



FCC RADIO EXPOSURE TEST REPORT

FCC ID : HEDML10G360
Equipment : MetroLinq 10G Tri-band Omni
Brand Name : IgniteNet
Model Name : ML-60-10G-360
Applicant : Accton Technology Corp
No. 1, Creation Rd. III, Science-based Industrial
Park Hsin Chu 30077, Taiwan R.O.C.
Manufacturer : Accton Technology Corp
No. 1, Creation Rd. III, Science-based Industrial
Park Hsin Chu 30077, Taiwan R.O.C.
Standard : 47 CFR Part 2.1091

The product was received on Aug. 19, 2019, and testing was started from Aug. 23, 2019 and completed on Aug. 26, 2019. 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 report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

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: Sam Chen

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



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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: **Emily Chen**



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)
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)
60GHz	57-71 GHz	Channel: 58.32 GHz Channel: 60.48 GHz Channel: 62.64 GHz Channel: 64.80 GHz	$\pi/2 - BPSK, \pi/2 - QPSK, \pi/2 - 16QAM$

Note: The device contains three 60GHz approval module. (FCC ID: HEDML60PRS4601)

1.2 Table for Class II Change

This product is an extension of original one reported under Sporton project number: FA7D2701-01

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

Modifications	Performance Checking
Adding Band 2 and Band 3 (5250~5350 MHz, 5470~5725 MHz) for this device.	Maximum Permissible Exposure

Note: The test results of 2.4GHz / 5GHz Band1, Band 4 were based on original test report.

1.3 Testing Location

Testing Location		
<input type="checkbox"/>	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
<input checked="" type="checkbox"/>	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 34 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;D1D	8.90	27.08	35.98	0.02	36.00	3.98107	34	0.27419	1.00000
5.2G;D1D	11.30	24.50	35.80	0.20	36.00	3.98107	34	0.27419	1.00000
5.3G;D1D	8.80	21.17	29.97	0.02	29.99	0.99770	20	0.19849	1.00000
5.6G;D1D	8.10	21.89	29.99	0.00	29.99	0.99770	20	0.19849	1.00000
5.8G;D1D	6.70	29.20	35.90	0.10	36.00	3.98107	34	0.27419	1.00000
60G;D1D (58.32GHz)	17.2	13.46	30.66	2.00	32.66	1.84502	34	0.12707	1.00000
60G;D1D (60.48GHz)	17.2	13.66	30.86	2.00	32.86	1.93197	34	0.13306	1.00000
60G;D1D (62.64GHz)	17.2	13.50	30.70	2.00	32.70	1.86209	34	0.12824	1.00000
60G;D1D (64.80GHz)	17.2	13.66	30.86	2.00	32.86	1.93197	34	0.13306	1.00000

WLAN 2.4GHz+WLAN 5GHz+60GHz module 1+60GHz module 2+60GHz module 3

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	8.90	27.08	35.98	0.02	36.00	3.98107	34	0.27419	1	0.27419
5.8G;D1D	6.70	29.20	35.90	0.10	36.00	3.98107	34	0.27419	1	0.27419
60G	17.20	13.66	30.86	2.00	32.86	1.93197	34	0.13306	1	0.13306
60G	17.20	13.66	30.86	2.00	32.86	1.93197	34	0.13306	1	0.13306
60G	17.20	13.66	30.86	2.00	32.86	1.93197	34	0.13306	1	0.13306
									Sum Ratio	0.94756
									Ratio Limit	1

Note: The above antenna gain was declared by manufacturer.

————THE END————