



# RF EXPOSURE EVALUATION REPORT

**FCC ID** : S9GQ950US02  
**Equipment** : LTE Access Point  
**Brand Name** : RUCKUS  
**Model Name** : Q950-US02  
**Applicant** : Ruckus Wireless Inc.  
350 W. Java Dr., Sunnyvale CA 94089  
**Manufacturer** : Ruckus Wireless Inc.  
350 W. Java Dr., Sunnyvale CA 94089  
**Standard** : 47 CFR Part 2.1091

We, SPORTON INTERNATIONAL INC has been evaluated this product in accordance with 47 CFR Part 2.1091 and it complies with applicable limit.

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190) and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC evaluation.

Cona Huang

Approved by: Cona Huang / Deputy Manager



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## History of this test report



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

Product Feature & Specification	
EUT Type	LTE Access Point
Brand Name	RUCKUS
Model Name	Q950-US02
FCC ID	S9GQ950US02
Wireless Technology and Frequency Range	LTE Band 48: 3550 MHz ~ 3700 MHz
Mode	LTE: QPSK, 16QAM, 64QAM, 256QAM
HW Version	1.0
SW Version	4.1.0.22
EUT Stage	Identical Prototype

Reviewed by: Jason Wang

Report Producer: Carlie Tsai

## 2. Maximum RF average output power among production units

Mode	Maximum Bust power (dBm)	
	Per chain	Total
LTE	Band 48	35.3 38.31



### 3. 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 75 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



## 4. Radio Frequency Radiation Exposure Evaluation

### 4.1. Power Density Calculation

Band	Frequency (MHz)	Antenna Gain (dBi)	Maximum Burst Power (dBm)	<sup>(1)</sup> Maximum Source Base Time Average EIRP (dBm)	Maximum Source Base Time Average EIRP (mW)	Power Density at 75cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
LTE Band 48	3550	13.00	38.31	46.31	42756.29	0.605	1.000

**General Note:**

1. According to 3GPP 36.141 section 6.1.1, for E-UTRA TDD, test models are derived based on the uplink/downlink configuration 3 and special subframe configuration 8, and calculate the maximum transmission duty cycle is 31.7% for base station device. And consider in source base time average power to doing power density calculation.
2. As required by Part2.1091(c), time-average effective radiated power applies to power density calculation.

**Conclusion:**

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