

Simpler, Faster, Smarter IoT Design with Simplicity Tools

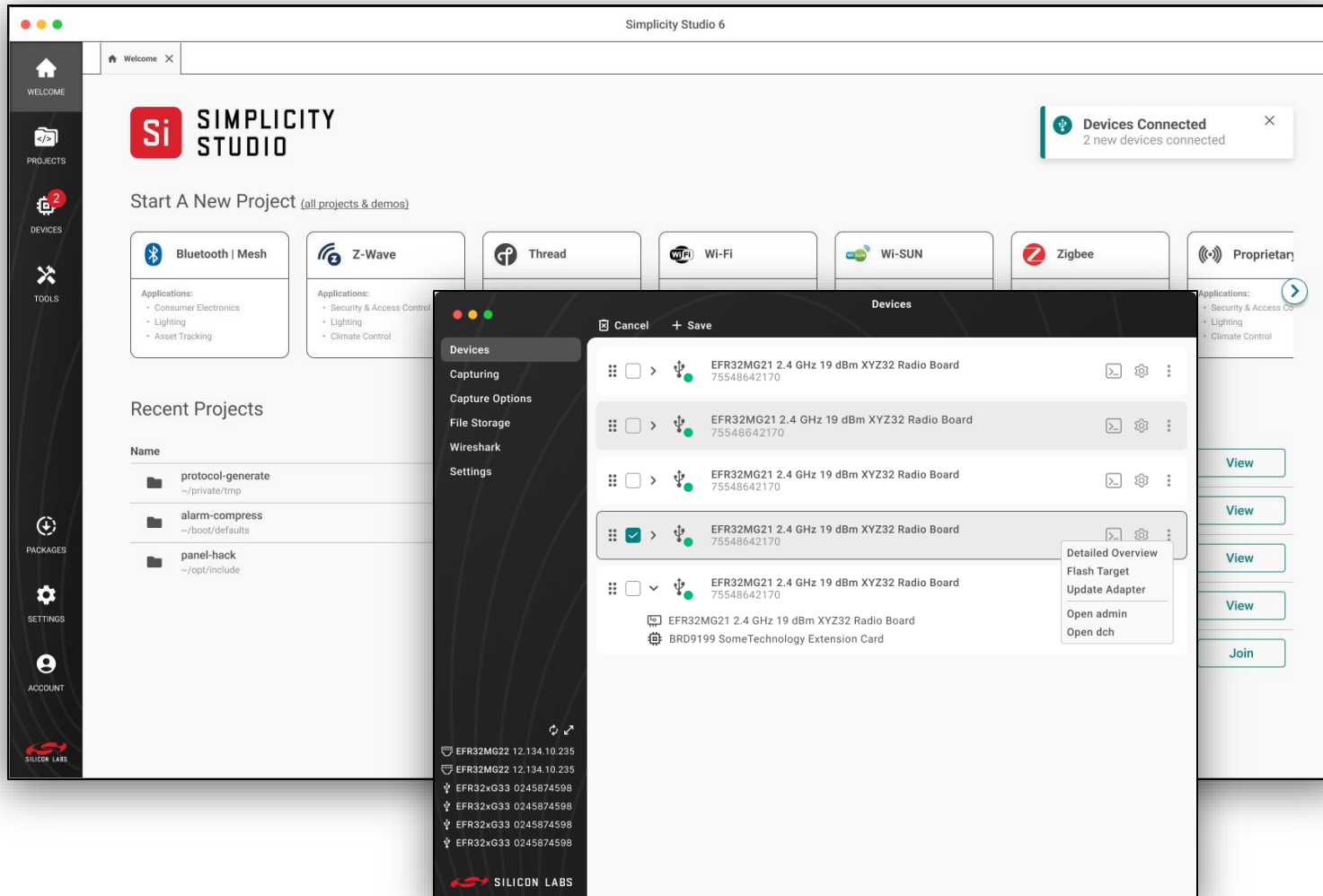


Agenda

▪ 19-20 Nov 2025

- **Simplicity Studio 6 Tools Overview & Ecosystem**
- **Simplicity Studio and VS Code Installations**
- **Project Generation and Configuration in Studio**
- **Project Development in VS Code**
- **Analysis Tools Overview**

Simplicity Tools – The v6 Ecosystem



Simplicity Studio



Simplicity Installer



Simplicity Device Manager

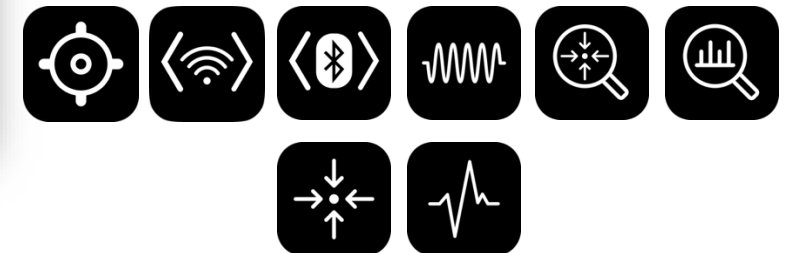


Simplicity Commander



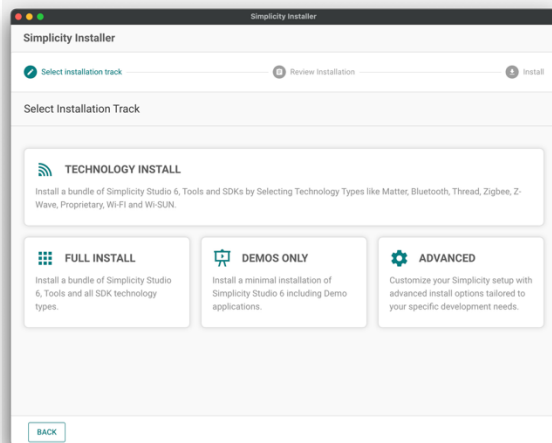
Simplicity Connect

Analysis Tools



Simplicity Tools – Improving the Developer Experience

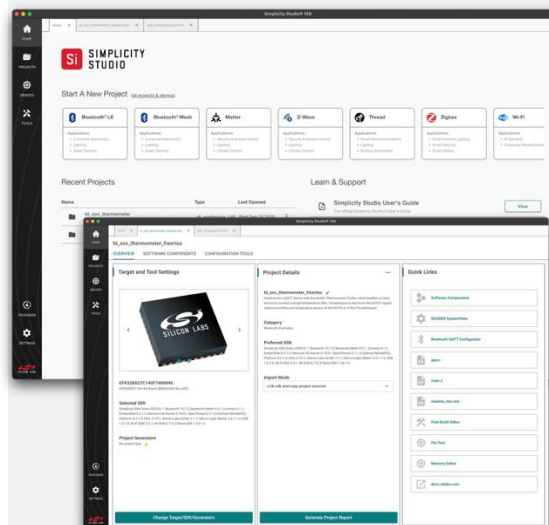
INSTALL



Installer

- Installs and manages all tools and SDKs on local system

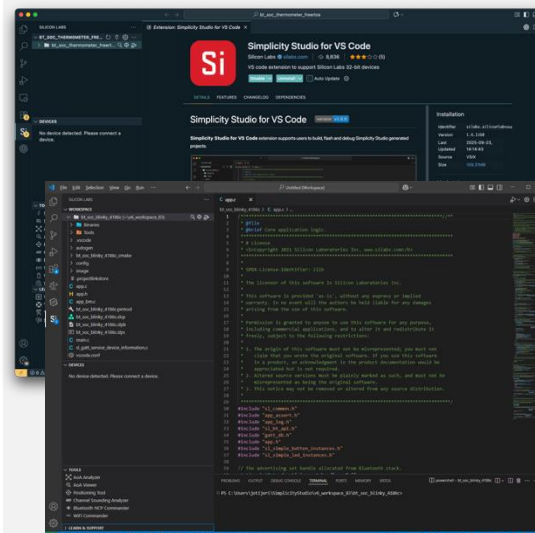
CONFIGURE



Studio

- Device Discovery/Exploration
- SDK Exploration
- Project Generation
- Project Configuration
- Configuration Tools
- Device Provisioning
- Launch Analysis Tools

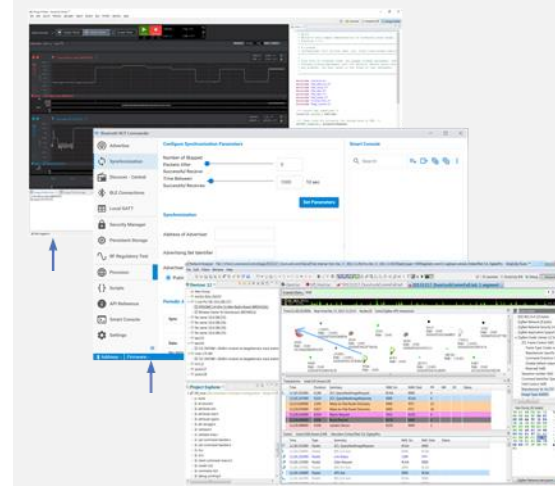
EDIT, COMPILE, DEBUG



VS Code (primary IDE)

- IAR and other toolchains also supported
- Build, Flash, Debug
- Launch Configuration Tools
- Launch Analysis Tools

ANALYZE, OPTIMIZE



Stand-alone Tools

- Network Analyzer
- Energy Profiler
- Bluetooth Direction Finding
- Bluetooth NCP Commander
- and more

Simplicity Tools – Improving the Developer Experience



- **Flexible Development Tools**

- Free Simplicity Tools supporting Series 2 & 3 32-bit MCUs and wireless products
- Available for Windows, macOS and Linux

- **Installer and Package Manager**

- Tools and SDK Downloads and Updates
- Manage software in CI/CD pipelines

- **Simplicity Studio 6**

- Pre-built Demos and Software Examples
- Project and software component configuration
- Protocol-specific configurator tools
- Cmake+Ninja build system enables VS Code IDE and CLI automation on a range of toolchains

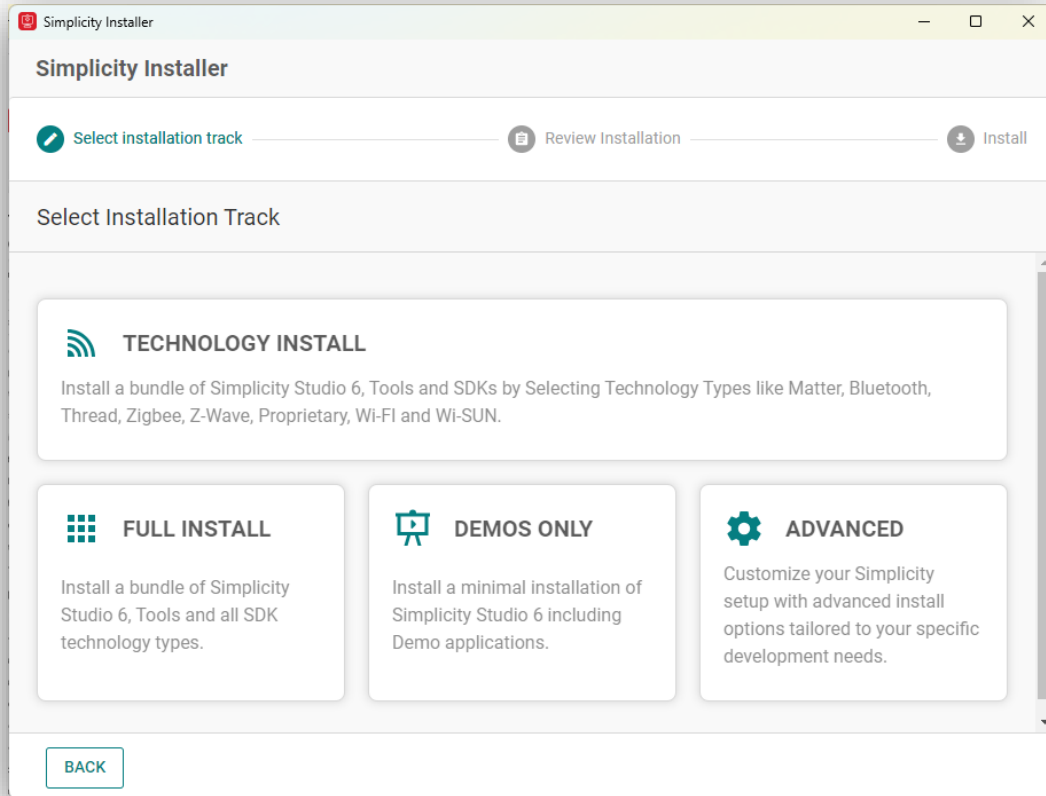
- **Simplicity Studio Extension for VS Code (IDE)**

- Manage projects, edit code, build and debug with VS Code
- Extendable with VS Code Marketplace integrations

- **Standalone Tools**

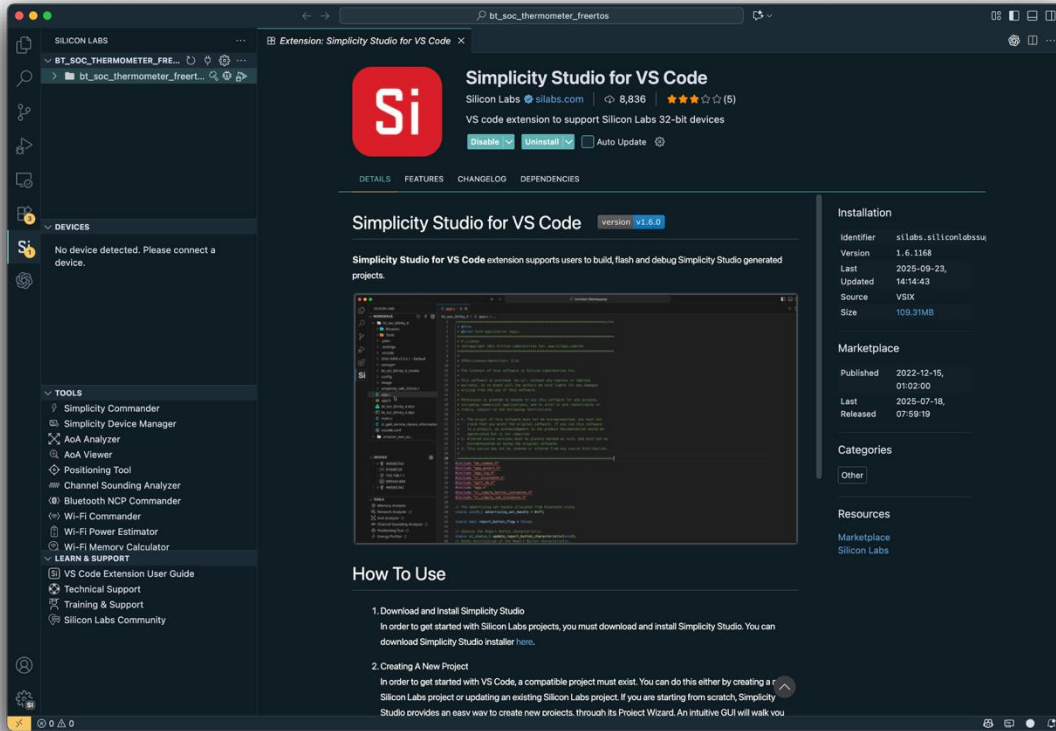
- Energy Profiler, Network Analyzer, Commander, Device Manager, and other wireless analysis tools

Simplicity Studio 6 – Improved Installation Flows



- **Central hub for SDK and tool installation**
 - **Software Management:** Installation and upgrade manager
- **Guided install of SDKs and tools with Simplicity Installer**
 - **Full Install:** One-click set up for complete Simplicity SDK and tools
 - **Technology:** Install only the stacks and tools for your chosen protocol(s)
 - **Demos Only:** Install only Studio and SDK Demos for quick exploration
 - **Advanced:** Pick exactly what you need with à la carte options
- **Includes CLI option for headless installations and CI/CD integration**

Simplicity Studio VS Code Extension IDE



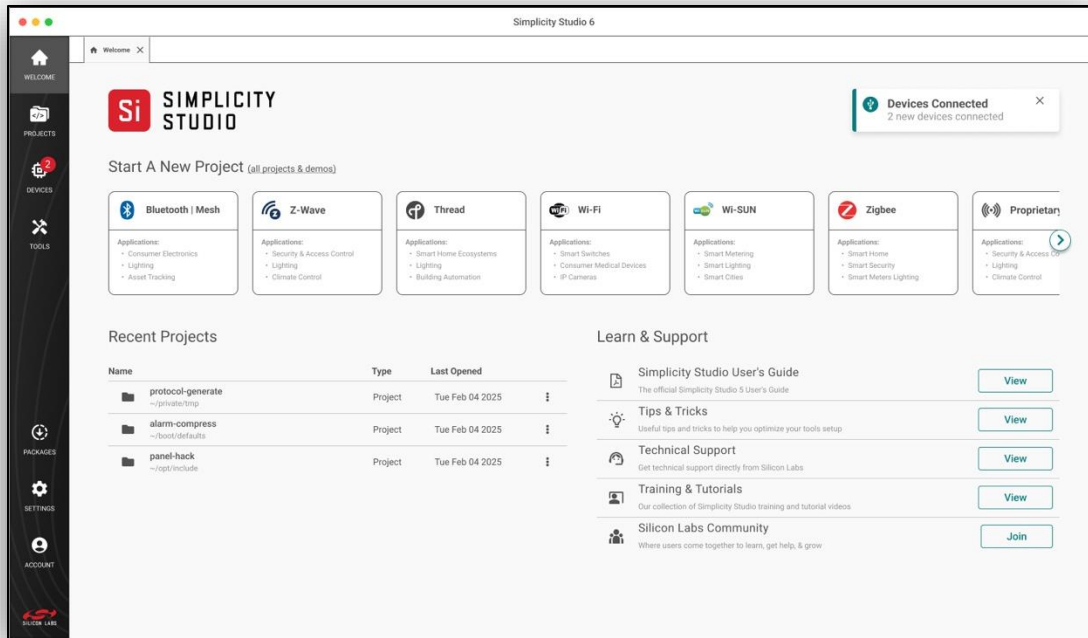
■ VS Code as primary IDE

- Stay integrated with Simplicity Studio's configurator tools while using VS Code IDE for code editing, build, flash, and debug.
- Create projects in Studio, then edit, build, flash, and debug in VS Code
- Supports CMake and Ninja for fast, efficient builds
- Quickly connect to local or remote Silicon Labs kits
- Install from the VS Code Marketplace for seamless integration

Demo

Studio, SDK, and VS Code Installation

Simplicity Studio Home Page



■ HOME

- Start project from “Technology”
- SDK Explorer for example discovery and creation

■ PROJECTS

- Project explorer created for projects and solutions
- Core config tools (SLCP editor, component explorer)
- Advanced Configurators (GATT, ZAP, Sidewalk, etc.)

■ DEVICES

- “Devices First” approach
- Connected and Virtual devices
- Device documentation, prefiltered demos/example

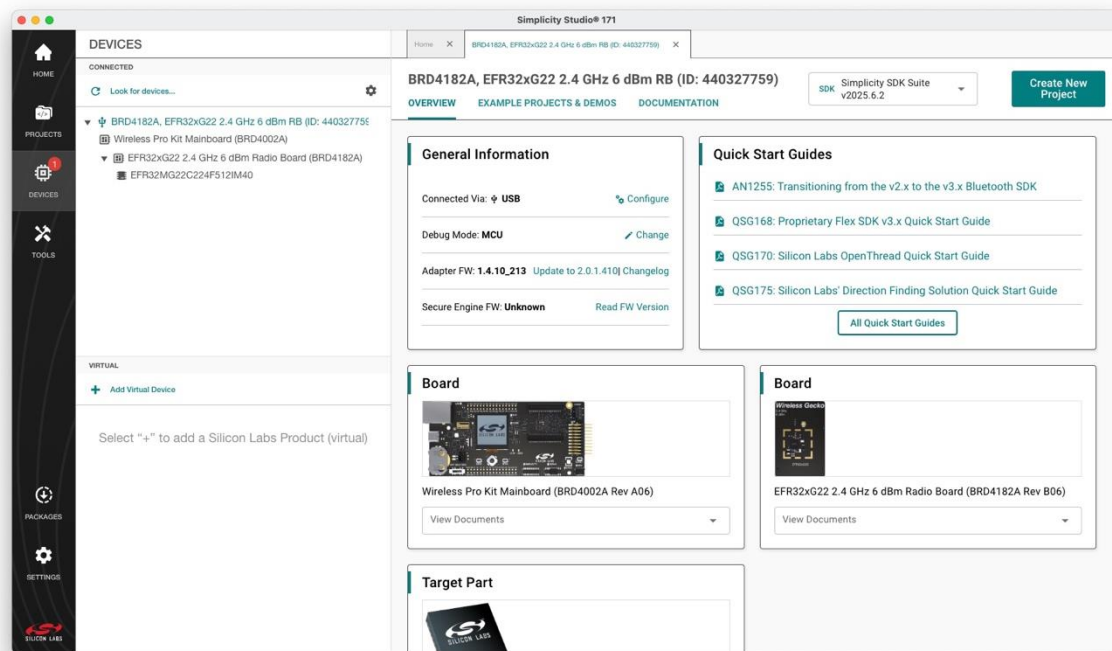
■ TOOLS

- Centralized application launcher and documentation source for tools.

■ PACKAGES

- Simplicity Installer

Working with Devices

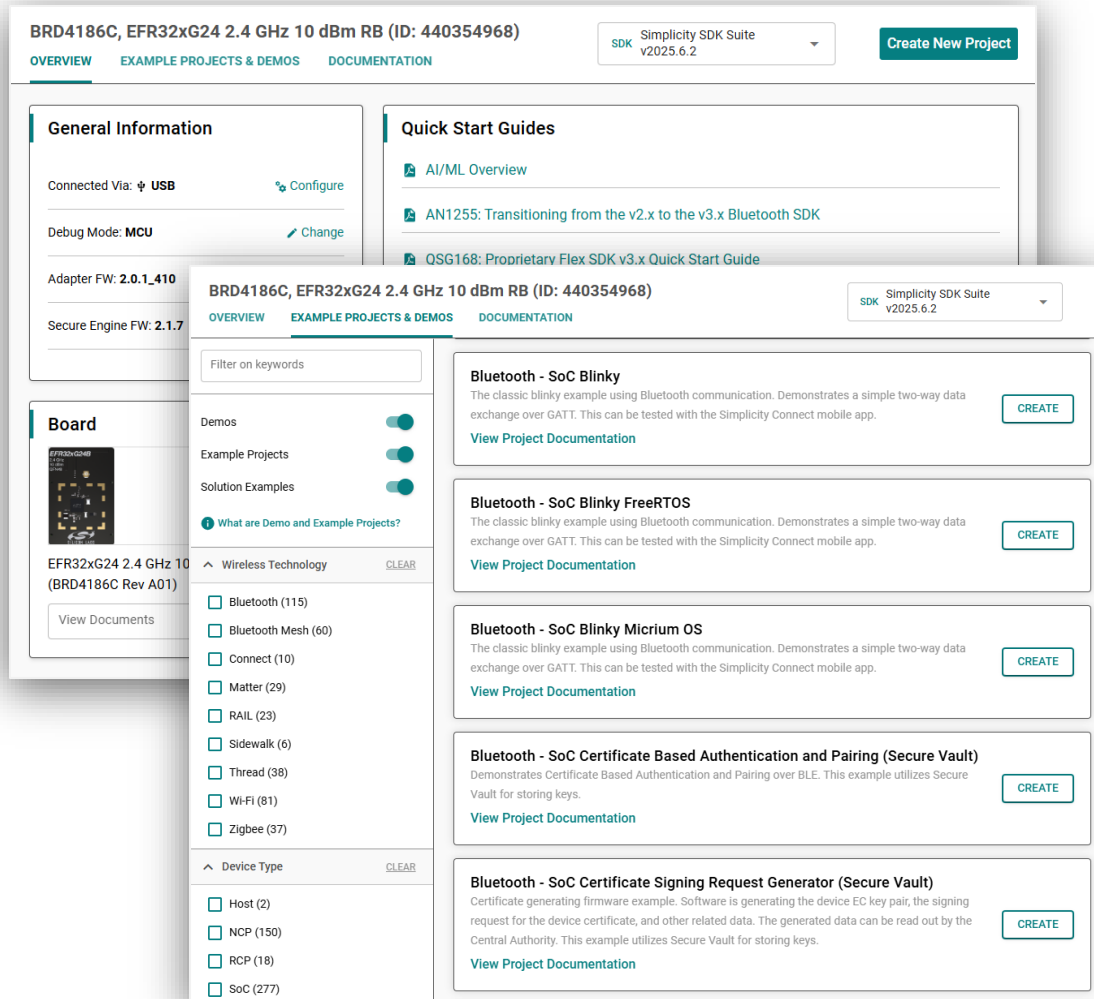


- **General Information**
 - Connection type
 - Debug mode
 - Adapter FW
 - Secure Engine FW
- **Board Information**
- **Target Part**
- **Quick Start Guides**
- **Example Projects & Demos**
- **Documentation**
- **Add a Virtual Device**

Demo

Working with Devices

Simplicity Studio 6 – Optimized Getting-Started

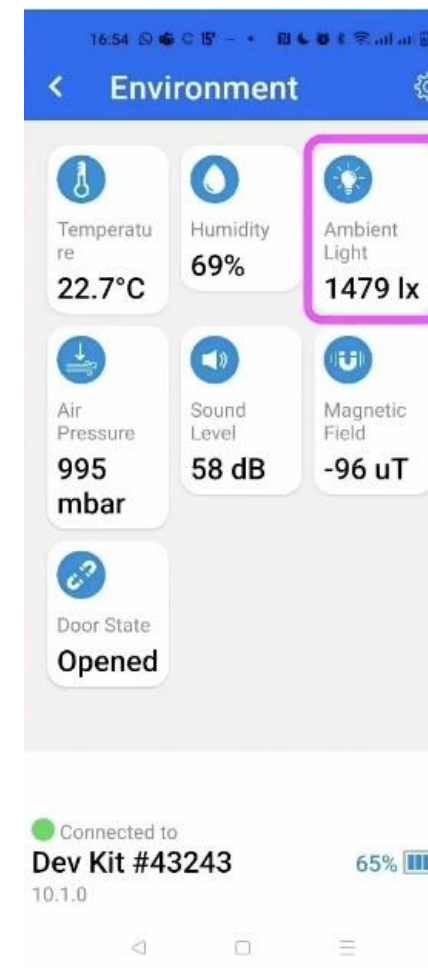
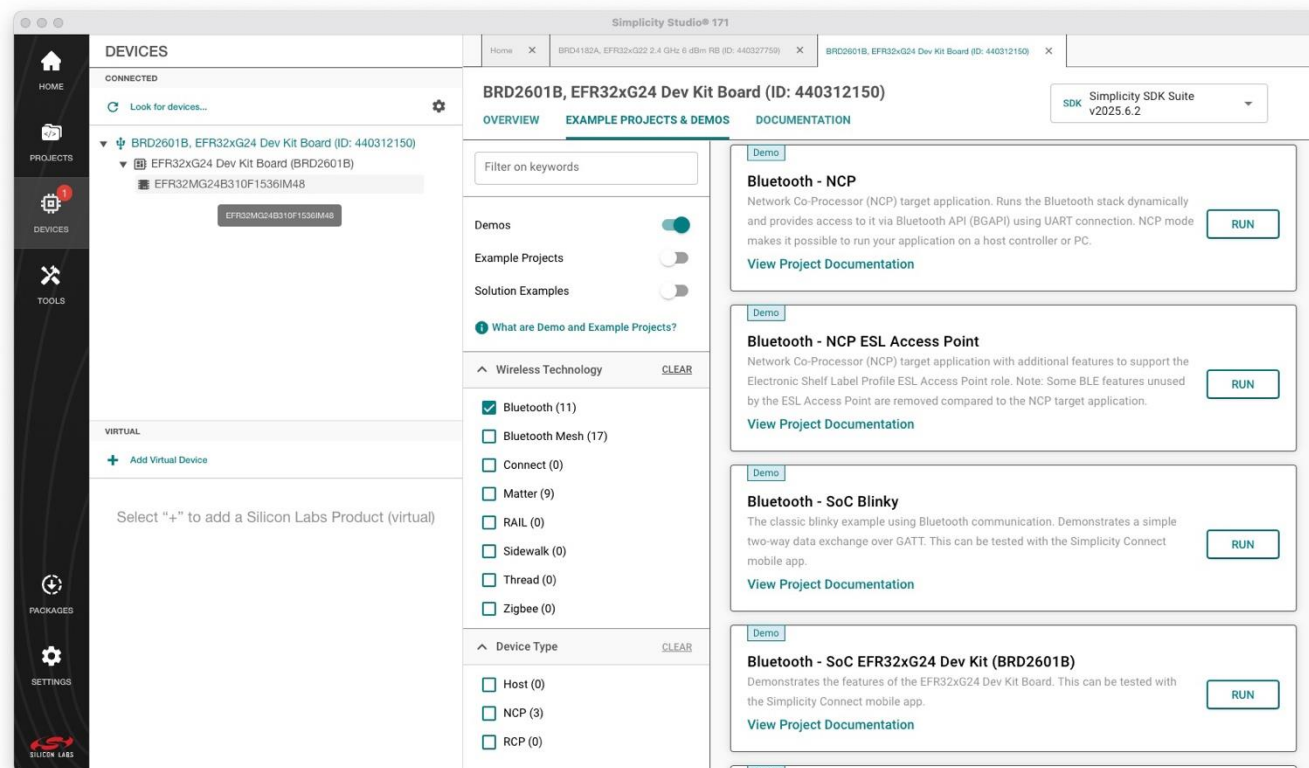


■ Central hub for device evaluation

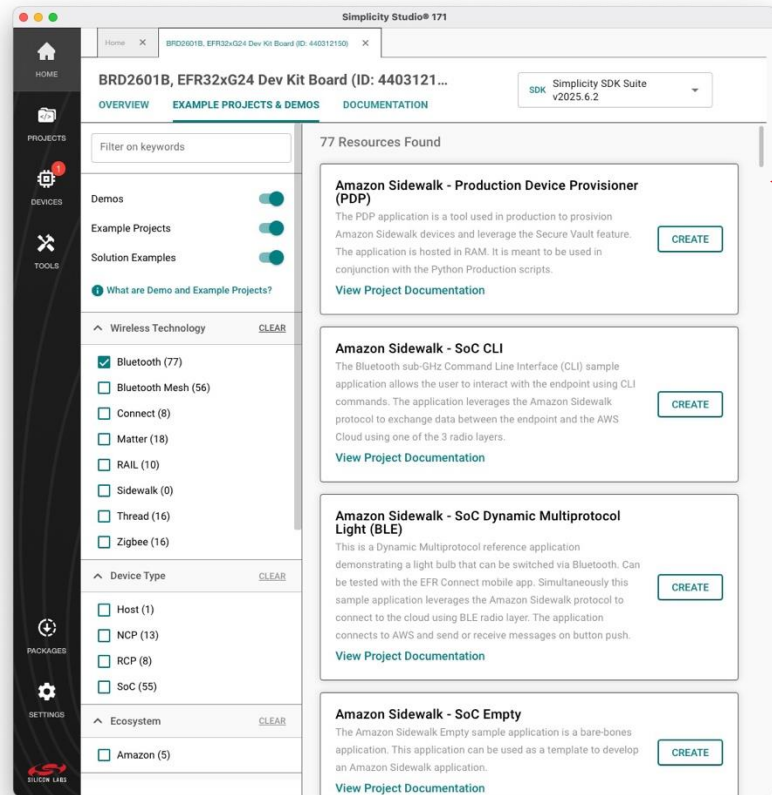
- **Product Selector:** Complete part catalog for target device selection and auto eval kit detect
- **HW Setup:** Prepares the developer's eval kit and device for development
- **Tools:** Access to configuration and analysis tools
- **Examples:** Simplifies exploration with filtering options for technology example apps (Bluetooth, Zigbee, etc)
- **Documents:** Reduces time spent searching for device-specific information

Working with Demos

- Demos work out-of-the-box
- Quick way to explore technologies/Devices



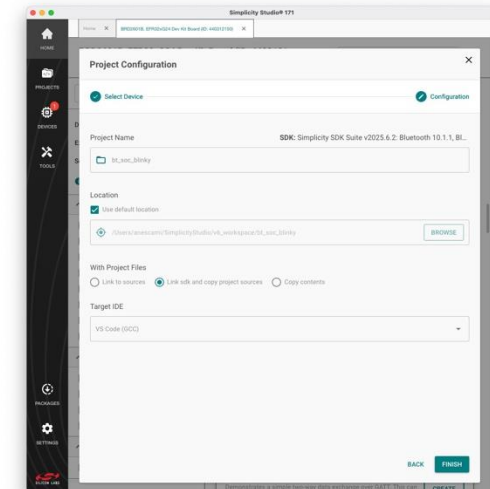
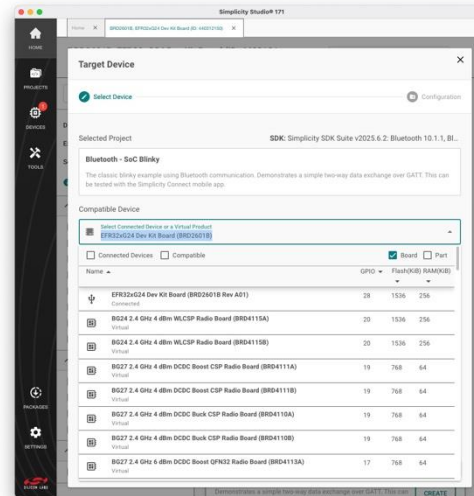
Project Generation and Configuration – SDK Explorer



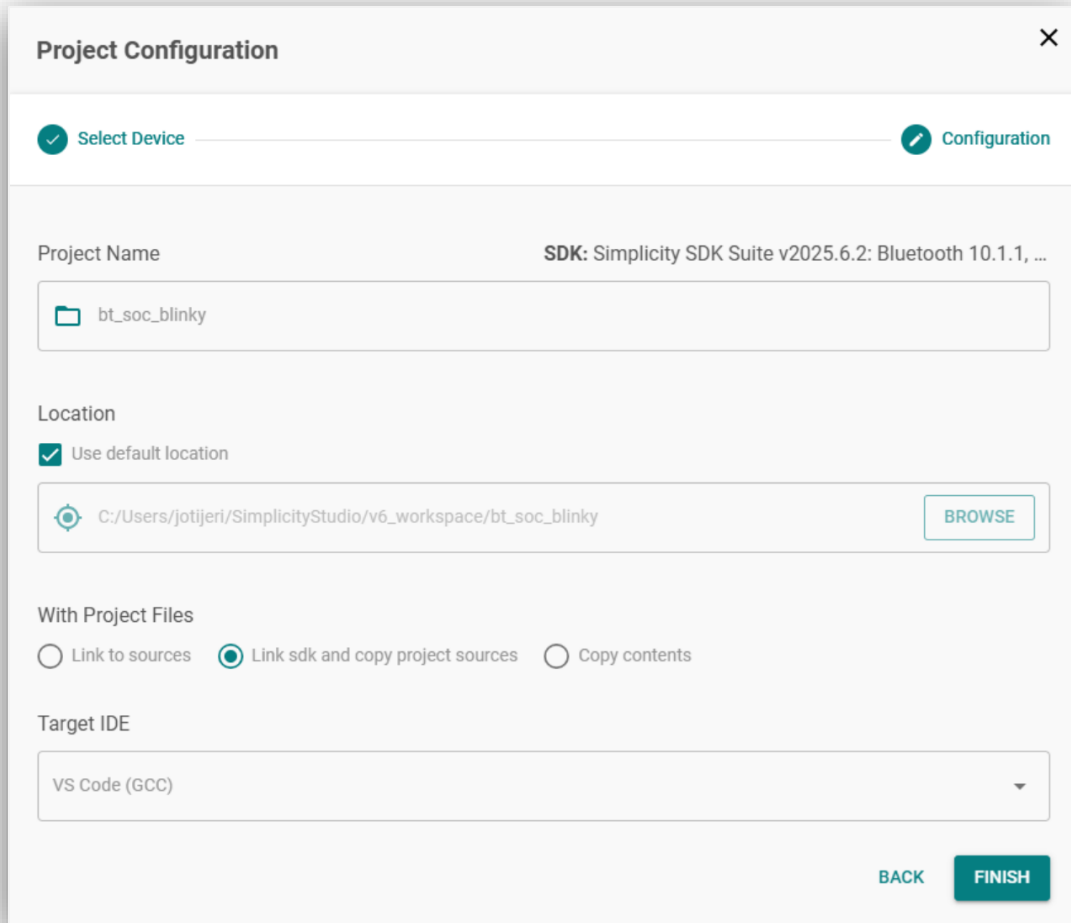
1) SDK Explorer shows all examples for *all devices*, **“Technology First”**

2) New Project Wizard shows *only the devices that work with the selected example*

3) Pick your target IDE, or CLI, and “Finish” for project creation



Simplicity Studio 6 – Project Management



The screenshot shows the 'Project Configuration' dialog box in Simplicity Studio 6. The dialog has a title bar with a close button (X). Below the title bar, there are two tabs: 'Select Device' (active) and 'Configuration'. The 'Select Device' tab contains the following fields and options:

- Project Name:** A text field containing 'bt_soc_blinky'. To the right of the field, it says 'SDK: Simplicity SDK Suite v2025.6.2: Bluetooth 10.1.1, ...'.
- Location:** A section with a checked checkbox 'Use default location'. Below it is a text field showing the path 'C:/Users/jotijeri/SimplicityStudio/v6_workspace/bt_soc_blinky' and a 'BROWSE' button.
- With Project Files:** Three radio buttons: 'Link to sources' (unselected), 'Link sdk and copy project sources' (selected), and 'Copy contents' (unselected).
- Target IDE:** A dropdown menu showing 'VS Code (GCC)'.

At the bottom right of the dialog, there are two buttons: 'BACK' and 'FINISH'.

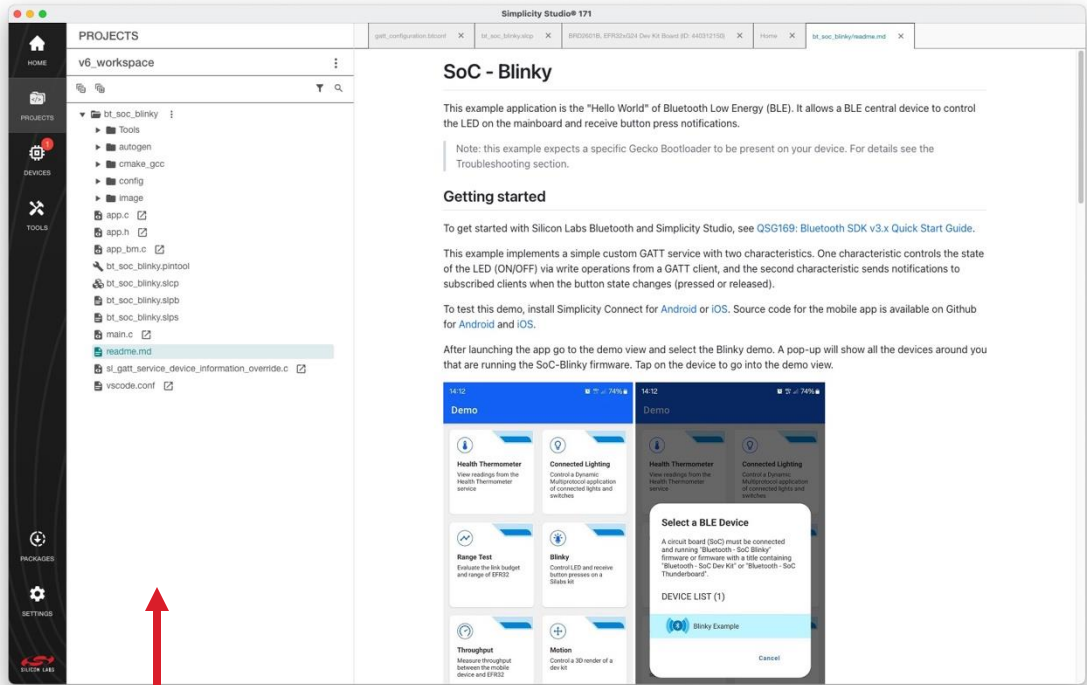
- **Flexible source management**

- Link to SDK or copy all contents to local project folder

- **Broad toolchain support**

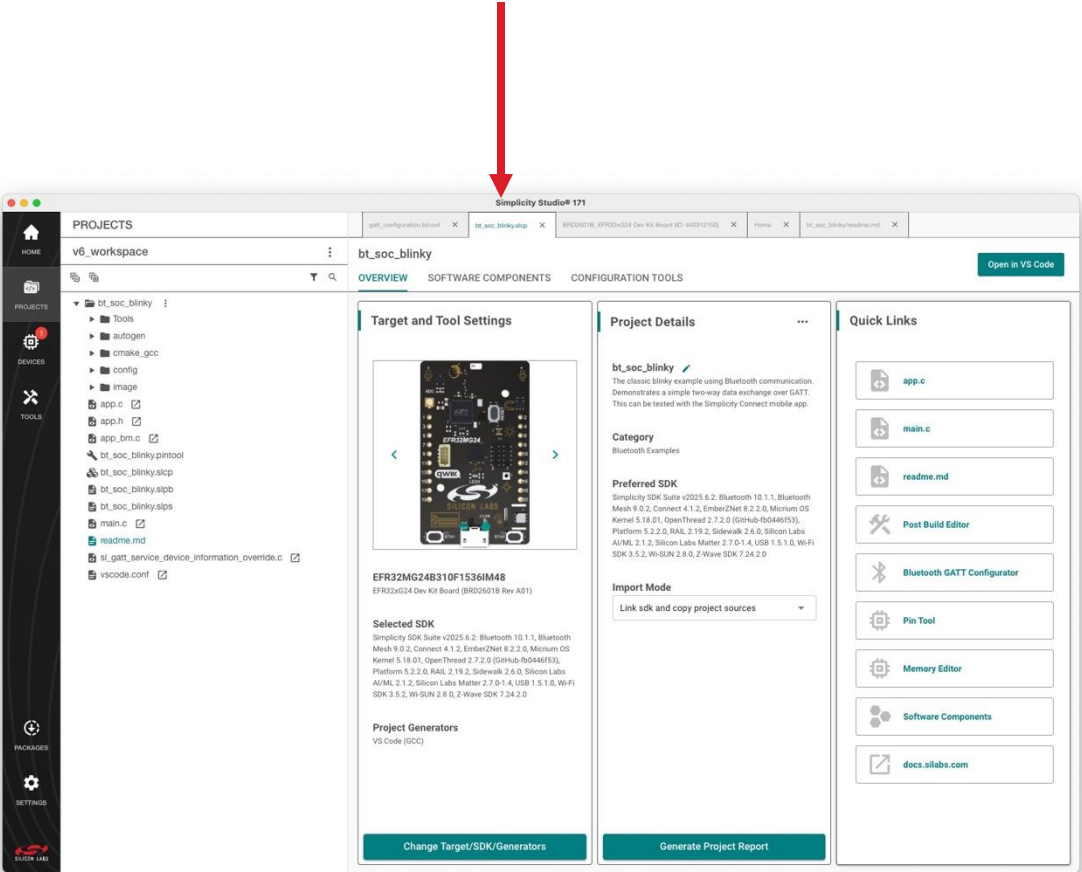
- VSCode / GCC
- IAR / IAR
- Cmake / GCC
- Makefile / GCC

Project Generation and Configuration – Project Explorer

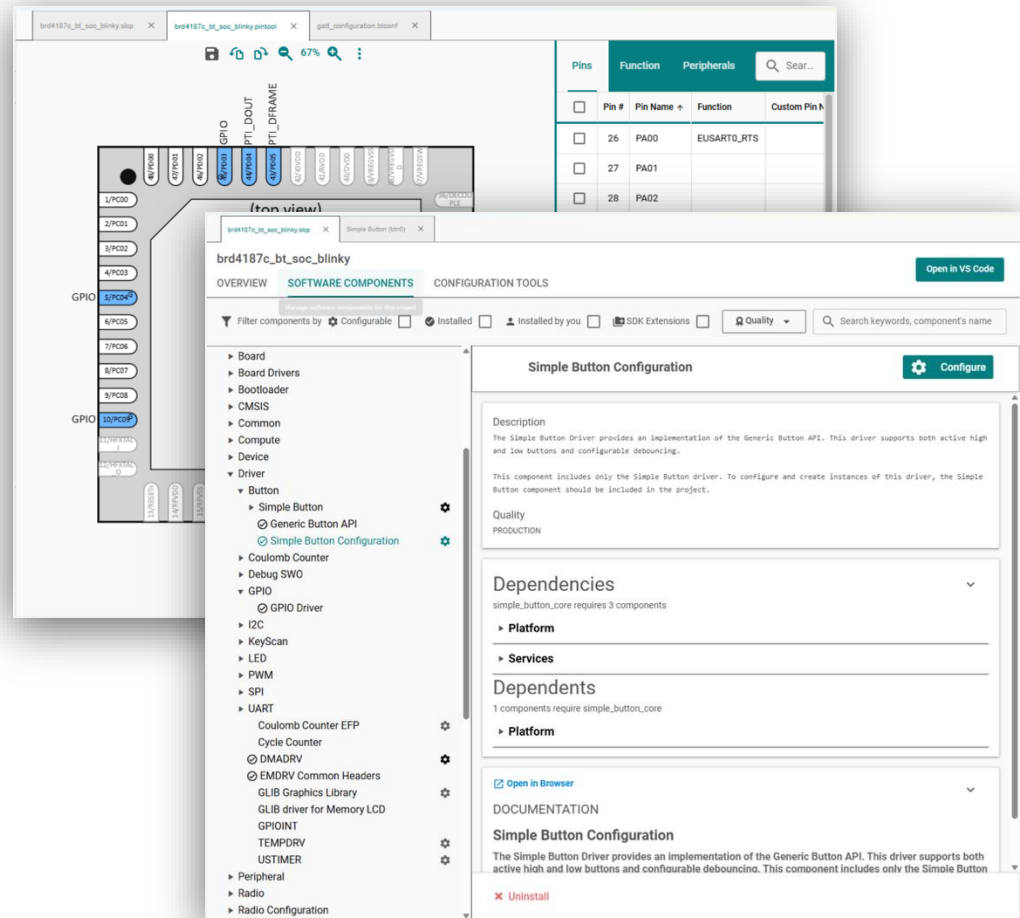


Project Explorer

Project Configuration tools



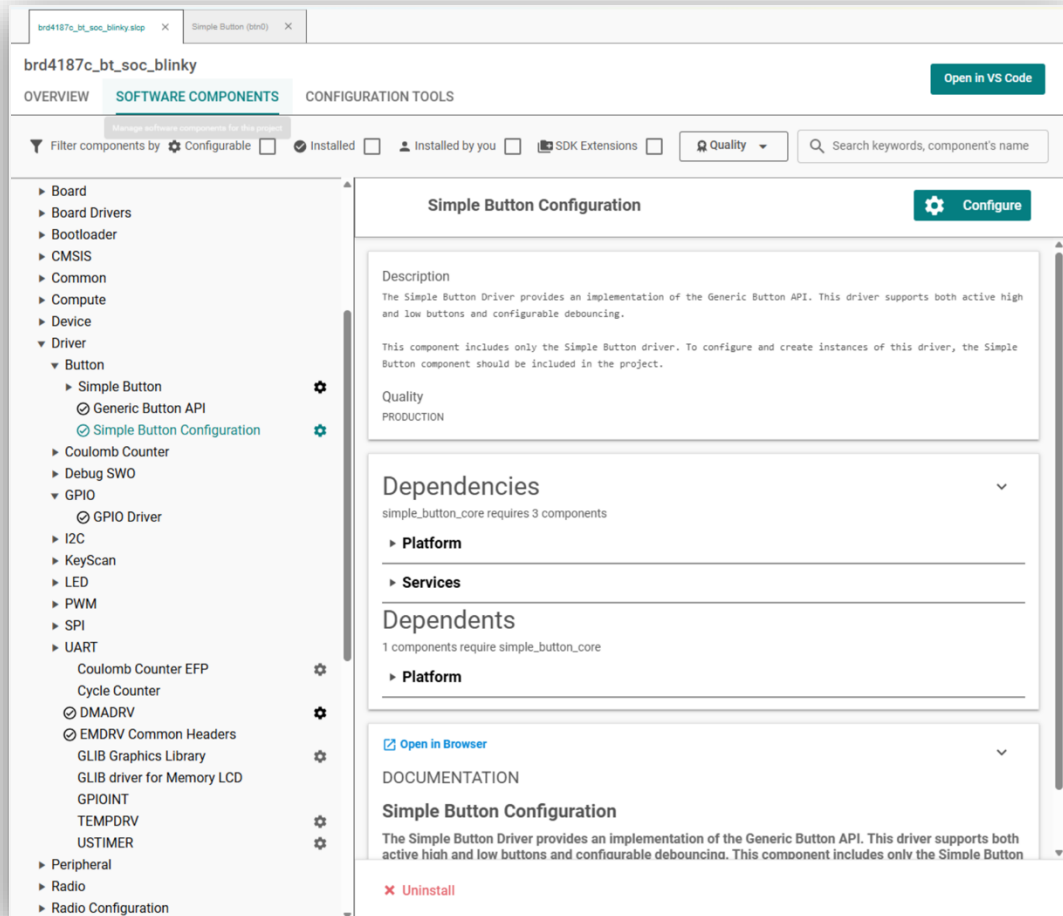
Simplicity Studio 6 – Project Configuration Tools



- **Quickly set up and customize your application:**

- **Pin Configurator** – Assign and manage I/O pins with visual ease
- **Software Component Configurator** – Select and integrate drivers, middleware, and stacks
- **Memory Editor** – Visualize and adjust memory usage and placement

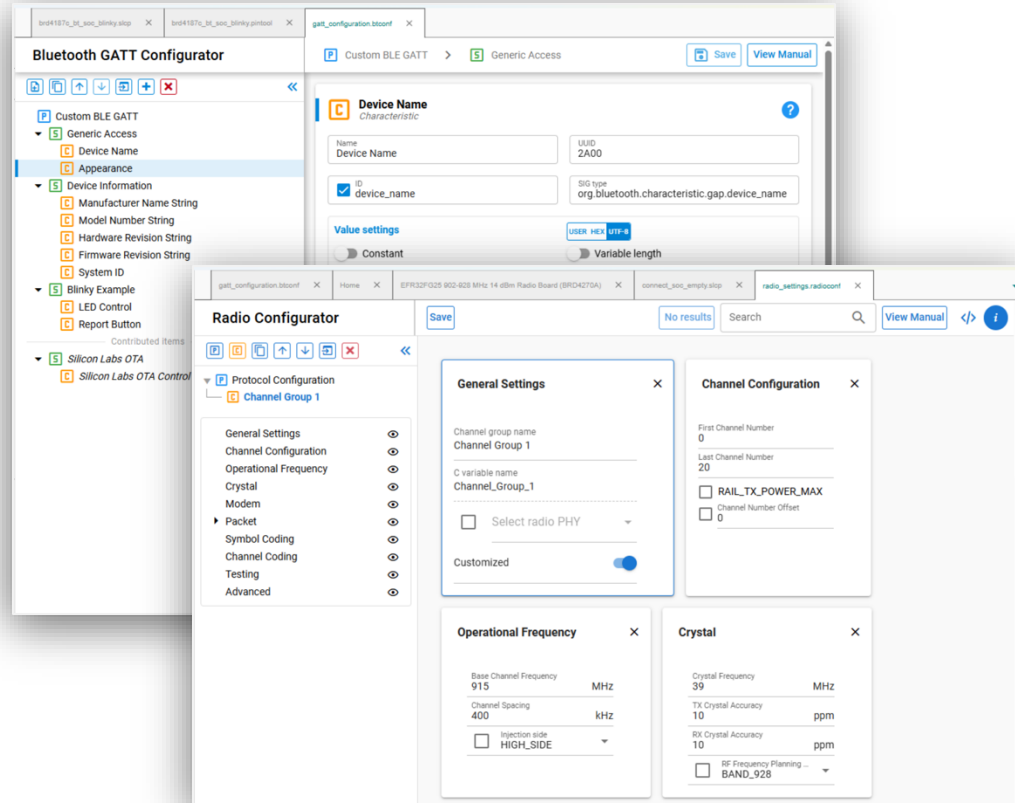
Simplicity Studio 6 – Software Components Configurator



- **Software component model helps developers build, manage, and scale projects**

- Search and filter to discover and find software components
- Automatically pull in dependencies and initialization code
- All settings saved in source code (C header files)
- Error checking and alerts
- Easily manage all project source via git or other SCM tools
- Managed migrations to future component and SDK versions
- Simplified transition from Silicon Labs dev kits to custom HW

Simplicity Studio 6 – Protocol-Specific Wireless Configuration Tools



- **Build, optimize, and fine-tune your wireless application with dedicated configurators**
 - **Bluetooth GATT Configurator:** Define services and characteristics with a graphical editor
 - **Bluetooth Mesh Configurator:** Set up mesh nodes and models visually
 - **Proprietary Radio Configurator:** Customize PHY and radio settings for proprietary protocols
 - **Radio Priority Configurator:** Manage multi-protocol coexistence effectively
 - **Wi-SUN Configurator:** Configure network profiles for field area networks
 - **Amazon Sidewalk Assistant:** Simplify onboarding to Sidewalk networks
 - **Zigbee Cluster Configurator (ZAP):** Design Zigbee clusters and attributes efficiently

Demo

Working with Projects

Simplicity Studio VS Code Extension IDE

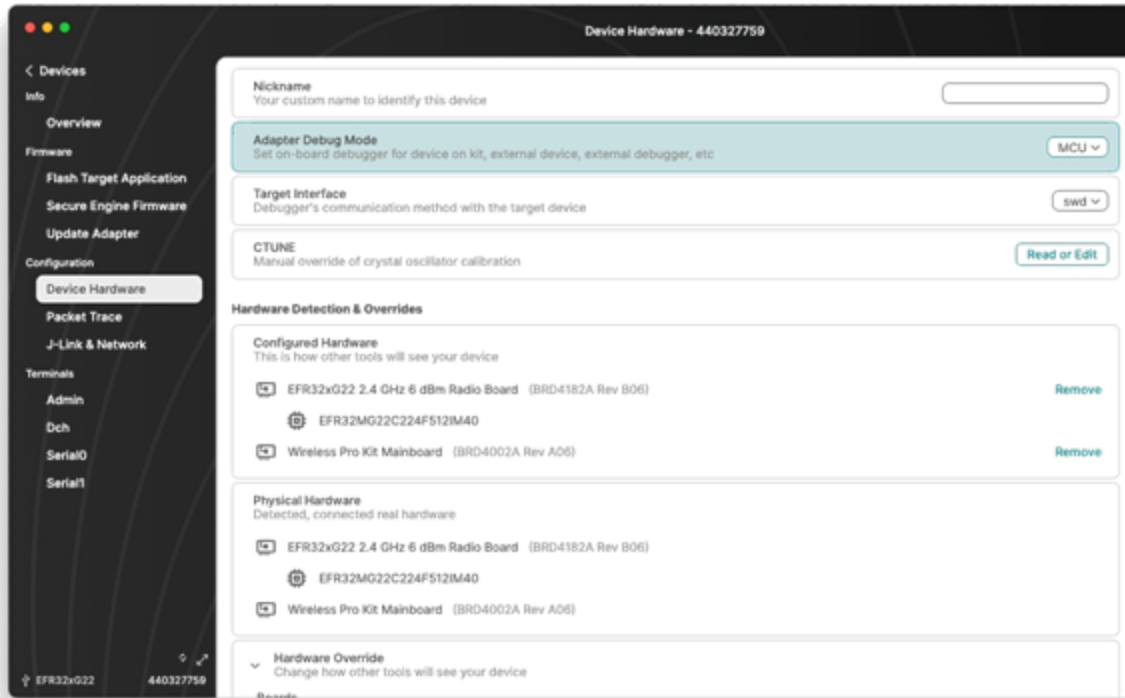
The image shows the Simplicity Studio VS Code Extension IDE interface. The interface is divided into several sections:

- Workspace:** The top bar shows the workspace name "v6_workspace (Workspace)".
- Project Tree:** The left sidebar shows the project structure, including "v6_workspace (WORKSPACE)", "brd4187c_bt_soc_blinky (~v6_workspace)", "Binaries", "Configuration Tools", ".uceditor", ".vscode", "autogen", "cmake_gcc", "config", "image", "simplicity_sdk_2025.6.2", "projectlinkstore", "C app.c", "H app.h", "C app_bm.c", "brd4187c_bt_soc_blinky.pintool", "brd4187c_bt_soc_blinky.scp", "brd4187c_bt_soc_blinky.slpb", "brd4187c_bt_soc_blinky.spls", "C main.c", "readme.md", "sl_gatt_service_device_information_override.c", "vscode.conf", "qt-ble-dmp-tz-workspace (~v6_workspace)", "brd4187c_bt_soc_empty (~v6_workspace)", and "connect_soc_empty (~v6_workspace)".
- Launch Configuration Tools:** The "Launch" icon in the left sidebar.
- Simplicity Studio Extension:** The "Si" icon in the left sidebar.
- Manage Connected Devices:** The "DEVICES" section in the left sidebar, showing "JLINK: 440335707", "BRD4187C Rev A01", and "JLINK: 440260384".
- Launch Analysis Tools:** The "TOOLS" section in the left sidebar, showing "Simplicity Commander", "Simplicity Device Manager", "AoA Analyzer", "AoA Viewer", "Positioning Tool", "Channel Sounding Analyzer", "Bluetooth NCP Commander", "Wi-Fi Commander", "Wi-Fi Power Estimator", "Wi-Fi Memory Calculator", "Silicon Labs Energy Profiler", "Network Analyzer", "Z-Wave PC Controller", and "Z-Wave Ziffer".
- Resource Links:** The "LEARN & SUPPORT" section in the left sidebar, showing "VS Code Extension User Guide", "Technical Support", "Training & Support", and "Silicon Labs Community".
- Build, Flash, Debug Toolbar:** The top right toolbar with icons for Build, Flash, and Debug.
- CMake Build Output:** The "OUTPUT" tab in the bottom right, showing the CMake build output.
- Debug Console:** The "DEBUG CONSOLE" tab in the bottom right, showing the debug console output.
- Command Line Shell (VCOM, RTT, SWO):** The "TERMINAL" tab in the bottom right, showing the command line shell.
- Studio Connection Indicators:** The bottom status bar, showing the connection status of the selected device.

Demo

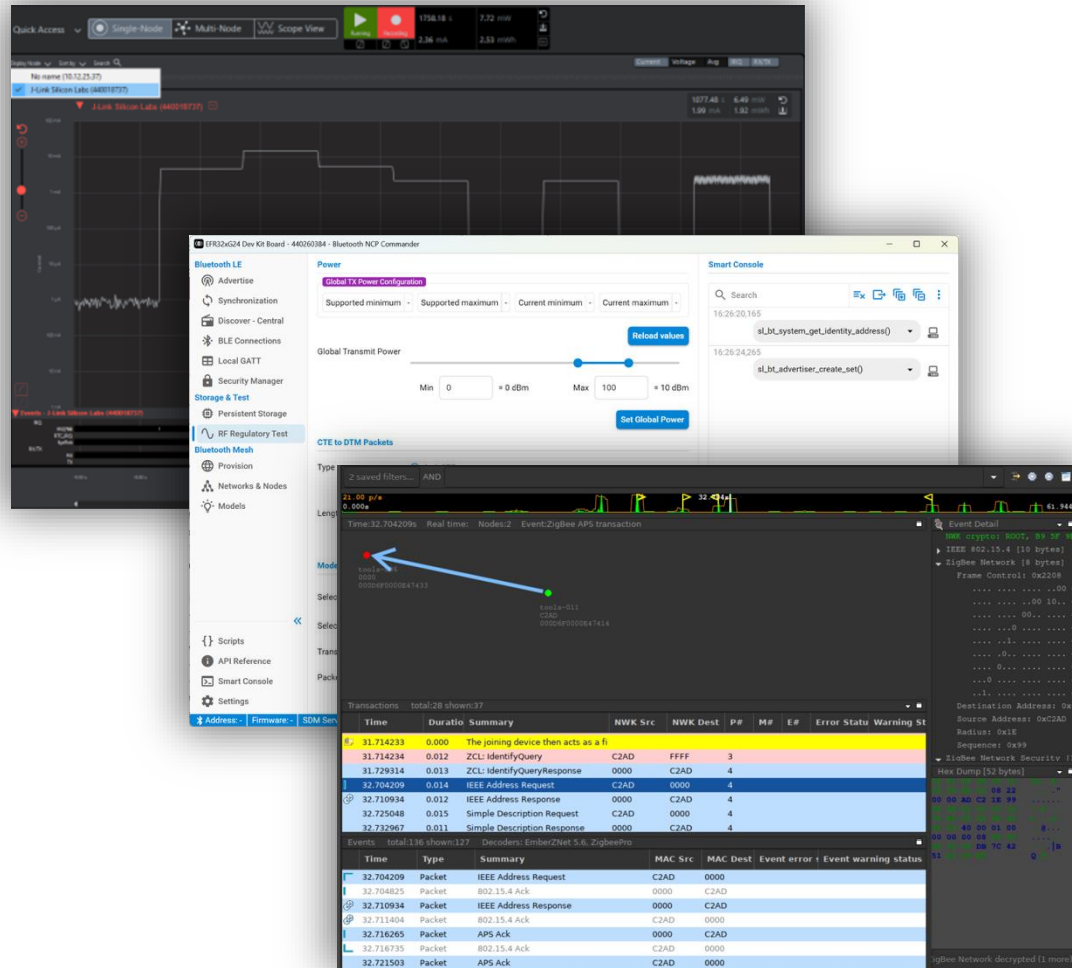
Working with VS Code

Simplicity Device Manager



- **Centralized device handling for Simplicity Tools**
 - Enables device detection and management
 - Supports administrative actions and flashing
 - Provides device console access
 - Streams PTI data for Wireshark

Simplicity Analysis Tools



■ Fine-Tune Wireless Performance with Analysis Tools

- **Energy Profiler:** Visualize and optimize device power consumption in real time
- **Network Analyzer:** Capture and debug wireless protocol traffic with detailed trace views
- **AoA Analyzer / Viewer:** Analyze Angle of Arrival data for accurate direction finding
- **Positioning Tool:** Visualize device location using Bluetooth AoA positioning
- **Channel Sounding Analyzer:** Analyze Bluetooth Channel Sounding performance
- **Bluetooth NCP Commander:** Send HCI commands and debug Bluetooth NCP applications
- **Wi-Fi Commander:** Configure and monitor Wi-Fi stack behavior and performance
- **Wi-Fi Power Estimator:** Model and estimate Wi-Fi power consumption
- **Wi-Fi Memory Calculator:** Predict memory usage and plan resources based on Wi-Fi stack configuration

Appendix

- Simplicity Analysis Tools
- Wireless Protocol Configurators