

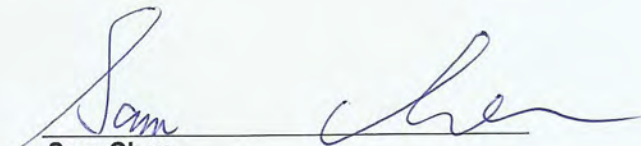


# RF Exposure Evaluation Report

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.

Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

  
Sam Chen  
SPORTON INTERNATIONAL INC.





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## REVISION HISTORY

[illegible]

# 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:

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

**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**

| <b>Band</b> | <b>Frequency (MHz)</b> | <b>Maximum Power (dBm)</b> | <b>Antenna Gain (dBi)</b> | <b>Tune-up tolerance (dB)</b> | <b>Tune-up EIRP (dBm)</b> | <b>Tune-up EIRP (mW)</b> | <b>Power Density (mW/cm<sup>2</sup>)</b> | <b>Limit (mW/cm<sup>2</sup>)</b> |
|-------------|------------------------|----------------------------|---------------------------|-------------------------------|---------------------------|--------------------------|------------------------------------------|----------------------------------|
| 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