER SOURCE	APS-9102	D161137	GW	Function Test	
ETSTW-CE 004	ZWEILEITER-V- NETZNACHBILDUNG TWO-LINE V-NETWORK	ESH3-Z5	840731/011	R&S	2019/11/1	2020/10/31
ETSTW-CE 006	IMPULSBEGRENZER PULSE LIMITER	ESH3-Z2	100226	R&S	2019/9/24	2020/9/23
ETSTW-CE 008	HF-EICHLITUNG RF STEP ATTENUATOR 139dB DPSP	334.6010.02	844581/024	R&S	Function Test	
ETSTW-CE 009	TEMP.&HUMIDITY CHAMBER	GTH-225-40-1P-U	MAA0305-009	GIANT FORCE	2019/7/23	2020/7/22
ETSTW-CE 016	TWO-LINE V-NETWORK	ENV216	100050	R&S	2019/10/3	2020/10/2
ETSTW-CE 028	MXE EMI Receiver	N9038A	MY53220110	Agilent	2019/7/18	2020/7/17
ETSTW-RE 003	EMI TEST RECEIVER	ESI 26	831438/001	R&S	2019/6/4	2020/6/3
ETSTW-RE 004	EMI TEST RECEIVER	ESI 40	832427/004	R&S	2019/5/29	2020/5/28
ETSTW-RE 012	TUNABLE BANDREJECT FILTER	D.C 0309	146	K&L	Function Test	
ETSTW-RE 013	TUNABLE BANDREJECT FILTER	D.C 0336	397	K&L	Function Test	
ETSTW-RE 018	MICROWAVE HORN ANTENNA	AT4560	27212	AR	2019/7/25	2020/7/24
ETSTW-RE 027	Passive Loop Antenna	6512	00034563	ETS-Lindgren	2019/7/22	2020/7/21
ETSTW-RE 030	Double-Ridged Guide Horn Antenna	3117	00035224	ETS-Lindgren	2020/3/25	2021/3/24
ETSTW-RE 042	Biconical Antenna	HK116	100172	R&S	2020/2/18	2021/2/17
ETSTW-RE 043	Log-Periodic Dipole Antenna	HL223	100166	R&S	2020/4/22	2021/4/21
ETSTW-RE 044	Log-Periodic Antenna	HL050	100094	R&S	2019/5/13	2020/5/12
ETSTW-RE 045	ESA-E SERIES SPECTRUM ANALYZER	E4404B	MY45111242	Agilent	Pre-test Use	
ETSTW-RE 050	Attenuator 10dB	50HF-010-1	None	JFW	2020/2/20	2021/2/19
ETSTW-RE 051	Attenuator 6dB	50HF-006-1	None	JFW	2020/2/20	2021/2/19
ETSTW-RE 053	Attenuator 3dB	50HF-003-1	None	JFW	2020/2/20	2021/2/19
ETSTW-RE 055	SPECTRUM ANALYZER	FSU 26	200074	R&S	2020/3/6	2021/3/5
ETSTW-RE 060	Attenuator 30dB	5015-30	F651012z-01	ATM	2020/2/20	2021/2/19
ETSTW-RE 062	Amplifier Module	CHC 2	None	KMIC	2019/5/16	2020/5/15
ETSTW-RE 064	Bluetooth Test Set	MT8852B-042	6K00005709	Anritsu	Function Test	
ETSTW-RE 069	Double-Ridged Guide Horn Antenna	3117	00069377	ETS-Lindgren	Function Test	
ETSTW-RE 072	CELL SITE TEST SET	8921A	3339A00375	HP	2019/9/23	2020/9/22
ETSTW-RE 088	SOLID STATE AMPLIFIER	KMA180265A01	99057	KMIC	2019/9/18	2020/9/17
ETSTW-RE 091	Match Pad	MDCS1500	None	WOKEN	2019/5/9	2020/5/8
ETSTW-RE 099	DC Block	50DB-007-1	None	JFW	2020/2/20	2021/2/19
ETSTW-RE 112	AC POWER SOURCE	TFC-1005	T-0A023536	T-Power	Function test	
ETSTW-RE 115	2.4GHz Notch Filter	N0124411	473874	MICROWAVE CIRCUITS	2020/1/13	2021/1/12

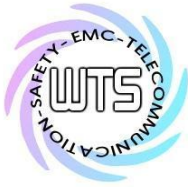




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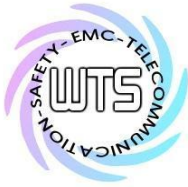
ETSTW-RE 120	RF Player	MP9200	MP9210-111022	ADIVIC	Function test	
ETSTW-RE 122	SIGNAL GENERATOR	SMF100A	102149	R&S	2019/6/3	2020/6/2
ETSTW-RE 125	5GHz Notch filter	5NSL11-5200/E221.3-O/O	1	K&L Microwave	2019/8/8	2020/8/7
ETSTW-RE 126	5GHz Notch filter	5NSL12-5800/E221.3-O/O	1	K&L Microwave	2019/8/8	2020/8/7
ETSTW-RE 127	RF Switch Box	RFS-01	None	WTS	2020/2/20	2021/2/19
ETSTW-RE 128	5.3GHz Notch filter	N0153001	SN487233	Microwave Circuits	2019/8/8	2020/8/7
ETSTW-RE 129	5.5GHz Notch filter	N0555984	SN487234	Microwave Circuits	2019/8/8	2020/8/7
ETSTW-RE 130	Handheld RF Spectrum Analyzer	N9340A	CN0147000204	Agilent	Pre-test Use	
ETSTW-RE 142	Amplifier	8447D	2805A03378	Agilent	2019/5/16	2020/5/15
ETSTW-RE 147	Bi-log Hybrid Antenna	MCTD 2786B	BLB16M04005	ETC	2020/4/9	2021/4/8
ETSTW-RF 002	Electromagnetic field probe	LF-30	K-0007	STT	2019/5/27	2020/5/26
ETSTW-EMI 011	USB Compact Modulator	SFC-U	101689	R&S	2019/5/16	2020/5/15
ETSTW-GSM 002	Universal Radio Communication Tester	CMU 200	109439	R&S	2020/3/9	2021/3/8
ETSTW-GSM 003	Radio Communication Analyzer	MT8820C	6201342073	Anritsu	2020/3/25	2021/3/24
ETSTW-GSM 004	Wideband Radio Communication Tester	CMW500	128092	R&S	2019/10/25	2020/10/24
ETSTW-GSM 019	Band Reject Filter	WRCTF824/849-822/851-40 /12+9SS	3	WI	2020/1/13	2021/1/12
ETSTW-GSM 020	Band Reject Filter	WRCD1747/1748-1743/1752-32/5SS	1	WI	2020/1/13	2021/1/12
ETSTW-GSM 021	Band Reject Filter	WRCD1879.5/1880.5-1875.5/1884.5-32/5SS	3	WI	2020/1/13	2021/1/12
ETSTW-GSM 022	Band Reject Filter	WRCT901.9/903.1-904.25-50/8SS	1	WI	2020/1/13	2021/1/12
ETSTW-GSM 023	Power Divider	4901.19.A	None	SUHNER	2019/9/12	2020/9/11
ETSTW-GSM 024	Radio Communication Analyzer	MT8821C	None	Anritsu	2020/3/27	2021/3/26
ETSTW-GSM 025	Band Reject Filter	BRM19835	001	Micro-Tronics	2019/8/9	2020/8/8
ETSTW-Cable 011	SMA to N type Cable	RGU-400	None	THERMAX	Pre-test Use NCR	
ETSTW-Cable 016	BNC Cable	Switch Box	B Cable 1	Schwarz beck	2020/2/20	2021/2/19
ETSTW-Cable 017	BNC Cable	X Cable	B Cable 2	Schwarz beck	2020/2/20	2021/2/19
ETSTW-Cable 018	BNC Cable	Y Cable	B Cable 3	Schwarz beck	2020/2/20	2021/2/19
ETSTW-Cable 019	BNC Cable	Z Cable	B Cable 4	Schwarz beck	2020/2/20	2021/2/19
ETSTW-Cable 020	N TYPE Cable	OATS Cable 1	N30N30-L335-15M	JYE BAO CO.,LTD.	2019/7/2	2020/7/1
ETSTW-Cable 027	Microwave Cable	SUCOFLEX 104	279083	HUBER+SUHNER	2019/5/14	2020/5/13
ETSTW-Cable 028	Microwave Cable	FA147A0015M2020	30064-2	UTIFLEX	2019/9/18	2020/9/17
ETSTW-Cable 029	Microwave Cable	FA147A0015M2020	30064-3	UTIFLEX	2019/9/18	2020/9/17
ETSTW-Cable 030	Microwave Cable	SUCOFLEX 104 (S_Cable 9)	279067	HUBER+SUHNER	2020/2/20	2021/2/19
ETSTW-Cable 043	Microwave Cable	SUCOFLEX 104	317576	HUBER+SUHNER	2019/5/16	2020/5/15
ETSTW-Cable 058	Microwave Cable	SUCOFLEX 104	none	HUBER+SUHNER	2019/6/6	2020/6/5
ETSTW-Cable 064	Microwave Cable	SUCOFLEX 104	MY28891	HUBER+SUHNER	2019/5/16	2020/5/15
ETSTW-Cable 066	SMA type cable	32022	None	ASTROLAB	2019/9/24	2020/9/23
ETSTW-Cable 071	N TYPE CABLE	EMCCFD400-NM-NM-25000	170239	EMCI	2019/6/6	2020/6/5



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M22004-19822-C-1  
 FCC ID: ON5-OHR30

ETSTW-Cable 072	SMA type cable (8m)	SUCOFLEX 104	805800/4	HUBER+SUHNER	2019/5/16	2020/5/15
ETSTW-Cable 074	SMA type cable (2m)	SUCOFLEX 104	802563/4	HUBER+SUHNER	2019/5/16	2020/5/15
WTSTW-SW 002	EMI TEST SOFTWARE	EZ_EMCC	None	Farad	Version ETS-03A1	
WTSTW-SW 006	EMI TEST SOFTWARE	e3	None	AUDIX	Version 9.161014	
WTSTW-SW 008	Signal studio	Agilent	None	AUDIX	Version 2.0.0.1	
ETSTW-TH 001	Thermohygrometer	608-H1	45204316	Testo	2019/9/9	2020/9/8
ETSTW-TH 002	Thermohygrometer	608-H1	45204317	Testo	2019/9/9	2020/9/8



Registration number: W6M22004-19822-C-1  
FCC ID: ON5-OHR30

## **2.4 General Test Procedure**

**POWER LINE CONDUCTED INTERFERENCE:** The procedure used was ANSI STANDARD C63.10-2013 6.2 using a LISN (if necessary). Both lines were observed. The bandwidth of the spectrum analyzer was 10 kHz with an appropriate sweep speed.

**RADIATION INTERFERENCE:** The test procedure used was according to ANSI STANDARD C63.10-2013 6.3 employing a spectrum analyzer. For investigated frequency is equal to or below 1GHz, the RBW and VBW of the spectrum analyzer was 100 kHz and 100kHz respectively with an appropriate sweep speed. For investigated frequency is above 1GHz, both of RBW and VBW of the spectrum analyzer were 1 MHz with an appropriate sweep speed. The analyzer was calibrated in dB above a microvolt at the output of the antenna.

**FORMULA OF CONVERSION FACTORS:** The Field Strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of dB $\mu$ V) to the antenna correction factor supplied by the antenna manufacturer. The antenna correction factors are stated in terms of dB.

Example:

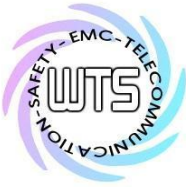
Freq (MHz)      METER READING + ACF + CABLE LOSS (to the receiver) = FS  
33                    20 dB $\mu$ V + 10.36 dB + 6 dB = 36.36 dB $\mu$ V/m @3m

The EUT was placed on a table 80 cm high and with dimensions of 1m by 1.5m (non metallic table) and arranged according to ANSI C63.10-2013 6.2.2. The table used for radiated measurements is capable of continuous rotation. The spectrum was scanned from 30 MHz to the frequency specified as follows:

- (1) If the intentional radiator operates below 10 GHz: to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.
- (2) If the intentional radiator operates at or above 10 GHz and below 30 GHz: to the fifth harmonic of the highest fundamental frequency or to 100 GHz, whichever is lower.
- (3) If the intentional radiator operates at or above 30 GHz: to the fifth harmonic of the highest fundamental frequency or to 200 GHz, whichever is lower, unless specified otherwise elsewhere in the rules.
- (4) If the intentional radiator contains a digital device, regardless of whether this digital device controls the functions of the intentional radiator or the digital device is used for additional control or function purposes other than to enable the operation of the intentional radiator, the frequency range shall be investigated up to the range specified in paragraphs (a)(1)-(a)(3) of this section or the range applicable to the digital device, as shown in paragraph (b)(1) of this Section, whichever is the higher frequency range of investigation.

For hand-held devices, a exploratory test was performed with three (3) orthogonal planes to determine the highest emissions.

When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and vertical planes.



Registration number: W6M22004-19822-C-1

FCC ID: ON5-OHR30

When the radiated emission limits are expressed in terms of the average value of the emission, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value.

The formula is as follows:

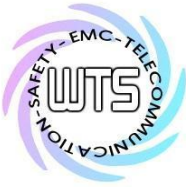
Average = Peak + Duty Factor

Duty Factor =  $20 \log(\text{dwell time}/T)$

T = 100ms when the pulse train period is over 100 ms or the period of the pulse train.

Modified Limits for peak according to 15.35 (b) = Max Permitted average Limits + 20dB

ANSI STANDARD C63.10-2013 B.2.7: Any measurements that utilize special test software shall be indicated and referenced in the test report. During testing, test software 'EZ EMC' was used for setting up different operation modes.



# Worldwide Testing Services(Taiwan) Co., Ltd.

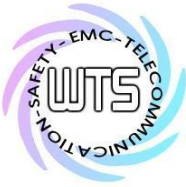
Registration number: W6M22004-19822-C-1

FCC ID: ON5-OHR30

### **3 Test results (enclosure)**

TEST CASE	Para. Number	Required	Test passed	Test failed
Peak Output Power	15.247(b)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Equivalent isotropically radiated Power	15.247(b)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Spurious Emissions radiated – Transmitter operating	15.247(d): 15.209	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Band Edge Measurement	15.247(d)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Minimum 6 dB Bandwidth	15.247(a)(2)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Peak Power Spectral Density	15.247(e)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Radiated Emission from Receiver Part	15.109	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Power Line Conducted Emission	15.207(a)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The following is intentionally left blank.



Registration number: W6M22004-19822-C-1  
FCC ID: ON5-OHR30

### 3.1 Peak Output Power (transmitter)

FCC Rule: 15.247(b)(3)

This measurement applies to equipment with an integral antenna and to equipment with an antenna connector and equipped with an antenna as declared by the applicant.

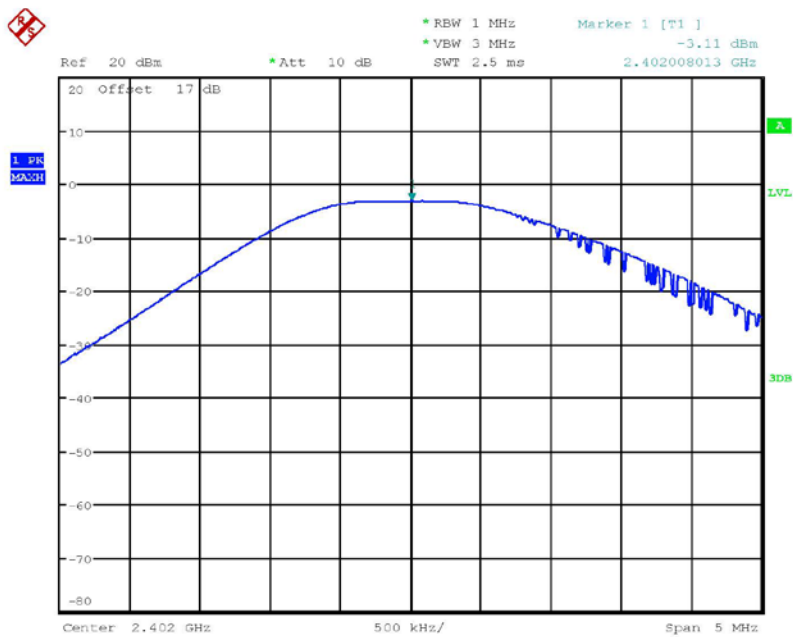
Test date: April 24, 2020

Temperature: 20.4 °C

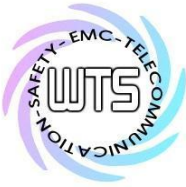
Humidity: 59.1 %

Tester: Sora Kuo

BLE

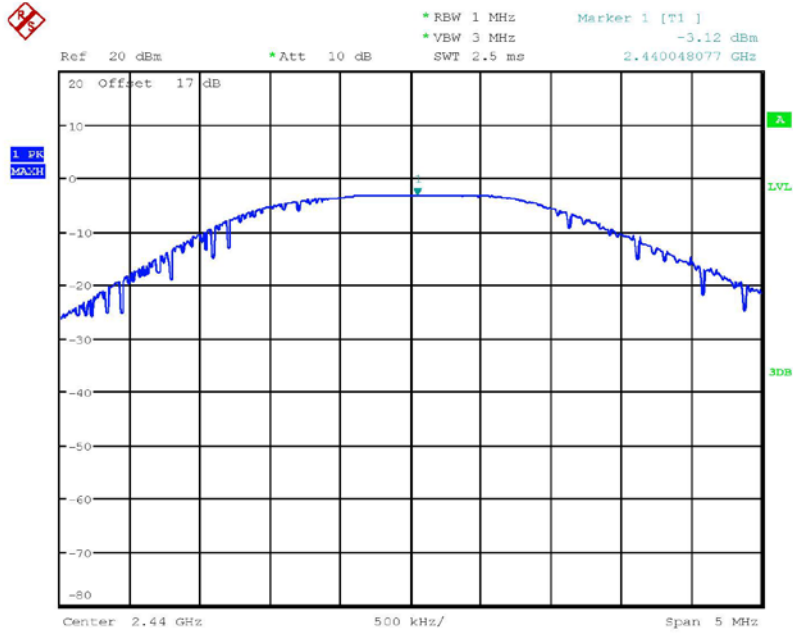


MAX OUTPUT POWER BI4.0 CH00  
Date: 24.APR.2020 10:20:50

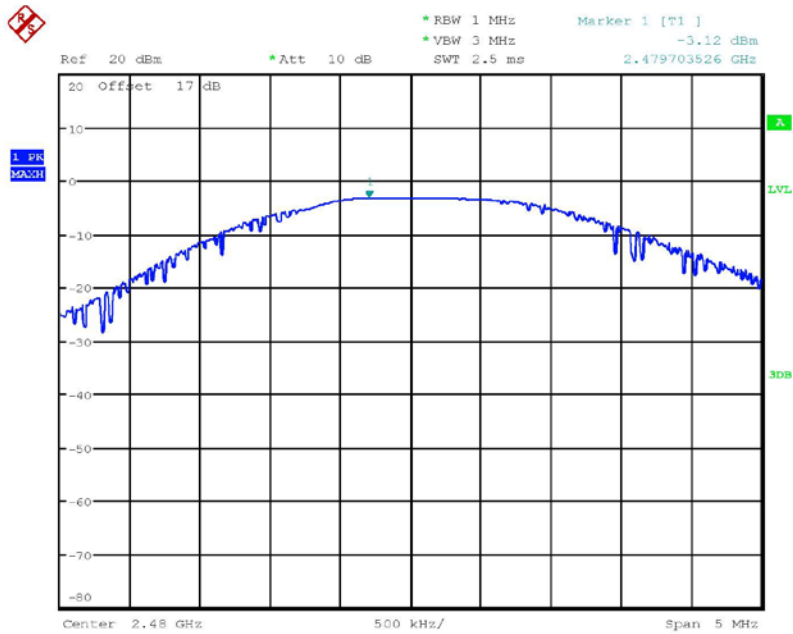


# Worldwide Testing Services(Taiwan) Co., Ltd.

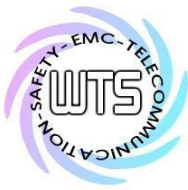
Registration number: W6M22004-19822-C-1  
FCC ID: ON5-OHR30



MAX OUTPUT POWER BT4.0 CH19  
Date: 24.APR.2020 10:21:54

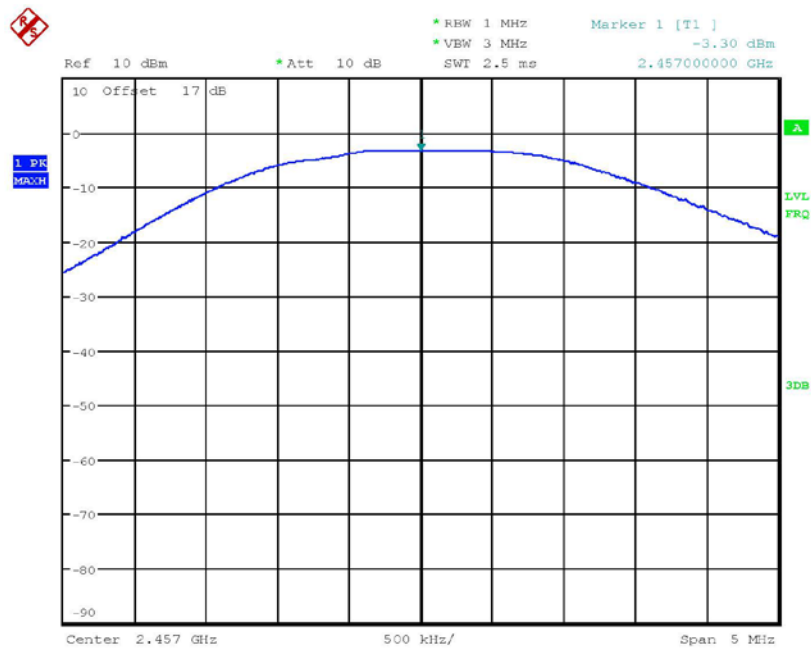


MAX OUTPUT POWER BT4.0 CH39  
Date: 24.APR.2020 10:22:48



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M22004-19822-C-1  
 FCC ID: ON5-OHR30  
 ANT+



MAX OUTPUT POWER ANT+ 2457MHz  
 Date: 24.APR.2020 10:32:13

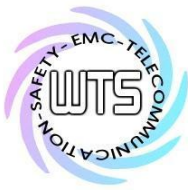
**Limits:**

Frequency MHz	Power dBm
902 - 928	30
2400 – 2483.5	30
5725 – 5850	30

In case of employing transmitter antennas having antenna gain > 6 dBi and using fixed point-to point operation consider §15.247 (b)(4)

Test equipment used: ETSTW-RE 055, ETSTW-RE 050, ETSTW-RE 064





Registration number: W6M22004-19822-C-1  
 FCC ID: ON5-OHR30

**3.2 Equivalent Isotropic Radiated Power (EIRP)**

FCC Rule: 15.247(b)(3)

BLE

EIRP = max. conducted output power + antenna gain

EIRP = -3.11 dBm + (0 dBi [antenna gain claimed by manufacturer]) = -3.11 dBm = 0.4887 mW  
 ANT+

EIRP = max. conducted output power + antenna gain

EIRP = -3.30 dBm + (0 dBi [antenna gain claimed by manufacturer]) = -3.30 dBm = 0.4677 mW  
 Test equipment used: ETSTW-RE 055

**3.3 Exemption Limits for Routine Evaluation according to FCC KDB Publication**

**RESULT:**

Test standard : FCC KDB Publication  
 447498 D01 General RF Exposure Guidance v06

According to 447498 D01 General RF Exposure Guidance v06:

SAR evaluation, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

**3.3.1 Exemption Limits for Routine Evaluation – SAR Evaluation**

SAR evaluation is required if the separation distance between the user and/or bystander and the antenna and/or radiating element of the device is less than or equal to 20 cm, except when the device operates at or below the applicable output power level (adjusted for tune-up tolerance) for the specified separation distance defined in Table .

Table: SAR evaluation — Exemption limits for routine evaluation based on frequency and separation distance

BLE

MHz	5	10	15	20	25	mm
2402	10.09	19.26	29.35	38.52	48.52	SAR Test Exclusion Threshold (mW)

MHz	30	35	40	45	50	mm
2402	57.70	67.79	77.87	87.05	97.13	SAR Test Exclusion Threshold (mW)

Output power level shall be the higher of the maximum conducted or equivalent isotropically radiated power (e.i.r.p.) source-based, time-averaged output power.

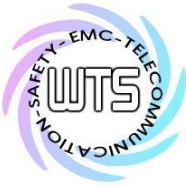
Established separation distance is 5 mm.

Operating frequency band : 2402-2480 MHz

Max. output power level at 5 mm separation distance at 2402 MHz

according to table is: 10.09 mW

The product is exempt from SAR Evaluation/Testing because the output power of 0.4887 mW is below the exemption limit of 10.09 mW.



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M22004-19822-C-1

FCC ID: ON5-OHR30

ANT+

MHz	5	10	15	20	25	mm
2457	9.99	18.98	28.97	37.96	47.95	SAR Test Exclusion Threshold (mW)

MHz	30	35	40	45	50	mm
2457	56.94	66.93	76.91	85.91	95.90	SAR Test Exclusion Threshold (mW)

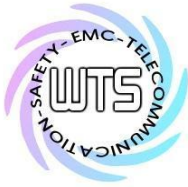
Output power level shall be the higher of the maximum conducted or equivalent isotropically radiated power (e.i.r.p.) source-based, time-averaged output power.

Established separation distance is 5 mm.

Operating frequency band : 2457 MHz

Max. output power level at 5 mm separation distance at 2457 MHz according to table is: 9.99 mW

The product is exempt from SAR Evaluation/Testing because the output power of 0.4677 mW is below the exemption limit of 9.99 mW.



Registration number: W6M22004-19822-C-1  
FCC ID: ON5-OHR30

### **3.4 Transmitter Radiated Emissions in Restricted Bands**

FCC Rules: 15.247 (d), 15.205, 15.209, 15.35

Radiated emission measurements were performed from 30 MHz to 26500 MHz.  
For radiated emission tests, the analyzer setting was as followings:

- Frequency  $\leq$  1 GHz, RBW:100 kHz, VBW: 100 kHz (Peak measurements)
- Frequency  $>$  1 GHz, RBW: 1 MHz, VBW: 1 MHz (Peak measurements)
- Frequency  $>$  1 GHz , RBW:1 MHz , VBW: 10 Hz (Average measurements)

Limits.

For frequencies below 1GHz:

Frequency of Emission (MHz)	Field strength (microvolts/meter)	Field Strength (dB microvolts/meter)
30 - 88	100	40.0
88 - 216	150	43.5
216 - 960	200	46.0
Above	500	54.0

For frequencies above 1GHz (Average measurements).

Guidance on Measurement of Digit Transmission Systems:

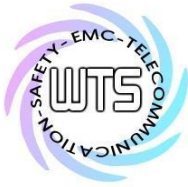
“If the emission is pulsed, modify the unit for continuous operation, use the setting shown above, then correct the reading by subtracting the peak-average correction factor, derived from the appropriate duty cycle calculation.”

The correction factor, based on the total channel dwell time in a 100 ms period, may be mathematically applied to a measurement made with an average detector, to further reduce the value.

Duty cycle correction =  $20 \log(\text{dwell time}/ 100\text{ms})$

Note: No duty cycle correction was added to the reading of this EUT.

Explanation: See attached diagrams in Appendix.



Registration number: W6M22004-19822-C-1

FCC ID: ON5-OHR30

### **3.5 Spurious Emissions (tx)**

Spurious emission was measured with modulation (declared by manufacturer).

In any 100 kHz bandwidth outside the frequency band in which the intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in § 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c))

FCC Rule: 15.247(d), 15.35

For out of band emissions that are close to or that exceed the 20 dB attenuation requirement described in the specification, radiated measurements were performed at a 3 m separation distance to determine whether these emissions complied with the general radiated emission requirement.

Limits:

For frequencies above 1GHz (Peak measurements).

Modified Limit for peak according to 15.35 (b) = Max Permitted average Limits + 20dB

For frequencies above 1GHz (Average measurements).

Max. reading – 20dB

Max. reading – 20 dB

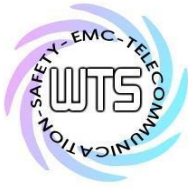
Guidance on Measurement of Digit Transmission Systems:

“If the emission is pulsed, modify the unit for continuous operation, use the settings shown above, then correct the reading by subtracting the peak-average correction factor, derived from the appropriate duty cycle calculation.”

The correction factor, based on the total channel dwell time in a 100 ms period, may be mathematically applied to a measurement made with an average detector, to further reduce the value.

Duty Cycle correction =  $20 \log (\text{dwell time}/100\text{ms})$

Note: No duty cycle correction was added to the reading of EUT.



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M22004-19822-C-1

FCC ID: ON5-OHR30

SAMPLE CALCULATION OF LIMIT. All results will be updated by an automatic measuring system in accordance with point 2.3.

Calculation of test results:

Such factors like antenna correction, cable loss, external attenuation etc. are already included in the provided measurement results. This is done by using validated test software and calibrated test system according the accreditation requirements.

The peak and average spurious emission plots was measured with the average limits.

In the Table being listed the critical peak and average value and exhibit the compliance with the above calculated Limits.

If in the column's correction factor states a value then the max. Field strength in the same row is corrected by a value gained from the "Correction Factor".

### Summary table with radiated data of the test plots

Model: OHR-30 Date: --  
 Mode: -- Temperature: -- °C Engineer: --  
 Polarization: -- Humidity: --

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--

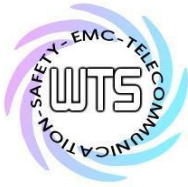
Frequency (MHz)	Reading (dBuV)		Factor (dB) Corr.	Result (dBuV/m)		Limit (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (m)
	Peak	Ave.		Peak	Ave.	Peak	Ave.			
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--

### Note

1. Correction Factor = Antenna factor + Cable loss - Preamplifier
2. The formula of measured value as: Test Result = Reading + Correction Factor
3. Detector function in the form : PK = Peak, QP = Quasi Peak, AV = Average
4. All not in the table noted test results are more than 20 dB below the relevant limits.
5. After evaluated, the test result in this report adopt the worst case to measure, please see attached diagrams in appendix.

**TEST RESULT (Transmitter):** The unit DOES meet the FCC requirements.

Test equipment used: ETSTW-RE 030, ETSTW-RE 111, ETSTW-RE 088, ETSTW-RE 018, ETSTW-RE 064



Registration number: W6M22004-19822-C-1  
FCC ID: ON5-OHR30

### 3.6 Radiated Emission on the band edge

According to FCC rules part 15 subpart C §15.247(d) in any 100 kHz bandwidth outside the frequency band in which the intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in § 15.209(a) is not required.

In addition radiated emission which fall in the restricted bands, as defined in section 15.205(a), must also with the radiated emission limits.

100kHz Bandwidth of Band Edge

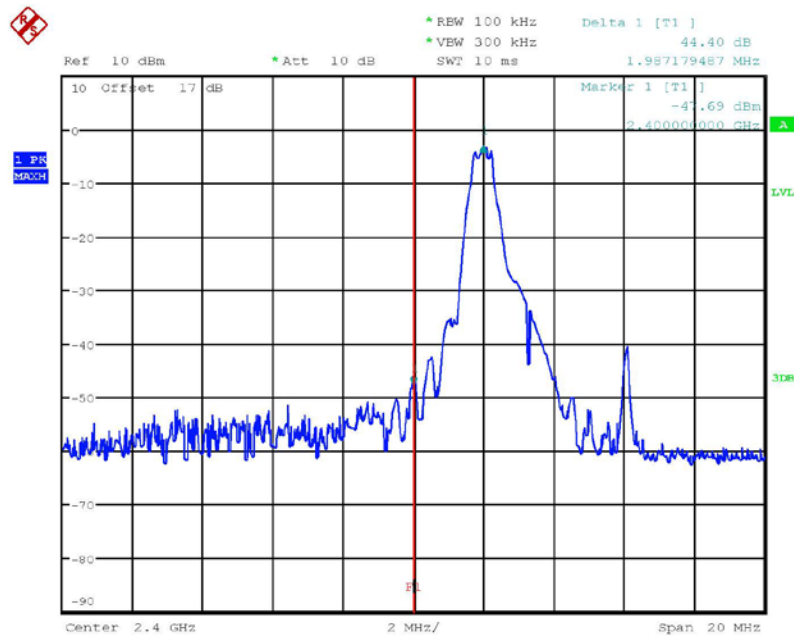
Test date: April 24, 2020

Temperature: 20.4 °C

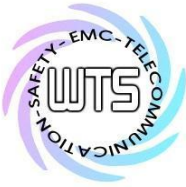
Humidity: 59.1 %

Tester: Sora Kuo

BLE

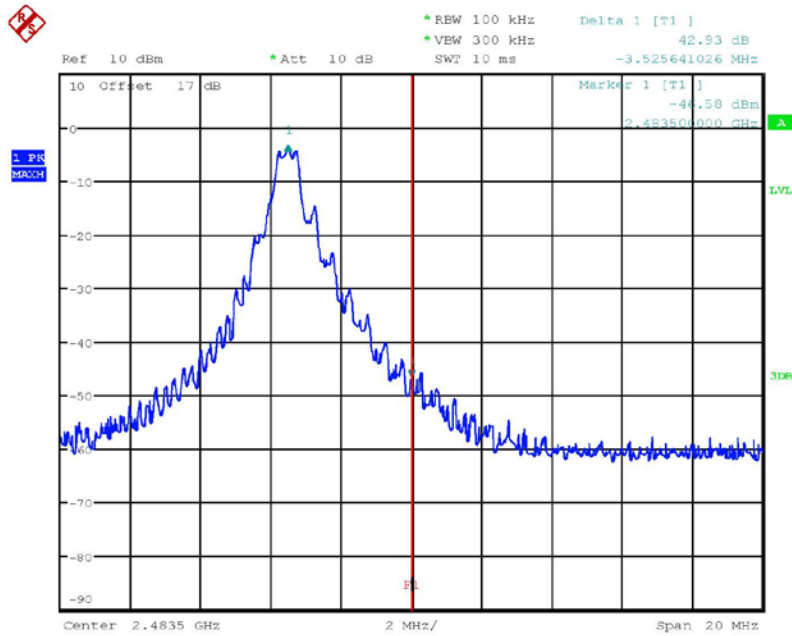


BANDEDGE BT4.0 CH00  
Date: 24.APR.2020 10:21:22



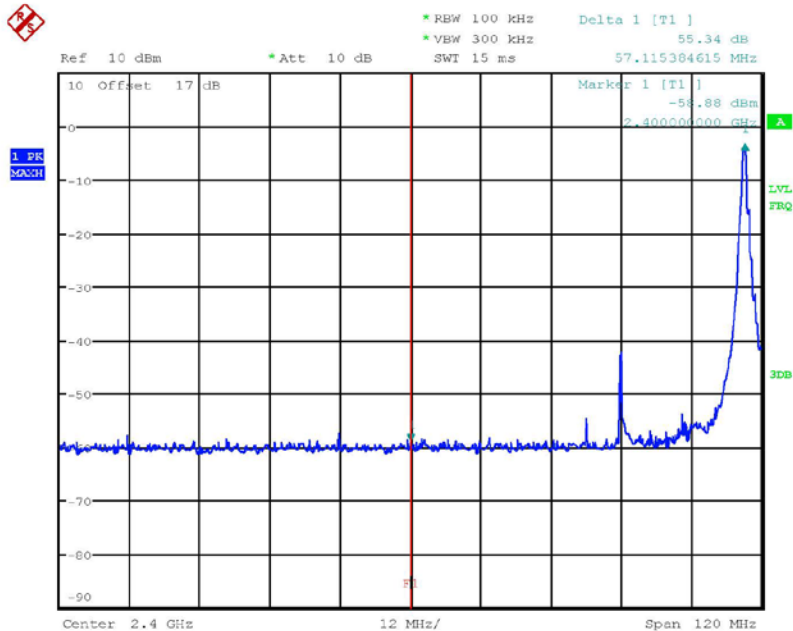
# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M22004-19822-C-1  
FCC ID: ON5-OHR30

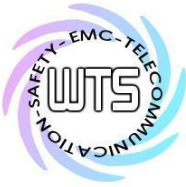


BANDEGE BT4.0 CH39  
Date: 24.APR.2020 10:23:20

ANT+

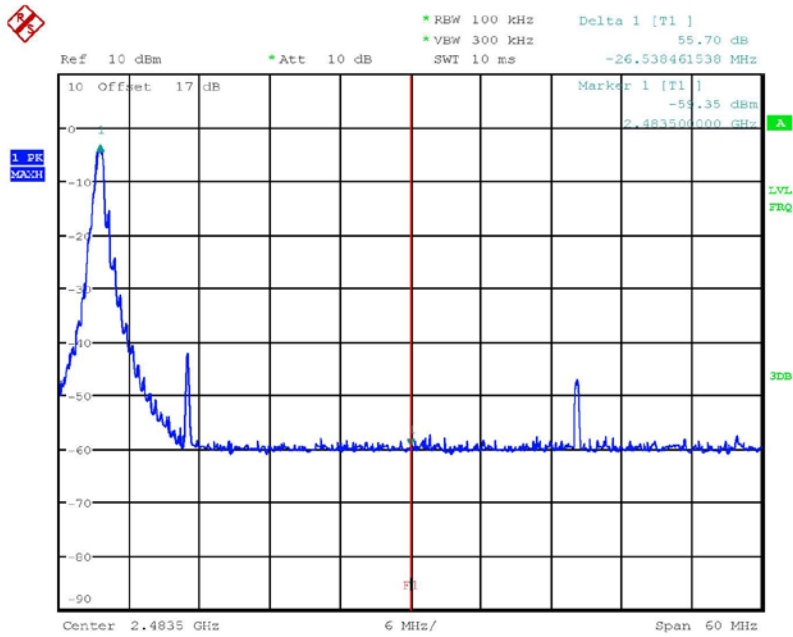


BANDEGE ANT+ 2457MHz  
Date: 24.APR.2020 10:30:18



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M22004-19822-C-1  
 FCC ID: ON5-OHR30



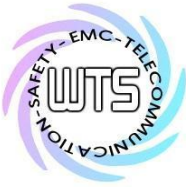
BANDEDGE ANT+ 2457MHz  
 Date: 24.APR.2020 10:29:10

Limit:

Frequency Range / MHz	Limit
902 – 928	- 20 dB
2400 – 2483.5	
5725 - 5850	

Test equipment used: ETSTW-RE 055, ETSTW-RE 050, ETSTW-RE 064





Registration number: W6M22004-19822-C-1  
FCC ID: ON5-OHR30

### 3.7 Minimum 6 dB Bandwidth

The analyzer ResBW was set to 100 kHz. For each RF output channel investigated, the spectrum analyzer center frequency was set to the channel carrier. A PEAK reading was taken, two markers were set 6 dB below the maximum level on the right and the left side of the emission.

The 6 dB bandwidth is the frequency difference between the two markers.

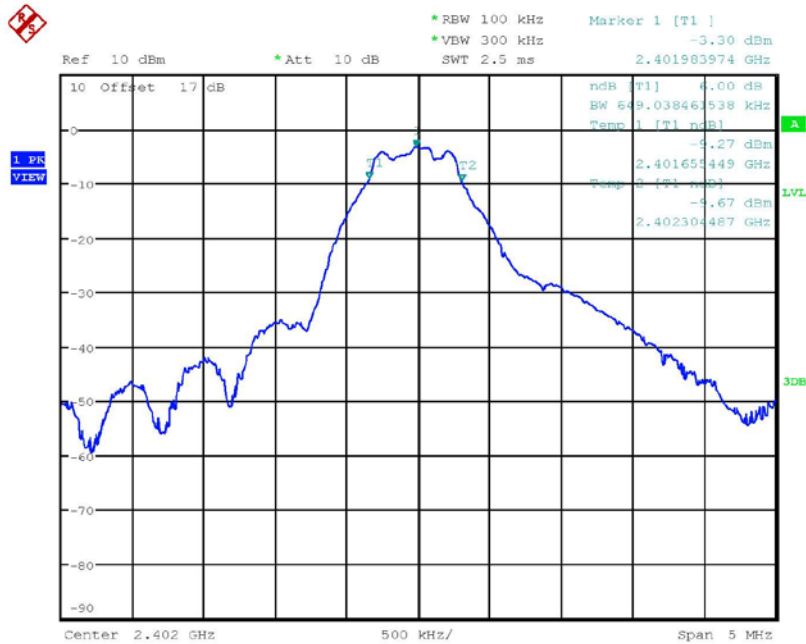
Test date: April 24, 2020

Temperature: 20.4 °C

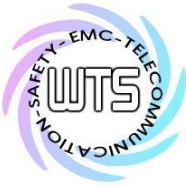
Humidity: 59.1 %

Tester: Sora Kuo

BLE

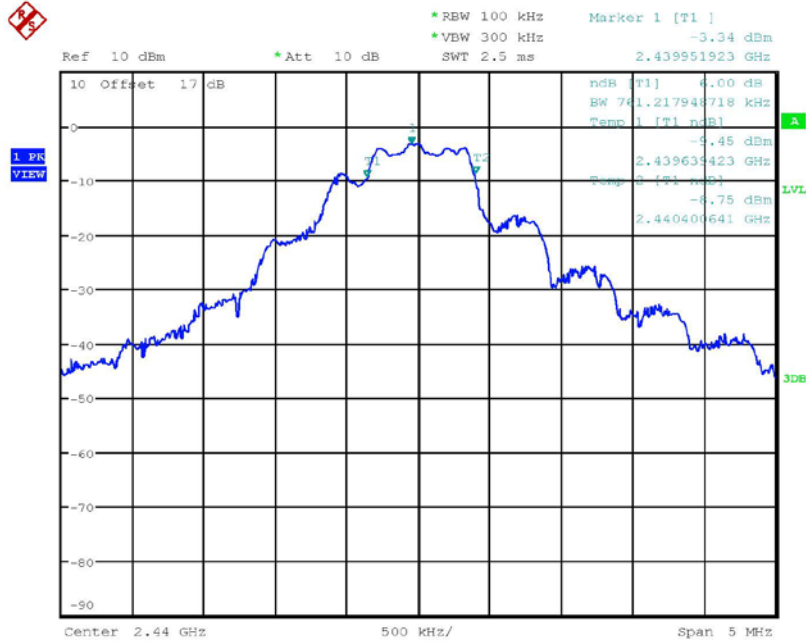


6DB BANDWIDTH BT4.0 CH00  
Date: 24.APR.2020 10:21:02

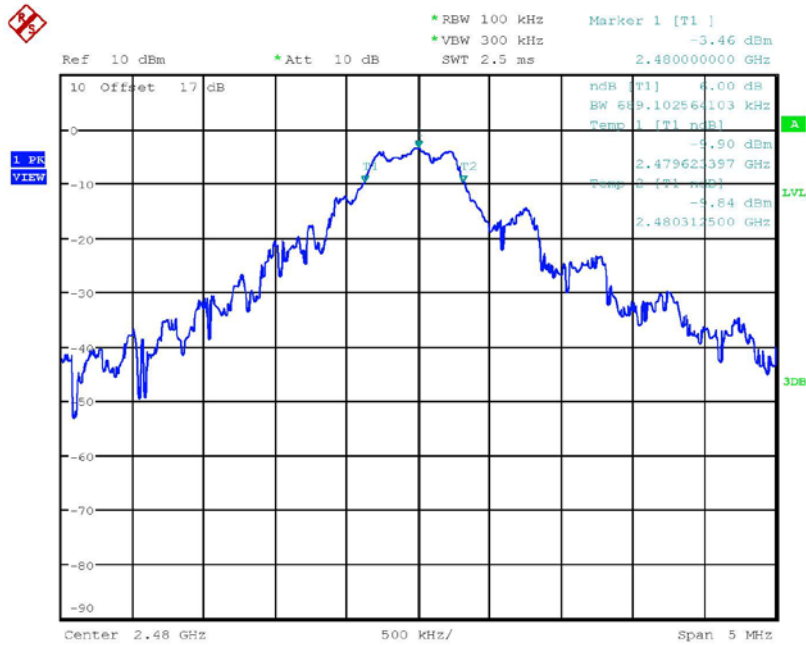


# Worldwide Testing Services(Taiwan) Co., Ltd.

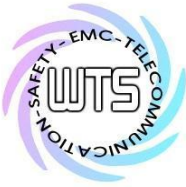
Registration number: W6M22004-19822-C-1  
FCC ID: ON5-OHR30



6DB BANDWIDTH BT4.0 CH19  
Date: 24.APR.2020 10:22:06

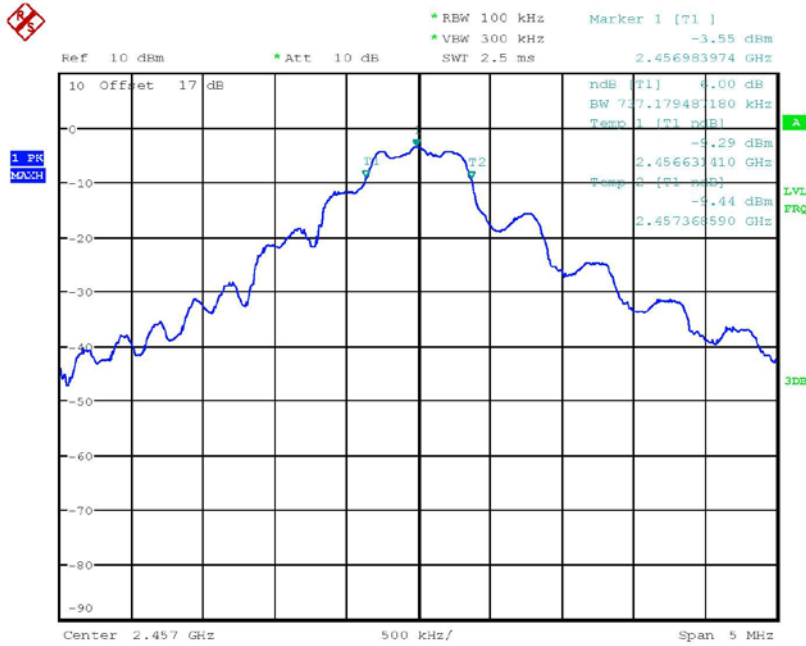


6DB BANDWIDTH BT4.0 CH39  
Date: 24.APR.2020 10:23:00



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M22004-19822-C-1  
 FCC ID: ON5-OHR30  
 ANT+

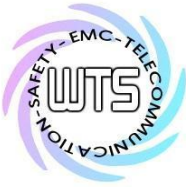


GDB BANDWIDTH ANT+ 2457MHz  
 Date: 24.APR.2020 10:31:20

## Limits:

Frequency Range MHz	Limits
902-928	min 500 kHz
2400-2483.5	min 500 kHz
5725-5850	min 500 kHz

Test equipment used: ETSTW-RE 055, ETSTW-RE 050



Registration number: W6M22004-19822-C-1  
FCC ID: ON5-OHR30

### 3.8 Peak Power Spectral Density

Peak Power Spectral density is a measured at low, middle and high channel.

The peak output power is measured with a measurement bandwidth of 10 MHz and displayed on diagram together with Peak Power Spectral Density result which was measured with a bandwidth of 3 kHz, appreciate frequency span and sweep time.

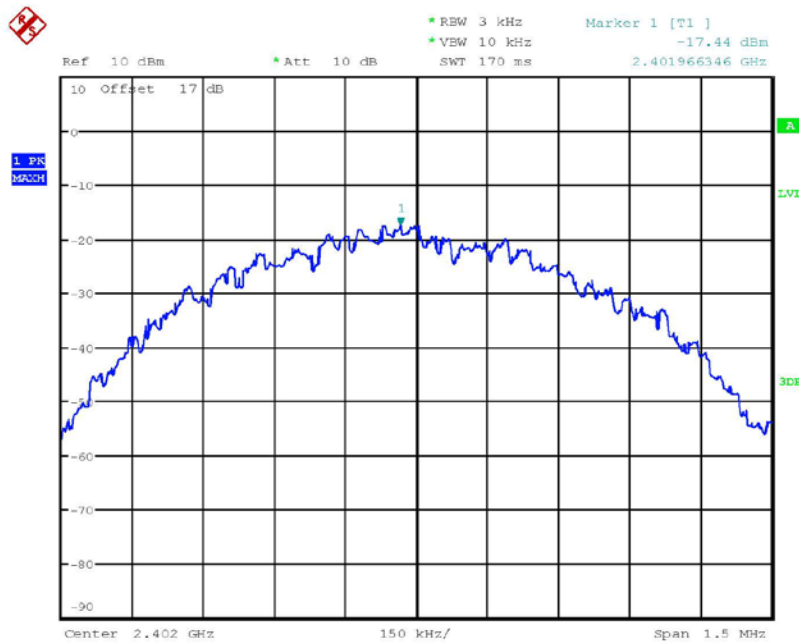
Test date: April 24, 2020

Temperature: 20.4 °C

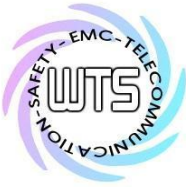
Humidity: 59.1 %

Tester: Sora Kuo

BLE

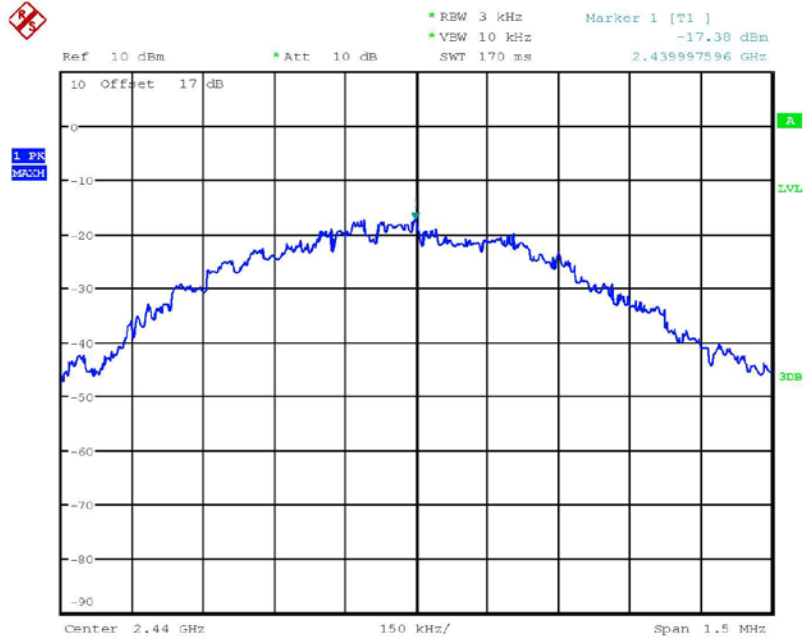


POWER DENSITY BT4.0 CH00  
Date: 24.APR.2020 10:21:14

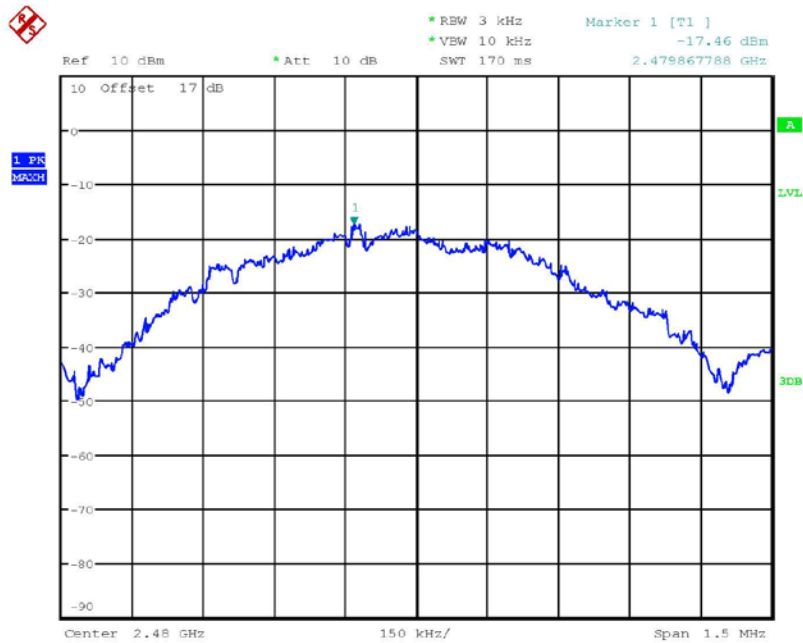


# Worldwide Testing Services(Taiwan) Co., Ltd.

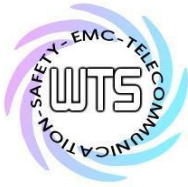
Registration number: W6M22004-19822-C-1  
FCC ID: ON5-OHR30



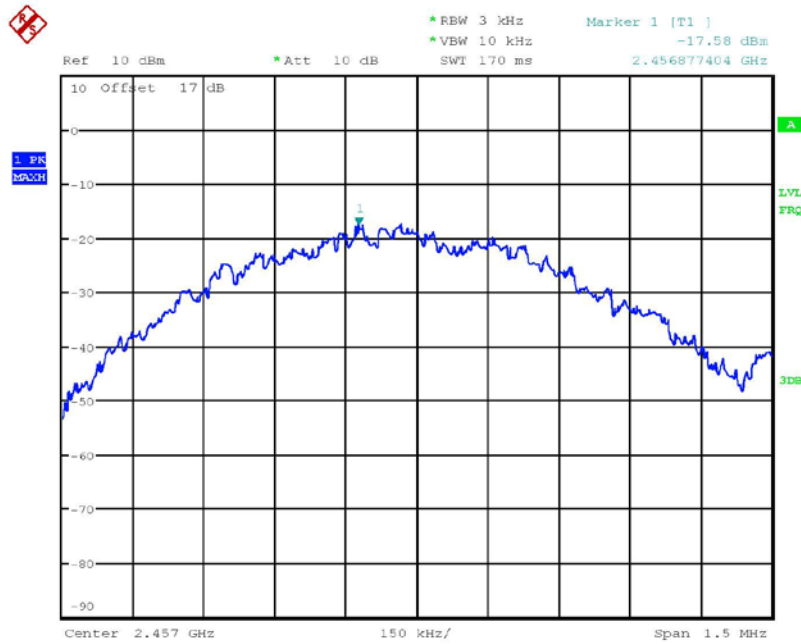
POWER DENSITY BT4.0 CH19  
Date: 24.APR.2020 10:22:10



POWER DENSITY BT4.0 CH39  
Date: 24.APR.2020 10:23:12



Registration number: W6M22004-19822-C-1  
 FCC ID: ON5-OHR30  
 ANT+

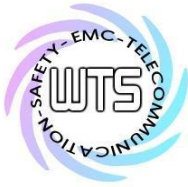


POWER DENSITY ANT+ 2457MHz  
 Date: 24.APR.2020 10:33:39

### Limits:

Frequency Range MHz	dBm
902-928	8
2400-2483.5	8
5725-5850	8

Test equipment used: ETSTW-RE 055, ETSTW-RE 050



Registration number: W6M22004-19822-C-1  
 FCC ID: ON5-OHR30

**3.9 Radiated Emission from Receiver Part**

Model: OHR-30 Date: --  
 Mode: -- Temperature: -- °C Engineer: --  
 Polarization: -- Humidity: --

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--

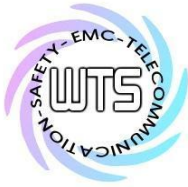
Frequency (MHz)	Reading (dBuV)		Factor (dB) Corr.	Result (dBuV/m)		Limit (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (m)
	Peak	Ave.		Peak	Ave.	Peak	Ave.			
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--

**Note**

1. Correction Factor = Antenna factor + Cable loss - Preamplifier
2. The formula of measured value as: Test Result = Reading + Correction Factor
3. Detector function in the form : PK = Peak, QP = Quasi Peak, AV = Average
4. All not in the table noted test results are more than 20 dB below the relevant limits.
5. Please see attached diagrams in appendix.

**TEST RESULT (Transmitter):** The unit DOES meet the FCC requirements.

Test equipment used: ETSTW-RE 030, ETSTW-RE 111, ETSTW-RE 088, ETSTW-RE 018, ETSTW-RE 064

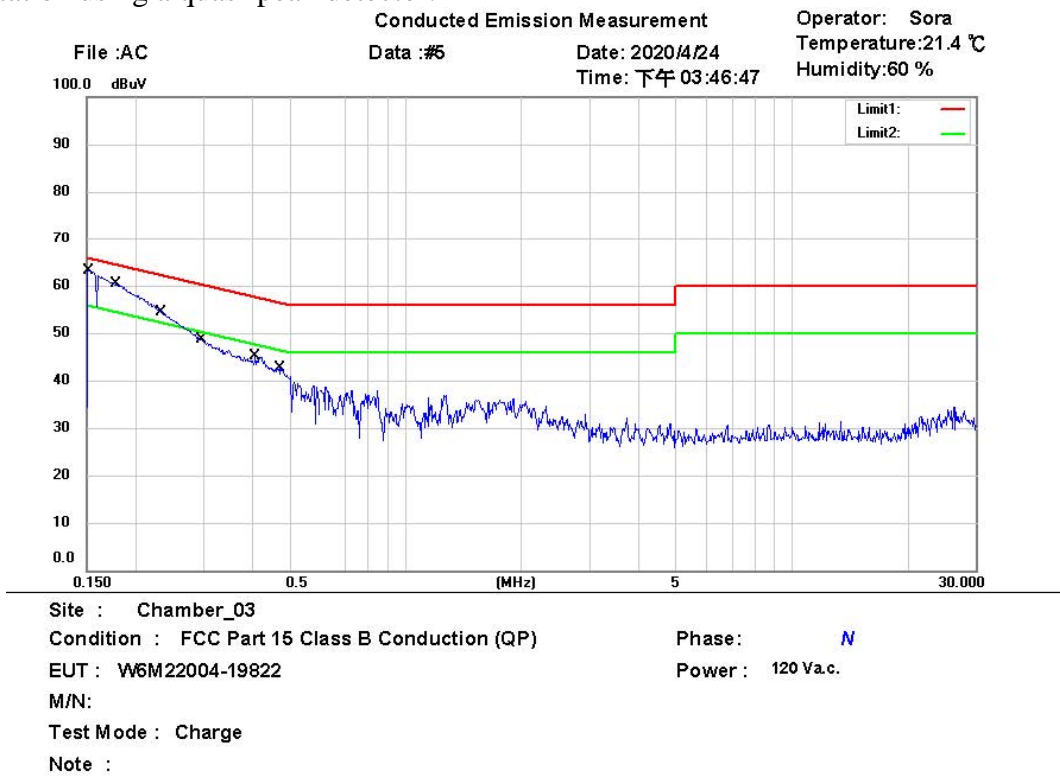


Registration number: W6M22004-19822-C-1  
 FCC ID: ON5-OHR30

### 3.10 Power Line Conducted Emission

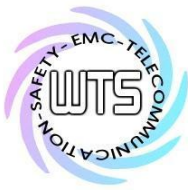
For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the table bellows with this provision shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminals.

This measurement was transact first with instrumentation using an average and peak detector and a 10 kHz bandwidth. If the peak detector achieves a calculated level, the measurement is repeated by an instrumentation using a quasi-peak detector.



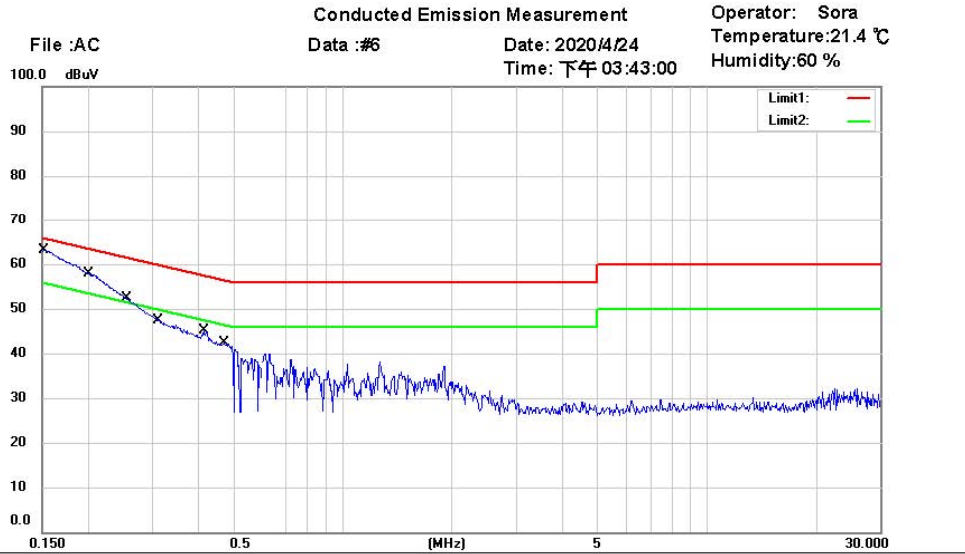
Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Comment
*	0.1514	40.70	QP	9.75	50.45	65.92	-15.47	
	0.1514	19.86	AVG	9.75	29.61	55.92	-26.31	
	0.1792	37.44	QP	9.74	47.18	64.52	-17.34	
	0.1792	16.25	AVG	9.74	25.99	54.52	-28.53	
	0.2352	31.62	QP	9.72	41.34	62.26	-20.92	
	0.2352	4.09	AVG	9.72	13.81	52.26	-38.45	
	0.2956	25.34	QP	9.71	35.05	60.37	-25.32	
	0.2956	-2.49	AVG	9.71	7.22	50.37	-43.15	
	0.4081	21.13	QP	9.69	30.82	57.69	-26.87	
	0.4081	6.20	AVG	9.69	15.89	47.69	-31.80	
	0.4694	18.58	QP	9.68	28.26	56.52	-28.26	
	0.4694	6.38	AVG	9.68	16.06	46.52	-30.46	





# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M22004-19822-C-1  
 FCC ID: ON5-OHR30



Site : Chamber\_03  
 Condition : FCC Part 15 Class B Conduction (QP)      Phase: L1  
 EUT : W6M22004-19822      Power : 120 V.a.c.  
 M/N:  
 Test Mode : Charge  
 Note :

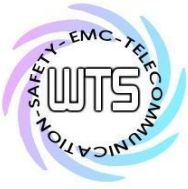
Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Comment
*	0.1514	41.47	QP	9.77	51.24	65.92	-14.68	
	0.1514	19.63	AVG	9.77	29.40	55.92	-26.52	
	0.2027	36.54	QP	9.75	46.29	63.50	-17.21	
	0.2027	11.60	AVG	9.75	21.35	53.50	-32.15	
	0.2570	30.68	QP	9.74	40.42	61.53	-21.11	
	0.2570	0.67	AVG	9.74	10.41	51.53	-41.12	
	0.3147	25.46	QP	9.73	35.19	59.85	-24.66	
	0.3147	1.18	AVG	9.73	10.91	49.85	-38.94	
	0.4132	22.23	QP	9.71	31.94	57.58	-25.64	
	0.4132	10.73	AVG	9.71	20.44	47.58	-27.14	
	0.4765	20.09	QP	9.70	29.79	56.40	-26.61	
	0.4765	13.51	AVG	9.70	23.21	46.40	-23.19	

- Note:**
1. The formula of measured value as: Test Result = Reading + Correction Factor
  2. The Correction Factor = Cable Loss + LISN Insertion Loss + Pulse Limit Loss
  3. Detector function in the form : PK = Peak, QP = Quasi Peak, AV = Average
  4. All not in the table noted test results are more than 20 dB below the relevant limits.
  5. Up Line: QP Limit Line, Down Line: Ave Limit Line.

**Limits:**

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi Peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

Test equipment used: ETSTW-CE 001, ETSTW-CE 016, ETSTW-RE 045.



Registration number: W6M22004-19822-C-1  
FCC ID: ON5-OHR30

**Measurement diagrams**

Spurious Emissions radiated



Address:6F.,No.58,Ln 188,Ruey Kuang Rd,Neihu,Taipei  
 Tel:+886-2-6606-8877  
 Fax:+886-2-6606-8875

Radiated Emission Measurement

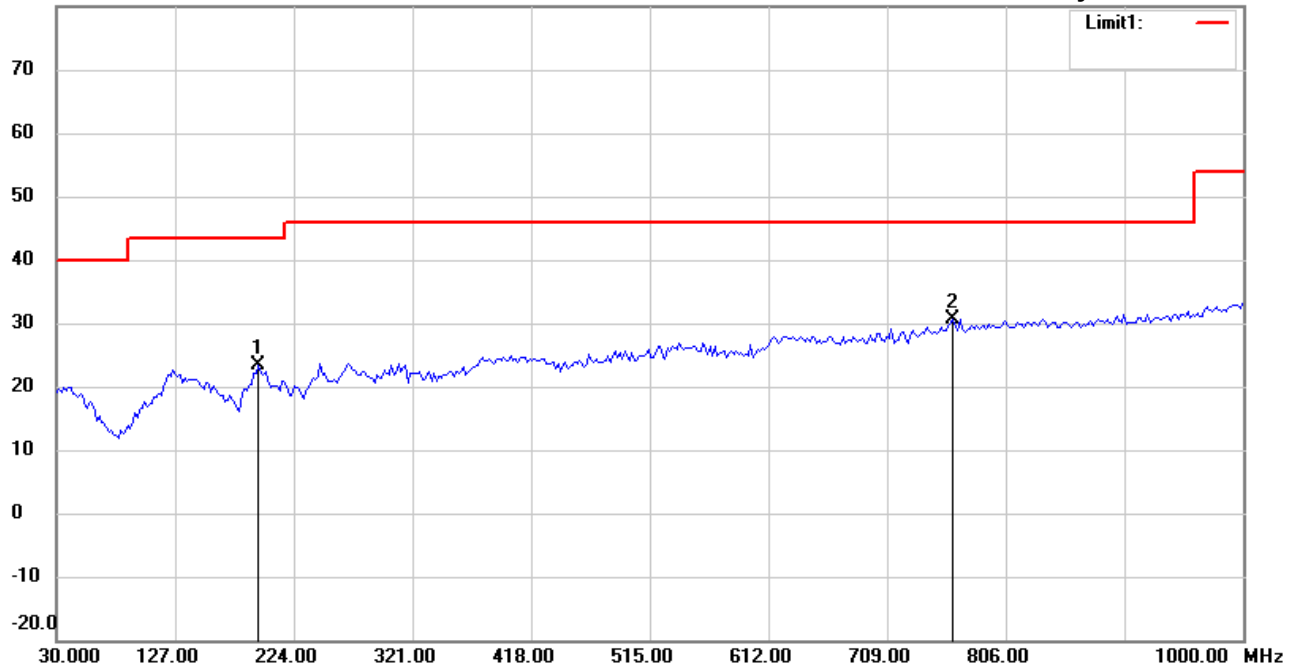
Operator: Allen

File :1\_BLE\_TX  
 80.0 dBuV/m

Data :#1

Date: 4/24/2020  
 Time: 4:05:05 AM

Temperature:22.8 °C  
 Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_30-1000MHz

EUT : W6M22004-19822

M/N:

Test Mode : TX 2402MHz

Note :

Polarization: *Horizontal*

Power : 3.7 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	195.2305	34.22	peak	-10.94	23.28	43.50	100	170	-20.22	
*	762.8454	29.70	peak	0.93	30.63	46.00	100	255	-15.37	

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



Radiated Emission Measurement

Operator: Allen

File :1\_BLE\_TX

Data :#2

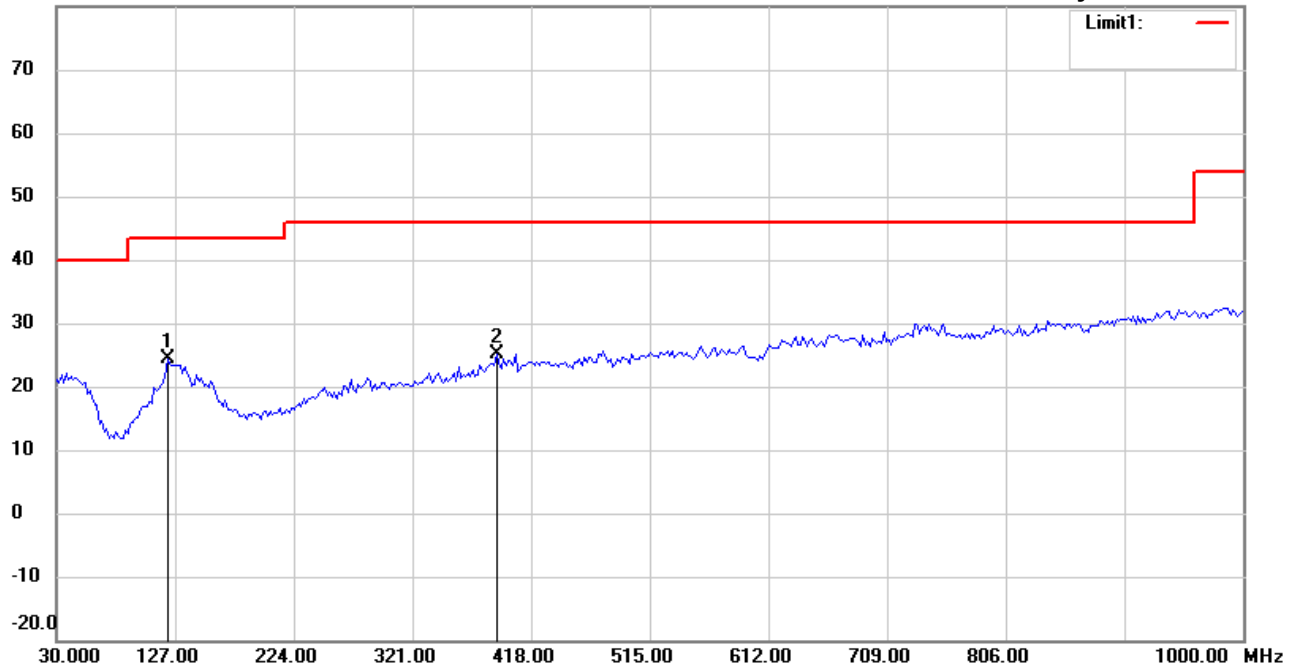
Date: 4/24/2020

Temperature:22.8 °C

80.0 dBuV/m

Time: 4:06:22 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_30-1000MHz

EUT : W6M22004-19822

M/N:

Test Mode : TX 2402MHz

Note :

Polarization: **Vertical**

Power : 3.7 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	121.3627	31.57	peak	-7.31	24.26	43.50	100	257	-19.24	
	389.6191	29.17	peak	-4.01	25.16	46.00	100	160	-20.84	



Address:6F.,No.58,Ln 188,Ruey Kuang Rd,Neihu,Taipei  
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Radiated Emission Measurement

Operator: Allen

File :3

Data :#1

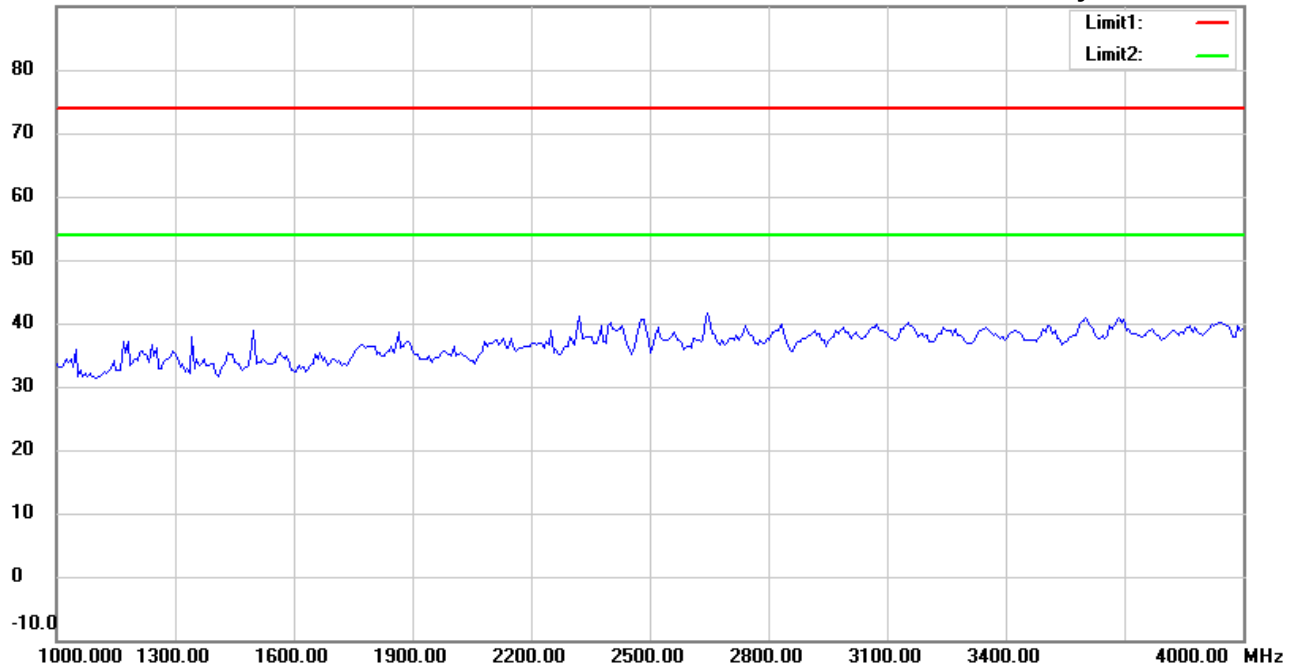
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:21:27 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

Polarization: *Horizontal*

EUT : W6M22004-19822

Power : 3.7 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 2402MHz

Note :

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
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\*:Maximum data    x:Over limit    !:over margin



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Radiated Emission Measurement

Operator: Allen

File :3

Data :#6

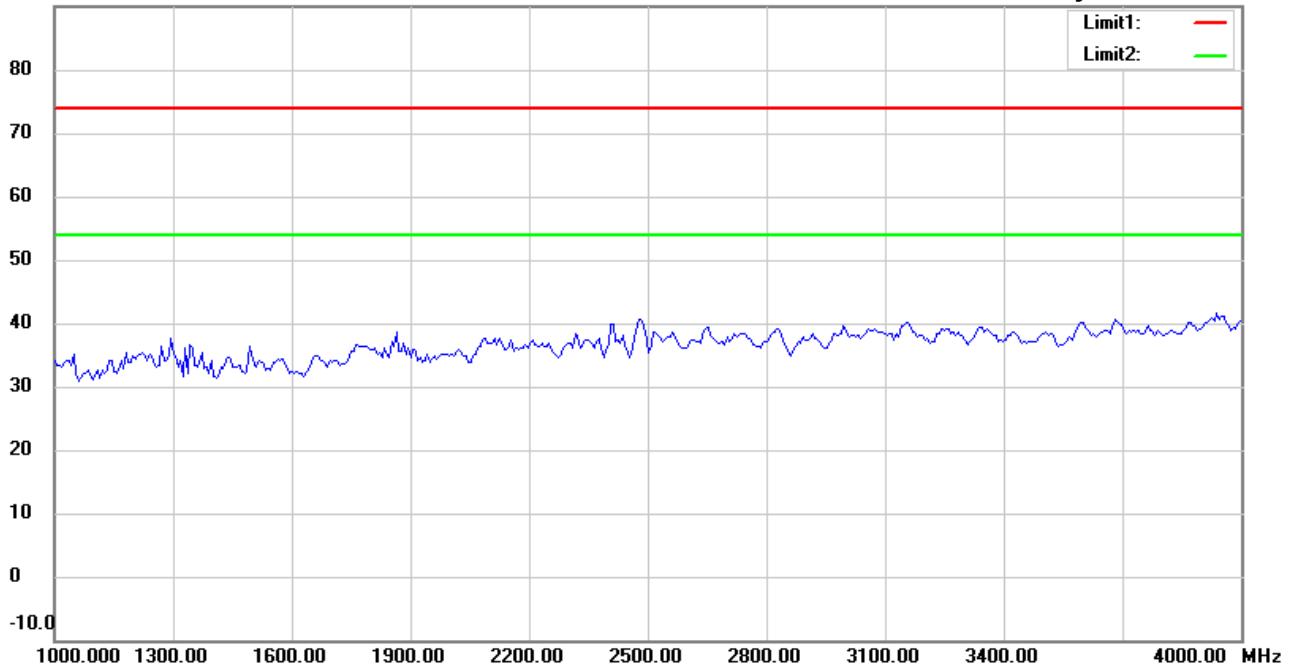
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:24:59 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

EUT : W6M22004-19822

M/N:

Test Mode : TX 2402MHz

Note :

Polarization: *Vertical*

Power : 3.7 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
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\*:Maximum data    x:Over limit    !:over margin



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 Tel:+886-2-6606-8877  
 Fax:+886-2-6606-8875

Radiated Emission Measurement

Operator: Allen

File :3

Data :#2

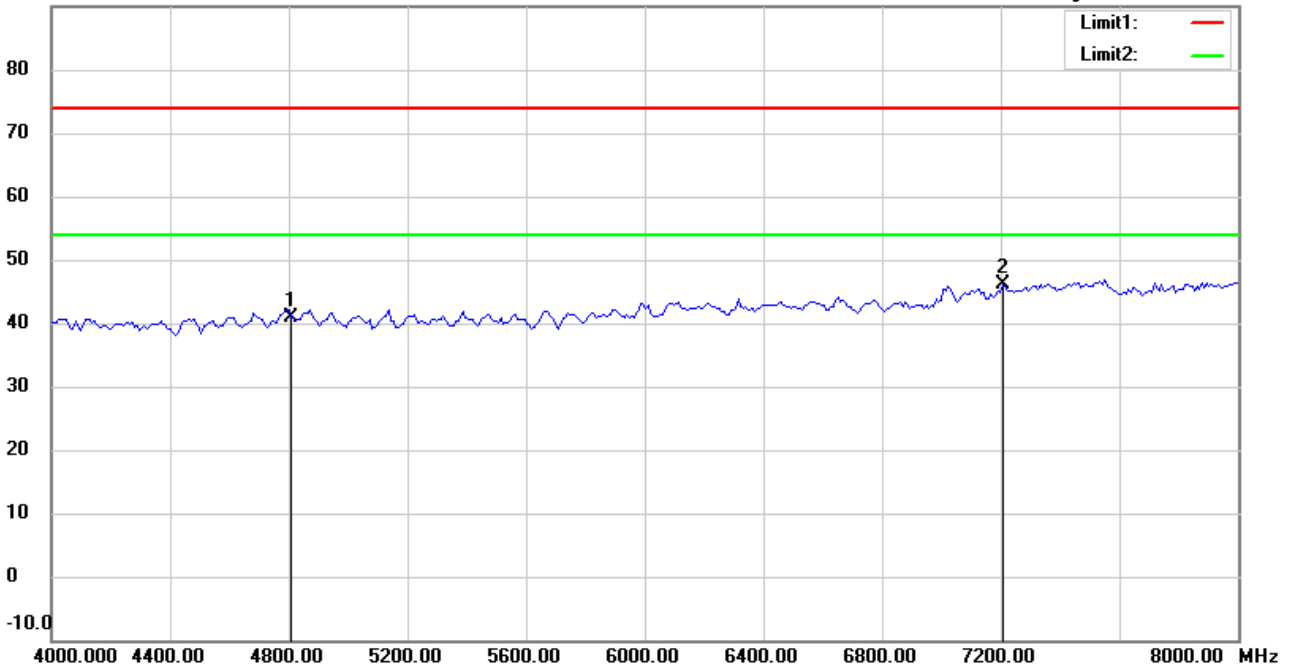
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:22:28 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

Polarization: *Horizontal*

EUT : W6M22004-19822

Power : 3.7 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 2402MHz

Note :

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	4804.000	42.85	peak	-1.95	40.90	74.00	150	338	-33.10	
*	7206.000	42.92	peak	3.24	46.16	74.00	150	261	-27.84	

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



Radiated Emission Measurement

Operator: Allen

File :3

Data :#7

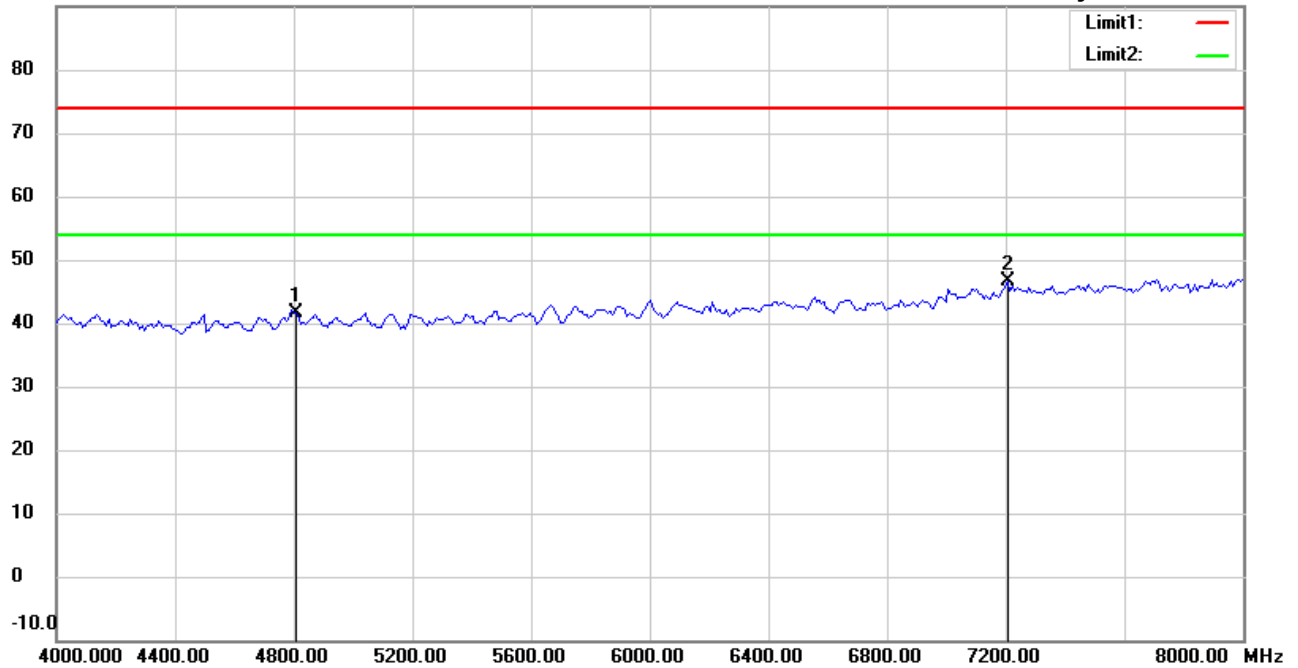
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:25:59 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

EUT : W6M22004-19822

M/N:

Test Mode : TX 2402MHz

Note :

Polarization: **Vertical**

Power : 3.7 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	4804.000	43.61	peak	-1.95	41.66	74.00	150	319	-32.34	
*	7206.000	43.45	peak	3.24	46.69	74.00	150	275	-27.31	





Address:6F.,No.58,Ln 188,Ruey Kuang Rd,Neihu,Taipei  
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Radiated Emission Measurement

Operator: Allen

File :3

Data :#3

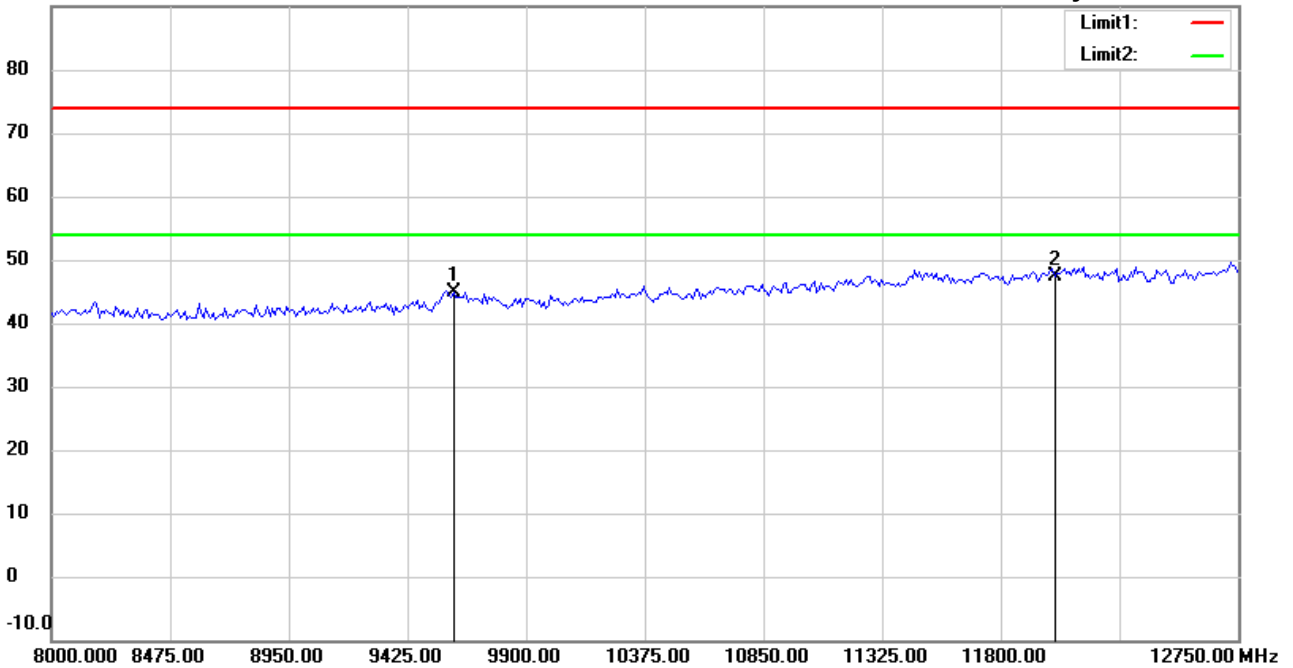
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:23:35 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

Polarization: **Horizontal**

EUT : W6M22004-19822

Power : 3.7 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 2402MHz

Note :

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	9608.000	38.27	peak	6.53	44.80	74.00	150	140	-29.20	
*	12010.000	35.85	peak	11.62	47.47	74.00	150	257	-26.53	

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



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Radiated Emission Measurement

Operator: Allen

File :3

Data :#8

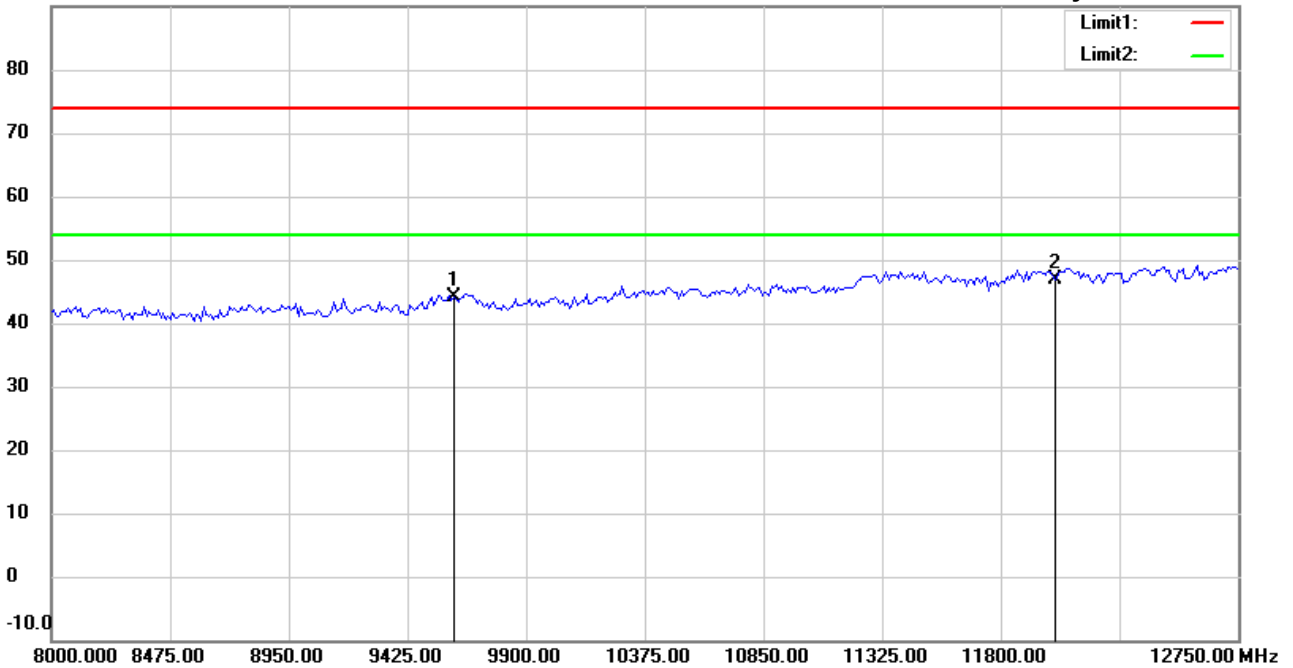
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:26:59 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

Polarization: **Vertical**

EUT : W6M22004-19822

Power : 3.7 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 2402MHz

Note :

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	9608.000	37.64	peak	6.53	44.17	74.00	150	263	-29.83	
*	12010.000	35.38	peak	11.62	47.00	74.00	150	125	-27.00	

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



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Radiated Emission Measurement

Operator: Allen

File :3

Data :#4

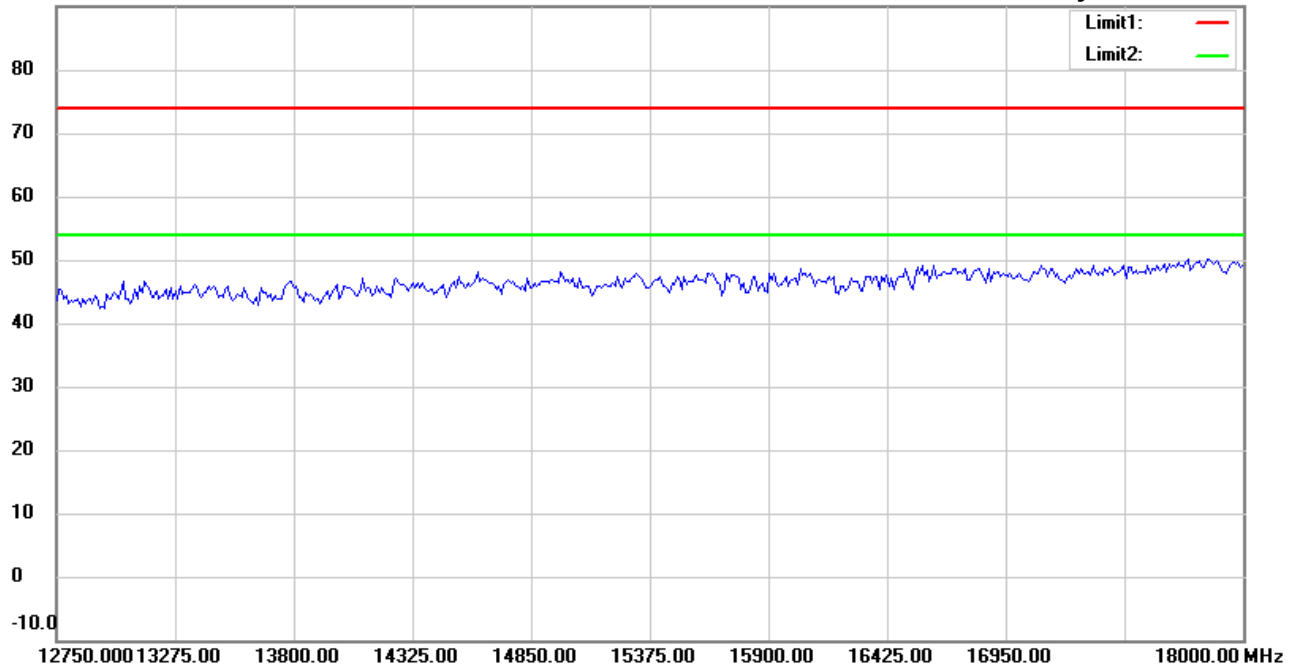
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:23:49 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

Polarization: *Horizontal*

EUT : W6M22004-19822

Power : 3.7 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 2402MHz

Note :

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
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\*:Maximum data    x:Over limit    !:over margin



Address:6F.,No.58,Ln 188,Ruey Kuang Rd,Neihu,Taipei  
 Tel:+886-2-6606-8877  
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Radiated Emission Measurement

Operator: Allen

File :3

Data :#9

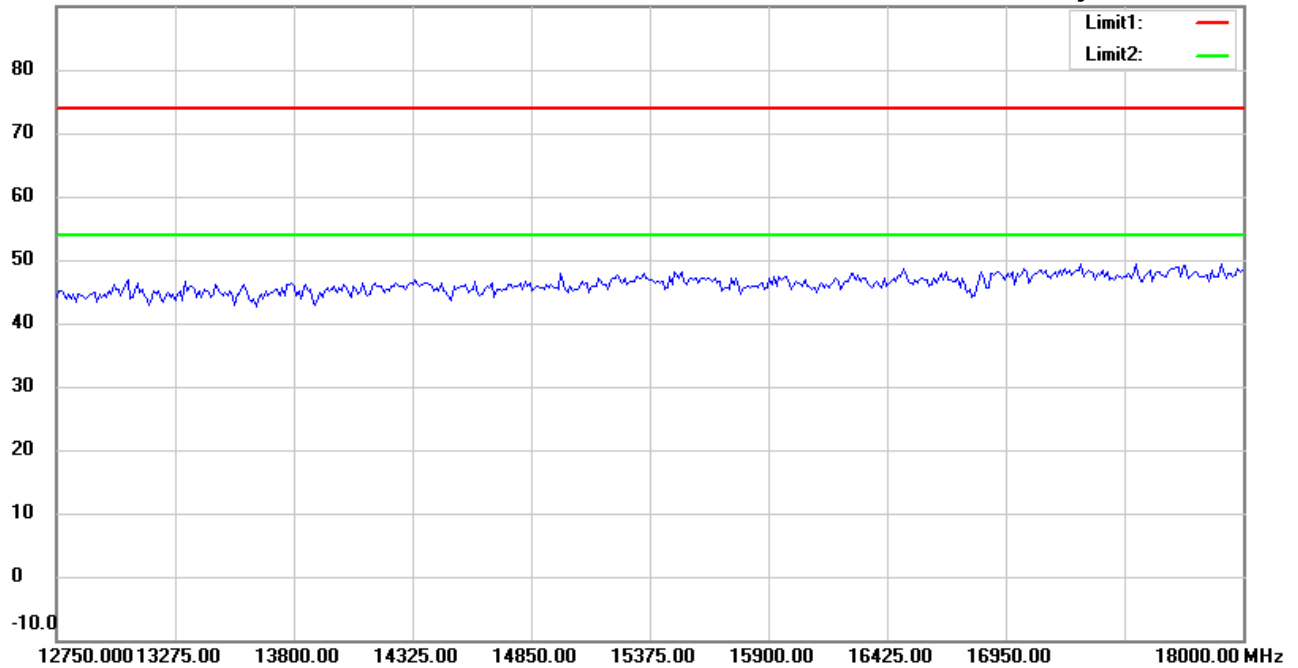
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:27:13 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

Polarization: *Vertical*

EUT : W6M22004-19822

Power : 3.7 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 2402MHz

Note :

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
-----	-----------------	----------------	----------	---------------------	-----------------	----------------	--------------	----------------	-------------	---------

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



Address:6F.,No.58,Ln 188,Ruey Kuang Rd,Neihu,Taipei  
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**Radiated Emission Measurement**

Operator: Allen

File :3

Data :#5

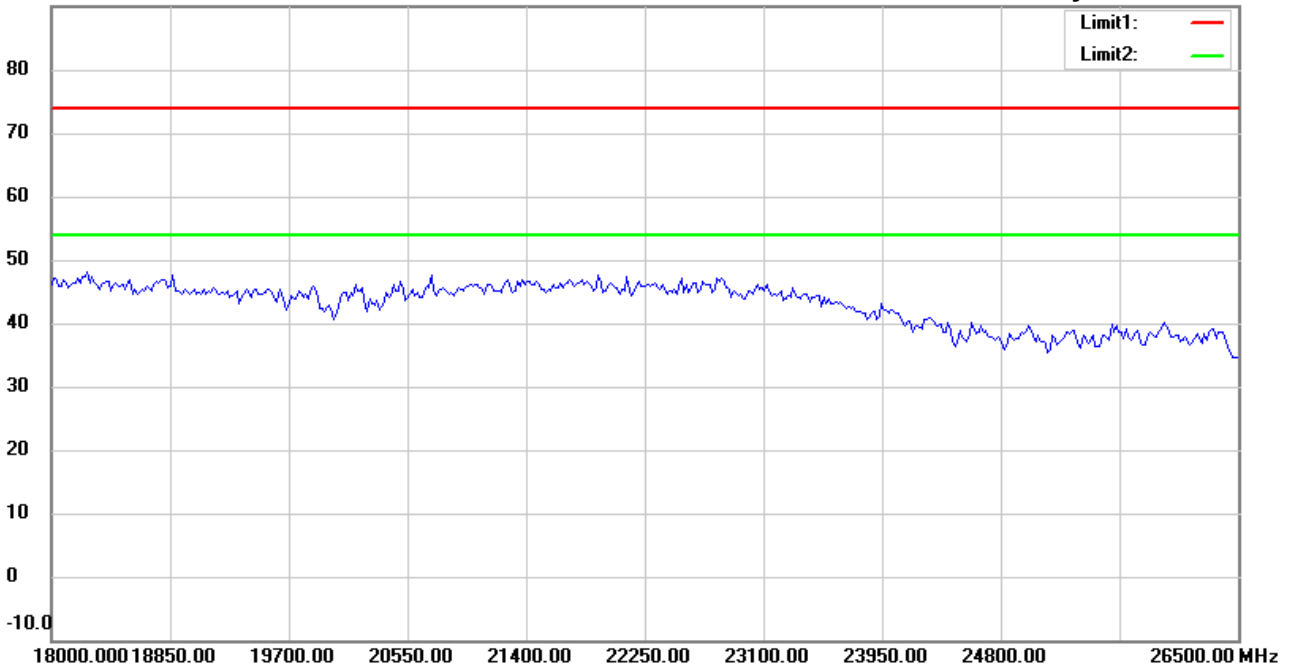
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:23:58 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

Polarization: *Horizontal*

EUT : W6M22004-19822

Power : 3.7 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 2402MHz

Note :

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
-----	-----------------	----------------	----------	---------------------	-----------------	----------------	--------------	----------------	-------------	---------

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



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 Tel:+886-2-6606-8877  
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Radiated Emission Measurement

Operator: Allen

File :3

Data :#10

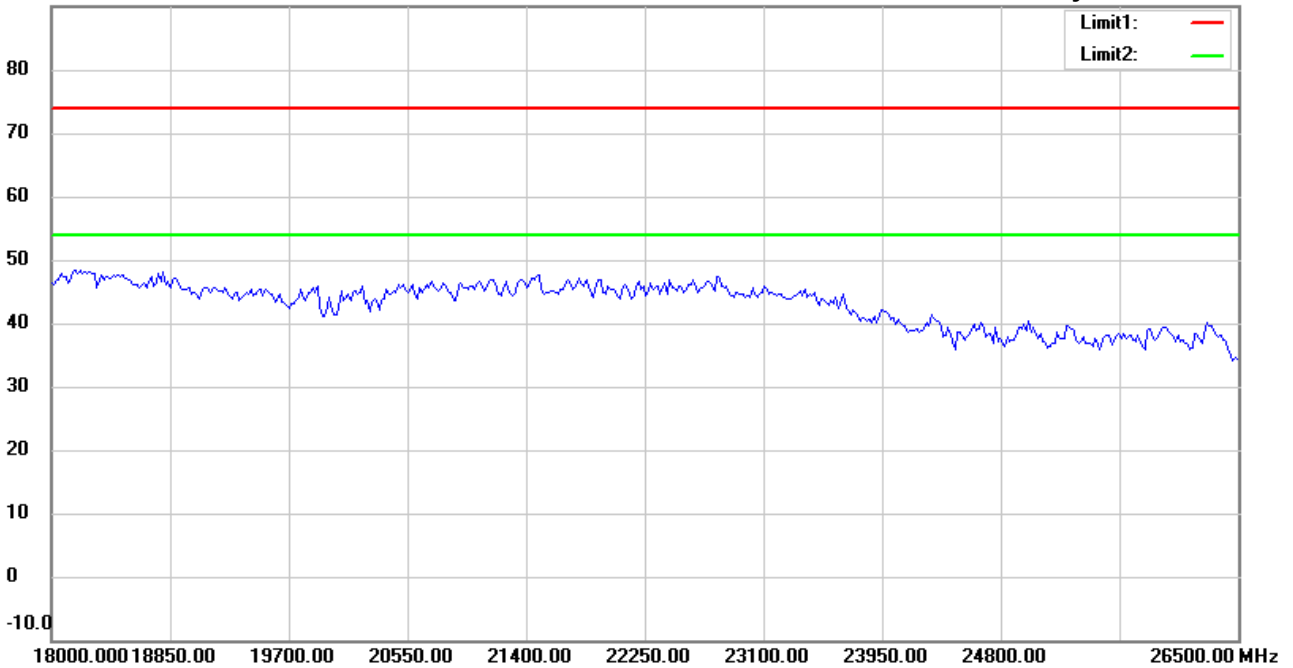
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:27:23 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

Polarization: *Vertical*

EUT : W6M22004-19822

Power : 3.7 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 2402MHz

Note :

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
-----	-----------------	----------------	----------	---------------------	-----------------	----------------	--------------	----------------	-------------	---------

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



Address:6F.,No.58,Ln 188,Ruey Kuang Rd,Neihu,Taipei  
 Tel:+886-2-6606-8877  
 Fax:+886-2-6606-8875

Radiated Emission Measurement

Operator: Allen

File :3

Data :#1

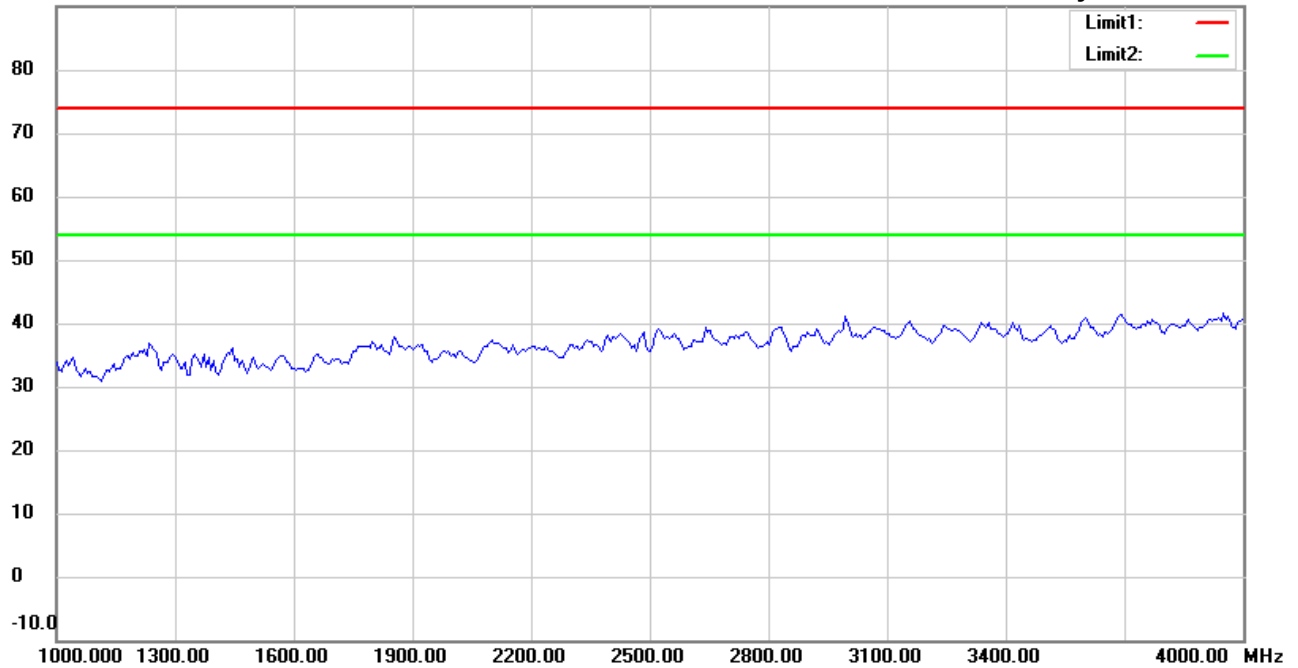
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:28:31 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

EUT : W6M22004-19822

M/N:

Test Mode : TX 2440MHz

Note :

Polarization: *Horizontal*

Power : 3.7 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
-----	-----------------	----------------	----------	---------------------	-----------------	----------------	--------------	----------------	-------------	---------

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



Address:6F.,No.58,Ln 188,Ruey Kuang Rd,Neihu,Taipei  
 Tel:+886-2-6606-8877  
 Fax:+886-2-6606-8875

Radiated Emission Measurement

Operator: Allen

File :3

Data :#6

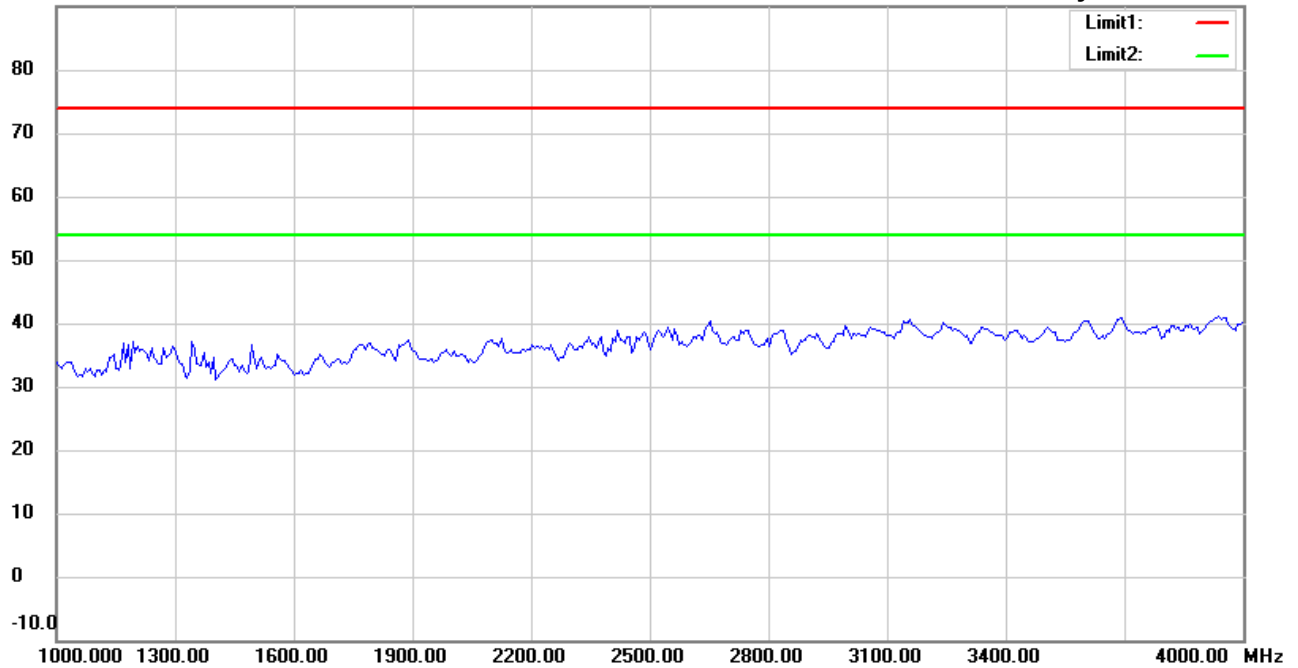
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:32:02 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

EUT : W6M22004-19822

M/N:

Test Mode : TX 2440MHz

Note :

Polarization: *Vertical*

Power : 3.7 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
-----	-----------------	----------------	----------	---------------------	-----------------	----------------	--------------	----------------	-------------	---------

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





Radiated Emission Measurement

Operator: Allen

File :3

Data :#2

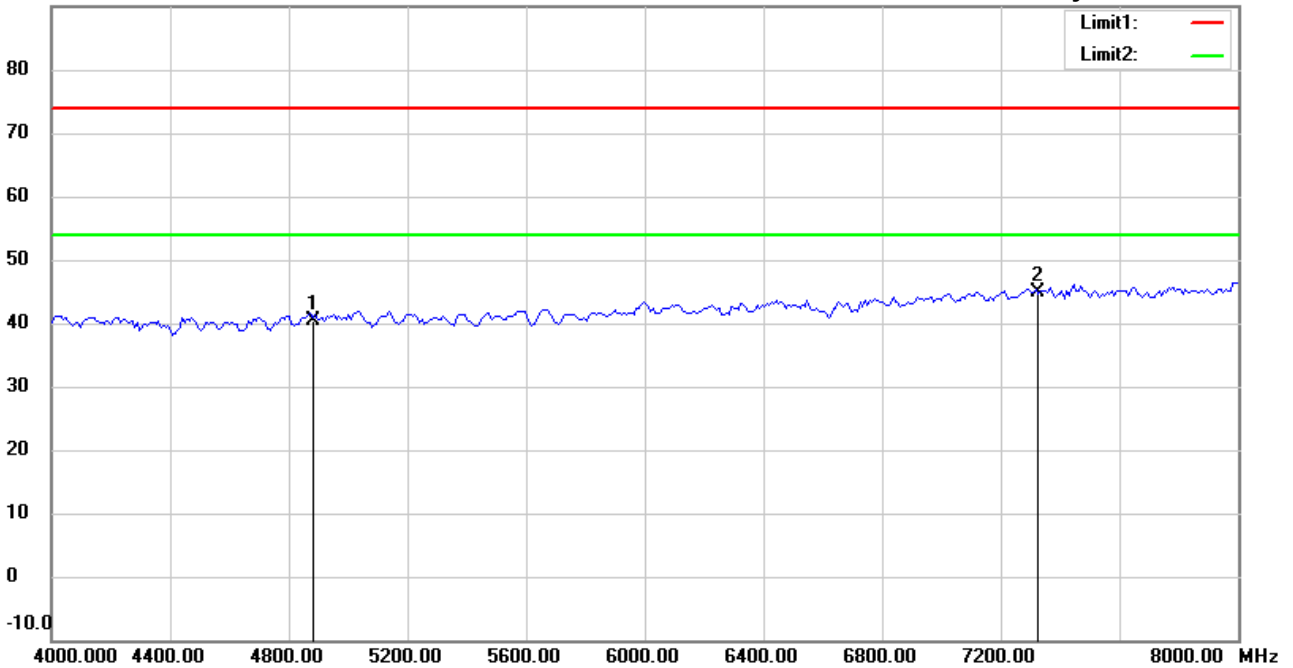
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:29:32 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

EUT : W6M22004-19822

M/N:

Test Mode : TX 2440MHz

Note :

Polarization: *Horizontal*

Power : 3.7 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	4880.000	42.15	peak	-1.68	40.47	74.00	150	70	-33.53	
*	7320.000	41.37	peak	3.45	44.82	74.00	150	234	-29.18	



Radiated Emission Measurement

Operator: Allen

File :3

Data :#7

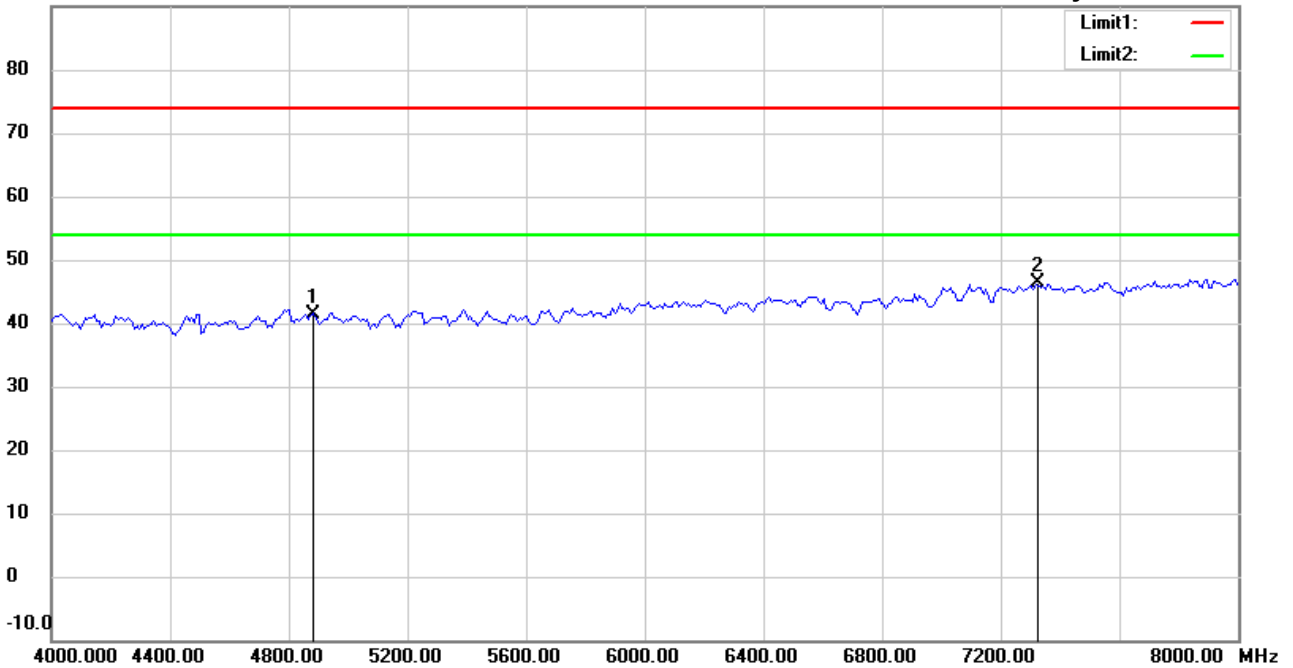
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:33:03 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

EUT : W6M22004-19822

M/N:

Test Mode : TX 2440MHz

Note :

Polarization: **Vertical**

Power : 3.7 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	4880.000	43.15	peak	-1.68	41.47	74.00	150	235	-32.53	
*	7320.000	42.86	peak	3.45	46.31	74.00	150	140	-27.69	



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Radiated Emission Measurement

Operator: Allen

File :3

Data :#3

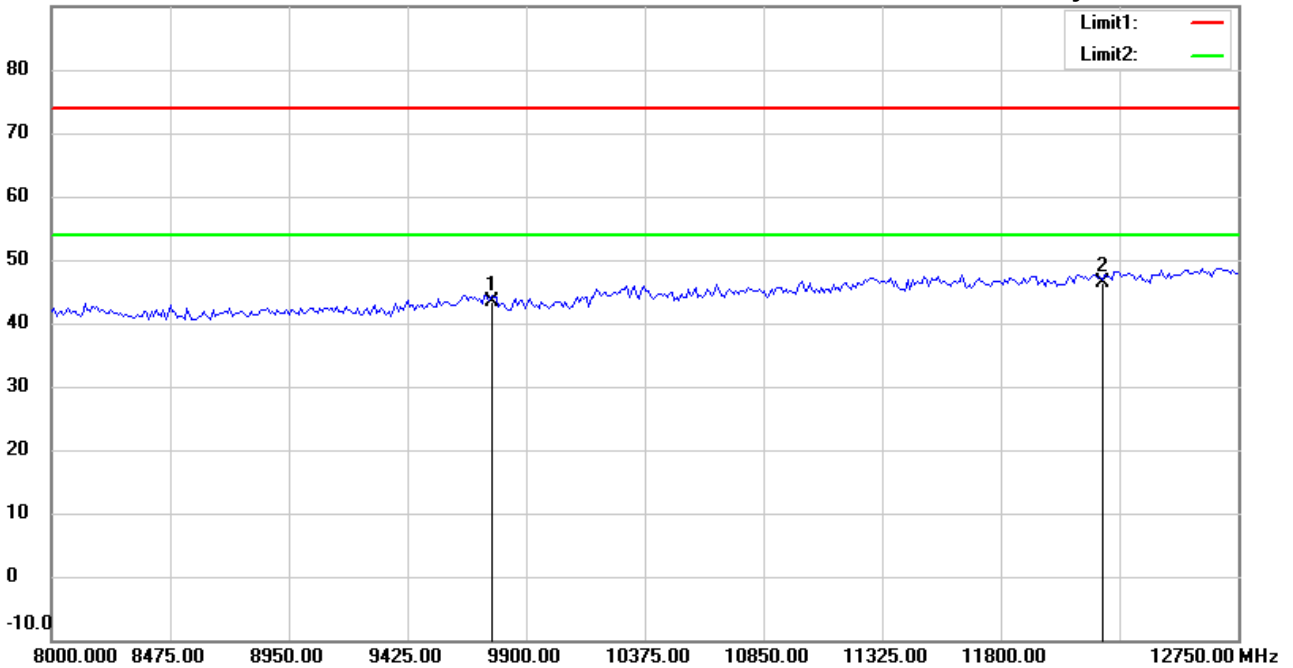
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:30:38 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

Polarization: *Horizontal*

EUT : W6M22004-19822

Power : 3.7 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 2440MHz

Note :

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	9760.000	36.57	peak	6.76	43.33	74.00	150	275	-30.67	
*	12200.000	33.62	peak	12.85	46.47	74.00	150	130	-27.53	

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



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Radiated Emission Measurement

Operator: Allen

File :3

Data :#8

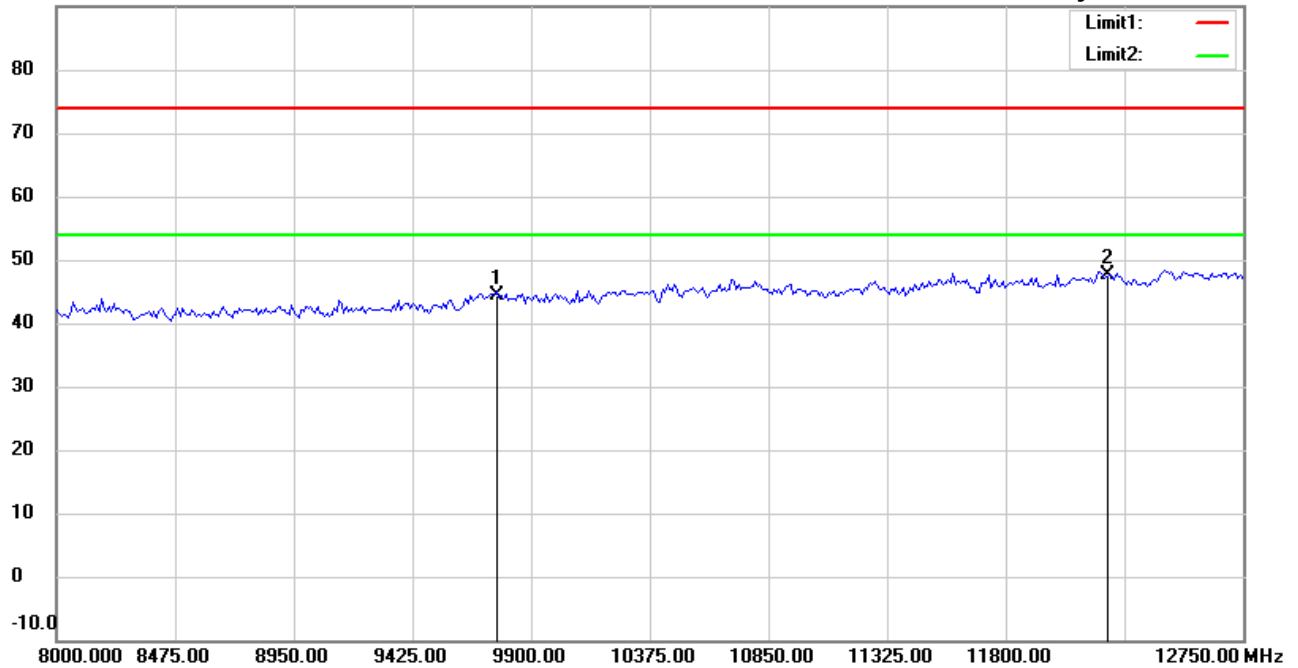
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:34:02 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

Polarization: **Vertical**

EUT : W6M22004-19822

Power : 3.7 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 2440MHz

Note :

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	9760.000	37.52	peak	6.76	44.28	74.00	150	260	-29.72	
*	12200.000	34.86	peak	12.85	47.71	74.00	150	170	-26.29	

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



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Radiated Emission Measurement

Operator: Allen

File :3

Data :#4

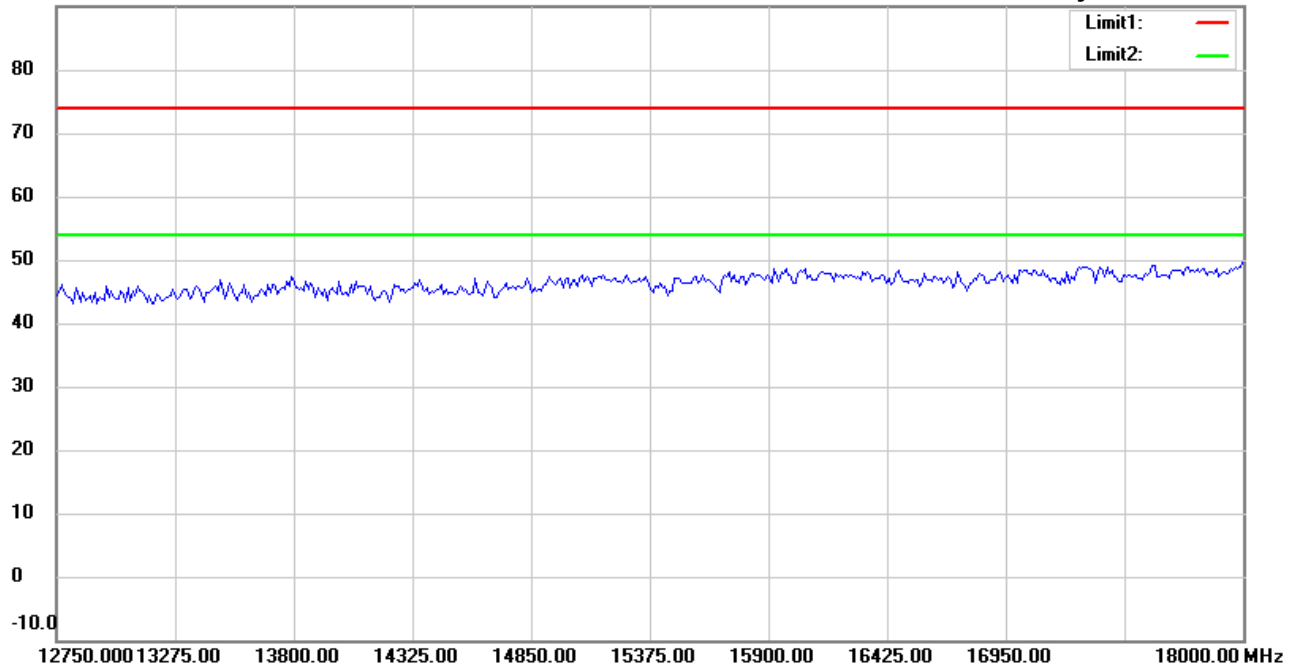
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:30:52 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

EUT : W6M22004-19822

M/N:

Test Mode : TX 2440MHz

Note :

Polarization: *Horizontal*

Power : 3.7 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
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\*:Maximum data    x:Over limit    !:over margin



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Radiated Emission Measurement

Operator: Allen

File :3

Data :#9

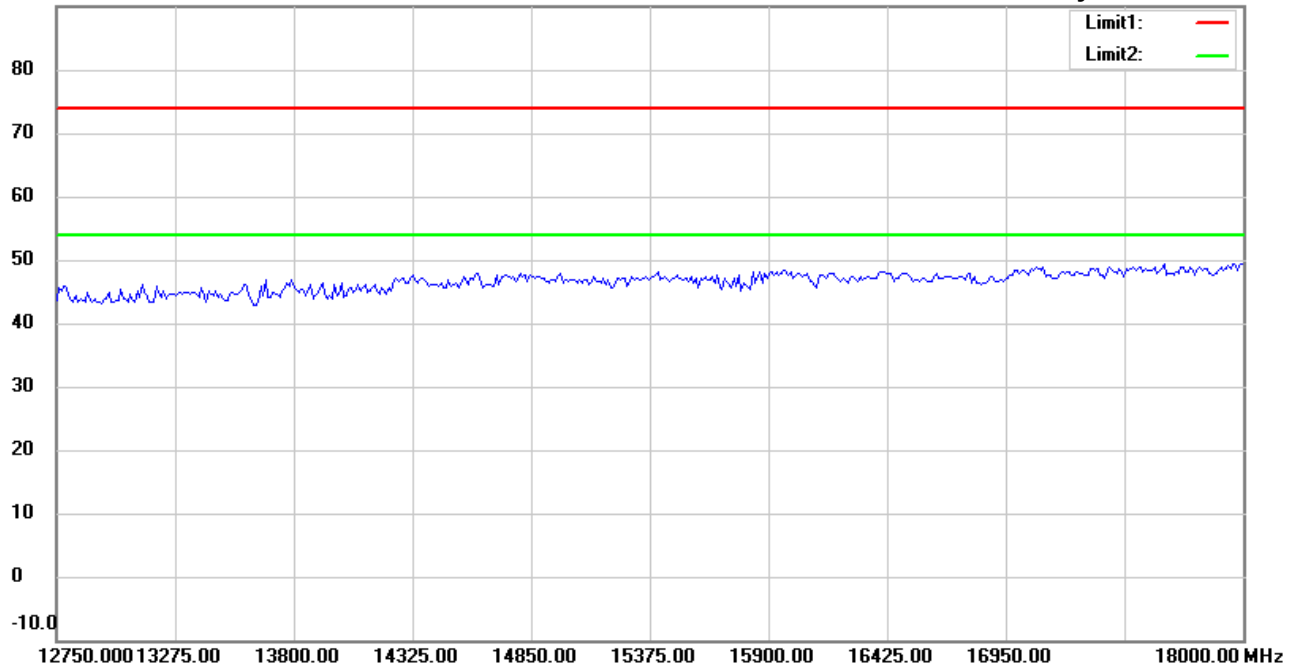
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:34:16 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

Polarization: **Vertical**

EUT : W6M22004-19822

Power : 3.7 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 2440MHz

Note :

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
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\*:Maximum data    x:Over limit    !:over margin



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Radiated Emission Measurement

Operator: Allen

File :3

Data :#5

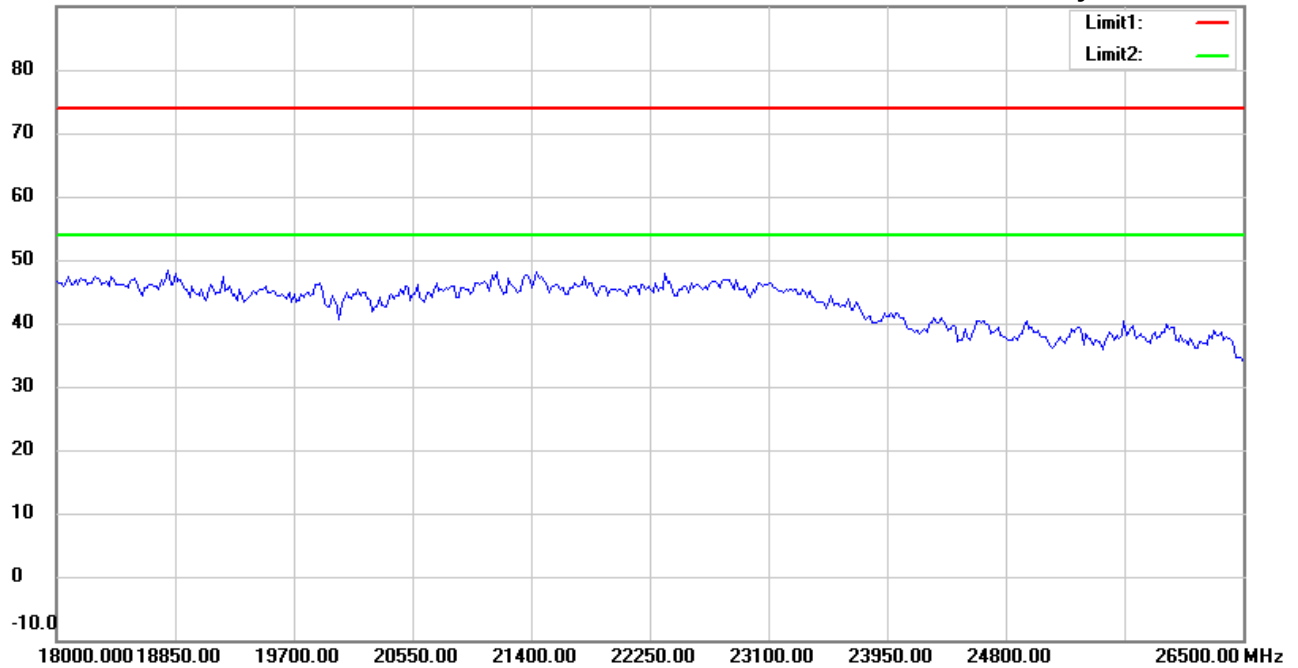
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:31:02 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

EUT : W6M22004-19822

M/N:

Test Mode : TX 2440MHz

Note :

Polarization: *Horizontal*

Power : 3.7 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
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\*:Maximum data    x:Over limit    !:over margin



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Radiated Emission Measurement

Operator: Allen

File :3

Data :#10

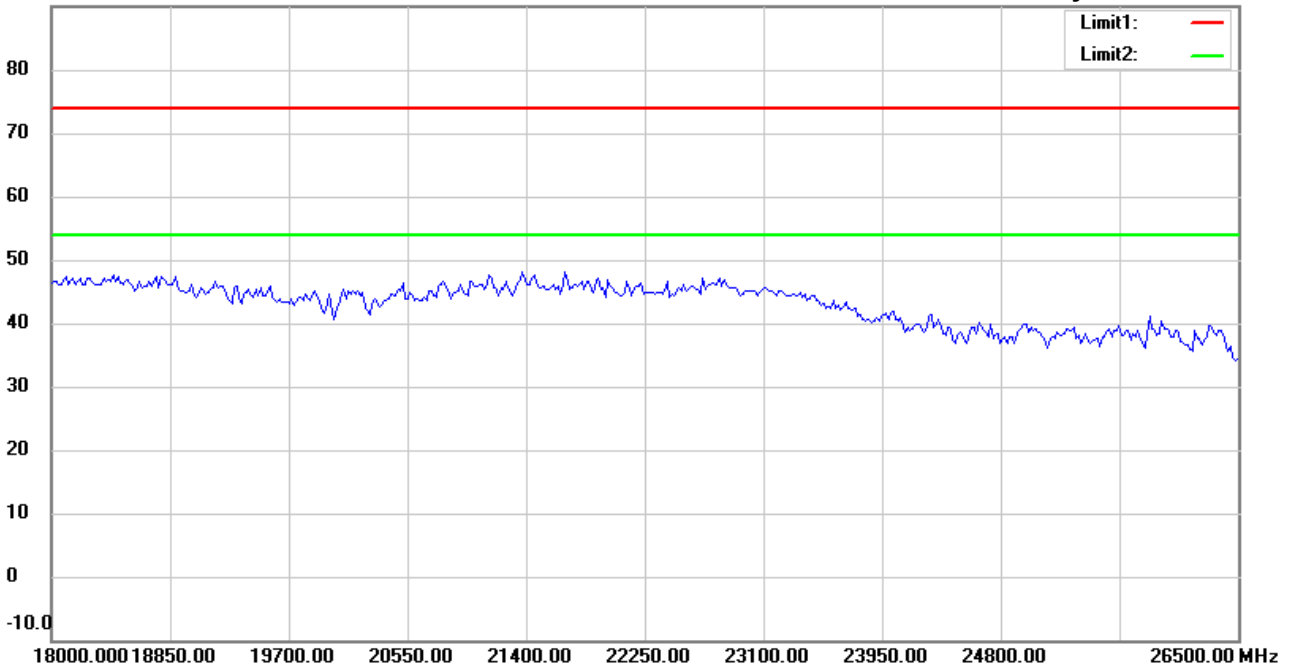
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:34:26 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

Polarization: *Vertical*

EUT : W6M22004-19822

Power : 3.7 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 2440MHz

Note :

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
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\*:Maximum data    x:Over limit    !:over margin





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Radiated Emission Measurement

Operator: Allen

File :3

Data :#1

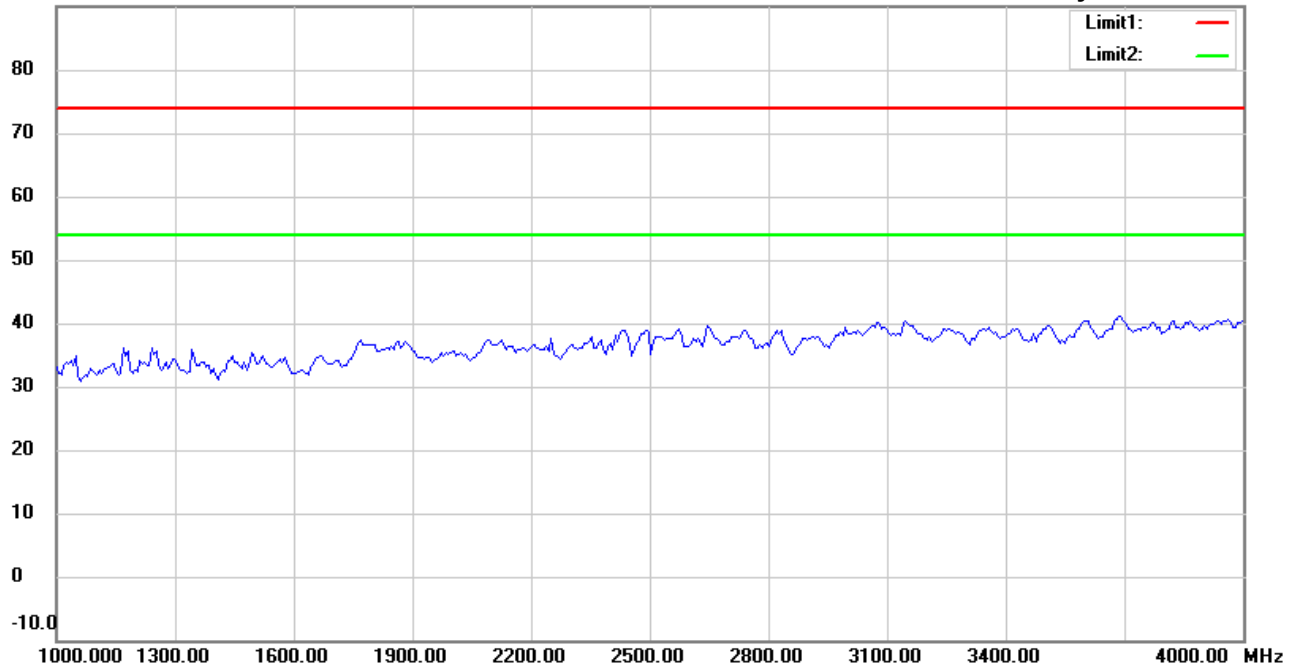
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:36:41 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

EUT : W6M22004-19822

M/N:

Test Mode : TX 2480MHz

Note :

Polarization: *Horizontal*

Power : 3.7 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
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\*:Maximum data    x:Over limit    !:over margin



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Radiated Emission Measurement

Operator: Allen

File :3

Data :#6

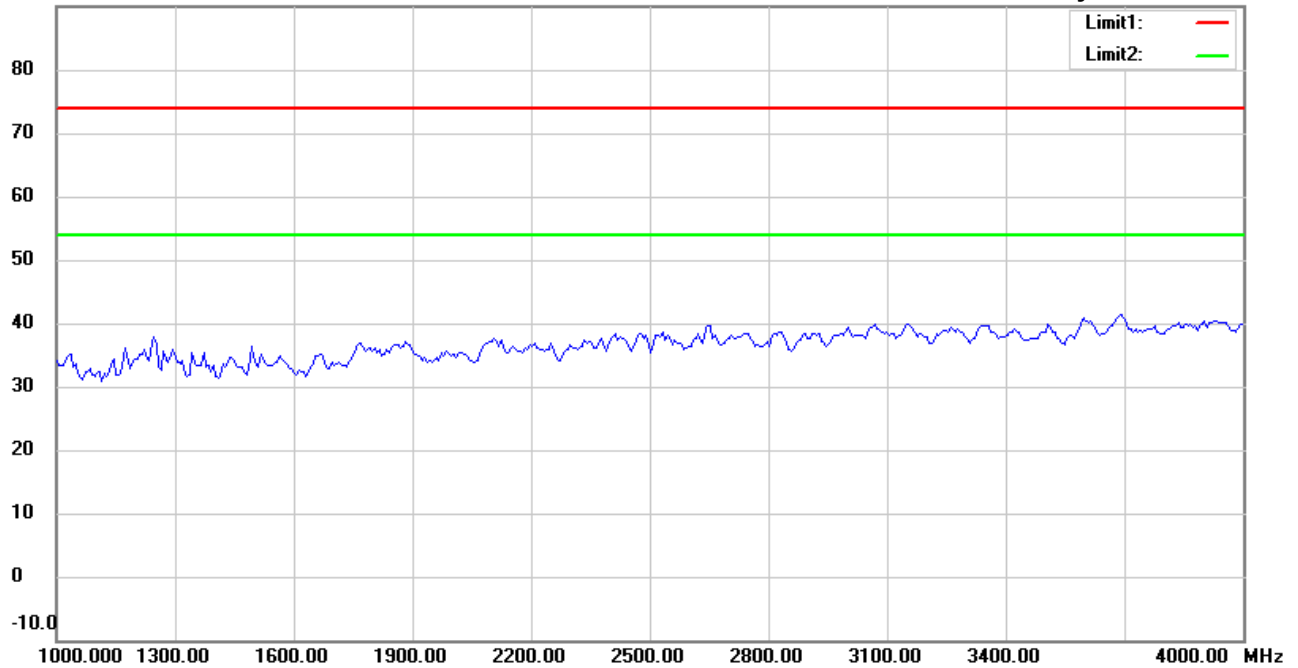
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:40:12 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

EUT : W6M22004-19822

M/N:

Test Mode : TX 2480MHz

Note :

Polarization: **Vertical**

Power : 3.7 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
-----	-----------------	----------------	----------	---------------------	-----------------	----------------	--------------	----------------	-------------	---------

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



Radiated Emission Measurement

Operator: Allen

File :3

Data :#2

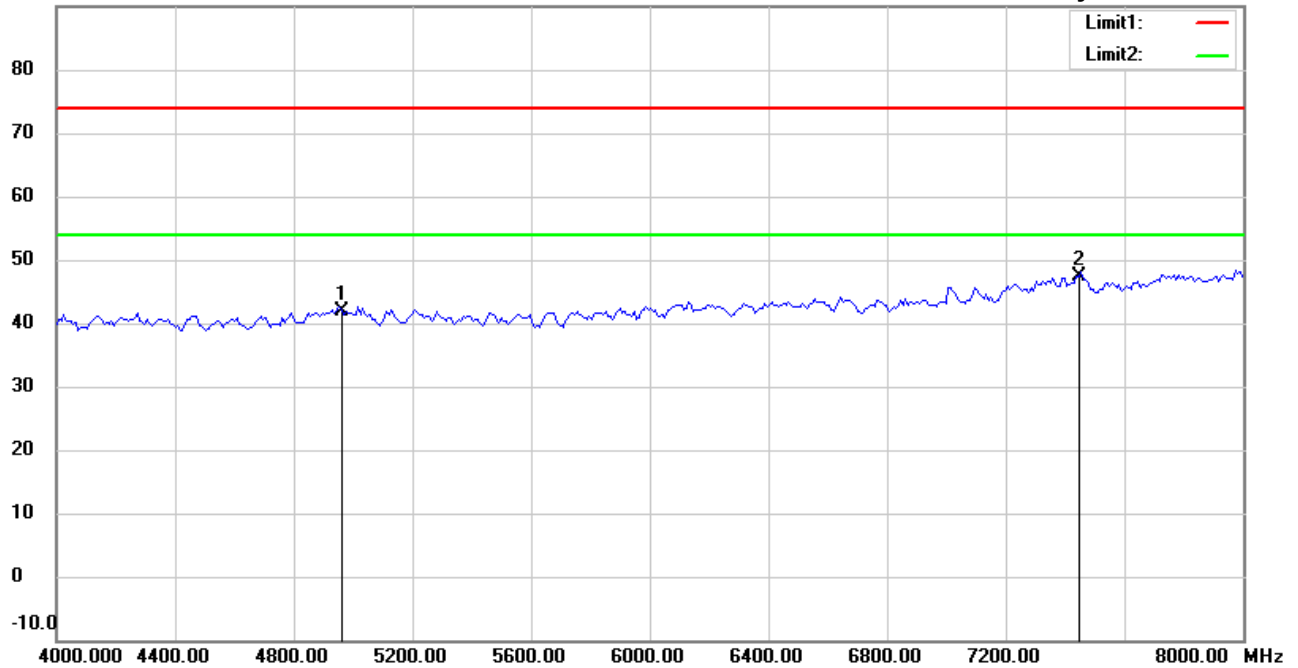
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:37:41 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

EUT : W6M22004-19822

M/N:

Test Mode : TX 2480MHz

Note :

Polarization: *Horizontal*

Power : 3.7 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	4960.000	43.32	peak	-1.35	41.97	74.00	150	257	-32.03	
*	7440.000	43.57	peak	3.72	47.29	74.00	150	166	-26.71	



Radiated Emission Measurement

Operator: Allen

File :3

Data :#7

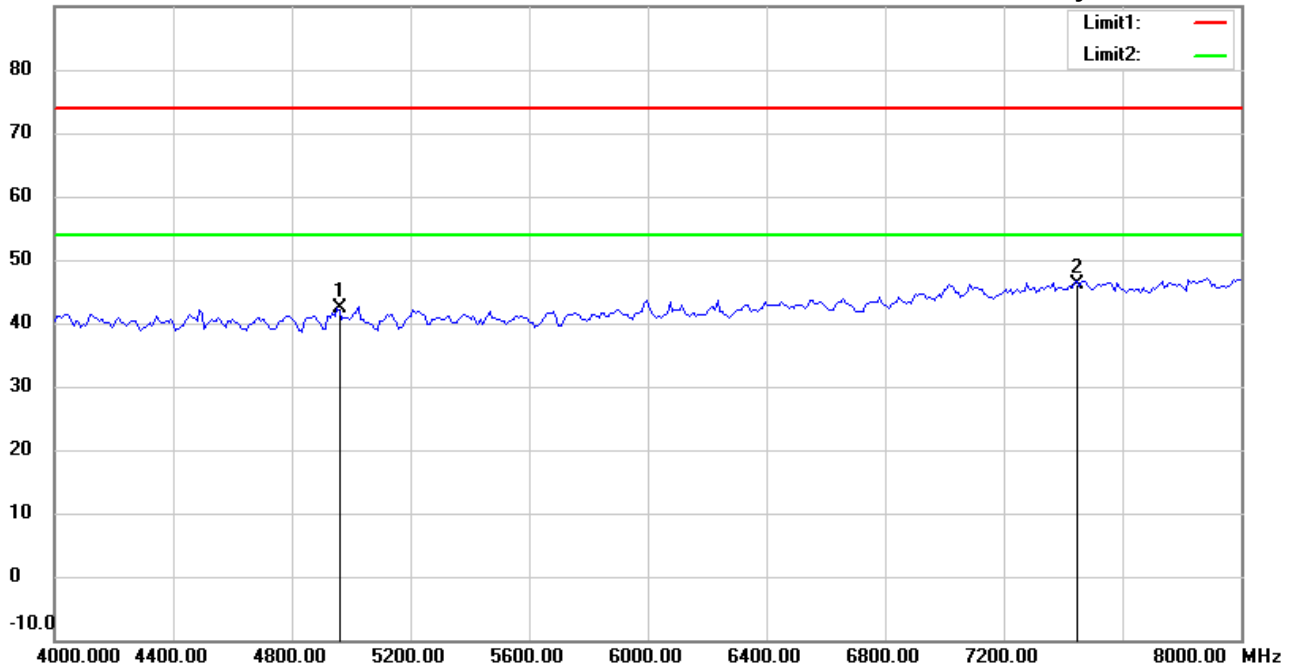
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:41:13 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

Polarization: *Vertical*

EUT : W6M22004-19822

Power : 3.7 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 2480MHz

Note :

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	4960.000	43.71	peak	-1.35	42.36	74.00	150	227	-31.64	
*	7440.000	42.46	peak	3.72	46.18	74.00	150	160	-27.82	



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Radiated Emission Measurement

Operator: Allen

File :3

Data :#3

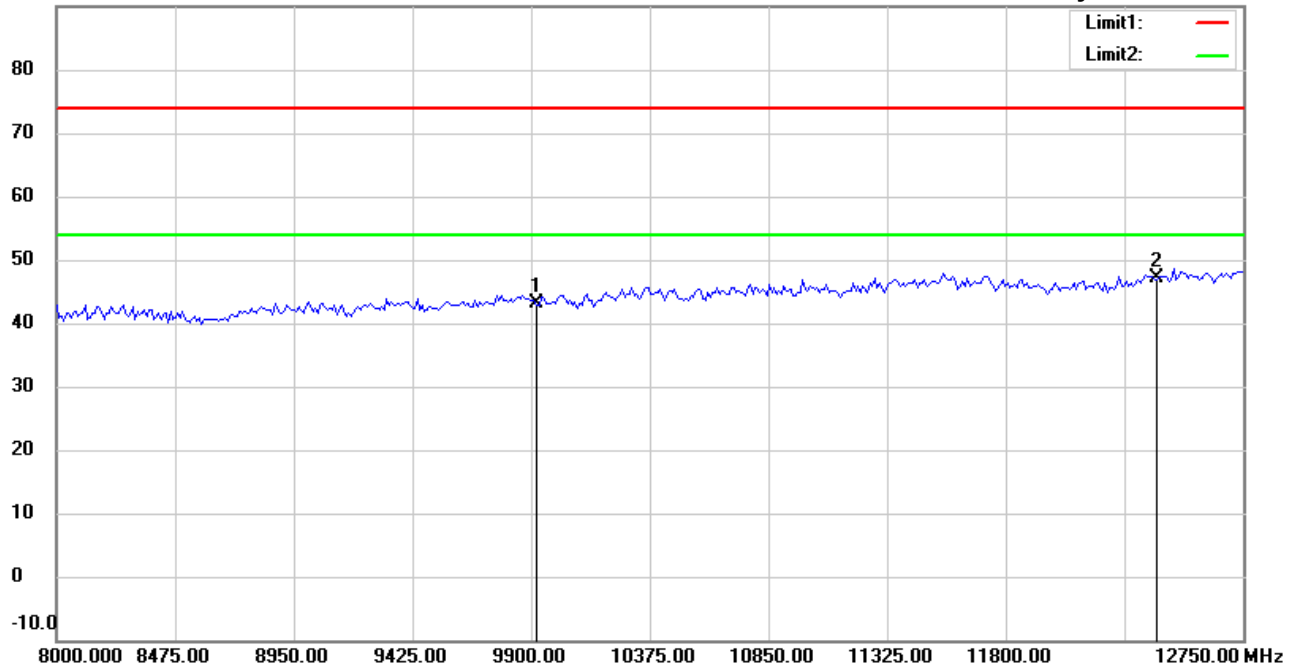
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:38:48 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

Polarization: *Horizontal*

EUT : W6M22004-19822

Power : 3.7 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 2480MHz

Note :

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	9920.000	36.09	peak	7.16	43.25	74.00	150	275	-30.75	
*	12400.000	34.32	peak	12.75	47.07	74.00	150	120	-26.93	

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



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Radiated Emission Measurement

Operator: Allen

File :3

Data :#8

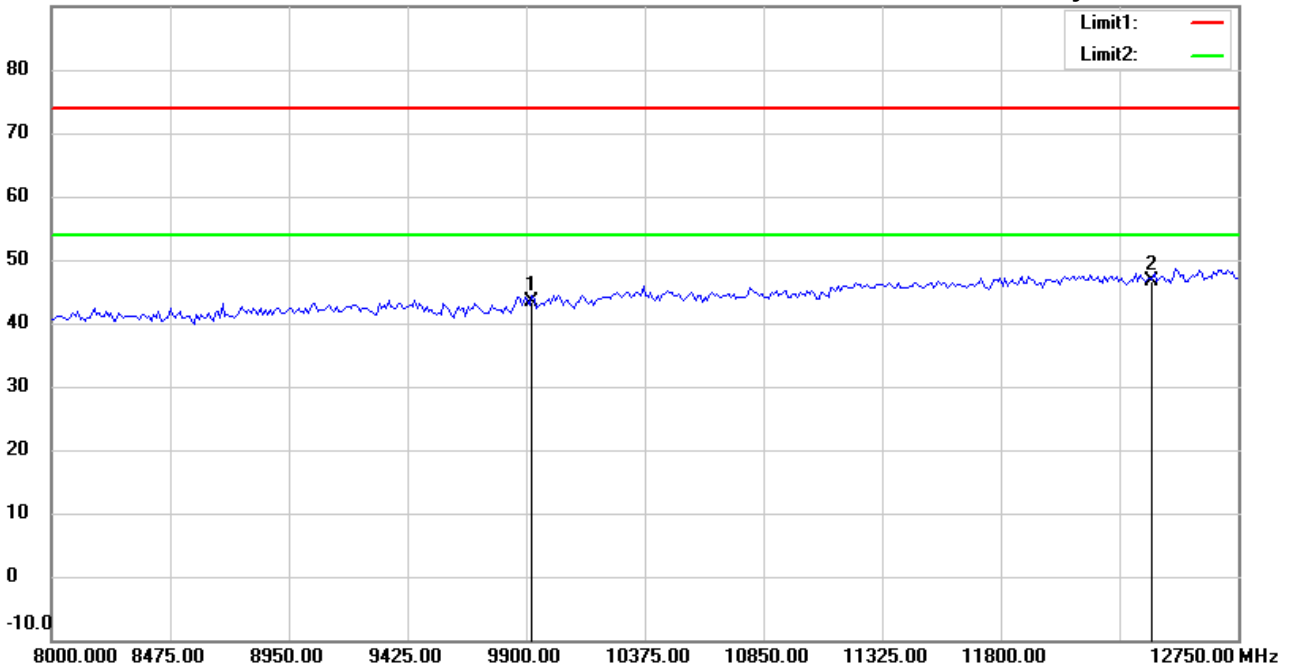
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:42:12 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

Polarization: **Vertical**

EUT : W6M22004-19822

Power : 3.7 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 2480MHz

Note :

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	9920.000	36.13	peak	7.16	43.29	74.00	150	265	-30.71	
*	12400.000	33.96	peak	12.75	46.71	74.00	150	50	-27.29	

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



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Radiated Emission Measurement

Operator: Allen

File :3

Data :#4

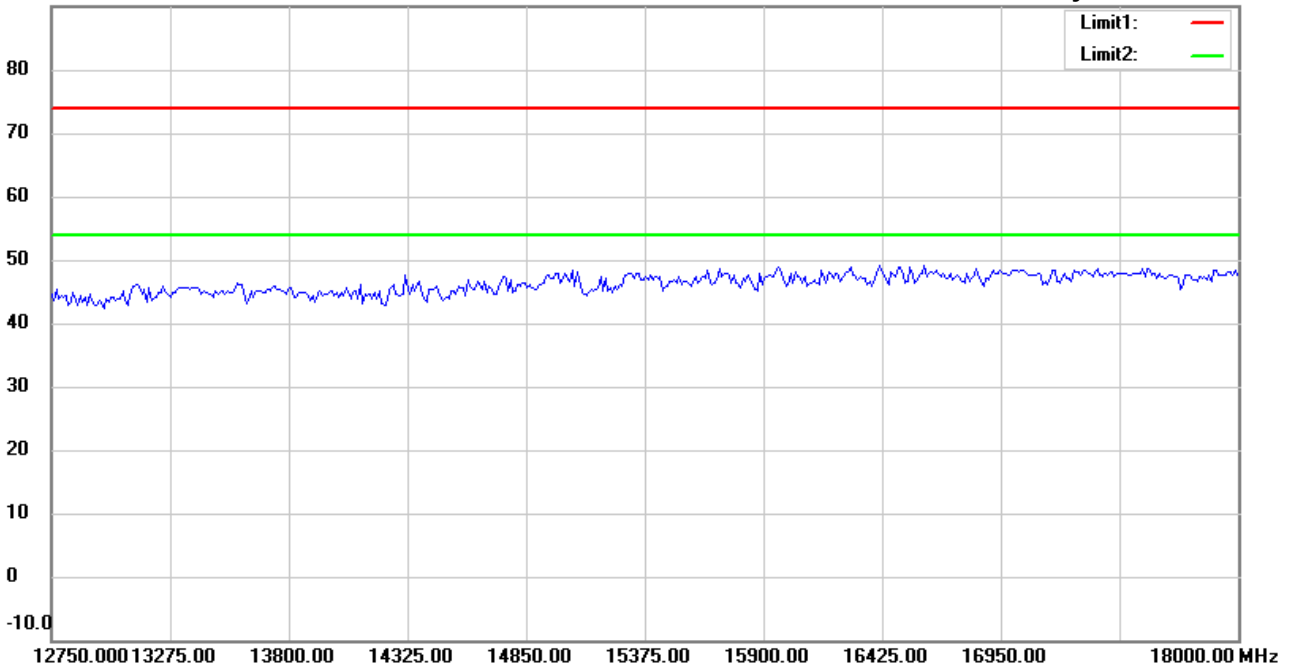
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:39:02 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

Polarization: *Horizontal*

EUT : W6M22004-19822

Power : 3.7 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 2480MHz

Note :

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
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\*:Maximum data    x:Over limit    !:over margin



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Radiated Emission Measurement

Operator: Allen

File :3

Data :#9

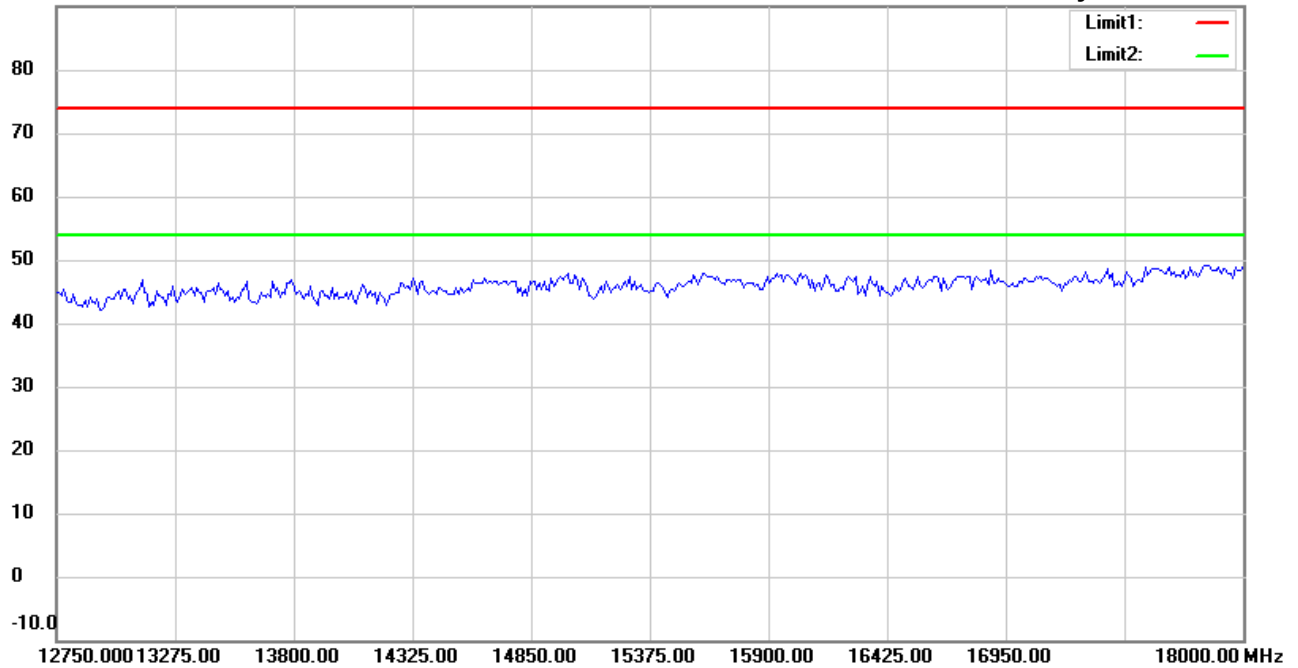
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:42:26 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

Polarization: *Vertical*

EUT : W6M22004-19822

Power : 3.7 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 2480MHz

Note :

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
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\*:Maximum data    x:Over limit    !:over margin





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Radiated Emission Measurement

Operator: Allen

File :3

Data :#5

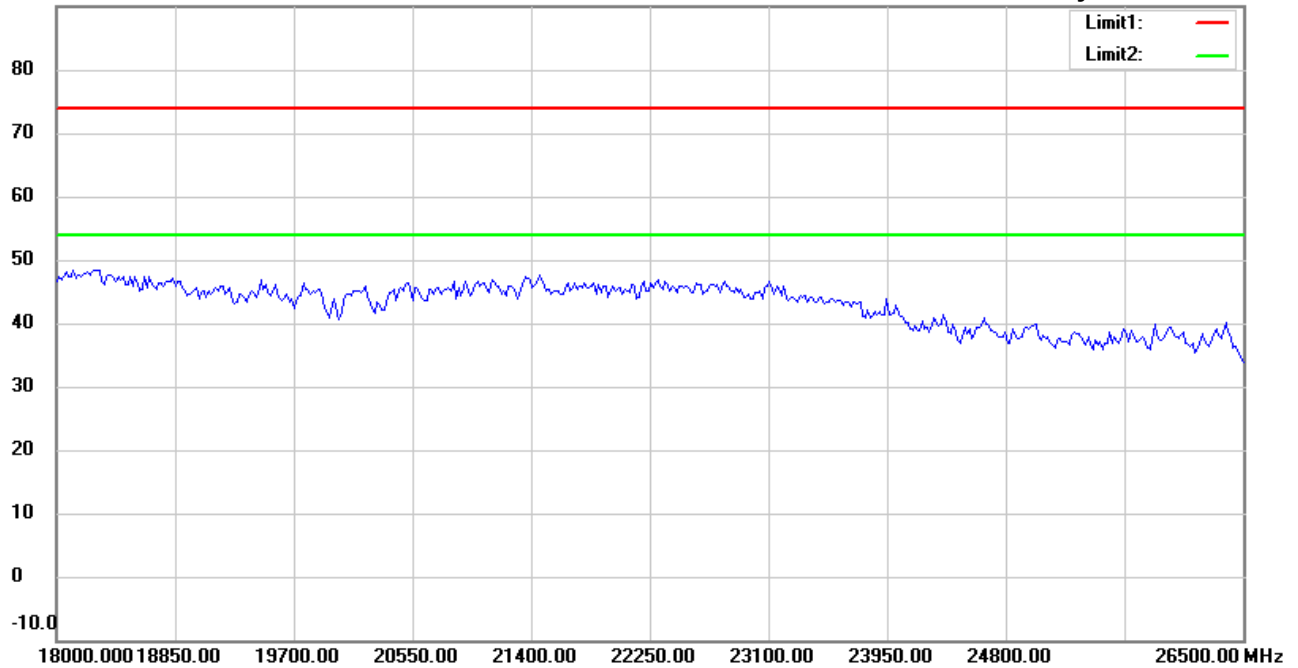
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:39:12 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

Polarization: *Horizontal*

EUT : W6M22004-19822

Power : 3.7 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 2480MHz

Note :

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
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\*:Maximum data    x:Over limit    !:over margin



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Radiated Emission Measurement

Operator: Allen

File :3

Data :#10

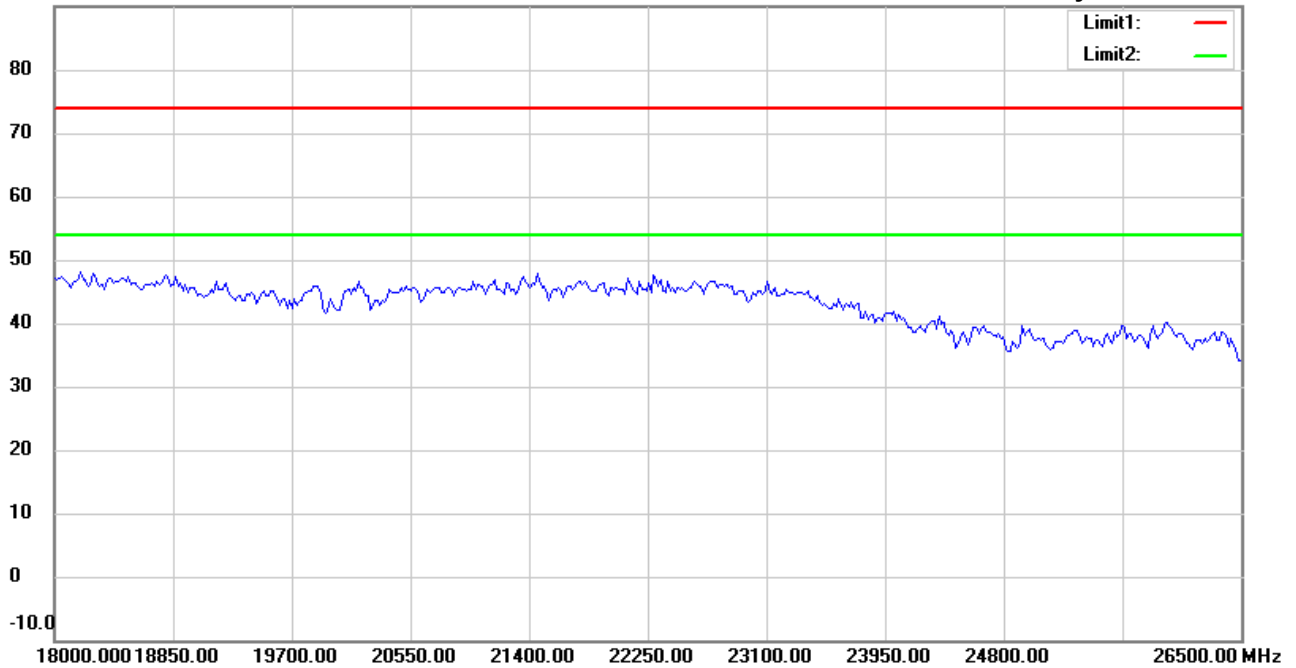
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:42:36 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

Polarization: *Vertical*

EUT : W6M22004-19822

Power : 3.7 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 2480MHz

Note :

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
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\*:Maximum data    x:Over limit    !:over margin



Radiated Emission Measurement

Operator: Allen

File :1\_ANT+\_TX

Data :#1

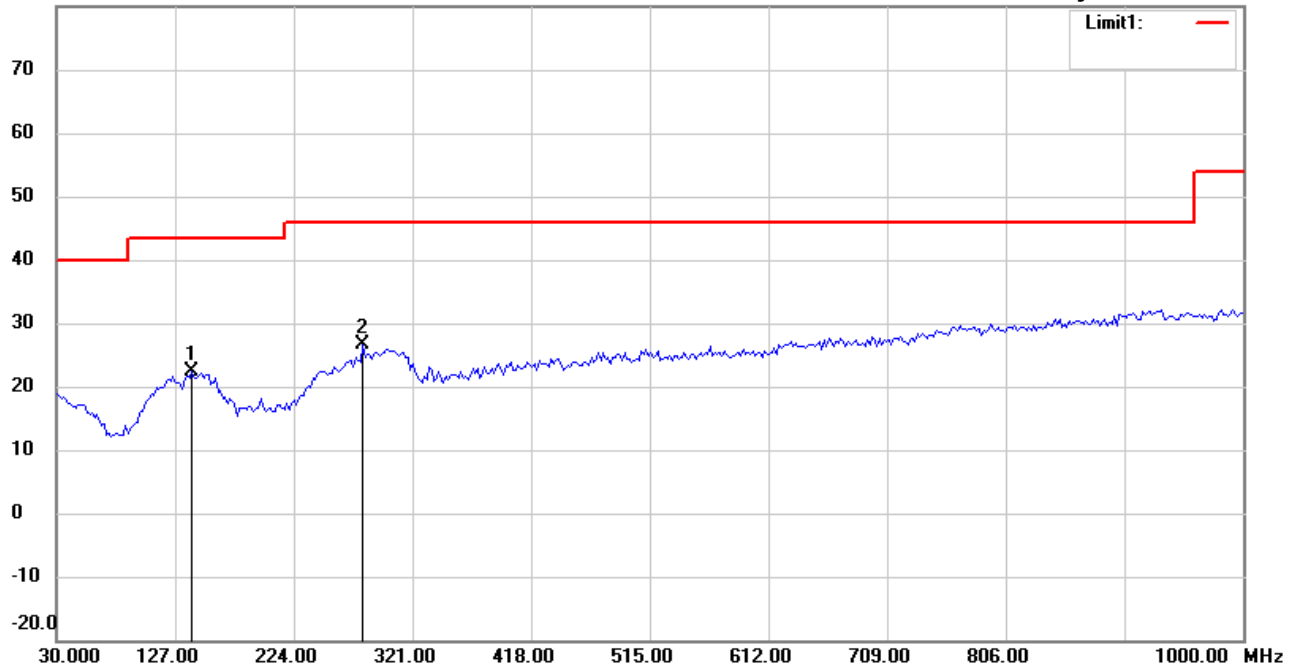
Date: 4/24/2020

Temperature:22.8 °C

80.0 dBuV/m

Time: 4:00:06 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_30-1000MHz

EUT : W6M22004-19822

M/N:

Test Mode : TX 2457MHz

Note :

Polarization: *Horizontal*

Power : 3.7 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	140.8015	29.06	peak	-6.75	22.31	43.50	100	260	-21.19	
*	280.7615	32.82	peak	-6.23	26.59	46.00	100	237	-19.41	



Radiated Emission Measurement

Operator: Allen

File :1\_ANT+\_TX

Data :#2

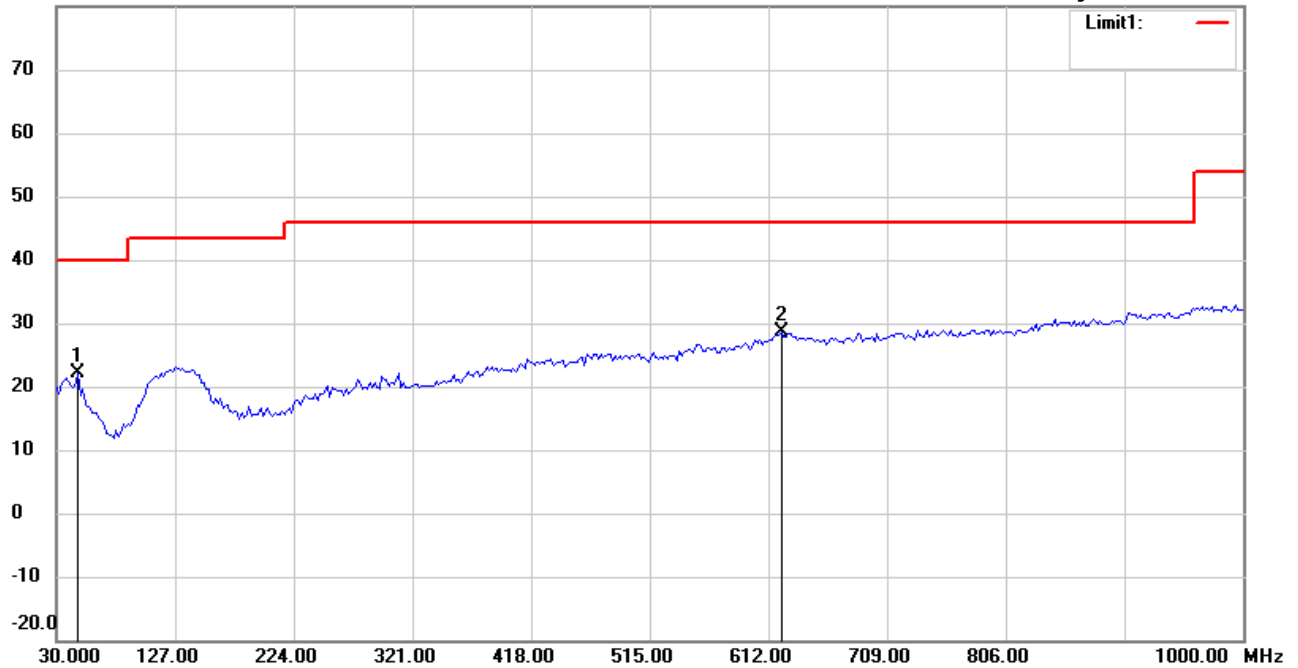
Date: 4/24/2020

Temperature:22.8 °C

80.0 dBuV/m

Time: 4:02:15 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_30-1000MHz

EUT : W6M22004-19822

M/N:

Test Mode : TX 2457MHz

Note :

Polarization: *Vertical*

Power : 3.7 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	47.4950	32.24	peak	-10.16	22.08	40.00	100	157	-17.92	
*	622.8857	29.96	peak	-1.33	28.63	46.00	100	72	-17.37	



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Radiated Emission Measurement

Operator: Allen

File :3

Data :#1

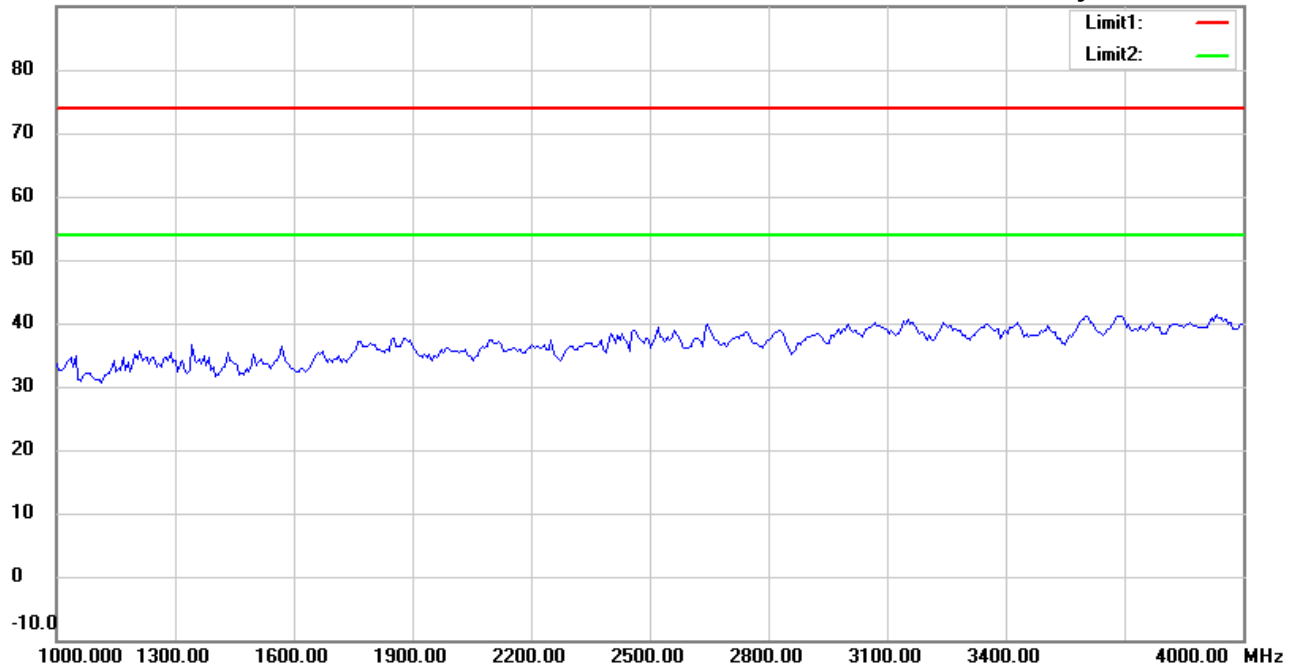
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:09:25 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

EUT : W6M22004-19822

M/N:

Test Mode : TX 2457MHz

Note :

Polarization: *Horizontal*

Power : 3.7 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
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\*:Maximum data    x:Over limit    !:over margin



Address:6F.,No.58,Ln 188,Ruey Kuang Rd,Neihu,Taipei  
 Tel:+886-2-6606-8877  
 Fax:+886-2-6606-8875

Radiated Emission Measurement

Operator: Allen

File :3

Data :#6

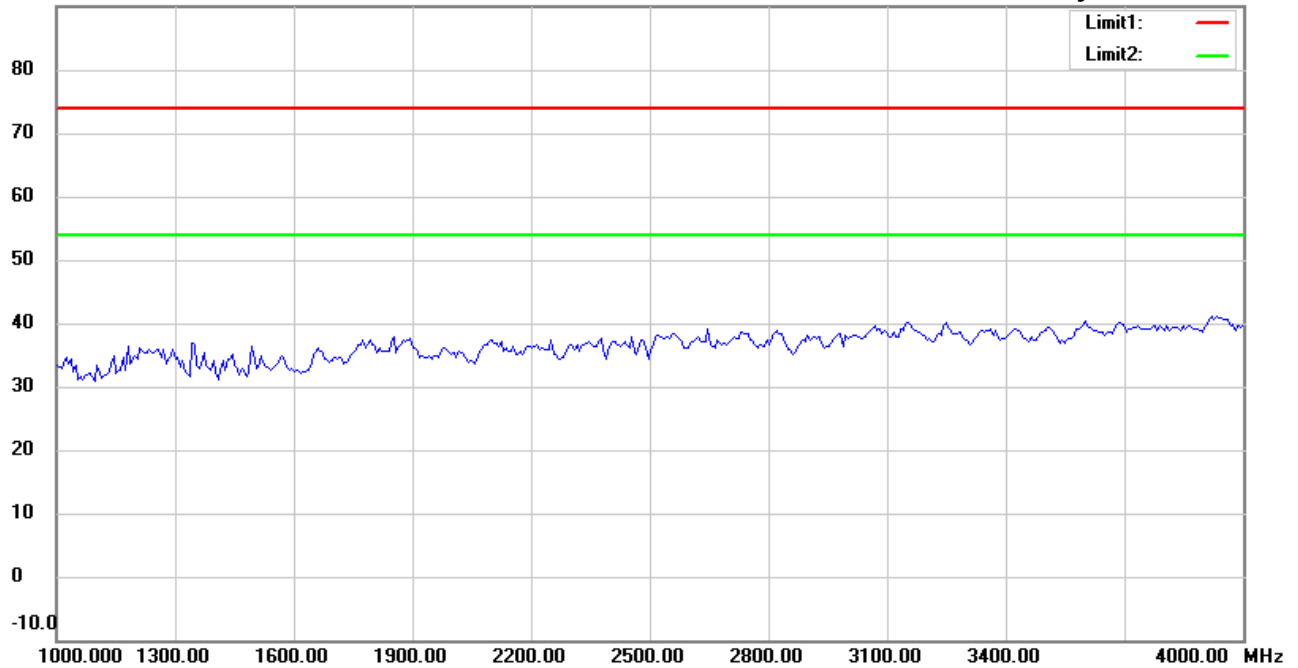
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:12:06 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

Polarization: *Vertical*

EUT : W6M22004-19822

Power : 3.7 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 2457MHz

Note :

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
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\*:Maximum data    x:Over limit    !:over margin



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Radiated Emission Measurement

Operator: Allen

File :3

Data :#2

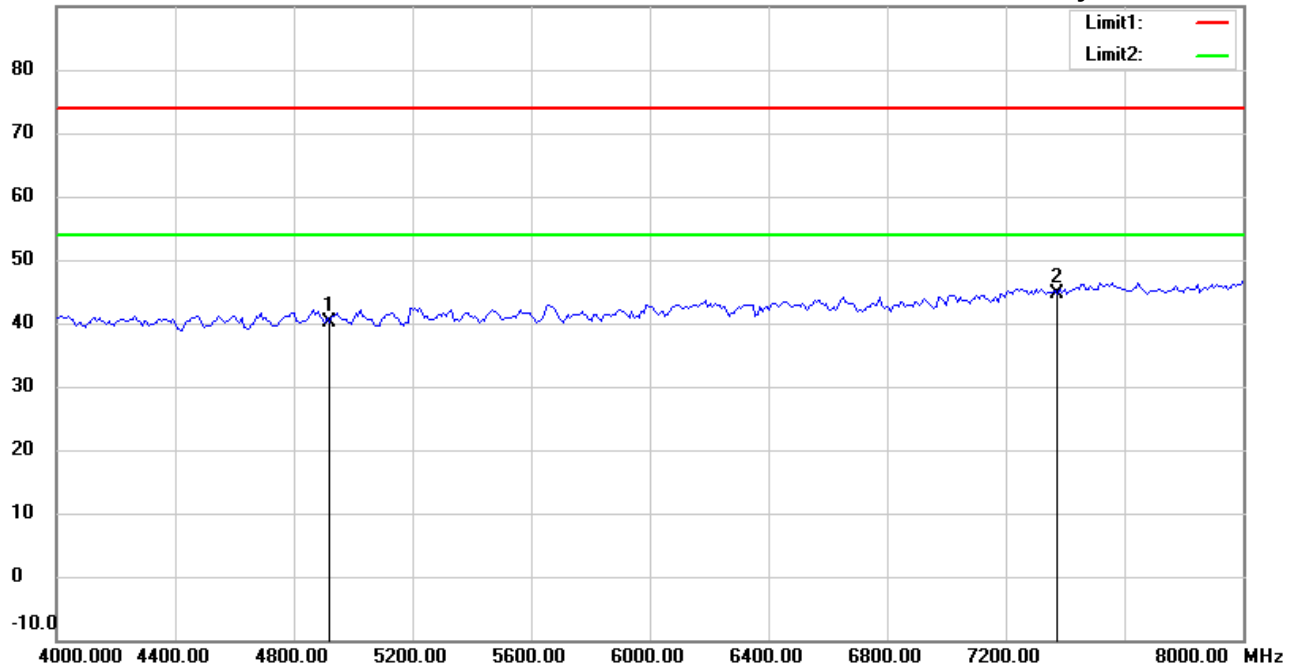
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:10:26 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

EUT : W6M22004-19822

M/N:

Test Mode : TX 2457MHz

Note :

Polarization: *Horizontal*

Power : 3.7 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	4914.000	41.79	peak	-1.55	40.24	74.00	150	70	-33.76	
*	7371.000	40.86	peak	3.66	44.52	74.00	150	243	-29.48	

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



Radiated Emission Measurement

Operator: Allen

File :3

Data :#7

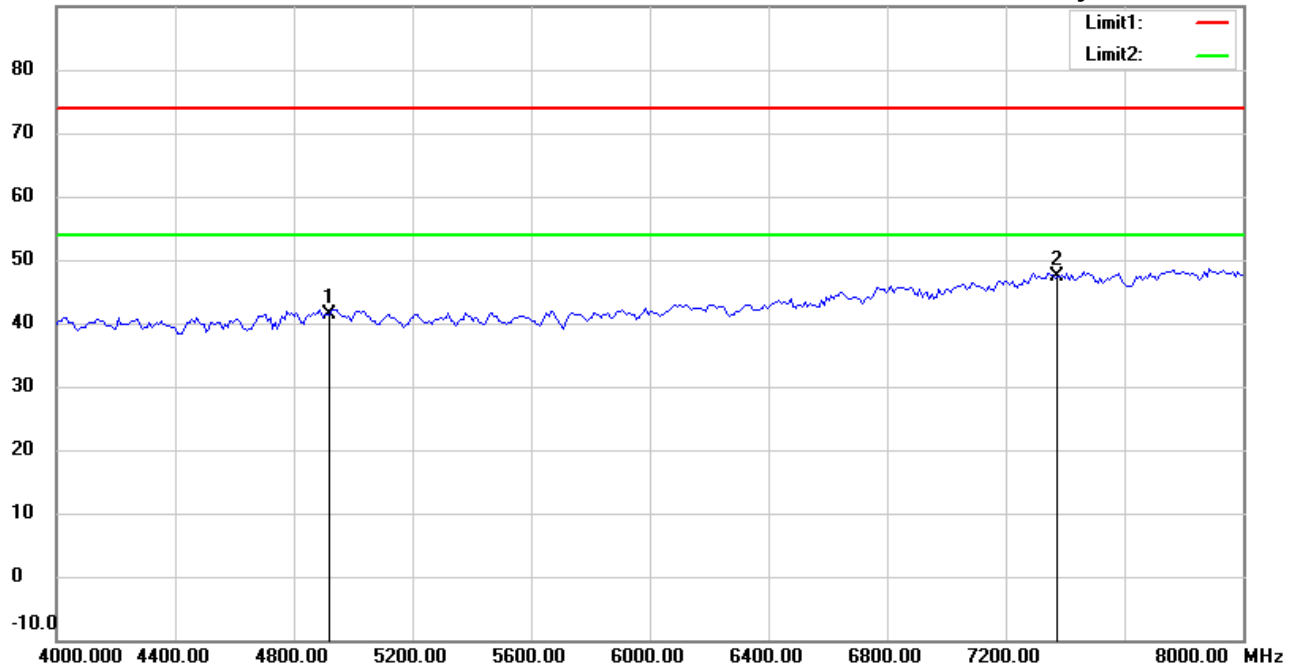
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:13:07 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

EUT : W6M22004-19822

M/N:

Test Mode : TX 2457MHz

Note :

Polarization: **Vertical**

Power : 3.7 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	4914.000	43.01	peak	-1.55	41.46	74.00	150	257	-32.54	
*	7371.000	43.69	peak	3.66	47.35	74.00	150	65	-26.65	





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Radiated Emission Measurement

Operator: Allen

File :3

Data :#3

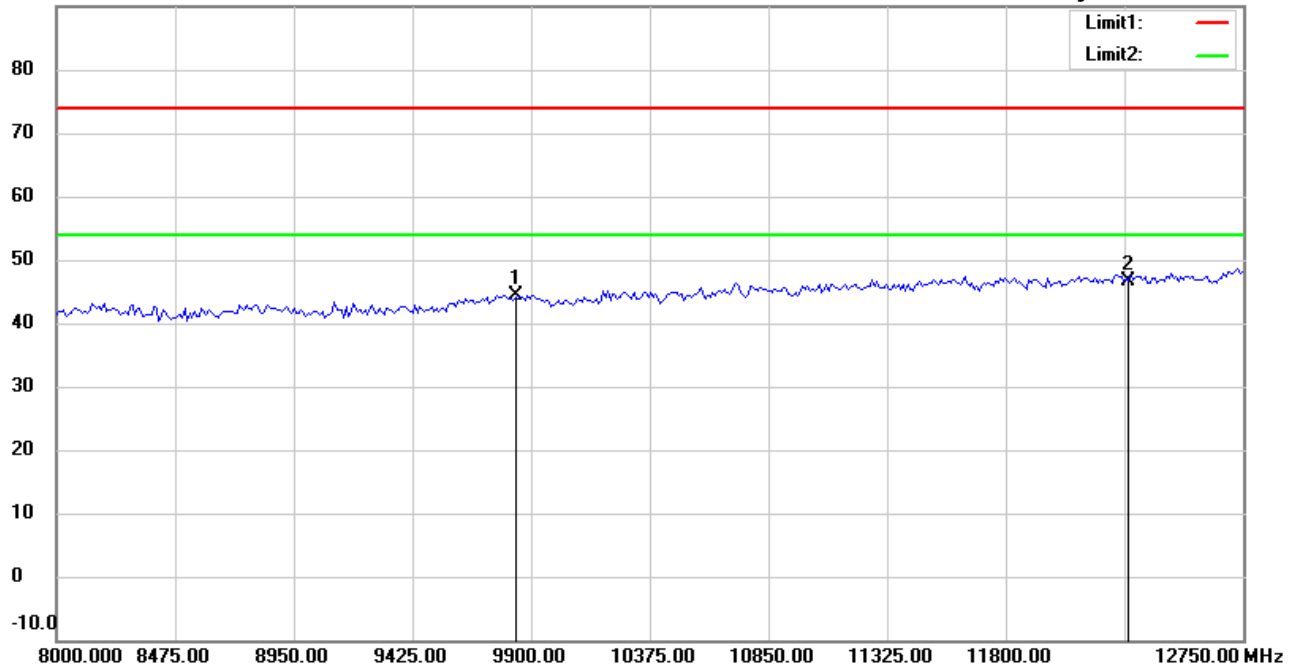
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:10:32 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

Polarization: *Horizontal*

EUT : W6M22004-19822

Power : 3.7 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 2457MHz

Note :

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	9828.000	37.53	peak	6.90	44.43	74.00	150	337	-29.57	
*	12285.000	34.41	peak	12.23	46.64	74.00	150	269	-27.36	

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



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Radiated Emission Measurement

Operator: Allen

File :3

Data :#8

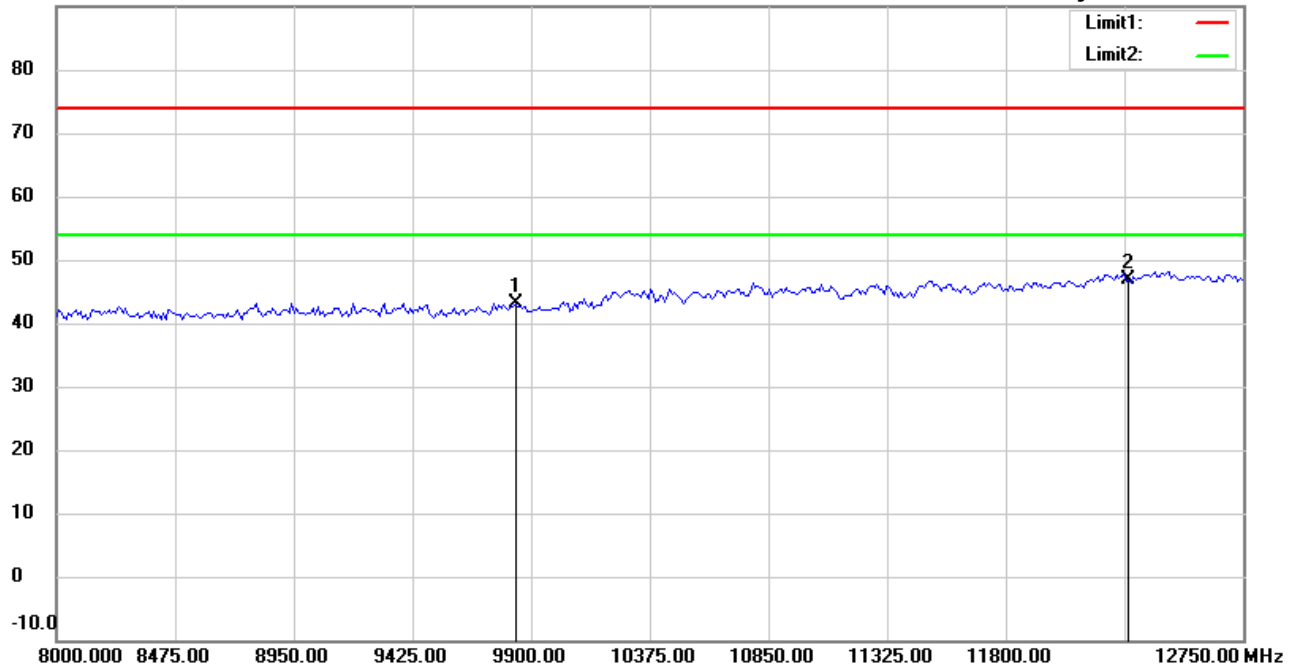
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:14:15 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

Polarization: **Vertical**

EUT : W6M22004-19822

Power : 3.7 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 2457MHz

Note :

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	9828.000	36.16	peak	6.90	43.06	74.00	150	250	-30.94	
*	12285.000	34.57	peak	12.23	46.80	74.00	150	130	-27.20	

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



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Radiated Emission Measurement

Operator: Allen

File :3

Data :#4

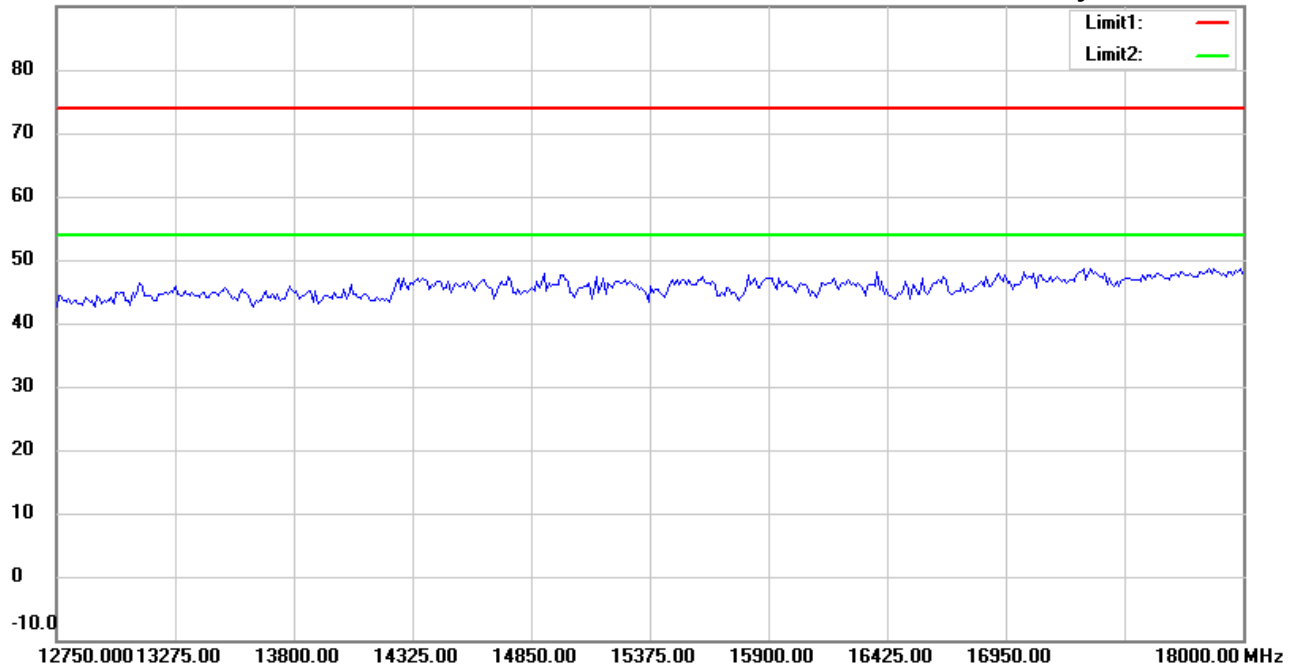
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:11:46 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

Polarization: *Horizontal*

EUT : W6M22004-19822

Power : 3.7 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 2457MHz

Note :

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
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\*:Maximum data    x:Over limit    !:over margin



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Radiated Emission Measurement

Operator: Allen

File :3

Data :#9

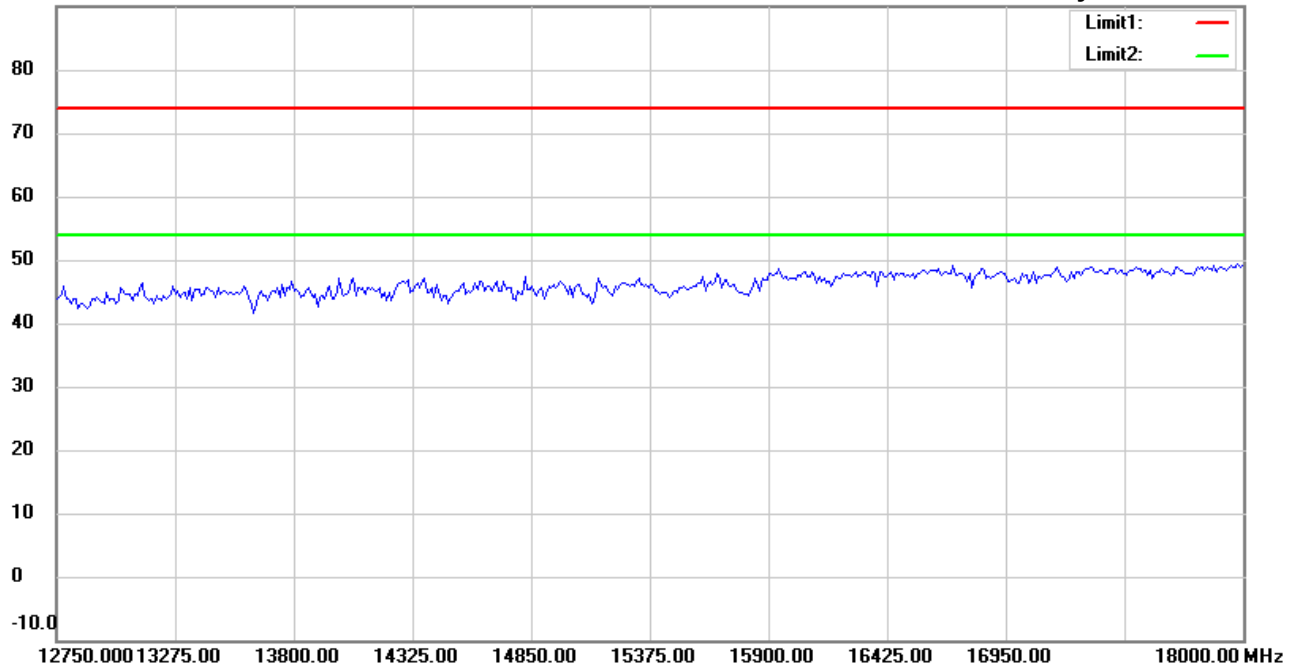
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:15:25 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

Polarization: **Vertical**

EUT : W6M22004-19822

Power : 3.7 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 2457MHz

Note :

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
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\*:Maximum data    x:Over limit    !:over margin



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Radiated Emission Measurement

Operator: Allen

File :3

Data :#5

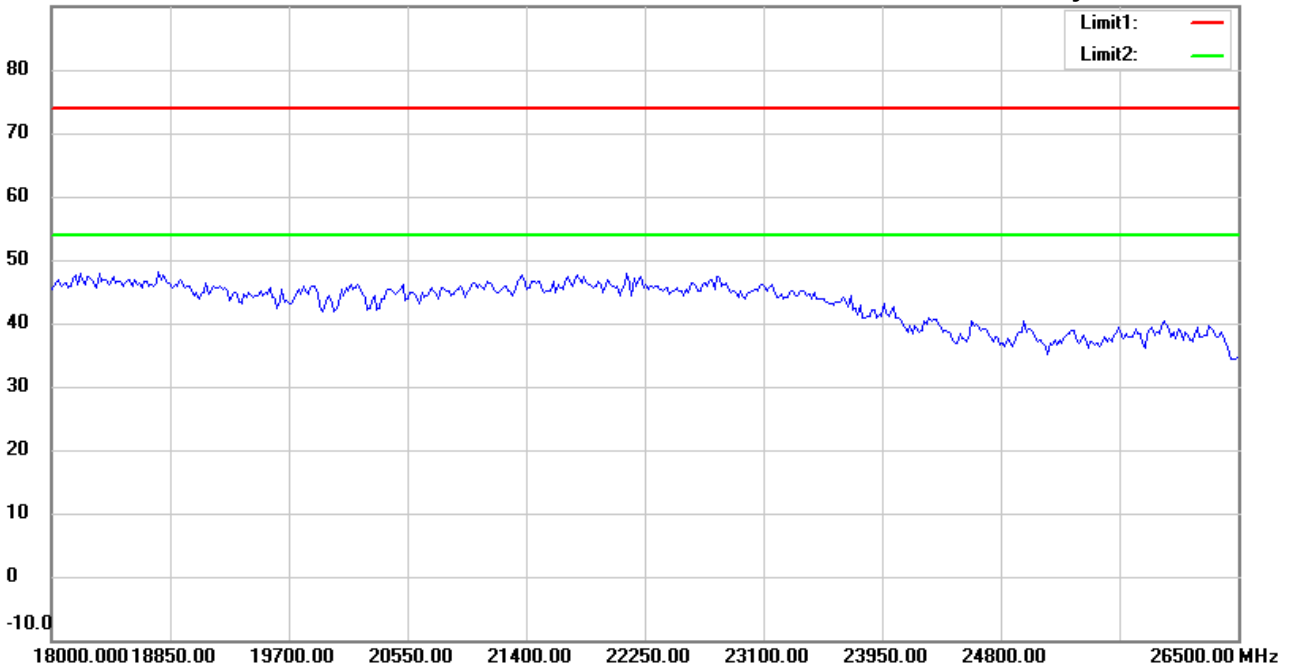
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:11:56 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

EUT : W6M22004-19822

M/N:

Test Mode : TX 2457MHz

Note :

Polarization: *Horizontal*

Power : 3.7 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
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\*:Maximum data    x:Over limit    !:over margin



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Radiated Emission Measurement

Operator: Allen

File :3

Data :#10

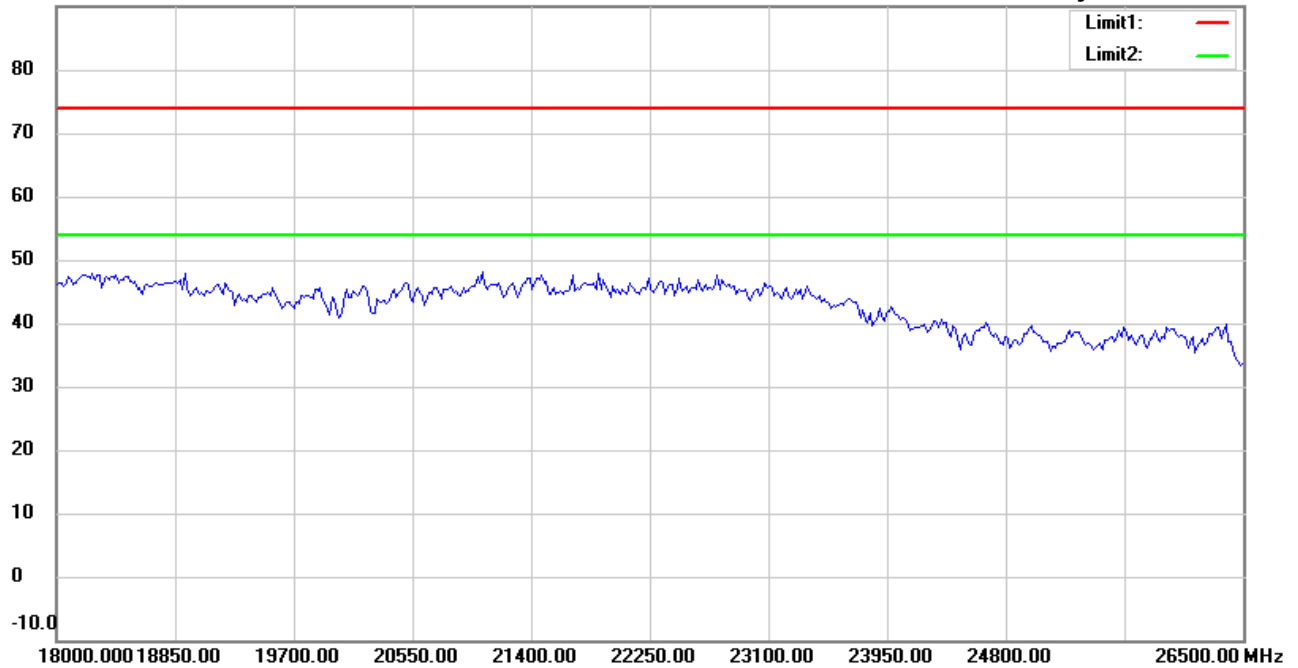
Date: 4/24/2020

Temperature:22.8 °C

90.0 dBuV/m

Time: 4:15:35 AM

Humidity:59.7 %



Site : Chamber

Condition : FCC\_part 15 RE-Class C\_Above 1GHz\_PK

EUT : W6M22004-19822

M/N:

Test Mode : TX 2457MHz

Note :

Polarization: *Vertical*

Power : 3.7 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
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\*:Maximum data    x:Over limit    !:over margin