RF EXPOSURE EVALUATION REPORT

FCC ID	:	S9GR770
Equipment	:	R770 Access Point
Brand Name	:	RUCKUS
Model Name	:	R770
Marketing Name	:	Ruckus R770
Applicant	:	Ruckus Wireless, Inc. 350 W. Java Dr., Sunnyvale CA 94089 USA
Manufacturer	:	Ruckus Wireless, Inc. 350 W. Java Dr., Sunnyvale CA 94089 USA
Standard	:	47 CFR Part 2.1091

We, SPORTON INTERNATIONAL INC has been evaluated this product in accordance with 47 CFR Part2.1091 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.

The results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Laboratory, the test report shall not be reproduced except in full

Approved by: Cona Huang / Deputy Manager

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Table of Contents

History of this test report

Report No.	Version	Description	Issued Date
FA230524001	Rev. 01	Initial issue of report	Nov. 13, 2023

1. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	R770 Access Point
Brand Name	RUCKUS
Model Name	R770
Marketing Name	Ruckus R770
FCC ID	S9GR770
Wireless Technology and Frequency Range	WLAN 2.4 GHz Band: 2400 MHz ~ 2483.5 MHz WLAN 5.2 GHz Band: 5150 MHz ~ 5250 MHz WLAN 5.3 GHz Band: 5250 MHz ~ 5350 MHz WLAN 5.6 GHz Band: 5470 MHz ~ 5725 MHz WLAN 5.8 GHz Band: 5725 MHz ~ 5850 MHz WLAN 6E: 5925 MHz ~ 6425 MHz, 6425 MHz ~ 6525 MHz, 6525 MHz ~ 6875 MHz, 6875 MHz ~ 7125 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz Zigbee: 2400 MHz ~ 2483.5 MHz
Mode	WLAN: 802.11a/b/g/n/ac/ax/be HT20/HT40/VHT20/VHT40/VHT80/VHT160/HE20/HE40/HE80/HE160/EHT20/EHT40/EHT80/EHT160/EHT320 Bluetooth LE Zigbee: BPSK

Reviewed by: Jason Wang

Report Producer: Daisy Peng

2. Maximum RF average output power among production units

Band	Tune-up Limit (dBm)
Bluetooth	20.46
Zigbee	20.03
WLAN 2.4GHz	26.79
WLAN 5GHz	28.75
WLAN 6GHz	22.81

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^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/f2)	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/f2)	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

4. Radio Frequency Radiation Exposure Evaluation

4.1. Standalone Power Density Calculation

Band	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 / Limit
WLAN2.4GHz Band	2.20	26.79	28.99	0.79	792.50	0.158	1.000	0.158
WLAN5GHz Band	3.60	28.75	32.35	1.72	1717.91	0.342	1.000	0.342
WLAN6GHz Band	4.10	22.81	26.91	0.49	490.91	0.098	1.000	0.098
Bluetooth	1.80	20.46	22.26	0.17	168.27	0.033	1.000	0.033
Zigbee	1.80	20.03	21.83	0.15	152.41	0.030	1.000	0.030

4.2. Collocated Power Density Calculation

<WLAN 2.4G+WLAN 5G+WLAN 6G+BT>

WLAN 2.4GHz Power Density / Limit	WLAN 5GHz Power Density / Limit	WLAN 6GHz Power Density / Limit	Bluetooth Power Density / Limit	Σ(Power Density / Limit) of WLAN 2.4G+WLAN 5G+WLAN 6G+BT
0.158	0.342	0.098	0.033	0.631

<ZigBee +WLAN 2.4G+WLAN 5G+WLAN 6G>

ZigBee Power Density / Limit	WLAN 2.4GHz Power Density / Limit	WLAN 5GHz Power Density / Limit	WLAN 6GHz Power Density / Limit	Σ(Power Density / Limit) of ZigBee +WLAN 2.4G+WLAN 5G+WLAN 6G
0.030	0.158	0.342	0.098	0.628

Note:

1. Σ(Power Density / Limit): This is a summation of [(power density for each transmitter/antenna included in the simultaneous transmission)/ (corresponding MPE limit)], for WLAN 2.4G+WLAN 5G+WLAN 6G+BT and ZigBee +WLAN 2.4G+WLAN 5G+WLAN 6G.
2. Considering the WLAN module collocation with the ZigBee and Bluetooth transmitter of the EIRP performance listed in the table above, the aggregated (power density /limit) is smaller than 1, and MPE of 4 collocated transmitters is compliant

Conclusion:

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