RF Exposure Evaluation Report

APPLICANT	:	**Chiaro Technology Ltd**
EQUIPMENT	:	**Elvie**
BRAND NAME	:	**Chiaro**
MODEL NAME	:	**EL02**
FCC ID	:	**2AEHI-EL0215**
STANDARD	:	**FCC CFR 47 part 1, 1.1307(b) and 1.1310** **KDB 680106 D01v02**

We, SPORTON INTERNATIONAL INC., would like to declare that the device has been evaluated in accordance with FCC CFR 47 part 1, 1.1307(b) and 1.1310, and pass the limit. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by: Eric Huang / Deputy Manager

Approved by: Jones Tsai / Manager

Testing Laboratory
1190

SPORTON INTERNATIONAL INC.
No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Taoyuan City, Taiwan (R.O.C.)

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA552245-01	Rev. 01	Initial issue of report	Jul. 22, 2015

1. Administration Data

1.1. Testing Laboratory

Testing Laboratory	
Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978

Applicant	
Company Name	Chiaro Technology Ltd
Address	2nd Floor, 5-9 Hatton Wall, London, United Kingdom, EC1N 8HX

Manufacturer	
Company Name	FU GANG ELECTRONIC(KUNSHAN)CO.,LTD
Address	NO.6 Zheng Wei West Road,Jin Xi Town, Kun Shan City, Jiang Su Province, 215324, China

2. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	Elvie
Brand Name	Chiaro
Model Name	EL02
FCC ID	2AEHI-EL0215
Frequency Range	110KHz ~ 205 KHz
Moudlation Type	• ASK
Antenna Type	Wire
EUT Stage	Production Unit
Date of Test	Jun. 13, 2015

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

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. 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

Support Equipment:

Name	Manufacturer	Model Name	FCC ID
Elvie	Chiaro	EL01	2AEHI-EL0115

5. 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 200A	160WX41006	9KHz~30MHz	Nov. 03, 2014	Nov. 02, 2015

6. RF Exposure Evaluation

1. 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.
2. Per KDB 680106 D01v02, for devices designed for typical desktop applications, such a wireless charging pads, RF exposure evaluation should be conducted assuming a user separation distance of 10 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 10 cm measured from the center. of the probe(s) to the edge of the device. 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 and aggregate leakage fields at 10 cm surrounding the device from all simultaneous transmitting coils are demonstrated to be less than 30% of the MPE limit.

Position (Distance 10cm)	E-Field Measurement (V/m)						
	A	B	C	D	E	F	30% of limit
TM1	0.338	0.343	0.334	0.334	0.343	0.440	184
TM2	0.316	0.338	0.326	0.311	0.342	0.413	
TM3	0.327	0.316	0.322	0.346	0.334	0.345	

Position (Distance 10cm)	H-Field Measurement (A/m)						
	A	B	C	D	E	F	30% of limit
TM1	0.0528	0.0531	0.0515	0.0538	0.0510	0.0548	0.489
TM2	0.0513	0.0527	0.0508	0.0532	0.0550	0.0560	
TM3	0.0522	0.0519	0.0522	0.0535	0.0510	0.0534	

Conclusion:

The field strength limit refers to Part 1.1310 and the test result of exposure evaluation is compliant with 30% of the MPE limit. (E- Field: 184 V/m; H-field: 0.489A/m).