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

ACCREDITED
TESTING LABORATORY
CERTIFICATE # 6356.01

TEST REPORT

Applicant: **dormakaba Access Solutions (China) Ltd.**

Address: Rm. 1608 Gangtai Plaza, No. 700, Yan An East Road, Shanghai, China

FCC ID: **2A9HP9160-K5**

Product Name: **Face Recognition Terminal**

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

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

Report Number: **CR230528984-00**

Date Of Issue: **2023/6/12**

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.

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

DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
1.0	CR230528984-00	Original Report	2023/6/12

1. GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

EUT Name:	Face Recognition Terminal
EUT Model:	91 60-K5
Operation Frequency:	13.56 MHz
Modulation Type:	ASK
Rated Input Voltage:	DC 12V from adapter
Serial Number:	2699_2
EUT Received Date:	2023/5/26
EUT Received Status:	Good

Antenna Information Detail▲:

Antenna Type	input impedance (Ohm)	Frequency Range	Antenna Gain
PCB	50	13.56MHz	4 dBi

The Method of §15.203 Compliance:

☒Antenna was permanently attached to the unit.

☐Antenna use a unique type of connector to attach to the EUT.

☐Unit was professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

Accessory Information:

Accessory Description	Manufacturer	Model
/	/	/

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:	No
Engineering Mode was provided by manufacturer▲. The maximum power was configured default setting.	

1.2.2 Support Equipment List and Details

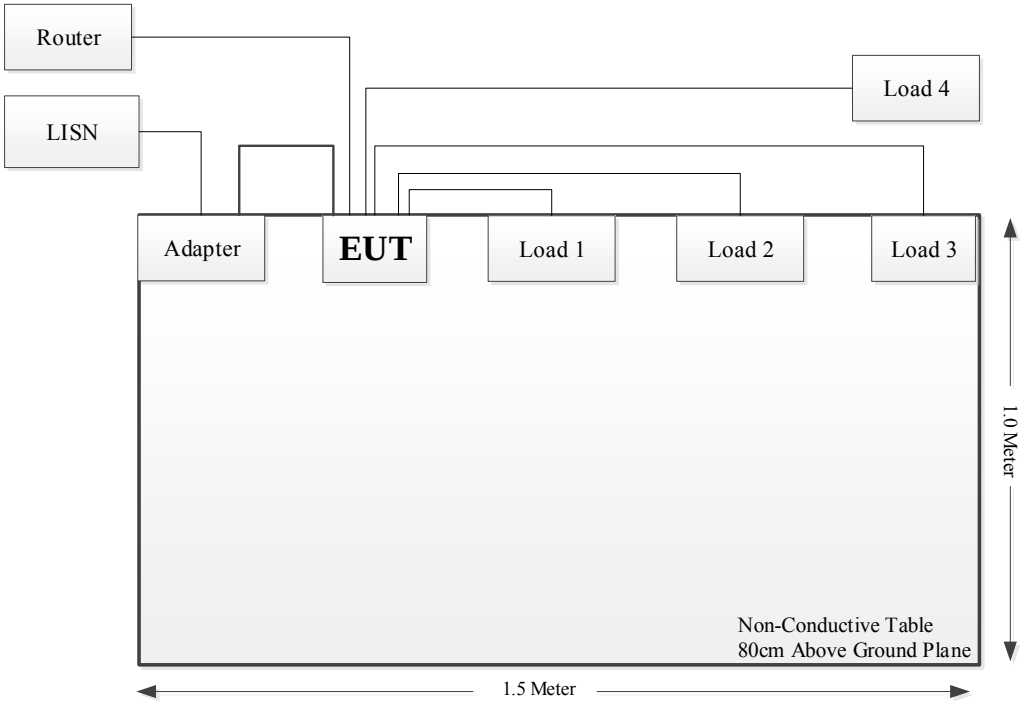
Manufacturer	Description	Model	Serial Number
ORIENTAL HERO ELE.FTY	POWER ADAPTER	OH-101511201000U3-UL	E230964
TP-LINK	Router	AC1200	Unknown
Unknown	Load*4	Unknown	Unknown

1.2.3 Support Cable List and Details

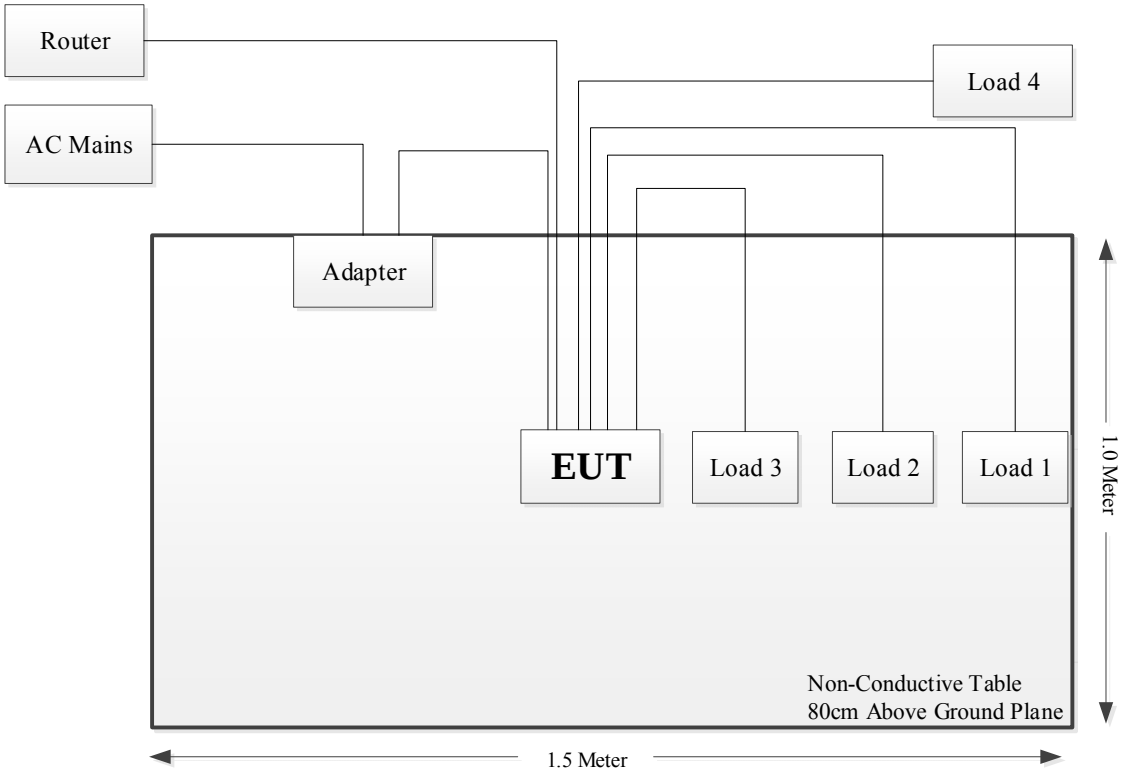
Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
Power Cable	No	No	1.2	Adapter	Laptop
Cable*4	No	No	0.4	EUT	Load
RJ45 Cable	No	No	1.5	EUT	Router

1.2.4 Block Diagram of Test Setup

AC Line Conducted Emissions:



Radiated emissions:



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:

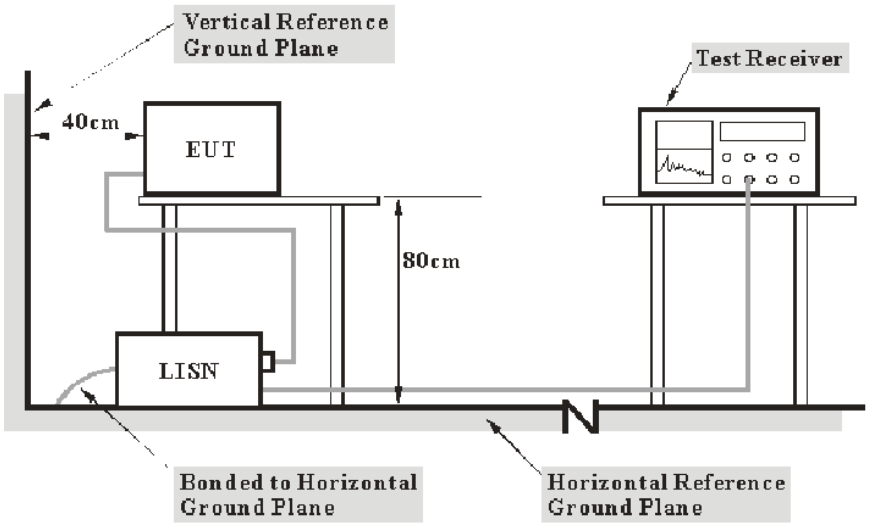
(1) For carrier current system containing their fundamental emission within the frequency band 535-1705 kHz and intended to be received using a standard AM broadcast receiver: no limit on conducted emissions.

(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.

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.

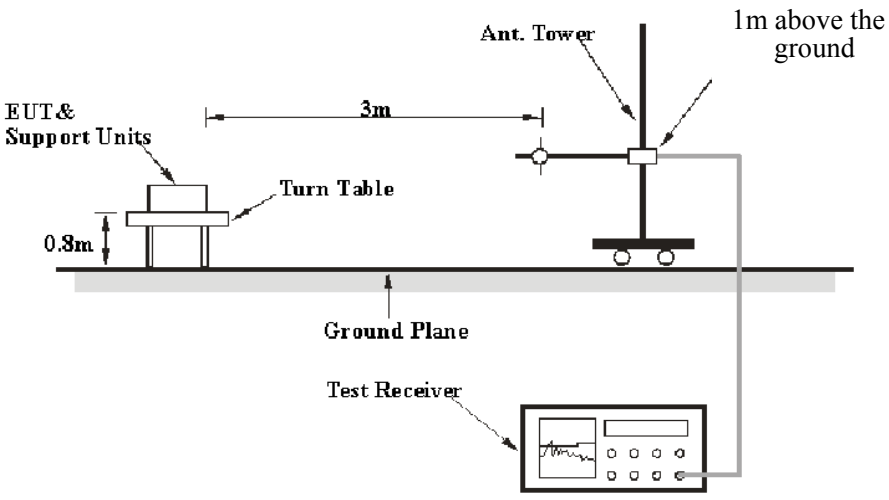
(b) Within the bands 13.410–13.553 MHz and 13.567–13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.

(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.

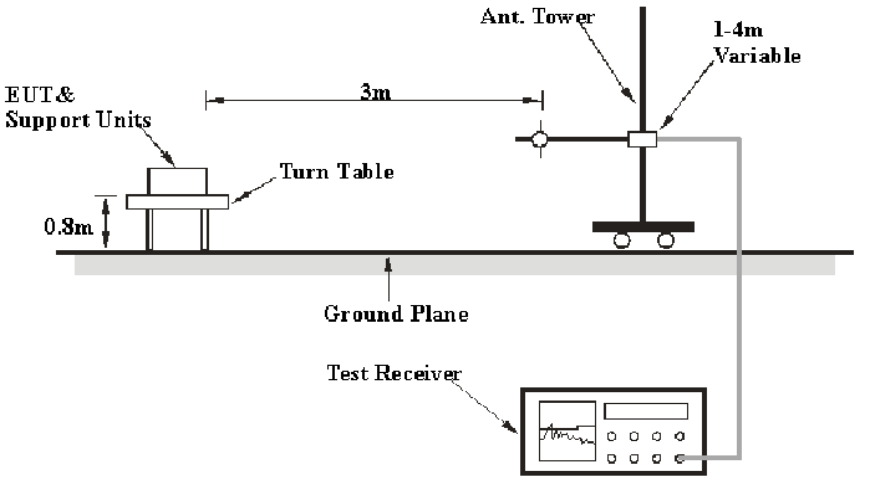
(d) The field strength of any emissions appearing outside of the 13.110–14.010 MHz band shall not exceed the general radiated emission limits in §15.209.

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	IF B/W	Measurement
9 kHz – 150 kHz	300 Hz	1 kHz	/	PK
	/	/	200 Hz	QP/AV
150 kHz – 30 MHz	10 kHz	30 kHz	/	PK
	/	/	9 kHz	QP/AV
30 MHz – 1000 MHz	100 kHz	300 kHz	/	PK
	/	/	120 kHz	QP

If the maximized peak measured value complies with under the QP/Average limit more than 6dB, then it is unnecessary to perform an QP/Average measurement.

3.2.4 Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

Data was recorded in Quasi-peak detection mode for frequency range of 9 kHz-1 GHz except 9 – 90 kHz, 110 – 490 kHz, employing an average detector.

3.2.5 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

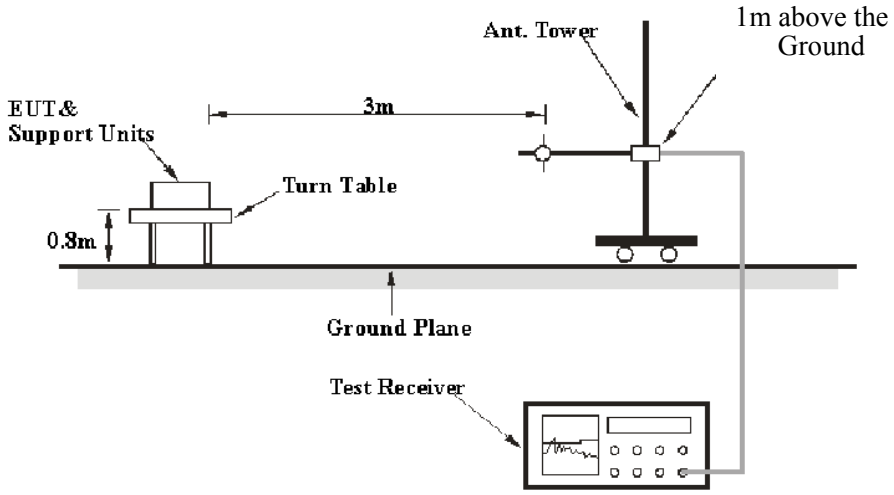
3.3 20 dB Emission Bandwidth:

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.

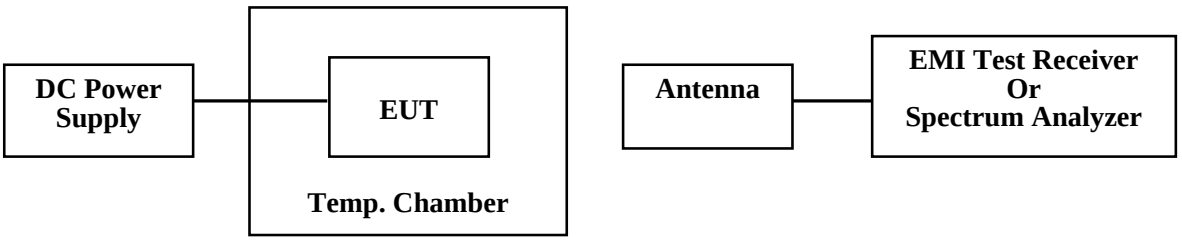
3.4 Frequency Stability

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

Compliant. Please refer to the Antenna Information detail in Section 1.

4. TEST DATA AND RESULTS

4.1 AC Line Conducted Emissions

Serial Number:	2699_2	Test Date:	2023/5/31
Test Site:	CE	Test Mode:	Transmitting
Tester:	David Huang	Test Result:	Pass

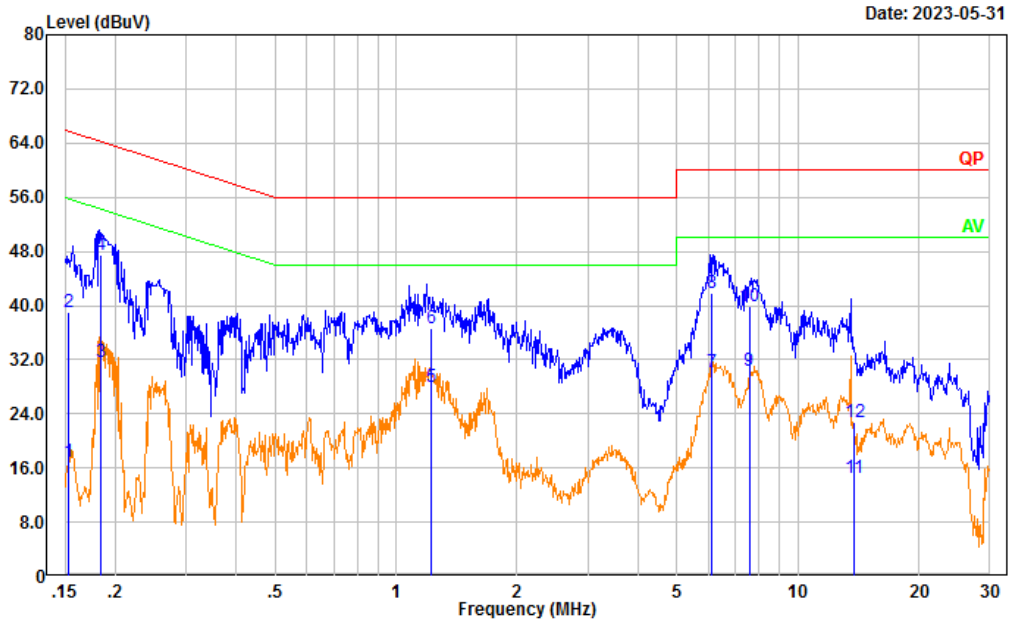
Environmental Conditions:					
Temperature: (℃)	24.8	Relative Humidity: (%)	68	ATM Pressure: (kPa)	101.5

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	LISN	ENV216	101134	2023/03/31	2024/03/30
R&S	EMI Test Receiver	ESR3	102726	2022/07/15	2023/07/14
MICRO-COAX	Coaxial Cable	UTIFLEX	C-0200-01	2022/08/07	2023/08/06
Audix	Test Software	E3	190306 (V9)	N/A	N/A

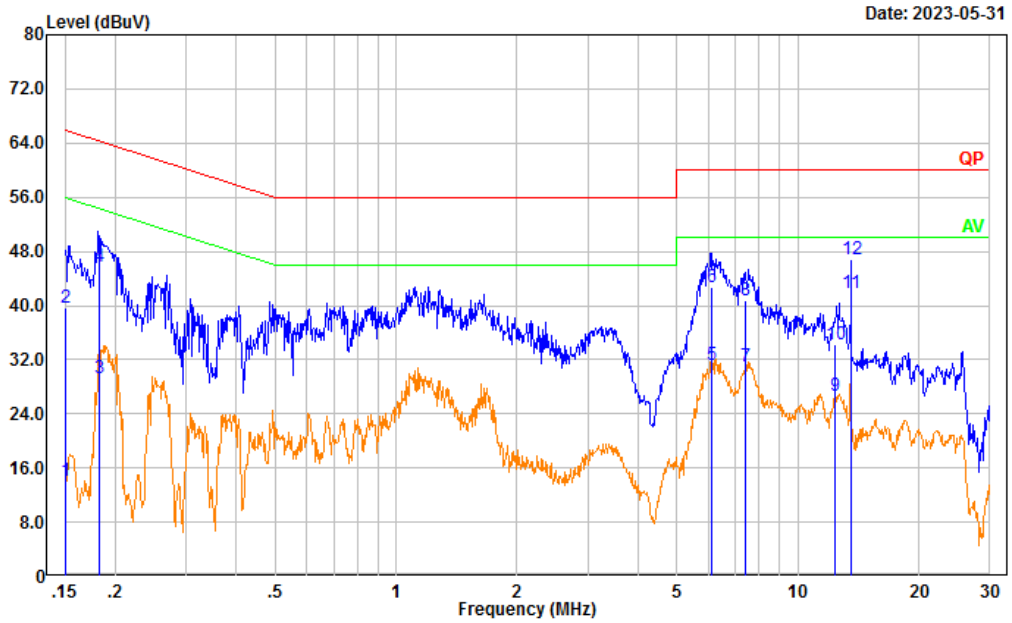
** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Mode: Transmitting
Port: Line
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Detector
1	0.154	7.34	9.61	16.95	55.80	38.85	Average
2	0.154	29.39	9.61	39.00	65.80	26.80	QP
3	0.185	21.99	9.61	31.60	54.28	22.68	Average
4	0.185	37.90	9.61	47.51	64.28	16.77	QP
5	1.220	18.35	9.62	27.97	46.00	18.03	Average
6	1.220	26.94	9.62	36.56	56.00	19.44	QP
7	6.106	20.51	9.66	30.17	50.00	19.83	Average
8	6.106	32.24	9.66	41.90	60.00	18.10	QP
9	7.558	20.76	9.67	30.43	50.00	19.57	Average
10	7.558	30.33	9.67	40.00	60.00	20.00	QP
11	13.772	4.82	9.68	14.50	50.00	35.50	Average
12	13.772	13.13	9.68	22.81	60.00	37.19	QP

Test Mode: Transmitting
Port: neutral
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Detector
1	0.151	4.53	9.61	14.14	55.95	41.81	Average
2	0.151	30.09	9.61	39.70	65.95	26.25	QP
3	0.182	19.67	9.61	29.28	54.39	25.11	Average
4	0.182	36.12	9.61	45.73	64.39	18.66	QP
5	6.109	21.51	9.66	31.17	50.00	18.83	Average
6	6.109	33.12	9.66	42.78	60.00	17.22	QP
7	7.380	21.34	9.66	31.00	50.00	19.00	Average
8	7.380	31.10	9.66	40.76	60.00	19.24	QP
9	12.396	17.09	9.67	26.76	50.00	23.24	Average
10	12.396	24.61	9.67	34.28	60.00	25.72	QP
11	13.560	32.16	9.68	41.84	50.00	8.16	Average
12	13.560	37.22	9.68	46.90	60.00	13.10	QP

4.2 Radiation Spurious Emissions

Serial Number:	2699_2	Test Date:	2023/5/31
Test Site:	966-2	Test Mode:	Transmitting
Tester:	Vic Du	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	26.1	Relative Humidity: (%)	61	ATM Pressure: (kPa)	99.6

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	2022/07/15	2023/07/14
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0470-02	2022/07/17	2023/07/16
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0780-01	2022/07/17	2023/07/16
Sonoma	Amplifier	310N	186165	2022/07/17	2023/07/16
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).*

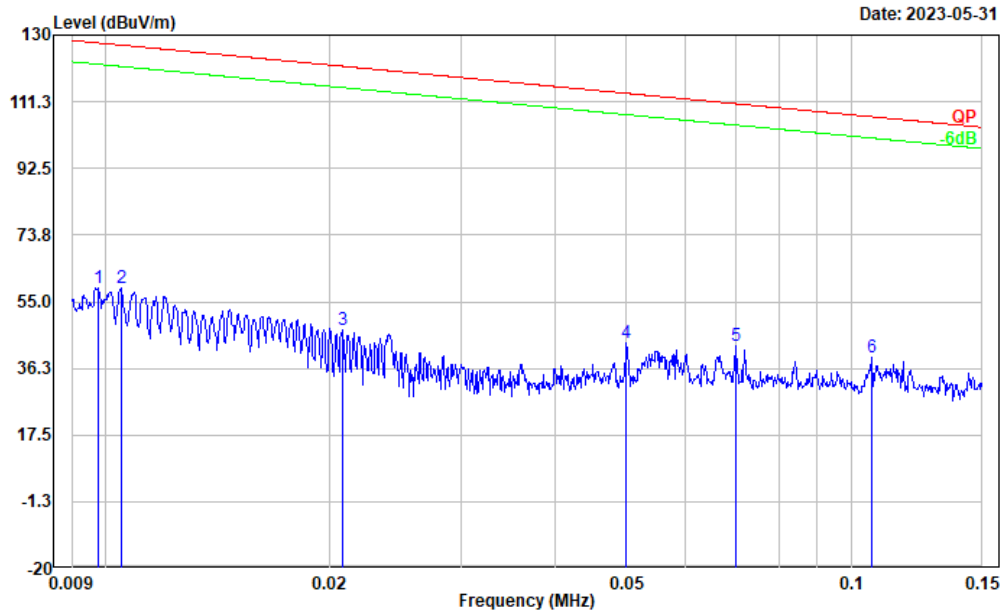
Test Data:

Please refer to the below table and plots.

1) 9 kHz~30MHz:

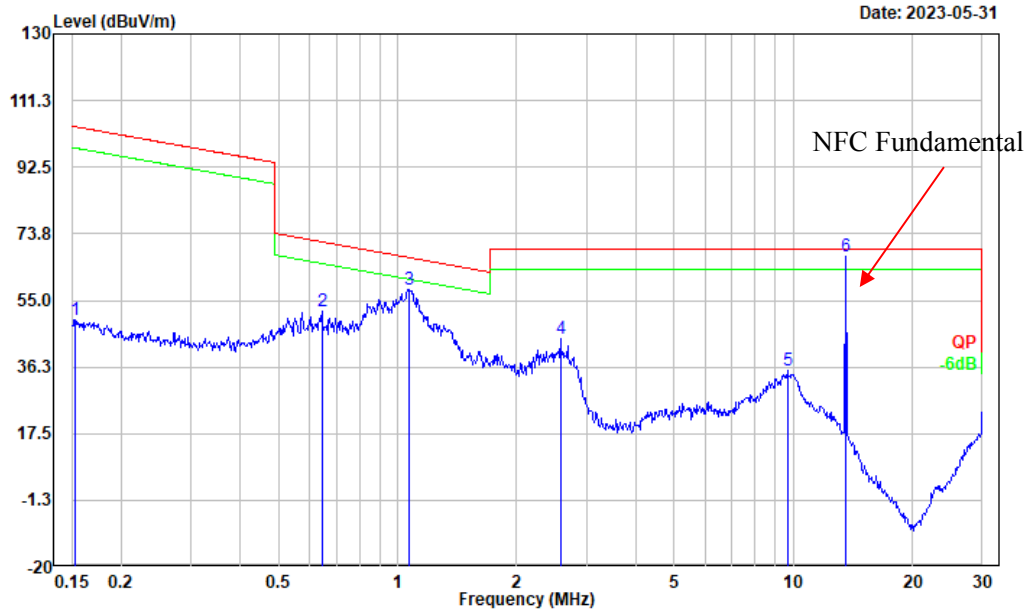
Parallel:

Test Mode: Transmitting
Polarization: Parallel
Note:



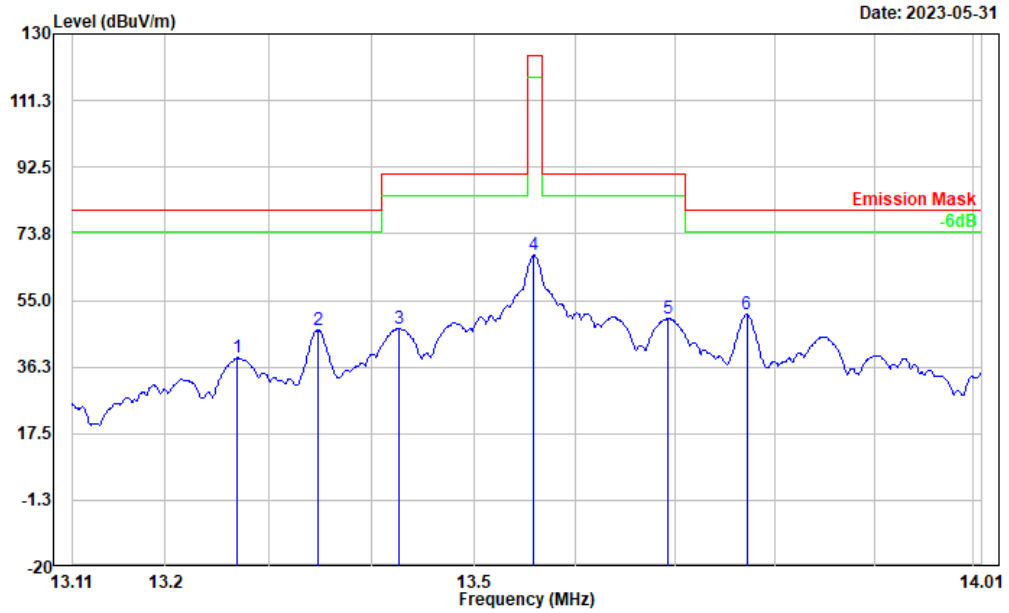
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	0.010	0.71	58.28	58.99	127.81	68.82	Peak
2	0.010	1.21	57.61	58.82	127.20	68.38	Peak
3	0.021	-2.09	49.00	46.91	121.26	74.35	Peak
4	0.050	0.97	42.29	43.26	113.64	70.38	Peak
5	0.070	4.22	38.25	42.47	110.70	68.23	Peak
6	0.107	4.46	34.87	39.33	107.04	67.71	Peak

Test Mode: Transmitting
Polarization: Parallel
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	0.153	17.27	32.24	49.51	103.90	54.39	Peak
2	0.644	31.53	20.36	51.89	71.38	19.49	Peak
3	1.065	41.56	16.49	58.05	66.91	8.86	Peak
4	2.581	34.75	9.54	44.29	69.54	25.25	Peak
5	9.654	30.94	4.48	35.42	69.54	34.12	Peak
6	13.551	73.72	-6.36	67.36	69.54	2.18	Peak

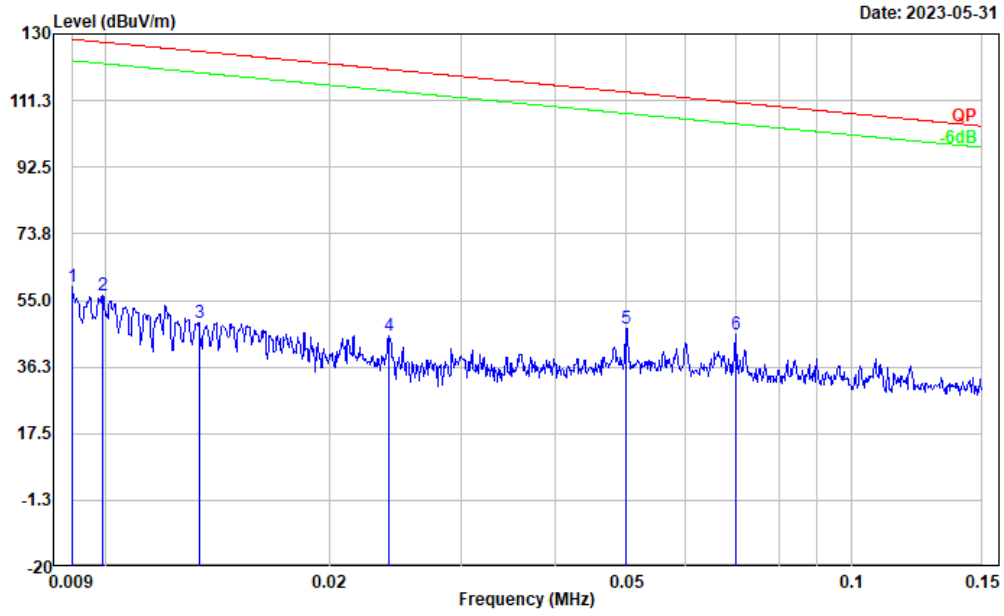
Test Mode: Transmitting
Polarization: Parallel
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	13.269	44.31	-5.51	38.80	80.51	41.71	Peak
2	13.348	52.43	-5.75	46.68	80.51	33.83	Peak
3	13.427	53.17	-6.00	47.17	90.47	43.30	Peak
4	13.559	74.13	-6.38	67.75	124.00	56.25	Peak
5	13.693	56.70	-6.79	49.91	90.47	40.56	Peak
6	13.772	58.08	-7.03	51.05	80.51	29.46	Peak

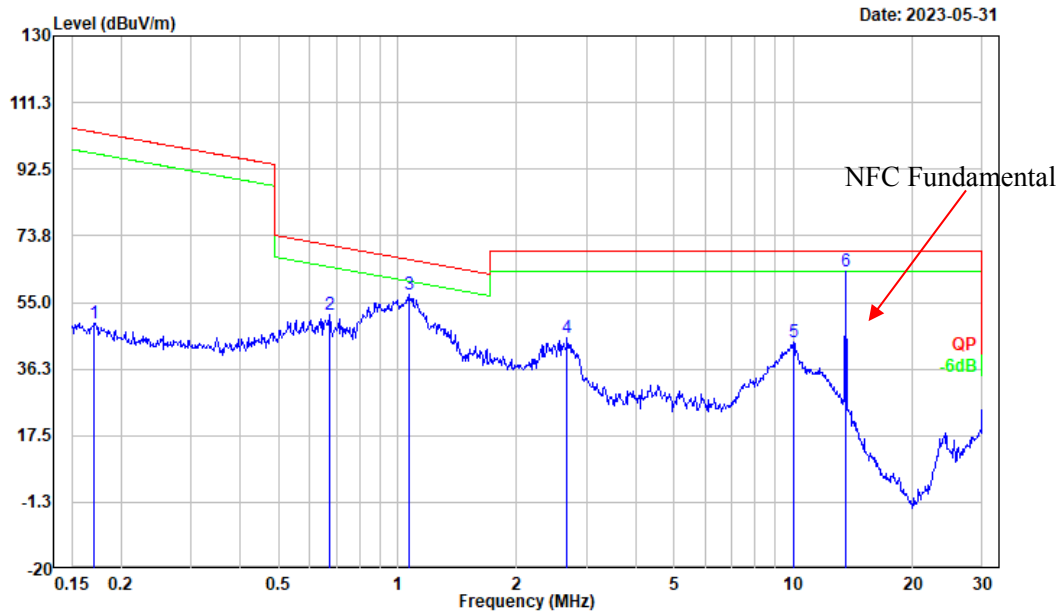
Perpendicular:

Test Mode: Transmitting
Polarization: Perpendicular
Note:



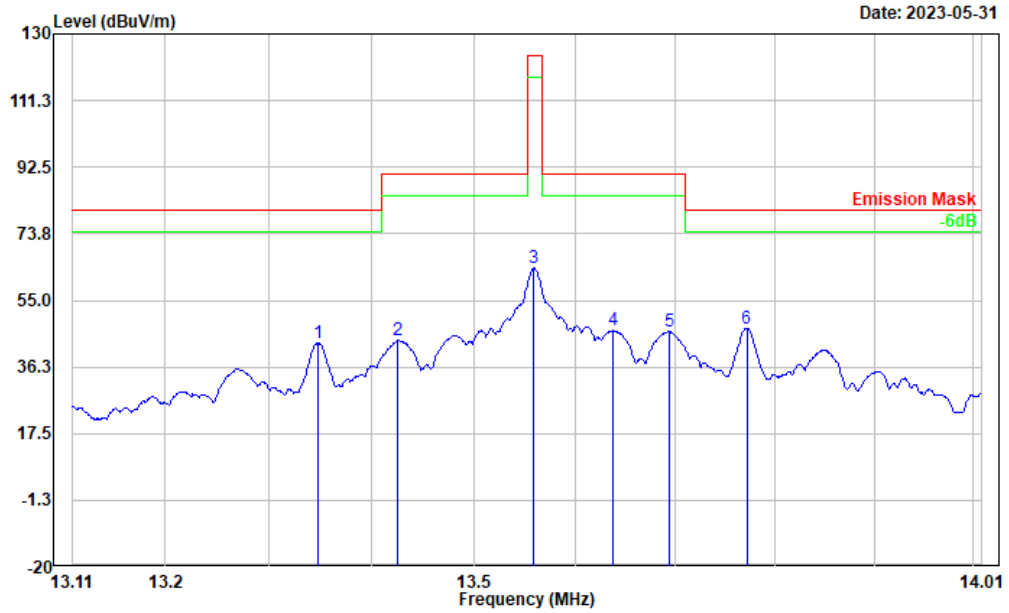
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	0.009	-0.27	59.09	58.82	128.52	69.70	Peak
2	0.010	-1.89	58.13	56.24	127.69	71.45	Peak
3	0.013	-6.34	55.10	48.76	125.10	76.34	Peak
4	0.024	-2.84	47.82	44.98	120.02	75.04	Peak
5	0.050	4.95	42.29	47.24	113.64	66.40	Peak
6	0.070	7.28	38.25	45.53	110.70	65.17	Peak

Test Mode: Transmitting
Polarization: Perpendicular
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	0.171	17.96	31.21	49.17	102.93	53.76	Peak
2	0.675	31.78	19.96	51.74	70.95	19.21	Peak
3	1.065	40.64	16.49	57.13	66.91	9.78	Peak
4	2.678	35.76	9.25	45.01	69.54	24.53	Peak
5	10.019	39.31	4.39	43.70	69.54	25.84	Peak
6	13.551	70.17	-6.36	63.81	69.54	5.73	Peak

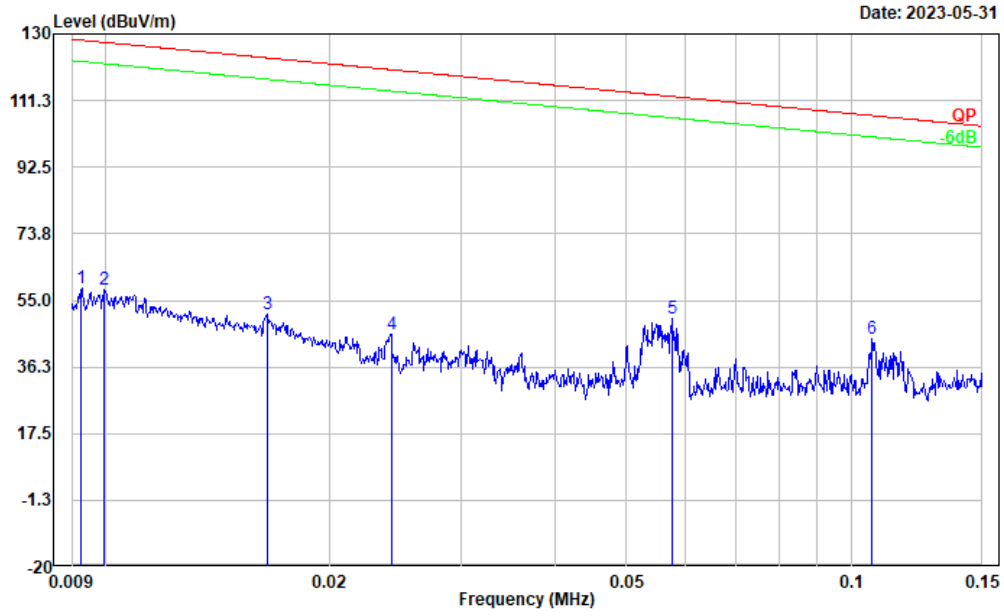
Test Mode: Transmitting
Polarization: Perpendicular
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	13.348	48.79	-5.75	43.04	80.51	37.47	Peak
2	13.426	49.74	-5.99	43.75	90.47	46.72	Peak
3	13.559	70.38	-6.38	64.00	124.00	60.00	Peak
4	13.637	53.15	-6.62	46.53	90.47	43.94	Peak
5	13.694	53.09	-6.79	46.30	90.47	44.17	Peak
6	13.772	54.23	-7.03	47.20	80.51	33.31	Peak

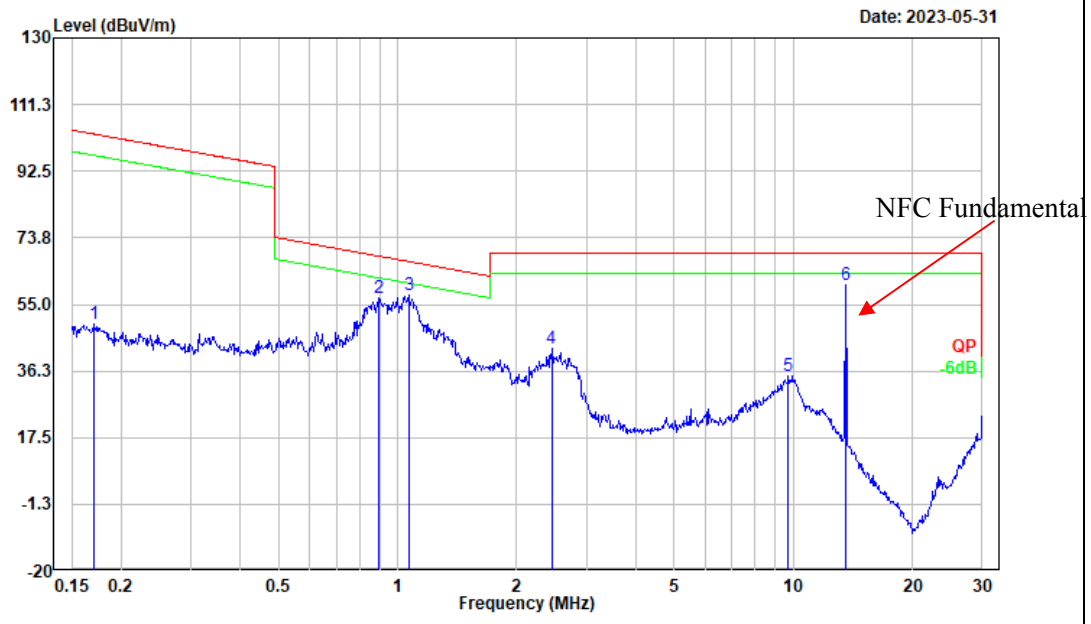
Ground-parallel:

Test Mode: Transmitting
Polarization: Ground-parallel
Note:



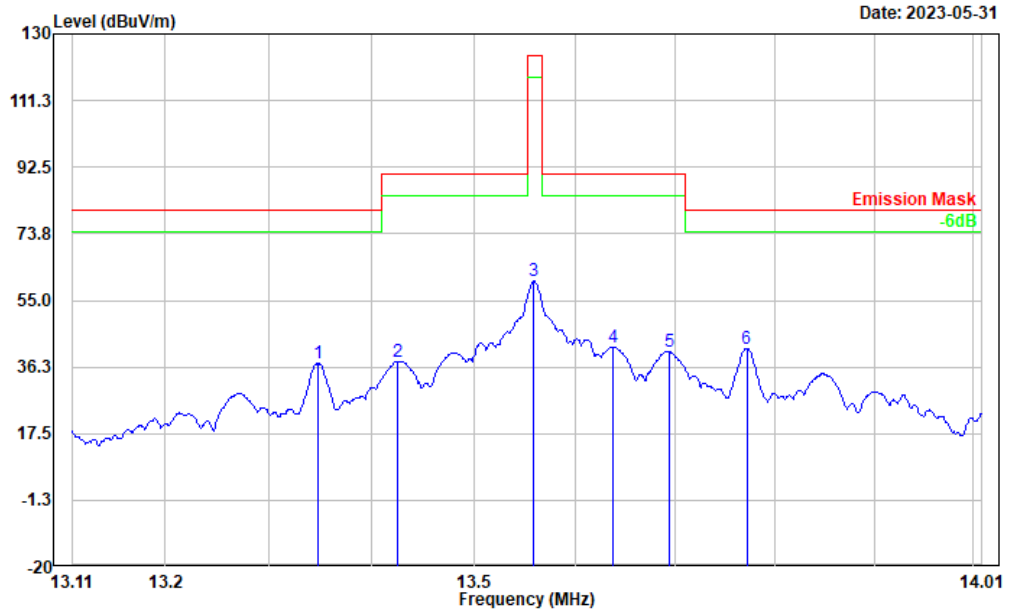
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	0.009	-0.34	58.79	58.45	128.25	69.80	Peak
2	0.010	-0.10	58.07	57.97	127.64	69.67	Peak
3	0.016	-1.39	52.37	50.98	123.27	72.29	Peak
4	0.024	-2.45	47.75	45.30	119.94	74.64	Peak
5	0.057	9.13	40.63	49.76	112.42	62.66	Peak
6	0.107	9.18	34.87	44.05	107.04	62.99	Peak

Test Mode: Transmitting
Polarization: Ground-parallel
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	0.170	18.06	31.26	49.32	102.98	53.66	Peak
2	0.899	39.17	17.77	56.94	68.42	11.48	Peak
3	1.065	40.96	16.49	57.45	66.91	9.46	Peak
4	2.448	32.49	9.92	42.41	69.54	27.13	Peak
5	9.705	30.55	4.48	35.03	69.54	34.51	Peak
6	13.551	66.93	-6.36	60.57	69.54	8.97	Peak

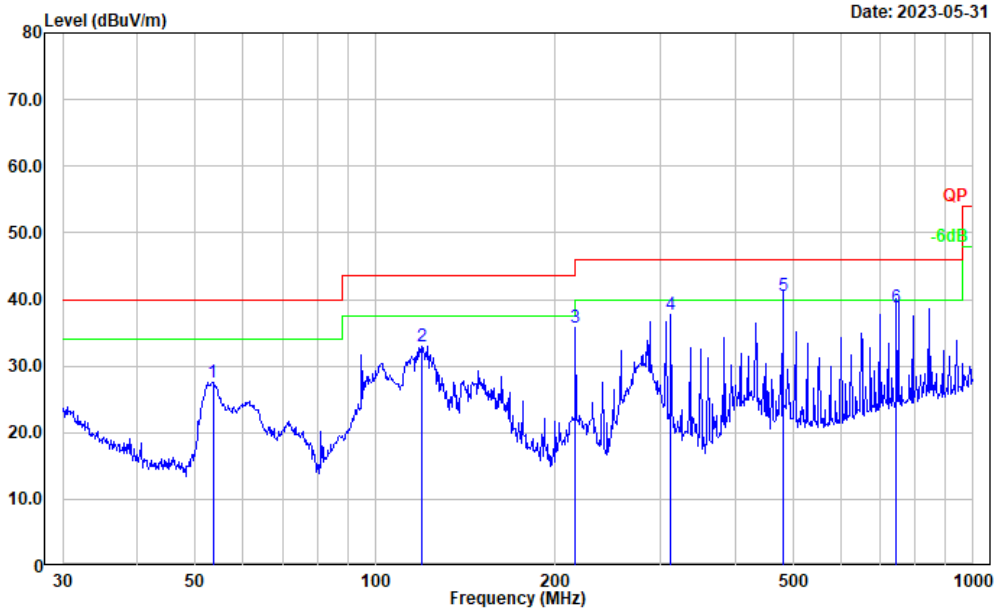
Test Mode: Transmitting
Polarization: Ground-parallel
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	13.348	42.98	-5.75	37.23	80.51	43.28	Peak
2	13.426	43.79	-5.99	37.80	90.47	52.67	Peak
3	13.559	66.75	-6.38	60.37	124.00	63.63	Peak
4	13.638	48.48	-6.62	41.86	90.47	48.61	Peak
5	13.694	47.32	-6.79	40.53	90.47	49.94	Peak
6	13.772	48.61	-7.03	41.58	80.51	38.93	Peak

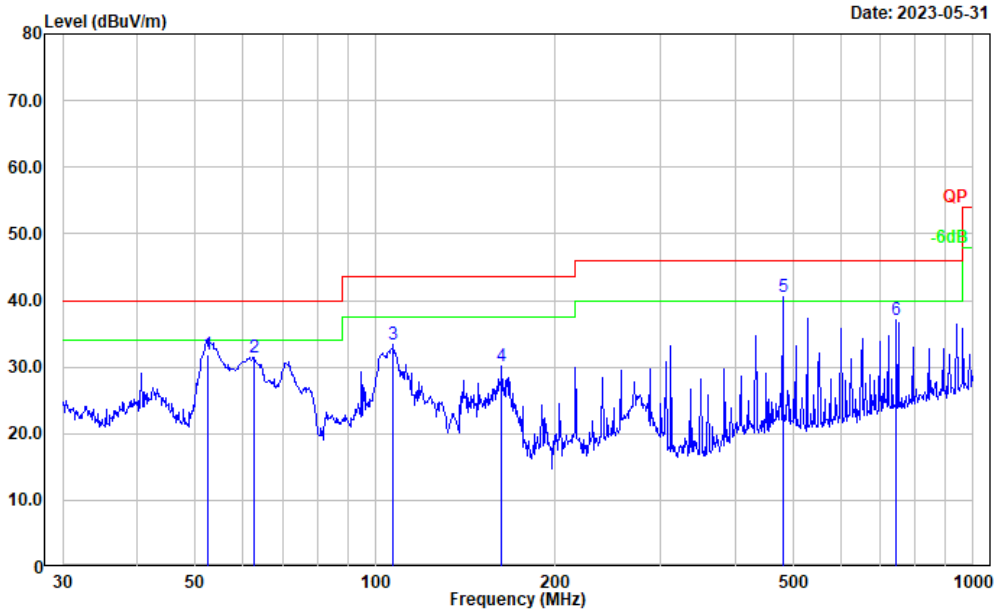
30MHz-1GHz:

Test Mode: Transmitting
Polarization: horizontal
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	53.505	44.85	-17.25	27.60	40.00	12.40	Peak
2	119.436	44.48	-11.49	32.99	43.50	10.51	Peak
3	216.024	48.49	-12.65	35.84	46.00	10.16	Peak
4	312.179	48.33	-10.60	37.73	46.00	8.27	Peak
5	480.028	46.84	-6.24	40.60	46.00	5.40	QP
6	744.003	41.67	-2.92	38.75	46.00	7.25	QP

Test Mode: Transmitting
Polarization: vertical
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	52.406	49.01	-17.21	31.80	40.00	8.20	QP
2	62.651	48.56	-17.16	31.40	40.00	8.60	Peak
3	107.134	46.20	-12.87	33.33	43.50	10.17	Peak
4	162.611	42.35	-12.31	30.04	43.50	13.46	Peak
5	480.009	46.69	-6.24	40.45	46.00	5.55	QP
6	744.866	40.03	-2.91	37.12	46.00	8.88	Peak

4.3 20 dB Emission Bandwidth

Serial Number:	2699_2	Test Date:	2023/5/31
Test Site:	966-2	Test Mode:	Transmitting
Tester:	Vic Du	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	26.1	Relative Humidity: (%)	61	ATM Pressure: (kPa)	99.6

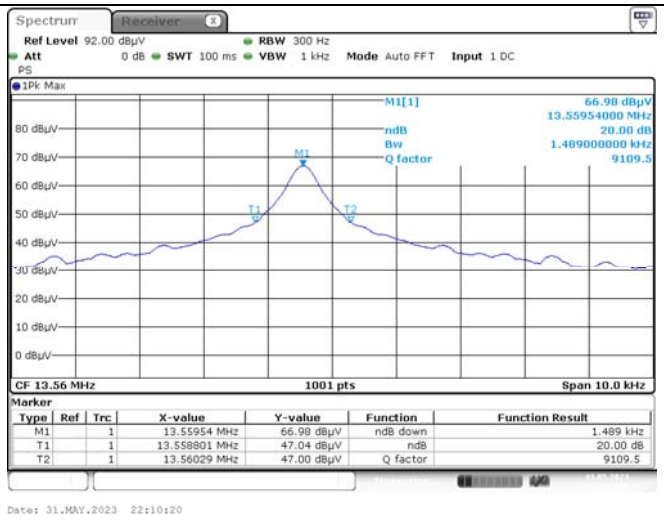
Test Equipment List and Details:

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	2022/07/15	2023/07/14
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0470-02	2022/07/17	2023/07/16
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0780-01	2022/07/17	2023/07/16

**** 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 Frequency (MHz)	20 dB Bandwidth (kHz)
13.56	1.489

20dB Emission Bandwidth	
NFC	

4.4 Frequency Stability

Serial Number:	2699_2	Test Date:	2023/5/25
Test Site:	RF	Test Mode:	Transmit
Tester:	Vic Du	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	26.1	Relative Humidity: (%)	61	ATM Pressure: (kPa)	99.6

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	2022/07/15	2023/07/14
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2023/03/31	2024/03/30
YINSAIGE	Coaxial Cable	SS402	SJ0300001	Each time	N/A
UNI-T	Multimeter	UT39A+	C210582554	2022/09/29	2023/09/28
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	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:

f_o = 13.56 MHz				
Temperature	**Voltage**	**Measured frequency**	**Frequency Error**	**Limit**
℃	V_{DC}	MHz	Hz	Hz
-20	12	13.5595256	-474.4	±1356
-10		13.5595732	-426.8	±1356
0		13.5595547	-445.3	±1356
10		13.5595782	-421.8	±1356
20		13.5595400	-460.0	±1356
25		13.5595537	-446.3	±1356
30		13.5595258	-474.2	±1356
40		13.5595675	-432.5	±1356
50		13.5595242	-475.8	±1356
20	10.2	13.5595782	-421.8	±1356
20	13.8	13.5595275	-472.5	±1356

5. RF EXPOSURE EVALUATION

5.1 Applicable Standard

§1.1307(b)(3)(i) For single RF sources (*i.e.,* any single fixed RF source, mobile device, or portable device, as defined in paragraph (b)(2) of this section): A single RF source is exempt if:

(A) The available maximum time-averaged power is no more than 1 mW, regardless of separation distance. This exemption may not be used in conjunction with other exemption criteria other than those in paragraph (b)(3)(ii)(A) of this section. Medical implant devices may only use this exemption and that in paragraph (b)(3)(ii)(A);

5.2 Measurement Result

Frequency (MHz)	Maximum EIRP (dBm)	Maximum ERP		1-mW Test Exemption
		dBm	mW	
13.56	-27.45	-29.60	0.0011	Compliant

Note:
1. Chose the maximum power to do RF exposure analysis.
2. This device maximum E-Field level is 67.75dBμV/m at 3m, so the EIRP power is -27.45dBm.
3. Pout EIRP(dBm)=Field Strength of Fundamental(dBuV/m)-95.2

Result: Compliant. RF Exposure is exemption**.**

6. EUT PHOTOGRAPHS

Please refer to the attachment CR230528984-EXP EUT EXTERNAL PHOTOGRAPHS and CR230528984-INP EUT INTERNAL PHOTOGRAPHS

7. TEST SETUP PHOTOGRAPHS

Please refer to the attachment CR230528984-00-TSP TEST SETUP PHOTOGRAPHS.

===== END OF REPORT =====