

RC300-BTS

R680E

Intel Core Series 2 Processors with P-cores
AI-Enabled Railway Embedded System



KEY FEATURES



High Performance CPU

Intel Core Series 2 Processors with P-cores



M12 Type PoE

8x M12 X-coded PoE ports, Max 120W



AI Accelerated

Support up to 115W GPU MXM module supported



Scalability

Multiple expansion slots for 5G cellular supported



Storage Bays

4x Swappable 2.5" SSD storage bays



Wide Temperature

Extended operating temperature: -20°C to 70°C



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SPECIFICATION

SYSTEM	Processor	Intel Core Series 2 Processors with P-cores Intel® Core™ 9-273PE (12 (12+0) cores, 36M cache, up to 5.7GHz); 65W Intel® Core™ 7-253PE (10 (10+0) cores, 33M cache, up to 5.5 GHz); 65W Intel® Core™ 5-223PE (8 (8+0) cores, 24M cache, up to 5.4 GHz); 65W Intel® Core™ 9-273PTE (12 (12+0) cores, 36M cache, up to 5.5 GHz); 45W Intel® Core™ 7-253PTE (10 (10+0) cores, 33M Cache, up to 5.4 GHz); 45W Intel® Core™ 5-223PTE (8 Cores, 24M Cache, up to 5.4 GHz); 45W
	Chipset	Intel® R680E Chipset
	Memory	Dual Channel DDR5 up to 5600 SDRAM, up to 64GB
	BIOS	AMI SPI 128Mbit
GRAPHICS	Controller	Intel CPU integrated graphics
	Display	1 x HDMI 1.4b, resolution up to 4096x2160 @ 24Hz 2 x DP++ , resolution up to 4096x2304 @ 60Hz 1 x USB type C (DP Alt. mode), resolution up to 4096x2304 @ 60Hz
STORAGE	External	2 x Swappable 2.5" storage bays with lock, 2x 4-pin 2.5mm wafer connector for SATA power
EXPANSION	Interface	1 x Full Size Mini PCIE slot, PCIe x1, USB 2.0 signal for GNSS or CAN bus, support 1x internal Nano SIM 2 x M.2 Slot, 2230,A+E Key, PCIe x1, USB 2.0 signal for Wifi/BT Modules 1 x M.2 Slot, 2230,A Key, 2 x UART, 2 x I2C, 1 x USB2.0, 1 x SPI, DFI OOB module 1 x M.2 slot, 2280,B+M-key, PCIe Gen3 x4, SATA signal 1 x M.2 Slot, 3042/3052, B+M key, PCIe x1, USB3.0, USB2.0 for 5G/4G modules, support 2x Nano SIM
AUDIO	Audio Codec	Realtek ALC888
LED	Indicators	1 x Storage Activity (Red) 1 x Power (Green) 8 x PoE LAN Active link (Red) for M12 8 x PoE Enable (Green) for M12 2 x Programmable general purpose (Green, Blue)
FRONT I/O	Ethernet	2 x 2.5GbE, RJ45
	PoE	8 x GbE LAN, M12 with PoE 802.11af/at ports, max. 120W
	Serial	2 x RS232 ports, DB-9
	CAN bus	2 x CAN bus, DB-9 (option), Support J1939
	Display	4 x DP from MXM
	USB	1 x USB 3.2 Gen1 Type A (Vertical) 1 x USB Type C (DP Alt mode) 2 x USB 3.2 Gen1 Type A
	Audio	1 x Line-out, 1 x Mic-in with 3.5mm audio tower
REAR I/O	DIO (with cable tie)	2 x Isolated DIO port, terminal block Supports 16bit DIO with 2.5KV isolation
	Display	1 x HDMI, Resolution up to 4096x2160 @ 24Hz 2 x DP++, Resolution up to 4096x2304@60Hz
	Buttons/ Switch	1 x Power Button 1 x Reset Button
	Antenna	7 x antenna holes, 5G x4, GNSS x1, Wifi x2
	SSD	4 x 2.5" SSD Drive bays
	SIM	2 x accessible SIM slots with cover bracket
	Power in	Wide Range 24~110VDC with power management (on/off delay) and ignition 6 pins 5.0mm pitch terminal block connector
WATCHDOG TIMER	Output & Interval	Programmable via software from 1 to 255 seconds
POWER	Type	300W @12V max. (33.6~145 VDC in, 48V/72V/96V/110V) 225W @12V max. (16.8~45 VDC in, 24V/36V)
	Connector	1 x 6-pin 5.0mm pitch terminal block connector
OS SUPPORT	Microsoft	Windows 11 IoT Enterprise LTSC SW
	Linux	Ubuntu 24.04
MECHANISM	Construction	Aluminum + SPGC Metal
	Mounting	Wall mount
	Dimensions (W x H x D)	308 mm x 97.88 mm x 222.3 mm (w/o MXM) 409 mm x 97.88 mm x 222.3 mm (w/ MXM)
	Weight	9.85 kg (TBD)
ENVIRONMENT	Operating Temperature	-25°C to 70°C (Max. by model)
	Storage Temperature	-40 to 85°C
	Relative Humidity	10% to 90% (non-condensing)
STANDARDS AND CERTIFICATIONS	Shock (SSD/HDD)	IEC61373: 2010, Category 1, Class B Body Mounted
	Vibration	IEC61373: 2010, Category 1, Class B Body Mounted
	Certification	CE, FCC, EN 50155, EN45545, RoHS, UKCA Compliant