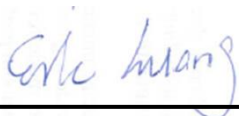


RF Exposure Evaluation Report

APPLICANT : BandRich Inc.
EQUIPMENT : LTE FDD&TDD WLAN VoIP Home Router
BRAND NAME : BandLuxe
MODEL NAME : R565
FCC ID : UZI-565R66
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 / Deputy Manager



Approved by: Jones Tsai / Manager



SPORTON INTERNATIONAL INC.

No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.



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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA451961	Rev. 01	Initial issue of report	Jun. 04, 2014



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 Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978

Applicant	
Company Name	BandRich Inc.
Address	6F., 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	LTE FDD&TDD WLAN VoIP Home Router
Brand Name	BandLuxe
Model Name	R565
FCC ID	UZI-565R66
Wireless Technology and Frequency Range	LTE Band 12: 699.7 MHz ~ 715.3 MHz LTE Band 17: 706.5 MHz ~ 713.5 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 41: 2498.5 MHz ~ 2687.5 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz
Mode	• LTE: QPSK, 16QAM • 802.11b/g/n HT20/HT40
Antenna Type	WWAN: Fixed Internal Antenna WLAN: Fixed Internal Antenna
HW Version	1.0
SW Version	AR_1_00000000_2_001_9961
EUT Stage	Production Unit

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)
LTE	Band 4	23
	Band 12	23
	Band 17	23
	Band 41	23

Mode	Maximum Average Power
WIFI 802.11 b	21
WIFI 802.11 g	19
WIFI 802.11 n-20MHz	17
WIFI 802.11 n-40MHz	17



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 ²)	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 ²)	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 ²)	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 Calculations

Band	Frequency (MHz)	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum EIRP (dBm)	Maximum EIRP (W)	Average EIRP (mW)	Power Density at 20cm (mW/cm ²)	Limit (mW/cm ²)	Power Density / Limity
LTE Band 12	699.7	1.5	23.0	24.500	0.282	281.838	0.056	0.466	0.120
LTE Band 17	706.5	1.5	23.0	24.500	0.282	281.838	0.056	0.471	0.119
LTE Band 4	1710.7	4.0	23.0	27.000	0.501	501.187	0.100	1.000	0.100
LTE Band 41	2498.5	3.0	23.0	26.000	0.398	398.107	0.079	1.000	0.079
2.4GHz WLAN	2412.0	3.5	21.0	24.500	0.282	281.838	0.056	1.000	0.056

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

5.2. Collocated Power Density Calculations

Maximum WLAN Power Density / Limit	Maximum WWAN Power Density / Limit	Σ(Power Density / Limit) of WWAN+WLAN
0.056	0.120	0.176

Note:

- For collocation analysis, LTE Band 12 is chosen for summation due to the highest (power density/limit) among all WWAN wireless modes.
- Σ(Power Density / Limit): This is a summation of [(power density for each transmitter/antenna included in the simultaneous transmission)/ (corresponding MPE limit)], for WWAN + WLAN.
- Considering the WWAN module collocation with the WLAN transmitter of the EIRP performance listed in the table above, the aggregated (power density /limit) is smaller than 1, and MPE of 2 collocated transmitters is compliant

Conclusion:

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