

The INCA-IP is the newest member of Infineon's advanced telephony family of products for digital telephones. This single-chip solution is cost-optimized for VoIP terminals featuring 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.



INCA-IP

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
- Silence compression (transmit)
- Voice Activity Detection (transmit)
- Comfort noise generation (receive)
- 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 10/100 BaseT 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

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

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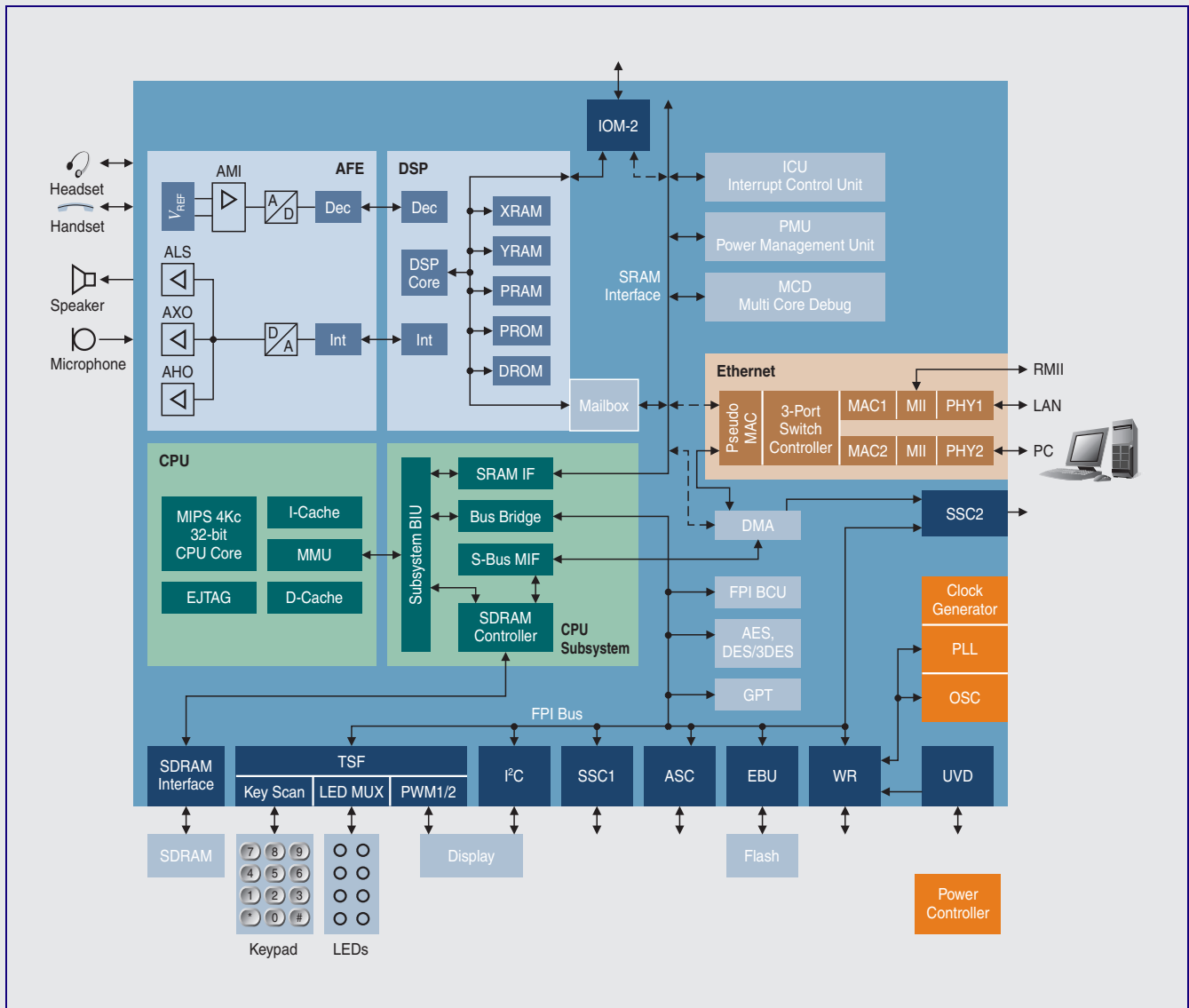
INCA-IP

VoIP System on a Chip

PSB 21553 E



INCA-IP Block Diagram and System Example



Ordering Information

INCA-IP

Product	Sales Code	Description	Package
INCA-IP	PSB 21553 E	VoIP system on a chip	P-LBGA-324-3

INCA-IP Design Tool

Product	Sales Code	Description	Package
EASY 21553	EASY 21553	EASY Evaluation System for the INCA-IP	EASY 21553 board and software

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Published by
Infineon Technologies AG,
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Template: pb_tmplt.fm/2/2003-05-01