



MPE TEST REPORT

Report No:STS2102019H02

Issued for

Sidep Electronics (Shanghai) Co.,Ltd

3399, Shen Jiang Nan Road, Pudong New District, Shanghai, China

Product Name:	PV2020 RF PORTABLE VERIFIER
Brand Name:	Checkpoint
Model Name:	10150386
Series Model:	N/A
FCC ID:	2AZAZ10150386
Test Standard:	FCC CFR 47 part 1, 1.1310

Any reproduction of this document must be done in full. No single part of this document may be reproduced without permission from STS, All Test Data Presented in this report is only applicable to presented Test sample.





TEST RESULT CERTIFICATION

Applicant's Name: Sidep Electronics (Shanghai) Co.,Ltd
Address: 3399, Shen Jiang Nan Road, Pudong New District, Shanghai, China
Manufacture's Name: Sidep Electronics (Shanghai) Co.,Ltd
Address: 3399, Shen Jiang Nan Road, Pudong New District, Shanghai, China

Product Description

Product Name: PV2020 RF PORTABLE VERIFIER
Brand Name: Checkpoint
Model Name: 10150386
Series Model: N/A

Standards: FCC CFR 47 part 1, 1.1310
Test Procedure: 680106 D01 RF Exposure Wireless Charging Apps v03

This device described above has been tested by STS, 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.

This report shall not be reproduced except in full, without the written approval of STS, this document may be altered or revised by STS, personal only, and shall be noted in the revision of the document.

Date of Test:
Date of receipt of test item: 05 Feb. 2021
Date of performance of tests...: 05 Feb. 2021 ~ 06 Apr. 2021
Date of Issue: 06 Apr. 2021

Test Result.....: Pass

Testing Engineer :

Chris Chen

(Chris Chen)

Technical Manager :

Sean She

(Sean she)

Authorized Signatory :

Vita Li

(Vita Li)





Table of Contents	Page
1. SUMMARY OF TEST RESULTS	5#
1.1 TEST FACTORY	5#
1.2 MEASUREMENT UNCERTAINTY	5#
1.3 GENERAL DESCRIPTION OF THE EUT	6#
1.4 EQUIPMENTS LIST FOR ALL TEST ITEMS	7#
2. MAXIMUM PERMISSIBLE EXPOSURE	8#
2.1 MAXIMUM PERMISSIBLE EXPOSURE	8#
2.2 TEST PROCEDURE	9#
2.3 TEST SETUP	9#
2.4 MAXIMUM PERMISSIBLE EXPOSURE	10#



**Revision History**

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	06 Apr. 2021	STS2102019H02	ALL	Initial Issue





1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC KDB 680106 D01 RF Exposure Wireless Charging Apps v03

FCC CFR 47			
Standard Section	Test Item	Judgment	Remark
FCC CFR 47 part1, 1.1310 KDB680106 D01v03	Electric Field Strength (E) (V/m)	PASS	
	Magnetic Field Strength (H) (A/m)	PASS	

1.1 TEST FACTORY

SHENZHEN STS TEST SERVICES CO., LTD

Add. : A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China

FCC test Firm Registration Number: 625569

IC test Firm Registration Number: 12108A

A2LA Certificate No.: 4338.01

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately **95 %**.

No.	Item	Uncertainly
1	H-filed	$\pm 1.2\mu T$
2	E-filed	$\pm 16\%$

1.3 GENERAL DESCRIPTION OF THE EUT

Product Name	PV2020 RF PORTABLE VERIFIER
Trade Name	Checkpoint
Model Name	10150386
Series Model	N/A
Model Difference	N/A
Equipemnt Category	Non-ISM frequency
Antenna Type	Loop wire antenna
Operating frequency	8.2MHz (swept from 7.4 MHz to 8.8 MHz)
Modulation Type	Sweep Frequency
Power Rating	Input: 9V alkaline battery
Hardware version number	10150386 Rev.00
Software version number	V1.0
Connecting I/O Port(s)	Please refer to the Note 1.

Note:

1. For a more detailed features description, please refer to the manufacturer’s specifications or the User Manual.
2. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	NOTE
1	Checkpoint	10150386	Loop wire antenna	N/A	Antenna

3. The Portable Verifier (PV2020) is a battery operated, hand held, portable, Electronic Article Surveillance (EAS) Tag detector that operates from a standard 9 Vdc alkaline battery. This particular version of the PV2020 detects EAS tags using an analog fundamental frequency swept from 7.4 MHz to 8.8 MHz, centered on 8.2 MHz and is meant for intermittent use. The unit is normally in a nonpowered condition. The unit operates, when a side mounted momentary switch is depressed, by radiating an FM RF signal whose center frequency is the resonant frequency of the Tag. An AM Receiver detects the disturbance of the RF field caused by the presence of a Tag, which is then indicated by an audible alarm and the illumination of a red LED.

Note: The antenna information refer the manufacturer provide report, applicable only to the tested sample identified in the report.

1.4 EQUIPMENTS LIST FOR ALL TEST ITEMS

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Electromagnetic field strength analyzer	Coliy Technology GmbH	E300	13945	2010.10.19	2021.10.18
Three-dimensional omnidirectional electric field probe	Coliy Technology GmbH	EP0650	N/A	2010.10.19	2021.10.18
Three-dimensional omnidirectional magnetic field probe	Coliy Technology GmbH	HP0350	N/A	2010.10.19	2021.10.18
Three-dimensional omnidirectional electric and magnetic field combo probe	Coliy Technology GmbH	EHP150	N/A	2010.10.19	2021.10.18



2. MAXIMUM PERMISSIBLE EXPOSURE

2.1 MAXIMUM PERMISSIBLE EXPOSURE

Limit of Maximum Permissible Exposure

Limits for Occupational / Controlled 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)
0.3-3.0	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

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 / f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1	30

Note 1: f = frequency in MHz ; *Plane-wave equivalent power density

Note 2: For the applicable limit, see FCC 1.1310, 680106 D01 RF Exposure Wireless Charging Apps v03

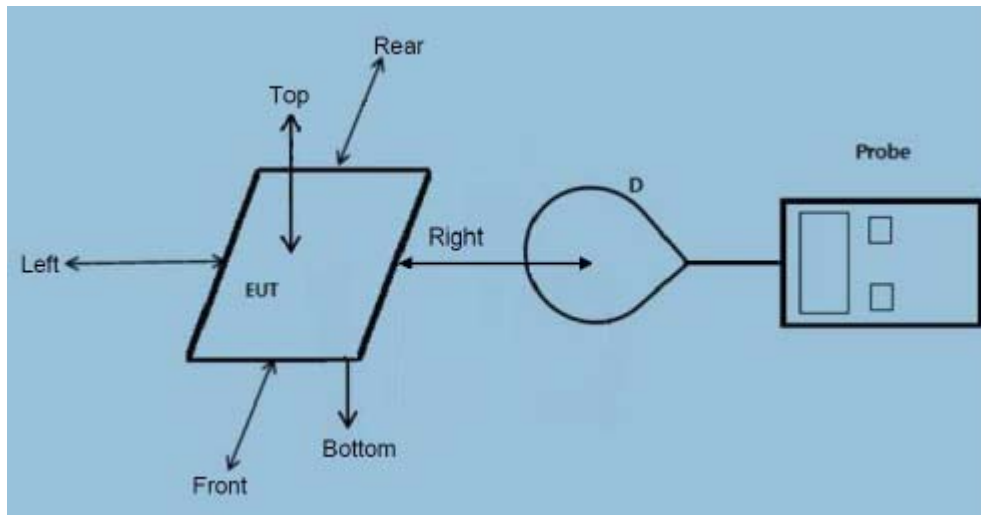
Note 3: Emissions between 100 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of Section 1.1310: 614 V/m and 1.63 A/m. A KDB inquiry is required to determine the applicable exposure limits below 100 kHz.

Note 4: The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.

2.2 TEST PROCEDURE

- a. For devices designed for typical desktop applications, such as wireless charging pads, RF exposure evaluation should be conducted assuming a user separation distance of 20 cm (Top), 15 cm (Center) and 0 cm. E and H field strength measurements or numerical modeling may be used to demonstrate compliance. Measurements should be made from all sides and the top of the primary/client pair, with the 20 cm (Top), 15 cm (Center) and 0 cm measured from the center of the probe(s) to the edge of the device.

2.3 TEST SETUP





2.4 MAXIMUM PERMISSIBLE EXPOSURE

Maximum Permissible Exposure			
Separation	Probe from EUT Side	E-field (V/m)	H-field (A/m)
15cm	Front	2.271	0.23
15cm	Rear	2.899	0.229
15cm	Left	2.66	0.231
15cm	Right	2.363	0.229
15cm	Bottom	2.345	0.225
20cm	Top	2.358	0.23
Limit		100.49	0.27
Margin Limit (%)		2.88%	85.56%

Maximum Permissible Exposure			
Separation	Probe from EUT Side	E-field (V/m)	H-field (A/m)
0cm	Front	2.591	0.25
0cm	Rear	3.219	0.249
0cm	Left	2.98	0.251
0cm	Right	2.683	0.249
0cm	Bottom	2.665	0.245
0cm	Top	2.678	0.250
Limit		100.49	0.27
Margin Limit (%)		3.20%	92.96%

