

FCC TEST REPORT

Applicant: Coolgear Inc

Address: 5120 110th Ave N Clearwater FL 33760 U.S.A

Manufacturer: Coolgear Inc

Address: 5120 110th Ave N Clearwater FL 33760 U.S.A

EUT: USB Type-C PD Charger

Trademark: 

Model Number: CG-PD99PPS, WTF-PD99UL

Test Date: Dec. 16, 2024 - Dec. 24, 2024

Date of Report: Dec. 24, 2024

Report No.: SiCT2412161863E

Test Result: The equipment under test was found to be compliance with the requirements of the standards applied.

Test Procedure Used:

EMI : FCC Part 15 Subpart B
ANSI C63.4:2019

Compiled by:



Daisy Wei

Reviewed by:



Sky Wang

Approved by:



Andy Wang/Manager



This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of Shenzhen SiCT Technology Co., Ltd.

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1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT : USB Type-C PD Charger

Trademark : 

Model Number : CG-PD99PPS, WTF-PD99UL

1.2. Tested System Details

None.

1.3. Test Uncertainty

Conducted Emission
Uncertainty : $\pm 2.66\text{dB}$

Radiated Emission Uncertainty : $\pm 4.26\text{dB}$

2. TEST INSTRUMENT USED

For Conducted Emission at the mains terminals Test

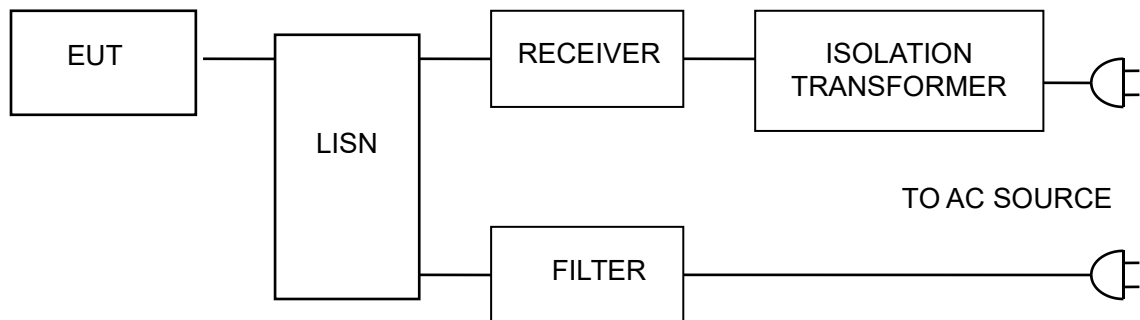
Conducted Emission Test (A --- site)					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
843 Shielded Room	ChengYu	843 Room	843	Dec. 26, 2023	Dec. 25, 2024
EMI Receiver	R&S	ESCI	101421	Dec. 26, 2023	Dec. 25, 2024
LISN	SCHWARZBECK	NSLK8127	812779	Dec. 26, 2023	Dec. 25, 2024
Pulse Limiter	R&S	ESH3-Z2	100681	Dec. 26, 2023	Dec. 25, 2024
843 Cable 1#	FUJIKURA	843C1#	001	Dec. 26, 2023	Dec. 25, 2024

For Radiated Emission Test

Radiation Emission Test (966 chamber)					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
966 chamber	ChengYu	966 Room	966	Dec. 26, 2023	Dec. 25, 2024
Spectrum Analyzer	Agilent	E4407B	MY45109572	Dec. 26, 2023	Dec. 25, 2024
Amplifier	Schwarzbeck	BBV9743	9743-119	Dec. 26, 2023	Dec. 25, 2024
Amplifier	Schwarzbeck	BBV9718	9718-270	Dec. 26, 2023	Dec. 25, 2024
Log-periodic Antenna	Schwarzbeck	VULB9160	VULB9160-3369	Dec. 26, 2023	Dec. 25, 2024
EMI Receiver	R&S	ESCI	101421	Dec. 26, 2023	Dec. 25, 2024
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1275	Dec. 26, 2023	Dec. 25, 2024
966 Cable 1#	CHENGYU	966	004	Dec. 26, 2023	Dec. 25, 2024
966 Cable 2#	CHENGYU	966	003	Dec. 26, 2023	Dec. 25, 2024

3. CONDUCTED EMISSION AT THE MAINS TERMINALS TEST

3.1. Block Diagram Of Test Setup



3.2. Test Standard

FCC Part 15

3.3. Power Line Conducted Emission Limit

Frequency MHz	Limits dB(μ V)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Notes: 1. *Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

3.4. EUT Configuration on Test

The following equipments are installed on conducted emission test to meet FCC Part 15 requirement and operating in a manner which tends to maximize its emission characteristics in a normal application.

3.5. Operating Condition of EUT

3.5.1 Setup the EUT and simulators as shown in Section 3.1.

3.5.2 Turn on the power of all equipments.

3.5.3 Let the EUT work in test modes and test it.

3.6. Test Procedure

The EUT is put on the ground and connected to the AC mains through a Artificial Mains Network (AMN). This provided a 50ohm coupling impedance for the tested equipments. Both sides of AC line are checked to find out the maximum conducted emission levels according to the **FCC Part 15** regulations during conducted emission test.

The bandwidth of the test receiver (R&S Test Receiver ESCI) is set at 10KHz.

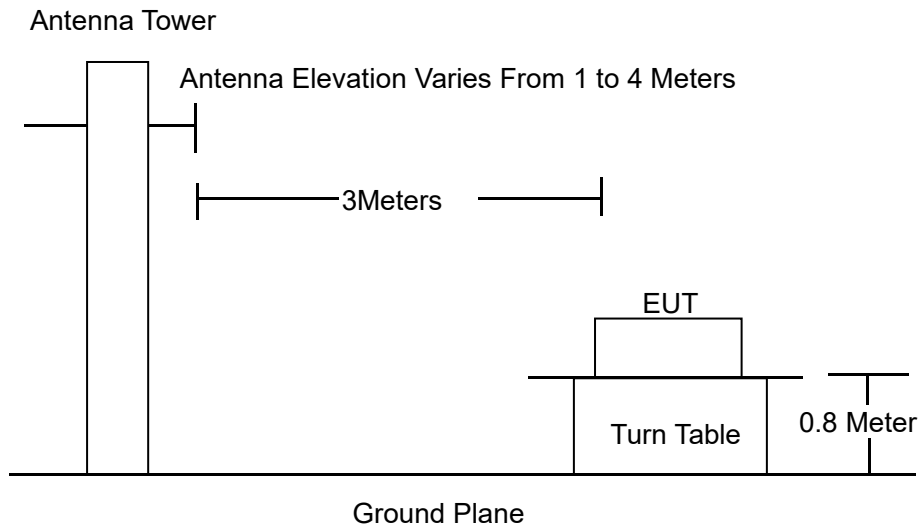
The frequency range from 150 KHz to 30 MHz is investigated.

3.7. Test Result

The EUT is powered by DC, no requirements for this item.

4. RADIATION EMISSION TEST

4.1. Block Diagram of Test Setup



4.2. Test Standard

FCC Part 15

4.3. Radiation Limit

Frequency MHz	Distance (Meters)	Field Strengths Limits dB(μ V)/m
30 ~ 88	3	40.0
88 ~ 216	3	43.5
216 ~ 960	3	46
960 ~ 1000	3	54

Remark:

(1) Emission level (dB(μ V)/m) = 20 log Emission level (μ V/m)

(2) The smaller limit shall apply at the cross point between two frequency bands.

(3) Distance refers to the distance in meters between the measuring instrument, antenna and the closed point of any part of the device or system.

4.4. EUT Configuration on Test

The FCC Part 15 regulations test method must be used to find the maximum emission during radiated emission test.

The configuration of EUT is the same as used in conducted emission test.

Please refer to Section 2.2.

4.5. Operating Condition of EUT

Same as conducted emission test, which is listed in Section 2.2 except the test set up replaced as Section 4.1.

4.6. Test Procedure

The EUT and its simulators are placed on a turned table that is 0.8 meter above the ground. The turned table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna that is mounted on the antenna tower. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated biconical and log periodical antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on test. In order to find the maximum emission levels, the interface cable must be manipulated according to FCC Part 15 on radiated emission test.

The bandwidth setting on the field strength meter (R&S Test Receiver ESCI) is set at 120KHz.

The frequency range from 30MHz to 1000MHz is checked.

4.7. Test Result

PASS

Please refer to the following page.

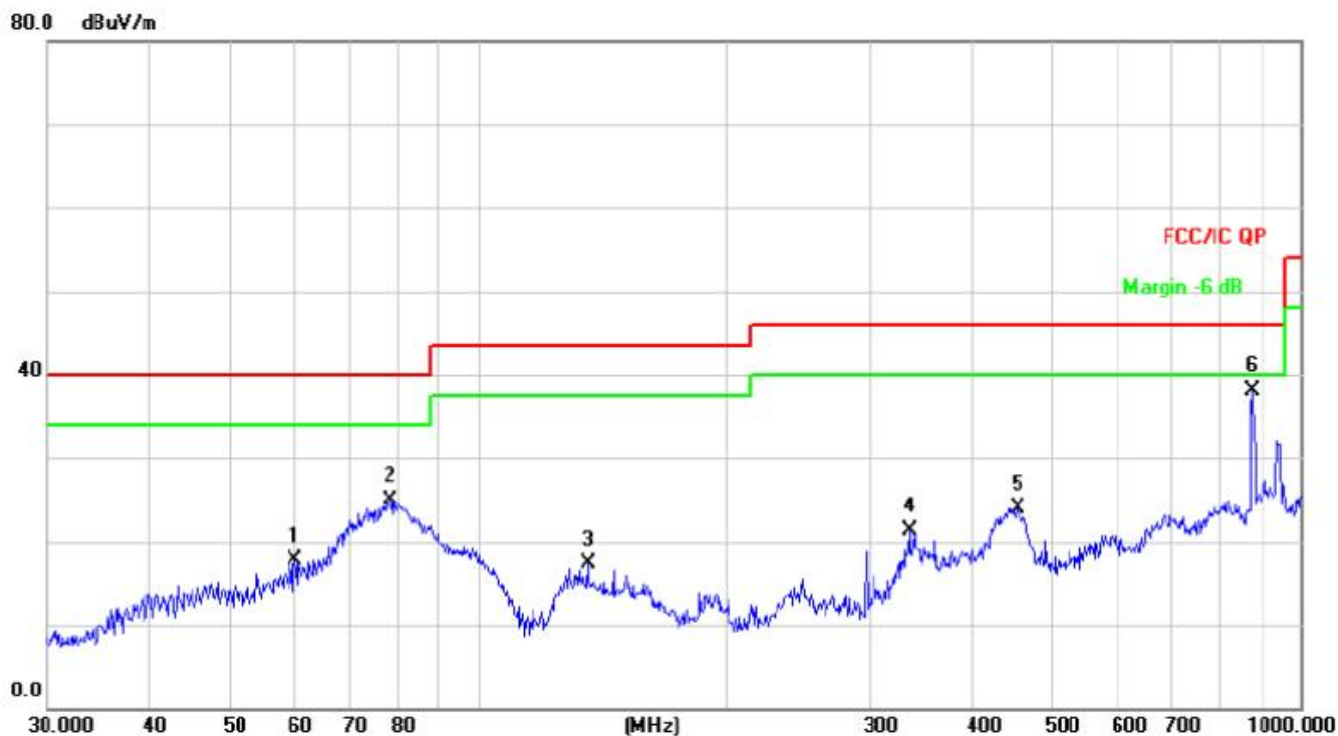
Radiation Emission Test Data			
Temperature:	24.5 °C	Relative Humidity:	54%
Pressure:	1009hPa	Phase :	Horizontal
Test Voltage :	DC 24V	Test Mode:	Type-C 5V5A+Type-A 5V3A

80.0 dBuV/m



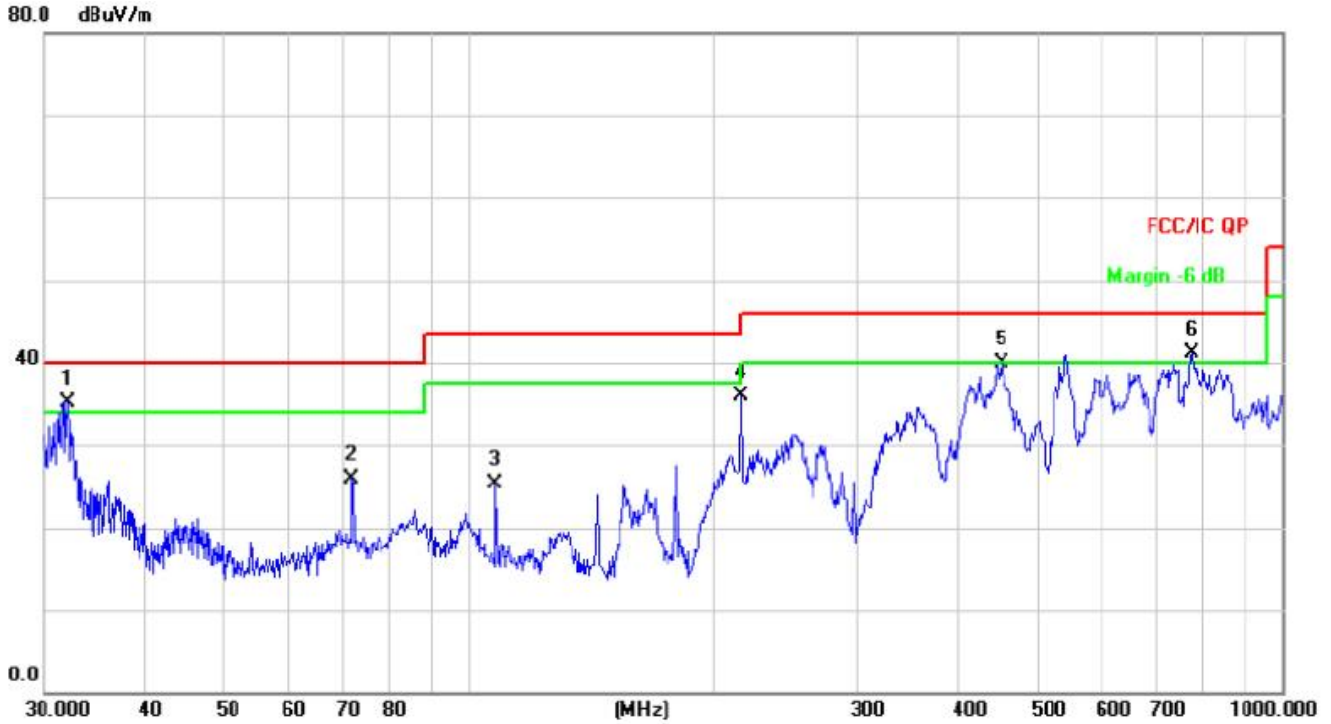
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		36.0007	25.49	-12.14	13.35	40.00	-26.65	QP		
2		77.8654	36.39	-14.97	21.42	40.00	-18.58	QP		
3		89.5899	37.72	-14.97	22.75	43.50	-20.75	QP		
4		137.4202	35.89	-11.47	24.42	43.50	-19.08	QP		
5		446.4141	35.72	-4.70	31.02	46.00	-14.98	QP		
6	*	875.2470	28.12	4.09	32.21	46.00	-13.79	QP		

Radiation Emission Test Data			
Temperature:	24.5 °C	Relative Humidity:	54%
Pressure:	1009hPa	Phase :	Vertical
Test Voltage :	DC 24V	Test Mode:	Type-C 5V5A+Type-A 5V3A



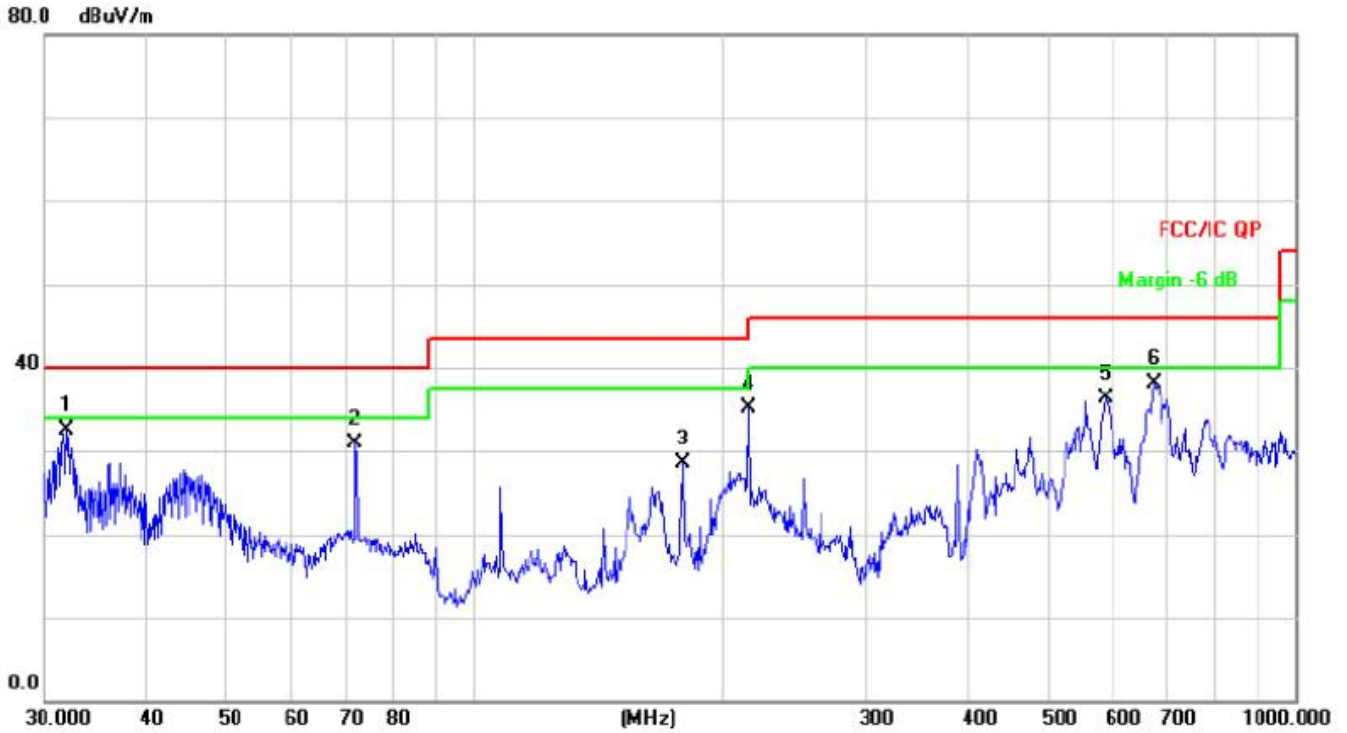
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		60.0691	30.28	-12.49	17.79	40.00	-22.21	QP		
2		78.4133	40.03	-15.05	24.98	40.00	-15.02	QP		
3		136.4598	28.87	-11.54	17.33	43.50	-26.17	QP		
4		334.8589	29.17	-7.94	21.23	46.00	-24.77	QP		
5		454.3100	28.56	-4.59	23.97	46.00	-22.03	QP		
6	*	875.2470	33.94	4.09	38.03	46.00	-7.97	QP		

Radiation Emission Test Data			
Temperature:	24.5 °C	Relative Humidity:	54%
Pressure:	1009hPa	Phase :	Horizontal
Test Voltage :	DC 24V	Test Mode:	Type-C 9V3A+Type-A 9V3A



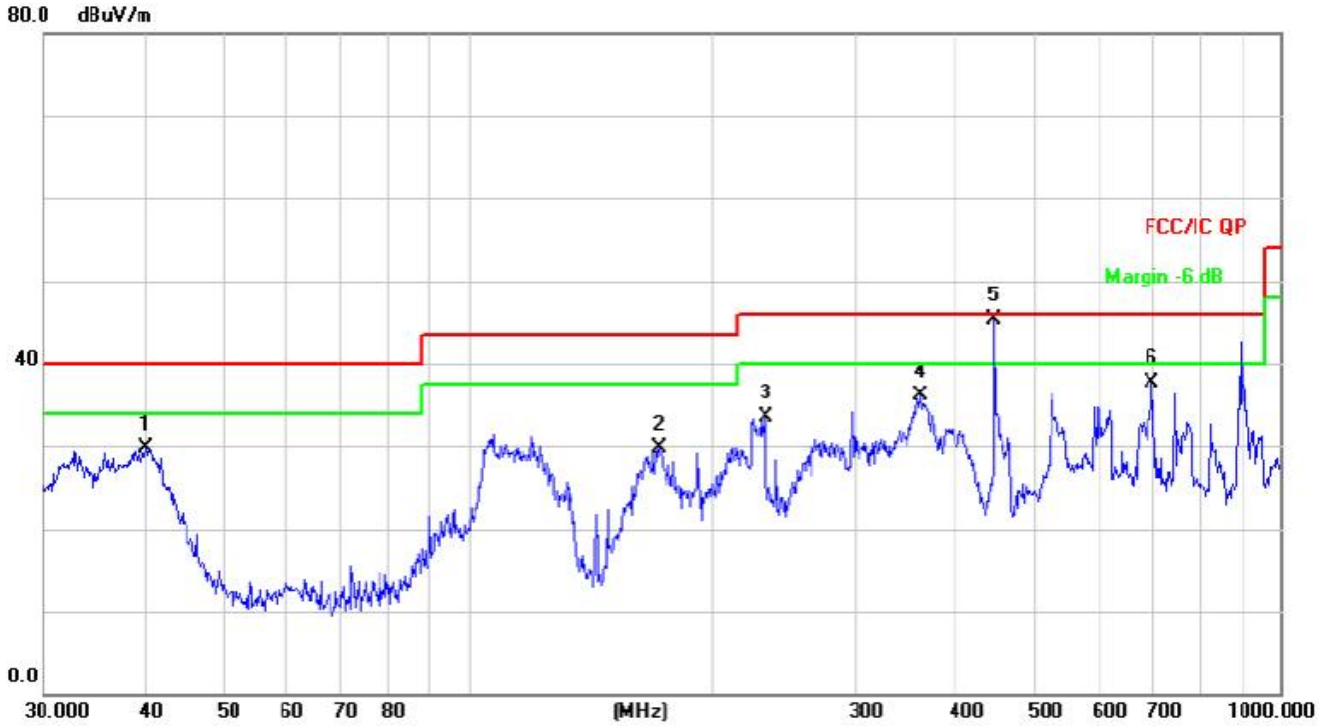
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	I	32.0667	43.47	-8.31	35.16	40.00	-4.84	QP		
2		71.8320	41.01	-15.19	25.82	40.00	-14.18	QP		
3		107.8877	41.11	-15.75	25.36	43.50	-18.14	QP		
4		216.0240	51.59	-15.75	35.84	46.00	-10.16	QP		
5		452.7197	48.91	-8.97	39.94	46.00	-6.06	QP		
6	*	774.1584	44.12	-2.93	41.19	46.00	-4.81	QP		

Radiation Emission Test Data			
Temperature:	24.5 °C	Relative Humidity:	54%
Pressure:	1009hPa	Phase :	Vertical
Test Voltage :	DC 24V	Test Mode:	Type-C 9V3A+Type-A 9V3A



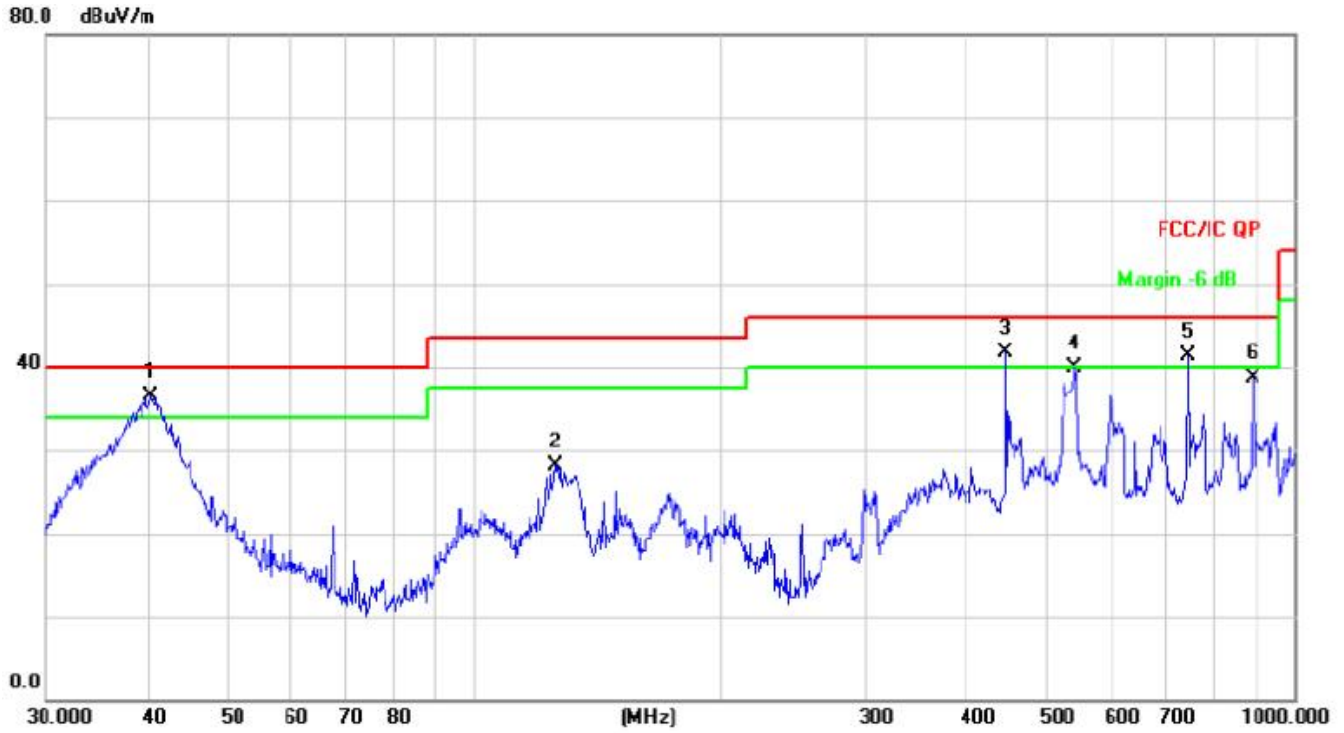
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment
1	*	31.9546	40.71	-8.29	32.42	40.00	-7.58	QP			
2		71.8320	46.05	-15.19	30.86	40.00	-9.14	QP			
3		180.0165	42.89	-14.34	28.55	43.50	-14.95	QP			
4		216.0240	50.83	-15.75	35.08	46.00	-10.92	QP			
5		586.8437	42.46	-6.08	36.38	46.00	-9.62	QP			
6		672.8444	42.84	-4.80	38.04	46.00	-7.96	QP			

Radiation Emission Test Data			
Temperature:	24.5 °C	Relative Humidity:	54%
Pressure:	1009hPa	Phase :	Horizontal
Test Voltage :	DC 24V	Test Mode:	Type-C 20V4.69A+Type-A 12V3A



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		40.1347	41.55	-11.88	29.67	40.00	-10.33	QP		
2		171.9946	41.22	-11.60	29.62	43.50	-13.88	QP		
3		232.5318	44.42	-10.95	33.47	46.00	-12.53	QP		
4		361.7139	43.10	-6.92	36.18	46.00	-9.82	QP		
5	*	444.8514	50.05	-4.73	45.32	46.00	-0.68	QP		
6		696.8567	36.75	1.02	37.77	46.00	-8.23	QP		

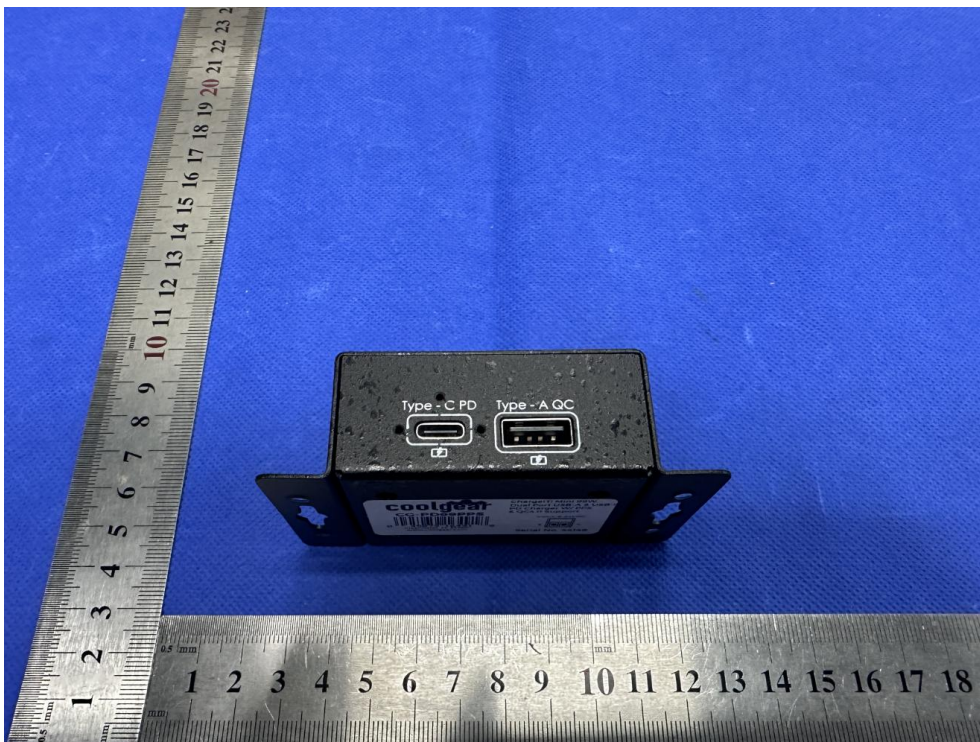
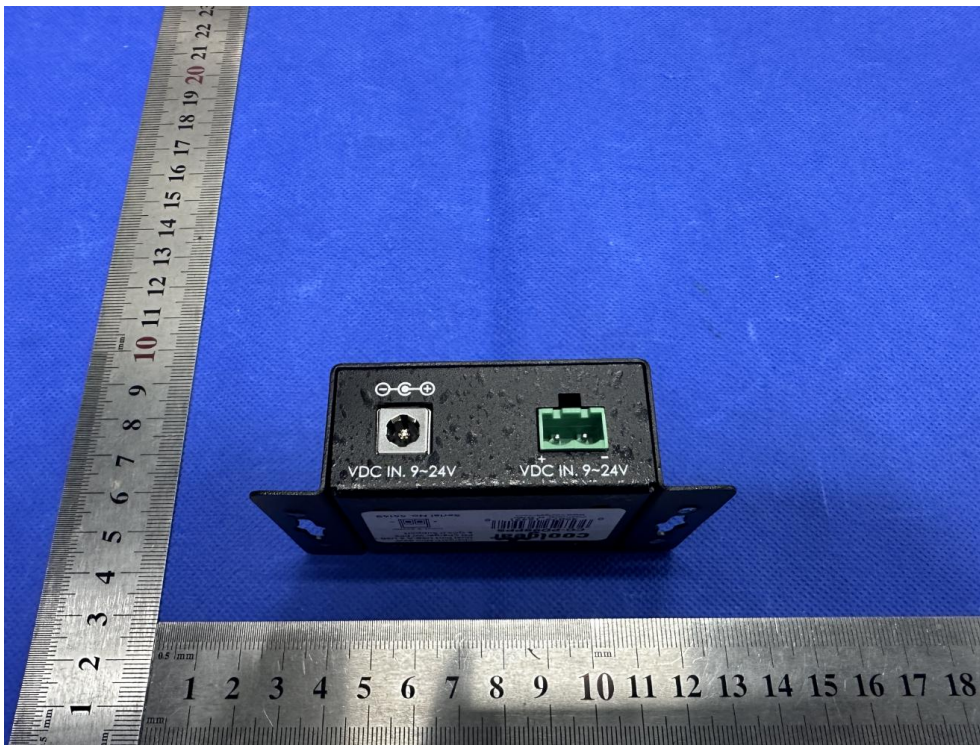
Radiation Emission Test Data			
Temperature:	24.5 °C	Relative Humidity:	54%
Pressure:	1009hPa	Phase :	Vertical
Test Voltage :	DC 24V	Test Mode:	Type-C 20V4.69A+Type-A 12V3A

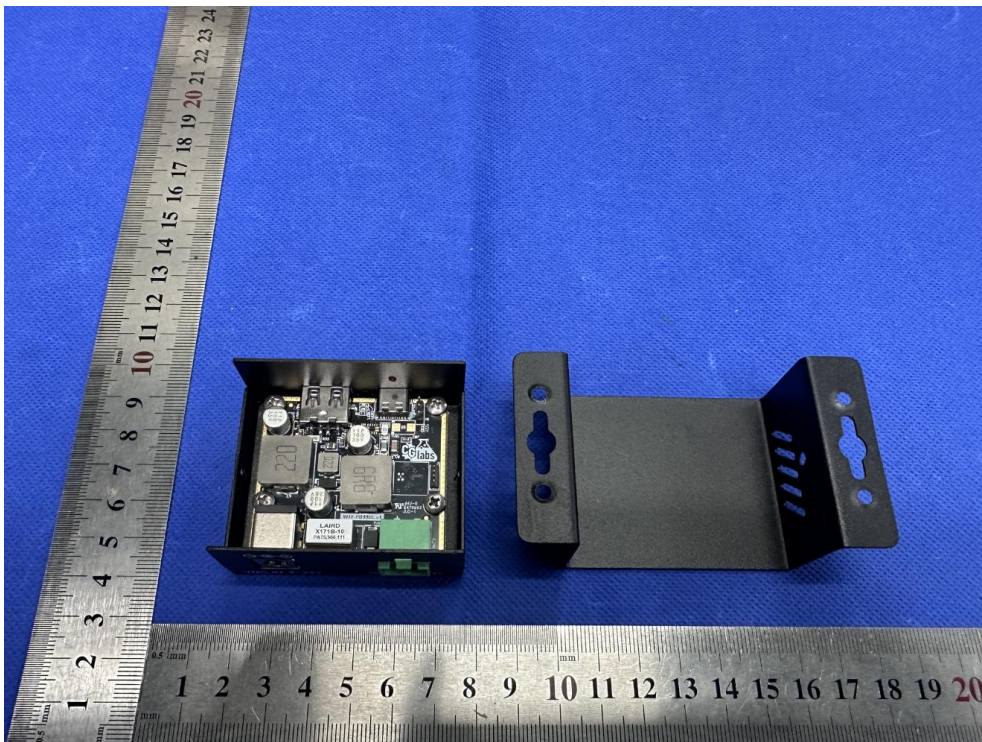
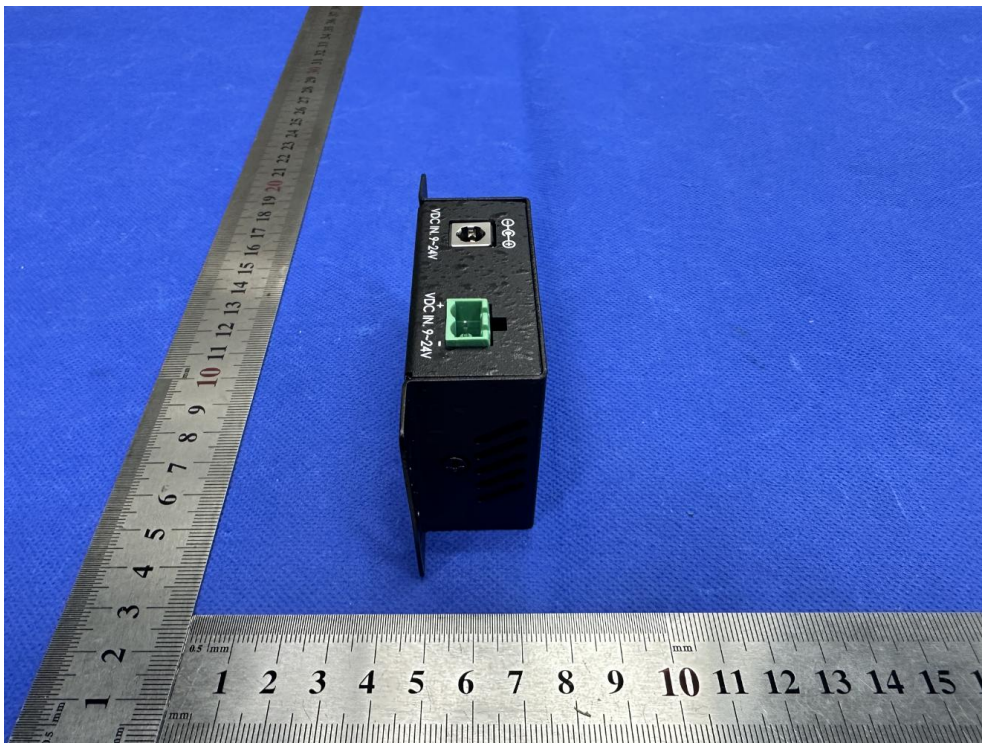


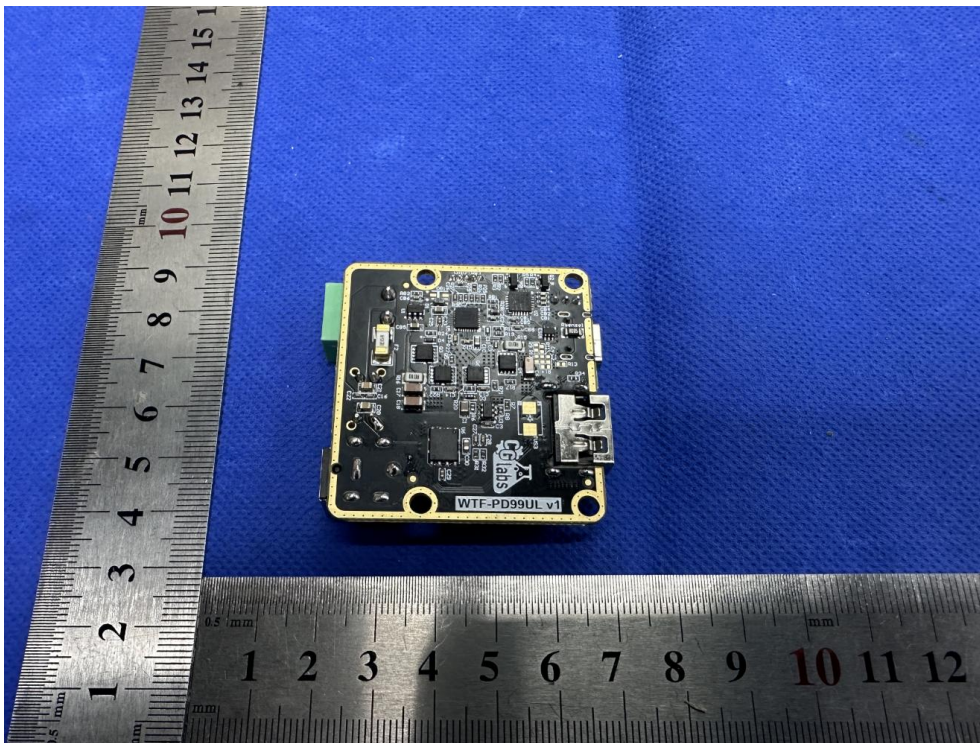
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree degree	Detector	Comment
1	*	40.4172	48.44	-11.89	36.55	40.00	-3.45			QP	
2		125.4457	40.50	-12.31	28.19	43.50	-15.31			QP	
3	!	444.8514	46.52	-4.73	41.79	46.00	-4.21			QP	
4		541.3725	42.77	-2.96	39.81	46.00	-6.19			QP	
5	!	742.2587	39.80	1.59	41.39	46.00	-4.61			QP	
6		890.7278	34.28	4.51	38.79	46.00	-7.21			QP	

5. EUT PHOTOGRAPHS

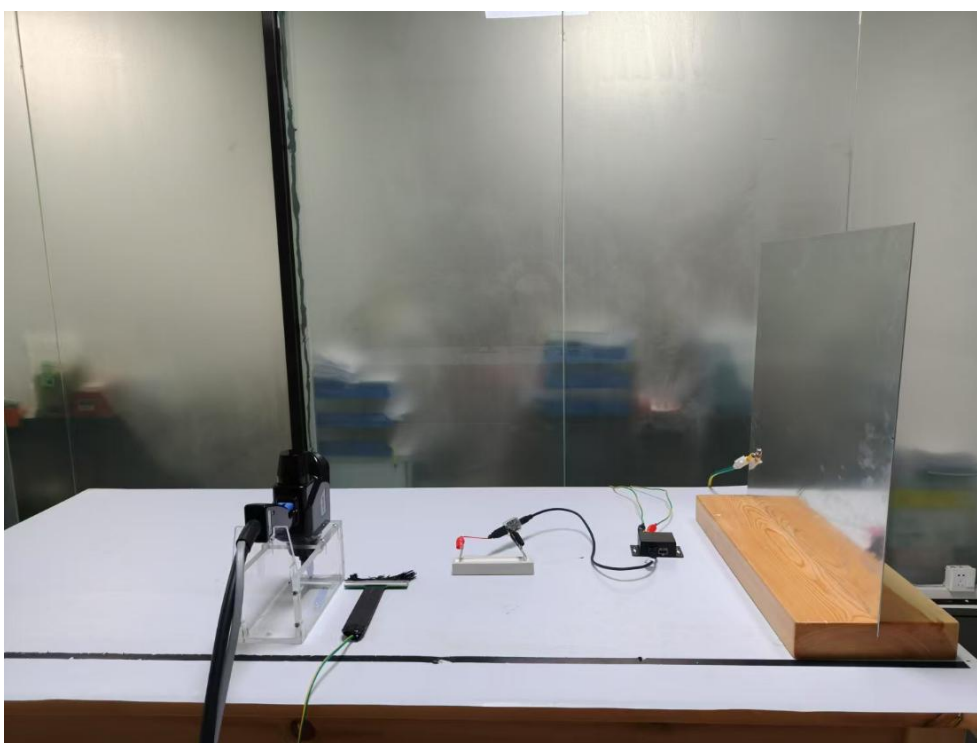








6. EUT TEST SETUP PHOTOGRAPHS



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