



RF Exposure Evaluation Report

Equipment : MetroLinq 10G Tri-band Omni
Brand Name : IgniteNet
Model No. : ML-60-10G-360
FCC ID : HEDML10G360
Standard : 47 CFR Part 2.1091
Applicant : Accton Technology Corp
No. 1, Creation Rd. III, Science-based Industrial Park
Hsin Chu 30077, Taiwan R.O.C.
Manufacturer (1) : Joy Technology (Shen Zhen) Co. Ltd
HengKeng Ind., Shangpai, Shangwu, Aiqun Rd.,
Shiyan Town, Shenzhen 518108 China
Manufacturer (2) : Accton Technology Corporation
No. 1, Creation Rd. III, Science-based Industrial Park
Hsin Chu 30077, Taiwan R.O.C.

The product sample received on Jan. 15, 2018 and completely tested on Feb. 14, 2018. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with 47 CFR Part 2.1091 and pass the limit.

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Sam Chen
SPORTON INTERNATIONAL INC.





TABLE OF CONTENTS

1 GENERAL DESCRIPTION4

1.1 EUT General Information4

1.2 Testing Location4

2 MAXIMUM PERMISSIBLE EXPOSURE5

2.1 Limit of Maximum Permissible Exposure5

2.2 MPE Calculation Method5

2.3 Calculated Result and Limit6

PHOTOGRAPHS OF EUT V01



REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA7D2701-01	Rev. 01	Initial issue of report	Mar. 12, 2018



1 General Description

1.1 EUT General Information

RF General Information			
Evaluation Mode	Frequency Range	Operating Frequency	Modulation Type
2.4GHz WLAN	2400-2483.5 MHz	2412-2462 MHz	802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11g/n: OFDM (BPSK, QPSK, 16QAM, 64QAM)
5GHz WLAN	5150-5250 MHz 5725-5850 MHz	5180-5240 MHz 5745-5825 MHz	802.11a/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)
60GHz	57-71 GHz	Channel 1: 58.32 GHz Channel 2: 60.48 GHz Channel 3: 62.64 GHz Channel 4: 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 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	35.80/18.53	0.20	36.00	3.98107	34	0.27419	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

Simultaneous Transmission Analysis Mode:

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
5.2G;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