

DIMM-family

	DIMM-MX257	DIMM-MX53	DIMM-AM335x	DIMM-MX6S	DIMM-MX6Q/D	DIMM-RZ/A1H
						
Windows CE	yes	yes	on request	on request	on request	on request
Linux	yes	yes	yes	yes	yes	yes
QNX	-	yes	yes	yes	yes	-
Android	-	-	-	yes	yes	-
Other	-	-	-	-	-	FreeRTOS, ThreadX
CPU manufacturer	NXP i.MX25	NXP i.MX53	Texas Instruments AM335x	NXP i.MX6	NXP i.MX6	Renesas RZ/A1H
CPU architecture	ARM9 (ARM926EJ-S)	ARM Cortex-A8	ARM Cortex-A8	ARM Cortex-A9 (single core)	ARM Cortex-A9 (quad/dual core)	ARM Cortex A9
CPU performance	400 MHz	up to 1 GHz	up to 1 GHz	up to 1 GHz	up to 4x 1 GHz	400MHz
Co-Processor	-	ARM NEON™, VFPU	ARM NEON™, VFPU	1x ARM NEON™, VFPU	up to 4x ARM NEON™, VFPU	ARM NEON™
Video processing (Hardware accelerated)	-	H.264 decode at 1080p30 H.264 encode at 720p30	-	H.264 decode at 1x 1080p30, H.264 encode at 2x 720p30 or 1x 1080p30	H.264 decode at 1x 1080p30, H.264 encode at 2x 720p30 or 1x 1080p30	-
2D (Hardware accelerated)	-	openVG 1.1	openVG 1.0	yes, vector engine emulated on 3D unit	openVG 1.1	openVG 1.1
3D (Hardware accelerated)	-	OpenGL ES 2.0 & 1.1 (33 Mtri/s, 200 Mpix/s, 800 Mpix/s z-plane) Direct3D Mobile 1.2	OpenGL ES 2.0 & 1.1, Direct3D Mobile	OpenGL ES 2.0 & 1.1, Direct3D	OpenGL ES 2.0 & 1.1, Direct3D	-
GPU Computing	-	-	OpenMax	-	openCL EP	-
RAM	64 MB DDR-SDRAM	up to 1 GB DDR3-SDRAM	up to 512 MB DDR3-SDRAM	512 MB to 1GB DDR3-SDRAM	512 MB to 1GB DDR3-SDRAM	10 MByte OnChip RAM
Flash	256 MB NAND Flash	up to 1GB NAND Flash	up to 8 GB SLC NAND Flash (managed by memory controller)	512 MB up to 8GB SLC NAND Flash (managed by memory controller)	512 MB up to 8GB SLC NAND Flash (managed by memory controller)	up to 32 MByte NOR-Flash
Ethernet	100BASE-TX	100BASE-TX	100BASE-TX	100BASE-TX	100BASE-TX	100BASE-TX
UART: RS232/LVTTL/IrDA	1 / 3 / 0	1 / 4 / 0	1 / 3 / 0	1 / 4 / 0	1 / 4 / 0	1 / 4 / 0
USB Host	2.0 full speed	2.0 high speed	2.0 high speed	2.0 high speed	2.0 high speed	2.0 high speed
USB Device	2.0 high speed	2.0 high speed	2.0 high speed (OTG)	2.0 high speed (OTG)	2.0 high speed (OTG)	2.0 high speed
Serial-ATA	-	SATA I (1.5 Gbps)	-	-	SATA II (3 Gbps)	-
PCIe	-	-	-	optional	optional	-
Digital Audio	-	-	-	SPDIF IN/OUT	SPDIF IN/OUT	SPDIF IN/OUT
Analog Audio	SSI Interface	SSI Interface	SSI Interface	SSI Interface	SSI Interface	SSI Interface
LCD interface	up to SVGA	2 Interfaces, up to Full-HD (1x RGB, 1x LVDS)	up to WXGA	2 Interfaces, up to Full-HD (1x RGB, 1x LVDS, 1x HDMI 1.4)	3 Interfaces, up to Full-HD (1x RGB, 1x LVDS, 1x HDMI 1.4)	up to WXGA (RGB or LVDS)
Video In/Camera	8-bit interface for external PAL/ NTSC codecs, e.g. for 1 CMOS camera up to 3 MPixel	YUV422 interface for 2xCMOS Camera up to 12MPixel or PAL/NTSC codec	-	YUV422 interface for 1 x CMOS Cameras up to 16MPixel or PAL/NTSC CODEC	YUV422 interface for 1 x CMOS Cameras up to 16MPixel or PAL/NTSC CODEC	interface for 1 x CMOS Camera up to WXGA
Video out	-	-	-	-	-	-
CAN	2 x 2.0 A/B	up to 2 x 2.0 A/B	2 x 2.0 A/B	2 x 2.0 A/B	2 x 2.0 A/B	2 x 2.0 A/B
I2C	1	1	1	1	1	1
SPI	-	1	1	1	1	2
Digital GPIO	3	8	10	10	10	min. 10
MMC/SDC	2 x MMC / SDC (SDIO)	2 x MMC / SD (SDIO)	2 x MMC / SDC (SDIO)	2 x MMC / SDC (SDIO)	2 x MMC / SDC (SDIO)	2x SDC (SDIO)
Touch interface	4-wire resistive	4-wire resistive, opt. capacitive	4-wire resistive, opt. capacitive	4-wire resistive, opt. capacitive	4-wire resistive, opt. capacitive	4-wire resistive, opt. capacitive
RTC (buffered by external battery)	yes	yes	yes	yes	yes	yes
CPU-Bus	16-bit data, 66.6 MHz	16-bit data, 66 MHz	-	optional	optional	-
Size in mm	67.6 x 45 x 9	67.6 x 50 x 10	67.6 x 45 x 10	67.6 x 50 x 10	67.6 x 50 x 10	67.6 x 45 x 10
max. power consumption	3.3V@350mA	3.3V@1A	3.3V @ 350 mA	3.3V@1.1A	3.3V@2.3A (quad)/1.9A (dual)	3.3V@400mA
Operating temperature	0...+70° C, opt. -40...+85° C	0...+70° C, opt. -40...+85° C	0...+70°C, opt. -20...+85°C	0...+70°C, opt. -20...+85°C	0...+70°C, opt. -20...+85°C	0...+70°C, opt. -40...+85°C
Interface to carrier board	SODIMM connector	SODIMM connector	SODIMM connector	SODIMM connector	SODIMM connector	SODIMM connector
Matching carrier board	Cadun, Tarion	Cadun, Tarion	Cadun, Tarion	Cadun, Tarion	Cadun, Tarion	Cadun, Tarion
Developer kits available	yes	yes	yes	yes	yes	yes
Custom specific solutions	yes	yes	yes	yes	yes	yes



Subject to change without notice.
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emCON-family

	emCON-MX6S/D/Q	emCON-RZ/G1E	emCON-MX8MM
Windows CE	on request	on request	-
Linux	yes	yes	yes
QNX	on request	-	on request
Android	yes	-	yes
Other	-	-	-
CPU manufacturer	NXP i.MX6	Renesas RZ/G1E	NXP i.MX 8M Mini
CPU architecture	ARM® Cortex®-A9 (up to quad core)	Dual ARM® Cortex®-A7	ARM™ Cortex®-A53 (up to quad core), ARM™ Cortex®-M4F
Maximum CPU clock	up to 1,2 GHz	up to 1 GHz	up to 1,8 GHz (A53), up to 400 MHz (M4)
Co-Processor	NEON™/VFPv4	NEON™/VFPv4	NEON™/VFPv4
Video processing (Hardware accelerated)	H.264 decode and encode at 1080p30	Video Processing Unit, H.264/AVC, MPEG-4, VC-1	H.264 decode and encode at 1080p60
Hardware 2D/3D Graphics Acceleration	OpenGL® ES 1.1/2.0/3.0 OpenCL™ 1.1 EP, OpenVG™ 1.1, 2DBLT, 8 layer composition, 4 shaders—720 MHz, embedded prefetch & resolve engine	PowerVR Series5 SGX540	1 x Vivante GCNanoUltra 3D (1 shader) OpenGL ES 2.0, 1 x Vivante GC328 2D
RAM	512MB up to 2GB DDR3-SDRAM	1GB DDR3-SDRAM, DDR3-1333	up to 4 GB LPDDR4 SDRAM
Flash	up to 64GB eMMC	16MB QSPI NOR Flash, 4GB up to 32GB eMMC	16 MB QSPI NOR-Flash up to 64 GB eMMC
Ethernet	1000Base-T / 100Base-T / 10Base-T	1000Base-T / 100Base-T / 10Base-T	1000Base-T / 100Base-T / 10Base-T
UART: RS232/LVTTL/IrDA	0/4/0	0/3/0	0/4/0
USB Host	1 x USB 2.0	1 x USB 2.0	1 x USB 2.0
USB Device	1 x USB 2.0	1 x USB 2.0	1 x USB 2.0
Serial-ATA	SATA II (3Gbps)	-	-
PCIe	1 Lane	-	1 Lane
Digital Audio	1 x SSI, 1 x S/PDIF	1x SSI	1 x SSI, 1 x S/PDIF
Analog Audio	-	-	-
LCD interface	1x RGB, 2x LVDS, 1x HDMI 1.4 up to Full-HD	1x RGB 18bpp, 1x LVDS 24bpp	1 x LVDS, up to Full-HD
Video In/Camera	YUV422 interface for 2 x CMOS Cameras up to 16MPixel or PAL/NTSC CODEC	1 x YCbCr422 CMOS	1 x MIPI CSI-2
CAN	2x 2.0 A/B	2 x 2.0 A/B	-
I²C	3	2	2
SPI	1	2	2
Digital GPIO	8	6	8
MMC/SDC	2	2	1
PWM	1	3	1
RTC (buffered by external battery)	yes	yes	yes
Size in mm	82 x 50 x 10	82 x 50 x 10	82 x 50 x 10
max. power consumption	up to 5V @ 2A max.	5V @ 1.2A max.	5V @ 0,6A max.
Operating temperature	0...+70°C, opt. -20...+85°C	0...+70°C, opt. -25...+85°C	0...+70°C, opt. -25...+85°C
Interface to carrier board	emCON connector (314 pos.)	emCON connector (314 pos.)	emCON connector (314 pos.)
Matching carrier board	Avari, Bvari	Avari, Bvari	Avari, Bvari
Developer kits available	yes	yes	yes
Custom specific solutions	yes	yes	yes



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