

Shenzhen Lord Way Technology Co.,Ltd

規 格 书
SPECIFICATION

Product Name: Wireless Backlit Keyboard

MODEL : 214DG

VERSION : 1.0

DATE : 2024-04-20

Mechanical Engineer:梁文友

Electrical Engineer:丰益东

1. Release version

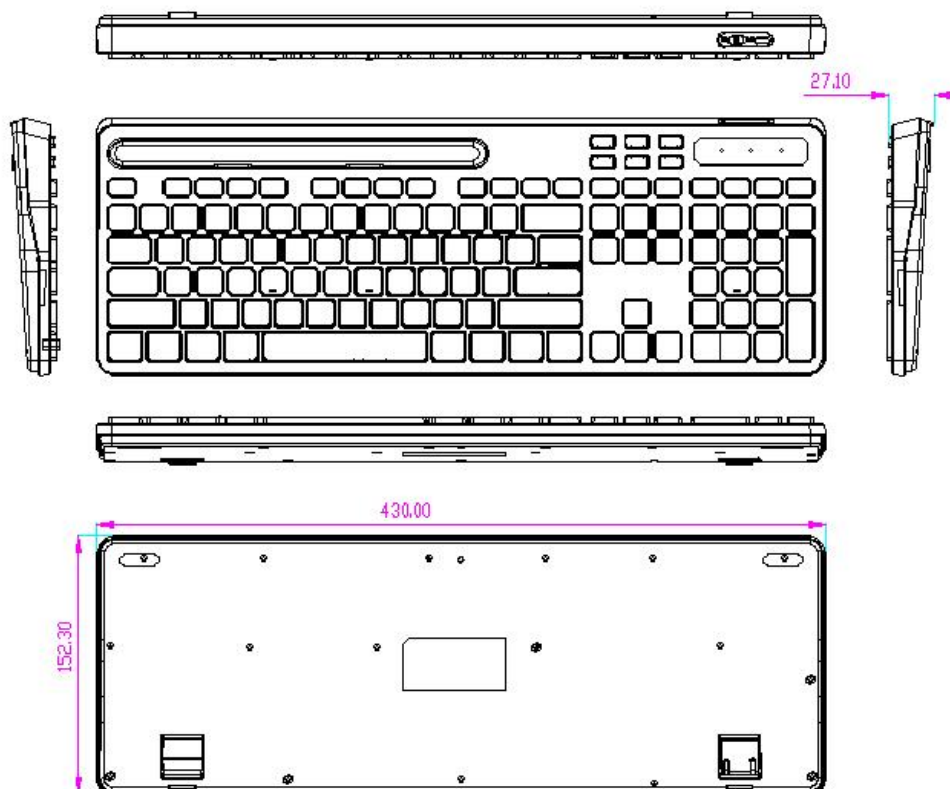
Version number	Release date	Editor	Description
1.0	2024-04-20	丰益东	first edition

2. Keyboard Summarize

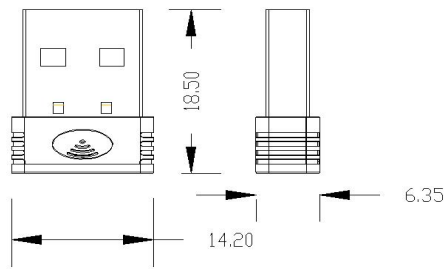
2.1 Introduction

This keyboard features a three-zone standard chocolate-style layout with an ultra-thin design and comfortable tactile feedback. It includes 114 keys plus FN and calculator function shortcuts. Its overall design is sleek and streamlined, making it the top choice for office and entertainment use. Available in five language versions, it operates with minimal noise.

2.1.1 Keyboard Diagram LD-214DG



2.1.2 Receiver Outline Drawing



2.2.1 Keyboard Dimensions

Length: 430.00 mm

Width: 125.3 mm

Height: 27.1 mm

2.2.2 Receiver Dimensions

Length: 18.50 mm

Width: 14.20 mm

Height: 6.35 mm

2.3 Material

2.3.1 Keyboard Material Colors

Keycaps: ABS laser-engraved material

Top cover: ABS injection-molded part

Bottom cover: ABS injection-molded part

Feet pads: Silicone

2.3.2 Receiver Material

Top cover: ABS injection-molded

Bottom cover: 475 injection-molded

2.4 Weight

Keyboard Weight: 560g $\pm$ 20g

Receiver Weight: 1.5g

2.5 Silicone Pad Specifications

Dimensions: 9 × 4.5 mm
F1: Operating Force: 51 ± 7g
F4: Total Travel: 4.0±0.2 mm
Rebound Time: Max 5 ms
S2: Soft Film Contact Point Silicone Travel 2.60±0.2 mm
Rebound Force: ≥15 g
Standard key silicone lifespan exceeds 10 million cycles under normal operation.

3. Structural Specifications

3.1 Keycap Pull Force Test

Keycap pull force exceeds 1 kgf.

3.2 Splash Resistance

Standard splash-resistant design.

3.3 Drop Resistance

Keycaps feature an advanced reinforced anti-drop structure.

4. Functional Specifications

4.1 Receiver Specifications

4.1.1 Power Specifications: 5.0V DC, 30mA Max.

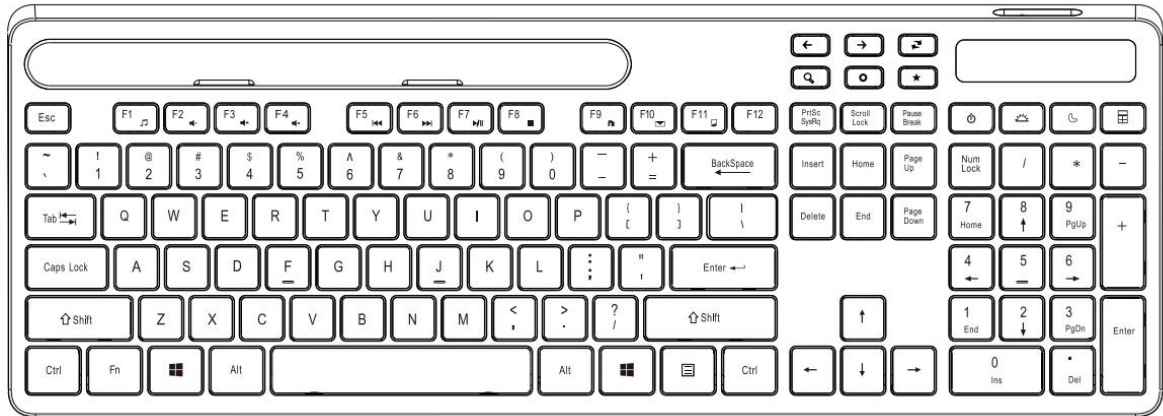
4.1.2 Connection Interface: Supports USB 2.0 standard specification and USB HID specification V1.1.

4.1.3 Supported Windows OS Versions: 95, 98, 2000, ME, XP, Vista, Win7, Win8, Win10

4.2 Keyboard Layout and Matrix Diagram

4.2.1 Keyboard Layout Diagram, Various Character Sets

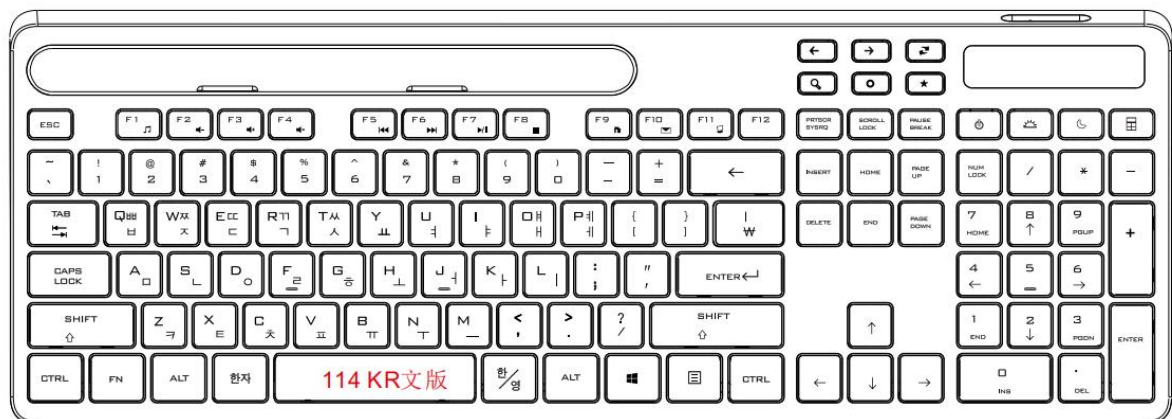
US (“_” shape Enter key)Version



UK (“_” shape Enter key) Version



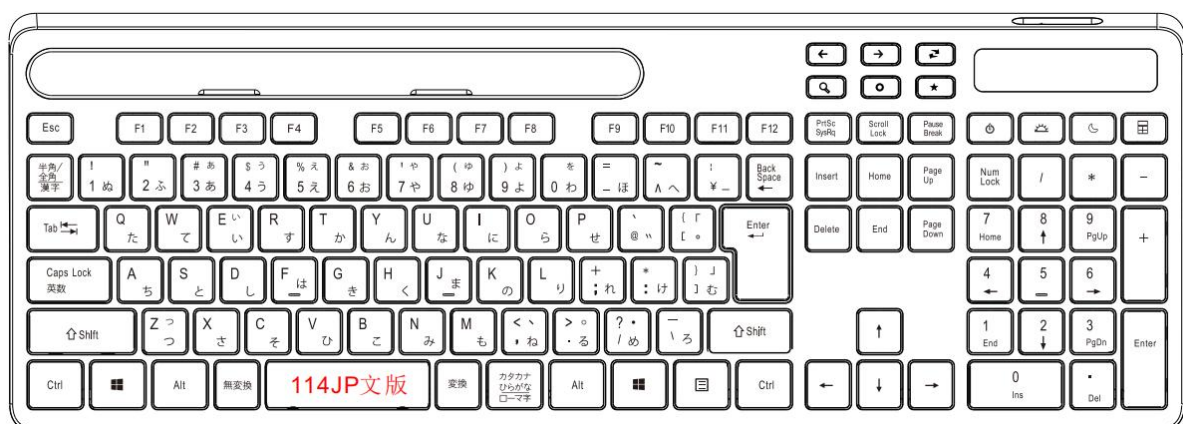
KR(“_” shape Enter key) Version



BR (“7” shape Enter key) Version



JP (“7” shape Enter key) Version



4.2.2 Keyboard Matrix Diagram

	R0	R1	R2	R3	R4	R5	R6	R7
C0	Pause	Power	H4	Sleep	Ctrl-R	Wake up	Ctrl-L	F5
C1	Q	Tab	A	Esc	Z	N-CHG K131	~	1!
C2	W	Caps	S	K45	X	CHG K132	F1	2@
C3	E	F3	D	F4	C	ROMA K133	F2	3#
C4	R	T	F	G	V	B	5%	4\$
C5	U	Y	J	H	M	N	6^	7&
C6	I	]]	K	F6	,<	K56	=+	8*
C7	O	F7	L	H1	.>	APP	F8	9(
C8	P	[{	::	""	K42	/?	-_	0)
C9	Scroll	H2	FN	Alt-L	ID Key	Alt-R	H3	Print
C10	K14	Backspace	\	F11	Enter	F12	F9	F10
C11	7 Pad	4 Pad	1 Pad	Space	Num	↓	Del	Power
C12	8 Pad	5 Pad	2 Pad	0 Pad	/ Pad	→	Ins	Sleep
C13	9 Pad	6 Pad	3 Pad	. Pad	* Pad	- Pad	Page Up	Page Down
C14	+ Pad	K107	Enter Pad	↑	Play/Pause	←	Home	End
C15	Wake up	Shift-L	Shift-R	Volume-	Volume+	Next Track	Prev Track	Media
C16	Mail	Win-L	WWW Forward	WWW Stop	WWW Back	WWW Refresh	Mute	WWW Search
C17	KR-L	WWW Favorite	Win-R	My Computer	Stop	Calculator	Web/Home	KR-R

4.3 Receiver Connection Definitions

PIN NO.	Signal Name
1	VCC
2	-Data
3	+Data
4	Ground

4.4 Product Feature Description

4.4.1 Compatible with USB 1.1 and 2.0 interfaces, conforming to USB 1.1 and 2.0 specifications.

4.4.2 Supports wake-on-sleep for computers and wake-on-sleep for the device itself.

4.4.3 Features a power-on indicator light and supports low-voltage alarm. Includes CAP and NUM status indicator lights.

4.4.4 Powered by a 1500mAh lithium battery, charged via USB to Type-C 5V.

4.4.5 Supports FN + F key multimedia functions:



FN+F1: Media Player

FN+F2: Volume Down

FN+F3: Volume Up

FN+F4: Mute

FN+F5: Previous Track

FN+F6: Next Track

FN+F7: Play/Pause

FN+F8: CD stop

FN+F9: Web/Home

FN+F10: Mail

FN+F11: My Computer

FN+F12: My Favorites

FN+Scroll: Backlight Mode Switch

FN+PrtSc: Backlight Off/On

FN+↑: Increase Brightness

FN+↓: Decrease Brightness

FN+←: Decrease Light Flow Speed

FN+→: Increase Light Flow Speed

Backlight Function:

1. Backlight Mode: Rainbow Flow (default when keyboard powers on). Lighting Modes: Rainbow Flow, Rainbow Scrolling, Neon, Solid Red, Solid Yellow, Solid Green, Solid Cyan, Solid Blue, Solid Purple, Solid White. Backlight brightness has four levels: 0%, 30%, 70%, 100% (default).
2. Backlight turns off after 120 seconds of inactivity; enters Sleep mode after 2 minutes.
3. Backlight turns off when power voltage drops below 3.3V and triggers an alarm.

5. Electrical specifications

5.1 Keyboard Electrical Specifications

Working frequency	2.4GHz
Deviation	2.5MHz
Channel number	16
RF output Power	-1.12dBm
Modulation method	GFSK
Power requirements	3.7V,(5522100 Li-battery)
Min. Operation Voltage	3.2V
Max. Operation Voltage	4.3V
Current Dissipation	100mA (MAX)
Standby Mode Current	30uA
Sleeping Mode Current	<30uA
Transmitting Angle	360°
Wake UP Mode	Button
Working Distance	>8 meters

Operation mode into Idle mode consume time	Around 2 Minutes
Operation mode into Sleep mode consume time	Around 2 Minutes
Low Battery	3.3+/-0.1V
Rechargeable battery spec	5522100 Li-battery 1500mAH
Charger Voltage	5V +/-0.2V
Charger Current	<500mA
Charger Time	3h
Battery Operate Life	300~500 Times
Time from power-on to light-up	Around 1 Sec
Optical Sensor	NA
RF Solution	BK2483

5.2 Electrical Specifications of the Receiver

Channel number	16
Current Dissipation	<35mA
Standby Mode Current	<35mA
Operation Voltage	DC 4.5V to 5.5V
Working Distance	>8 meters
Compatible character	WIN ALL
LED Indicator	NA
RF Solution	BK8091

6. Environment and Reliability Parameters

6.1 Environmental Conditions

Operating Temperature Range: 0°C to 40°C

Operating Humidity Range: ≤85%

Transport Temperature Range: -40°C to 55°C

Transport Humidity Range: ≤93% (at 40°C)

6.2 Surface and Key Character Wear Testing

LOGO Wear Resistance: >100 cycles @ 500gf weight alcohol test

Key Character Wear Resistance: >10,000 cycles @ 500gf weight alcohol test

6.3 Low Temperature Testing

Temperature: -40°C to 2°C

Test Duration: 16 hours (followed by 2 hours recovery)

6.4 High Temperature Test

Temperature: 55°C ± 2°C

Test Duration: 16 hours (2-hour recovery)

6.5 High Temperature & High Humidity

Temperature: 55°C ± 2°C

Humidity: ≤93% (at 40°C)

Test Duration: 48 hours

6.6 Thermal Cycling Test

Temperature: 20°C-55°C-20°C, Temperature Change Rate: 1°C/min

Cycle Count: 3 cycles.

6.7 Vibration Test

Frequency 5-35Hz, Amplitude 2mm, Scan Cycle 55-10/min, XYZ 3 Directions

6.8 Drop Test

Package Weight	Drop Height
≤15 kg	1000 mm
>15 kg~30 kg	800 mm
>30 kg~40 kg	600 mm

6.9 Free-Fall Test

75cm free-fall test: 1 drop per face and edge, total 6 drops.
Tested as a complete box with packaging.

7. Warning Template:

7.1 Label Warning

7.11 Labeling requirements.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

7.12 Information to user.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

7.2 FCC Warning Statement (Instruction manual requires inclusion of FCC warning statement)

FCC STATEMENT

NOTE: 1.This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

RF warning statement:

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.