

RF Exposure Report

Report No.: SA160824C02

FCC ID: 2AF5PMG7540

Test Model: MG7540

Series Model: MG7540XY (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: Sep. 19 ~ Oct. 04, 2016

Issued Date: Oct. 07, 2016

Applicant: MTRLC LLC

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

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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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Table of Contents

Release Control Record	3
1 Certificate of Conformity	4
2 RF Exposure	5
2.1 Limits for Maximum Permissible Exposure (MPE).....	5
2.2 MPE Calculation Formula	5
2.3 Classification	5
3 Calculation Result of Maximum Tune up Power	5

Release Control Record

Issue No.	Description	Date Issued
SA160824C02	Original release	Oct. 07, 2016

1 Certificate of Conformity

Product: 16x4 DOCSIS 3.0 Cable Modem plus AC1600 Router

Brand: Motorola

Test Model: MG7540

Series Model: MG7540XY (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: Sep. 19 ~ Oct. 04, 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 : Celine Chou, **Date:** Oct. 07, 2016
Celine Chou / Specialist

Approved by : Ken Liu, **Date:** Oct. 07, 2016
Ken Liu / Senior Manager

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 ²)	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

$$Pd = (Pout*G) / (4*pi*r^2)$$

where

Pd = power density in mW/cm²

Pout = 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 ²)	Limit (mW/cm ²)
2412-2462	29.84	6.11	20	0.783	1
5180-5240	25.11	7.57	20	0.369	1
5260-5320	23.89	7.57	20	0.278	1
5500-5700	23.98	7.57	20	0.284	1
5745-5825	24.97	7.57	20	0.357	1

Note:

2.4GHz: Directional gain = 3.1dBi + 10log(2) = 6.11dBi

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

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

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