

Si14 delivers embedded industrial solutions engineered to meet the environmental, longevity and energy-efficient requirements of connected industrial applications. We are fulfilling our industrial customer's needs to meet the growing requirements for more

intelligent and cost-effective industrial solutions for markets that include industrial control, videogames, networking, drives, metering, lighting, HVAC, building access, security, power, energy and point of sale (POS), portable applications and media players.

SELECTION CHART	iMX27	iMX27L	iMX25	iMX51	OMAP3 AM3517	Atom
CPU type	ARM926EJ-S	ARM926EJ-S	ARM926EJ-S	CORTEX A8	CORTEX A8	ATOM Z5xx
I-cache/D-cache/L2 cache	16KB/16KB/-	16KB/16KB/-	16KB / 16KB/-	32KB/32KB/256KB	32KB/32KB/256KB	24KB/32KB/512KB
Architecture features					NEON SIMD media accelerator vector floating point accelerator	Hyper Threading technology
Inside memory			128KB SRAM secure ram	128KB SRAM secure ram	64 KB	
Cpu clock	400 MHz	400 MHz	400 MHz	Up to 800 MHz(1GHz *)	500 MHz	Up to 1.6 GHz
Internal bus	32 bit AMBA 133 MHz multimaster	32 bit AMBA 133 MHz multimaster	32 bit AMBA 133 MHz multimaster	64 bit AMBA AXI, 32 BIT AMBA multimaster	64 bit L3 bus 32 BIT L4 bus	32 bit 533 MHZ front side bus
Dram	Up to 128 MB, 32 bit 133 MHz DDR	Up to 12 8MB, 32 bit 133 MHz DDR	Up to 128 MB, 16 bit 266 MHz DDR	Up to 256 MB, 32 bit 333 MHz DDR2	Up to 256 MB 216 MHz DDR2	Up to 1GB DDR2 533 MHz
Flash	Up to 128 MB NAND flash	Up to 128 MB NAND flash	Up to 1 GB MLC NAND flash	Up to 4GB MLC NAND flash	Up to 128MB NAND flash	
SPI boot / flash less			Yes	Yes		
2-D/3-D graphic accelerator				Z430 3D graphics: 27Mtri/sec, 664Mpix/sec OpenVG, Z160 2-D graphic processor OpenGL	POWERVR SGX 2D/3D graphics accelerator up to 10Mtri/sec, OpenVG, OpenGL	GMA500 3D graphic accelerator up to 100Mtri/sec
Video encoder / decoder	H263.H.264,MPEG4 encoder & decoder, 30fps D1 resolution half duplex			HD720p decoder, D1 encoder hw multiformat engine		HW decoder H.264,MPEG2,MPEG4, WMV HD1080p OpenGL 2.0, PowerVR SGX 535
Video capture port	1 port CCIR656		1 port CCIR656	2 port 90 Mpixel/sec multiformat	1 port REC656, CCIR656, YCbCr422	
Image pre/post processing	Color Space Conversion de-block, de-ring, resize			Color Space Conversion,de-block, de-ring,resize inversion, rotation, blending, 4 planes + cursor	75 Mpixel/sec resize, rotation	
Security hardware	Sahara2, RTIC	Sahara2, RTIC	DRM, encryption, anti tamper secure boot, secure software	ARM TZ, SJC, SRTC, RTICv3, SAHA- RAv4 SCCv2, CSU, A-HAB		
LCD controller	1ch up to 800*600 24 bit	1ch up to 800*600 24 bit	1ch up to 800*600 24 bit	1*24 bit, 1*18bit up to WXGA display 1 HD720 analog output	Up to two display HD720p output, 3 layer 24 bit SXGA display, 2 TV analog output Svideo	1*LVDS 24 bit up to 1280*1024 1* SDVO up to HD 1080p
Touch controller			4 wire resistive 12 bit 4 channels	4 wire resistive 10 bit 2 channels		
UART	3	3	Up to 4 (*)	3	3	1
IRDA						1
CAN controller			2		1	
USB Host	1 high speed with PHY	1 high speed with PHY	1 full speed with PHY	1 high speed with PHY	1 high speed with PHY	8 high speed (1 client configurable)
USB OTG	1 high speed with PHY	1 high speed with PHY	1 high speed with PHY	1 high speed with PHY	2 high speed with PHY, 3 opt(*)	
MMC	2 slot MMC/SD	2 slot MMC/SD	2 slot MMC/SD (1 boot capability)	2 slot MMC/SD (1 boot capability) 1 uSD on board (boot capability)	2 slot MMC/SD	2 slot MMC
IDE						1 PATA
Audio	2*SSI I2S/AC97	2*SSI I2S/AC97	Analog stereo in/out, mic & headphone on board	SSI, I2S, AC97	IVA 2.2, I2S	Intel HD audio interface
RTC	on board, external coin cell	on board, external coin cell	on board, external coin cell	on board, external coin cell	on board, external coin cell	on board, with coin cell
I ² C	1	1	1	1	2	
SPI	2	2	1	1	1	1
Keyboard matrix			4 row * 4 column	4 row * 4 column / GPIO	GPIO muxed with peripheral	
External local bus	Yes, 16bit	Yes, 16bit		Yes, 16 bit	Yes, 8 bit	2x PCI express 1x, 1x LPC
Ethernet	1 100/100 Mbps	1 100/100 Mbps	1 100/100 Mbps	1 100/100 Mbps	1 100/100 Mbps	
Power consumption	< 1.5 W	< 1.5 W	< 1.5 W	< 1.5 W	< 1.5 W	< 5 W

* 2 port multiplexed with keyboard

* 1GHz version when available from Freescale

* 3rd USB host muxed with GPIO

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Please note: The product datasheet is your best source for the most current and detailed technical data on the Si14 solution you prefer. To download the product's data sheet, visit our website at www.si14.com.

CARD ENGINE • Comparison Table

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