



## RF Exposure Report

**Report No.:** SA150506E05E R1

**FCC ID:** QISCG1241D

**Test Model:** CG1241D

**Series Model:** CG5245

**Received Date:** May 06, 2015

**Test Date:** June 03 to 04, 2015

**Issued Date:** Aug. 31, 2015

**Applicant:** Huawei Technologies Co., Ltd.

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Bantian, Longgang District, Shenzhen, China

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

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**Test Location (1):** No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen, Chiung Lin Hsiang, Hsin  
Chu Hsien 307, Taiwan R.O.C.

**Test Location (2):** No. 49, Ln. 206, Wende Rd., Shangshan Tsuen, Chiung Lin Hsiang, Hsin  
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### Release Control Record

Issue No.	Description	Date Issued
SA150506E05E	Original release.	Aug. 06, 2015
SA150506E05E R1	<ol style="list-style-type: none"><li>1. Modified the brand name of EUT.</li><li>2. Modified the Model name of EUT.</li><li>3. Revised the applicant and FCC ID.</li></ol>	Aug. 31, 2015



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## 1 Certificate of Conformity

**Product:** WiFi EMTA

**Brand:** Huawei

**Test Model:** CG1241D

**Series Model:** CG5245

**Sample Status:** ENGINEERING SAMPLE

**Applicant:** Huawei Technologies Co., Ltd.

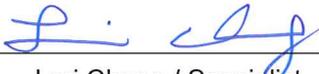
**Test Date:** June 03 to 04, 2015

**Standards:** FCC Part 2 (Section 2.1091)

KDB 447498 D03

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 :**  , **Date:** Aug. 31, 2015  
Lori Chung / Specialist

**Approved by :**  , **Date:** Aug. 31, 2015  
May Chen / 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 <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

### 2.2 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

### 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 Antenna Gain

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

2.4GHz Band						
Antenna No.	PCB Chain No.	Brand	Ant. Gain(dBi) <Including cable loss>	Frequency range (GHz to GHz)	Antenna Type	Connector Type
A	Chain (1)	NA	3.76	2.4~2.4835	PCB	None (like solder)
B	Chain (2)	NA	3.87	2.4~2.4835	PCB	None (like solder)
5GHz Band						
Antenna No.	PCB Chain No.	Brand	Ant. Gain(dBi) <Including cable loss>	Frequency range (GHz to GHz)	Antenna Type	Connector Type
C	Chain (1)	Hong-Lin	5.78	5.15~5.85	PCB	i-pex(MHF)
D	Chain (2)	Hong-Lin	4.36	5.15~5.85	PCB	i-pex(MHF)

#### 4 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	682.092	6.83	20	0.65399	1
5180-5240	115.994	8.11	20	0.14934	1
5745-5825	266.606	8.11	20	0.34324	1

**NOTE:**

2.4GHz: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 6.83\text{dBi}$

5GHz: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 8.11\text{dBi}$

**Conclusion:**

The formula of calculated the MPE is:

$CPD1 / LPD1 + CPD2 / LPD2 + \dots\text{etc.} < 1$

CPD = Calculation power density

LPD = Limit of power density

WLAN 2.4GHz + WLAN 5GHz =  $0.65399 + 0.34324 = 0.997$

**Therefore the maximum calculations of above situations are less than the "1" limit.**

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