

## RF Exposure Report

**Report No.:** SA180503E05

**FCC ID:** MCLT77W980

**Test Model:** T77W980

**Received Date:** May 03, 2018

**Test Date:** May 10 to 24, 2018

**Issued Date:** June 19, 2018

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

**Address:** 5F-1,5 Hsin-An Road Hsinchu, Science-Based Industrial Park Taiwan,  
R.O.C.

**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
Hsin Chu Laboratory

**Lab Address:** E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,  
Taiwan R.O.C.

**Test Location:** E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,  
Taiwan R.O.C.

**FCC Registration /  
Designation Number:** 723255 / TW2022



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### Release Control Record

Issue No.	Description	Date Issued
SA180503E05	Original release.	June 19, 2018

## 1 Certificate of Conformity

**Product:** Gigabit RF Card

**Brand:** FOXCONN

**Test Model:** T77W980

**Sample Status:** ENGINEERING SAMPLE

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

**Test Date:** May 10 to 24, 2018


**Standards:** FCC Part 2 (Section 2.1091)

KDB 447498 D01 General RF Exposure Guidance v06

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.


**Prepared by :**

  
Wendy Wu / Specialist

**Date:**

June 19, 2018

**Approved by :**

  
May Chen / Manager

**Date:**

June 19, 2018

## 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				
1.34-30	824/f	2.19/f	*(180/f <sup>2</sup> )	30
30-300	27.5	0.073	0.2	30
300-1500	...	...	F/1500	30
1500-100,000	...	...	1.0	30

F = Frequency in MHz

### 2.2 MPE Calculation Formula

$$P_d = (P_{out} * G) / (4 * \pi * r^2)$$

where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = 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

Antenna No.	Antenna Gain(dBi)	Frequency range (MHz)	Antenna Type	Connector Type	Cable Length
1	Please refer to below table	699~803	PIFA	i-pex(MHF)	100mm
2	Please refer to below table	791~960 1447.9~1606	PIFA	i-pex(MHF)	100mm
3	Please refer to below table	1710~2170 2500~2690	PIFA	i-pex(MHF)	100mm
4	Please refer to below table	5110~5925 (for LAA RX)	PIFA	i-pex(MHF)	100mm
5	Please refer to below table	2305~2315	Dipole	i-pex(MHF)	80mm

Antenna gain list			
Antenna No.	Band	Freq. Range (MHz)	Gain (dBi)
3	WCDMA II (B2)	1850~1910	4.92
3	WCDMA IV (B4)	1710~1755	5.99
2	WCDMA V (B5)	824~849	2.68
3	LTE Band (2)	1850~1910	4.92
3	LTE Band (4)	1710~1755	5.99
2	LTE Band (5)	824~849	2.68
3	LTE Band (7)	2500~2570	5.2
1	LTE Band (12)	698~716	4.17
1	LTE Band (13)	777~787	3.05
1	LTE Band (14)	788~798	2.87
1	LTE Band (17)	704~716	4.17
3	LTE Band (25)	1850~1915	4.92
2	LTE Band (26)	814~849	2.92
5	LTE Band (30)	2305~2315	3.02
3	LTE Band (38)	2570~2620	4.82
3	LTE Band (41)	2496~2690	5.38
3	LTE Band (66)	1710~1780	5.99
1	LTE Band (71)	663~698	3.83

## 2.5 Calculation Result

Operation Mode	Evaluation Frequency (MHz)	Max. Conducted Power		Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
		(mW)	(dBm)				
WCDMA B2	1852.4	316.228	25.00	4.92	20	0.19531	1
WCDMA B4	1712.4	251.189	24.00	5.99	20	0.19849	1
WCDMA B5	826.4	316.228	25.00	2.68	20	0.11661	0.550933
LTE B2	1850.7	316.228	25.00	4.92	20	0.19531	1
LTE B4	1710.7	251.189	24.00	5.99	20	0.19849	1
LTE B5	824.7	316.228	25.00	2.68	20	0.11661	0.5498
LTE B7	2502.5	316.228	25.00	5.20	20	0.20832	1
LTE B12	699.7	316.228	25.00	4.17	20	0.16433	0.466467
LTE B13	779.5	316.228	25.00	3.05	20	0.12698	0.519667
LTE B14	790.5	316.228	25.00	2.87	20	0.12182	0.527
LTE B17	706.5	316.228	25.00	4.17	20	0.16433	0.471
LTE B25	1850.7	316.228	25.00	4.92	20	0.19531	1
LTE B26 (Part 90)	814.7	316.228	25.00	2.92	20	0.12323	0.543133
LTE B26 (Part 22)	824.7	316.228	25.00	2.92	20	0.12323	0.5498
LTE B41	2498.5	316.228	25.00	5.38	20	0.21713	1
LTE B66	1710.7	251.189	24.00	5.99	20	0.19849	1
LTE B38	2572.5	316.228	25.00	4.82	20	0.19087	1
LTE B71	665.5	316.228	25.00	3.83	20	0.15196	0.443667
LTE B5 (10M+5M)	834+841.2	316.228	25.00	2.68	20	0.11661	0.5498
LTE B7 (10M+20M)	2545.6+2560	316.228	25.00	5.20	20	0.20832	1
LTE B38 (15M+15M)	2577.5+2592.5	316.228	25.00	4.82	20	0.19087	1
LTE B41 (10M+5M)	2593+2600.2	316.228	25.00	5.38	20	0.21713	1

Note:

1. Limit of Power Density =  $F/1500$  (For frequency below 1500MHz)
2. This power include tune-up tolerance range that specified in T77W980 Tune Up power table.

Operation Mode	Evaluation Frequency (MHz)	Max. EIPR Power		Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
		(mW)	(dBm)			
LTE B30	2310	250	23.98	20	0.04974	1

Note: This power include tune-up tolerance range that specified in T77W980 Tune Up power table.

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