



RF Exposure Evaluation Report

Equipment : Metroling2.5 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

[illegible]

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	40	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	34		

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		
☐	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
☒	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 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 48 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

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

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	EIRP (W)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)
5.2G;D1D	17.3	18.55	35.85	3.84592	48	0.13290	1.00000
5.8G;D1D	20	15.93	35.93	3.91742	48	0.13537	1.00000
60G	40	3.81	43.81	24.02702	48	0.83028	1.00000

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

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	EIRP (W)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)	Ratio (S/Limit)
5.8G;D1D	20	15.93	35.93	3.91742	48	0.13537	1	0.13537
60G	40	3.81	43.81	24.02702	48	0.83028	1	0.83028
							Sum Ratio	0.96565
							Ratio Limit	1