RF Exposure Evaluation Report

Equipment	: Metrolinq2.5 Outdoor 60GHz PTMP + 5GHz
Brand Name	: IgniteNet
Model No.	: ML2.5-60-BF-18
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.

Cliff Chang
SPORTON INTERNATIONAL INC.

Testing Laboratory
1190

TABLE OF CONTENTS

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA791405-02	Rev. 01	Initial issue of report	Oct. 25, 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: HEDML60PRS4601.

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

1.2 Table for Class II Change

This product is an extension of original one reported under Sporton project number: FA781526

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

Modifications	Performance Checking
Adding a new set of the equipment, the detail information for this new set as below: 1. Adding a new equipment name: Metrolinq2.5 Outdoor 60GHz PTMP + 5GHz 2. Adding a new model name: ML2.5-60-BF-18 3. Adding the P to P function. 4. Changing a new antenna which with the same type and lower gain (Brand: Accton, P/N: 120G00000176X). 5. Containing a new 60G module (FCC ID: HEDML60PRS4601).	MPE

Note: The 5GHz MPE results were based on original.

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/ cm²)	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/ cm²)	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 (V/m) = $\frac{\sqrt{30 \times P \times G}}{d}$ Power Density: *Pd* (W/m²) = $\frac{E^2}{377}$

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)	Tune-up EIRP (dBm)	EIRP (W)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)
5.2G;D1D	10.10	18.55	28.65	30.65	1.16145	20	0.23118	1.00000
5.8G;D1D	12.10	15.93	28.03	30.03	1.00693	20	0.20042	1.00000
60G	17.20	13.66	30.86	32.86	1.21899	20	0.24263	1.00000

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

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tune-up EIRP (dBm)	EIRP (W)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)	Ratio (S/Limit)
5.2G;D1D	10.10	18.55	28.65	30.65	0.73282	20	0.14586	1.00000	0.14586
60G	17.20	13.66	30.86	32.86	1.21899	20	0.24263	1.00000	0.24263
								Sum Ratio	0.38849
								Ratio Limit	1