

## RF Exposure Evaluation

FCC ID:2BGD3-EX01

Product Name:	SMARTCOBY Ex01 SLIM Qi2 & Cable
Product Model No.:	CIO-MB20W2C-5K-EX01
Model Difference:	/
Test Auxiliary:	Smartphone and Power adapter
Transmitting mode:	Keep the EUT in continuously wireless charging mode
Power supply:	Input 1: (USB-C): 5 V 3 A, 9 V 2.22 A, 12 V 1.67 A (Max 20W) Input 2:(USB-C Cable): 5 V 3 A, 9 V 2.22 A, 12 V 1.67 A (Max 20W) Output 1:(USB-C): 5 V 3 A, 9 V 2.22 A, 12 V 1.67 A (Max 20W) PPS 5-11 V 2 A (Max 22W) Output 2:(USB-C Cable): 5 V 3 A, 9 V 2.22 A, 12 V 1.67 A (Max 20W) PPS 5-11 V 2 A (Max 22W) Output 3:Qi2Wireless: Max 15W USB-C+USB-C Cable+Qi2 Wireless: 5 V 3 A, 15W Max

### Test Modes:

Mode 1	Charging mode
Mode 2	Wireless charging(15W)
Mode 3	Wireless charging(10W)
Mode 4	Wireless charging(5W)
Mode 5	Charging+Wireless charging(15W)

1. All full load, half load, and no-load modes were tested, only the worst-case was recorded in the report.  
Mode 5 full load is the worst mode.

2. EUT support charging and discharging at the same time, Charging and discharging at the same time can only reach 15W.

Auxiliary equipment					
Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	AC Adapter	N/A	HW-059200CHQ	N/A	AE
E-2	Wireless charging load	/	EESON	N/A	AE

## 1 Measuring Standard

KDB 680106 D01 Wireless Power Transfer v04

## 2 Requirements

According to the item 5 of KDB 680106 D01 v04:

Inductive wireless power transfer applications that meet all of the following requirements are excluded from submitting an RF exposure evaluation.

Requirements of section 3 of KDB 680106 D01	Yes/ No	Description
Mobile Device and Portable Device Configurations	Yes	Portable Device
Equipment Authorization Procedures for Devices Operating at Frequencies Below 4 MHz	Yes	The device operate in the frequency range 110.2kHz-205kHz
RF Exposure compliance may be ensured only for a minimum conditions at smaller distances can still be considered unlikely separation distance that is greater than 20 cm, while use	No	The EUT H-field and E-field strengths at 0 cm surrounding the device.

## 3 Limits

The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

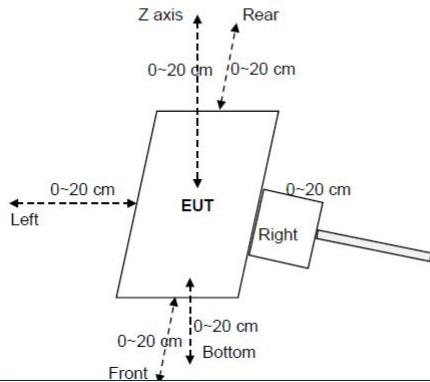
Limits for Maximum Permissible Exposure (MPE)

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 Exposures				
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
300-1500	/	/	f/300	6
1500-100,000	/	/	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
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

F=frequency in MHz  
\*=Plane-wave equivalent power density  
RF exposure compliance will need to be determined with respect to 1.1307(c) and (d) of the FCC rules. The emissions should be within the limits at 300kHz in Table 1 of 1.1310(use the 300kHz limits for 150kHz:614V/m,1.63A/m).

## 4 Test Setup

For portable exposure conditions:



## 5 Test Procedure

- 1) The RF exposure test was performed in anechoic chamber.
- 2) The measurement probe was placed at test distance (2cm increments from 0~20 cm for all sides) which is between the edge of the charger and the geometric edge of probe.
- 3) The highest emission level was recorded and compared with limit as soon as measurement of each points (A, B, C, D, E) were completed.
- 4) The EUT was measured according to the dictates of KDB 680106 D01 v04.

Remark: The EUT's test position A, B, C, D and E is valid for the E and H field measurements.

## 6 Test Instruments list

Test Equipment	Manufacturer	Model No.	SN.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
Magnetic Amplitude and Gradient Probe System	SPEAG	MAGPy-8H3D+E3D V2& MAGPy-DAS V2	SZ186-06& 3061	Feb. 26, 2024	Feb. 25, 2025

## 7 Test Result

E-Filed Strength from the edges surrounding the EUT (V/m)									
The measurement probe was placed at test distance which is between the edge of the charger and the geometric of probe(cm)	Frequency Range (MHz)	Test Position A (Left)	Test Position B (Right)	Test Position C (Rear)	Test Position D (Front)	Test Position E (Top)	Test Position F (Bottom)	Limits (V/m)	
		0.1102-0.205	1.04	1.3	1	1.28	1.03	0.91	614
		0.1102-0.205	0.91	1.04	1.06	1.16	1.15	1.17	614
		0.1102-0.205	1.2	1.04	1.1	1.21	0.91	0.93	614
		0.1102-0.205	1.14	1.24	0.93	1.12	0.98	1.05	614
		0.1102-0.205	1.07	0.91	1.05	1	1.23	1.24	614
		0.1102-0.205	1.01	0.99	1.22	1.21	1.29	1.28	614
		0.1102-0.205	1.22	1.28	1.09	1.06	0.96	1.24	614
		0.1102-0.205	0.95	0.99	1.27	1.1	1.25	1.04	614
		0.1102-0.205	0.95	1.04	1.04	1.04	0.93	1.08	614
		0.1102-0.205	0.96	1.09	1.15	1.11	1.07	1.1	614
		0.1102-0.205	1.09	1.21	1.13	1.14	1.15	1.16	614

H-Filed Strength from the edges surrounding the EUT (A/m)									
The measurement probe was placed at test distance which is between the edge of the charger and the geometric of probe(cm)	Frequency Range (MHz)	Test Position A (Left) A/m	Test Position B (Right) A/m	Test Position C (Rear) A/m	Test Position D (Front) A/m	Test Position E (Top) A/m	Test Position F (Bottom) A/m	Limits (A/m)	
0	0.1102-0.205	0.29	0.27	0.4	0.5	0.33	0.43	1.63	
2	0.1102-0.205	0.33	0.32	0.48	0.31	0.34	0.47	1.63	
4	0.1102-0.205	0.44	0.33	0.5	0.27	0.24	0.34	1.63	
6	0.1102-0.205	0.32	0.25	0.24	0.3	0.38	0.35	1.63	
8	0.1102-0.205	0.51	0.4	0.35	0.23	0.38	0.38	1.63	
10	0.1102-0.205	0.25	0.37	0.45	0.4	0.47	0.45	1.63	
12	0.1102-0.205	0.35	0.33	0.38	0.28	0.45	0.25	1.63	
14	0.1102-0.205	0.32	0.46	0.43	0.47	0.32	0.37	1.63	
16	0.1102-0.205	0.23	0.29	0.45	0.39	0.29	0.23	1.63	
18	0.1102-0.205	0.48	0.43	0.48	0.32	0.27	0.29	1.63	
20	0.1102-0.205	0.31	0.45	0.34	0.3	0.37	0.41	1.63	

## 8 Test Set-up Photo

Note: The steel ruler is only used to measure the distance and take test photos before the test, and the steel ruler is not placed on the table during the test

