



RF Exposure Evaluation Report

Equipment : Metrolinq 60 GHz Module
Brand Name : IgniteNet
Model No. : RDO-60-FB-USBB-8
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 : Joy Technology (Shen Zhen) Co. Ltd
HengKeng Ind., Shangpai, Shangwu, Aiqun Rd.,
Shiyan Town, Shenzhen 518108 China

The product sample received on Mar. 04, 2016 and completely tested on Mar. 23, 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.

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Sam Chen
SPORTON INTERNATIONAL INC.





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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 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 56 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

Test results					
Maximum EIPR Power of Test Frequency (GHz)	Average EIRP Power (dBm)	Average EIRP Power (mW)	Power Density (S) (mW/cm ²)	Separation Distance (cm)	Limit of Power Density (S) (mW/cm ²)
58.32 GHz	45.44	35004.02	0.889	56	1.00
60.48 GHz	45.81	38080.83	0.967	56	1.00
62.64 GHz	44.78	30073.67	0.764	56	1.00