FCC TEST REPORT

Applicant……	:	SDAPO Communication Co., Ltd.
Address……...	:	5F, W2, Chengxin Building, Tian An Shen Chuang Valley Industrial Center, Fenggang Town, Dongguan City, Guangdong Province, China
Manufacturer……..	:	SDAPO Communication Co., Ltd.
Address……...	:	5F, W2, Chengxin Building, Tian An Shen Chuang Valley Industrial Center, Fenggang Town, Dongguan City, Guangdong Province, China
Factory……..	:	SDAPO Communication Co., Ltd.
Address……...	:	5F, W2, Chengxin Building, Tian An Shen Chuang Valley Industrial Center, Fenggang Town, Dongguan City, Guangdong Province, China
Product Name……	:	POE Driver
Brand Name……...	:	SDAPO
Model No. ……..	:	P2C5V, PD2CAT, PD2CAT-20V, PD2CBT-20V, GP2C5V, GPD2CAT-20V, GPD2CBT-20V (For model difference refer to section 2)
Measurement Standard……	:	47 CFR FCC Part 15, Subpart B, Class B
Receipt Date of Samples….	:	November 30, 2023
Date of Tested……	:	December 01, 2024 to April 07, 2024
Date of Report……	:	April 13, 2024

This report shows that above equipment is technically compliant with the requirements of the standards above. All test results in this report apply only to the tested sample(s). Without prior written approval of Dongguan Nore Testing Center Co., Ltd., this report shall not be reproduced except in full.

Prepared by

Julie Xiao / Project Engineer

Approved by

Iori Fan / Authorized Signatory

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Revision History

Report Number	Description	Issued Date
NTC2311456FV00	Initial Issue	2024-04-13

1. Summary of Test Result

EMISSION				
Standard	**Test Clause**	**Test Item**	**Result**	**Remarks**
47 CFR FCC Part 15, Subpart B, Class B; ANSI C63.4-2014	§15.107(a)	Conducted Emission	PASS	---
	§15.109(a)	Radiated Emission	PASS	---

2. General Description of EUT

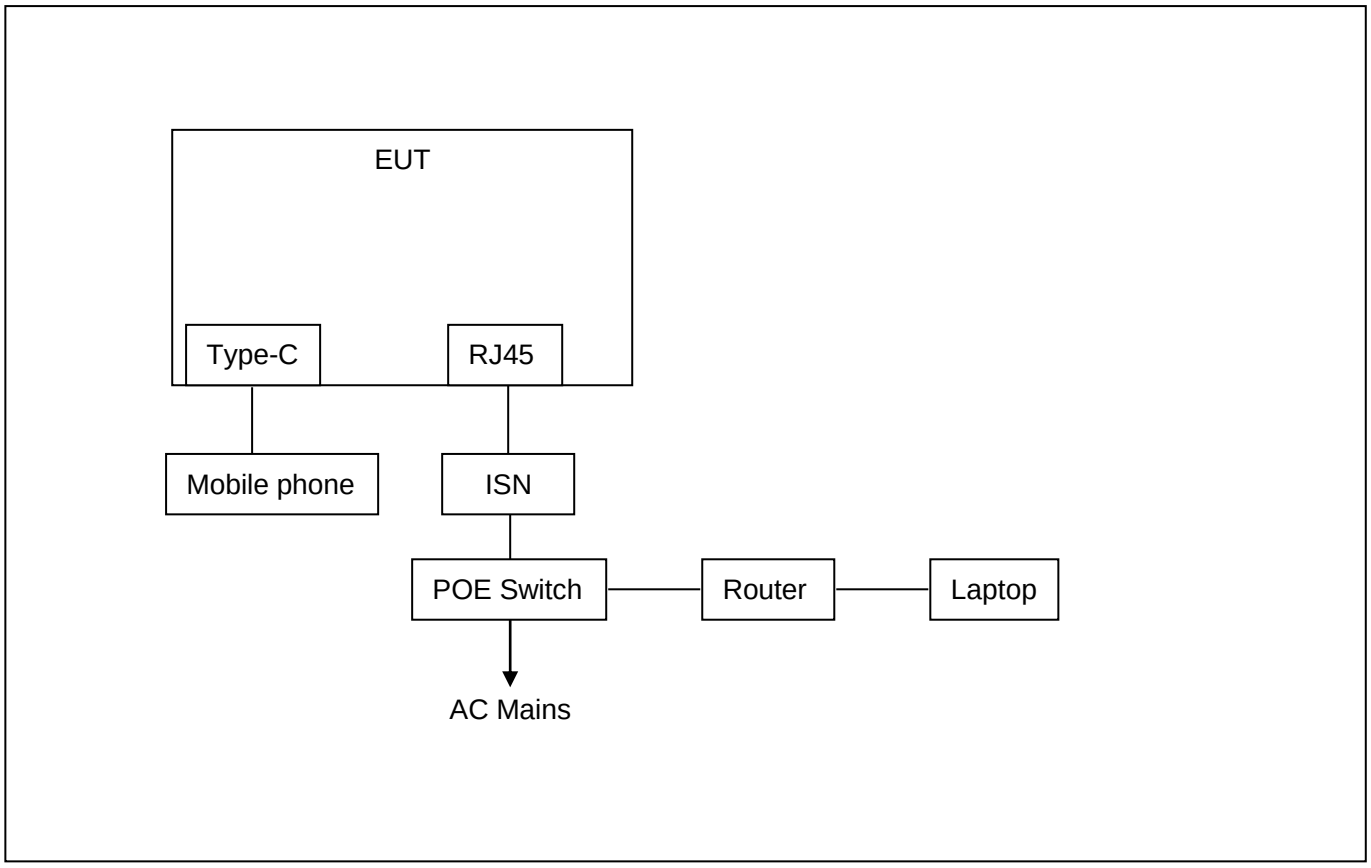
Product Information	
Product name:	POE Driver
Main Model Name:	P2C5V
Additional Model Name:	PD2CAT, PD2CAT-20V, PD2CBT-20V, GP2C5V, GPD2CAT-20V, GPD2CBT-20V
Model Difference:	These models have the same circuit schematic, construction, PCB Layout and critical components. The differences are model number, appearance color, size and transmission speed due to trading purpose.
S/N:	0124P2C5V0696
Brand Name:	SDAPO
Hardware version:	Not stated
Software version:	Not stated
Rating:	DC 5V come from Type-C
Operation frequency:	Below 108MHz
Classification:	Class B
Typical arrangement:	Table-top
I/O Port:	Refer to the user manual
Accessories Information	
Adapter	N/A
Cable:	Shielded cable: 0.27m, shielded, undetachable
Other	N/A
Additional Information	
Note:	According to these model differences and the requirements of manufacturer, all tests were performed on model P2C5V.
Remark:	All the information above are provided by the manufacturer. More detailed feature of the EUT please refers to the user manual.

3. Configuration of EUT

Description of Test Modes

Test Mode		Description
1.	Charging+ connect to network	Turn on the EUT and connect the EUT as below diagram, then make EUT charge for mobile phone and laptop exchange data.

Block Diagram of Configuration



Note:

a. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.

b. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

4. Description of Support Device

No.	Equipment	Brand	M/N	S/N	Cable Specification	Remarks
1.	Laptop	HUAWEI	HBL-W19	M3VPM19C05000965	---	Provided by the Lab.
2.	Mobile phone	HUAWEI	HUAWEI Mate 20	HJS5T18A27011455	---	Provided by the Lab.
3.	POE Switch	---	PSE604EX	---	---	Provided by the manufacturer
4.	Router	TP-LINK	TL-WR885N	114B345000329	---	Provided by the Lab.

5. Test Facility

Test Site	:	Dongguan Nore Testing Center Co., Ltd. (Dongguan NTC Co., Ltd.)
Accreditations and Authorizations	:	The Laboratory has been assessed and proved to be in compliance with CNAS/CL01 Listed by CNAS, August 13, 2018 The Certificate Registration Number is L5795. The Certificate is valid until August 13, 2024 The Laboratory has been assessed and proved to be in compliance with ISO17025 Listed by A2LA, November 01, 2017 The Certificate Registration Number is 4429.01 The Certificate is valid until December 31, 2025 Listed by FCC, November 06, 2017 Test Firm Registration Number: 907417 Listed by Industry Canada, June 08, 2017 The Certificate Registration Number. Is 46405-9743A
Test Site Location	:	Building D, Gaosheng Science and Technology Park, Hongtu Road, Nancheng District, Dongguan City, Guangdong Province, China

6. Test Conditions

No.	Test Item	Test Mode	Test Voltage	Tested by	Remarks
1.	Conducted Emission	1	AC 120V / 60Hz	Desn	See note 1
2.	Radiated Emission	1	AC 120V / 60Hz	Park	See note 1

Note:

1. The testing climatic conditions for temperature, humidity, and atmospheric pressure are within: 15~35°C, 30~60% and 86~106KPa.

2. Test voltage AC 120V 60Hz come from POE Switch.

7. Measurement Uncertainty

No.	Test Item	Frequency	Uncertainty	Remarks
1.	Conducted Emission	9KHz ~ 150KHz	± 3.04 dB	---
		150KHz ~ 30MHz	± 2.52 dB	---
2.	Radiated Emission	30MHz ~ 1GHz	± 5.66 dB	---
		Above 1GHz	± 5.19 dB	---

Note:

1. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

2. The measurement uncertainly levels above are estimated and calculated according to CISPR 16-4-2.

8. Measurement Bandwidths

No.	Frequency Range (MHz)	Peak Level (kHz)	Quasi-Peak Level (kHz)	Average Level (kHz)
1.	0.01 ~ 0.15	0.3	0.2	0.2
2.	0.15 ~ 30.0	10.0	9.0	9.0
3.	30 ~ 1000	100.0	120.0	120.0
4.	Above 1000	1000.0	N/A	1000.0

Note:

Measurements were made using the bandwidths and detectors specified by the standard. No video filter was used.

9. Deviations and Abnormalities from Standard Conditions

No additions, deviations and exclusions from the standard.

10. Sample Calculations

Conducted Emission						
Freq. (MHz)	**Reading Level (dBuV)**	**Correct Factor (dB)**	**Measurement (dBuV)**	**Limit (dBuV)**	**Over (dB)**	**Detector**
0.2419	23.49	20.61	44.10	62.03	-17.93	QP

Where,

Freq.	= Emission frequency in MHz
Reading Level	= Spectrum Analyzer/Receiver Reading
Corrector Factor	= Insertion loss of LISN + Cable Loss + RF Switching Unit attenuation
Measurement	= Reading + Corrector Factor
Limit	= Limit stated in standard
Margin	= Measurement - Limit
Detector	= Reading for Quasi-Peak / Average / Peak

Radiated Emission						
Freq. (MHz)	**Reading Level (dBuV)**	**Correct Factor (dB/m)**	**Measurement (dBuV/m)**	**Limit (dBuV/m)**	**Over (dB)**	**Detector**
134.7600	38.83	-10.73	28.10	43.50	-15.40	QP

Where,

Freq.	= Emission frequency in MHz
Reading Level	= Spectrum Analyzer/Receiver Reading
Corrector Factor	= Antenna Factor + Cable Loss - Pre-amplifier
Measurement	= Reading + Corrector Factor
Limit	= Limit stated in standard
Over	= Margin, which calculated by Measurement - Limit
Detector	= Reading for Quasi-Peak / Average / Peak

11. Documentation Requirements

Label requirements (FCC):

a) In addition to the requirements in part 2 of this chapter, a device subject to certification, or Supplier's Declaration of Conformity shall be labeled as follows:

1) Receivers associated with the operation of a licensed radio service, e.g., FM broadcast under part 73 of this chapter, land mobile operation under part 90, etc., shall bear the following statement in a conspicuous location on the device:

This device complies with part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

(2) A stand-alone cable input selector switch, shall bear the following statement in a conspicuous location on the device:

This device complies with part 15 of the FCC Rules for use with cable television service.

(3) All other devices shall bear the following statement in a conspicuous location on the device:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

(4) Where a device is constructed in two or more sections connected by wires and marketed together, the statement specified under paragraph (a) of this section is required to be affixed only to the main control unit.

(5) When the device is so small or for such use that it is impracticable to label it with the statement specified under paragraph (a) of this section in a font that is four-point or larger, and the device does not have a display that can show electronic labeling, then the information required by this paragraph shall be placed in the user manual and must also either be placed on the device packaging or on a removable label attached to the device.

Identification:

(a) Devices subject only to Supplier's Declaration of Conformity shall be uniquely identified by the party responsible for marketing or importing the equipment within the United States. However, the identification shall not be of a format which could be confused with the FCC Identifier required on certified equipment. The responsible party shall maintain adequate identification records to facilitate positive identification for each device.

(b) Devices subject to authorization under Supplier's Declaration of Conformity may be labeled with the following logo on a voluntary basis as a visual indication that the product complies with the applicable FCC requirements. The use of the logo on the device does not alleviate the requirement to provide the compliance information required by §2.1077.



User's Manual requirements (Information to user):

(a) For a Class A digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

(b) For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—Reorient or relocate the receiving antenna.

—Increase the separation between the equipment and receiver.

—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

—Consult the dealer or an experienced radio/TV technician for help.

Notice: The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

If the EUT was tested with special shielded cables the operator's manual for such product shall also contain the following statements or their equipment:

Shielded interface cables and/or AC power cord, if any, must be used in order to comply with the emission limits.

Compliance Information Statement:

Identification of Product	**:**	
Applicable compliance statements	**:**	
Responsible Party (In USA) Name	**:**	
ADDRESS	**:**	
Telephone	**:**	
Internet Contact Information	**:**	
Responsible Party Website	**:**	

Note:

1. The information above may include in user's manual or separate sheet.
2. Identification of product: e.g., name and model number;
3. Applicable compliance statements: e.g. for part 15 devices see §15.19(a)(3)
4. Responsible Party (In USA) Name: e.g. Manufacturer, assembler, importer, or retailer. The responsible party must be located within the United States.

Compliance Information Statement for products assembled from modular components that are themselves SDoC or Certified:

Identification of Assembled Product	**:**	
Identification of Modular Components used	**:**	
Applicable compliance statements	**:**	
Responsible Party that assembled product Name (In USA)	**:**	
ADDRESS	**:**	
Telephone	**:**	
Internet Contact Information	**:**	
Responsible Party Website	**:**	
Copied of compliance state	**:**	

Note:

1. The information above may include in user's manual or separate sheet.
2. Identification of product: e.g., name and model number;
3. Applicable compliance statements: e.g. for part 15 devices see §15.19(a)(3)
4. Responsible Party (In USA) Name: e.g. Manufacturer, assembler, importer, or retailer. The responsible party must be located within the United States.
5. Identification of Modular Components used: e.g. AS identified on it's SDoC, or Name and Model and FCC ID if certified.
6. Copies of compliance statement for each SDoC modular components used must be included.
7. The responsible party must be located in the United States. The information above may be provided electronically per §2.935

12. Conducted Emission Measurement

LIMITS

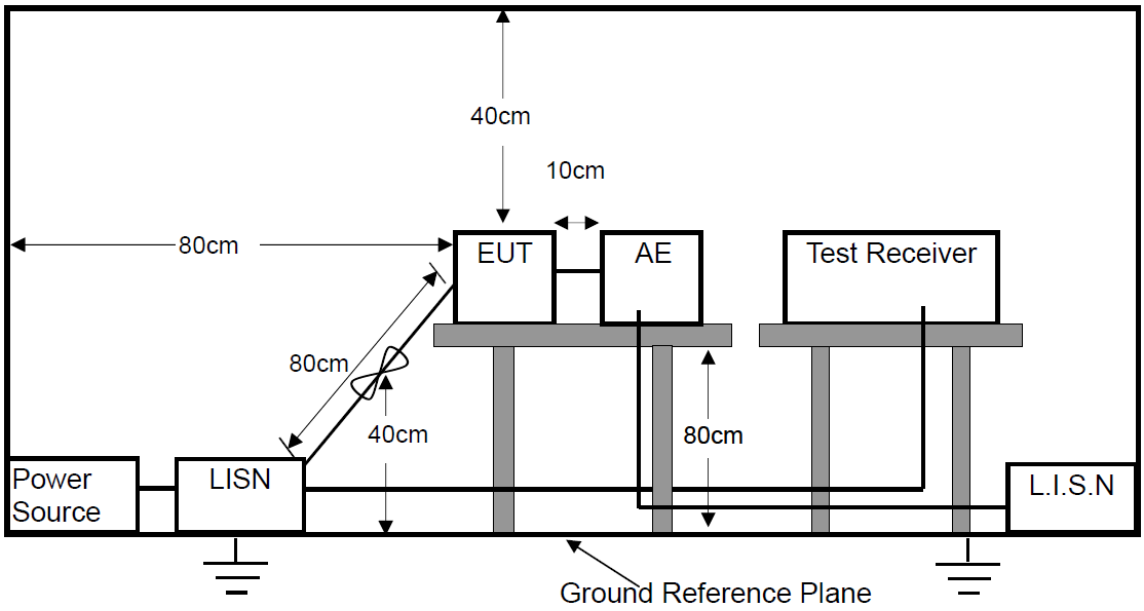
Limits for conducted disturbance for the AC mains power ports:

Frequency (MHz)	☐Class A (dBuV)		☒Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 to 0.5	79	66	66 to 56	56 to 46
0.5 to 5	73	60	56	46
5 to 30	73	60	60	50

Note:
1. If the limits for the average detector are met when using the quasi-peak detector, then the limits for the measurements with the average detector are considered to be met.
2. The higher value measured with and without the outer conductor screen of the antenna terminal connected to earth is considered.
3. Television receivers with teletext facilities should be tested in teletext mode with teletext Picture.
4. The lower limit shall apply at the transition frequencies.
5. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5MHz.

BLOCK DIAGRAM OF TEST SETUP

Conducted Disturbance at the Mains power Ports



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TEST PROCEDURES

a. The EUT was placed on a wooden table 0.8m height from the metal ground plan and 0.4m from the conducting wall of the shielding room and it was kept at 0.8m from any other grounded conducting surface.

b. Configure the EUT and support devices as per section 3.

c. All I/O cables and support devices were positioned as per ANSI C63.4-2014.

d. Connect mains power port of the EUT to a line impedance stabilization network (LISN) and wired network port to Asymmetric Artificial Network (AAN).

e. Connect all support devices to the other LISN and AAN, if needed.

f. Turn on the EUT and all support devices, and make it run stably.

g. Set the detector and measurement bandwidth of test-receiver system as per ANSI C63.4-2014.

h. Scan the frequency range from 150KHz to 30MHz at both sides of AC line for conducted interference checking

i. Repeat the above scans in each mode and record the test data.

TEST RESULTS

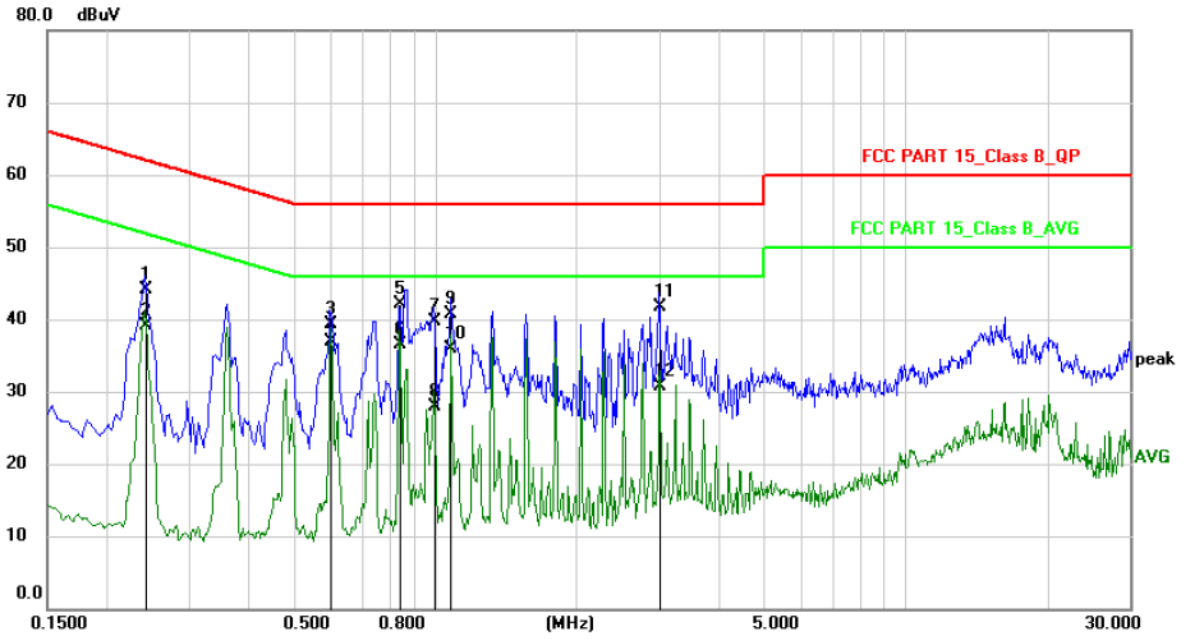
PASS

Please refer to the following pages.

M/N: P2C5V	Testing Voltage: AC 120V / 60Hz
Phase: L1	Detector: QP & AVG
Test Mode: 1	

Conducted Emission Measurement

Date: 2024/4/2 Time: 16:49:05

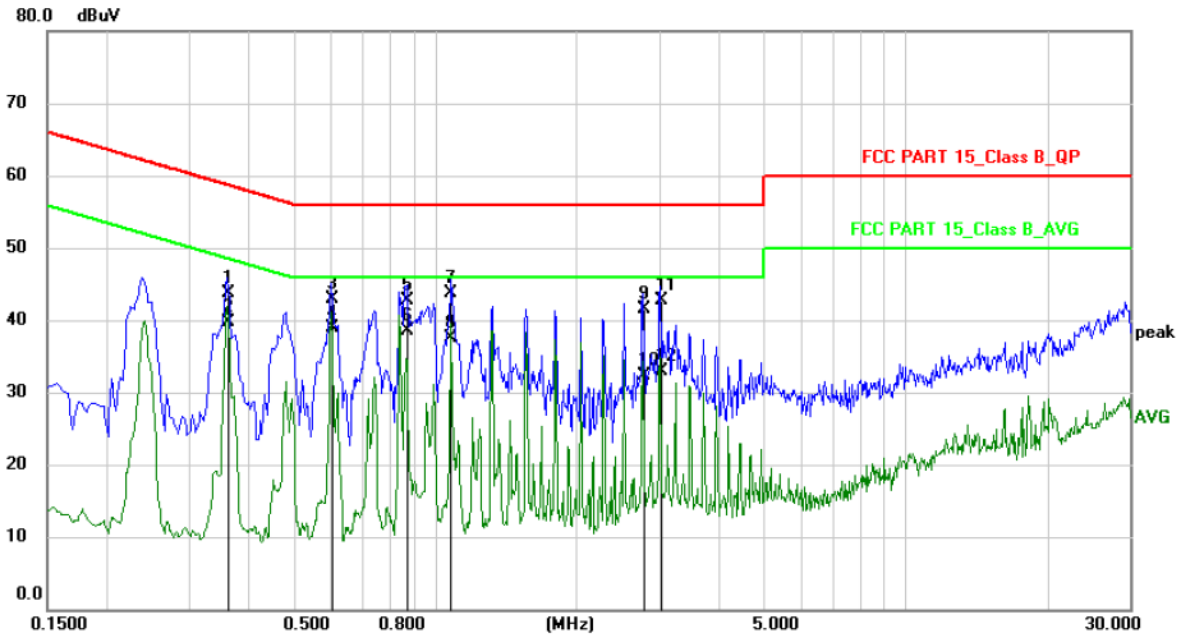


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.2419	23.49	20.61	44.10	62.03	-17.93	QP	
2		0.2419	18.59	20.61	39.20	52.03	-12.83	AVG	
3		0.5980	18.70	20.60	39.30	56.00	-16.70	QP	
4	*	0.5980	16.30	20.60	36.90	46.00	-9.10	AVG	
5		0.8420	21.59	20.61	42.20	56.00	-13.80	QP	
6		0.8420	15.89	20.61	36.50	46.00	-9.50	AVG	
7		0.9979	19.09	20.61	39.70	56.00	-16.30	QP	
8		0.9979	7.39	20.61	28.00	46.00	-18.00	AVG	
9		1.0820	20.19	20.61	40.80	56.00	-15.20	QP	
10		1.0820	15.29	20.61	35.90	46.00	-10.10	AVG	
11		3.0059	21.17	20.63	41.80	56.00	-14.20	QP	
12		3.0059	10.17	20.63	30.80	46.00	-15.20	AVG	

M/N: P2C5V	Testing Voltage: AC 120V / 60Hz
Phase: N	Detector: QP & AVG
Test Mode: 1	

Conducted Emission Measurement

Date: 2024/4/2 Time: 16:55:54



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3620	23.22	20.58	43.80	58.68	-14.88	QP	
2		0.3620	19.22	20.58	39.80	48.68	-8.88	AVG	
3		0.6020	22.43	20.57	43.00	56.00	-13.00	QP	
4	*	0.6020	18.43	20.57	39.00	46.00	-7.00	AVG	
5		0.8740	22.23	20.57	42.80	56.00	-13.20	QP	
6		0.8740	18.03	20.57	38.60	46.00	-7.40	AVG	
7		1.0820	23.23	20.57	43.80	56.00	-12.20	QP	
8		1.0820	17.03	20.57	37.60	46.00	-8.40	AVG	
9		2.7700	21.02	20.58	41.60	56.00	-14.40	QP	
10		2.7700	11.72	20.58	32.30	46.00	-13.70	AVG	
11		3.0100	22.12	20.58	42.70	56.00	-13.30	QP	
12		3.0100	12.32	20.58	32.90	46.00	-13.10	AVG	

13. Radiated Emission Measurement

LIMITS

Below 1GHz for 47 CFR FCC Part 15, §15.109:

Frequency range MHz	☐ Class A Field Strengths Limit		☒ Class B Field Strengths Limit	
	μV/m	dB(μV)/m 3m	μV/m	dB(μV)/m 3m
30 ~ 88	90	49.0	100	40.0
88 ~ 216	150	53.5	150	43.5
216 ~ 960	210	56.4	200	46.0
960 ~ 1000	300	59.5	500	54.0
Note: 1. Emission level (dB)μV = 20 log Emission level μV/m 2. The smaller limit shall apply at the cross point between two frequency bands.				

Above 1GHz:

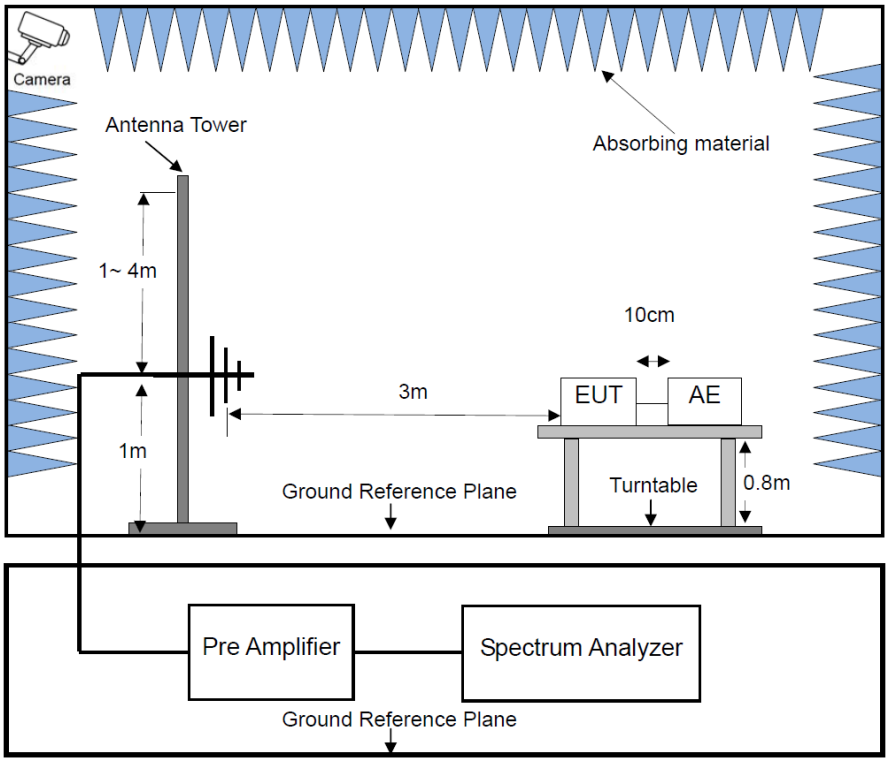
Frequency (GHz)	Measuring the distance at 3m			
	☐ Class A		☐ Class B	
	Peak dB(uV/m)	Average dB(uV/m)	Peak dB(uV/m)	Average dB(uV/m)
1~40	80	60	74	54
Note: 1. The smaller limit shall apply at the cross point between two frequency bands.				

Required frequency range of radiated measurement

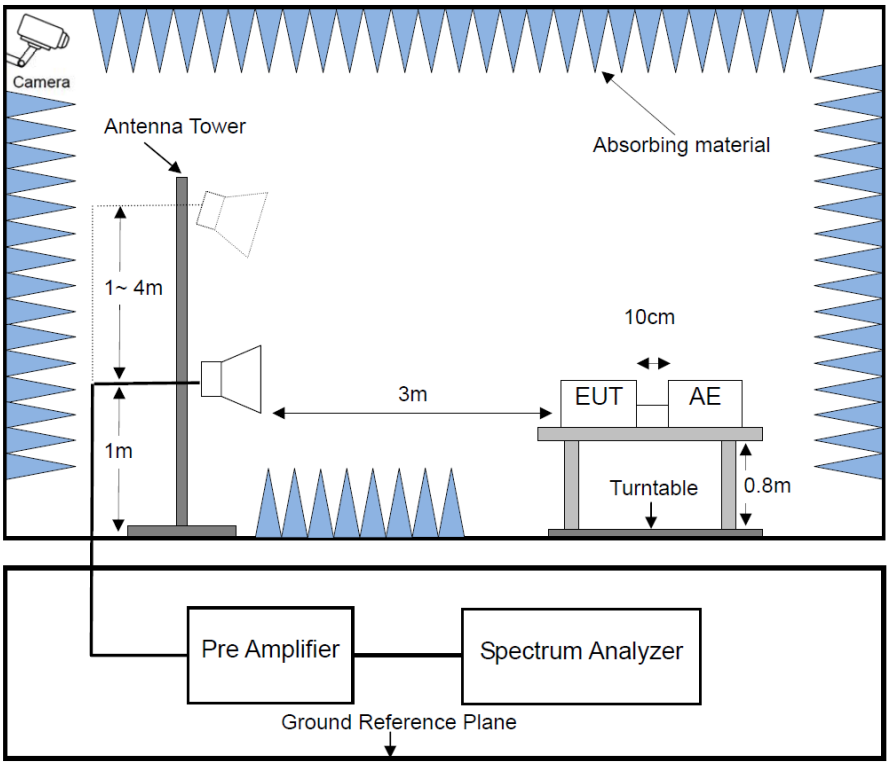
Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705	30
1.705~108	1000
108~500	2000
500~1000	5000
Above 1000	5^{th} harmonic of the highest frequency or 40 GHz, Whichever is lower.

BLOCKDIAGRAM OF TEST SETUP

Below 1GHz:



Above 1GHz:



TEST PROCEDURES

a. The EUT was placed on a rotatable wooden table top 0.8m above ground.

b. The EUT was set 3m away from the receiving antenna which was mounted on the top of a variable height antenna tower.

c. Configure the EUT and support devices as per section 3.

d. All I/O cables and support devices were positioned as per ANSI C63.4-2014.

e. Connect mains power port of the EUT to the outlet socket under the turntable and connect all other support devices to other outlet socket under the turntable.

f. Turn on the EUT and all support devices, and make it run stably.

g. Set the detector and measurement bandwidth of test-receiver system as per ANSI C63.4-2014.

h. Scan the frequency range from 30MHz to 1000MHz for radiation emissions checking.

i. Emissions were scanned and measured rotating the EUT from 0 to 360 degrees and positioning the antenna from 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.

j. Repeat the above scans in each mode and channel and record the test data.

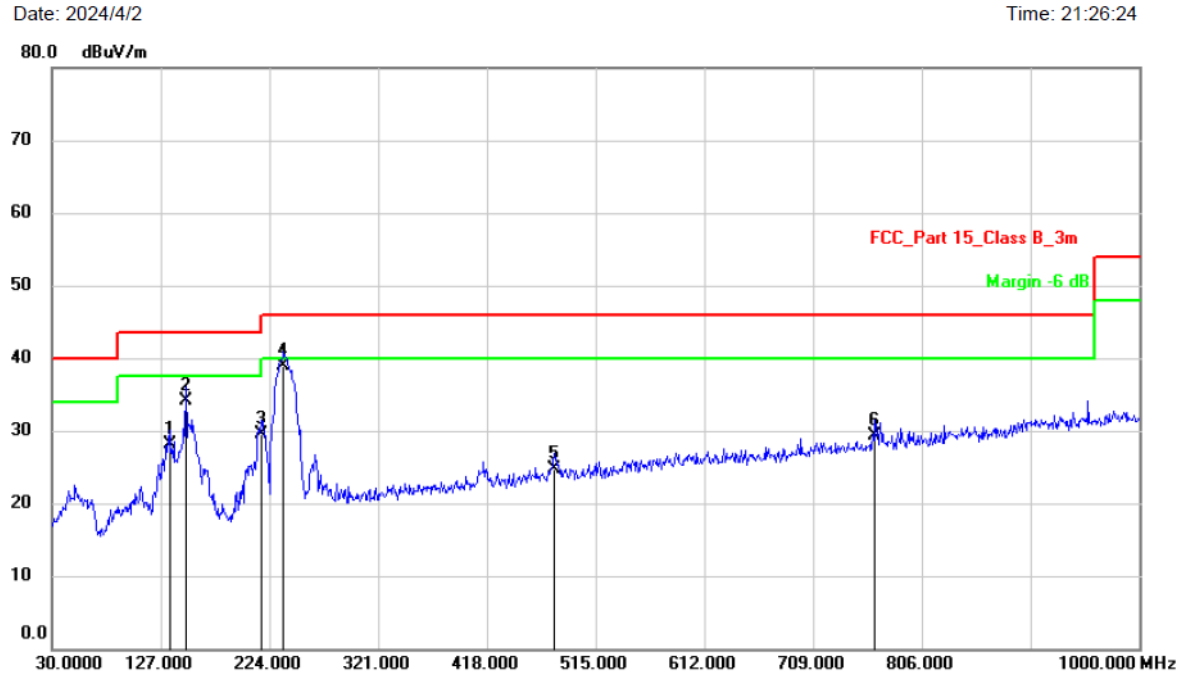
TEST RESULTS

PASS

Please refer to the following pages.

M/N: P2C5V	Testing Voltage: AC 120V / 60Hz
Polarization: Horizontal	Detector: QP
Test Mode: 1	Distance: 3m

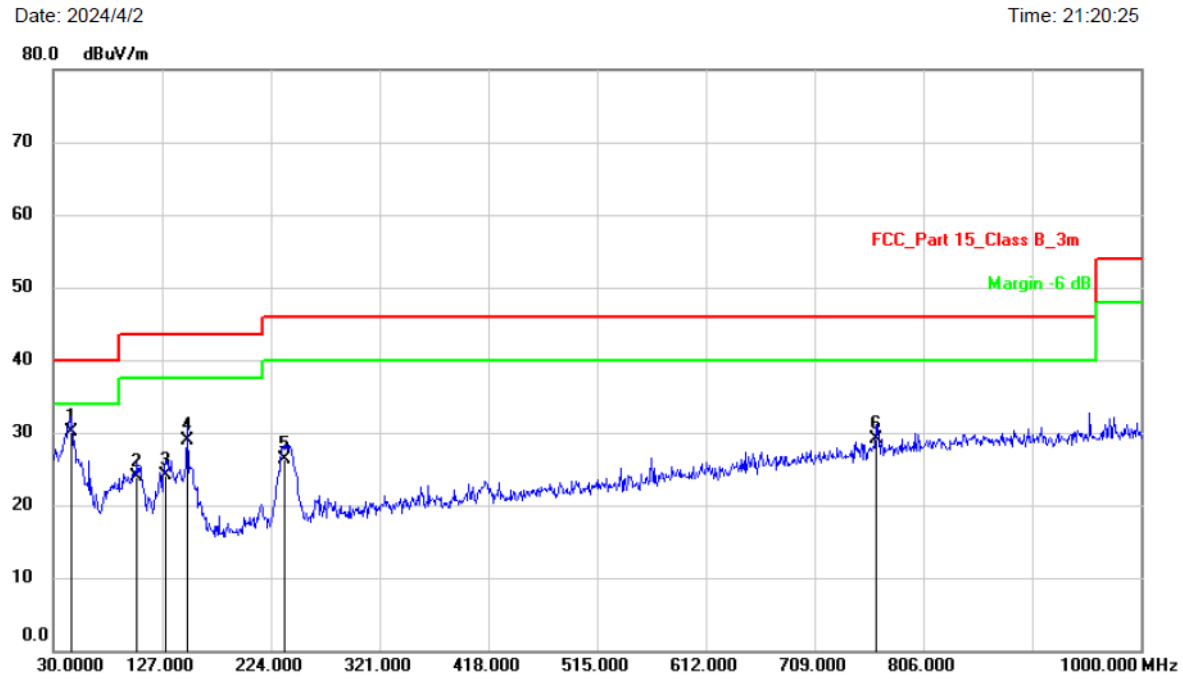
Radiated Emission Measurement



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		134.7600	38.83	-10.73	28.10	43.50	-15.40	QP	
2		149.3100	44.99	-10.89	34.10	43.50	-9.40	QP	
3		216.2400	36.99	-7.49	29.50	46.00	-16.50	QP	
4	*	236.6100	45.63	-6.73	38.90	46.00	-7.10	QP	
5		478.1400	26.87	-2.07	24.80	46.00	-21.20	QP	
6		764.2900	26.10	3.30	29.40	46.00	-16.60	QP	

M/N: P2C5V	Testing Voltage: AC 120V / 60Hz
Polarization: Vertical	Detector: QP
Test Mode: 1	Distance: 3m

Radiated Emission Measurement



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	46.4900	37.66	-7.46	30.20	40.00	-9.80	QP	
2		104.6900	33.17	-9.27	23.90	43.50	-19.60	QP	
3		129.9100	35.49	-11.29	24.20	43.50	-19.30	QP	
4		149.3100	40.75	-11.85	28.90	43.50	-14.60	QP	
5		236.6100	34.13	-7.73	26.40	46.00	-19.60	QP	
6		763.3200	25.82	3.28	29.10	46.00	-16.90	QP	

14. Measuring Devices and Test Equipment

☒ For Conducted Emission Measurement

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESCI	101152	Mar. 13, 2024	1 Year
2.	L.I.S.N	Rohde & Schwarz	ENV 216	101317	Mar. 13, 2024	1 Year
3.	L.I.S.N	Rohde & Schwarz	ESH2-Z5	893606/014	Mar. 13, 2024	1 Year
4.	ISN CAT6	Rohde & Schwarz	NTFM 8158	8158-0009	Mar. 13, 2024	1 Year
5.	RF Switching Unit	Compliance Direction Systems Inc.	RSU-M2	38311	Mar. 13, 2024	1 Year
6.	Test Software	EZ	EZ_EMC NTC-3A1.1	N/A	N/A	N/A

☒ For Radiated Emission Measurement

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESCI7	100837	Mar. 13, 2024	1 Year
2.	Spectrum Analyzer	Rohde & Schwarz	FSU26	200409/026	Mar. 13, 2024	1 Year
3.	Antenna	Schwarzbeck	VULB9162	9162-010	Mar. 23, 2024	2 Year
4.	Loop Antenna	Schwarzbeck	FMZB 1513	1513-272	Mar. 23, 2024	2 Year
5.	Horn Antenna	COM-Power	AH-118	071078	Mar. 23, 2024	2 Year
6.	Pre-Amplifier	HP	HP 8447D	1145A00203	Mar. 13, 2024	1 Year
7.	Pre-Amplifier	HP	HP 8449B	3008A00964	Mar. 13, 2024	1 Year
8.	Chamber	SAEMC	9*7*7m	N/A	Apr. 21, 2023	2 Year
9.	Test Software	EZ	EZ_EMC NTC-3A1.1	N/A	N/A	N/A

15. Photographs of Test Configuration

Photo of Conducted Emission Measurement

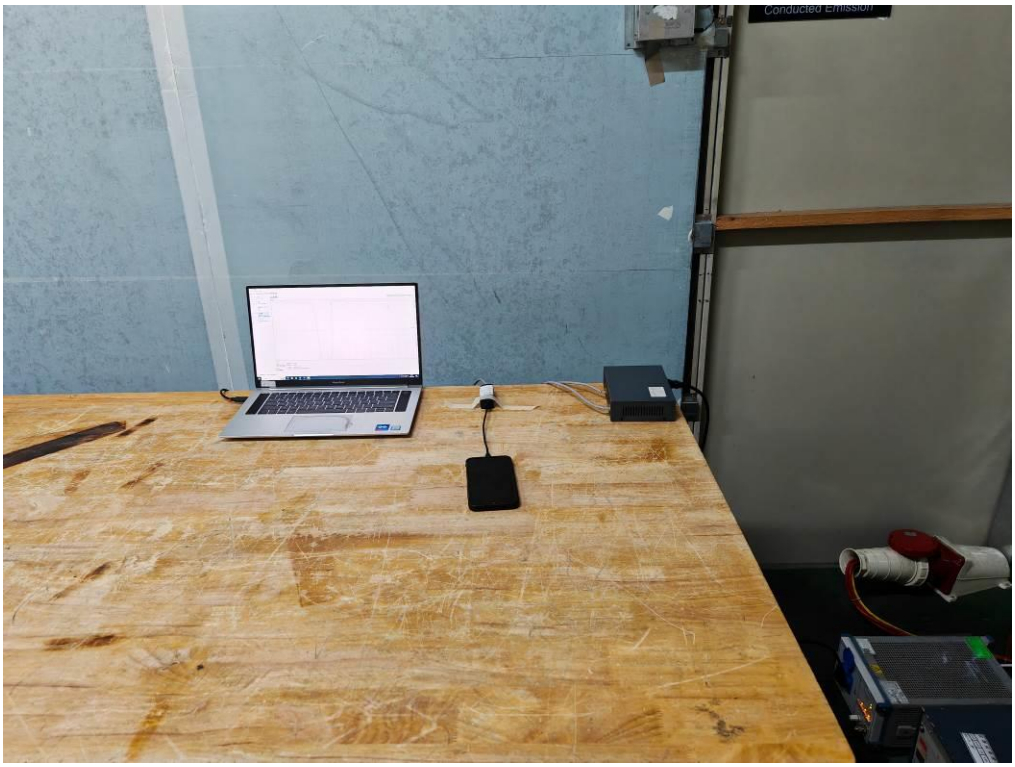
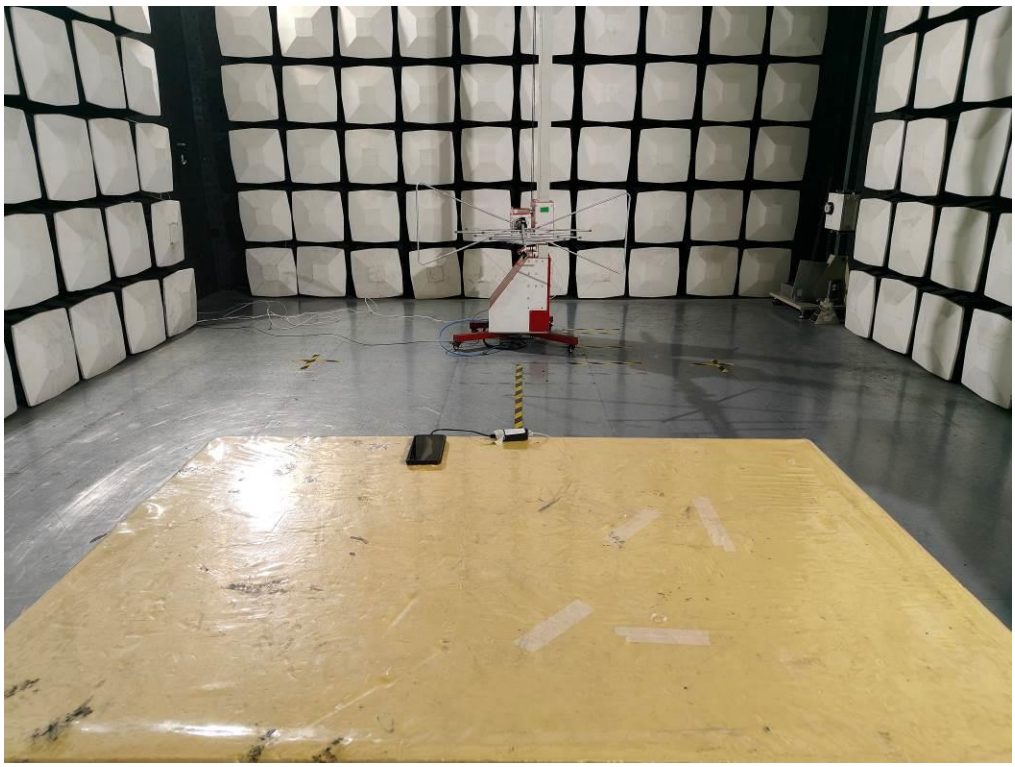


Photo of Radiated Emission Measurement



16. Photographs of the EUT

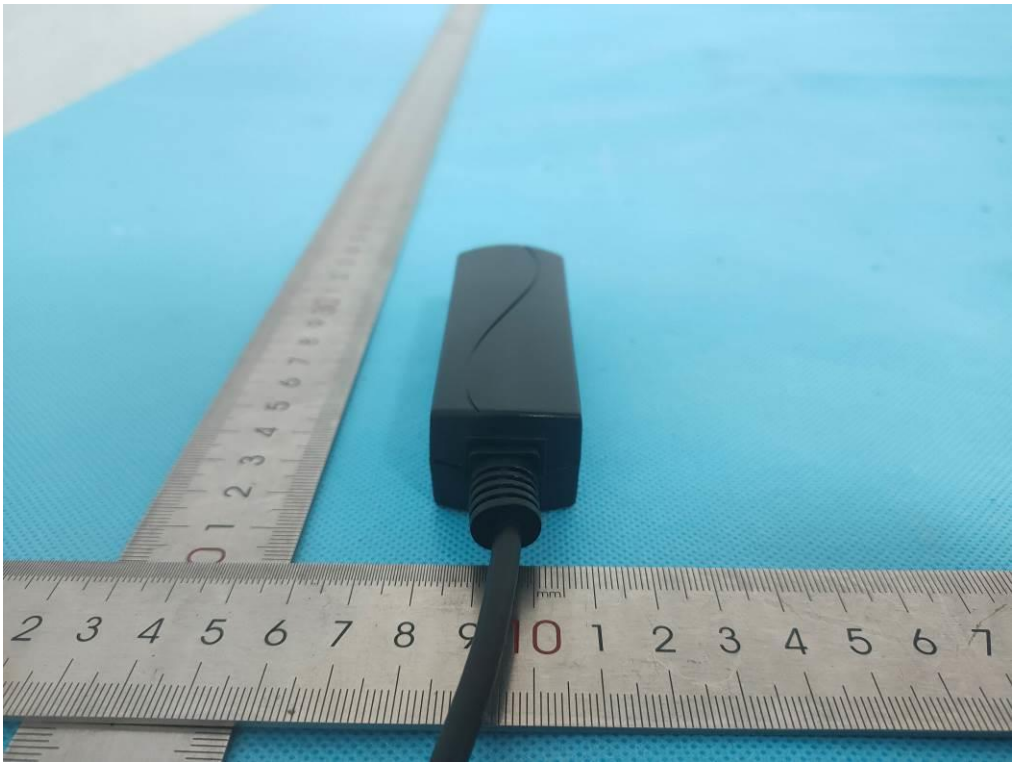


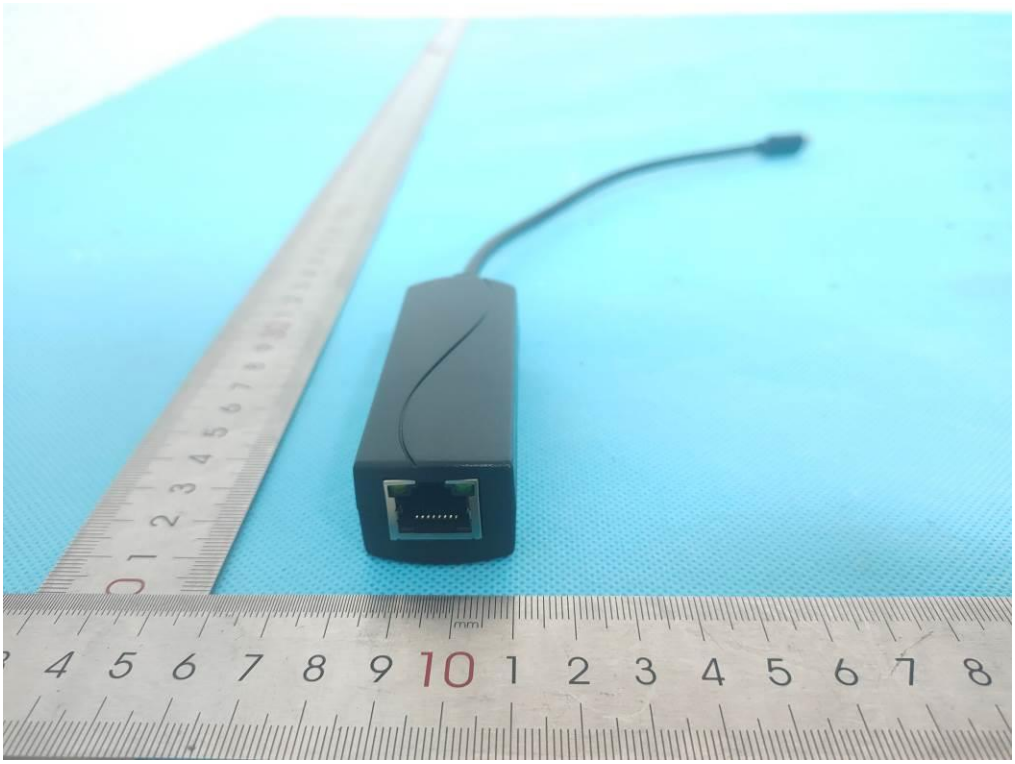



P2C5V POE To USB-C Driver
INPUT:DC37-57V ;IEEE802.3af Standard
Data Speed:10/100Mbps USB2.0
OUTPUT: Type-C 5V/2A PD2.0
SN: 0124P2C5V0696 MADE IN CHINA

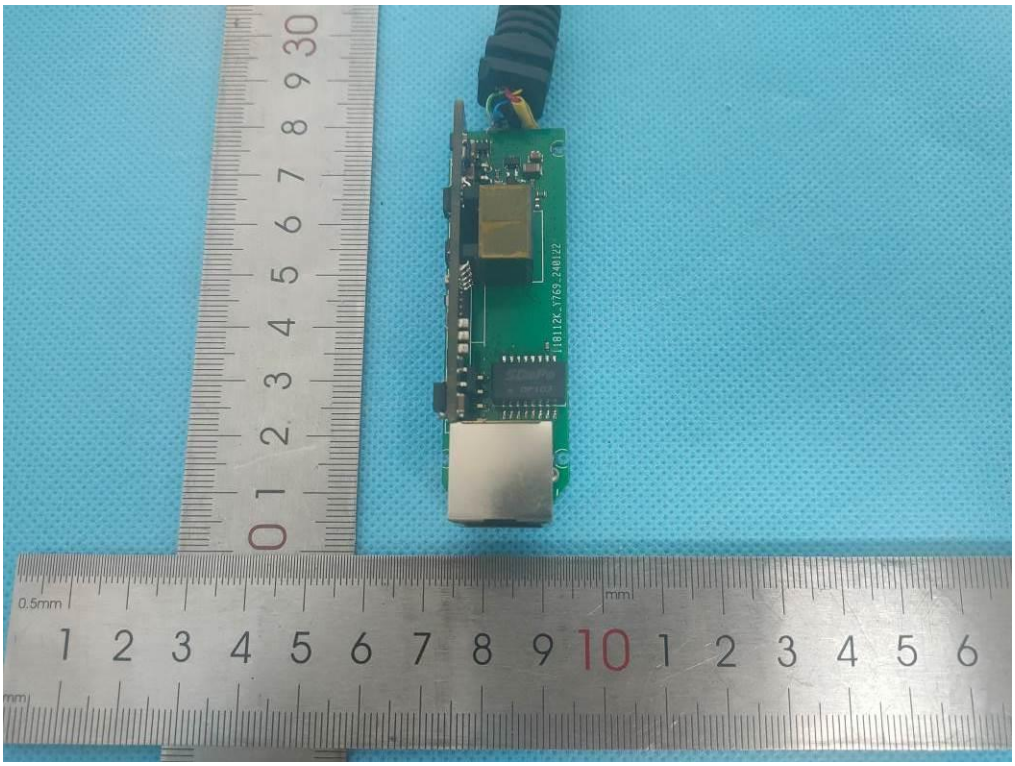


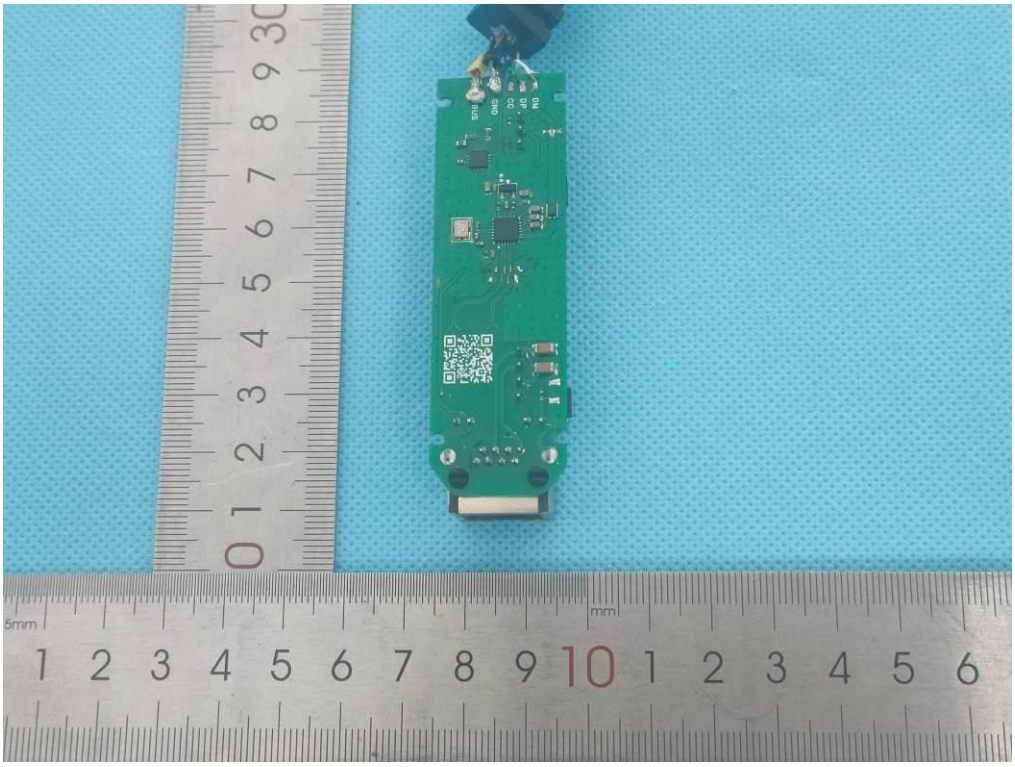


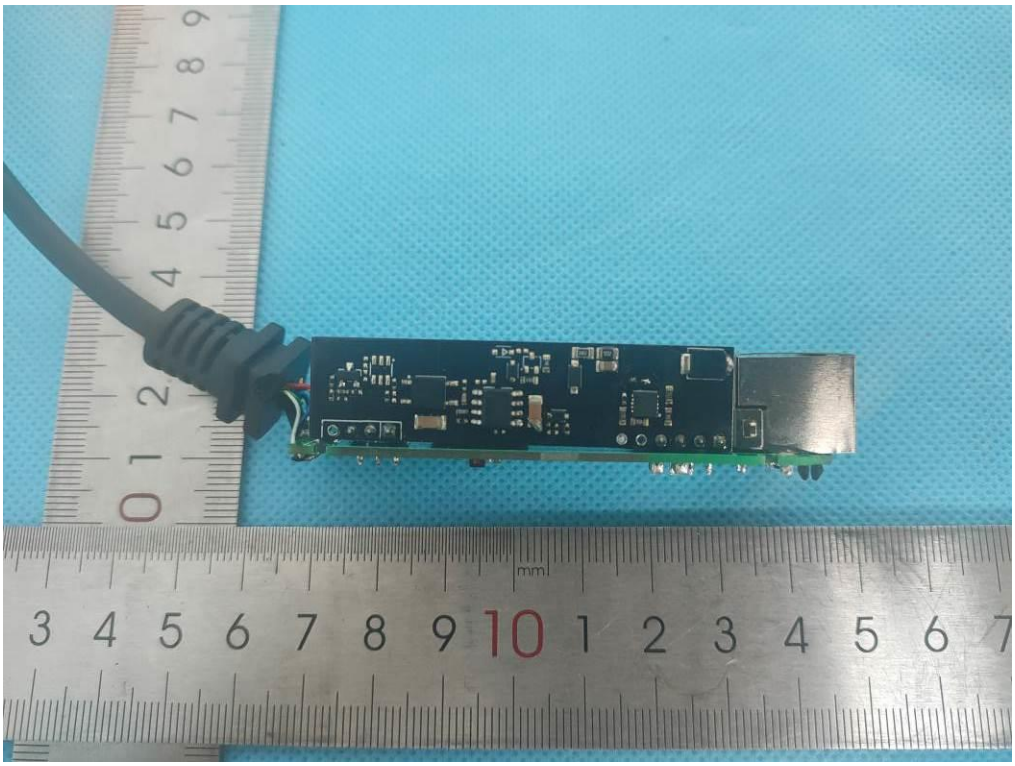


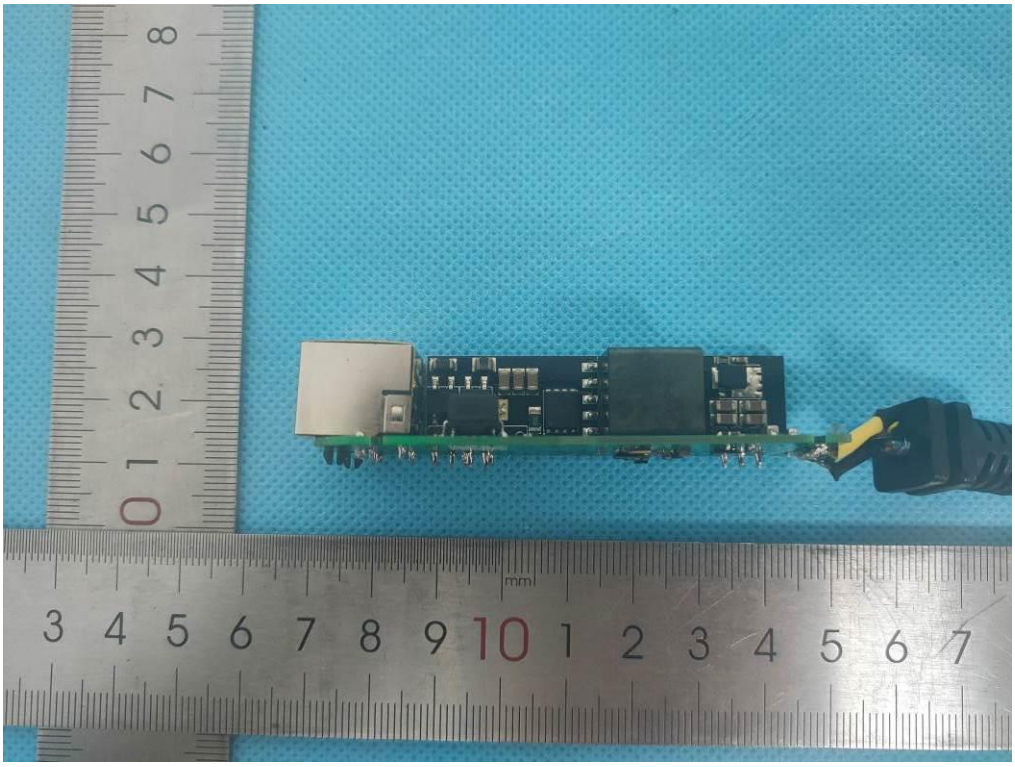












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