FCC TEST REPORT

FCC ID: 2AQTM-22220

Maximum Permissible Exposure (MPE)

Product Name	:	SHERPA 100 PD
Model Name	:	22220
Additional Model	:	N/A
Brand Name	:	GOAL ZERO
Report No.	:	PTC22041106202E-FC02

Prepared for

Power System Electronic Technology Co., Ltd.

No.1 Shangbian Road, Puxin Industrial District, Shipai Town, Dongguan City, Guangdong, China

Prepared by

Precise Testing & Certification Co., Ltd

Building 1, No. 6, Tongxin Road, Dongcheng Street, Dongguan, Guangdong, China

1TEST RESULT CERTIFICATION

Applicant's name	:	Power System Electronic Technology Co., Ltd.
Address	:	No.1 Shangbian Road, Puxin Industrial District, Shipai Town, Dongguan City, Guangdong, China
Manufacture's name	:	Power System Electronic Technology Co., Ltd.
Address	:	No.1 Shangbian Road, Puxin Industrial District, Shipai Town, Dongguan City, Guangdong, China
Product name	:	SHERPA 100 PD
Model name	:	22220
Standards	:	FCC CRF 47 PART 1,§1.1310
Test procedure	:	KDB 680106 v03 r01
Test Date	:	May.18 , 2022 to Jun. 21, 2022
Date of Issue	:	Aug. 22, 2022
Test Result	:	Pass

This device described above has been tested by PTC, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.
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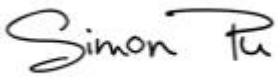
Test Engineer:



Simon Pu / Engineer

Technical Manager:

Ronnie Liu / Manager

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2 Test Summary

Test	Test Requirement	Test Method	Limit / Severity	Result
RF Exposure	FCC CRF 47 PART 1, §1.1310	KDB 680106 v03 r01	1.1310	PASS

Remark:

N/A: Not Applicable

RF: In this whole report RF means Radio Frequency.

A.M. Amplitude Modulation.

P.M. Pulse Modulation.

2.1 Instrument list

Name of Equipment	Manufacturer	Model	Characteristics	Calibration Due	interval time
Exposure Level Tester	Narda	ELT-400	Aug. 21, 2021	Aug. 20, 2022	1 year
H-Field probe	Narda	HF-3061	Aug. 21, 2021	Aug. 20, 2022	1 year
E-Field probe	Narda	EF0691	Aug. 21, 2021	Aug. 20, 2022	1 year

2.2 Support Units

Equipment	Model No.	Series No.
Adapter	XY18U30-QC1	N/A

3 TEST FACILITY

Precise Testing & Certification Co., Ltd

Address: Building 1, No. 6, Tongxin Road, Dongcheng Street, Dongguan, Guangdong, China

A2LA Certificate No.: 4408.01

FCC Registration Number: 790290

FCC Designation Number：CN1219

IC Registration Number: 12191A

CAB identifier: CN0080

4 General Information

4.1 General Description of E.U.T.

Product Name	:	SHERPA 100 PD
Model Name	:	22220
Operating frequency	:	110 ~ 205kHz
Antenna Type	:	Coil Antenna
Power supply	:	Wireless Output:15W
Hardware Version	:	N/A
Software Version	:	N/A

Test mode:

Wireless charging:

Pretest Mode	Description
Mode 1	AC/DC Adapter +EUT+ Mobile Phone(no load, half load, full load)
Mode 2	EUT+ Mobile Phone (15W,no load, half load, full load)

Description of Support Units

Equipment	Model No.	Series No.
Load	Redmi K50 Pro	N/A

5 RF Exposure Evaluation

5.1 Limits

Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $|E|^2$, $|H|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f2)*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/150	30
1500-100,000	--	--	1.0	30

f = frequency in MHz *Plane-wave equivalent power density

A. The RF exposure test was performed in anechoic chamber.

B. E and H field measurements should be made with the center of the probe at distance of 15cm surrounding the EUT and 20cm above the top surface of the primary/client pair.

C. The highest emission level was recorder and compared with limit.

D. The EUT was measured according to the dictates of KDB 680106 v03r01.

(A) Limits for Occupational / Controlled Exposure

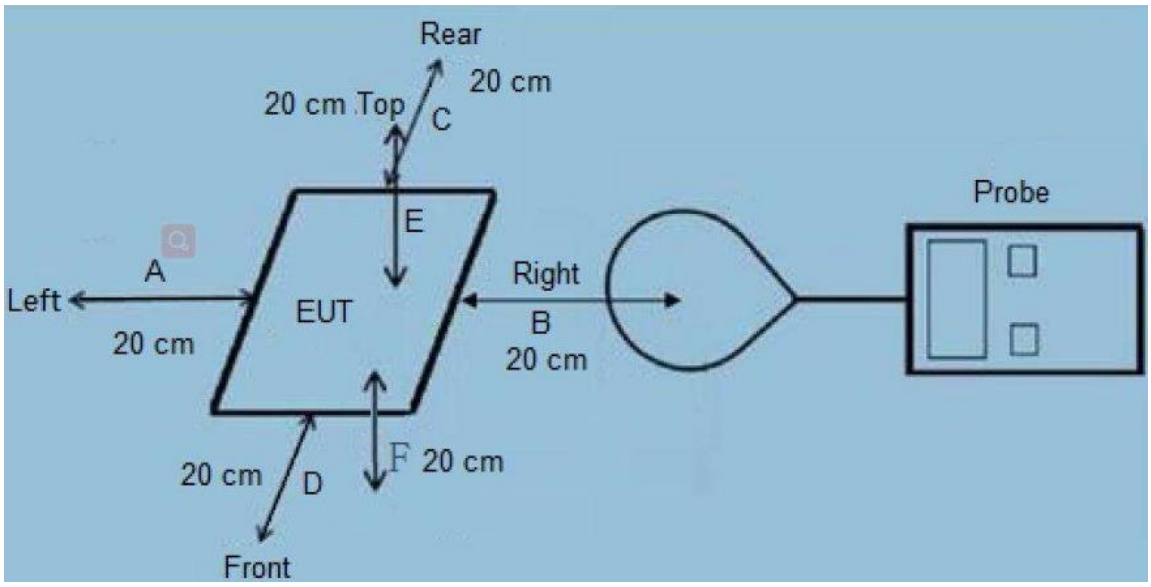
Frequency Range	Electric Field	Magnetic Field	Power Density (S)	Averaging Time
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range	Electric Field	Magnetic Field	Power Density (S)	Averaging Time
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz ; *Plane-wave equivalent power density

5.2 Test Configuration



5.3 MPE Calculation Method

According to FCC 680106 D01 RF Exposure Wirelesss Charging Apps v03r01 section 3.RF Exposure requirements clause 3 the Emission-Limits in the frequency range from 100kHz to 30kHz should be assessed versus the limits at 300kHz in the Table 1 of CFR 47-Section 1.310 as following(measured distance shall be 15cm from the center of the probe to the edge of the device):

	E-Field	*/*	B-Field
Frequency	V/m	A/m	uT
0.3MHz-3.0MHz	614	1.613	2.0
3.0MHz-30MHz	824/f(=27.5$_{30MHz}$)	2.19/f(=0.073$_{30MHz}$)	-

5.4 RF Exposure test result

Temperature: 24℃

Relative Humidity: 53%

EUT was tested with empty load, half load and full load, the full load is the worst case and we listed the results in the report.

Mode 2:

Charging Battery level	Test distance (cm)	Test Position (A: Right)	Test Position (B: Left)	Test Position (C: Front)	Test Position (D: Back)	Test Position (E: Top)	Test Position (F: Bottom)	50% Limit (A/m)	Limit (A/m)
1%	0	0.751	0.702	0.619	0.64	0.653	0.707	0.815	1.63
50%	0	0.730	0.680	0.608	0.633	0.638	0.689	0.815	1.63
99%	0	0.699	0.660	0.602	0.608	0.617	0.670	0.815	1.63
1%	2	0.747	0.7	0.681	0.696	0.651	0.644	0.815	1.63
50%	2	0.745	0.679	0.669	0.682	0.629	0.644	0.815	1.63
99%	2	0.741	0.658	0.647	0.669	0.608	0.637	0.815	1.63
1%	4	0.685	0.695	0.612	0.632	0.647	0.673	0.815	1.63
50%	4	0.678	0.673	0.583	0.608	0.621	0.670	0.815	1.63
99%	4	0.658	0.662	0.572	0.579	0.592	0.648	0.815	1.63
1%	6	0.773	0.669	0.639	0.663	0.732	0.667	0.815	1.63
50%	6	0.769	0.653	0.633	0.652	0.706	0.640	0.815	1.63
99%	6	0.745	0.639	0.617	0.637	0.686	0.618	0.815	1.63
1%	8	0.584	0.615	0.53	0.623	0.543	0.602	0.815	1.63
50%	8	0.573	0.598	0.508	0.616	0.513	0.576	0.815	1.63
99%	8	0.558	0.575	0.505	0.603	0.490	0.559	0.815	1.63
1%	10	0.526	0.562	0.539	0.523	0.591	0.591	0.815	1.63
50%	10	0.507	0.561	0.533	0.505	0.589	0.590	0.815	1.63
99%	10	0.497	0.535	0.529	0.487	0.565	0.580	0.815	1.63

Charging Battery level	Test distance (cm)	Test Position (A: Right)	Test Position (B: Left)	Test Position (C: Front)	Test Position (D: Back)	Test Position (E: Top)	Test Position (F: Bottom)	50% Limit (A/m)	Limit (A/m)
1%	12	0.495	0.431	0.531	0.473	0.537	0.443	0.815	1.63
50%	12	0.494	0.421	0.507	0.447	0.511	0.425	0.815	1.63
99%	12	0.494	0.421	0.507	0.447	0.511	0.425	0.815	1.63
1%	14	0.48	0.459	0.424	0.453	0.506	0.524	0.815	1.63
50%	14	0.477	0.456	0.422	0.453	0.504	0.521	0.815	1.63
99%	14	0.476	0.454	0.422	0.450	0.503	0.519	0.815	1.63
1%	16	0.416	0.359	0.424	0.393	0.425	0.457	0.815	1.63
50%	16	0.413	0.358	0.422	0.393	0.422	0.457	0.815	1.63
99%	16	0.412	0.357	0.421	0.390	0.422	0.455	0.815	1.63
1%	18	0.338	0.33	0.372	0.338	0.329	0.392	0.815	1.63
50%	18	0.338	0.329	0.371	0.338	0.329	0.391	0.815	1.63
99%	18	0.337	0.326	0.369	0.337	0.326	0.391	0.815	1.63
1%	20	0.206	0.325	0.272	0.283	0.268	0.216	0.815	1.63
50%	20	0.205	0.324	0.271	0.282	0.267	0.215	0.815	1.63
99%	20	0.203	0.322	0.268	0.281	0.266	0.213	0.815	1.63

Note: only recorded the worst case.

5.5 Result appraise

(1) Power transfer frequency is less than 1 MHz

--Yes. it's 110-205KHz。

(2) Output power from each primary coil is less than or equal to 15 watts.

the requirement.

--Yes. It is max power 15W.

(3) The system may consist of more than one source primary coils, charging one or more clients. If more than one primary coil is present, the coil pairs may be powered on at the same time.

--Yes. The sample have one coil to charge .

(4) Client device is placed directly in contact with the transmitter.

--Yes.Client device is placed directly.

(5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).

--No.

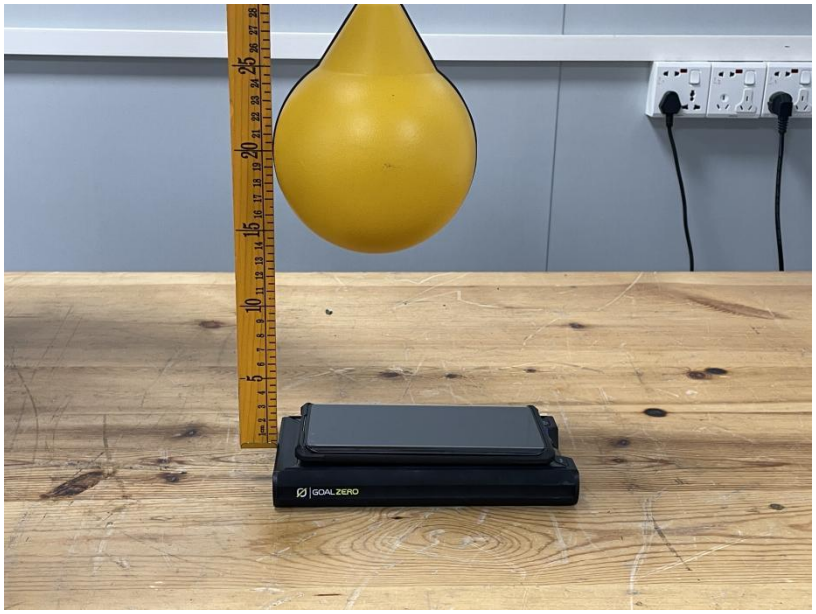
(6) The aggregate H-field strengths anywhere at or beyond 15 cm surrounding the device, and 20 cm away from the surface from all coils that by design can simultaneously transmit, and while those coils are simultaneously energized, are demonstrated to be less than 50% of the applicable MPE limit.

--Yes, it is meet

6 Test Photo

0cm

20cm



******THE END REPORT******