

RF Exposure Report

Report No.: SA180321E03Y

FCC ID: MCLT77W968C9

Test Model: T77W968C9

Received Date: Dec. 26, 2019

Test Date: Jan. 14, 2020

Issued Date: Feb. 03, 2020

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

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

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



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.

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	7

Release Control Record

Issue No.	Description	Date Issued
SA180321E03Y	Original release.	Feb. 03, 2020

1 Certificate of Conformity

Product: LTE M.2 Module

Brand: FOXCONN

Test Model: T77W968C9

Sample Status: ENGINEERING SAMPLE

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

Test Date: Jan. 14, 2020

Standards: FCC Part 2 (Section 2.1091)

KDB 447498 D01 General RF Exposure Guidance v06

IEEE C95.3-2002

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:** Feb. 03, 2020
Claire Kuan / Specialist

Approved by :  , **Date:** Feb. 03, 2020
Clark Lin / Technical 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.	Antenna Net 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	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 (17)	704~716	4.17
3	LTE Band (25)	1850~1915	4.92
2	LTE Band (26)	814~849	2.92
4	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

2.5 Calculation Result

Operation Mode	Evaluation Frequency (MHz)	Max. Conducted Power		Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
		(mW)	(dBm)				
WCDMA B2	1852.4	281.838	24.50	4.92	20	0.17407	1
WCDMA B4	1712.4	281.838	24.50	5.99	20	0.22270	1
WCDMA B5	826.4	281.838	24.50	2.68	20	0.10393	0.55093
LTE B2	1850.7	281.838	24.50	4.92	20	0.17407	1
LTE B4	1710.7	281.838	24.50	5.99	20	0.22270	1
LTE B5	824.7	281.838	24.50	2.68	20	0.10393	0.5498
LTE B7	2502.5	281.838	24.50	5.20	20	0.18566	1
LTE B12	699.7	281.838	24.50	4.17	20	0.14646	0.46647
LTE B13	779.5	281.838	24.50	3.05	20	0.11317	0.51967
LTE B14	790.5	281.838	24.50	2.87	20	0.10857	0.527
LTE B17	706.5	281.838	24.50	4.17	20	0.14646	0.471
LTE B25	1850.7	281.838	24.50	4.92	20	0.17407	1
LTE B26	814.7	281.838	24.50	2.92	20	0.10983	0.54313
LTE B26	824.7	281.838	24.50	2.92	20	0.10983	0.5498
LTE B41	2498.5	281.838	24.50	5.38	20	0.19352	1
LTE B66	1710.7	281.838	24.50	5.99	20	0.22270	1
LTE B38	2572.5	281.838	24.50	4.82	20	0.17011	1

Note:

1. Limit of Power Density = $F/1500$ (For frequency below 1500MHz)
2. This power include tune-up tolerance range that specified in T77W968C9 Tune Up power table.

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

Note: This power include tune-up tolerance range that specified in T77W968C9 Tune Up power table.

--- END ---