





# RF EXPOSURE REPORT

Applicant	Brightstar Corporation
Address	9725 NW 117th Ave.,Miami,Florida,United States

Manufacturer or Supplier	Asiatelco Technologies Co.
Address	#289 Bisheng Road, Building-8, 3F, zhangjiang Hi-Tech Park, Pudong, Shanghai,China
Product	Fixed Wireless Terminal Router 3G
Brand Name	AVVIO
Model	HT853W
Additional Model & Model Difference	N/A
Date of tests	Oct. 25, 2013 ~ Nov. 07, 2013

- 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 Glyn He Project Engineer/ EMC Department	Approved by Sam Tung Manager / EMC Department
	  <b>Date: Nov. 07, 2013</b>

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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**BUREAU  
VERITAS**

Test Report No.: FS131024N040

## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FS131024N040	Original release	Nov. 07, 2013

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**BUREAU  
VERITAS**

Test Report No.: FS131024N040

## 1. CERTIFICATION

**PRODUCT:** Fixed Wireless Terminal Router 3G  
**BRAND NAME:** AVVIO  
**MODEL NO.:** HT853W  
**TEST SAMPLE:** ENGINEERING SAMPLE  
**APPLICANT:** Brightstar Corporation  
**TESTED DATE:** Oct. 25, 2013 ~ Nov. 07, 2013  
**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:

Band	Antenna	Peak Gain (dBi)	Antenna Type
WIFI (2.4G)	Chain 0	2	PIFA antenna
	Chain 1	2	PIFA antenna
824~849MHz	Main antenna	2.5	fix external antenna ( Monopole)
1850~1910MHz	Main antenna	3.0	fix external antenna ( Monopole)



### 6. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

FREQUENCY BAND (MHz)	MAX CONDUCTED POWER (mW)	MAX EIRP (mW)	DISTANCE (cm)	POWER DENSITY (mW/cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
2422-2452	313.9	497.4	20	0.099	1.00

BAND (MHz)	MAX CONDUCTED POWER (MW)	MAX EIRP (mW)	DISTANCE (cm)	POWER DENSITY (mW/ cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
824~849	1330.5	2365.92	20	0.471	0.5576
1850~1910	687.1	1370.88	20	0.273	1.00

This product can operate within Mobile device (2G/3G) which has maximum of 2365.92mW EIRP output power.

#### CONCLUSION:

Both of the WLAN and Mobile device (2G/3G) can transmit simultaneously, the formula of calculated the MPE is:

$$CPD_1 / LPD_1 + CPD_2 / LPD_2 + \dots \text{etc.} < 1$$

**CPD = Calculation power density**

**LPD = Limit of power density**

Therefore, the worst-case situation is  $0.099 / 1 + 0.471 / 0.5576 = 0.9437$ , which is less than "1". This confirmed that the device comply with FCC MPE limit.

--- END ---