

# EXPOSURE REPORT

FCC ID: 2ASPB-UNWBK03

Date of issue: Mar. 15, 2019

Report Number: MTi190308E022

Sample Description: UNRAVEL

Model(s): UNWBK03, UNWBL03, UNWRE03, UNWPU03, UNWGN03,  
UNWGL03

Applicant: GOGOTORO LLC

Address: 60 Broadway 10M Brooklyn NY 11249 USA

Date of Test: Jan. 17, 2019 – Mar. 15, 2019

Shenzhen Microtest Co., Ltd.

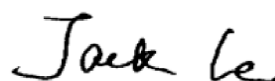
<http://www.mtitest.com>

## Table of Contents

Applicant's name:	GOGOTORO LLC
Address:	60 Broadway 10M Brooklyn NY 11249 USA
Manufacture's name:	Shenzhen Savori Intelligent System Technology Co., Ltd.
Address:	The 1st Building, Guanfeng Industrial Park, Jiuwei Village, Xixiang Street, Baoan District, Shenzhen City, China.
Product name:	UNRAVEL
Trademark:	AMPERE
Model name:	UNWBK03, UNWBL03, UNWRE03, UNWPU03, UNWGN03, UNWGL03
Standard:	FCC CFR 47 PART 1 , 1.1310
RF Exposure Procedures:	KDB 680106 D01 RF Exposure Wireless Charging App v03

*This device described above has been tested by Shenzhen Microtest Co., Ltd. and the test results show that the equipment under test (EUT) compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.*

Tested by:



Jack Le

Mar. 15, 2019

Reviewed by:



Blue Zheng

Mar. 15, 2019

Approved by:



Smith Chen

Mar. 15, 2019

# 1 General Information

## 1.1 Description of EUT

Product name:	UNRAVEL
Brand name:	AMPERE
Model name:	UNWBK03
Series model:	UNWBL03, UNWRE03, UNWPU03, UNWGN03, UNWGL03
Deference in serial model:	All the model are the same circuit and RF module, except the appearance, color and model No
Operation frequency:	115–205 kHz
Operational mode:	Wireless charging
Modulation type:	Load modulation
Antenna type:	Coil Antenna (Met 15.203 Antenna requirement)
Power source:	DC 5V or 9V from adapter
Battery:	N/A
Adapter information:	N/A

## 1.2 Ancillary equipment list

Equipment	Model	S/N	Manufacturer
Adapter	TYPE-C601C	/	/
Mobile phone	S8	/	SAMSUNG
Mobile phone	8Plus	/	Apple
Mobile phone	8	/	Apple

## 1.3 Measurement uncertainty

Measurement Uncertainty for a Level of Confidence of 95 %,  $U=2 \times U_c(y)$

Radiated emission(150kHz~30MHz)	$\pm 2.5$ dB
Radiated emission(30MHz~1GHz)	$\pm 4.2$ dB
Radiated emission (above 1GHz)	$\pm 4.3$ dB
Temperature	$\pm 1$ degree
Humidity	$\pm 5$ %

**2   Testing site**

Test Site	Shenzhen Microtest Co., Ltd
Test Site Location	No.102A & 302A, East Block, Hengfang Industrial Park, Xingye Road, Xixiang, Bao'an District, Shenzhen, Guangdong, China
FCC Registration No.:	448573

### 3 List of test equipment

Equipment No.	Equipment Name	Manufacturer	Model	Serial No.	Calibration date	Due date
MTI-E068	Broadband Field Meter	Narda Safety Test Solutions GmbH	NBM-520	D-1699	2018/07/13	2019/07/12
MTI-E069	Probe E-Field	Narda Safety Test Solutions	EF0691	H-0571	2018/07/13	2019/07/12

## 4 Test Results

### 1.4 Maximum permissible exposure

#### 1.4.1 Limit

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	6
300-1500			f/300	6
1500-100000			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
1500-100000			1	30
f = frequency in MHz * = Plane-wave equivalent power density				

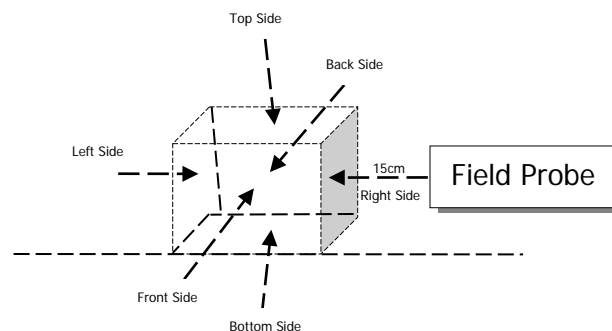
#### 1.4.2 Test Procedures

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.

These measurements should be repeated for three different client battery levels, 1%, 50%, and 99%.

Record the test results.

#### 1.4.3 Test Setup



(1) Power transfer frequency is less than 1MHz.

(Conform)

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

(Conform)

(3) The transfer system includes only single primary and secondary coils. This includes charging systems that may have multiple primary coils and clients that are able to detect and allow coupling only between individual pairs of coils.

(Conform)

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

(Conform)

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

(Conform)

(6) 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.

(Conform)

## 1.4.4

## Test Result

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E –field(V/m)	H–field(A/m)
<1%	Top	20	2.361	0.069
<1%	Bottom	15	2.291	0.067
<1%	Left	15	2.274	0.055
<1%	Right	15	2.257	0.062
<1%	Front	15	2.246	0.048
<1%	Back	15	2.221	0.041
Limit			614	1.63
Margin Limit (%)			0.385%	4.233%

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E –field(V/m)	H–field(A/m)
<50%	Top	20	2.308	0.069
<50%	Bottom	15	2.305	0.062
<50%	Left	15	2.302	0.058
<50%	Right	15	2.301	0.061
<50%	Front	15	2.303	0.063
<50%	Back	15	2.304	0.064
Limit			614	1.63
Margin Limit (%)			0.376%	4.233%

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E –field(V/m)	H–field(A/m)
<99%	Top	20	2.433	0.079
<99%	Bottom	15	2.422	0.071
<99%	Left	15	2.425	0.072
<99%	Right	15	2.427	0.065
<99%	Front	15	2.421	0.076
<99%	Back	15	2.412	0.070
Limit			614	1.63
Margin Limit (%)			0.396%	4.847%



1.4.5

MPE Setup photo





----END OF REPORT----