FCC RF EXPOSURE REPORT

For

Touch Control Panel, Console

FCC MODEL NUMBER: TCP10M, TCP10**(*=A~Z，0-9 or blank), DT10NA, DT10****(*=A~Z，0-9 or blank)**

ISED MODEL NUMBER: DT10NA

REPORT NUMBER: 4790837688-RF-11

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Prepared for

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Prepared by

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Revision History

Rev.	Issue Date	Revisions	Revised By
V0	September 26, 2023	Initial Issue	

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1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name:	Guangzhou Shirui Electronics Co., Ltd.
Address:	192 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, Guangdong, China

Manufacturer Information

Company Name:	Guangzhou Shirui Electronics Co., Ltd.
Address:	192 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, Guangdong, China

EUT Information

EUT Name:	Touch Control Panel, Console
FCC Model:	TCP10M, TCP10****(*=A~Z, 0-9 or blank), DT10NA, DT10****(*=A~Z, 0-9 or blank)
ISED Model:	DT10NA
Model Difference:	Please refer to clause 5.1. DESCRIPTION OF EUT
Brand:	MAXHUB
Sample Received Date:	August 16, 2023
Sample Status:	Normal
Sample ID:	6366987
Date of Tested:	August 17, 2023 to September 21, 2023

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC 47CFR§2.1091	**PASS**
KDB-447498 D01 V06	**PASS**

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 and KDB 447498 D01 General RF Exposure Guidance v06.

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	**A2LA (Certificate No.: 4102.01)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA. **FCC (FCC Designation No.: CN1187)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. Has been recognized to perform compliance testing on equipment subject to the Commission's Delcaration of Conformity (DoC) and Certification rules **ISED (Company No.: 21320)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with ISED. The Company Number is 21320 and the test lab Conformity Assessment Body Identifier (CABID) is CN0046. **VCCI (Registration No.: G-20019, R-20004, C-20012 and T-20011)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with VCCI, the Membership No. is 3793. Facility Name: Chamber D, the VCCI registration No. is G-20019 and R-20004 Shielding Room B , the VCCI registration No. is C-20012 and T-20011

Note 1: All tests measurement facilities use to collect the measurement data are located at Building 10, Innovation Technology Park, Song Shan Lake Hi tech Development Zone, Dongguan, 523808, China

Note 2: The test anechoic chamber in UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch had been calibrated and compared to the open field sites and the test anechoic chamber is shown to be equivalent to or worst case from the open field site.

Note 3: For below 30MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. And these measurements below 30MHz had been correlated to measurements performed on an OFS.

4. DESCRIPTION OF EUT

EUT Name	Touch Control Panel, Console
FCC Model	TCP10M, TCP10****(*=A~Z, 0-9 or blank), DT10NA, DT10****(*=A~Z, 0-9 or blank)
ISED Model	DT10NA
Model Difference	All models are identical, only the model name is different for marketing purpose.
Ratings	DC 12 V

WIFI 2.4G	Radio Technology	IEEE802.11b/g/n HT20/n HT40
	Operation Frequency	2412 MHz to 2472 MHz
	Modulation	IEEE 802.11b: DSSS(CCK) IEEE 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT40: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK)
WIFI 5G	Radio Technology	IEEE802.11a IEEE802.11n HT20/n HT40 IEEE802.11ac VHT20/VHT40/VHT80
	Operation Frequency	5 150 MHz to 5 350 MHz 5 470 MHz to 5 725 MHz 5 745 MHz to 5 825 MHz
	Modulation	IEEE 802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT40: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac VHT20: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac VHT40: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac VHT80: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK)

Technology	*Bluetooth* - Low Energy	
Transmit Frequency Range	2402 MHz ~ 2480 MHz	
Modulation	GFSK	
Data Rate	BLE 1M	1 Mbps
	BLE 2M	2 Mbps

Technology	Bluetooth – BR & EDR		
Transmit Frequency Range	2402 MHz ~ 2480 MHz		
Mode	Basic Rate	Enhanced Data Rate	
Modulation	GFSK	∏/4-DQPSK	8DPSK
Packet Type (Maximum Payload):	DH5	2DH5	3DH5
Data Rate	1 Mbps	2 Mbps	3 Mbps

5. REQUIREMENT

LIMIT AND CALCULATION METHOD

Systems operating under the provisions of FCC 47 CFR section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as mobile device whereby a distance of 0.2m normally can be maintained between the user and the device, and below RF Permissible Exposure limit shall comply with.

Limits for General Population/Uncontrolled Exposure

RF EXPOSURE LIMIT

Frequency Range (MHz)	E-field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (Minutes)
0.3 -- 1.34	614	1.63	(100)*	30
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

CALCULATION METHOD

$S=PG/4\pi R^2$

Where:

S=power density

P=power input to antenna

G=power gain of the antenna in the direction of interest relative to an isotropic radiator

R=distance to the center of radiation of the antenna

CALCULATED RESULTS

Radio Frequency Radiation Exposure Evaluation

2.4GHz WIFI (Worst case)				
Operating Mode	Max. Tune up Power	Max. Directional Antenna Gain	Power density	Limit
	(dBm)	(dBi)	(mW/ cm^2)	
2.4GHz WIFI	18	2.63	0.050	1

5 GHz WIFI (Worst case)				
Operating Mode	Max. Tune up Power	Max. Directional Antenna Gain	Power density	Limit
	(dBm)	(dBi)	(mW/ cm^2)	
5 GHz WIFI	16	1.89	0.0122	1

BT (Worst case)				
Operating Mode	Max. Tune up Power	Max. Directional Antenna Gain	Power density	Limit
	(dBm)	(dBi)	(mW/ cm^2)	
BT	6	2.63	0.003	1

Note:
1. The calculated distance is 20 cm.
2. The power comes from operation description.
Therefor the maximum calculations of above situations are less than the “1” limit.

END OF REPORT