

# ESM – Embedded System Modules

	Type	CPU	Memory max.	Interfaces	On-board FPGA	Software	Applications
<b>EM9</b>	SBC – front I/O	PowerPC MPC8548/1.33GHz down to MPC8543/800MHz	2 GB DDR2 SDRAM, 1 GB NAND Flash, 128 KB FRAM	3 Gigabit Ethernet, 1 COM, further I/O in FPGA	Altera Cyclone II for user-defined I/O functions	Linux, VxWorks, QNX, INTEGRITY	Automation control, industrial communication, robotics
<b>EM9A</b>	SBC – onboard I/O	PowerPC MPC8548/1.33GHz down to MPC8543/800MHz	2 GB DDR2 SDRAM, 1 GB NAND Flash, 128 KB FRAM	3 Gigabit Ethernet, 2 COMs, further I/O in FPGA	Altera Cyclone II for user-defined I/O functions	Linux, VxWorks, QNX, INTEGRITY (on request)	Automation control, industrial communication, robotics
<b>EM7N</b>	SBC – front I/O	Tualatin ULP Pentium III / 933MHz Tualatin ULV Celeron / 650MHz	512 MB DRAM, CompactFlash	2 Fast Ethernet, 2 COMs (front); graphics, 2 USB, (E)IDE (carrier); further I/O via FPGA	Altera Cyclone for user- defined I/O functions	Windows, Linux, QNX, VxWorks	Automation control
<b>EM4N</b>	SBC – front I/O	PowerPC MPC8245/400MHz	512 MB DRAM, CompactFlash	2 Fast Ethernet, 2 COMs, graphics, further COMs, CAN, IDE via FPGA	Altera Cyclone for user- defined I/O functions	Linux, VxWorks	Automation control
<b>EM1N</b>	SBC – front I/O	PowerPC MPC5200B/384MHz	256 MB DDRAM SDRAM, NAND Flash, 2 MB NVRAM	2 Fast Ethernet, 1 COM, 1 USB (front); 2 CAN, graphics, serial lines etc. via FPGA	Altera Cyclone II for user-defined I/O functions	Linux, VxWorks, QNX, PikeOS	Automation control, railways, medical
<b>EM1A</b>	SBC – onboard I/O	PowerPC MPC5200B/384MHz	256 MB DDRAM SDRAM, NAND Flash, 2 MB NVRAM	2 Fast Ethernet, 1 COM, 1 USB on J3 rear I/O connector; 2 CAN, graphics, serial lines etc. via FPGA	Altera Cyclone II for user-defined I/O functions	Linux, VxWorks, QNX, PikeOS	Automation control, railways, medical