

# FCC RF Exposure Report

**FCC ID** : NKR-DHSMW97  
**Equipment** : 802.11 abgn/ac 2x2 module with BT  
**Model No.** : DHSM-W97  
**Brand Name** : WNC  
**Applicant** : Wistron NeWeb Corp.  
**Address** : 20 Park Avenue II, Hsinchu Science Park,  
Hsinchu 308, Taiwan, R.O.C.  
**Standard** : 47 CFR FCC Part 2.1091  
**Received Date** : Dec. 17, 2015  
**Tested Date** : Jan. 09 ~ Jan. 29, 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.

Approved & Reviewed by:

  
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Gary Chang / Manager



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## Release Record

Report No.	Version	Description	Issued Date
FA5D1702	Rev. 01	Initial issue	Feb. 05, 2016

## 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 /cm <sup>2</sup> )	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

### 1.3 MPE EVALUATION RESULTS

Frequency Range (MHz)	Maximum Conducted Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
<b>For WLAN</b>					
2412~2462	23.75	1.61	20	0.068	1
5180~5240	21.85	4.69	20	0.090	1
5260~5320	23.09	4.69	20	0.119	1
5500~5700	23.06	3.03	20	0.081	1
5745~5825	20.43	1.59	20	0.032	1
<b>For BT</b>					
2402~2480 EDR	7.86	0.01	20	0.001	1
2402~2480 LE	7.75	0.01	20	0.001	1

#### CONCLUSION:

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:

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

CPD = Calculation power density

LPD = Limit of power density

1. WLAN 2.4G + BT =  $0.068 / 1 + 0.001 / 1 = 0.069$
2. WLAN 5G + BT =  $0.119 / 1 + 0.001 / 1 = 0.120$

**Therefore, the maximum calculation of this situation is 0.12, which is less than the "1" limit.**

## 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, 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 Hsiang. Location map can be found on our website <http://www.icertifi.com.tw>.

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