P05D00116-02

ST STM32MP257

Front View



Features

- Efficient embedded computing with Dual Arm Cortex-A35 plus a real-time Cortex-M33 co-processor
- Built-in 1.35 TOPS NPU and 3D GPU for edge AI inference and rich HMI display
- Industrial-grade power design, 9 to 24V DC input for flexible and reliable deployment
- Ready for intelligent edge, optimized for IoT, automation, and smart industrial applications

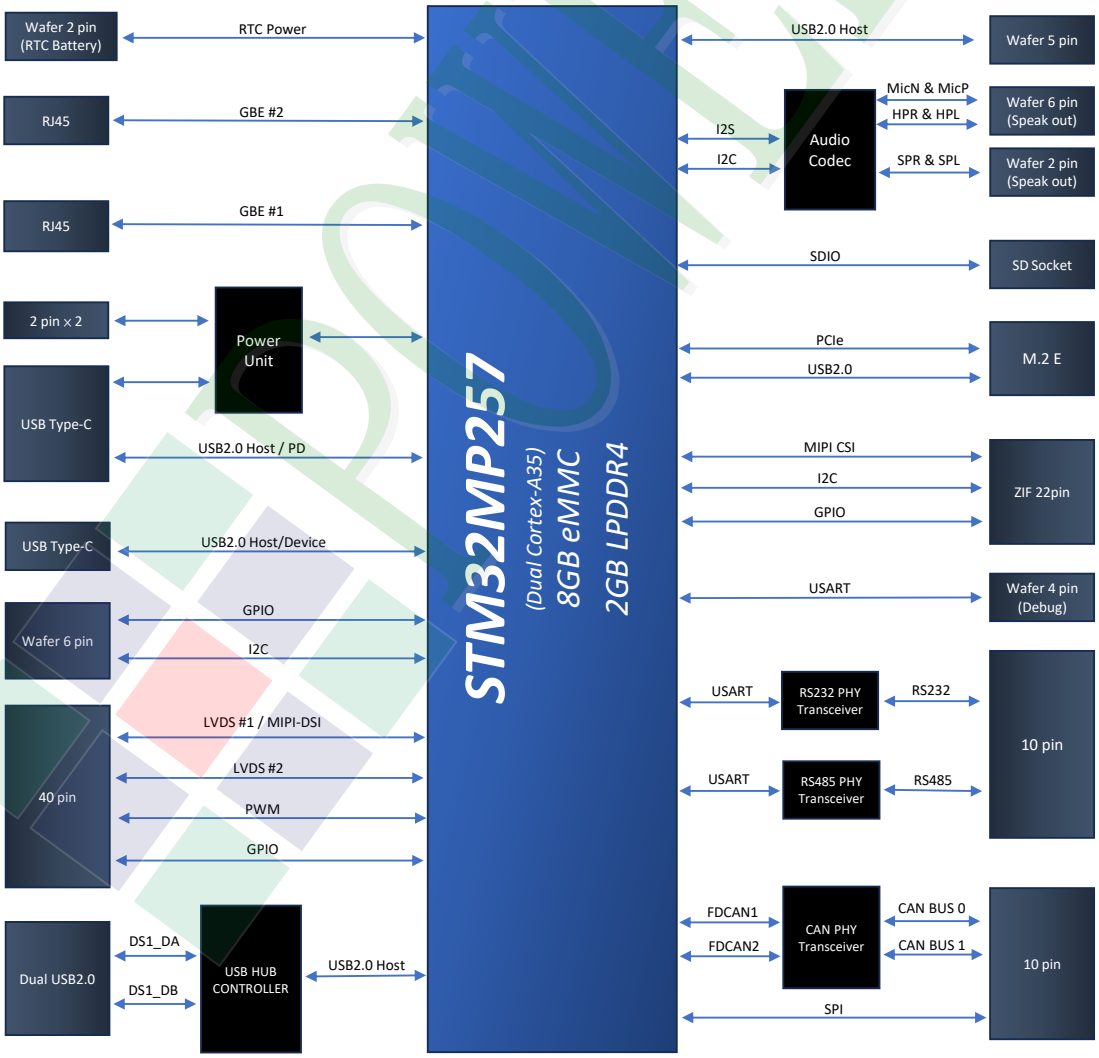
Specifications

Hardware		
CPU	STM32MP257	Dual-core ARM Cortex-A35 1.5GHz, 1 × Cortex-M33
GPU	VeriSilicon	OpenGL ES 3.1, Vulkan 1.3, OpenCL 3.0, OpenVX 1.3
NPU	VeriSilicon	Accelerator with processing performance up to 1.35 TOPS
Memory	Onboard RAM	2GB LPDDR4 SDRAM (up to 4GB)
	Storage (Default Boot Device)	8GB eMMC Flash (Optional: 16GB/32GB/64GB)
I/O	Display	1 × LVDS (single/dual channel)
	Camera	1 × MIPI CSI (2-lane)
	USB	3 × USB 2.0 Host 1 × Type-C with PD 1 × Type-C Host/Device
	Ethernet	2 × 10/100/1000 Mbps
	Audio	1 × Headphone output 1 × Microphone input 1 × Speaker output
	Serial Port	3 × UART (1 × debug console, 1 × RS232, 1 × RS485)
	I^2C	1 × I^2C
	FDCAN	2 × FDCAN
	SPI	1 × SPI
	Other	GPIOs

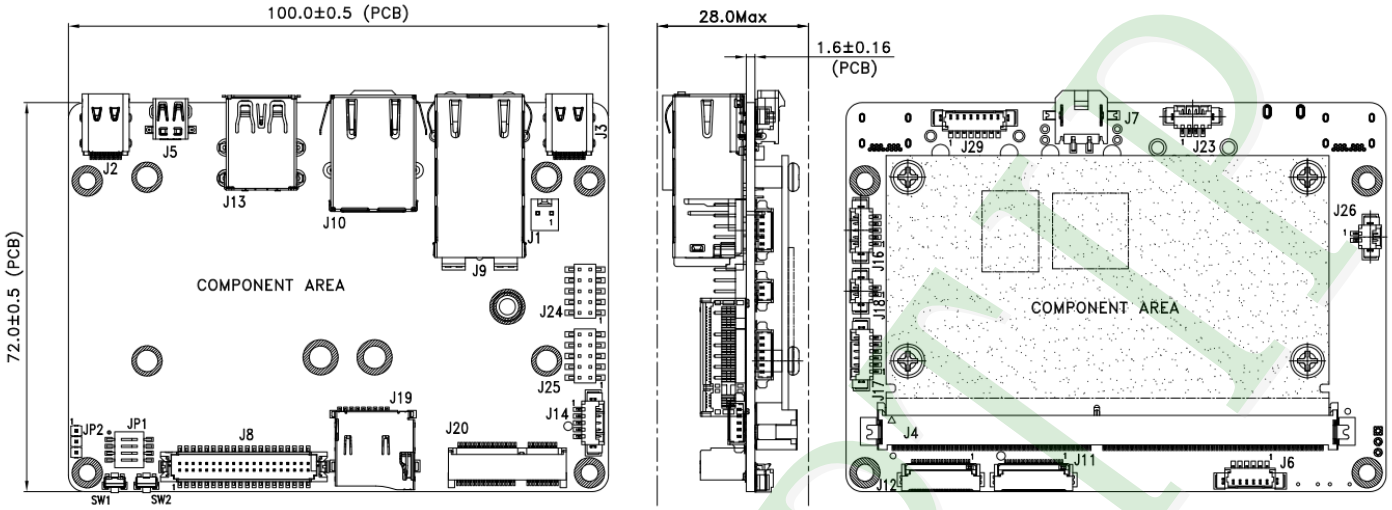
Hardware		
Expansion	M.2 Key E	1 × USB 2.0, 1 × PCIe 2.0 x1
	SD Socket	1 × microSD card socket
Power	Input Voltage	9 ~ 24V DC
Environment	Operating Temp.	0 ~ 70 °C
	Storage Temp.	-30 ~ 85 °C
Mechanical	Form Factor	SMARC v2.2 Module + Pico Carrier Board
	SMARC Module	82 × 50 mm
	Pico Carrier Board	100 × 72 mm

Software		
OS	Default	Yocto 5.X
	Optional	Android

Block Diagram



Dimensions


100.0±0.5 (PCB)
72.0±0.5 (PCB)
COMPONENT AREA
28.0Max
1.6±0.16
(PCB)
COMPONENT AREA