

MBX-A527

POS-Optimized Embedded Board

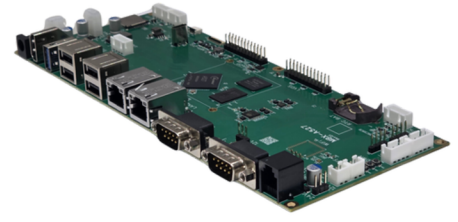
NEW



Features

- High-performance Octa-Core Cortex-A55 SoC processor, up to 2.0GHz
- Built-in Integrated ARM G57 MC01 GPU for High performance multimedia processing with low power consumption
- 4GB LPDDR4 Memory and 32GB eMMC onboard design
- Comprehensive connectivity: 2x Gigabit Ethernet and Wi-Fi6 +BT5.4 for option
- Flexible Media output for selection: HDMI, eDP, LVDS, MIPI-DSIx 4 lanes, support dual-screen output simultaneously
- Rich IO: 8 x USB, 2xRS232, 2xUART, 1x 1W stereo Amp 4Ω
- Support Android 15 and Linux-Debian, Ubuntu

Best POS Application



Introduction

MBX-A527 is a high-performance embedded board designed for POS (Point-of-Sale) systems and retail applications, offering exceptional processing power and connectivity. Featuring an Octa-Core ARM Cortex-A55 processor up to 2.0GHz and 4GB LPDDR4 memory, it ensures smooth and efficient operations. Equipped with dual Gigabit Ethernet, WiFi 6, and Bluetooth 5.4, MBX-A527 enables seamless network connectivity for modern retail environments. It supports multiple display interfaces including HDMI, MIPI-DSI, LVDS, and eDP, allowing dual-screen output—ideal for interactive kiosks, self-service terminals, and digital signage. With 8xUSB ports, 2xRS232, 2xUART interfaces, and a cash drawer port, it integrates effortlessly with peripherals such as barcode scanners, receipt printers, and payment terminals. Running Android 15, it provides a flexible software environment for retail and self-service solutions.

Beyond retail, MBX-A527 is also well-suited for hospitality, vending machines, and industrial control applications, making it a versatile embedded platform.

Specification

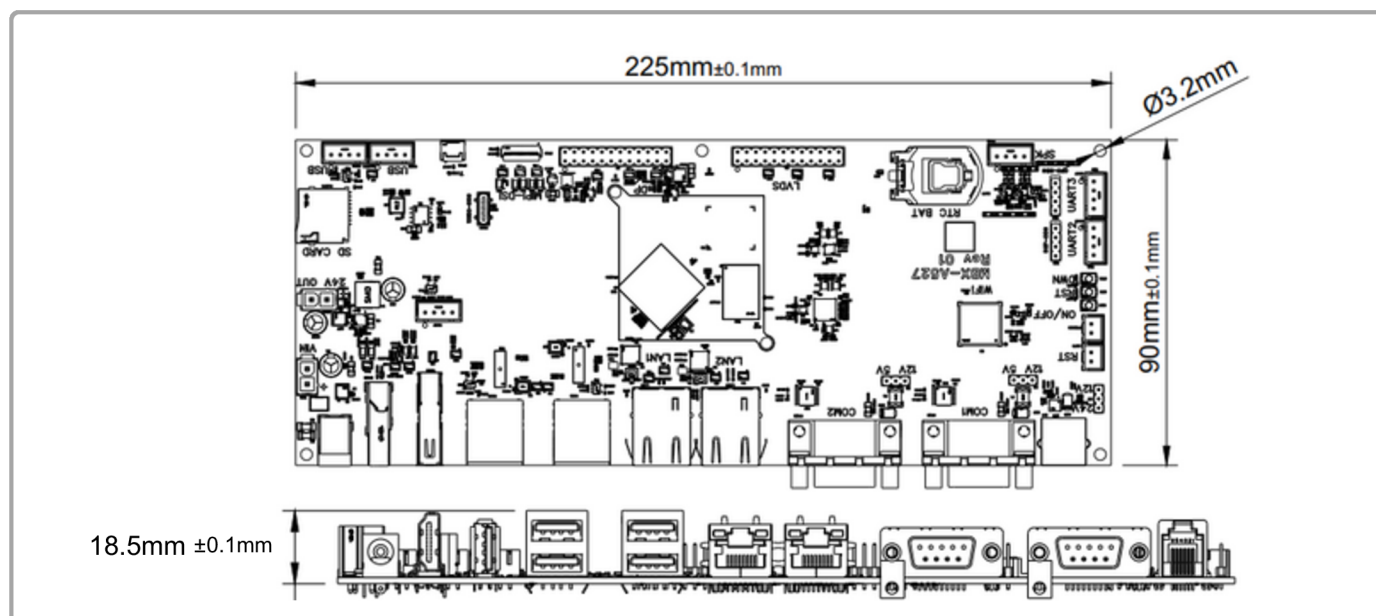
System	Processor	8x ARM Cortex-A55 up to 2.0GHz
	Memory	Onboard LPDDR4 4GB
	Storage	32GB eMMC (Option to 64GB/128GB)
	Graphics	For internal LCD: MIPI-DSI up to 1920x1080; LVDS up to 1366x768; eDP up to 1920x 1080; For external Display: HDMI up to 1920x 1080



MBX-A527

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Dimension(mm)

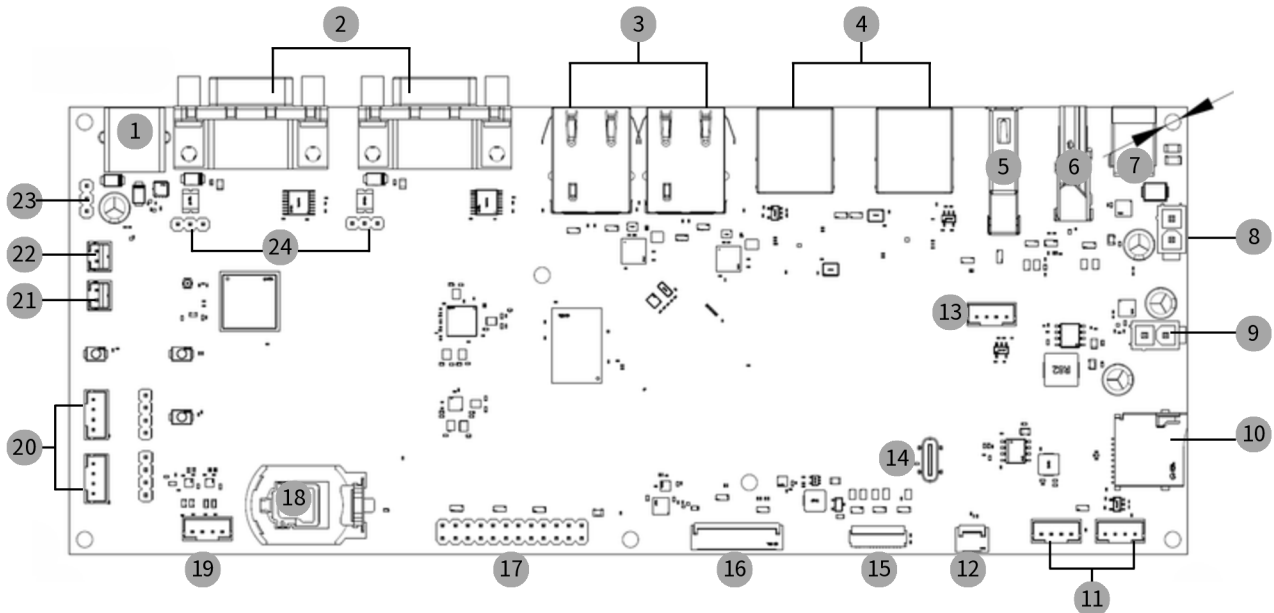


Specification

System	Display	MIPI-DSIx 4 lanes, eDP, LVDS, HDMI
	Touch	I2C with RST/INT For 10.1" LCD
Connectivity	WLAN	WiFi 6+ BT 5.4 for Option
	LAN	10/100/1000Mbps
I/O Interface	Ethernet	2x RJ45 connector
	USB Port	4x USB 2.0 Type-A (HS), 1x USB 3.0 Type A (SS)
	COM	2x RS232, DB9 connector with CTS/RTS, PIN9 supports 5V/12V (selectable by jumper)
	Cash Drawer	1x RJ12 6P/6C, 12V/24V selectable by jumper
	Expansion	1x Micro SD slot, support SDXC up to 256GB
	RTC	Support via a Battery Socket (CR2032)
Internal I/O	USB	3x USB 2.0 HS via 3x4P WAFER
	UART	2x 4P wafer w/ 2.5mm PH, 3.3V level w/ 5V output
	Audio	1x 1W stereo Amp 4Ω
Others		1x 24V IN Conn., 1x 24V OUTPUT Conn., 1x Type-C for ADB, 1x RST Button, 1x DWN Button
Expansion		1x Micro SD slot, support SDXC up to 256GB
Power Supply		24V Power Input via DC Jack 5.5/2.5mm; Passthrough 24V output for printer
Dimension		225x 90mm
Operating Temperature		-10°C ~ 70°C (0% to 90% RH, non-condensing)
Storage Temperature		-40°C ~ 85°C
Operating System		Android 15, Linux-Debian, Ubuntu



I/O Briefing



- | | |
|--|------------------------------------|
| 1 RJ12 (6P6C) for Cash Drawer, 12V/24V
Selectable by jumper | 15 FPC1: MIPI DSI Connector |
| 2 COM Port 1, 2 | 16 FPC3: eDP Connector |
| 3 RJ45 Ethernet | 17 LVDS |
| 4 USB 2.0 Type A (Stacked Type) | 18 RTC BAT: RTC Battery Socket |
| 5 USB 3.0 Type A | 19 SPK: Speaker |
| 6 HDMI | 20 UART: UART 2, UART3 |
| 7 24V DC Jack | 21 PWR: Power Key |
| 8 24VIN | 22 RST: Rest Key |
| 9 24VOUT | 23 12V/24V: Cashdrawer VOUT Select |
| 10 TF Card Slot | 24 12V/5V: RS232 Vout Select |
| 11 USB 2.0 | |
| 12 FPC2: I2C for Touch | |
| 13 USB 2.0 | |
| 14 USB0-DBG: Type-C for ADB | |

MBX-A527

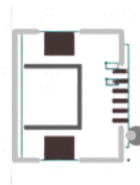
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1 RJ12: 1x6P/6C Connector for Cash Drawer



PIN	Assignment
1	GND
2	CD#
3	STAT
4	24V/12V
5	N/A
6	N/A

12 FPC2: I2C For Touch 0.5mm 6P FFC Connector



PIN	Assignment
1	GND
2	INT
3	RESET
4	3.3V
5	SDA
6	SCL

2 RS232: DB9 Connector

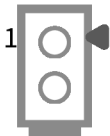
PIN	Assignment
2	RX
3	TX
5	GND
9	5V/12V

15 FPC1:MIPI DSI FFC Conn. (Back-Locking Type) 1x 31-Pin FPC Connector, P=0.3mm



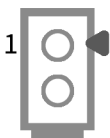
PIN	Assignment	PIN	Assignment
1	LED A	16	GND
2	LED A	17	CLK+
3	LED A	18	CLK-
4	NC	19	GND
5	LED K	20	D0+
6	LED K	21	D0-
7	LED K	22	GND
8	LED K	23	D3+
9	GND	24	D3-
10	GND	25	GND
11	D2+	26	1.8V
12	D2-	27	Reset
13	GND	28	GND
14	D1+	29	1.8V
15	D1-	30	3.3V
		31	3.3V

8 24VIN: 24V IN 1x 2-Pin Header, PH 4.2mm



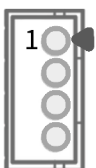
PIN	Assignment
1	24Vin
2	GND

9 24Vout: 24V Out 1x 2-Pin Header, PH 4.2mm



PIN	Assignment
1	24Vout
2	GND

11 & 13 USB: USB 2.0 1x4-Pin Header, PH: 2.0mm



PIN	Assignment
1	5V
2	D-
3	D+
4	GND



MBX-A527

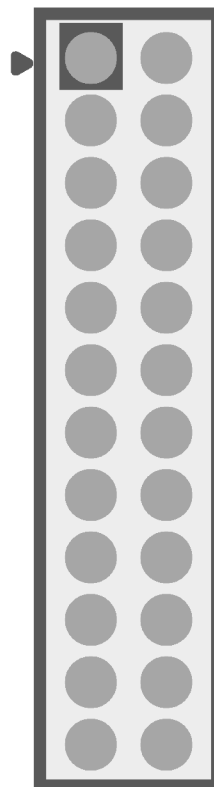
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- 16 FPC3: eDP Connector (Back-Locking Type)
30-Pin FFC Connector, P= 0.5mm



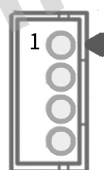
PIN	Assignment	PIN	Assignment
1	NC	16	GND
2	GND	17	HPD
3	D1-	18	GND
4	D1+	19	GND
5	GND	20	GND
6	D0-	21	GND
7	D0+	22	BL EN
8	GND	23	BL PWM
9	AUX+	24	NC
10	AUX-	25	NC
11	GND	26	12V
12	3.3V	27	12V
13	3.3V	28	12V
14	NC	29	12V
15	GND	30	NC

- 12 LVDS: LVDS Connector
1x 24-Pin Header, PH=2.54mm



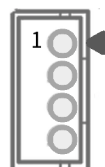
PIN	Assignment	PIN	Assignment
1	12V	2	5V
3	12V	4	5V
5	EN	6	3.3V
7	D0+	8	3.3V
9	D0-	10	PWM
11	GND	12	GND
13	D1+	14	CLK+
15	D1-	16	CLK-
17	GND	18	GND
19	D2+	20	D3+
21	D2-	22	D3-
23	GND	24	GND

- 19 SPK: 1W Speaker
1x 4-Pin Header, PH 2.0mm



PIN	Assignment
1	SPK L-
2	SPK L+
3	SPK R-
4	SPK R+

- 20 UART: UART 3.3V
2x 4-Pin Header, PH 2.0mm

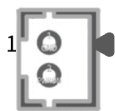


PIN	Assignment
1	3.3V
2	RX
3	TX
4	GND

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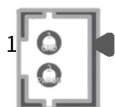
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- 21 PWR: Power Key
1x 2-Pin Header, PH 2.0mm



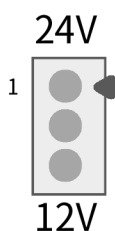
PIN	Assignment
1	GND
2	Power Key+

- 22 RST: Reset Key
1x 2-Pin Header, PH 2.0mm



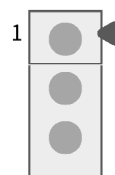
PIN	Assignment
1	GND
2	Reset+

- 23 24V/12V: CD Vout, H3



PIN	Assignment
1-2	24V
2-3	12V
N/A	N/A

- 24 12V/5V:RS232 Vout Select
H4 for COM1
H5 for COM2



PIN	Assignment
1-2	12V
2-3	5V
N/A	N/A

Preliminary

