

TEST REPORT

FCC ID..... :	2A74L-FK2102	
Test Report No..... :	TCT220620E051	
Date of issue..... :	Jul. 28, 2022	
Testing laboratory	SHENZHEN TONGCE TESTING LAB	
Testing location/ address:	2101 & 2201, Zhenchang Factory Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China	
Applicant's name..... :	Foshan IF2 Electronic Technology Co., LTD	
Address..... :	Cimc Intelligent Manufacturing Center10A-701, Xingtan Town, Shunde District, Foshan City, Guangdong, China	
Manufacturer's name ... :	Foshan IF2 Electronic Technology Co., LTD	
Address..... :	Cimc Intelligent Manufacturing Center10A-701, Xingtan Town, Shunde District, Foshan City, Guangdong, China	
Standard(s)	FCC CFR Title 47 Part 1.1307 KDB 447498 D04 Interim General RF Exposure Guidance v01	
Product Name..... :	Keyboard	
Trade Mark	N/A	
Model/Type reference..... :	FK2102, FK5186, FK5187, FK5188, FK5240, FK5241, FK5242, FK5359, FK5360, FK5361	
Rating(s)..... :	Rechargeable Li-ion Battery DC 3.7V	
Date of receipt of test item	Jun. 20, 2022	
Date (s) of performance of test..... :	Jun. 20, 2022 - Jul. 28, 2022	
Tested by (+signature) ... :	Onnado YE	
Check by (+signature).... :	Beryl ZHAO	
Approved by (+signature):	Tomsin	

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1. General Product Information

1.1. EUT description

Product Name.....:	Keyboard
Model/Type reference.....:	FK2102
Sample Number.....:	TCT220620E043-0101
Operation Frequency	2402MHz~2480MHz
Modulation Type	GFSK
Antenna Type.....:	PCB Antenna
Antenna Gain.....:	-1dBi
Rating(s).....:	Rechargeable Li-ion Battery DC 3.7V

Note: The antenna gain listed in this report is provided by applicant, and the test laboratory is not responsible for this parameter.

1.2. Model(s) list

No.	Model No.	Tested with
1	FK2102	☒
Other models	FK5186, FK5187, FK5188, FK5240, FK5241, FK5242, FK5359, FK5360, FK5361	☐

Note: FK2102 is tested model, other models are derivative models. The models are identical in circuit and PCB layout, only different on the model names. So the test data of FK2102 can represent the remaining models.

2. General Information

2.1. Test environment and mode

Item	Normal condition
Temperature	+25°C
Voltage	DC 3.7V
Humidity	56%
Atmospheric Pressure:	1008 mbar
Test Mode:	
Engineering mode:	Keep the EUT in continuous transmitting by select channel

2.2. Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Equipment	Model No.	Serial No.	FCC ID	Trade Name
/	/	/	/	/

Note:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.
3. For conducted measurements (Output Power, 20dB Occupied Bandwidth, Carrier Frequencies Separation, Hopping Channel Number, Dwell Time, Spurious Emissions), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.

3. Facilities and Accreditations

3.1. Facilities

The test facility is recognized, certified, or accredited by the following organizations:

- FCC - Registration No.: 645098

SHENZHEN TONGCE TESTING LAB

Designation Number: CN1205

The testing lab has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

- IC - Registration No.: 10668A-1

SHENZHEN TONGCE TESTING LAB

CAB identifier: CN0031

The testing lab has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing.

3.2. Location

SHENZHEN TONGCE TESTING LAB

Address: 2101 & 2201, Zhenchang Factory Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China

TEL: +86-755-27673339

4. Test Results and Measurement Data

According to KDB 447498 D04 Interim General RF Exposure Guidance:

The SAR-based exemption formula of § 1.1307(b)(3)(i)(B), repeated here as Formula (B.2), applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold P_{th} (mW).

This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by Formula (B.2).

$$P_{th} (mW) = ERP_{20\text{ cm}} (d/20\text{ cm})^x \quad d \leq 20\text{ cm}$$

or

$$P_{th} (mW) = ERP_{20\text{ cm}} \quad 20\text{ cm} < d \leq 40\text{ cm}$$

(B.2)

where

$$x = -\log_{10}(60/ERP_{20\text{ cm}} \sqrt{f})$$

and f is in GHz, d is the separation distance (cm), and $ERP_{20\text{ cm}}$ is per Formula (B.1).

The example values shown in Table B.2 are for illustration only.

Table B.2—Example Power Thresholds (mW)

Frequency (MHz)	Distance (mm)									
	5	10	15	20	25	30	35	40	45	50
300	39	65	88	110	129	148	166	184	201	217
450	22	44	67	89	112	135	158	180	203	226
835	9	25	44	66	90	116	145	175	207	240
1900	3	12	26	44	66	92	122	157	195	236
2450	3	10	22	38	59	83	111	143	179	219
3600	2	8	18	32	49	71	96	125	158	195
5800	1	6	14	25	40	58	80	106	136	169

For the separation distance $\leq 5\text{mm}$

Maximum Conducted Output Power and Max. ERP of product is as follow

For BDR+EDR:

Modulation	Operate Frequency (MHz)	Maximum Conducted Output Power (dBm)	Antenna gain (dBi)	Max. ERP (dBm)	Tune up Power (dBm)	Max. Tune up Power (dBm)	Max. Tune up Power (mW)	Limit (mW)
GFSK	2480	2.84	-1	1.84	1±1	2	1.58	3

For BLE:

Modulation	Operate Frequency (MHz)	Maximum Conducted Output Power (dBm)	Antenna gain (dBi)	Max. ERP (dBm)	Tune up Power (dBm)	Max. Tune up Power (dBm)	Max. Tune up Power (mW)	Limit (mW)
GFSK	2480	2.60	-1	1.60	1±1	2	1.58	3

Result:

Because the max tune up power is less than the exemption limit, so No SAR measurement is required.

*******END OF REPORT*******

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