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INCA-IP

VoIP System on a Chip

PSB 21553 E

The INCA-IP is the newest member of Infineon's advanced family of telephony products for digital telephones. This single-chip solution is cost-optimized for VoIP terminals, and features conferencing and hands-free functionality with high-quality audio performance.
The INCA-IP offers integrated voice codecs, advanced echo cancellation, as well as a full-featured telephony AFE. Voice features are complemented by a full-fledged 3-port Ethernet switch with packet prioritization for Quality of Service.
Additional features include an integrated switch, 10/100 Ethernet PHYs, support for power over LAN, AFE, and DSP. The INCA-IP also offers advanced security and supports the DES/3DES/AES standards. Designed for terminal systems with microphone, loudspeaker, handset and headset input, the INCA-IP offers a comprehensive single-chip IP telephony solution.

Applications

- VoIP Telephone

Voice Processing DSP Features

- Voice coding supports G.711, G.723.1, G729A/B, and G.722 standards
- Advanced voice capabilities with full duplex hands-free functions, including noise suppression and acoustic and handset echo suppression
- Tx silence compression and voice activity detection
- Rx comfort noise generation
- Speech recognition
- Tone generation for ringing and DTMF
- 3-party conferencing with transcoding
- Integrated AFE with 100 mW driver for external speaker
- 100 MHz OAK™ subsystem with 116 Kbytes RAM and 108 Kbytes ROM

CPU Features

- Powerful MIPS32™ 4Kc™ RISC CPU
- SDRAM and cache controller

- Separate I-cache and D-cache integrated on chip
- MMU with 16 entry TLB
- 5-channel DMA controller
- Clock generation unit and power management

Ethernet MAC and PHY Features

- Two 10/100BaseT Ethernet ports with integrated MAC and PHY
- Wire speed Ethernet switch with embedded packet buffer and MAC address table
- Fully IEEE 802.1Q and IEEE 802.1p compliant
- IEEE 802.3x full and half-duplex flow-control compliant
- Supports full 4k range of VLAN IDs
- Class of Service determined by frame VLAN tag or TOS field
- Configurable output scheduling mechanism for Quality of Service
- Supports 16 VLAN multicast groups

Interfaces and Ports

- Keypad up to 91 keys can be directly connected
- Drives up to 24 LEDs
- EJTAG, PCM/IOM-2, GPIO
- 2x SSC supports SSI, SPI
- Asynchronous Serial Interface Controller
- RMII interface for external transceiver
- PWM1 and PWM2

Software

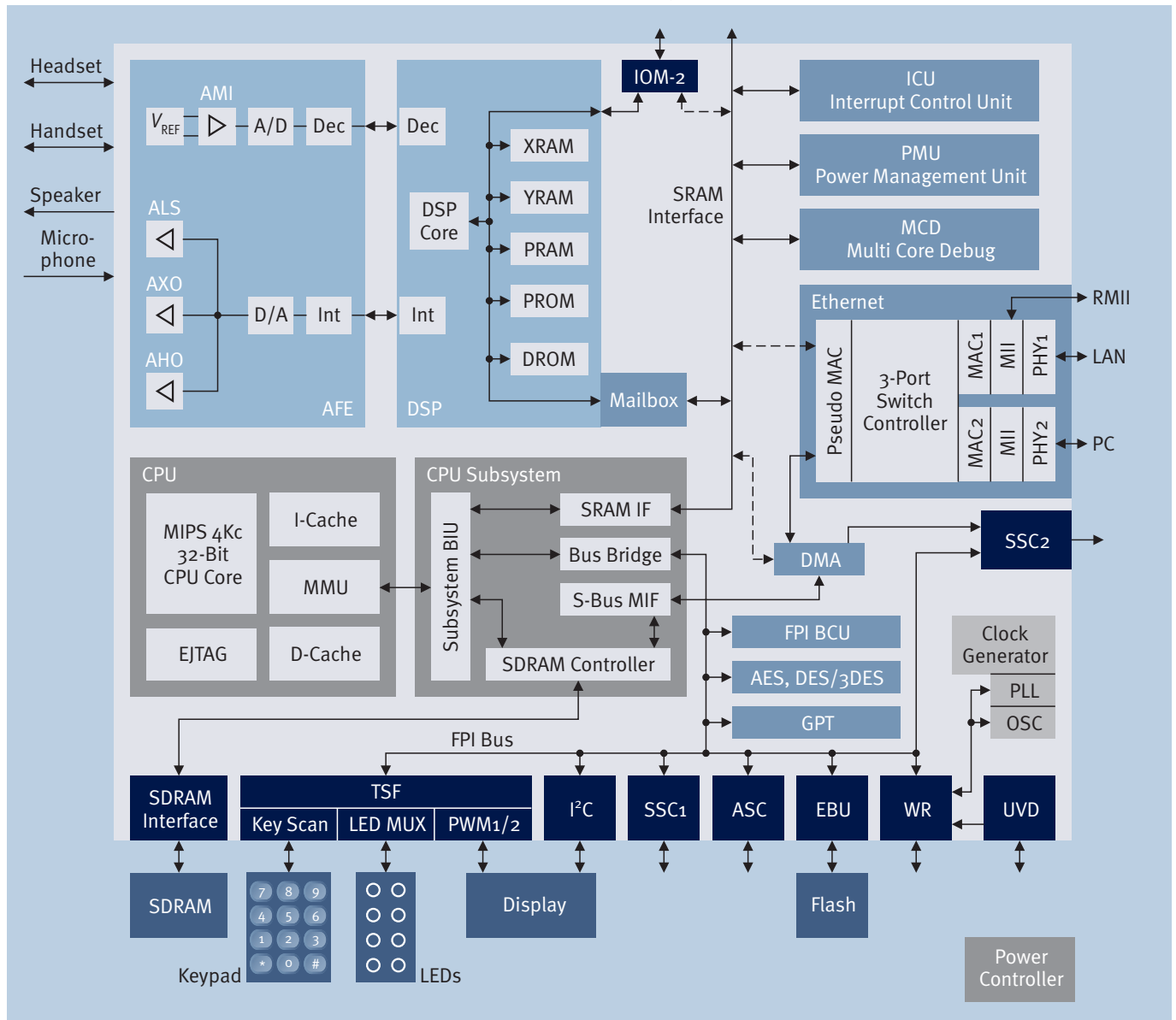- A software support package is supplied with the EASY 21553 INCA-IP Evaluation System

www.infineon.com/products

Wireline Communications

Infineon technologies

N e v e r   s t o p   t h i n k i n g .

INCA-IP Block Diagram and System Example

Ordering Information

INCA-IP

Product Sales Code	Description	Package
PSB21553E	INCA- IP VoIP System on a Chip	P-LBGA-324-3

INCA-IP Design Tool

Product Sales Code	Description	Package
EASY21553	EASY Evaluation System for the INCA-IP	EASY 21553 Board and Software

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Information

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