



# RF Exposure Evaluation Report

**Equipment** : SmartCell Q700 Access Point  
**Brand Name** : Ruckus  
**Model No.** : Q700-0400  
**FCC ID** : S9GQ7000400  
**Standard** : 47 CFR Part 2.1091  
**Applicant** : Ruckus Wireless, Inc.  
350 west Java Drive Sunnyvale CA, 94089 U.S.A.  
**Manufacturer** : Ruckus Wireless, Inc.  
350 west Java Drive Sunnyvale CA, 94089 U.S.A.

The product sample received on Jun. 20, 2016 and completely tested on Jul. 07, 2016. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with 47 CFR Part 2.1091, and pass the limit.

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Sam Chen  
SPORTON INTERNATIONAL INC.





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# 1 General Description

## 1.1 EUT supports Radios application

Radios application	Information
LTE	LTE Band: 4

## 1.2 Testing Location

Testing Location		
<input type="checkbox"/>	HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL : 886-3-327-3456 FAX : 886-3-327-0973
<input checked="" type="checkbox"/>	JHUBEI	ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C. TEL : 886-3-656-9065 FAX : 886-3-656-9085



## 2 RF Exposure Limit Introduction

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	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

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz ; \*Plane-wave equivalent power density

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:

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \qquad \text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

**E** = Electric field (V/m)

**P** = RF output power (W)

**G** = EUT Antenna numeric gain (numeric)

**d** = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$



### 3 Radio Frequency Radiation Exposure Evaluation

#### 3.1 Power Density Calculation

Band	Frequency (MHz)	Maximum Power (dBm)	Antenna Gain (dBi)	Tune-up tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (mW)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
LTE Band IV	2150	27.35	6.00	2.00	35.35	3427.68	0.68	1.00

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