

# **RF Exposure Report**

Report No.: SA130904E05B

FCC ID: MCLJ20H081

Test Model: J20H081

Received Date: Mar. 14, 2016

Test Date: Mar. 22, 2016

Issued Date: Apr. 14, 2016

Applicant: HON HAI PRECISION IND. CO., LTD.

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- **Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
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Release Control Record						
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#### 1 **Certificate of Conformity**

Product:	802.11ac/abgn/BT wireless module		
Brand:	FOXCONN		
Test Model:	J20H081		
Sample Status:	ENGINEERING SAMPLE		
Applicant:	HON HAI PRECISION IND. CO., LTD.		
Test Date:	Mar. 22, 2016		
Standards:	FCC Part 2 (Section 2.1091)		
	KDB 447498 D01 General RF Exposure Guidance v06		
	ANSI/ IEEE C95.1-1992		

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.

Approved by :

May Chen Manager

Apr. 14, 2016 Date:



# 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

 $Pd = power density in mW/cm^{2}$ 

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**.

#### 2.4 Antenna Gain

Transmitter	Gain (dBi)	Antenna	Connecter	Frequency range
Circuit	(Include cable loss)	Туре	Туре	(MHz to MHz)
Chain (0)	-0.4		NA	2400~2483.5
Chain (0)	1.12	PCB		5150~5850
Chain (1)	0.28	DCD	NIA	2400~2483.5
Chain (1)	0.9	FUD	NA	5150~5850



# 3 Calculation Result Of Maximum Conducted Power

For 2.4GHz, 5GHz (U-NII-2A band and U-NII-2C band) and Bluetooth data were copied from the original test report (Report No.: SA130904E05).

For 2.4GHz:

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	245.471	0.28	20	0.05209	1

# For 5GHz:

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
5180-5240	138.357	1.12	20	0.03562	1
5260-5320 5550-5580 5660-5700	153.462	1.12	20	0.03951	1
5745-5825	90.573	1.12	20	0.02332	1

### For Bluetooth:

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
2402-2480	2.213	0.28	20	0.00047	1

# Conclusion:

The formula of calculated the MPE is: CPD1 / LPD1 + CPD2 / LPD2 + .....etc. < 1 CPD = Calculation power density LPD = Limit of power density

 $Bluetooth + WLAN \ 5GHz = 0.00047 \ / \ 1 + 0.03951 \ / \ 1 = 0.04$ Therefore the maximum calculations of above situations are less than the "1" limit.

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