Popular CPU Compare Table

Content	Sirf Atlas-iii	Sirf Titan-ii	samsung 6400	sansung6410	freescale i.mx31	Nvidia apx-2500	Marvell PXA310	Intel menlow	Magiceyes MP2530F	RMI AU1300	TI OMAP3530	CSS TCC79XX
cpu core	ARM9	ARM11	ARM11	ARM11	ARM11	ARM11	PXA310	silverthrone	ARM9 360Mhz for mainprocessor	Mips32	Cortex-A8	ARM9
DSP/CPUII	250MHz	400MHz				ULP geforce GPU		Gpu GMA500 200Mhz	ARM9 300Mhz for video		C64x-430Mhz	ARM9
cpu speed	400MHz	600-750Mhz	533/667Mhz	533/667Mhz	532/665	600MHz	624MHz	1.2--1.7G	360Mhz	0.8-1.0GHz	600Mhz	400MHz
L1 cache	32k	32k	32k、		32k	64K	64K	56k	32k+8k	32k	32K	32K+8K
L2 cache		128k	32k、	no.	128k	256K	256K	512k	16k		256K	64k
Smart Speed	no	no	no.	no.	6x5	no	Speedstep	speedstep				
lcd	800X480	800x600	1024x1024		640x480(?)	1280x1024 SXGA	640x480	1280x1024		1024x768	1280x720	1024x1024
aux lcd					Serial	SPI LCD	640x480				spi	
3D engin	no VFPU	full 3D VFPU 600Mhz/8MB SDRAM	no.	in house 3D engine	VFP		Hardware accreleration		3D acceleration	3D acceleration	SGX530/10M triangles/sec 3D acceleration (OPGL)	No
2D engin	2D V1(SW)	2D V2(SW)	2D graphics			2D Graphics			2D acceleration	2D acceleration	2D Vector	2D acceleration
DMA		16ch	32ch		32ch				16ch			
memory	133SDR/100DDR	400MHz DDR, 333MHz MDDR	266M SDR/MDDR	266M DDR/MDDR	133 MDDR/266MDDR	DDR/LDDR	LDDR	400/533DDR2	DDR	dual-DDR2	mDDR/SDRAM	SDRAM
media		Decod H.264/MP4/MP2/WMV D1@30fps;H.264/MP4 Encode D1 30fps	Encod/decod:H.264,MP4,H.263; Decod:wmv9/vc-1	strong video decoding hardware	Encode:MP4 H.263 VGA@30fps Decode:MP4 H.236 VGA@30fps,H.264 VGA@15fps;WMV9 ,RM,VC-1.	1.H.264 decode 720@30p,encode 720@30p. 2.MP4:decode 720@30p,encode 720@30p 3.VC1 decode 720@30p 4.Divx decode 720@30p 5.MP2 decode D1@30p 6.Real 8/9/10 decode vga@24p	1.Encode/decode H.264,MPEG4,H.263,MPEG2	(1)windows xp; (2)windows ce	(1)Decode H.264 480x272;Mpeg4 720x480;(2)Encoder Mpeg4 640x480	(1)D1:720x480; (2)MPEG 1/2/4. (3)H.264; (4)adobe flash; (5)divx-6 (7)xvid	(1)MPEG-1; (2)MPEG-2 MP; (3)MPEG-4 SP; (5)H.263 V1; (6)DIVX 6; (7)XVID; (8)WMV9 SP; (10)H.264 BP; (11) ON2 VP6.2; SD and HD resolution up to 720p	supported encoder : MP3, MWA, ADPCM decoder :MP2/3, MWA, OGG, AAC+, ADPCM: Video : PEG1/2/4, H.264 (dec.CIF), DivX 4/5 JPEG
audio						1.AAC-LC,AAC+,EAAC+;2.AMR-WB,AMR-NB;3.WMA9,WMA10 PROLBR;4.MP3;5.PCM;6.SBC;7.REALAUDIO8;8.MIDI RIGNTONE;	1.WMV9	HD audio		(1)wmav-9/vc-1 (2)rmvb;	(1) mpeg-4 aac-lc ,aac+sbr; (2)dolby ac-3; (3)mpeg-1 layer 1,2,3; (4)wma; (5)ogg vorbis; (6)voice(g.7xx)	supported encoder : MP3, MWA, ADPCM decoder :MP2/3, MWA, OGG, AAC+, ADPCM:
MP4 Encoder	no	no	yes	no.	mp4 encodr	no						Hardwired VLD for MPEG4 Decoding
CIM			4M		5M/6fps	12 MP	5M	PCIE Video Capture	4096x2084	120MHz	15Mpixel class	5Mpixel
Nor flash	Y	Y	Y	Y	Y	Y		FWH BIOS	Y	Y	Y	y
Nand flash		8-bit ECC MLC	4-bit ECC MLC	8-bit ECC MLC	2-bit ECC SLC	SLC/MLC	SLC/MLC	Hard Disk	MLC	MLC	Y	y
video encoder			TV encode(Y/C)		no	1.CVBS/S-VIDEO@480i/576i; 2.HDMI 1.2@720P 3.VGA SXGA	no	SDVO	CVBS	no	CVBS/YC	CVBS

GPS	v4	GPS V6 -165DBM	no.	no.	no	no	no	no	no	no	no	no	No
USB		2xHS	1xFS		1xHS+1xFS(Need PHY)		1xHS(client)+1xFS	7xHS+1xHS(client)	2xFS+1xHS(client)	1xHS	2x	1xHS(D),1xFS(H)	
USB OTG	1xFS		1xHS		1xHS(need PHY)	1	1xFS	no	no	1xFS(HS Host)	1x(need PHY)		
UART	3+5	3+3	4		5	3	3	SIO	6	2	3	4	
CAN	2	no	no.	no.	no	no	no	no	no	no	no	No	
Audio I/F		ac'97/IIS	ac'97/IIS		2xSSI/IIS/AC'97	2xIIS AC'97	AC97	HD/ac97 audio	1xac97,1xIIS	ac'97/IIS	3xPCM(I2S)	1	
SDIO		SD/MMC+/SMD	SD/MMC		2xMMC/SDIO	3	3	3	1	2	3	1	
SPI			2	2	3	3	3	no	3	2	4 (+5 McBSP)		
ATA					1x+1xPCMCIA	no		1	no	1		1	
I2C	1	2	1	1	3	3	1	1	2	1	3	2	
key			8x8		8x8	13x7	8x8	no	no	no			
A/D		5	4		no	no		no	4	no		8	
TSC/A2D		TSC	TSC	TSC	no	no	no	no	no	no		no	
LPC/FWH								1	no	no		no	
PCI Express								2x1	no	no		no	
advanced power		65nm/low power	90nm	65nm	90nm	105mw(h.264)	90nm	45nm/2w				65nm	
package		0.65mm pitch	0.5mm	0.5mm	0.5mm/0.8mm	0.5mm	0.5/0.65mm	0.6/0.8	0.8	0.8	0.4/0.65	0.8	
price	<10$				17$	25$		45$			25$		
TEMP	-40-----85	-40-----85	-40-----85		-40------85	-40-----85	-25-----85	-40------85	-40-----85	-40-----85	0-90	-40------85	
Certificate					AEC-Q100			AEC-Q100			Jacino 3 AECQ100	AECQ100	
Remark	(1)intergrated GPS Baseband Cpu.only need GPS RF IC; (2)only winCE BSP	(1)intergrated GPS Baseband Cpu.only need GPS RF IC; (2)only winCE BSP	(1)1.8v/2.5vDDR;dual Memory I/F; (2)intergrated TV encode.		(1)only 1.8vDDR; (2)USB need extend PHY; (3)complicated Power management; (4)iovdd: 1.75-3.1v need level shift buffer; (5)18bit LCD; (6)spec not clear	(1).HD TV; (2)intergrated TV encode; (3)will issue 0.8mmpitch and get AECQ100 certificate version @ Q2,09.(4)dual display:LCD or SPI,Tvout or HDMI	(1)3G video; (2)hw scaling and rotation; (3)1.8vDDR	(1)1.5G Ex_temp (2)x86system, TDP 2W. (3)Performance below celeron M ULV. (4)FWH,EFI BIOS ready	(1)4layer 3D	(1)667-700Mhz Ex_Temp; (2)Add MAE2 decoder Fix CIM issue (3)SPI share bus with Audio/IIC (4)enriched Multimedia format (5)only WinCE 6.0BSP	(1)USB OTG need phy; (2)IOVDD is 1.8v except SDIO;	(1)Hardwar MPEG4 decoder;(2)Hardware video codec (3) TS i/f	