

Getting Started with the OSB DA14585 Bluetooth 5.0 MESH Evaluation Board Rev 1.0

OSB DA14585 Bluetooth 5.0 MESH Module Specifications

The OSB DA14585 RF module was designed in compliance with the Bluetooth 5.0 LE Specification and is based on the Dialog DA14585 single-chip controller.

Features

- Small 16.0 mm x 21.0 mm x 3.5 mm SMD module
- Bluetooth 5.0, ETSI EN 300 328 and EN 300 440 Class 2 (Europe), FCC CFR47, Part 15 (US) and ARIB STD-T66 (Japan)
- Supports up to 64 Bluetooth LE connections
- Fast cold boot in less than 50 ms

Processing units

- 16 MHz 32 bit ARM Cortex-M0 with SWD interface
- Dedicated Link Layer Processor
- AES-128 bit encryption Processor

Memories

- 64 kB One-Time-Programmable (OTP) memory
- 96 kB Data/Retention SRAM
- 128 kB ROM Operating System and protocol stack
- 1.024 kB Serial Flash for User Specific Software Stack

Power management

- Integrated Buck/Boost DCDC converter
- 1.8 V cold boot support-buck mode
- 0.9 V cold boot support-boost mode
- 10-bit ADC for battery voltage measurement

Digital controlled oscillators

- 16 MHz crystal (± 20 ppm max) and RC oscillator
- 32 kHz crystal (± 50 ppm)
- RCX oscillator (± 500 ppm max)

General purpose, Capture and Sleep timers

- Digital interfaces
- Gen. purpose I/Os: 14
- 2 UARTs with hardware flow control up to 1 MBd
- SPI+™ interface
- I²C bus at 100 kHz, 400 kHz
- 3-axes capable Quadrature Decoder
- System & Power On Reset in a single pin
- 4-channel 10-bit ADC

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Features

- Silicon Labs CP210 USB to Serial TTL Converter for High Speed Module
Telnet Access, please download the Widows driver
<https://www.silabs.com/products/development-tools/software/usb-to-uart-bridge-vcp-drivers>
- Integrated 3V Module Power Supply by 5V USB Micro Connector
- PWM Audio Speaker connector, Board Integrated Amplifier
- 4x Test Buttons, 4x Test LEDs
- 20 free configurable GPIO connectors and Jumpers

For further installation instructions of the OSB DA14585 MESH Evaluation Board, and to download the required OSB DA14585 Bluetooth Module Smartphone App please refer the OSB DA14585 Bluetooth Module specification (user account and login required) at <https://www.osb-innovations.com/en/products/bluetooth-50.html>

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