



RADIO EXPOSURE TEST REPORT

FCC ID : N89-RAP750EV1

Equipment : BE5000 Wireless Dual Band Outdoor Wall Mount
Access Point

Brand Name : SonicFi

Model Name : RAP750E-H, RAP750E-S

Applicant : CyberTAN Technology Inc.
No. 99, Park Avenue III Science-based Industrial
Park Hsinchu Taiwan 308

Manufacturer : CyberTAN Technology Inc.
No. 99, Park Avenue III Science-based Industrial
Park Hsinchu Taiwan 308

Standard : 47 CFR Part 2.1091

The product was received on Sep. 22, 2025, and testing was started from Sep. 22, 2025 and completed on Nov. 28, 2025. 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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History of this test report

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Summary of Test Result

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

Conformity Assessment Condition:

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacture who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the chapter "Measurement Uncertainty".

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

Reviewed by: Sam Chen

Report Producer: Muse Chan



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, 1024QAM) 802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM) 802.11be: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM, 4096QAM)
5GHz WLAN	5150-5250 5250-5350 5470-5725 5725-5850	5180-5250 5250-5320 5500-5720 5745-5825	802.11a/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM) 802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM) 802.11be: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM, 4096QAM)
Bluetooth	2400-2483.5	2402-2480	LE: GFSK



1.2 Antenna Information

For EUT 1:

Ant.	Port			Brand Name	Model Name	Antenna Type	Connector	Gain (dBi)
	WLAN 2.4GHz	WLAN 5GHz	Bluetooth					
1	1	-	-	Airgain	AP01CBARA	PCB	I-PEX	Note 1
2	2	-	-	Airgain	AP01CBARA	PCB	I-PEX	
3	-	1	-	GALTRONICS	02102142-07899	PCB	I-PEX	
4	-	2	-	GALTRONICS	02102142-07899	PCB	I-PEX	
5	-	-	1	GALTRONICS	02036073-08188	Metal	N/A	

Note 1:

Ant.	Antenna Gain (dBi)							
	WLAN 2.4GHz			WLAN 5GHz				Bluetooth
	2.4G	2.45G	2.4835G	5.2G	5.3G	5.6G	5.785G	
1	8.06	8.25	8.60	-	-	-	-	-
2	7.39	8.33	8.98	-	-	-	-	-
3	-	-	-	8.30	8.30	8.64	8.19	-
4	-	-	-	9.13	8.62	9.45	9.53	-
5	-	-	-	-	-	-	-	2.32

Directional gain (dBi)							
Item	WLAN 2.4GHz			WLAN 5GHz			
	2.4G	2.45G	2.4835G	5.2G	5.3G	5.6G	5.785G
2T1S	8.24	9.21	9.23	9.97	9.56	10.58	10.92
2T2S	8.06	8.33	8.98	9.13	8.62	9.45	9.53

Note 2: The above information (excepting Ant. 1~4 antenna gain and directional gain) was declared by manufacturer.

For 2.4GHz function:

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

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

Port 1~2 could transmit/receive simultaneously.

For 5GHz function:

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

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

Port 1~2 could transmit/receive simultaneously.

For Bluetooth function (1TX/1RX):

Only Port 1 can be used as transmitting/receiving antenna.



For EUT 2:

Ant.	Port			Brand Name	Model Name	Antenna Type	Connector	Gain (dBi)
	WLAN 2.4GHz	WLAN 5GHz	Bluetooth					
1	1	1	-	INPAQ	RFDPA161500SBLB813	Dipole	Reversed-SMA	Note 1
2	2	2	-	INPAQ	RFDPA161500SBLB813	Dipole	Reversed-SMA	
3	-	-	1	GALTRONICS	02036073-08188	Metal	N/A	

Note 1:

Ant.	Antenna Gain (dBi)					
	WLAN 2.4GHz	WLAN 5GHz				Bluetooth
		UNII 1	UNII 2A	UNII 2C	UNII 3	
1	5.2	6.44	7.18	6.61	5.53	-
2	5.2	6.44	7.18	6.61	5.53	-
3	-	-	-	-	-	2.32

Ant.	Cable loss (dB)					
	WLAN 2.4GHz	WLAN 5GHz				Bluetooth
		UNII 1	UNII 2A	UNII 2C	UNII 3	
1	1	1	1	1	1	-
2	1	1	1	1	1	-

Ant.	Net Gain (dBi)					
	WLAN 2.4GHz	WLAN 5GHz				Bluetooth
		UNII 1	UNII 2A	UNII 2C	UNII 3	
1	4.2	5.44	6.18	5.61	4.53	-
2	4.2	5.44	6.18	5.61	4.53	-

Note 2: The above information was declared by manufacturer.

Note 3: Directional gain information

Type	Maximum Output Power	Power Spectral Density
Non-BF	Directional gain = Max.gain + array gain. For power measurements on IEEE 802.11 devices Array Gain = 0 dB (i.e., no array gain) for N ANT ≤ 4	$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ANT}} \left[\sum_{k=1}^{N_{ANT}} S_{j,k} \right]^2}{N_{ANT}} \right]$
BF	$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ANT}} \left[\sum_{k=1}^{N_{ANT}} S_{j,k} \right]^2}{N_{ANT}} \right]$	$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ANT}} \left[\sum_{k=1}^{N_{ANT}} S_{j,k} \right]^2}{N_{ANT}} \right]$

Ex.

Directional Gain (NSS1) formula :

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ANT}} \left[\sum_{k=1}^{N_{ANT}} S_{j,k} \right]^2}{N_{ANT}} \right]$$

$$NSS1(g1,1) = 10^{G1/20} ; NSS1(g1,2) = 10^{G2/20} ; NSS1(g1,3) = 10^{G3/20} ; NSS1(g1,4) = 10^{G4/20}$$

$$g_{j,k} = (NSS1(g1,1) + NSS1(g1,2) + NSS1(g1,3) + NSS1(g1,4))^2$$

$$DG = 10 \log[(NSS1(g1,1) + NSS1(g1,2) + NSS1(g1,3) + NSS1(g1,4))^2 / N_{ANT}] \Rightarrow 10$$

$$\log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2 / N_{ANT}]$$

Where ;

$$2.4G \ G1 = 4.2 \text{ dBi} ; G2 = 4.2 \text{ dBi} ; DG = 7.21 \text{ dBi}$$

$$5G \text{ UNII-1} \ G1 = 5.44 \text{ dBi} ; G2 = 5.44 \text{ dBi} ; DG = 8.45 \text{ dBi}$$

$$5G \text{ UNII-2A} \ G1 = 6.18 \text{ dBi} ; G2 = 6.18 \text{ dBi} ; DG = 9.19 \text{ dBi}$$

$$5G \text{ UNII-2C} \ G1 = 5.61 \text{ dBi} ; G2 = 5.61 \text{ dBi} ; DG = 8.62 \text{ dBi}$$

$$5G \text{ UNII-3} \ G1 = 4.53 \text{ dBi} ; G2 = 4.53 \text{ dBi} ; DG = 7.54 \text{ dBi}$$

For 2.4GHz function:

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

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

Port 1~2 could transmit/receive simultaneously.

For 5GHz function:

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

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

Port 1~2 could transmit/receive simultaneously.

For Bluetooth function (1TX/1RX):

Only Port 1 can be used as transmitting/receiving antenna.



1.3 Table for Radio function

Radio \ Function	WLAN 2.4GHz	WLAN 5GHz	Bluetooth
1	V	V	-
2	-	-	V

Note: The above information was declared by manufacturer.

1.4 Table for Multiple Listing

The model names in the following table are all refer to the identical product.

EUT	Model	WLAN 2.4/5GHz Antenna	SMA to IPEX cable	Component (0ohm (0201))	Component 49.9ohm (0201)
1	RAP750E-S	Internal antenna	Without	Quantity: 2 Location: CR185, CR52	Quantity: 2 Location: CR393, CR394
2	RAP750E-H	External antenna	With	Quantity: 4 Location: CR186, CR183, CR51, CR184	Without

Note: The above information was declared by manufacturer.

1.5 Accessories

Accessories
Grounding Wire*1: Shielded, 0.35m
Wall Bracket 1*1
Wall Bracket 2*1
Sealing Collar*1

Note: Wall Bracket 1 is for EUT 1 used only and Wall Bracket 2 is for EUT 2 used only.

1.6 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 ISCED.



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 at 26 cm for EUT 1 and 23 cm for EUT 2 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 EUT 1:

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)	Ratio (S/Limit)
2.4G;G1D	8.98	26.77	35.75	0.24	35.99	26	0.46757	1.00000	0.46757
5.2G;D1D	9.97	25.35	35.32	0.50	35.82	26	0.44962	1.00000	0.44962
5.3G;D1D	9.56	19.83	29.39	0.50	29.89	26	0.11477	1.00000	0.11477
5.6G;D1D	10.58	19.38	29.96	0.01	29.97	26	0.11691	1.00000	0.11691
5.8G;D1D	10.92	25.06	35.98	0.01	35.99	26	0.46757	1.00000	0.46757
2.4G;BT-LE	2.32	8.56	10.88	0.50	11.38	26	0.00162	1.00000	0.00162

For EUT 2:

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)	Ratio (S/Limit)
2.4G;D1D	7.21	26.33	33.54	0.50	34.04	23	0.38136	1.00000	0.38136
5.2G;D1D	8.45	23.91	32.36	0.50	32.86	23	0.29063	1.00000	0.29063
5.3G;D1D	9.19	20.59	29.78	0.19	29.97	23	0.14939	1.00000	0.14939
5.6G;D1D	8.62	21.34	29.96	0.01	29.97	23	0.14939	1.00000	0.14939
5.8G;D1D	7.54	28.21	35.75	0.24	35.99	23	0.59750	1.00000	0.5975
2.4G;BT-LE	2.32	8.56	10.88	0.50	11.38	23	0.00207	1.00000	0.00207

**Simultaneous Transmission Analysis Mode:**

Test Mode 1: EUT 1 + WLAN 2.4GHz + WLAN 5GHz + Bluetooth

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)	Ratio (S/Limit)
2.4G;G1D	8.98	26.77	35.75	0.24	35.99	26	0.46757	1.00000	0.46757
5.8G;D1D	10.92	25.06	35.98	0.01	35.99	26	0.46757	1.00000	0.46757
2.4G;BT-LE	2.32	8.56	10.88	0.50	11.38	26	0.00162	1.00000	0.00162
Sum S/Limit Ratio	0.93676								
Ratio Limit	1								

Test Mode 2: EUT 2 + WLAN 2.4GHz + WLAN 5GHz + Bluetooth

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)	Ratio (S/Limit)
2.4G;D1D	7.21	26.33	33.54	0.50	34.04	23	0.38136	1.00000	0.38136
5.8G;D1D	7.54	28.21	35.75	0.24	35.99	23	0.59750	1.00000	0.5975
2.4G;BT-LE	2.32	8.56	10.88	0.50	11.38	23	0.00207	1.00000	0.00207
Sum S/Limit Ratio	0.98093								
Ratio Limit	1								

—————THE END—————