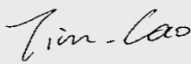
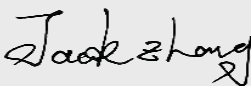




Test report No:
24A0319R-RF-US-P06V04

FCC TEST REPORT

Product Name	POS Terminal
Trademark	
Model and /or type reference	MF960
FCC ID	2AQRE-MF960
Applicant's name / address	Fujian Morefun Electronic Technology Co., Ltd. 4th Floor, #15 Building, Standard plant, Fuwan, Jinshan Industry Center Area, #869 Panyu Rd, Gaishan Town, Cangshan Area, Fuzhou, Fujian, China
Test method requested, standard	47 CFR FCC Part 15 (Section 15.225) ANSI C63.10: 2013
Verdict Summary	IN COMPLIANCE
Documented by (name / position & signature)	Tim Cao / Project Manager 
Approved by (name / position & signature)	Jack Zhang / Manager 
Date of issue	2024-12-08
Report Version	V1.0
Report template No	Template_FCC 15.225-RF-V1.0

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COMPETENCES AND GUARANTEES

DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

IMPORTANT: No parts of this report may be reproduced or quoted out of context, in any form or by any means, except in full, without the previous written permission of DEKRA.

GENERAL CONDITIONS

Test Location	No. 99, Hongye Road, Suzhou Industrial Park Suzhou, 215006, P.R. China
Date(receive sample)	Oct. 14, 2024
Date (start test)	Oct. 20, 2024
Date (finish test)	Oct. 30, 2024

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or Competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA.

ENVIRONMENTAL CONDITIONS

The climatic conditions during the tests are within the limits specified by the manufacturer for the operation of the EUT and the test equipment. The climatic conditions during the tests were within the following limits:

Ambient temperature	15 °C – 35 °C
Relative Humidity air	30% - 60%

If explicitly required in the basic standard or applied product / product family standard the climatic values are recorded and documented separately in this test report.

POSSIBLE TEST CASE VERDICTS

Test case does not apply to test object	N/A
Test object does meet requirement	P (Pass) / PASS
Test object does not meet requirement	F (Fail) / FAIL
Not measured	N/M

ABBREVIATIONS

For the purposes of the present document, the following abbreviations apply:

EUT	: Equipment Under Test
QP	: Quasi-Peak
CAV	: CISPR Average
AV	: Average
CDN	: Coupling Decoupling Network
SAC	: Semi-Anechoic Chamber
OATS	: Open Area Test Site
BW	: Bandwidth
AM	: Amplitude Modulation
PM	: Pulse Modulation
HCP	: Horizontal Coupling Plane
VCP	: Vertical Coupling Plane
U_N	: Nominal voltage
T_x	: Transmitter
R_x	: Receiver
N/A	: Not Applicable
N/M	: Not Measured

DOCUMENT HISTORY

Report No.	Version	Description	Issued Date
24A0319R-RF-US-P06V04	V1.0	Initial issue of report.	2024-12-08

REMARKS AND COMMENTS

1. The equipment under test (EUT) does meet the essential requirements of the stated standard(s)/test(s).
2. These test results on a sample of the device are for the purpose of demonstrating Compliance with 47 CFR FCC Part 15 (Section 15.225).
3. The measurement result is considered in conformance with the requirement if it is within the prescribed limit, It is not necessary to account the uncertainty associated with the measurement result.
4. The test results presented in this report relate only to the object tested.
5. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification (Suzhou) Co., Ltd.
6. This report will not be used for social proof function in China market.
7. DEKRA declines any responsibility with the following test data provided by customer that may affect the validity of result:
 - Chapter 1.1 General Description of the Item(s);
 - Chapter 1.2 Antenna Informaion;
 - Chapter 1.3 Channel List.

USED EQUIPMENT

AC Power Line Conducted Emission / TR1

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date	Firmware Version	Software version
EMI Test Receiver	R&S	ESCI	100726	2024.07.06	2025.07.05	4.42 SP1	N/A
Two-Line V-Network	R&S	ENV 216	101189	2024.07.06	2025.07.05	N/A	N/A
Two-Line V-Network	R&S	ENV 216	101044	2023.11.08	2024.11.07	N/A	N/A
Two-Line V-Network	R&S	ENV 216	101044	2024.10.26	2025.10.25	N/A	N/A
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	2024.04.20	2025.04.19	N/A	N/A
Coaxial Cable	Huber+Suhner	RG 223	TR1-C1	2024.04.27	2025.04.26	N/A	N/A
Impedance Stabilization Network	Teseq GmbH	ISN ST08	31281	2024.07.06	2025.07.05	N/A	N/A
Temperature/Humidity Meter	RTS	RTS-1909	THM-012	2024.05.17	2025.05.16	N/A	N/A
Dekra test software	Dekra	N/A	N/A	N/A	N/A	N/A	N/A

Field Strength of Fundamental, E-field Emission/ Field Strength of Spurious/ Frequency Stability/ Emission Bandwidth (9KHz-1GHz) / AC2

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date	Firmware Version	Software version
EMI Test Receiver	R&S	ESCI	100573	2024.02.06	2025.02.05	4.42 SP3	N/A
Loop Antenna	R&S	HFH2-Z2E	101149	2024.03.27	2025.03.26	N/A	N/A
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2024.03.20	2025.03.19	N/A	N/A
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC2-C	2024.04.27	2025.04.26	N/A	N/A
Temperature/Humidity Meter	RTS	RTS-1909	THM-021	2024.05.17	2025.05.16	N/A	N/A
Dekra test software	Dekra	N/A	N/A	N/A	N/A	N/A	3

UNCERTAINTY

Uncertainties have been calculated according to the DEKRA internal document. The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%.

Test item	Uncertainty
AC Power Line Conducted Emission	± 2.02 dB
Radiated Emission(9KHz~30MHz)	Horizontal: 9KHz~30MHz: 2.10 dB Vertical: 30MHz~200MHz: 2.30 dB
Radiated Emission(30MHz~1GHz)	± 3.80 dB
Occupied Bandwidth	± 1 kHz

1 GENERAL INFORMATION

1.1 General Description of the Item(s)

Product Name..... :	POS Terminal
Model No. :	MF960
Trademark. :	
FCC ID :	2AQRE-MF960
Hardware Version :	B30
Software Version :	V13.0.1
Manufacturer :	Fujian Morefun Electronic Technology Co., Ltd.
Manufacturer Address..... :	4th Floor, #15 Building, Standard plant, Fuwan, Jinshan Industry Center Area, #869 Panyu Rd, Gaishan Town, Cangshan Area, Fuzhou, Fujian, China
Factory :	Fujian Morefun Electronic Technology Co., Ltd.
Factory address..... :	4th Floor, #15 Building, Standard plant, Fuwan, Jinshan Industry Center Area, #869 Panyu Rd, Gaishan Town, Cangshan Area, Fuzhou, Fujian, China
Operating temperature..... :	-20 ~ +60 °C

Wireless Specification..... :	NFC
Operating frequency range(s)..... :	13.56 MHz
Type of modulation :	ASK
Number of channel..... :	1

Rated power supply	Voltage and Frequency	
	☐	AC: 220 - 240 V, 50/60 Hz
	☐	AC: 100 - 240 V, 50/60 Hz
	☒	DC: 5 Vdc
	☒	Battery: 7.20 Vdc, 2600 mAh, 18.72 Wh
	☒	Adapter:
Adapter Model	DGL0502000LUS	
	Input: 100-240V ~ 50/60Hz, 0.3A Max	
	Output: 5.0V / 2000 mA	
Mounting position..... :	☐	Tabletop equipment
	☐	Wall/Ceiling mounted equipment
	☐	Floor standing equipment
	☒	Hand-held/Portable equipment
	☐	Other:

1.2. Antenna information

Antenna Delivery	☒	1TX + 1RX		
	☐	2TX + 2RX		
	☐	Others:.....		
Antenna technology	☒	SISO		
	☐	MIMO	☐	CDD
			☐	Beam-forming
Antenna Type	☐	External	☐	Dipole
			☐	Sectorized
	☒	Internal	☐	Ceramic Chip
			☐	PIFA
			☒	LOOP
			☐	Others:
Antenna Gain.....	N/A			

1.3. Channel List

Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
01	13.56 MHz	--	--	--	--	--	--

Note: The general description of the Item(s), antenna information and channel list in clause 1 are provided and confirmed by the client.

2 DESCRIPTION OF TEST SETUP

2.1 Operating mode(s) used for tests

During the tests the following operating mode(s) has(have) been used.

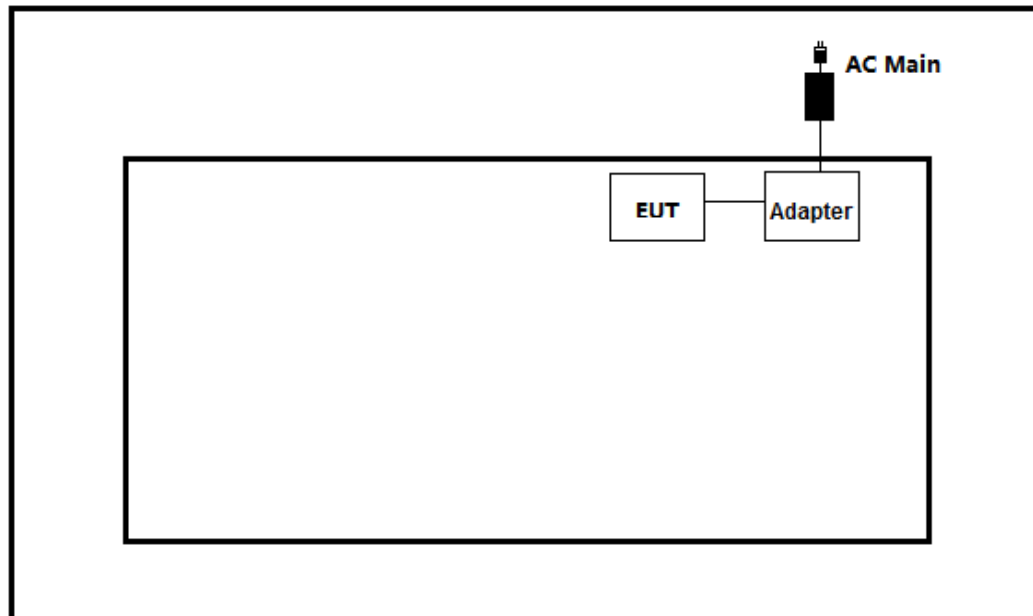
Test Mode	Mode 1: Transmit by NFC
-----------	-------------------------

2.2 Support / Auxiliary equipment / unit / Test software for the EUT

Auxiliary equipment	Type / Version	Manufacturer	Supplied by
NFC Card	N/A	N/A	N/A
software	Type / Version	Manufacturer	Supplied by
N/A	N/A	N/A	N/A

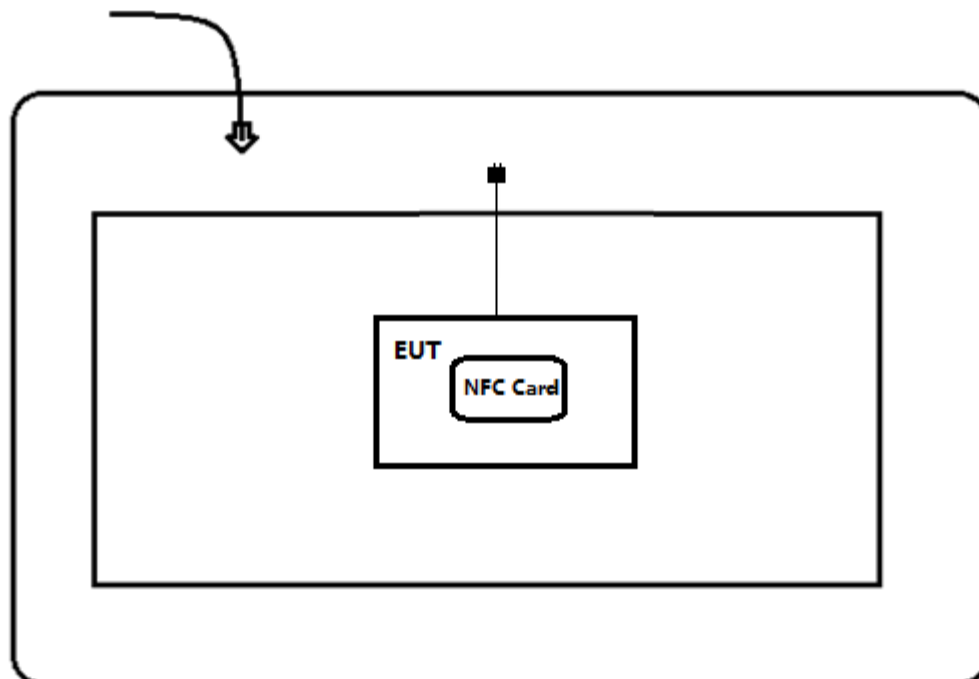
2.3 Test Configuration / Block diagram used for tests

Test setup Diagram- AC Line Conducted Emission Test



Test setup Diagram- Radiated Emission

Chamber



2.4 Testing process

1	Setup the EUT as shown in Section 2.3.
2	Execute the power on the EUT.
3	Verify that the EUT works properly.

3 VERDICT SUMMARY SECTION

This chapter presents an overview of standards and results. Refer to the next chapters for details of measured test results and applied test levels.

3.1 Standards

Standard	Year	Description
FCC CFR Title 47 Part 15 Subpart C Section 15.225	2024	Operation within the band 13.110-14.010 MHz
ANSI C63.10	2013	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

3.2 Overview of results

Requirement – Test case	Basic standard(s)	Verdict	Remark
AC Power Line Conducted Emission	FCC CFR Title 47 Part 15 Subpart C Section 15.207	PASS	Test data please refer to Appendix A
Field Strength of Fundamental, E-field Emission	FCC CFR Title 47 Part 15 Subpart C Section 15.225(a)(b)(c)	PASS	Test data please refer to Appendix B
Field Strength of Spurious	FCC CFR Title 47 Part 15 Subpart C Section 15.209 & 15.225(d)	PASS	Test data please refer to Appendix C
Emission Bandwidth	FCC CFR Title 47 Part 15 Subpart C Section 15.215(c)	PASS	Test data please refer to Appendix D
Frequency Stability	FCC CFR Title 47 Part 15 Subpart C Section 15.225(e)	PASS	Test data please refer to Appendix E
Antenna Requirement	FCC CFR Title 47 Part 15 Subpart C Section 15.203	PASS	---

3.3 Test Matrix

Test item	Model: POS Terminal
	SN:82240521970039
AC Power Line Conducted Emission	☒
E-field Emission	☒
Field Strength of Spurious	☒
Frequency Stability	☒
Emission Bandwidth	☒
Field Strength of Fundamental	☒

3.4 Test Facility

USA : FCC Designation Number: CN1199

4 TEST RESULTS

4.1 AC Power Line Conducted Emission

VERDICT: PASS

4.1.1 Limit

Standard	FCC Part 15 Subpart C Paragraph 15.207; RSS-Gen Issue 5 Section 8.8	
Frequency range [MHz]	Limit: QP [dB(μV) ¹⁾	Limit: AV [dB(μV) ¹⁾
0,15 - 0,50	66 - 56 ²⁾	56 - 46 ²⁾
0,50 - 5,0	56	46
5,0 - 30	60	50

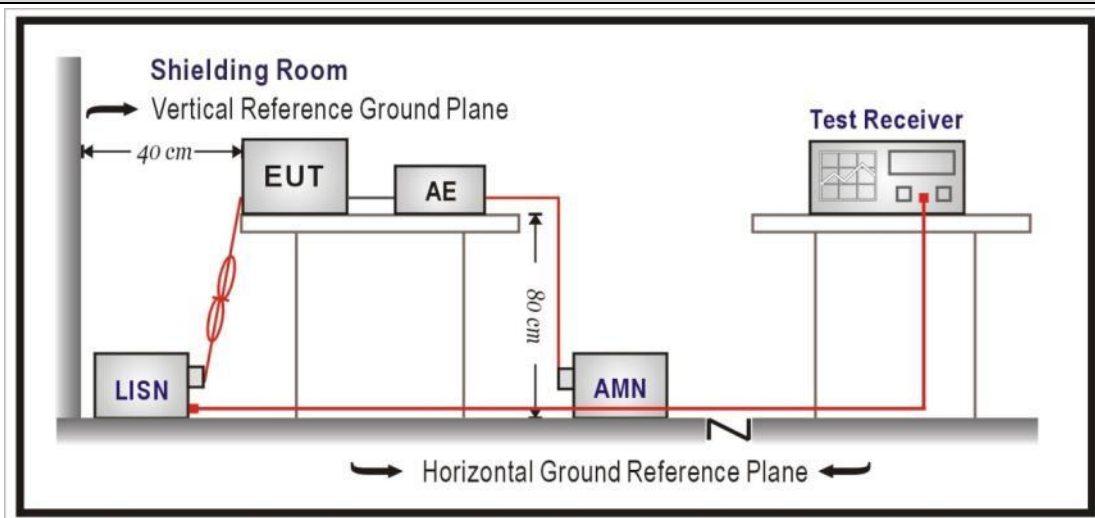
¹⁾ At the transition frequency, the lower limit applies.

²⁾ The limit decreases linearly with the logarithm of the frequency.

NOTE 1: The exclusion band for transmitters shall be considered for transmitters operating at frequencies below 30 MHz.

NOTE 2: Where the AC output port is directly connected (or via a circuit breaker) to the AC power input port of the EUT the AC power output port need not to be tested.

4.1.2 Test Setup



4.1.3 Test Procedure

	References Rule	Chapter	Item
☒	ANSI C63.10	6.2	Standard test method for ac power-line conducted emissions from unlicensed wireless devices

4.2 E-field Emission

VERDICT: PASS

4.2.1 Limit

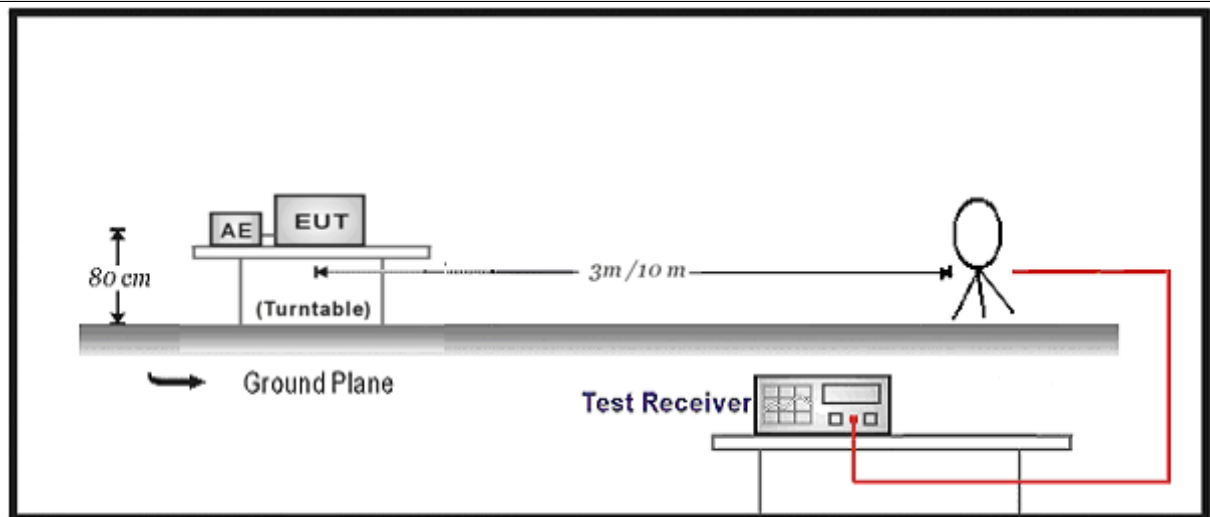
Standard

FCC Part 15 Subpart C Paragraph 15.225; RSS-210 Issue 10 Section B.6

- (a) The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.
- (b) Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.
- (c) Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.
- (d) The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission limits in §15.209.

4.2.2 Test Setup

Below 30MHz Test Setup:



4.2.3 Test Procedure

	References Rule	Chapter	Description
☒	ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
☐	ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
☐	ANSI C63.10	6.6	Radiated emissions from unlicensed wireless devices above 1 GHz

4.3 Field Strength of Spurious**VERDICT: PASS****4.3.1 Limit****Standard**FCC Part 15 Subpart C Paragraph 15. 209; RSS-210 Issue 10, Section B.6
RSS-Gen Issue 5, Section 8.9**Restricted Band Emissions Limit**

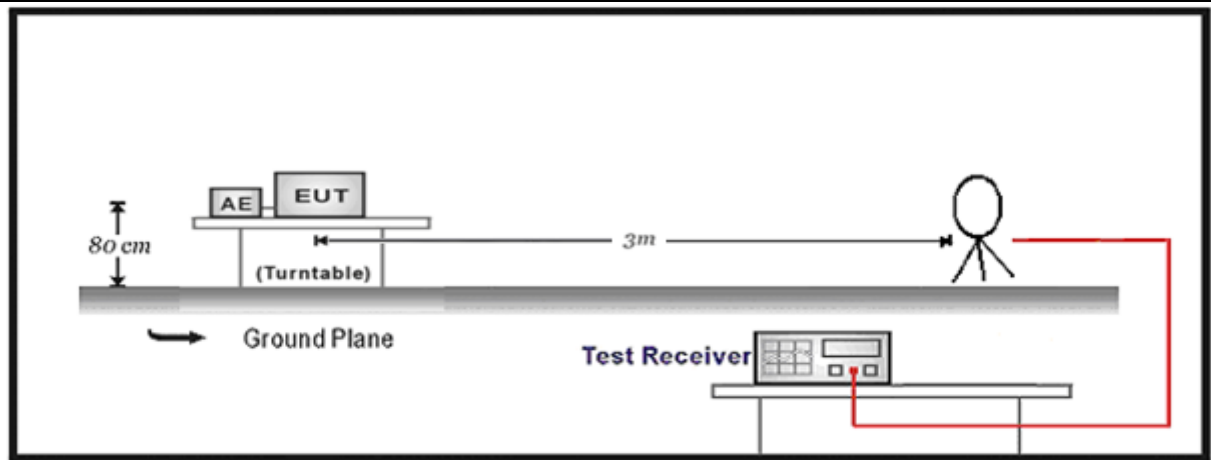
Frequency (MHz)	Field strength (μ V/m)	Field strength (dB μ V/m)	Measurement distance (m)
0.009 - 0.49	2400/F(kHz)	48.5 – 13.8	300 _(Note 1)
0.49 - 1.705	24000/F(kHz)	33.8 - 23	30 _(Note 1)
1.705 - 30	30	29.5	30 _(Note 1)
30 - 88	100	40	3 _(Note 2)
88 - 216	150	43.5	3 _(Note 2)
216 - 960	200	46	3 _(Note 2)
Above 960	500	54	3 _(Note 2)

Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade).

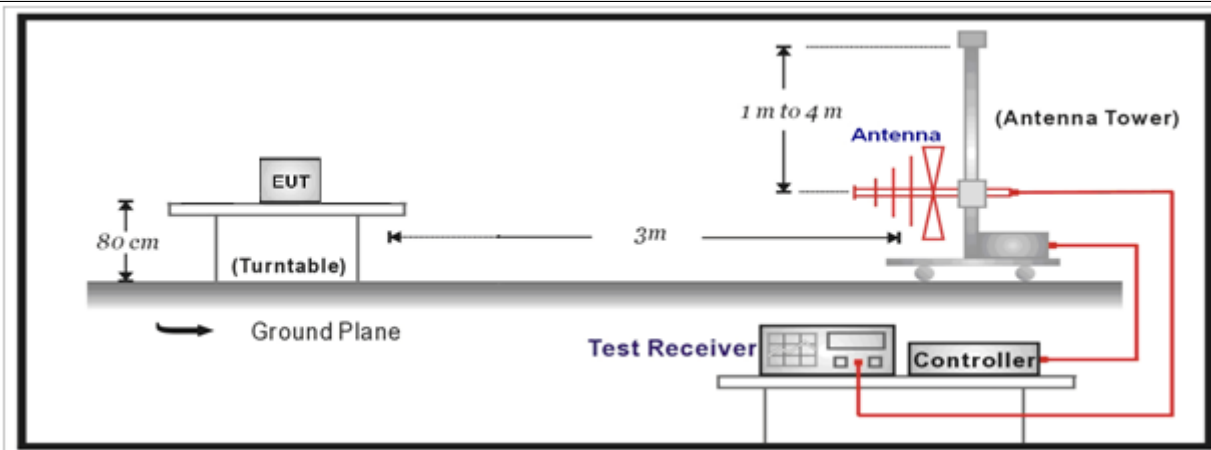
Note 2: At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

4.3.2 Test Setup

Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



4.3.3 Test Procedure

	References Rule	Chapter	Description
	☒ ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
	☒ ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
	☐ ANSI C63.10	6.6	Radiated emissions from unlicensed wireless devices above 1 GHz

4.4 Emission bandwidth

VERDICT: PASS

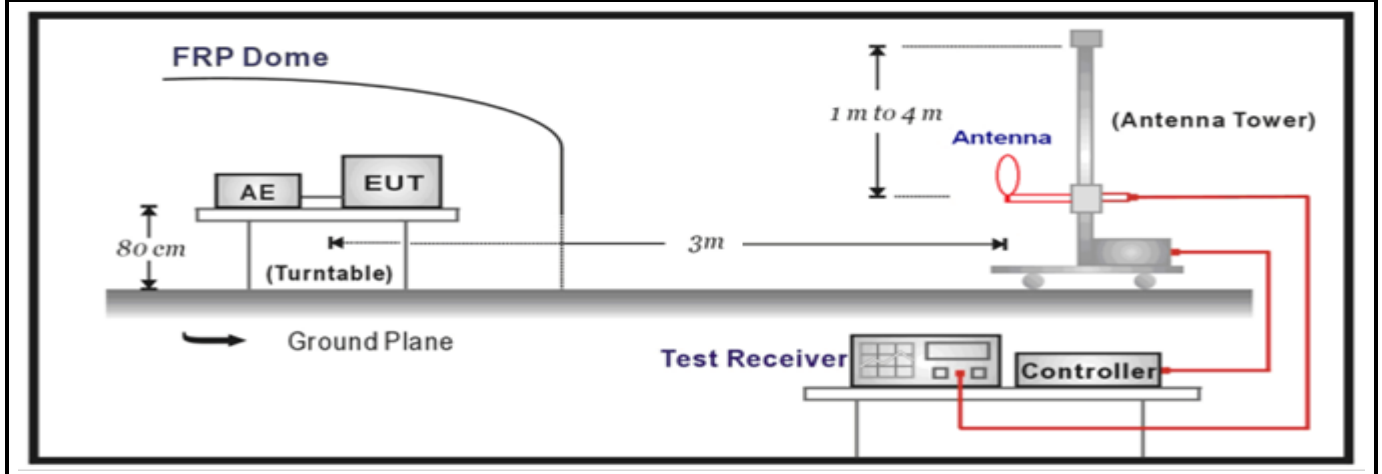
4.4.1 Limit

Standard

FCC Part 15 Subpart C Paragraph 15.215; RSS-Gen Section 6.7

Within the band.

4.4.2 Test Setup



4.4.3 Test Procedure

	Reference Rule	Chapter	Description
☒	ANSI C63.10	6.9.2	Occupied bandwidth—relative measurement procedure

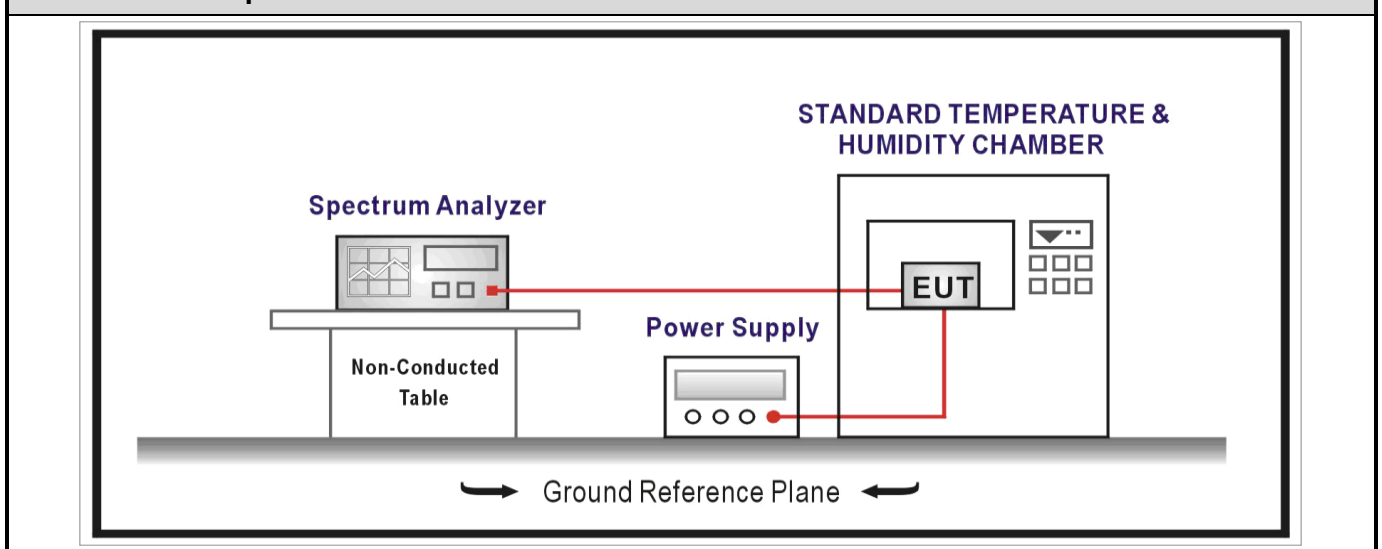
4.5 Frequency Stability

VERDICT: PASS

4.5.1 Limit:

Standard	FCC Part 15 Subpart C Paragraph 15.225(e); RSS-210 Issue 10 Section B.6
☒	The frequency tolerance of the carrier signal shall be maintained within $\pm 0.01\%$ of the operating frequency over a temperature variation of -20 degrees to $+50$ degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

4.5.2 Test Setup



4.5.3 Test Procedure

	References Rule	Chapter	Description
☒	ANSI C63.10	6.8	Frequency stability tests
☒	ANSI C63.10	6.8.1	Frequency stability with respect to ambient temperature
☒	ANSI C63.10	6.8.2	Frequency stability when varying supply voltage

4.6 Antenna Requirement	VERDICT: PASS
--------------------------------	----------------------

4.6.1 Limit:

Standard	FCC Part 15 Subpart E Paragraph 15.203
-----------------	--

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

4.6.2 Antenna Connector Construction:

- | | |
|-------------------------------------|--|
| ☒ | The use of a permanently attached antenna |
| ☐ | The antenna use of a unique coupling to the intentional radiator |
| ☐ | The use of a nonstandard antenna jack or electrical connector |

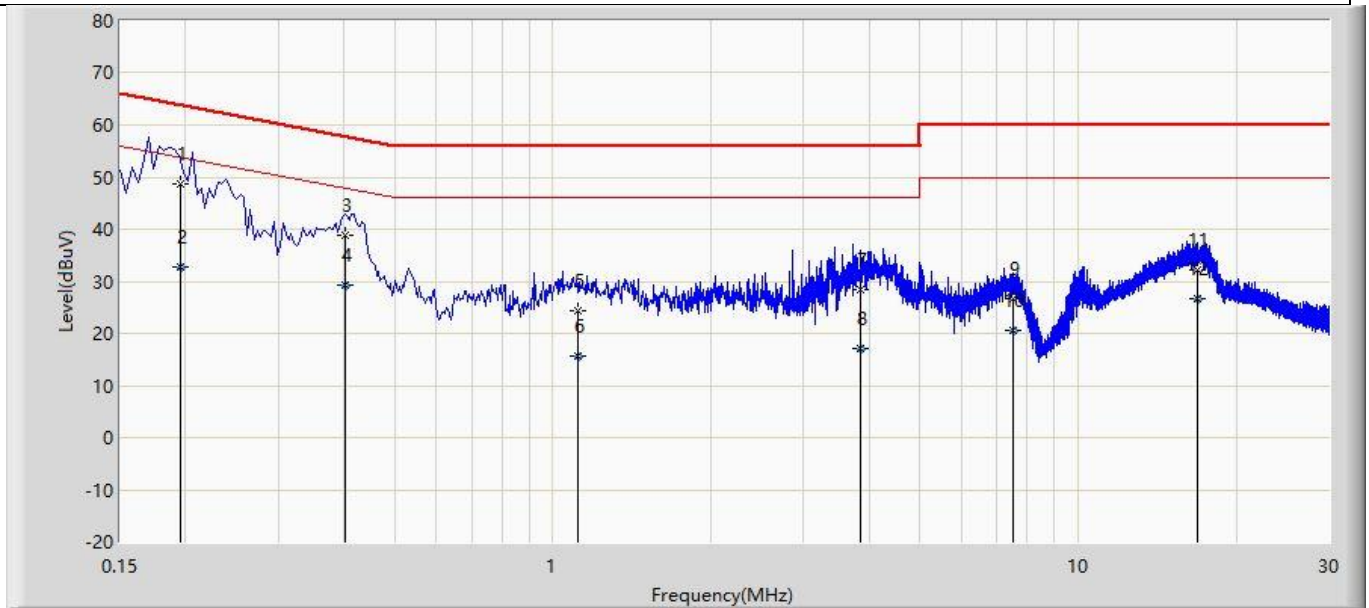
Please refer to the attached document "Internal Photograph" to show the antenna connector.

5	TEST SETUP PHOTO AND EUT PHOTO	VERDICT: PASS
---	--------------------------------	---------------

Remark: The test setup photo and EUT Photo please see appendix.

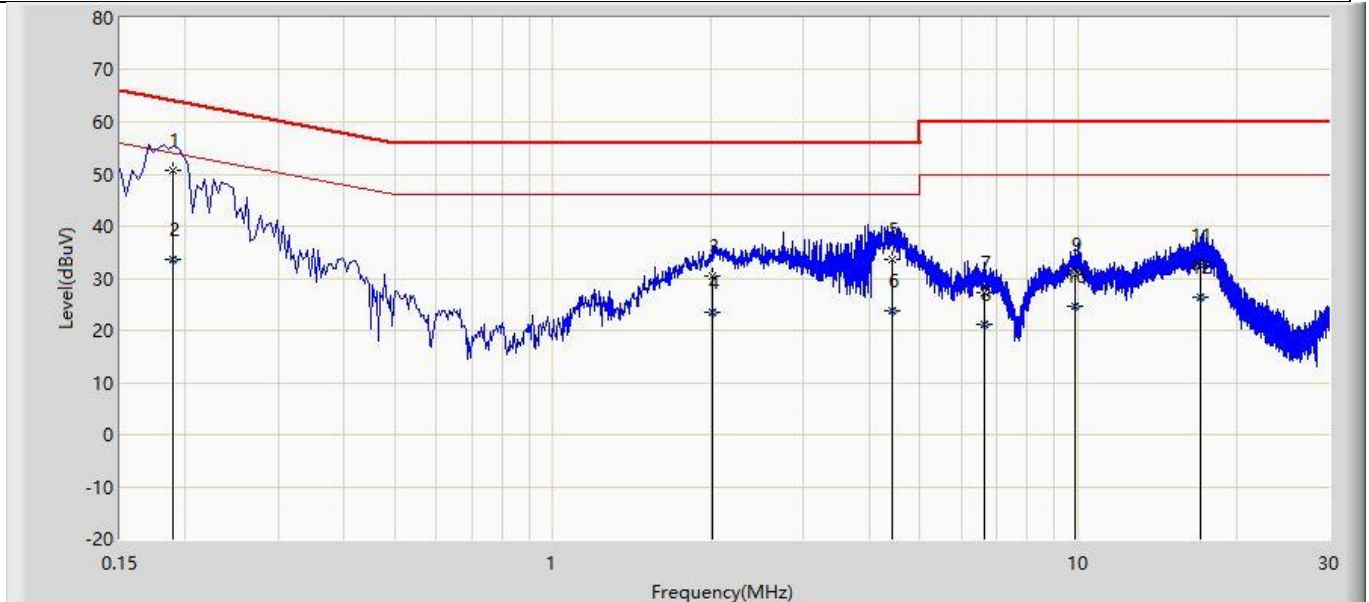
Appendix A: AC Power Line Conducted Emission

Profile: 24A0319R	Page No.: 89
Engineer: Yu Liu	
Site: TR1	Time: 2024/10/26 - 00:50
Limit: FCC_Part 15.207	Margin: 0
Probe: ENV216_101190(0.009-30MHz)	Polarity: Line
EUT: POS Terminal	Power: 120 Vac / 60 Hz
Note: Mode : L-Line	



N o	Mar k	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1	*	0.196	48.837	39.260	-14.959	63.796	9.577	QP
2		0.196	32.834	23.257	-20.962	53.796	9.577	AV
3		0.402	38.869	29.255	-18.943	57.812	9.613	QP
4		0.402	29.178	19.565	-18.634	47.812	9.613	AV
5		1.114	24.225	14.577	-31.775	56.000	9.648	QP
6		1.114	15.632	5.985	-30.368	46.000	9.648	AV
7		3.846	28.505	18.740	-27.495	56.000	9.766	QP
8		3.846	16.962	7.197	-29.038	46.000	9.766	AV
9		7.502	26.540	16.617	-33.460	60.000	9.923	QP
10		7.502	20.543	10.620	-29.457	50.000	9.923	AV
11		16.886	32.246	22.051	-27.754	60.000	10.194	QP
12		16.886	26.544	16.350	-23.456	50.000	10.194	AV

Profile: 24A0319R	Page No.: 90
Engineer: Yu Liu	
Site: TR1	Time: 2024/10/26 - 00:50
Limit: FCC_Part 15.207	Margin: 0
Probe: ENV216_101190(0.009-30MHz)	Polarity: Neutral
EUT: POS Terminal	Power: 120 Vac / 60 Hz
Note: Mode : Neutral	



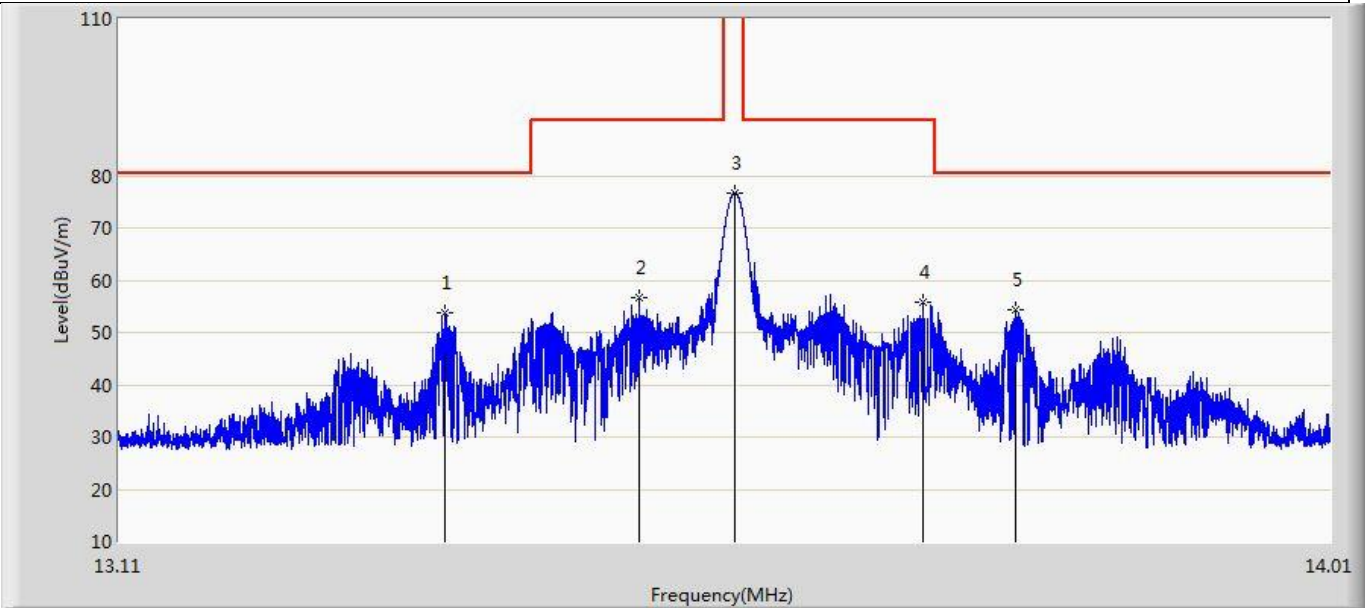
N o	Mar k	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1	*	0.189	50.592	41.005	-13.480	64.072	9.587	QP
2		0.189	33.575	23.988	-20.497	54.072	9.587	AV
3		2.010	30.527	20.853	-25.473	56.000	9.674	QP
4		2.010	23.416	13.742	-22.584	46.000	9.674	AV
5		4.418	33.592	23.801	-22.408	56.000	9.791	QP
6		4.418	23.810	14.019	-22.190	46.000	9.791	AV
7		6.614	27.104	17.214	-32.896	60.000	9.890	QP
8		6.614	21.143	11.253	-28.857	50.000	9.890	AV
9		9.842	30.644	20.634	-29.356	60.000	10.010	QP
10		9.842	24.608	14.598	-25.392	50.000	10.010	AV
11		17.086	32.416	22.242	-27.584	60.000	10.174	QP
12		17.086	26.475	16.302	-23.525	50.000	10.174	AV

Note 1: " * ", means this data is the worst emission level.

Note 2: Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

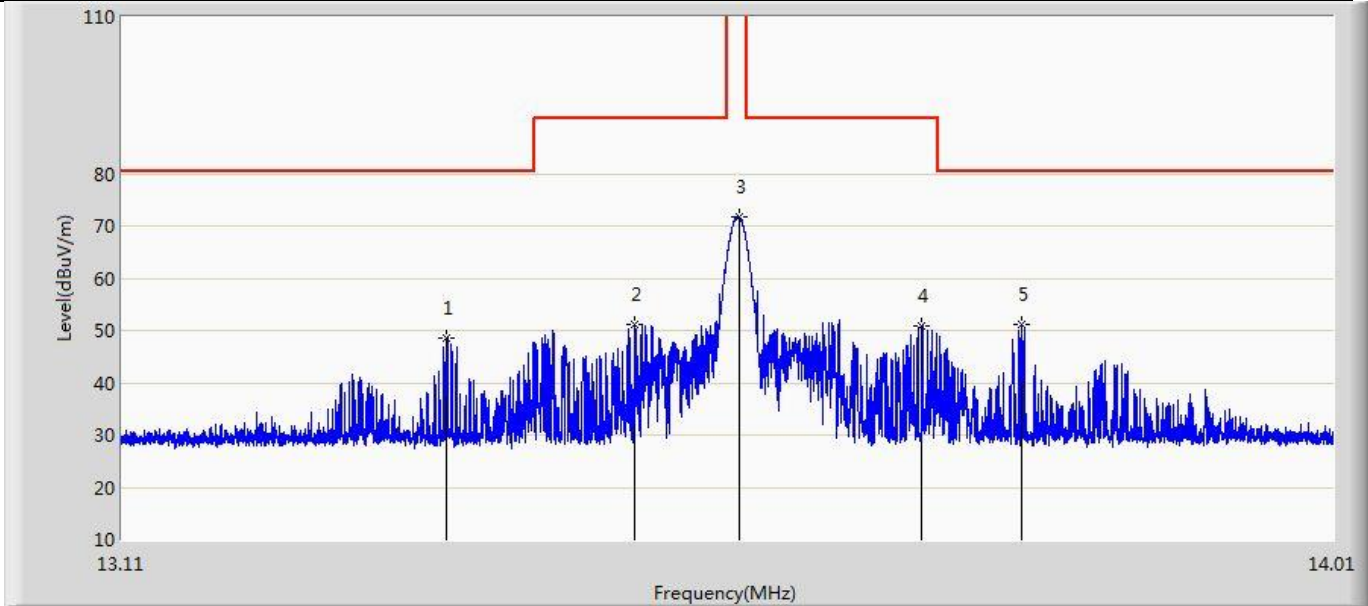
Appendix B: E-field Emission

Profile: 24A0319R	Page No.: 13
Engineer: Yu Liu	
Site: AC2	Time: 2024/10/25 - 17:58
Limit: FCC-15.225-E-field Emission	Margin: 0
Probe: RF(0.009-30MHz)	Polarity: X
EUT: POS Terminal	Power: Battery Powered
Note: Mode 1: Transmit by NFC	



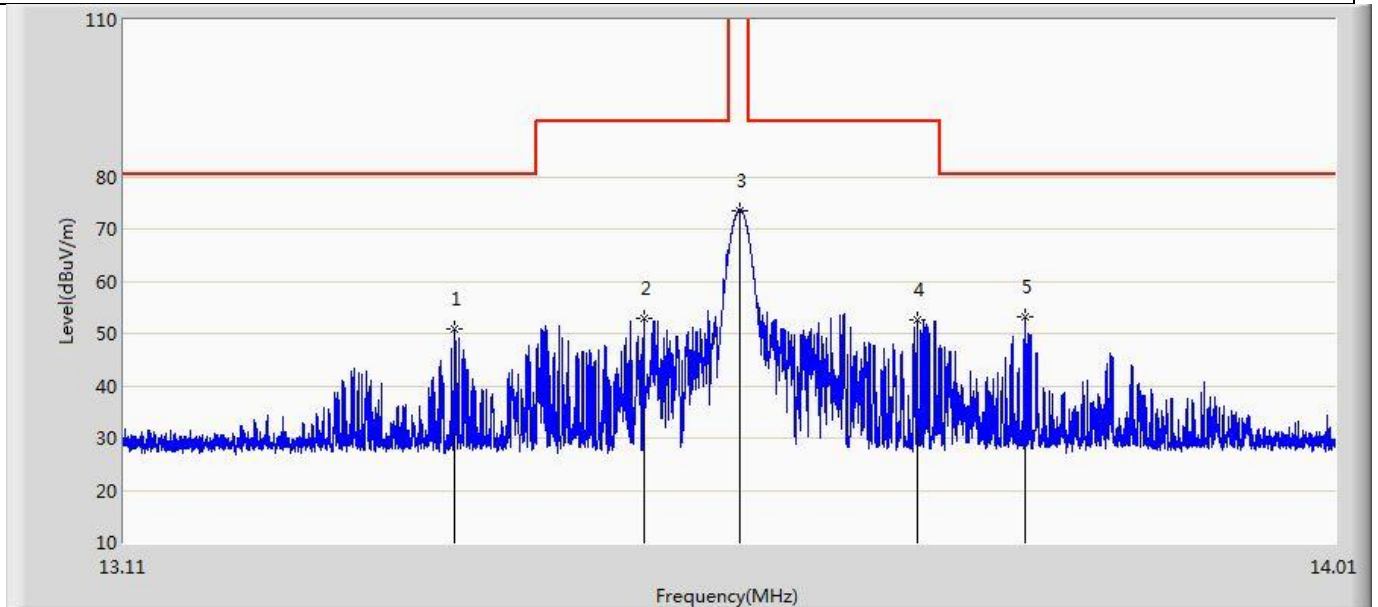
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		13.347	53.846	32.815	-26.654	80.500	21.031	QP
2		13.489	56.573	35.529	-33.927	90.500	21.044	QP
3		13.560	76.643	55.591	-47.357	124.000	21.052	QP
4		13.701	55.930	34.858	-34.570	90.500	21.072	QP
5	*	13.771	54.367	33.283	-26.133	80.500	21.084	QP

Profile: 24A0319R	Page No.: 14
Engineer: Yu Liu	
Site: AC2	Time: 2024/10/25 - 18:02
Limit: FCC-15.225-E-field Emission	Margin: 0
Probe: RF(0.009-30MHz)	Polarity: Y
EUT: POS Terminal	Power: Battery Powered
Note: Mode 1: Transmit by NFC	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		13.346	48.487	27.456	-32.013	80.500	21.031	QP
2		13.484	51.189	30.147	-39.311	90.500	21.042	QP
3		13.561	71.758	50.706	-52.242	124.000	21.052	QP
4		13.698	50.915	29.843	-39.585	90.500	21.072	QP
5	*	13.773	51.208	30.124	-29.292	80.500	21.084	QP

Profile: 24A0319R	Page No.: 15
Engineer: Yu Liu	
Site: AC2	Time: 2024/10/25 - 18:06
Limit: FCC-15.225-E-field Emission	Margin: 0
Probe: RF(0.009-30MHz)	Polarity: Z
EUT: POS Terminal	Power: Battery Powered
Note: Mode 1: Transmit by NFC	



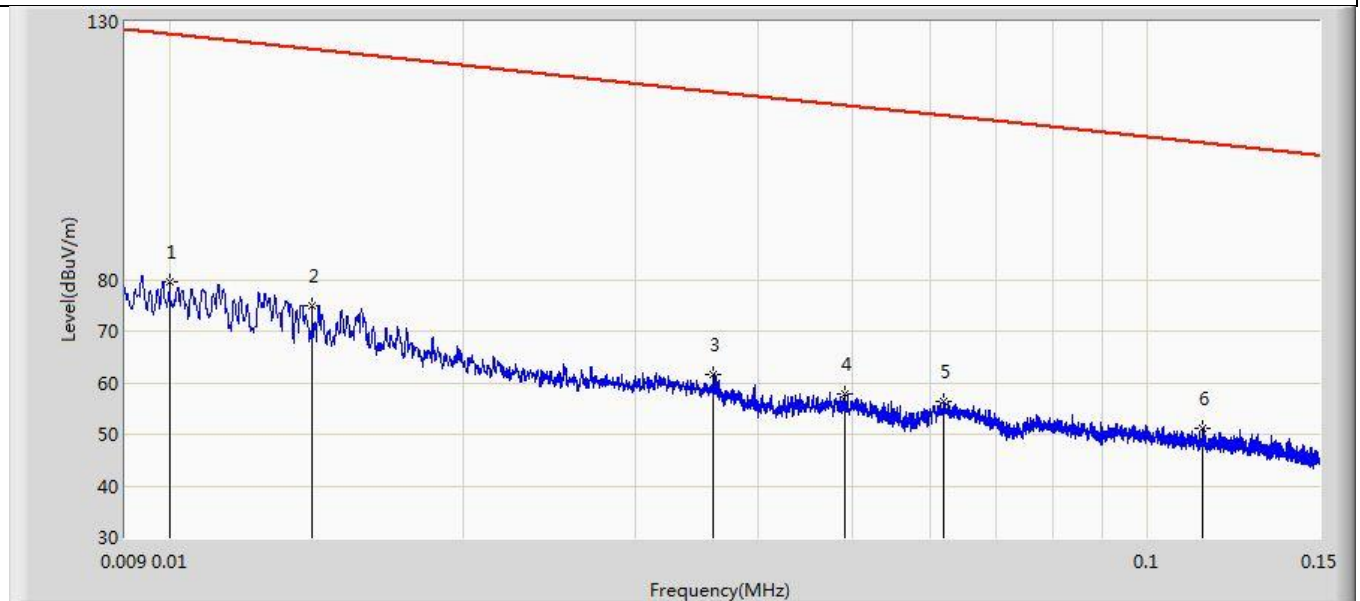
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		13.350	50.897	29.866	-29.603	80.500	21.031	QP
2		13.489	52.795	31.751	-37.705	90.500	21.044	QP
3		13.560	73.602	52.550	-50.398	124.000	21.052	QP
4		13.693	52.488	31.416	-38.012	90.500	21.072	QP
5	*	13.774	53.067	31.983	-27.433	80.500	21.084	QP

Note 1: " * ", means this data is the worst emission level.

Note 2: Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Appendix C: Field Strength of Spurious

Profile: 24A0319R	Page No.: 1
Engineer: Yuliu	
Site: AC2	Time: 2024/10/22 - 19:25
Limit: FCC-15.209	Margin: 0
Probe: RF(0.009-30MHz)	Polarity: X
EUT: POS Terminal	Power: Battery Powered
Note: Mode 1: Transmit by NFC	

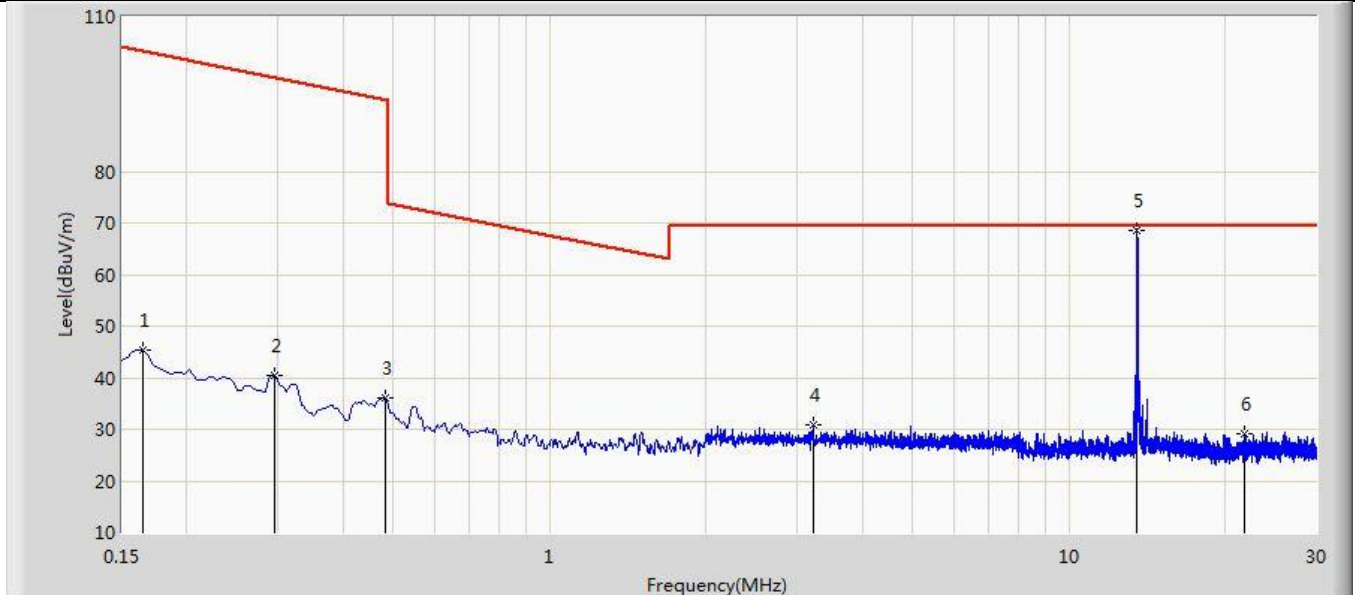


N o	Mar k	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	0.010	79.607	58.545	-47.997	127.604	21.062	QP
2		0.014	75.064	53.877	-49.618	124.682	21.187	QP
3		0.036	61.629	39.760	-54.849	116.478	21.869	QP
4		0.049	57.744	35.793	-56.056	113.800	21.951	QP
5		0.062	56.311	34.374	-55.445	111.756	21.937	QP
6		0.114	51.061	29.184	-55.405	106.466	21.877	QP

Note 1: " * ", means this data is the worst emission level.

Note 2: Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Profile: 24A0319R	Page No.: 2
Engineer: Yuliu	
Site: AC2	Time: 2024/10/22 - 19:28
Limit: FCC-15.209	Margin: 0
Probe: RF(0.009-30MHz)	Polarity: X
EUT: POS Terminal	Power: Battery Powered
Note: Mode 1: Transmit by NFC	



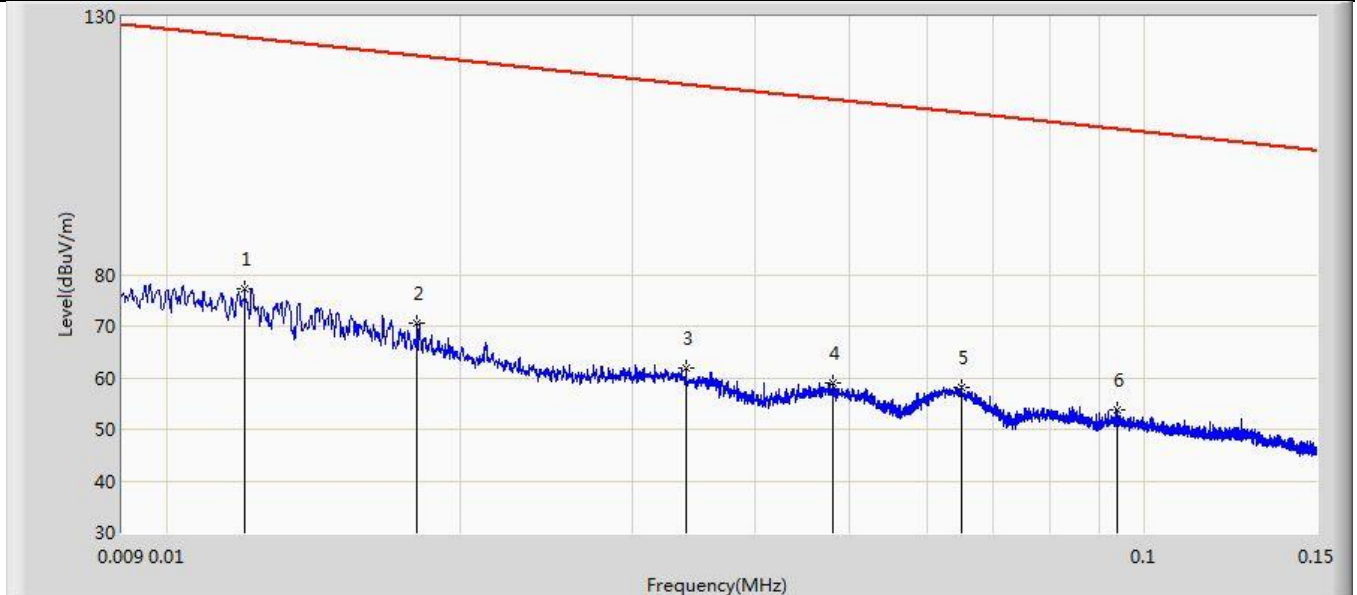
N o	Mar k	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		0.165	45.230	23.402	-58.025	103.255	21.828	QP
2		0.296	40.533	18.841	-57.645	98.178	21.692	QP
3		0.482	36.038	14.535	-57.906	93.943	21.502	QP
4		3.213	30.833	10.032	-38.710	69.542	20.801	QP
5	*	13.560	68.655	47.603	-0.887	69.542	21.052	QP
6		21.866	29.180	8.564	-40.362	69.542	20.616	QP

Note 1: Mark 6 is the fundamental emission.

Note 2: " * ", means this data is the worst emission level.

Note 3: Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Profile: 24A0319R	Page No.: 3
Engineer: Yuliu	
Site: AC2	Time: 2024/10/22 - 19:30
Limit: FCC-15.209	Margin: 0
Probe: RF(0.009-30MHz)	Polarity: Y
EUT: POS Terminal	Power: Battery Powered
Note: Mode 1: Transmit by NFC	

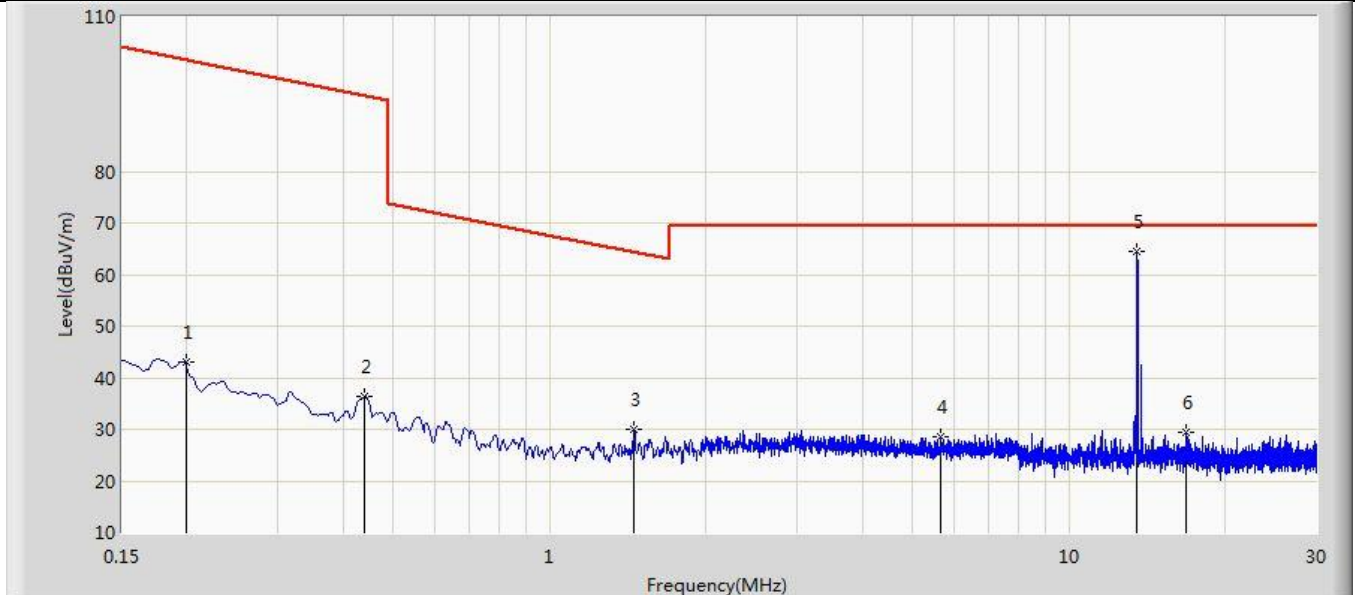


N o	Mar k	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	0.012	77.280	56.655	-48.741	126.021	20.625	QP
2		0.018	70.448	49.637	-52.051	122.499	20.811	QP
3		0.034	61.906	40.599	-55.068	116.975	21.308	QP
4		0.048	59.051	37.599	-54.928	113.979	21.452	QP
5		0.065	58.133	36.699	-53.213	111.346	21.434	QP
6		0.094	53.913	32.513	-54.229	108.142	21.401	QP

Note 1: " * ", means this data is the worst emission level.

Note 2: Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Profile: 24A0319R	Page No.: 4
Engineer: Yuliu	
Site: AC2	Time: 2024/10/22 - 19:32
Limit: FCC-15.209	Margin: 0
Probe: RF(0.009-30MHz)	Polarity: Y
EUT: POS Terminal	Power: Battery Powered
Note: Mode 1: Transmit by NFC	



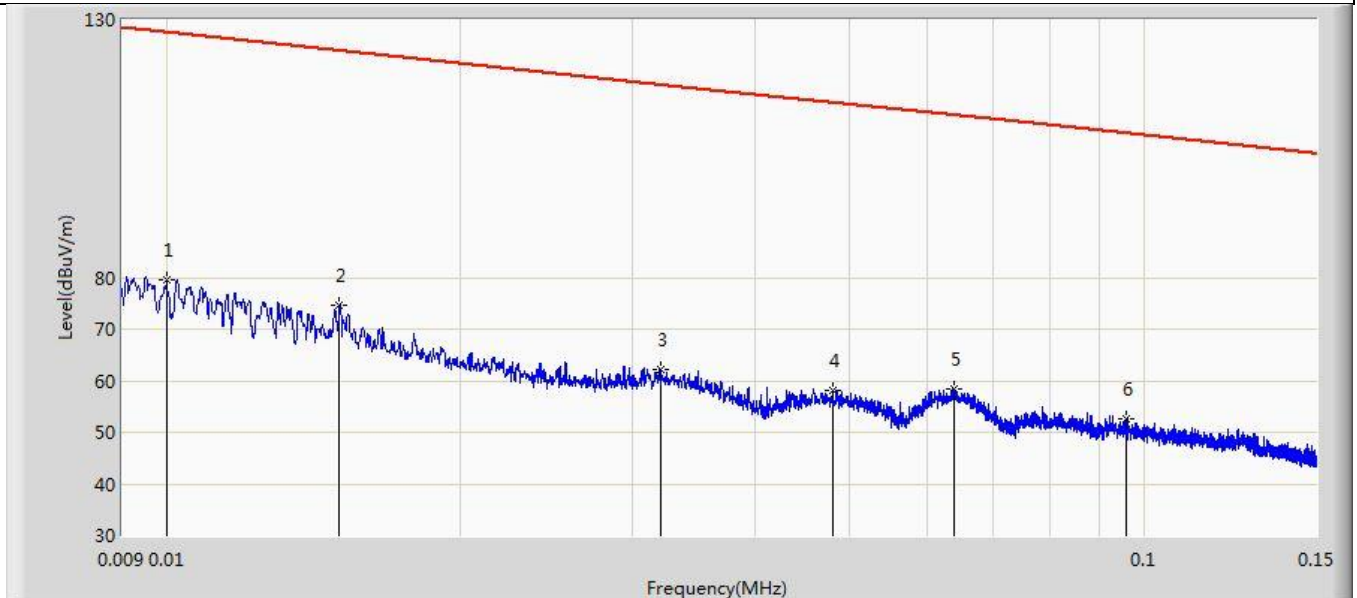
N o	Mar k	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		0.199	42.909	21.621	-52.160	95.069	21.288	QP
2		0.441	36.380	15.331	-55.237	91.617	21.050	QP
3		1.452	30.013	10.106	-56.435	86.448	19.907	QP
4		5.672	28.491	8.407	-47.005	75.496	20.084	QP
5	*	13.560	64.474	43.922	-5.068	69.542	20.552	QP
6		16.862	29.328	8.938	-30.672	69.542	20.391	QP

Note 1: Mark 6 is the fundamental emission.

Note 2: " * ", means this data is the worst emission level.

Note 3: Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Profile: 24A0319R	Page No.: 5
Engineer: Yuliu	
Site: AC2	Time: 2024/10/22 - 19:35
Limit: FCC-15.209	Margin: 0
Probe: RF(0.009-30MHz)	Polarity: Z
EUT: POS Terminal	Power: Battery Powered
Note: Mode 1: Transmit by NFC	

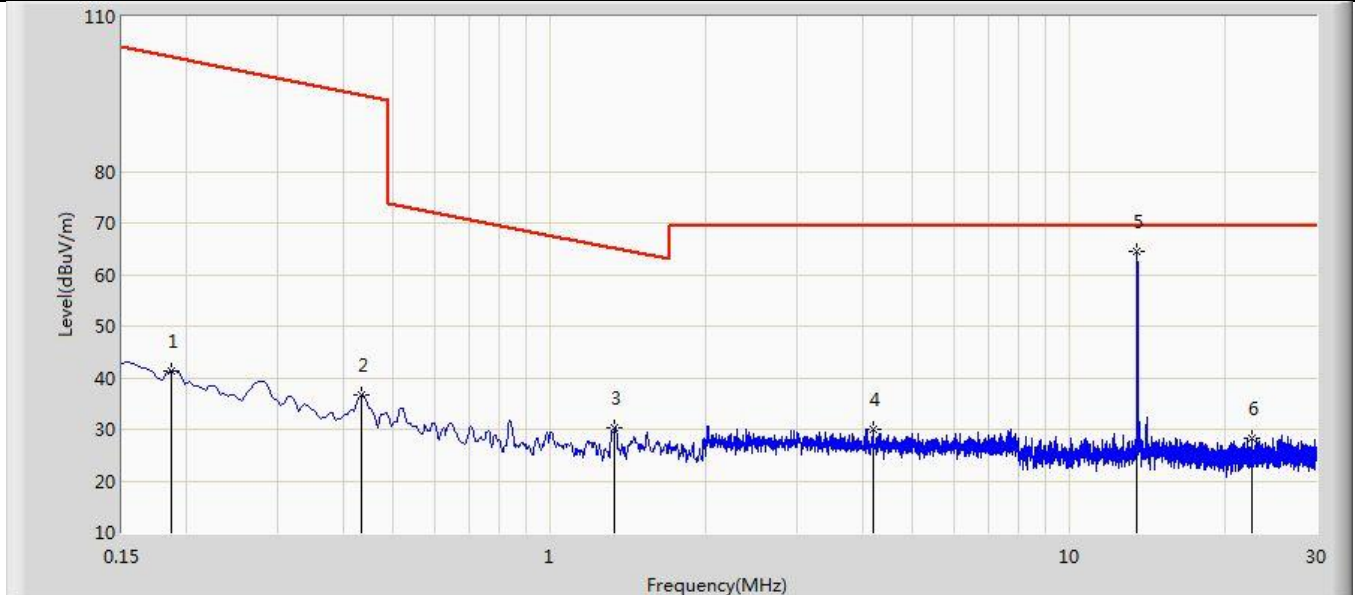


N o	Mar k	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	0.010	79.606	58.544	-47.998	127.604	21.062	QP
2		0.015	74.542	53.324	-49.541	124.082	21.218	QP
3		0.032	62.073	40.328	-55.428	117.501	21.745	QP
4		0.048	58.051	36.099	-55.928	113.979	21.952	QP
5		0.064	58.263	36.328	-53.218	111.481	21.935	QP
6		0.096	52.682	30.784	-55.277	107.959	21.898	QP

Note 1: " * ", means this data is the worst emission level.

Note 2: Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Profile: 24A0319R	Page No.: 6
Engineer: Yuliu	
Site: AC2	Time: 2024/10/22 - 19:37
Limit: FCC-15.209	Margin: 0
Probe: RF(0.009-30MHz)	Polarity: Z
EUT: POS Terminal	Power: Battery Powered
Note: Mode 1: Transmit by NFC	



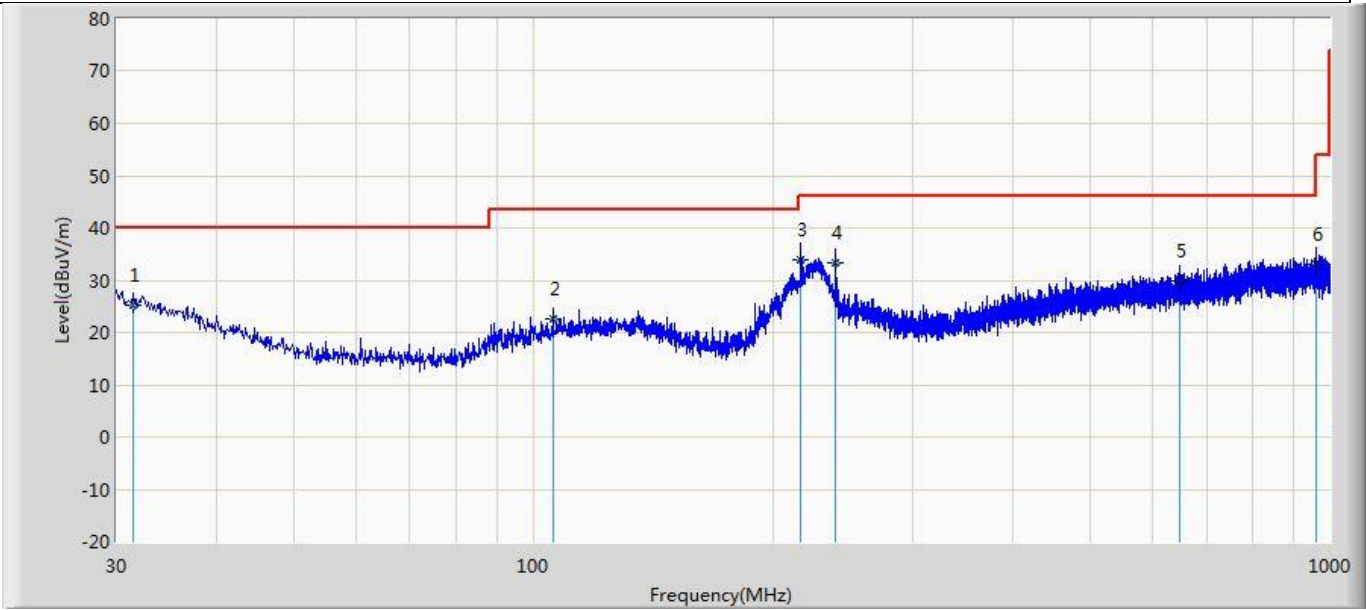
N o	Mar k	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		0.187	41.324	19.528	-60.843	102.167	21.796	QP
2		0.434	36.730	15.174	-58.124	94.854	21.556	QP
3		1.337	30.329	10.046	-34.752	65.082	20.283	QP
4		4.195	30.004	9.324	-39.538	69.542	20.680	QP
5	*	13.560	64.355	43.303	-5.187	69.542	21.052	QP
6		22.493	28.214	7.478	-41.329	69.542	20.736	QP

Note 1: Mark 6 is the fundamental emission.

Note 2: " * ", means this data is the worst emission level.

Note 3: Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

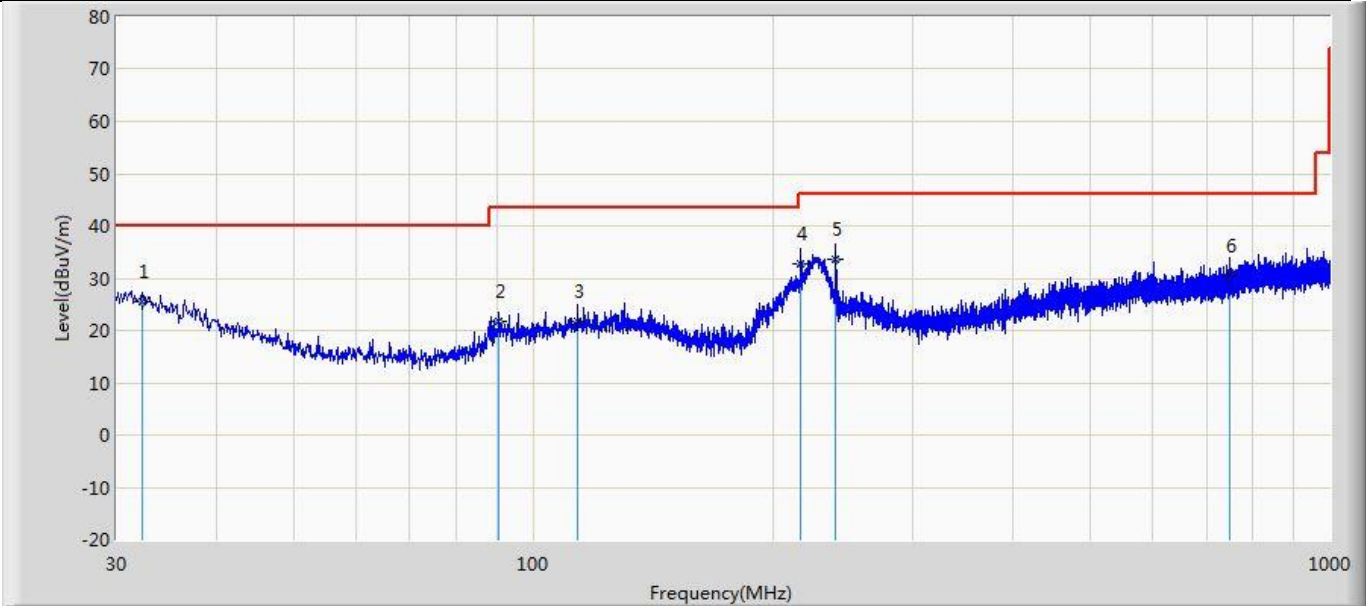
Profile: 24A0319R	Page No.: 1
Engineer: Yu Liu	
Site: AC2	Time: 2024/10/25 - 17:56
Limit: FCC_Part 15.209	Margin: 0
Probe: CBL6112D_27613(30-1000MHz)	Polarity: Vertical
EUT: POS Terminal	Power: Battery Powered
Note: Mode 1: Transmit by NFC	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		31.455	25.221	1.022	-14.779	40.000	24.199	QP
2		105.902	22.553	3.815	-20.947	43.500	18.737	QP
3	*	216.967	34.035	17.553	-11.965	46.000	16.482	QP
4		240.005	33.336	14.634	-12.664	46.000	18.702	QP
5		646.799	29.996	2.569	-16.004	46.000	27.428	QP
6		959.866	33.157	2.469	-12.843	46.000	30.688	QP

Note 1: " * ", means this data is the worst emission level.
Note 2: Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Profile: 24A0319R	Page No.: 2
Engineer: Yu Liu	
Site: AC2	Time: 2024/10/25 - 17:56
Limit: FCC_Part 15.209	Margin: 0
Probe: CBL6112D_27613(30-1000MHz)	Polarity: Horizontal
EUT: POS Terminal	Power: Battery Powered
Note: Mode 1: Transmit by NFC	

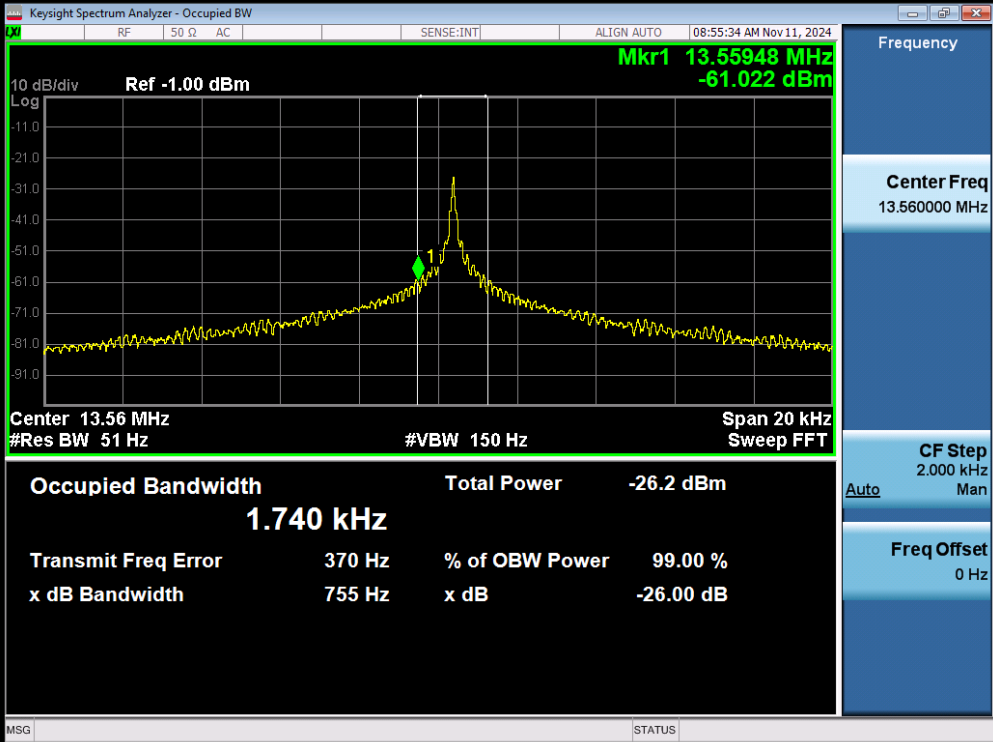


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		32.304	25.387	1.564	-14.613	40.000	23.823	QP
2		90.625	21.776	5.744	-21.724	43.500	16.032	QP
3		113.784	21.800	2.596	-21.700	43.500	19.204	QP
4		216.967	32.738	16.256	-13.262	46.000	16.482	QP
5	*	240.005	33.723	15.021	-12.277	46.000	18.702	QP
6		748.528	30.453	2.014	-15.547	46.000	28.439	QP

Note 1: " * ", means this data is the worst emission level.
Note 2: Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Appendix D: Emission Bandwidth

Frequency (MHz)	20dB Bandwidth (Hz)	99% Bandwidth (kHz)	Frequency Range Limit (MHz)	Result
13.56	755	1.740	13.553 ~ 13.567	Pass



The screenshot shows a Keysight Spectrum Analyzer interface. The main display is a log-scale plot of power (dBm) versus frequency (MHz). The center frequency is 13.56 MHz, and the span is 20 kHz. The plot shows a signal with a peak at 13.55948 MHz and a power level of -61.022 dBm. The occupied bandwidth is 1.740 kHz, and the total power is -26.2 dBm. The 99% bandwidth is 1.740 kHz, and the 20dB bandwidth is 755 Hz. The transmit frequency error is 370 Hz, and the percentage of OBW power is 99.00%.

Keysight Spectrum Analyzer - Occupied BW

RF 50 Ω AC SENSE:INT ALIGN AUTO 08:55:34 AM Nov 11, 2024

10 dB/div Ref -1.00 dBm

Mkr1 13.55948 MHz -61.022 dBm

Center 13.56 MHz Span 20 kHz

#Res BW 51 Hz #VBW 150 Hz Sweep FFT

Occupied Bandwidth 1.740 kHz

Total Power -26.2 dBm

Transmit Freq Error 370 Hz % of OBW Power 99.00 %

x dB Bandwidth 755 Hz x dB -26.00 dB

Frequency 13.560000 MHz

Center Freq 13.560000 MHz

CF Step 2.000 kHz

Auto Man

Freq Offset 0 Hz

MSG STATUS

Appendix E: Frequency Stability

Frequency Stability under Temperature at 0min			
Temperature Interval (°C)	Test Frequency (MHz)	Deviation (ppm)	Limit (ppm)
-20	13.56	63.22	±100
-10	13.56	63.21	±100
0	13.56	63.13	±100
10	13.56	63.23	±100
20	13.56	63.11	±100
30	13.56	63.15	±100
40	13.56	63.18	±100
50	13.56	63.22	±100
Frequency Stability under Temperature at 2min			
Temperature Interval (°C)	Test Frequency (MHz)	Deviation (ppm)	Limit (ppm)
-20	13.56	63.09	±100
-10	13.56	63.21	±100
0	13.56	63.19	±100
10	13.56	63.23	±100
20	13.56	63.21	±100
30	13.56	63.24	±100
40	13.56	63.25	±100
50	13.56	63.33	±100
Frequency Stability under Temperature at 5min			
Temperature Interval (°C)	Test Frequency (MHz)	Deviation (ppm)	Limit (ppm)
-20	13.56	63.14	±100
-10	13.56	63.22	±100
0	13.56	63.23	±100
10	13.56	63.11	±100
20	13.56	63.33	±100
30	13.56	63.22	±100
40	13.56	63.12	±100
50	13.56	63.23	±100
Frequency Stability under Temperature at 10min			
Temperature Interval (°C)	Test Frequency (MHz)	Deviation (ppm)	Limit (ppm)

-20	13.56	63.44	±100
-10	13.56	62.56	±100
0	13.56	63.11	±100
10	13.56	63.23	±100
20	13.56	63.42	±100
30	13.56	63.19	±100
40	13.56	63.12	±100
50	13.56	63.23	±100
Frequency Stability under Voltage			
DC Voltage (V)	Test Frequency (MHz)	Deviation (ppm)	Limit (ppm)
102	13.56	63.22	±100
120	13.56	63.22	±100
138	13.56	63.23	±100

_____ The End _____