



Test Report No.: FS151029N068

# RF EXPOSURE REPORT

Applicant	MTRLC LLC
Address	PO Box 121147 Boston, MA 02112-1147

Manufacturer or Supplier	MTRLC LLC
Address	PO Box 121147 Boston, MA 02112-1147
Product	8x4 DOCSIS 3.0 Cable Modem plus N300 Router
Brand Name	Motorola
Model	MG7310
Additional Model & Model Difference	MG7310XY(X, Y= A, B, C, D or blank); See items 1.1
Date of tests	Nov. 20, 2015 ~ Dec. 02, 2015

☒ FCC Part 2 (Section 2.1091)☒ KDB 447498 D01☒ IEEE C95.1**CONCLUSION: The submitted sample was found to COMPLY with the test requirement**Tested by Blue Zheng  
Project Engineer / EMC DepartmentApproved by Chris Chen  
Supervisor / EMC Department

Date: Dec. 02, 2015

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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FS151029N068	Original release	Dec. 02, 2015



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## 1. CERTIFICATION

**FCC ID:** 2AF5PMG7310  
**PRODUCT:** 8x4 DOCSIS 3.0 Cable Modem plus N300 Router  
**BRAND NAME:** Motorola  
**MODEL NO.:** MG7310  
**TEST SAMPLE:** Engineering Sample  
**APPLICANT:** MTRLC LLC  
**STANDARDS:** FCC Part 2 (Section 2.1091)  
KDB 447498 D01  
IEEE C95.1

## 2. RF EXPOSURE LIMIT

### 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

## 3. 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

## 4. 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**.

## 5. ANTENNA GAIN

The antennas provided to the EUT, please refer to the following table:

Transmitter Circuit	Peak Gain (dBi)	Total Gain (dBi)	Antenna Type
Chain 0	3.01	6.11	Wire Antenna
Chain 1	3.01		Wire Antenna

Note: Total Gain=3.1+10log(N=2)=3.1+3.01=6.11dBi

## 6. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
2412-2462 2422-2452	371.596	6.11	20	0.302	1.00

## Conclusion

Therefore device complies with FCC's RF radiation exposure limits for general population in mobile exposure category (distance > 20cm)

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