



RF Exposure Evaluation Report

Equipment : RouterBOARD LHG G-60ad
Brand Name : RouterBOARD
Model No. : RBLHGG-60ad
FCC ID : TV7LHGG60AD
Standard : 47 CFR Part 2.1091
Applicant : Mikrotiks SIA
Brivibas gatve 214i, Riga, LV-1039 LATVIA
Manufacturer : Mikrotiks SIA
Brivibas gatve 214i, Riga, LV-1039 LATVIA

The product sample received on Oct. 30, 2017 and completely tested on Jan. 10, 2018. 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.

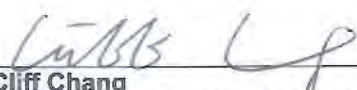

Cliff Chang
SPORTON INTERNATIONAL INC.





TABLE OF CONTENTS

1	GENERAL DESCRIPTION	4
1.1	EUT General Information	4
1.2	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
PHOTOGRAPHS OF EUT V01		

REVISION HISTORY

[illegible]

1 General Description

1.1 EUT General Information

The Channel Plan(s)			
Evaluation Mode	Frequency Range	Operating Frequency (GHz)	Modulation Type
60GHz	57-71 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 51 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						
Separation Distance (cm)			51						
Maximum EIPR Power of Test Frequency (GHz)			Ant. Gain (dBi)	Average EIRP Power (dBm)	Tolerance (dB)	Tune-up Average EIRP Power (dBm)	Tune-up Average EIRP Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)
MRP	60.48	GHz	42	44.52	0.50	45.02	31747.27	0.972	1.00