SmartBond™ DA14585 Voice RCU Development Kit

The ultimate voice-operated remote control performance with complete design flexibility

Voice-operated remote controls and smart home systems like Google Home and Amazon Echo are growing rapidly in popularity. To be successful, these devices need to deliver high-quality voice transmission in an attractive system at the right price point. Dialog's flexible SmartBond™ Voice RCU development kit helps manufacturers quickly and easily create cost-effective, highly robust and differentiated voice remote controls for many applications.

The kit comprises a complete hardware and software design for voice-command and gesture-based remote controls. It is based on the SmartBond™ DA14585 – the smallest, lowest power, most integrated Bluetooth® low energy solution to date – with high processing power and generous memory size for system and user functions.

The implemented codec with adaptive bit rate control automatically adjusts the data rate (24-64 kbps) to ensure excellent voice pick up quality under any type of air link conditions. The kit's robust performance consistently delivers over 90% correct voice command recognition under all tested conditions.

The kit supports integration with Google Voice and allows manufacturers to differentiate their products through features like the user interface ranging from simple buttons to a trackpad or "air mouse". Direct connection for digital microphones via the PDM/I2S interface means no external codec is required, reducing system cost.

The SmartBond™ Voice RCU development kit enables low power products that can deliver impressive range and work from a single or dual cell battery. It provides a flexible route to a comprehensive range of market-leading products.

Benefits

- ▶ Low latency robust codec using less power and lower cost technology
- ▶ Use less bandwidth in low bit rate mode, an advantage in an interfered environment
- ▶ Sufficient internal memory to allow for bigger audio data buffers to have a more robust link
- ▶ Easy user interface using slider or touchpad interface control

Applications

- ▶ Voice Command Remote controls
- ▶ SmartHome systems with voice command support
- ▶ Voice recognition systems using wireless microphones
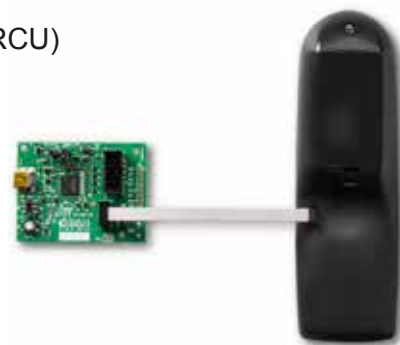
Features

RCU Features

- Modular UI design with touchpad, slider and keyboard (12 keys)
- Digital audio PDM/I2S/PCM interface with integrated sample rate converter supporting a digital microphone or using an external audio codec
- Gesture support available with Hillcrest library (license required)
- Infrared LED with RC5 protocol support
- Debug interface header and test points
- Power supply : 2 alkaline batteries
- Two layer PCB design with integrated antenna
- Bluetooth® 5.0 specification

Audio features

- Proven IMA ADPCM voice codec
- Low power, low latency by design
- Adaptive bitrate support of 24-64kbps to guarantee a robust audio link
- Large audio buffers for uninterrupted audio transmission
- High score voice recognition over variable bitrates

Software features

- Android app available from Google Play Store (Dialog Voice RCU)
- Live capture or voice command mode
- Microphone on/off control in Voice RCU app or on screen
- Multi language support using Google Voice Engine
- Support for keyword detection, Google and movie search
- Recording option

For more information and purchasing please visit
https://support.dialog-semiconductor.com/connectivity

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