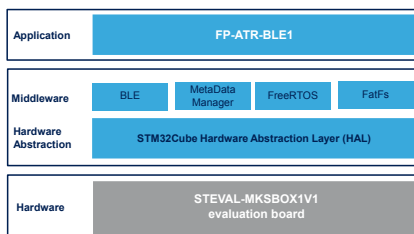


STM32Cube function pack for asset tracking using BLE connectivity for SensorTile.box wireless multi sensor development kit



Features

- Complete example on how to create an asset tracking application controlled by a mobile device using BLE
- Ultra-low power implementation based on RTOS
- Wake-up, tilt and orientation detection by the on-board accelerometer
- Middleware Bluetooth connectivity using the [X-CUBE-BLE2](#) software package
- Environmental sensor data and inertial data saved on SD card using FatFs middleware
- Compatible with [ST Asset Tracking](#) client application for Android/iOS to set up firmware via Bluetooth connectivity and to read the data log created
- Sample implementation available for the [STEVAL-MKSBOX1V1](#) evaluation kit
- Easy portability across different MCU families, thanks to [STM32Cube](#)
- Free, user-friendly license terms

Description

FP-ATR-BLE1 is an [STM32Cube](#) function pack for asset tracking using BLE connectivity for the [SensorTile.box](#) wireless multi sensor development kit, which helps you to build custom applications.

The package includes pressure, relative humidity, temperature and accelerometer sensors and the [SPBTLE-1S](#) Bluetooth low energy system-on-chip application processor.

With the [STEVAL-MKSBOX1V1](#) kit with BLE connectivity, you can monitor and log the sensor data using the [ST Asset Tracking](#) app.

The software runs on the STM32 microcontroller and includes all the necessary drivers for the [STEVAL-MKSBOX1V1](#) evaluation kit.

Product summary	
STM32Cube function pack for asset tracking using BLE connectivity for SensorTile.box wireless multi sensor development kit	FP-ATR-BLE1
Multisensor kit with portable sensor box and smart sensor app	STEVAL-MKSBOX1V1
ST Asset Tracking app to configure a Sigfox or a BLE node	STAssetTracking
Applications	Connectivity Factory Automation lot for Smart Industry Tracking

1 Detailed description

1.1 What can you do with STM32Cube function packs?

STM32Cube function packs leverage the modularity and interoperability of STM32 Nucleo and X-NUCLEO boards together with STM32Cube and X-CUBE software to create function examples for some of the most common use cases of different application technologies.

These software function packs are designed to exploit the underlying STM32 ODE hardware and software components as much as possible to best satisfy the requirements of final user applications.

Moreover, function packs may include additional libraries and frameworks that are not present in the original X-CUBE packages, thus enabling new functionalities allowing real and usable system for developers.

1.2 What is STM32Cube?

STM32Cube is a combination of a full set of PC software tools and embedded software blocks running on STM32 microcontrollers and microprocessors:

- [STM32CubeMX](#) configuration tool for any STM32 device; it generates initialization C code for Cortex-M cores and the Linux device tree source for Cortex-A cores
- [STM32CubeIDE](#) integrated development environment based on open-source solutions like Eclipse or the GNU C/C++ toolchain, including compilation reporting features and advanced debug features
- [STM32CubeProgrammer](#) programming tool that provides an easy-to-use and efficient environment for reading, writing and verifying devices and external memories via a wide variety of available communication media (JTAG, SWD, UART, USB DFU, I2C, SPI, CAN, etc.)
- STM32CubeMonitor family of tools ([STM32CubeMonRF](#), [STM32CubeMonUCPD](#), [STM32CubeMonPwr](#)) to help developers customize their applications in real-time
- [STM32Cube MCU and MPU packages](#) specific to each STM32 series with drivers (HAL, low-layer, etc.), middleware, and lots of example code used in a wide variety of real-world use cases
- [STM32Cube expansion packages](#) for application-oriented solutions

1.3 How does this function pack complement STM32Cube?

This software is based on the STM32CubeHAL. It extends [STM32Cube](#) by providing a board support package (BSP) for the BLE, sensors and middleware components for communication with other BLE devices.

It also provides an application to demonstrate how to implement your own low power, BLE-controlled asset tracking application using the [SensorTile.box](#) Pro Mode.

Revision history

Table 1. Document revision history

Date	Version	Changes
20-Feb-2020	1	Initial release.

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