FCC 47 CFR PART 15 SUBPART C
ANSI C63.10: 2013

TEST REPORT

For

Fall Sensor

Model: FS900z

Data Applies To: N/A

Brand: Instant Care

Test Report Number:

TMTN2407000785NR

Issued to:

Instant Care, Inc.

9750 Birch Canyon Place, San Diego, CA 92126, United States

Issued by:

Compliance Certification Services Inc.

Tainan Lab.

**No. 168, Ln. 523, Sec. 3, Zhongzheng Rd.,
Rende Dist., Tainan City, 717017, Taiwan**

Issued Date: September 27, 2024

Report No.: TMTN2401000089NR

REVISION HISTORY

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	September 02, 2024	Initial Issue	ALL	Polly Wang
01	September 04, 2024	See the following note rev.01	Page 1	Polly Wang
02	September 27, 2024	See the following note rev.02	Page 1.4	Polly Wang

Note:

※ Rev.00 Issue Date: September 02, 2024
Original Report

※ Rev.01 Issue Date: September 04, 2024
Revised the typo.

※ Rev.02 Issue Date: September 27, 2024
Update Applicant's Address.

TABLE OF CONTENTS

1. TEST RESULT CERTIFICATION

Product:	Fall Sensor
Model:	FS900z
Data Applies To:	N/A
Brand Name:	Instant Care
Applicant:	**Instant Care, Inc.**
	9750 Birch Canyon Place, San Diego, CA 92126, United States
Manufacturer:	**Vision Automobile Electronics Industrial Co., Ltd.**
	No.78, Gongye 3rd Rd., Technology Industrial Park, Tainan , Taiwan , 70955
Tested:	August 02, 2024 ~ August 05, 2024

APPLICABLE STANDARDS	
STANDARD	**TEST RESULT**
FCC 47 CFR Part 15 Subpart C ANSI C63.10: 2013	No non-compliance noted
Statements of Conformity	
Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.	

FCC Standard Section	Report Section	Test Item	Result
15.215(c)	7.1	20dB BANDWIDTH	Pass
-	7.3	DUTY CYCLE	-
15.249(a)	7.4	SPURIOUS EMISSION	Pass
15.207(a)	7.5	POWERLINE CONDUCTED EMISSIONS	N/A

We hereby certify that:

The above equipment was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10: 2013 and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements emission limits of FCC Rules Part 15.107, 15.109,15.207, 15.209 and 15.249.
The test results of this report relate only to the tested sample identified in this report.

Approved by:

John Chen

John Chen
Asst Supervisor

2. EUT DESCRIPTION

Product	Fall Sensor
Model Number	FS900z
Data Applies To	N/A
Brand Name	Instant Care
Received Date	July 30, 2024
Reported Date	August 15, 2024
Operation Frequency	902.4MHz±200kHz 915.2MHz±200kHz 927.6MHz±200kHz
Transmit Peak Power	101.25 dBuV/m
Transmit Data Rate	902.4MHz/9.6Kbps, 915.2MHz/40Kbps, 927.6MHz/100kbps
Type of Modulation	FSK
Number of Channels	3 Channel
Power Supply	DC 3V (Powered from battery)
Antenna Type	Type: PCB Antenna Model: FS900z Manufacturer: N/A Gain: -3.9 dBi
RF Module Brand /Model	(U2) Silicon-Labs / SI4060-C2A-GM
Hardware Version	Rev.0
Software Version	Rev.0
Temperature Range	-20°C ~ +60°C

Remark:

1. Client consigns only one model sample to test (Model Number: **FS900z**). Therefore, the testing Lab. just guarantees the unit, which has been tested.
2. This submittal(s) (test report) is intended for FCC ID: **XO8-FS900z** filing to comply with Section 15.207, 15.209, 15.249.
3. For more details, please refer to the User's manual of the EUT.

3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10 and FCC CFR 47 2.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055, 2.1057, 15.207, 15.209 and 15.249.

3.1 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

3.2 EUT EXERCISE

The EUT was operated in the engineering mode to fix the TX frequency that was for the purpose of the measurements.

According to its specifications, the EUT must comply with the requirements of the Section 15.207, 15.209, 15.249 under the FCC Rules Part 15 Subpart C.

3.3 GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 6.2.2 of ANSI C63.10 Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m and 1.5 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 6.5.4 and Section 6.6.4.2 of ANSI C63.10.

3.4 FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS

1. Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 -	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.52525	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	156.7 - 156.9	3260 - 3267	23.6 - 24.0
12.29 - 12.293	162.0125 - 167.17	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	167.72 - 173.2	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	240 - 285	3600 - 4400	([2])
13.36 - 13.41	322 - 335.4		

[1] Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

[2] Above 38.6

2. Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

3.5 DESCRIPTION OF TEST MODES

The EUT (**Model: FS900z**) had been tested under engineering test mode condition and the EUT staying in continuous transmitting mode.

Note：

The field strength of spurious emission was measured in the following position:

1) The field strength of spurious emission was measured in the following position: EUT stand-up position (Y axis), lie-down position (X, Z axis). The worst emission was found in lie-down position (X axis) and the worst case was recorded.

4. INSTRUMENT CALIBRATION

4.1 MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

4.2 MEASUREMENT EQUIPMENT USED

Equipment Used for Emissions Measurement

Chamber Room #1166					
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Date**	**Calibration Due**
Active Loop Antenna	ETS-LINDREN	6502	8905-2356	09/04/2023	09/03/2024
Attenuator	MCL	BW-S15W5	0535	01/17/2024	01/16/2025
Band Reject Filter	MICRO-TRONICS	HPM13525	006	01/17/2024	01/16/2025
Bilog Antenna with 6dB Attenuator	SUNOL SCIENCES & EMCI	JB1 & N-6-06	A021306 & AT-N0682	10/03/2023	10/02/2024
Cable	EMCI	EM102-KMKM	CB1166-01	06/13/2024	06/12/2025
Double Ridged Guide Horn Antenna	ETS-LINDGREN	3116	00078900	03/19/2024	03/18/2025
EMI Test Receiver	R&S	ESCI 7	100856	06/13/2024	06/12/2025
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY54430216	07/26/2024	07/25/2025
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-778(98006)	04/25/2024	04/24/2025
Pre-Amplifier	EM	EM01G40GA	60919	05/15/2024	05/14/2025
Active Loop Antenna	ETS-LINDREN	6502	8905-2356	09/04/2023	09/03/2024
Software	Excel(ccs-o6-2020 v1.1)，e3(v6.101222)				

Remark: Each piece of equipment is scheduled for calibration once a year.

4.3 MEASUREMENT UNCERTAINTY

Measurement	Uncertainty
AC Powerline Conducted Emission	±2.21dB
Channel Bandwidth	±2.87 %
RF output power (Spectrum)	±2.88dB
RF Output power (Power Meter & Power sensor)	±0.243dB
Power Density	±2.87dB
Conducted Badnedge	±2.87dB
Conducted Spurious Emission	±2.88dB
Channel Separation	±2.87dB
In-Band Emission (Channel Mask)	±2.88dB
Frequency Stability	±0.03 ppm

Uncertainty figures are valid to a confidence level of 95%, k=2

5. FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

All measurement facilities used to collect the measurement data are located at

☐ No.8, Jiucengling, Xinhua Dist., Tainan City 712, Taiwan

☒ No. 168, Ln. 523, Sec. 3, Zhongzheng Rd., Rende Dist., Tainan City 717017, Taiwan

The sites are constructed in conformance with the requirements of ANSI C63.7:1992, ANSI C63.10: 2013 and CISPR Publication 22.

5.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, “Radio Interference Measuring Apparatus and Measurement Methods.”

5.3 LABORATORY ACCREDITATIONS LISTING

The test facilities used to perform radiated and conducted emissions tests are accredited by Taiwan Accreditation Foundation for the specific scope of accreditation under Lab Code: 1109 to perform Electromagnetic Interference tests according to FCC PART 15 AND CISPR 22 requirements. No part of this report may be used to claim or imply product endorsement by TAF or any agency of the Government. In addition, the test facilities are listed with Federal Communications Commission (registration no: TW1109).

5.4 TABLE OF ACCREDITATIONS AND LISTINGS

Our laboratories are accredited and approved by the following accreditation body according to ISO/IEC 17025.

Taiwan	TAF

The measuring facility of laboratories has been authorized or registered by the following approval agencies.

Canada	Industry Canada
Germany	TUV NORD
Taiwan	BSMI
USA	FCC

6. SETUP OF EQUIPMENT UNDER TEST

6.1 SETUP CONFIGURATION OF EUT

See test photographs attached in Appendix I for the actual connections between EUT and support equipment.

6.2 SUPPORT EQUIPMENT

【RF】

No.	Product	Manufacturer	Model No.	Certify No.	Signal cable
1	N/A	N/A	N/A	N/A	N/A

No.	Signal cable description	
A	N/A	N/A

【EMC】

No.	Product	Manufacturer	Model No.	Certify No.	Signal cable
1	N/A	N/A	N/A	N/A	N/A

No.	Signal cable description	
A	N/A	N/A

Remark:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer’s requirements and conditions for the intended use.

6.3 CONFIGURATION OF SYSTEM UNDER TEST

【RF】

6.4 EUT OPERATING CONDITION

RF Setup

1. Set up a whole system as the setup diagram.
2. Turn on power.

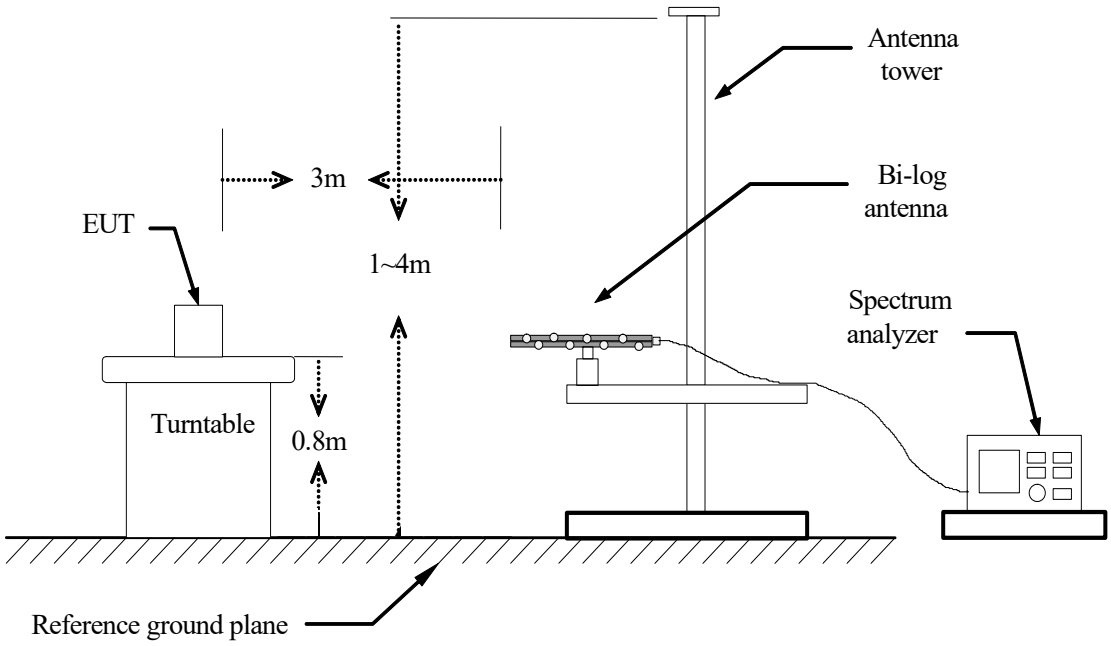
7. FCC PART 15.249 REQUIREMENTS

7.1 20 dB BANDWIDTH

LIMIT

None; for reporting purposes only.

TEST CONFIGURATION



TEST PROCEDURE

1. The EUT is placed on a turntable, which is 0.8m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Set the spectrum analyzer in the following setting as:
   RBW is set to 3 kHz and VBW is set 10kHz.

TEST RESULTS

No non-compliance noted.

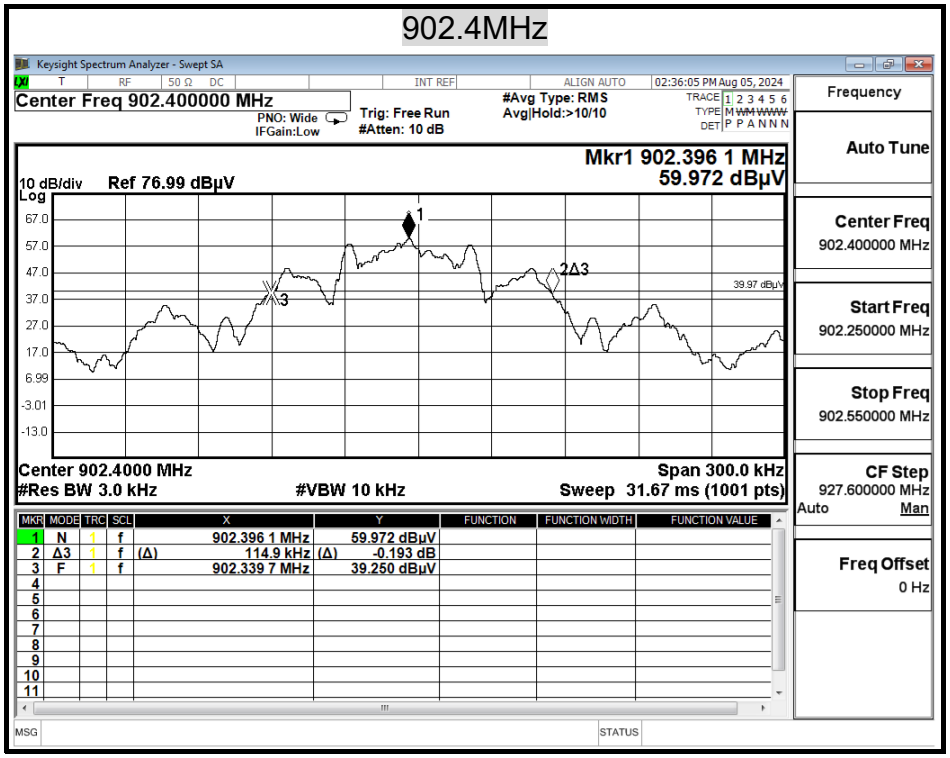
TEST DATA

Operation Mode: TX
Temperature: 25.4°C
Humidity: 46% RH
Test Date: 2024/08/02
Tested by: Peter Chu
Polarity: Ver. / Hor.

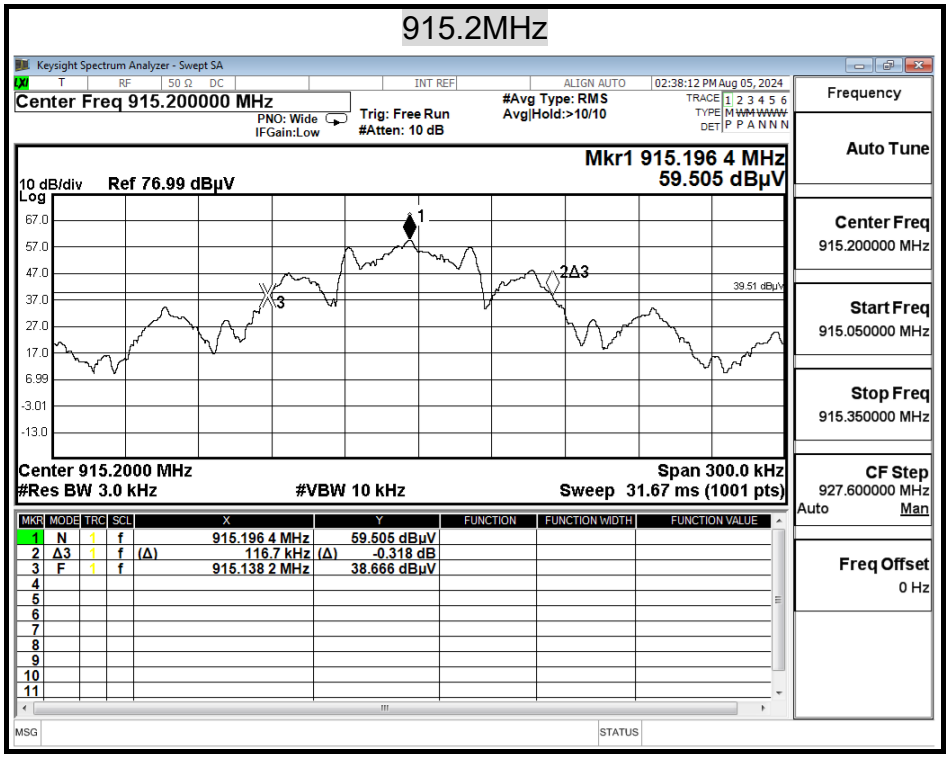
Frequency (MHz)	20 dB Bandwidth (MHz)
902.4	0.115
915.2	0.117
927.6	0.116

TEST PLOT

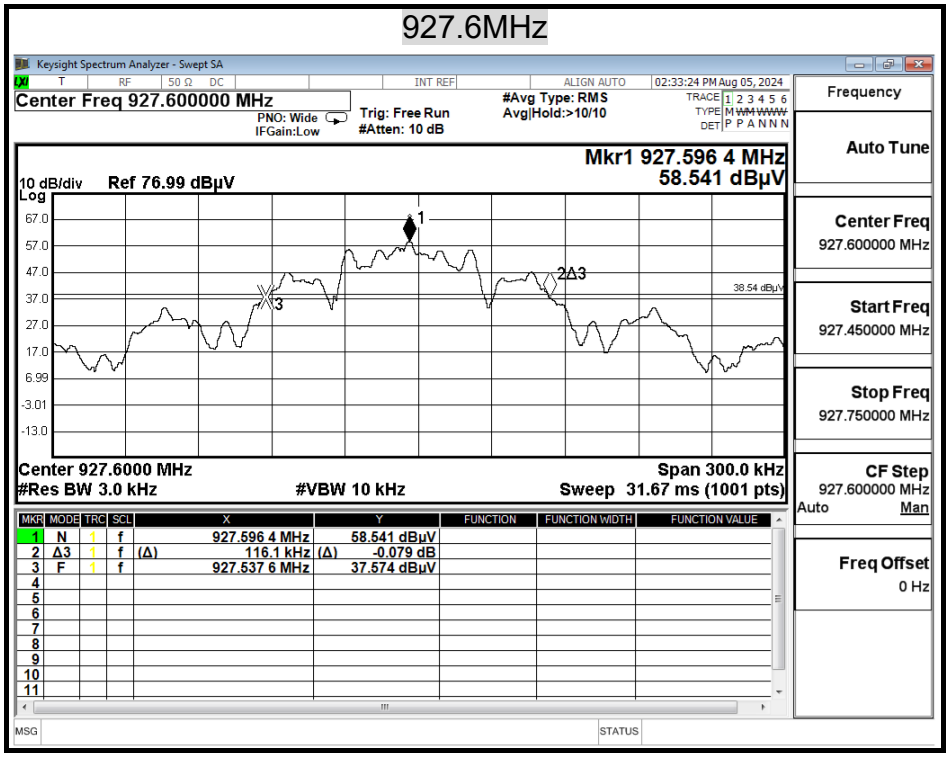
902.4MHz



915.2MHz



927.6MHz

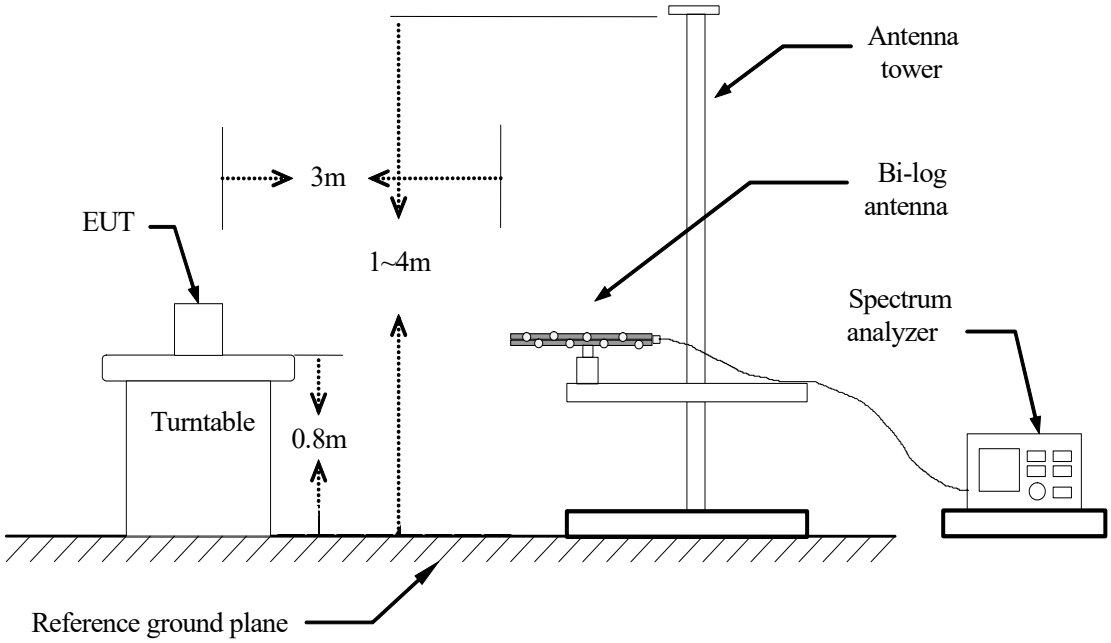


7.2 DUTY CYCLE

LIMIT

Nil (No dedicated limit specified in the Rules)

TEST CONFIGURATION



TEST PROCEDURE

1. Place the EUT on the table and set it in transmitting mode.
2. Set center frequency of spectrum analyzer = operating frequency.
3. Set the spectrum analyzer as RBW=1MHz, VBW=3MHz, Span = 0Hz, a suitable Sweep Time.
4. Repeat above procedures until all frequency measured were complete.

TEST RESULTS

No non-compliance noted.

TEST DATA

Operation Mode: TX
Temperature: 25.4°C
Humidity: 46% RH
Test Date: 2024/08/02
Tested by: Peter Chu
Polarity: Ver. / Hor.

908 MHz

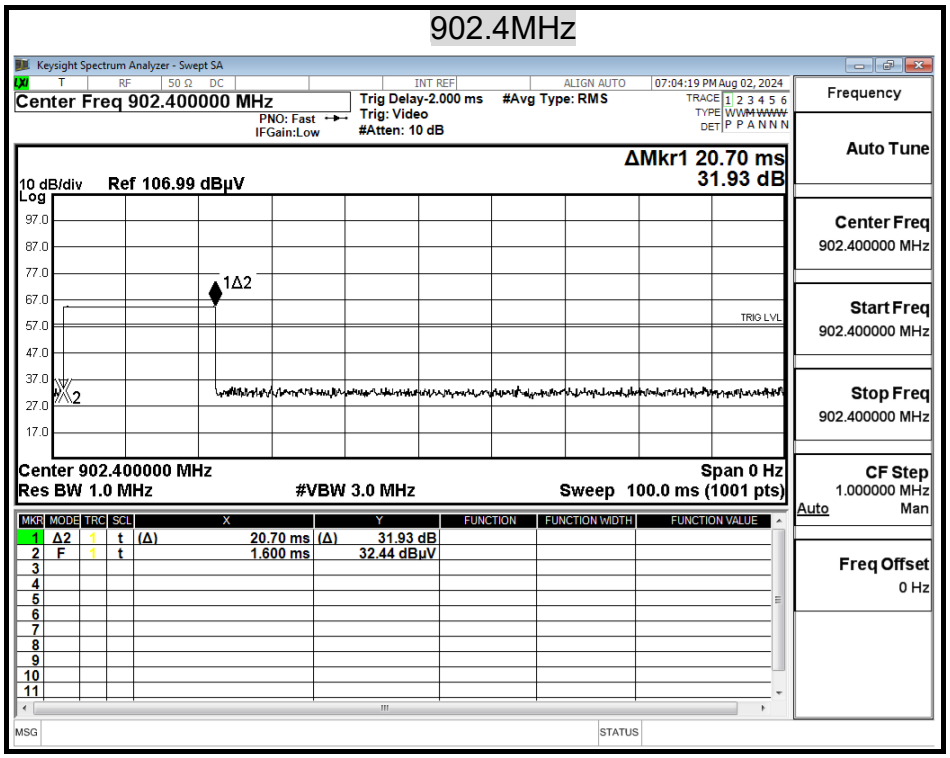
	us	Times	Ton times(us)	Total Ton time(ms)
Ton1	20700.000	1	20700.000	
Ton2		0	0.000	
Ton3		0	0.000	20.700
Tp				100.000

Ton	20.700
Tp(Ton+Toff)	100.000
Duty Cycle	0.207
Duty Factor	-13.681

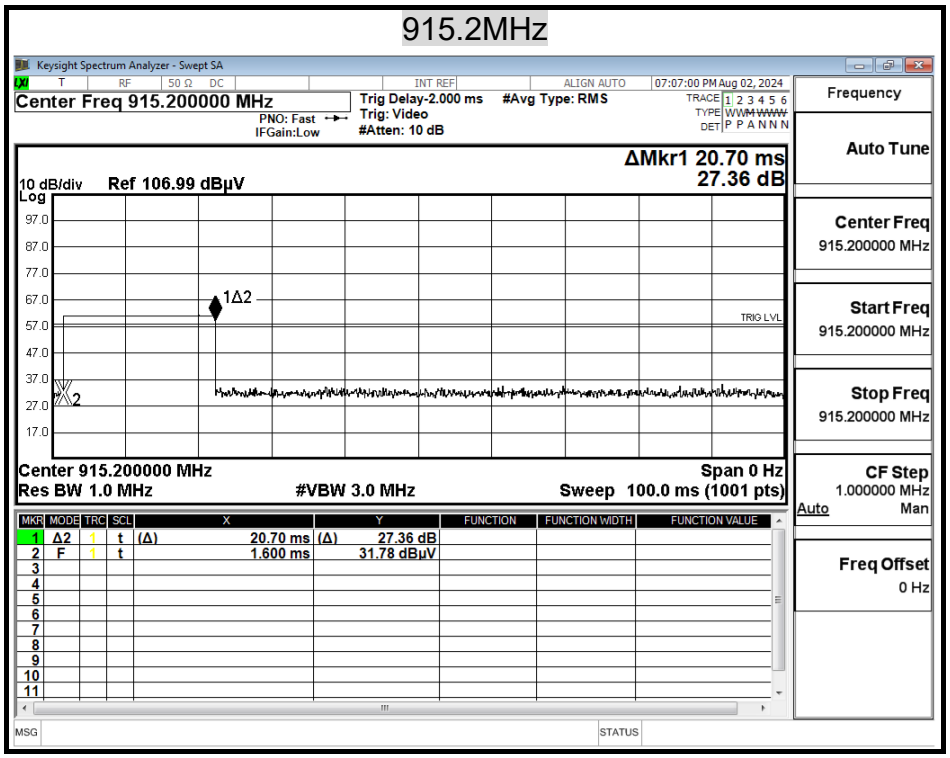
20.7 %

TEST PLOT

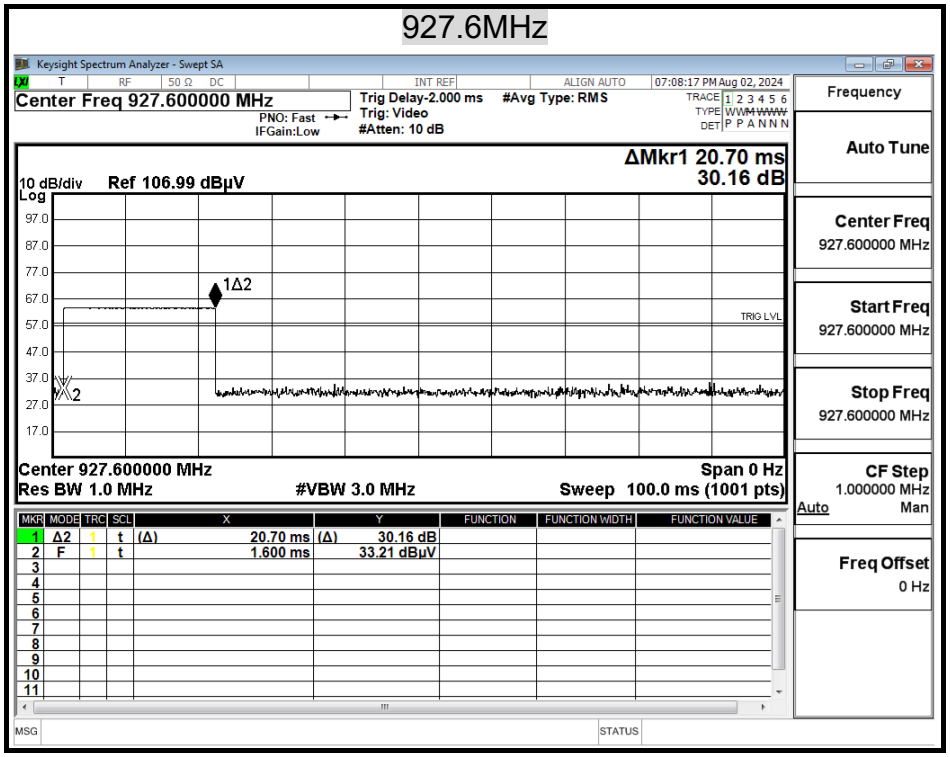
902.4MHz



915.2MHz



927.6MHz



7.3 SPURIOUS EMISSION

LIMIT

1. In the section 15.249(a):
   Except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902-928 MHz	50	500
2400 - 2483.5 MHz	50	500
5725 - 5875 MHz	50	500
24.0 - 24.25 GHz	250	2500

2. Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

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

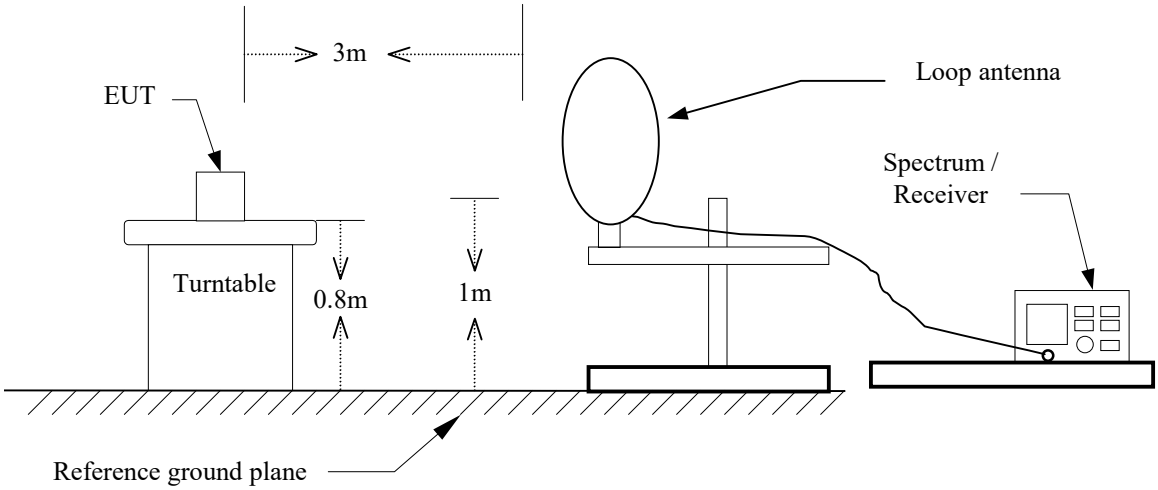
Remark: Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

3. In the above emission table, the tighter limit applies at the band edges.

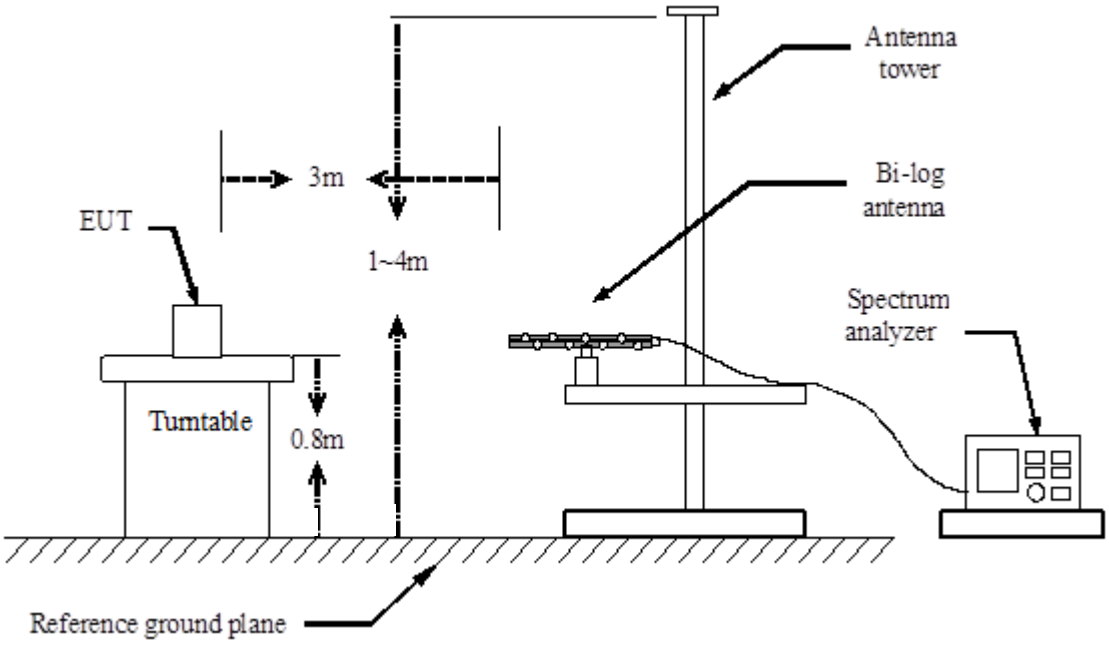
Frequency (MHz)	Field Strength (μV/m)	Field Strength (dBμV/m at 3-meter)
0.009-0.490	266.67-4.90	128.52-93.8
0.490-1.705	48.98-14.08	73.8-62.97
1.705-30.0	30	69.54
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

TEST CONFIGURATION

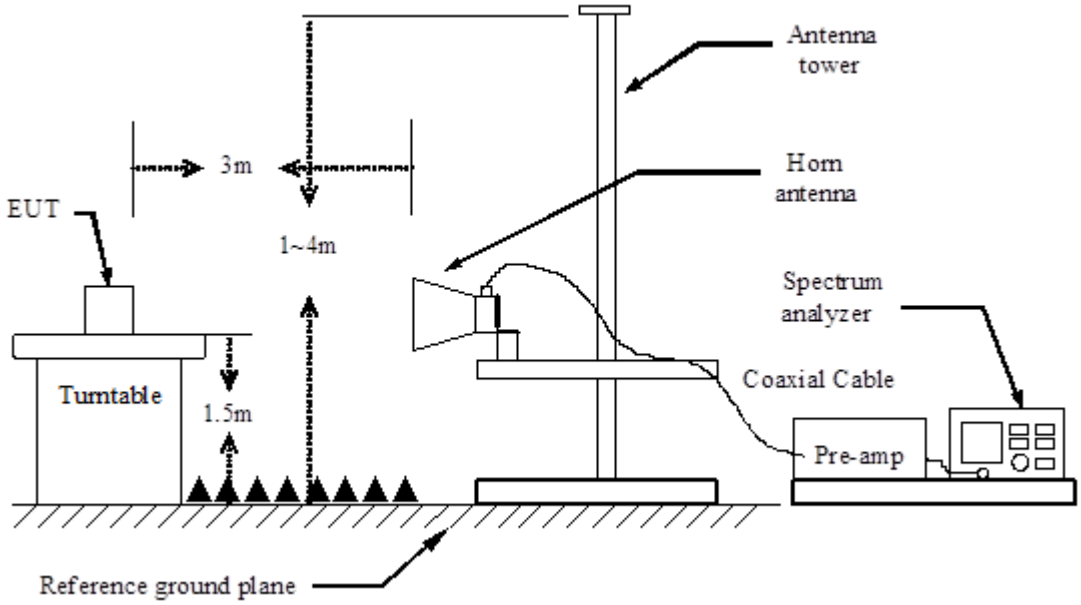
9kHz ~ 30MHz



30MHz ~ 1GHz



Above 1 GHz



TEST PROCEDURE

1. The EUT is placed on a turntable, which is 0.8m/1.5m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
4. Silicon Labs procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.
7. No emission is found between lowest internal used/generated frequency to 30MHz (9kHz~30MHz)

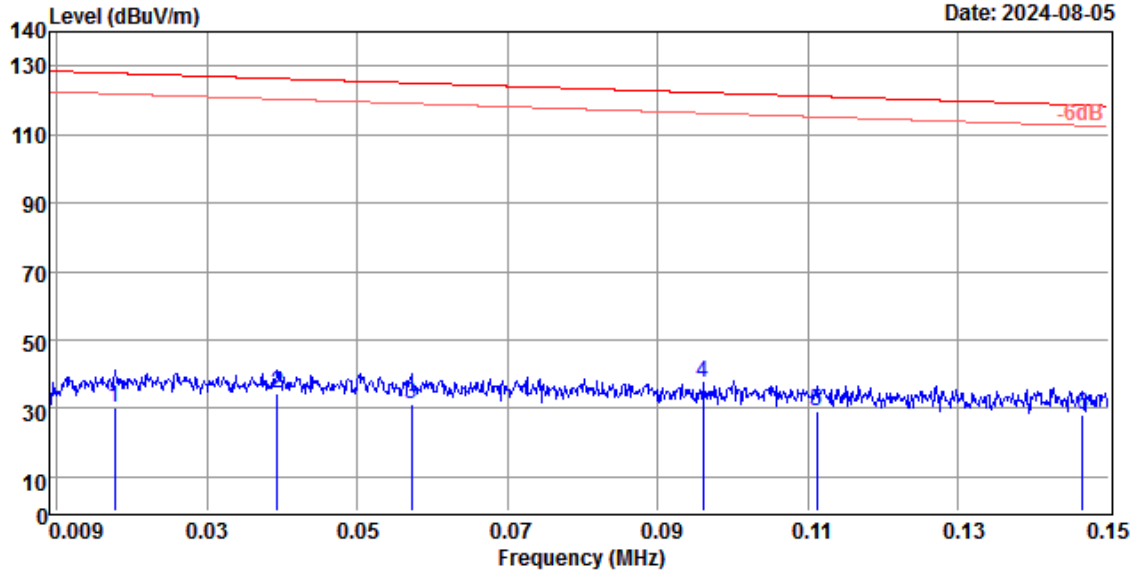
Below 1GHz(9kHz ~ 30MHz)

9kHz~150kHz

Operation Mode: TX **Test Date:** 2024/08/05

Temperature: 25.1℃ **Tested by:** Peter Chu

Humidity: 50% RH



Freq	Reading	C.F	Result	Limit	Margin	Detector
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
0.018	13.79	16.63	30.42	127.89	-97.47	Average
0.039	21.90	12.64	34.54	126.33	-91.79	Average
0.057	19.63	11.44	31.07	125.04	-93.97	Average
0.096	27.23	10.17	37.40	122.24	-84.84	Peak
0.111	18.94	10.18	29.12	121.15	-92.03	Average
0.146	17.85	10.20	28.05	118.60	-90.55	Average

Remark:

1.C.F=Antenna Factor+Cable Loss

2.Test Receiver setting RBW=200Hz for Quasi-peak detection (QP) and Average detection(AV) at frequency 9~150(kHz).

3.Test Receiver setting RBW=9kHz for Quasi-peak detection (QP) and Average detection(AV) at frequency 0.15~30(MHz).

4.The result basic equation calculation is as follow:

Result = Reading + C.F, Margin = Result-Limit

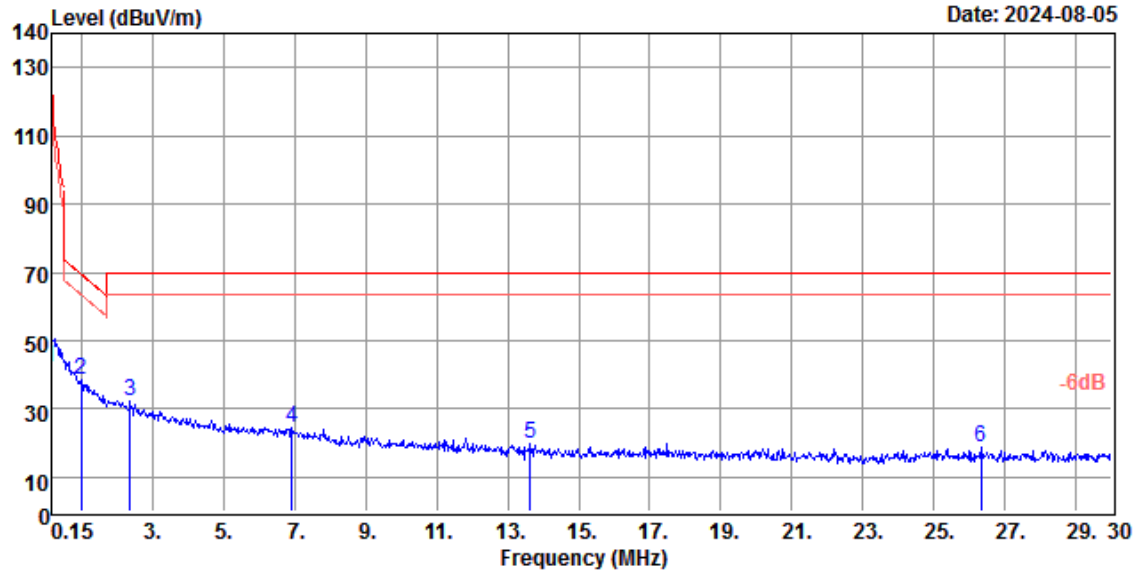
5.The other emission levels were 10dB below the limit

6.The test distance is 3m.

15MHz~30MHz

Operation Mode: TX
Temperature: 25.1℃
Humidity: 50% RH

Test Date: 2024/08/05
Tested by: Peter Chu



Freq	Reading	C.F	Result	Limit	Margin	Detector
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
0.150	31.75	10.20	41.95	118.34	-76.39	Average
0.986	27.96	10.31	38.27	69.38	-31.11	Peak
2.359	22.13	10.26	32.39	69.54	-37.15	Peak
6.926	12.16	12.11	24.27	69.54	-45.27	Peak
13.642	7.88	12.15	20.03	69.54	-49.51	Peak
26.328	7.83	11.08	18.91	69.54	-50.63	Peak

Remark:

1.C.F=Antenna Factor+Cable Loss

2.Test Receiver setting RBW=200Hz for Quasi-peak detection (QP) and Average detection(AV) at frequency 9~150(kHz).

3.Test Receiver setting RBW=9kHz for Quasi-peak detection (QP) and Average detection(AV) at frequency 0.15~30(MHz).

4.The result basic equation calculation is as follow:

Result = Reading + C.F, Margin = Result-Limit

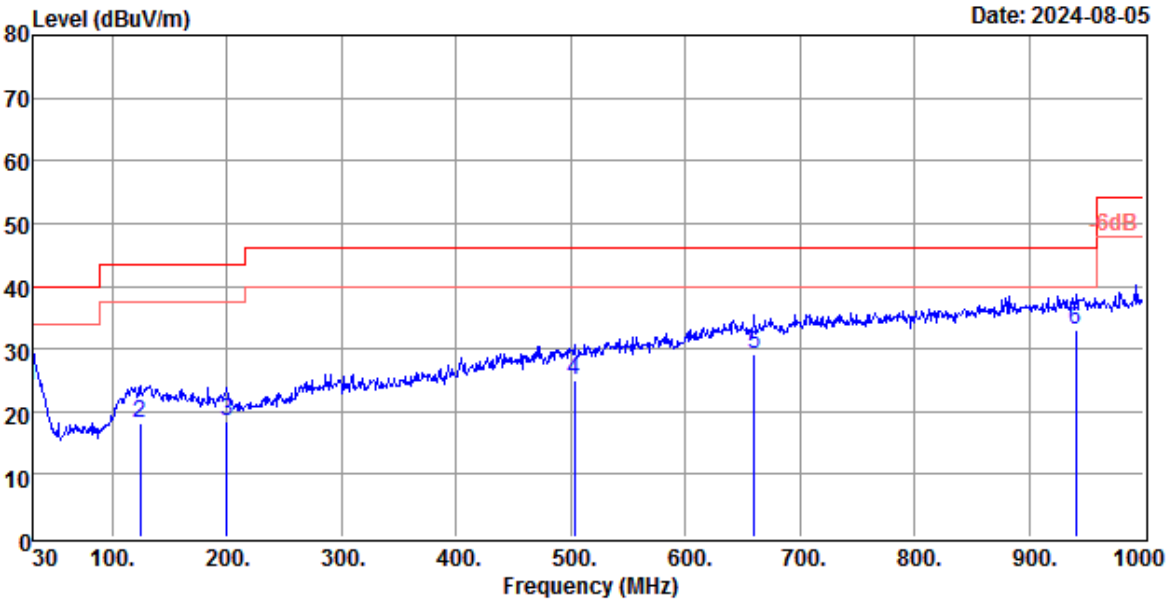
5.The other emission levels were 10dB below the limit

6.The test distance is 3m.

Below 1GHz(30MHz ~ 1GHz)

Operation Mode: TX
Test Date: 2024/08/05
Temperature: 25.1℃
Tested by: Peter Chu
Humidity: 50% RH
Polarity: Ver.

Vertical



Freq	Reading	C.F	Result	Limit	Margin	Detector
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
30.000	-3.53	27.77	24.24	40.00	-15.76	QP
124.090	-3.77	21.80	18.03	43.50	-25.47	QP
199.750	-2.90	21.39	18.49	43.50	-25.01	QP
503.360	-2.99	27.88	24.89	46.00	-21.11	QP
660.500	-1.61	30.63	29.02	46.00	-16.98	QP
940.830	-1.90	34.81	32.91	46.00	-13.09	QP

Remark:

1.C.F=Antenna Factor+Cable Loss

2.Test Receiver setting RBW=120kHz for Quasi-peak detection (QP) and at frequency 30~1000(MHz).

3.The result basic equation calculation is as follow:

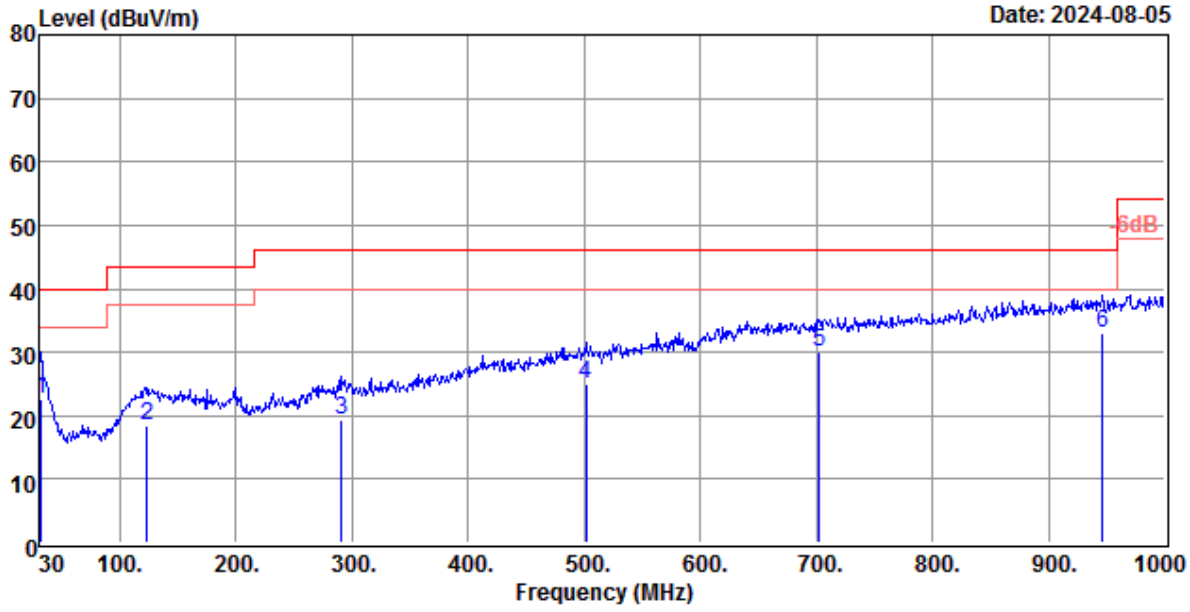
Result = Reading + C.F, Margin = Result-Limit

4.The other emission levels were 10dB below the limit

5.The test distance is 3m.

Operation Mode: TX
Test Date: 2024/08/05
Temperature: 25.1℃
Tested by: Peter Chu
Humidity: 50% RH
Polarity: Hor.

Horizontal



Freq	Reading	C.F	Result	Limit	Margin	Detector
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
31.940	-3.65	26.33	22.68	40.00	-17.32	QP
123.120	-3.72	22.03	18.31	43.50	-25.19	QP
290.930	-3.05	22.44	19.39	46.00	-26.61	QP
501.420	-2.94	27.88	24.94	46.00	-21.06	QP
702.210	-1.33	31.23	29.90	46.00	-16.10	QP
946.650	-1.92	34.83	32.91	46.00	-13.09	QP

Remark:

1.C.F=Antenna Factor+Cable Loss

2.Test Receiver setting RBW=120kHz for Quasi-peak detection (QP) and at frequency 30~1000(MHz).

3.The result basic equation calculation is as follow:

Result = Reading + C.F, Margin = Result-Limit

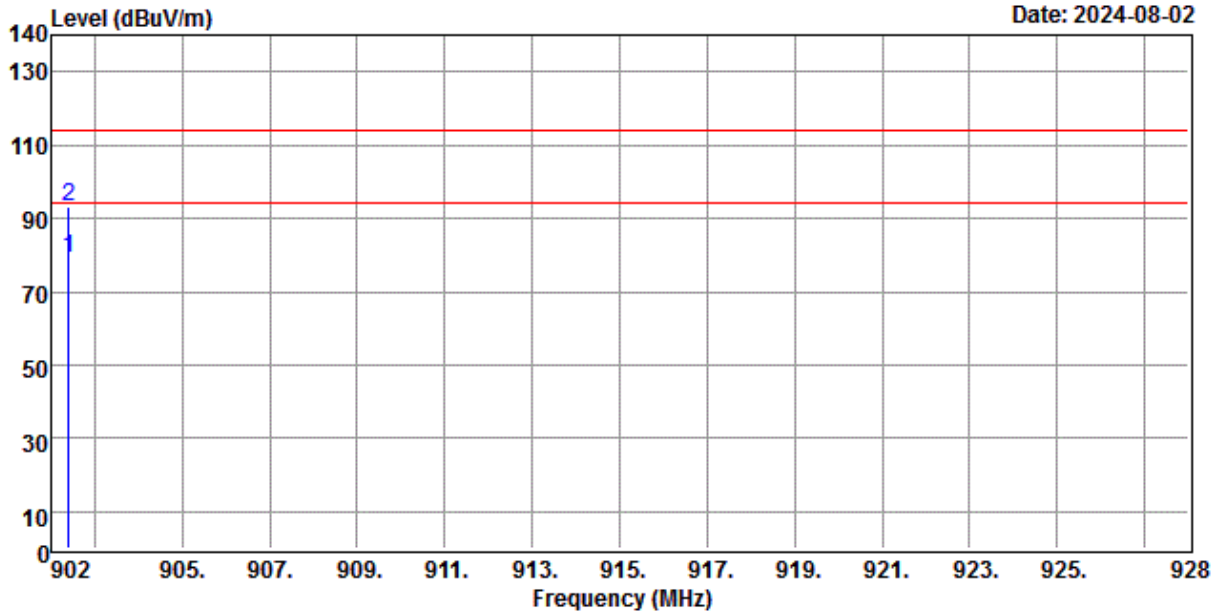
4.The other emission levels were 10dB below the limit

5.The test distance is 3m.

The fundamental signal

Operation Mode: TX 902.4MHz
Test Date: 2024/08/02
Temperature: 25.1℃
Tested by: Peter Chu
Humidity: 50% RH
Polarity: Ver.

Vertical

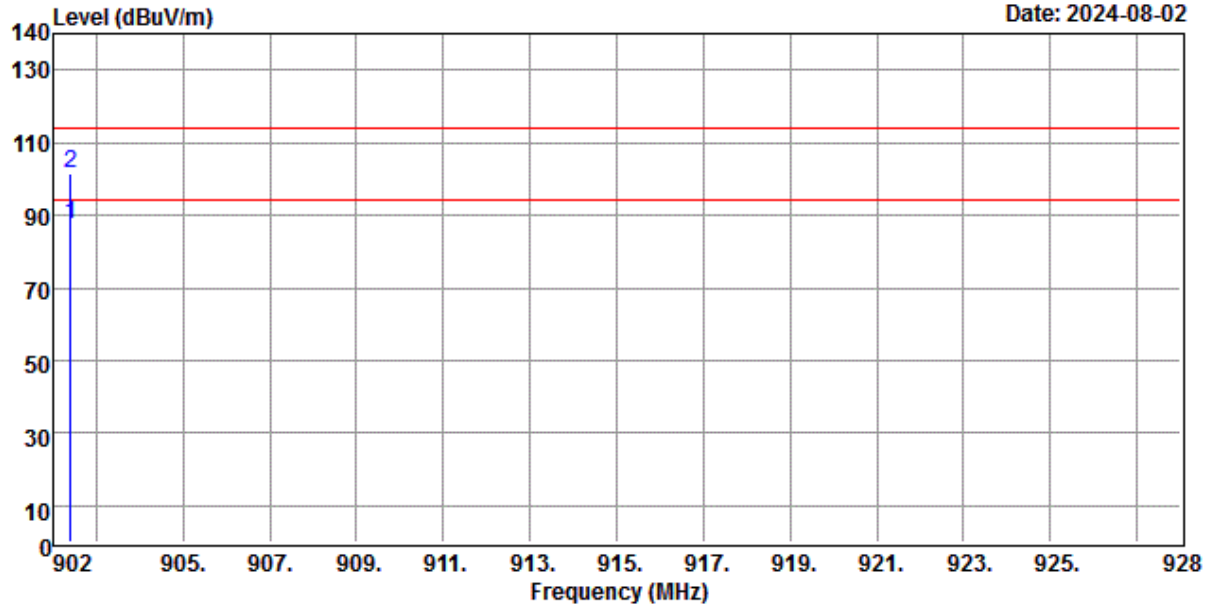


Freq	Reading	C.F	Result	Limit	Margin	Detector
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
902.400	—	—	79.31	94.00	-14.69	Average
902.400	59.06	33.93	92.99	114.00	-21.01	Peak

Remark:
1.C.F=Antenna Factor+Cable Loss
2.Spectrum analyzer setting P(Peak): RBW=100kHz, VBW=300kHz
3.The result basic equation calculation is as follow:
Result = Reading + C.F, Margin = Result-Limit
4.The other emission levels were 10dB below the limit
5.The test distance is 3m.
6.Average Result=Peak Result + Duty factor

Operation Mode: TX 902.4MHz
Test Date: 2024/08/02
Temperature: 25.1℃
Tested by: Peter Chu
Humidity: 50% RH
Polarity: Hor.

Horizontal

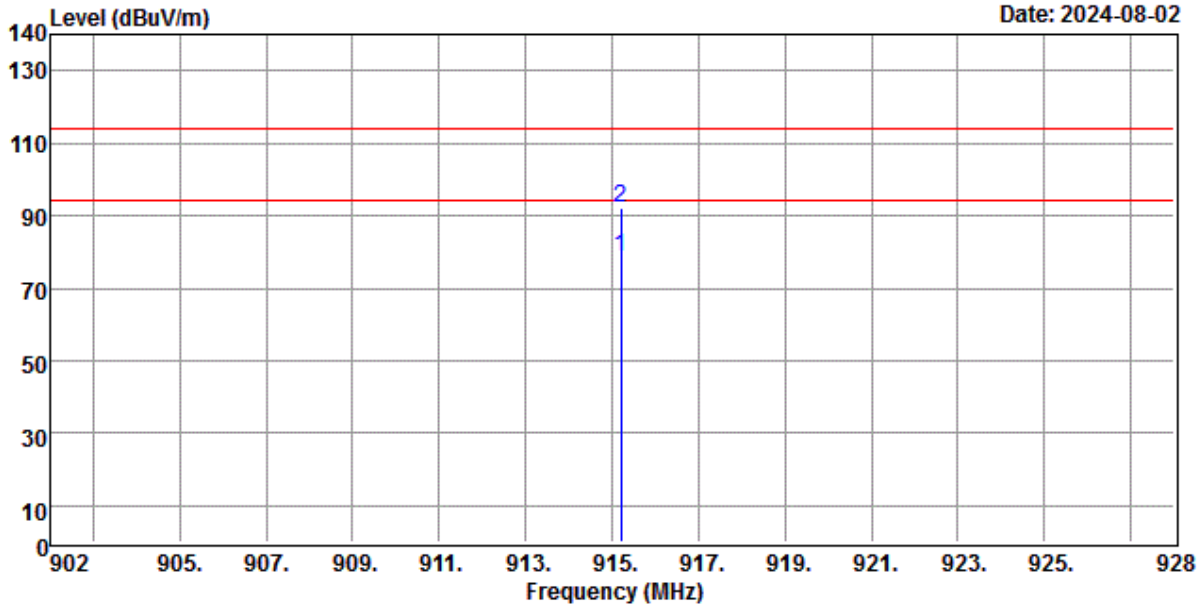


Freq	Reading	C.F	Result	Limit	Margin	Detector
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
902.400	—	—	87.57	94.00	-6.43	Average
902.400	67.32	33.93	101.25	114.00	-12.75	Peak

Remark:
1.C.F=Antenna Factor+Cable Loss
2.Spectrum analyzer setting P(Peak): RBW=100kHz, VBW=300kHz
3.The result basic equation calculation is as follow:
Result = Reading + C.F, Margin = Result-Limit
4.The other emission levels were 10dB below the limit
5.The test distance is 3m.
6.Average Result=Peak Result + Duty factor

Operation Mode: TX 915.2MHz
Test Date: 2024/08/02
Temperature: 25.1℃
Tested by: Peter Chu
Humidity: 50% RH
Polarity: Ver.

Vertical



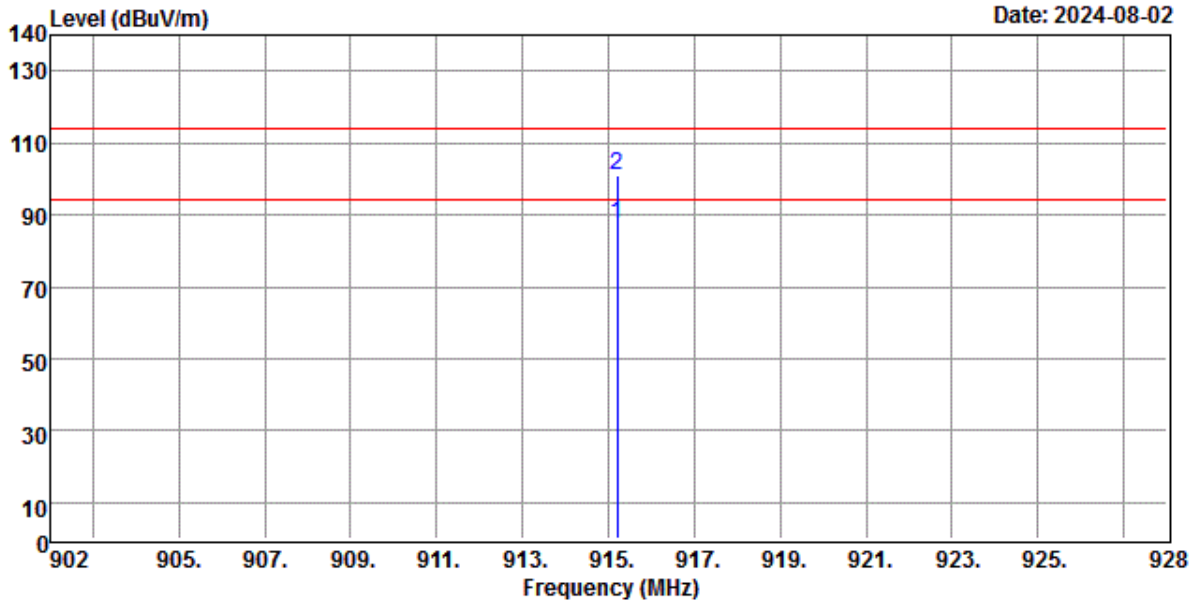
Freq	Reading	C.F	Result	Limit	Margin	Detector
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
915.200	—	—	78.36	94.00	-15.64	Average
915.200	58.08	33.96	92.04	114.00	-21.96	Peak

Remark:

1.C.F=Antenna Factor+Cable Loss
2.Spectrum analyzer setting P(Peak): RBW=100kHz, VBW=300kHz
3.The result basic equation calculation is as follow:
Result = Reading + C.F, Margin = Result-Limit
4.The other emission levels were 10dB below the limit
5.The test distance is 3m.
6.Average Result=Peak Result + Duty factor

Operation Mode: TX 915.2MHz
Test Date: 2024/08/02
Temperature: 25.1℃
Tested by: Peter Chu
Humidity: 50% RH
Polarity: Hor.

Horizontal

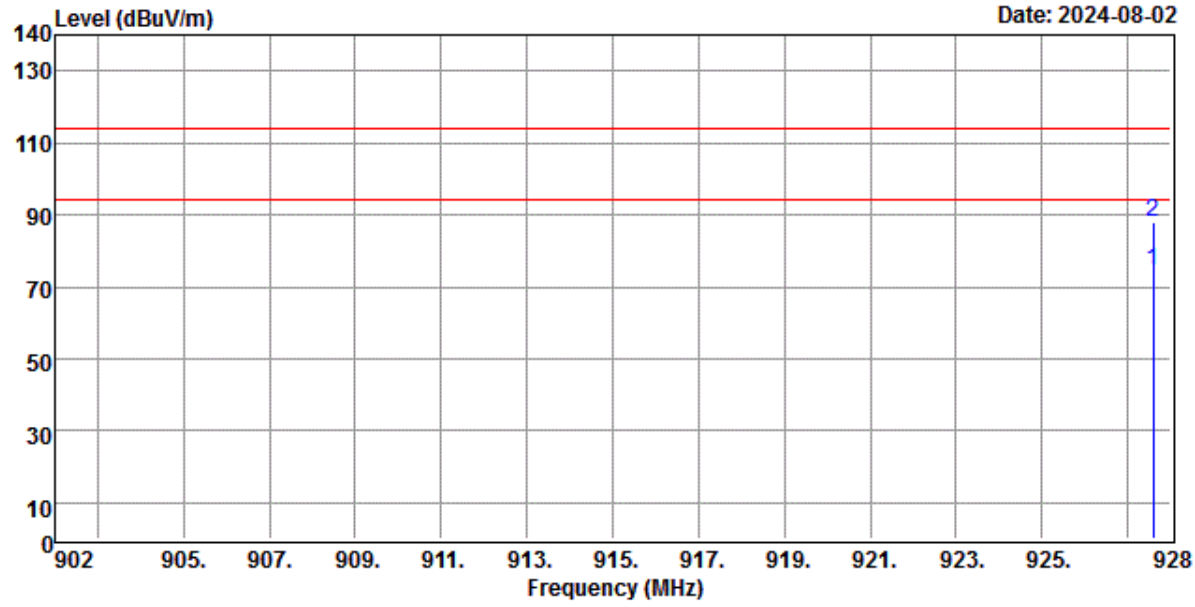


Freq	Reading	C.F	Result	Limit	Margin	Detector
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
915.200	—	—	87.44	94.00	-6.56	Average
915.200	67.16	33.96	101.12	114.00	-12.88	Peak

Remark:
1.C.F=Antenna Factor+Cable Loss
2.Spectrum analyzer setting P(Peak): RBW=100kHz, VBW=300kHz
3.The result basic equation calculation is as follow:
Result = Reading + C.F, Margin = Result-Limit
4.The other emission levels were 10dB below the limit
5.The test distance is 3m.
6.Average Result=Peak Result + Duty factor

Operation Mode: TX 927.6MHz
Test Date: 2024/08/02
Temperature: 25.1℃
Tested by: Peter Chu
Humidity: 50% RH
Polarity: Ver.

Vertical



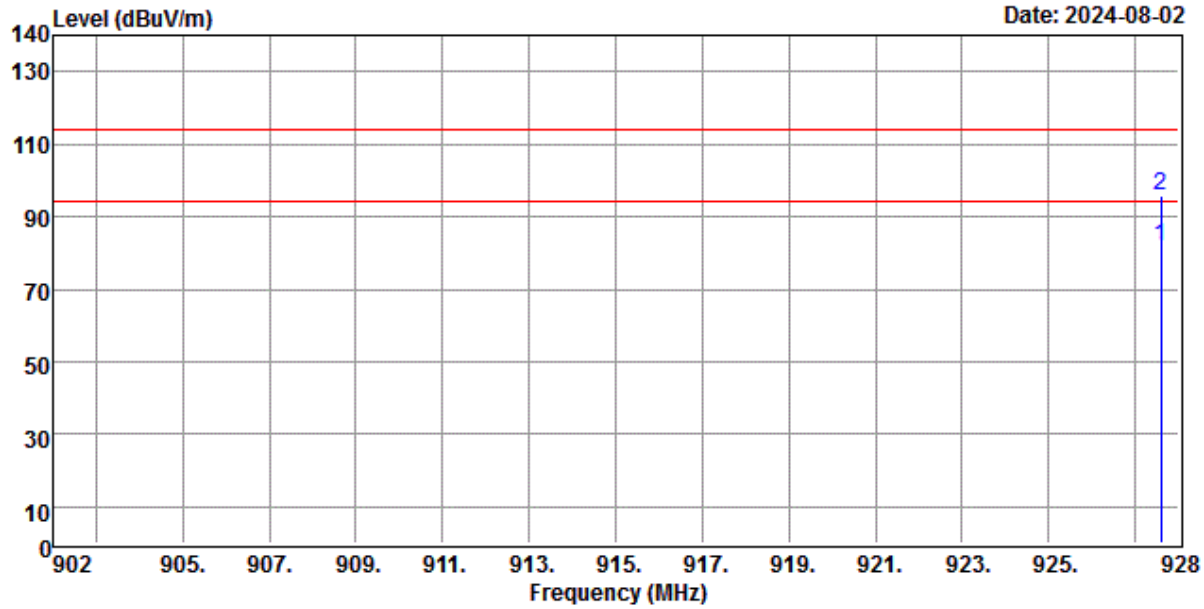
Freq	Reading	C.F	Result	Limit	Margin	Detector
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
927.600	—	—	74.23	94.00	-19.77	Average
927.600	53.53	34.38	87.91	114.00	-26.09	Peak

Remark:

1.C.F=Antenna Factor+Cable Loss
2.Spectrum analyzer setting P(Peak): RBW=100kHz, VBW=300kHz
3.The result basic equation calculation is as follow:
Result = Reading + C.F, Margin = Result-Limit
4.The other emission levels were 10dB below the limit
5.The test distance is 3m.
6.Average Result=Peak Result + Duty factor

Operation Mode: TX 927.6MHz
Test Date: 2024/08/02
Temperature: 25.1℃
Tested by: Peter Chu
Humidity: 50% RH
Polarity: Hor.

Horizontal



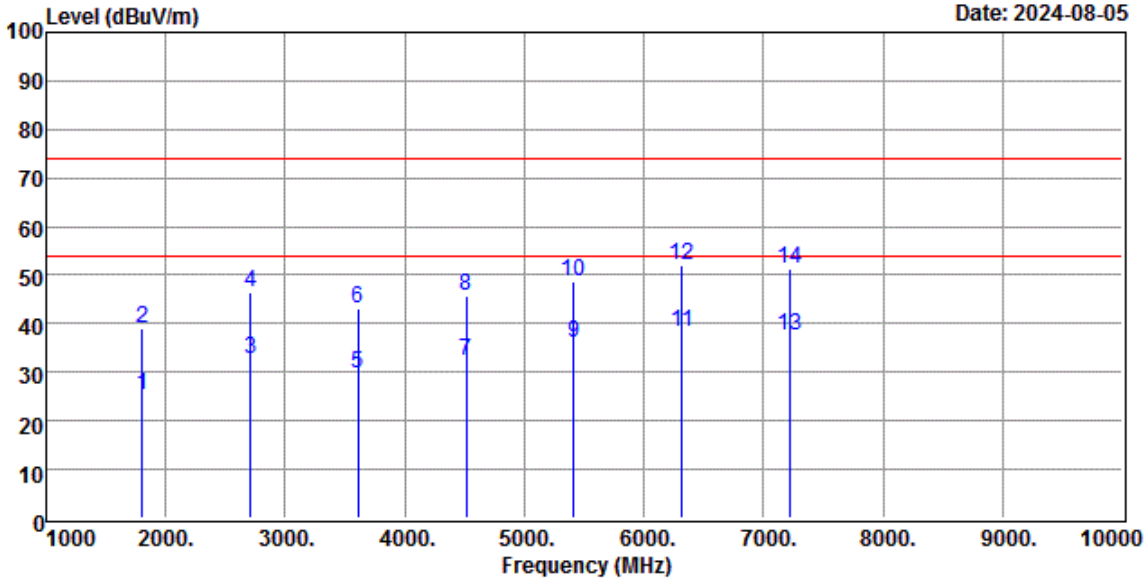
Freq	Reading	C.F	Result	Limit	Margin	Detector
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
927.600	—	—	81.89	94.00	-12.11	Average
927.600	61.19	34.38	95.57	114.00	-18.43	Peak

Remark:
1.C.F=Antenna Factor+Cable Loss
2.Spectrum analyzer setting P(Peak): RBW=100kHz, VBW=300kHz
3.The result basic equation calculation is as follow:
Result = Reading + C.F, Margin = Result-Limit
4.The other emission levels were 10dB below the limit
5.The test distance is 3m.
6.Average Result=Peak Result + Duty factor

Above 1 GHz

Operation Mode: TX 902.4MHz
Test Date: 2024/08/05
Temperature: 25.1℃
Tested by: Peter Chu
Humidity: 50% RH
Polarity: Ver.

Vertical



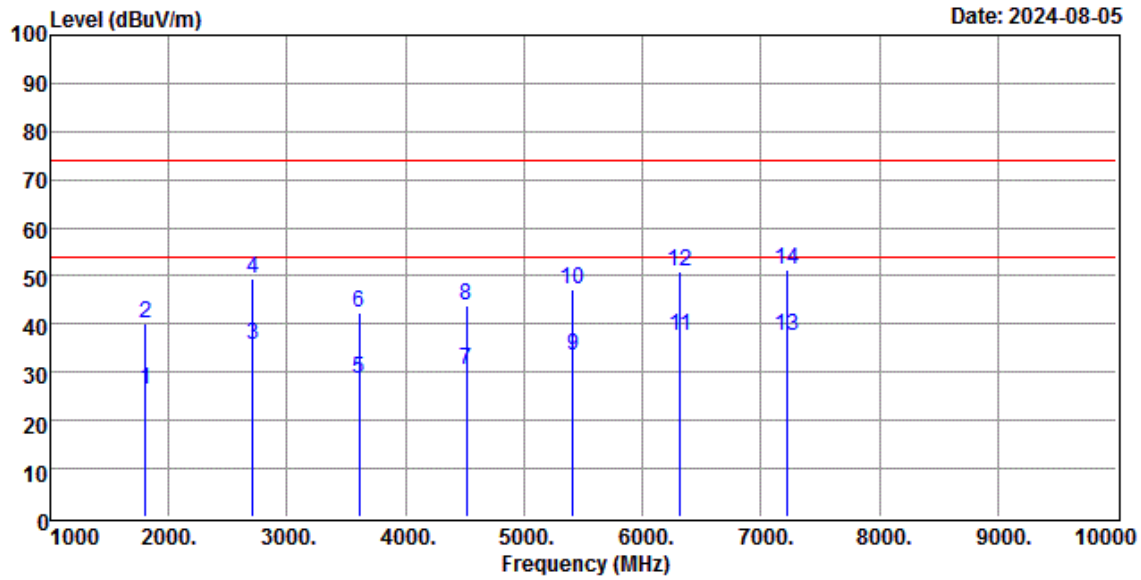
Freq	Reading	C.F	Result	Limit	Margin	Detector
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1804.730	—	—	25.19	54.00	-28.81	Average
1804.730	53.11	-14.24	38.87	74.00	-35.13	Peak
2707.130	—	—	32.86	54.00	-21.14	Average
2707.130	56.27	-9.73	46.54	74.00	-27.46	Peak
3609.560	—	—	29.62	54.00	-24.38	Average
3609.560	50.31	-7.01	43.30	74.00	-30.70	Peak
4512.225	—	—	32.22	54.00	-21.78	Average
4512.225	49.61	-3.71	45.90	74.00	-28.10	Peak
5414.000	—	—	35.89	54.00	-18.11	Average
5414.000	49.57	-0.75	48.82	74.00	-25.18	Peak
6316.840	—	—	38.18	54.00	-15.82	Average
6316.840	49.09	2.77	51.86	74.00	-22.14	Peak
7219.150	—	—	37.55	54.00	-16.45	Average
7219.150	44.40	6.83	51.23	74.00	-22.77	Peak

Remark:

1.C.F=Antenna Factor+Cable Loss-Preamplifier gain+high pass 1G Filter Insertion Loss
2.Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=3MHz
3.The result basic equation calculation is as follow:
Result = Reading + C.F, Margin = Result-Limit
4.The other emission levels were 10dB below the limit
5.The test distance is 3m.
6.Average Result=Peak Result + Duty factor

Operation Mode: TX 902.4MHz
Test Date: 2024/08/05
Temperature: 25.1℃
Tested by: Peter Chu
Humidity: 50% RH
Polarity: Hor.

Horizontal



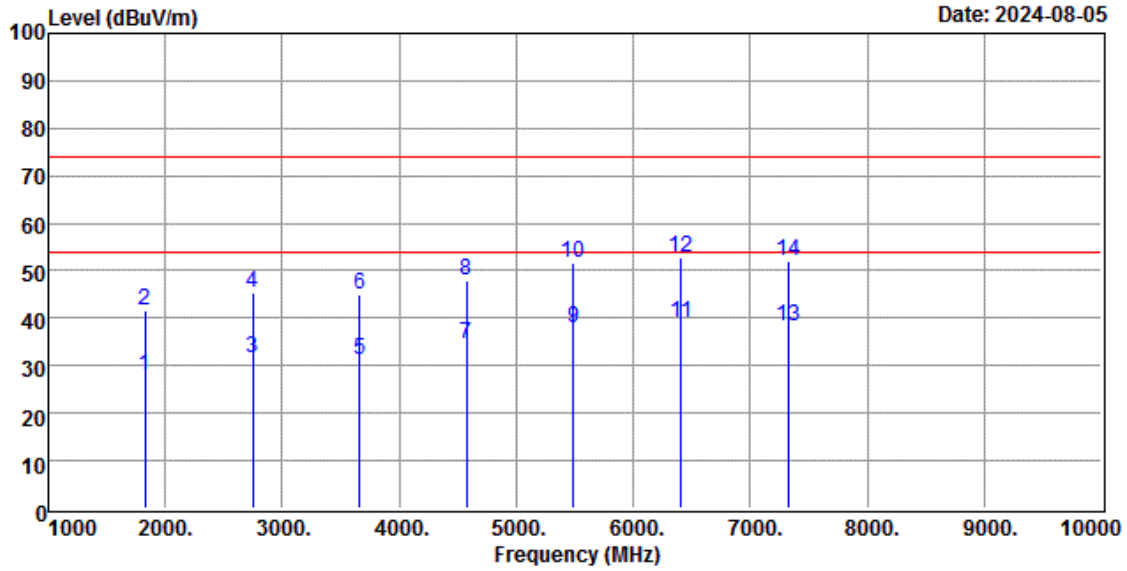
Freq	Reading	C.F	Result	Limit	Margin	Detector
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1804.790	—	—	26.40	54.00	-27.60	Average
1804.790	54.32	-14.24	40.08	74.00	-33.92	Peak
2707.194	—	—	35.64	54.00	-18.36	Average
2707.194	59.05	-9.73	49.32	74.00	-24.68	Peak
3609.420	—	—	28.59	54.00	-25.41	Average
3609.420	49.28	-7.01	42.27	74.00	-31.73	Peak
4512.140	—	—	30.31	54.00	-23.69	Average
4512.140	47.70	-3.71	43.99	74.00	-30.01	Peak
5414.620	—	—	33.36	54.00	-20.64	Average
5414.620	47.78	-0.74	47.04	74.00	-26.96	Peak
6316.720	—	—	37.39	54.00	-16.61	Average
6316.720	48.30	2.77	51.07	74.00	-22.93	Peak
7219.128	—	—	37.54	54.00	-16.46	Average
7219.128	44.39	6.83	51.22	74.00	-22.78	Peak

Remark:

1.C.F=Antenna Factor+Cable Loss-Preamplifier gain+high pass 1G Filter Insertion Loss
2.Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=3MHz
3.The result basic equation calculation is as follow:
Result = Reading + C.F, Margin = Result-Limit
4.The other emission levels were 10dB below the limit
5.The test distance is 3m.
6.Average Result=Peak Result + Duty factor

Operation Mode: TX 915.2MHz
Test Date: 2024/08/05
Temperature: 25.1℃
Tested by: Peter Chu
Humidity: 50% RH
Polarity: Ver.

Vertical



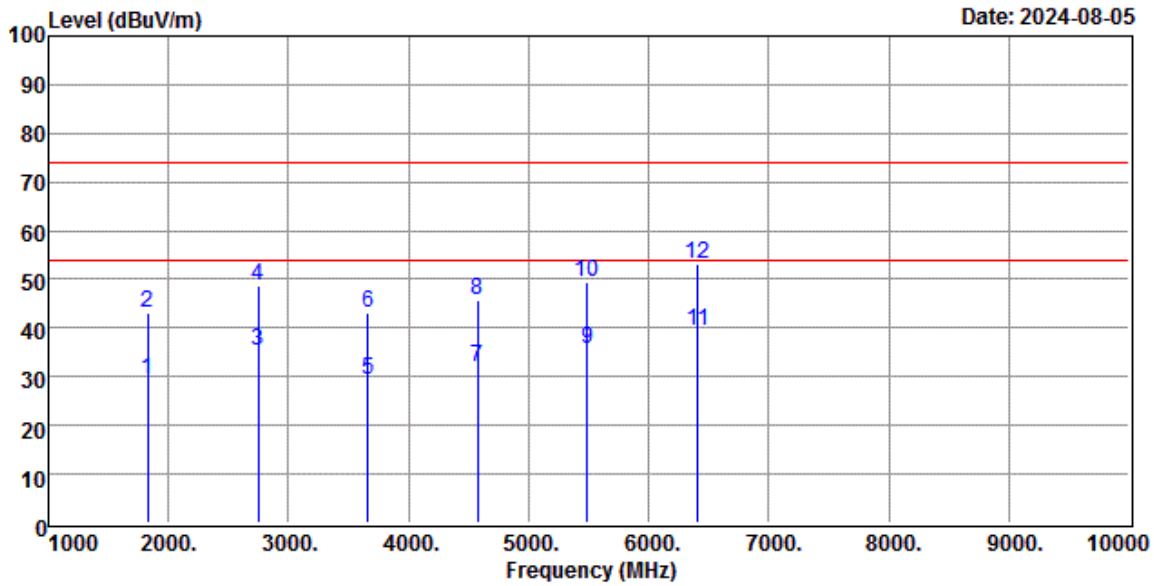
Freq	Reading	C.F	Result	Limit	Margin	Detector
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1830.250	—	—	27.97	54.00	-26.03	Average
1830.250	55.73	-14.08	41.65	74.00	-32.35	Peak
2745.636	—	—	31.58	54.00	-22.42	Average
2745.636	54.93	-9.67	45.26	74.00	-28.74	Peak
3660.760	—	—	31.35	54.00	-22.65	Average
3660.760	51.86	-6.83	45.03	74.00	-28.97	Peak
4575.890	—	—	34.44	54.00	-19.56	Average
4575.890	51.52	-3.40	48.12	74.00	-25.88	Peak
5491.040	—	—	37.99	54.00	-16.01	Average
5491.040	51.86	-0.19	51.67	74.00	-22.33	Peak
6406.350	—	—	39.14	54.00	-14.86	Average
6406.350	49.49	3.33	52.82	74.00	-21.18	Peak
7321.150	—	—	38.20	54.00	-15.80	Average
7321.150	44.71	7.17	51.88	74.00	-22.12	Peak

Remark:

1.C.F=Antenna Factor+Cable Loss-Preamplifier gain+high pass 1G Filter Insertion Loss
2.Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=3MHz
3.The result basic equation calculation is as follow:
Result = Reading + C.F, Margin = Result-Limit
4.The other emission levels were 10dB below the limit
5.The test distance is 3m.
6.Average Result=Peak Result + Duty factor

Operation Mode: TX 915.2MHz
Test Date: 2024/08/05
Temperature: 25.1℃
Tested by: Peter Chu
Humidity: 50% RH
Polarity: Hor.

Horizontal



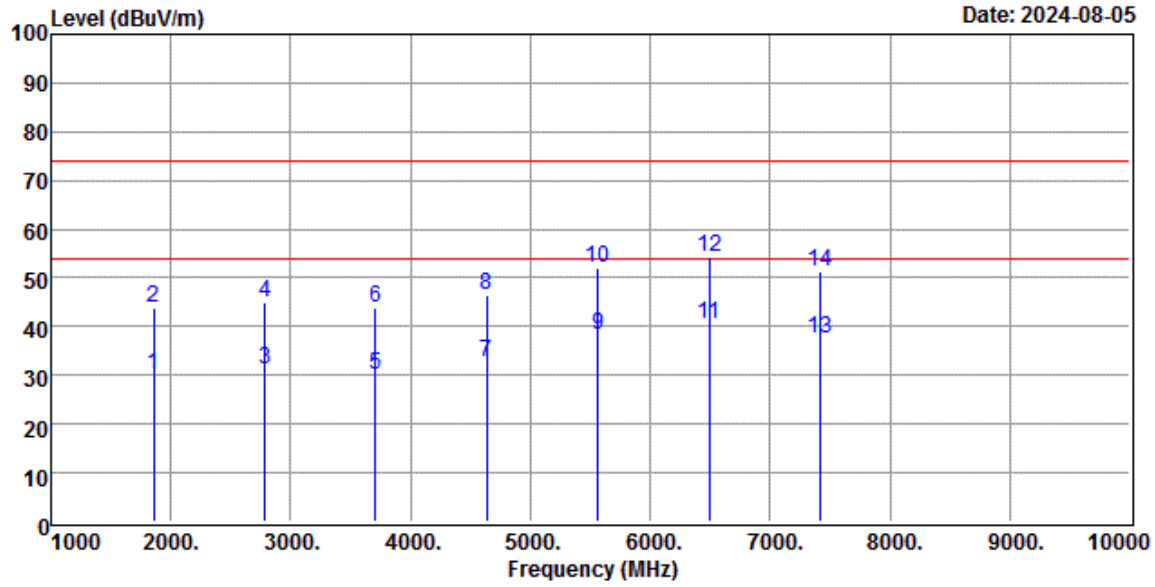
Freq	Reading	C.F	Result	Limit	Margin	Detector
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1830.250	—	—	29.27	54.00	-24.73	Average
1830.250	57.03	-14.08	42.95	74.00	-31.05	Peak
2745.460	—	—	35.14	54.00	-18.86	Average
2745.460	58.49	-9.67	48.82	74.00	-25.18	Peak
3660.830	—	—	29.31	54.00	-24.69	Average
3660.830	49.82	-6.83	42.99	74.00	-31.01	Peak
4575.920	—	—	31.92	54.00	-22.08	Average
4575.920	49.00	-3.40	45.60	74.00	-28.40	Peak
5491.368	—	—	35.80	54.00	-18.20	Average
5491.368	49.66	-0.18	49.48	74.00	-24.52	Peak
6406.360	—	—	39.34	54.00	-14.66	Average
6406.360	49.69	3.33	53.02	74.00	-20.98	Peak

Remark:

1.C.F=Antenna Factor+Cable Loss-Preamplifier gain+high pass 1G Filter Insertion Loss
2.Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=3MHz
3.The result basic equation calculation is as follow:
Result = Reading + C.F, Margin = Result-Limit
4.The other emission levels were 10dB below the limit
5.The test distance is 3m.
6.Average Result=Peak Result + Duty factor

Operation Mode: TX 927.6MHz
Test Date: 2024/08/05
Temperature: 25.1℃
Tested by: Peter Chu
Humidity: 50% RH
Polarity: Ver.

Vertical



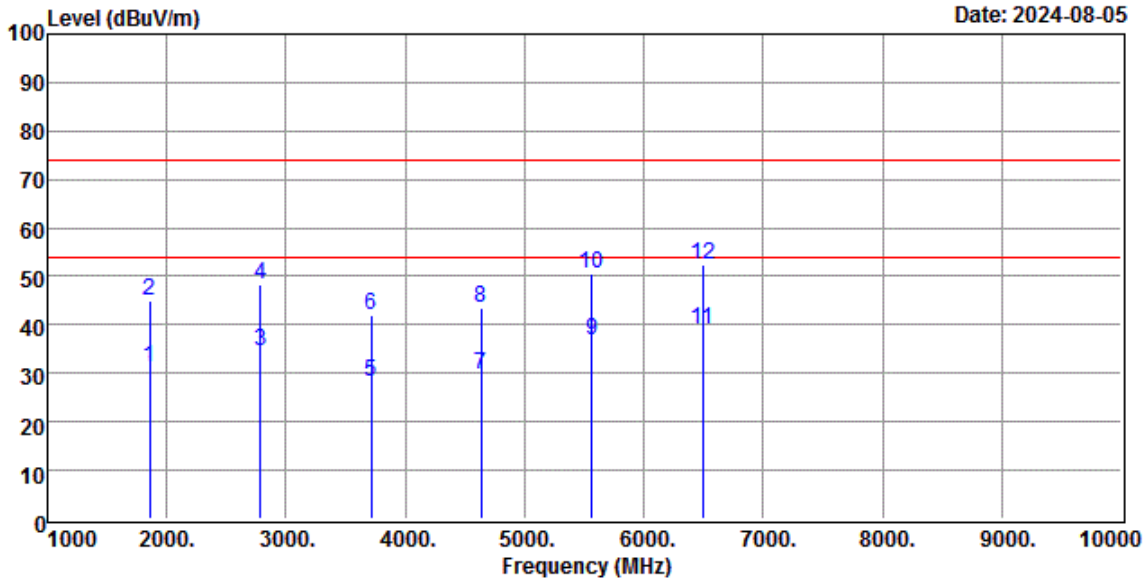
Freq	Reading	C.F	Result	Limit	Margin	Detector
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1855.278	—	—	30.19	54.00	-23.81	Average
1855.278	57.75	-13.88	43.87	74.00	-30.13	Peak
2782.880	—	—	31.22	54.00	-22.78	Average
2782.880	54.20	-9.30	44.90	74.00	-29.10	Peak
3710.260	—	—	30.18	54.00	-23.82	Average
3710.260	50.55	-6.69	43.86	74.00	-30.14	Peak
4637.750	—	—	32.63	54.00	-21.37	Average
4637.750	49.41	-3.10	46.31	74.00	-27.69	Peak
5565.500	—	—	38.38	54.00	-15.62	Average
5565.500	52.16	-0.10	52.06	74.00	-21.94	Peak
6492.900	—	—	40.55	54.00	-13.45	Average
6492.900	50.50	3.73	54.23	74.00	-19.77	Peak
7421.180	—	—	37.62	54.00	-16.38	Average
7421.180	43.89	7.41	51.30	74.00	-22.70	Peak

Remark:

1.C.F=Antenna Factor+Cable Loss-Preamplifier gain+high pass 1G Filter Insertion Loss
2.Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=3MHz
3.The result basic equation calculation is as follow:
Result = Reading + C.F, Margin = Result-Limit
4.The other emission levels were 10dB below the limit
5.The test distance is 3m.
6.Average Result=Peak Result + Duty factor

Operation Mode: TX 927.6MHz
Test Date: 2024/08/05
Temperature: 25.1℃
Tested by: Peter Chu
Humidity: 50% RH
Polarity: Hor.

Horizontal



Freq	Reading	C.F	Result	Limit	Margin	Detector
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1855.089	—	—	31.39	54.00	-22.61	Average
1855.089	58.95	-13.88	45.07	74.00	-28.93	Peak
2782.750	—	—	34.53	54.00	-19.47	Average
2782.750	57.51	-9.30	48.21	74.00	-25.79	Peak
3710.610	—	—	28.30	54.00	-25.70	Average
3710.610	48.67	-6.69	41.98	74.00	-32.02	Peak
4638.320	—	—	29.71	54.00	-24.29	Average
4638.320	46.49	-3.10	43.39	74.00	-30.61	Peak
5565.620	—	—	36.85	54.00	-17.15	Average
5565.620	50.63	-0.10	50.53	74.00	-23.47	Peak
6493.250	—	—	38.90	54.00	-15.10	Average
6493.250	48.85	3.73	52.58	74.00	-21.42	Peak

Remark:

1.C.F=Antenna Factor+Cable Loss-Preamplifier gain+high pass 1G Filter Insertion Loss
2.Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=3MHz
3.The result basic equation calculation is as follow:
Result = Reading + C.F, Margin = Result-Limit
4.The other emission levels were 10dB below the limit
5.The test distance is 3m.
6.Average Result=Peak Result + Duty factor

7.4 POWERLINE CONDUCTED EMISSIONS

LIMIT

According to §15.207(a), except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency of emission (MHz)	Conducted limit (dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

MEASUREMENT EQUIPMENT USED

Conducted Emission room #1					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
Test S/W	-				

Remark: Each piece of equipment is scheduled for calibration once a year.

TEST RESULTS

※ This EUT is not connected to AC Source directly. No applicability for this test.

===End of Test Report===