

## RF Exposure Report

**Report No.:** SA160824C03

**FCC ID:** 2AF5PMG7550

**Test Model:** MG7550

**Series Model:** MG7550XY (where X can be A, B, C, D or blank, and Y can be A, B, C, D or blank.)

**Received Date:** Aug. 24, 2016

**Test Date:** Aug. 26 ~ Sep. 17, 2016

**Issued Date:** Sep. 29, 2016

**Applicant:** MTRLC LLC

**Address:** PO Box 121147 Boston, MA 02112-1147, United States.

**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan, R.O.C.

**Test Location:** No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)



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### Release Control Record

Issue No.	Description	Date Issued
SA160824C03	Original release	Sep. 29, 2016

## 1 Certificate of Conformity

**Product:** 16x4 DOCSIS 3.0 Cable Modem plus AC1900 Router

**Brand:** Motorola

**Test Model:** MG7550

**Series Model:** MG7550XY (where X can be A, B, C, D or blank, and Y can be A, B, C, D or blank.)

**Sample Status:** Engineering Sample

**Applicant:** MTRLC LLC

**Test Date:** Aug. 26 ~ Sep. 17, 2016

**Standards:** FCC Part 2 (Section 2.1091)

KDB 447498 D01 (October 23, 2015)

IEEE C95.1

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.


**Prepared by :**

  
Polly Chen / Specialist

**Date:**

Sep. 29, 2016

**Approved by :**

  
Ken Liu / Senior Manager

**Date:**

Sep. 29, 2016

## 2 RF Exposure

### 2.1 Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Average Time (minutes)
Limits For General Population / Uncontrolled Exposure				
300-1500	...	...	F/1500	30
1500-100,000	...	...	1.0	30

F = Frequency in MHz

### 2.2 MPE Calculation Formula

$$P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$$

where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = output power to antenna in mW

$G$  = gain of antenna in linear scale

$\pi$  = 3.1416

$R$  = distance between observation point and center of the radiator in cm

### 2.3 Classification

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

## 3 Calculation Result of Maximum Tune up Power

Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
2412-2462	26.64	7.87	20	0.562	1
5180-5240	28.12	7.57	20	0.737	1
5260-5320	22.09	7.57	20	0.184	1
5500-5700	22.18	7.57	20	0.188	1
5745-5825	28.27	7.57	20	0.763	1

Note:

2.4GHz: Directional gain = 3.1dBi + 10log(3) = 7.87dBi

5GHz: Directional gain = 2.8dBi + 10log(3) = 7.57dBi

\* Both of the 2.4GHz and 5GHz can not transmit simultaneously

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