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Embedded Intel® Architecture Processors

LAUNCHED IN 2011

Please see back cover for endnotes.

	Clock Speed (GHz)	Last-Level Cache	FSB (MHz)	Lithography	Max TDP	Cores/Threads	Processor Graphics	Max Memory	Memory Channels
Scalable Platforms^A									
Intel® Core™ i7-2600 Processor	3.40	8 MB	N/A	32nm	95W	4C/8T	Yes	32 GB	2
Intel® Core™ i5-2400 Processor	3.10	6 MB	N/A	32nm	95W	4C/4T	Yes	32 GB	2
Intel® Core™ i3-2120 Processor	3.30	3 MB	N/A	32nm	65W	2C/4T	Yes	32 GB	2
Intel® Xeon® Processor E3-1275	3.40	8 MB	N/A	32nm	95W	4C/8T	Yes	32 GB	2
Intel® Xeon® Processor E3-1225	3.10	6 MB	N/A	32nm	95W	4C/4T	Yes	32 GB	2
Low-Power Platforms^A									
Intel® Core™ i7-2715QE Processor	2.10	6 MB	N/A	32nm	45W	4C/8T	Yes	16 GB	2
Intel® Core™ i7-2710QE Processor	2.10	6 MB	N/A	32nm	45W	4C/8T	Yes	16 GB	2
Intel® Core™ i7-2655LE Processor	2.20	4 MB	N/A	32nm	25W	2C/4T	Yes	16 GB	2
Intel® Core™ i7-2610UE Processor	1.50	4 MB	N/A	32nm	17W	2C/4T	Yes	16 GB	2
Intel® Core™ i5-2515E Processor	2.50	3 MB	N/A	32nm	35W	2C/4T	Yes	16 GB	2
Intel® Core™ i5-2510E Processor	2.50	3 MB	N/A	32nm	35W	2C/4T	Yes	16 GB	2
Intel® Core™ i3-2310E Processor	2.10	3 MB	N/A	32nm	35W	2C/4T	Yes	16 GB	2
Intel® Atom™ Processor-Based Platforms^A									
Intel® Atom™ Processor E665C	1.30	512 KB	N/A	45nm	3.3W	1C/2T	Yes	2 GB	1
Intel® Atom™ Processor E665CT	1.30	512 KB	N/A	45nm	3.3W	1C/2T	Yes	2 GB	1
Intel® Atom™ Processor E645C	1.00	512 KB	N/A	45nm	3.3W	1C/2T	Yes	2 GB	1
Intel® Atom™ Processor E645CT	1.00	512 KB	N/A	45nm	3.3W	1C/2T	Yes	2 GB	1
Intel® Atom™ Processor E625C	0.60	512 KB	N/A	45nm	2.7W	1C/2T	Yes	2 GB	1
Intel® Atom™ Processor E625CT	0.60	512 KB	N/A	45nm	2.7W	1C/2T	Yes	2 GB	1

Embedded Intel® Architecture Chipsets

LAUNCHED IN 2011

	Graphics Out	Dual Independent Displays	TDP	Interconnect	Supports ECC	DP Capable	Max Memory	Memory Channels
Chipsets Supporting Scalable Platforms								
Intel® Q67 Express Chipset	HDMI/DVI/VGA/Display Port	Yes	6.1W	DMI	No	No	N/A	N/A
Intel® B65 Express Chipset	HDMI/DVI/VGA/Display Port	Yes	6.1W	DMI	No	No	N/A	N/A
Intel® C206 Chipset	HDMI/DVI/VGA/Display Port	Yes	6.1W	DMI	Yes	No	N/A	N/A
Chipsets Supporting Low-Power Platforms								
Intel® QM67 Express Chipset	HDMI/DVI/VGA/LVDS/Display Port	Yes	3.9W	DMI	No	No	N/A	N/A
Intel® HM65 Express Chipset	HDMI/DVI/VGA/LVDS/Display Port	Yes	3.9W	DMI	No	No	N/A	N/A

	Memory Technology	Supports ECC	Intel® 64 ¹	Intel® TXT ²	XD Bit ³	Intel® VT ⁴	Intel® AMT ⁵	EIST ⁶	FSB Parity	Supported Chipsets
	DDR3-1066/1333	No	Yes	Yes	Yes	Yes	Yes	Yes	N/A	Intel® Q67 Express Chipset, Intel® B65 Express Chipset
	DDR3-1066/1333	No	Yes	Yes	Yes	Yes	Yes	Yes	N/A	Intel® Q67 Express Chipset, Intel® B65 Express Chipset
	DDR3-1066/1333	Yes ⁷	Yes	No	Yes	Yes	No	Yes	N/A	Intel® Q67 Express Chipset, Intel® B65 Express Chipset, Intel® C206 Chipset
	DDR3-1066/1333	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	Intel® C206 Chipset
	DDR3-1066/1333	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	Intel® C206 Chipset
	DDR3-1066/1333/1600 ⁸	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	Intel® QM67 Express Chipset, Intel® HM65 Express Chipset
	DDR3-1066/1333/1600 ⁸	No	Yes	Yes	Yes	Yes	Yes	Yes	N/A	Intel® QM67 Express Chipset, Intel® HM65 Express Chipset
	DDR3-1066/1333	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	Intel® QM67 Express Chipset, Intel® HM65 Express Chipset
	DDR3-1066/1333	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	Intel® QM67 Express Chipset, Intel® HM65 Express Chipset
	DDR3-1066/1333	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	Intel® QM67 Express Chipset, Intel® HM65 Express Chipset
	DDR3-1066/1333	No	Yes	Yes	Yes	Yes	Yes	Yes	N/A	Intel® QM67 Express Chipset, Intel® HM65 Express Chipset
	DDR3-1066/1333	Yes	Yes	No	Yes	Yes	No	Yes	N/A	Intel® QM67 Express Chipset, Intel® HM65 Express Chipset
	DDR2-667/800	No	No	No	No	Yes	No	No	N/A	N/A
	DDR2-667/800	No	No	No	No	Yes	No	No	N/A	N/A
	DDR2-667/800	No	No	No	No	Yes	No	No	N/A	N/A
	DDR2-667/800	No	No	No	No	Yes	No	No	N/A	N/A
	DDR2-667/800	No	No	No	No	Yes	No	No	N/A	N/A
	DDR2-667/800	No	No	No	No	Yes	No	No	N/A	N/A

	Supported Memory	PCI Express*	Supported ICH
	N/A	8x1 Gen 2.0	N/A
	N/A	8x1 Gen 2.0	N/A
	N/A	8x1 Gen 2.0	N/A
	N/A	8x1 Gen 2.0	N/A
	N/A	8x1 Gen 2.0	N/A

Embedded Intel® Architecture Processors

LAUNCHED IN 2010

Please see back cover for endnotes.

	Clock Speed (GHz)	Last-Level Cache	Intel® QuickPath Link Speed ⁹	Lithography	Max TDP	Cores/Threads	Integrated Graphics	Max Memory	Memory Channels
Performance Platforms^A									
Intel® Xeon® Processor E5645	2.40	12 MB	5.86 GT/s	32nm	80W	6C/12T	No	288 GB ¹⁰	3
Intel® Xeon® Processor E5620	2.40	12 MB	5.86 GT/s	32nm	80W	4C/8T	No	288 GB ¹⁰	3
Intel® Xeon® Processor L5638	2.00	12 MB	5.86 GT/s	32nm	60W	6C/12T	No	288 GB ¹⁰	3
Intel® Xeon® Processor L5618	1.87	12 MB	5.86 GT/s	32nm	40W	4C/8T	No	288 GB ¹⁰	3
Intel® Xeon® Processor EC5549 ¹¹	2.53	8 MB	5.87 GT/s	45nm	85W	4C/8T	No	288 GB ¹⁰	3
Intel® Xeon® Processor EC5539 ¹¹	2.27	4 MB	5.87 GT/s	45nm	65W	2C/2T	No	288 GB ¹⁰	3
Intel® Xeon® Processor LC5528 ¹¹	2.13	8 MB	4.8 GT/s	45nm	60W	4C/8T	No	288 GB ¹⁰	3
Intel® Xeon® Processor LC5518 ¹¹	1.73	8 MB	4.8 GT/s	45nm	48W	4C/8T	No	288 GB ¹⁰	3
Intel® Xeon® Processor EC5509 ¹¹	2.00	8 MB	4.8 GT/s	45nm	85W	4C/4T	No	288 GB ¹⁰	3
Intel® Xeon® Processor EC3539 ¹¹	2.13	8 MB	4.8 GT/s	45nm	65W	4C/4T	No	288 GB ¹⁰	3
Intel® Xeon® Processor LC3528 ¹¹	1.73	4 MB	4.8 GT/s	45nm	35W	2C/4T	No	192 GB ¹⁰	2
Intel® Xeon® Processor LC3518 ¹¹	1.73	2 MB	4.8 GT/s	45nm	23W	1C/1T	No	192 GB ¹⁰	2
Intel® Celeron® Processor P1053 ¹¹	1.33	2 MB	4.8 GT/s	45nm	30W	1C/2T	No	192 GB ¹⁰	2
Scalable Platforms^A									
Intel® Xeon® Processor X3450 ¹¹	3.20	8 MB	N/A	45nm	95W	4C/8T	No	32 GB	2
Intel® Xeon® Processor X3430 ¹¹	2.80	8 MB	N/A	45nm	95W	4C/4T	No	32 GB	2
Intel® Core™ i7-860 Processor ¹¹	2.80	8 MB	N/A	45nm	95W	4C/8T	Yes	16 GB	2
Intel® Core™ i5-750 Processor ¹¹	2.66	8 MB	N/A	45nm	95W	4C/4T	Yes	16 GB	2
Intel® Core™ i5-660 Processor ¹¹	3.33	4 MB	N/A	32nm	73W	2C/4T	Yes	16 GB	2
Intel® Core™ i3-540 Processor ¹¹	3.06	4 MB	N/A	32nm	73W	2C/4T	Yes	16 GB	2
Intel® Pentium® Processor G6950 ¹¹	2.80	3 MB	DMI	32nm	73W	2C/2T	Yes	16 GB	2
Low-Power Platforms^A									
Intel® Core™ i7-620M Processor	2.66	4 MB	N/A	32nm	35W	2C/4T	Yes	8 GB	2
Intel® Core™ i7-610E Processor	2.53	4 MB	N/A	32nm	35W	2C/4T	Yes	8 GB	2
Intel® Core™ i7-620LE Processor	2.00	4 MB	N/A	32nm	25W	2C/4T	Yes	8 GB	2
Intel® Core™ i7-620UE Processor	1.06	4 MB	N/A	32nm	18W	2C/4T	Yes	8 GB	2
Intel® Core™ i7-660UE Processor	1.33	4 MB	N/A	32nm	18W	2C/4T	Yes	8 GB	2
Intel® Core™ i5-520M Processor	2.40	3 MB	N/A	32nm	35W	2C/4T	Yes	8 GB	2
Intel® Core™ i5-520E Processor	2.40	3 MB	N/A	32nm	35W	2C/4T	Yes	8 GB	2
Intel® Core™ i3-330E Processor	2.13	3 MB	N/A	32nm	35W	2C/4T	Yes	8 GB	2
Intel® Celeron® Processor U3405	1.06	2 MB	N/A	32nm	18W	2C/2T	Yes	8 GB	2
Intel® Atom™ Processor-Based Platforms^A									
Intel® Atom™ Processor E680 ¹¹	1.60	512 KB	N/A	45nm	3.9W	1C/2T	Yes	2 GB	1
Intel® Atom™ Processor E680T ^{11,13}	1.60	512 KB	N/A	45nm	3.9W	1C/2T	Yes	2 GB	1
Intel® Atom™ Processor E660 ¹¹	1.30	512 KB	N/A	45nm	3.6W	1C/2T	Yes	2 GB	1
Intel® Atom™ Processor E660T ^{11,13}	1.30	512 KB	N/A	45nm	3.6W	1C/2T	Yes	2 GB	1
Intel® Atom™ Processor E640 ¹¹	1.00	512 KB	N/A	45nm	3.6W	1C/2T	Yes	2 GB	1
Intel® Atom™ Processor E640T ^{11,13}	1.00	512 KB	N/A	45nm	3.6W	1C/2T	Yes	2 GB	1
Intel® Atom™ Processor E620 ¹¹	0.60	512 KB	N/A	45nm	2.7W	1C/2T	Yes	2 GB	1
Intel® Atom™ Processor E620T ^{11,13}	0.60	512 KB	N/A	45nm	2.7W	1C/2T	Yes	2 GB	1
Intel® Atom™ Processor D525	1.80	1 MB	N/A	45nm	13W	2C/4T	Yes	4 GB	1
Intel® Atom™ Processor D510	1.66	1 MB	N/A	45nm	13W	2C/4T	Yes	2 GB	1
Intel® Atom™ Processor D425	1.80	512 KB	N/A	45nm	10W	1C/2T	Yes	4 GB	1
Intel® Atom™ Processor D410	1.66	512 KB	N/A	45nm	10W	1C/2T	Yes	2 GB	1
Intel® Atom™ Processor N455	1.66	512 KB	N/A	45nm	6.5W	1C/2T	Yes	2 GB	1
Intel® Atom™ Processor N450	1.66	512 KB	N/A	45nm	5.5W	1C/2T	Yes	2 GB	1

Embedded Intel® Architecture Processors
 LAUNCHED IN 2010

	Memory Technology	Supports ECC	Intel® 64 ¹	Intel® TXT ²	XD Bit ³	Intel® VT ⁴	Intel® AMT ⁵	EIST ⁶	Supported Chipsets
	DDR3 800/1066/1333 RDIMM or UDIMM	Yes	Yes	Yes	Yes	Yes	No	Yes	Intel® 5520 I/O Hub (36D)
	DDR3 800/1066/1333 RDIMM or UDIMM	Yes	Yes	Yes	Yes	Yes	No	Yes	Intel® 5520 I/O Hub (36D)
	DDR3 800/1066/1333 RDIMM or UDIMM	Yes	Yes	Yes	Yes	Yes	No	Yes	Intel® 5520 I/O Hub (36D)
	DDR3 800/1066/1333 RDIMM or UDIMM	Yes	Yes	Yes	Yes	Yes	No	Yes	Intel® 5520 I/O Hub (36D)
	DDR3-1333	Yes	Yes	No	Yes	Yes	No	Yes	Intel® 3420 Chipset
	DDR3-1333	Yes	Yes	No	Yes	Yes	No	Yes	Intel® 3420 Chipset
	DDR3-1066	Yes	Yes	No	Yes	Yes	No	Yes	Intel® 3420 Chipset
	DDR3-1066	Yes	Yes	No	Yes	Yes	No	Yes	Intel® 3420 Chipset
	DDR3-1066	Yes	Yes	No	Yes	Yes	No	Yes	Intel® 3420 Chipset
	DDR3-1066	Yes	Yes	No	Yes	Yes	No	Yes	Intel® 3420 Chipset
	DDR3-1066	Yes	Yes	No	Yes	Yes	No	Yes	Intel® 3420 Chipset
	DDR3-800	Yes	Yes	No	Yes	Yes	No	Yes	Intel® 3420 Chipset
	DDR3-800	Yes	Yes	No	Yes	Yes	No	Yes	Intel® 3420 Chipset
	DDR3-800/1066/1333	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Intel® 3450 Chipset
	DDR3-800/1066/1333	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Intel® 3450 Chipset
	DDR3-1066/1333	No	Yes	Yes	Yes	Yes	Yes	Yes	Intel® Q57 Chipset
	DDR3-1066/1333	No	Yes	No	Yes	Yes	Yes	Yes	Intel® Q57 Chipset
	DDR3-1066/1333	Yes ¹²	Yes	Yes	Yes	Yes	Yes	Yes	Intel® Q57 Chipset, Intel® 3450 Chipset
	DDR3-1066/1333	Yes ¹²	Yes	No	Yes	No	No	Yes	Intel® Q57 Chipset, Intel® 3450 Chipset
	DDR3-1066	Yes ¹²	Yes	No	Yes	Yes	No	Yes	Intel® Q57 Chipset, Intel® 3450 Chipset
	DDR3-800/1066	No	Yes	Yes	Yes	Yes	Yes	Yes	Mobile Intel® QM57 Express Chipset, Mobile Intel® HM55 Express Chipset
	DDR3-800/1066	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Mobile Intel® QM57 Express Chipset, Mobile Intel® HM55 Express Chipset
	DDR3-800/1066	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Mobile Intel® QM57 Express Chipset, Mobile Intel® HM55 Express Chipset
	DDR3-800	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Mobile Intel® QM57 Express Chipset, Mobile Intel® HM55 Express Chipset
	DDR3-800	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Mobile Intel® QM57 Express Chipset, Mobile Intel® HM55 Express Chipset
	DDR3-800/1066	No	Yes	Yes	Yes	Yes	Yes	Yes	Mobile Intel® QM57 Express Chipset, Mobile Intel® HM55 Express Chipset
	DDR3-800/1066	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Mobile Intel® QM57 Express Chipset, Mobile Intel® HM55 Express Chipset
	DDR3-800/1066	Yes	Yes	Yes	Yes	Yes	No	Yes	Mobile Intel® QM57 Express Chipset, Mobile Intel® HM55 Express Chipset
	DDR3-800/1066	Yes	Yes	No	Yes	Yes	No	Yes	Mobile Intel® QM57 Express Chipset, Mobile Intel® HM55 Express Chipset
	DDR2-667/800	No	No	No	No	Yes	No	Yes	Intel® Platform Controller Hub EG20T
	DDR2-667/800	No	No	No	No	Yes	No	Yes	Intel® Platform Controller Hub EG20T
	DDR2-667/800	No	No	No	No	Yes	No	Yes	Intel® Platform Controller Hub EG20T
	DDR2-667/800	No	No	No	No	Yes	No	Yes	Intel® Platform Controller Hub EG20T
	DDR2-667/800	No	No	No	No	Yes	No	Yes	Intel® Platform Controller Hub EG20T
	DDR2-667/800	No	No	No	No	Yes	No	Yes	Intel® Platform Controller Hub EG20T
	DDR2-667/800	No	No	No	No	Yes	No	Yes	Intel® Platform Controller Hub EG20T
	DDR2-667, DDR3-800	No	Yes	No	Yes	No	No	No	Intel® 82801HM I/O Controller
	DDR2-667	No	Yes	No	Yes	No	No	No	Intel® 82801HM I/O Controller
	DDR2-667, DDR3-800	No	Yes	No	Yes	No	No	No	Intel® 82801HM I/O Controller
	DDR2-667	No	Yes	No	Yes	No	No	No	Intel® 82801HM I/O Controller
	DDR2-667, DDR3-667	No	Yes	No	Yes	No	No	No	Intel® 82801HM I/O Controller
	DDR2-667	No	Yes	No	Yes	No	No	Yes	Intel® 82801HM I/O Controller

Embedded Intel® Architecture Processors

LAUNCHED IN 2009 OR PRIOR

Please see back cover for endnotes.

	Clock Speed (GHz)	Last-Level Cache	FSB (MHz)	Lithography	Max TDP	Cores/Threads	Supports ECC
Performance Platforms^A							
Intel® Xeon® Processor E5540	2.53	8 MB	5.86 GT/s ⁹	45nm	80W	4C/8T	Yes
Intel® Xeon® Processor E5504	2.00	4 MB	4.8 GT/s ⁹	45nm	80W	4C/4T	Yes
Intel® Xeon® Processor L5518	2.13	8 MB	5.86 GT/s ⁹	45nm	60W	4C/8T	Yes
Intel® Xeon® Processor L5508	2.00	8 MB	5.86 GT/s ⁹	45nm	38W	2C/4T	Yes
Intel® Xeon® Processor E5440	2.83	12 MB	1333	45nm	80W	4C/4T	N/A
Intel® Xeon® Processor L5410	2.33	12 MB	1333	45nm	50W	4C/4T	N/A
Intel® Xeon® Processor L5408	2.13	12 MB	1066	45nm	40W	4C/4T	N/A
Intel® Xeon® Processor E5240	3.00	6 MB	1333	45nm	65W	2C/2T	N/A
Intel® Xeon® Processor L5238	2.66	6 MB	1333	45nm	35W	2C/2T	N/A
Intel® Xeon® Processor E5220	2.33	6 MB	1333	45nm	65W	2C/2T	N/A
Intel® Xeon® Processor L3014	2.40	3 MB	1066	45nm	30W	1C/1T	N/A
Intel® Xeon® Processor E5345	2.33	8 MB	1333	65nm	80W	4C/4T	N/A
Intel® Xeon® Processor E5335	2.00	8 MB	1333	65nm	80W	4C/4T	N/A
Intel® Xeon® Processor L5318	1.60	8 MB	1066	65nm	40W	4C/4T	N/A
Intel® Xeon® Processor LV 5148	2.33	4 MB	1333	65nm	40W	2C/2T	N/A
Intel® Xeon® Processor LV 5138	2.13	4 MB	1066	65nm	35W	2C/2T	N/A
Intel® Xeon® Processor LV 5128	1.86	4 MB	1066	65nm	40W	2C/2T	N/A
Intel® Xeon® Processor 5140	2.33	4 MB	1333	65nm	65W	2C/2T	N/A
Intel® Xeon® Processor 5130	2.00	4 MB	1333	65nm	65W	2C/2T	N/A
Intel® Xeon® Processor LV 2.00 GHz	2.00	2 MB	667	65nm	31W	2C/2T	N/A
Intel® Xeon® Processor LV 1.66 GHz	1.66	2 MB	667	65nm	31W	2C/2T	N/A
Intel® Xeon® Processor ULV 1.66 GHz	1.66	2 MB	667	65nm	15W	2C/2T	N/A
Intel® Core™2 Duo Processor T9400	2.53	6 MB	1066	45nm	35W	2C/2T	N/A
Intel® Core™2 Duo Processor SL9400	1.86	6 MB	1066	45nm	17W	2C/2T	N/A
Intel® Core™2 Duo Processor SL9380	1.80	6 MB	800	45nm	17W	2C/2T	N/A
Intel® Core™2 Duo Processor SU9300	1.20	3 MB	800	45nm	10W	2C/1T	N/A
Intel® Core™2 Duo Processor U7500	1.06	2 MB	533	65nm	10W	2C/2T	N/A
Intel® Core™2 Duo Processor L7400	1.50	4 MB	667	65nm	17W	2C/2T	N/A
Intel® Core™ Duo Processor U2500	1.20	2 MB	533	65nm	9W	2C/2T	N/A
Intel® Pentium® M Processor 745	1.80	2 MB	400	90nm	21W	1C/1T	N/A
Intel® Pentium® M Processor LV 738	1.40	2 MB	400	90nm	10W	1C/1T	N/A
Intel® Celeron® Processor 1.66 GHz	1.66	1 MB	667	65nm	27W	1C/1T	N/A
Intel® Celeron® Processor 1.83 GHz	1.83	1 MB	667	65nm	27W	1C/1T	N/A
Intel® Celeron® M Processor ULV 722	1.20	1 MB	800	45nm	5.5W	1C/1T	N/A
Intel® Celeron® M Processor ULV 423	1.06	1 MB	533	65nm	5.5W	1C/1T	N/A
Intel® Celeron® M Processor 370	1.50	1 MB	400	90nm	21W	1C/1T	N/A
Intel® Celeron® M Processor ULV 373	1.00	512 KB	400	90nm	5.5W	1C/1T	N/A

	Clock Speed (GHz)	Last-Level Cache	Intel® Quick Assist Technology	Lithography	Max TDP	Cores/Threads	Supports ECC
System on a Chip							
Intel® EP80579 Integrated Processor (12EPC)	1.2	256 KB	No	90nm	23W	1C/1T	Yes
Intel® EP80579 Integrated Processor (10EPC)	1.06	256 KB	No	90nm	21.5W	1C/1T	Yes
Intel® EP80579 Integrated Processor (06EPC)	600 MHz	256 KB	No	90nm	11.5W	1C/1T	Yes
Intel® EP80579 Integrated Processor (06EPT) ¹³	600 MHz	256 KB	No	90nm	11.5W	1C/1T	Yes
Intel® EP80579 Integrated Processor (12QAC)	1.2	256 KB	Yes	90nm	25W	1C/1T	Yes
Intel® EP80579 Integrated Processor (10QAT) ¹³	1.06	256 KB	Yes	90nm	23.5W	1C/1T	Yes
Intel® EP80579 Integrated Processor (10QAC)	1.06	256 KB	Yes	90nm	23.5W	1C/1T	Yes
Intel® EP80579 Integrated Processor (06QAC)	600 MHz	256 KB	Yes	90nm	13.5W	1C/1T	Yes

	Intel® 64 ¹	Intel® TXT ²	XD Bit ³	Intel® VT ⁴	Intel® AMT ⁵	EIST ⁶	FSB Parity	Supported Chipsets
	Yes	Yes	Yes	Yes	No	Yes	Yes	Intel® 5520 I/O Hub (36D)
	Yes	Yes	Yes	Yes	No	Yes	Yes	Intel® 5520 I/O Hub (36D)
	Yes	Yes	Yes	Yes	No	Yes	Yes	Intel® 5520 I/O Hub (36D)
	Yes	Yes	Yes	Yes	No	Yes	Yes	Intel® 5520 I/O Hub (36D)
	Yes	No	Yes	Yes	No	Yes	Yes	Intel® 5000P Chipset
	Yes	No	Yes	Yes	No	Yes	Yes	Intel® 5000P Chipset, Intel® 5100 Memory Controller Hub (MCH) Chipset
	Yes	No	Yes	Yes	No	Yes	Yes	Intel® 5000P Chipset, Intel® 5100 MCH Chipset
	Yes	No	Yes	Yes	No	Yes	Yes	Intel® 5000P Chipset
	Yes	No	Yes	Yes	No	Yes	Yes	Intel® 5000P Chipset, Intel® 5100 MCH Chipset
	Yes	No	Yes	Yes	No	Yes	Yes	Intel® 5000P Chipset, Intel® 5100 MCH Chipset
	Yes	No	Yes	Yes	No	Yes	Yes	Intel® 5000P Chipset, Intel® 5100 MCH Chipset
	Yes	No	Yes	Yes	No	Yes	Yes	Intel® 5000P Chipset
	Yes	No	Yes	Yes	No	Yes	Yes	Intel® 5000P Chipset, Intel® 5100 MCH Chipset
	Yes	No	Yes	Yes	No	Yes	Yes	Intel® 5000P Chipset
	Yes	No	Yes	Yes	No	Yes	Yes	Intel® 5000P Chipset, Intel® 5100 MCH Chipset
	Yes	No	Yes	Yes	No	Yes	Yes	Intel® 5000P Chipset
	Yes	No	Yes	Yes	No	Yes	Yes	Intel® 5000P Chipset, Intel® 5100 MCH Chipset
	Yes	No	Yes	Yes	No	Yes	Yes	Intel® 5000P Chipset
	Yes	No	Yes	Yes	No	Yes	Yes	Intel® 5000P Chipset
	Yes	No	Yes	Yes	No	Yes	Yes	Intel® 5000P Chipset
	No	No	Yes	Yes	No	Yes	Yes	Intel® 3100 Chipset
	No	No	Yes	Yes	No	Yes	Yes	Intel® 3100 Chipset
	No	No	Yes	Yes	No	Yes	Yes	Intel® 3100 Chipset
	Yes	Yes	Yes	Yes	No	Yes	No	Intel® 5000P Chipset, Intel® 5100 MCH Chipset
	Yes	Yes	Yes	Yes	No	Yes	No	Intel® 5000P Chipset, Intel® 5100 MCH Chipset
	Yes	Yes	Yes	Yes	No	Yes	No	Intel® 3100 Chipset
	Yes	Yes	Yes	Yes	No	No	No	Intel® 3100 Chipset
	Yes	Yes	Yes	Yes	No	Yes	No	Intel® 3100 Chipset
	No	Yes	No	Yes	No	Yes	Yes	Intel® 3100 Chipset
	No	No	Yes	Yes	No	Yes	No	Intel® 3100 Chipset
	No	No	Yes	No	No	Yes	No	Intel® 3100 Chipset
	No	No	Yes	No	No	No	No	Intel® 3100 Chipset
	No	No	Yes	No	No	No	No	Intel® 3100 Chipset
	No	No	Yes	No	No	No	No	Intel® 3100 Chipset
	No	No	Yes	No	No	No	No	Intel® 3100 Chipset
	No	No	Yes	No	No	No	No	Intel® 3100 Chipset
	No	No	Yes	No	No	No	No	Intel® 3100 Chipset
	No	No	Yes	No	No	No	No	Intel® 3100 Chipset
	No	No	Yes	No	No	No	No	Intel® 3100 Chipset
	No	No	Yes	No	No	No	No	Intel® 3100 Chipset

	Max Memory	Memory Channels	Supported Memory	PCI Express	Integrated LAN	# USB Ports	# SATA Ports	GPIO	High-Speed SerialPorts (Async/Sync)
	4 GB	1	DDR2-800	1x8, 2x4, 2x1	3 (10/100/1000)	2 (1.1 or 2.0)	2 (Gen1 or Gen2)	36	N/A
	4 GB	1	DDR2-800	1x8, 2x4, 2x1	3 (10/100/1000)	2 (1.1 or 2.0)	2 (Gen1 or Gen2)	36	N/A
	4 GB	1	DDR2-800	1x8, 2x4, 2x1	3 (10/100/1000)	2 (1.1 or 2.0)	2 (Gen1 or Gen2)	36	N/A
	4 GB	1	DDR2-800	1x8, 2x4, 2x1	3 (10/100/1000)	2 (1.1 or 2.0)	2 (Gen1 or Gen2)	36	N/A
	4 GB	1	DDR2-800	1x8, 2x4, 2x1	3 (10/100/1000)	2 (1.1 or 2.0)	2 (Gen1 or Gen2)	36	3/1
	4 GB	1	DDR2-800	1x8, 2x4, 2x1	3 (10/100/1000)	2 (1.1 or 2.0)	2 (Gen1 or Gen2)	36	3/1
	4 GB	1	DDR2-800	1x8, 2x4, 2x1	3 (10/100/1000)	2 (1.1 or 2.0)	2 (Gen1 or Gen2)	36	3/1
	4 GB	1	DDR2-800	1x8, 2x4, 2x1	3 (10/100/1000)	2 (1.1 or 2.0)	2 (Gen1 or Gen2)	36	N/A

Embedded Intel® Architecture Processors

LAUNCHED IN 2009 OR PRIOR

Please see back cover for endnotes.

	Clock Speed (GHz)	Last-Level Cache	FSB (MHz)	Lithography	Max TDP	Cores/Threads	Intel® 64 ¹	Intel® TXT ²
Scalable Platforms^A								
Intel® Core™2 Quad Processor Q9400	2.66	6 MB	1333	65nm	95W	4C/4T	Yes	Yes
Intel® Core™2 Duo Processor E8400	3.00	6 MB	1333	45nm	65W	2C/2T	Yes	No
Intel® Core™2 Duo Processor E7400	2.80	3 MB	1066	45nm	65W	2C/2T	Yes	No
Intel® Core™2 Duo Processor E6400	2.13	2 MB	1066	65nm	65W	2C/2T	Yes	No
Intel® Core™2 Duo Processor E4300	1.80	2 MB	800	65nm	65W	2C/2T	Yes	No
Intel® Pentium® Processor E6500	2.93	2 MB	1066	45nm	65W	2C/2T	Yes	No
Intel® Pentium® Processor E5300	2.60	2 MB	800	45nm	65W	2C/2T	Yes	No
Intel® Pentium® Processor E2160	1.80	1 MB	800	65nm	65W	2C/2T	Yes	No
Intel® Pentium® 4 Processor 651	3.40	2 MB	800	65nm	65W	1C/2T	Yes	No
Intel® Celeron® Processor E3400	2.60	1 MB	800	45nm	65W	2C/2T	Yes	No
Intel® Celeron® Processor E1500	2.00	512 KB	800	65nm	65W	2C/2T	Yes	No
Intel® Celeron® Processor 440	2.00	512 KB	800	65nm	35W	1C/1T	Yes	No
Intel® Celeron® D Processor 352	3.20	512 KB	533	65nm	86W	1C/1T	Yes	No
Low-Power Platforms^A								
Intel® Core™2 Duo Processor SL9400	1.86	6 MB	1066	45nm	17W	2C/2T	Yes	Yes
Intel® Core™2 Duo Processor T9400	2.53	6 MB	1066	45nm	35W	2C/2T	Yes	Yes
Intel® Core™2 Duo Processor SP9300	2.26	6 MB	1066	45nm	25W	2C/2T	Yes	Yes
Intel® Core™2 Duo Processor SU9300	1.20	3 MB	800	45nm	10W	2C/1T	Yes	Yes
Intel® Core™2 Duo Processor P8400	2.26	3 MB	1066	45nm	25W	2C/2T	Yes	Yes
Intel® Core™2 Duo Processor U7500	1.06	2 MB	533	65nm	10W	2C/2T	Yes	Yes
Intel® Core™2 Duo Processor T7500	2.20	4 MB	800	65nm	35W	2C/2T	Yes	No
Intel® Core™2 Duo Processor L7500	1.60	4 MB	800	65nm	17W	2C/2T	Yes	No
Intel® Core™2 Duo Processor T7400	2.16	4 MB	667	65nm	34W	2C/2T	No	Yes
Intel® Core™ Duo Processor T2500	2.00	2 MB	667	65nm	31W	2C/2T	No	No
Intel® Core™ Duo Processor L2400	1.66	2 MB	667	65nm	15W	2C/2T	No	No
Intel® Pentium® M Processor 760	2.00 A	2 MB	533	90nm	27W	1C/1T	No	No
Intel® Pentium® M Processor 745	1.80	2 MB	400	90nm	21W	1C/1T	No	No
Intel® Pentium® M Processor LV 738	1.40	2 MB	400	90nm	10W	1C/1T	No	No
Intel® Celeron® Processor T3100	1.90	1 MB	800	45nm	35W	2C/2T	Yes	No
Intel® Celeron® Processor 575	2.00	1 MB	667	65nm	31W	1C/1T	Yes	No
Intel® Celeron® Processor ULV 573	1.00	512 KB	533	65nm	10W	1C/1T	Yes	No
Intel® Celeron® Processor 550	2.00	1 MB	533	65nm	31W	1C/1T	Yes	No
Intel® Celeron® M Processor ULV 723	1.20	1 MB	800	45nm	10W	1C/1T	Yes	No
Intel® Celeron® M Processor ULV 722	1.20	1 MB	800	45nm	5.5W	1C/1T	Yes	No
Intel® Celeron® M Processor 530	1.73	1 MB	533	65nm	31W	1C/1T	No	Yes
Intel® Celeron® M Processor 440	1.86	1 MB	533	65nm	27W	1C/1T	No	No
Intel® Celeron® M Processor ULV 423	1.06	1 MB	533	65nm	5.5W	1C/1T	No	No
Intel® Celeron® M Processor 370	1.50	1 MB	400	90nm	21W	1C/1T	No	No
Intel® Celeron® M Processor ULV 373	1.00	512 KB	400	90nm	5.5W	1C/1T	No	No
ULV Intel® Celeron® M Processor 600 MHz	600 MHz	512 KB	400	130nm	7W	1C/1T	No	No
Intel® Atom™ Processor-Based Platforms^A								
Intel® Atom™ Processor N270	1.60	512 KB	533	45nm	2.5W	1C/2T	No	No
Intel® Atom™ Processor Z530	1.60	512 KB	533	45nm	2.2W	1C/2T	No	No
Intel® Atom™ Processor Z510	1.10	512 KB	400	45nm	2.0W	1C/1T	No	No
Intel® Atom™ Processor Z530P	1.60	512 KB	533	45nm	2.2W	1C/2T	No	No
Intel® Atom™ Processor Z510P	1.10	512 KB	400	45nm	2.2W	1C/2T	No	No
Intel® Atom™ Processor Z520PT ¹³	1.33	512 KB	533	45nm	2.2W	1C/2T	No	No
Intel® Atom™ Processor Z510PT ¹³	1.10	512 KB	400	45nm	2.2W	1C/2T	No	No

	XD Bit ³	Intel® VT ⁴	Intel® AMT ⁵	EIST ⁶	Supported Chipsets
	Yes	Yes	Yes	Yes	Intel® Q45 Express Chipset, Intel® G45 Express Chipset, Intel® Q35 Express Chipset, Intel® 3210 Express Chipset
	Yes	Yes	Yes	Yes	Intel® Q45 Express Chipset, Intel® G45 Express Chipset, Intel® Q35 Express Chipset, Intel® 3210 Express Chipset
	Yes	No	No	Yes	Intel® Q45 Express Chipset, Intel® G45 Express Chipset, Intel® Q35 Express Chipset, Intel® 3210 Express Chipset
	Yes	Yes	Yes	Yes	Intel® Q965 Express Chipset, Intel® Q35 Express Chipset, Intel® 3010 Express Chipset
	Yes	No	No	Yes	Intel® Q965 Express Chipset, Intel® Q35 Express Chipset, Intel® 3010 Express Chipset
	Yes	Yes	No	Yes	Intel® Q45 Express Chipset, Intel® G45 Express Chipset, Intel® 3210 Express Chipset
	Yes	No	No	Yes	Intel® Q45 Express Chipset, Intel® G45 Express Chipset, Intel® 3210 Express Chipset
	Yes	No	No	Yes	Intel® Q965 Express Chipset, Intel® Q35 Express Chipset, Intel® 3010 Express Chipset
	Yes	No	No	Yes	Intel® Q965 Express Chipset
	No	No	No	No	Intel® Q45 Express Chipset, Intel® G45 Express Chipset, Intel® G41 Express Chipset, Intel® 3210 Express Chipset
	Yes	No	No	No	Intel® Q45 Express Chipset, Intel® G45 Express Chipset, Intel® G41 Express Chipset, Intel® 3210 Express Chipset
	Yes	No	No	No	Intel® Q965 Express Chipset, Intel® Q35 Express Chipset, Intel® 3010 Express Chipset
	Yes	No	No	No	Intel® Q965 Express Chipset
	Yes	Yes	Yes	Yes	Mobile Intel® GS45 Express Chipset
	Yes	Yes	Yes	Yes	Mobile Intel® GM45 Express Chipset
	Yes	Yes	Yes	Yes	Mobile Intel® GS45 Express Chipset
	Yes	Yes	Yes	No	Mobile Intel® GS45 Express Chipset
	Yes	Yes	Yes	Yes	Mobile Intel® GM45 Express Chipset
	Yes	Yes	Yes	Yes	Mobile Intel® GME 965 Express Chipset, Intel® 945GME Express Chipset
	Yes	Yes	Yes	Yes	Mobile Intel® GME965 Express Chipset
	Yes	Yes	Yes	Yes	Mobile Intel® GME965 Express Chipset
	No	Yes	No	Yes	Mobile Intel® 945GME Express Chipset
	Yes	Yes	No	Yes	Mobile Intel® 945GME Express Chipset
	Yes	Yes	No	Yes	Mobile Intel® 945GME Express Chipset
	Yes	No	No	Yes	Mobile Intel® 915GME Express Chipset, Mobile Intel® 910GML Express Chipset
	Yes	No	No	Yes	Mobile Intel® 915GME Express Chipset, Mobile Intel® 910GML Express Chipset
	Yes	No	No	Yes	Mobile Intel® 915GME Express Chipset, Mobile Intel® 910GML Express Chipset
	Yes	No	No	No	Mobile Intel® GL40 Express Chipset, Mobile Intel® GM45 Express Chipset
	Yes	No	No	No	Mobile Intel® GL40 Express Chipset, Mobile Intel® GM45 Express Chipset
	No	No	No	No	Mobile Intel® GME965 Express Chipset, Mobile Intel® GLE960 Express Chipset
	Yes	No	No	No	Mobile Intel® GME965 Express Chipset, Mobile Intel® GLE960 Express Chipset
	Yes	No	No	No	Mobile Intel® GS45 Express Chipset
	Yes	No	No	No	Mobile Intel® GS45 Express Chipset
	No	Yes	No	No	Mobile Intel® 945GME Express Chipset
	No	Yes	No	No	Mobile Intel® 945GME Express Chipset
	Yes	No	No	No	Mobile Intel® 945GME Express Chipset
	Yes	No	No	No	Mobile Intel® 915GME Express Chipset, Mobile Intel® 910GML Express Chipset
	Yes	No	No	No	Mobile Intel® 915GME Express Chipset, Mobile Intel® 910GML Express Chipset
	No	No	No	No	Mobile Intel® 915GME Express Chipset, Mobile Intel® 910GML Express Chipset
	Yes	No	No	Yes	Intel® 945GSE Express Chipset
	Yes	No	No	Yes	Intel® System Controller Hub US15W
	Yes	No	No	Yes	Intel® System Controller Hub US15W
	Yes	No	No	Yes	Intel® System Controller Hub US15WP
	Yes	No	No	Yes	Intel® System Controller Hub US15WP
	Yes	No	No	Yes	Intel® System Controller Hub US15WPT
	Yes	No	No	Yes	Intel® System Controller Hub US15WPT

Embedded Intel® Architecture Chipsets

LAUNCHED IN 2010 OR PRIOR

Please see back cover for endnotes.

	Graphics Out	Dual Display	Max TDP	Interconnect	Integrated Graphics
Chipsets Supporting Performance Platforms					
Intel® 3420 Chipset	No	No	4.7W	ESI	No
Chipsets Supporting Scalable Platforms					
Intel® H55 Chipset	HDMI/DVI/VGA/DisplayPort	Yes	5.2W	DMI	Yes
Intel® Q57 Chipset	HDMI/DVI/VGA/SDVO/DisplayPort	Yes	5.1W	DMI	Yes
Intel® 3450 Chipset	HDMI/DVI/VGA/DisplayPort	Yes	5.9W	DMI	Yes
Chipsets Supporting Low-Power Platforms					
Mobile Intel® HM55 Express Chipset	HDMI/DVI/VGA/SDVO/LVDS/DisplayPort	Yes	3.5W	DMI	Yes
Mobile Intel® QM57 Express Chipset	HDMI/DVI/VGA/SDVO/LVDS/DisplayPort	Yes	3.5W	DMI	Yes

	Graphics Out	Dual Display	Max TDP	Interconnect	Integrated Graphics	Supports ECC	DP Capable	Max Memory
Chipsets Supporting Performance Platforms								
Intel® 5520 I/O Hub (36D)	None	No	27.1W	ESI	No	Yes	Yes	288 GB ¹⁰
Intel® 3100 Chipset	None	No	12.4W	Internal NSI	No	Yes	Yes	16 GB
Intel® 5000P Chipset	None	No	30W	ESI	No	Yes	Yes	64 GB
Intel® 5100 Memory Controller Hub Chipset	None	No	25.3W	DMI	No	Yes	Yes	48 GB
Chipsets Supporting Scalable Platforms								
Intel® 3010 Chipset	None	No	13.6W	DMI	No	Yes	No	8 GB
Intel® 3210 Express Chipset	VGA, TV, SDVO, LVDS	Yes	21.3W	DMI	Yes	No	No	8 GB (DDR2) 4 GB (DDR3)
Intel® G41 Express Chipset	VGA, TV, SDVO, LVDS	Yes	25W	DMI	Yes	No	No	8 GB (DDR2)
Intel® G45 Express Chipset	DisplayPort, HDMI, SDVO, DVI	Yes	24W	DMI	Yes	No	No	16 GB (DDR2)
Intel® Q35 Express Chipset	VGA, TV, SDVO, LVDS	Yes	6.5W	DMI	Yes	No	No	8 GB (DDR3)
Intel® Q45 Express Chipset	DisplayPort, SDVO, DVI	Yes	17W	DMI	Yes	No	No	16 GB
Intel® Q965 Express Chipset	VGA, SDVO	Yes	28W	DMI	Yes	No	No	8 GB
Chipsets Supporting Low-Power Platforms								
Mobile Intel® 945GME Express Chipset	VGA, SDVO, LVDS	Yes	7W	DMI	Yes	No	No	4 GB
Mobile Intel® GL40 Express Chipset	VGA, SDVO, LVDS, HDMI, TV Out, DisplayPort	Yes	12W	DMI	Yes	No	No	8 GB (DDR2)
Mobile Intel® GLE960 Express Chipset	VGA, SDVO, LVDS	Yes	14W	DMI	Yes	No	No	2 GB
Mobile Intel® GM45 Express Chipset	VGA, SDVO, LVDS, HDMI, TV Out, DisplayPort	Yes	12W	DMI	Yes	No	No	8 GB
Mobile Intel® GME965 Express Chipset	VGA, SDVO, LVDS	Yes	13.5W	DMI	Yes	No	No	4 GB
Mobile Intel® GS45 Express Chipset	VGA, SDVO, LVDS, HDMI, TV Out, DisplayPort	Yes	12W	DMI	Yes	No	No	8 GB (DDR2)

	Graphics Out	Dual Display	Max TDP	Interconnect	Integrated Graphics	Supports ECC	DP Capable	Max Memory
Chipsets Supporting Intel® Atom™ Processor-Based Platform								
Intel® System Controller Hub US15W Intel® System Controller Hub US15WP Intel® System Controller Hub US15WPT ¹³	SDVO, LVDS	Yes	2.3W	N/A	Yes	No	No	2 GB
Intel® Platform Controller Hub EG20T ¹⁴	N/A	N/A	1.55W	PCI Express*	N/A	No	No	N/A
Intel® 945GSE Express Chipset	VGA, SDVO, LVDS, TV Out	Yes	6W	x2 DMI	Yes	No	No	2 GB

Supports ECC	DP Capable	Max Memory	Memory Channels	Supported Memory	PCI Express*	Supported ICH
Yes	Yes	N/A	N/A	N/A	8x1	N/A
No	No	N/A	N/A	N/A	PCI Express 2.0 at 2.5 GT/s ⁹	N/A
No	No	N/A	N/A	N/A	PCI Express 2.0 at 2.5 GT/s ⁹	N/A
Yes	No	N/A	N/A	N/A	PCI Express 2.0 at 2.5 GT/s ⁹	N/A
No	No	N/A	N/A	N/A	8x1	N/A
No	No	N/A	N/A	N/A	8x1	N/A

Memory Channels	Supported Memory	PCI Express*	Supported ICH
6	DDR3 800/1066 RDIMM or UDIMM	2x16 Rev 2.0 1x4 Rev 2.0	Intel® I/O Controller Hub 10R (ICH10R)
1	DDR2-400	1x4, 1x8	Intel® 3100 I/O Controller Hub
4	DDR2-533/667 FBDIMM	4x4	Intel® 6321ESB I/O Controller Hub
2	DDR2-533/667 Registered	3x8	Intel® I/O Controller Hub 9R (ICH9R)
2	DDR2-533/667/800	1x16	Intel® I/O Controller Hub 7 (ICH7), Intel® I/O Controller Hub 7R (ICH7R)
2	DDR2-800, DDR3-1066	1x16	Intel® I/O Controller Hub 9R (ICH9R)
2	DDR2-800, DDR3-1066	1x16	Intel® I/O Controller Hub 7 (ICH7)
2	DDR2-667/800, DDR3-800/1066	1x16	Intel® I/O Controller Hub 10 (ICH10), Intel® I/O Controller Hub 10 DO (ICH10DO)
2	DDR2-667/800,	1x16	Intel® I/O Controller Hub 9 (ICH9), Intel® I/O Controller Hub 9 DO (ICH9DO)
2	DDR2-667/800, DDR3-800/1066	1x16	Intel® I/O Controller Hub 10 (ICH10), Intel® I/O Controller Hub 10 DO (ICH10DO)
2	DDR2-533/667/800	1x16	Intel® I/O Controller Hub 8 (ICH8), Intel® I/O Controller Hub 8 DO (ICH8DO)
2	DDR2-400/533/667	1x16	Intel® I/O Controller Hub 7M (ICH7M), Intel® I/O Controller Hub 7M Digital Home (ICH7MDH)
2	DDR2-667/800, DDR3-800/1066	1x16	Intel® I/O Controller Hub 9M (ICH9M-Base)
2	DDR2-533/667	1x16	Intel® I/O Controller Hub 8M (ICH8M-Base)
2	DDR2-667/800, DDR3-800/1066	1x16	Intel® I/O Controller Hub 9M (ICH9M), Intel® I/O Controller Hub 9M-Enhanced (ICH9M-Enhanced)
2	DDR2-533/667	1x16	Intel® I/O Controller Hub 8M (ICH8M), Intel® I/O Controller Hub 8M-Enhanced (ICH8M-Enhanced)
2	DDR2-667/800, DDR3-800/1066	1x16	Intel® I/O Controller Hub 9M-Enhanced (ICH9M-Enhanced) SFF

Memory Channels	Supported Memory	PCI Express*	Supported ICH	# USB Ports	Intel® HD Audio	AC'97	Intel® MST ¹⁵	Integrated IDE	# SATA Ports	PCI
1	DDR2-400/533	2 x 1 Rev. 1.1	N/A	8	Yes	No	No	1 channel	No	No
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1	DDR2-533	N/A	Intel® I/O Controller Hub 7M (ICH7M)	N/A	No	No	No	N/A	N/A	No

Embedded Intel® I/O Controller Hubs

Please see back cover for endnotes.

	Integrated LAN	Max TDP	# USB Ports	Intel® HD Audio	AC '97	Intel® MST ¹⁵
I/O Controllers Supporting Performance Platforms						
Intel® I/O Controller Hub 10R (ICH10R)	10/100/1000	4.5W	12	Yes	No	Yes
Intel® 6321ESB I/O Controller Hub	Dual 10/100/1000	12.4W	8	Yes	Yes	No
Intel® I/O Controller Hub 9R (ICH9R)	10/100/1000	4.3W	12	Yes	No	No
Intel® 3100 I/O Controller Hub	N/A	12.4W	4	No	No	No
I/O Controllers Supporting Scalable Platforms						
Intel® I/O Controller Hub 10 (ICH10)	10/100/1000	4.5W	12	Yes	No	No
Intel® I/O Controller Hub 10 DO (ICH10DO)	10/100/1000	4.5W	12	Yes	No	Yes
Intel® I/O Controller Hub 9R (ICH9R)	10/100/1000	4.3W	12	Yes	No	No
Intel® I/O Controller Hub 9 (ICH9)	10/100/1000	12W	12	Yes	No	No
Intel® I/O Controller Hub 9 DO (ICH9DO)	10/100/1000	12W	12	Yes	No	Yes
Intel® I/O Controller Hub 8 (ICH8)	10/100/1000	3.7W	10	Yes	No	No
Intel® I/O Controller Hub 8 DO (ICH8DO)	10/100/1000	3.7W	10	Yes	No	Yes
Intel® I/O Controller Hub 7 (ICH7)	10/100	3.3W	8	Yes	Yes	No
Intel® I/O Controller Hub 7R (ICH7R)	10/100	3.3W	8	Yes	Yes	Yes
I/O Controllers Supporting Low-Power Platforms						
Intel® I/O Controller Hub 9M-Enhanced (ICH9M-Enhanced) SFF	10/100/1000	2.4W	12	Yes	No	No
Intel® I/O Controller Hub 9M (ICH9M-Base)	10/100/1000	2.4W	12	Yes	No	No
Intel® I/O Controller Hub 9M (ICH9M)	10/100/1000	2.4W	12	Yes	No	No
Intel® I/O Controller Hub 9M-Enhanced (ICH9M-Enhanced)	10/100/1000	2.4W	12	Yes	No	Yes
Intel® I/O Controller Hub 8M (ICH8M)	10/100/1000	2.4W	10	Yes	No	No
Intel® I/O Controller Hub 8M-Enhanced (ICH8M-Enhanced)	10/100/1000	2.4W	10	Yes	No	Yes
Intel® I/O Controller Hub 8M (ICH8M-Base)	10/100/1000	2.4W	10	Yes	No	No
Intel® I/O Controller Hub 7M (ICH7M)	10/100	3.3W	8	Yes	Yes	No
Intel® I/O Controller Hub 7M Digital Home (ICH7MDH)	10/100	3.3W	8	Yes	Yes	Yes
Intel® I/O Controller Hub 6M (ICH6M)	10/100	3.8W	8	Yes	Yes	No
I/O Controllers Supporting Intel® Atom™ Processor-Based Platforms						
Intel® I/O Controller Hub 8M (ICH8M)	10/100/1000	2.4W	10	Yes	No	No
Intel® I/O Controller Hub 7M (ICH7M)	10/100	3.3W	8	Yes	Yes	No

	Integrated IDE	# SATA Ports	PCI	PCI Express*	Supported Chipsets
	N/A	6	4 (32/33)	6 x 1 Rev. 1.1	Intel® 3420 Chipset
	2 channels	6 PCI-X (66/100/133)	4 (32/33) or PCI-X (66/100/133)	4 Rev. 1.0a	Intel® 5000P Chipset
	N/A	6	4 (32/33)	6 Rev. 1.1	Intel® 5100 Memory Controller Hub Chipset
	N/A	6	1 (32/33)	1 Rev. 1.0a	Intel® 3100 Chipset
	N/A	6	4 (32/33)	6 x 1 Rev. 1.1	Intel® Q45 Express Chipset, Intel® G45 Express Chipset
	N/A	6	4 (32/33)	6 x 1 Rev. 1.1	Intel® Q45 Express Chipset, Intel® G45 Express Chipset
	N/A	6	4 (32/33)	6 x 1 Rev. 1.0a	Intel® 3210 Express Chipset
	N/A	4	4 (32/33)	6 x 1 Rev. 2.0	Intel® Q35 Express Chipset
	N/A	4	4 (32/33)	6 x 1 Rev. 2.0	Intel® Q35 Express Chipset
	N/A	4	4 (32/33)	6 x 1 Rev. 1.1	Intel® Q965 Express Chipset
	N/A	6	4 (32/33)	6 x 1 Rev. 1.1	Intel® Q965 Express Chipset
	1 channel	4	6 (32/33)	4 Rev. 1.0a	Intel® G41 Express Chipset, Intel® 3010 Chipset
	1 channel	4	6 (32/33)	6 Rev. 1.0a	Intel® 3010 Chipset
	N/A	4	4 (32/33)	6 x 1 Rev. 1.1	Mobile Intel® GS45 Express Chipset
	N/A	4	4 (32/33)	6 x 1 Rev. 1.1	Mobile Intel® GL40 Express Chipset
	N/A	4	4 (32/33)	6 x 1 Rev. 1.1	Mobile Intel® GM45 Express Chipset
	N/A	4	4 (32/33)	6 x 1 Rev. 1.1	Mobile Intel® GM45 Express Chipset
	1 channel	3	4 (32/33)	6 Rev. 2.0	Mobile Intel® GME965 Express Chipset
	1 channel	3	4 (32/33)	6 Rev. 2.0	Mobile Intel® GME965 Express Chipset
	1 channel	3	4 (32/33)	6 Rev. 2.0	Mobile Intel® GLE960 Express Chipset
	1 channel	2	6 (32/33)	4 Rev. 1.0a	Mobile Intel® 945GME Express Chipset
	1 channel	2	6 (32/33)	6 Rev. 1.0a	Mobile Intel® 945GME Express Chipset
	1 channel	2	7 (32/33)	4 Rev. 1.0a	Mobile Intel® 915GME Express Chipset, Mobile Intel® 910GME Express Chipset
	1 channel	3	4 (32/33)	6 Rev. 2.0	N/A
	1 channel	2	6 (32/33)	4 Rev. 1.0a	Intel® 945GSE Express Chipset

Intel® Ethernet Controllers

Intel® Ethernet Controllers are RoHS compliant and compatible with all major operating systems.

Please see back cover for endnotes.

Product Name	Device	Package Size	Physical Package	Bus Type	Bus Speed
10 Gigabit Ethernet					
Intel® 82598EB	Dual-port MAC, XUA1, KX4, CX4	31x31 mm	833-pin FCBGA	PCI Express*	x8/x4/x2
Intel® 82599EB ¹⁶	Dual-port MAC/PHY XAU1, KX/KX4, CX4, BX, SGMII	25x25 mm	576-pin FCBGA	PCI Express v2.0	x8/x4/x2/x1 (5.0 GT/s ⁹)
Intel® 82599ES ¹⁶	Dual-port MAC/PHY XAU1, KX/KX4/KR, SFI, CX4, BX, SGMII	25x25 mm	576-pin FCBGA	PCI Express v2.0	x8/x4/x2/x1 (5.0 GT/s ⁹)
Gigabit Ethernet					
Intel® 82580EB Intel® 82580DB	Quad-port/Dual-port MAC/PHY/SerDes/SGMII	17x17 mm	256-pin PBGA	PCI Express* v2.0	x4/x2/x1 (5.0 GT/s ⁹)
Intel® 82576EB ¹⁶	Dual-port MAC/PHY/SerDes/SGMII	25x25 mm	576-pin FCBGA	PCI Express v2.0 (2.5 GT/s ⁹)	x4/x2/x1
Intel® 82575EB	Dual-port MAC/PHY/SerDes/SGMII	25x25 mm	576-pin FCBGA	PCI Express	x4/x2/x1
Intel® 82574L ¹⁶ Intel® 825574IT ¹⁶	Single-port MAC/PHY	9x9 mm	64-pin QFN	PCI Express v1.1 (2.5 GT/s ⁹)	x1
Intel® 82583V	Single-port MAC/PHY	9x9 mm	64-pin QFN	PCI Express v1.1 (2.5 GT/s ⁹)	x1
Intel® 82573V Intel® 82573L	Single-port MAC/PHY	15x15 mm	196-pin TFBGA	PCI Express	x1
Intel® 82572EI Intel® 82571EB	Single-port/Dual-port MAC/PHY/SerDes	17x17 mm	256-pin FCBGA	PCI Express	x4/x2/x1
Intel® 82566DM	Single-port PHY	10x10 mm	81-pin FCMMAP BGA	PCI Express	GLIC
Intel® 82545GM Intel® 82546GB	Single-port/Dual-port MAC/PHY/SerDes	21x21 mm	364-pin TFBGA 364-pin PBGA	PCI-X 1.0, PCI/PCI-X	33/66/133 MHz
Intel® 82541PI Intel® 82541ER	Single-port MAC/PHY	15x15 mm	196-pin PBGA	PCI 2.3	33/66 MHz
Intel® 82567LM ¹⁶	Single-port PHY	8x8 mm	56-pin QFN	PCI Express	GLIC
Intel® 82567V	Single-port PHY	8x8 mm	56-pin QFN	PCI Express	GLIC
Intel® 82577LM	Single-port PHY	6x6 mm	48-pin QFN	PCI Express	x1
Intel® 82578DM	Single-port PHY	6x6 mm	81-pin FCMMAP BGA	PCI Express	x1
Intel® 82579V	Single-port PHY	6x6 mm	48-pin QFN	PCI Express	x1
Intel® 82579LM	Single-port PHY	6x6 mm	48-pin QFN	PCI Express	x1

Intel® NAND Flash Storage

Intel® High Performance Solid-State Drives

Product Name	Capacity	Drive Type	Product Dimensions
SATA 3 GB/s SSDs			
Intel® X25-E SATA Solid-State Drive	64 GB	SLC	2.5" drive, 7.0 mm thick
	32 GB	SLC	2.5" drive, 7.0 mm thick
Intel® X25-M SATA Solid-State Drive	160 GB	MLC	2.5" drive, 7.0 mm thick
	160 GB	MLC	2.5" drive, 9.5 mm thick ¹⁸
	120 GB	MLC	2.5" drive, 9.5 mm thick ¹⁸
	80 GB	MLC	2.5" drive, 7.0 mm thick
	80 GB	MLC	2.5" drive, 9.5 mm thick ¹⁸
Intel® X25-V SATA Solid-State Drive	40 GB	MLC	2.5" drive, 9.5 mm thick ¹⁹
Intel® X18-M SATA Solid-State Drive	160 GB	MLC	1.8" drive, 5.0 mm thick
	80 GB	MLC	1.8" drive, 5.0 mm thick

Product Name	Capacity
mSATA SSDs	
Intel® Solid-State Drive 310 series	80 GB
	40 GB
SATA 6 GB/s SSDs	
Intel® Solid-State Drive 510 series	250 GB 120 GB

	Power (Typical)	Power (Standby)	Operating Temperature	Power Supply	Order Code	Footprint Compatible
	~4.8W (dual-port) ~3.5W (single-port)	21mA @ 3.3V 51mA @ 1.8V 486mA @ 1.2V	0–55° C	1.0, 1.8, 3.3V	JL82598EB	N/A
	5.1W (KX4 dual-port)	(KX4) 61mA @ 3.3V 1315mA @ 1.2V	0–70° C	1.2, 3.3V	JL82599EB	82599ES
	5.5W (KR dual-port)	(KX4) 61mA @ 3.3V 1315mA @ 1.2V	0–70° C	1.2, 3.3V	JL82599ES	82599EB
	<1W/port	<1W/port	-10–85° C	1.8, 3.3V	NH82580EB, NH82580DB	
	~2.4W (Copper) ~0.7W (SerDes)	15mA @ 3.3V 224mA @ 1.8V 243mA @ 1.0V	0–55° C	1.0, 1.8, 3.3V	JL82576EB	82575EB
	~2.1W (Copper) ~0.7W (SerDes)	171mA @ 3.3V	0–70° C ¹⁷	1.0, 1.8, 3.3V	HL82575EB	N/A
	~700W	188mW (D3 cold, WoL enabled, 100 Mb/s)	0–85° C, -10–85° C	3.3V	WG82574L, WG82574IT	82583V
	~700mW	188mW (D3 cold, WoL enabled 100 Mb/s)	0–85° C	3.3V	WG82583V	82574L, 82574IT
	~1.3W ~1.2W	11mA @ 3.3V 14mA @ 3.3V	0–70° C	1.2, 2.5, 3.3V	RC82573E, RC82573V, RC82573L	N/A
	~1.5W, ~0.7W (SerDes) ~2.8W, ~1.8W (SerDes)	220mA @ 3.3V 226mA @ 3.3V	0–70° C, 0–70° C ¹⁷	1.1, 1.8, 3.3V	HL82572EI, HL82571EB	N/A
	~1.2W	29mA @ 3.3V	0–70° C	1.0, 1.8, 3.3V	RU82566DM	N/A
	~1.5W ~2.6W, ~1.5W (SerDes)	125mA @ 3.3V 220mA @ 3.3V	0–70° C, 0–55° C	1.5, 2.5, 3.3V	RC82545GM, FW82546GB	N/A
	~1.0W	45mA @ 3.3V	0–70° C	1.2, 1.8, 3.3V	GD82541PI, GD82541ER	N/A
	~0.64W	0.13W	0–85° C ¹⁷	3.3V	WG82567LM	82567V
	~0.64W	0.13W	0–85° C ¹⁷	3.3V	WG82567V	82567LM
	~0.66W	0.2W @ 3.3V (with WoL) 0.03W @ 3.3V (no WoL)	0–85° C	3.3, 1.05 V	WG82577LM	82578DM
	~0.73W	0.1W @ 3.3V (with WoL) 0.06W @ 3.3V (no WoL)	0–85° C	3.3, 1.2V	WG82578DM	82577LM
	~0.58W	0.12W @ 3.3V (with WoL) 0.02W @ 3.3V (no WoL)	0–85° C	3.3, 1.05V	WG82579V	82579LM
	~0.58W	0.12W @ 3.3V (with WoL) 0.02W @ 3.3V (no WoL)	0–85° C	3.3, 1.05V	WG82579LM	82579V

	Drive Type	Product Dimensions
	MLC	mSATA
	SLC	mSATA
	MLC	2.5" drive, 9.5 mm thick ¹⁸
	MLC	2.5" drive, 9.5 mm thick ¹⁸

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⁴ Intel processor numbers are not a measure of performance. Processor numbers differentiate features within each processor family, not across different processor families. See www.intel.com/products/processor_number for details.

¹ Intel® 64 architecture. Requires a system with a 64-bit enabled processor, chipset, BIOS and software. Performance will vary depending on the specific hardware and software you use. Consult your PC manufacturer for more information. For more information, visit <http://www.intel.com/info/em64>.

² Intel® Trusted Execution Technology. No computer system can provide absolute security under all conditions. Intel® Trusted Execution Technology (Intel® TXT) requires a computer system with Intel® Virtualization Technology, an Intel TXT-enabled processor, chipset, BIOS, Authenticated Code Modules and an Intel TXT-compatible measured launched environment (MLE). Intel TXT also requires the system to contain a TPM v1.s. For more information, see <http://www.intel.com/technology/security>.

³ Execute Disable Bit. Requires an Execute Disable Bit enabled system. Check with your PC manufacturer to determine whether your system delivers this functionality. For more information, visit <http://www.intel.com/technology/xdbit/index.htm>

⁴ Intel® Virtualization Technology requires a computer system with an enabled Intel® processor, BIOS, virtual machine monitor (VMM). Functionality, performance or other benefits will vary depending on hardware and software configurations. Software applications may not be compatible with all operating systems. Consult your PC manufacturer. For more information, visit <http://www.intel.com/go/virtualization>.

⁵ Intel® Active Management Technology. Requires activation and a system with a corporate network connection, an Intel® AMT-enabled chipset, network hardware and software. For notebooks, Intel AMT may be unavailable or limited over a host OS-based VPN, when connecting wirelessly, on battery power, sleeping, hibernating or powered off. Results dependent upon hardware, setup & configuration. For more information, visit <http://www.intel.com/technology/platform-technology/intel-amt>.

⁶ Enhanced Intel SpeedStep® Technology. See the Processor Spec Finder at <http://ark.intel.com> or contact your Intel representative for more information.

⁷ Supports ECC when paired with the C206 chipset.

⁸ Supported only on Intel® Core™ i7-2710QE and Intel® Core™ i7-2715QE processor SKUs on Huron River platform in 1 DIMM per channel configuration.

⁹ GT/s = gigatransfers/second.

¹⁰ The numbers cited are based on a dual processing (2-socket) configuration using 4 GB memory technologies. For uniprocessing (single socket), the numbers should be cut in half. Max memory numbers vary depending on RDIMM vs. UDIMM, and on single rank vs. dual rank configurations.

¹¹ Memory controller is integrated into the processor; no longer in the chipset.

¹² ECC is supported when used with the Intel® 3450 chipset. ECC is not supported when used with the Intel® Q57 chipset.

¹³ Industrial temperature option.

¹⁴ Other I/O Hubs available from OKI Semiconductor Co., Ltd. (okisemi.com/en/), STMicroelectronics (ST.com), and Realtek Semiconductor Corp. (realtek.com).

¹⁵ Intel® Matrix Storage Technology.

¹⁶ Halogen free. Applies only to halogenated flame retardants and PVC in components. Halogens are below 900ppm bromine and 900ppm chlorine.

¹⁷ 0–70° C with thermal management.

¹⁸ 9.5mm thickness includes plastic spacer to fit snugly in most 2.5" notebook drive bays.

¹⁹ Read the specifications to ensure proper fit for performance and endurance of the Intel X25-M or X25-V SSD in your enterprise application.

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