SOC3210W

Main Features

High performance RISC CPU Core

➢ 32bits RISC CPU Core with 266MIPS@266MHz

➢ MIPS32 Instruction set support

➢ 5 levels pipeline instruction architecture

➢ Integrated 16KB 4-ways I-Cache, 8KB 2-ways D-Cache

➢ 32-entry TLB support

➢ Integrated pipeline Multiply Unit

SDRAM controller

➢ 32bit @133MHz controller

➢ Maximum 256M bytes capacity

➢ PC100/133 compatible

➢ 1,2,4,8 bytes burst length support

NOR Flash controller

➢ 8bits or 16bits mode compliant

➢ Maximum 32M bytes capacity

➢ Byte, half word & word reading mode support

➢ Automatic sleep mode for power saving

NAND Flash controller

➢ 8bits or 16bits mode compliant

➢ Maximum 1Tera (1024G) bytes capacity

➢ Byte, half word ,word & page reading mode support

➢ Automatic sleep mode for power saving

Host Port Interface master controller

➢ Infineon Vinetic series DSP chips' compatible

➢ Intel Demultiplexed mode & Motorola Mode

Ethernet controller

➢ Integrated 802.3 MAC controller with 2 MII ports

➢ 10/100Mbps compatible bit-rate

AC97 interface

➢ 16bit/18bit/20bit sample resolution

➢ Up to 48KHz high transfer bit-rate support

➢ 2-channels stereo output

➢ 1 channel microphone input

Peripheral Blocks

➢ 4-wires full-duplex synchronization SPI

➢ 1 channel UART only with TXD & RXD Pin

➢ Philips spec compatible I2C controller

➢ IEEE1149.1 compatible JTAG interface for in-circuit debug

➢ 12 channels GPIO interface for software control directly

➢ CAN Bus x2

➢ 4 external interrupt signals support

System Blocks

➢ Integrated two PLL to provide multiple clock frequency selection for CPU & system

➢ Use 5MHz external crystal

➢ Integrated 32 watch dog to avoid system deadlock

➢ Advanced interrupt controller

➢ Integrated DMA controller

Software

➢ Linux2.6 operating system

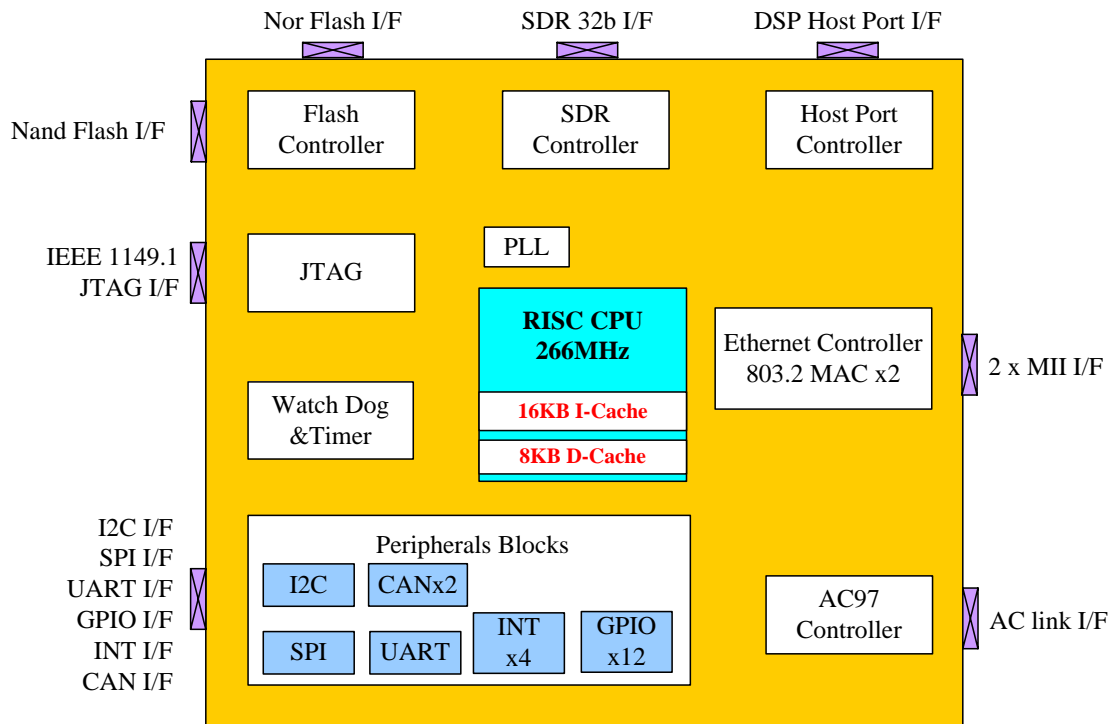➢ Full tools' chains of standard SOCC design kit

Supply voltage

➢ Dual power system, 3.3V for I/O & 1.8V for core

➢ Low power consumption:
   ≤60mW@150MHz, ≤118mW@266MHz

Temperature range: -40℃~85℃, Industry STD.

ESD: 2KV HBM STD.

Package: QFP208, LQFP208

SOC3210W

Nor Flash I/F   SDR 32b I/F   DSP Host Port I/F

Nand Flash I/F

| Flash Controller | SDR Controller | Host Port Controller |

IEEE 1149.1 JTAG I/F

JTAG   PLL

RISC CPU 266MHz

16KB I-Cache

8KB D-Cache

Watch Dog &Timer

Ethernet Controller 803.2 MAC x2   2 x MII I/F

I2C I/F
SPI I/F
UART I/F
GPIO I/F
INT I/F
CAN I/F

Peripherals Blocks

I2C   CANx2   SPI   UART   INT x4   GPIO x12

AC97 Controller   AC link I/F

SOC3210W Function Block Diagram

Summary of Benefits

➢ High performance and low cost for high quality audio player and network device.

➢ Fully integrated 2 channels Ethernet Controller, Audio Codec controller, MIPS CPU and others peripherals for low cost IP-based applications.

    ✧ Wire or wireless audio adapter device, VoIP Gateway, Router, IAD and so on.

➢ Provides total solutions technical supports for customers including hardware design, software drivers & applications design.

➢ World-wide free standard operating systems, tools' chains & middleware support.

Electronics Specification (At 25℃)

Parameter	Symbol	Value			Unit	Memo
		Min	Typ	Max		
Core voltage	VCCINST	1.62	1.8	1.98	V	
IO voltage	VCCIO	2.97	3.3	3.63	V	
PLL voltage	AVDD18 AVDD_5AP	1.62	1.8	1.98	V	should use independent filter capacitor
Input low level logic voltage	VIL	−0.3		1.2	V	
Input high level logic voltage	VIH	1.5		5.5	V	
Input leakage current		-10			uA	
Output low logic level voltage				0.4	V	
Output high logic level voltage		2.4			V	