中认信通
CHINA CERTIFICATION ICT CO., LTD (DONGGUAN)

ACCREDITED
TESTING LABORATORY
CERTIFICATE # 6356.01

TEST REPORT

Applicant: **AKUVOX (XIAMEN) NETWORKS CO., LTD.**

Address: 10/F, No.56, Software Park II , Xiamen, China

FCC ID: **2AHCR-E16CV1**

Product Name: **Door Phone/Access Control Terminal**

Model Number: **E16C, A05C**

Standard(s): **47 CFR Part 15, Subpart C(15.225)**
ANSI C63.10-2013

The above equipment has been tested and found compliance with the requirement of the relative standards by China Certification ICT Co., Ltd (Dongguan)

Report Number: **CR21110093-00C**

Date Of Issue: **2022-04-02**

Reviewed By: **Sun Zhong**

Sun Zhong

Title: Manager

Test Laboratory: **China Certification ICT Co., Ltd (Dongguan)**
No. 113, Pingkang Road, Dalang Town, Dongguan,
Guangdong, China
Tel: +86-769-82016888

Test Facility

The Test site used by China Certification ICT Co., Ltd (Dongguan) to collect test data is located on the No. 113, Pingkang Road, Dalang Town, Dongguan, Guangdong, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 442868, the FCC Designation No. : CN1314.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0123.

Declarations

China Certification ICT Co., Ltd (Dongguan) is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with a triangle symbol "▲". Customer model name, addresses, names, trademarks etc. are not considered data.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

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CONTENTS

1. GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

EUT Name:	Door Phone/Access Control Terminal
EUT Model:	E16C
Multiple Model:	A05C
Operation Frequency:	13.56 MHz
Modulation Type:	ASK
Rated Input Voltage:	DC 12V from adapter or 48V from POE
Serial Number:	CR21110093-RF-S1(E16C) CR21110093-RF-S1(A05C)
EUT Received Date:	2021.11.29
EUT Received Status:	Good

Note:
The Multiple models are electrically identical with Test model, please refer to the declaration letter for more detail, which was provided by manufacturer. The E16C adapter power mode and A05C POE power mode was reported for Radiation test, since adapter and POE power mode were proved to be compliance with 15.209 emission requirements in BLE report CR21110093-00A, and the worst is E16C adapter power mode and A05C POE power mode.

Operation Frequency Detail:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	13.56	/	/

Antenna Information Detail▲:

Antenna Manufacturer	Antenna Type	input impedance (Ohm)	Antenna Gain /Frequency Range	§15.203 Requirement
AKUVOX (XIAMEN) NETWORKS CO., LTD.	PCB	50	Unknow	**Compliance**

The Method of §15.203 Compliance:
☒Antenna must be permanently attached to the unit.
☐Antenna must use a unique type of connector to attach to the EUT.
☐Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

Accessory Information:

No.

1.2 Description of Test Configuration

1.2.1 EUT Operation Condition:

EUT Operation Mode:	The system was configured for testing in Engineering Mode, which was provided by the manufacturer.
Equipment Modifications:	No
EUT Exercise Software:	engineering mode

Engineering Mode was provided by manufacturer▲. The maximum power was configured default setting.

Channel	Frequency (MHz)	Power Level Setting
1	13.56	Default

1.2.2 Support Equipment List and Details

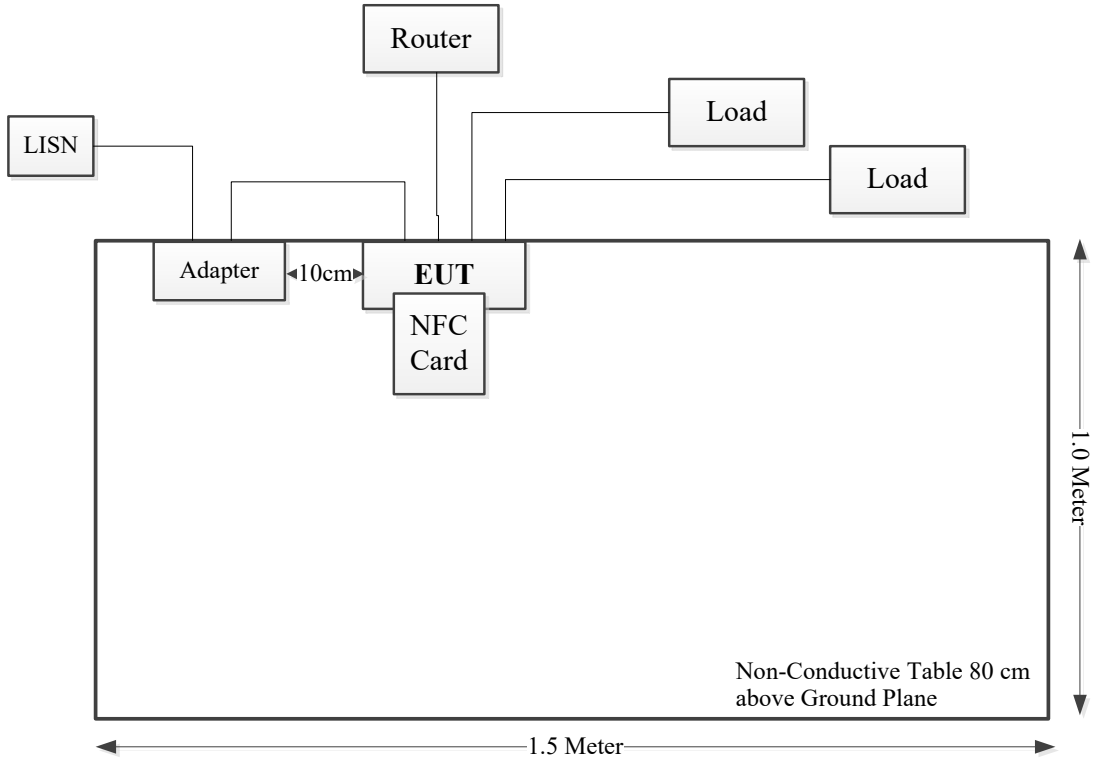
Manufacturer	Description	Model	Serial Number
GOSPELL DIGITAL TECHNOLOGY CO.,LTD	POE	G0720-480-050	2014-0002925
ORIENTAL HERO ELE.FTY	Adapter	OH-1015A1201000U3-UL	96DG E230964
Unknown	Load	Unknown	Load1
Unknown	Load	Unknown	Load2
TOTOLINK	Wireless Router	LR1200	LR1200155P00167
LAND1	NFC Card	EINOLDA	Card1

1.2.3 Support Cable List and Details

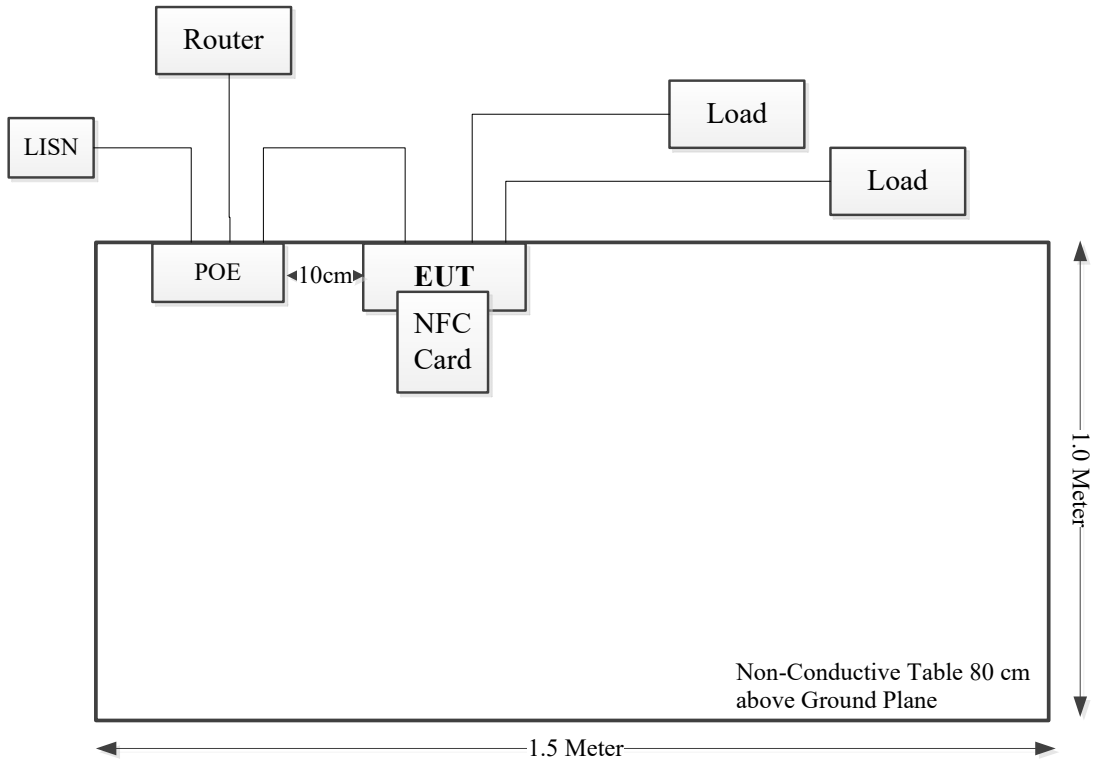
Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
RJ45 Cable	No	No	3	POE	Router
RJ45 Cable	No	No	1	EUT	POE
RJ45 Cable	No	No	3	EUT	Router
Power Cable	No	Yes	1.2	EUT	Adapter
Power Cable	No	No	1.2	POE	LISN
Cable	No	No	3	EUT	Load
Cable	No	No	3	EUT	Load

1.2.4 Block Diagram of Test Setup

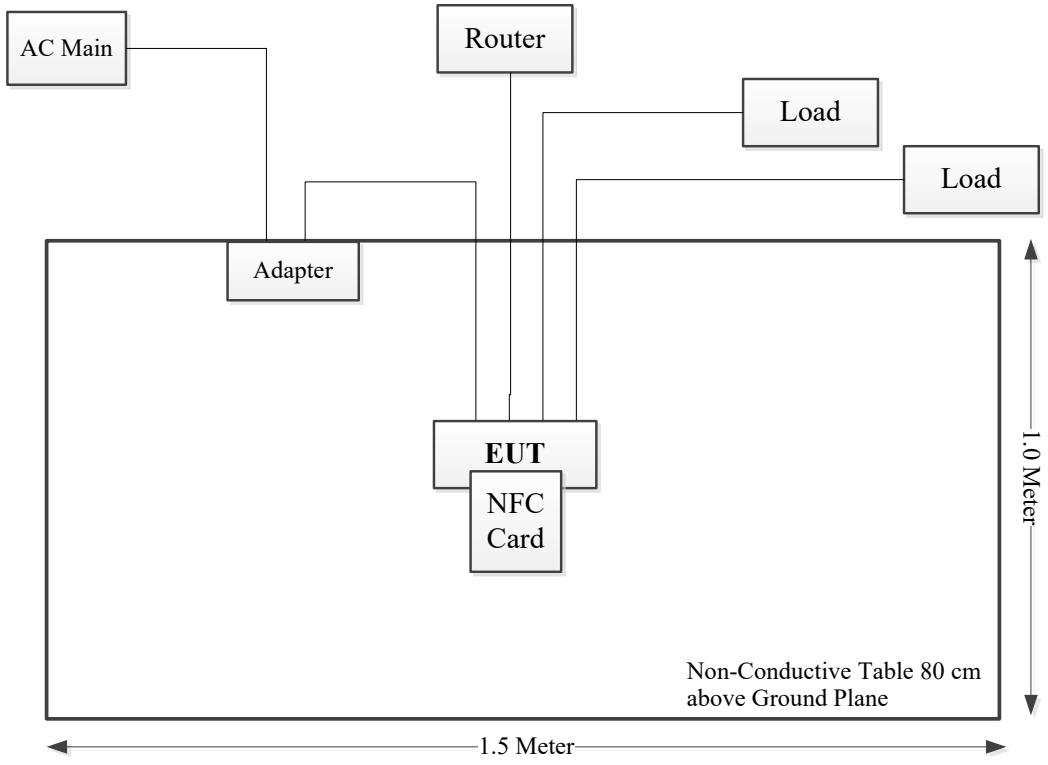
AC line conducted emissions:
AC/DC Adapter Mode:



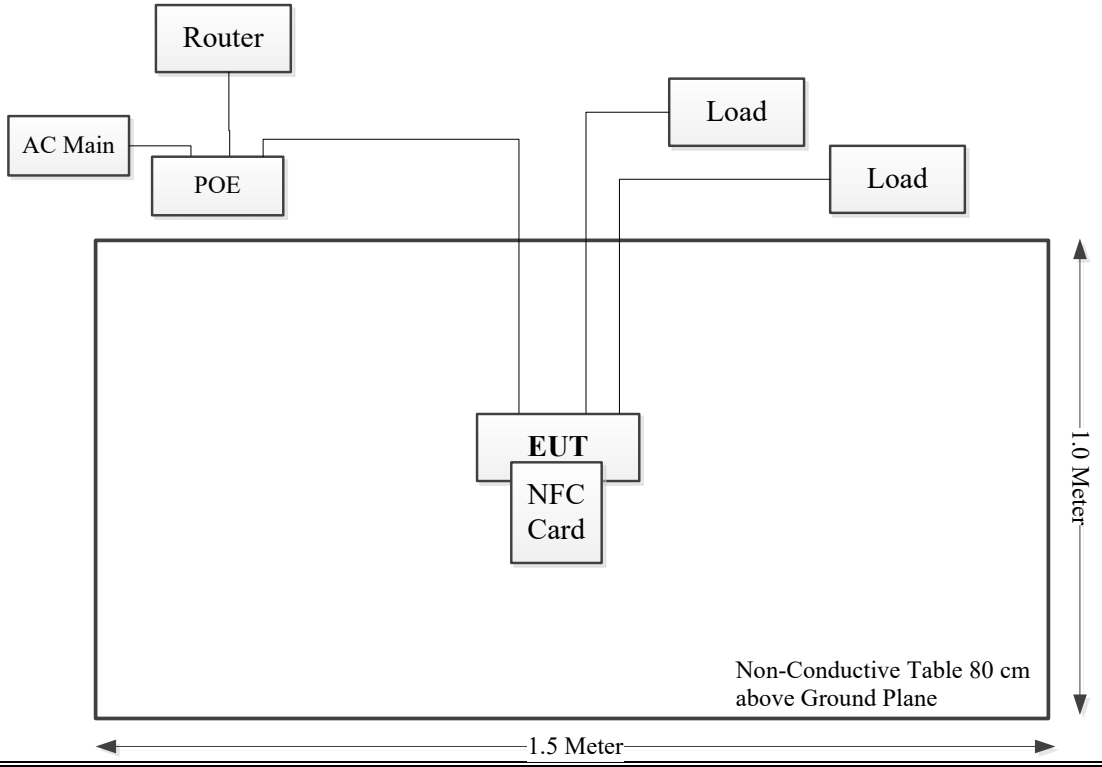
POE Adapter Mode:



Radiated Emission:
AC/DC Adapter Mode:



POE Adapter Mode:



1.3 Measurement Uncertainty

Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

Parameter	Measurement Uncertainty
Occupied Channel Bandwidth	±5 %
Unwanted Emissions, radiated	9kHz~30MHz: 4.12dB 30M~200MHz: 4.15 dB,200M~1GHz: 5.61 dB,1G~6GHz: 5.14 dB, 6G~18GHz: 5.93 dB,18G~26.5G:5.47 dB,26.5G~40G:5.63 dB
Temperature	±1℃
Humidity	±5%
DC and low frequency voltages	±0.4%
Duty Cycle	1%
AC Power Lines Conducted Emission	2.8 dB (150 kHz to 30 MHz)

2. SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
FCC§15.203	Antenna Requirement	Compliant
FCC§15.207 (a)	Conducted Emissions	Compliant
§15.225 §15.209 §15.205	Radiated Emission Test	Compliant
§15.225(e)	Frequency Stability	Compliant
§15.215(c)	20 dB Bandwidth	Compliant

3. REQUIREMENTS AND TEST PROCEDURES

3.1 AC Line Conducted Emissions

3.1.1 Applicable Standard

FCC§15.207(a).

(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.

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

*Decreases with the logarithm of the frequency.

(b) The limit shown in paragraph (a) of this section shall not apply to carrier current systems operating as intentional radiators on frequencies below 30 MHz. In lieu thereof, these carrier current systems shall be subject to the following standards:

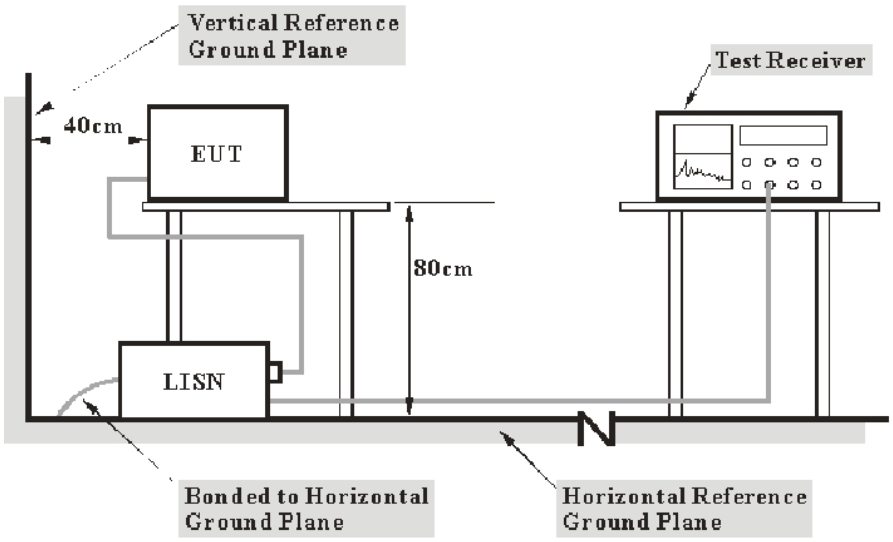
(1) For carrier current system containing their fundamental emission within the frequency band 535-1705 kHz and intended to be received using a standard AM broadcast receiver: no limit on conducted emissions.

(2) For all other carrier current systems: 1000 μV within the frequency band 535-1705 kHz, as measured using a 50 μH/50 ohms LISN.

(3) Carrier current systems operating below 30 MHz are also subject to the radiated emission limits in §15.205, §15.209, §15.221, §15.223, or §15.227, as appropriate.

(c) Measurements to demonstrate compliance with the conducted limits are not required for devices which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines. Devices that include, or make provisions for, the use of battery chargers which permit operating while charging, AC adapters or battery eliminators or that connect to the AC power lines indirectly, obtainig their power through another device which is connected to the AC power lines, shall be tested to demonstrate compliance with the conducted limits.

3.1.2 EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 limits.

The spacing between the peripherals was 10 cm.

The adapter or EUT was connected to the main LISN with a 120 V/60 Hz AC power source.

3.1.3 EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

3.1.4 Test Procedure

During the conducted emission test, the adapter was connected to the outlet of the LISN.

The frequency and amplitude of the six highest ac power-line conducted emissions relative to the limit, measured over all the current-carrying conductors of the EUT power cords, and the operating frequency or frequency to which the EUT is tuned (if appropriate), should be reported, unless such emissions are more than 20 dB below the limit. AC power-line conducted emissions measurements are to be separately carried out only on each of the phase ("hot") line(s) and (if used) on the neutral line(s), but not on the ground [protective earth] line(s). If less than six emission frequencies are within 20 dB of the limit, then the noise level of the measuring instrument at representative frequencies should be reported. The specific conductor of the power-line cord for each of the reported emissions should be identified. Measure the six highest emissions with respect to the limit on each current-carrying conductor of each power cord associated with the EUT (but not the power cords of associated or peripheral equipment that are part of the test configuration). Then, report the six highest emissions with respect to the limit from among all the measurements identifying the frequency and specific current-carrying conductor identified with the emission. The six highest emissions should be reported for each of the current-carrying conductors, or the six highest emissions may be reported over all the current-carrying conductors.

According FCC publication number 174176,for a device with a permanent antenna operating at or below 30 MHz, the measurements done with a suitable dummy load, in lieu of the permanent antenna under the following conditions: (1) perform the AC line conducted tests with the permanent antenna to determine compliance with the Section 15.207 limits outside the transmitter's fundamental emission band; (2) retest with a dummy load in lieu of the permanent antenna to determine compliance with the Section 15.207 limits within the transmitter's fundamental emission band.

3.1.5 Corrected Amplitude & Margin Calculation

The basic equation is as follows:

Result = Reading + Factor
Factor = attenuation caused by cable loss + voltage division factor of AMN

The "**Margin**" column of the following data tables indicates the degree of compliance within the applicable limit. The equation for margin calculation is as follows:

Margin = Limit – Result

3.2 Radiated Emissions

3.2.1 Applicable Standard

As per FCC Part 15.225

(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.

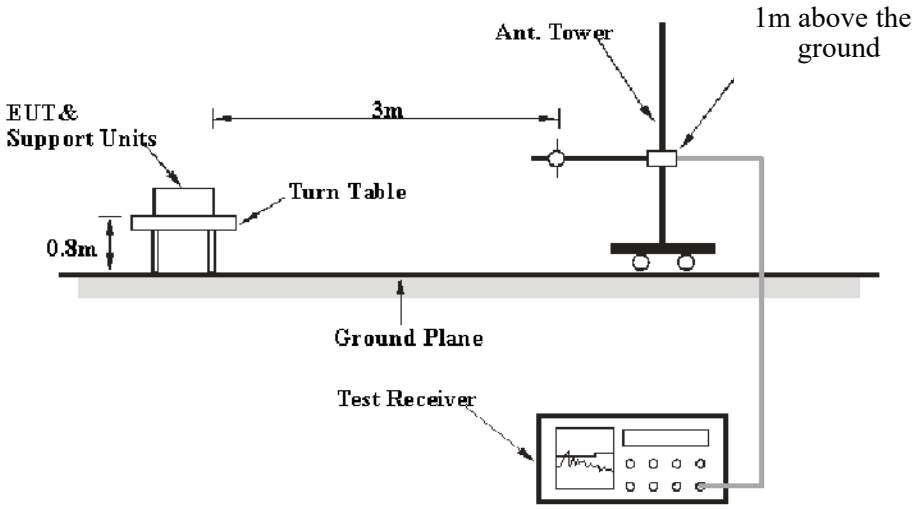
(b) Within the bands 13.410–13.553 MHz and 13.567–13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.

(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.

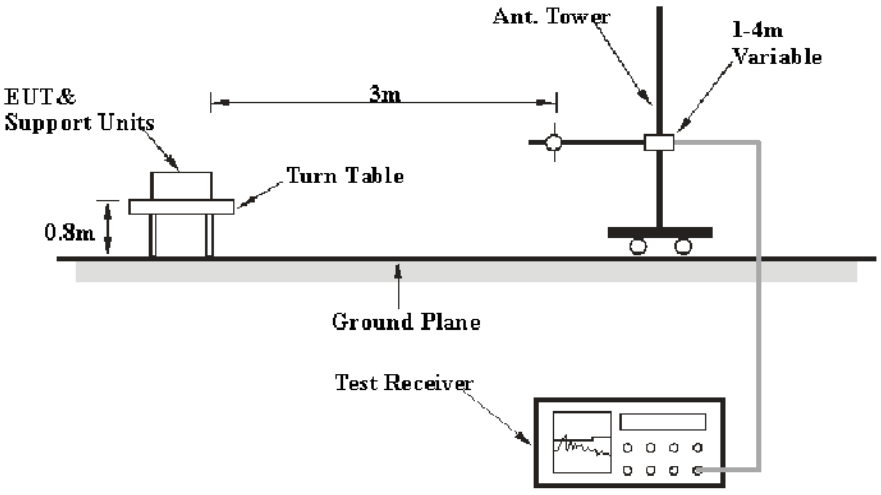
(d) The field strength of any emissions appearing outside of the 13.110–14.010 MHz band shall not exceed the general radiated emission limits in §15.209.

3.2.2 EUT Setup

9kHz-30MHz:



30MHz-1GHz:



The radiated emission tests were performed in the 3-meter chamber test site, using the setup accordance with the ANSI C63.10-2013.

The spacing between the peripherals was 10 cm.

For 9kHz-30MHz test, the lowest height of the magnetic antenna shall be 1 m above the ground and three antenna orientations (parallel, perpendicular, and ground-parallel) shall be measured.

3.2.3 EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 9 kHz to 1 GHz.

During the radiated emission test, the EMI test Receiver was set with the following configurations:

Frequency Range	RBW	Video B/W	Detector
9 kHz – 150 kHz	200 Hz	1 kHz	QP
150 kHz – 30 MHz	9 kHz	30 kHz	QP
30 MHz – 1000 MHz	120 kHz	300 kHz	QP

If the maximized peak measured value complies with the limit, then it is unnecessary to perform an QP measurement

3.2.4 Corrected Amplitude & Margin Calculation

The basic equation is as follows:

Result = Reading + Factor
Factor = Antenna Factor + Cable Loss- Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance within the applicable limit. The equation for margin calculation is as follows:

Margin = Limit – Result

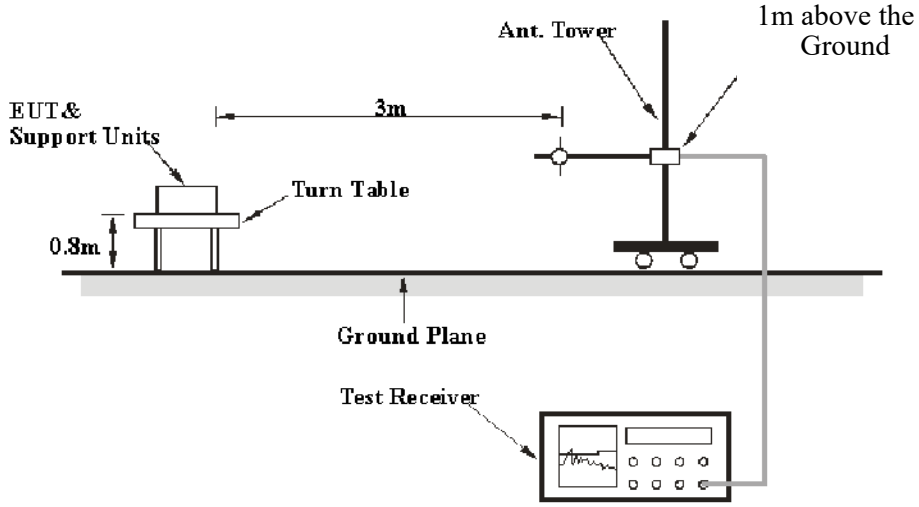
3.3 20 dB Emission Bandwidth:

3.3.1 Applicable Standard

FCC §15.215

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §15.217 through § 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of band operation.

3.3.2 EUT Setup



3.3.3 Test Procedure

1. Position the EUT on the test table without connection to measurement instrument. Turn on the EUT. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
2. Measure the frequency difference of two frequencies that were attenuated 20 dB from the reference level. Record the frequency difference as the emission bandwidth.

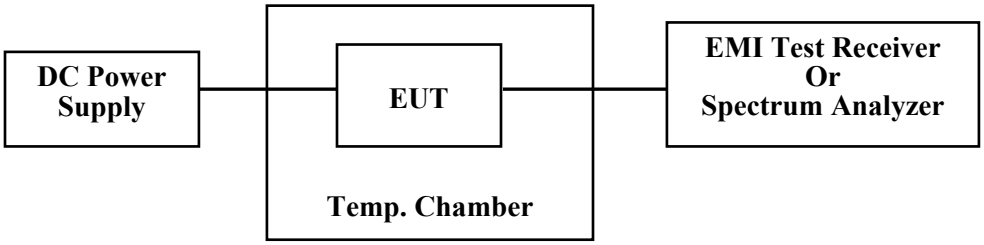
3.4 Frequency Stability

3.4.1 Applicable Standard

As per FCC Part 15.225:

The frequency tolerance of the carrier signal shall be maintained within ±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.

3.4.2 EUT Setup



3.4.3 Test Procedure

Frequency Stability vs. Temperature: The equipment under test was connected to an external DC power.

The EUT was placed inside the temperature chamber.

After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from the Spectrum Analyzer.

Frequency Stability vs. Voltage: An external variable DC power supply Source. The voltage was set to the end point of the battery. The output frequency was recorded for each voltage.

3.5 Antenna Requirement

3.5.1 Applicable Standard

FCC §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 user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

a. Antenna must be permanently attached to the unit.
b. Antenna must use a unique type of connector to attach to the EUT.
c. Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

3.5.2 Judgment

Please refer to the Antenna Information detail in Section 1.

4. TEST DATA AND RESULTS

4.1 AC Line Conducted Emissions

Serial Number:	CR21110093-RF-S1(E16C) CR21110093-RF-S1(A05C)	Test Date:	2021-12-17~2022-03-24
Test Site:	CE	Test Mode:	Transmitting
Tester:	Nick Tang	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	22.5~23.1	Relative Humidity: (%)	61~69	ATM Pressure: (kPa)	101.1~101.2

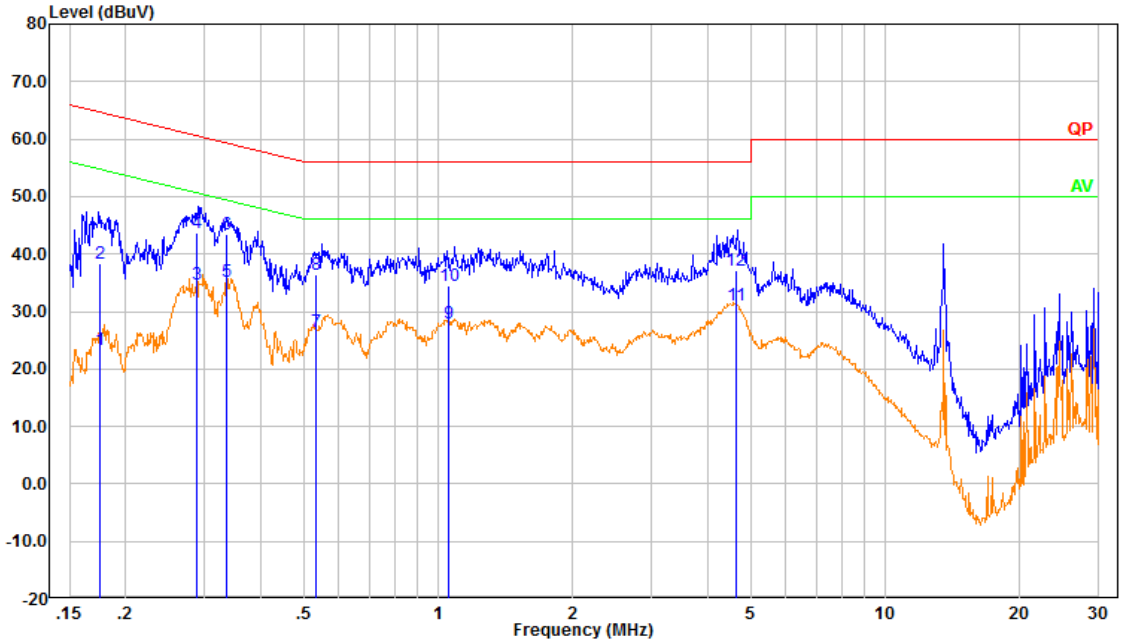
Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	LISN	ENV216	101134	2021-04-25	2022-04-24
R&S	LISN	ENV216	101132	2021-04-25	2022-04-24
R&S	EMI Test Receiver	ESR3	102726	2021-07-22	2022-07-21
MICRO-COAX	Coaxial Cable	UTIFLEX	C-0200-01	2021-08-08	2022-08-07
Audix	Test Software	E3	190306 (V9)	N/A	N/A

** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

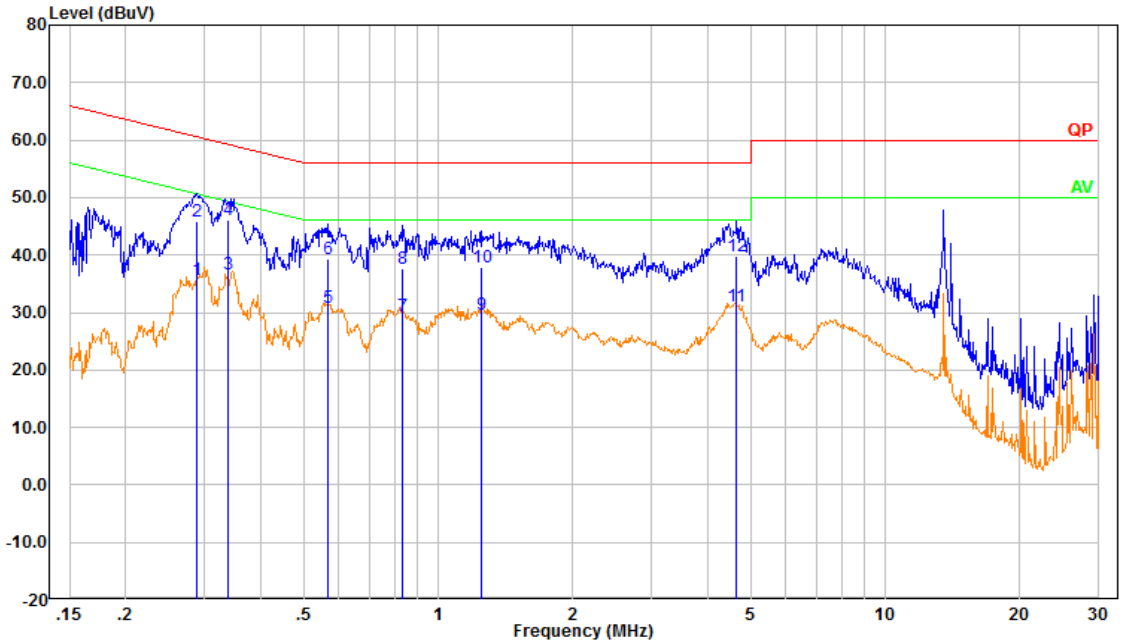
E16C:
AC/DC Adapter Mode:

Line:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Detector
1	0.175	13.79	9.61	23.40	54.71	31.31	Average
2	0.175	28.74	9.61	38.35	64.71	26.36	QP
3	0.289	25.09	9.61	34.70	50.55	15.85	Average
4	0.289	34.07	9.61	43.68	60.55	16.87	QP
5	0.338	25.49	9.61	35.10	49.26	14.16	Average
6	0.338	33.71	9.61	43.32	59.26	15.94	QP
7	0.534	16.95	9.61	26.56	46.00	19.44	Average
8	0.534	26.87	9.61	36.48	56.00	19.52	QP
9	1.058	18.44	9.62	28.06	46.00	17.94	Average
10	1.058	24.97	9.62	34.59	56.00	21.41	QP
11	4.625	21.35	9.66	31.01	46.00	14.99	Average
12	4.625	27.50	9.66	37.16	56.00	18.84	QP

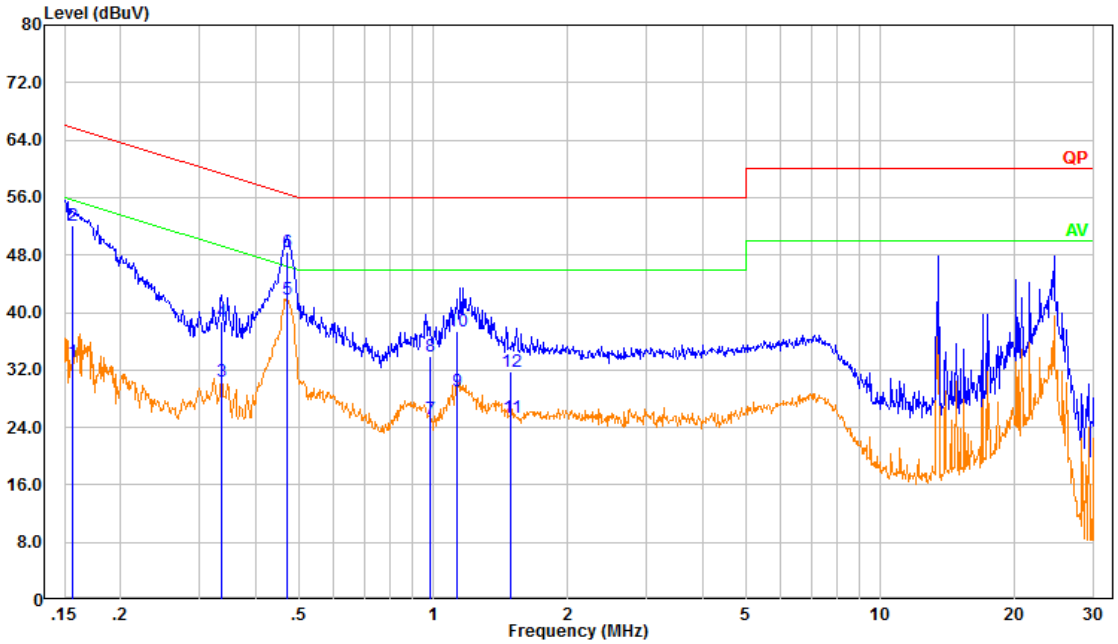
Neutral:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Detector
1	0.289	26.17	9.61	35.78	50.55	14.77	Average
2	0.289	36.23	9.61	45.84	60.55	14.71	QP
3	0.338	26.93	9.61	36.54	49.26	12.72	Average
4	0.338	36.61	9.61	46.22	59.26	13.04	QP
5	0.565	21.19	9.62	30.81	46.00	15.19	Average
6	0.565	29.73	9.62	39.34	56.00	16.66	QP
7	0.834	19.73	9.62	29.35	46.00	16.65	Average
8	0.834	27.96	9.62	37.58	56.00	18.42	QP
9	1.253	20.12	9.62	29.75	46.00	16.25	Average
10	1.253	28.36	9.62	37.98	56.00	18.02	QP
11	4.632	21.47	9.66	31.12	46.00	14.88	Average
12	4.632	30.15	9.66	39.80	56.00	16.20	QP

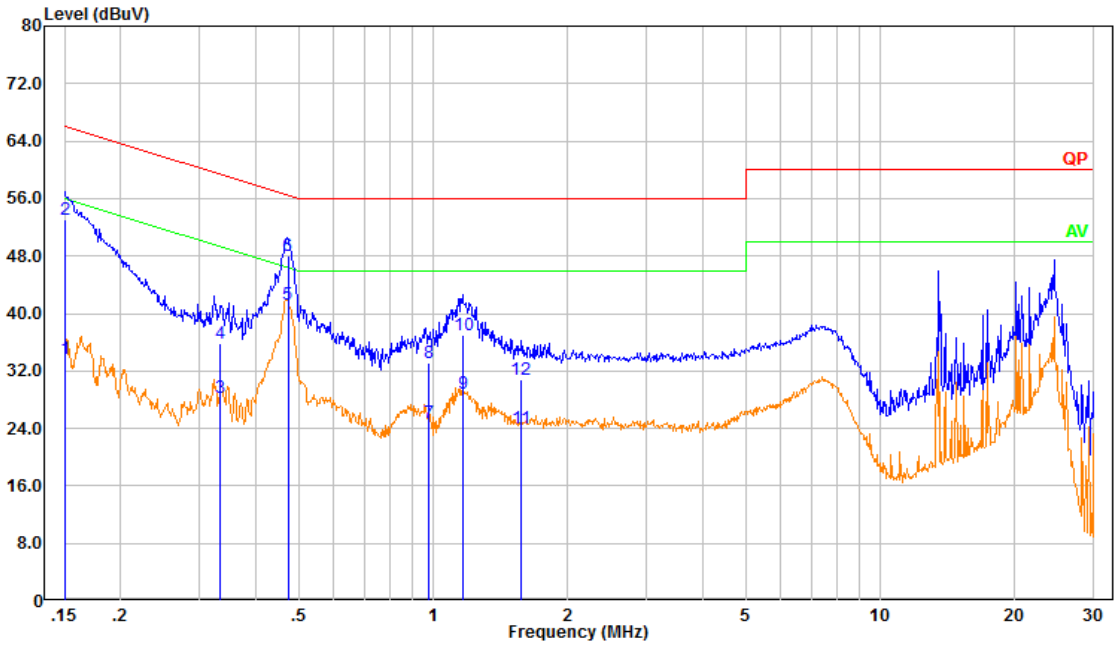
POE Adapter Mode:

Line:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Detector
1	0.156	23.43	9.61	33.04	55.67	22.63	Average
2	0.156	42.41	9.61	52.02	65.67	13.65	QP
3	0.335	20.78	9.61	30.39	49.32	18.93	Average
4	0.335	29.10	9.61	38.71	59.32	20.61	QP
5	0.471	32.29	9.61	41.90	46.50	4.60	Average
6	0.471	38.87	9.61	48.48	56.50	8.02	QP
7	0.988	15.48	9.62	25.10	46.00	20.90	Average
8	0.988	24.25	9.62	33.87	56.00	22.13	QP
9	1.132	19.37	9.62	29.00	46.00	17.00	Average
10	1.132	27.71	9.62	37.33	56.00	18.67	QP
11	1.493	15.85	9.62	25.47	46.00	20.53	Average
12	1.493	22.21	9.62	31.84	56.00	24.16	QP

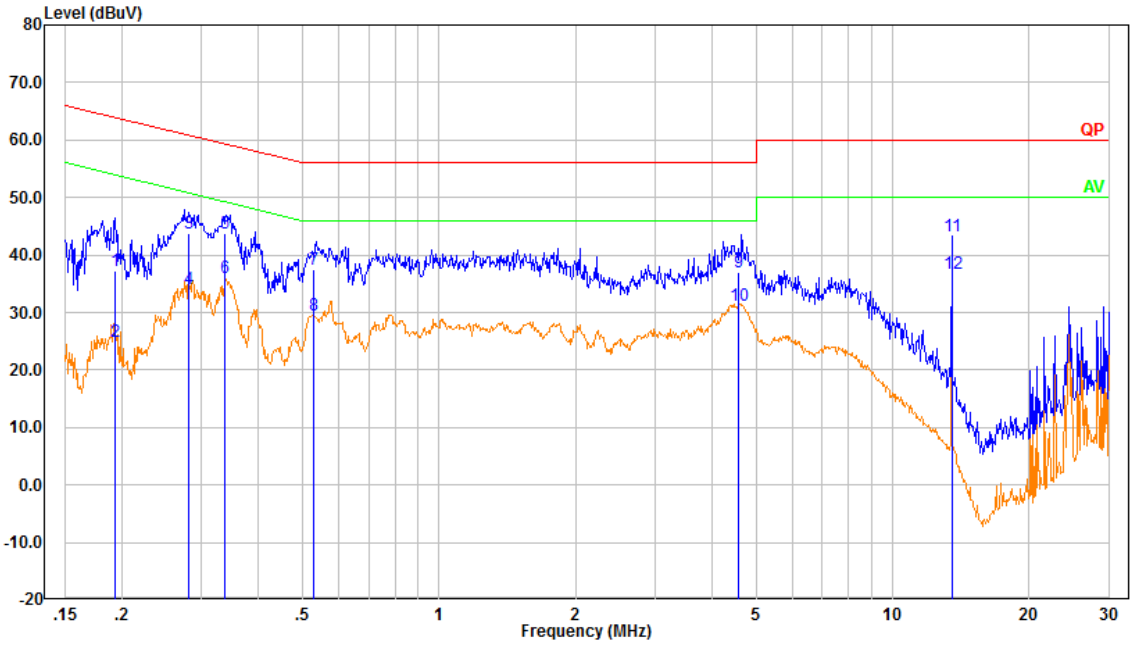
Neutral:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Detector
1	0.151	24.01	9.61	33.62	55.97	22.35	Average
2	0.151	43.46	9.61	53.07	65.97	12.90	QP
3	0.333	18.61	9.61	28.22	49.37	21.15	Average
4	0.333	26.27	9.61	35.88	59.37	23.49	QP
5	0.473	31.74	9.61	41.35	46.46	5.11	Average
6	0.473	38.51	9.61	48.12	56.46	8.34	QP
7	0.976	15.25	9.62	24.87	46.00	21.13	Average
8	0.976	23.50	9.62	33.12	56.00	22.88	QP
9	1.168	19.28	9.62	28.90	46.00	17.10	Average
10	1.168	27.47	9.62	37.09	56.00	18.91	QP
11	1.567	14.35	9.63	23.98	46.00	22.02	Average
12	1.567	21.22	9.63	30.85	56.00	25.15	QP

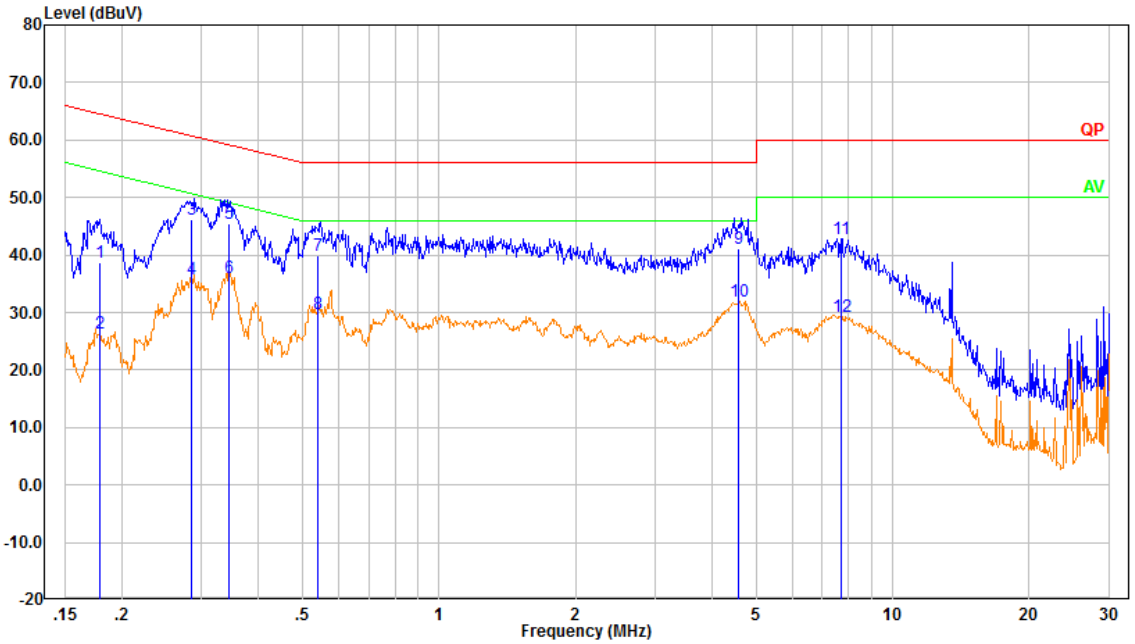
A05C:
AC/DC Adapter Mode:

Line:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Detector
1	0.193	27.64	9.61	37.25	63.89	26.64	QP
2	0.193	15.26	9.61	24.87	53.89	29.02	Average
3	0.281	34.10	9.61	43.71	60.79	17.08	QP
4	0.281	24.60	9.61	34.21	50.79	16.58	Average
5	0.337	34.23	9.61	43.84	59.27	15.43	QP
6	0.337	26.49	9.61	36.10	49.27	13.17	Average
7	0.531	27.97	9.61	37.58	56.00	18.42	QP
8	0.531	19.87	9.61	29.48	46.00	16.52	Average
9	4.571	27.35	9.66	37.01	56.00	18.99	QP
10	4.571	21.44	9.66	31.10	46.00	14.90	Average
11	13.514	33.50	9.68	43.18	60.00	16.82	QP
12	13.514	27.10	9.68	36.78	50.00	13.22	Average

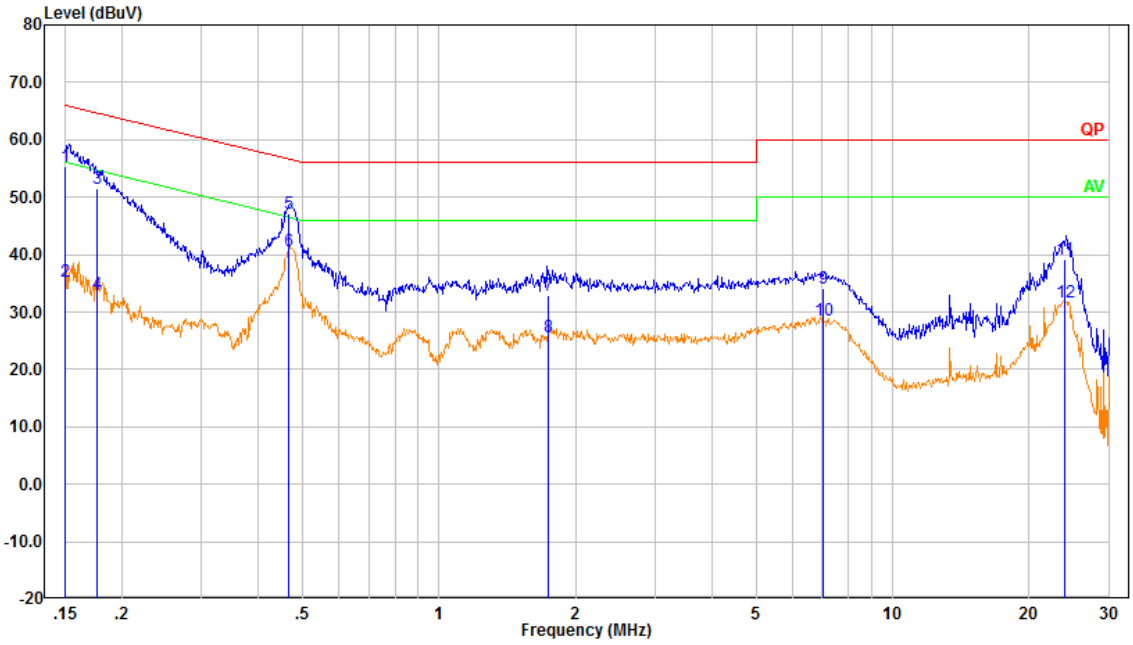
Neutral :



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Detector
1	0.179	29.10	9.61	38.71	64.54	25.83	QP
2	0.179	16.87	9.61	26.48	54.54	28.06	Average
3	0.286	36.55	9.61	46.16	60.65	14.49	QP
4	0.286	26.20	9.61	35.81	50.65	14.84	Average
5	0.345	35.80	9.61	45.41	59.09	13.68	QP
6	0.345	26.52	9.61	36.13	49.09	12.96	Average
7	0.541	30.38	9.61	39.99	56.00	16.01	QP
8	0.541	20.17	9.61	29.78	46.00	16.22	Average
9	4.571	31.39	9.66	41.05	56.00	14.95	QP
10	4.571	22.21	9.66	31.87	46.00	14.13	Average
11	7.694	33.22	9.67	42.89	60.00	17.11	QP
12	7.694	19.56	9.67	29.23	50.00	20.77	Average

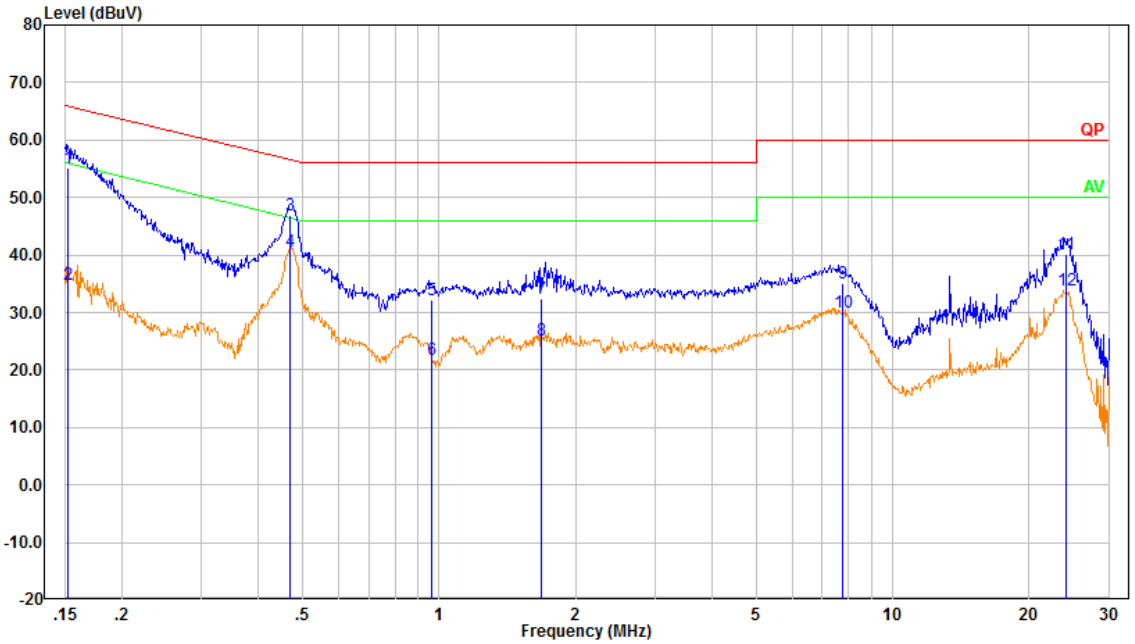
AC/DC POE Mode:

Line:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Detector
1	0.150	45.76	9.61	55.37	65.98	10.61	QP
2	0.150	25.74	9.61	35.35	55.98	20.63	Average
3	0.176	41.82	9.61	51.43	64.67	13.24	QP
4	0.176	23.45	9.61	33.06	54.67	21.61	Average
5	0.467	37.56	9.61	47.17	56.56	9.39	QP
6	0.467	31.11	9.61	40.72	46.56	5.84	Average
7	1.747	23.31	9.63	32.94	56.00	23.06	QP
8	1.747	16.05	9.63	25.67	46.00	20.33	Average
9	7.036	24.39	9.66	34.06	60.00	25.94	QP
10	7.036	18.85	9.66	28.51	50.00	21.49	Average
11	23.897	29.37	9.81	39.18	60.00	20.82	QP
12	23.897	21.82	9.81	31.63	50.00	18.37	Average

Neutral :



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Detector
1	0.152	45.49	9.61	55.10	65.90	10.80	QP
2	0.152	25.23	9.61	34.84	55.90	21.06	Average
3	0.468	37.31	9.61	46.92	56.55	9.63	QP
4	0.468	31.06	9.61	40.67	46.55	5.88	Average
5	0.963	22.45	9.62	32.07	56.00	23.93	QP
6	0.963	12.19	9.62	21.81	46.00	24.19	Average
7	1.686	22.72	9.63	32.35	56.00	23.65	QP
8	1.686	15.66	9.63	25.29	46.00	20.71	Average
9	7.741	25.32	9.67	34.99	60.00	25.01	QP
10	7.741	20.38	9.67	30.05	50.00	19.95	Average
11	24.105	30.31	9.75	40.06	60.00	19.94	QP
12	24.105	24.12	9.75	33.87	50.00	16.13	Average

4.2 Radiation Spurious Emissions

Serial Number:	CR21110093-RF-S1(E16C) CR21110093-RF-S1(A05C)	Test Date:	2022-03-05~2022-03-25
Test Site:	966-2	Test Mode:	Transmitting
Tester:	Great Qiao	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	18.1~19.6	Relative Humidity: (%)	54~56	ATM Pressure: (kPa)	100.8~101.0

Test Equipment List and Details:

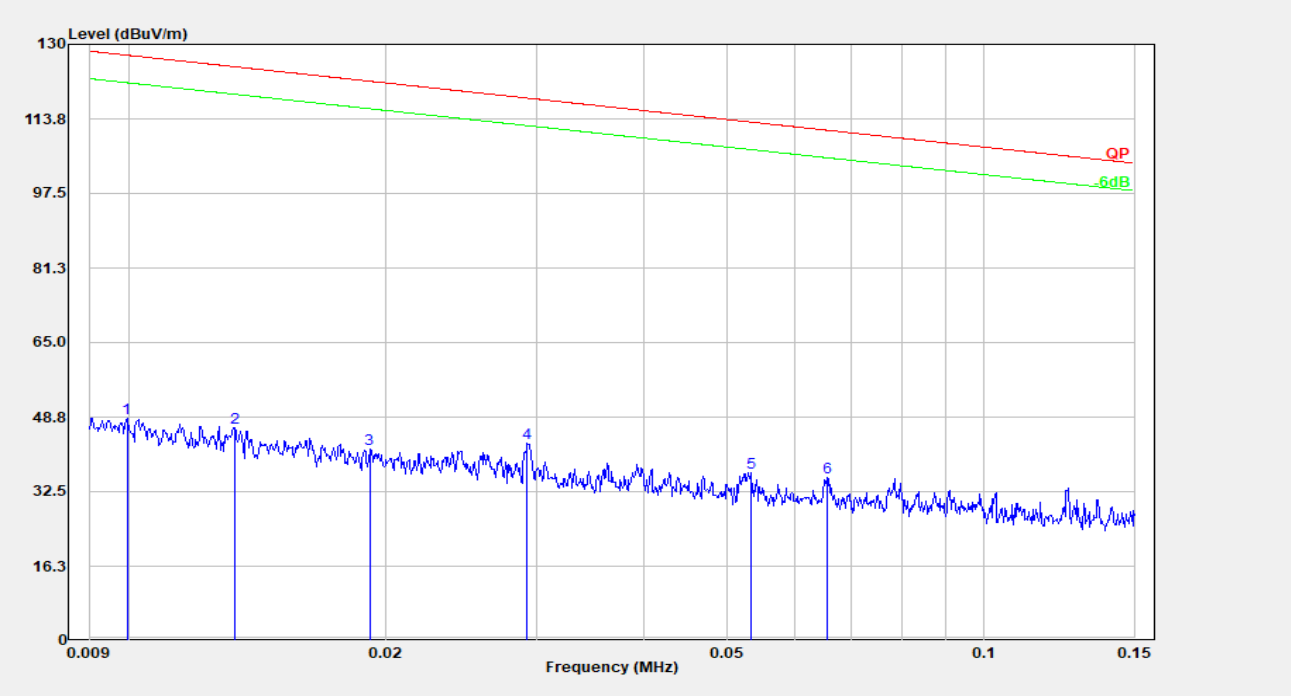
Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
TESEQ	HF Loop Antenna	HLA6120	33561	2021-02-03	2024-02-02
Sunol Sciences	Antenna	JB6	A082520-5	2020-10-19	2023-10-18
R&S	EMI Test Receiver	ESR3	102724	2021-07-22	2022-07-21
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0470-02	2021-07-18	2022-07-17
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0780-01	2021-07-18	2022-07-17
Sonoma	Amplifier	310N	186165	2021-07-18	2022-07-17
Audix	Test Software	E3	201021 (V9)	N/A	N/A

** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

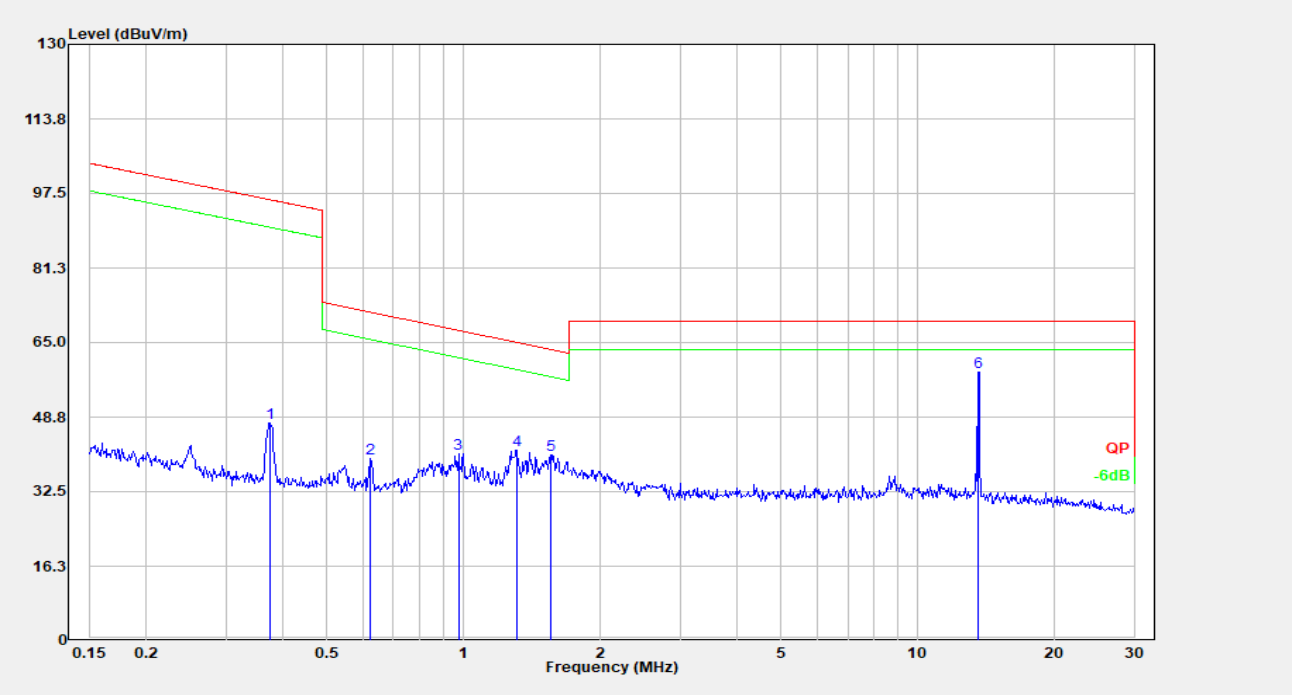
Test Data:

E16C:
AC/DC Adapter:
1) 9 kHz~30MHz:

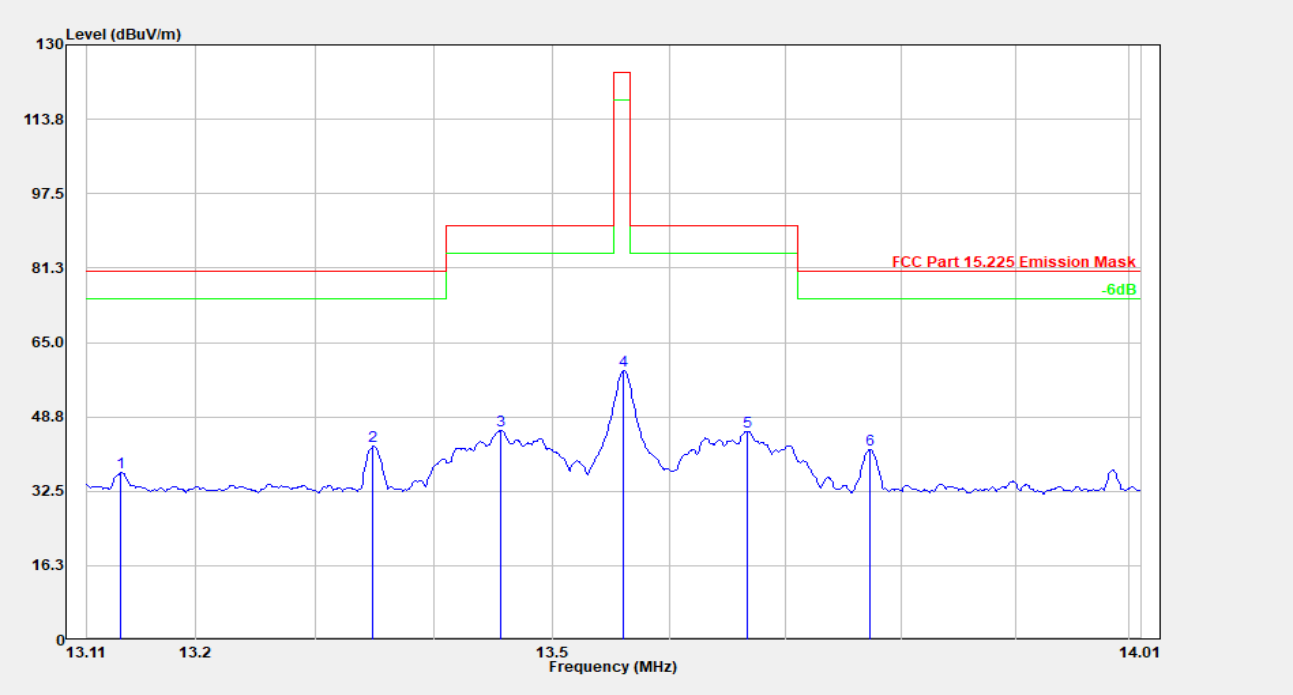
Parallel:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	0.010	27.96	20.51	48.47	127.64	79.17	Peak
2	0.013	26.04	20.51	46.55	125.12	78.57	Peak
3	0.019	21.19	20.51	41.70	121.97	80.27	Peak
4	0.029	22.64	20.41	43.05	118.28	75.23	Peak
5	0.053	16.12	20.41	36.53	113.05	76.52	Peak
6	0.066	15.31	20.42	35.72	111.27	75.54	Peak

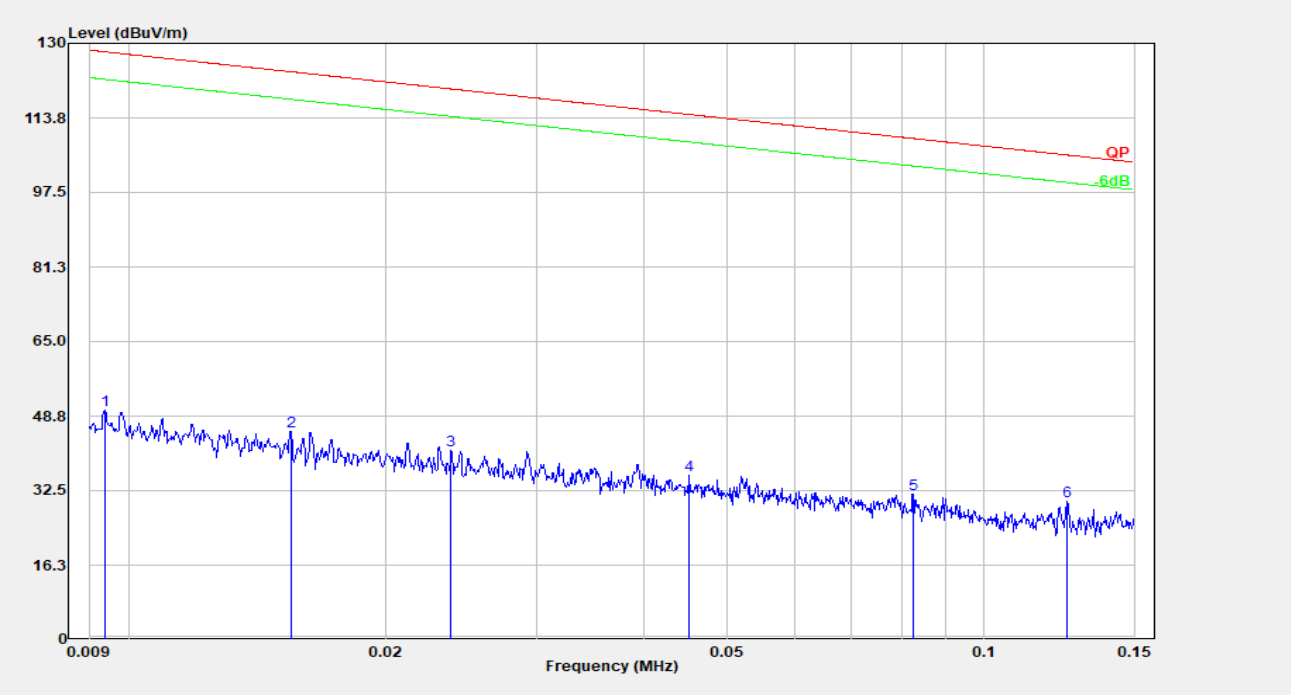


No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	0.375	27.48	20.08	47.56	96.12	48.56	Peak
2	0.624	19.71	20.02	39.73	71.66	31.93	Peak
3	0.974	20.76	20.03	40.79	67.71	26.92	Peak
4	1.310	21.58	19.98	41.55	65.08	23.53	Peak
5	1.552	20.47	19.95	40.41	63.57	23.16	Peak
6	13.551	38.18	20.39	58.57	69.54	10.97	Peak

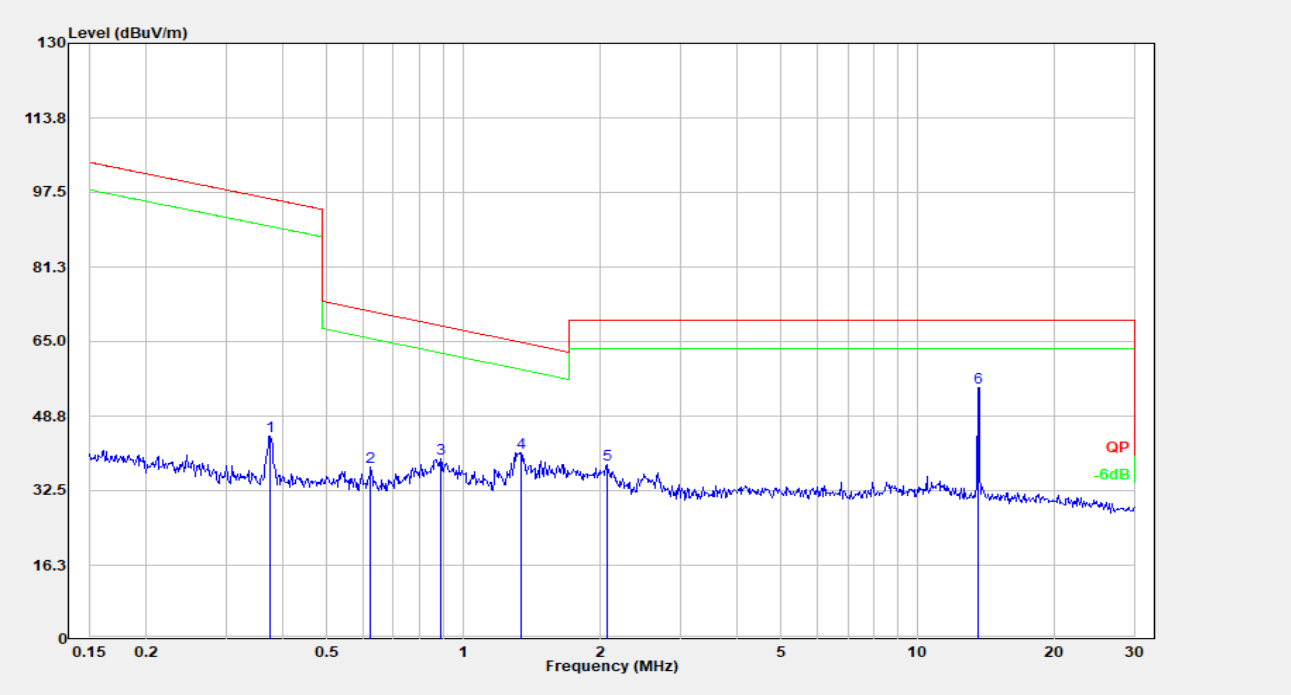


No.	Frequency	Reading	Factor	Result	Limit	Margin	Detector
	(MHz)	(dBµV)	(dB/m)	(dBµV/m)	(dBµV/m)	(dB)	
1	13.138	16.22	20.37	36.59	80.51	43.92	Peak
2	13.349	21.97	20.38	42.35	80.51	38.16	Peak
3	13.457	25.35	20.38	45.73	90.47	44.74	Peak
4	13.561	38.39	20.39	58.77	124.00	65.23	Peak
5	13.667	25.22	20.39	45.61	90.47	44.86	Peak
6	13.773	21.25	20.39	41.64	80.51	38.87	Peak

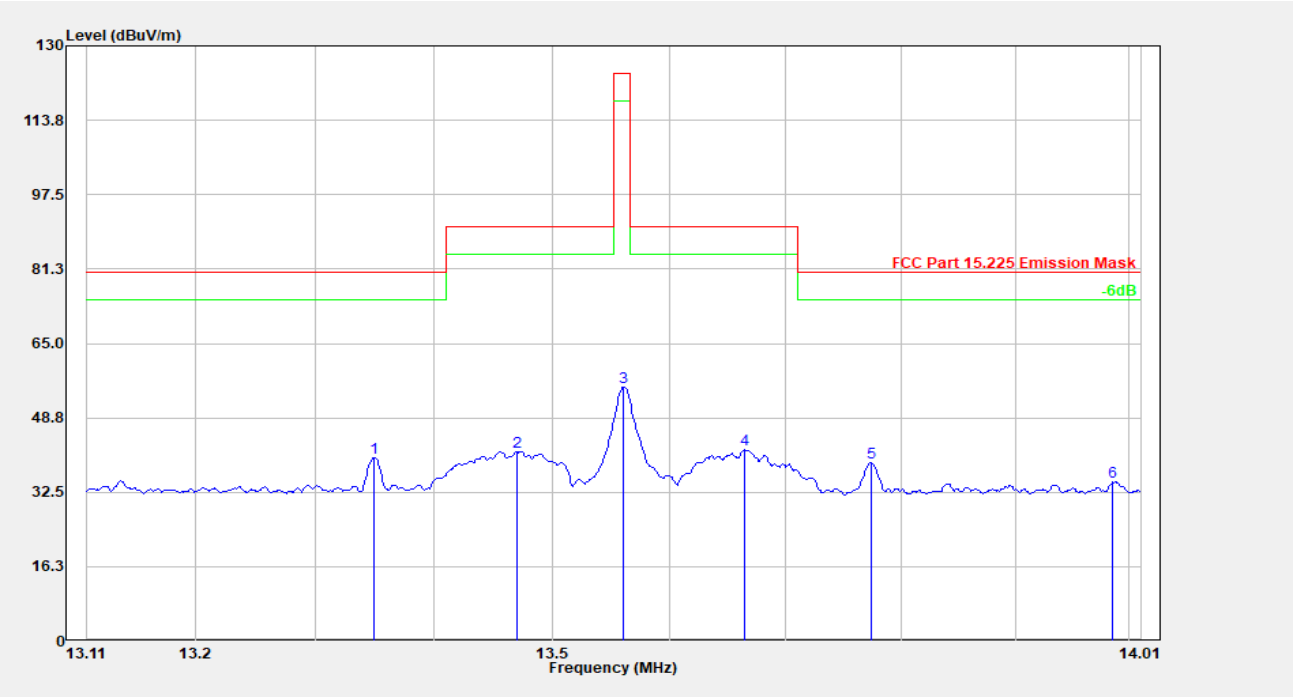
Perpendicular:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	0.009	29.44	20.51	49.95	128.15	78.21	Peak
2	0.015	24.92	20.51	45.43	123.80	78.37	Peak
3	0.024	20.77	20.43	41.21	120.06	78.86	Peak
4	0.045	15.34	20.41	35.75	114.49	78.74	Peak
5	0.083	11.26	20.34	31.60	109.26	77.66	Peak
6	0.125	10.06	20.22	30.28	105.67	75.39	Peak

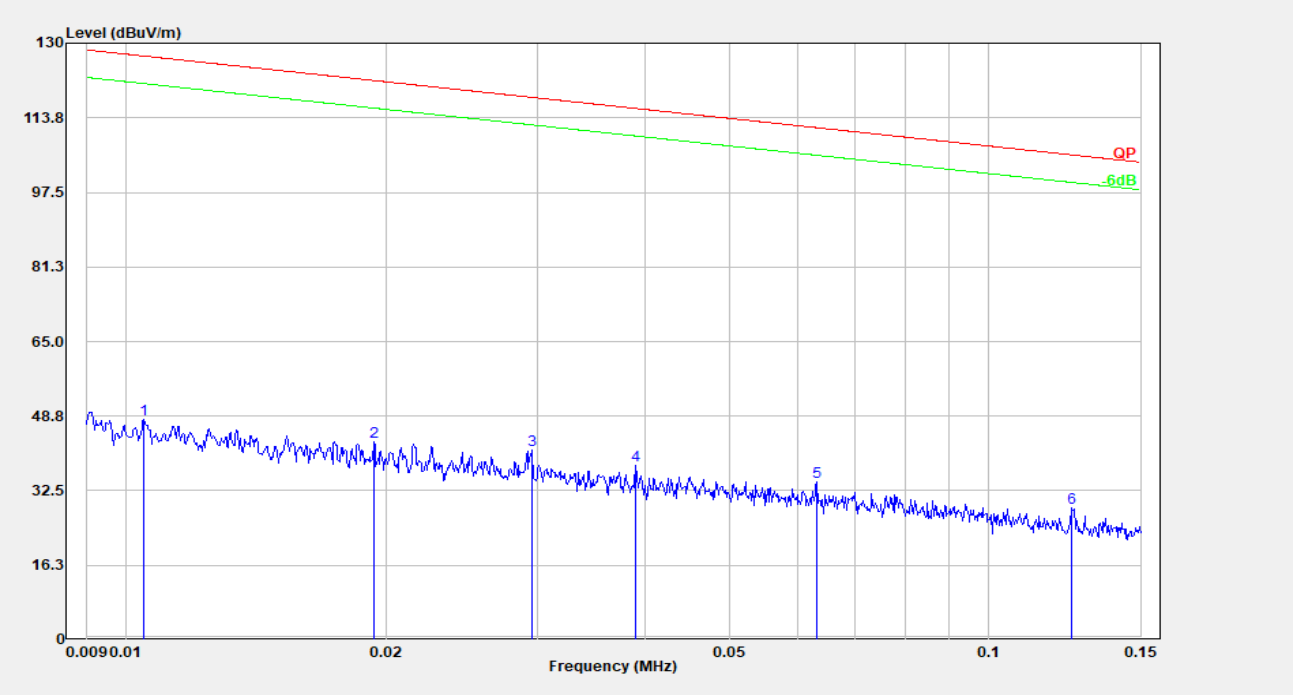


No.	Frequency	Reading	Factor	Result	Limit	Margin	Detector
	(MHz)	(dBµV)	(dB/m)	(dBµV/m)	(dBµV/m)	(dB)	
1	0.375	24.36	20.08	44.44	96.12	51.68	Peak
2	0.624	17.52	20.02	37.54	71.66	34.11	Peak
3	0.890	19.36	20.03	39.39	68.51	29.12	Peak
4	1.338	20.88	19.97	40.85	64.89	24.04	Peak
5	2.066	18.14	19.96	38.10	69.54	31.44	Peak
6	13.551	34.66	20.39	55.05	69.54	14.49	Peak

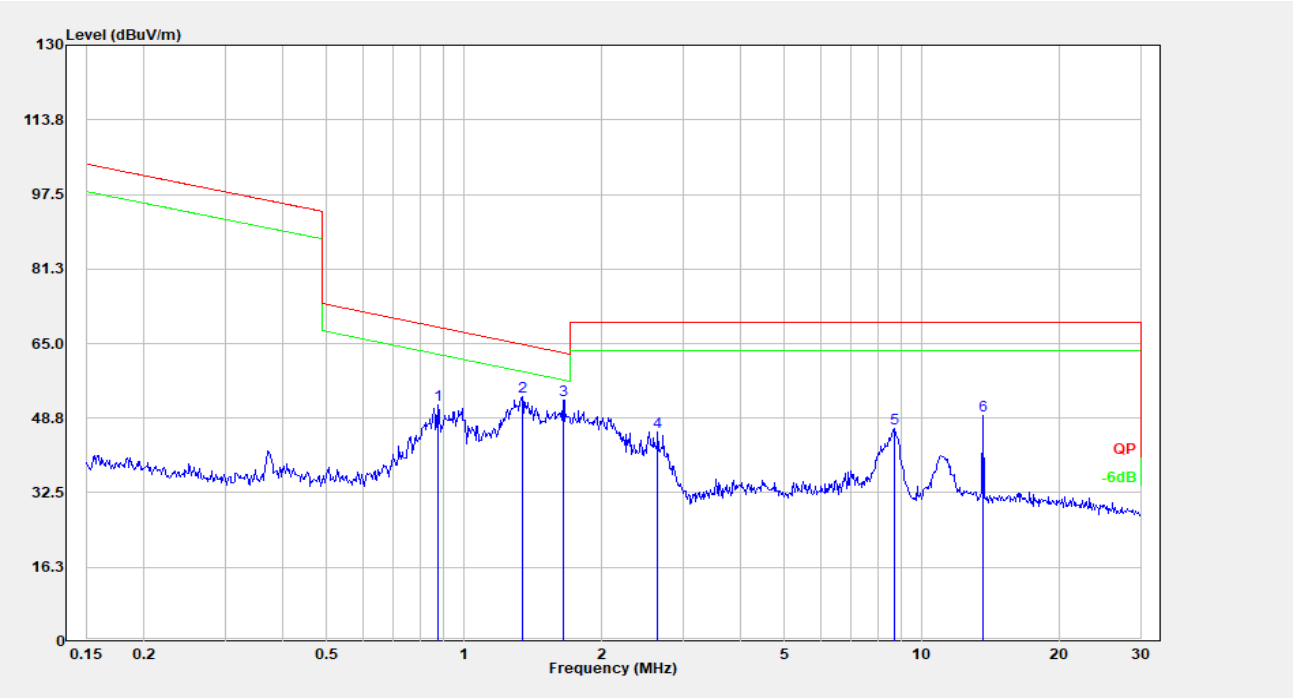


No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	13.349	19.73	20.38	40.11	80.51	40.40	Peak
2	13.470	20.98	20.38	41.37	90.47	49.10	Peak
3	13.561	35.14	20.39	55.53	124.00	68.47	Peak
4	13.665	21.34	20.39	41.73	90.47	48.74	Peak
5	13.774	18.54	20.39	38.93	80.51	41.58	Peak
6	13.986	14.30	20.40	34.70	80.51	45.81	Peak

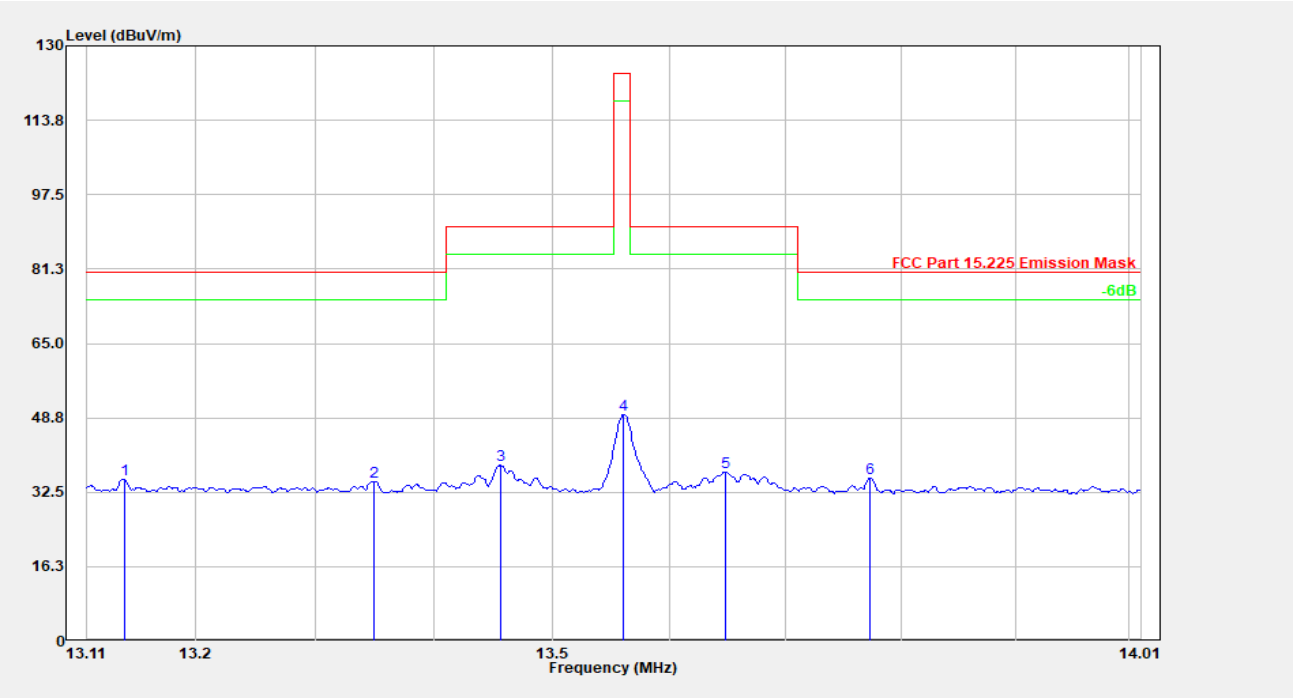
Ground-parallel:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	0.010	27.43	20.51	47.94	127.20	79.26	Peak
2	0.019	22.73	20.51	43.24	121.87	78.63	Peak
3	0.030	21.05	20.41	41.46	118.21	76.75	Peak
4	0.039	17.65	20.41	38.06	115.79	77.73	Peak
5	0.063	13.90	20.41	34.31	111.58	77.28	Peak
6	0.125	8.60	20.22	28.82	105.67	76.85	Peak



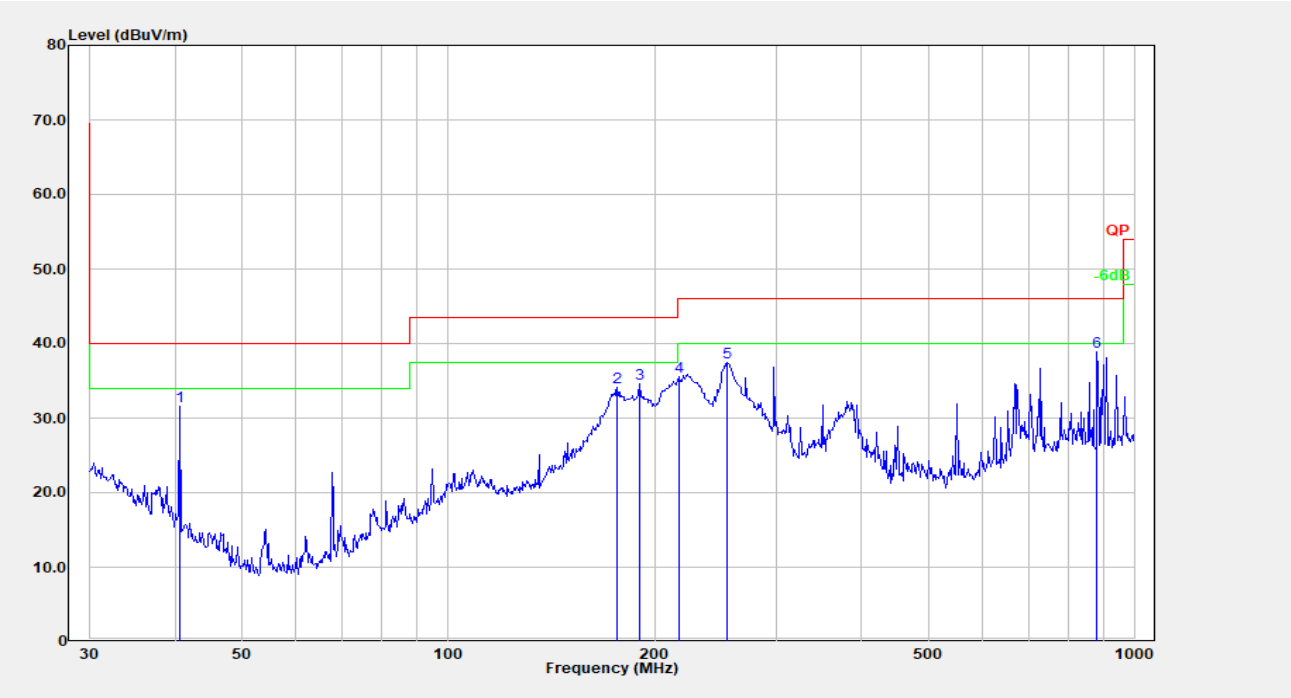
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	0.876	31.53	20.03	51.56	68.65	17.09	Peak
2	1.338	33.44	19.97	53.41	64.89	11.48	Peak
3	1.645	32.69	19.95	52.64	63.06	10.42	Peak
4	2.650	25.84	19.97	45.81	69.54	23.73	Peak
5	8.729	26.26	20.19	46.45	69.54	23.09	Peak
6	13.551	28.88	20.39	49.27	69.54	20.27	Peak



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	13.141	14.96	20.37	35.34	80.51	45.17	Peak
2	13.349	14.40	20.38	34.78	80.51	45.73	Peak
3	13.457	17.98	20.38	38.36	90.47	52.11	Peak
4	13.561	29.10	20.39	49.48	124.00	74.52	Peak
5	13.648	16.60	20.39	36.99	90.47	53.48	Peak
6	13.773	15.18	20.39	35.57	80.51	44.94	Peak

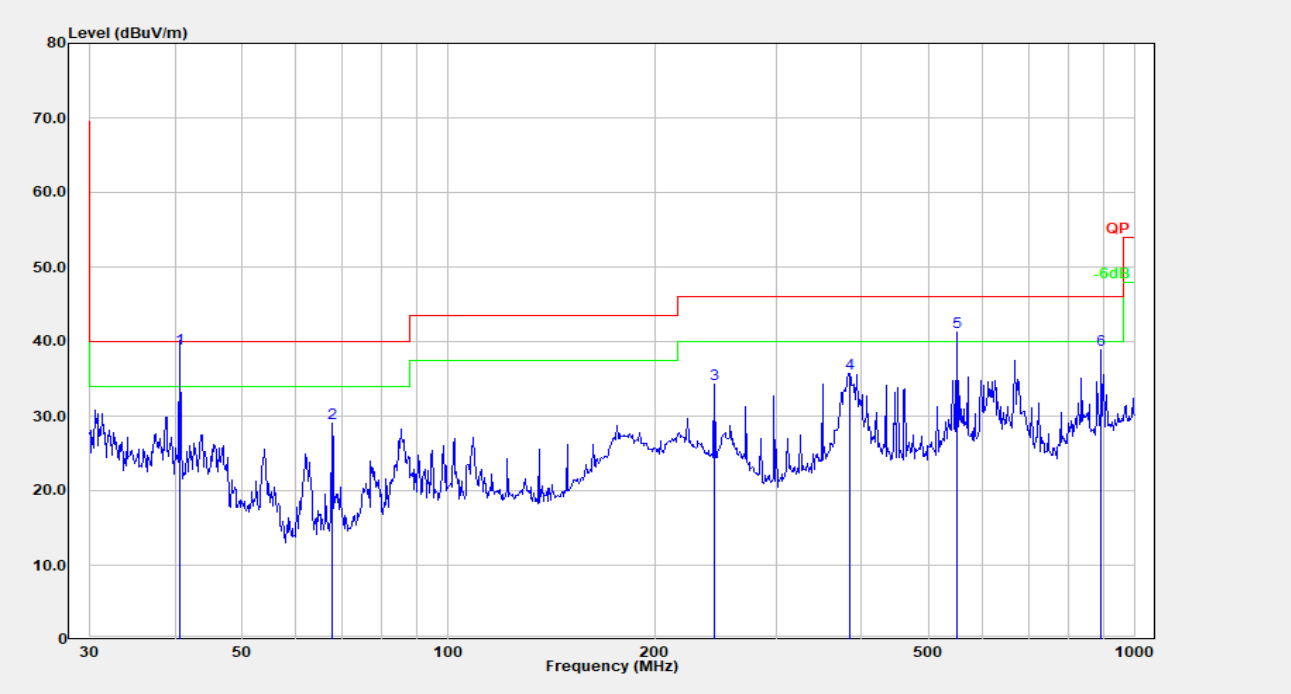
2)Above 30MHz

Horizontal:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	40.559	43.45	-11.86	31.60	40.00	8.40	Peak
2	176.269	47.72	-13.53	34.19	43.50	9.31	Peak
3	189.739	48.23	-13.64	34.59	43.50	8.91	Peak
4	216.783	48.41	-12.86	35.55	46.00	10.45	Peak
5	254.728	50.41	-13.00	37.41	46.00	8.59	Peak
6	881.407	40.38	-1.42	38.97	46.00	7.03	Peak

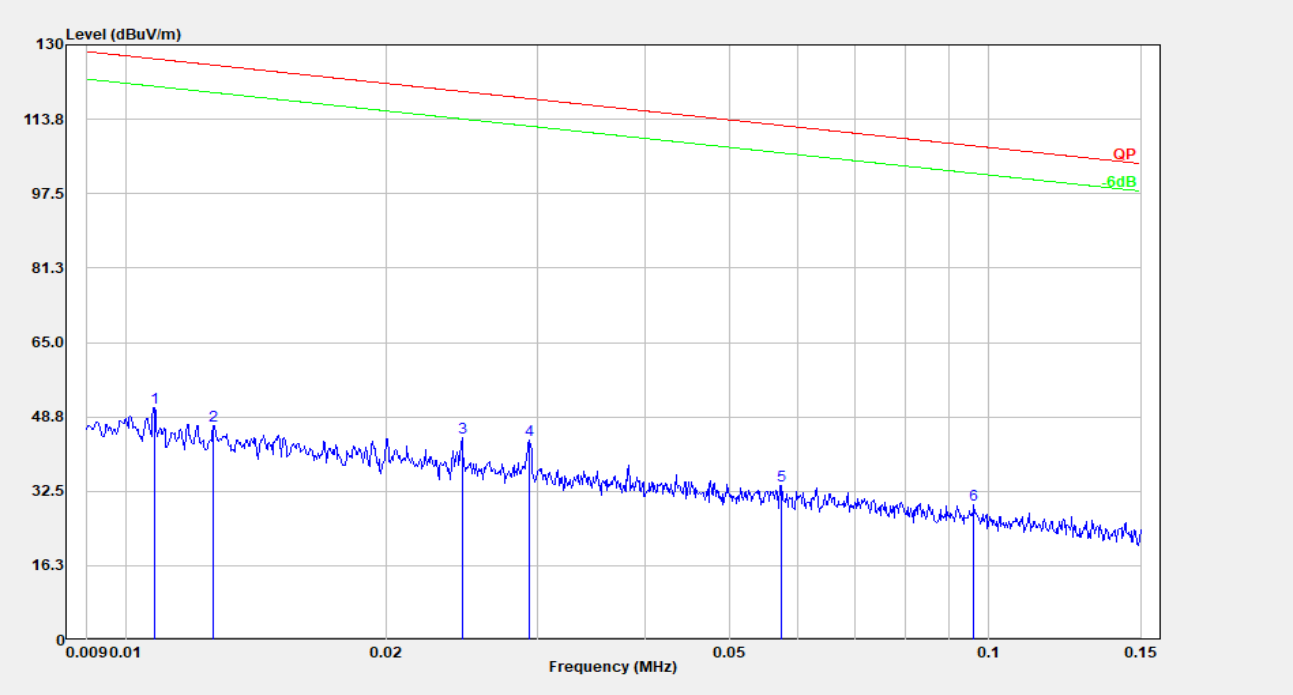
Vertical:



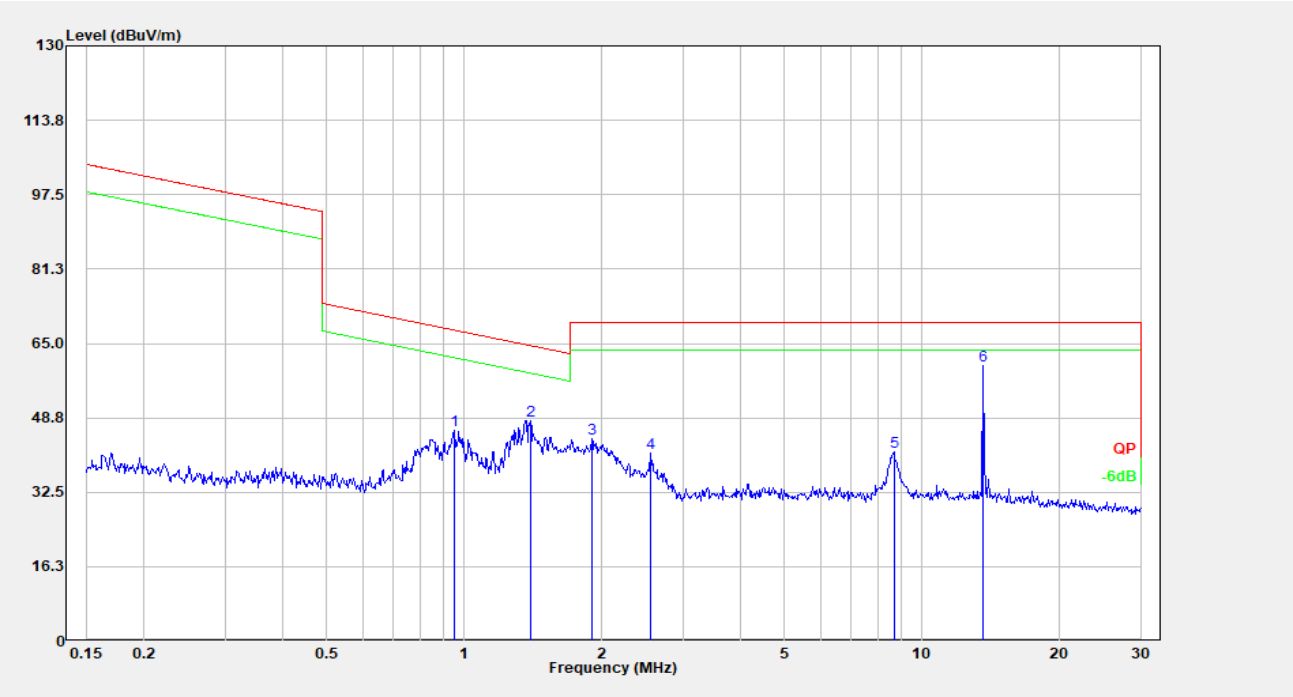
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	40.559	50.98	-11.86	39.12	40.00	0.88	QP
2	67.675	45.95	-16.94	29.01	40.00	10.99	Peak
3	244.232	47.44	-13.13	34.31	46.00	11.69	Peak
4	383.932	45.04	-9.26	35.78	46.00	10.22	Peak
5	550.948	47.28	-5.98	41.30	46.00	4.70	QP
6	893.857	40.24	-1.35	38.89	46.00	7.11	Peak

A05C:
POE Adapter:
1) 9 kHz~30MHz:

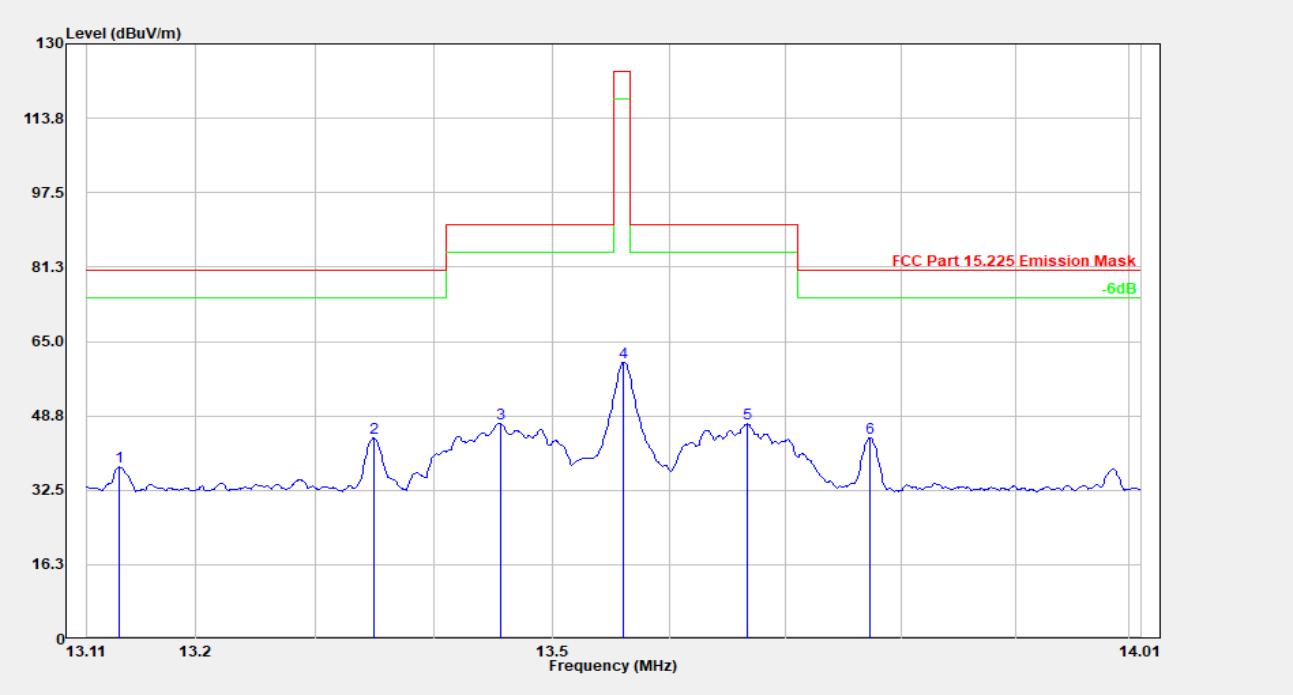
Parallel:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	0.011	30.26	20.51	50.77	126.96	76.18	Peak
2	0.013	26.44	20.51	46.95	125.59	78.64	Peak
3	0.025	23.71	20.42	44.13	119.82	75.69	Peak
4	0.029	23.33	20.41	43.74	118.26	74.52	Peak
5	0.057	13.37	20.41	33.78	112.42	78.63	Peak
6	0.096	9.28	20.25	29.53	107.94	78.42	Peak

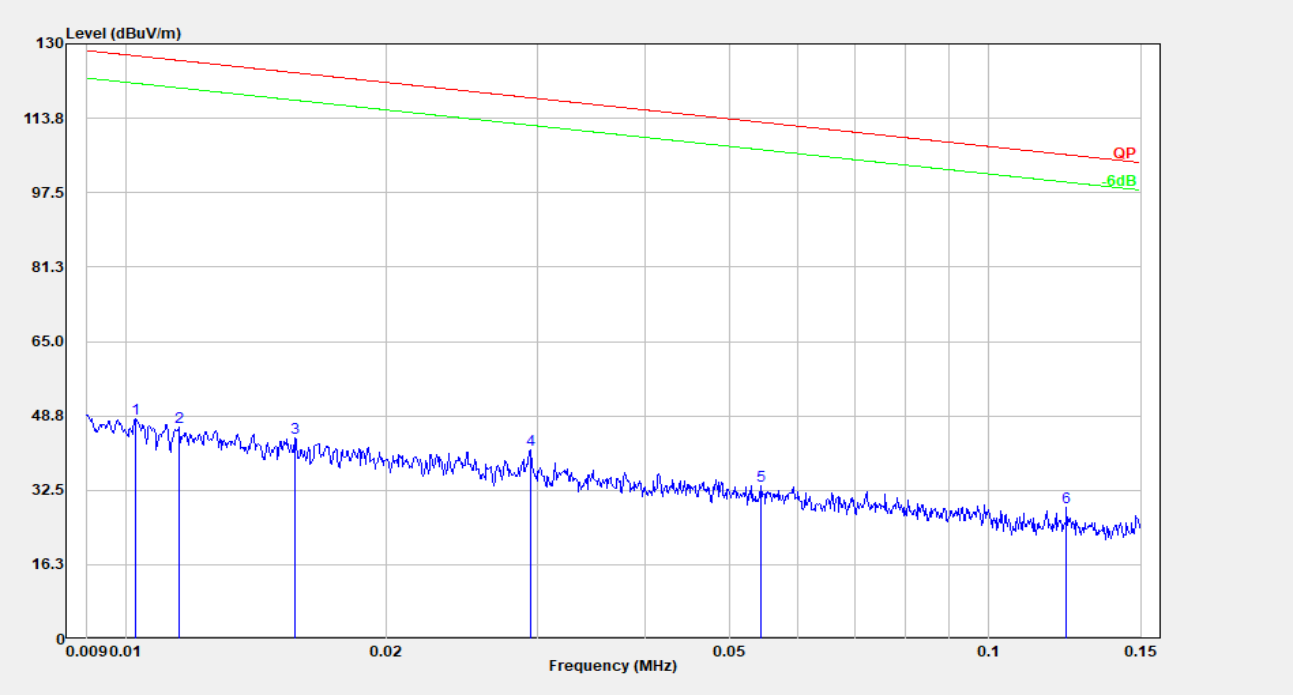


No.	Frequency	Reading	Factor	Result	Limit	Margin	Detector
	(MHz)	(dBµV)	(dB/m)	(dBµV/m)	(dBµV/m)	(dB)	
1	0.953	25.95	20.03	45.98	67.90	21.92	Peak
2	1.396	28.24	19.96	48.20	64.51	16.31	Peak
3	1.898	24.30	19.96	44.26	69.54	25.28	Peak
4	2.554	21.13	19.97	41.10	69.54	28.44	Peak
5	8.683	21.15	20.19	41.34	69.54	28.20	Peak
6	13.551	39.90	20.39	60.29	69.54	9.25	Peak

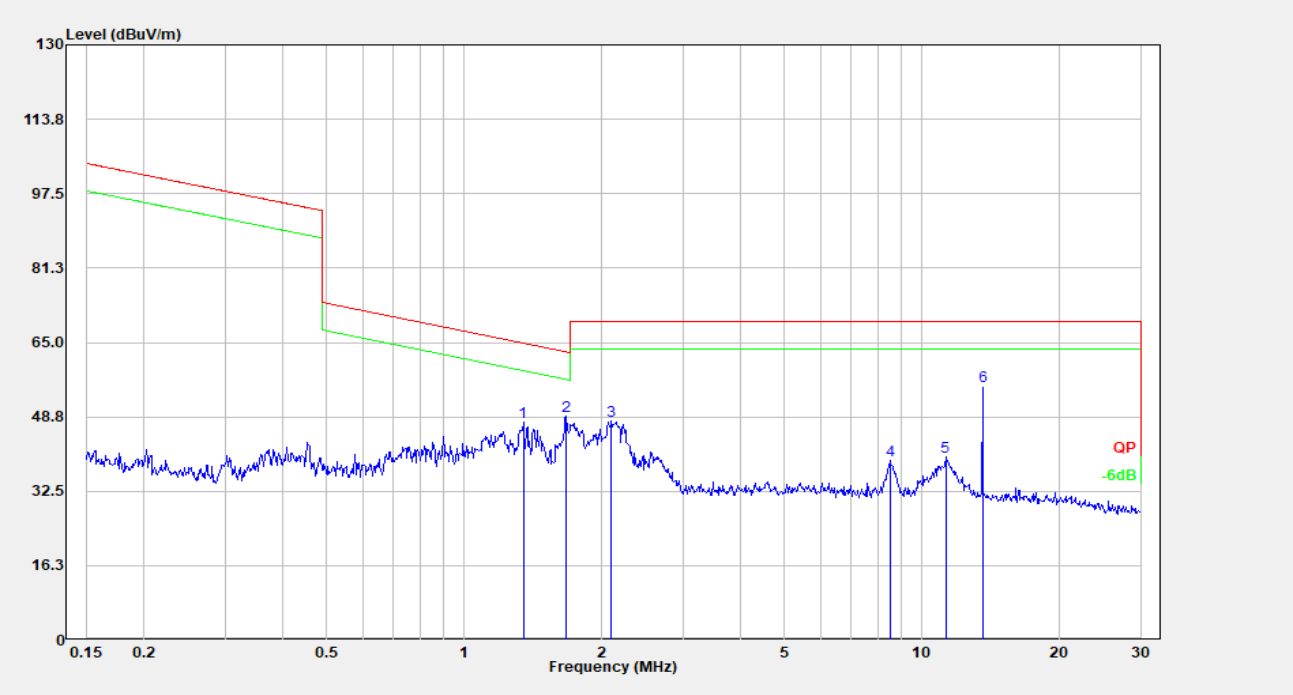


No.	Frequency	Reading	Factor	Result	Limit	Margin	Detector
	(MHz)	(dBμV)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)	
1	13.137	17.22	20.37	37.59	80.51	42.92	Peak
2	13.349	23.53	20.38	43.91	80.51	36.60	Peak
3	13.456	26.81	20.38	47.19	90.47	43.28	Peak
4	13.561	40.06	20.39	60.45	124.00	63.55	Peak
5	13.667	26.57	20.39	46.96	90.47	43.51	Peak
6	13.773	23.51	20.39	43.90	80.51	36.61	Peak

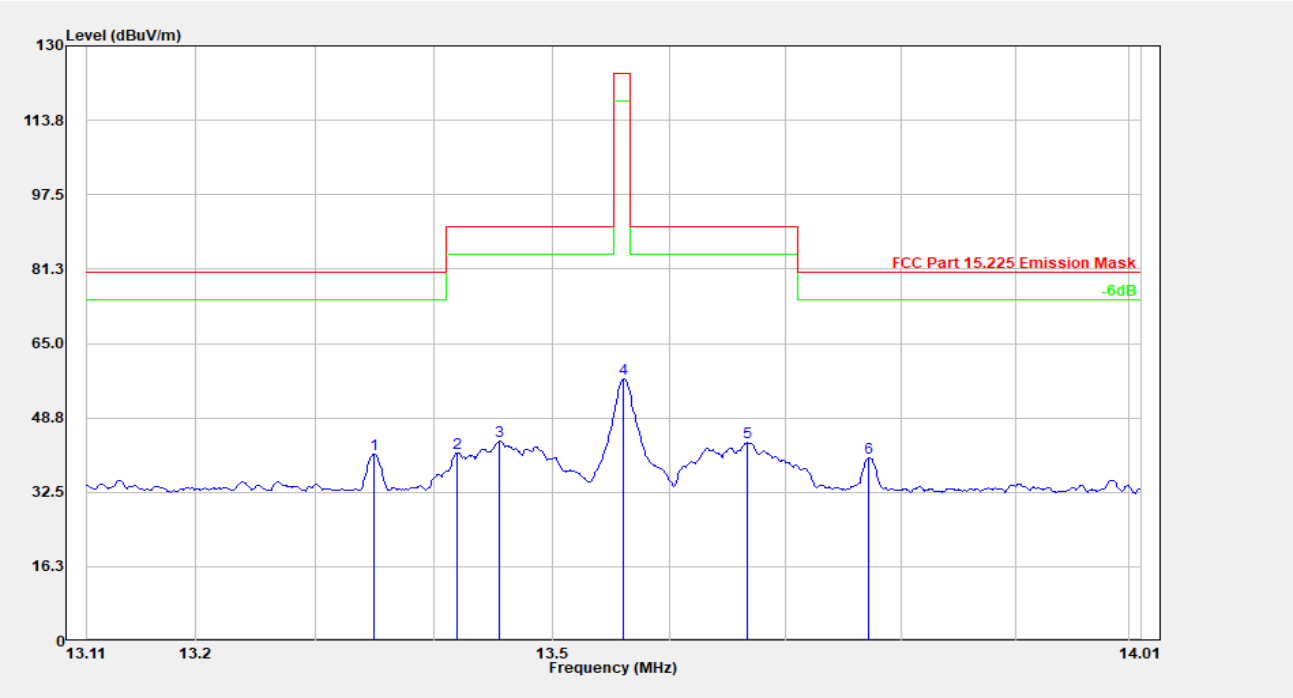
Coplanar:



No.	Frequency	Reading	Factor	Result	Limit	Margin	Detector
	(MHz)	(dBµV)	(dB/m)	(dBµV/m)	(dBµV/m)	(dB)	
1	0.010	27.57	20.51	48.08	127.40	79.31	Peak
2	0.011	25.80	20.51	46.31	126.39	80.08	Peak
3	0.016	23.32	20.51	43.83	123.71	79.88	Peak
4	0.029	20.80	20.41	41.21	118.23	77.02	Peak
5	0.054	13.19	20.41	33.60	112.88	79.28	Peak
6	0.123	8.60	20.22	28.82	105.79	76.97	Peak

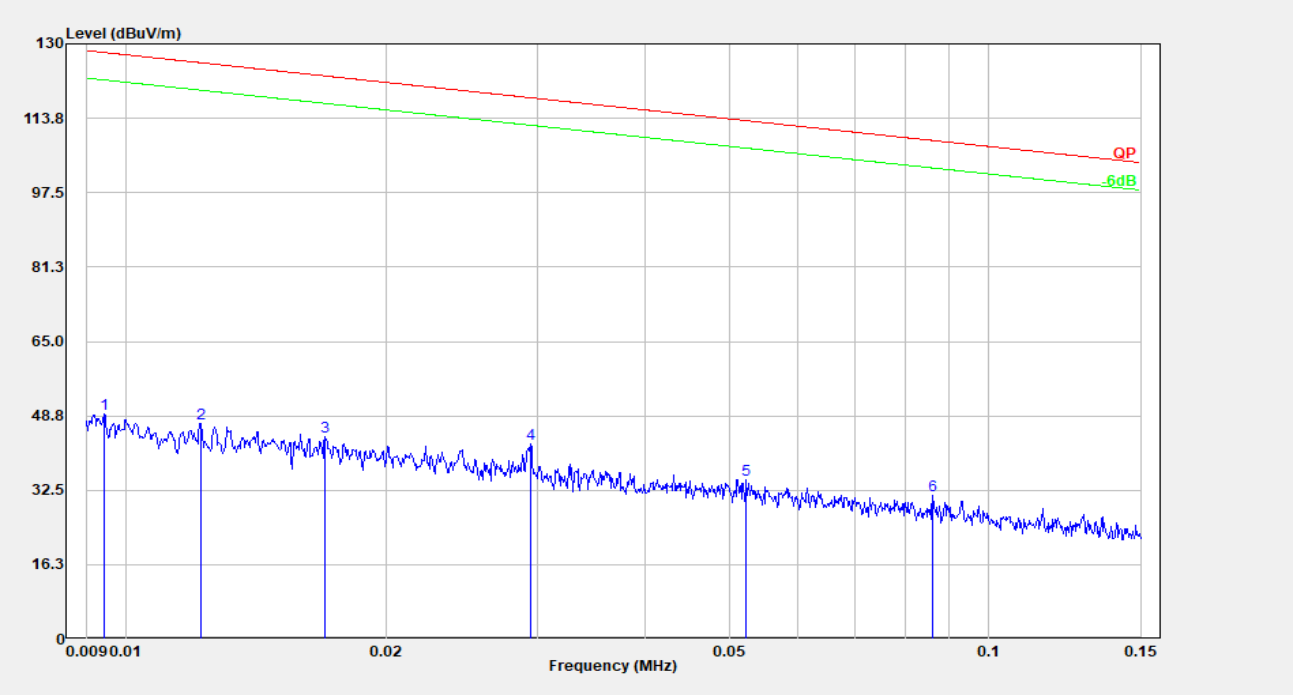


No.	Frequency	Reading	Factor	Result	Limit	Margin	Detector
	(MHz)	(dBµV)	(dB/m)	(dBµV/m)	(dBµV/m)	(dB)	
1	1.345	27.51	19.97	47.48	64.84	17.36	Peak
2	1.671	29.02	19.95	48.97	62.92	13.95	Peak
3	2.099	28.00	19.96	47.97	69.54	21.57	Peak
4	8.501	19.04	20.18	39.21	69.54	30.33	Peak
5	11.257	19.67	20.33	40.00	69.54	29.54	Peak
6	13.551	35.09	20.39	55.47	69.54	14.07	Peak

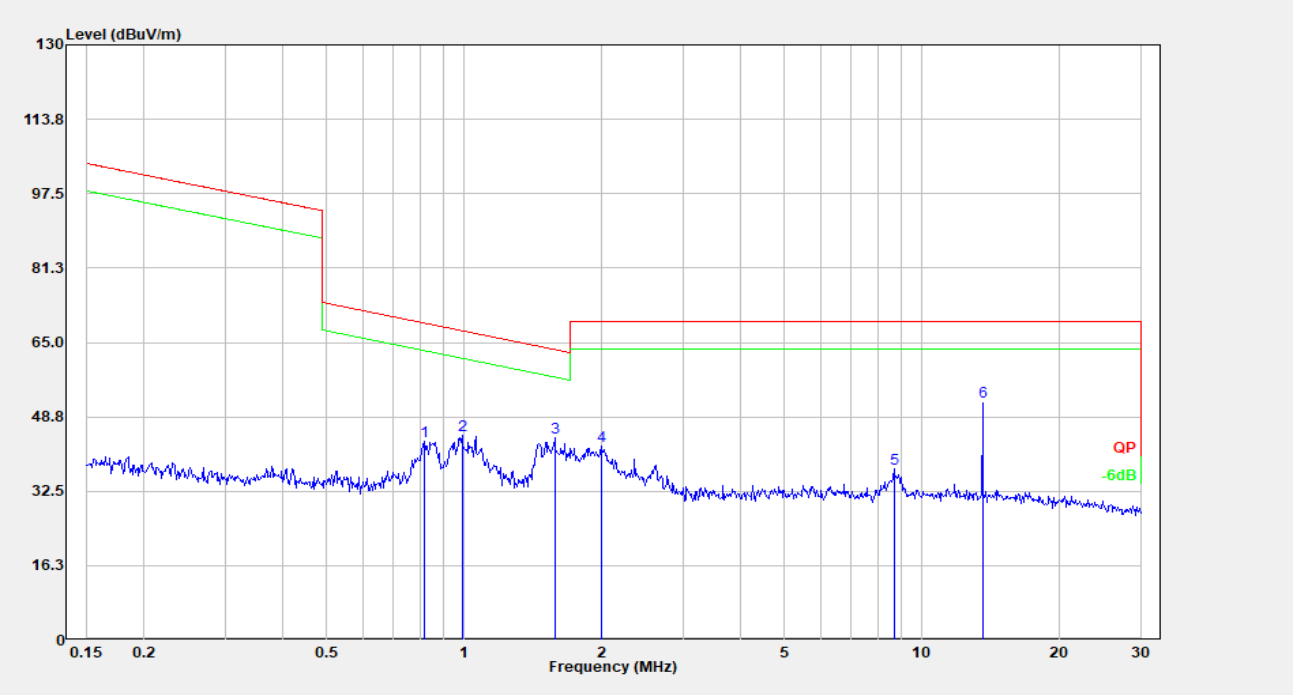


No.	Frequency	Reading	Factor	Result	Limit	Margin	Detector
	(MHz)	(dBµV)	(dB/m)	(dBµV/m)	(dBµV/m)	(dB)	
1	13.349	20.49	20.38	40.87	80.51	39.64	Peak
2	13.420	20.73	20.38	41.11	90.47	49.36	Peak
3	13.456	23.31	20.38	43.69	90.47	46.78	Peak
4	13.561	36.84	20.39	57.23	124.00	66.77	Peak
5	13.667	22.93	20.39	43.32	90.47	47.15	Peak
6	13.772	19.67	20.39	40.06	80.51	40.45	Peak

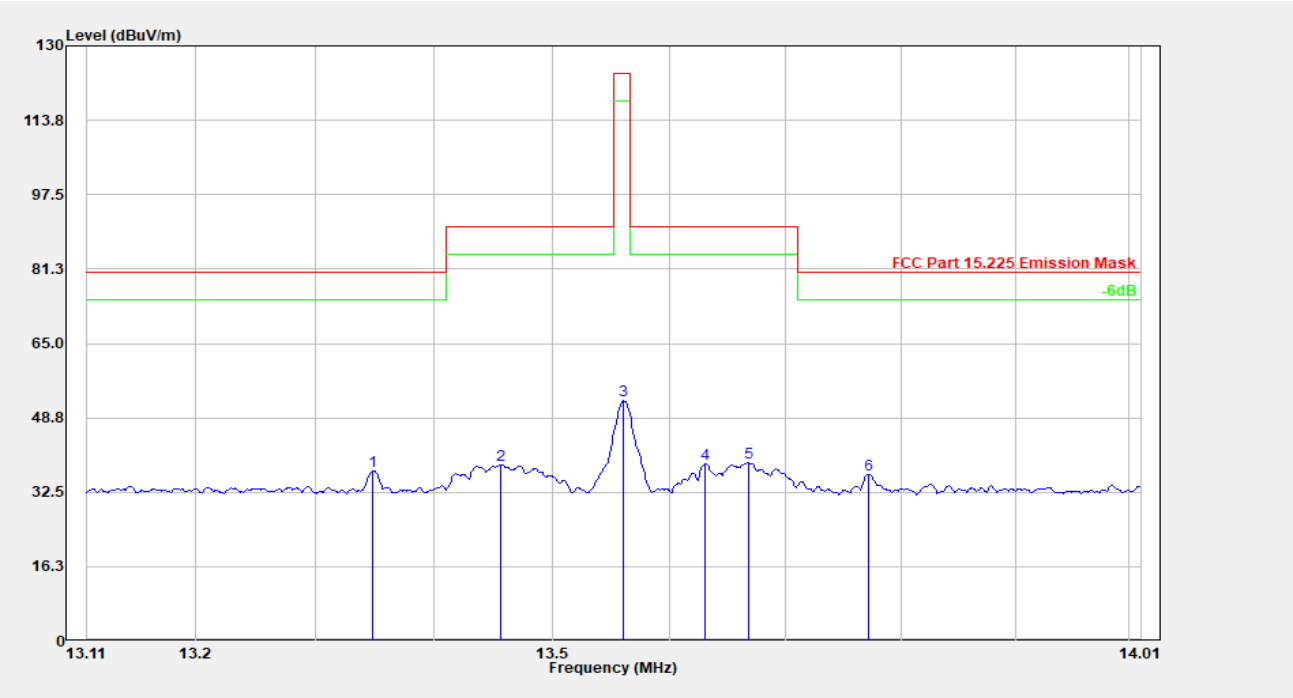
Ground-parallel:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	0.009	28.55	20.51	49.06	128.13	79.07	Peak
2	0.012	26.49	20.51	47.00	125.88	78.88	Peak
3	0.017	23.74	20.51	44.25	123.00	78.75	Peak
4	0.029	22.14	20.41	42.55	118.23	75.68	Peak
5	0.052	14.41	20.41	34.82	113.22	78.40	Peak
6	0.086	11.04	20.31	31.35	108.90	77.55	Peak



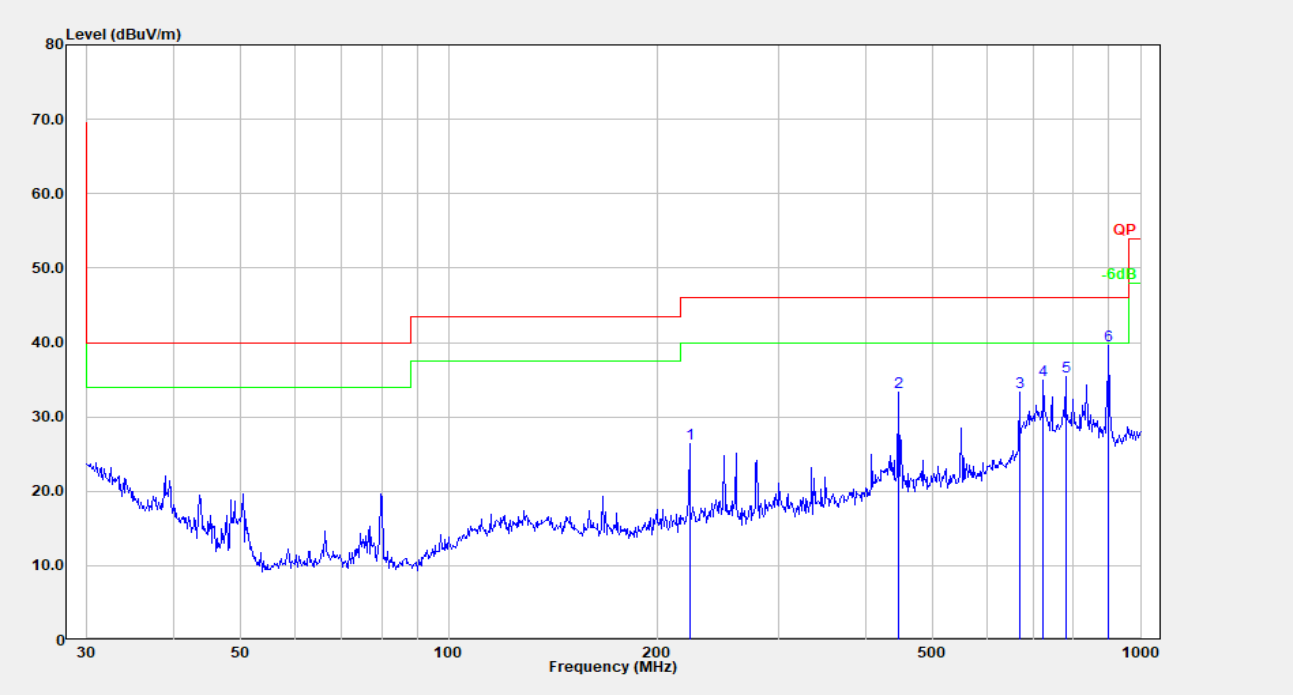
No.	Frequency	Reading	Factor	Result	Limit	Margin	Detector
	(MHz)	(dBµV)	(dB/m)	(dBµV/m)	(dBµV/m)	(dB)	
1	0.817	23.34	20.03	43.37	69.26	25.90	Peak
2	0.989	24.75	20.03	44.78	67.57	22.79	Peak
3	1.577	24.13	19.95	44.08	63.43	19.36	Peak
4	1.991	22.51	19.96	42.47	69.54	27.07	Peak
5	8.683	17.31	20.19	37.50	69.54	32.04	Peak
6	13.551	31.55	20.39	51.94	69.54	17.60	Peak



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	13.349	16.83	20.38	37.21	80.51	43.30	Peak
2	13.457	18.17	20.38	38.56	90.47	51.91	Peak
3	13.561	32.07	20.39	52.45	124.00	71.55	Peak
4	13.631	18.42	20.39	38.81	90.47	51.66	Peak
5	13.668	18.47	20.39	38.86	90.47	51.61	Peak
6	13.772	16.09	20.39	36.48	80.51	44.03	Peak

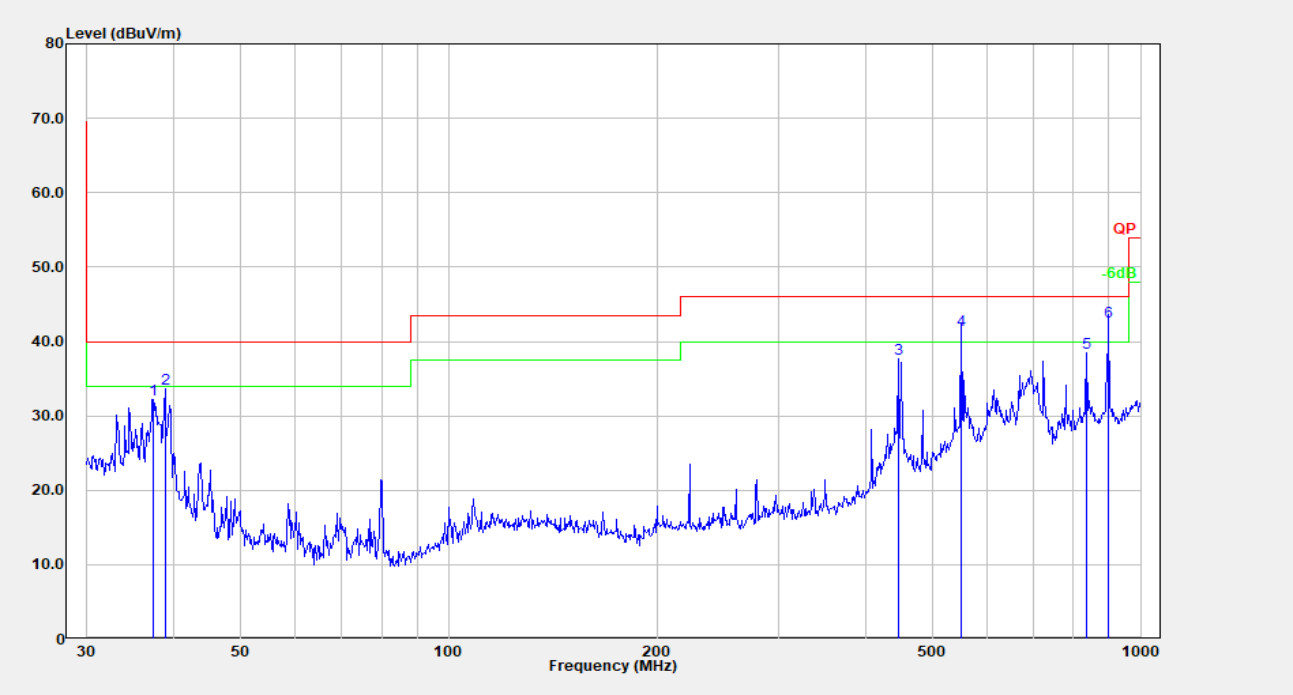
2)Above 30MHz

Horizontal:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	222.950	39.35	-13.01	26.34	46.00	19.66	Peak
2	446.414	40.60	-7.30	33.30	46.00	12.70	Peak
3	668.142	37.65	-4.38	33.27	46.00	12.73	Peak
4	724.261	38.34	-3.40	34.95	46.00	11.05	Peak
5	779.607	37.98	-2.52	35.46	46.00	10.54	Peak
6	900.147	40.76	-1.23	39.53	46.00	6.47	Peak

Vertical:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	37.416	41.76	-9.49	32.27	40.00	7.73	Peak
2	38.888	44.28	-10.63	33.65	40.00	6.35	Peak
3	446.414	44.99	-7.30	37.69	46.00	8.31	Peak
4	550.948	47.56	-5.98	41.58	46.00	4.42	QP
5	836.244	40.42	-1.92	38.49	46.00	7.51	Peak
6	900.147	43.84	-1.23	42.61	46.00	3.39	QP

4.3 20 dB Emission Bandwidth

Serial Number:	CR21110093-RF-S1	Test Date:	2022-02-10
Test Site:	966-2	Test Mode:	Transmitting
Tester:	Great Qiao	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	18.4	Relative Humidity: (%)	53	ATM Pressure: (kPa)	101.4

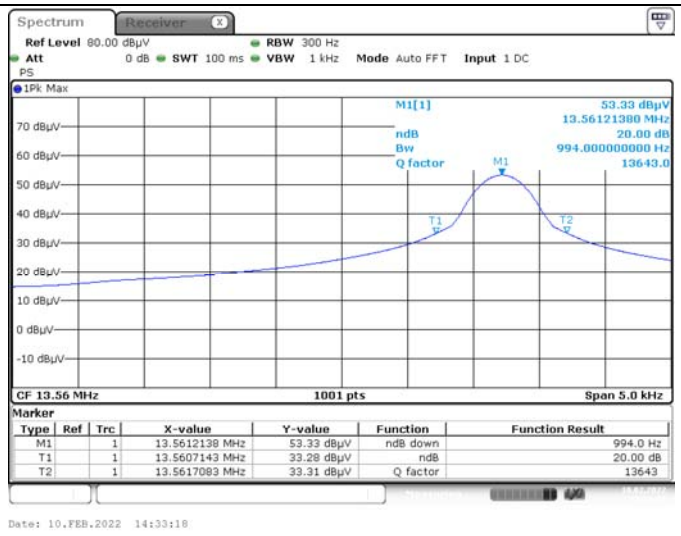
Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
TESEQ	HF Loop Antenna	HLA6120	33561	2021-02-03	2024-02-02
R&S	EMI Test Receiver	ESR3	102724	2021-07-22	2022-07-21
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0470-02	2021-07-18	2022-07-17
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0780-01	2021-07-18	2022-07-17
Audix	Test Software	E3	201021 (V9)	N/A	N/A

** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Data:

Test Channel	Test Frequency (MHz)	20 dB Bandwidth (Hz)
Middle	13.56	994

20dB Emission Bandwidth	
Middle Channel	

4.4 Frequency Stability

Serial Number:	CR21110093-RF-S1	Test Date:	2022-02-10
Test Site:	RF	Test Mode:	Transmitting
Tester:	Great Qiao	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	18.9	Relative Humidity: (%)	51	ATM Pressure: (kPa)	101.4

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
TESEQ	HF Loop Antenna	HLA6120	33561	2021-02-03	2024-02-02
R&S	EMI Test Receiver	ESR3	102724	2021-07-22	2022-07-21
BACL	TEMP&HUMI Test Chamber	BTH-150	30026	2021-07-22	2022-07-21
YINSAIGE	Coaxial Cable	SS402	SJ0300001	Each time	N/A
UNI-T	Multimeter	UT39A+	C210582554	2021-09-30	2022-09-29

**** Statement of Traceability:*** *China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Data:

DC 12V:

f_o = 13.56 MHz				
Temperature	**Voltage**	**Measured frequency**	**Frequency Error**	**Limit**
℃	**V_{DC}**	**MHz**	**Hz**	**Hz**
-30	12	13.5610024	1002.4	±1356
-20		13.5610035	1003.5	±1356
-10		13.5609973	997.3	±1356
0		13.5609880	988.0	±1356
10		13.5610487	1048.7	±1356
20		13.5611418	1141.8	±1356
25		13.5612138	1213.8	±1356
30		13.5612101	1210.1	±1356
40		13.5609780	978.0	±1356
50		13.5611497	1149.7	±1356
20	10.8	13.5610610	1061.0	±1356
20	13.6	13.5610990	1099.0	±1356

DC 48V:

f_o = 13.56 MHz				
Temperature	**Voltage**	**Measured frequency**	**Frequency Error**	**Limit**
℃	**V_{DC}**	**MHz**	**Hz**	**Hz**
-30	48	13.5610110	1011.0	±1356
-20		13.5610071	1007.1	±1356
-10		13.5610095	1009.5	±1356
0		13.5610082	1008.2	±1356
10		13.5610108	1010.8	±1356
20		13.5610156	1015.6	±1356
25		13.5610061	1006.1	±1356
30		13.5610112	1011.2	±1356
40		13.5610070	1007.0	±1356
50		13.5610109	1010.9	±1356
20	40.8	13.5610059	1005.9	±1356
20	55.2	13.5610162	1016.2	±1356

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