

# **FCC RF Exposure Report**

FCC ID : MXF-L1000

Equipment : Luma Home

Model No. : WRTQ-329ACN

Brand Name : Gemtek

Applicant : Gemtek Technology Co., Ltd.

Address : No. 15-1 Zhonghua Road, Hsinchu Industrial

Park, Hukou, Hsinchu, Taiwan, 30352.

Standard : 47 CFR FCC Part 2.1091

Received Date : Aug. 23, 2016

Tested Date : Sep. 10 ~ Sep. 13, 2016

We, International Certification Corp., would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It may be duplicated completely for legal use with the approval of the applicant. It shall not be reproduced except in full without the written approval of our laboratory.

Reviewed by: Approved by:

Along Cher // Assistant Manager Gary Chang / Manager

Testing Laboratory

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# **Release Record**

Report No.	Version	Description	Issued Date
FA632301-01	Rev. 01	Initial issue	Nov. 11, 2016

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## 1 MPE EVALUATION OF MOBILE DEVICES

Human exposure to RF emissions from mobile devices (47 CFR §2.1091) may be evaluated based on the MPE limits adopted by the FCC for electric and magnetic field strength and/or power density, as appropriate, since exposures are assumed to occur at distances of 20 cm or more from persons.

### 1.1 LIMITS FOR GENERAL POPULATION/UNCONTROLLED EXPOSURE

Frequency Range (MHz)	Power Density (mW /cm²)	Averaging Time (minutes)
300~1500	F/1500	30
1500~100000	1.0	30

### 1.2 MPE EVALUATION FORMULA

$$Pd = \frac{Pt}{4*Pi*R^2}$$

Where

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

Pt= EIRP in mW Pi= 3.1416

R= Measurement distance

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### 1.3 MPE EVALUATION RESULTS

### **MPE Evaluation of Single Transmission**

Frequency Range (MHz)	Maximum Conducted Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm²)	Limit (mW/cm²)			
For WLAN								
2412~2462 <sup>Note</sup>	25.64	3	20	0.145	1			
5180~5240 <sup>Note</sup>	25.39	4.5	20	0.194	1			
5745~5825 <sup>Note</sup>	25.43	5.5	20	0.246	1			
5260~5320	23.16	5	20	0.130	1			
5500~5700	23.92	5.5	20	0.174	1			
For BT								
2402~2480 Note	3.44	3.5	20	0.001	1			
2402~2480 Note	6.27	3.5	20	0.002	1			

Note: These 5 frequency bands are certified for original grant.

#### **CONCULSION:**

The device supports simultaneous transmission as below configurations

- 1) Wi-Fi 2.4GHz and Bluetooth
- 2) Wi-Fi 5GHz and Bluetooth

The formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + .....etc. < 1

CPD = Calculation power density

LPD = Limit of power density

- 1. WLAN 2.4G + BT = 0.145 / 1 + 0.002 / 1 = 0.147
- 2. WLAN 5G + BT = 0.246 / 1 + 0.002 / 1 = 0.248

Therefore, the maximum calculation of this situation is 0.248, which is less than the "1" limit.

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# 2 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corp (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website <a href="http://www.icertifi.com.tw">http://www.icertifi.com.tw</a>.

#### Linkou

Tel: 886-2-2601-1640 No. 30-2, Ding Fwu Tsuen, Lin Kou District, New Taipei City, Taiwan, R.O.C.

#### Kwei Shan

Tel: 886-3-271-8666 No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan District, Tao Yuan City 333, Taiwan, R.O.C.

#### Kwei Shan Site II

Tel: 886-3-271-8640 No. 14-1, Lane 19, Wen San 3rd St., Kwei Shan District, Tao Yuan City 333, Taiwan, R.O.C.

If you have any suggestion, please feel free to contact us as below information.

Tel: 886-3-271-8666 Fax: 886-3-318-0155

Email: ICC\_Service@icertifi.com.tw

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