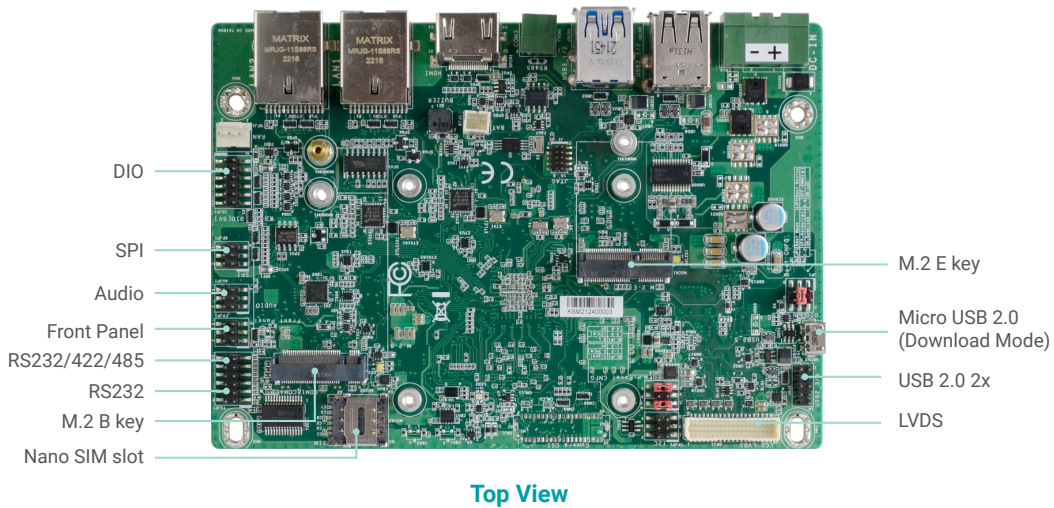
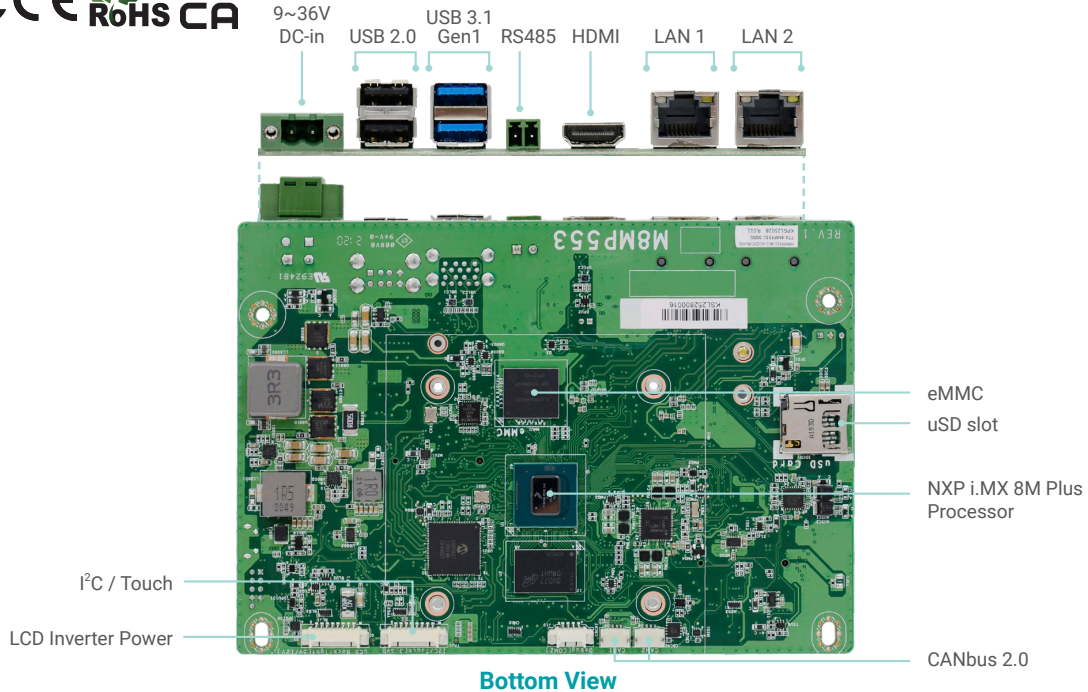


# M8MP553

ARM



NXP® i.MX 8M Plus Series  
3.5" SBC



## KEY FEATURES



### NXP i.MX8M plus

30% performance enhancement



### Wide Voltage

Support 9~36VDC



### 2 GbE LAN

For automation application



### CAN bus

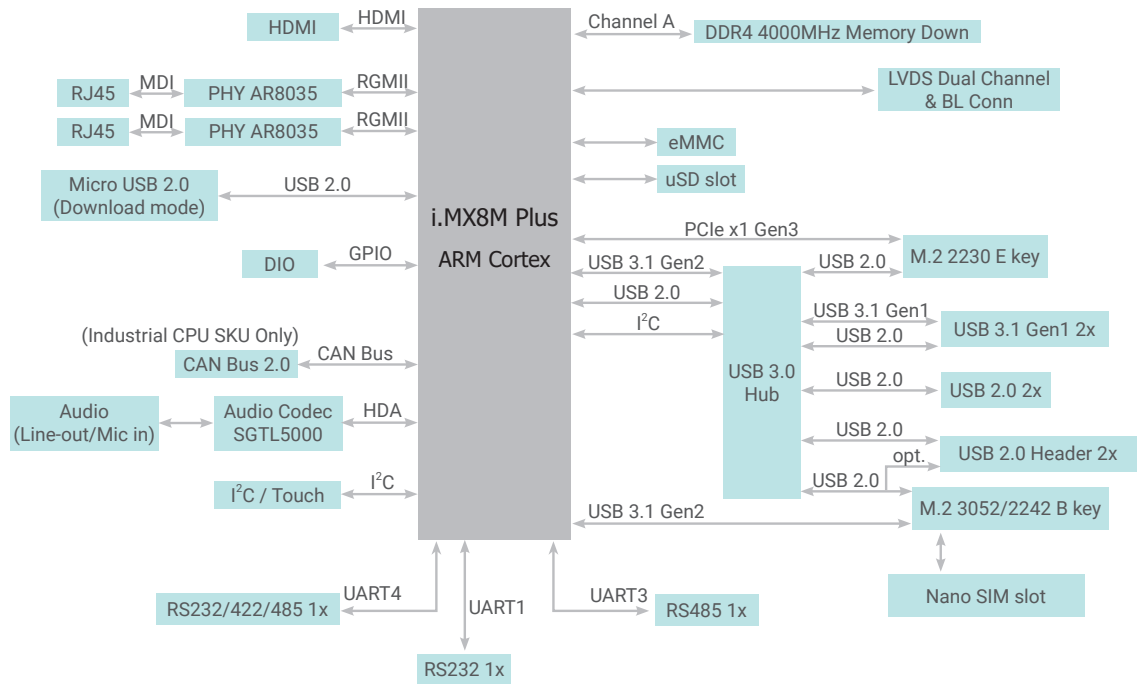
For automation equipments integration



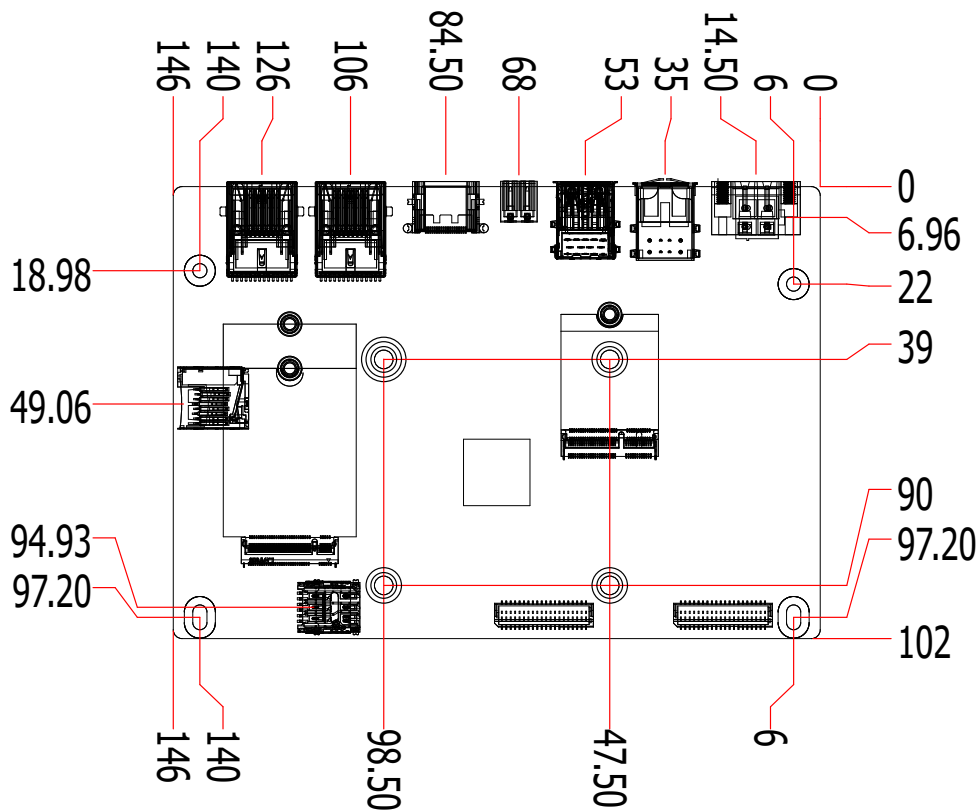
### 2 M.2 Expansions

1 M.2 E key 2230  
1 M.2 B key 3052/2242

**BLOCK DIAGRAM**



**MECHANICAL DRAWING**



## SPECIFICATION

SYSTEM	Processor	i.MX 8M plus applications processors MIMX8ML6CVNKZAB (Industrial), Quad 1.6GHz, VPU/ISP/CAN FD, -40~105°C MIMX8ML3CVNKZAB (Industrial), Dual 1.6GHz, VPU/ML/ISP/CAN FD, -40~105°C	
	Memory	2GB/4GB/8GB LPDDR4 Memory Down	
GRAPHICS	Controller	GC7000UL	
	Feature	HW Decode: 1080p60 H.265,H.264, VP9, VP8 HW Endcode: 1080p60 H.265,H.264	
	Display	1 x HDMI	HDMI: resolution up to 1920x1080@60Hz
		1 x LVDS	LVDS: resolution up to 1920x1200 @60Hz
	Dual Display	LVDS + HDMI	Android:support single output
EXPENSION	Interface	1 x M.2 B key 3052/2242 (USB 3.1 Gen2/USB 2.0) 1 x M.2 E key 2230 (PCIe x1/USB 2.0) 1 x Nano SIM slot	
AUDIO	Audio Codec	Audio codec SGTL5000	
ETHERNET	Phy	AR8035	
REAR I/O	Ethernet	2 x GbE (RJ-45)	
	Serial	1 x RS485 (2-wire)	
	USB	2 x USB 3.1 Gen1 2 x USB 2.0	
	Display	1 x HDMI	
INTERNAL I/O	Serial	1 x RS232 1 x RS232/422/485 (2.0mm pitch)	
	USB	2 x USB 2.0 (2.00mm pitch, the 2nd USB is shared with M.2 B Key (default) 1 x Micro USB 2.0 (Download Mode)	
	Display	1 x LVDS LCD Panel connector 1 x LCD/Inverter Power	
	Audio	1 x Audio (Line-out/Mic-in)	
	SD	1 x uSD card	
	DIO	1 x 8-bit DIO	
	I <sup>2</sup> C	1 x I <sup>2</sup> C / Touch	
	CANBus	2 x CAN bus 2.0b on Industrial CPU sku	
STORAGE	eMMC	1 x eMMC 5.1 with default 16GB (up to 64GB)	
WATCHDOG TIMER	Output & Interval	System Reset, Programmable via Software from 1 to 255 Seconds	
POWER	Type	Wide Range 9~36VDC <b>Note1: Support 9V~24VDC in -30~80°C operating temperature.</b> <b>Note2: Support 36VDC within 70°C operating temperature.</b>	
	Connector	2-pole terminal block (default) Co-lay 4-pin vertical power connector	
	Consumption	Typical: i.MX 8M Plus Quad, 12V, 3.6Watt Max.: i.MX 8M Plus Quad, 12V, 5.28Watt	
	RTC Battery	CR2032 Coin Cell	
OS SUPPORT	Microsoft/Linux	Linux Yocto 3.0 (default) Android 10	
ENVIRONMENT	Temperature	Operating: -30 to 80 °C	Storage: -40 to 85°C
	Humidity	Operating: 5 to 90% RH	Storage: 5 to 90% RH
	MTBF	i.MX 8M Plus Quad: 632,710 hrs @ 25°C; 386,370 hrs @ 45°C ; 252,204 hrs @ 60°C; 138,544 hrs @ 80°C Calculation model: Telcordia Issue 4 Environment: GB, GC – Ground Benign, Controlled	
MECHANISM	Dimensions	3.5" SBC Form Factor	146mm (5.75") x 102mm (4.02")
	Height	PCB: 1.6mm	
		Top Side: 15mm Bottom Side: 4mm	
STANDARDS AND CERTIFICATIONS	Certifications	CE, FCC, RoHS, UKCA	

## ORDERING INFORMATION

Model Name	P/N	Processor	Memory	eMMC	GbE	RS-232	RS-232/422/485	USB 3.1 Gen1	USB 2.0	Power	Thermal	Temp.
M8MP553-ECC-41QDI	770-8MP5531-200G	Quad core	4 GB	16 GB	2	1	1	2	4	9~36VDC	Fanless	-30 to 80°C
M8MP553-ECC-21DLI	770-8MP5531-300G	Dual core	2 GB	16 GB	2	1	1	2	4	9~36VDC	Fanless	-30 to 80°C
M8MP553-ECC-81QDI	770-8MP5531-400G	Quad core	8 GB	16 GB	2	1	1	2	4	9~36VDC	Fanless	-30 to 80°C

## PACKING LIST

1 M8MP553 board	
1 Terminal block for RS485 (COM3)	342-361021-000G
1 Heatsink (Height: 21mm)	A71-008168-000G

## OPTIONAL ITEMS

2 pole terminal to DC jack cable	A81-004013-000G
Power adapter (60W, 12V, DC Jack)	671-106012-000G
USB 2.0 cable (Length: 200mm)	A81-001032-016G
COM port cable (Length: 250mm, COM1/4)	A81-009595-016G
Audio (Length: 300mm)	A81-022031-016G
Heat spreader (Height: 11mm)	A71-808351-000G
Debug console with cable (Length: 500mm)	770-IMX8M1-000G

## Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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