

CERTIFICATE

Certificat - Certificado- Сертификат - Zertifikat - 證書

- 1) **APPLICANT:** (who finally puts the product on the market)

Elitech Technology, Inc.

1551 McCarthy Blvd, Suite 112, Milpitas, CA 95035

MANUFACTURER:

Jiangsu Jingchuang Electronics Co.,Ltd

No.1 Huangshan Rd. Tongshan Economic Development Zone Xuzhou Jiangsu China

- 2) **CERTIFICATE NO.:** ISETC.000820200121

FILE REFERENCE: SCC(20)-30302A-10-EMC

- 3) **ISET MARK:**



- 4) **CAUTION ABOUT CE MARKING** (Instruction for the Applicant who puts the product on the EU market):



The label of the CE Marking on the left side should be not less than 5mm height. CE Marking and EC Declaration of Conformity are duties for the manufacturer or its applicant who puts the product on the market. This one is responsible to start the CE marking and certification procedure as required by the legislation in force. Only for the products which are compulsorily included into specific Directives or Regulations will be necessary to appoint a Notified Body.

- 5) **TYPE OF PRODUCT:** Air Quality Detector

MODEL(S): LKC-1000E , LKC-1000S+, LKC-1000S

- 6) **LIST OF DIRECTIVES / REGULATIONS /STANDARDS** (as declared by the manufacturer itself)

Electromagnetic Compatibility 2014/30/EU

EN 61326-1:2013

- 7) **NOTE:** The applicant is aware about the contents and information included in the ModCOM04.06 Regulation for this type of Certificate that is considered totally accepted. The latest revision of the Regulation is available and can be downloaded from the website www.iset-italia.eu. This document is not referred to any evaluation that could be considered as included in the scope of the activities covered by the standard BS EN ISO/IEC 17065:2012 or European Regulation 765/2008.

- 8) **REMARK:** Certificate is issued on voluntary application from the Client and it gives to the applicant the right to use and affix the ISET Mark (at point 3) on their products, even if it doesn't imply any assessment on the safety and compliance of the product. ISET declares that the only scope of the assessment is to verify the existence of the declaration issued by the manufacturer or an applicant under its own responsibilities.

- 9) **DATE OF ISSUE:** 21/01/2020

EXPIRY DATE: 20/01/2025

- 10) **SIGNATURE:** Li Zhang

(On behalf of the Legal representative)



FCC PART 15B

TEST REPORT

For

Elitech Technology, Inc.

1551 McCarthy Blvd, Suite 112, Milpitas, CA 95035

Tested Model: LKC-1000S+
Series Model: LKC-1000E, LKC-1000S

Report Type: Amended Report	Product Type: Air Quality Detector
Test Engineer: Tina Li	<i>Tina Li</i>
Report Number: <i>RSHA200311002-00AM1</i>	
Report Date: 2020-03-30	
Reviewed By: Oscar Ye EMC Manager	<i>Oscar Ye</i>
Prepared By: Bay Area Compliance Laboratories Corp. (Kunshan) No.248 Chenghu Road, Kunshan, Jiangsu province, China Tel: +86-0512-86175000 Fax: +86-0512-88934268 www.baclcorp.com.cn	

Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.

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REPORT REVISION

Report Number	Report Date	Contents
RSHA200311002-00A	2020-03-24	Original Report
RSHA200311002-00AM1	2020-03-30	Update Report Number

The items used black in italics in the report was revised due to typo.

F I N A L

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Applicant	Elitech Technology, Inc.
Test Model	LKC-1000S+
Product	Air Quality Detector
Rate Voltage	DC 5.0V

Note: The product's series model number: LKC-1000E, LKC-1000S. The difference between them was explained in the attached declaration letter.

**All measurement and test data in this report was gathered from production sample serial number: 20200311002. (Assigned by BACL, Kunshan). The EUT supplied by the applicant was received on 2020-03-11.*

Objective

This report is prepared on behalf of *Elitech Technology, Inc.* in accordance with Part 2-Subpart J, and Part 15-Subparts A and B of the Federal Communication Commission's rules.

The objective of the manufacturer is to determine the compliance of EUT with FCC Part 15, Class B device.

Related Submittal(s)/Grant(s)

No related submittal(s).

Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2014, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

All radiated and conducted emissions measurement was performed at Bay Area Compliance Laboratories Corp. (Kunshan). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Test Facility

The test site used by Bay Area Compliance Laboratories Corp. (Kunshan) to collect test data is located on the No.248 Chenghu Road, Kunshan, Jiangsu province, China.

Bay Area Compliance Laboratories Corp. (Kunshan) Lab is accredited to ISO/IEC 17025 by A2LA (Lab code: 4323.01) and the FCC designation No. CN1185 under the FCC KDB 974614 D01 and CAB identifier CN0004 under the ISED requirement. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2014.

SYSTEM TEST CONFIGURATION

Justification

The system was configured for testing in a typical fashion (as normally used by a typical user).

Test mode: Charging & Normal working

EUT Exercise Software

No exercise software was used to test.

Special Accessories

No special accessory was used.

Equipment Modifications

No modification was made to the EUT tested.

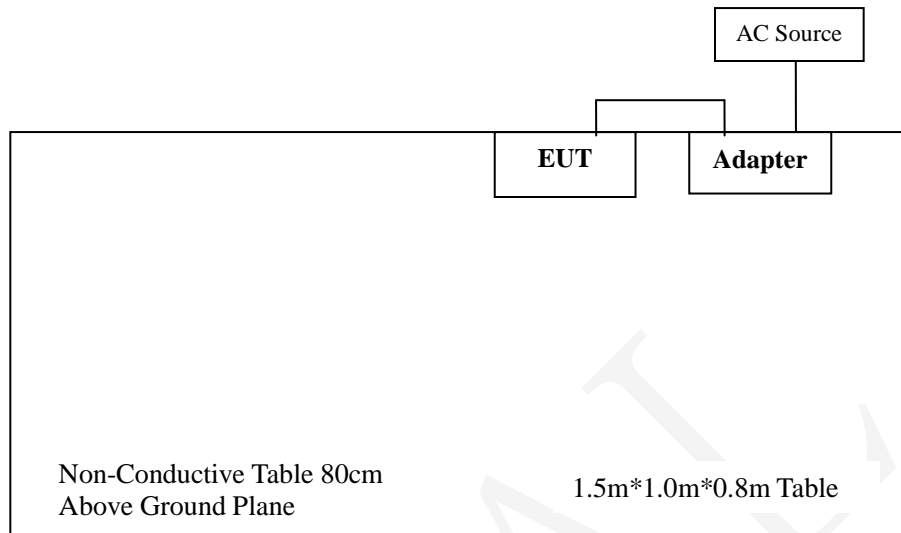
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
DongGuan AoHai Power Technology Co.,Ltd	Adapter	A18A-050100U-US2	/

External I/O Cable

Cable Description	Length (m)	From/Port	To
Power Cable	1.0	EUT	Adapter
Power Cable	1.0	Adapter	AC Source

Block Diagram of Radiated Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Results
§15.107	Conducted Emissions	Compliant
§15.109	Radiated Emissions	Compliant

FINAL

FCC §15.107 –CONDUCTED EMISSIONS

Applicable Standard

According to FCC§15.107

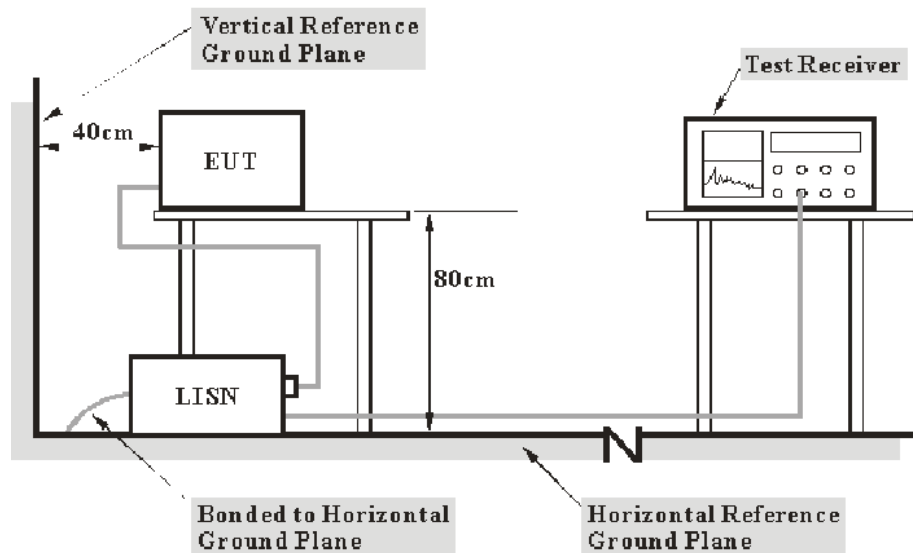
Measurement Uncertainty

Input quantities to be considered for conducted disturbance measurements maybe receiver reading, attenuation of the connection between LISN and receiver, LISN voltage division factor, LISN VDF frequency interpolation and receiver related input quantities, etc.

Item	Measurement Uncertainty	U_{cispr}
AMN	150kHz~30MHz	3.19 dB
		3.4 dB

Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

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 measurement procedure of EUT setup is according with ANSI C63.4-2014. The related limit was specified in FCC Part 15.107 Class B.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

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

Test Procedure

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

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All final data was recorded in the Quasi-peak and average detection mode.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test receiver	ESR	1316.3003K03-102454-Qd	2019-06-25	2020-06-24
Rohde & Schwarz	LISN	ENV216	3560655016	2019-12-14	2020-12-13
Audix	Test Software	e3	V9	--	--
MICRO-COAX	Coaxial Cable	Cable-15	015	2019-08-15	2020-08-14

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

Factor & Over Limit Calculation

The Factor is calculated by adding LISN VDF (Voltage Division Factor), Cable Loss and Transient Limiter Attenuation. The basic equation is as follows:

$$\text{Factor (dB)} = \text{LISN VDF (dB)} + \text{Cable Loss (dB)} + \text{Transient Limiter Attenuation (dB)}$$

The “**Over Limit**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, an Over Limit of 7 dB means the emission is 7 dB above the limit. The equation for Over Limit calculation is as follows:

$$\text{Over Limit (dB)} = \text{Read level (dB}\mu\text{V)} + \text{Factor (dB)} - \text{Limit (dB}\mu\text{V)}$$

Test Data

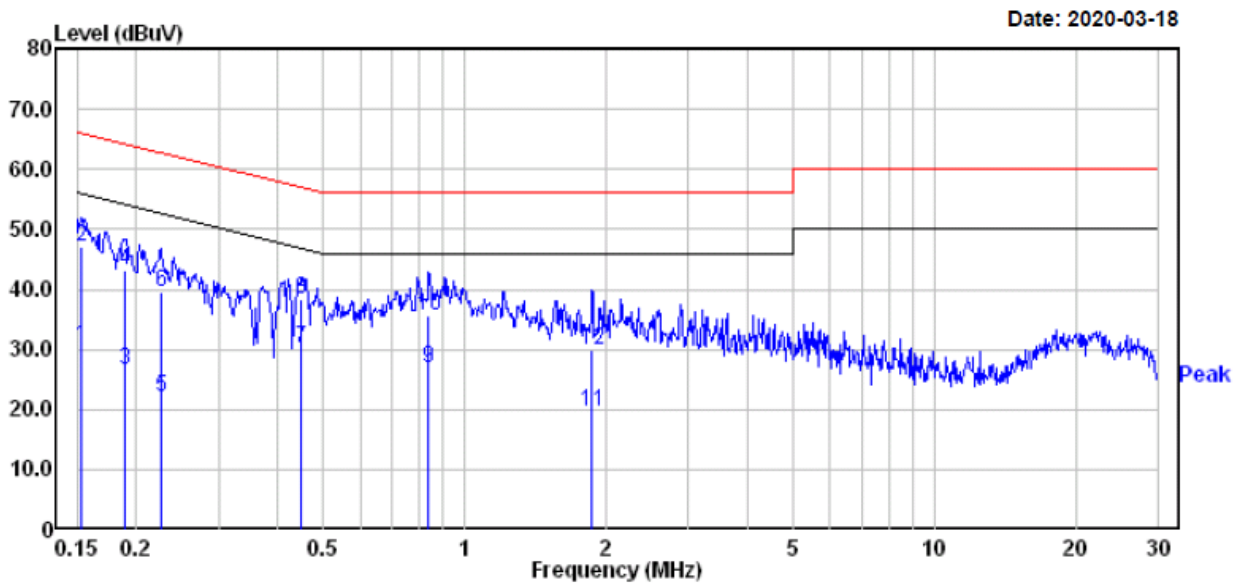
Environmental Conditions

Temperature:	26°C
Relative Humidity:	50 %
ATM Pressure:	101.0 kPa

The testing was performed by Tina Li on 2020-03-18.

Test Model

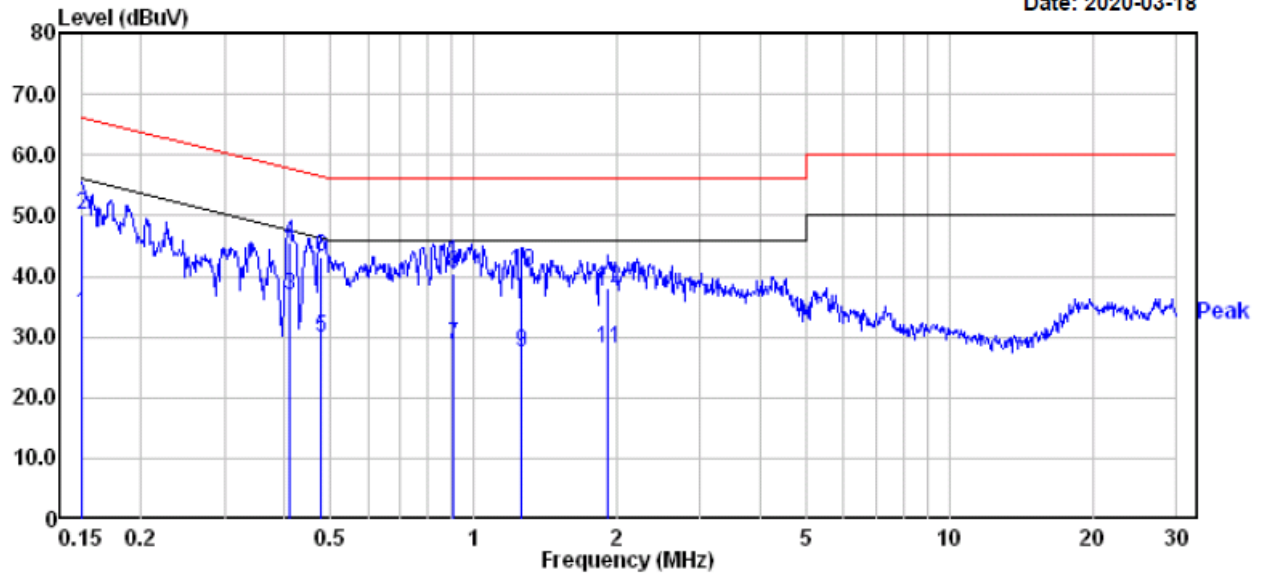
Line:



	Read		Limit	Over		
Freq	Level	Factor	Line	Limit	Remark	
MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.153	10.60	19.82	30.42	55.82	-25.40 Average
2	0.153	27.30	19.82	47.12	65.82	-18.70 QP
3	0.189	6.60	19.82	26.42	54.06	-27.64 Average
4	0.189	23.50	19.82	43.32	64.06	-20.74 QP
5	0.226	2.20	19.82	22.02	52.61	-30.59 Average
6	0.226	19.70	19.82	39.52	62.61	-23.09 QP
7	0.449	10.30	19.75	30.05	46.89	-16.84 Average
8	0.449	18.50	19.75	38.25	56.89	-18.64 QP
9	0.839	7.10	19.71	26.81	46.00	-19.19 Average
10	0.839	15.90	19.71	35.61	56.00	-20.39 QP
11	1.868	-0.20	19.83	19.63	46.00	-26.37 Average
12	1.868	10.00	19.83	29.83	56.00	-26.17 QP

Neutral:

Date: 2020-03-18



	Read Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.150	14.10	19.82	33.92	56.00	-22.08	Average
2	0.150	30.30	19.82	50.12	66.00	-15.88	QP
3	0.410	17.00	19.74	36.74	47.64	-10.90	Average
4	0.410	25.70	19.74	45.44	57.64	-12.20	QP
5	0.479	10.10	19.76	29.86	46.36	-16.50	Average
6	0.479	23.30	19.76	43.06	56.36	-13.30	QP
7	0.904	9.10	19.73	28.83	46.00	-17.17	Average
8	0.904	20.60	19.73	40.33	56.00	-15.67	QP
9	1.262	7.60	19.82	27.42	46.00	-18.58	Average
10	1.262	20.80	19.82	40.62	56.00	-15.38	QP
11	1.918	8.20	19.83	28.03	46.00	-17.97	Average
12	1.918	18.30	19.83	38.13	56.00	-17.87	QP

FCC §15.109 - RADIATED EMISSIONS

Applicable Standard

FCC §15.109

Measurement Uncertainty

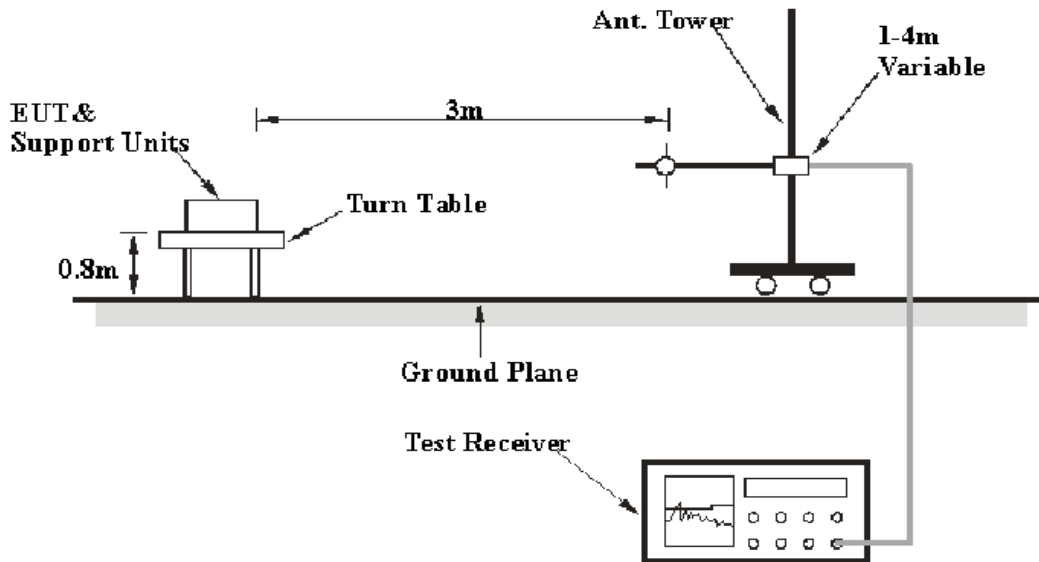
All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Item		Measurement Uncertainty	U_{cispr}
Radiated Emission	30MHz~1GHz	6.11dB	6.3 dB

Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

EUT Setup

Below 1GHz:



The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.4-2014. The specification used was the FCC Part 15.109 Class B limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

EMI Test Receiver Setup

The system was investigated from 30 MHz 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	Detector
30MHz – 1000 MHz	120 kHz	300 kHz	120kHz	QP

Test Procedure

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

All data was recorded in the Quasi-peak detector mode from 30 MHz to 1 GHz.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sonoma Instrument	Amplifier	310N	185700	2019-08-14	2020-08-13
Rohde & Schwarz	EMI Test Receiver	ESCI	100195	2019-11-12	2020-11-11
Sunol Sciences	Broadband Antenna	JB3	A090413-1	2019-12-26	2022-12-25
Champrotek	Chamber	Chamber A	T-KSEMC049	-	-
R&S	Auto test Software	EMC32	100361	-	-
MICRO-COAX	Coaxial Cable	Cable-8	008	2019-08-15	2020-08-14
MICRO-COAX	Coaxial Cable	Cable-9	009	2019-08-15	2020-08-14
MICRO-COAX	Coaxial Cable	Cable-10	010	2019-08-15	2020-08-14

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

$$\text{Corrected Amplitude} = \text{Meter Reading} + \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7 dB means the emission is 7 dB below the limit. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Limit} - \text{Corrected Amplitude}$$

Test Data

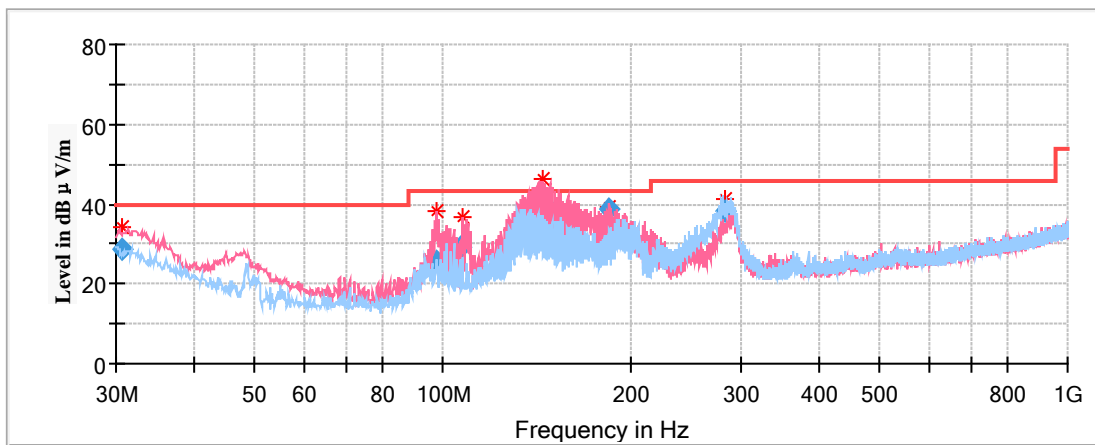
Environmental Conditions

Temperature:	26 °C
Relative Humidity:	50%
ATM Pressure:	101.0 kPa

The testing was performed by Tina Li on 2020-03-18.

Test mode 1

1)30MHz ~ 1GHz



Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
30.762915	28.59	40.00	11.41	100.0	V	226.0	-4.4
98.018650	25.57	43.50	17.93	200.0	V	305.0	-15.4
106.488350	29.05	43.50	14.45	200.0	V	163.0	-13.7
144.259900	40.30	43.50	3.20	100.0	V	143.0	-12.1
185.053350	38.71	43.50	4.79	100.0	V	117.0	-13.3
282.083550	38.18	46.00	7.82	100.0	H	84.0	-11.1

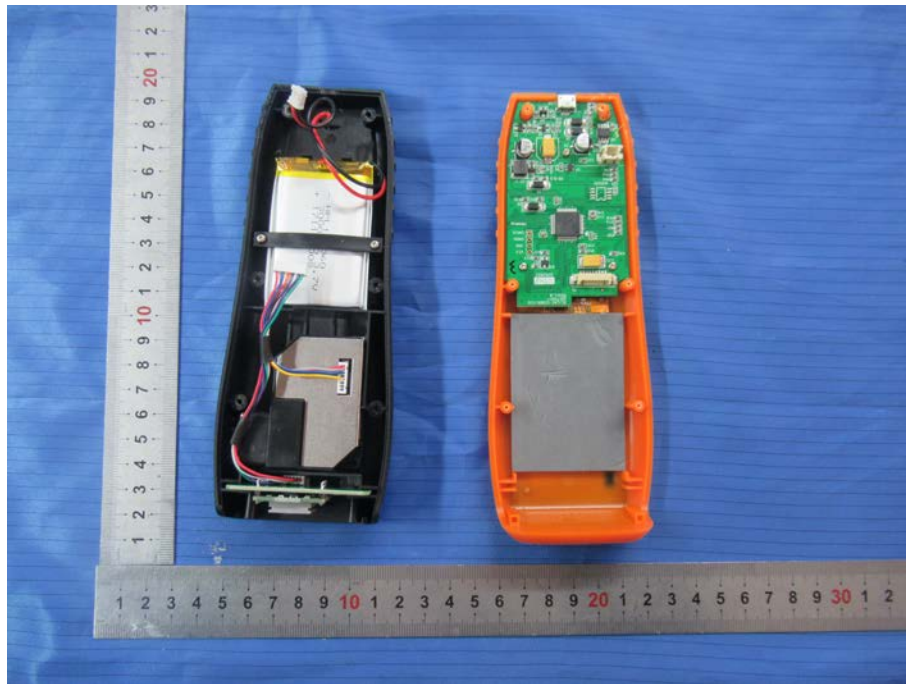
EXHIBIT A - EUT PHOTOGRAPHS

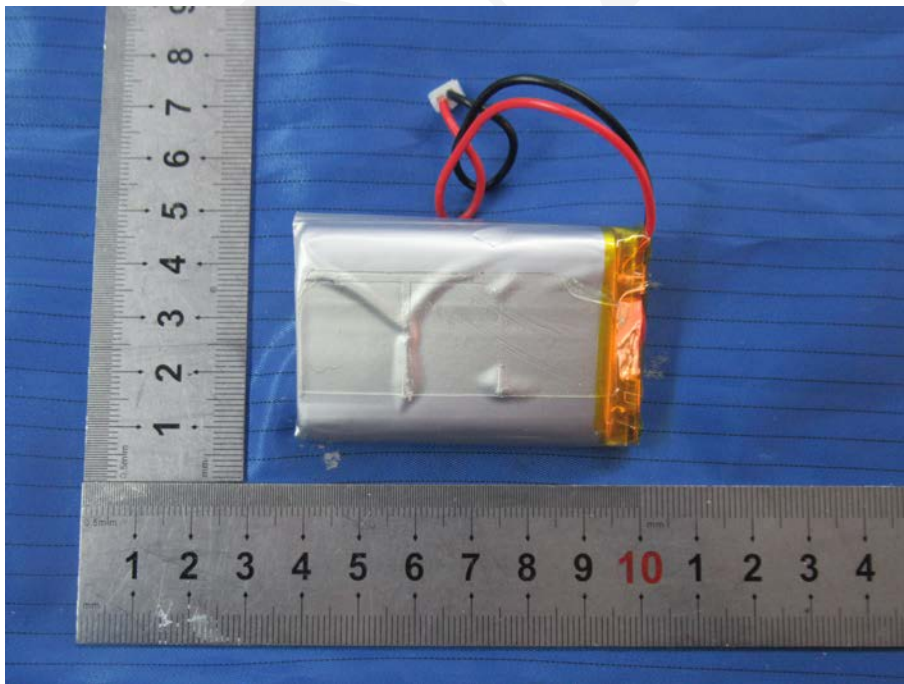


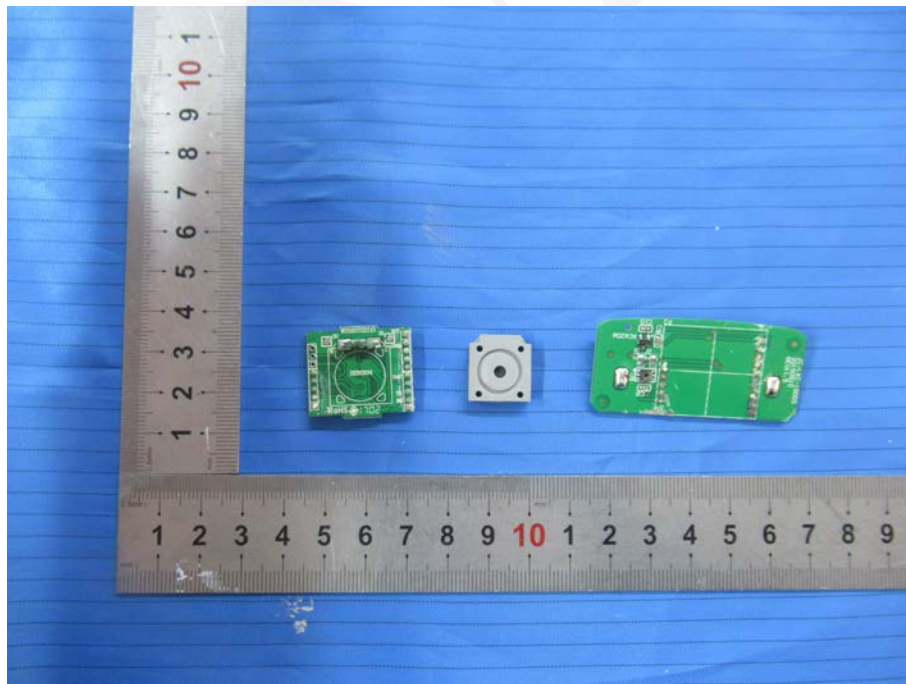
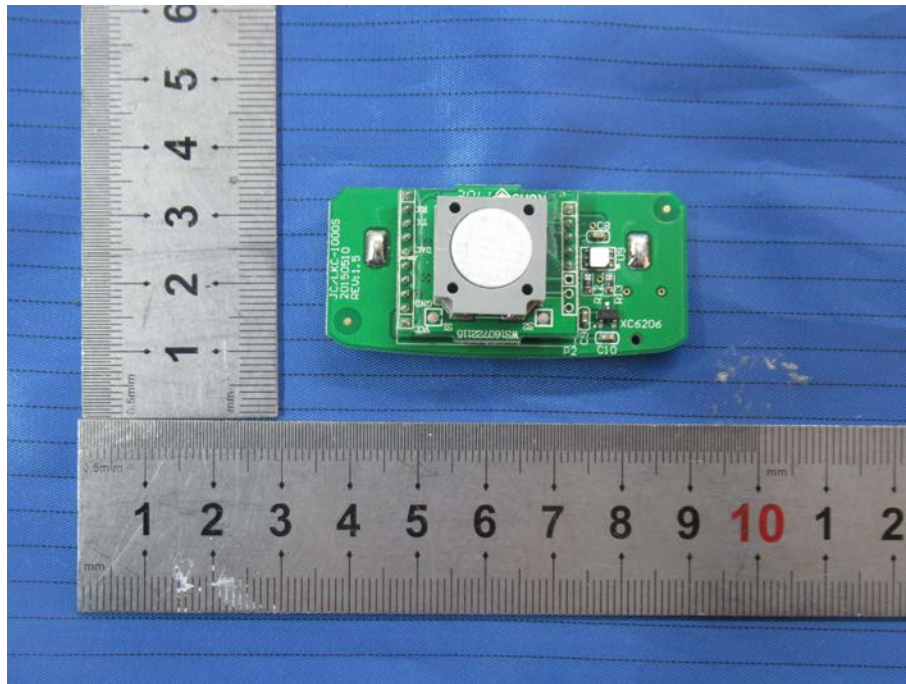


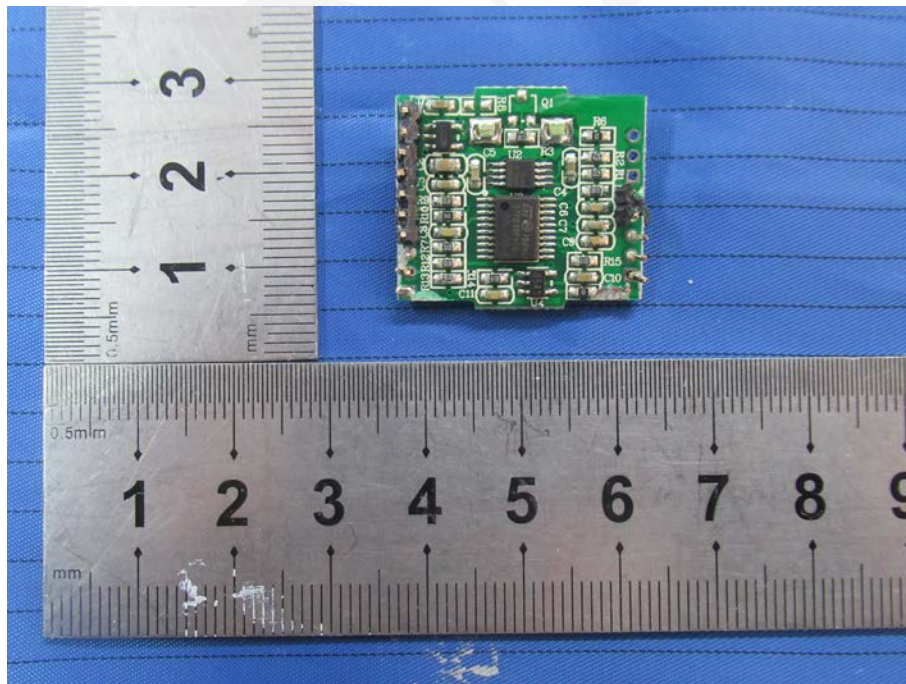
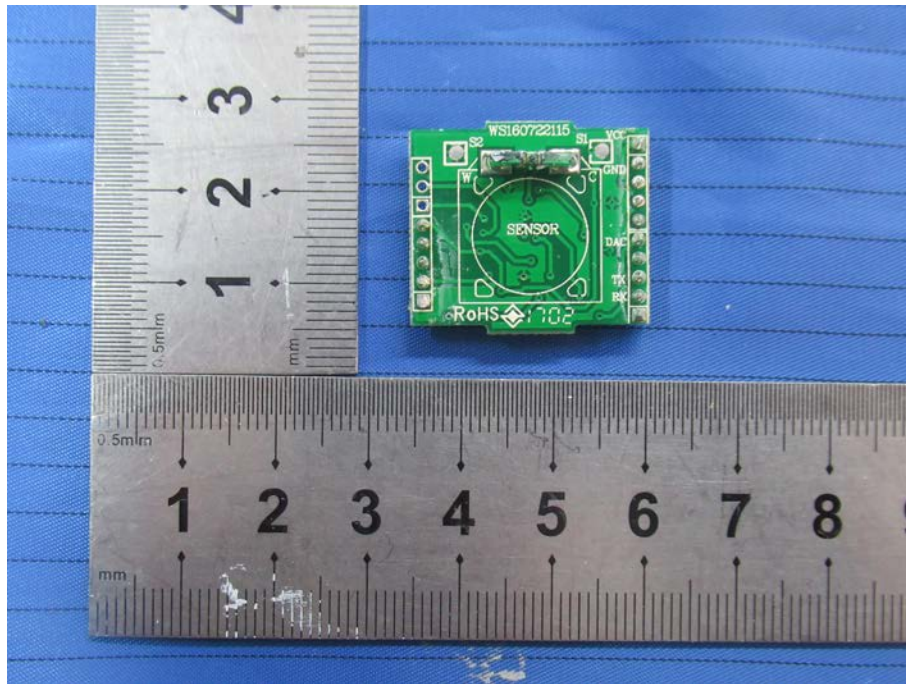


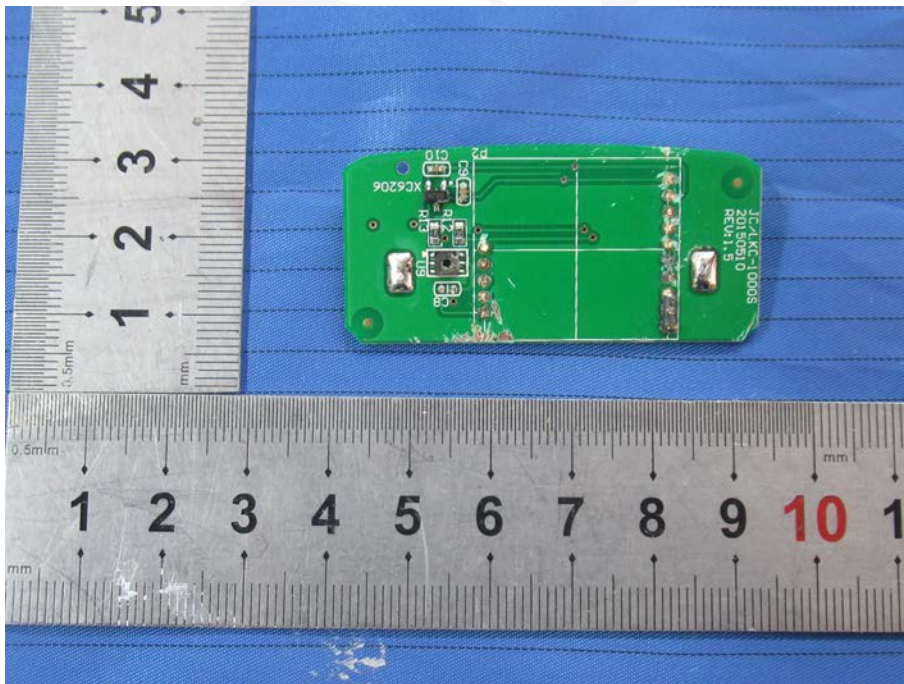
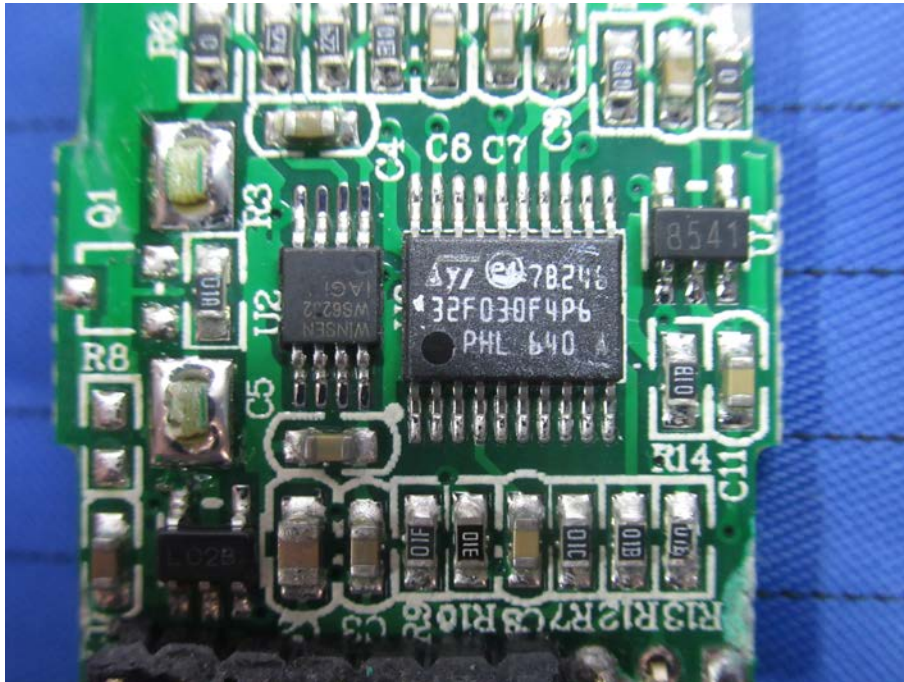


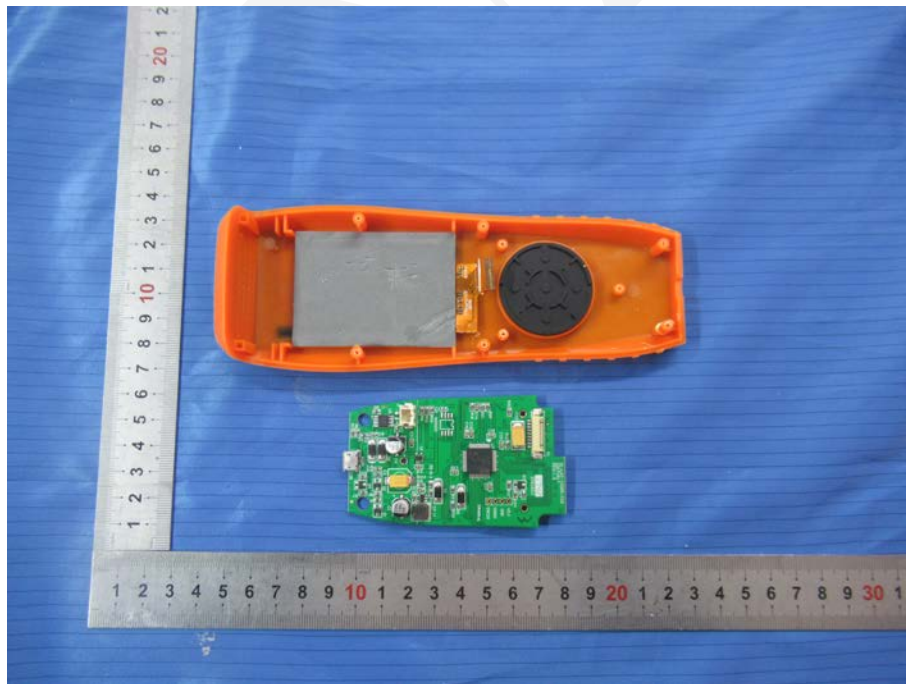
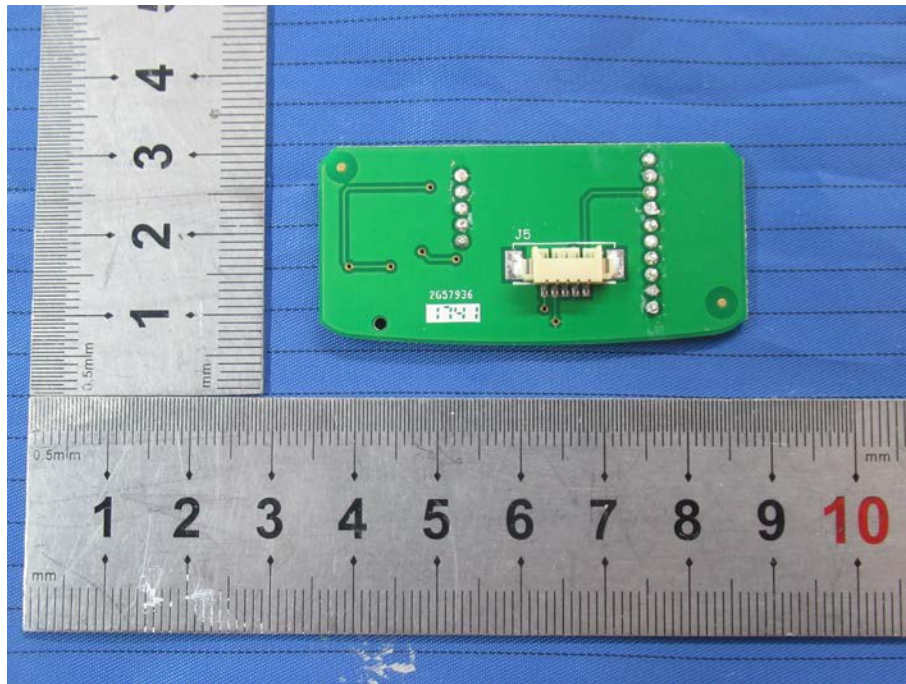


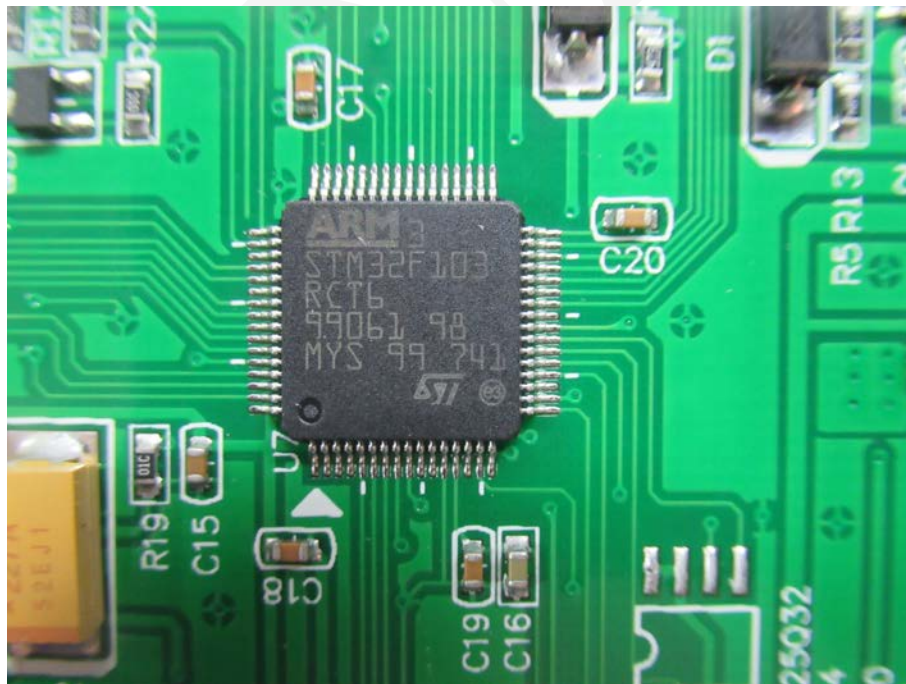
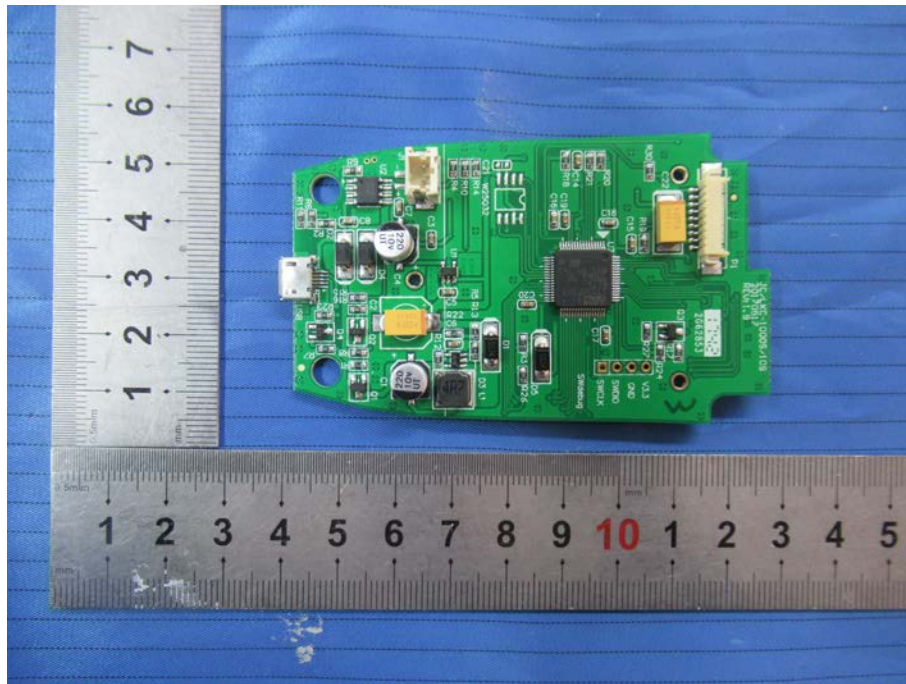












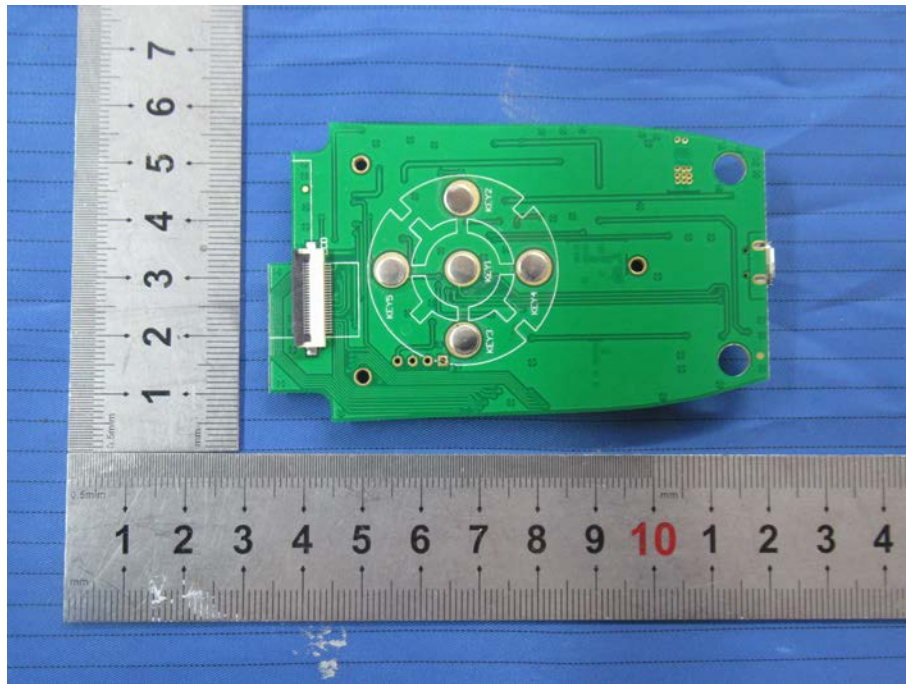
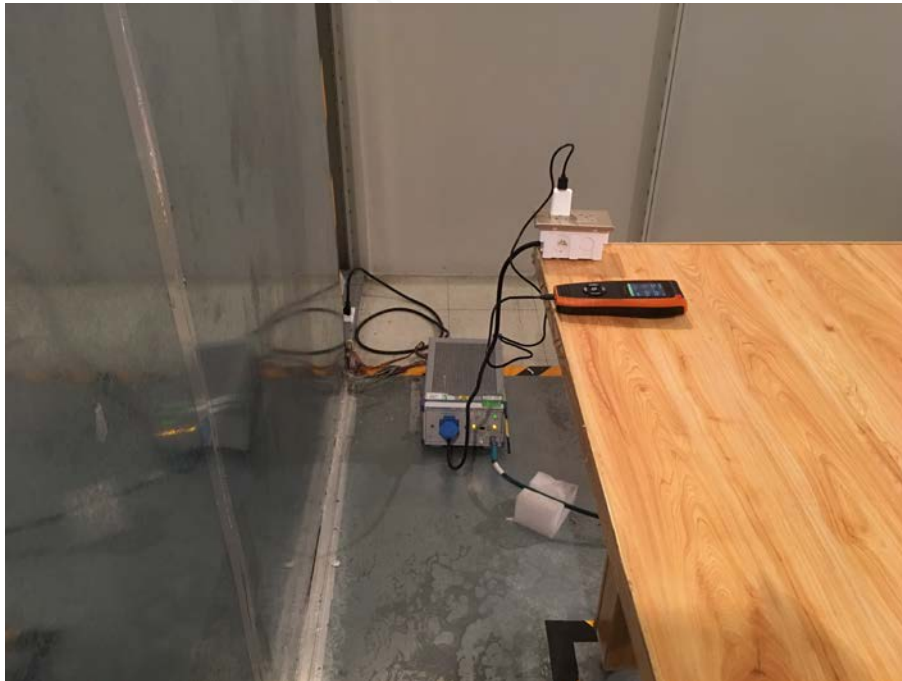


EXHIBIT B - TEST SETUP PHOTOGRAPHS

Conducted Emissions - Front Side



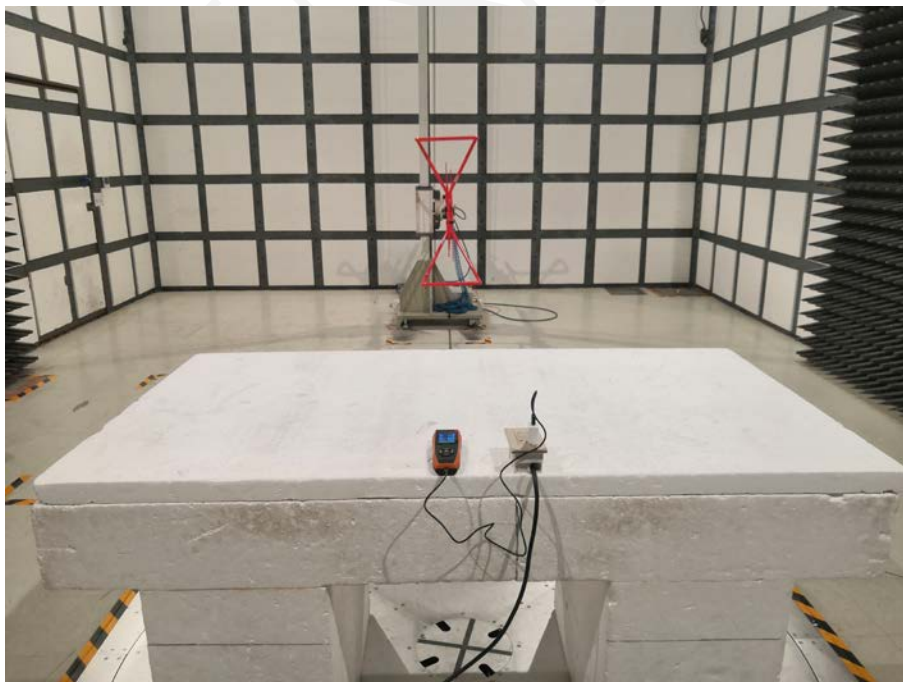
Conducted Emissions - Rear Side



Radiated Disturbances Front Side (Below 1GHz)



Radiated Disturbances Rear Side (Below 1 GHz)



PRODUCT SIMILARITY DECLARATION LETTER

Company: Elitech Technology, Inc.
Add: 1551 McCarthy Blvd, Suite 112, Milpitas, CA 95035
Tel: 19805011714
Fax: 19805011714

DECLARATION

Date: 2020-3-11
To:
Bay Area Compliance Laboratories Corp. (Kunshan)
No.248 Chenghu Road Kunshan, Jiangsu, China
<http://www.baclcorp.com>

Dear Sir or Madam:

We, **HElitech Technology, Inc.** hereby declare that product series of LKC-1000S+, LKC-1000E and LKC-1000S are based on the same of product. LKC-1000S+ has been test by BAACL.

The differences of them are as follows: model name.

Please contact me if there is need for any additional clarification or information.

Best Regards,

Signature: *Jintao Wang*

Print Name: Jintao Wang

Title: Manager

*******END OF REPORT*******