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Product Specification Sheet

Product name: Smart Keyboard Folio

Product model: EB119

Bluetooth version: Bluetooth 5.3

Version: A/0

Shenzhen Yunmao Technology Co., Ltd. confirmed			
Formulation/Date	Review/Date	Approval/Date	Company Seal
Wei Geng 2024/3/10	Yang Yong 2024 /3/10	Yang Yong 2024/3/10	

client confirmation			
Product Manager/Date	Quality Engineering Manager/Date	Product Director Approval/Date	Company Seal

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1.Scope of application

This product specification defines this product as: a wireless low-energy(BLE) keyboard that can be used as an input device for iPad OS system devices.

2. Overview of appearance and component specifications

2.1 Product Appearance (Example)



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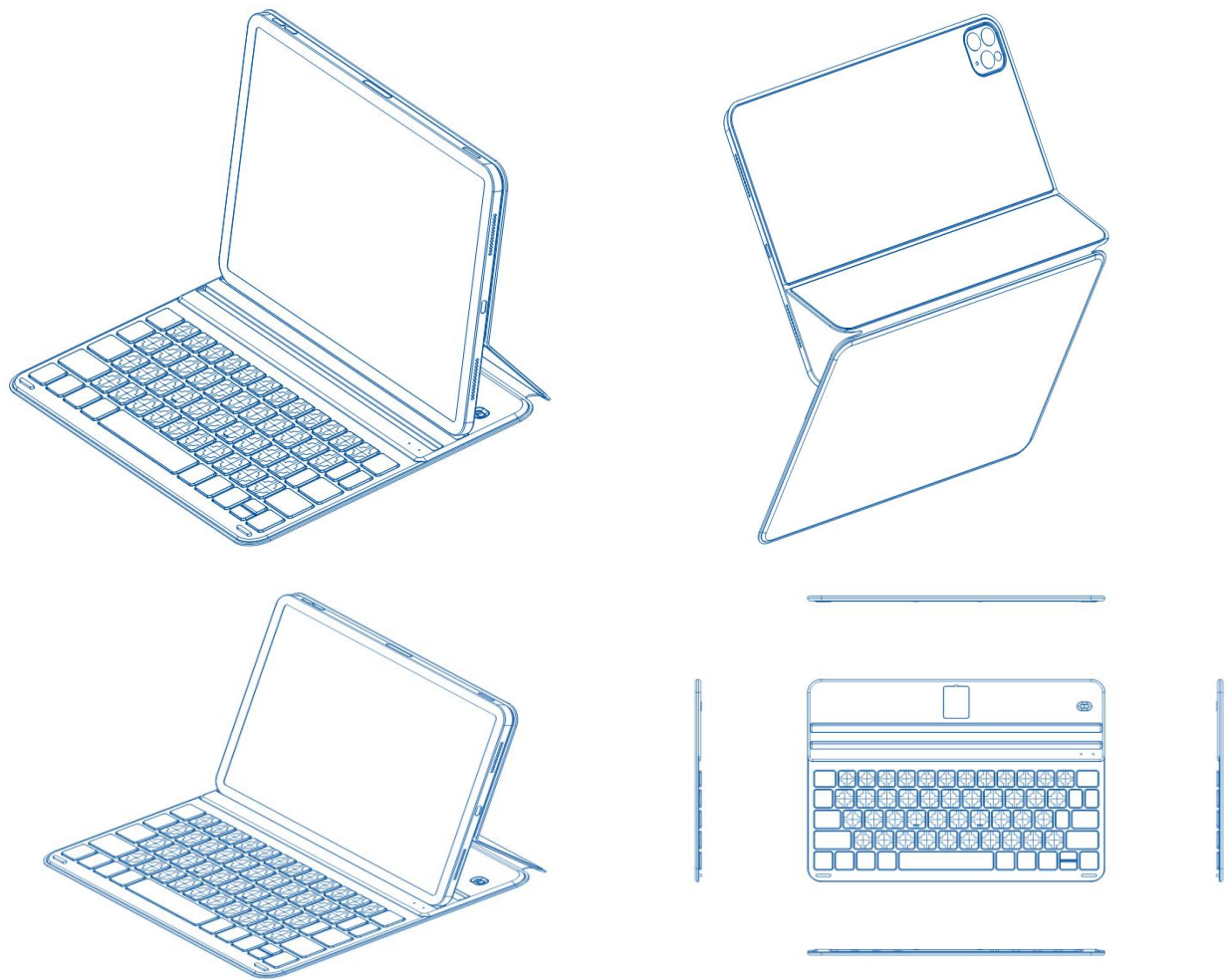


2.2 Keycaps silk screen image (demonstration image)



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2.3 Exploded view



2.4 Product Information

Serial Number	Category	Specification Description
1	product weight	403.5g
2	Product Size	338.7*169.2*8.7mm (L*W*H)
3	Applicable Products	iPad Pro 11 inch (2018/2020/2021/2022) iPad Air 4/iPad Air5 10.9 inches iPad 10 th Gen 2022
4	The main function	Business office money, ready to use

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3. Finished product BOM list

3.1 Structural component specification list

serial number	Part Name	Specifications and models	unit	Dosage
1	plan	Atm	PCS	1
2	Fabric	Dark gray Samsung material	PCS	1
3	Lining	Stretch PU leather	PCS	1
4	shell material	PC	PCS	1
5	PCBA	FR-4	PCS	1

4. Technical specifications parameters

serial number	Parameter items	Specifications/parameter description
1	Product number	EB119
2	Bluetooth device name	Bluetooth keyboard
4	Bluetooth version	Bluetooth 5.3
6	Frequency Range	2402Mhz-2480Mhz
7	Modulation	GFSK
8	Channel spacing	2M
9	Maximum transmit power	4dBm
10	Transmission distance	10 m

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11	Receive sensitivity	-95dBm@1Mbps	
12	Antenna type	PCB antenna	
13	Antenna gain	0dBm	
14	Voltage	3.0V	

5. Electrical performance parameters

serial number	Parameter items	Specifications/Parameter Description
1	Standby time	≤300 days
3	Operating Voltage	2V - 3V
4	Power supply	Button Battery
5	Low battery alarm voltage	< 2.3V
6	Pairing state current	1.44mA
7	Key current (Bluetooth light only, press and hold the space key)	Average value: 242.22uA Maximum value: 15.92mA
8	stand-by current	Average value: 18.14uA Maximum value: 15.91mA
9	Sleep current	2.51uA

6. Product function definition (UI function operation)

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Serial number	Function	Test items	Test Data	Remark
1	Power on	Flip the power switch to ON to turn on the device	The blue light stays on for 2 seconds before turning off.	
2	Shutdown	Flip the power switch to OFF to shut down	none	
3	pairing	Triggering method and instructions for entering pairing status	1. After short pressing Fn + C, the Bluetooth indicator flashes once per second to enter the search state. After the connection is successful, the Bluetooth indicator goes out.	Can pair repeatedly. After 1 minute of pairing timeout, the keyboard will enter sleep mode.
4	Back link	Return mode	1. Automatically reconnect when booting, with a reconnection timeout of 10 minutes. 2. Return to sleep mode after connection timeout.	
5	Disconnected hibernation	Time to enter sleep state without operation in standby	10 minutes	
6		After turning off the host Bluetooth	Reconnect for 10 minutes and enter sleep mode after timeout	/
7		Disconnect indication	No prompt	/
8		Hibernation and low-power hibernation indication	No prompt	/
9	indicator light	keyboard indicator light	Bluetooth indicator light: blue. keyboard Caps Lock indicator: uppercase status LED (blue) is always on/lowercase status LED is off. low battery alarm indication: red light flashes.	/
10	Restore factory value function	When powered on	Press esc + backspace key for 3 seconds, the power light will stay on for 3 seconds to restore factory settings.	/
11	button	Fn combination multimedia keys	1. Fn+ brightness decreases: 2. Fn+ brightness increases: 3. Fn+ search: 4. Fn+ multitasking window: 5. Fn+	

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			screenshot: 6. Fn+ language switch: 7. Fn+ previous song: 8. Fn+ play/pause: 9, Fn+Next song: 0, Fn+Mute: Fn+Volume down: Fn+Volume up: Fn+C: Pairing, Fn+←: Home, Fn+↑: PgUp, Fn+↓: PgDn, Fn+→: End	

7. Battery specification

serial number	model	Parameter items	Specifications/Parameter Description
1	Battery	Headphone battery manufacturers	Nanfu/Panasonic
		Battery Specifications	CR2032
		Standard voltage (V)	3.0
		Standard capacity	210mAh
		15KΩ continuous load discharge, end voltage 2.0V	Standard value 1100H, minimum value 1050H

8. Packaging inspection standards

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Test items	Inspection content and judgment criteria	Defect Classification		
		CR	MA	MI
Packaging appearance inspection	Check whether the outer box size, box mark content and product packaging method are consistent with the packaging specifications, order review form and packaging SOP requirements. whether the PO meets the correct specifications.		•	
	Check the packaging materials and accessories (such as instructions, paper cards, labels, warranty cards, data cables, etc.) according to the packaging specifications and samples. Check all packaging materials to ensure that there are no defects such as wrong packaging, missing packaging, reverse installation, incorrect placement, etc.		•	
	Check that the printed graphics, text content, font size, and color of the outer boxes, color boxes, paper cards, and manuals are consistent with the packaging specifications, order review forms, and samples. The color boxes, paper cards, and manuals must not be scratched, damp, dirty, debonded, scribbled, or damaged. Color differences, unevenness, fading, surface color sticking, or inconsistent surface gloss are not allowed. Printed graphics are not allowed to have ghosting, skewed or reversed characters, missing strokes, or other undesirable phenomena.		•	
Color Box	The color box is damaged or dirty		•	
	Color box debonding		•	
	The printed content is wrong and does not match the sample	•		
	The plastic should be smooth and the sealing should be smooth without any cracks or rot.		•	
	EAN&UPC code error, inconsistent with BOM	•		
appendix	Check with BOM for missing, missing or wrong parts		•	
Outer box	The outer box is broken and has no packaging protection function.		•	
	The physical items in the box are lacking or mixed.		•	
	The marked material number does not match the actual product		•	

9. Appearance inspection standards

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Test items	Inspection content and judgment criteria	Defect division		
		CR	MA	MI
Odor	No pungent smell		•	
Color difference	Color difference: $\Delta E < 2.0$, or refer to customer signed samples/R&D samples		•	
Steps and gaps	Gap $\leq 0.2\text{mm}$, step difference $\leq 0.15\text{mm}$, no glue spillage, no scratching		•	
Product surface	Shrinkage, whitening, bubbles, air marks, flow lines, stains, glue, strain, glue, poor fuel injection, etc., scratches, burrs		•	
	No missing installation or damage.		•	
	Whether there are burrs on the mold closing line, determine the reference sample.		•	
	There should be no dirt, fingerprints, etc. on the surface of the product.		•	
Silk screen, LOGO	Whether the silk screen characters on the surface of the product are in good condition, whether the silk screen handwriting is clear, and whether there are any residual characters, hyphenation, slanting or reprinting, otherwise it is NG.		•	
	Is the pattern printing biased, unclear, diffuse, or incomplete?		•	

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	The direction of the silk screen characters is correct and consistent with the prototype.		•		
Same color points	Side A: Diameter $D \leq 0.20$ /area ≤ 0.08 Quantity $N \leq 2$, distance $DS \geq 20$ mm. Side B: Diameter $D \leq 0.30$ /area ≤ 0.1 Quantity $N \leq 2$, distance $DS \geq 20$ mm Side C: Diameter $D \leq 0.50$ /area ≤ 0.2 Quantity $N \leq 2$, distance $DS \geq 20$ mm		•		
Heterochromatic spots					
pitted					
particles					
less oil					
indentation					
No scratches	Side A: length $L \leq 3.0$ mm, width $W \leq 0.10$, quantity $N \leq 1$. Side B: length $L \leq 5.0$ mm, width $W \leq 0.15$, quantity $N \leq 1$ Side C: length $L \leq 8.0$ mm, width $W \leq 0.30$, Quantity $N \leq 1$		•		
Feeling scratched	Side A: Not allowed Side B: length $L \leq 3.0$ mm, width $W \leq 0.10$, quantity $N \leq 1$ Side C: length $L \leq 5.0$ mm, width $W \leq 0.10$, quantity $N \leq 1$		•		
rough edges	Side A: height ≤ 0.1 mm, side B: height ≤ 0.2 mm, side C: height ≤ 0.3 mm		•		
Lack of material	Parts are incompletely constructed, resulting from poor injection molding		•		
Oxidation/Corrosion	Metal parts or metal surface treatments must not rust, oxidize or corrode	•			

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10. Reliability test standards

serial number	Test items	test method	judgement result
1	Low temperature storage	1. Before testing, confirm that the appearance and function of the test sample are intact. 2. Temperature -20°C, humidity 95%RH. 3. Keep it 24H (controlled according to the structural implementation of the product). After testing, place it at room temperature for 2H to check the structural appearance and function.	The sample charging, earphone pairing and other functions are normal. the outer surface of the sample must not be deformed, faded or otherwise abnormal in appearance and structure.
2	High temperature and high humidity storage	1. Before testing, confirm that the appearance and function of the test sample are intact. 2. Temperature 65°C, humidity 95%RH. 3. Keep it 24H (controlled according to the structural implementation of the product). After testing, place it at room temperature for 2H to check the structural appearance and function.	The sample charging, earphone pairing and other functions are normal. the outer surface of the sample must not be deformed, faded or otherwise abnormal in appearance and structure.

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3	Salt spray test	1. Spray salt spray water with a NaCl concentration of 5% and a pH value of 5.5-6.5. 2. Turn on the salt spray test equipment. After the temperature of the test equipment reaches 35°C, the spray flow rate is 1-2ml/80cm2/h. 3. Place the test sample into the salt spray test box. When placing the sample, place it at an angle of 30 degrees to the vertical direction, and start timing for the 24H test. 4. After the test is completed, take the test sample out of the salt spray box for surface cleaning, place it at room temperature for 2 hours, and then perform a functional appearance inspection.	1. There should be no appearance and structural abnormalities such as rust, cracking, fading, etc. on the outer surface of the sample.
4	Bare metal drop test	1. Before testing, confirm that the appearance and function of the test sample are intact. 2. EB119 keyboard test is 0.6 meters. 3. Drop the sample on the cement floor from a height of 0.6 in three directions and six sides, once from six sides in each direction, for a total of 6 drops.	The sample must not smoke, leak, catch fire, or explode, and all functions must be normal. the structural components of the sample must not appear to fall off or other

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			abnormalities.	
8	distance test	1. Pair the iPad and the prototype to be tested, and place the iPad at a straight line distance of ≤ 10 meters. 2. Use IPAD Pro 11-inch, connect to the test prototype, and start moving away from the Bluetooth device in a straight line until there is a continuous and stable stuck point. at the continuous stuck point, move back 30-50cm in a straight line toward the direction of the Bluetooth device, and confirm There is no continuous and stable stuck point, and the recorded distance is the effective Bluetooth distance.		
9	Standby time test	1. Standby time in no-operation state 2. Turn on the computer and connect to the IPAD, do not perform any operations, and wait for the standby time.	The standby time should not be less than the time specified in the instruction manual	
12	ESD testing	1. Contact discharge: 10 times of contact discharge at $\pm 4\text{KV}$, with an interval of 1	1. After the test, the product function is judged	

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		minute between each test point. 2. Air discharge: air discharge 10 times at +/-8kV, with an interval of 1 minute between each test point	to be OK. 2. Can be restored by itself or requires charging to activate
13	Pencil hardness test	According to ASTM D3363-74. Use a black Mitsubishi pencil, with 3 to 10mm of the pen core exposed and a diameter of more than 1mm at the end. The pen tip should be ground at a right angle and the end surface of the pen tip should be flat. —— Test method: On the test surface, tilt the pencil at 45°, push it forward with a force of 200gf at a speed of 10 mm/second to 50 mm/second, and change the position 5 times.	Use a soft cloth or eraser to wipe off the black lead and confirm whether there are any scratches, peeling or other defects on the surface.
14	Alcohol friction test	Soak non-decolorizing lint-free cloth/cotton cloth with 95% industrial alcohol, with a load of 500g and a stroke of 0-50mm. Rub back and forth at a rate of 25 times/minute, 30 times in total. PU paint/electroplating 100 cycles, rubber paint 200 cycles	The samples are not allowed to have obvious fading, the silk screen printing is not allowed to fall off obviously, and the coating is not allowed to reveal the substrate.

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15	Hundred grid test	Depending on the surface material of the test piece, use a grid knife to cut small square grids with equal spacing on the test surface (cut the range of 20*20mm into 2*2mm with a knife), use 5cm long 3M 600 or 610 model tape to stick it on the grid surface, and then quickly tear off the tape in the 90° direction. ——Grid spacing: For metals and thermosetting materials with a dry film coating thickness of less than or equal to 50um, a 1mm grid is required	Small flakes of coating detach along edges and intersections of cuts. No more than 5% of the tested area shall be affected.
16	Cosmetics resistance test	First, clean the surface of the sample with cotton cloth, then evenly apply sunscreen (SPF30 PA++), Nivea hand cream, Liushen mosquito repellent floral water, Pechoin olive essence oil, sunscreen (SPF50 PA++) and other cosmetics on the surface of the sample, put it in a test box at 55°C for 48 hours, take it out and place it at room temperature for 2 hours, clean it with cotton cloth and observe	The sample surface must not have any corrosion or coating peeling phenomenon

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17	Packaging Simulation Transport	Before testing, confirm that the appearance and function of the test sample are intact. 1. Vibration frequency: 250RPM/min. 2. Amplitude (p/p): 25.4mm±5%. 3. Test in three vertical directions in the order of X, Y, and Z, 30 minutes in each direction	After the test, there is no structural damage and the function is normal. The packaging is good, there is no surface scratches, and there is no looseness.
18	Packaging box drop test	The finished product box is dropped from one corner (any), three sides (any), and six sides. The height is set according to the weight of the finished product box as follows: GW≤9KG: 76CM / 9KG < GW≤18KG: 61CM 18KG < GW≤27KG: 46CM / GW > 27KG: 30CM	After the test, the box should not be cracked or damaged, and there should be no quality abnormalities in product function, structure, and appearance.

11. Sampling standards

11.1 Implement the single sampling plan for normal inspection in accordance with GB/T 2828.1.

11.2 Before shipment, products need to be randomly inspected.

11.3 The sample size shall be determined based on 1000pcs per lot as a lot and the following table.

11.4 AQL is defined as follows:

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AQL MP Shipment Critical = 0, Major = 0.40, Minor = 1.0

12. Environmental protection requirements

Hazardous substance name	Standard limit (ppm)	Remark
Lead (Pb)	1000	All must be able to pass relevant RoHS standard tests and have relevant qualification test reports.
Cadmium (Cd)	100	
Mercury (Hg)	1000	
Hexavalent chromium (Cr6+)	1000	
Polybrominated biphenyls (PBBs)	1000	
Polybrominated diphenyl ethers (PBDEs)	1000	

13. Transportation requirements and warnings during use

- 13.1 During transportation, packaged products should be protected from moisture, shock, sun exposure, and heavy pressure.
- 13.2 The packaged products should be stored in a warehouse with a temperature of 0-40°C and a relative humidity of no more than 90%. The warehouse should be free of strong magnetic fields, acidic or

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other

Appearance requirements for harmful gases.

13.3 The product is packed in boxes and transported at half charge (90%-95% power state). During transportation, it should be protected from severe vibration, impact or extrusion.

It is resistant to the sun and rain, and can be used for transportation by cars, trains, ships, airplanes and other common means of transportation.

13.4 Never use corrosive cleaning agents to clean this product.

13.5 Do not allow this product to be heated or near a fire source or exposed to direct sunlight for a long time.

13.6 Do not attempt to disassemble this product and make any modifications.

13.7 If you do not use this product for a long time, please store it in a dry environment and charge the keyboard at least once a month to extend its life and avoid extreme temperature and dust.