CX-9Z-NR0226 USB V.92 Dongle Modem Platform

ImagingSmart™ Product Brief

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USB V.92 Dongle Platform Featuring the CX93010 Modem Chipset

Product Overview

Conexant's CX-9Z-NR0226 USB V.92 dongle modem design platform consists of the CX93010 USB modem and the CX20548 SmartDAA 4 LSD. The CX-9Z-NR0226 is a full turnkey USB V.92 dongle modem that is styled to complement today's fashionable notebooks and other embedded platforms with an available USB port. The attractive sleek profile with soft rounded curves is easily stored in the smallest of notebook cases. Conexant has leveraged its extensive experience in working with PC manufacturers and its expertise in analog modem technology to develop a modem that withstands the demands of the toughest PC OEMs, and surpass all categories of standards testing for safety and EMC.

Low Cost

The CX-9Z-NR0226 incorporates several cost-saving features. The CX93010 is offered in a small 20-pin QFN package that allows for the small, yet cost efficient PCB. The CX20548 SmartDAA® 4 LSD builds on four generations of market leading silicon DAA devices and reduces the BOM cost and necessary board space, making it the most cost efficient silicon DAA in the market. The CX20548 SmartDAA 4 LSD eliminates the need for costly analog transformers, relays, and opto-isolators that are 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. Conexant has shipped several hundreds of millions SmartDAA 4 LSDs worldwide, continuing its long tradition of providing the most Internet connections using analog modems than all of its competitors combined.

Quick Time-to-Market

The CX-9Z-NR0226 is pre-tested for worldwide telecom compliance and can be transferred to any board ODM for fast time-to-market. The OEM can customize the design to their liking by adding their own color scheme and logo. The design is fully controlled by Conexant from the PCB to the USB cable and the ID design to assure consistent product quality.

The CX-9Z-NR0226 is a full hardware modem that can be easily adopted in non-x86 CPU and non-Windows OS-based systems. The modem operates with any system that has a USB CDC driver.

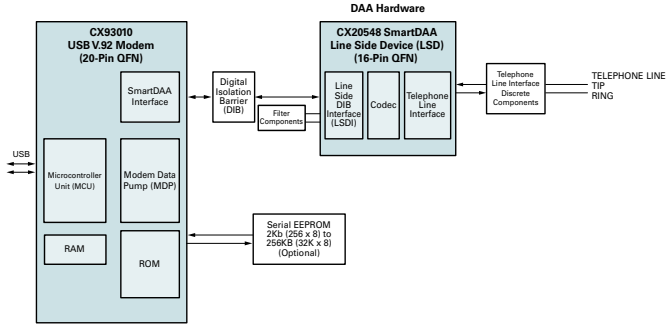
Applications

- Notebook computers
- Desktop computers
- Workstations
- POS systems
- STBs/DVRs
- Other platforms with an available USB port

Key Features

- Full turnkey design
- Elegant and stylish ID design
- Slim and compact
- Passes strict EMC and safety standards of the top PC OEMs
- Pre-certified for worldwide telecom

System Block Diagram



Additional Features

- Full-speed (12MHz) USB interface device implementation
  - Suspend/resume
  - Vendor-specific descriptions
  - Bus-powered USB device
  - Compatible with USB 2.0
- Data modem—ITU-T V.92 (V.92 model)
- Modem-on-hold
- Quick connect
- PCM upstream
- Modulations
  - V.90
  - V.34
  - V.32bis, V.32, V.22bis, V.22, V.23, and V.21, Bell 212A, and Bell 103
  - V.22bis fast connect
  - V.250 and V.251 commands
  - V.80 synchronous access mode
- Data compression and error correction
  - V.44, V.42bis, and MNP 5 data compression
  - V.42 LAPM and MNP 2-4 error correction
- Fax modem send and receive rates up to 14.4kbps
  - V.17, V.29, V.27ter, and V.21 channel 2
  - EIA/TIA 578 class 1 and T.31 class 1
- Interfaces to optional serial EEPROM
- Data/fax/voice call discrimination
- Hardware-based modem controller
- Hardware-based DSP
- Worldwide operation
  - Complies to TBR21 and other country requirements
  - On-hook and/or off-hook caller ID detection for selected countries
  - Call progress, blacklisting
  - Internal ROM includes default values for 63 countries
  - Additional modified country profiles can be stored in internal SRAM or optional serial EEPROM
- In-band digital call progress
- Caller waiting detection
- Caller ID detect
  - On-hook caller ID detection
  - Off-hook call waiting caller ID detection during data mode when connected to a V.92 server
- Modem customization available through patch code that can be stored in optional serial EEPROM or internal SRAM
- Telephony/TAM
  - V.253 commands
  - 2-bit and 4-bit ADPCM
  - 4-bit IMA ADPCM
  - 8-bit and 16-bit linear PCM
  - 8-bit μ-law and A-law PCM coding
  - 8kHz sample rate
  - Concurrent DTMF, ring, and caller ID detection
- Flow control and speed buffering
- Automatic format/speed sensing
- Asynchronous data
- LED driver outputs
- Voltage regulators on-chip
  - 5V to 3.3V
  - 3.3V to 1.2V
- System compatibility—CDC-compliant systems
  - Microsoft Windows
  - Linux
  - Macintosh computers
  - Sun workstations

SmartDAA Features

- System-side powered DAA operates under poor line current supply conditions
- Ring detection
- Line polarity reversal detection
- Line current loss detection
- Pulse dialing
- Line-in-use detection during on-hook operation
- Remote hang-up detection for efficient call termination
- Extension pickup detection
- Call waiting detection
- Digital PBX line protection
- Meets worldwide DC VI masks requirements

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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