



# RF EXPOSURE REPORT

**REPORT NO.:** SA120313C05

**MODEL NO.:** R528

**FCC ID:** UZI-R528

**RECEIVED:** Mar. 13, 2012

**TESTED:** Mar. 25 ~ Apr. 09, 2012

**ISSUED:** Apr. 11, 2012

**APPLICANT:** BandRich Inc.

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**ISSUED BY:** Bureau Veritas Consumer Products Services  
(H.K.) Ltd., Taoyuan Branch

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**TEST LOCATION:** No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei  
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R.O.C.

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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA120313C05	Original release	Apr. 11, 2012



# 1. CERTIFICATION

**PRODUCT:** LTE/EVDO Rev. A WLAN VOIP Router

**MODEL NO.:** R528

**BRAND:** BandLuxe

**APPLICANT:** BandRich Inc.

**TEST SAMPLE:** ENGINEERING SAMPLE

**TESTED:** Mar. 25 ~ Apr. 09, 2012

**STANDARDS:** FCC Part 2 (Section 2.1091)

**FCC OET Bulletin 65, Supplement C (01-01)**

**IEEE C95.1**

The above equipment (Model: R528) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

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APPROVED BY : Gary Chang , DATE : Apr. 11, 2012  
Gary Chang / Technical Manager

## 2. RF EXPOSURE

### 2.1 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> )	AVERAGE TIME (minutes)
<b>LIMITS FOR GENERAL POPULATION / UNCONTROLLED EXPOSURE</b>				
300-1500	...	...	F/1500	30
1500-100,000	...	...	1.0	30

F = Frequency in MHz

### 2.2 MPE CALCULATION FORMULA

$$P_d = (P_{out} * G) / (4 * \pi * r^2)$$

where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = output power to antenna in mW

G = gain of antenna in linear scale

$\pi$  = 3.1416

R = distance between observation point and center of the radiator in cm

### 2.3 CLASSIFICATION

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

## 2.4 CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

FREQUENCY BAND (MHz)	ERP (dBm)	EIRP (dBm)	DISTANCE (cm)	POWER DENSITY (mW/cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
CDMA 824.7~848.31MHz	20.8	22.95	20	0.039	0.550
LTE 701.5~713.5 MHz	21.2	23.35	20	0.043	0.468

FREQUENCY BAND (MHz)	EIRP (dBm)	DISTANCE (cm)	POWER DENSITY (mW/cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
CDMA 1851.25~1908.75 MHz	24.6	20	0.057	1
LTE 1852.5~1912.5 MHz	24.9	20	0.061	1
LTE 1712.5~1752.5 MHz	24.9	20	0.061	1
CDMA 1711.25~1753.75 MHz	24.7	20	0.059	1

Frquency band (MHz)	Max power (dBm)	Antenna gain (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm <sup>2</sup> )
2400~2483.5	12.99	2.79	20	0.008

### CONCLUSION:

WiFi and WWAN can transmit simultaneously. The formula of calculated the MPE is:

$$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$$

CPD = Calculation power density

LPD = Limit of power density

1. WiFi + WWAN 700MHz =  $0.008/1 + 0.043/0.468 = 0.100$
2. WiFi + WWAN 850MHz =  $0.008/1 + 0.039/0.55 = 0.079$
3. WiFi + WWAN 1700MHz =  $0.008 + 0.061 = 0.069$
4. WiFi + WWAN 1900MHz =  $0.008 + 0.059 = 0.067$

Therefore, the maximum calculation of this situation is 0.100, which is less than the "1" limit.