

# FCC RF Exposure Report

**FCC ID** : NKR-SP1  
**Equipment** : 11abgn WLAN/Bluetooth Combo Module  
**Model No.** : DHUB-SP1  
**Brand Name** : SHARP Corporation  
**Applicant** : Wistron Neweb Corporation  
**Address** : 20 Park Avenue II, Hsinchu Science Park,  
Hsinchu 308, Taiwan, R.O.C.  
**Standard** : 47 CFR FCC Part 2.1091  
**Received Date** : May 05, 2016  
**Tested Date** : May 09 ~ May 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.

Approved & Reviewed by:

  
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Gary Chang / Manager



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## Release Record

Report No.	Version	Description	Issued Date
FA412801-03	Rev. 01	Initial issue	May 20, 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

π= 3.1416

R= Measurement distance

### 1.3 MPE EVALUATION RESULTS

Mode	Frequency Range (MHz)	Maximum Average Conducted Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
Wi-Fi	5745~5825	21.96	2.92	20	0.061	1
BT	2402~2480 <sup>Note</sup>	3.59	1.75	20	0.001	1

Note: Bluetooth are certified under original grant.

#### CONCLUSION:

WLAN 5.0G & BT can transmit simultaneously, 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.  $WLAN\ 5.0G + BT = 0.061 / 1 + 0.001 / 1 = 0.062$

Therefore, the maximum calculation of this situation is 0.062, 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>.

### **Linkou**

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

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