FCC TEST REPORT

For

Sunlu（Guangdong）Technology Co., Ltd.

Filament Connector

Test Model: FC01

Prepared for	:	Sunlu（Guangdong）Technology Co., Ltd.
Address	:	Sunlu Technology Park,Intersection of Huanzhou North Road and Tanzhou Avenue,Tanzhou Town, Zhongshan City, Guangdong Province, China.
Prepared by	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Address	:	Room 101, 201, Building A and Room 301, Building C, Juji Industrial Park, Yabianxueziwei, Shajing Street, Bao'an District, Shenzhen, Guangdong, China
Tel	:	+(86) 0755-82591330
Fax	:	+(86) 0755-82591332
Web	:	www.lcs-cert.com
Mail	:	webmaster@lcs-cert.com
Date of receipt of test sample	:	May 31, 2024
Number of tested samples	:	1
Serial number	:	Prototype
Date of Test	:	June 3, 2024 to June 11, 2024
Date of Report	:	June 12, 2024

TEST REPORT

Report No.	:	**LCSA05314029E**
Date of Issue	:	June 12, 2024
Testing Laboratory Name	:	**Shenzhen LCS Compliance Testing Laboratory Ltd.**
Address	:	Room 101, 201, Building A and Room 301, Building C, Juji Industrial Park, Yabianxueziwei, Shajing Street, Bao'an District, Shenzhen, Guangdong, China
Testing Location/ Procedure.....	:	Full application of Harmonised standards ■ Partial application of Harmonised standards □ Other standard testing method □
Applicant's Name	:	**Sunlu（Guangdong）Technology Co., Ltd.**
Address	:	Sunlu Technology Park,Intersection of Huanzhou North Road and Tanzhou Avenue,Tanzhou Town, Zhongshan City, Guangdong Province, China.
Test Specification		
Standard.....	:	FCC 47 CFR Part 15, Subpart B ANSI C63.4-2014
Test Report Form No.	:	LCSEMC-1.0
TRF Originator.....	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Master TRF.....	:	Dated 2011-03

Test Item Description.	:	**Filament Connector**
Trade Mark	:	SUNLU
Test Model	:	FC01
Result	:	**Positive**

Compiled by:	**Supervised by:**	**Approved by:**
Hy Luo / File Administrator	Cary Luo / Technique principal	Gavin Liang / Manager

TEST REPORT

Test Report No.: **LCSA05314029E**	June 12, 2024 Date of issue

Test Model	:	**FC01**
EUT	:	Filament Connector
Applicant	:	**Sunlu（Guangdong）Technology Co., Ltd.**
Address	:	Sunlu Technology Park,Intersection of Huanzhou North Road and Tanzhou Avenue,Tanzhou Town, Zhongshan City, Guangdong Province, China.
Telephone	:	/
Fax	:	/
Manufacturer	:	**Sunlu（Guangdong）Technology Co., Ltd.**
Address	:	Sunlu Technology Park,Intersection of Huanzhou North Road and Tanzhou Avenue,Tanzhou Town, Zhongshan City, Guangdong Province, China.
Telephone	:	/
Fax	:	/
Factory	:	**Sunlu（Guangdong）Technology Co., Ltd.**
Address	:	Sunlu Technology Park,Intersection of Huanzhou North Road and Tanzhou Avenue,Tanzhou Town, Zhongshan City, Guangdong Province, China.
Telephone	:	/
Fax	:	/

Test Result	**Positive**

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

Revision History

Report Version	Issue Date	Revision Content	Revised By
000	June 12, 2024	Initial Issue	/

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Test Report Description Page

1. SUMMARY OF STANDARDS AND RESULTS

1.1 Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

Description of Test Item	Standard	Limits	Result
Conducted emissions on AC mains	FCC 47 CFR Part 15, Subpart B ANSI C63.4-2014	15.107, Class B	Pass
Radiated emissions (Below 1GHz)	FCC 47 CFR Part 15, Subpart B ANSI C63.4-2014	15.109, Class B	Pass

1.2 Description of Test Modes

No	Title	Description
TM1	Working(DC 5V From USB Host Unit)	Record

2. GENERAL INFORMATION

2.1 Description of Device (EUT)

EUT : Filament Connector

Test Model : FC01

Power Supply : Input: Power Adapter 100V-240V~,50/60Hz, 0.5A
Output: DC 5V 2A 10W

Highest Internal Frequency : 1.705-108MHz

Classification of Equipment : Class B

Highest internal frequency (Fx)	Highest measured frequency
Fx ≤ 1.705MHz	30MHz
1.705MHz < Fx ≤ 108MHz	1GHz
108MHz < Fx ≤ 500MHz	2GHz
500MHz < Fx ≤ 1000MHz	5GHz
Fx > 1GHz	5 x Fx up to a maximum of 40GHz

2.2 Support equipment List

The EUT was tested as an independent device.

2.3 Description of Test Facility

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. To CISPR 16 – 4 “Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements” and is documented in the LCS quality system acc. To DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

NVLAP Accreditation Code is 600167-0.

FCC Designation Number is CN5024.

CAB identifier is CN0071.

CNAS Registration Number is L4595.

2.4 Measurement Uncertainty

Test Item	Measurement Uncertainty
Conducted Emission (150kHz to 30MHz)	± 2.35 dB
Radiated Emission (30MHz to 1000MHz)	± 3.48 dB
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

3. MEASURING DEVICES AND TEST EQUIPMENT

Conducted emissions on AC mains					
Equipment	**Manufacturer**	**Model No**	**Serial No.**	**Cal Date**	**Due Date**
EMI Test Software	Farad	EZ	/	/	/
Artificial Mains	R&S	ENV216	101288	2023-06-09	2024-06-08
Pulse Limiter	R&S	ESH3-Z2	102750-NB	2023-08-15	2024-08-14
EMI Test Receiver	R&S	ESR3	102312	2024-03-02	2025-03-01

Radiated emissions (Below 1GHz)					
Equipment	**Manufacturer**	**Model No**	**Serial No.**	**Cal Date**	**Due Date**
EMI Test Software	Farad	EZ	/	/	/
EMI Test Software	AUDIX	E3	/	/	/
By-log Antenna	SCHWARZBECK	VULB9163	9163-470	2021-09-12	2024-09-11
Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1925	2021-09-05	2024-09-04
EMI Test Receiver	R&S	ESR3	102311	2023-08-15	2024-08-14
Broadband Preamplifier	/	BP-01M18G	P190501	2023-06-09	2024-06-08
EMI Test Receiver	R&S	ESCI7	101173	2023-10-25	2024-10-24
By-log Antenna	SchwarzZBECK	VULB9163	01428	2023-09-05	2024-09-04

4. EMISSION TEST RESULTS (EMI)

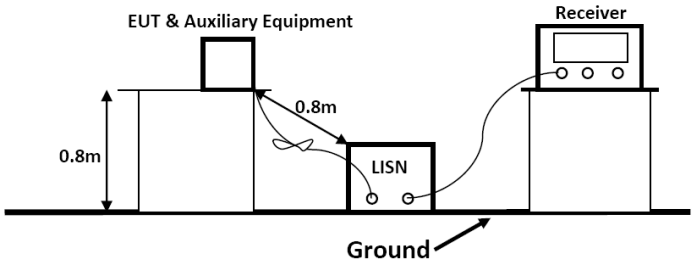
4.1 Conducted emissions on AC mains

Test Requirement:	15.107, Class B
Test Limit:	**Frequency of emission (MHz)** / **Conducted limit (dBμV)** (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.
Test Method:	ANSI C63.4-2014
Procedure:	An initial pre-scan was performed with peak detector.Quasi-Peak or Average measurement were performed at the frequencies with maximized peak emission were detected. Remark: Level= Read Level+ Cable Loss+ LISN Factor

4.1.1 E.U.T. Operation:

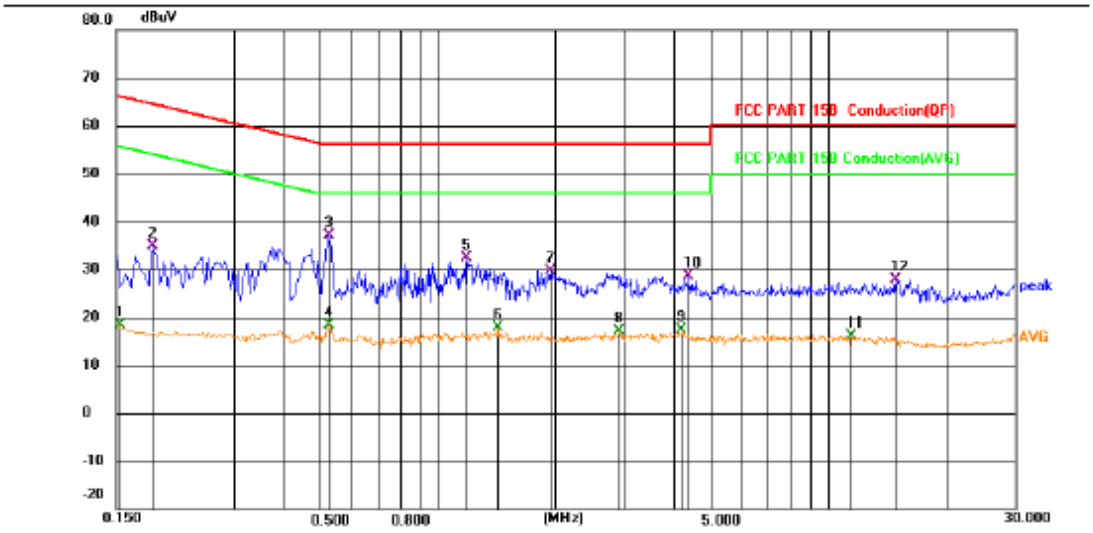
Operating Environment:			
Temperature:	24.4 °C	Humidity:	53 %
Pre test mode:	TM1		
Final test mode:	TM1		

4.1.2 Test Setup Diagram:



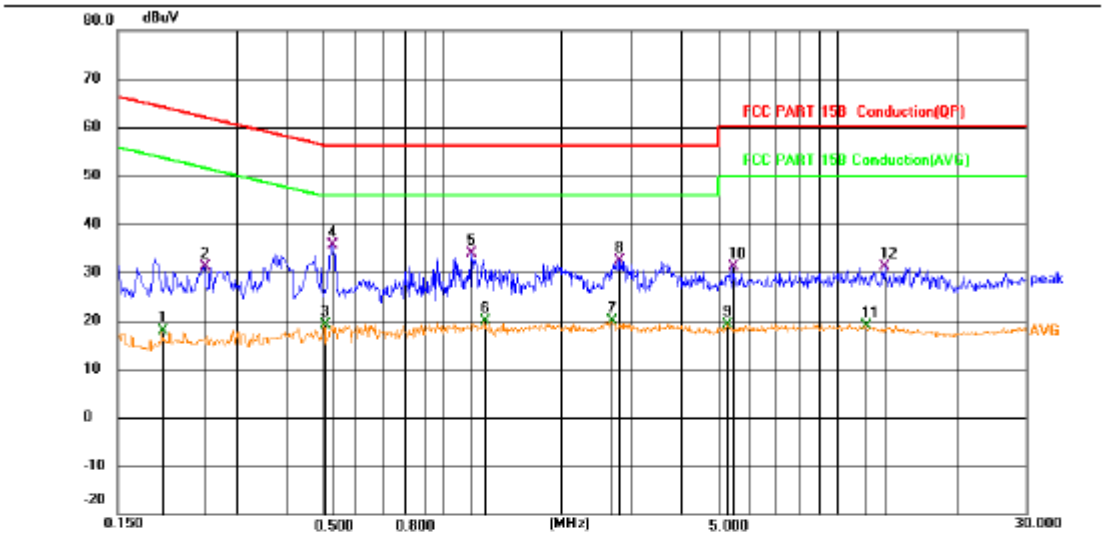
4.1.3 Test Data:

TM1 / Line: Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1532	-1.35	19.63	18.28	55.82	-37.54	AVG	
2		0.1860	15.29	19.63	34.92	64.21	-29.29	QP	
3	*	0.5234	17.55	19.65	37.20	56.00	-18.80	QP	
4		0.5234	-1.25	19.65	18.40	46.00	-27.60	AVG	
5		1.1895	12.61	19.66	32.27	56.00	-23.73	QP	
6		1.4325	-1.90	19.66	17.76	46.00	-28.24	AVG	
7		1.9455	10.04	19.68	29.72	56.00	-26.28	QP	
8		2.9085	-2.47	19.68	17.21	46.00	-28.79	AVG	
9		4.2046	-2.38	19.70	17.32	46.00	-28.68	AVG	
10		4.3981	8.96	19.70	28.66	56.00	-27.34	QP	
11		11.4586	-3.67	19.85	16.18	50.00	-33.82	AVG	
12		14.8741	7.95	19.87	27.82	60.00	-32.18	QP	

TM1 / Line: Neutral



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1951	-1.70	19.63	17.93	53.82	-35.89	AVG	
2		0.2491	11.57	19.63	31.20	61.79	-30.59	QP	
3		0.5011	-0.52	19.65	19.13	46.00	-26.87	AVG	
4	*	0.5235	16.05	19.65	35.70	56.00	-20.30	QP	
5		1.1895	14.11	19.66	33.77	56.00	-22.23	QP	
6		1.2750	0.11	19.66	19.77	46.00	-26.23	AVG	
7		2.6926	0.14	19.68	19.82	46.00	-26.18	AVG	
8		2.8096	12.70	19.68	32.38	56.00	-23.62	QP	
9		5.2576	-0.66	19.70	19.04	50.00	-30.96	AVG	
10		5.4376	11.53	19.70	31.23	60.00	-28.77	QP	
11		11.7646	-0.89	19.84	18.95	50.00	-31.05	AVG	
12		13.1461	11.23	19.84	31.07	60.00	-28.93	QP	

4.2 Radiated emissions (Below 1GHz)

Test Requirement:	15.109, Class B
Test Limit:	Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

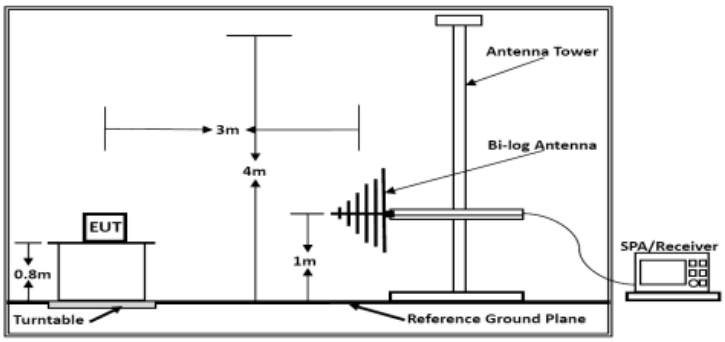
Frequency of emission (MHz)	Field strength @3m		Field strength @10m	
	(uV/m)	(dBuV/m)	(uV/m)	(dBuV/m)
30 – 88	100	40	30	29.5
88 – 216	150	43.5	45	33.1
216 – 960	200	46	60	35.6
Above 960	500	54	150	43.5

Test Method:	ANSI C63.4-2014
Procedure:	An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities. Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

4.2.1 E.U.T. Operation:

Operating Environment:			
Temperature:	26.4 °C	Humidity:	54.2 %
Pre test mode:	TM1		
Final test mode:	TM1		

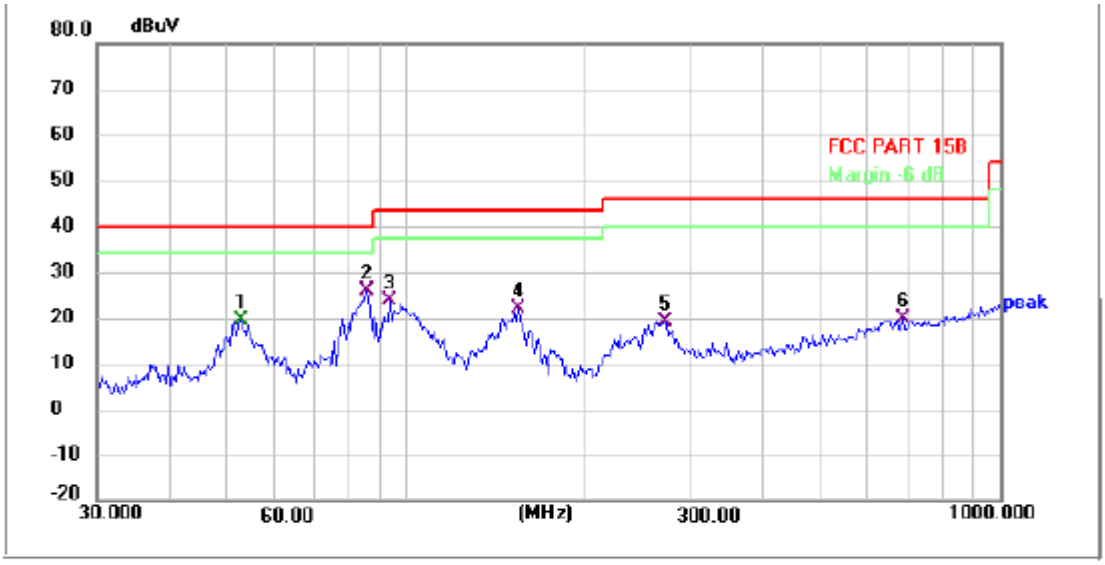
4.2.2 Test Setup Diagram:



Below 1GHz

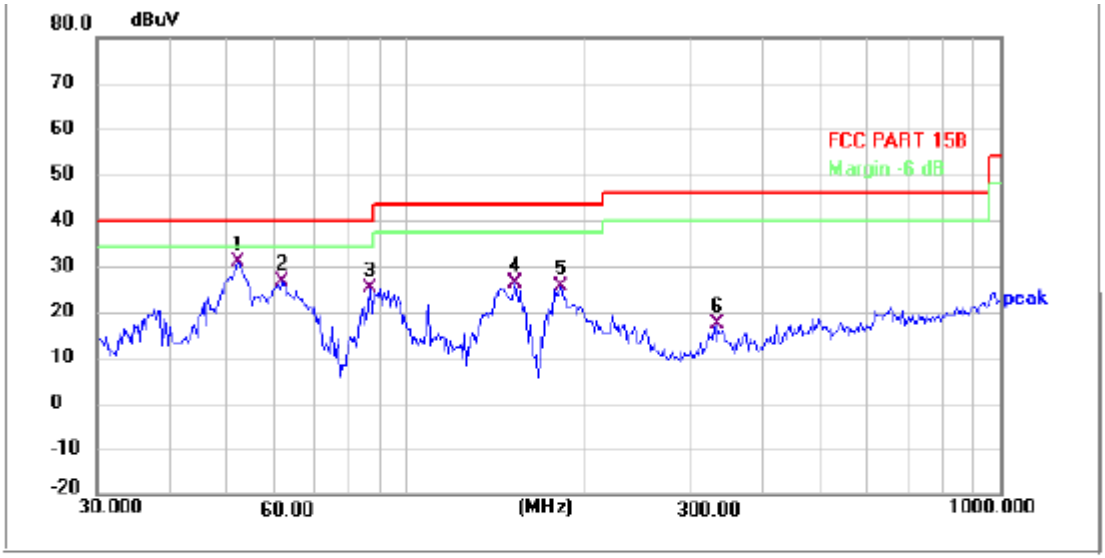
4.2.3 Test Data:

TM1 / Polarization: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	52.6345	37.02	-17.42	19.60	40.00	-20.40	QP			P	
2 *	85.4769	47.96	-21.94	26.02	40.00	-13.98	QP			P	
3	93.6532	44.38	-20.51	23.87	43.50	-19.63	QP			P	
4	154.2428	44.53	-22.53	22.00	43.50	-21.50	QP			P	
5	272.5246	36.30	-17.26	19.04	46.00	-26.96	QP			P	
6	684.2259	29.58	-9.91	19.67	46.00	-26.33	QP			P	

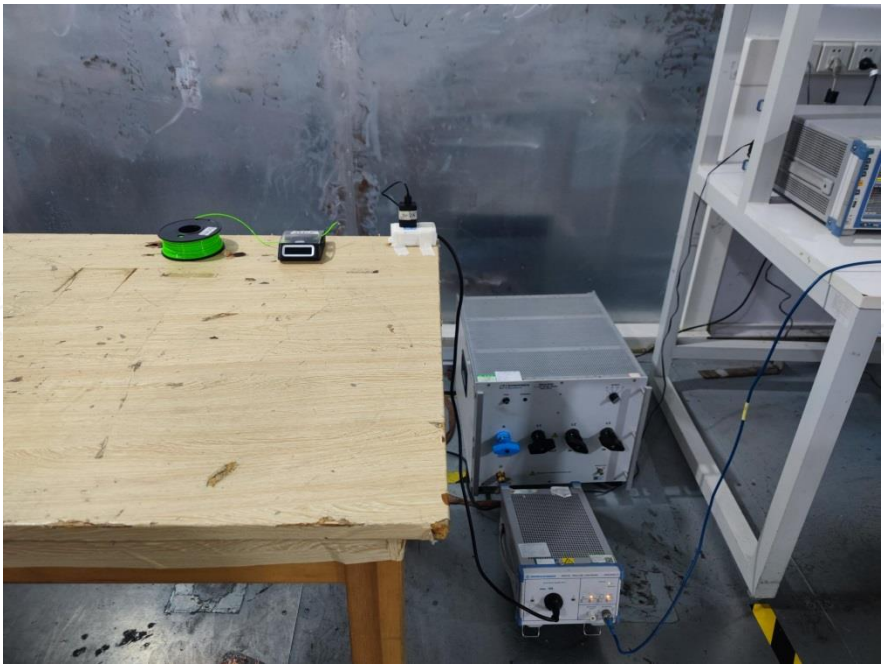
TM1 / Polarization: Vertical



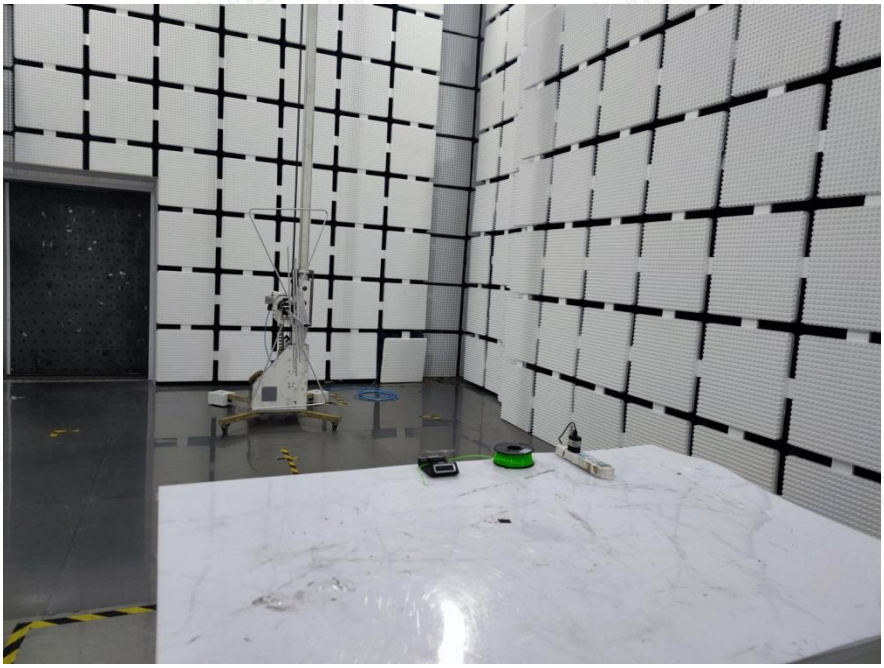
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1 *	51.8998	48.05	-17.30	30.75	40.00	-9.25	QP			P	
2	61.4343	45.49	-19.05	26.44	40.00	-13.56	QP			P	
3	86.6867	47.05	-21.71	25.34	40.00	-14.66	QP			P	
4	152.0902	48.84	-22.63	26.21	43.50	-17.29	QP			P	
5	181.3000	46.80	-21.18	25.62	43.50	-17.88	QP			P	
6	334.1255	33.20	-15.99	17.21	46.00	-28.79	QP			P	

5. TEST SETUP PHOTOS

Conducted emissions on AC mains



Radiated emissions (Below 1GHz)



6. EUT CONSTRUCTIONAL DETAILS (EUT PHOTOS)

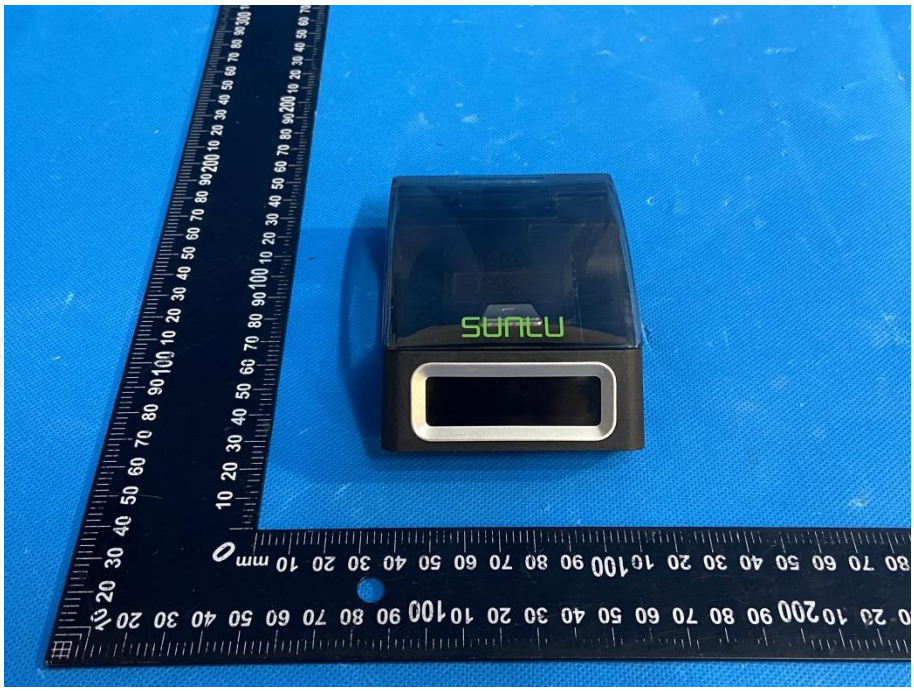


Fig. 1

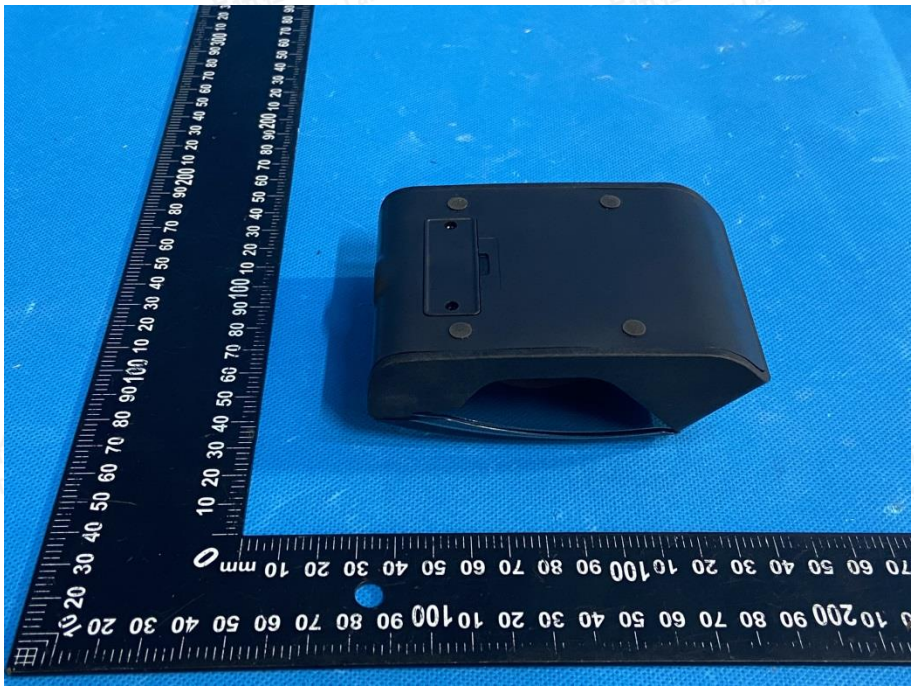


Fig. 2

Fig. 3

Fig. 4

Fig. 5

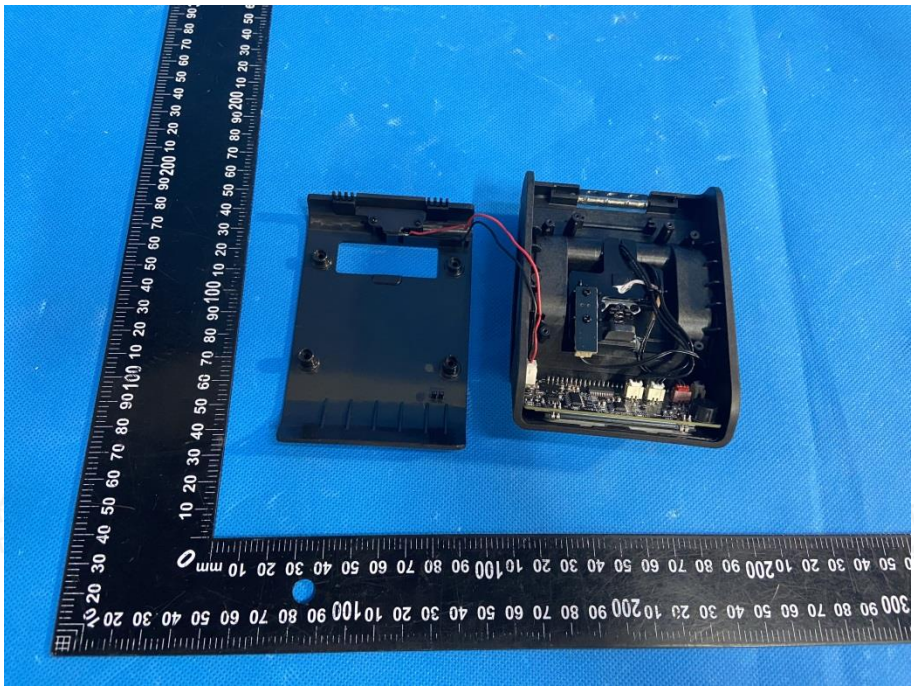


Fig. 6

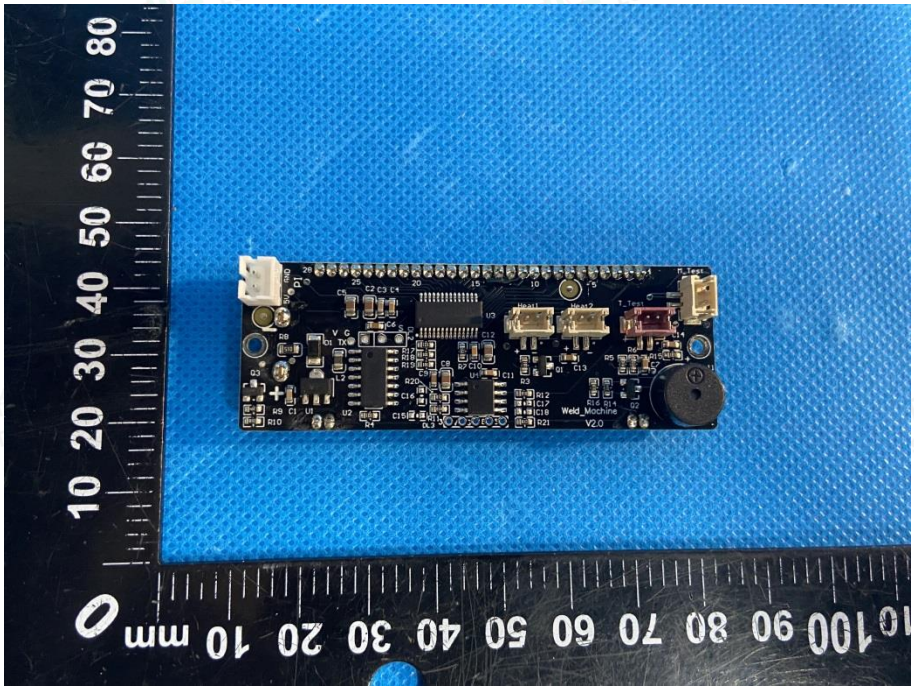


Fig. 7

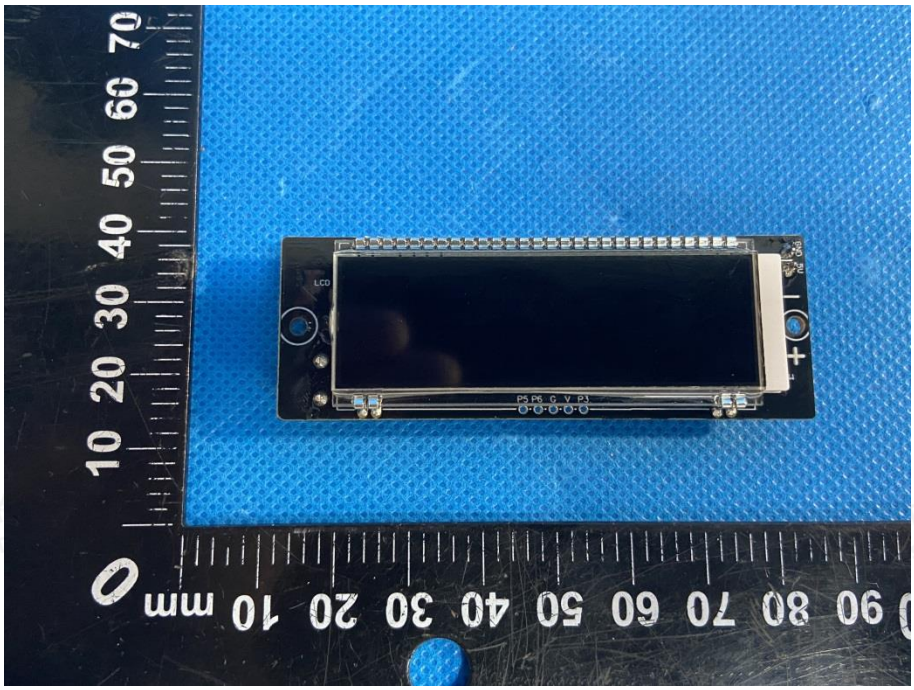


Fig. 8

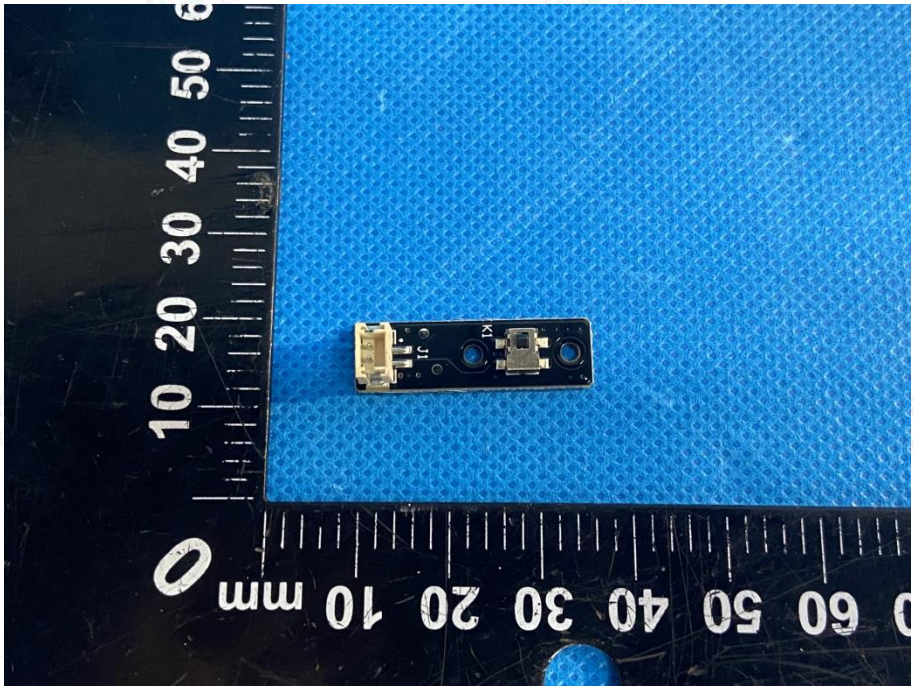


Fig. 9

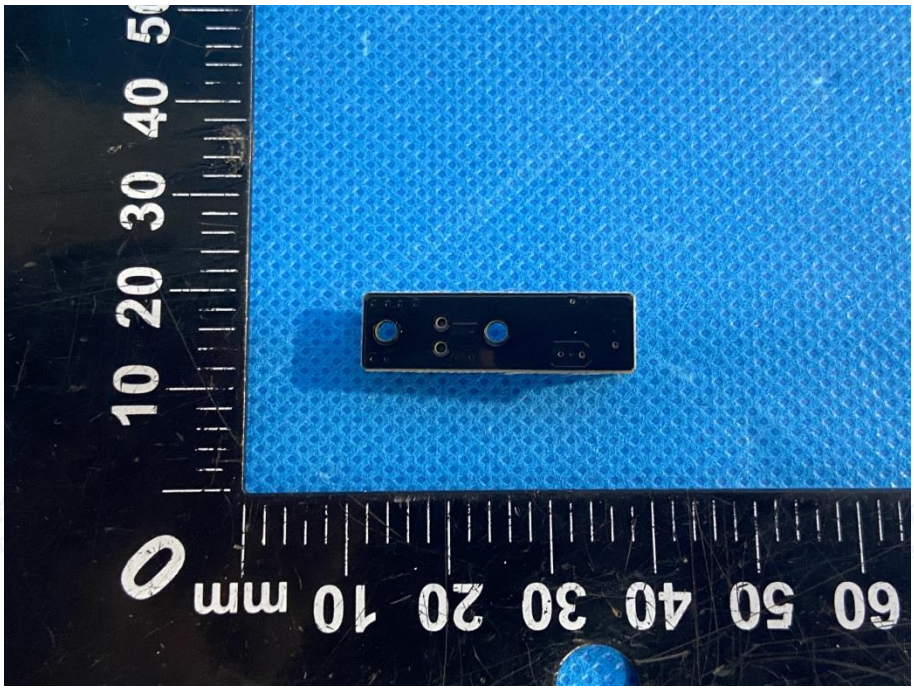


Fig. 10

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