

# DECT/CAT-iq Module

Integrating DECT/CAT-iq into residential and office gateway devices

## Overview

DSP Group™'s DECT/CAT-iq module is a low-cost, small form-factor connectivity platform enabling home gateway (HGW) and office gateway manufacturers to easily integrate DECT/CAT-iq functionality into residential and office devices.

Based on DSP Group's DCX/VegaOne single chip, the DECT/CAT-iq module can be integrated as an add-on daughterboard, embedded on a gateway's main board, or connected as an external dongle. The module is connected to the host network processor via either UART/SPI for control and TDM for synchronous digital audio/data, or a USB for control and audio/data. Delivering superior coverage and wideband audio (HD voice), the module is ideal for service providers interested in expanding telephony services by integrating DECT/CAT-iq functionality into their broadband access devices.

Complementing DSP Group's comprehensive set of PSTN and VoIP telephony reference designs, the DECT/CAT-iq module includes a chipset, hardware, and a software reference design, as well as sample applications, documentation and support. Leveraging DSP Group's communications protocol and call control software stacks, the module reduces development risk, minimizes R&D costs, and lowers time to market, while guaranteeing CAT-iq support. As such, the module enables gateway developers to be the first to market best-in-class CAT-iq 2.0, 2.1 and 3.0 products including xDSL Internet access devices (IADs), embedded multimedia terminal adapters (eMTAs), cable set-top boxes (STBs), passive optical networks (PON) gateways, and IP PBXs.

## Features

- Simple and flexible host API, designed to completely offload gateway processor from any DECT or CAT-iq handling, for:
  - Multi-call and multi-handset DECT module functionality management
  - Software upgradability with embedded Flash variants
  - List access to handset (e.g. for phonebook)
  - Data channel to handset enabling data applications
  - Handset software update over the air (SUOTA)
- Full telephony, call routing, multi-handset (e.g. conferencing, intercom, parallel calls, forwarding, transferring), multi-line, mini-PBX support
- Single-chip architecture integrating a strong ARM9™ baseband processor and superior RF technology
- ARM processor and hardware accelerators for offloading host processor
- CAT-iq (current and future profiles), GAP compliance
- DECT, DECT6.0, Korean DECT, 2.4GHz WDCT support
- Wide range of host interfaces including USB for dongles, UART, SPI, and PCM/TDM/IOM-2/analog for easy embedding into any gateway device
- Embedded PBX call control features for both home and office
- Simultaneous WB/NB call support (up to 4 calls)
- Eco-friendly functionality
  - Low power consumption and radiation
  - CAT-iq ETSI standard for zero radiation mode
- Superior range and coverage with DSP Group's ClearRange™ technology suite
- Superior voice clarity with DSP Group's ClearRtalk™ technology suite
- Analog PSTN FXO/FXS connectivity (optional)
- Digital telephone answering machine support (optional)

## Benefits

- Comprehensive and proven DECT, CAT-iq and telephony call-control capabilities in a single module
  - Roadmap for future CAT-iq profiles using same API and Flash upgradability
- Single source for all hardware and software components
- Low-cost, small form-factor module and dongle designs
- Advanced CAT-iq cordless connectivity with fast time to market
  - Reduced customer development/implementation effort and risk
- Complementary DSP Group offering including low-to-high-end handset designs with data applications
- DSP Group advanced technologies for improved voice coverage and high data rate over DECT

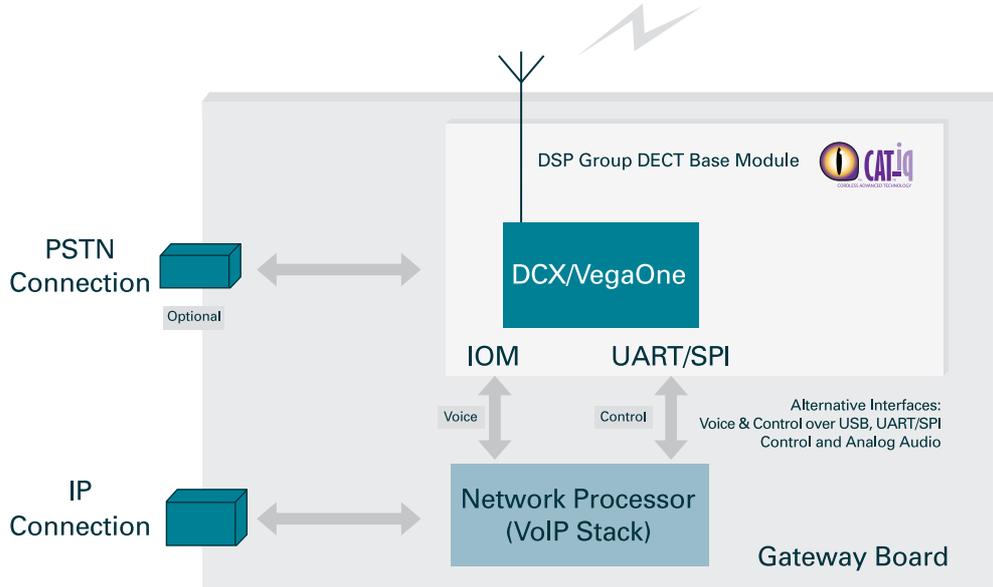
## Applications

- DECT/CAT-iq module/dongle for ATA, eMTA or IAD
- DECT/CAT-iq dongle for cable modem device, STB, PON or IP PBX
- DECT/CAT-iq module/dongle for IP phone
- DECT/CAT-iq dongle for PC

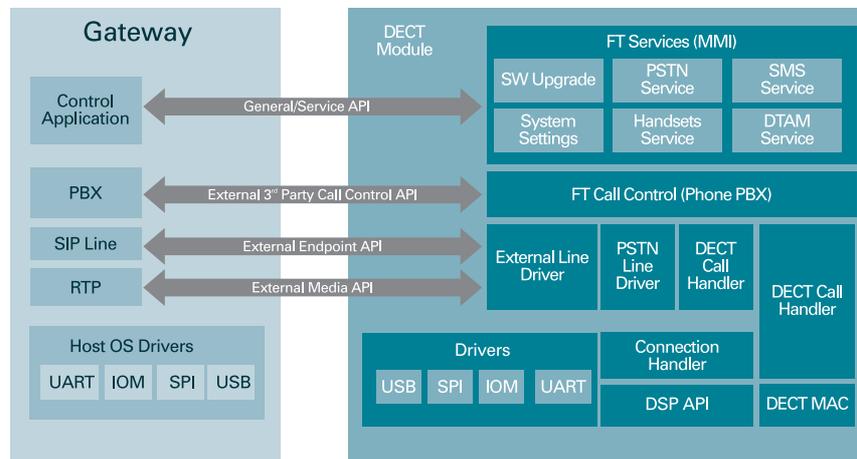
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## Block Diagram



## S/W Diagram



DSP Group, Inc. (NASDAQ: DSPG) is a leading global provider of wireless chipset solutions for converged communications at home. Delivering system solutions that combine semiconductors and software with reference designs, DSP Group enables consumer electronics (CE) manufacturers to cost-effectively develop new revenue-generating applications with fast time to market. At the forefront of semiconductor innovation and operational excellence for over two decades, and with a growing share of the wireless home telephony market, DSP Group provides a broad portfolio of wireless chipsets integrating DECT, Wi-Fi, PSTN and VoIP technologies with state-of-the-art application processors. Enabling converged voice, audio, video and data connectivity across diverse consumer products – from cordless and VoIP phones to home gateways and connected multimedia screens – DSP Group proactively partners with CE manufacturers to shape the future of converged communications at home.

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