



# FCC RADIO EXPOSURE TEST REPORT

**FCC ID** : TV7SXTSQ60AD  
**Equipment** : RouterBOARD SXTsq-60ad  
**Brand Name** : MikroTik  
**Model Name** : RBSXTsq-60ad  
**Applicant** : Mikrotikls SIA  
Brivibas gatve 214i, Riga, LV-1039 Latvia  
**Manufacturer** : MIKROTIKLS SIA  
Brivibas gatve 214i, Riga, LV-1039 Latvia  
**Standard** : 47 CFR Part 2.1091

The product was received on Jul. 13, 2018, and testing was started from Jul. 28, 2018 and completed on Aug. 30, 2018. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in 47 CFR Part 2.1091 and shown compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Approved by: Sam Chen

**SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory**

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



## Table of Contents

History of this test report.....	3
Summary of Test Result.....	4
<b>1 General Description .....</b>	<b>5</b>
1.1 EUT General Information .....	5
1.2 Testing Location .....	5
<b>2 Maximum Permissible Exposure .....</b>	<b>6</b>
2.1 Limit of Maximum Permissible Exposure .....	6
2.2 MPE Calculation Method.....	6
2.3 Calculated Result and Limit.....	7
<b>Photographs of EUT v01</b>	





## Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
2	-	Exposure evaluation	PASS	-

Reviewed by: Sam Chen

Report Producer: Cindy Peng



# 1 General Description

## 1.1 EUT General Information

The Channel Plan(s)	Modulation Type
Channel 1: 58.32 GHz Channel 2: 60.48 GHz Channel 3: 62.64 GHz Channel 4: 64.80 GHz	$\pi/2$ -BPSK, $\pi/2$ -QPSK, $\pi/2$ -16QAM

## 1.2 Testing Location

Testing Location		
<input type="checkbox"/>	HWA YA	ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, 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 <sup>2</sup> )	Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> 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 <sup>2</sup> )	Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> 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** = 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

<b>Exposure Environment</b>		General Population / Uncontrolled Exposure						
<b>Separation Distance (cm)</b>		20						
<b>Maximum EIPR Power of Test Frequency (GHz)</b>		<b>Ant. Gain (dBi)</b>	<b>Average EIRP Power (dBm)</b>	<b>Tolerance (dB)</b>	<b>Tune-up Average EIRP Power (dBm)</b>	<b>Tune-up Average EIRP Power (mW)</b>	<b>Power Density (S) (mW/cm<sup>2</sup>)</b>	<b>Limit of Power Density (S) (mW/cm<sup>2</sup>)</b>
58.32	GHz	12.13	28.22	0.50	28.72	745.41	0.148	1.00

—————THE END—————