



# RF EXPOSURE REPORT

**REPORT NO.:** SA130307C06A  
**MODEL NO.:** WMTB-158N\_MHL, WMTB-158N  
**FCC ID:** MXF-WMTB-158N  
**RECEIVED:** Feb. 05, 2013  
**TESTED:** Feb. 25 ~ Mar. 25, 2013  
**ISSUED:** Apr. 03, 2013

**APPLICANT:** Gemtek Technology Co., Ltd.

**ADDRESS:** No. 15-1, Zhonghua Rd, Hsinchu Industrial Park ,  
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**ISSUED BY:** Bureau Veritas Consumer Products Services  
(H.K.) Ltd., Taoyuan Branch

**LAB ADDRESS:** No. 47, 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 Tsuen, Kwei  
Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA130307C06A	Original release	Apr. 03, 2013



## 1. CERTIFICATION

**PRODUCT:** Wireless Display Dongle  
**MODEL NO.:** WMTB-158N\_MHL, WMTB-158N  
**BRAND:** Gemtek  
**APPLICANT:** Gemtek Technology Co., Ltd.  
**TESTED:** Feb. 25 ~ Mar. 25, 2013  
**TEST SAMPLE:** ENGINEERING SAMPLE  
**STANDARDS:** **FCC Part 2 (Section 2.1091)**  
**FCC OET Bulletin 65, Supplement C (01-01)**  
IEEE C95.1

The above equipment (model: WMTB-158N\_MHL, WMTB-158N) 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 :** Apr. 03, 2013  
Celine Chou / Specialist

**APPROVED BY :** Ken Liu , **DATE :** Apr. 03, 2013  
Ken Liu / Senior Manager



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

F = Frequency in MHz

### 2.2 MPE CALCULATION FORMULA

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

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**.



## 2.4 CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

Frequency band (MHz)	Conducted power (dBm)	Antenna Gain (dBi)	POWER DENSITY (mW/cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
2412~2462	26.30	4.24	0.225	1
5180~5240	16.80	5.23	0.032	1
5745~5825	24.97	5.23	0.208	1

**Note:**

**For 2.4GHz:**

Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 4.24\text{dBi}$

**For 5GHz:**

Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 5.23\text{dBi}$