

**Full Construction Analysis Reports**

<b>Manufacturer</b>	<b>Part Description</b>	<b>Part #</b>	<b>Date Code</b>	<b>Report #</b>	
2Wire	ADSL Processor	Ares 3000-000485-003	0827	FR-1001	
Agere	SDAR Baseband Device	SDAR 1A2	0405	FR-1002	
Agere	SDARS RF Device	CDRFRG2	0340	FR-1003	
Agere	ASIC	OSCAR F7-D4	0541	FR-1004	
Analog Devices	Class-D Audio Power Amplifier	ADAU1592	0943	FR-1005	no package section
Atheros	MAC/PHY Transceiver	INT6400	1015	FR-1006	
ATI	Radeon X800 GPU		0506	FR-1007	
ATI	Radeon X1300 GPU	RV515	0541	FR-1008	
Atmel	ARM Thumb Microcontroller	AT91M55800A	0412	FR-1009	no package section
Atmel	AVR 8-bit Flash Microcontroller	ATMEGA169V	0342	FR-1010	
Atmel	64 Mb Flash Memory	AT49BV6416T	0424	FR-1011	
Atmel	1 Mb EEPROM	AT28C010	0427	FR-1012	
Atmel	11 Mb WLAN Media Access Controller	AT76C503A	0119	FR-1013	
Atmel	AVR 8-bit Flash Microcontroller	ATMEGA128L	0411	FR-1014	
Atmel	Flash Microcontroller MP3 Decoder	AT89C51SND1C-IL	0432	FR-1015	
BridgeCo	Networked Media Processor	DM870	0921	FR-1016	package section included in PR-2005
Broadcom	Bluetooth Wireless Audio Processor	ZV43G	0528	FR-1017	
Cypress	18 Mb Pipelined SRAM	CY7C1303AV25	0440	FR-1018	
DisplayLink	USB Display Processor	DL-195	0906, 0919, 0920	FR-1019	
Exar	SONET/SDH Transceiver	T91L30IQ	0835	FR-1020	no package section
Exar	Line Interface Unit	T73L02MIV	0820	FR-1021	no package section
Kingston Technology	512 Mb DDR2 SDRAM	KD264X8-37		FR-1022	
LSI Logic	PCI-X to 8-port SAS Controller	SAS1068	0650	FR-1023	
LSI Logic	Multimedia Processor	Zevio	0636	FR-1024	
LSI Logic	SCSI Hard Drive ASIC	L2E2425-PbF	0447	FR-1025	
LSI Logic	DVD Recorder System Processor	DMN-8602	0621	FR-1026	
Matsushita	High-Voltage ASIC	20112		FR-1027	
Matsushita	Digital Camera ASIC	605303		FR-1028	
Maxim	Battery-Pack Controller	MAX1782	0428	FR-1029	
Micron	128Gb NAND Flash Memory	MT29F128G08AUCBBH3-12		FR-1030	Multi-chip package
Micron	32Gb NAND Flash Memory	29F32G08CBAAA	0928	FR-1031	no package section
Nanya	512 Mb DDR2 SDRAM	NT5TU64M8AE-5A	0525	FR-1032	
Nvidia	Graphics Processor	G86-8500GT	0704	FR-1033	
Oki	Playback LSI	MSM9842		FR-1034	
Panasonic	Audio ASSP	MN67789RA		FR-1035	
Panasonic	Front End Processor	AN22116A		FR-1036	
Panasonic	32-bit Microcontroller	MN103S94FDA		FR-1037	
Panasonic	UniPhier Consumer Electronics SoC	MN2WS0043DA		FR-1038	
Panasonic	Venus Engine IV Digital Camera SoC	MN89520RF		FR-1039	
Powerchip	512 Mb DDR2 SDRAM	A3R12E3GEF	0613	FR-1040	
Powerchip	256 Mb DRAM	A2V56S40BTP		FR-1041	
ProMOS Technologies	256 Mb DDR SDRAM	V58C2256164SAT6	0411	FR-1042	
ProMOS Technologies	512 Mb DDR2 SDRAM	V59C1512804QA	0614	FR-1043	
RF Micro Devices	Triple-Band Power Amp Module	RF3110	0413	FR-1044	Multi-chip package
RF Micro Devices	2.4 GHz Spread-Spectrum Transceiver	RF2948B	0411	FR-1045	
RF Micro Devices	UltimateBlue™ Device	SiW3000	0446	FR-1046	
RF Micro Devices	Synthesizer/Signal Processor	RF6001	0418	FR-1047	
RF Micro Devices	GPRS/EDGE Receiver	RF2716	0422	FR-1048	
Rohm	Microcontroller	EI-129	0706	FR-1049	
Rohm	Power Management/LCD Bias Device	BU7225		FR-1050	
Rohm	35bit LVDS Transmitter/35:5 Serializer	BU8254KVT	0736	FR-1051	no package section
Rohm	Lens Controller	BUYD2201		FR-1052	no package section
Rohm	Optics Controller IC	JCY0214		FR-1053	
Samsung	4Gb DDR3 SDRAM	K4B4G0446B-MCF8	0913	FR-1054	Multi-chip package
Samsung	1Gb MuxOne NAND Flash Memory	KFM1G16Q2C	0907, 0910, 0919	FR-1055	

SanDisk	Flash Memory Controller	20-99-00121-1		FR-1056	
SanDisk	1 Gb Flash Memory	SDTNKJBHSM-1024		FR-1057	Multi-chip package
Sanyo	8-bit Microcontroller	LC875924A		FR-1058	
Sanyo	A/V Decoder	LC74152		FR-1059	
Sanyo	Signal Processor	LC897496K		FR-1060	Multi-chip package
Sanyo	Signal Processor	LC897496K		FR-1061	Multi-chip package, package section included in FR-1060
Seiko Epson	LCD/USB Companion Chip	S1D13A05		FR-1062	
Seiko Epson	Network Camera Controller	S1S65000		FR-1063	
Seiko Epson	USB2.0 Host/Device Controller	S1R72V05	0715	FR-1064	
Sharp	Image Sensor	LZ0P3816	0250	FR-1065	
Sharp	32-bit System-On-Chip RISC Processor	LH7A400	0419	FR-1066	
Sharp	EPROM	LRS1897	0511, 0526	FR-1067	Multi-chip package
Signia Technologies	Bluetooth Transceiver	SBT5010		FR-1068	
Texas Instruments	Mobile Applications Processor	OMAP X4430FCBS		FR-1082	no package section, available on report PR-2055 (PoP)
Toshiba	64-bit Microprocessor	TMPR4938XBG-300	0631	FR-1069	
Toshiba	32-bit Microcontroller	TMP19A64F20AXBG	0626	FR-1070	
Toshiba	HDTV ASIC	T6UD8XBG-0001	0726	FR-1071	
Toshiba	HDTV System On Chip	TC90111XBG	0547	FR-1072	
Winbond	ChipCorder	ISD5216P		FR-1073	no package section
Winbond	8-bit Microcontroller	W78E516BF		FR-1074	
Winbond	512 Mb DDR2 SDRAM	W9751G6JB-25		FR-1079	
Winbond	128 Mb DDR SDRAM	W9412G2IB-5		FR-1080	
Winbond	4-Megabit Serial Flash Memory	W25X40BV1G	1125	FR-1081	
Winbond	256 Mb DDR SDRAM	W942508BH-6		FR-1075	
Winbond	128K x 8 CMOS SRAM	W24L01S-70LE		FR-1076	
Xilinx	Spartan FPGA	XC3S700AN	1029	FR-1078	no package section
Yamaha	Mobile Audio LSI	YMU762C-QZ	0347	FR-1077	

### **Package Construction Analysis Reports**

Altera	MAX II CPLD	EPM570F256C5N	0613	PR-2001	
Altera	Cyclone FPGA	EP1C6F256C7N	0525	PR-2002	
Anchor Bay	Video Processor	ABT2010BG316	0828	PR-2003	
ATI	Xilleon TV-on-Chip	240H	0713	PR-2004	
BridgeCo	Networked Media Processor	DM870	0921	PR-2005	
Broadcom	Dual High-Definition Digital Video SoC	BCM7038KPB1G	0715	PR-2006	
Conexant	MPEG-2 Encoder	CX23416-12	0449	PR-2007	
Cypress	Quad HOTLink II Transceiver	CYP15G0401DXB	0439	PR-2008	
Cypress	Wireless USB 2.4 GHz Radio SoC	CYWUSB6934	0502	PR-2009	
EtronTech	128Mb DDR SDRAM	EM6A9320BI-5MG		PR-2010	
Hitachi	HDTV ASIC	YAT-050	0713	PR-2011	
Hitachi	HDTV ASIC	YGT-047	0713	PR-2012	
Infineon	512 Mb DDR2 SDRAM	HYB18T512160AC-3.7	0412	PR-2013	
JVC	Genessa HDTV ASIC	JCC5068	0648	PR-2014	
JVC	Genessa HDTV ASIC	JCC5057	0710	PR-2015	
LG Electronics	HDTV System-on-Chip	LGPCMx05A	0645	PR-2016	Multi-chip package
LG Electronics (Mstar)		LGE7378A-LF	1006	PR-2054	
LG Philips	LCD Controller	TL22970D	0719	PR-2017	
Marvell	System On Chip	88W8361	0619	PR-2018	
Marvell	Communications Processor	88F5180	0614	PR-2019	
MediaTek	Digital TV IC	MT8206AG	0704	PR-2020	
MediaTek	Digital TV IC	MT5351AG	0650	PR-2021	
MediaTek	Multi-chip CSP	MT3318T	0714	PR-2022	Multi-chip package
MediaTek	Multi-chip CSP	MT6601T	0729	PR-2023	Multi-chip package
MediaTek	Video Processor (DTV SoC)	MT5371AJ	0708	PR-2024	
Nvidia	GoForce Multimedia Processor	6100	0733	PR-2025	
Nvidia	Tegra Applications Processor	APX2600-HM-A3	0925	PR-2026	
Panasonic	HDTV ASIC	MN84512		PR-2027	

Pioneer	HDTV ASIC	PD6568A	0719	PR-2028	
Pioneer	HDTV ASIC	PEG384B	0723	PR-2029	
Pioneer	HDTV ASIC	PEG383B	0724	PR-2030	Multi-chip package
Pixelworks	HDTV ASIC	PW181A	0519	PR-2031	
Renesas	Digital Amplifier	R2A15106NP	0727	PR-2032	
RF Micro Devices	PCS Linear Power Amplifier	RF 2146	0239	PR-2033	
Rohm	System LED Driver	BH6069	0743	PR-2034	
Rohm	Power Management IC	BH6318GL	0536	PR-2035	
Rohm	7-Channel Power Driver	BD7956FS	0538	PR-2036	
Rohm	7 Channel Stepping Motor Driver	BD6757KN	0532	PR-2037	
Rohm	7 Channel Switching Regulator Controller	BD9739KN	0809	PR-2038	
Samsung/Texas Inst.	Applications Processor	K3PE4E400M/X4430DCBS		PR-2055	Piggyback packages, PoP (package on package)
SanDisk	Memory Device	SU0643-2048		PR-2039	Multi-chip package
SanDisk	Flash Memory Controller	20-99-001110-3		PR-2040	
SanDisk	iNAND Module	SDINB1-4096		PR-2041	Multi-chip package
Sanyo	ASIC	SX8MVMU2464	0532	PR-2042	
Sanyo	Memory Device	8MVM2U2466	0541	PR-2043	Multi-chip package
Sanyo		SAG124	0549	PR-2044	Multi-chip package
Seiko Epson	ASIC	E01A73BB	0623	PR-2045	
Seiko Epson	ASIC	E01A49BF	0525	PR-2046	
Seiko Epson	ASIC	L512533V		PR-2047	
Spansion	MirrorBit 256Mb Flash Memory	GL256N90FFIR1	0713	PR-2048	
Xilinx	Spartan FPGA	XC2S50	0729	PR-2049	
Xilinx	Virtex FPGA	XCV50		PR-2050	
Xilinx	Cool Runner II CPLD	XC2C256	0805	PR-2051	
Xilinx	Cool Runner II CPLD	XC2C128	0721	PR-2052	
Zoran	SupraHD ATSC/NTSC DTV Module	ZR39770BGCF	0803	PR-2053	Multi-chip package

### Product Teardown Reports

AOC	22" LCD HDTV	L22H998		TR-3029	
AOC	24" LED HDTV	LE24H067		TR-3030	
AOC	32" LCD HDTV	LC32W063		TR-3031	
AOC	42" LCD HDTV	L42H961		TR-3039	partial teardown
AOC	32" LCD HDTV	L32W86I		TR-3051	partial teardown
AOC	22" LED HDTV	LE22H067		TR-3056	partial teardown
Denon	A/V Surround Receiver	AVR-990		TR-3001	
Denon	Blu-ray Disc/DVD Video Player	DVD-3800BDCI	2008	TR-3002	
Emerson	32" LCD HDTV	LC320EMX	2009	TR-3003	
Magnavox	32" LCD TV	32MF338B	2008	TR-3004	
Magnavox	32" LCD HDTV	32MF339B	2009	TR-3005	
Magnavox	42" LCD HDTV with Blu-ray Disc Player	42MD459B		TR-3006	
Magnavox	42" LCD HDTV	42MF439B		TR-3007	
Magnavox	32" LCD TV	32MF330B	2010	TR-3033	
Magnavox	32" LCD TV	32MF301B	2011	TR-3047	partial teardown
Magnavox	46" LCD TV	46MF401B	2011	TR-3050	partial teardown
Marantz	A/V Surround Receiver	SR6004		TR-3008	
Mitsubishi	60" DLP HDTV	WD-60735	2008	TR-3009	
Mitsubishi	46" LCD HDTV	LT-46244	2008	TR-3010	
Mitsubishi	LCD Projector	HC4900		TR-3011	
Oppo	Blu-ray Disc Player	BDP-83		TR-3012	
Panasonic	50" Plasma HDTV	TH50PZ85U	2008	TR-3013	
Philips	32"LCD TV	32PFL3505D	2011	TR-3032	
Philips	52" LCD HDTV	52PFL3704D	2009	TR-3035	partial teardown
Philips	32" LCD TV	32PFL3506	2011	TR-3037	partial teardown
Philips	40" LCD TV	40PFL4706	2011	TR-3044	partial teardown
Philips	40" LCD TV	40PFL3706	2011	TR-3045	partial teardown
Philips	22" LCD TV	22PFL3505D	2011	TR-3053	partial teardown

Sanyo	19" LCD HDTV	DP19647	2007	TR-3014	
Sanyo	42" Plasma TV	DP42746	2006	TR-3015	
Sanyo	31.5" HDTV	DP32670	2010	TR-3036	partial teardown
Sanyo	31.5" LCD HDTV	DP32640	2011	TR-3040	partial teardown
Sanyo	55" LCD TV	DP55441	2011	TR-3057	partial teardown
Sanyo	42" LCD HDTV	DP42841	2011	TR-3048	partial teardown
Sharp	Aquos 20" LCD TV	LC-20B2UA	2002	TR-3016	
Sharp	20" LCD HDTV	LC-20SH20U		TR-3017	
Sharp	Aquos 20" LCD TV	LC-20S2U-S		TR-3018	
Sharp	Aquos 42" LCD TV	LC-42D62U		TR-3019	
Sharp	Aquos 26" LCD TV	LC-26D40U		TR-3020	
Sharp	46" Aquos LCD TV	LC-46D64U		TR-3021	
Sharp	Aquos Quattron 3D 40" HDTV	LC-40LE835U		TR-3038	partial teardown
Sharp	52" LED-backlit LCD TV	LC-52LE925UN		TR-3043	partial teardown
Sharp	42" LCD HDTV	LC-42SB48UT	2010	TR-3046	partial teardown
Sylvania	22" Digital LCD TV	LC225SL9	2008	TR-3022	
Sylvania	32" LCD HDTV	LC320SS9	2008	TR-3023	
Sylvania	32" LCD HDTV	LC320SLX		TR-3024	
Sylvania	42" LCD HDTV with Blu-ray Disc Player	LD427SSX		TR-3025	
Sylvania	32" LCD TV	LD320SS1	2010	TR-3034	
Toshiba	Regza 32" LCD HDTV	32LV67U	2007	TR-3026	
Toshiba	Regza 42" LCD HDTV	42LX177	2007	TR-3027	
Vizio	32" LED LCD TV	M320NV		TR-3041	partial teardown
Vizio	42" Razor LED LCD TV	MM420NV		TR-3042	partial teardown
Vizio	42" Razor LED HDTV	M420SV		TR-3049	partial teardown
Vizio	32" LCD TV	E321ME	2011	TR-3052	partial teardown
Vizio	47" LCD HDTV	E472VL		TR-3054	partial teardown
Vizio	32" LED LCD TV	M320VT-MX		TR-3055	partial teardown
Westinghouse	40" LCD HDTV	VR-4030		TR-3058	partial teardown
Westinghouse	42" LCD HDTV	TX-42F810G		TR-3059	partial teardown
Westinghouse	55" LED HDTV	LD-5580Z		TR-3060	partial teardown
Yamaha	A/V Receiver	RX-V3800		TR-3028	

### Limited Analysis Reports

Panasonic	32-bit Microcontroller	MN103SC10ERF		LR-4001	Package analysis, (no text, images only)
ProMOS Technologies	512Mb DDR SDRAM	V58C2512804SBJ5		LR-4002	Full CA (no delayering), limited die cross sections, TEM of memory, (no text, annotated images)
Renesas	16-bit Microcontroller	HD64F2319CV	0704	LR-4003	Full CA (no TEM), (no text, annotated images)
Seiko Epson	Color LCD/CRT/TV Controller	S1D13506		LR-4004	Full CA (no TEM), (no text, images only)
Sharp	Eagle 2	T3Z18AFG-0003	0804	LR-4005	Package and die documentation, x-ray, limited die cross sections (no text, images only)
Sharp	CVIC System Series III	RH-IXB348WJZZ	0631	LR-4006	Package analysis (no text, images only)