RF Exposure Evaluation Report

FCC ID	:	2ABZ2-AA550
EQUIPMENT	:	Mobile Phone
Brand Name	:	1+,ONEPLUS
Model Name	:	CPH2583
Applicant	:	OnePlus Technology (Shenzhen) Co., Ltd. 18C02, 18C03, 18C04, and 18C05, Shum Yip Terra Building, Binhe Avenue North, Futian District, Shenzhen, Guangdong, P.R. China.
Manufacturer	:	OnePlus Technology (Shenzhen) Co., Ltd. 18C02, 18C03, 18C04, and 18C05, Shum Yip Terra Building, Binhe Avenue North, Futian District, Shenzhen, Guangdong, P.R. China.
STANDARD	:	FCC CFR 47 part 1, 1.1307(b) and 1.1310 KDB 680106 D01v03r01

We, Sporton International Inc. (Shenzhen), would like to declare that the tested sample has been evaluated in accordance with the test procedures given in KDB 680106 D01v03r01 and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (Shenzhen), the test report shall not be reproduced except in full.

Si Zhang

Approved by: Si Zhang

ACCREDITED Cert #5145.01

Sporton International Inc. (Shenzhen)

1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055

People's Republic of China

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA382311A	Rev. 01	Initial issue of report	Oct. 20, 2023

1. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	Mobile Phone
Brand Name	1+,ONEPLUS
Model Name	CPH2583
FCC ID	2ABZ2-AA550
IMEI Code	IMEI 1: 865154060025631 IMEI 2: 865154060025623
Frequency Range	WPT: 110.1 kHz – 148.5 kHz
Moudlation Type	WPT: ASK
Antenna Type	loop antenna
HW Version	11
SW Version	OxygenOS V14.0
EUT Stage	Production Unit
Date of Test	Aug. 24, 2021

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

2. Administration Data

Sporton International Inc. (Shenzhen) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Testing Laboratory			
Test Firm	Sporton International Inc. (Shenzhen)		
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	CO01-SZ	CN1256	421272

3. RF Exposure Limit Introduction

§ 1.1310 The criteria listed in table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency(RF) radiation as specified in § 1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of § 2.1093 of this chapter.

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	* 100	6
3.0-30	1842/f	4.89/f	* $900/f^2$	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	* 100	30
1.34-30	824/f	2.19/f	* $180/f^2$	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz

* = Plane-wave equivalent power density

(1) Occupational/controlled exposure limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when a person is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure. The phrase fully aware in the context of applying these exposure limits means that an exposed person has received written and/or verbal information fully explaining the potential for RF exposure resulting from his or her employment. With the exception of transient persons, this phrase also means that an exposed person has received appropriate training regarding work practices relating to controlling or mitigating his or her exposure. Such training is not required for transient persons, but they must receive written and/or verbal information and notification (for example, using signs) concerning their exposure potential and appropriate means available to mitigate their exposure. The phrase exercise control means that an exposed person is allowed to and knows how to reduce or avoid exposure by administrative or engineering controls and work practices, such as use of personal protective equipment or time averaging of exposure.

(2) General population/uncontrolled exposure limits apply in situations in which the general public may be exposed, or in which persons who are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

4. KDB 680106 D01 Section 5B Equipment Approval Considerations

Requirement	Devices
(1) Power transfer frequency is less than 1 MHz.	Yes. Operating Frequency is less than 1MHz
(2) Output power from each primary coil is less than or equal to 15 watts.	Yes. The maximum power is 10 Watts
(3) The system may consist of more than one source primary coil, charging one or more clients. If more than one primary coil is present, the coil pairs may be powered on at the same time.	The system included one single primary coil and the device is designed to change a single client.
(4) Client device is placed directly in contact with the transmitter.	Yes. The client device is placed directly in contact with the transmitter.
(5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).	Yes. It is a Mobile device.
(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.	The measurement was taken based on KDB 680106 D01. The H-Field worst case leakage of mobile condition is 2.24%.

Note:The inductive wireless power transfer device meets all of the above requirements.

5. Test Mode

This device has been tested in the following charging conditions as below:

Test Mode	Test Setup Configuration	Charging Current Condition
TM1	Test w/ Client Device installed	< 1% Battery status
TM2	Test w/ Client Device installed	50% Battery status
TM3	Test w/ Client Device installed	Near 100% Battery status

6. Measurement Equipment

Instrument	Manufacturer	Model No.	Serial No.	Freq Rang	Last Cal.	Due Date
Electric and Magnetic field Probe-Analyzer	Narda S.T.S / PMM	EHP 200AC	180ZX20509	3KHz~30MHz	2023/8/25	2024/8/24

7. RF Exposure Evaluation

1. The device power transfer frequency is less than 1MHz and the output power from each primary coil is less than or equal to 15 watts and the system just one source primary coil and the client device is placed directly in contact with the transmitter and the device is meet mobile exposure condution also the test result is compliance with applicable MPE limit.
2. For portable devices that do not physically attach to phone, desktop WPT testing guidance from FCC KDB 680106 D01v03r01 is applied.
3. The equipment under test was placed on a wooden desk inside of shield room. The isotropic field probe was used to measure the field strength for 6 EUT surfaces. The detailed setup photo please refer to Appendix A.
4. Per KDB 680106 D01v03r01 and 202010 TCB workshop, RF exposure should be evaluation at 15 cm surrounding the device and 20 cm away from the surface from all coils. 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 for E-field strengths and 1.63 A/m for H-field strengths.

Position (Distance)	E-Field measurement (V/m)					
	A(20cm)	B(20cm)	C(15cm)	D(15cm)	E(15cm)	F(15cm)
TM1	0.0854	0.0867	0.0747	0.0762	0.0737	0.0763
TM2	0.0835	0.0844	0.0772	0.0754	0.0762	0.0733
TM3	**0.0889**	0.0852	0.0768	0.0741	0.0753	0.0777
E-Field Limit						
Maximum Average (V/m)			Percentage(%)		RF Exposure limit (V/m)	
0.0889			**0.01**		614	

Position (Distance)	H-Field measurement (A/m)					
	A(20cm)	B(20cm)	C(15cm)	D(15cm)	E(15cm)	F(15cm)
TM1	0.0312	0.0313	0.0361	0.0352	0.0309	0.0315
TM2	0.0311	0.03	**0.0365**	0.0343	0.0302	0.0313
TM3	0.0297	0.0307	0.0356	0.0351	0.0307	0.0298
H-Field Limit						
Maximum Average (A/m)			Percentage(%)		RF Exposure limit (A/m)	
0.0365			**2.24**		1.63	

Conclusion:

The field strength limit refers to Part 1.1310 and the test result of exposure evaluation is compliant with 50% of the MPE limit then a PAG is not required.

Test Engineer : Kevin Xu

------THE END------