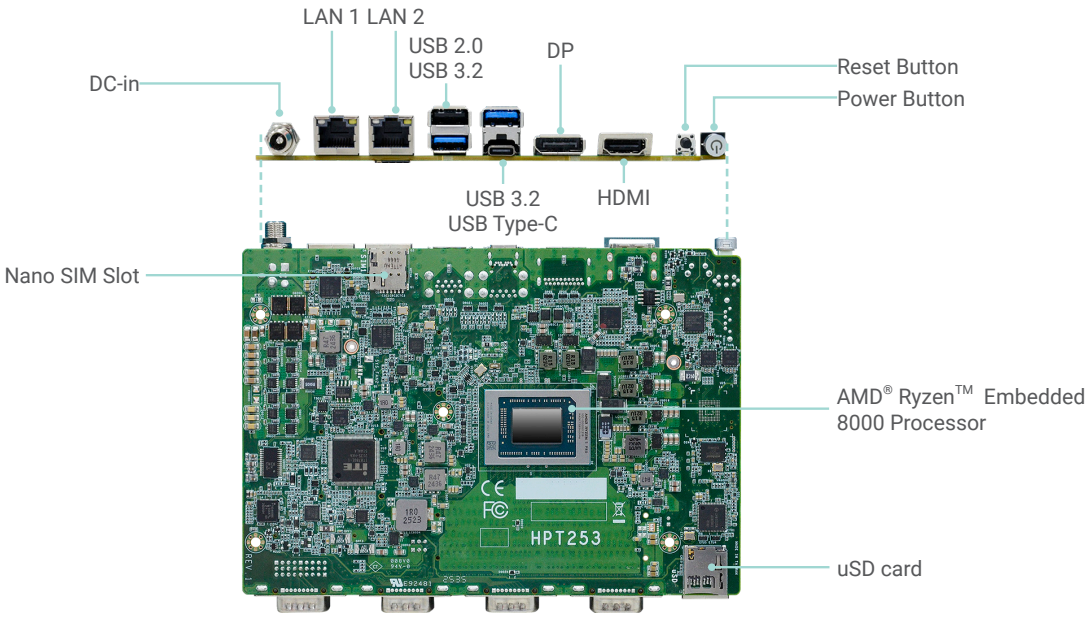
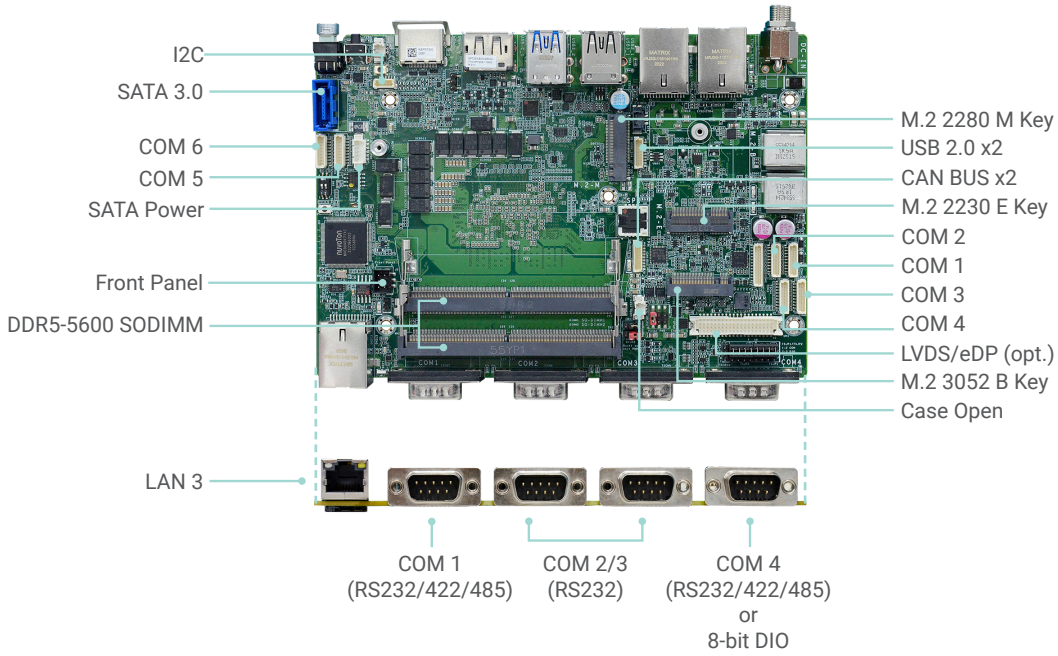
HPT253

AMD® Ryzen™ Embedded 8000 Series
4" SBC





KEY FEATURES

DDR5
Dual DDR5-5600 SODIMM Up to 96GB

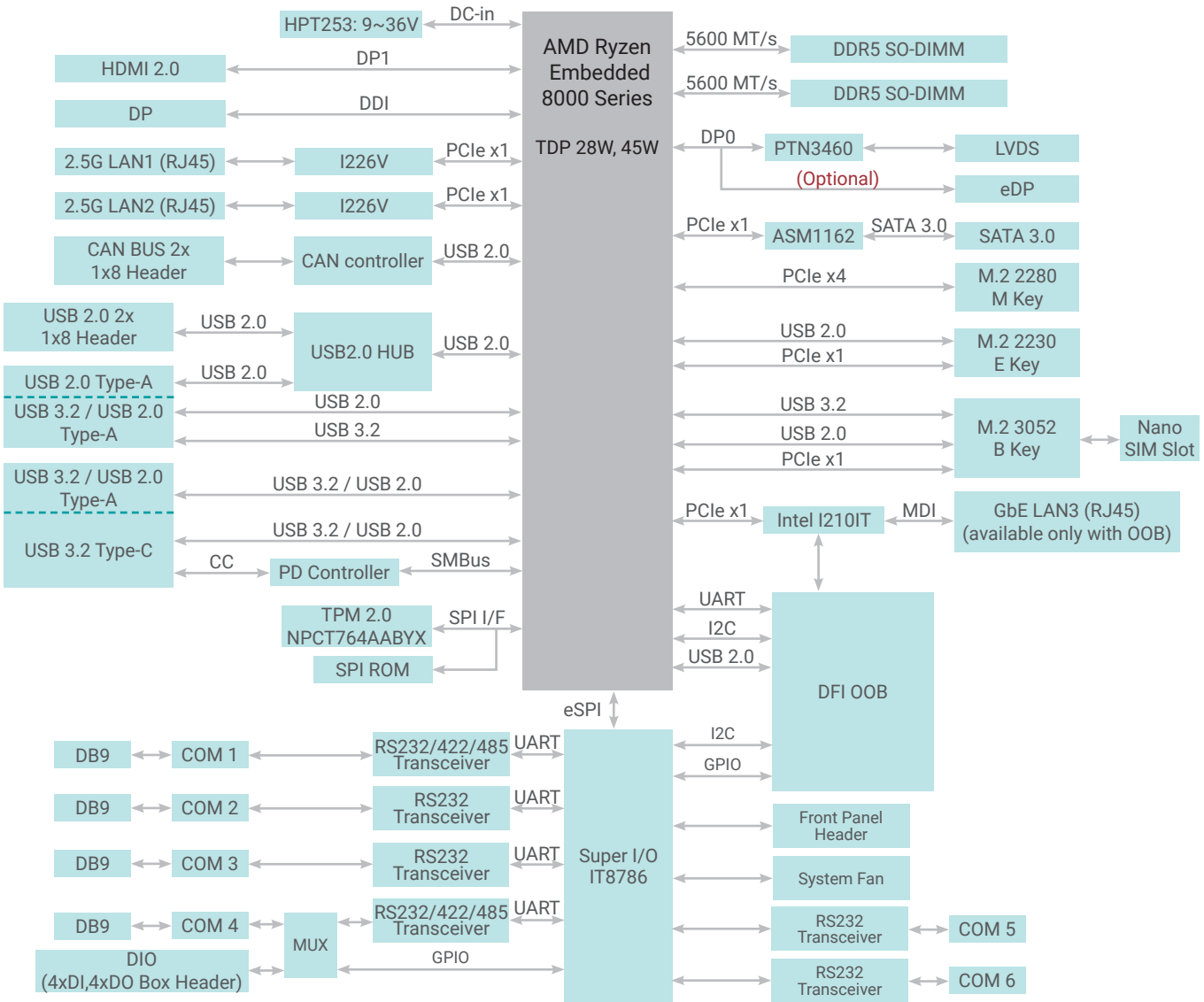
4K High Resolution
Supports 4K/ 2K resolution

Quad Displays
1 HDMI, 1 DP,
1 LVDS/eDP (Opt.),
1 Type C DP Alt. mode

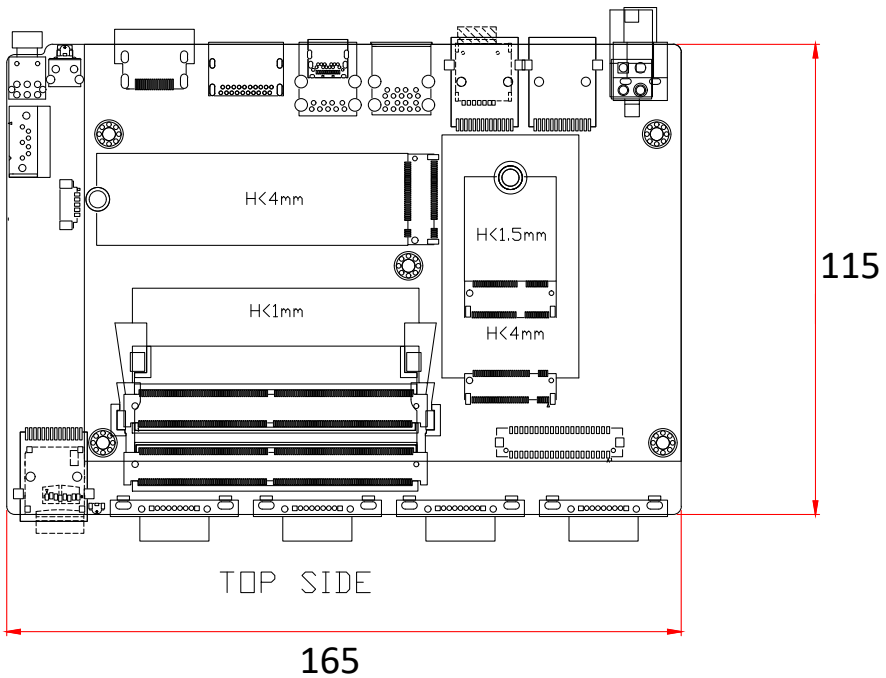
Expansion
1 M.2 M Key,
1 M.2 B Key,
1 M.2 E Key

Rich I/O
2 2.5GbE, 1 GbE,
2 USB 3.2, 1 USB-C,
5 COM, 1 COM/DIO

BLOCK DIAGRAM



MECHANICAL DRAWING



SPECIFICATION

SYSTEM	**Processor**	AMD® Ryzen™Embedded 8000 Series Processors, TDP up to 45W AMD® Ryzen™Embedded 8845HS Processors, 8C, 16M Cache, 3.8GHz (5.1GHz) AMD® Ryzen™Embedded 8640U Processors, 6C, 16M Cache, 3.5GHz (4.9GHz)	
	Memory	Dual DDR5-5600 SODIMM Up to 96GB	
	BIOS	AMI SPI 256Mbit	
GRAPHICS	**Controller**	AMD® Radeon RDNA3 Graphics	
	Display	1 x HDMI 2.0 1 x LVDS/eDP (Opt.) 1 x DP 1.4 1 x Type C DP Alt. mode	HDMI: resolution up to 4096x2160@60Hz LVDS: dual channel 24-bit, resolution up to 1920x1200@60Hz DP: resolution up to 4096x2160@60Hz eDP: resolution up to 1920x1080@60Hz
	Quad Displays	HDMI + LVDS/eDP (Opt.) + DP + Type C DP Alt. mode	
EXPANSION	**Interface**	1 x M.2 M key 2280 (PCIe Gen4 x4) 1 x M.2 B key 3052 (USB 3.2/USB 2.0/PCIe x1), 1 x Nano SIM slot for 4G/5G 1 x M.2 E key 2230 (USB 2.0/PCIe x1)	
ETHERNET	**Controller**	2 x Intel® I226V (10/100/1000/2500Mbps)	
REAR I/O	**Ethernet**	2 x 2.5GbE (RJ-45)	
	USB	2 x USB 3.2 1 x USB 2.0 1 x USB Type C (USB 3.2 only)	
	Display	HDMI + DP + Type C DP Alt. mode	
	Button	1 x Power Button 1 x Reset Button	
FRONT I/O	**Serial**	COM 1: RS-232/422/485 COM 2/3: RS-232 COM 4: RS-232/422/485 or 8-bit DIO by jumper setting	
	Storage	1 x MicroSD (only for OOB function update)	
	Ethernet	1 x GbE(RJ-45), Intel® i210IT (10/100/1000Mbps) (available only with OOB)	
INTERNAL I/O	**USB**	2 x USB 2.0 (1.0mm pitch)	
	SATA	1 x SATA 3.0	
	I2C	1 x I2C (only for OOB PC health status)	
	Display	LVDS/eDP (Opt.)	
	FAN	1 x Smart FAN	
WATCHDOG TIMER	**Output & Interval**	System Reset, Programmable via Software from 1 to 255 Seconds	
SECURITY	**TPM**	TPM 2.0	
POWER	**Type**	9~36V DC	
	Connector	DC-in Jack Right-angle or Vertical Connector (4-pin, available upon request)	
	Consumtion	Typical: 8845HS, 36V @ 0.33A (11.88W) Max: 8845HS, 36V @ 2.69A (96.84W)	
	RTC Battery	CR2032 Coin Cell (Cable type)	
OS SUPPORT	**Microsoft**	Windows 11 IoT Enterprise 64-bit	
	Linux	Linux	
ENVIRONMENT	**Temperature**	Operating: -5 to 65°C Storage: -40 to 85°C	
	Humidity	Operating: 5 to 90% RH Storage: 5 to 90% RH	
	MTBF	331,641 hrs @ 25°C; 152,116 hrs @ 45°C; 71,036 hrs @ 60°C Calculation Model: Telcordia Issue 4 Environment: GB, GC - Ground Benign, Controlled	
MECHANICAL	**Dimensions**	4" SBC Form Factor 165mm (6.49") x 115mm (4.53")	
	Height	PCB: 1.6mm	
STANDARDS AND CERTIFICATIONS	**Certification**	CE, FCC, RoHS	

ORDERING INFORMATION

Model Name	P/N	Processor	Display	DFI OOB	RJ45	Serial	USB 3.2	Power	Temp.
HPT253-BCN-8845HS	770-HPT2531-000G	AMD® Ryzen™Embedded 8845HS Processors	HDMI + LVDS + DP + Type C DP Alt. mode	Yes	3	6 (incl. 4 x DB9)	3	9~36 VDC	-5~65°C
HPT253-BCN-8640U	770-HPT2531-100G	AMD® Ryzen™Embedded 8640U Processors							
HPT253-BCN-8845HS	770-HPT2531-600G	AMD® Ryzen™Embedded 8845HS Processors		No	2	6 (internal header only)			
HPT253-BCN-8640U	770-HPT2531-700G	AMD® Ryzen™Embedded 8640U Processors							

PACKING LIST

• 1 HPT253 board	
• 1 Cooler (Height: 39mm)	A71-108313-A00G

OPTIONAL ITEMS

• 4-pin power to DC jack cable (Length: 100mm)	A81-004051-016G
• 1 COM port cable(Length: 250mm, 1x COM port)	A81-015130-018G
• USB 2.0 cable (Length: 200mm, 2 USB ports)	A81-001201-018G
• Front panel cable (2x3/2.00P, Length: 250mm)	A81-009307-001G
• Heat spreader (Height: 11mm)	TBD

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