

# Audio Voice Data Module

## Develop your next-generation wireless application faster

Whether you're developing audio-, voice- or data-based wireless applications, the DA14AVDDECT offers you the fastest and easiest route to market. It combines everything you need for world-class wireless performance in a single compact module. Fully RF tested and certified, it doesn't require any in-depth RF knowledge or resources to use. Just drop it in and you're ready to go.

The Dialog DA14AVDDECT Audio Voice Data module is a complete solution for next-generation wireless applications. It contains all the hardware necessary, including a state-of-the-art DECT radio, a multi-core, power amplifier, stereo CODEC, battery management and onboard antenna. You can tailor the module to your target application area simply by downloading and installing one of our optimized software stacks who also supports over-the-air upgrades.

Delivering world-class performance, the module features the latest evolution of the proven DECT technology. That means multi-level modulation and zero blind spot support, allowing up to 3 times higher data rates and an increased density of deployed systems. This is in addition to the familiar DECT benefits of reliable, long-range communication in a protected, interference-free RF band.

The optimized hardware and software enable talk-mode power consumptions as low as 50 mA, so your solutions can have the long battery lifetimes today's consumers demand. An integrated battery charger supports NiMH and Li-ion batteries with charging up to 400 mA and via USB possible. An onboard fuel gauge provides high-precision battery status for better user experiences without an external IC.

### Key features

- Next-generation DECT radio performance
  - Multi-level modulation
  - Zero blind slot support
- Extensive processing power
- Hi-Fi audio support
- Integrated antenna and support for optional external antenna
- Battery management with charger and fuel gauge
- Choice of voice and data or audio and data software stacks



### Key benefits

- Short time to market
- Long-range, interference-free communication
- Fully RF tested, no costly RF production testers needed
- Certified for TRB6, FCC and Telec (Japan)
- Reprogrammable module by means of on-board Flash
- Development Kit with an Eclipse based IDE

## The AVD module in voice-and-data applications

Download the voice-and-data stack from our customer portal, and you're all set to start creating versatile, high-performance voice applications. As you'd expect from a technology originally developed for cordless telephony, DECT ensures crystal clear voice-quality. Its reliability and long range make it ideal for applications where messages simply must get through, like emergency service intercoms and pendants with voice support.

Using the latest evolution of DECT, the DA14AVDDECT allows more people to be connected to the same communication system – up to 8 portable parts (PP) in conferencing and intercom applications. Highly compact and consuming around 50 mA in talk mode, the module is ideal for devices of any form factor including wearables.

### Typical applications

- Conferencing systems
- Intercom systems
  - Door entry
  - Elevator communication
  - Fire rescue communication
- Elderly care pendants with voice

### Key features

- Data rates up to 150 kbit/s
- Wideband voice support
- Supports up to 8 PPs in conference
- Fixed latency
- Software update over the air



## The AVD module in audio-and-data applications

DECT is also a natural choice for Public Address (PA) and Tour Guide (TG) applications. It delivers outstanding voice quality up to 20kHz audio bandwidth, can be used indoors and out, and can cover large areas with a single base station. With the DA14AVDDECT module and our audio-and-data stack, you can quickly and easily develop PA and TG solutions really stand out from the crowd.

For example, together they enable PA systems with 4 wireless microphones where each channel can be individually controlled on the Fixed Part (FP) side.

In a TG set-up, you can support up to 1024 listeners from a single fixed part (FP, the guide), with a return channel that allows the audience to interact with the guide. And with 20 kHz bandwidth and a stereo CELT codec, you're guaranteed perfect sound quality for the most natural communication.

Typical Applications:	Key Features:
<b>Public Address</b>	
Outdoor events	Supports up to 4 microphones (PP) on one receiver (FP)
School classrooms	16kHz audio bandwidth high end voice / audio quality
Church usage	Transmitter (PP) consumes down to 46mA (LPM) when talking
<b>Tour Guide</b>	
Training and Collaboration	20kHz audio bandwidth for super high end voice / audio quality
Language Interpretation	One full duplex return channel with the Guide for Interaction
Event Production / Intercom	Supports up to 1024 listeners in one group
Assistive Listening	Receiver (PP) consumes down to 35mA (LPM) when listening
Group Tours	



## Cutting your time to market

The DA14AVDDECT module is designed to be quick and easy to use. To reduce your development time, cost and effort even further, the module is supplied with a complete suite of software tools including our Eclipse based SmartBeat AVD Studio IDE. Development kits are also available to help you explore the potential of the module in any application.

## Software development suite

The accompanying development suite helps you get the most out of your DA14AVDDECT module and chosen software stack. The suite includes:

- Dialog's Eclipse based SmartBeat AVD Studio IDE
- Native GNU C/C++ compiler/linker
- Cross C/C++ compiler/linker for ARM
- Programming tool for downloading and verifying code
- Host configuration tool
- RSX debug tool for mail tracing
- Support for Segger J-link LITE

## Development kit

The DA14AVDDECTDEVKT, the development kit for this module is the ideal starting point for developing complete voice or audio applications of any size. It includes all the hardware and points you to the software and documentation for a basic system that will let you explore the module's potential for your target application. In the kit you will find one FP and one PP baseboard built around DA14AVDDECT modules. A Quick Start Guide, API and programming guides, a software feature list and some use case example profiles can be downloaded via our portal.



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