

RF Exposure Report

Report No.: SA170428E06

FCC ID: MCLT77W676

Test Model: T77W676

Received Date: Apr. 28, 2017

Test Date: June 23, 2017

Issued Date: July 27, 2017

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 Lab (A): Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Hsin Chu Laboratory

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

Test Lab (B): Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lin Kou Laboratories

Test Location: No.19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City
33383, TAIWAN (R.O.C.)



This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification. The report must not be used by the client to claim product certification, approval, or endorsement by any government agencies. The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies. This report contains all test data (Except Effective radiated power and Radiated Spurious Emissions) that was produced under subcontract by Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Lin Kou Laboratories.

Table of Contents

Release Control Record	3
1 Certificate of Conformity.....	4
2 RF Exposure.....	5
2.1 Limits for Maximum Permissible Exposure (MPE)	5
2.2 MPE Calculation Formula	5
2.3 Classification	5
2.4 Antenna Gain	6
2.5 Calculation Result of Maximum Conducted Power	9

Release Control Record

Issue No.	Description	Date Issued
SA170428E06	Original release.	July 27, 2017

1 Certificate of Conformity

Product: LTE Cat9 PCI Express M.2 Module

Brand: FOXCONN

Test Model: T77W676

Sample Status: ENGINEERING SAMPLE

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

Test Date: June 23, 2017

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 :

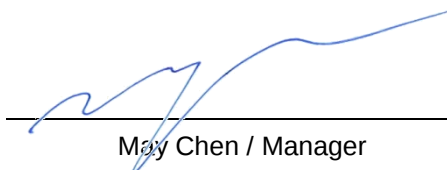


Date:

July 27, 2017

Claire Kuan / Specialist

Approved by :



Date:

July 27, 2017

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				
1.34-30	824/f	2.19/f	*(180/f ²)	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/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 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.	Brand	Model	Gain(dBi) Including cable loss	Frequency range	Antenna Type	Connector Type	Cable Length
1	TongDa	T-543-8201115-2	3.08 4.74	791~960MHz 1447.9~1606MHz	PIFA	I-PEX MHF IV	100mm
2	TongDa	T-543-8201115-1	4.17	698~803MHz	PIFA	I-PEX MHF IV	100mm
3	TongDa	T-543-8201115-3	5.99	1710~2700MHz	PIFA	I-PEX MHF IV	100mm
4	HongBo	260-23671	-1.33	703-748MHz	PIFA	I-PEX MHF IV	315mm
			-3.23	815-830MHz			
			-3.37	832-862MHz			
			-2.27	824-849MHz			
			-3.11	880-915MHz			
			-4.15	1448-1463MHz			
			-0.64	1710-1785MHz			
			0.18	1850-1915MHz			
			0.57	1920-1980MHz			
	HongBo	260-23672	-3.71	758-803MHz	PIFA	I-PEX MHF IV	439mm
			-0.95	860-875MHz			
			-3.07	791-821MHz			
			-0.97	869-894MHz			
			-3.5	925-960MHz			
			-5.32	1496-1511MHz			
			-0.09	1805-1880MHz			
			0.16	1930-1995MHz			
			-0.8	2110-2170MHz			

Antenna NO.	Brand	Model	Gain(dBi) Including cable loss	Frequency range	Antenna Type	Connector Type	Cable Length
5	SPEED	F.0G.UH-6010-003-00	-2.81	703-748MHz	PIFA	I-PEX MHF IV	315mm
			-1.53	815-830MHz			
			-1.96	832-862MHz			
			-2.59	880-915MHz			
			-4.19	1448-1463MHz			
			1.23	1710-1785MHz			
			0.26	1850-1883MHz			
			1.16	1915-1980MHz			
	SPEED	F.0G.UH-6010-004-00	-2.67	758-803MHz	PIFA	I-PEX MHF IV	439mm
			-2.42	791-821MHz			
			-2.33	860-894MHz			
			-0.58	925-960MHz			
			-0.17	1496-1511MHz			
			0.83	1805-1880MHz			
			-2.72	1930-1995MHz			
			-1.67	2110-2170MHz			
6	HongBo	260-23675	-2.68	703-748MHz	PIFA	I-PEX MHF IV	363mm
			-0.88	815-830MHz			
			-1.66	832-862MHz			
			-1.23	824-849MHz			
			1.35	880-915MHz			
			0.8	1448-1463MHz			
			2.03	1710-1785MHz			
			2.02	1850-1915MHz			
	HongBo	260-23676	0.57	1920-1980MHz	PIFA	I-PEX MHF IV	522mm
			-2.86	758-803MHz			
			0.51	860-875MHz			
			-1.19	791-821MHz			
			0.48	869-894MHz			
			-2.29	925-960MHz			
			-4.52	1496-1511MHz			
			-0.09	1805-1880MHz			
			-0.22	1930-1995MHz			
			-0.42	2110-2170MHz			

Antenna NO.	Brand	Model	Gain(dBi) Including cable loss	Frequency range	Antenna Type	Connector Type	Cable Length
7	SPEED	F.0G.UH-6011-003-00	-3.21	703-748MHz	PIFA	I-PEX MHF IV	363mm
			-2.73	815-830MHz			
			-2.48	832-862MHz			
			-3.32	880-915MHz			
			-1.86	1448-1463MHz			
			-0.57	1710-1785MHz			
			-0.63	1850-1883MHz			
			0.44	1915-1980MHz			
	SPEED	F.0G.UH-6011-004-00	-4	758-803MHz	PIFA	I-PEX MHF IV	522mm
			-3.43	791-821MHz			
			-1.22	860-894MHz			
			-2.06	925-960MHz			
			-1.83	1496-1511MHz			
			0.48	1805-1880MHz			
			-0.2	1930-1995MHz			
			-2.87	2110-2170MHz			

Set 1~3 were chosen for final test.

2.5 Calculation Result of Maximum Conducted Power

FCC Rule Parts	Mode	Frequency Range (MHz)		Max. Tune-up Power		Antenna Gain (dBi)	Power Density (mW/cm ²)	
		Start	Stop	(dBm)	(mW)		Vaule	Limit
22H	WCDMA Band 5	824	849	24	251.189	3.08	0.10156	0.54933
22H	LTE Band 5	824	849	24	251.189	3.08	0.10156	0.54933
22H	LTE Band 26	824	849	24	251.189	3.08	0.10156	0.54933
24E	WCDMA Band 2	1850	1910	25	316.228	5.99	0.24988	1
24E	LTE Band 2	1850	1910	25	316.228	5.99	0.24988	1
24E	LTE Band 25	1850	1915	25	316.228	5.99	0.24988	1
27	WCDMA Band 4	1710	1755	25	316.228	5.99	0.24988	1
27	LTE Band 4	1710	1755	25	316.228	5.99	0.24988	1
27	LTE Band 7	2500	2570	25	316.228	5.99	0.24988	1
27	LTE Band 12	698	716	24	251.189	4.17	0.13054	0.46533
27	LTE Band 13	777	787	24	251.189	4.17	0.13054	0.518
27	LTE Band 17	704	716	24	251.189	4.17	0.13054	0.46933
27	LTE Band 30	2305	2315	25	316.228	5.99	0.24988	1
27	LTE Band 38	2570	2620	25	316.228	5.99	0.24988	1
27	LTE Band 41	2496	2690	25	316.228	5.99	0.24988	1
27	LTE Band 66	1710	1780	25	316.228	5.99	0.24988	1
90	LTE Band 26	814	824	24	251.189	3.08	0.10156	0.54266

Note: 1. Limit of Power Density = F/1500 (For frequency below 1500MHz)

--- END ---