



**BUREAU  
VERITAS**

Test Report No.: FS141013N066

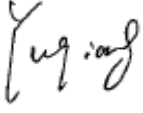

# RF EXPOSURE REPORT

Applicant	Zoom Telephonics Inc.
Address	207 South Street, Boston Massachusetts 02111 USA

Manufacturer or Supplier	Zoom Telephonics Inc.
Address	207 South Street, Boston Massachusetts 02111 USA
Product	DOCSIS 3.0 Cable Modem/Router with Wireless N
Brand Name	Zoom
Model	5354
Additional Model & Model Difference	5354XY where X=A, B, C, D, E or nothing and Y=A,B,C,D,E or nothing
Date of tests	Oct. 13 ~ Nov. 18, 2014

- FCC Part 2 (Section 2.1091)**
- FCC OET Bulletin 65, Supplement C (01-01)**
- IEEE C95.1**

**CONCLUSION: The submitted sample was found to COMPLY with the test requirement**

Tested by Yuqiang Yin Project Engineer / EMC Department	Approved by Glyn He Supervisor / EMC Department
	
	Date: Nov. 18, 2014

This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification

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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FS141013N066	Original release	Nov. 18, 2014

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## 1. CERTIFICATION

**PRODUCT:** DOCSIS 3.0 Cable Modem/Router with Wireless N  
**BRAND NAME:** Zoom  
**MODEL NO.:** 5354  
**TEST SAMPLE:** Engineering Sample  
**APPLICANT:** Zoom Telephonics Inc.  
**TESTED DATE:** Nov. 18, 2014  
**STANDARDS:** FCC Part 2 (Section 2.1091)  
FCC OET Bulletin 65, Supplement C (01-01)  
IEEE C95.1

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## 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)
<b>LIMITS FOR GENERAL POPULATION / UNCONTROLLED EXPOSURE</b>				
300-1500	...	...	F/1500	30
1500-100,000	...	...	1.0	30

F = Frequency in MHz

## 3. MPE CALCULATION FORMULA

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

where

Pd = power density in mW/cm<sup>2</sup>

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

## 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	3.0	6.01	Internal Antenna
Chain 1	3.0		Internal Antenna

Note: Total Gain=3+10log(N=2)=3+3.01=6.01dBi

## 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	274.79	6.01	20	0.218	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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