



RADIO EXPOSURE TEST REPORT

FCC ID : S9GT350SE
Equipment : Access point
Brand Name : RUCKUS
Model Name : T350se
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 Jul. 21, 2021, and testing was started from Jul. 23, 2021 and completed on Aug. 13, 2021. We, Sporton International Inc. Hsinchu 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. Hsinchu Laboratory, the test report shall not be reproduced except in full.

Approved by: Sam Chen

Sporton International Inc. Hsinchu Laboratory
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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: **Wendy Pan**



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)



1.2 Antenna Information

Ant.	Port	Brand	Model Name	Antenna Type	Connector	Internal Antenna Gain (dBi)	
						WLAN 2.4GHz	WLAN 5GHz
1	1	RUCKUS	N/A	PCB	I-PEX	6	8
2	2	RUCKUS	N/A	PCB	I-PEX	6	8

Note 1: For Internal antenna has four cross combinations (Horizontal/Vertical, Horizontal/Horizontal, Vertical/Horizontal and Vertical/Vertical).

Ant.	Port	Brand	Model Name	Antenna Type	Connector	External Antenna Gain (dBi)	
						WLAN 2.4GHz	WLAN 5GHz
1	1, 2	Laird	PDM245115H0	MIMO	N-type	Note2	
2	1, 2	COMMS COPE	AT-2101-DP	MIMO	N-type		
3	1, 2	COMMS COPE	AT-2401-DP	MIMO	N-type		

Note 2:

Ant.	Port	Antenna Polarization and External Antenna Gain (dBi)			
		WLAN 2.4GHz	WLAN 5GHz		
		Vertical/Horizontal	Vertical/Horizontal	Vertical	Horizontal
1	1, 2	14	14.5	-	-
2	1, 2	-	21	-	-
3	1, 2	-	-	24.5	23.5

Note3: The above information was declared by manufacturer.

The EUT has two types of antenna. Only the highest gain antenna was selected from each different types of antenna to test and record in this report.

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.



1.3 Accessories

N/A

1.4 Testing Location

Testing Location Information	
Test Lab. : Sporton International Inc. Hsinchu Laboratory	
Hsinchu	ADD: No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)
(TAF: 3787)	TEL: 886-3-656-9065 FAX: 886-3-656-9085
	Test site Designation No. TW3787 with FCC.
	Conformity Assessment Body Identifier (CABID) TW3787 with ISED.



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 ²)	<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 ²)	<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 for Internal antenna at 20 cm and External antenna at 26 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

For Internal Antenna:

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	6.00	26.05	32.05	0.50	32.55	1.79887	20	0.35787	1.00000
5.2G;D1D	8.00	25.32	33.32	0.50	33.82	2.40991	20	0.47942	1.00000
5.3G;D1D	8.00	21.48	29.48	0.50	29.98	0.99541	20	0.19803	1.00000
5.6G;D1D	8.00	21.85	29.85	0.14	29.99	0.99770	20	0.19849	1.00000
5.8G;D1D	8.00	26.05	34.05	0.50	34.55	2.85102	20	0.56719	1.00000

Simultaneous Transmission Analysis Mode: WLAN 2.4GHz+WLAN 5GHz

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	6.00	26.05	32.05	0.50	32.55	1.79887	20	0.35787	1.00000	0.35787
5.8G;D1D	8.00	26.05	34.05	0.50	34.55	2.85102	20	0.56719	1.00000	0.56719
									Sum Ratio	0.92506
									Ratio Limit	1

For External Antenna:

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;D1D	14.00	21.88	35.88	0.11	35.99	3.97192	26	0.46757	1.00000
5.2G;D1D	24.50	11.37	35.87	0.12	35.99	3.97192	26	0.46757	1.00000
5.3G;D1D	24.50	5.45	29.95	0.04	29.99	0.99770	26	0.11745	1.00000
5.6G;D1D	24.50	5.45	29.95	0.04	29.99	0.99770	26	0.11745	1.00000
5.8G;D1D	24.50	11.47	35.97	0.02	35.99	3.97192	26	0.46757	1.00000

Simultaneous Transmission Analysis Mode: WLAN 2.4GHz+WLAN 5GHz

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;D1D	14.00	21.88	35.88	0.11	35.99	3.97192	26	0.46757	1.00000	0.46757
5.8G;D1D	24.50	11.47	35.97	0.02	35.99	3.97192	26	0.46757	1.00000	0.46757
									Sum Ratio	0.93514
									Ratio Limit	1

Note: The above antenna gain was declared by manufacturer.

—————THE END—————