

JES-N93I

NXP i.MX 93 3.5-inch Embedded Board

JES-N93I is an Arm-based 3.5" single board computer powered by industrial grade NXP i.MX 93 SoC, which includes 2x Arm Cortex-A55 cores with built-in Cortex-M33 co-processor for real-time control and Arm Ethos U-65 microNPU for machine learning acceleration. It supports multiple display options and provides rich I/O resources including 2x GbE, 2x CAN FD, 6x USB, 6x COM, 7x GPIO. JES-N93I is ideal for edge solutions needing on-device AI processing at ultra-low power.

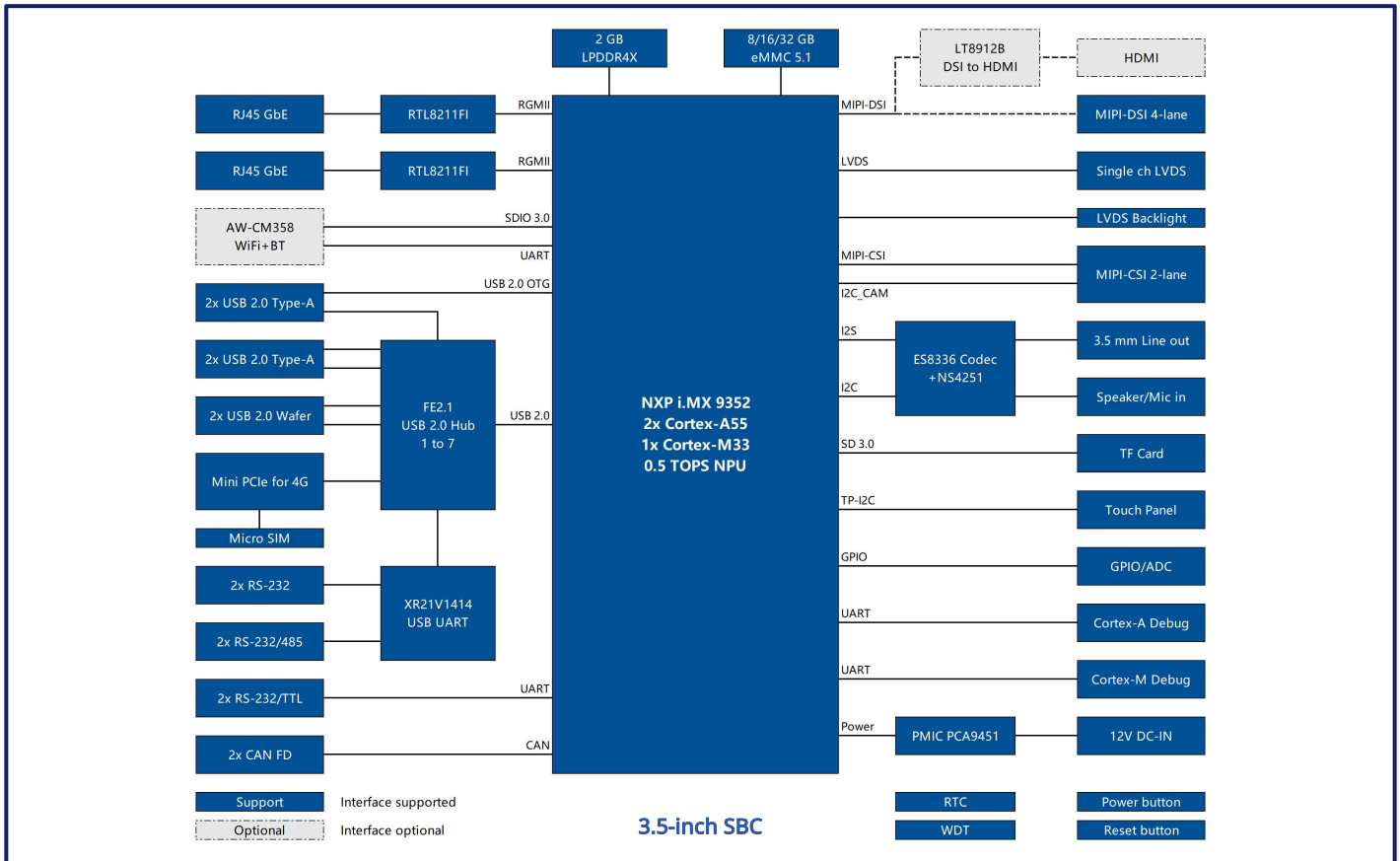


- Industrial-grade NXP i.MX 9352 SoC up to 1.5 GHz
- 2x Cortex-A55 + 1x Cortex-M33 + 0.5 TOPS NPU
- On-board 2GB LPDDR4X + 8/16/32GB eMMC
- Display: 1x MIPI-DSI or HDMI, 1x LVDS
- I/O: 2x GbE, 2x CAN FD, 6x USB, 6x COM, 7x GPIO
- On-board WiFi+BT module + Mini PCIe for 4G LTE
- Supports -20~70°C/-40~85°C operating temperature

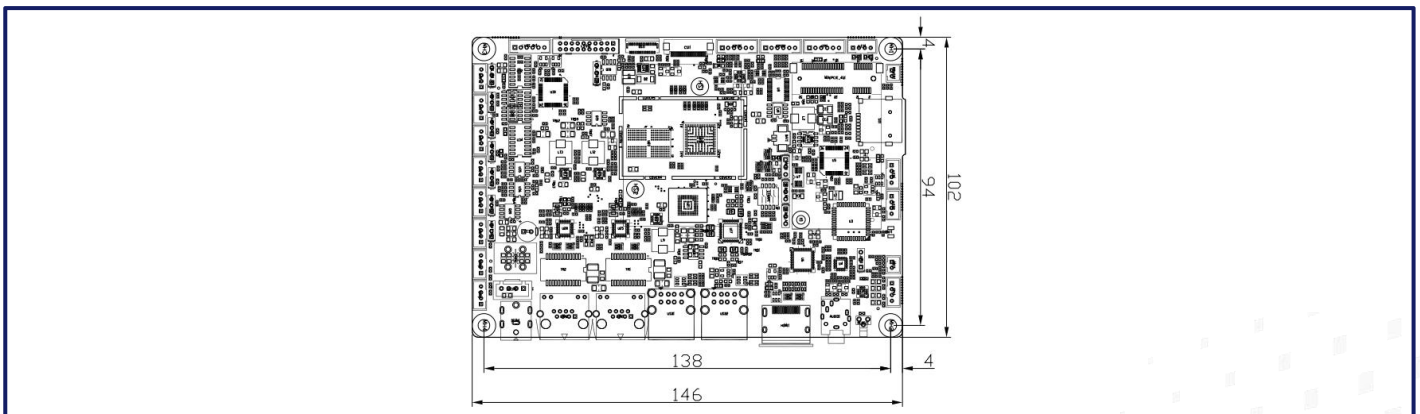
01 Specifications

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|-----------------------------|--|
| CPU | NXP i.MX 9352, Dual core Arm Cortex-A55 up to 1.5 GHz 1x Arm Cortex-M33 up to 250 MHz for real-time control |
| NPU | 0.5 TOPS Neural Network performance |
| GPU | NXP integrated 2D graphics acceleration |
| H/W Video Codec | - |
| Memory | On-board 2GB LPDDR4X |
| Storage | On-board 8GB/16GB/32GB eMMC 5.1 for OS 1x Micro SD slot for storage expansion or OS image flashing |
| Ethernet | 2x RJ45, 10/100/1000 Mbps, 4kV Surge protection |
| WiFi | On-board AW-CM358 WiFi 5 (802.11ac) + Bluetooth 5.2 module |
| 5G/4G | 1x Mini PCIe for 4G LTE (USB 2.0), 1x Micro SIM slot |
| Display | 1x 4-lane MIPI-DSI (31-pin 0.3mm FPC) or HDMI 1.4 Type-A (by BOM option) 1x Single channel LVDS (2x10-pin 2.0mm header) 1x LVDS backlight (12V, 1x6-pin 2.0mm wafer) |
| Video Input | 1x 2-lane MIPI-CSI (24-pin 0.5mm FPC) |
| Audio | 1x 3.5mm Line out, 1x Speaker (2x3W) & 1x Mic in via pin headers |
| USB | 4x USB 2.0 Type-A (1 supports OTG for OS image flashing), 2x USB 2.0 via pin header |
| Serial Port | 2x RS-232, 2x RS-232/485, 2x RS-232/TTL, 2x Debug (Cortex-A & Cortex-M) via pin headers |
| CAN | 2x CAN FD via pin headers |
| I2C | 1x I2C for touch control |
| GPIO | 7x GPIO (3.3V TTL level) & 1x ADC (0~1.8V input) via pin headers |
| Board Features | Watchdog Timer, RTC, power button, programmable LEDs |
| Power Supply | 12V DC-IN via 5.5x2.5mm DC Jack or 1x4-pin 2.5mm wafer |
| Form Factor | 3.5 inch, 146mm x 102mm |
| OS Support | Yocto 4.2.3+Qt 6.5, Ubuntu (TBD), Android (TBD) |
| Operating Conditions | -20~70°C/-40~85°C, 10%~90% RH non-condensing |
| Storage Conditions | -40~85°C, 5%~90% RH non-condensing |

Block Diagram



Dimensions



Order Information

| Part Number | SoC | Memory | Flash | WiFi | Display | LAN | USB | COM | CAN | GPIO | Operating Temp. |
|----------------|-----------|--------|-------|--------|---------------|-----|-----|-----|-----|------|-----------------|
| JES-N931-ADMH1 | i.MX 9352 | 2GB | 16GB | WiFi 5 | HDMI+LVDS | 2 | 6 | 6 | 2 | 7 | -40~85°C |
| JES-N931-BDMM1 | i.MX 9352 | 2GB | 16GB | WiFi 5 | MIPI-DSI+LVDS | 2 | 6 | 6 | 2 | 7 | -20~70°C |