



# RF Exposure Evaluation Report

**Equipment** : MetroInq2.5 Outdoor 60GHz PTP + 5 GHz  
**Brand Name** : IgniteNet  
**Model No.** : ML2.5-60-35 / ML2.5-60-19  
**FCC ID** : HEDML2560  
**Standard** : 47 CFR Part 2.1091  
**Applicant** : Accton Technology Corporation  
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 Aug. 16, 2017 and completely tested on Sep. 25, 2017. 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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Cliff Chang  
SPORTON INTERNATIONAL INC.





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**PHOTOGRAPHS OF EUT V01**



### REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA781526	Rev. 01	Initial issue of report	Sep. 28, 2017
FA781526	Rev. 02	Revising the 60GHz Antenna Gain	Oct. 09, 2017

# 1 General Description

## 1.1 EUT General Information

RF General Information			
Evaluation Mode	Frequency Range (MHz)	Operating Frequency (MHz)	Modulation Type
5GHz WLAN	5150-5250 5725-5850	5180-5240 5745-5825	802.11a/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)

Note 1: This device contains transmitter 60GHz module FCC ID: HED-ML60MDSB.

Note 2: WLAN and 60G work at the same time.

## 1.2 Table for Multiple Listing

The EUT has two model names which are identical to each other in all aspects except for the following table:

Model Name	5GHz/60GHz	Antenna Gain (dBi)			Description	Remark
		5GHz Ban 1	5GHz Band 4	60GHz		
ML2.5-60-35	Internal / Dish Ant.	17.3	20	42	All the EUTs are identical except for the antenna gain and size of the antenna reflective board.	Outdoor use
ML2.5-60-19	Internal / Dish Ant.	9.1	13.4	36		

From the above models, model: ML2.5-60-35 was selected as representative model for the test and its data was recorded in this 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

## 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 <sup>2</sup> )	Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> 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 <sup>2</sup> )	Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> 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 69 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)	EIRP (W)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )
5.2G;D1D	17.30	18.55	35.85	3.84592	58	0.09098	1.00000
5.8G;D1D	20.00	15.93	35.93	3.91742	58	0.09271	1.00000
60G	42.00	5.38	45.81	38.10658	58	0.90189	1.00000

Simultaneous Transmission Analysis Mode: WLAN 5GHz + WLAN 60GHz

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	EIRP (W)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )	Ratio (S/Limit)
5.8G;D1D	20	15.93	35.93	3.91742	58	0.09271	1	0.09271
60G	42	5.38	45.81	38.10658	58	0.90189	1	0.90189
							Sum Ratio	0.9946
							Ratio Limit	1