




FCC RADIO EXPOSURE TEST REPORT

FCC ID : S9GT350D
Equipment : Access point
Brand Name : RUCKUS
Model Name : T350d
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

The product was received on Dec. 28, 2020, and testing was started from Dec. 30, 2020 and completed on Jan. 28, 2021. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in 47 CFR Part 2.1091 and shown compliance with the applicable technical standards.

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


Approved by: Sam Chen

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
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History of this test report

Report No.	Version	Description	Issued Date
FA091815	01	Initial issue of report	Feb. 26, 2021



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
2	-	Exposure evaluation	PASS	-

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: **Sam Chen**

Report Producer: **Sandy Chuang**



1 General Description

1.1 EUT General Information

RF General Information			
Evaluation Mode	Frequency Range (MHz)	Operating Frequency (MHz)	Modulation Type
2.4GHz WLAN	2400-2483.5	2412-2462	802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11g/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) VHT: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM) 802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
5GHz WLAN	5150-5250 5250-5350 5470-5725 5725-5850	5180-5240 5260-5320 5500-5720 5745-5825	802.11a/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM) 802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
Bluetooth	2400-2483.5	2402-2478	LE: GFSK
Zigbee	2400-2483.5	2405-2475	O-QPSK



1.2 Antenna Information

Ant.	Port	Brand	Model Name	Antenna Type	Connector	Gain (dBi)		
						WLAN 2.4GHz	WLAN 5GHz	Bluetooth/ Zigbee
1	1	RUCKUS	Corzar / Izar (Vertical)	PCB	I-PEX	2.4	3.2	-
2	2	RUCKUS	Procyon (Horizontal)	PCB	I-PEX	2.1	3.2	-
3	1	RUCKUS	Stamped IFA	PIFA	I-PEX	-	-	0.3

Note: The above information was declared by manufacturer.

For WLAN 2.4GHz Function:

For IEEE 802.11b/g/n/VHT/ax (2TX/2RX):

Port 1 and Port 2 can be used as transmitting/receiving antenna.

Port 1 and Port 2 could transmit/receive simultaneously.

For WLAN 5GHz Function:

For IEEE 802.11a/n/ac/ax (2TX/2RX):

Port 1 and Port 2 can be used as transmitting/receiving antenna.

Port 1 and Port 2 could transmit/receive simultaneously.

For Bluetooth Function (1TX/1RX)

Only Port 1 can be used as transmitting/receiving.

For Zigbee Function (1TX/1RX)

Only Port 1 can be used as transmitting/receiving.

1.3 Accessories

N/A

1.4 Testing Location

Testing Location		
<input type="checkbox"/>	HWA YA	ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL : 886-3-327-3456 FAX : 886-3-327-0973
<input checked="" type="checkbox"/>	JHUBEI	ADD : No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302, Taiwan (R.O.C.) TEL : 886-3-656-9065 FAX : 886-3-656-9085

Test site Designation No. TW0006 with FCC.

Test site registered number IC 4086D with Industry Canada.



2 Maximum Permissible Exposure

2.1 Limit of Maximum Permissible Exposure

(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 ²)	Averaging Time E ² , H ² 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 ²)	Averaging Time E ² , H ² 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

2.2 MPE Calculation Method

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

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



2.3 Calculated Result and Limit

Exposure Environment: General Population / Uncontrolled Exposure

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)
2.4G;G1D	2.40	27.07	29.47	0.50	29.97	0.99312	20	0.19757	1.00000
5.2G;D1D	3.20	25.81	29.01	0.50	29.51	0.89331	20	0.17772	1.00000
5.3G;D1D	3.20	23.95	27.15	0.50	27.65	0.58210	20	0.11581	1.00000
5.6G;D1D	3.20	23.96	27.16	0.50	27.66	0.58345	20	0.11607	1.00000
5.8G;D1D	3.20	26.78	29.98	0.50	30.48	1.11686	20	0.22219	1.00000
2.4G;BT-LE	0.30	19.24	19.54	0.50	20.04	0.10093	20	0.02008	1.00000
2.4G;zigbee	0.30	19.02	19.32	0.50	19.82	0.09594	20	0.01909	1.00000

Simultaneous Transmission Analysis Mode:

WLAN 2.4GHz + WLAN 5GHz + Bluetooth + Zigbee

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)	Ratio (S/Limit)
2.4G;G1D	2.40	27.07	29.47	0.50	29.97	0.99312	20	0.19757	1.00000	0.19757
5.8G;D1D	3.20	26.78	29.98	0.50	30.48	1.11686	20	0.22219	1.00000	0.22219
2.4G;BT-LE	0.30	19.24	19.54	0.50	20.04	0.10093	20	0.02008	1.00000	0.02008
2.4G;G1D	0.30	19.02	19.32	0.50	19.82	0.09594	20	0.01909	1.00000	0.01909
									Sum Ratio	0.45893
									Ratio Limit	1

Note: The above antenna gain was declared by manufacturer.

—————THE END—————