



RADIO EXPOSURE TEST REPORT

FCC ID : HEDOAP103
Equipment : Outdoor Access Point
Brand Name : Edgecore
Model Name : OAP103
Applicant : Accton Technology Corporation
No. 1, Zhihui 1st Rd., Zhubei City , Hsinchu County 302 Taiwan
Manufacturer : Accton Technology Corporation
No. 1, Zhihui 1st Rd., Zhubei City , Hsinchu County 302 Taiwan
Standard : 47 CFR Part 2.1091

The product was received on Mar. 12, 2025, and testing was started from Mar. 20, 2025 and completed on May 21, 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

No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)



Table of Contents

History of this test report.....	3
Summary of Test Result.....	4
1 General Description	5
1.1 EUT General Information	5
1.2 Antenna Information	5
1.3 Accessories	7
1.4 Testing Location	7
2 Maximum Permissible Exposure	8
2.1 Limit of Maximum Permissible Exposure	8
2.2 MPE Calculation Method	8
2.3 Calculated Result and Limit.....	9

Photographs of EUT v01



History of this test report

TEL : 886-3-656-9065
FAX : 886-3-656-9085
Report Template No.: CB-A1_1 Ver1.1

Page Number : 3 of 9
Issued Date : Jun. 09, 2025
Report Version : 01



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)
5GHz WLAN	5150-5250 5250-5350 5470-5725 5725-5850	5180-5240 5260-5320 5500-5700 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)
Bluetooth	2400-2483.5	2402-2480	LE: GFSK

1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	ACCTON Technology Corporation	120G00000256A	PCB	I-PEX	Note 1
2	ACCTON Technology Corporation	120G00000257A	PCB	I-PEX	
3	ACCTON Technology Corporation	120G00000258A	PCB	I-PEX	
4	ACCTON Technology Corporation	120G00000259A	PCB	I-PEX	

Note1:

Ant.	Port	Gain (dBi)		
		Bluetooth	2.4GHz	5GHz
1	1	-	5.53	6.90
2	2	-	5.74	6.87
3	4	5.13	-	6.25
4	3	-	-	6.21

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 $N_{ANT} \leq 4$	$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ANT}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right]$
BF	$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ANT}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right]$	$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ANT}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right]$

Ex.

Directional Gain (NSS1) formula :

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

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

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

$$DG = 10 \log[(NSS1(g1,1) + NSS1(g1,2) + NSS1(g1,3) + NSS1(g1,4))^2 / N_{ANT}] \Rightarrow 10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2 / N_{ANT}]$$

Where ;

$$2.4G \ G1 = 5.53 \text{ dBi} ; G2 = 5.74 \text{ dBi} ;$$

$$5G \text{ UNII-1} \ G1 = 6.90 \text{ dBi} ; G2 = 6.87 \text{ dBi} ; G3 = 6.25 \text{ dBi} ; G4 = 6.21 \text{ dBi}$$

$$5G \text{ UNII-2A} \ G1 = 6.90 \text{ dBi} ; G2 = 6.87 \text{ dBi} ; G3 = 6.25 \text{ dBi} ; G4 = 6.21 \text{ dBi}$$

$$5G \text{ UNII-2C} \ G1 = 6.90 \text{ dBi} ; G2 = 6.87 \text{ dBi} ; G3 = 6.25 \text{ dBi} ; G4 = 6.21 \text{ dBi}$$

$$5G \text{ UNII-3} \ G1 = 6.90 \text{ dBi} ; G2 = 6.87 \text{ dBi} ; G3 = 6.25 \text{ dBi} ; G4 = 6.21 \text{ dBi}$$

$$2.4G \ DG = 8.65 \text{ dBi}$$

$$5G \text{ UNII-1} \ DG = 12.58 \text{ dBi}$$

$$5G \text{ UNII-2A} \ DG = 12.58 \text{ dBi}$$

$$5G \text{ UNII-2C} \ DG = 12.58 \text{ dBi}$$

$$5G \text{ UNII-3} \ DG = 12.58 \text{ dBi}$$

Note 4: **For WLAN 2.4GHz function:**

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

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

Port 1 and Port 2 could transmit/receive simultaneously.

For WLAN 5GHz function:

For IEEE 802.11a/n/ac/ax mode (4TX/4RX):

Port 1~4 can be use as transmitting/receiving antenna.

Port 1~4 could transmit/receive simultaneously

For Bluetooth function:

For Bluetooth mode (1TX/1RX):

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



1.3 Accessories

Others
Sealing Collar*2
Pole mounting kit*1
Wall mounting kit*1
Steel hose clamp*2
RJ-45 cable*2: Shielded, 0.26m (Installed inside the EUT)

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 at 23 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d}$$

$$\text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

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)	EIRP (W)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)	Ratio (S/Limit)
2.4G;BT-LE	5.13	5.70	10.83	0.50	11.33	0.01358	23	0.00204	1.00000	0.00204
2.4G;D1D	8.65	24.91	33.56	0.50	34.06	2.54683	23	0.38311	1.00000	0.38311
5.2G;D1D	6.90	21.72	28.62	0.50	29.12	0.81658	23	0.12284	1.00000	0.12284
5.3G;D1D	12.58	17.00	29.58	0.39	29.97	0.99312	23	0.14939	1.00000	0.14939
5.6G;D1D	12.58	17.20	29.78	0.19	29.97	0.99312	23	0.14939	1.00000	0.14939
5.8G;D1D	6.90	29.07	35.97	0.02	35.99	3.97192	23	0.59748	1.00000	0.59748

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

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	EIRP (W)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)	Ratio (S/Limit)
2.4G;BT-LE	5.13	5.70	10.83	0.50	11.33	0.01358	23	0.00204	1.00000	0.00204
2.4G;D1D	8.65	24.91	33.56	0.50	34.06	2.54683	23	0.38311	1.00000	0.38311
5.8G;D1D	6.90	29.07	35.97	0.02	35.99	3.97192	23	0.59748	1.00000	0.59748
Sum Ratio	0.98263									
Ratio Limit	1									

—————THE END—————