

KIPA IT-SoC사업단

한국소프트웨어진흥원(KIPA) IT-SoC사업단 IP 현황

- ARM core 2종 및 Ceva DSP 3종이 제조사와의 사용계약기간 만료에 따라 현재 이 5종에 대한 지원은 중단된 상태이나 계속적으로 수요가 제기되고 있는 ARM core의 경우 수요조사를 토대로 사용계약 재연장을 추진 중이다.
아울러 IT-SoC사업단에서는 Turbo8051 및 encryption IP 중 AES IP를 구매 추진 중이며 12월 말 중 도입될 예정이다.

한국소프트웨어진흥원(KIPA) IT-SoC사업단 IP 보유 목록 (상용구매 IP 총 23종 보유)

- Interface IP

IP명	제조사	기능	비고
PCI Master/Target	FTD	PCI 33MHz, 32bit	VHDL/Verilog
IEEE 1394 Link Layer Cont.	FTD	IEEE 1394a, 400Mbps	VHDL/Verilog
USB 1.1 Function Core	FTD	Full Speed 12Mbps, Low Speed 1.5Mbps	Low Speed 1.5Mbps
USB 1.1 Function Core	FTD	Full Speed 12Mbps, Low Speed 1.5Mbps	VHDL/Verilog
PCI 66MHz/64bit	CAST	Interface	Verilog
Ethernet MAC	CAST	Interface	VHDL
Interface	글로트렉스	USB2.0	Verilog

- RTL 소스는 제공할 수 없으며, 컴파일된 라이브러리 형태로 제공
- PSP : Processor Simulation Package

- ARM 프로세서 코어 및 ARM Primecell IP 명

IP명	비고	비고
ARM ADK (AMBA Design Kit)	AMBA 시스템 구성	VHDL/Verilog
ARM PrimeCell UART	UART	VHDL/Verilog
ARM PrimeCell SMC	Static Memory Controller	VHDL/Verilog
ARM PrimeCell SDRC	SDRAM Controller	VHDL/Verilog
ARM PrimeCell RTC	Real Time Clock	VHDL/Verilog
ARM PrimeCell GPIO	General Purposed Input/Output	VHDL/Verilog
ARM PrimeCell SSPMS	Synchronous Serial Port Master/Slave	VHDL/Verilog
ARM PrimeCell SCI	Smart Card Interface	VHDL/Verilog
ARM PrimeCell DCDC	DC-DC Converter	VHDL/Verilog
ARM PrimeCell AACI	Advanced Audio Codec Interface	VHDL/Verilog
ARM PrimeCell KMI	Keyboard/Mouse Interface	VHDL/Verilog
ARM PrimeCell DMAC	Direct Memory Access Controller	VHDL/Verilog
ARM PrimeCell VIC	Vector Interrupt controller	VHDL/Verilog
ARM PrimeCell EBI	External Bus Interface	VHDL/Verilog
ARM PrimeCell CLCDC	Color LCD Controller	VHDL/Verilog
ARM PrimeCell MPMC	Multi-port Memory Controller	VHDL/Verilog
ARM PrimeCell MMC	Multimedia Card Interface	VHDL/Verilog

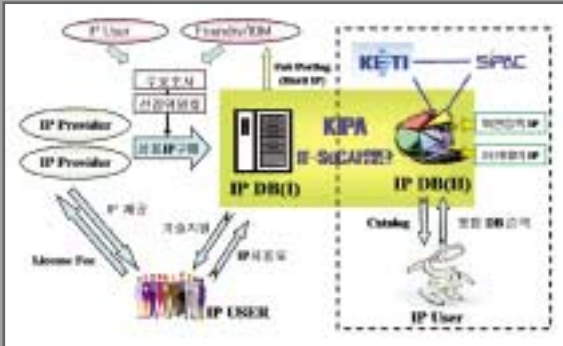
SIPAC

2004년 10월부터 12월 초까지 43개의 IP가 SIPAC에 새로 등록되었습니다. 지면관계상 19개 IP의 정보를 제공해 드리며, SIPAC 홈페이지(<http://www.sipac.org>)를 방문하시면 보다 다양하고 자세한 IP 정보를 보실 수 있습니다. (Total: 913 개)

No.	IP Name (Type / Format)	Seller	Category	Description
1	IEEE 802.11a MIMO Modem (Firm IP / VHDL)	COMSIS (http://www.comsis.fr)	Wireless Communications	The IEEE 802.11a MIMO modem delivers guaranteed Quality of Service (QoS) (data rate, range) for high data wireless applications
2	H.261 / H.263 Video Encoder Core(Soft IP / VHDL)	4i2i Communications Ltd (http://www.4i2i.com)	Digital Signal Processing—Video Encoder/Decoder	4i2i s H.261/3 Video encoder and decoder IP cores support real-time encoding and decoding of H.261/3 base-line compliant digital video streams.
3	Constellation Encoder for IEEE 802.11a(Hard IP / / VHDL)	Chonbuk National University (http://www.cbu.ac.kr)	Data Transmission	The encoded and interleaved binary serial input data shall be divided into groups of 1, 2, 4, or 6 bits and converted into complex numbers representing BPSK, QPSK, 16-QAM, or 64-QAM constellation points.
4	WPA analysis and design (Soft IP /)	Chonbuk National University (http://www.cbu.ac.kr)	Wireless Communications 802.11	WPA(Wi-Fi Protected Access) increases the level of over-the air data protection and access control on existing and future Wi-Fi networks. It addresses all known weaknesses of WEP, the original native security mechanism in the 802.11 standard.
5	HyperSpeed FFT (Firm IP / EDIF)	RF Engines Ltd. (http://www.rfel.com)	Digital Signal Processing	Fast FFT cores for FPGA. Sample rates up to 6.4GS/s complex. Transforms up to 32K complex points. Real-time. Single FPGA device.
6	RapidIO eVC (Soft IP / Specman)	HDL Design House (http://www.hdl-dh.com)	Bus Interface	RapidIO eVC implements operation of RapidIO Interconnect Specification compatible devices. It covers full protocol functionality in all three layers: physical, transport and logical.
7	Crypto Processing Unit in platform-based RFID Reader(Hard IP / Verilog)	Wonkwang University (http://www.wonkwang.ac.kr)	Others	Crypto Processing Unit in RFID Reader 1. using algorithm : DES 32bit LFSR(Linear Feedback Shift Register)
8	WiLD 802.11a Modem (Soft IP, Firm IP / VHDL)	Newlogic Technologies AG (http://www.newlogic.com)	Wireless Communications → 802.11	IEEE 802.11a OFDM modem (PHY) for integration into Wireless LAN standard ICs and ASICs with data rates up to 54Mbit/sec.
9	Boost Co (Soft IP, Firm IP / Vhdl, Verilog)	Newlogic Technologies AG (http://www.newlogic.com)	Wireless Communications→ Bluetooth	Bluetooth baseband processor core for integration into Bluetooth standard ICs and ASICs. Complemented with BOOST Software to implement a Bluetooth protocol stack.
10	Sierra - Real-Time Kernel in Hardware (Soft IP, Firm IP / VHDL, EDIF)	RealFast Intellectual Property (http://www.realfast.se)	Peripheral Core	The Sierra is a real-time operating system kernel implemented in hardware instead of software. This enhance the system performance and makes it 100% deterministic.

한국소프트웨어진흥원(KIPA) IT-SoC사업단 IP 지원 체계

- SoC 중소설계기업의 요구 IP 수요조사에 의거하여 IP 구매 예정 목록을 만들고 이를 바탕으로 선정 위원회를 개최하여 최종 구매 IP를 선정
- 구매한 IP는 KIPA IP DB에 등록되어 관리
- USER는 IP DB를 검색하여 사용하고자 하는 IP를 KIPA에 신청하면, KIPA가 기술지원을 제공



IP CATALOG

No.	IP Name (Type / Format)	Seller	Category	Description
11	UART-RF16550 (Soft IP, Firm IP / VHDL, EDIF)	RealFast Intellectual Property (http://www.realfast.se)	Data Transmission → Others	The RF16550 is a standard UART providing 100% software compatibility with the Texas Instruments 16550 device. It performs serial-to-parallel conversion on data originating from modems or other serial devices, and performs parallel-to-serial conversion on data from a CPU to these devices.
12	IPextreme XBlue (Soft IP / VHDL, Verilog)	IPextreme Inc (http://www.ip-extreme.com)	Wireless Communications	Small, low power, synthesizable Bluetooth 1.2 baseband IP core. Easy to integrate since it connects through a simple serial interface and it has its own processor running the lower stack so there are no real-time or memory issues with the host application processor.
13	HY27US16121M - FLASH MEMORY VITAL MODEL (VITAL model / VHDL)	HDL Design House (http://www.hdl-dh.com)	Memory Element → Flash Memory → NAND Flash Memory	512Mbit (64Mx8bit / 32Mx16bit) NAND Flash Memory
14	OTU-1 Framer (Soft IP / VHDL, EDIF)	Aliathon (http://www.aliathon.com)	Networking	Aliathon's OTU-1 Framer: Generates the OTU1 frame structure and inserts framing overhead. Scrambles the OTU frame, inserts OTUK Overhead, and calculates Section Monitoring BIP.
15	OTU-1 FEC Decoder (Soft IP / VHDL, EDIF)	Aliathon (http://www.aliathon.com)	Networking	Aliathon's OTU-1 Decoder: Is fully compatible with other supporting Aliathon Cores. Implements RS Decoding using Berlekamp-Massey algorithm for low latency.
16	I2C eVC (Soft IP / Specman)	HDL Design House (http://www.hdl-dh.com)	Verification Component	Fully eRM compliant eVC that can be used to verify designs that utilize I2C protocol. I2C ver. 2.1 is supported.
17	Variable-Precision Multiplier Generator (Soft IP / Verilog, C/C++)	Kumoh National Institute of Technology (http://www.kumoh.ac.kr)	Arithmetic & Logic Function	A multiplier generator, VPM_Gen (Variable-Precision Multiplier Generator), which generates Verilog-HDL models of multiplier cores with user-defined bit-width specification, is described.
18	MemMax Memory Scheduler (Soft IP / VHDL, Verilog)	EON Technology, Inc. (http://www.eon-trade.com)	Inter-Core Communication	The Sonics MemMax Memory Scheduler provides a solution that improves DRAM utilization and provides Quality of Service (QoS) guarantees to initiator cores, drastically lowering the risk of starving high-demand initiators such as DSPs and graphics processors.
19	SonicsMX (Soft IP / VHDL, Verilog)	EON Technology, Inc. (http://www.eon-trade.com)	Inter-Core Communication	SonicsMX(tm) is a SMART Interconnect designed for low-latency, power-sensitive system-on-chip (SoC) applications such as WCDMA / 3G wireless handsets or multimedia-enabled PDAs.