



FCC RADIO EXPOSURE TEST REPORT

FCC ID : S9GT750
Equipment : Access point
Brand Name : RUCKUS
Model Name : T750SE
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 Jun. 30, 2020, and testing was started from Jun. 30, 2020 and completed on Aug. 24, 2020. 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 variant 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: Cliff Chang

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



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Photographs of EUT v01



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: Vicky Huang



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) 802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM)
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)
Bluetooth	2400-2483.5	2402-2480	LE: GFSK
Zigbee	2400-2483.5	2405-2480	O-QPSK: 250kbps

1.2 Table for Class II Change

This product is an extension of original one reported under Sporton project number: 971655

Below is the table for the change of the product with respect to the original one.

Modifications	Performance Checking
Add a new model "T750SE", which change the internal antenna, add the external antenna and add 160MHz.	MPE

Note: The MPE result of Bluetooth and Zigbee were based on the original report.

1.3 Testing Location

Testing Location		
☐	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
☒	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

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 26 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

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

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

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



2.3 Calculated Result and Limit

Exposure Environment: General Population / Uncontrolled Exposure

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;G1D	17.01	18.97	35.98	0.01	35.99	3.97192	26	0.46756	1.00000
5.2G;D1D	17.51	18.44	35.95	0.04	35.99	3.97192	26	0.46756	1.00000
5.3G;D1D	17.51	12.32	29.83	0.16	29.99	0.99770	26	0.11744	1.00000
5.6G;D1D	17.51	12.43	29.94	0.05	29.99	0.99770	26	0.11744	1.00000
5.8G;D1D	14.50	21.47	35.97	0.02	35.99	3.97192	26	0.46756	1.00000
BT	1.00	18.60	19.60	0.50	20.10	0.10233	26	0.01205	1.00000
Zigbee	1.00	18.86	19.86	0.15	20.01	0.10023	26	0.01180	1.00000

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	9.01	26.62	35.63	0.36	35.99	3.97192	26	0.46756	1.00000
5.2G;D1D	11.01	24.97	35.98	0.01	35.99	3.97192	26	0.46756	1.00000
5.3G;D1D	8.00	21.95	29.95	0.04	29.99	0.99770	26	0.11744	1.00000
5.6G;D1D	8.00	21.96	29.96	0.03	29.99	0.99770	26	0.11744	1.00000
5.8G;D1D	11.01	24.90	35.91	0.08	35.99	3.97192	26	0.46756	1.00000
BT	1.00	18.60	19.60	0.50	20.10	0.10233	26	0.01205	1.00000
Zigbee	1.00	18.86	19.86	0.15	20.01	0.10023	26	0.01180	1.00000

Simultaneous Transmission Analysis Mode: External antenna-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	14.00	21.93	35.93	0.06	35.99	3.97192	26	0.46756	1.00000	0.46756
5.8G;D1D	17.51	18.44	35.95	0.04	35.99	3.97192	26	0.46756	1.00000	0.46756
BT	1.00	18.60	19.60	0.50	20.10	0.10233	26	0.01205	1.00000	0.01205
Zigbee	1.00	18.86	19.86	0.50	20.36	0.10864	26	0.01279	1.00000	0.01279
									Sum Ratio	0.95996
									Ratio Limit	1



Simultaneous Transmission Analysis Mode: Internal antenna-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	9.01	26.62	35.63	0.36	35.99	3.97192	26	0.46756	1.00000	0.46756
5.8G;D1D	11.01	24.97	35.98	0.01	35.99	3.97192	26	0.46756	1.00000	0.46756
BT-LE	1.00	18.60	19.60	0.50	20.10	0.10233	26	0.01205	1.00000	0.01205
Zigbee	1.00	18.86	19.86	0.50	20.36	0.10864	26	0.01279	1.00000	0.01279
									Sum Ratio	0.95996
									Ratio Limit	1

Note: The above antenna gain was declared by manufacturer.

————THE END————