CX93040-1x CSPMxx

V.92/V.34/V.32bis Controllered SPI Modem with CX20548 SmartDAA® for Embedded Applications

The CX93040 modem, paired with the CX20548 SmartDAA® 4 Line Side Device (LSD), is well suited to embedded applications such as Point of Sale (POS) terminals, Set-Top Boxes (STB), Video Recorders, Meters, Security Systems, Remote Site Management, and other applications that require robust dial-up connectivity. Integrating a microcontroller, digital signal processor, memory, and a SmartDAA® interface onto a single die, the CX93040 is easily adaptable for just about any application, completely independent of the host processor and operating system. In addition, the SmartDAA interface hooks directly to Conexant's field-proven, market-leading fourth-generation silicon DAA, supporting the lowest component line-side design and permitting a single-cost, optimized SKU capable of meeting and exceeding global PTT standards.

Setting the CX93040 apart is the addition of an SPI interface, which allows for maximum flexibility in the main processor. Found in virtually every SoC and/or main processor, SPI is a shared bus working in a master/slave configuration, and requiring only one set of I/Os for all peripherals that attach to the SPI bus. This is in stark contrast to a UART port for an RS232 serial bus, which requires a set of dedicated I/Os for each peripheral. Using an SPI bus allows the CX93040 to eliminate a UART port on the SoC and its associated pins that would have otherwise been dedicated for the modem.

The CX93040 is offered in three versions, 1) V.32bis, 2) V.34 and 3) V.92. Furthermore, CX93040 leverages three generations of firmware expertise and know-how that, coupled with Conexant's market-leading and field-proven DAA and full reference design kits, makes this modem the easiest, most mature and robust modem in which to design.

The CX93040 Controllered SPI modem device set is available in the smallest footprint and environmentally friendly, RoHS/green-compliant packages consisting of a CX93040 SPI interface modem device in a 6x6mm 20-pin Quad Flat-No Lead (QFN) package and CX20548 SmartDAA 4 LSD in a 4mmx4mm 16-pin QFN package.

Applications

- Point of Sale (POS) terminals
- Set Top Boxes (STB)
- Security Systems
- Remote Site Management
- Meters
- Videophone Terminals

Key Features	Benefits
SPI Interface	Uses I/O shared with other SPI peripherals - alleviates need for host to support traditional serial interface
Controller-based modem, no external memory required	OS independent and minimal host intervention
Up to V.92	Robust dial-up connectivity
Robust and field proven CID support	Meets performance criteria needed for Set-Top Box applications
Support for POS specific fast connect protocols	Compatibility with established POS server base.
SmartDAA support	Allows worldwide support with a single design
Optional serial NVRAM interface	Allows additional country profile storage and code upgrades
Reference design supporting 6KV	Quick time to market and low system cost

Part Number CX93040-1x CSPMxx

Description

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CX93040-1x CSPMxx Features

- Slave SPI Interface 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, V.23 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
- Call waiting (CW) detection for selected countries
- Hardware and software flow control and speed buffering
- Embedded and upgradable 63 country profiles

- Optional serial NVRAM interface for country profile storage and code upgrades
- Full-duplex 8-bit/16-bit PCM voice pass-through mode
- 28.224 MHz XTAL or clock input
- Worldwide operation
  - Complies to TBR21 and other country requirements
  - Type I Caller ID (CID) decoding
  - Type II Caller ID snooping
  - Call progress, blacklisting
  - Meets worldwide DC mask requirements
- Low power and voltage
  - Single +3.3 V supply
  - Low power consumption mode
  - +3.3 V I/O level
- Compact, robust board design
  - Reference design files provided for quick time-to-market
  - Reference design tested for PTT and TBR.21 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
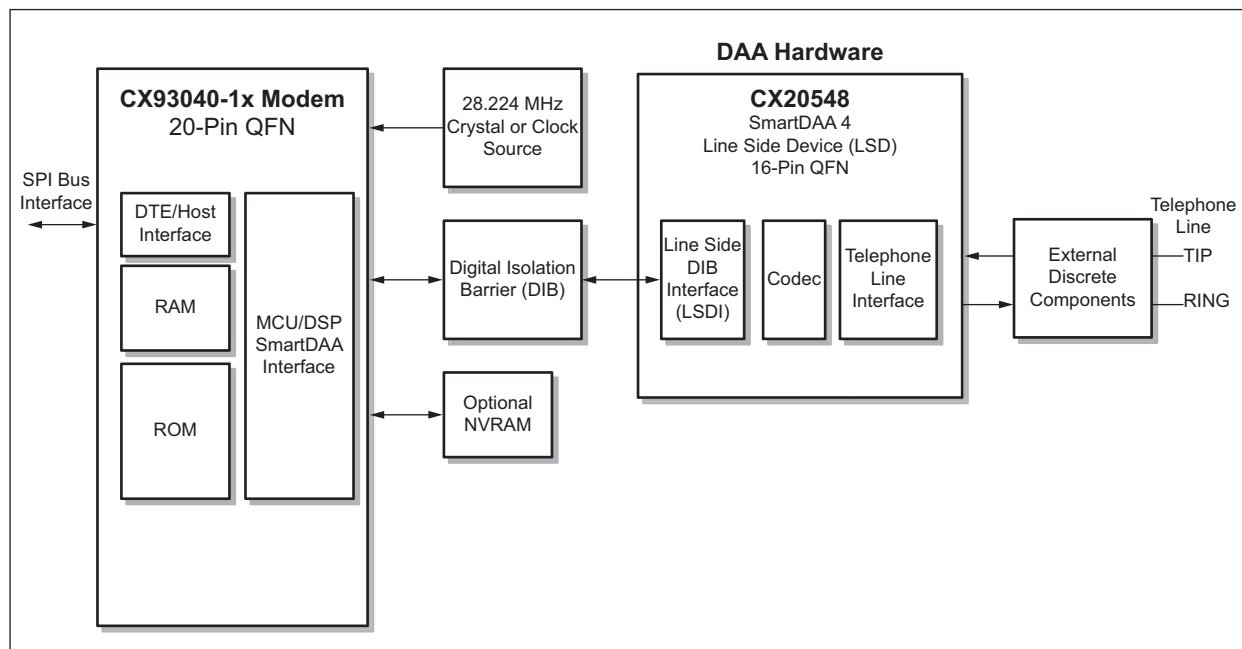
Conexant Product Portfolio

Conexant's comprehensive product portfolio includes solutions for imaging, audio, video surveillance, and embedded modem applications