47 CFR PART 15 SUBPART C TEST REPORT

for

HALO915TX

Model No.: HALO915TX

FCC ID: XO8-HALO915TX

of

Applicant: Instant Care, Inc.
Address: 2080 Wineridge Pl.Suite A Escondido California
United States 92029

Tested and Prepared

by

Worldwide Testing Services (Taiwan) Co., Ltd.

FCC Registration No.: TW1477, TW1072

Industry Canada filed test laboratory Reg. No. 20037

Report No.: W6M22110-21280-C-1

6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU TAIPEI 114, TAIWAN, R.O.C.
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TABLE OF CONTENTS

1 GENERAL INFORMATION 2

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 4
1.4 APPLICATION DETAILS 4
1.5 GENERAL INFORMATION OF TEST ITEM 4
1.6 TEST STANDARDS 4

2 TECHNICAL TEST 5

2.1 SUMMARY OF TEST RESULTS 5
2.2 TEST ENVIRONMENT 5
2.3 TEST EQUIPMENT LIST 6
2.4 GENERAL TEST PROCEDURE 9

3 TEST RESULTS (ENCLOSURE) 10

3.1 PEAK OUTPUT POWER (TRANSMITTER) 11
3.2 EQUIVALENT ISOTROPIC RADIATED POWER 13
3.3 RF EXPOSURE COMPLIANCE REQUIREMENTS 13
3.4 OUT OF BAND RADIATED EMISSIONS 13
3.5 SPURIOUS EMISSION (TX) 14
3.6 RADIATED EMISSIONS FROM RECEIVER PART 15
3.7 RADIATED EMISSION ON THE BAND EDGE 16
3.8 POWER LINE CONDUCTED EMISSION 18
APPENDIX 19

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 is 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.
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Tester:

October 26, 2021		Rick Chen	Rick Chen.
Date	WTS-Lab.	Name	Signature

Technical responsibility for area of testing:

October 26, 2021		Kevin Wang	Kevin Wang
Date	WTS	Name	Signature

Registration number: W6M22110-21280-C-1
FCC ID: XO8-HALO915TX

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
FCC filed test laboratory Reg. No. TW1477, 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:	./.

Registration number: W6M22110-21280-C-1
FCC ID: XO8-HALO915TX

1.3 Details of approval holder

Name:	Instant Care, Inc.
Street:	2080 Wineridge Pl.Suite A Escondido,
City:	California
Country:	United States 92029
Telephone:	760 8461980
Fax:	47 5286 5044

1.4 Application details

Date of receipt of test item:	October 21, 2021
Date of test:	From October 22, 2021 to October 26, 2021

1.5 General information of Test item

Type of test item:	HALO915TX
Model Number:	HALO915TX
Multi-listing model number:	./.
Photos:	see Annex

Technical data

Frequency band:	915 MHz
Operation Frequency:	915 MHz
Operation modes:	Simplex
Modulation Type:	FSK
Antenna type:	PCB Antenna
Power supply:	Battery 3Vd.c. (CR2032)

Manufacturer: (if different from applicant)

Name:	CLIMAX TECHNOLOGY CO., LTD.
Street:	No. 258, Sinhu 2nd Rd., Neihu District,
Town:	Taipei City 114,
Country:	Taiwan (R.O.C.)

1.6 Test standards

Technical standard : 47 CFR PART 15 SUBPART C § 15.249 (2020-10)

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

Details Power supply: Battery 3Vd.c. (CR2032)

Extreme conditions parameters: Not required

Test item Name	Uncertainty
Estimation Result of Uncertainty of Conducted Emission (Power Line Conducted Emission)	Expanded Uncertainty： AMN：1.05 dB Voltage probe：1.05 dB
Estimation Result of Uncertainty of Radiated Emission(3M) (Peak Output Power (transmitter), Equivalent isotropic radiated power, RF Exposure Compliance Requirements, Out of Band Radiated Emissions, Spurious emission (tx), Radiated Emissions from Receiver Part)	Expanded Uncertainty： 0.009-30 MHz：2.13 dB 30-1000 MHz：3.53 dB 1-18 GHz：4.19 dB 18-40 GHz：4.09 dB
Estimation Result of Uncertainty of Band Edge Measurement (Radiated Emission on the band edge)	Expanded Uncertainty：1.33 dBc

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

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	2021/6/17	2022/6/16
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	2020/11/6	2021/11/5
ETSTW-CE 006	IMPULSBEGRENZER PULSE LIMITER	ESH3-Z2	100226	R&S	2021/9/22	2022/9/21
ETSTW-CE 008	HF-EICHLEITUNG 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	2021/7/29	2022/7/28
ETSTW-CE 016	TWO-LINE V-NETWORK	ENV216	100050	R&S	2021/10/25	2021/10/24
ETSTW-CE 028	MXE EMI Receiver	N9038A	MY53220110	Agilent	2021/7/28	2022/7/27
ETSTW-RE 003	EMI TEST RECEIVER	ESI 26	831438/001	R&S	2021/6/17	2022/6/16
ETSTW-RE 004	EMI TEST RECEIVER	ESI 40	832427/004	R&S	2021/9/28	2022/9/27
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	2021/8/4	2022/8/3
ETSTW-RE 019	MICROWAVE HORN ANTENNA	22240-25	121074	FM	2021/5/31	2022/5/30
ETSTW-RE 027	Passive Loop Antenna	6512	00034563	ETS-Lindgren	2021/6/16	2022/6/15
ETSTW-RE 030	Double-Ridged Guide Horn Antenna	3117	00035224	ETS-Lindgren	2021/5/5	2022/5/4
ETSTW-RE 042	Biconical Antenna	HK116	100172	R&S	2021/3/18	2022/3/17
ETSTW-RE 043	Log-Periodic Dipole Antenna	HL223	100166	R&S	2021/5/21	2022/5/20
ETSTW-RE 044	Log-Periodic Antenna	HL050	100094	R&S	2021/7/14	2022/7/13
ETSTW-RE 045	ESA-E SERIES SPECTRUM ANALYZER	E4404B	MY45111242	Agilent	Pre-test Use	
ETSTW-RE 050	Attenuator 10dB	50HF-010-1	None	JFW	2021/2/19	2022/2/18
ETSTW-RE 051	Attenuator 6dB	50HF-006-1	None	JFW	2021/2/19	2022/2/18
ETSTW-RE 053	Attenuator 3dB	50HF-003-1	None	JFW	2021/2/19	2022/2/18
ETSTW-RE 055	SPECTRUM ANALYZER	FSU 26	200074	R&S	2021/3/16	2022/3/15
ETSTW-RE 060	Attenuator 30dB	5015-30	F651012z-01	ATM	2021/2/19	2022/2/18
ETSTW-RE 062	Amplifier Module	CHC 2	None	KMIC	2021/5/14	2022/5/13
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	2021/10/13	2022/10/12
ETSTW-RE 088	SOLID STATE AMPLIFIER	KMA180265A01	99057	KMIC	2021/9/17	2022/9/16
ETSTW-RE 091	Match Pad	MDCS1500	None	WOKEN	2021/5/27	2022/5/26
ETSTW-RE 099	DC Block	50DB-007-1	None	JFW	2021/2/19	2022/2/18
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	2021/1/6	2022/1/5

ETSTW-RE 120	RF Player	MP9200	MP9210-111022	ADIVIC	2020/12/25	2021/12/24
ETSTW-RE 122	SIGNAL GENERATOR	SMF100A	102149	R&S	2021/6/8	2022/6/7
ETSTW-RE 125	5GHz Notch filter	5NSL11-5200/E221.3-O/O	1	K&L Microwave	2021/8/6	2022/8/5
ETSTW-RE 126	5GHz Notch filter	5NSL12-5800/E221.3-O/O	1	K&L Microwave	2021/8/6	2022/8/5
ETSTW-RE 127	RF Switch Box	RFS-01	None	WTS	2021/2/19	2022/2/18
ETSTW-RE 128	5.3GHz Notch filter	N0153001	SN487233	Microwave Circuits	2021/8/6	2022/8/5
ETSTW-RE 129	5.5GHz Notch filter	N0555984	SN487234	Microwave Circuits	2021/8/6	2022/8/5
ETSTW-RE 130	Handheld RF Spectrum Analyzer	N9340A	CN0147000204	Agilent	Pre-test Use	
ETSTW-RE 142	Amplifier	8447D	2805A03378	Agilent	2021/5/14	2022/5/13
ETSTW-RE 146	Preamplifier	JPA-10M1G	15090004	JPT	2021/6/4	2022/6/3
ETSTW-RE 148	Bi-log Hybrid Antenna	MCTD 2786B	BLB16M04006	ETC	2021/7/2	2022/7/1
ETSTW-RE 152	Bi-log Hybrid Antenna	MCTD 2786B	BLB20J04029	ETC	2021/10/5	2022/10/4
ETSTW-RE 153	Signal Analyzer	FSV40	101929	R&S	2021/10/6	2022/10/5
ETSTW-RF 002	Electromagnetic field probe	LF-30	K-0007	STT	2021/7/19	2022/7/18
ETSTW-EMI 011	USB Compact Modulator	SFC-U	101689	R&S	2021/6/2	2022/6/1
ETSTW-GSM 002	Universal Radio Communication Tester	CMU 200	109439	R&S	2021/3/16	2022/3/15
ETSTW-GSM 003	Radio Communication Analyzer	MT8820C	6201342073	Anritsu	2021/4/27	2022/4/26
ETSTW-GSM 004	Wideband Radio Communication Tester	CMW500	128092	R&S	2020/11/10	2021/11/9
ETSTW-GSM 019	Band Reject Filter	WRCTF824/849-822/851-40 /12+9SS	3	WI	2021/1/6	2022/1/5
ETSTW-GSM 020	Band Reject Filter	WRCD1747/1748-1743/1752-32/5SS	1	WI	2021/1/6	2022/1/5
ETSTW-GSM 021	Band Reject Filter	WRCD1879.5/1880.5-1875.5/1884.5-32/5SS	3	WI	2021/1/6	2022/1/5
ETSTW-GSM 022	Band Reject Filter	WRCT901.9/903.1-904.25-50/8SS	1	WI	2021/1/6	2022/1/5
ETSTW-GSM 023	Power Divider	4901.19.A	None	SUHNER	2021/9/7	2022/9/6
ETSTW-GSM 024	Radio Communication Analyzer	MT8821C	None	Anritsu	2021/4/1	2022/3/31
ETSTW-GSM 025	Band Reject Filter	BRM19835	001	Micro-Tronics	2021/8/6	2022/8/5
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	2021/2/19	2022/2/18
ETSTW-Cable 017	BNC Cable	X Cable	B Cable 2	Schwarz beck	2021/2/19	2022/2/18
ETSTW-Cable 018	BNC Cable	Y Cable	B Cable 3	Schwarz beck	2021/2/19	2022/2/18
ETSTW-Cable 019	BNC Cable	Z Cable	B Cable 4	Schwarz beck	2021/2/19	2022/2/18
ETSTW-Cable 020	N TYPE Cable	OATS Cable 1	N30N30-L335-15M	JYE BAO CO.,LTD.	2021/7/1	2022/6/30
ETSTW-Cable 027	Microwave Cable	SUCOFLEX 104	279083	HUBER+SUHNER	2021/5/7	2022/5/6
ETSTW-Cable 028	Microwave Cable	FA147A0015M2020	30064-2	UTIFLEX	2021/9/17	2022/9/16
ETSTW-Cable 029	Microwave Cable	FA147A0015M2020	30064-3	UTIFLEX	2021/9/17	2022/9/16
ETSTW-Cable 030	Microwave Cable	SUCOFLEX 104 （S_Cable 9）	279067	HUBER+SUHNER	2021/2/19	2022/2/18
ETSTW-Cable 043	Microwave Cable	SUCOFLEX 104	317576	HUBER+SUHNER	2021/5/14	2022/5/13
ETSTW-Cable 047	Microwave Cable	SUCOFLEX 104	325518	HUBER+SUHNER	2021/7/2	2022/7/1

ETSTW-Cable 058	Microwave Cable	SUCOFLEX 104	none	HUBER+SUHNER	2021/6/4	2022/6/3
ETSTW-Cable 064	Microwave Cable	SUCOFLEX 104	MY28891	HUBER+SUHNER	2021/5/14	2022/5/13
ETSTW-Cable 071	N TYPE CABLE	EMCCFD400-NM-NM-25000	170239	EMCI	2021/6/4	2022/6/3
ETSTW-Cable 072	SMA type cable (8m)	SUCOFLEX 104	805800/4	HUBER+SUHNER	2021/5/14	2022/5/13
ETSTW-Cable 074	SMA type cable (2m)	SUCOFLEX 104	802563/4	HUBER+SUHNER	2021/5/14	2022/5/13
WTSTW-SW 002	EMI TEST SOFTWARE	EZ_EMC	None	Farad	Version ETS-03A1 Version EMEC-3A1+	
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 002	Thermohygrometer	608-H1	45204317	Testo	2021/9/21	2022/9/20
ETSTW-TH 003	Wireless weather station	GAIA	N/A	TFA	2021/9/21	2022/9/20

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 dBμV) 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 dBμV + 10.36 dB + 6 dB = 36.36 dBμV/m @3m

ANSI STANDARD C63.10-2013 6.2.2 MEASUREMENT PROCEDURES: The EUT was placed on a table 80 cm height and with dimensions of 1m by 1.5m (non metallic table). The EUT was placed in the centre of the table. The table used for radiated measurements is capable of continuous rotation. The spectrum was scanned from 30 MHz to 10th harmonic of the fundamental.

Peak readings were taken in three (3) orthogonal planes and the highest readings.

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.

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.

3 Test results (enclosure)

Test case	Para. Number	Required	Test passed	Test failed
Peak Output Power	15.249 (a)	☒	☒	☐
Spurious Emissions radiated – Transmitter operating	15.249 (e)	☒	☒	☐
Spurious Emissions conducted – Transmitter operating	15.249 (e)	☐	☐	☐
Radiated Emission from Receiver Part	15.109	☐	☐	☐
Out of Band Spurious Emission, Band edge-Transmitter operating	15.249 (d)(e) 15.35 (b)	☒	☒	☐
Power Line Conducted Emission	15.207	☐	☐	☐

The following is intentionally left blank.

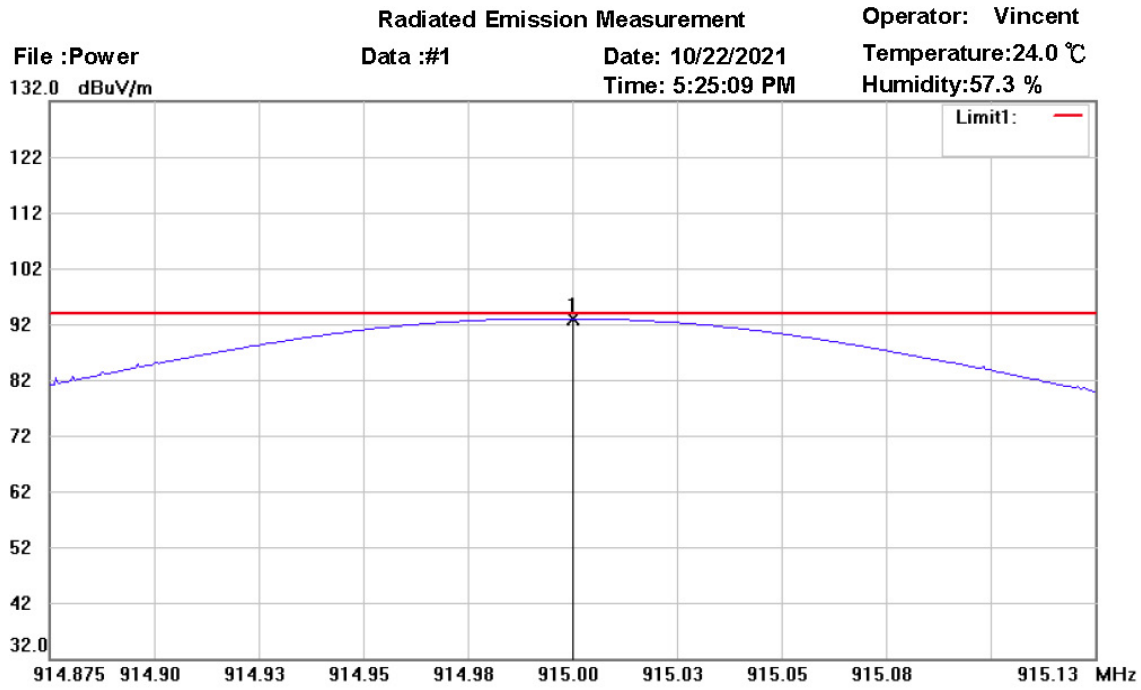
Registration number: W6M22110-21280-C-1
FCC ID: XO8-HALO915TX

3.1 Peak Output Power (transmitter)

FCC Rule: 15.249 (a)

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.

The power was measured with modulation (declared by the applicant).



Site : Chamber
Condition : FCC 15.249 power(902-928)_QP
EUT : W6M22110-21280
M/N:
Test Mode : TX 915MHz
Note :

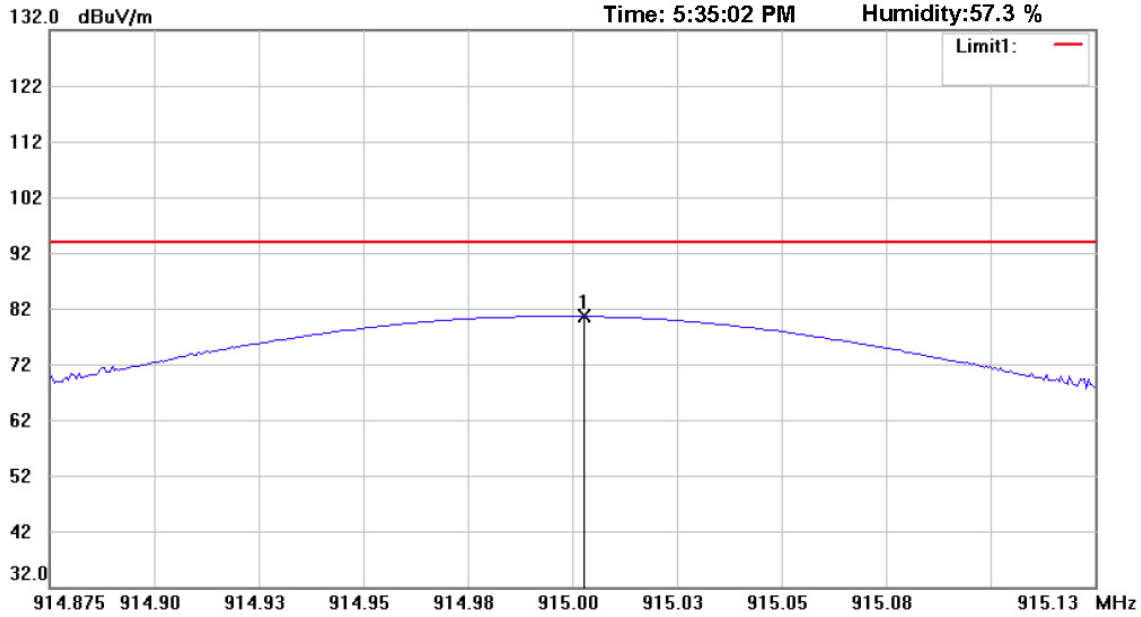
Polarization: *Horizontal*
Power : 3 Vd.c.
Distance: 3m

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
*	915.0003	61.01	QP	31.90	92.91	94.00	105	187	-1.09	

Registration number: W6M22110-21280-C-1
FCC ID: XO8-HALO915TX

Radiated Emission Measurement

Operator: Vincent
File :Power
Data :#2
Date: 10/22/2021
Time: 5:35:02 PM
Temperature:24.0 ℃
Humidity:57.3 %



Site : Chamber
Condition : FCC 15.249 power(902-928)_QP
EUT : W6M22110-21280
M/N:
Test Mode : TX 915MHz
Note :

Polarization: *Vertical*
Power : 3 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
*	915.0027	48.66	QP	31.90	80.56	94.00	102	235	-13.44	

Test equipment used: ETSTW-RE 004, ETSTW-RE 030, ETSTW-RE 062, ETSTW-RE 142, ETSTW-RE 147

3.2 Equivalent isotropic radiated power

Because using an permanent antenna there are no deviations from the radiated test results according 3.1.

3.3 RF Exposure Compliance Requirements

Not applicable for this EUT for the low power level.

3.4 Out of Band Radiated Emissions

FCC Rule: 15.249 (d)(e), 15.35 (b)

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

For frequency above 1000 MHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For point-to-point operation, the peak field strength shall not exceed 2500 millivolts/meter at 3 meters along the antenna azimuth.

Limits:

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	46.5
Above 960	500	54.0

For frequencies above 1 GHz (Peak measurements).

Limit + 20 dB 54.0 dBμV/m + 20 dB= 74dBμV/m
Or
Must be attenuated at least 50dB below the level of fundament

Test equipment used: ETSTW-RE 004, ETSTW-RE 062, ETSTW-RE 142, ETSTW-RE 147, ETSTW-RE 030

Explanation: Please see attached diagram as appendix.

3.5 Spurious emission (tx)

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

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

For frequencies above 1000 MHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For point-to-point operation, the peak field strength shall not exceed 2500 millivolts/meter at 3 meters along the antenna azimuth.

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

The peak and average spurious emission plots was measured with the average limits.
The critical peak value listed in the table agree with the above calculated limits.

Summary table with radiated data of the test plots

Model: HALO915TX Date: --
Mode: -- Temperature: -- °C Engineer: --
Polarization: Horizontal Humidity: -- %

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

Polarization: Vertical

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

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. **Up Line: PK Limit Line, Down Line: Ave Limit Line.**
6. **Please see attached diagrams in appendix.**

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

Test equipment used: ETSTW-RE 004, ETSTW-RE 062, ETSTW-RE 142, ETSTW-RE 147, ETSTW-RE 030, ETSTW-RE 088, ETSTW-RE 018

3.6 Radiated Emissions from Receiver Part

Summary table with radiated data of the test plots

Model: HALO915TX Date: --
Mode: -- Temperature: -- °C Engineer: --
Polarization: -- Humidity: -- %

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

Frequency (MHz)	Reading (dBuV)		Factor (dB) Corr.	Result @3m (dBuV/m)		Limit @3m (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.		Peak	Ave.	Peak	Ave.			
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--

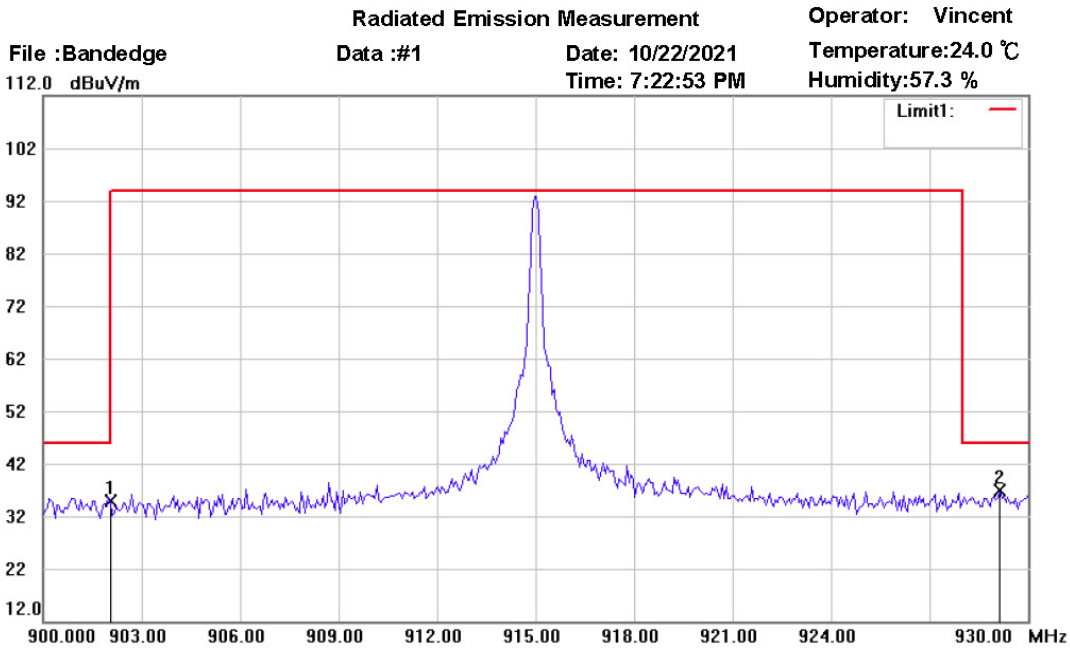
Note

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. **The test is not required because the EUT is TX only.**

Test equipment used: ETSTW-RE 004, ETSTW-RE 062, ETSTW-RE 142, ETSTW-RE 147, ETSTW-RE 030

3.7 Radiated Emission on the band edge

From the following plots, they show that the fundamental emissions are confined in the specified band and hey at least 50 dB below the carrier level at band edge (2400 and 2483.5 MHz). It meets the requirement of section 15.249(d).

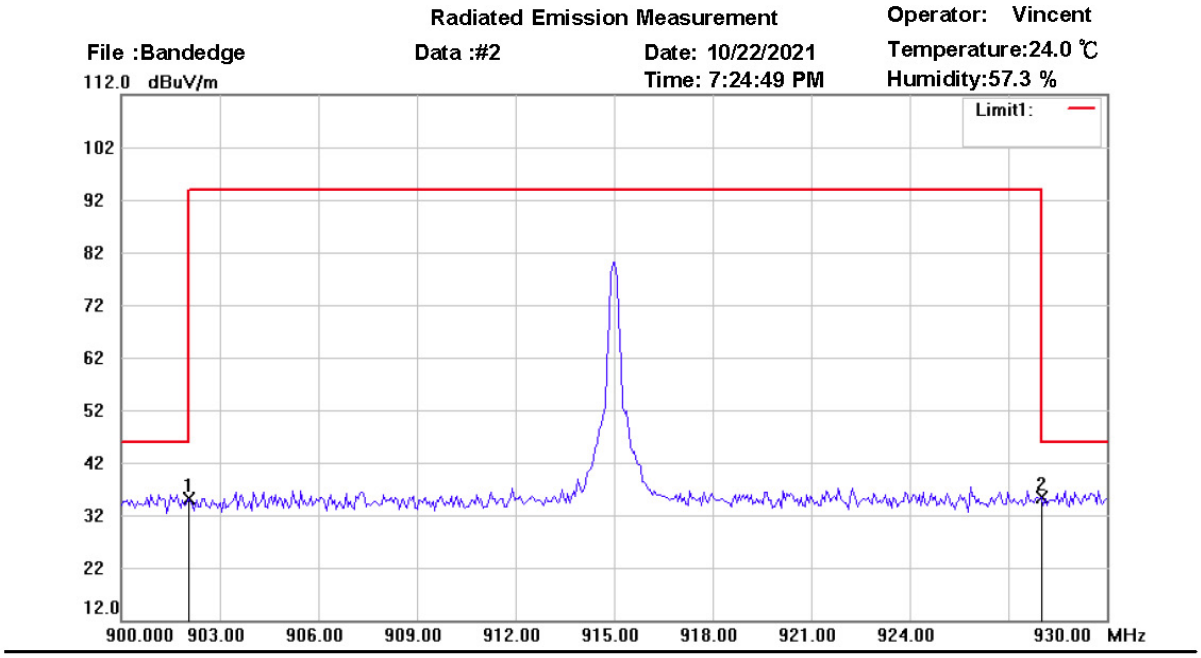


Site : Chamber
Condition : FCC 15.249 Bandedge(902-928)_QP
EUT : W6M22110-21280
M/N:
Test Mode : TX 915MHz
Note :

Polarization: *Horizontal*
Power : 3 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
	902.0000	3.17	QP	31.61	34.78	46.00	105	202	-11.22	
*	929.1583	4.67	QP	32.22	36.89	46.00	100	173	-9.11	

Registration number: W6M22110-21280-C-1
FCC ID: XO8-HALO915TX



Site : Chamber
Condition : FCC 15.249 Bandedge(902-928)_QP
EUT : W6M22110-21280
M/N:
Test Mode : TX 915MHz
Note :

Polarization: *Vertical*
Power : 3 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
	902.0000	3.58	QP	31.61	35.19	46.00	102	65	-10.81	
*	928.0000	3.21	QP	32.19	35.40	46.00	100	114	-10.60	

Limit:

Frequency Range (MHz)	Limit (dBμV/m)	
	Peak	Average
902 – 928	114	94
2400 – 2483.5	74	54
5725 – 5875	74	54

Test equipment used: ETSTW-RE 004, ETSTW-RE 030, ETSTW-RE 062, ETSTW-RE 142, ETSTW-RE 147

3.8 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.

Frequency	Level (dBμV)	
	quasi-peak	average
150 kHz	lower limit line	Lower limit line

Note: 1. The formula of measured value as: Test Result = Reading + Correction Factor
2. The Correction Factor = Cable Loss + LISN Insertion Loss
3. Detector function in the form : PK = Peak, QP = Qusai 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.
6. This test is not required because EUT is battery-used.

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.

Appendix

A Photos

1. External Photos
2. Internal Photos
3. Set Up Photo of Radiated Emission

B Measurement diagrams

Spurious Emissions radiated

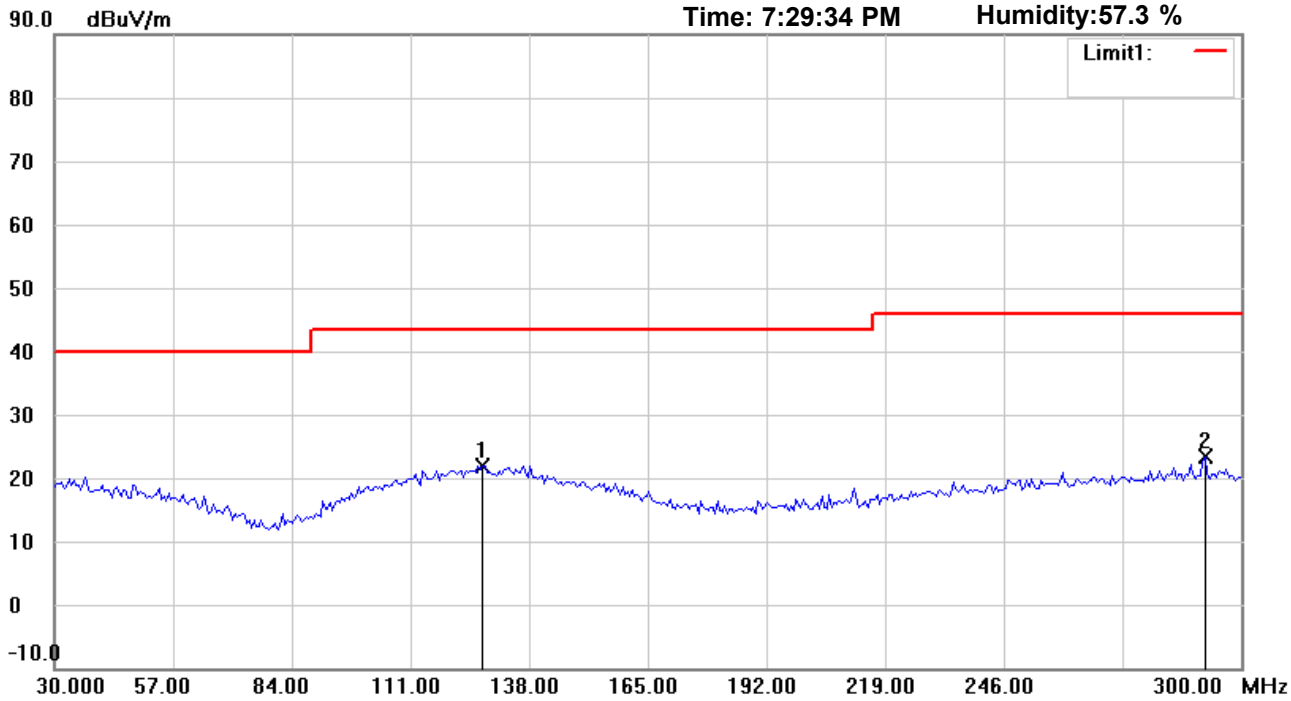
Address:6F.,No.58,Ln 188,Ruey Kuang Rd,Neihu,Taipei
Tel:+886-2-6606-8877
Fax:+886-2-6606-8879

Radiated Emission Measurement

Operator: Vincent

File :1 Data :#1 Date: 10/22/2021 Time: 7:29:34 PM

Temperature:24.0 ℃
Humidity:57.3 %



Site : Chamber

Condition : FCC_part 15 RE-Class C_30-1000MHz

Polarization: *Horizontal*

EUT : W6M22110-21280

Power : 3 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 915MHz

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
*	127.3948	27.96	peak	-6.04	21.92	43.50	103	116	-21.58	
	291.8838	28.81	peak	-5.54	23.27	46.00	102	234	-22.73	

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

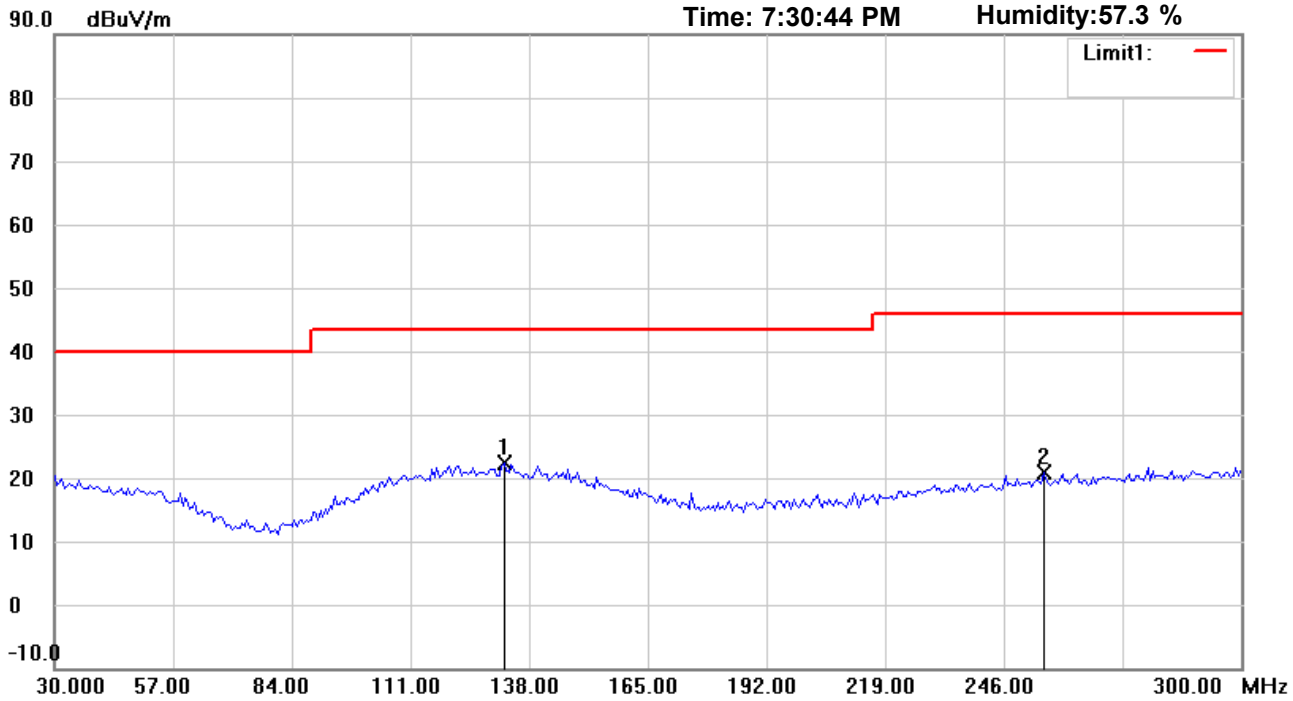
Address:6F.,No.58,Ln 188,Ruey Kuang Rd,Neihu,Taipei
Tel:+886-2-6606-8877
Fax:+886-2-6606-8879

Radiated Emission Measurement

Operator: Vincent

File :1 Data :#2 Date: 10/22/2021 Time: 7:30:44 PM

Temperature:24.0 ℃
Humidity:57.3 %



Site : Chamber

Condition : FCC_part 15 RE-Class C_30-1000MHz

Polarization: *Vertical*

EUT : W6M22110-21280

Power : 3 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 915MHz

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
*	132.2644	28.42	peak	-6.09	22.33	43.50	106	322	-21.17	
	255.0902	27.69	peak	-6.93	20.76	46.00	102	184	-25.24	

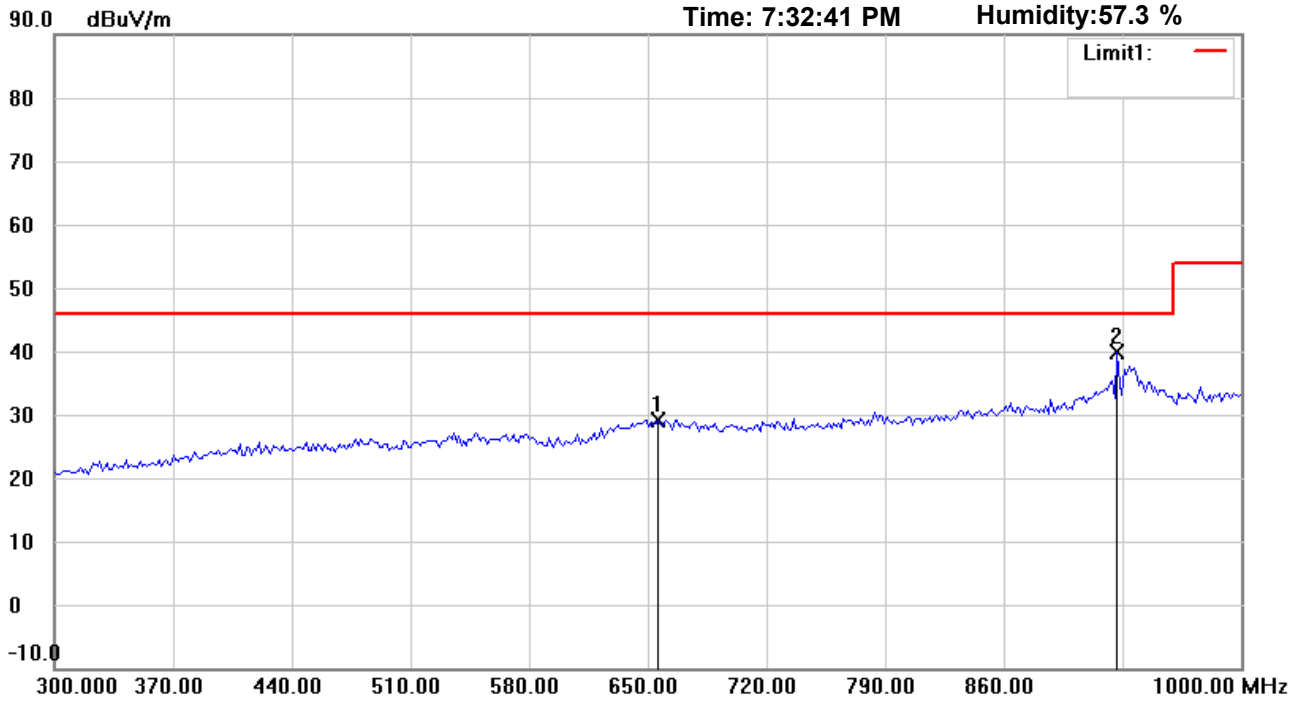
*:Maximum data x:Over limit !:over margin

Address:6F.,No.58,Ln 188,Ruey Kuang Rd,Neihu,Taipei
Tel:+886-2-6606-8877
Fax:+886-2-6606-8879

Radiated Emission Measurement

Operator: Vincent

File :2 | Data :#1 | Date: 10/22/2021 | Time: 7:32:41 PM | Temperature:24.0 ℃ | Humidity:57.3 %



Site : Chamber

Condition : FCC_part 15 RE-Class C_30-1000MHz

Polarization: *Horizontal*

EUT : W6M22110-21280

Power : 3 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 915MHz

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
	656.3125	27.81	peak	1.34	29.15	46.00	104	326	-16.85	
*	927.0540	34.54	peak	5.23	39.77	46.00	101	142	-6.23	

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

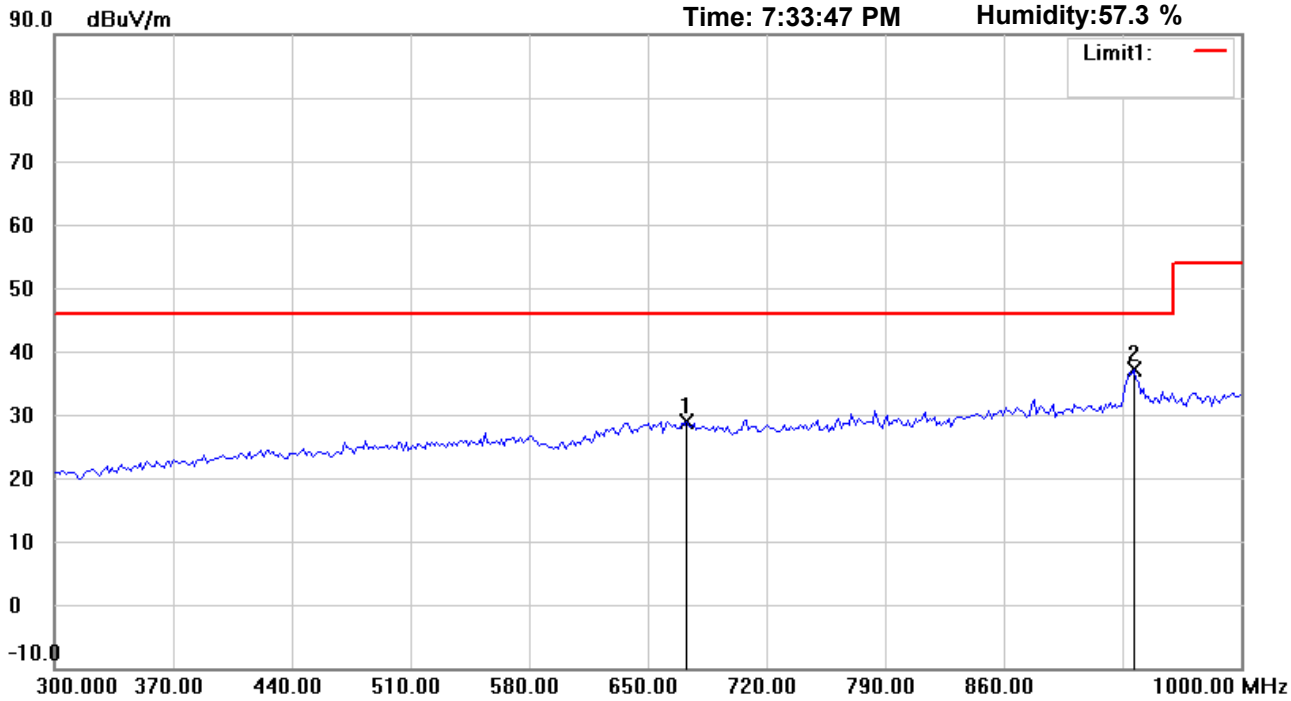
Address:6F.,No.58,Ln 188,Ruey Kuang Rd,Neihu,Taipei
Tel:+886-2-6606-8877
Fax:+886-2-6606-8879

Radiated Emission Measurement

Operator: Vincent

File :2 Data :#2 Date: 10/22/2021 Time: 7:33:47 PM

Temperature:24.0 ℃
Humidity:57.3 %



Site : Chamber

Condition : FCC_part 15 RE-Class C_30-1000MHz

Polarization: *Vertical*

EUT : W6M22110-21280

Power : 3 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 915MHz

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
	673.1462	27.86	peak	1.14	29.00	46.00	100	117	-17.00	
*	936.8736	31.54	peak	5.49	37.03	46.00	103	214	-8.97	

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

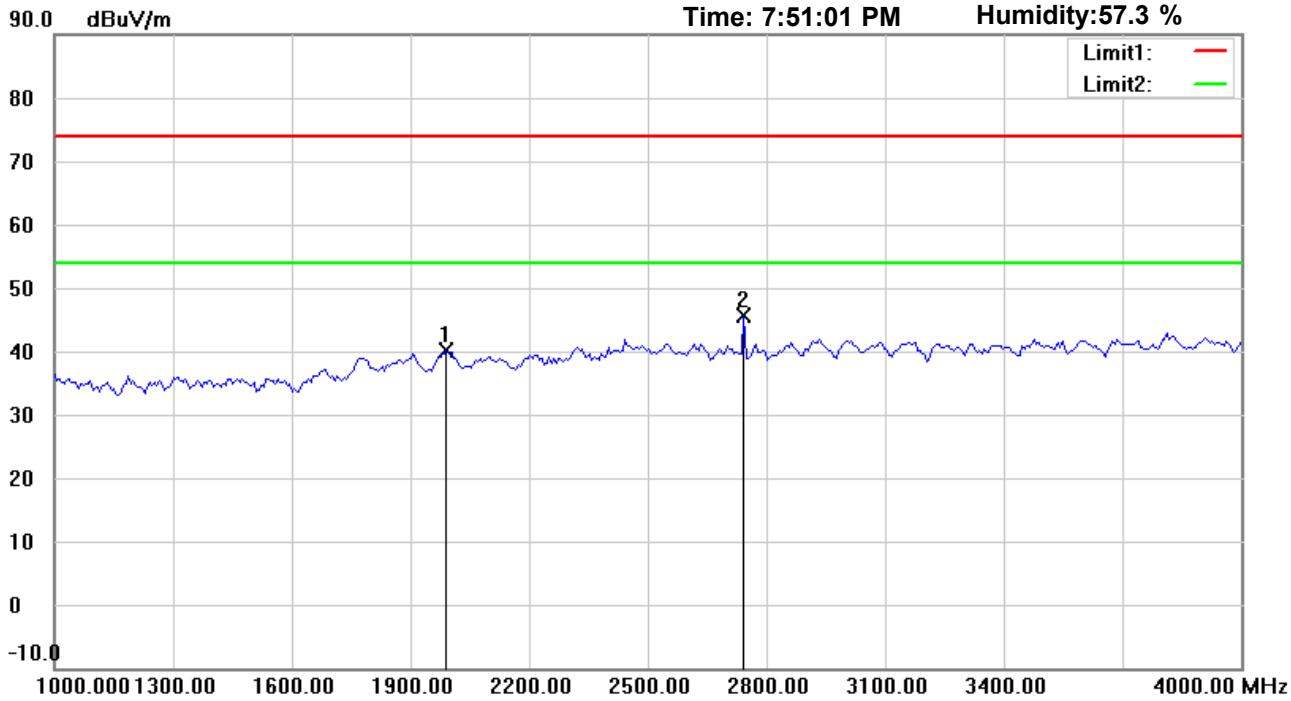
Address:6F.,No.58,Ln 188,Ruey Kuang Rd,Neihu,Taipei
Tel:+886-2-6606-8877
Fax:+886-2-6606-8879

Radiated Emission Measurement

Operator: Vincent

File :3 Data :#1 Date: 10/22/2021 Time: 7:51:01 PM

Temperature:24.0 ℃
Humidity:57.3 %



Site : Chamber

Condition : FCC_part 15 RE-Class C_Above 1GHz_PK

Polarization: *Horizontal*

EUT : W6M22110-21280

Power : 3 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 915MHz

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
	1991.984	42.10	peak	-2.09	40.01	74.00	150	70	-33.99	
*	2743.487	46.53	peak	-0.91	45.62	74.00	150	324	-28.38	

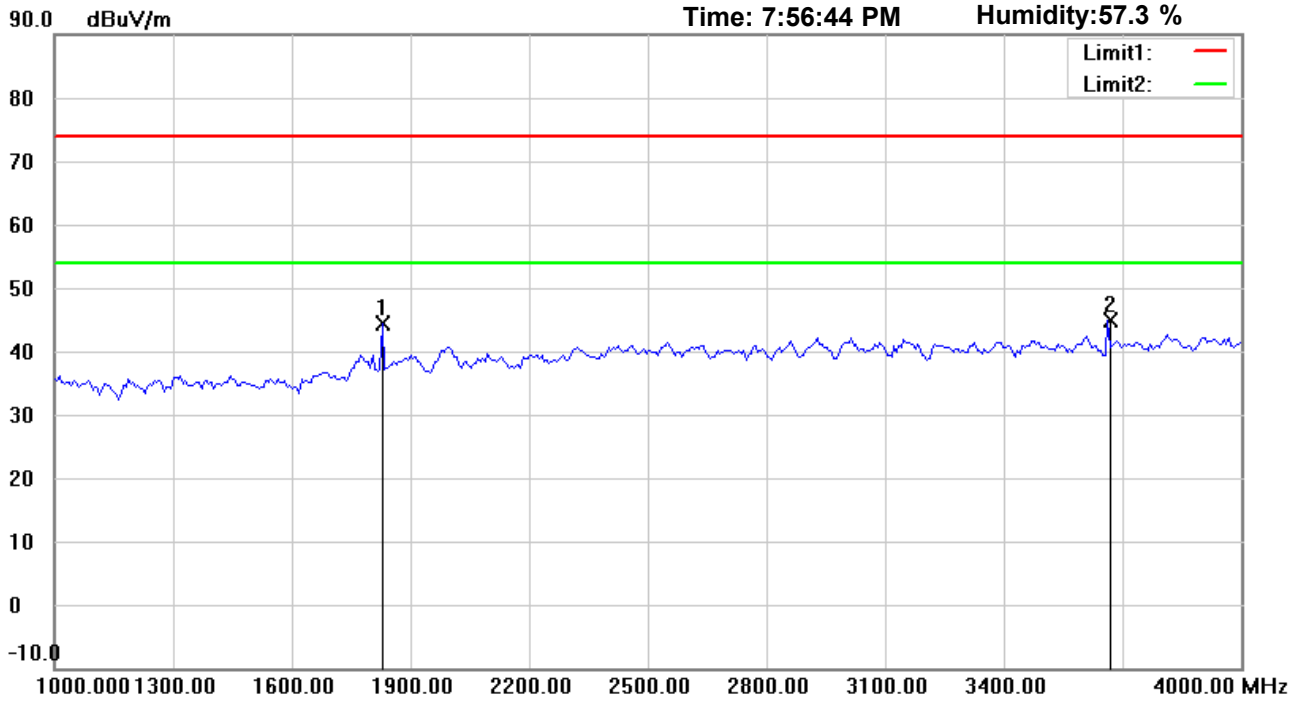
*:Maximum data x:Over limit !:over margin

Address:6F.,No.58,Ln 188,Ruey Kuang Rd,Neihu,Taipei
Tel:+886-2-6606-8877
Fax:+886-2-6606-8879

Radiated Emission Measurement

Operator: Vincent

File :3 | Data :#4 | Date: 10/22/2021 | Time: 7:56:44 PM | Temperature:24.0 ℃ | Humidity:57.3 %



Site : Chamber

Condition : FCC_part 15 RE-Class C_Above 1GHz_PK

Polarization: *Vertical*

EUT : W6M22110-21280

Power : 3 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 915MHz

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
	1829.659	47.42	peak	-3.10	44.32	74.00	150	147	-29.68	
*	3663.327	43.96	peak	0.97	44.93	74.00	150	169	-29.07	

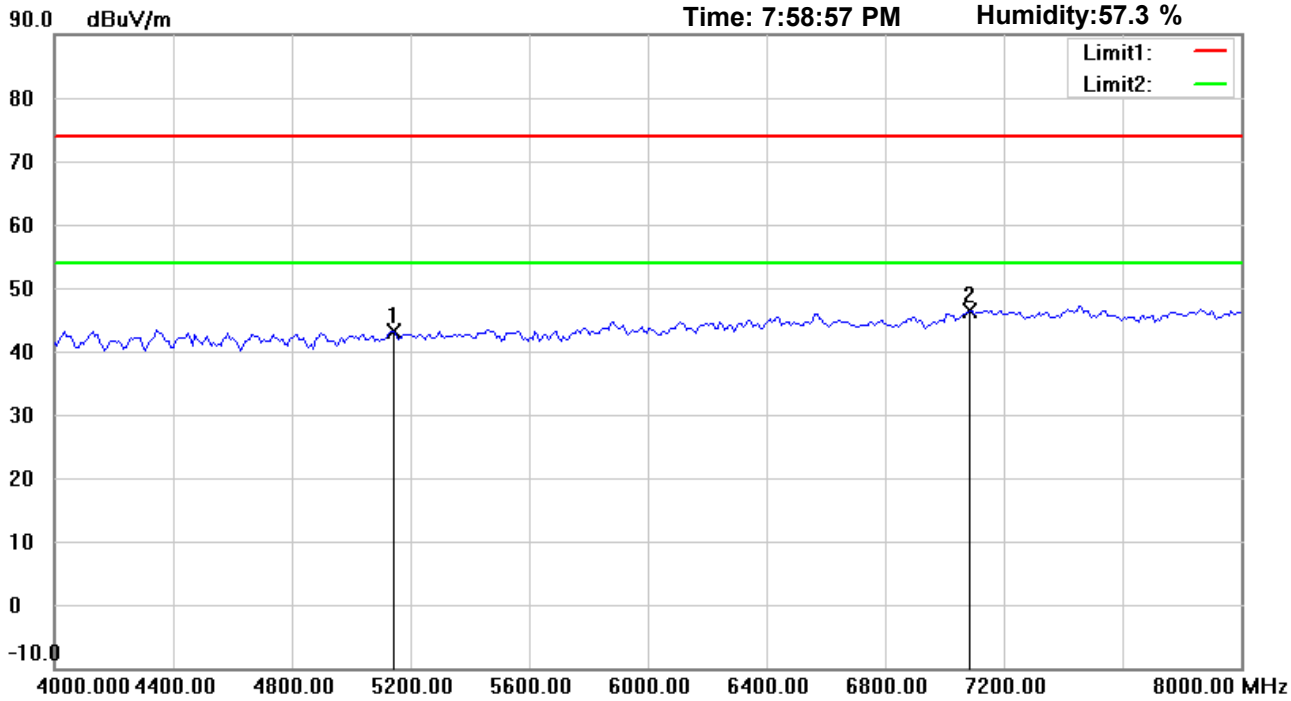
*:Maximum data x:Over limit !:over margin

Address:6F.,No.58,Ln 188,Ruey Kuang Rd,Neihu,Taipei
Tel:+886-2-6606-8877
Fax:+886-2-6606-8879

Radiated Emission Measurement

Operator: Vincent

File :3 | Data :#2 | Date: 10/22/2021 | Time: 7:58:57 PM | Temperature:24.0 ℃ | Humidity:57.3 %



Site : Chamber

Condition : FCC_part 15 RE-Class C_Above 1GHz_PK

Polarization: *Horizontal*

EUT : W6M22110-21280

Power : 3 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 915MHz

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
	5146.292	40.48	peak	2.61	43.09	74.00	150	298	-30.91	
*	7086.172	40.31	peak	6.18	46.49	74.00	150	174	-27.51	

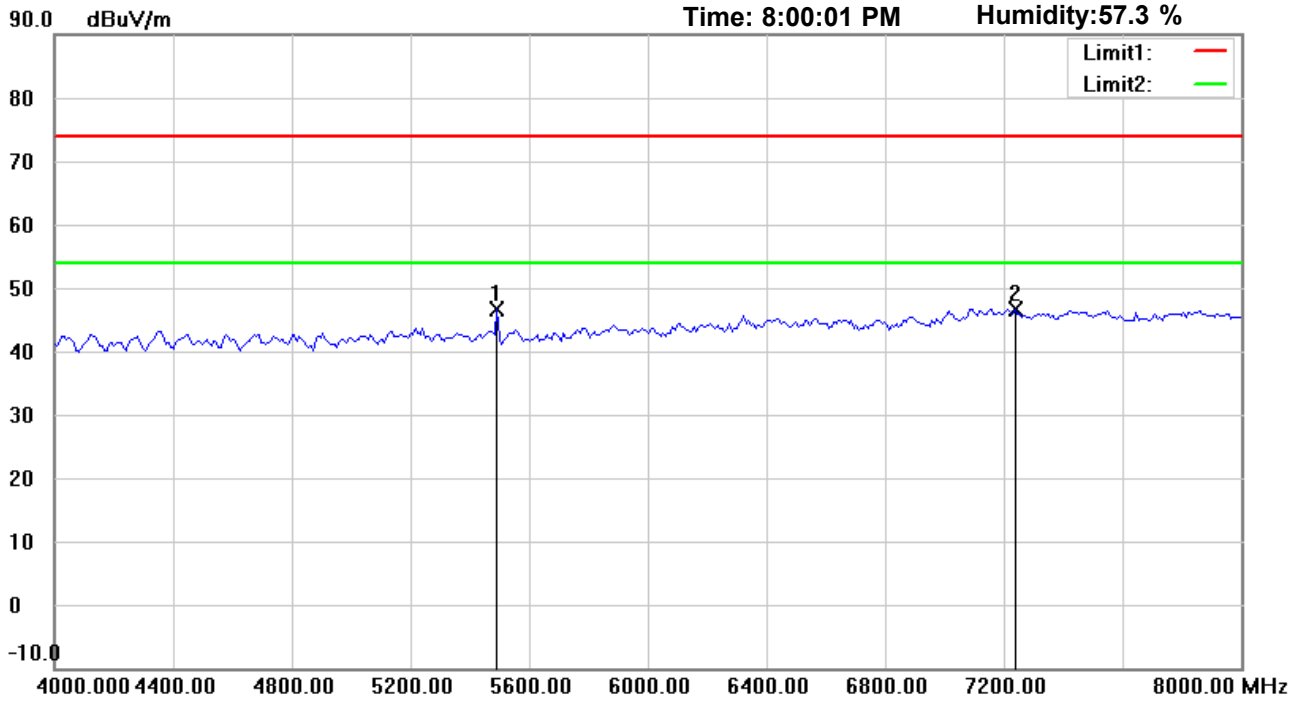
*:Maximum data x:Over limit !:over margin

Address:6F.,No.58,Ln 188,Ruey Kuang Rd,Neihu,Taipei
Tel:+886-2-6606-8877
Fax:+886-2-6606-8879

Radiated Emission Measurement

Operator: Vincent

File :3 | Data :#5 | Date: 10/22/2021 | Time: 8:00:01 PM | Temperature:24.0 ℃ | Humidity:57.3 %



Site : Chamber

Condition : FCC_part 15 RE-Class C_Above 1GHz_PK

Polarization: *Vertical*

EUT : W6M22110-21280

Power : 3 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 915MHz

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
	5490.982	43.20	peak	3.40	46.60	74.00	150	62	-27.40	
*	7238.477	40.76	peak	5.92	46.68	74.00	150	142	-27.32	

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

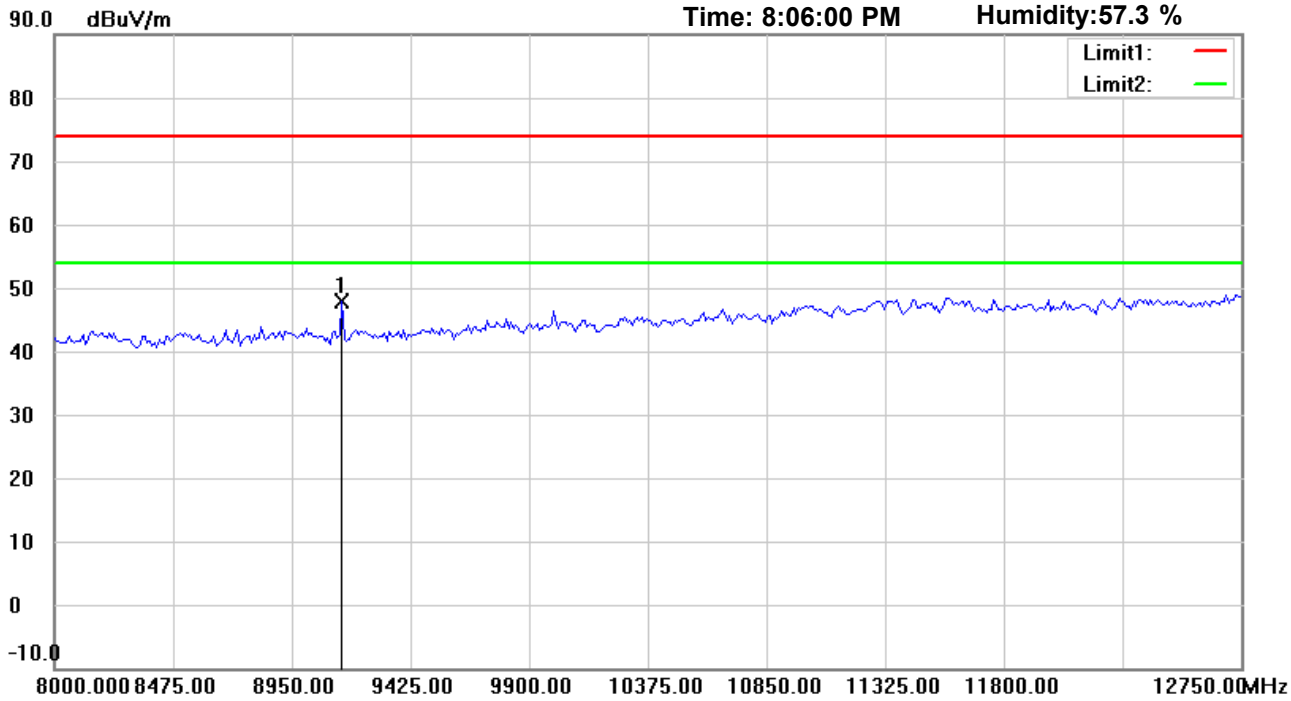
Address:6F.,No.58,Ln 188,Ruey Kuang Rd,Neihu,Taipei
Tel:+886-2-6606-8877
Fax:+886-2-6606-8879

Radiated Emission Measurement

Operator: Vincent

File :3 Data :#3 Date: 10/22/2021 Time: 8:06:00 PM

Temperature:24.0 ℃
Humidity:57.3 %



Site : Chamber

Condition : FCC_part 15 RE-Class C_Above 1GHz_PK

Polarization: *Horizontal*

EUT : W6M22110-21280

Power : 3 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 915MHz

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
*	9151.803	40.26	peak	7.62	47.88	74.00	150	142	-26.12	

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

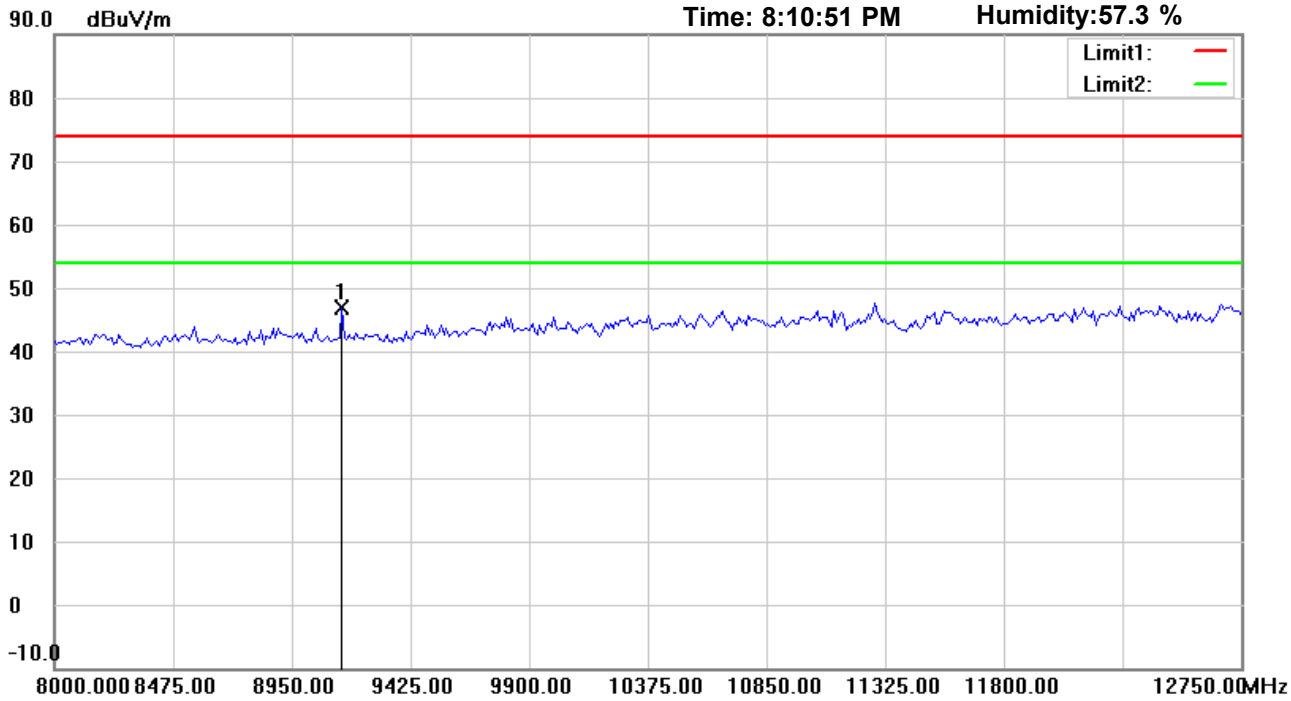
Address:6F.,No.58,Ln 188,Ruey Kuang Rd,Neihu,Taipei
Tel:+886-2-6606-8877
Fax:+886-2-6606-8879

Radiated Emission Measurement

Operator: Vincent

File :3 Data :#6 Date: 10/22/2021 Time: 8:10:51 PM

Temperature:24.0 ℃
Humidity:57.3 %



Site : Chamber

Condition : FCC_part 15 RE-Class C_Above 1GHz_PK

Polarization: *Vertical*

EUT : W6M22110-21280

Power : 3 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 915MHz

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
*	9151.803	39.21	peak	7.62	46.83	74.00	150	247	-27.17	

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