

TEST REPORT

Report No...... : **KS2212S5481E**

FCC ID..... : **2A49V-QE01D**

Applicant..... : **Guangzhou Keyshop Sci&Tech Co., Ltd.**

Address..... : Building B,No.29 Kefeng road,Science city,Hi-tech development zone,Guangzhou,China

Manufacturer..... : Guangzhou Keyshop Sci&Tech Co., Ltd.

Address..... : Building B,No.29 Kefeng road,Science city,Hi-tech development zone,Guangzhou,China

Product Name..... : **PORTABLE POWER STATION**

Trade Mark..... : N/A

Model/Type reference..... : **QE01D,QE01C,QE01F,QE0A**

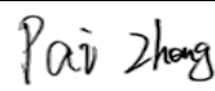
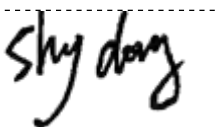
Standard..... : **FCC Rules and Regulations Part 18**

Date of Receipt..... : December 09, 2022

Date of Test Date..... : December 09, 2022~January 07, 2023

Date of issue..... : January 07, 2023

Test result..... : **Pass**

Prepared by: (Printed Name + Signature)	Pai Zheng	
Approved by: (Printed Name + Signature)	Sky Dong	

Testing Laboratory Name..... : **KSIGN(Guangdong) Testing Co., Ltd.**

Address..... : West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

This test report may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product endorsement by KSIGN. The test results in the report only apply to the tested sample. The test report shall be invalid without all the signatures of testing engineers, reviewer and approver. Any objections must be raised to KSIGN within 15 days since the date when the report is received. It will not be taken into consideration beyond this limit. The test report merely correspond to the test sample.

TRF No. FCC Part 18_R2

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
 Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdkesign.cn Web: www.gdkesign.com

Contents

1 TEST SUMMARY	3
1.1 Test Standards	3
1.2 Report Version	3
1.3 Address of the test laboratory	4
1.4 Test Facility	4
1.5 Environmental conditions	4
1.6 Summary of measurement results	5
1.7 Statement of the measurement uncertainty	5
2 GENERAL INFORMATION	6
2.1 Product Description	6
2.2 Description of the test mode	7
2.3 Special Accessories	7
2.4 Modifications	7
2.5 Equipments Used during the Test	8
3 TEST CONDITIONS AND RESULTS	9
3.1 AC Power Conducted Emission	9
3.2 Radiated Emission	12
3.3 Antenna Requirement	20
4. TEST SETUP PHOTOS OF THE EUT	21
5. PHOTOS OF THE EUT	23

TRF No. FCC Part 18_R2

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdkesign.cn Web: www.gdkesign.com

1 TEST SUMMARY

1.1 Test Standards

The tests were performed according to following standards:

[FCC Rules and Regulations Part 18 Subpart C \(Section 18.307\)](#): Conducted limits.

[FCC Rules and Regulations Part 18 Subpart C \(Section 18.305\)](#): Field strength limits.

[FCC MP-5](#):FCC Methods of Measurements of Radio Noise Emissions from Industrial, Scientific, and Medical equipment

1.2 Report Version

Revised No.	Date of issue	Description
01	January 07, 2023	Original

TRF No. FCC Part 18_R2

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web:

www.gdksign.com

1.3 Address of the test laboratory

KSIGN(Guangdong) Testing Co., Ltd.

West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

1.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L13261

KSIGN(Guangdong) Testing Co., Ltd. has been assessed and proved to be in Compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC17025: 2017 General Requirements) for the Competence of Testing and Calibration Laboratories.

A2LA-Lab Cert. No.: 5457.01

KSIGN(Guangdong) Testing Co.,Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

ISED#: 25693 CAB identifier.: CN0096

KSIGN(Guangdong) Testing Co., Ltd. has been listed by Innovation, Science and Economic Development Canada to perform electromagnetic emission measurement.

FCC-Registration No.: 294912 Designation Number: CN1328

KSIGN(Guangdong) Testing Co., Ltd. EMC Laboratory has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

1.5 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Radiated Emission:

Temperature:	24 ° C
Humidity:	45 %
Atmospheric pressure:	950-1050mbar

AC Power Conducted Emission:

Temperature:	25 ° C
Humidity:	46 %
Atmospheric pressure:	950-1050mbar

TRF No. FCC Part 18_R2

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdkesign.cn Web: www.gdkesign.com

1.6 Summary of measurement results

FCC RULES	Description of test	Result	Test Engineer
§ 18.307 (b)	Conducted emissions test	Pass	Jax Yang
§ 18.305 (b)	Radiated emission test	Pass	Chad Lin

Note:

1. Pass: The EUT complies with the essential requirements in the standard

Fail: The EUT does not comply with the essential requirements in the standard

All indications of Pass/Fail in this report are opinions expressed by KSIGN(Guangdong) Testing Co., Ltd. based on interpretations and/or observations of test results Measurement Uncertainties were not taken into account and are published for informational purposes only.

2. N/A: means this test item is not applicable for this device according to the technology characteristic of device.

1.7 Statement of the measurement uncertainty

Test	Range	Measurement Uncertainty	Notes
Radiated Emission	30~1000MHz	4.06 dB	(1)
Conducted Disturbance	0.15~30MHz	2.14 dB	(1)
Radiated Emission	9~30MHz	2.20dB	(1)

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

TRF No. FCC Part 18_R2

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

2 GENERAL INFORMATION

2.1 Product Description

Product Name:	PORTABLE POWER STATION
Trade Mark:	N/A
Model/Type reference:	QE01D ,QE01C,QE01F,QE0A
Model Different:	The product model is named according to the market demand. The difference between models is in appearance, color, model name. Other power supply modes, internal structures, circuits and key components are the same, which will not affect the safety and electromagnetic compatibility performance.
Hardware version:	V1.0
Software version:	V1.0
Test samples ID:	KS2212S5481E-1# (Engineer sample), KS2212S5481E-2# (Normal sample)
Power supply(Adaptor):	Input: AC 100V-240V, 50/60Hz, 1.7A Output: DC 19.0V, 3.42A, 64.98W
Power supply(Battery):	DC 22.4V, 20Ah(448Wh)
Wireless Charging(Output):	5W, 10W(Max)
Operation frequency:	110KHz - 205KHz
Modulation type:	FSK
Antenna type:	Loop coil antenna
Antenna Gain:	0 dBi
Note: 1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.	

TRF No. FCC Part 18_R2

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web:

www.gdksign.com

2.2 Description of the test mode

Equipment under test was operated during the measurement under the following conditions:

Charging and communication mode

Test Modes:		
Mode 1	Wireless Charging (10W)	Recorded
Mode 2	Wireless Charging (5W)	Recorded
Mode 3	Standby	Pre-tested
Note: All test modes were pre-tested, The Mode 1 was the worst case and only the data of the worst case record in this report.		

2.3 Special Accessories

Follow auxiliary equipment(s) test with EUT that provided by the manufacturer or laboratory is listed as follow:

Description	Manufacturer	Model	Technical Parameters	Certificate	Provided by
Adapter	/	SOY-1900342-327	Input: AC100-240V,50/60Hz,1.7A Output:DC 19V, 3.42A, 64.98W	FCC	manufacturer
Wireless charging load	/	EESON	5W/10W	FCC	laboratory

2.4 Modifications

No modifications were implemented to meet testing criteria.

TRF No. FCC Part 18_R2

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdkesign.cn Web:

www.gdkesign.com

2.5 Equipments Used during the Test

Transmitter spurious emissions & Receiver spurious emissions					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
1	EMI Test Receiver	R&S	ESR	102525	03/04/2023
2	High Pass Filter	Chengdu E-Microwave	OHF-3-18-S	0E01901038	03/04/2023
3	High Pass Filter	Chengdu E-Microwave	OHF-6.5-18-S	0E01901039	03/04/2023
4	Spectrum Analyzer	HP	8593E	3831U02087	03/04/2023
5	Ultra-Broadband logarithmic period Antenna	Schwarzbeck	VULB 9163	01230	12/04/2023
6	Loop Antenna	Beijin ZHINAN	ZN30900C	18050	03/04/2023
7	Spectrum Analyzer	R&S	FSV40-N	101798	03/04/2023
8	Horn Antenna	Schwarzbeck	BBHA 9120 D	2023	03/29/2023
9	Pre-Amplifier	Schwarzbeck	BBV 9745	9745#129	03/04/2023
10	Pre-Amplifier	EMCI	EMC051835SE	980662	03/04/2023

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
1	LISN	R&S	ENV432	1326.6105.02	03/04/2023
2	EMI Test Receiver	R&S	ESR	102524	03/04/2023
3	Manual RF Switch	JS TOYO	/	MSW-01/002	03/04/2023

Note: 1)The Cal.Interval was one year.

2)The cable loss has calculated in test result which connection between each test instruments.

TRF No. FCC Part 18_R2

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

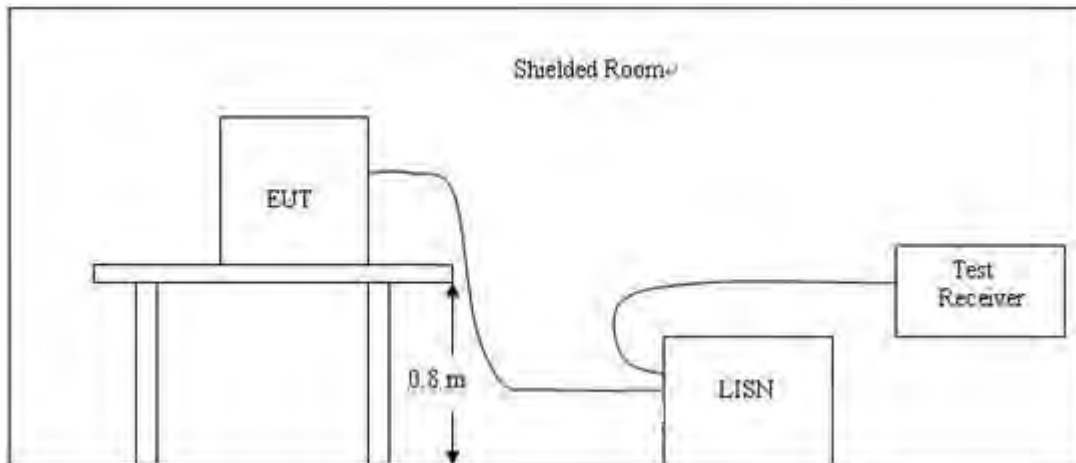
Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdkesign.cn Web:

www.gdkesign.com

3 TEST CONDITIONS AND RESULTS

3.1 AC Power Conducted Emission

TEST CONFIGURATION



TEST PROCEDURE

- 1, The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10.
- 2, Support equipment, if needed, was placed as per ANSI C63.10.
- 3, All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
- 4, If a EUT received DC power from the USB Port of Notebook PC, the PC's adapter received power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
- 5, All support equipments received AC power from a second LISN, if any.
- 6, The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7, Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.

AC Power Conducted Emission Limit

For intentional device, according to § 18.307(a) AC Power Conducted Emission Limits is as following:

Frequency range (MHz)	Limit (dBuV)	
	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.

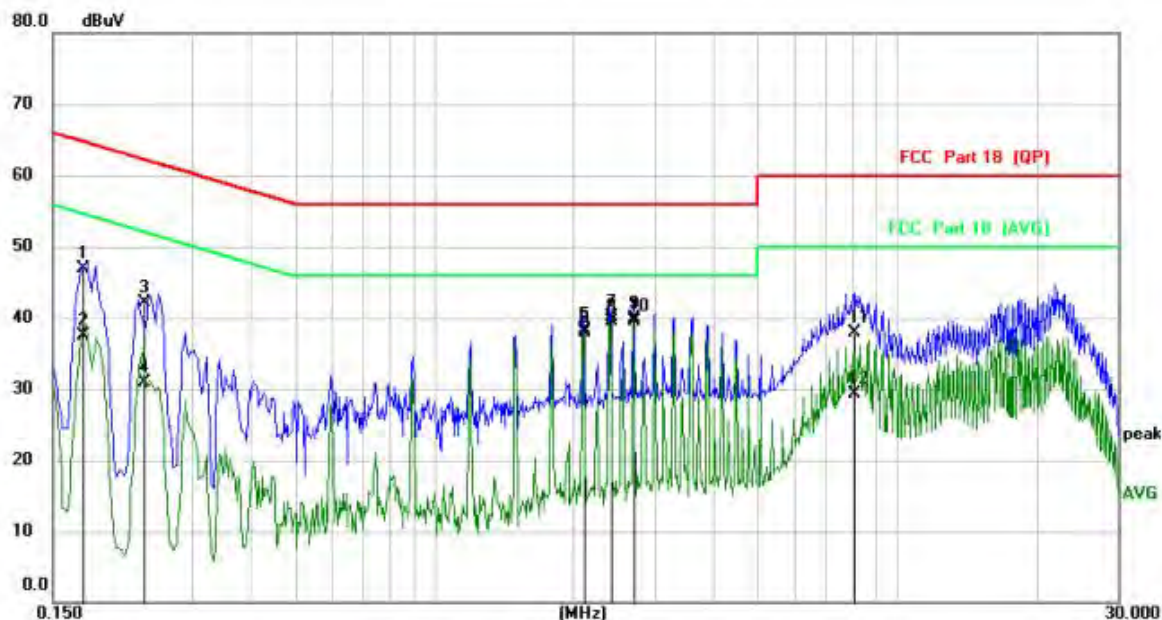
TRF No. FCC Part 18_R2

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
 Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdkesign.cn Web: www.gdkesign.com

TEST RESULTS

1. Both 120 VAC, 50/60 Hz and 240 VAC, 50/60 Hz power supply have been tested, only the worst result of 120 VAC, 60 Hz was reported as below:

Power supply:	AC 120V/60Hz	Polarization	L
---------------	--------------	--------------	---



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV	Limit dBuV	Over dB	Detector	Comment
1	0.1740	36.12	10.73	46.85	64.77	-17.92	QP	
2	0.1740	26.75	10.73	37.48	54.77	-17.29	AVG	
3	0.2360	31.34	10.74	42.08	62.24	-20.16	QP	
4	0.2360	20.18	10.74	30.92	52.24	-21.32	AVG	
5	2.1007	27.79	10.58	38.37	56.00	-17.63	QP	
6	2.1007	27.27	10.58	37.85	46.00	-8.15	AVG	
7	2.4006	29.46	10.57	40.03	56.00	-15.97	QP	
8 *	2.4006	29.03	10.57	39.60	46.00	-6.40	AVG	
9	2.7007	29.33	10.59	39.92	56.00	-16.08	QP	
10	2.7007	28.82	10.59	39.41	46.00	-6.59	AVG	
11	8.0641	27.37	10.59	37.96	60.00	-22.04	QP	
12	8.0641	18.66	10.59	29.25	50.00	-20.75	AVG	

Note: Note:1).QP Value (dBμV)= QP Reading (dBμV)+ Factor (dB)

2). Factor (dB)=insertion loss of LISN (dB) + Cable loss (dB)

3). QPMargin(dB) = QP Limit (dBμV) - QP Value (dBμV)

4). AVMargin(dB) = AV Limit (dBμV) - AV Value (dBμV)

TRF No. FCC Part 18_R2

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web:

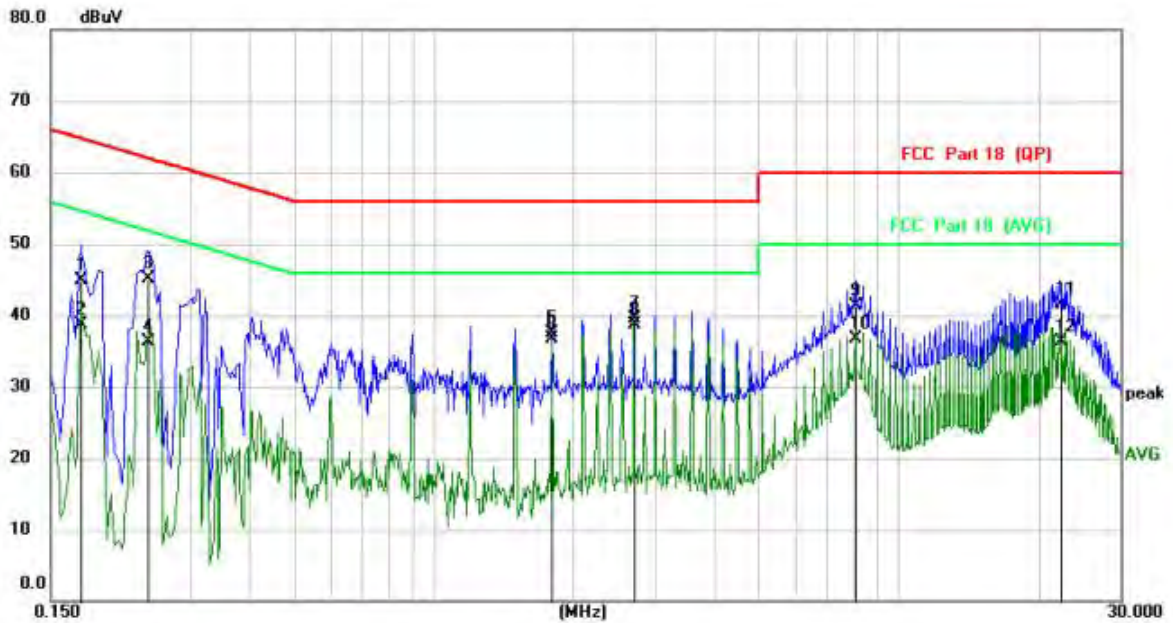
www.gdksign.com

Power supply:

AC 120V/60Hz

Polarization

N



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV	Limit dBuV	Over dB	Detector	Comment
1	0.1739	34.14	10.74	44.88	64.77	-19.89	QP	
2	0.1739	27.97	10.74	38.71	54.77	-16.06	AVG	
3	0.2419	34.34	10.72	45.06	62.03	-16.97	QP	
4	0.2419	25.61	10.72	36.33	52.03	-15.70	AVG	
5	1.7982	26.96	10.53	37.49	56.00	-18.51	QP	
6	1.7982	26.14	10.53	36.67	46.00	-9.33	AVG	
7	2.6990	28.99	10.56	39.55	56.00	-16.45	QP	
8 *	2.6990	28.21	10.56	38.77	46.00	-7.23	AVG	
9	8.0962	30.71	10.57	41.28	60.00	-18.72	QP	
10	8.0962	26.10	10.57	36.67	50.00	-13.33	AVG	
11	22.1854	30.60	10.90	41.50	60.00	-18.50	QP	
12	22.1854	25.41	10.90	36.31	50.00	-13.69	AVG	

- Note: Note:1).QP Value (dBμV)= QP Reading (dBμV)+ Factor (dB)
 2). Factor (dB)=insertion loss of LISN (dB) + Cable loss (dB)
 3). QPMargin(dB) = QP Limit (dBμV) - QP Value (dBμV)
 4). AVMargin(dB) = AV Limit (dBμV) - AV Value (dBμV)

TRF No. FCC Part 18_R2

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web:

www.gdksign.com

3.2 Radiated Emission

Limit

The specification used was with the FCC Part 18.305 Limit.

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.

Per FCC MP-5 2.2.5 The antenna height shall be set at around 2 meters

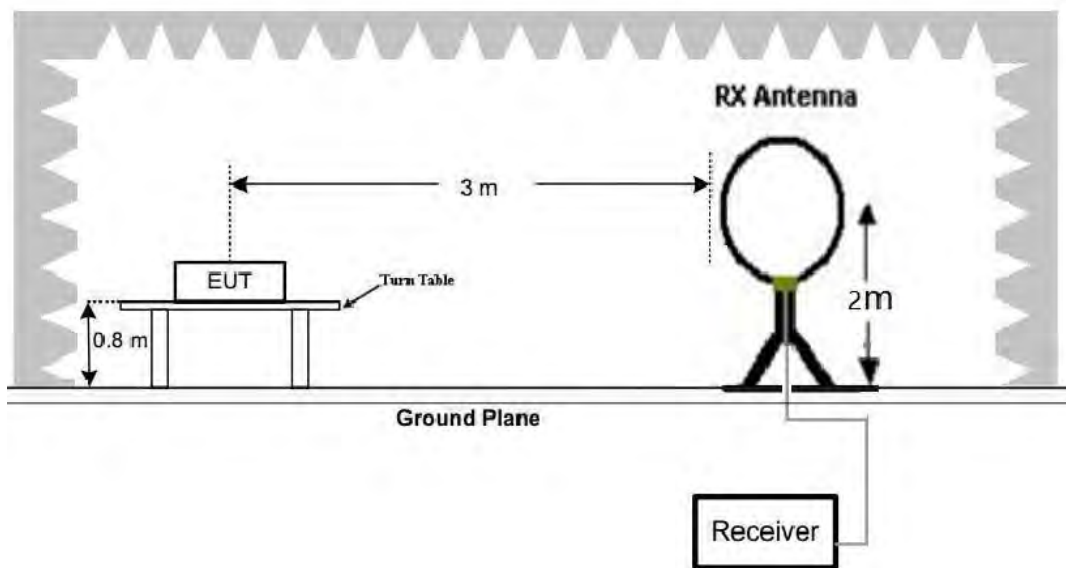
Radiated emission limits

Frequency (MHz)	Test Distance (Meters)	Radiated (dB μ V/m)	Radiated (μ V/m)
0.009-30	3	103.50	15 (at 300m)
30-1000	3	63.5	15 (at 300m)

Note: Emission level dBuV/m for 0.009-30MHz = $20\log(15) + 40\log(300/3)$ dbuv/m = 103.5 dbuv/m
 Emission level dBuV/m for 30MHz-1000MHz = $20\log(15) + 20\log(300/3)$ dbuv/m = 63.5 dbuv/m

TEST CONFIGURATION

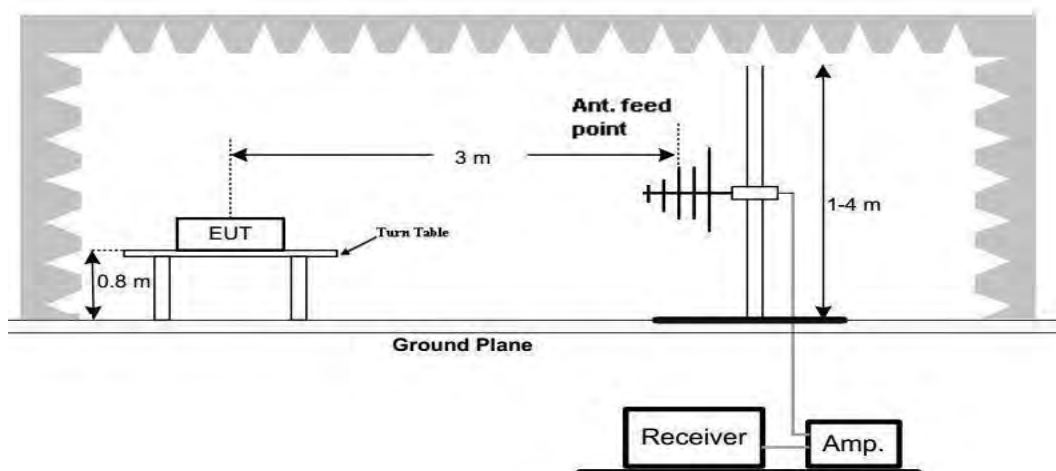
1. Radiated Emission Test Set-Up, Frequency Below 30MHz



2. Radiated Emission Test Set-Up, Frequency below 1000MHz

TRF No. FCC Part 18_R2

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
 Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com



Test Procedure

1. Below 1GHz measurement the EUT is placed on a turntable which is 0.8m above ground plane.
2. Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0° to 360° to acquire the highest emissions from EUT
3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
4. Repeat above procedures until all frequency measurements have been completed.
5. Radiated emission test frequency band from 9KHz to 1000MHz.
6. The distance between test antenna and EUT as following table states:

Test Frequency range	Test Antenna Type	Test Distance
9KHz-30MHz	Active Loop Antenna	3
30MHz-1GHz	Bilog Antenna	3

7. Setting test receiver/spectrum as following table states:

Test Frequency range	Test Receiver/Spectrum Setting	Detector
9KHz-30MHz	RBW=10KHz/VBW=30KHz, Sweep time=Auto	QP
30MHz-1GHz	RBW=100KHz/VBW=300KHz, Sweep time=Auto	QP

TEST RESULTS

For 9 KHz-30MHz

TRF No. FCC Part 18_R2

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
 Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

9KHz-150KHz

Face



No.	Mk.	Freq. MHz	Reading Level (dBuV)	Correct Factor (dB/m)	Measurement (dBuV/m)	Limit (dBuV/m)	Over (dB)	Detector
1		0.0100	20.62	-9.10	11.52	103.50	-91.98	peak
2		0.0192	30.80	-9.05	21.75	103.50	-81.75	peak
3		0.0400	40.08	-8.90	31.18	103.50	-72.32	peak
4		0.0624	37.55	-9.17	28.38	103.50	-75.12	peak
5		0.1188	52.28	-9.26	43.02	103.50	-60.48	peak
6	*	0.1426	76.13	-9.47	66.66	103.50	-36.84	peak

Remark:

Correct Factor=Antenna Factor + Cable Loss -Preamplifier Factor

TRF No. FCC Part 18_R2

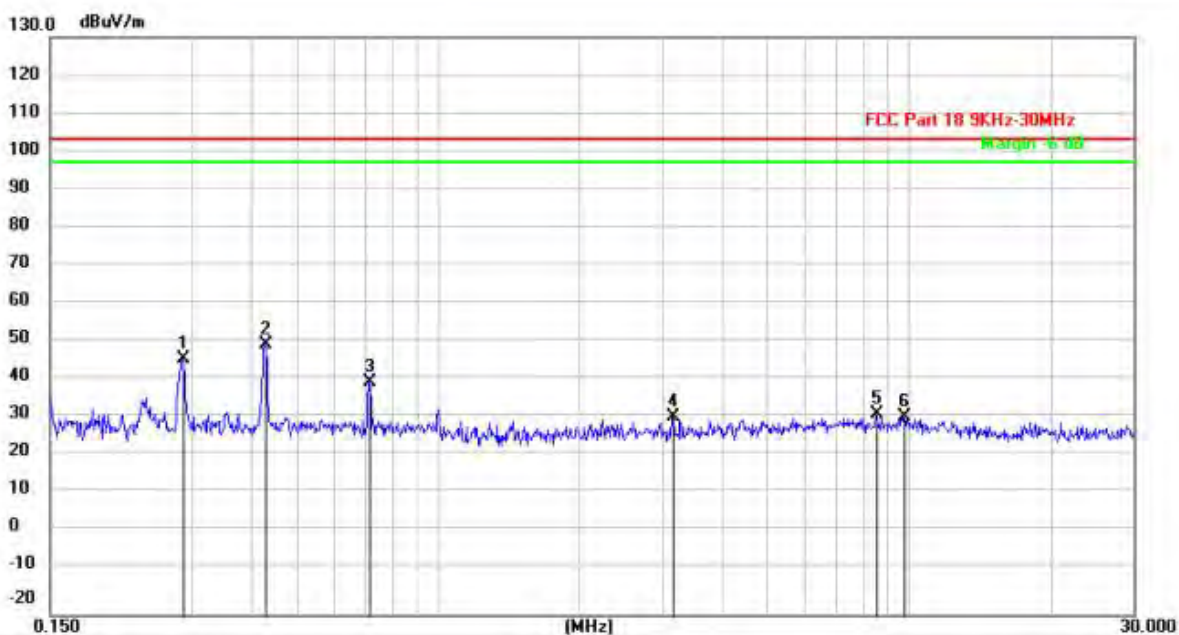
Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdkesign.cn Web:

www.gdkesign.com

150KHz-30MHz

Face



No.	Mk.	Freq. MHz	Reading Level (dBuV)	Correct Factor (dB/m)	Measurement (dBuV/m)	Limit (dBuV/m)	Over (dB)	Detector
1		0.2869	55.96	-9.28	46.68	103.50	-56.82	peak
2	*	0.4294	59.43	-9.24	50.19	103.50	-53.31	peak
3		0.7148	49.89	-9.17	40.72	103.50	-62.78	peak
4		3.1480	40.81	-9.41	31.40	103.50	-72.10	peak
5		8.5237	41.66	-9.23	32.43	103.50	-71.07	peak
6		9.7514	40.68	-9.29	31.39	103.50	-72.11	peak

Remark:

Correct Factor=Antenna Factor + Cable Loss -Pre-amplifier Factor

TRF No. FCC Part 18_R2

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web:

www.gdksign.com

9KHz-150KHz

Side



No.	Mk.	Freq. MHz	Reading Level (dBuV)	Correct Factor (dB/m)	Measurement (dBuV/m)	Limit (dBuV/m)	Over (dB)	Detector
1		0.0100	20.62	-9.10	11.52	103.50	-91.98	peak
2		0.0192	31.35	-9.05	22.30	103.50	-81.20	peak
3		0.0400	44.07	-8.90	35.17	103.50	-68.33	peak
4		0.0660	42.92	-9.28	33.64	103.50	-69.86	peak
5		0.1189	52.29	-9.27	43.02	103.50	-60.48	peak
6	*	0.1426	76.12	-9.46	66.66	103.50	-36.84	peak

Remark:

Correct Factor=Antenna Factor + Cable Loss -Preamplifier Factor

TRF No. FCC Part 18_R2

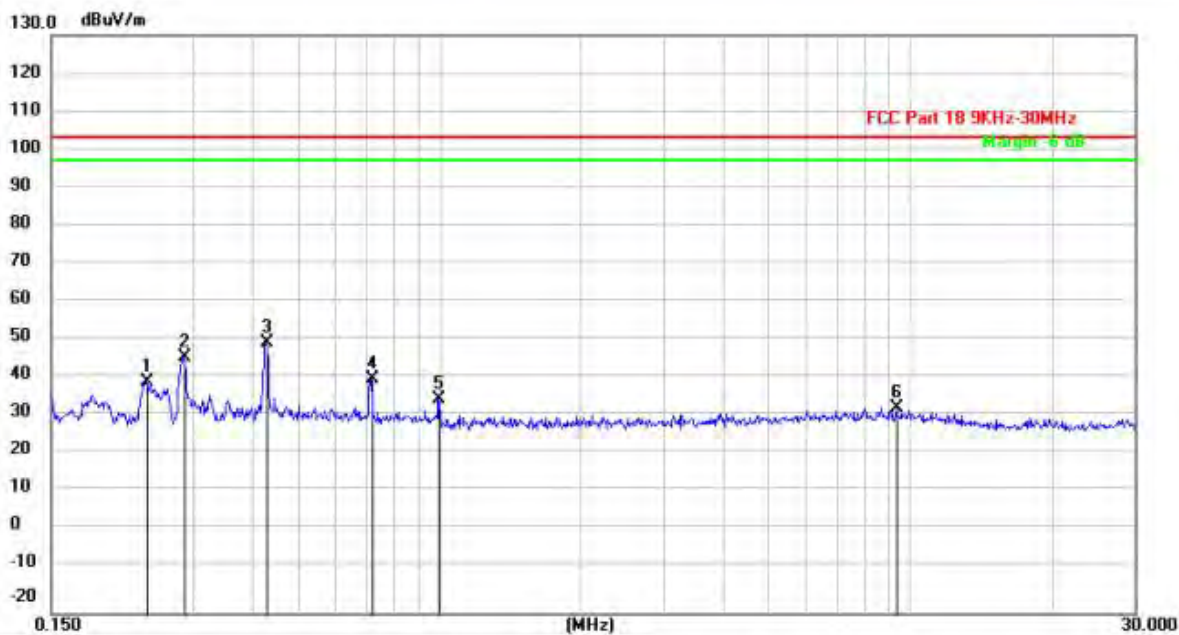
Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web:

www.gdksign.com

150KHz-30MHz

Side



No. Mk.	Freq. MHz	Reading Level (dBuV)	Correct Factor (dB/m)	Measurement (dBuV/m)	Limit (dBuV/m)	Over (dB)	Detector
1	0.2383	49.63	-9.30	40.33	103.50	-63.17	peak
2	0.2869	55.96	-9.28	46.68	103.50	-56.82	peak
3 *	0.4294	59.43	-9.24	50.19	103.50	-53.31	peak
4	0.7160	50.24	-9.17	41.07	103.50	-62.43	peak
5	0.9991	44.72	-9.10	35.62	103.50	-67.88	peak
6	9.3766	42.65	-9.25	33.40	103.50	-70.10	peak

Remark:

Correct Factor=Antenna Factor + Cable Loss -Preamplifier Factor

TRF No. FCC Part 18_R2

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web:

www.gdksign.com

For 30MHz-1GHz

Horizontal



No.	Mk.	Freq. MHz	Reading Level (dBuV)	Correct Factor (dB/m)	Measurement (dBuV/m)	Limit (dBuV/m)	Over (dB)	Detector
1		158.5009	48.77	-21.18	27.59	63.50	-35.91	QP
2		190.2715	43.89	-18.41	25.48	63.50	-38.02	QP
3		233.5942	42.24	-16.44	25.80	63.50	-37.70	QP
4	*	438.1942	44.83	-10.46	34.37	63.50	-29.13	QP
5		520.1581	42.70	-9.52	33.18	63.50	-30.32	QP
6		670.9596	40.82	-7.27	33.55	63.50	-29.95	QP

Note:1).Level (dBμV/m)= Reading (dBμV)+ Factor (dB/m)

2). Factor(dB/m)=Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB)

3). Margin(dB) = Limit (dBμV/m) - Level (dBμV/m)

TRF No. FCC Part 18_R2

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web:

www.gdksign.com

Vertical



No.	Mk.	Freq. MHz	Reading Level (dBuV)	Correct Factor (dB/m)	Measurement (dBuV/m)	Limit (dBuV/m)	Over (dB)	Detector
1	*	33.9055	59.29	-18.82	40.47	63.50	-23.03	QP
2		57.4729	42.71	-17.12	25.59	63.50	-37.91	QP
3		151.7568	52.83	-21.35	31.48	63.50	-32.02	QP
4		190.1381	43.62	-18.42	25.20	63.50	-38.30	QP
5		442.6729	45.30	-10.41	34.89	63.50	-28.61	QP
6		527.8755	46.78	-9.36	37.42	63.50	-26.08	QP

Note:1).Level (dBμV/m)= Reading (dBμV)+ Factor (dB/m)

2). Factor(dB/m)=Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB)

3). Margin(dB) = Limit (dBμV/m) - Level (dBμV/m)

TRF No. FCC Part 18_R2

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web:

www.gdksign.com

3.3 Antenna Requirement

Refer to statement below for compliance.

The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

Antenna Information

The antenna used in this product is a Coil Antenna, which permanently attached. It conforms to the standard requirements.

TRF No. FCC Part 18_R2

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

4. Test Setup Photos of the EUT

Radiated Measurement (Below 30MHz)



Radiated Measurement (Above 30MHz)

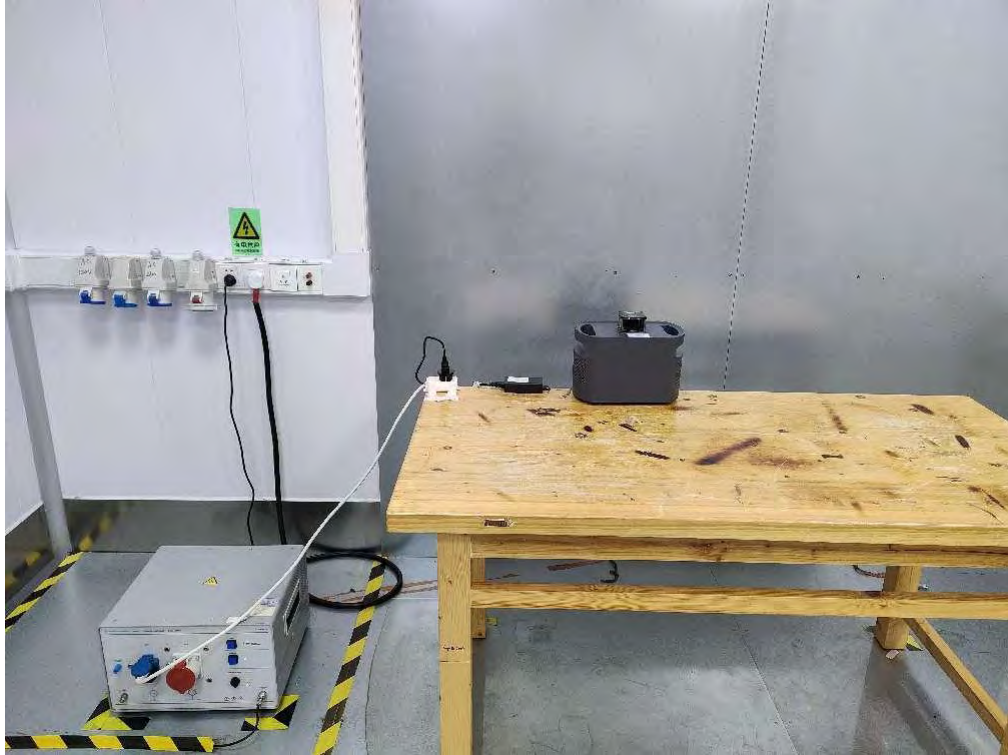


TRF No. FCC Part 18_R2

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdkesign.cn Web: www.gdkesign.com

Conducted Emission



TRF No. FCC Part 18_R2

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

5. PHOTOS OF THE EUT

External



TRF No. FCC Part 18_R2

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com



TRF No. FCC Part 18_R2

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com



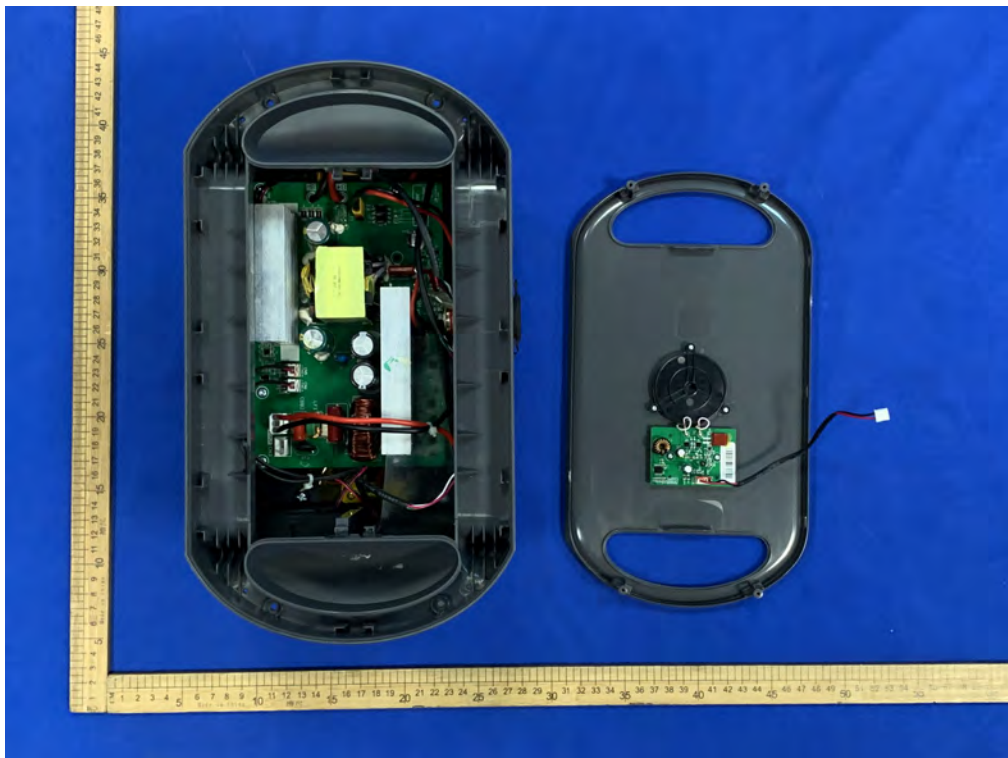
TRF No. FCC Part 18_R2

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com



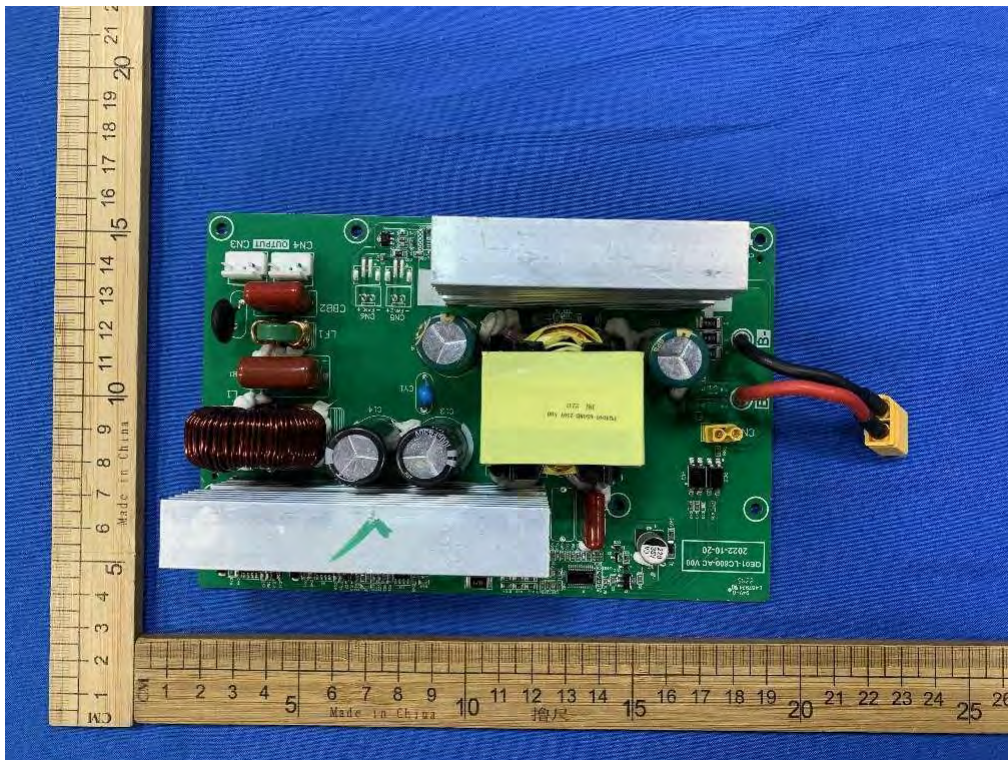
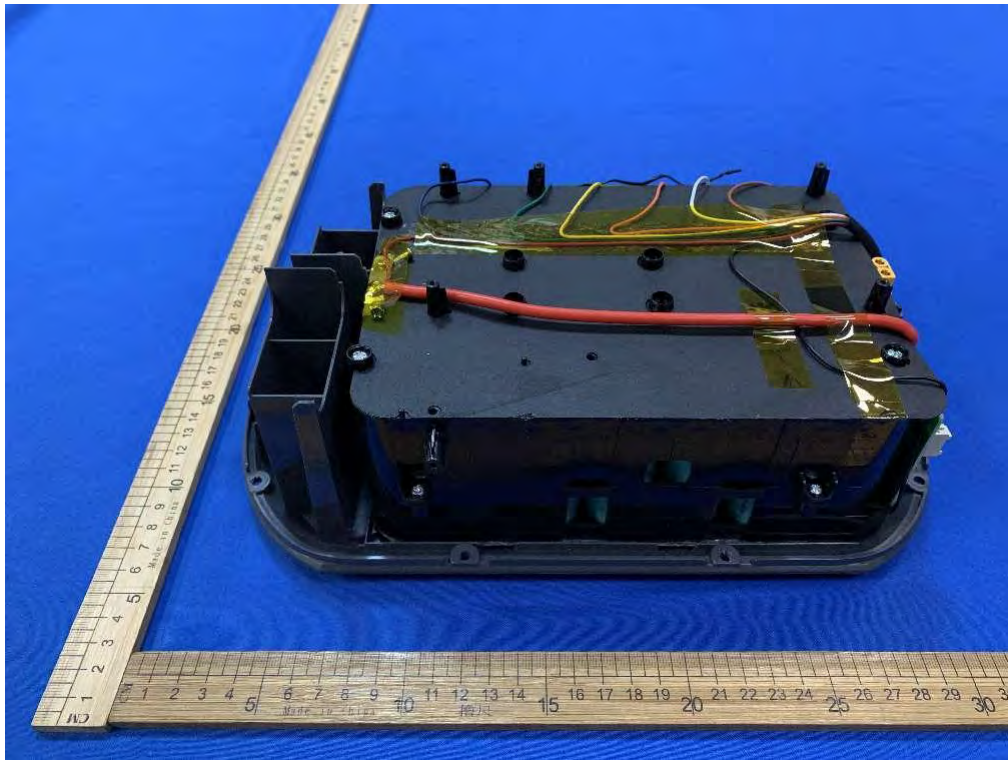
Internal



TRF No. FCC Part 18_R2

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

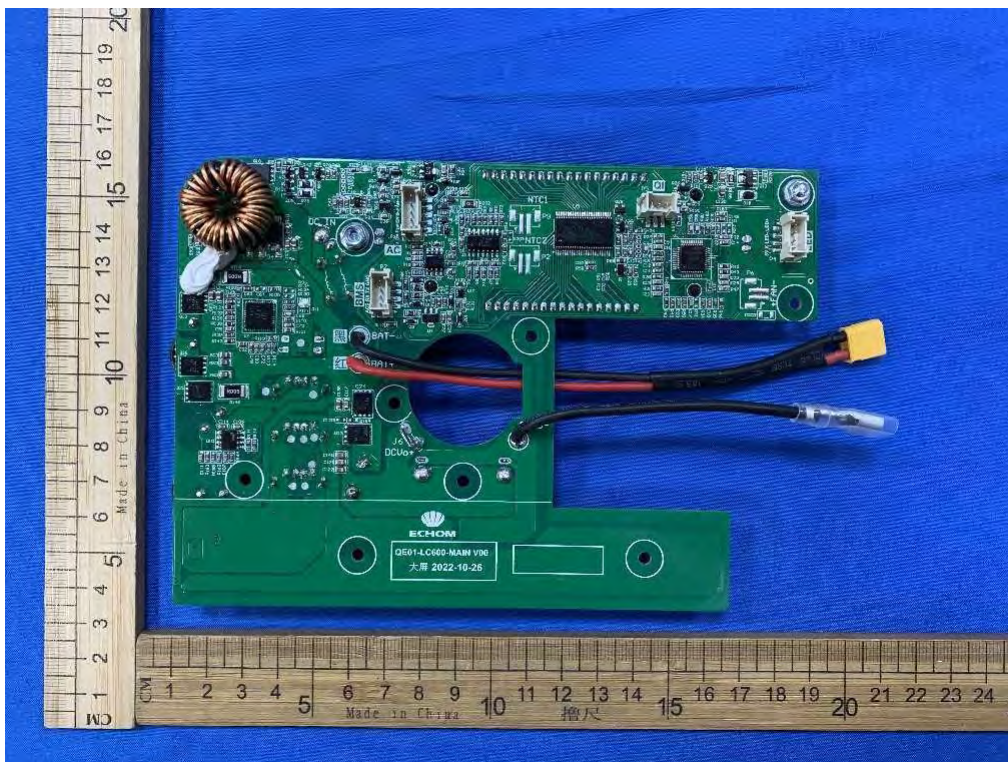
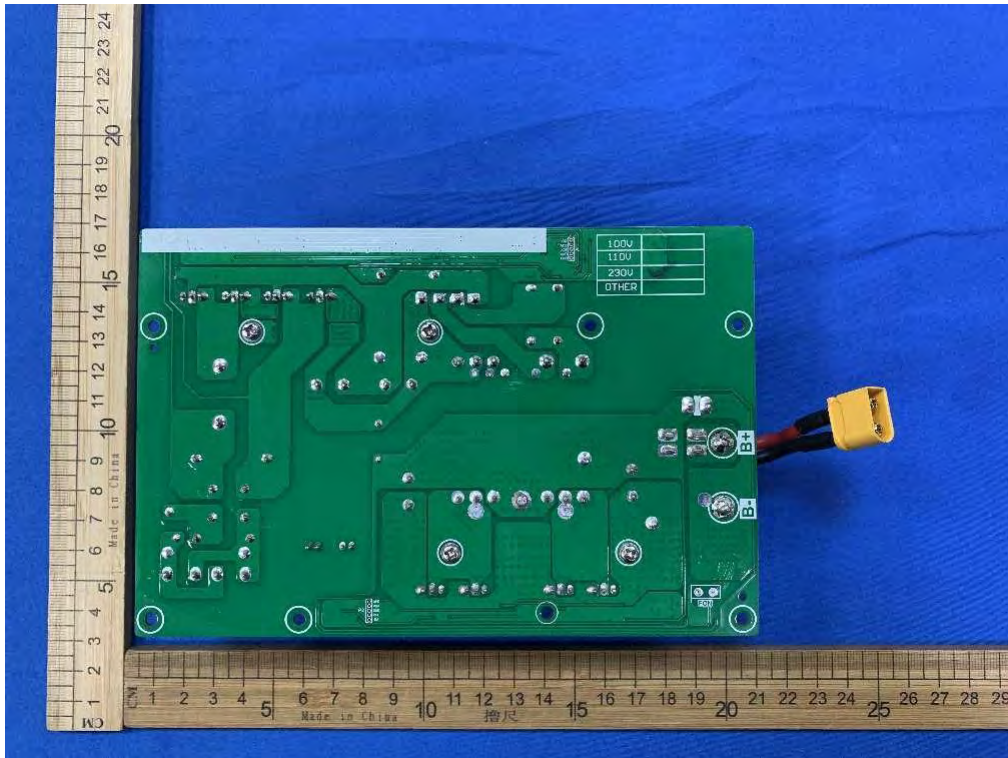
Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com



TRF No. FCC Part 18_R2

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

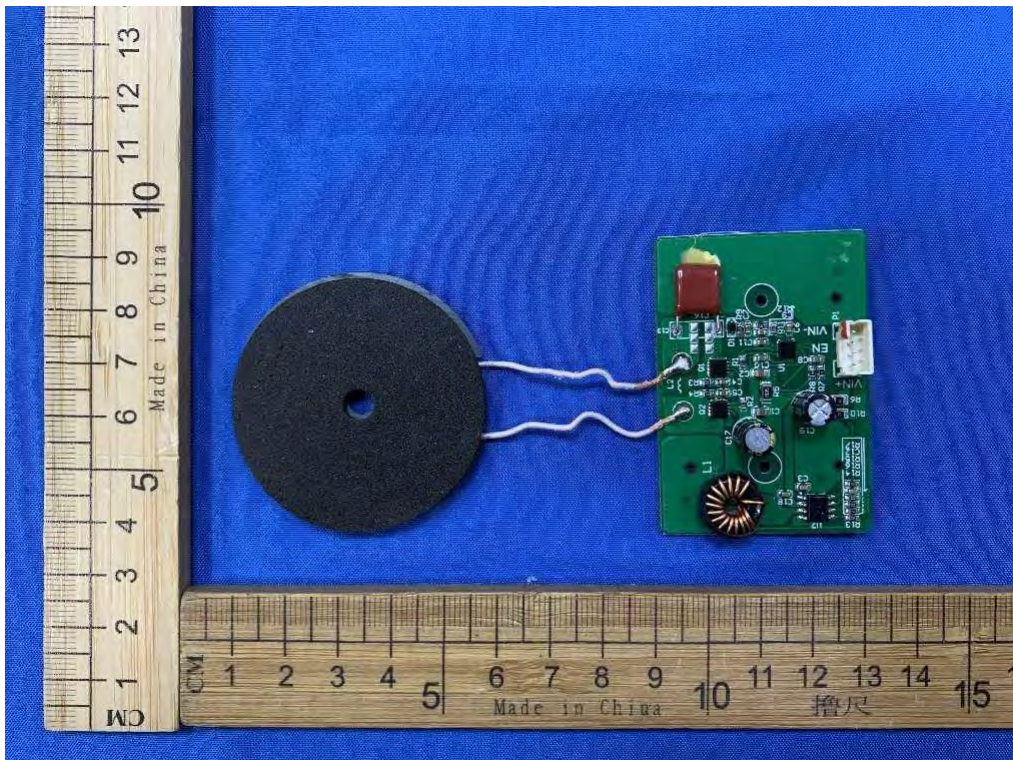
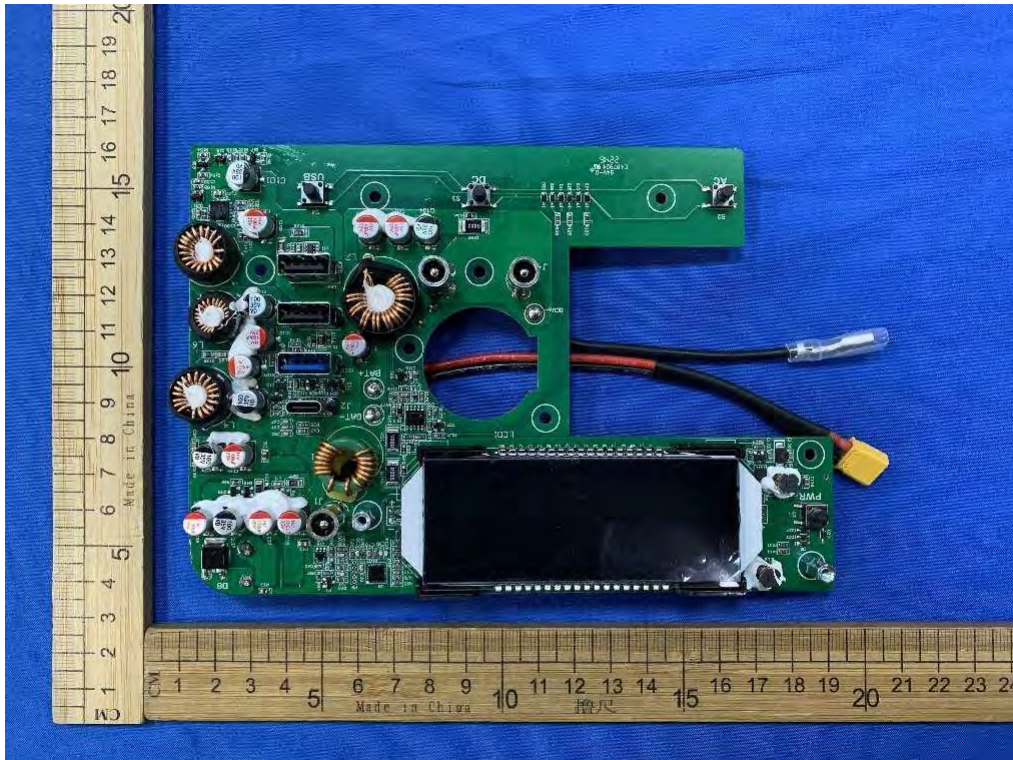
Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com



TRF No. FCC Part 18_R2

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

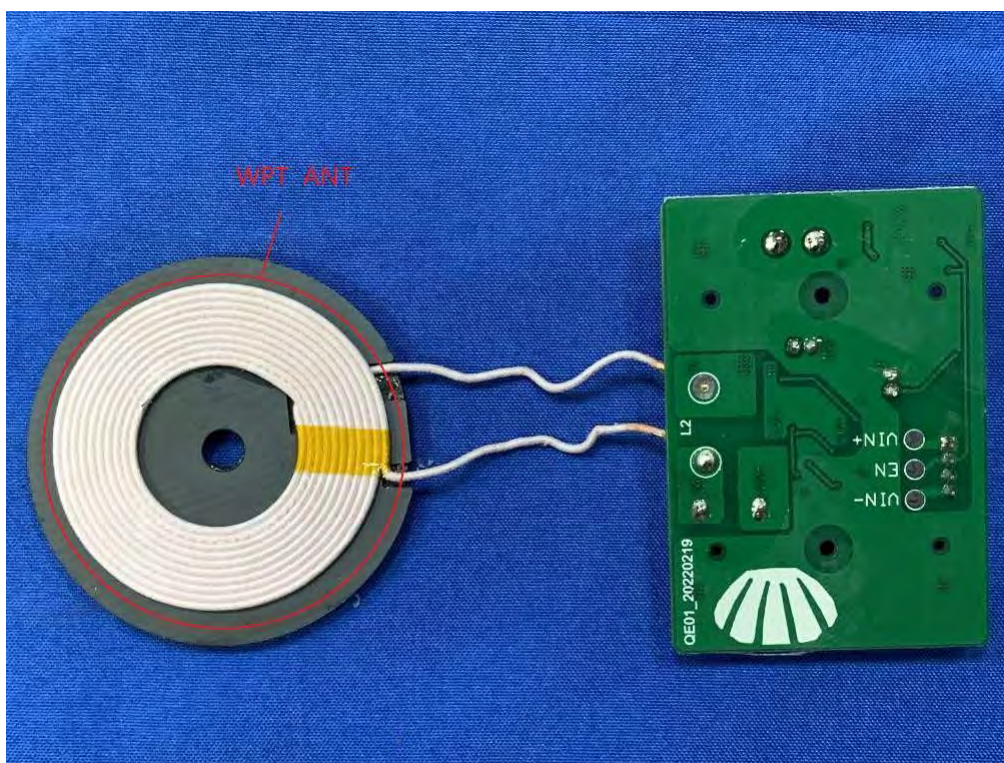
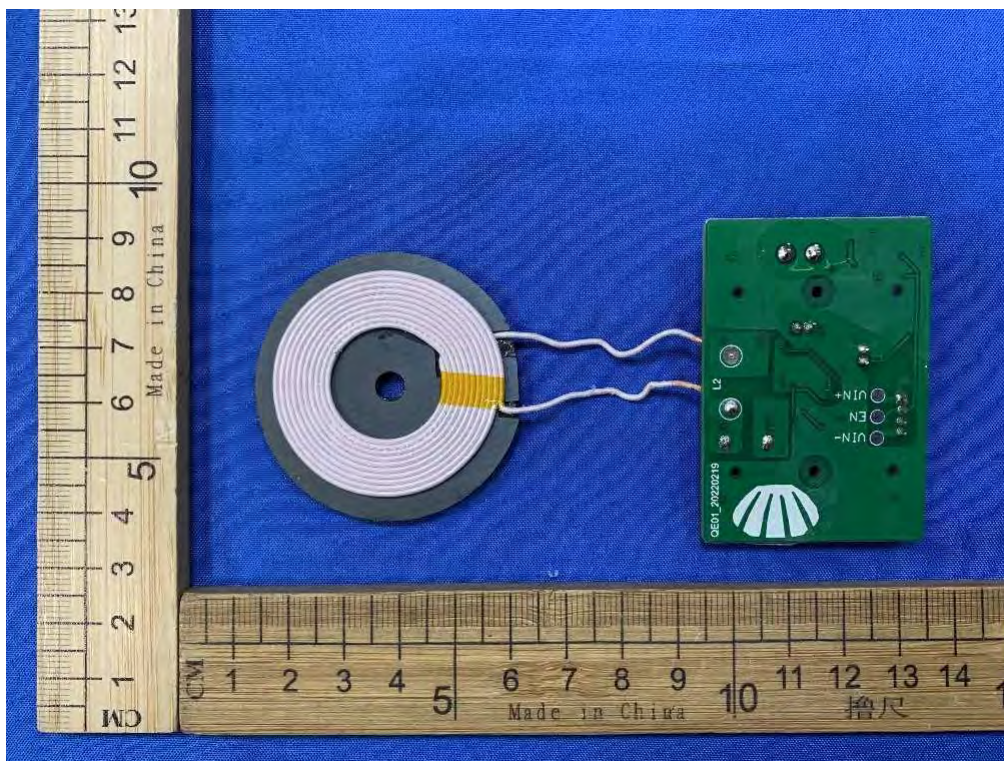
Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com



TRF No. FCC Part 18_R2

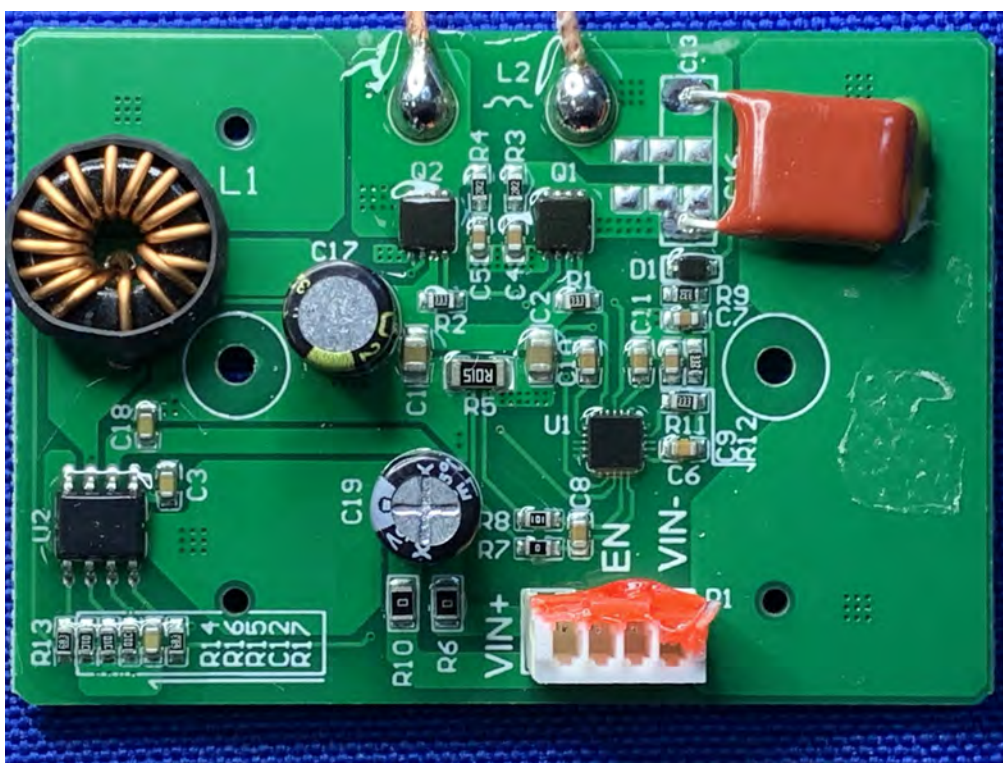
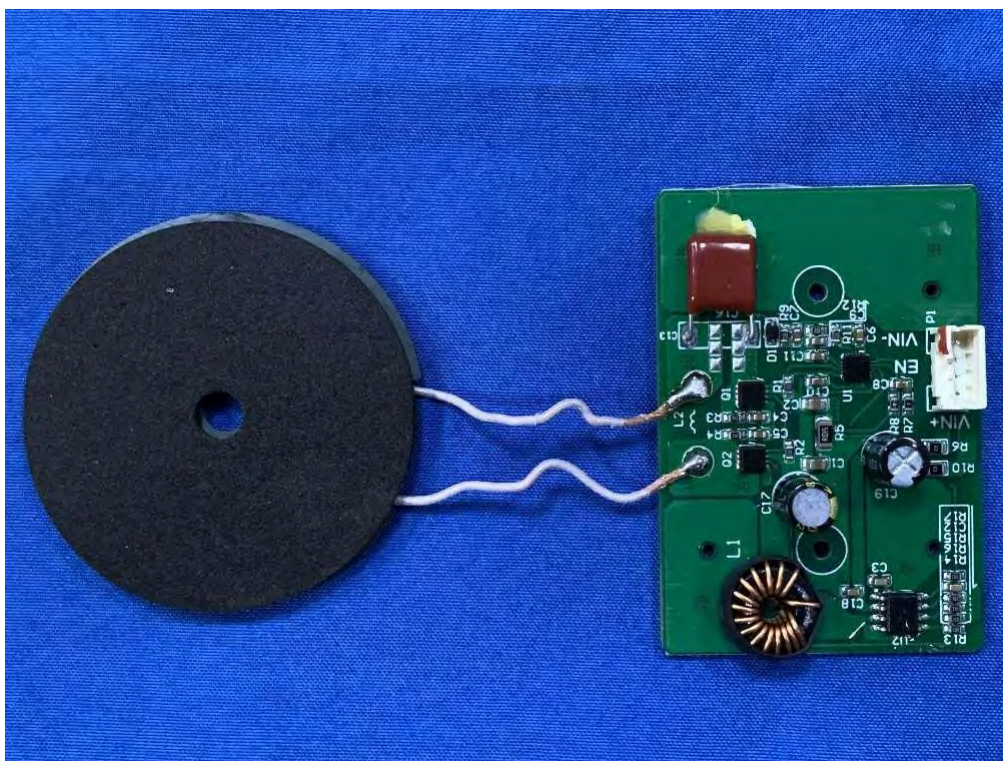
Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com



TRF No. FCC Part 18_R2

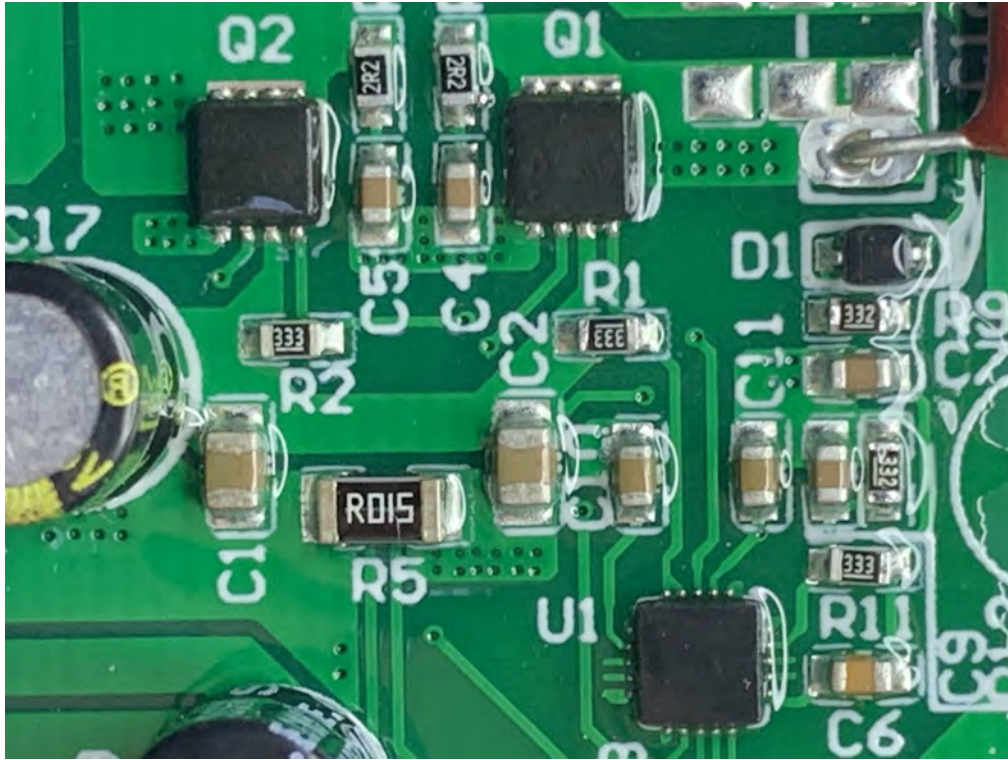
Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdkesign.cn Web: www.gdkesign.com



TRF No. FCC Part 18_R2

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com



***** End of Report *****