



SPORTON International Inc.

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Project No: CB10409205

Maximum Permissible Exposure Report

Applicant's company	M2Communication Inc.
Applicant Address	4F-3, No.32, Gaotie 2nd Rd., Zhubei City, Hsinchu County 302 Taiwan (R.O.C.)
FCC ID	2AFXU-MD903A1
Manufacturer's company	Might Electronic CO. LTD., Taiwan
Manufacturer Address	No. 40, 2nd Neighborhood, Yuanshan Vil., Xinfeng Township, Hsinchu County 304, Taiwan, R.O.C.

Product Name	Wireless ED Module_9 series
Brand Name	M2Communication Inc.
Model No.	MD903A1
Ref. Standard(s)	47 CFR FCC Part 2 Subpart J, section 2.1091
Received Date	Aug. 28, 2015
Final Test Date	Sep. 24, 2015
Submission Type	Original Equipment


Sam Chen
SPORTON INTERNATIONAL INC.





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History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA582817	Rev. 01	Initial issue of report	Oct. 02, 2015

1. GENERAL DESCRIPTION

1.1. EUT General Information

RF General Information		
Frequency Range (MHz)	Operating Frequency (MHz)	Modulation Type
902 ~ 928 MHz	903 ~ 927 MHz	2FSK

1.2. 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 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:

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

E = Electric field (V/m)

P = Peak 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

Antenna Type : Dipole Antenna

Conducted Power for 2FSK: 11.32dBm

Distance (cm)	Test Freq. (MHz)	Antenna Gain (dBi)	Antenna Gain (numeric)	Average Output Power		Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
				(dBm)	(mW)			
20	903	2.00	1.5849	11.3200	13.5519	0.004275	1	Complies