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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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Release Control Record

Issue No.	Description	Date Issued
SA130904E05B	Original release.	Apr. 14, 2016



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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.

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Approved by : May Chen, **Date:** Apr. 14, 2016
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 ²)	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/cm²

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 Circuit	Gain (dBi) (Include cable loss)	Antenna Type	Connector Type	Frequency range (MHz to MHz)
Chain (0)	-0.4	PCB	NA	2400~2483.5
	1.12			5150~5850
Chain (1)	0.28	PCB	NA	2400~2483.5
	0.9			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 ²)	Limit (mW/cm ²)
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 ²)	Limit (mW/cm ²)
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 ²)	Limit (mW/cm ²)
2402-2480	2.213	0.28	20	0.00047	1

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

$$\text{Bluetooth} + \text{WLAN 5GHz} = 0.00047 / 1 + 0.03951 / 1 = 0.04$$

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

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