



# RF Exposure Evaluation Report

**FCC ID** : 2ABZ2-EE007  
**EQUIPMENT** : Smart Phone  
**Brand Name** : ONEPLUS  
**Model Name** : IN2025  
**Applicant** : OnePlus Technology (Shenzhen) Co., Ltd  
18C02, 18C03, 18C04 and 18C05, Shum Yip  
Terra Building, Binhe Avenue North,  
Futian District, Shenzhen  
**Manufacturer** : OnePlus Technology (Shenzhen) Co., Ltd  
18C02, 18C03, 18C04 and 18C05, Shum Yip  
Terra Building, Binhe Avenue North,  
Futian District, Shenzhen  
**STANDARD** : FCC CFR 47 part 1, 1.1307(b) and 1.1310  
KDB 680106 D01v03

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Cona Huang

Approved by: Cona Huang / Deputy Manager

**Sporton International Inc.**  
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan



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### **Appendix A. Test Setup Photo**



**Revision History**

<b>REPORT NO.</b>	<b>VERSION</b>	<b>DESCRIPTION</b>	<b>ISSUED DATE</b>
FA9N1926-02	Rev. 01	Initial issue of report	Mar. 13, 2020



## 1. Description of Equipment Under Test (EUT)

Product Feature & Specification	
<b>EUT Type</b>	Smart Phone
<b>Brand Name</b>	ONEPLUS
<b>Model Name</b>	IN2025
<b>FCC ID</b>	2ABZ2-EE007
<b>Frequency Range</b>	100KHz ~ 205 KHz
<b>Moudlation Type</b>	• ASK
<b>Antenna Type</b>	Wire
<b>EUT Stage</b>	Production Unit
<b>Date of Test</b>	Mar. 12, 2020

## 2. 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 <sup>2</sup> )	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 <sup>2</sup>	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 <sup>2</sup>	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.



### 3. 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

### 4. Measurement Equipment

Instrument	Manufacturer	Model No.	Serial No.	Freq Rang	Last Cal.	Due Date
Electric and Magnetic field Probe-Analyzey	Narda S.T.S / PMM	EHP 200AC	170WX80309	3KHz~30MHz	May. 08, 2019	May. 07, 2020

### 5. RF Exposure Evaluation

1. The device support Wireless Power Consortium (WPC or commonly referred to as Qi) standard EPP (Extended Power Profile) as a receiver, with a maximum power transfer of 30W to the phone. the device can be used in reverse, as a transmitter to another wireless charging receiver. In this case, up to 10W (BPP) can be transmitted to the external receiver.
2. According to 201910 TCBC workshop, for portable devices that do not physically attach to phone, desktop WPT testing guidance from FCC KDB 680106 D01v03.
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, and during measurement a separation of 10cm is maintained between EUT surface and the center of the field probe. The detail setup photo please refer to Appendix A.
4. Per KDB 680106 D01v03, RF exposure evaluation should be conducted assuming a user separation distance of 10 cm. 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 10 cm measured from the center. of the probe(s) to the edge of the device. Emissions between 50 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of Section 1.1310: 1.63 A/m and aggregate leakage fields at 10 cm surrounding the device from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.

Position (Distance 10cm)	H-Field Measurement (A/m)						50% of limit
	A	B	C	D	E	F	
TM1	0.1823	0.1816	0.1805	0.1824	0.2214	0.1843	0.815
TM2	0.1806	0.1814	0.1796	0.1831	0.2154	0.1906	
TM3	0.1819	0.1906	0.1824	0.1818	0.2196	0.1853	

### 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. (H-field: 0.815A/m).