47 CFR PART 15 SUBPART C TEST REPORT

for

TPMS Repeater

Model No.: TA-82P

FCC ID: HQXTA82P

of

Applicant: Sysgration Ltd.
Address: 6F, No.1, Sec.1,Tiding Blvd., Neihu Dist. Taipei City 114 Taiwan

Tested and Prepared

by

Worldwide Testing Services (Taiwan) Co., Ltd.

FCC Registration No.: TW1072, TW1140, TW1146, TW1477, TW0037

Industry Canada filed test laboratory Reg. No.: 20037, 31634

Report No.: W6M22411-23932-C-1

6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU TAIPEI 114, TAIWAN, R.O.C.
TEL: 886-2-66068877 FAX: 886-2-66068879 E-mail: wts@wts-lab.com

Registration number: W6M22411-23932-C-1
FCC ID: HQXTA82P

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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.

Laboratory disclaimer-
1. The test results of this test report relate exclusively to the item tested as specified in 1.5.
2. The test report may only be reproduced or published in full.
3. Reproduction or publication of extracts from the report requires the prior written approval of the Worldwide Testing Services(Taiwan) Co., Ltd.
4. Antenna gain is provided by applicant and laboratory issue relevant data and results.

Tester:

Date	WTS-Lab.	Name	Signature
January 26, 2025		Rick Chen	Rick Chen

Technical responsibility for area of testing:

Date	WTS	Name	Signature
January 26, 2025		Kevin Wang	Kevin Wang

1.2 Testing laboratory

1.2.1 Location

10m OATS
No.5-1, Lishui, Shuang Sing Village, Wanli Dist.,
New Taipei City 207, Taiwan (R.O.C.)

3 meter semi-anechoic chamber
No. 99, Sec. 1, Balian Rd., Xizhi Dist.,
New Taipei City 221032, Taiwan (R.O.C.)

Worldwide Testing Services (Taiwan) Co., Ltd.
6F., No. 58, Ln. 188, Ruiguang Rd., Neihu Dist.,
Taipei City 114 , Taiwan (R.O.C.)
Tel: 886-2-6606-8877

1.2.2 Details of accreditation status

Accredited testing laboratory
FCC filed test laboratory Reg. No.: TW1072, TW1140, TW1146, TW1477, TW0037
Industry Canada filed test laboratory Reg. No.: 20037, 31634

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

Name:	./.
Accredited no.:	./.
Street:	./.
Town:	./.
Country:	./.

1.3 Application details

Approval holder

Name:	Sysgration Ltd.
Street:	6F.,No.1,Sec.1,Tiding Blvd.,Neihu Dist.
City:	Taipei City 114
Country:	Taiwan

Registration number: W6M22411-23932-C-1
FCC ID: HQXTA82P

Manufacturer: (if applicable)

Name:	Sysgration Electronics Technology (HuiZhou) Company, Limited.
Street:	YuXin Science Park 3rd Floor, Long Shan 7 Rd.,Xiang ShuiHe Industrial Zone, DaYaWan,
Town:	HuiZhou City, Guang Dong Province,
Country:	China

Test date

Date of receipt of test item:	December 19, 2024
Date of test:	from December 20, 2024 to January 24, 2025

1.4 General information of Test item

Type of test item:	TPMS Repeater
Model no.:	TA-82P
Multi-listing model no.:	./.
Brand name:	SYSGRATION
Power supply:	DC 12V/DC 24V

Technical data

Mode	Channel	Conducted Power (dBm)
12V	Ch 0 : 2402 MHz	-4.94
	Ch 19 : 2440 MHz	-5.27
	Ch 39 : 2480 MHz	-5.51
24V	Ch 0 : 2402 MHz	-5.09
	Ch 19 : 2440 MHz	-5.57
	Ch 39 : 2480 MHz	-5.70

Type of antenna:	Wire antenna
Antenna gain:	3.05 dBi
Operation modes:	Duplex
Modulation type:	GFSK
Sample no.:	#04

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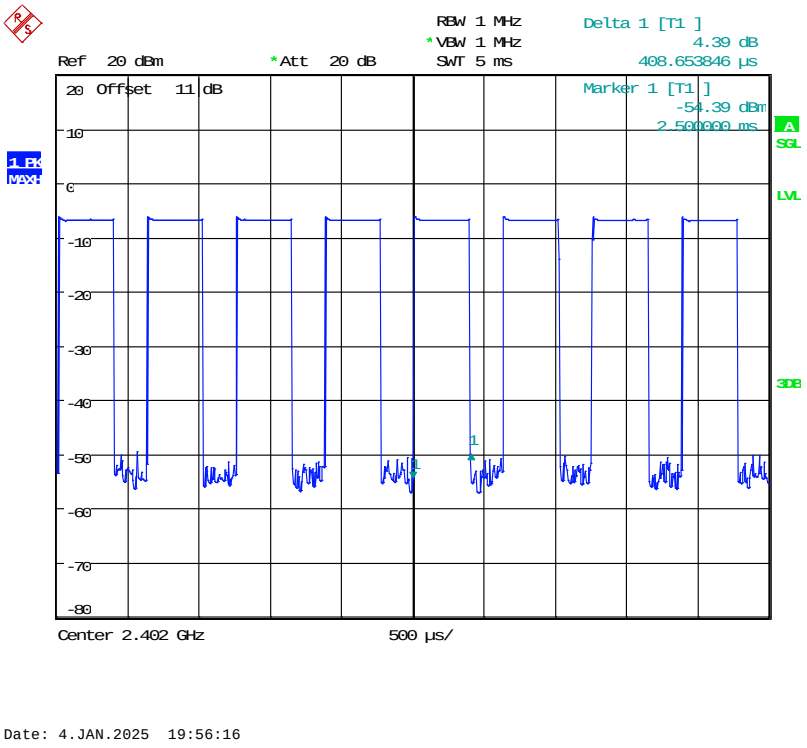
FCC ID: HQXTA82P

1.5 Duty cycle and factor

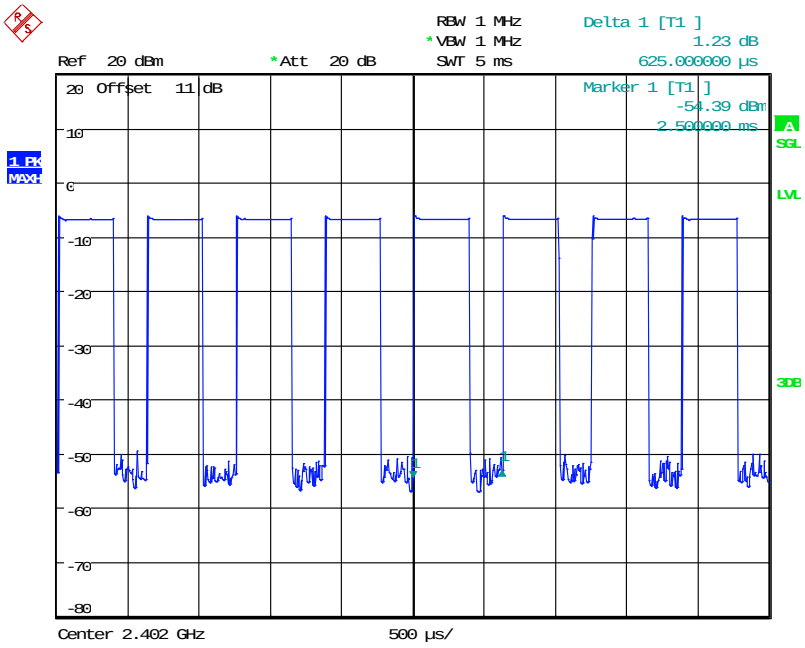
The duty factor is computed as [10 log (1 / D)], where D is the duty cycle.
12V/24V

Mode	T_{on} (ms)	$T_{on}+T_{off}$ (ms)	Duty cycle (%)	1/T – VBW (kHz)
BLE 1M	0.409	0.625	65.44%	2.44

Duty cycle plot



Registration number: W6M22411-23932-C-1
FCC ID: HQXTA82P



Date: 4.JAN.2025 19:56:40

1.6 Test standards

47 CFR PART 15 SUBPART C § 15.247 (2023-10)
ANSI C63.10 (2013)

2 Test configuration

2.1 Test environment

Relative humidity content: 20 ... 75 %

Air pressure: 86 ... 103 kPa

Extreme conditions parameters: ./.

2.2 Measurement uncertainty

Test item Name	Uncertainty
Estimation Result of Uncertainty of Conducted Emission (Power Line Conducted Emission)	Expanded Uncertainty： AMN：0.94 dB Voltage probe：0.96 dB Include Pulse Limiter：1.5 dB
Estimation Result of Uncertainty of Radiated Emission(3M-966A) (Spurious Emissions radiated – Transmitter operating)	Expanded Uncertainty： 0.009-30 MHz：1.88 dB 30-1000 MHz：3.20 dB 1-18 GHz：3.56 dB 18-40 GHz：2.94 dB
Estimation Result of Uncertainty of Bandwidth Measurement (Minimum 6 dB Bandwidth)	Expanded Uncertainty：0.45 kHz
Estimation Result of Uncertainty of Conducted Output Power Measurement (Peak Output Power (transmitter))	Expanded Uncertainty：1.64 dB
Estimation Result of Uncertainty of Power Density Measurement (Peak Power Spectral Density)	Expanded Uncertainty：1.64 dB
Estimation Result of Uncertainty of Band Edge Measurement (Emissions in nonrestricted frequency bands)	Expanded Uncertainty：0.67 dBc

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

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2.3 Test Equipment List

Max Output Power, 6DB Bandwidth, Bandedge, Power Density, Duty

Code No.	Test equipment	Mode No.	Serial No.	Brand	Cal. Date	Next Cal. Date
ETSTW-RE 050	Attenuator 10dB	50HF-010-1	None	JFW	2024/2/16	2025/2/15
ETSTW-RE 055	SPECTRUM ANALYZER	FSU 26	200074	R&S	2024/3/7	2025/3/6
ETSTW-RE 099	DC Block	50DB-007-1	None	JFW	2024/2/16	2025/2/15
ETSTW-Cable 030	Microwave Cable	SUCOFLEX 104 （S_Cable 9）	279067	HUBER+SUHNER	2024/2/16	2025/2/15

Spurious Emission (966A)

Code No.	Test equipment	Mode No.	Serial No.	Brand	Cal. Date	Next Cal. Date
ETSTW-RE 153	Signal Analyzer	FSV40	101929	R&S	2024/9/11	2025/9/10
ETSTW-RE 154	EMI Test Receiver	ESR3	102829	R&S	2024/2/16	2025/4/9
ETSTW-RE 160	Amplifier Module	CHC 3	None	WTS	2024/7/12	2025/7/11
ETSTW-RE 177	TRILOG Broadband Antenna	VULB 9168&EMCI-N-6-06	01380& AT-06007	SCHWARZBECK &EMC	2024/3/4	2025/3/3
ETSTW-RE 178	Double Ridged Guide Horn Antenna	DRH18-E	210505A18ES	RFSPIN	2024/2/29	2025/2/28
ETSTW-Cable 077	SMA type cable (10m)	EMC104-SM-SM-10000	230511	EMCI	2024/7/12	2025/7/11
ETSTW-Cable 084	SMA type cable (1m)	SF104-11SMA-1000	816477/4	HONOVA	2024/7/12	2025/7/11
ETSTW-Cable 089	SMA type cable (2m)	SF104-11SMA-2000	SN 811889/4	HUBER+SUHNER	2024/7/12	2025/7/11
WTSTW-SW 002	EMI TEST SOFTWARE	EZ_EMC	None	Farad	Version ETS-03A1 Version EMEC-3A1+	

3 Test results (enclosure)

TEST CASE	Para. Number	Required	Test passed	Test failed
Peak Output Power	15.247(b)(3)	☒	☒	☐
Spurious Emissions radiated – Transmitter operating	15.247(d), 15.205, 15.209	☒	☒	☐
Emissions in nonrestricted frequency bands	15.247(d)	☒	☒	☐
Minimum 6 dB Bandwidth	15.247(a)(2)	☒	☒	☐
Peak Power Spectral Density	15.247(e)	☒	☒	☐
Power Line Conducted Emission	15.207(a)	☐	☐	☐

The following is intentionally left blank.

3.1 Peak Output Power (transmitter)

3.1.1 Applicable Standard

FCC Rule: 15.247(b)(3)

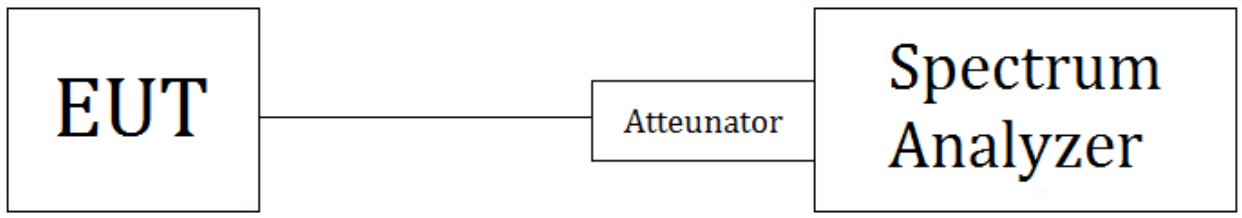
For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

3.1.2 Test procedure

Following Subclause 11.9.1.1 of ANSI C63.10

1. Set the RBW ≥ DTS bandwidth , VBW ≥ [3 × RBW] , span ≥ [3 × RBW].
2. Sweep time = auto couple , Detector = peak , Trace mode = max hold.
3. Allow trace to fully stabilize and determine the peak amplitude level.

3.1.3 Test Setup



3.1.4 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)

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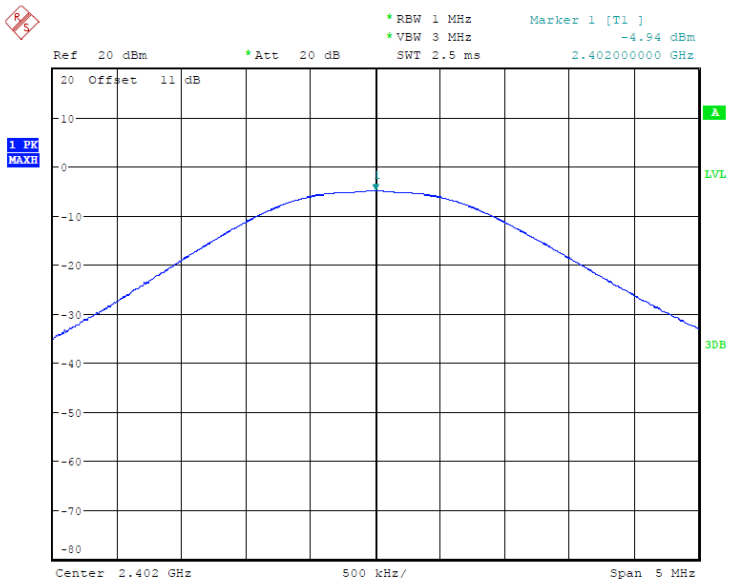
3.1.5 Test Environmental Conditions

Test date: 2025-01-10 Temperature: 22.6°C Humidity: 52.8% Tester: Rick

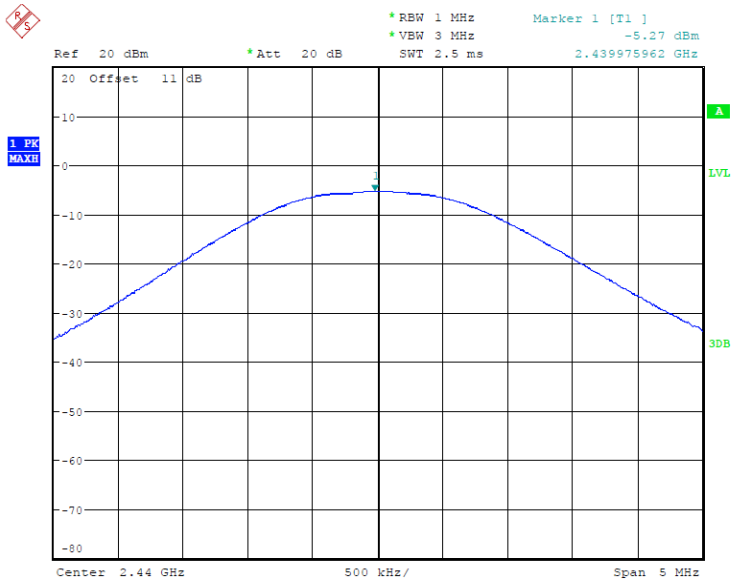
3.1.6 Test results

Band	Mode	Channel	Power (dBm)	Limit (dBm)
2.4GHz	12V	Ch 0 : 2402 MHz	-4.94	30
		Ch 19 : 2440 MHz	-5.27	30
		Ch 39 : 2480 MHz	-5.51	30
	24V	Ch 0 : 2402 MHz	-5.09	30
		Ch 19 : 2440 MHz	-5.57	30
		Ch 39 : 2480 MHz	-5.70	30

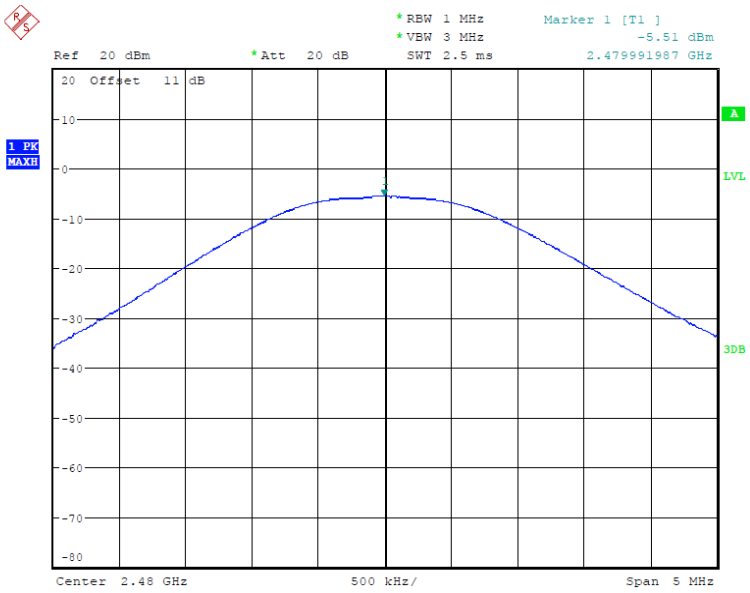
12V



Registration number: W6M22411-23932-C-1
FCC ID: HQXTA82P

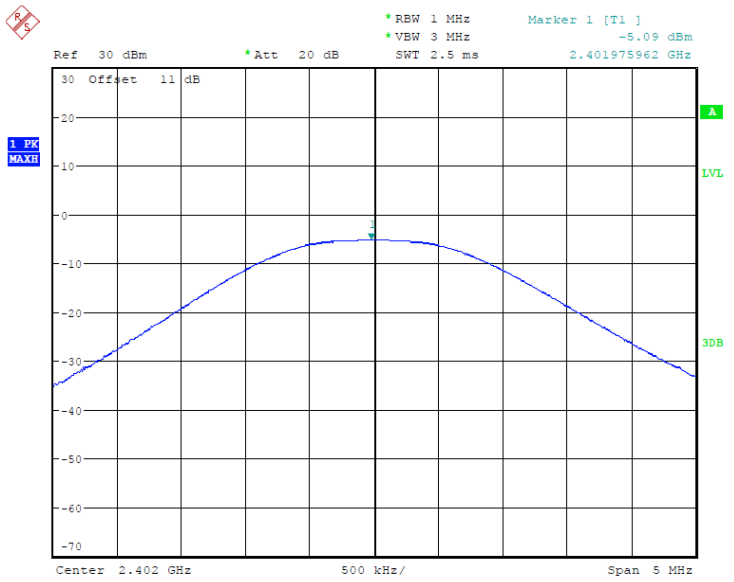


MAX OUTPUT POWER BLE 1M CH19
Date: 10.JAN.2025 16:05:14

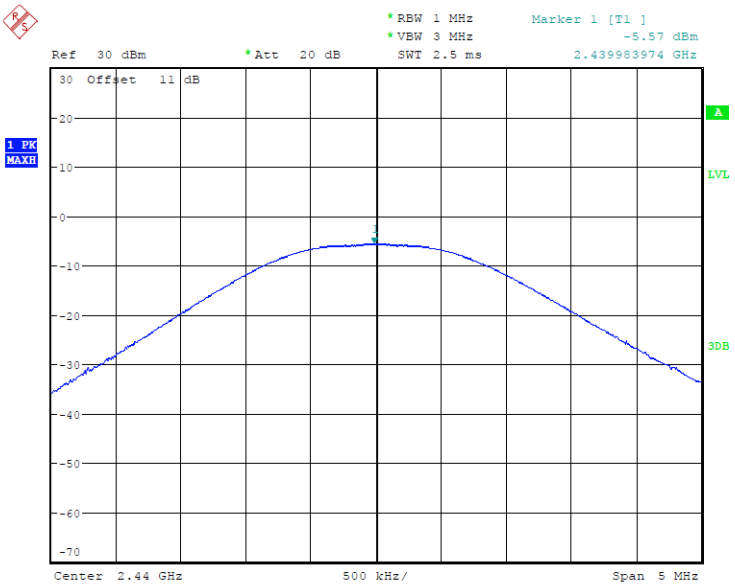


MAX OUTPUT POWER BLE 1M CH39
Date: 10.JAN.2025 16:05:46

Registration number: W6M22411-23932-C-1
FCC ID: HQXTA82P
24V

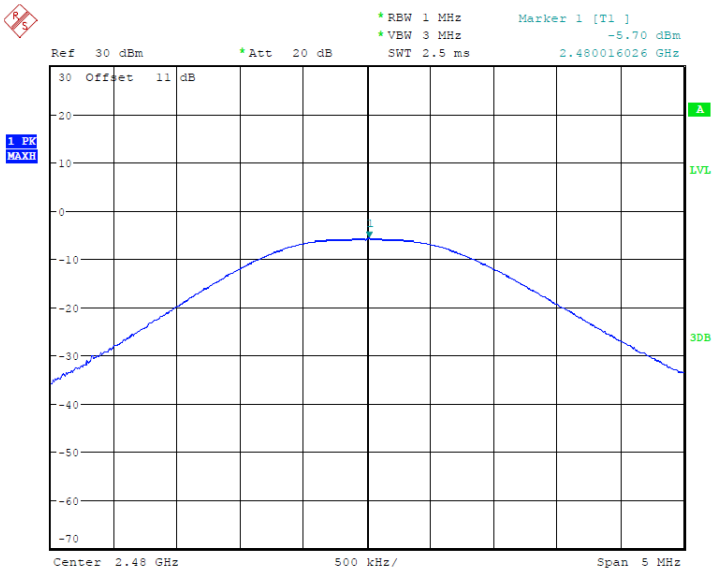


MAX OUTPUT POWER BLE 1M CH00
Date: 10.JAN.2025 16:44:32



MAX OUTPUT POWER BLE 1M CH19
Date: 10.JAN.2025 16:45:33

Registration number: W6M22411-23932-C-1
FCC ID: HQXTA82P



Test equipment used: Please see test equipment utilized (RF Conducted).

3.2 Spurious Emissions radiated – Transmitter operating

3.2.1 Applicable Standard

FCC Rules: 15.247 (d), 15.205, 15.209

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).

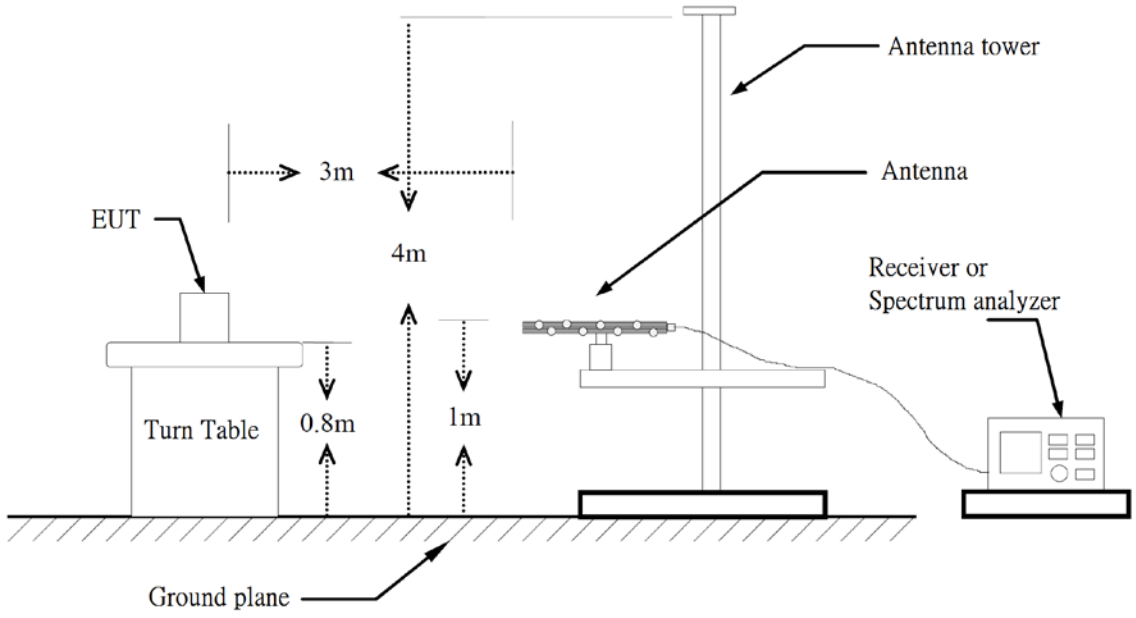
3.2.2 Test procedure

1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. Below 1GHz measurement the EUT is placed on turntable which is 0.8m above ground plane. And above 1GHz measurement EUT was placed on low permittivity and low tangent turn table which is 1.5m above ground plane.
2. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m height to find out the highest emissions.
3. Receiver or Spectrum analyzer configuration
   (a)120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
   (b)RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
   (c)RBW=1MHz, VBW=10Hz(1/T) and Peak detector is for average measured value of radiated emission above 1GHz.

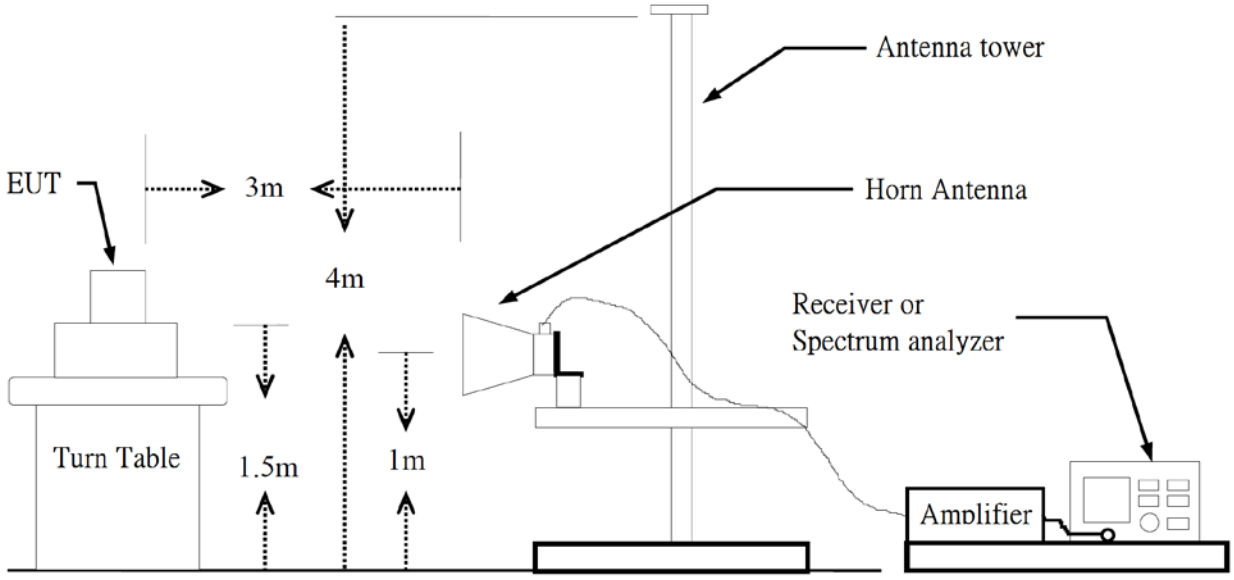
3.2.3 Limits

Frequency (MHz)	Field strength (uV/m)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

3.2.4 Test Setup



Below 1 GHz



Above 1 GHz

3.2.5 Test results (With Environmental Conditions)

Explanation: See attached diagrams in Appendix.

3.3 Emissions in nonrestricted frequency bands

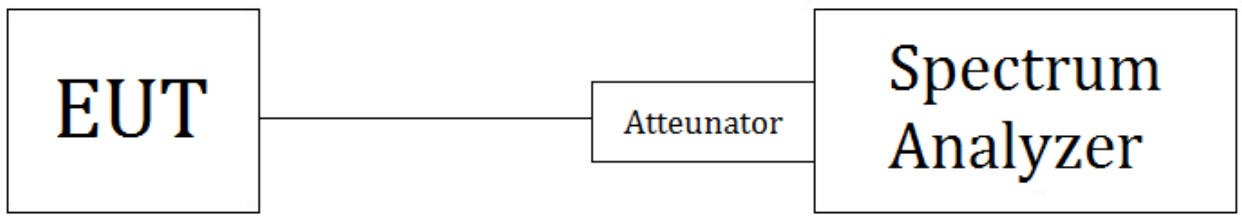
3.3.1 Applicable Standard

FCC Rules: 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.

3.3.2 Test procedure

1. Set RBW = 100 kHz , VBW ≥ [3 × RBW]
2. Set Detector = peak , Sweep time = auto , Trace mode = max hold, and allow sweep to continue until the trace stabilizes
3. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.

3.3.3 Test setup



3.3.4 Limits

See 3.3.1

3.3.5 Test Environmental Conditions

Test date:	2025-01-10	Temperature:	22.6°C	Humidity:	52.8%	Tester:	Rick

Registration number: W6M22411-23932-C-1
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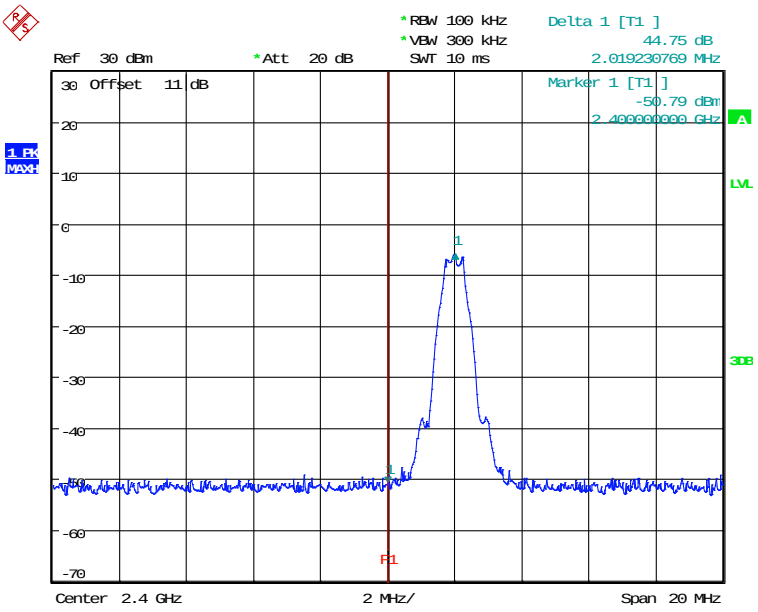
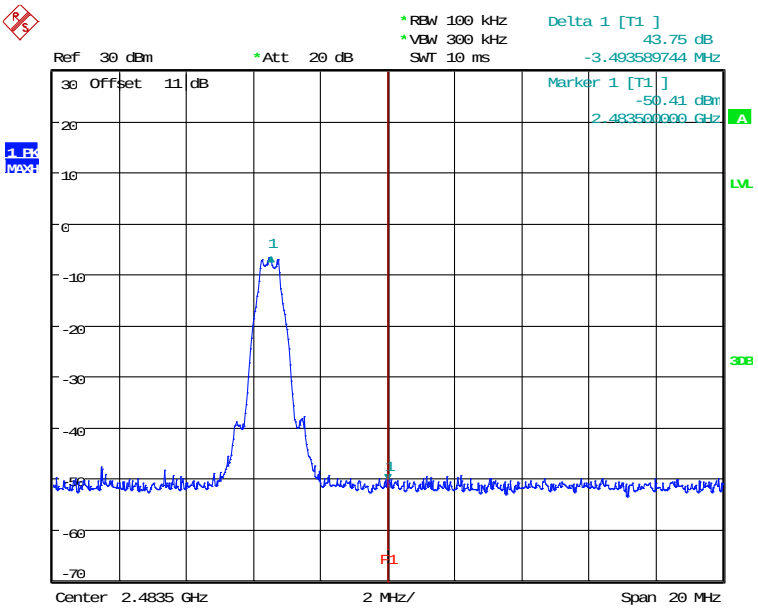
3.3.6 Test results



BANDEDGE BLE 1M CH00
Date: 10.JAN.2025 16:04:52



BANDEDGE BLE 1M CH39
Date: 10.JAN.2025 16:06:14

Test equipment used: Please see test equipment utilized (RF Conducted).

3.4 Minimum 6 dB Bandwidth

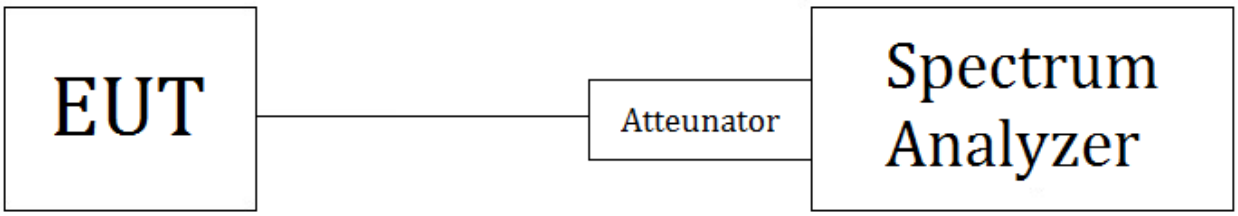
3.4.1 Applicable Standard

FCC Rules: 15.247(a)(2)
Systems using digital modulation techniques may operate in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

3.4.2 Test procedure

1. Set RBW = 100 kHz , Set the VBW ≥ [3 × RBW].
2. Set Detector = peak , Trace mode = max hold , Sweep = auto couple and allow the trace to stabilize.
3. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

3.4.3 Test setup



3.4.4 Limits

Frequency Range (MHz)	Limits (kHz)
902-928	≧500
2400-2483.5	
5725-5850	

3.4.5 Test Environmental Conditions

Test date: 2025-01-10 Temperature: 22.6°C Humidity: 52.8% Tester: Rick

Registration number: W6M22411-23932-C-1
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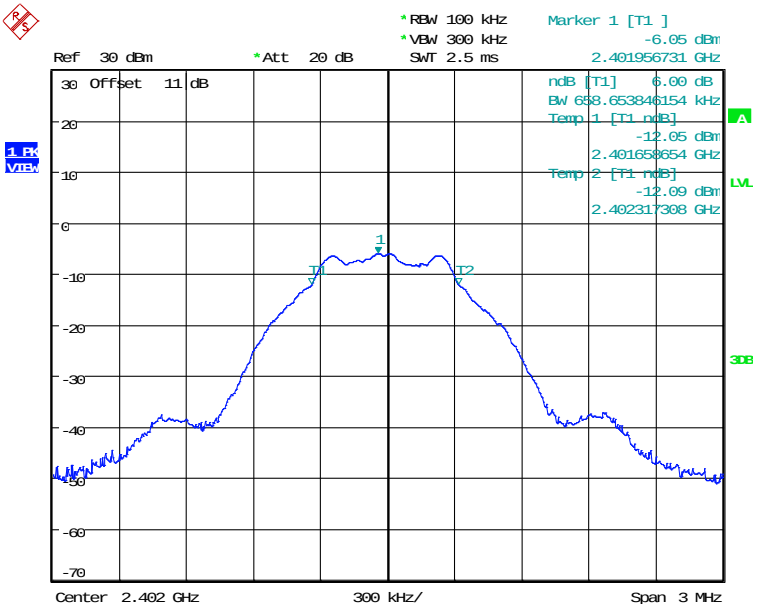
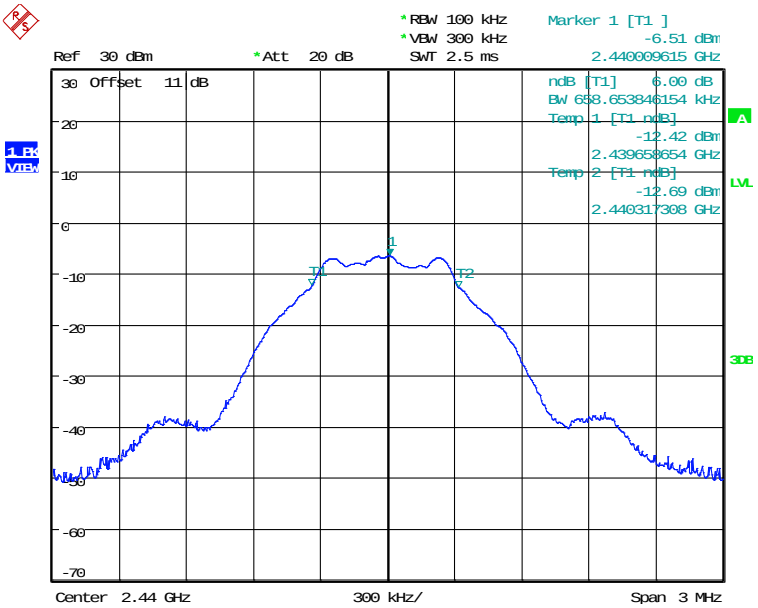
3.4.6 Test results

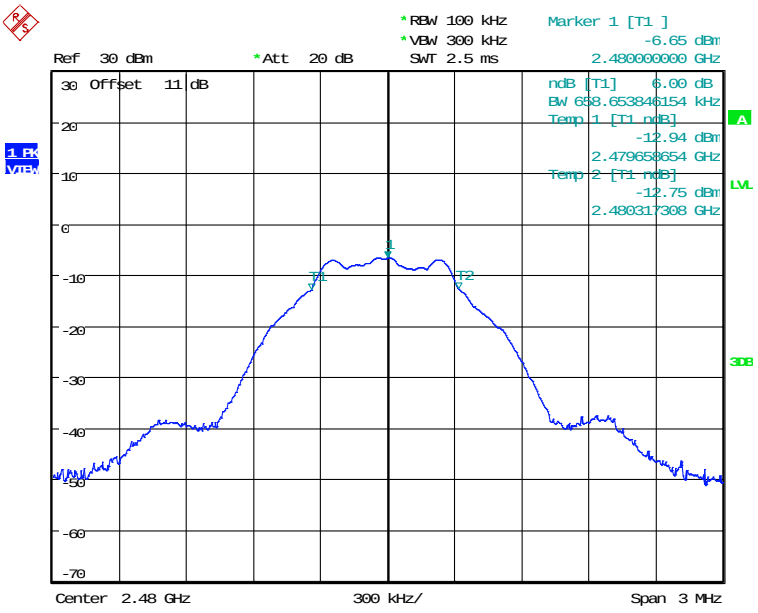


6DB BANDWIDTH BLE 1M CH00
Date: 10.JAN.2025 16:04:34



6DB BANDWIDTH BLE 1M CH19
Date: 10.JAN.2025 16:05:24

Registration number: W6M22411-23932-C-1
FCC ID: HQXTA82P



6DB BANDWIDTH BLE 1M CH39
Date: 10.JAN.2025 16:05:56

Test equipment used: Please see test equipment utilized (RF Conducted).

3.5 Peak Power Spectral Density

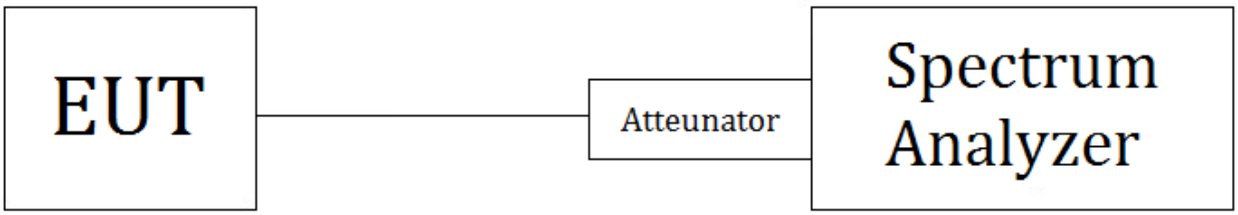
3.5.1 Applicable Standard

FCC Rules: 15.247(e)
For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

3.5.2 Test procedure

1. Set the RBW to 3 kHz ≤ RBW ≤ 100 kHz , the VBW ≥ [3 × RBW].
2. Set Detector = peak , Sweep time = auto couple , Trace mode = max hold and allow trace to fully stabilize
3. Use the peak marker function to determine the maximum amplitude level within the RBW.

3.5.3 Test setup



3.5.4 Limits

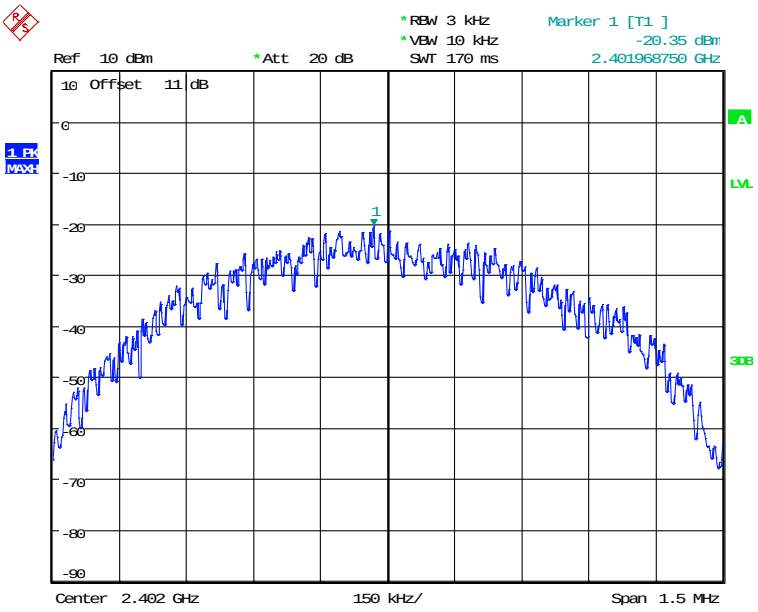
Frequency Range (MHz)	Limits (dBm/3KHz)
902-928	8
2400-2483.5	
5725-5850	

3.5.5 Test Environmental Conditions

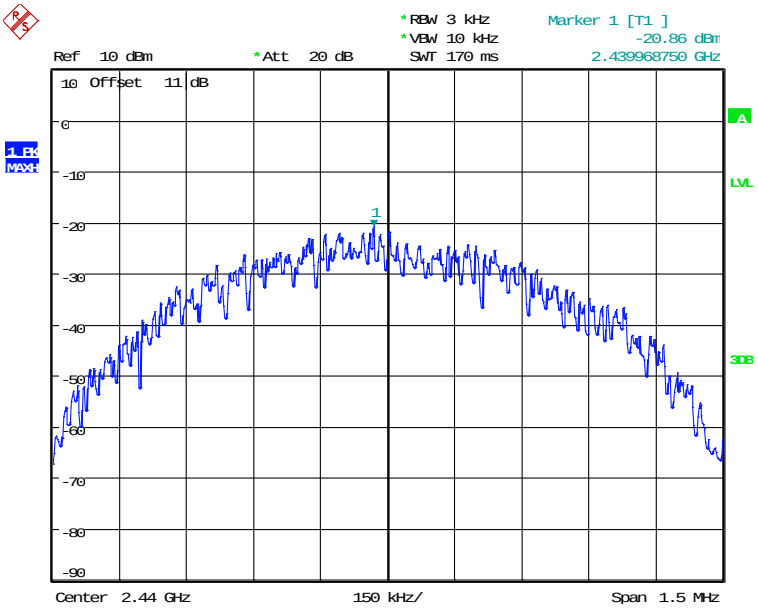
Test date: 2025-01-10 Temperature: 22.6°C Humidity: 52.8% Tester: Rick

Registration number: W6M22411-23932-C-1
FCC ID: HQXTA82P

3.5.6 Test results

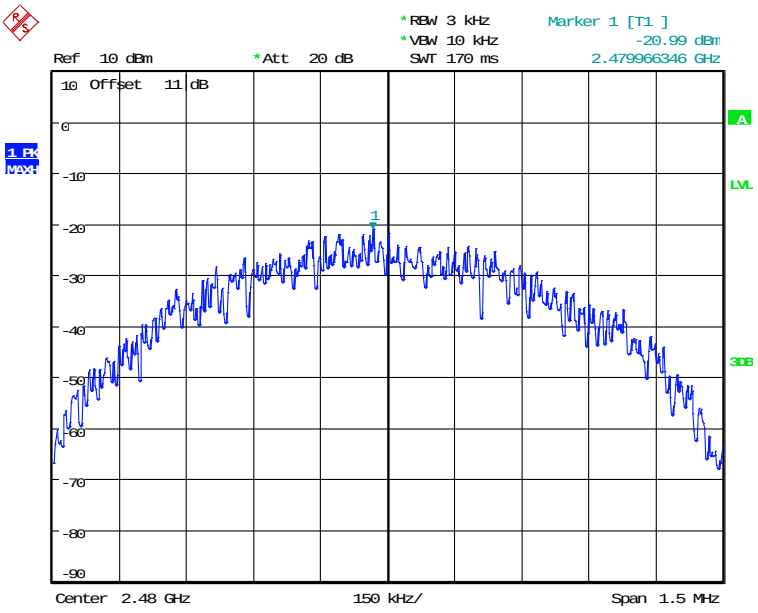


POWER DENSITY BLE 1M CH00
Date: 10.JAN.2025 16:04:44



POWER DENSITY BLE 1M CH19
Date: 10.JAN.2025 16:05:34

Registration number: W6M22411-23932-C-1
FCC ID: HQXTA82P



POWER DENSITY BLE 1M CH39
Date: 10.JAN.2025 16:06:06

Test equipment used: Please see test equipment utilized (RF Conducted).

3.6 Power Line Conducted Emission

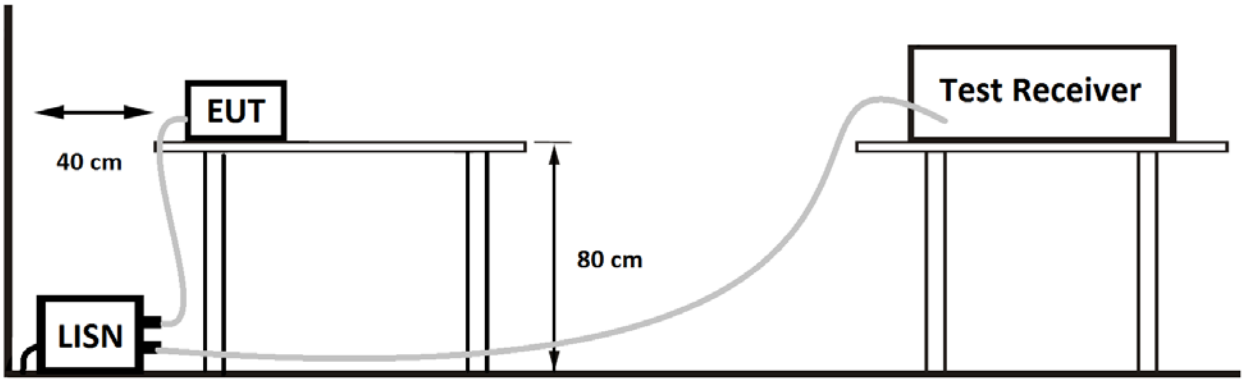
3.6.1 Applicable Standard

FCC Rules:15.207(a)
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.

3.6.2 Test procedure

1. EUT is placed on a test table, raised 80 cm above the reference ground plane. The vertical conducting plane is located 40 cm to the rear of the device.
2. Connect EUT to a 50 μH/50 ohms line impedance stabilization network (LISN). AC input is 120V/60Hz
3. 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.

3.6.3 Test setup



3.6.4 Limits

Frequency of emission (MHz)	Conducted limit (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

3.6.5 Test results (With Environmental Conditions)

Explanation: This test is not required because the EUT is powered by DC.

Appendix

Measurement diagrams

Radiated Emission

TX
12V

Address:No.99,Sec.1,Balian Rd.,Xizhi Dist.,New Taipei City
Tel:+886-2-2646-1508
Fax:+886-2-2646-1533

Radiated Emission Measurement

Operator: Kai

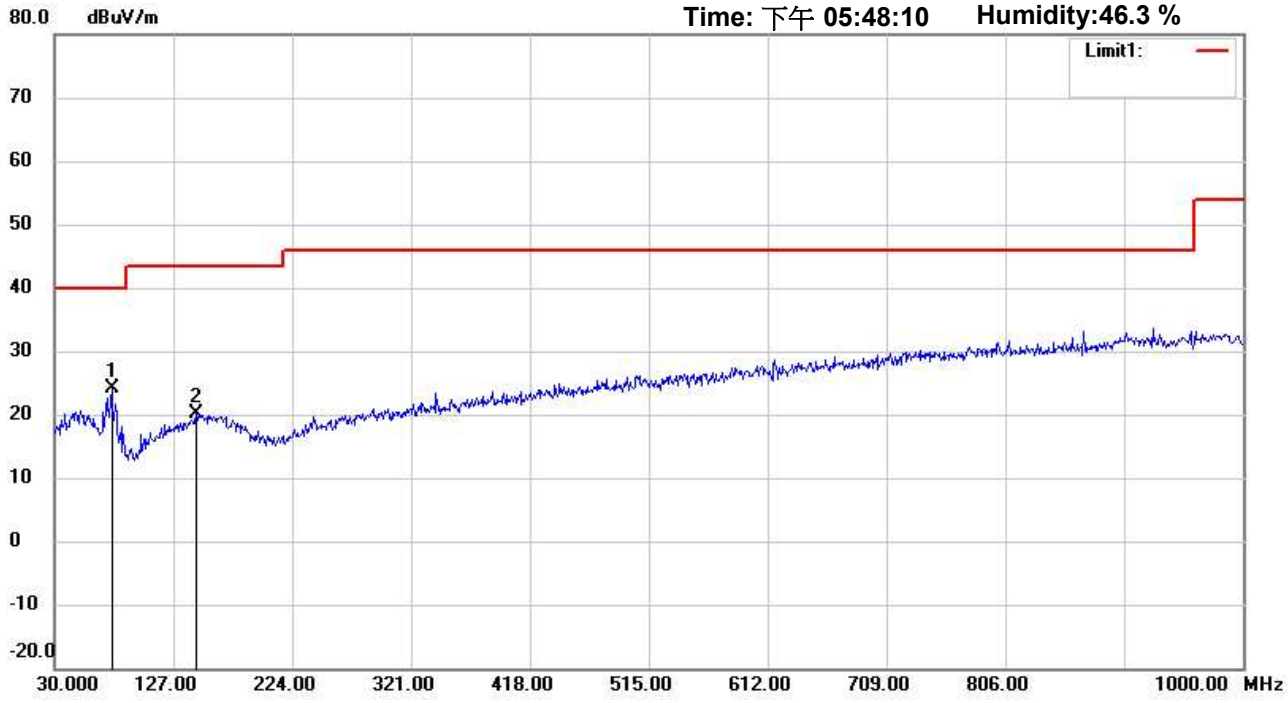
File :1_BLE(1M)_TX 2402MHz Data :#1

Date: 2025/1/7

Time: 下午 05:48:10

Temperature:22.0 ℃

Humidity:46.3 %



Site : 966A Chamber

Condition : FCC_part 15 RE-Class C_30-1000MHz

Polarization: *Horizontal*

EUT : W6M22411-23932

Power : 12 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
*	76.5600	40.93	peak	-16.73	24.20	40.00	100	0	-15.80	
	145.4300	32.62	peak	-12.50	20.12	43.50	100	120	-23.38	

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

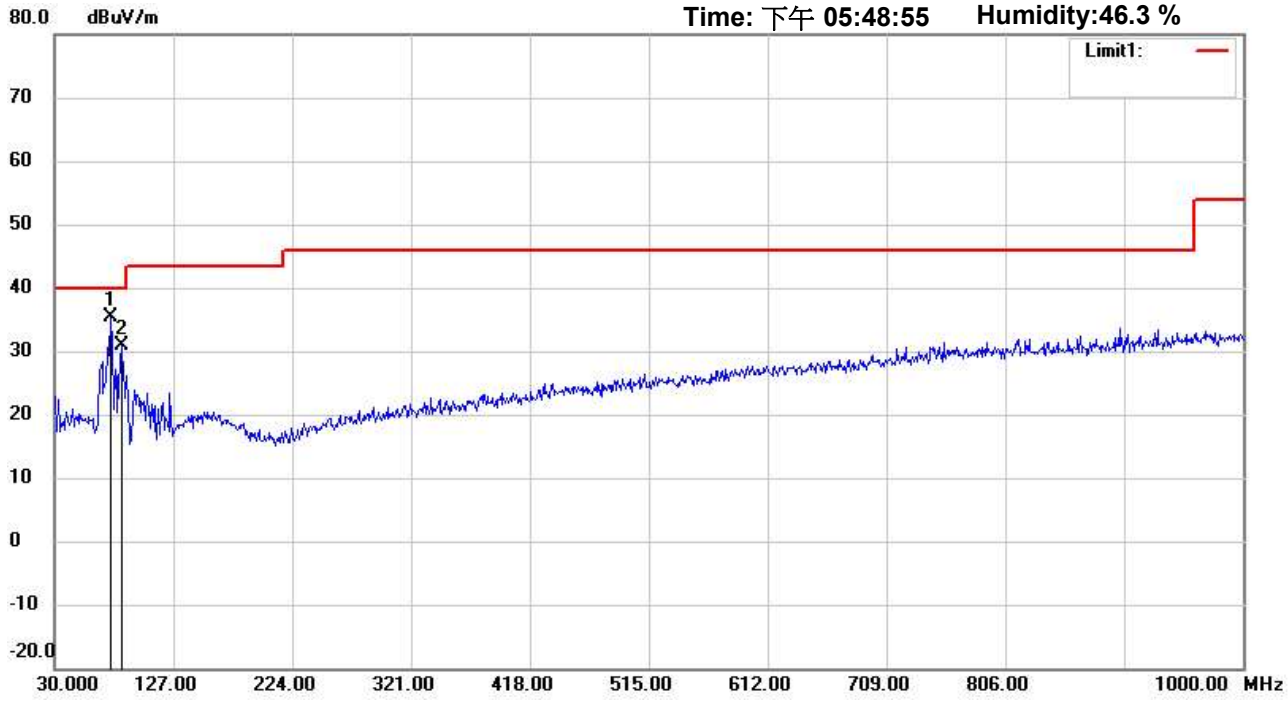
Address:No.99,Sec.1,Balian Rd.,Xizhi Dist.,New Taipei City
Tel:+886-2-2646-1508
Fax:+886-2-2646-1533

Radiated Emission Measurement

Operator: Kai

File :1_BLE(1M)_TX 2402MHz Data :#2 Date: 2025/1/7 Temperature:22.0 ℃

Time: 下午 05:48:55 Humidity:46.3 %



Site : 966A Chamber

Condition : FCC_part 15 RE-Class C_30-1000MHz

Polarization: *Vertical*

EUT : W6M22411-23932

Power : 12 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
*	75.5900	51.89	peak	-16.50	35.39	40.00	100	217	-4.61	
	84.8050	48.99	peak	-18.08	30.91	40.00	100	98	-9.09	

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

24V

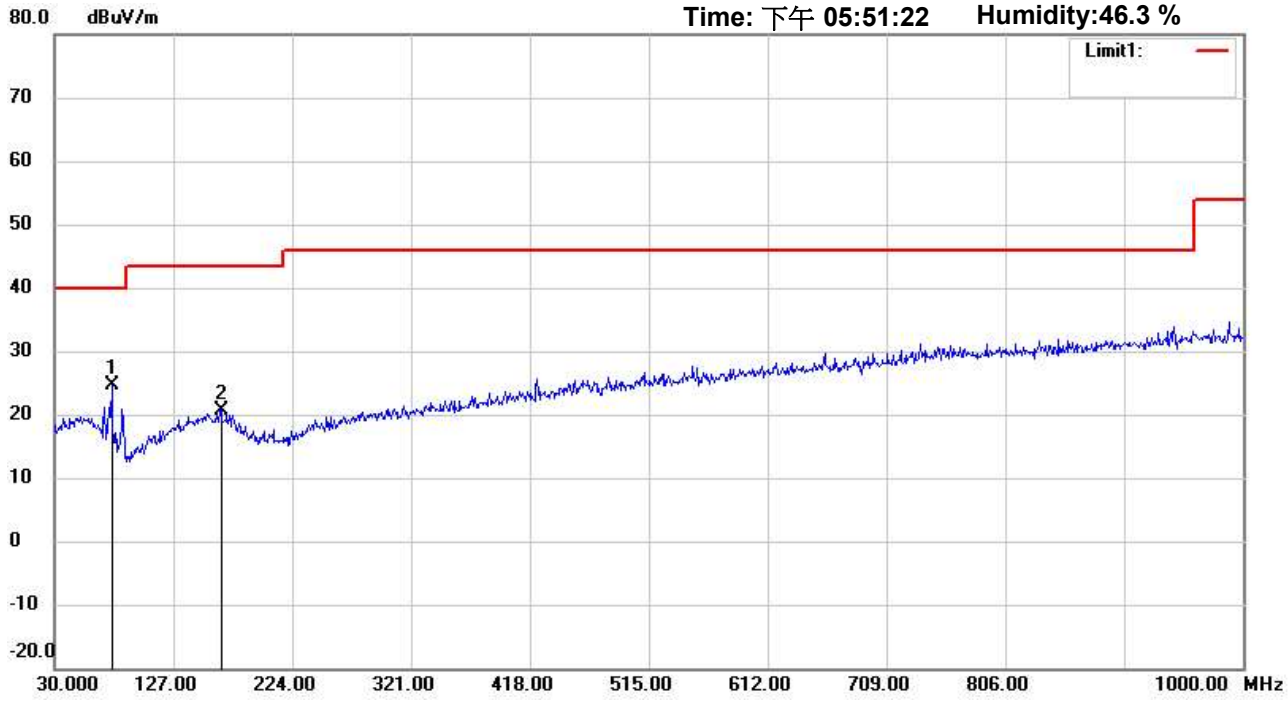
Address:No.99,Sec.1,Balian Rd.,Xizhi Dist.,New Taipei City
Tel:+886-2-2646-1508
Fax:+886-2-2646-1533

Radiated Emission Measurement

Operator: Kai

File :1_BLE(1M)_TX 2402MHz Data :#1 Date: 2025/1/7 Temperature:22.0 ℃

Time: 下午 05:51:22 Humidity:46.3 %



Site : 966A Chamber

Condition : FCC_part 15 RE-Class C_30-1000MHz

Polarization: *Horizontal*

EUT : W6M22411-23932

Power : 24 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
*	76.5600	41.29	peak	-16.73	24.56	40.00	100	168	-15.44	
	165.8000	33.26	peak	-12.65	20.61	43.50	100	0	-22.89	

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

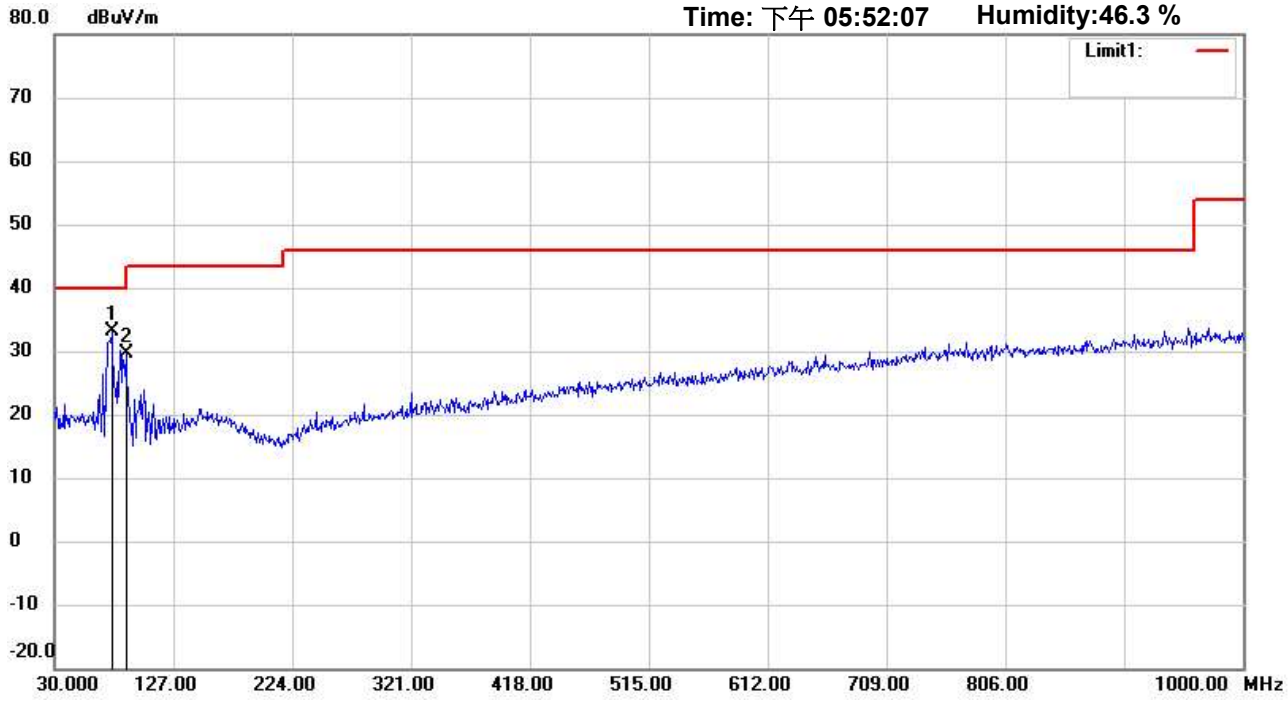
Address:No.99,Sec.1,Balian Rd.,Xizhi Dist.,New Taipei City
Tel:+886-2-2646-1508
Fax:+886-2-2646-1533

Radiated Emission Measurement

Operator: Kai

File :1_BLE(1M)_TX 2402MHz Data :#2 Date: 2025/1/7 Temperature:22.0 ℃

Time: 下午 05:52:07 Humidity:46.3 %



Site : 966A Chamber

Condition : FCC_part 15 RE-Class C_30-1000MHz

Polarization: *Vertical*

EUT : W6M22411-23932

Power : 24 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
*	76.5600	49.86	peak	-16.73	33.13	40.00	100	210	-6.87	
	88.2000	48.07	peak	-18.44	29.63	43.50	100	91	-13.87	

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

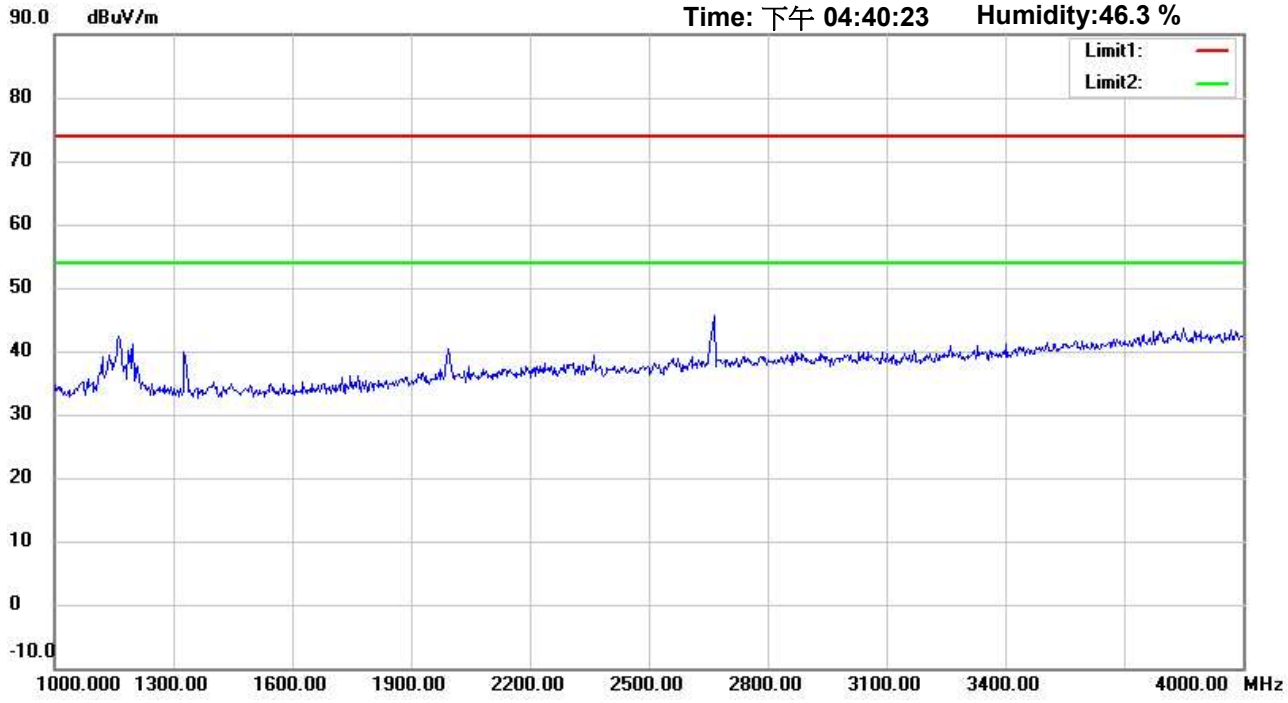
Address:No.99,Sec.1,Balian Rd.,Xizhi Dist.,New Taipei City
Tel:+886-2-2646-1508
Fax:+886-2-2646-1533

Radiated Emission Measurement

Operator: Kai

File :3 Data :#1 Date: 2025/1/7 Temperature:22.0 ℃

Time: 下午 04:40:23 Humidity:46.3 %



Site : 966A Chamber

Condition : FCC_part 15 RE-Class C_Above 1GHz_PK

EUT : W6M22411-23932

M/N:

Test Mode : TX 2402MHz

Note :

Polarization: *Horizontal*

Power : 12 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

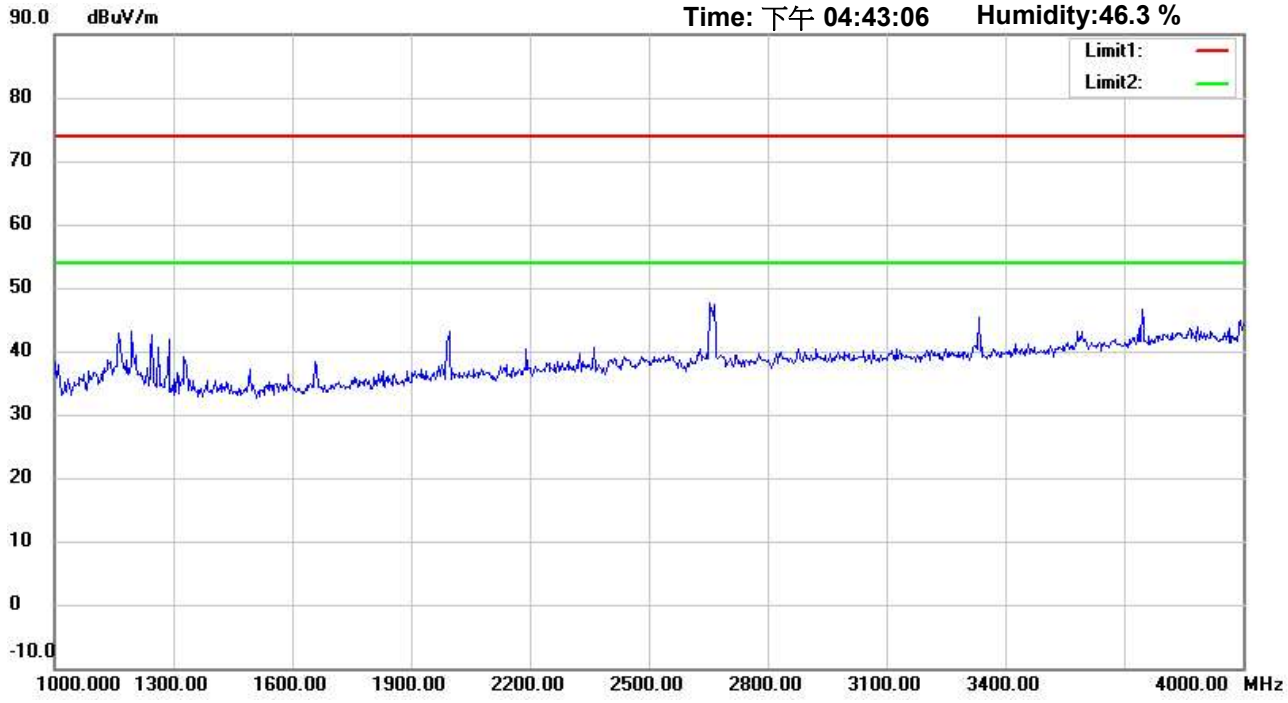
Address:No.99,Sec.1,Balian Rd.,Xizhi Dist.,New Taipei City
Tel:+886-2-2646-1508
Fax:+886-2-2646-1533

Radiated Emission Measurement

Operator: Kai

File :3 Data :#6 Date: 2025/1/7 Time: 下午 04:43:06

Temperature:22.0 ℃ Humidity:46.3 %



Site : 966A Chamber

Condition : FCC_part 15 RE-Class C_Above 1GHz_PK

Polarization: *Vertical*

EUT : W6M22411-23932

Power : 12 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

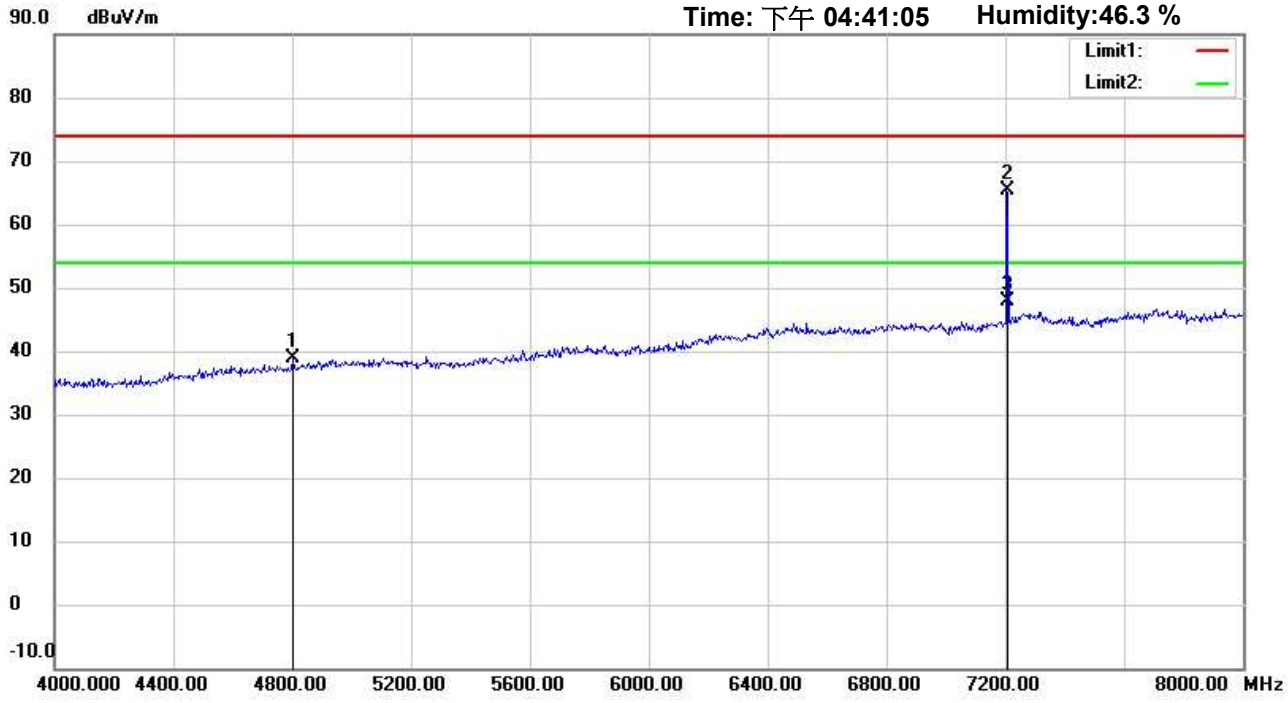
Address:No.99,Sec.1,Balian Rd.,Xizhi Dist.,New Taipei City
Tel:+886-2-2646-1508
Fax:+886-2-2646-1533

Radiated Emission Measurement

Operator: Kai

File :3 Data :#2 Date: 2025/1/7 Temperature:22.0 ℃

Time: 下午 04:41:05 Humidity:46.3 %



Site : 966A Chamber

Condition : FCC_part 15 RE-Class C_Above 1GHz_PK

Polarization: *Horizontal*

EUT : W6M22411-23932

Power : 12 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
	4802.000	34.38	peak	4.52	38.90	74.00	150	190	-35.10	
	7206.000	53.99	peak	11.50	65.49	74.00	150	164	-8.51	
*	7206.000	36.27	AVG	11.50	47.77	54.00	150	164	-6.23	

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

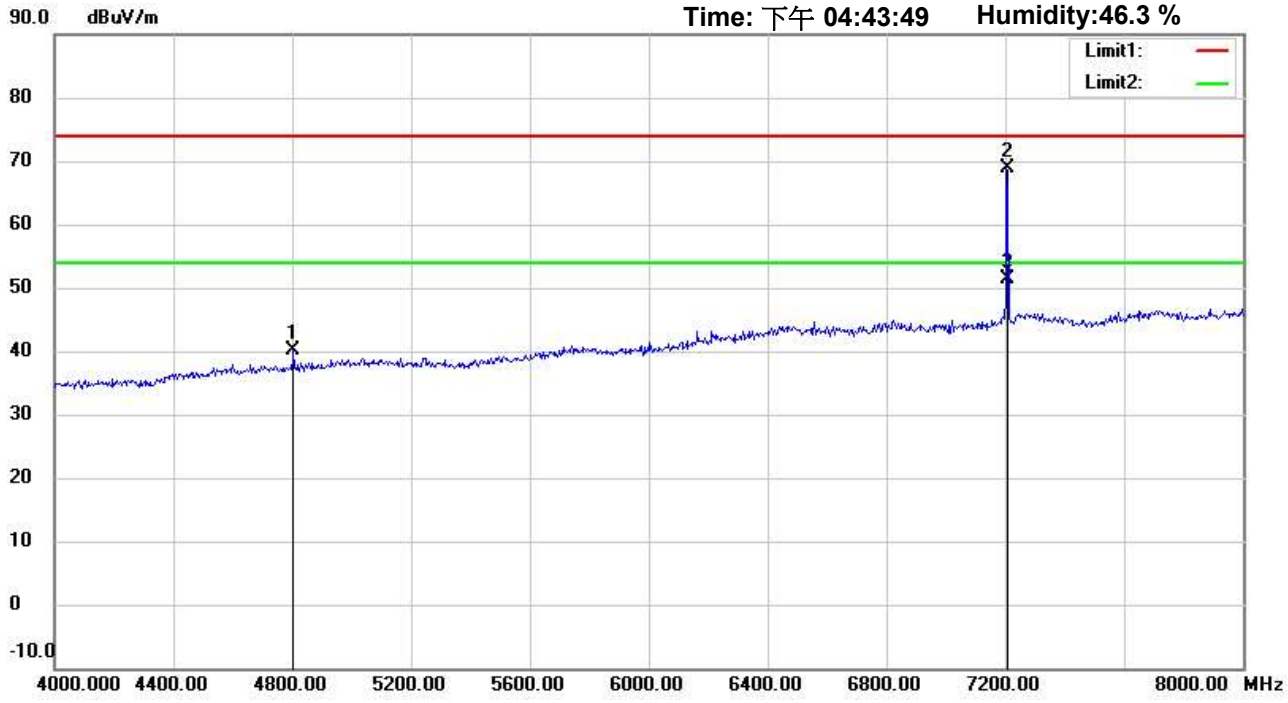
Address:No.99,Sec.1,Balian Rd.,Xizhi Dist.,New Taipei City
Tel:+886-2-2646-1508
Fax:+886-2-2646-1533

Radiated Emission Measurement

Operator: Kai

File :3 Data :#7 Date: 2025/1/7 Time: 下午 04:43:49

Temperature:22.0 ℃ Humidity:46.3 %



Site : 966A Chamber

Condition : FCC_part 15 RE-Class C_Above 1GHz_PK

Polarization: *Vertical*

EUT : W6M22411-23932

Power : 12 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	35.64	peak	4.53	40.17	74.00	150	89	-33.83	
	7206.000	57.36	peak	11.50	68.86	74.00	150	155	-5.14	
*	7206.000	39.95	AVG	11.50	51.45	54.00	150	155	-2.55	

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

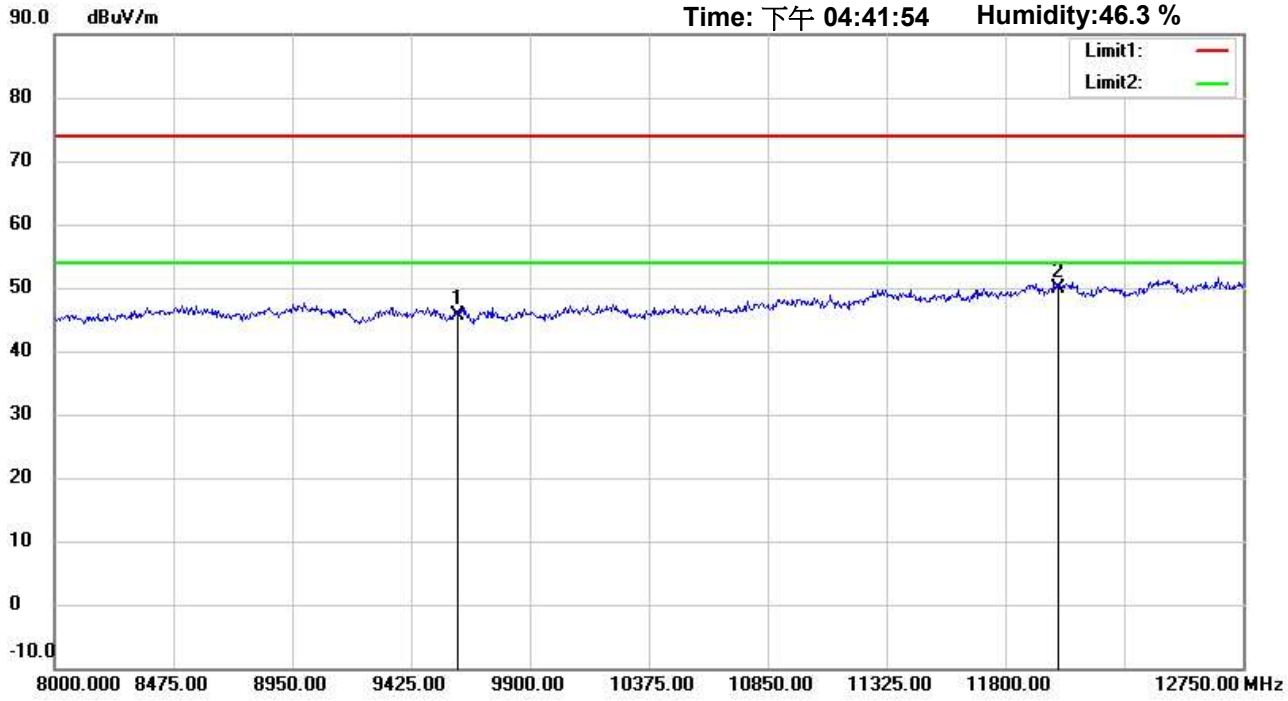
Address:No.99,Sec.1,Balian Rd.,Xizhi Dist.,New Taipei City
Tel:+886-2-2646-1508
Fax:+886-2-2646-1533

Radiated Emission Measurement

Operator: Kai

File :3 Data :#3 Date: 2025/1/7 Temperature:22.0 ℃

Time: 下午 04:41:54 Humidity:46.3 %



Site : 966A Chamber

Condition : FCC_part 15 RE-Class C_Above 1GHz_PK

Polarization: *Horizontal*

EUT : W6M22411-23932

Power : 12 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	32.72	peak	13.02	45.74	74.00	100	162	-28.26	
*	12010.000	32.71	peak	17.12	49.83	74.00	100	1	-24.17	

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

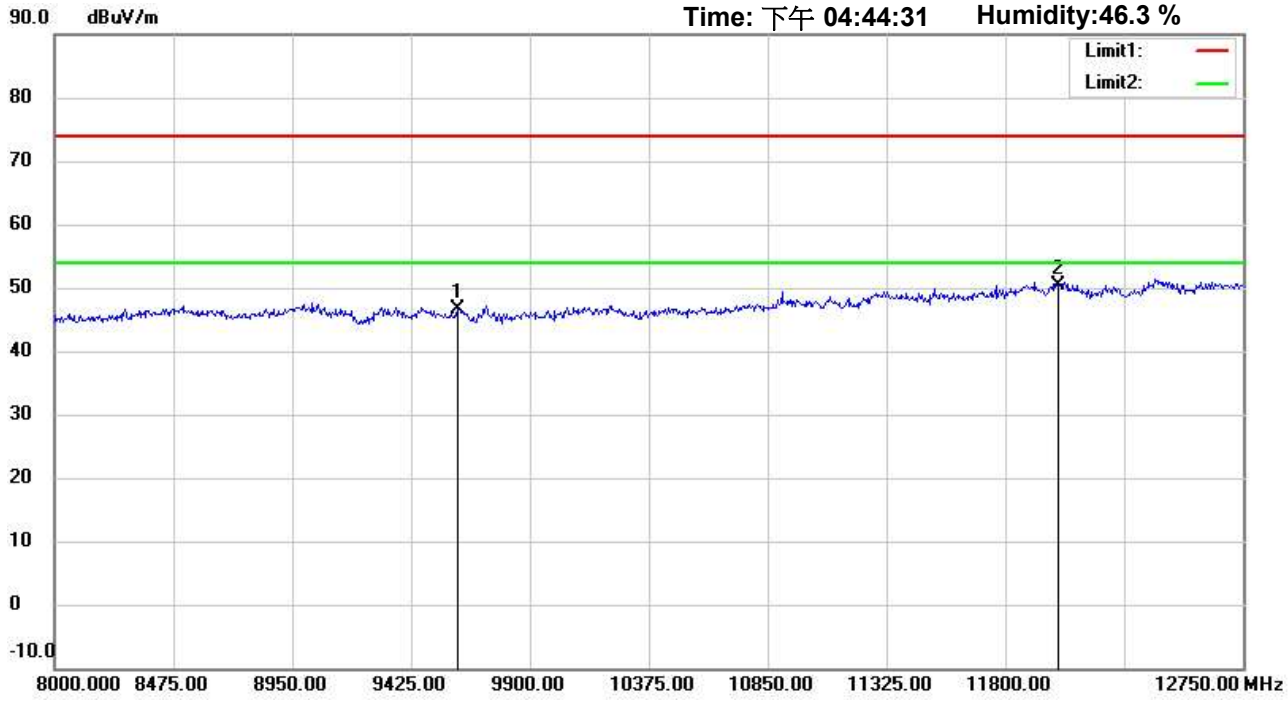
Address:No.99,Sec.1,Balian Rd.,Xizhi Dist.,New Taipei City
Tel:+886-2-2646-1508
Fax:+886-2-2646-1533

Radiated Emission Measurement

Operator: Kai

File :3 Data :#8 Date: 2025/1/7 Time: 下午 04:44:31

Temperature:22.0 ℃ Humidity:46.3 %



Site : 966A Chamber

Condition : FCC_part 15 RE-Class C_Above 1GHz_PK

Polarization: *Vertical*

EUT : W6M22411-23932

Power : 12 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	33.56	peak	13.02	46.58	74.00	150	118	-27.42	
*	12010.000	33.29	peak	17.12	50.41	74.00	150	52	-23.59	

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

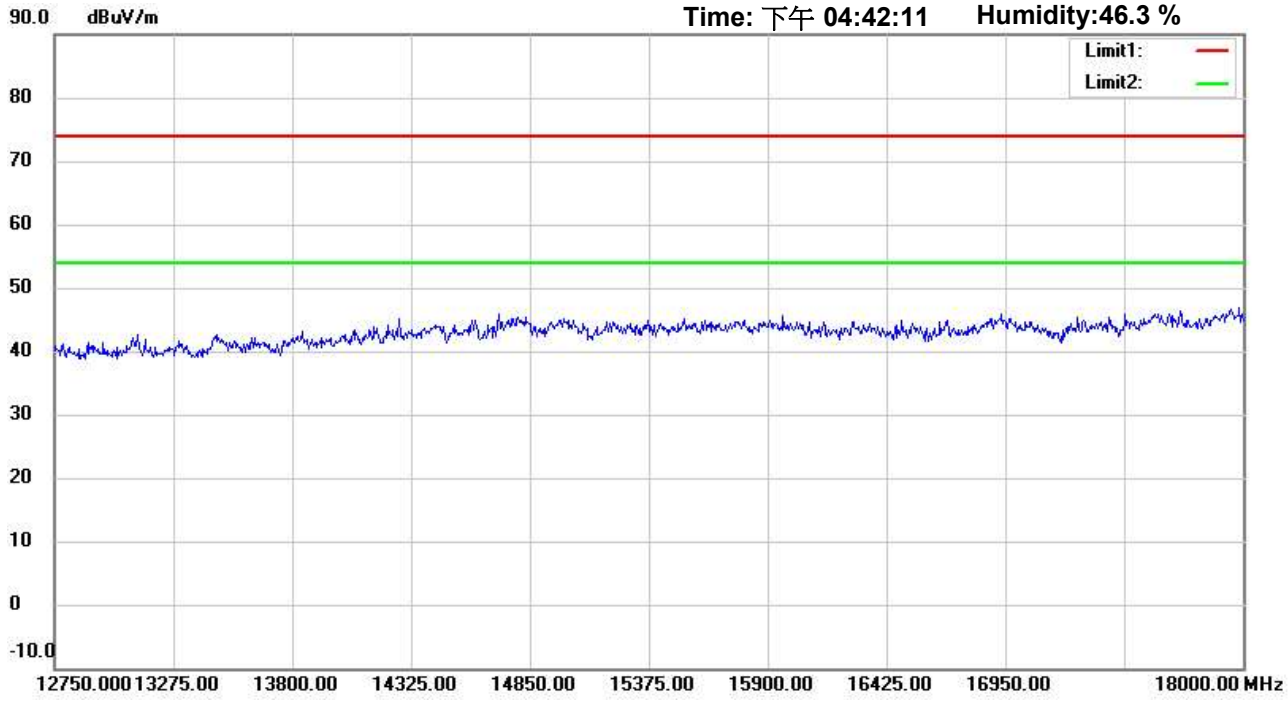
Address:No.99,Sec.1,Balian Rd.,Xizhi Dist.,New Taipei City
Tel:+886-2-2646-1508
Fax:+886-2-2646-1533

Radiated Emission Measurement

Operator: Kai

File :3 Data :#4 Date: 2025/1/7 Temperature:22.0 ℃

Time: 下午 04:42:11 Humidity:46.3 %



Site : 966A Chamber

Condition : FCC_part 15 RE-Class C_Above 1GHz_PK

Polarization: *Horizontal*

EUT : W6M22411-23932

Power : 12 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

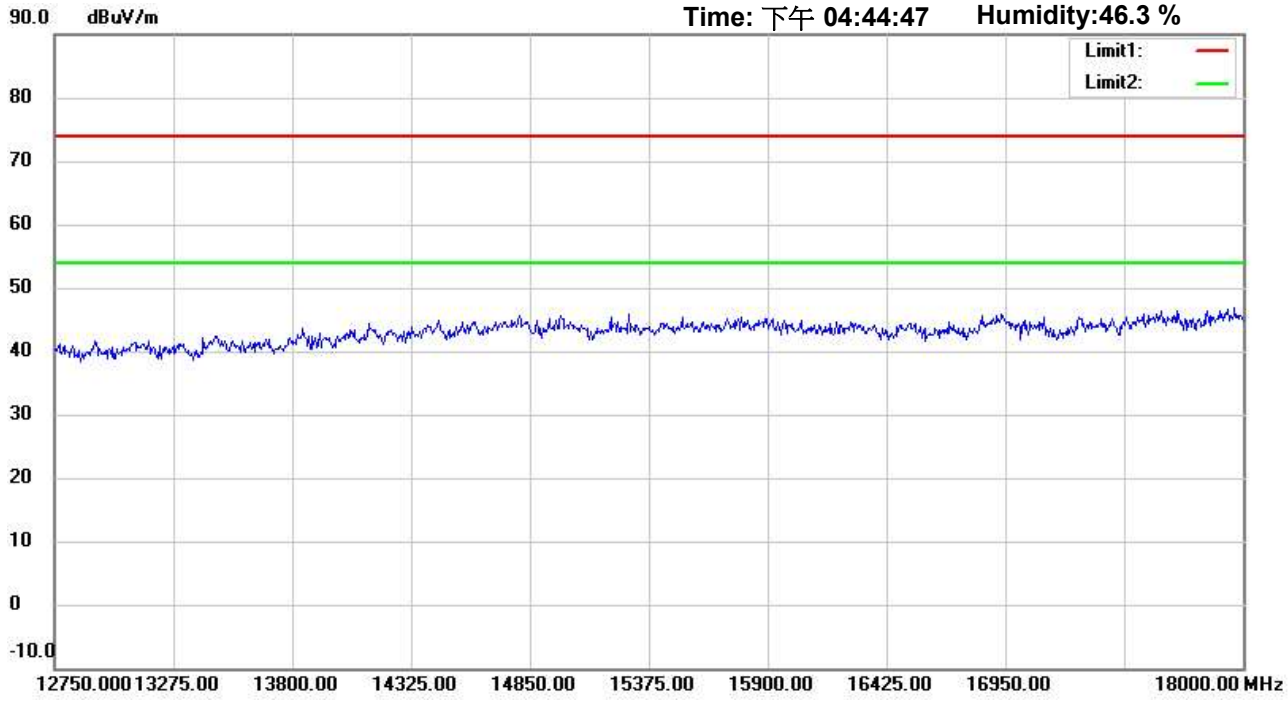
Address:No.99,Sec.1,Balian Rd.,Xizhi Dist.,New Taipei City
Tel:+886-2-2646-1508
Fax:+886-2-2646-1533

Radiated Emission Measurement

Operator: Kai

File :3 Data :#9 Date: 2025/1/7 Time: 下午 04:44:47

Temperature:22.0 ℃ Humidity:46.3 %



Site : 966A Chamber

Condition : FCC_part 15 RE-Class C_Above 1GHz_PK

Polarization: *Vertical*

EUT : W6M22411-23932

Power : 12 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

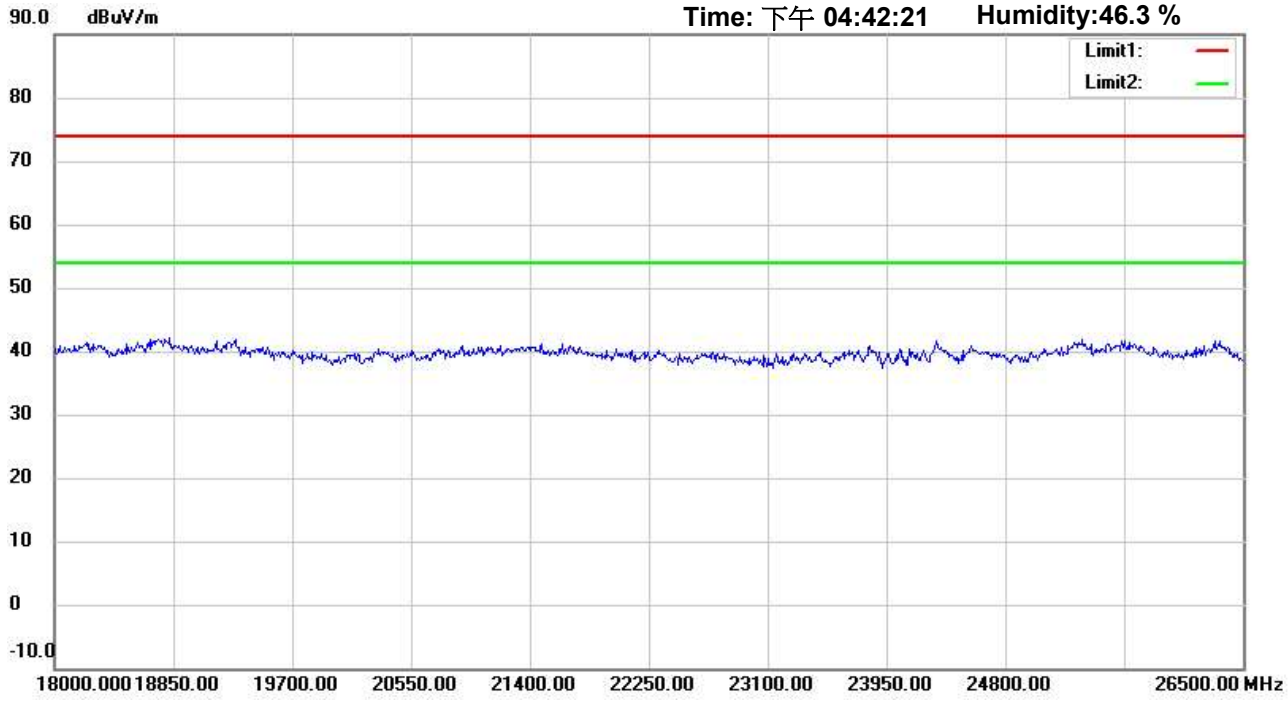
Address:No.99,Sec.1,Balian Rd.,Xizhi Dist.,New Taipei City
Tel:+886-2-2646-1508
Fax:+886-2-2646-1533

Radiated Emission Measurement

Operator: Kai

File :3 Data :#5 Date: 2025/1/7 Temperature:22.0 ℃

Time: 下午 04:42:21 Humidity:46.3 %



Site : 966A Chamber

Condition : FCC_part 15 RE-Class C_Above 1GHz_PK

Polarization: *Horizontal*

EUT : W6M22411-23932

Power : 12 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

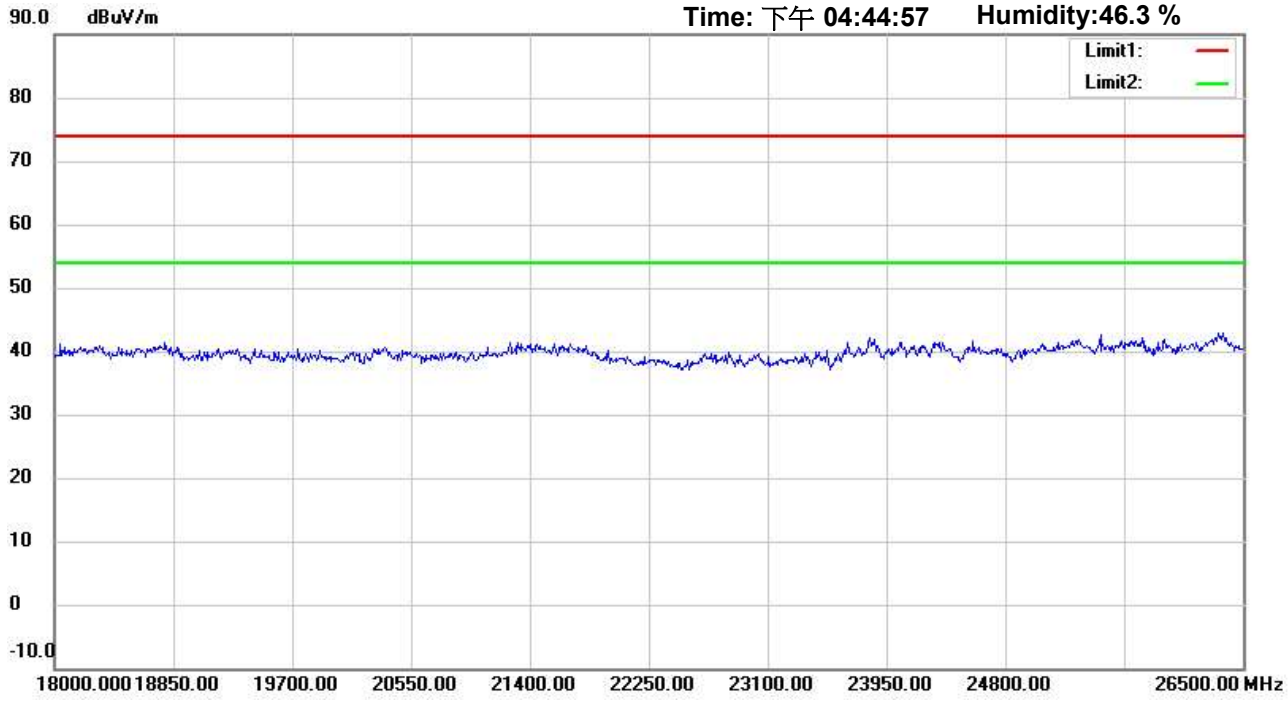
Address:No.99,Sec.1,Balian Rd.,Xizhi Dist.,New Taipei City
Tel:+886-2-2646-1508
Fax:+886-2-2646-1533

Radiated Emission Measurement

Operator: Kai

File :3 Data :#10 Date: 2025/1/7 Time: 下午 04:44:57

Temperature:22.0 ℃ Humidity:46.3 %



Site : 966A Chamber

Condition : FCC_part 15 RE-Class C_Above 1GHz_PK

Polarization: *Vertical*

EUT : W6M22411-23932

Power : 12 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

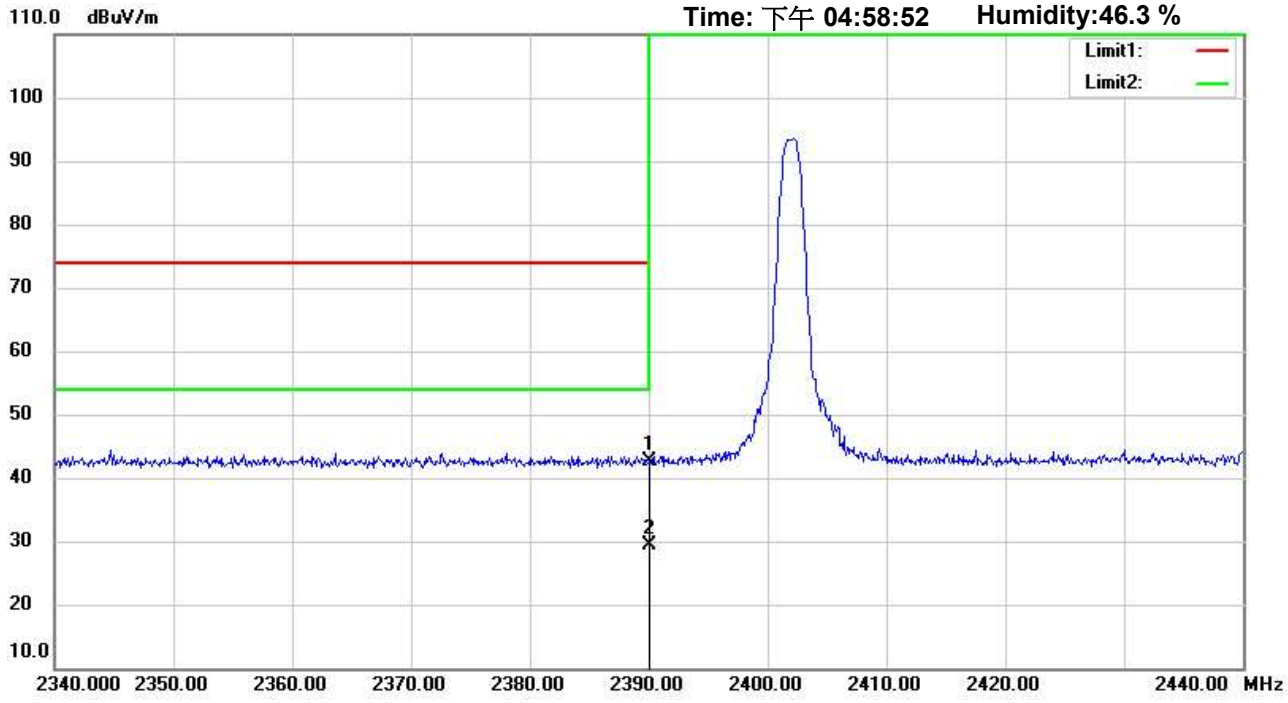
Address:No.99,Sec.1,Balian Rd.,Xizhi Dist.,New Taipei City
Tel:+886-2-2646-1508
Fax:+886-2-2646-1533

Radiated Emission Measurement

Operator: Kai

File :Bandedge **Data :#1** **Date: 2025/1/7** **Temperature:22.0 ℃**

Time: 下午 04:58:52 **Humidity:46.3 %**



Site : 966A Chamber

Condition : FCC 15.247 PK (Bandedge)

Polarization: *Horizontal*

EUT : W6M22411-23932

Power : 12 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
	2390.000	47.01	peak	-4.45	42.56	74.00	150	315	-31.44	
*	2390.000	33.74	AVG	-4.45	29.29	54.00	150	315	-24.71	

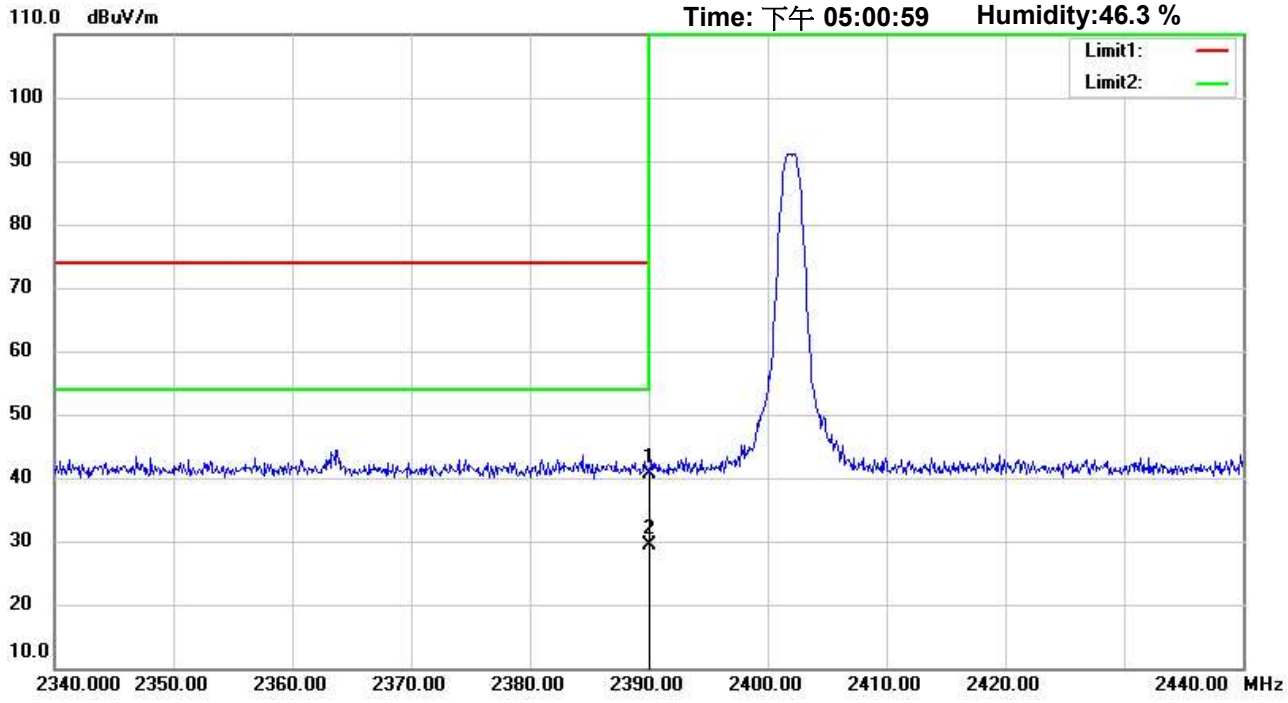
*:Maximum data x:Over limit !:over margin

Address:No.99,Sec.1,Balian Rd.,Xizhi Dist.,New Taipei City
Tel:+886-2-2646-1508
Fax:+886-2-2646-1533

Radiated Emission Measurement

Operator: Kai

File :Bandedge | Data :#2 | Date: 2025/1/7 | Time: 下午 05:00:59 | Temperature:22.0 ℃ | Humidity:46.3 %



Site : 966A Chamber
Condition : FCC 15.247 PK (Bandedge)
EUT : W6M22411-23932
M/N:
Test Mode : TX 2402MHz
Note :

Polarization: *Vertical*
Power : 12 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
	2390.000	45.02	peak	-4.45	40.57	74.00	150	142	-33.43	
*	2390.000	33.72	AVG	-4.45	29.27	54.00	150	142	-24.73	

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

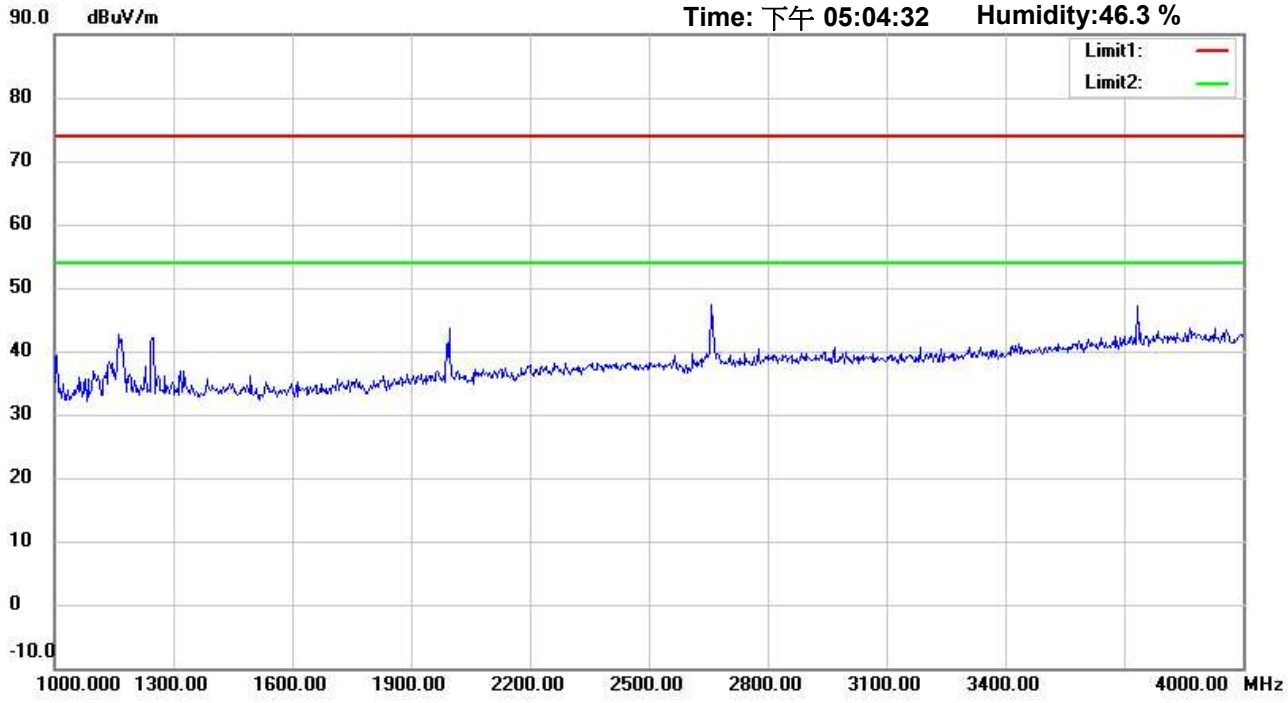
Address:No.99,Sec.1,Balian Rd.,Xizhi Dist.,New Taipei City
Tel:+886-2-2646-1508
Fax:+886-2-2646-1533

Radiated Emission Measurement

Operator: Kai

File :3 Data :#1 Date: 2025/1/7 Temperature:22.0 ℃

Time: 下午 05:04:32 Humidity:46.3 %



Site : 966A Chamber

Condition : FCC_part 15 RE-Class C_Above 1GHz_PK

Polarization: *Horizontal*

EUT : W6M22411-23932

Power : 12 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

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

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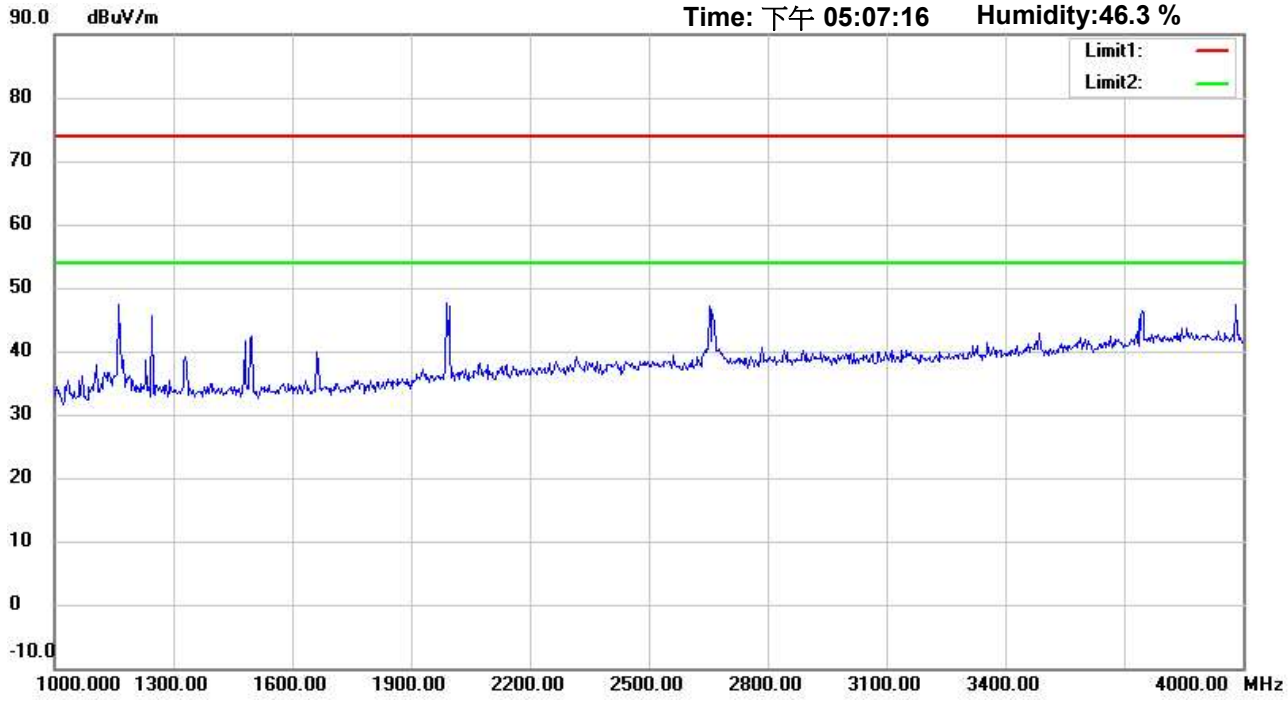
Radiated Emission Measurement

Operator: Kai

File :3 **Data :#6** **Date: 2025/1/7** **Temperature:22.0 ℃**

Time: 下午 05:07:16 **Humidity:46.3 %**



Site : 966A Chamber

Condition : FCC_part 15 RE-Class C_Above 1GHz_PK **Polarization: *Vertical***

EUT : W6M22411-23932 **Power : 12 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

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

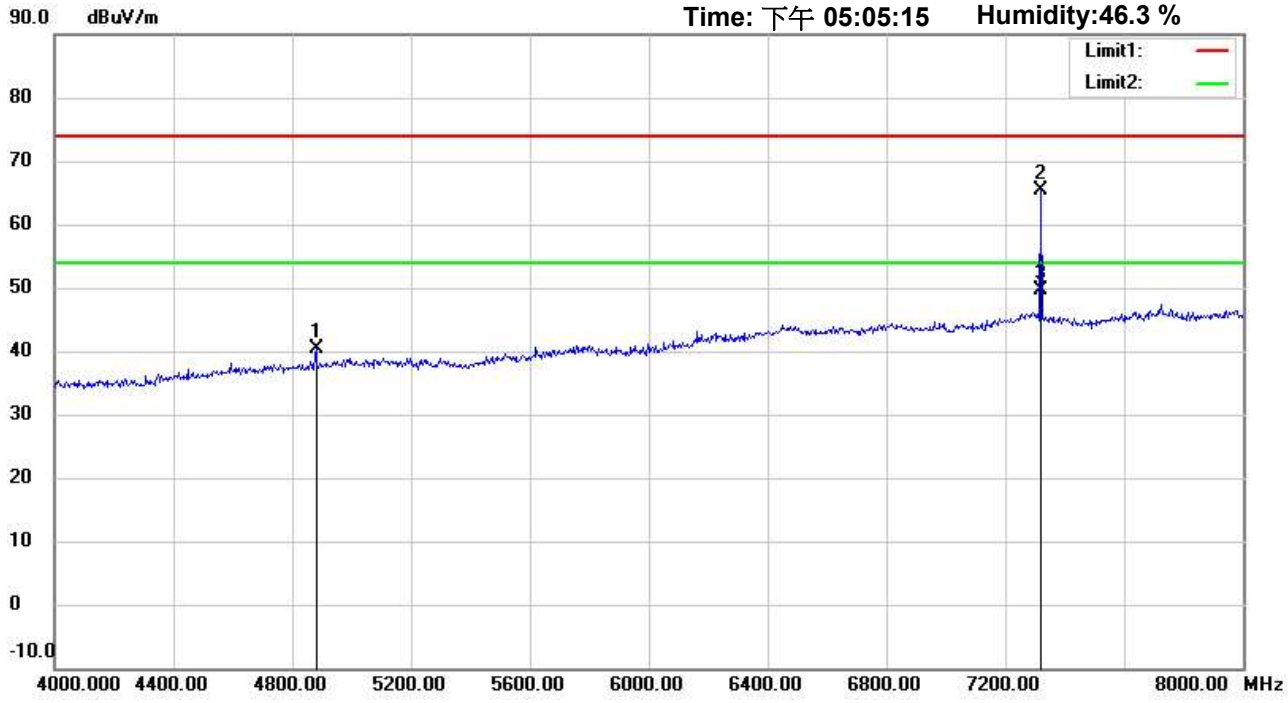
Address:No.99,Sec.1,Balian Rd.,Xizhi Dist.,New Taipei City
Tel:+886-2-2646-1508
Fax:+886-2-2646-1533

Radiated Emission Measurement

Operator: Kai

File :3 Data :#2 Date: 2025/1/7 Temperature:22.0 ℃

Time: 下午 05:05:15 Humidity:46.3 %



Site : 966A Chamber

Condition : FCC_part 15 RE-Class C_Above 1GHz_PK

Polarization: *Horizontal*

EUT : W6M22411-23932

Power : 12 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
	4880.000	35.50	peak	4.93	40.43	74.00	150	359	-33.57	
	7320.000	53.22	peak	12.18	65.40	74.00	150	145	-8.60	
*	7320.000	37.56	AVG	12.18	49.74	54.00	150	145	-4.26	

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

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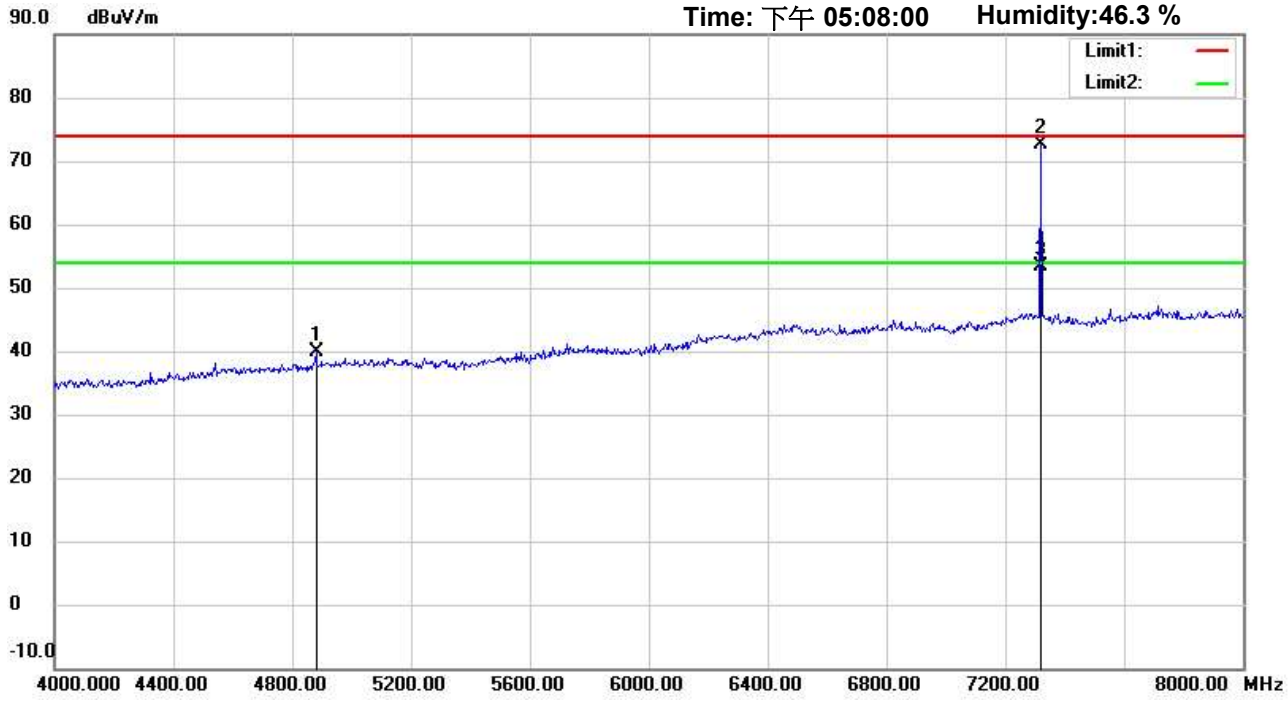
Radiated Emission Measurement

Operator: Kai

File :3 Data :#7 Date: 2025/1/7 Time: 下午 05:08:00

Temperature:22.0 ℃ Humidity:46.3 %



Site : 966A Chamber

Condition : FCC_part 15 RE-Class C_Above 1GHz_PK

EUT : W6M22411-23932

M/N:

Test Mode : TX 2440MHz

Note :

Polarization: *Vertical*

Power : 12 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	34.91	peak	4.93	39.84	74.00	150	274	-34.16	
	7320.000	60.41	peak	12.18	72.59	74.00	150	155	-1.41	
*	7320.000	41.18	AVG	12.18	53.36	54.00	150	155	-0.64	

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

Address:No.99,Sec.1,Balian Rd.,Xizhi Dist.,New Taipei City
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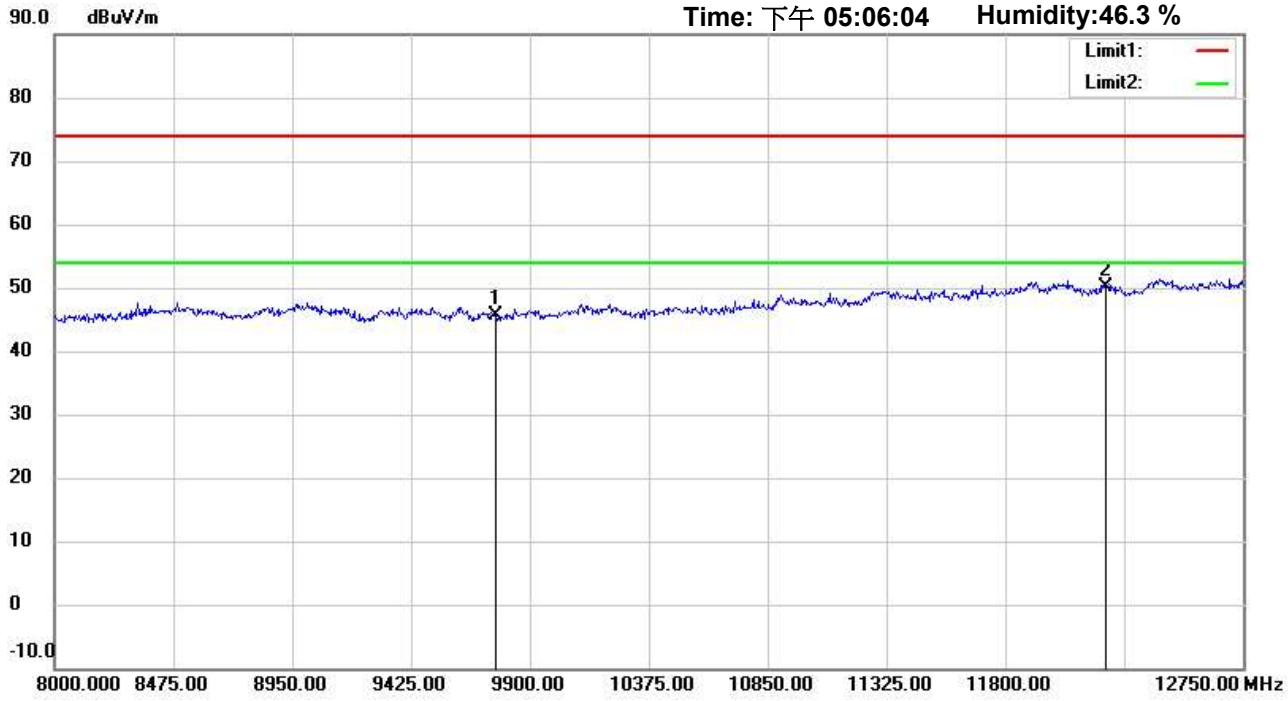
Fax:+886-2-2646-1533

Radiated Emission Measurement

Operator: Kai

File :3 Data :#3 Date: 2025/1/7 Time: 下午 05:06:04

Temperature:22.0 ℃ Humidity:46.3 %



Site : 966A Chamber

Condition : FCC_part 15 RE-Class C_Above 1GHz_PK

Polarization: *Horizontal*

EUT : W6M22411-23932

Power : 12 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	32.20	peak	13.35	45.55	74.00	150	15	-28.45	
*	12200.000	32.87	peak	17.19	50.06	74.00	150	342	-23.94	

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

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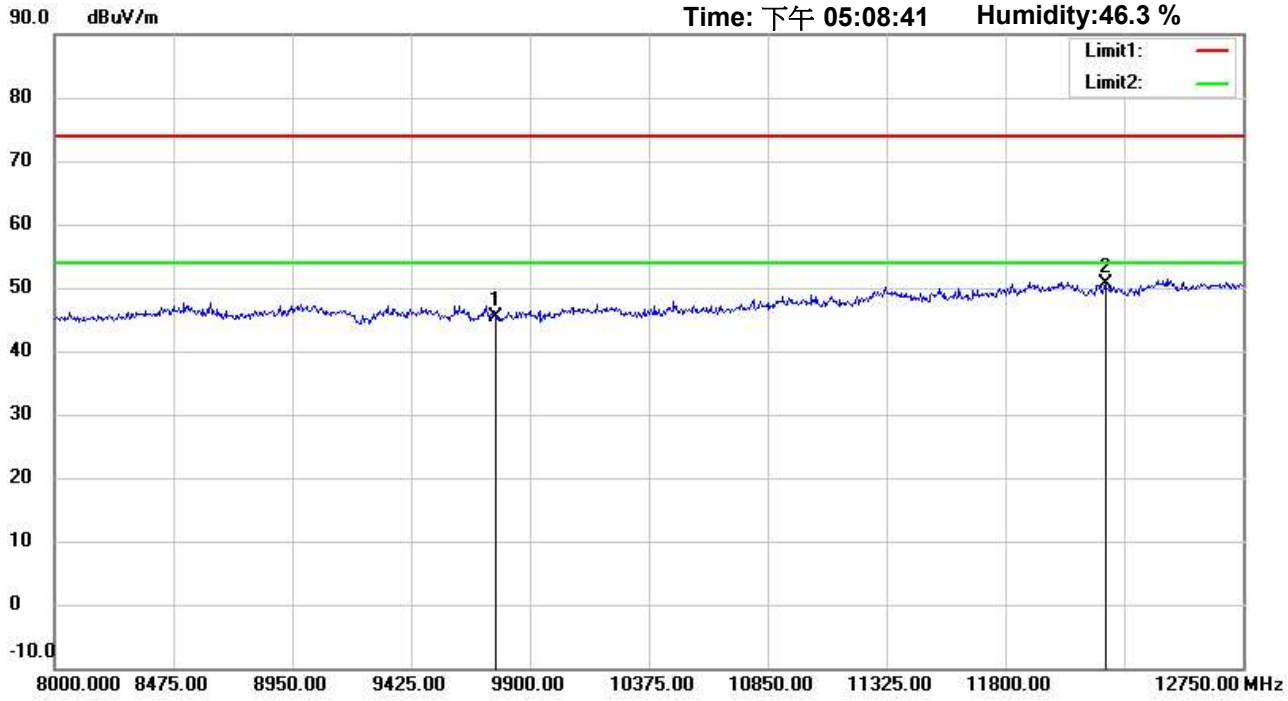
Fax:+886-2-2646-1533

Radiated Emission Measurement

Operator: Kai

File :3 Data :#8 Date: 2025/1/7 Time: 下午 05:08:41

Temperature:22.0 ℃ Humidity:46.3 %



Site : 966A Chamber

Condition : FCC_part 15 RE-Class C_Above 1GHz_PK

Polarization: *Vertical*

EUT : W6M22411-23932

Power : 12 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	31.96	peak	13.35	45.31	74.00	150	105	-28.69	
*	12200.000	33.40	peak	17.19	50.59	74.00	150	264	-23.41	

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