

RF Exposure Evaluation Report

Equipment : Metroling 60 GHz Module
Brand Name : IgniteNet
Model No. : RDO-60-FB-USBB-18
FCC ID : HED-ML60MDSB
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 : Accton Technology Corporation
No. 1, Creation Rd. III, Science-based Industrial Park
Hsin Chu 30077, Taiwan R.O.C.

The product sample received on Mar. 04, 2016 and completely tested on Aug. 17, 2016. 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.

Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.



Sam Chen
SPORTON INTERNATIONAL INC.





TABLE OF CONTENTS

1	GENERAL DESCRIPTION	4
1.1	EUT General Information	4
1.2	Table for Class II Change.....	4
1.3	Testing Location	4
2	MAXIMUM PERMISSIBLE EXPOSURE	5
2.1	Limit of Maximum Permissible Exposure	5
2.2	MPE Calculation Method	5
2.3	Calculated Result and Limit.....	6

REVISION HISTORY

[illegible]

1 General Description

1.1 EUT General Information

The Channel Plan(s)			
Evaluation Mode	Frequency Range	Operating Frequency	Modulation Type
60GHz	57-64 GHz	58.32 GHz 60.48 GHz 62.64 GHz	$\pi/2 - BPSK, \pi/2 - QPSK, \pi/2 - 16QAM$

1.2 Table for Class II Change

This product is an extension of original one reported under Sporton project number: FA5N2614-02

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

Modifications	Performance Checking
1. Adding a model no.: ML-60-30-18 2. Adding an antenna (P/N: 120300000202A) for model no.: ML-60-30-18 use.	Maximum Permissible Exposure
3. Changing the Manufacturer and Manufacturer address to "Accton Technology Corporation / No. 1, Creation Rd. III, Science-based Industrial Park Hsin Chu 30077, Taiwan R.O.C." from "Joy Technology (Shen Zhen) Co. Ltd / HengKeng Ind., Shangpai, Shangwu, Aiqun Rd., Shiyan Town, Shenzhen 518108 China"	It's no need to re-test.

Note: Changing the module approval to full modular approval from limited modular approval.

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 20 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				
Temp	24°C		Humidity	53%	
Test Engineer	John Tong		Test Date	Aug. 12, 2016 ~ Aug. 15, 2016	
Test results					
Maximum EIPR Power of Test Frequency (GHz)	Average EIRP Power (dBm)	Average EIRP Power (mW)	Power Density (S) (mW/cm²)	Separation Distance (cm)	Limit of Power Density (S) (mW/cm²)
58.32 GHz	25.76	376.35	0.075	20	1.00
60.48 GHz	25.35	342.91	0.068	20	1.00
62.64 GHz	25.49	353.72	0.070	20	1.00