



Report No.: PTC24022617701E-FC07

FCC TEST REPORT

FCC ID: 2BF9L-W80-30

Product	:	iMat ®Weigh -30 Smart office Vending machine
Model Name	:	W80-30, KT-MiniCtrl-G, KT-MiniCtrl-F, W90-30, S50-80, S50-80Plus, W60-30, G50-33B, G30-84, S20-60, S50-60, A10-864
Brand	:	N/A
Report No.	:	PTC24022617701E-FC07
Prepared for		
ShenZhen KunTon Intelligent Storage Technology Co.,Ltd		
No.14 building,Hua Lian Industrial Zone XinShi Community, DaLang Street,LongHua District,ShenZhen City,GuangDong Province		
Prepared by		
Precise Testing & Certification Co., Ltd.		
Building 1, No. 6, Tongxin Road, Dongcheng Street, Dongguan, Guangdong, China.		



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TEST RESULT CERTIFICATION

Applicant's name : ShenZhen KunTon Intelligent Storage Technology Co.,Ltd

Address : No.14 building,Hua Lian Industrial Zone XinShi Community,
DaLang Street,LongHua District,ShenZhen City,GuangDong
Province

Manufacture's name : ShenZhen KunTon Intelligent Storage Technology Co.,Ltd

Address : No.14 building,Hua Lian Industrial Zone XinShi Community,
DaLang Street,LongHua District,ShenZhen City,GuangDong
Province

Product name : iMat ®Weigh -30 Smart office Vending machine

Model name : W80-30,KT-MiniCtrl-G,KT-MiniCtrl-F,W90-30,S50-80,S50-
80Plus,W60-30,G50-33B,G30-84,S20-60,S50-60,A10-864

Test procedure : FCC CFR47 Part 1.1307(b)(1)

Test Date : Apr. 01, 2024 to Jun. 26, 2024

Date of Issue : Jun. 26, 2024

Test Result : PASS

This device described above has been tested by PTC, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Test Engineer:

A handwritten signature in black ink, appearing to read 'Jack Zhou'.

Jack zhou / Engineer

Technical Manager:

A handwritten signature in black ink, appearing to read 'Simon Pu'.

Simon Pu / Manager



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2 Test Summary

Test Items	Test Requirement	Result
Maximum Permissible Exposure (Exposure of Humans to RF Fields)	15.247 (i)	PASS
Remark:		
N/A: Not Applicable		



3 General Information

3.1 General Description of E.U.T.

Product Name	:	iMat ®Weigh -30 Smart office Vending machine
Model Name	:	W80-30
Additional model	:	KT-MiniCtrl-G,KT-MiniCtrl-F,W90-30,S50-80,S50-80Plus,W60-30,G50-33B,G30-84,S20-60,S50-60,A10-864
Specification	:	Bluetooth BDR+EDR Bluetooth BLE 802.11b/g/n HT20/HT40 802.11n HT20/HT40 GSM850 PCS1900 WCDMA Band II WCDMA Band IV WCDMA Band V E-UTRA Band 2 E-UTRA Band 4 E-UTRA Band 5 E-UTRA Band 7 E-UTRA Band 12 E-UTRA Band 13 E-UTRA Band 25 E-UTRA Band 26 E-UTRA Band 38 E-UTRA Band 41
Operation Frequency	:	2402-2480MHz for BT 2402-2480MHz for BLE 2412-2462MHz for 802.11b/g/ n(HT20) 2422-2452MHz for 802.11 n(HT40) GSM850: 824.2 MHz-848.8 MHz PCS1900: 1850.2 MHz-1909.8 MHz WCDMA Band II: 1852.4 MHz-1907.6 MHz WCDMA Band IV : 1712.4 MHz-1752.6 MHz WCDMA Band V : 826.4 MHz-846.6 MHz E-UTRA Band 2: Tx:1850 MHz-1910 MHz;Rx:1930 MHz-1990 MHz E-UTRA Band 4: Tx:1710 MHz-1755 MHz;Rx:2110 MHz-2155 MHz E-UTRA Band 5: Tx: 824 MHz-849 MHz;Rx:869 MHz-894 MHz E-UTRA Band 7: Tx:2500MHz-2570 MHz;Rx:2620 MHz-2690 MHz E-UTRA Band 12: Tx:699MHz-716 MHz;Rx:729 MHz-746 MHz E-UTRA Band 13: Tx:777MHz-787 MHz;Rx:746 MHz-756 MHz E-UTRA Band 25: Tx:1850MHz-1915 MHz;Rx:1930 MHz-1995 MHz E-UTRA Band 26: Tx:814MHz-849 MHz;Rx:859 MHz-894 MHz E-UTRA Band 38: Tx:2570MHz-2620 MHz;Rx:2570 MHz-2620 MHz E-UTRA Band 40: (Tx:2305MHz-2315MHz;Rx: 2305MHz-2315MHz & Tx:2350MHz-2360MHz;Rx:2350MHz-2360MHz) E-UTRA Band 41: Tx:2496 MHz-2690 MHz;Rx:2496 MHz-2690 MHz
Number of Channel	:	79 channels for BDR+EDR 40 channels For DTS



		11 channels for 802.11b/g/ n(HT20) 7 channels for 802.11n(HT40)
Type of Modulation	:	GFSK, $\pi/4$ -DQPSK, 8DPSK For DSS GFSK, For DTS DSSS with DBPSK/DQPSK/CCK for 802.11b; OFDM with BPSK/QPSK/16QAM/64QAM for 802.11g/n; ☒ QPSK ☒ 16QAM ☒ 64QAM(Downlink Only)(LTE)
Antenna installation	:	External antenna
Antenna Gain	:	2.4G: -0.02 dBi GSM 850: 2.14 dBi PCS1900: 2.52 WCDMA Band II: 2.81dBi WCDMA Band IV : 2.81dBi WCDMA Band V : 2.14dBi E-UTRA Band 2: 2.81dBi E-UTRA Band 4: 2.81dBi E-UTRA Band 5: 2.14dBi E-UTRA Band 7: 2.36dBi E-UTRA Band 12: 1.9dBi E-UTRA Band 13: 1.9dBi E-UTRA Band 25: 2.81dBi E-UTRA Band 26: 2.14dBi E-UTRA Band 38: 2.36dBi E-UTRA Band 40: 2.36dBi E-UTRA Band 41: 2.36dBi
Power supply	:	Input: 85~264VAC Out: 12VDC
Hardware Version	:	N/A
Software Version	:	N/A



4 RF Exposure

Test Requirement : FCC Part 1.1307(b)(1)

Evaluation Method : KDB 447498 D01 General RF Exposure Guidance v06

4.1 Requirements

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

4.2 The procedures / limit

(A) Limits for Occupational / Controlled Exposure

Frequency Range	Electric Field	Magnetic Field	Power Density (S)	Averaging Time
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range	Electric Field	Magnetic Field	Power Density (S)	Averaging Time
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz ; *Plane-wave equivalent power density



4.3 MPE Calculation Method

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power Density: } P_d \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

E = Electric field (V/m)

P = Peak RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$P_d = \frac{30 \times P \times G}{377 \times d^2} \theta_{\phi}$$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained

4.4 Test Result

Test Mode	Test Frequency(MHz)	Antenna Gain (numeric)	Max. Peak Output Power (dBm)	Tune up tolerance (dBm)	Max Tune Up Power (mW)	Power Density (mW/cm ²)	Limit of Power Density (mW/cm ²)	Result
3DH5	2402	1.00	8.28	8.28±1	8.491805	0.001682	1	Pass
BLE_1M	2402	1.00	6.96	6.96±1	6.251727	0.001238	1	Pass
11B	2437	1.00	22.35	22.35±1	216.271852	0.042828	1	Pass
GSM850	848.8	1.64	30.32	30.32±1	1355.189412	0.441296	0.57	Pass
PCS1900	1880.0	1.79	30.35	30.35±1	1364.583137	0.484987	1	Pass
WCDMA Band II	1852.4	1.91	23.68	23.68±1	293.764965	0.111617	1	Pass
WCDMA Band IV	1712.4	1.91	23.48	23.48±1	287.078058	0.109076	1	Pass
WCDMA Band V	826.4	1.64	24.05	24.05±1	319.889511	0.104167	0.55	Pass
E-UTRA Band 2	1852.5	1.91	23.87	23.87±1	306.902199	0.116608	1	Pass
E-UTRA Band 4	1732.5	1.91	22.87	22.87±1	243.781082	0.092625	1	Pass
E-UTRA Band 5	829	1.64	24.73	24.73±1	374.110588	0.121823	0.55	Pass
E-UTRA Band 7	2502.5	1.72	24.50	24.50±1	354.813389	0.121543	1	Pass
E-UTRA Band 12	715.3	1.55	24.70	24.70±1	371.535229	0.114480	0.48	Pass
E-UTRA Band 13	782	1.55	24.88	24.88±1	280.543364	0.086443	0.52	Pass
E-UTRA Band 25	1852.5	1.55	23.65	23.65±1	291.742701	0.089894	1	Pass



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E-UTRA Band 26	831.5	1.64	24.42	24.42 ± 1	348.337315	0.113431	1	Pass
E-UTRA Band 38	2572.5	1.72	23.43	23.43 ± 1	277.332010	0.095001	1	Pass
E-UTRA Band 40	2312.5	1.72	22.88	22.88 ± 1	244.343055	0.083701	1	Pass
E-UTRA Band 41	2593	1.72	24.62	24.62 ± 1	364.753947	0.124948	1	Pass



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5 simultaneous MPE Result

2.4GWi-Fi MPE ratio	GSM 850 MPE ratio	simultaneous MPE ratio	MPE Limits ratio	Test result
0.042828	0.774204	0.817032	1	PASS

Note: The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

*******THE END REPORT*******