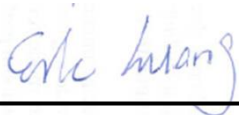


# RF Exposure Evaluation Report

APPLICANT : Bandrich Inc.  
EQUIPMENT : E600 Series LTE Outdoor cpe  
BRAND NAME : BandLuxe  
MODEL NAME : E600  
FCC ID : UZIE6001801  
STANDARD : 47 CFR Part 2.1091

We, SPORTON INTERNATIONAL INC., would like to declare that the device has been evaluated in accordance with 47 CFR Part 2.1091, 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 / Manager



Approved by: Jones Tsai / Manager



## **SPORTON INTERNATIONAL INC.**

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



## Table of Contents

<b>1. ADMINISTRATION DATA .....</b>	<b>4</b>
1.1. Testing Laboratory .....	4
<b>2. DESCRIPTION OF EQUIPMENT UNDER TEST (EUT) .....</b>	<b>5</b>
<b>3. MAXIMUM RF AVERAGE OUTPUT POWER AMONG PRODUCTION UNITS .....</b>	<b>6</b>
<b>4. RF EXPOSURE LIMIT INTRODUCTION .....</b>	<b>7</b>
<b>5. RADIO FREQUENCY RADIATION EXPOSURE EVALUATION .....</b>	<b>8</b>
5.1. Standalone Power Density Calculation .....	8



**Revision History**

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA832728	Rev. 01	Initial issue of report	May 07, 2018



**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	Bandrich Inc.
Address	6F-2., No.71, Zhouzi St., Neihu Dist., Taipei City 11493, Taiwan(R.O.C)

Manufacturer	
Company Name	FAIR GOAL ELECTRONIC CO.
Address	1F., No.97-1, Haihu, Luzhu Township, Taoyuan County 338, Taiwan (R.O.C.)



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

Product Feature & Specification	
EUT Type	E600 Series LTE Outdoor cpe
Brand Name	BandLuxe
Model Name	E600
FCC ID	UZIE6001801
Wireless Technology and Frequency Range	WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz WCDMA Band IV: 1712.4 MHz ~ 1752.6 MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2502.5 MHz ~ 2567.5 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 41: 2496 MHz ~ 2690 MHz
Mode	RMC 12.2Kbps HSDPA HSUPA DC-HSDPA LTE: QPSK, 16QAM
HW Version	1
SW Version	0.0.9
EUT Stage	Identical Prototype

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



**3. Maximum RF average output power among production units**

Mode		Maximum Average power(dBm)
WCDMA	Band II	24.0
	Band IV	24.0
	Band V	24.0
LTE	Band 2	23.5
	Band 4	23.5
	Band 5	23.5
	Band 7	23.5
	Band 12	23.5
	Band 13	23.5
	Band 25	23.5
	Band 26	23.5
	Band 41	23.5



### 4. RF Exposure Limit Introduction

According to ANSI/IEEE C95.1-1992, 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 §1.1310.

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
<b>(A) Limits for Occupational/Controlled Exposures</b>				
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>(B) Limits for General Population/Uncontrolled Exposure</b>				
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

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$S = \frac{PG}{4\pi R^2}$$

Where:

S = Power Density

P = Output Power at Antenna Terminals

G = Gain of Transmit Antenna (linear gain)

R = Distance from Transmitting Antenna



## 5. Radio Frequency Radiation Exposure Evaluation

### 5.1. Standalone Power Density Calculation

Band	Frequency (MHz)	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum EIRP (dBm)	Maximum EIRP (W)	Average EIRP (mW)	Power Density at 20cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
WCDMA Band II	1852.4	6.48	24.00	30.480	1.117	1116.863	0.222	1.000
WCDMA Band IV	1712.4	7.50	24.00	31.500	1.413	1412.538	0.281	1.000
WCDMA Band V	826.4	4.57	24.00	28.570	0.719	719.449	0.143	0.551
LTE Band 2	1850.7	6.48	23.50	29.980	0.995	995.405	0.198	1.000
LTE Band 4	1710.7	7.50	23.50	31.000	1.259	1258.925	0.251	1.000
LTE Band 5	824.7	4.57	23.50	28.070	0.641	641.210	0.128	0.550
LTE Band 7	2502.5	7.60	23.50	31.100	1.288	1288.250	0.256	1.000
LTE Band 12	699.7	4.87	23.50	28.370	0.687	687.068	0.137	0.466
LTE Band 13	779.5	4.87	23.50	28.370	0.687	687.068	0.137	0.520
LTE Band 25	1850.7	6.48	23.50	29.980	0.995	995.405	0.198	1.000
LTE Band 26	814.7	4.57	23.50	28.070	0.641	641.210	0.128	0.543
LTE Band 41	2498.5	7.92	23.50	31.420	1.387	1386.756	0.276	1.000

**Note:** For conservativeness, the lowest frequency of each band is used to determine the MPE limit of that band

### Conclusion:

According to 47 CFR §2.1091, the RF exposure analysis concludes that the RF Exposure is FCC compliant.