CX95110/CX20548 SSF Fax Modem
ImagingSmart™ Product Brief

CONEXANT®
EXPERIENCE SMART™

Fax Data Pump with Fourth Generation SmartDAA®

Product Overview

Conexant has been providing fax modem solutions for over five decades with the largest installed base of fax modems in the market. Conexant's comprehensive solutions include both a hardware and software-enabling design for ease and flexibility with quick time-to-market.

Conexant's CX95110 SSF336/314 high performance fax modem family with SmartDAA® technology offers ITU-T V.34 half-duplex mode operation up to 33,600bps, as well as synchronous G3 facsimile speeds up to 14,400bps. The CX95110 supports the host interface through an SPI bus minimizing pin count that allows for smaller packages.

The SSF336/314 device set consists of two devices:

- CX95110 HSD with an integrated modem DSP and a SmartDAA SSD in a 28-pin QFN package
- CX20548 SmartDAA 4 LSD in a 16-pin QFN package

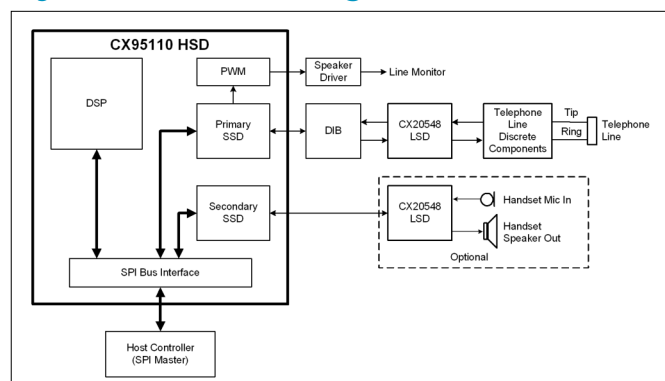An optional CX20548 CODEC (LSD) in a 16-pin QFN is available for external handset support.

Because Conexant's SmartDAA 4 LSD builds on three generations of market-leading silicon DAA devices and reduces BOM costs and necessary board space, it 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 that are typically used in country-specific discrete DAA implementations. 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 CX95110 is supported by a comprehensive software suite that simplifies the design-in process.

Key Features

- Two-wire fax modem modes with send and receive data rates up to 33,600bps
    - V.34 half-duplex fax modem mode (SSF336)
    - V.17, V.29, V.27ter, and V.21 channel 2
    - Short train option in V.17 and V.27ter
- V.34 half-duplex ARA
- PSTN session starting—V.8 and V.8bis signaling
- HDLC support at all speeds
    - Flag generation, 0-bit stuffing, and ITU CRC-16 or CRC-32 calculation and generation
    - Flag detection, 0-bit deletion, and ITU CRC-16 or CRC-32 check sum error detection
    - FSK flag pattern detection during high-speed receiving
- Tone modes and features
    - Programmable single or dual tone generation
    - DTMF receiver
    - Tone detection with three programmable tone detectors
- Auto-dial and auto-answer control
- Receive dynamic range of –3dBm to –43dBm for V.17, V.29, V.27ter, and V.21 channel 2
- Caller ID (V.23, 1200bps Rx) demodulation
- ADPCM voice mode (Conexant proprietary)

System Block Diagram

Additional Features

- Programmable RLSD turn-on and turn-off thresholds
- Programmable transmit level of –4dBm to –15dBm
- Two 16-byte FIFO data buffers for burst data transfer with an extension up to 255 bytes
- Digital speaker output to monitor received signals
- V.21 channel 1 and channel 2 flag detect
- Support for external handset (voice conversation)—Requires use of CX20548 LSD
- 3.3V only operation

- 28-pin QFN package (HSD)
- Typical power consumption
  - Normal mode: 264mW
  - Sleep mode = 59.4mW
  - Deep Sleep mode = 16.5mW
- PRAM download capability

SmartDAA Features

- Minimum support component count and cost
- Eliminates costly line transformers, relays, and opto-isolators
- Enables single, worldwide board configurations
- Digital PBX line protection

- System-side powered DAA operates under poor line current supply conditions
- Wake-on-ring
- Ring detection
- Line polarity reversal detection
- Line current loss detection
- Pulse dialing
- Line-in-use detection—Detects while on-hook
- Extension pick-up detection—Detects while off-hook
- Remote hang-up detection—Efficient call termination
- Meets worldwide DC V-I mask requirements

SSF336/314 Product Ordering Guide

Ordering Number	Modem Model	HSD	SmartDAA4 LSD	Handset CODEC Part Number	G3 Fax Up to 14,400bps	V.34 Fax Up to 33,600bps
DSFX-L510-053	SSF336	CX95110-53Z	CX20548-11Z/C[1]	N/A	Yes	Yes
DSFX-L510-063	SSF336-HS	CX95110-53Z	CX20548-11Z/C[1]	CX20548-13Z/C[2]	Yes	Yes
DSFX-L510-051	SSF314	CX95110-51Z	CX20548-11Z/C[1]	N/A	Yes	No
DSFX-L510-061	SSF314-HS	CX95110-51Z	CX20548-11Z/C[1]	CX20548-13Z/C[2]	Yes	No

1 = The device is marked as 20548-A on the package.
2 = The device is marked as 20548-C on the package.

Note: All devices are lead-free (Pb-free) and RoHS-compliant. These devices are compatible with leaded re-flow processes.

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