

Controller-Based Modem with Fourth Generation SmartDAA® for Embedded Applications

Product Overview

Conexant's portfolio includes a comprehensive suite of semiconductor solutions for broadband communications and the digital home. The CX93011 modem paired with the CX20548 SmartDAA® 4 LSD is ideal for embedded applications such as POS terminals, STBs, video recorders, meters, security systems, remote site management, and other applications that require robust dial-up connectivity.

The CX93011 serial modem device set consists of a CX93011 serial interface modem in a 6x6mm 20-pin QFN package, and CX20548 SmartDAA 4 LSD in a 4mmx4mm 16-pin QFN package.

The device set integrates the microcontroller, digital signal processor, memory, and a worldwide DAA/telephone line interface function that operates with PSTN telephone lines worldwide.

The V.92 modem supports data modes up to 56kbps and includes features such as quick connect, modem-on-hold, and PCM upstream. A V.34 option and V.32bis option are also available.

Conexant's SmartDAA 4 LSD builds on three generations of market-leading silicon DAA devices, and reduces BOM costs and necessary board space which makes it the most cost efficient silicon DAA in the market. The SmartDAA 4 LSD eliminates the need for costly analog transformers, relays, and opto-isolators typically used in discrete DAA implementation for country-specific modem configurations. The result is a worldwide reduced system cost solution using a single BOM. The SmartDAA 4 is system-powered, making it the most reliable and best performing silicon DAA in the market.

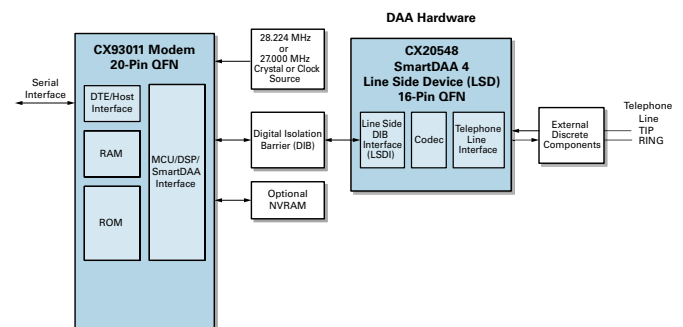
The CX93011 device set is pin-compatible with the CX90240 device set. The USB (CX93010) and serial/USB speakerphone (CX93021) versions of the CX93011 family chipsets are also available.



Key Features

- Controller-based modem—No external memory required
- V.92, V.34, and V.32bis options—V.92 includes quick connect, modem-on-hold, and PCM upstream
- V.17/V.29 fax class 1/1.0 and fax class 2
- V.29 FastPOS and V.22 fast connect
- SIA protocol and contact ID
- V.80 sync access mode, synchronous, and asynchronous DTE interface
- V.44/V.42bis and MNP5 data compression
- V.42 and MNP2-4 error correction
- Supports 28.224MHz or 27MHz operation
- Serial interface
- Optional NVRAM support
- Pin compatible with the CX90240 chipset
- CX20548 SmartDAA 4 LSD in a 16-pin QFN
- Worldwide support
- Quick time-to-market reference design
- Reference design supports 6KV isolation

System Block Diagram



Additional Features

- Modulations and protocols
 - ITU-T V.92 quick connect, modem-on-hold and PCM upstream
 - V.90/V.34/V.32bis/V.32
 - V.22bis/V.22/V.23/V.21
 - V.23 reverse and half-duplex
 - Bell 212A/Bell 103
 - V.29 FastPOS and V22 fast connect
 - SIA protocol and contact ID for alarm equipment
 - V.80 synchronous access mode
 - V.17/V.29 fax class 1/1.0 and fax class 2
- V.44/V.42bis/MNP5 data compression
- V.42/MNP2-4 error correction
- Caller ID
 - Call waiting detection for selected countries, and Type II CID decoding during V.92 connections
 - Type I CID decoding
 - Type II CID snooping

- Asynchronous serial DTE interface
- Hardware and software flow control and speed buffering
- 63 embedded and upgradeable country profiles
- Optional serial NVRAM interface for country profile storage and code upgrades
- Full-duplex 8-bit/16-bit PCM voice pass-through mode
- 28.224MHz or 27MHz frequency Xtal or clock input
- Worldwide operation
 - Complies to TBR21 and other country requirements
 - Call progress and blacklisting
 - Meets worldwide DC mask requirements
- Low power and voltage
 - Single 3.3V supply
 - Low power consumption mode
 - 3.3V I/O level
- Compact, robust board design

- Reference design files provided for quick time-to-market
- Reference design tested for PTT and TBR21 approvals
- Small, low-profile modem packages
- Reference design supports 6kV isolation

SmartDAA Features

- Extension pick-up detection
- Digital line protection
- Line reversal detection
- Remote hang-up detection
- Worldwide compliance
- CX20548 SmartDAA 4 LSD in a 16-pin QFN
- Worldwide support with a single design

www.conexant.com

Headquarters: 1901 Main Street, Suite 300 Irvine, CA,92614

General Information: U.S. and Canada: 888-855-4562 | International: 1 + 949-483-3000

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