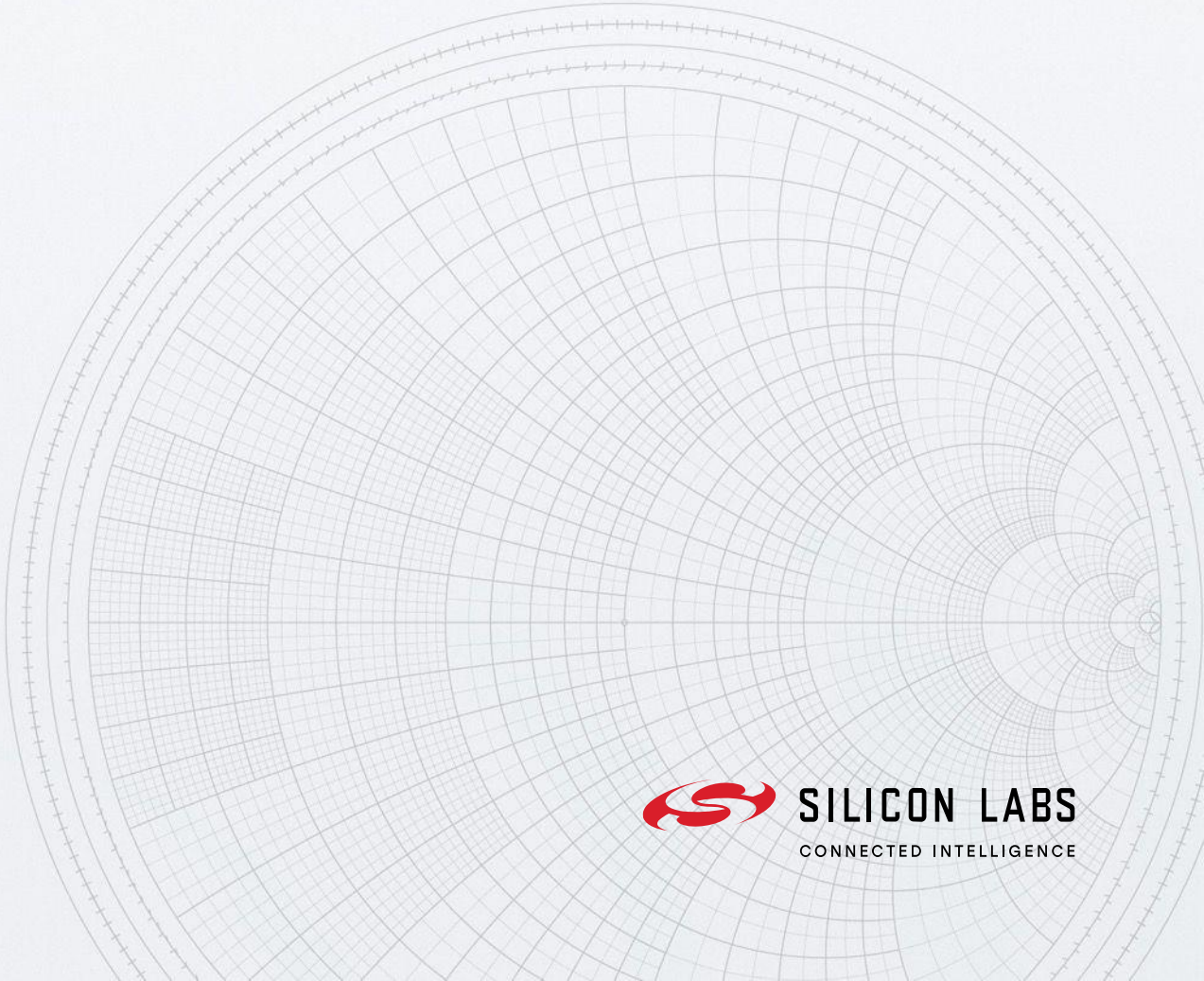
Simpler, Faster, Smarter IoT Design with Simplicity Tools



SIMPLICITY STUDIO

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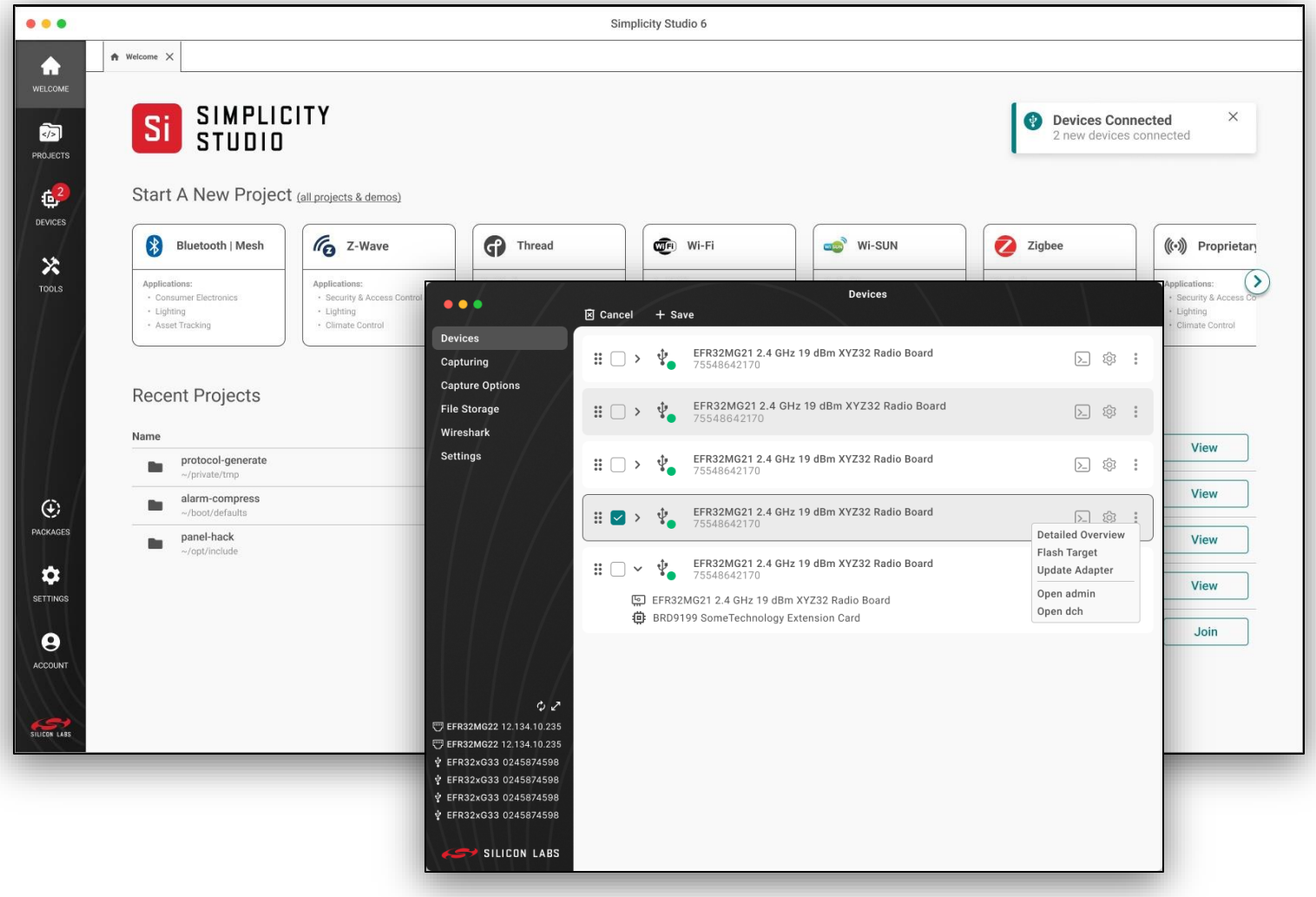
Agenda

- 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

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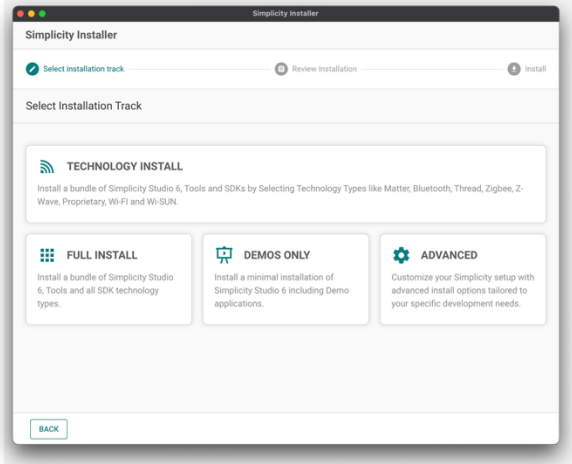
Simplicity Tools – Improving the Developer Experience

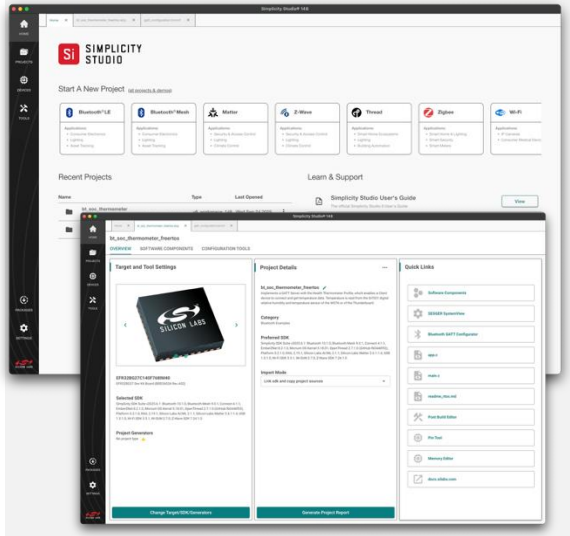
INSTALL



Installer

- Installs and manages all tools and SDKs on local system

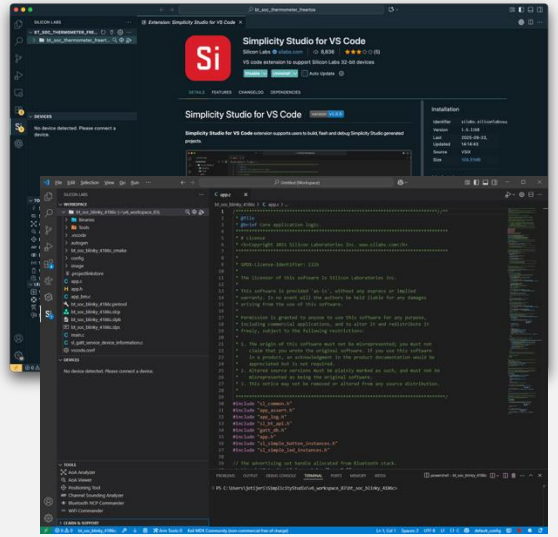
CONFIGURE



Studio

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

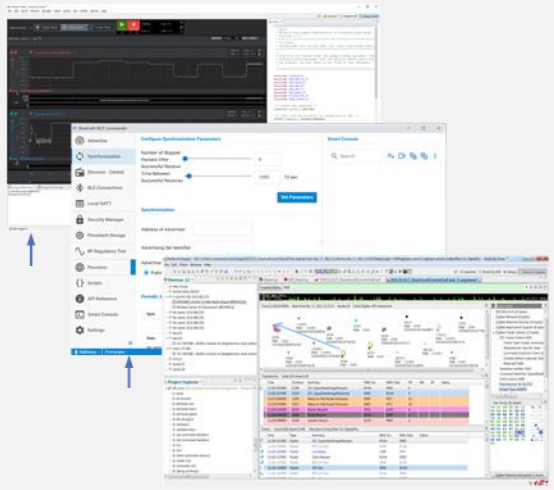
EDIT, COMPILE, DEBUG



VS Code (primary IDE)

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

ANALYZE, OPTIMIZE



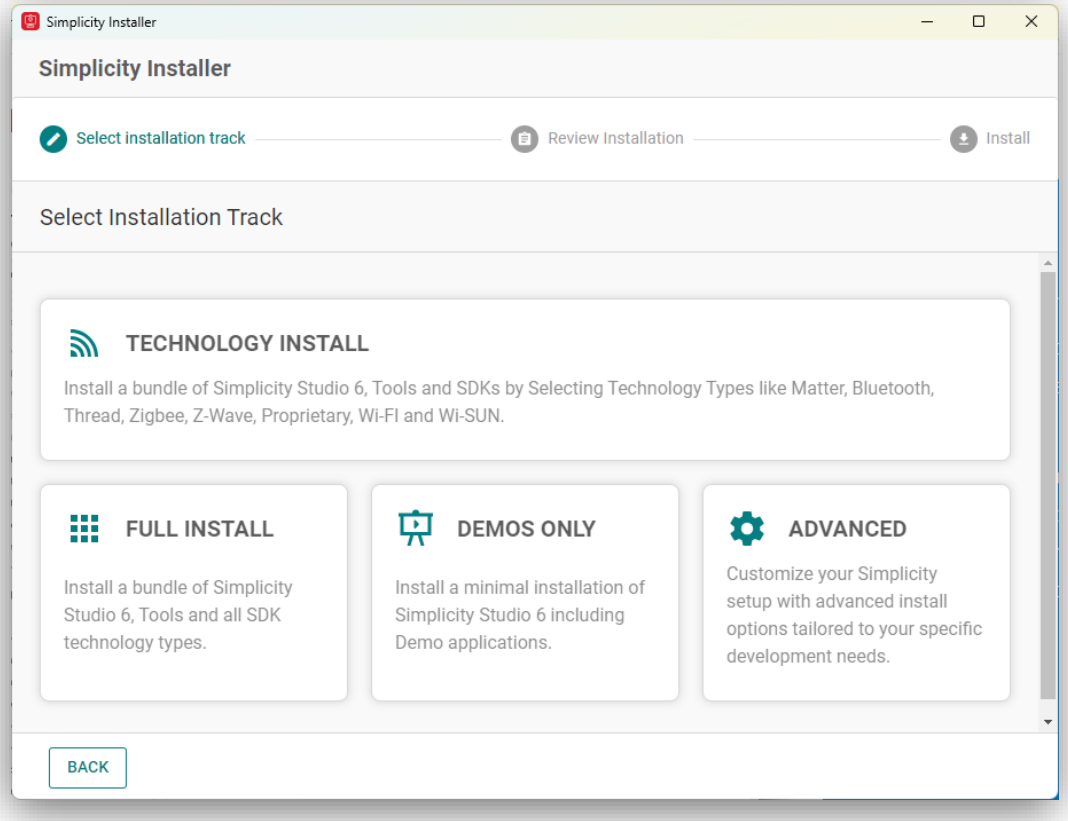
Stand-alone Tools

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

Simplicity Tools – Improving the Developer Experience

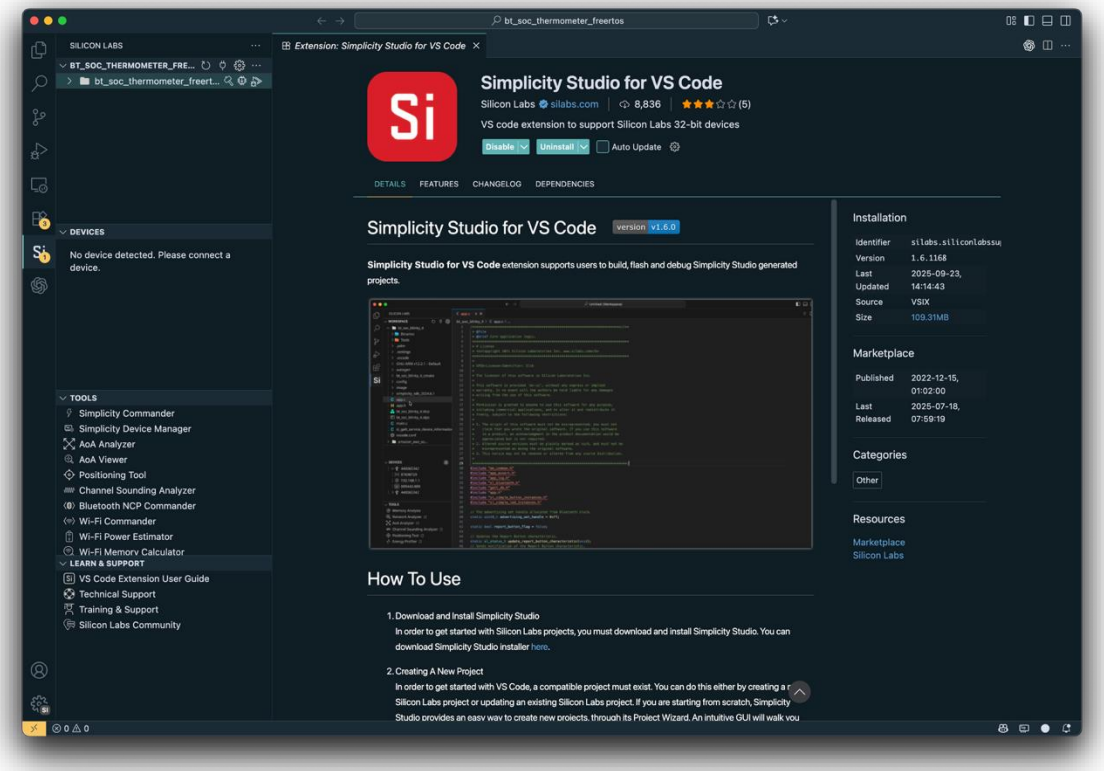
- **Flexible Development Tools**
  - Free Simplicity Tools supporting Series 2 & 3 32-bit MCUs and wireless products
  - Available for Windows, macOS and Linux
- **Installer and Package Manager**
  - Tools and SDK Downloads and Updates
  - Manage software in CI/CD pipelines
- **Simplicity Studio 6**
  - 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**

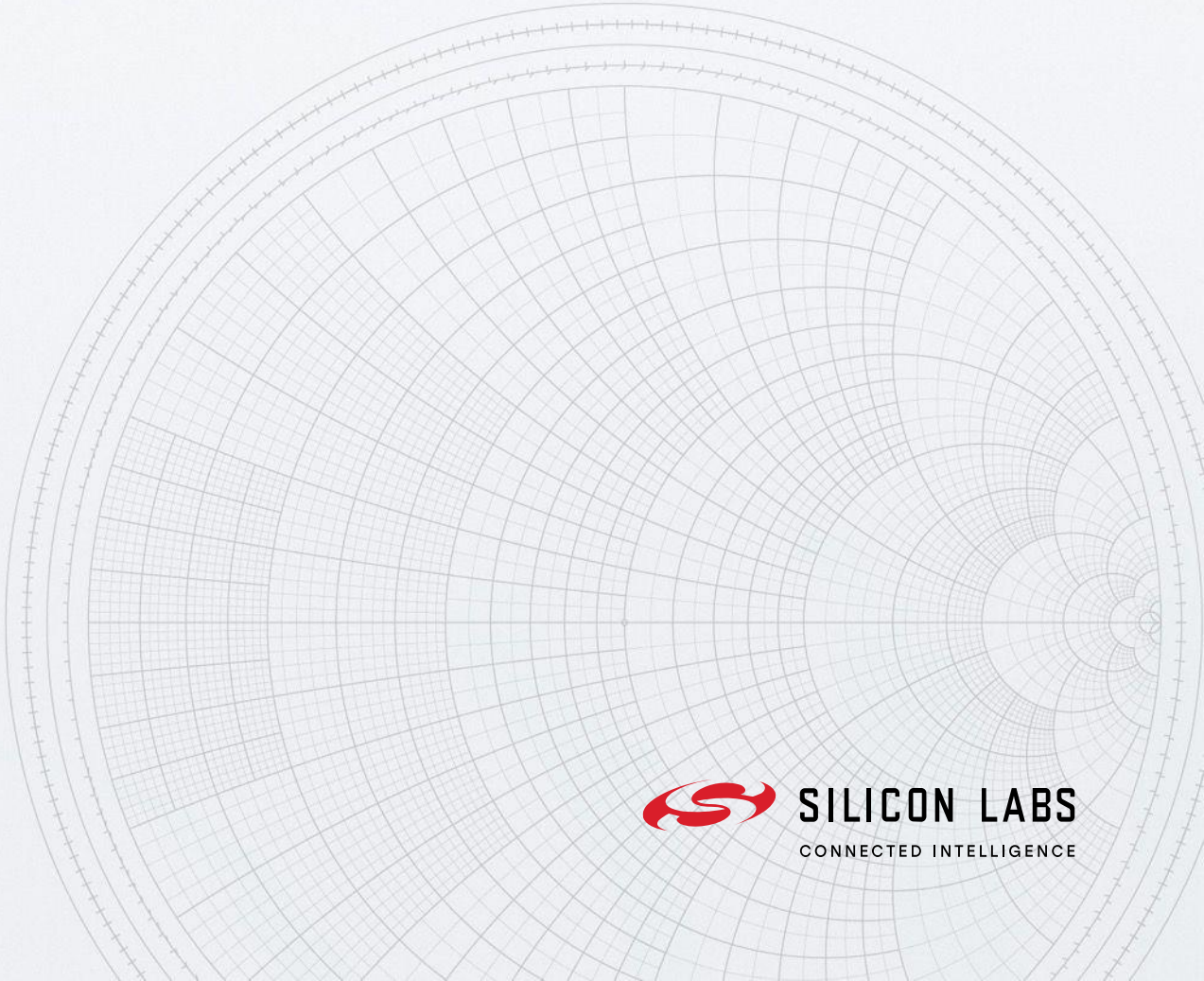
Simplicity Studio VS Code Extension IDE



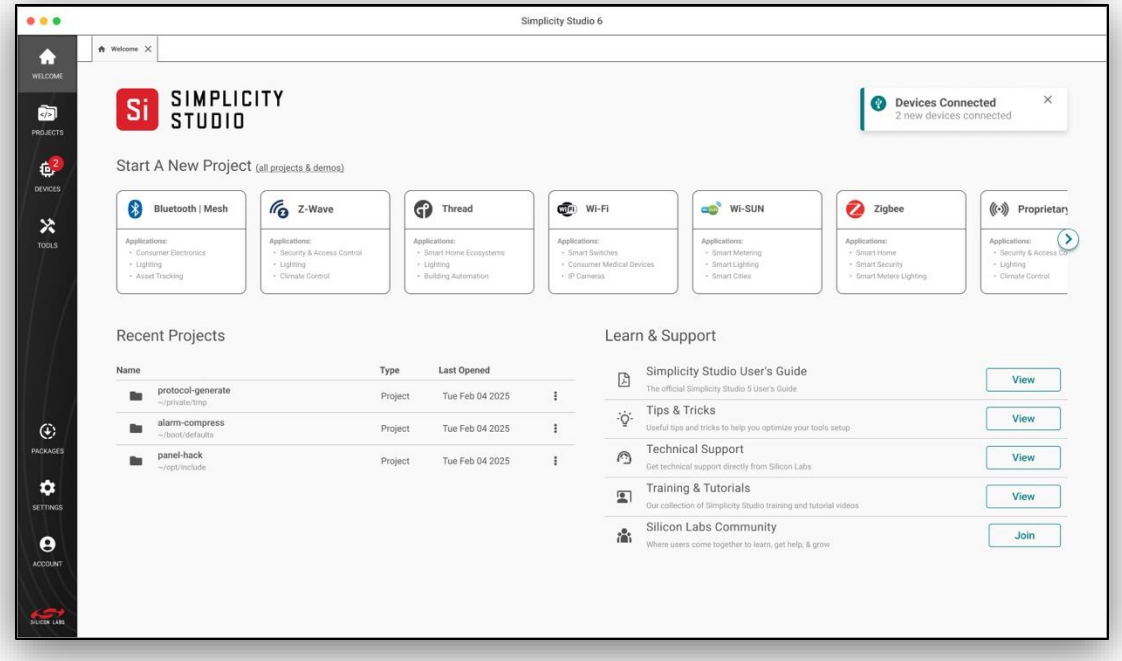
- **VS Code as primary IDE**
  - Stay integrated with Simplicity Studio's configurator tools while using VS Code IDE for code editing, build, flash, and debug.
  - Create projects in Studio, then edit, build, flash, and debug in VS Code
  - Supports CMake and Ninja for fast, efficient builds
  - Quickly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

Demo

Studio, SDK, and VS Code Installation

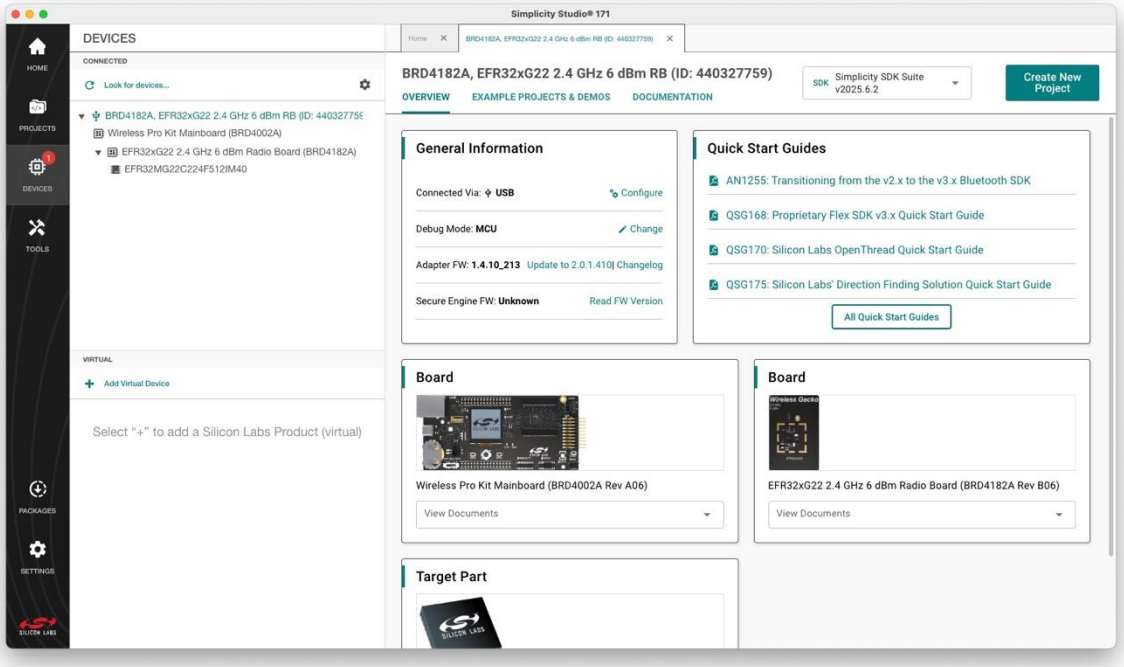


Simplicity Studio Home Page



- **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

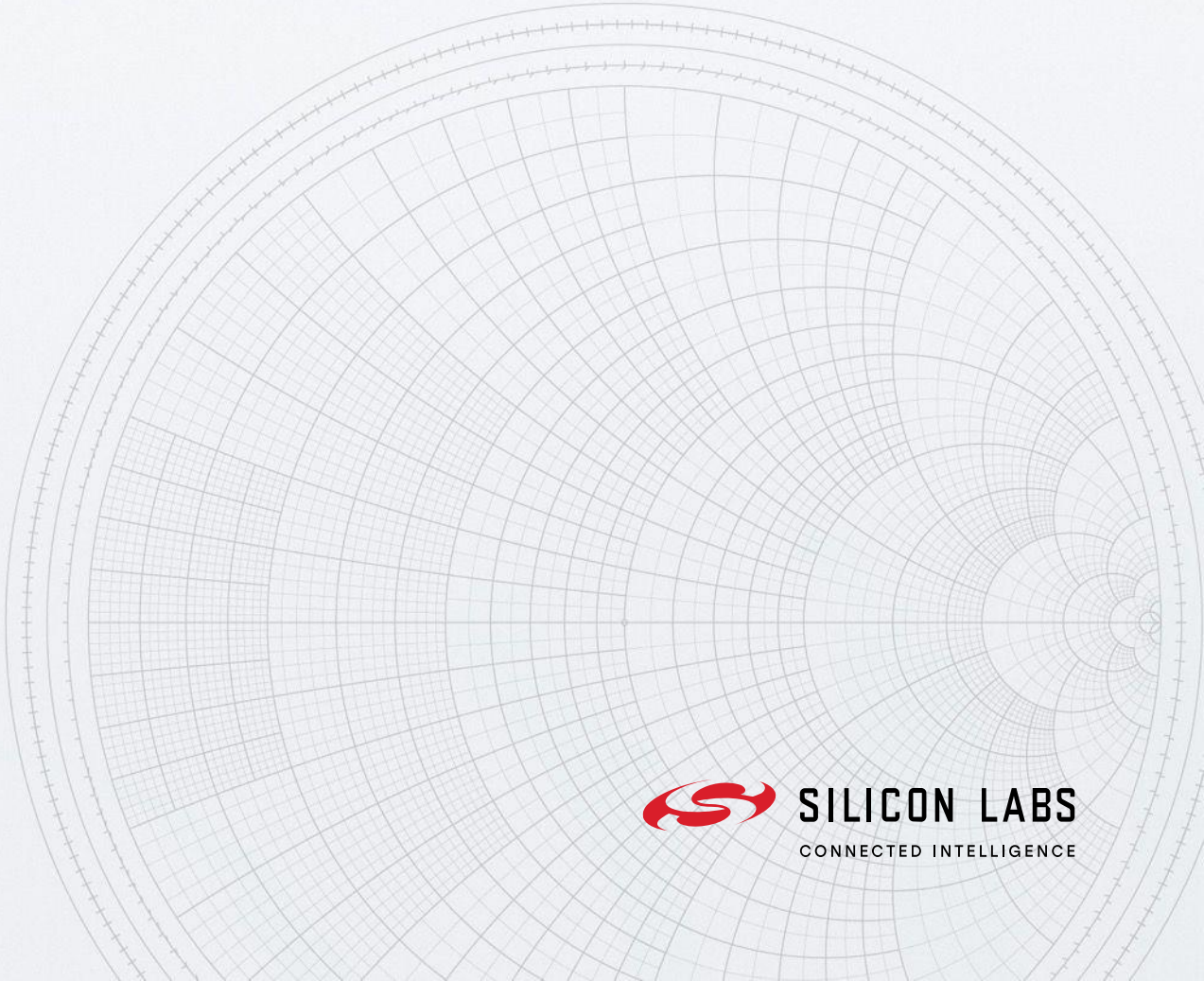
Working with Devices



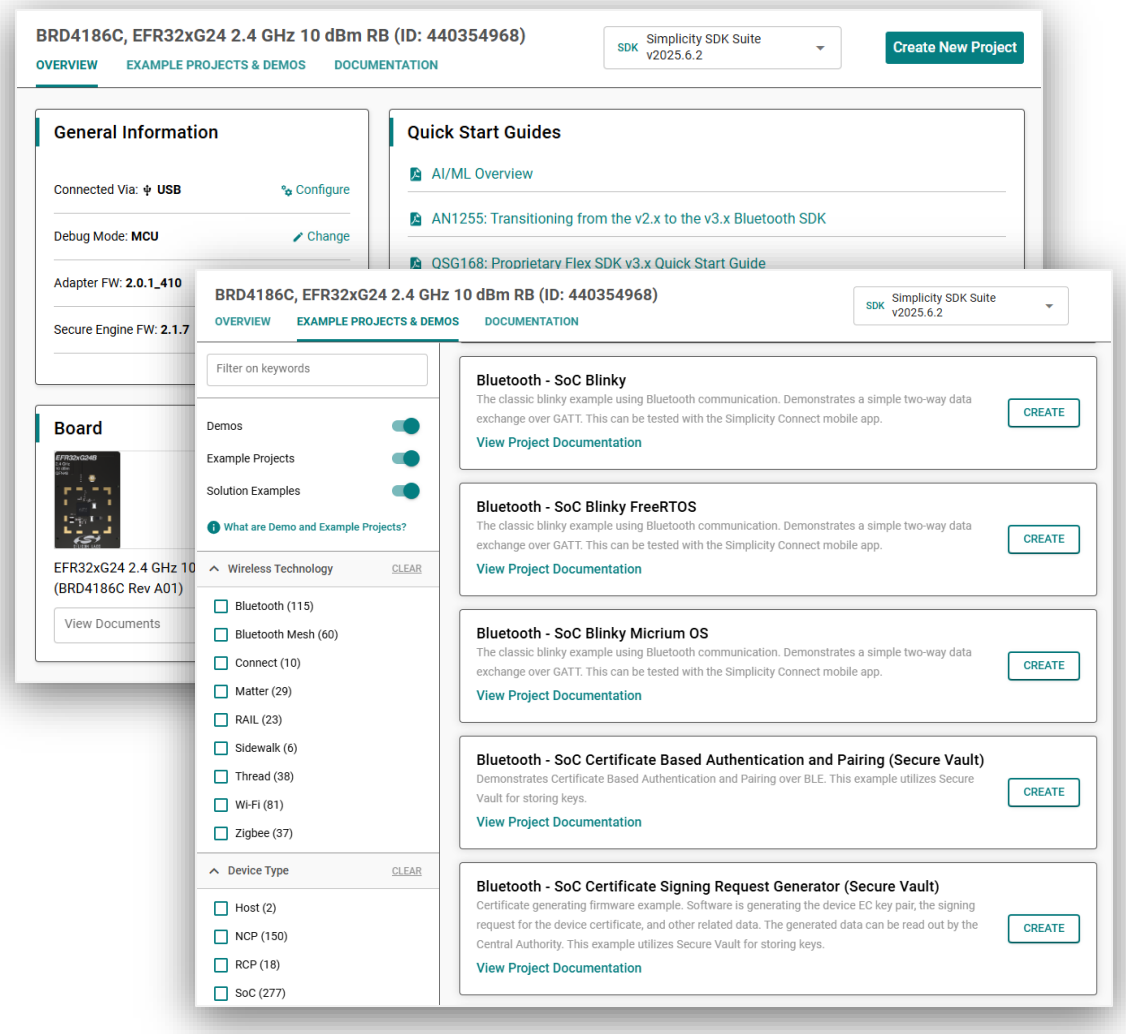
- **General Information**
  - Connection type
  - Debug mode
  - Adapter FW
  - Secure Engine FW
- **Board Information**
- **Target Part**
- **Quick Start Guides**
- **Example Projects & Demos**
- **Documentation**
- **Add a Virtual Device**

Demo

Working with Devices



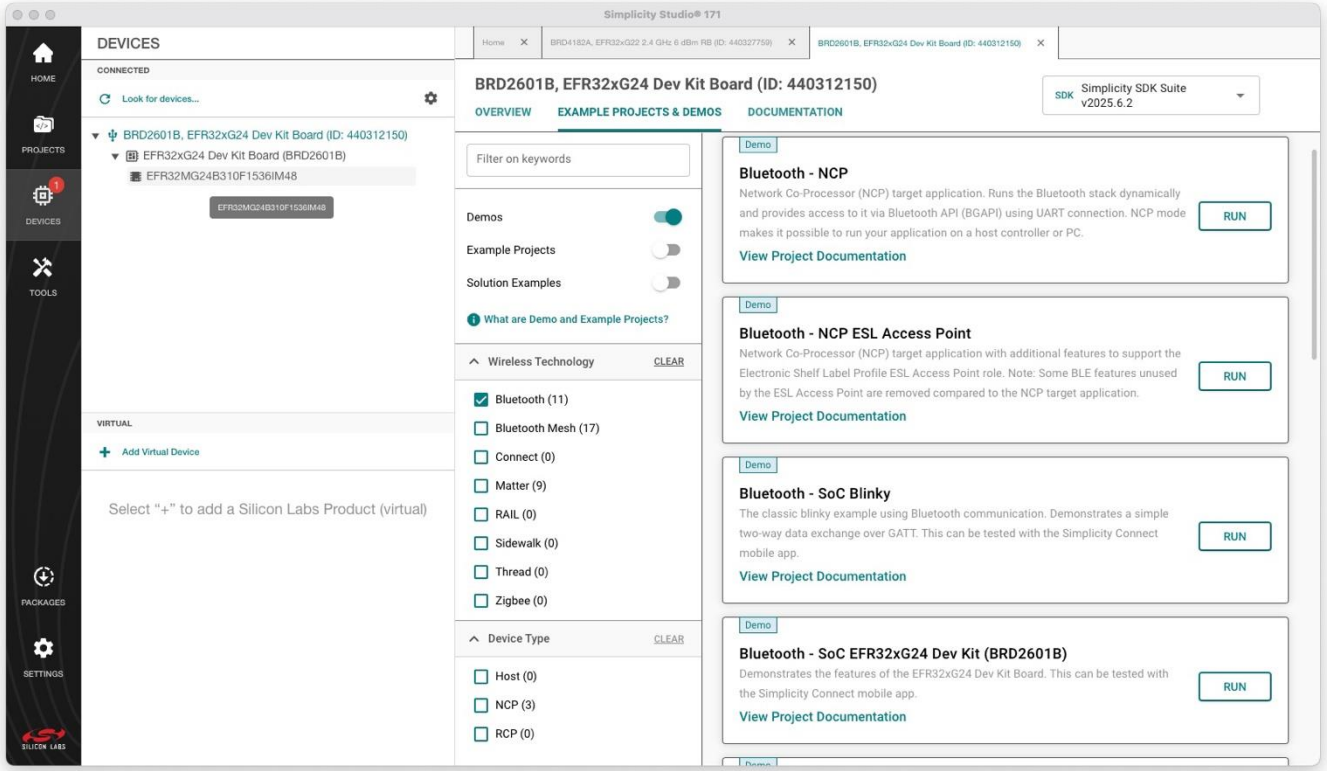
Simplicity Studio 6 – Optimized Getting-Started

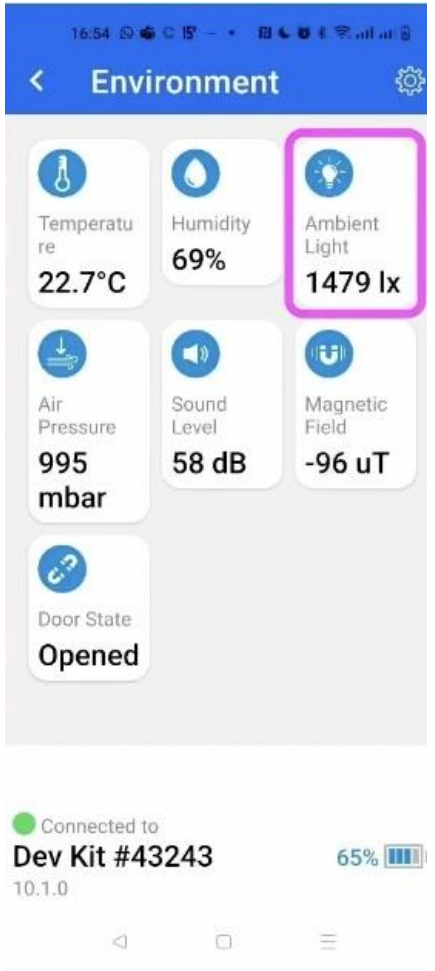


- **Central hub for device evaluation**
  - **Product Selector:** Complete part catalog for target device selection and auto eval kit detect
  - **HW Setup:** Prepares the developer's eval kit and device for development
  - **Tools:** Access to configuration and analysis tools
  - **Examples:** Simplifies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

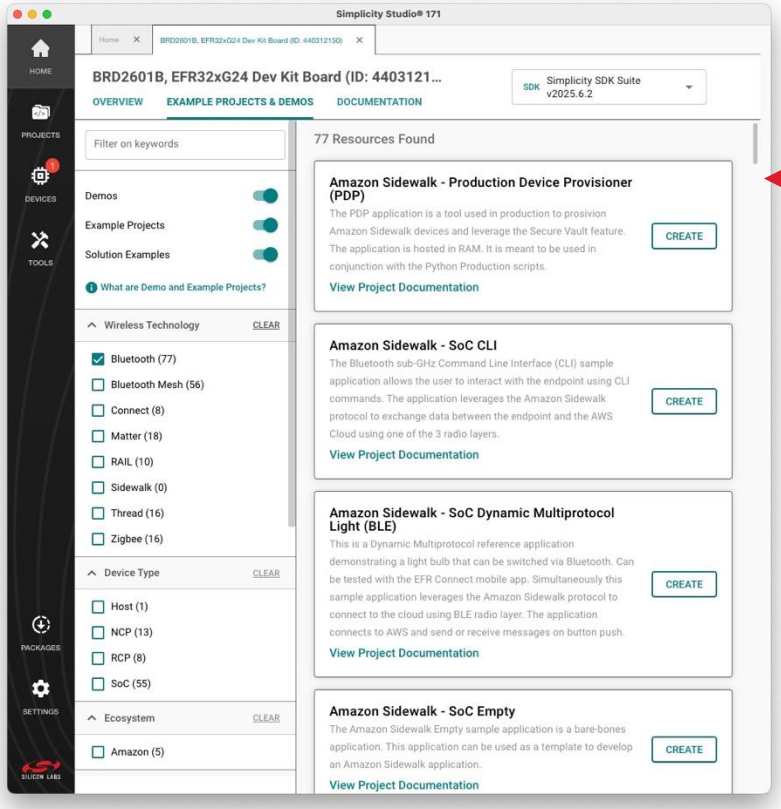
Working with Demos

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



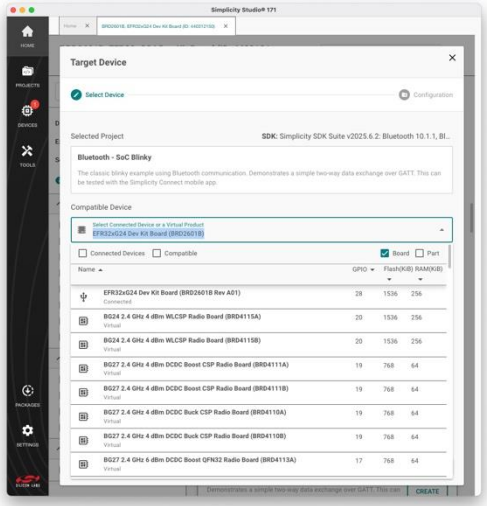


Project Generation and Configuration – SDK Explorer

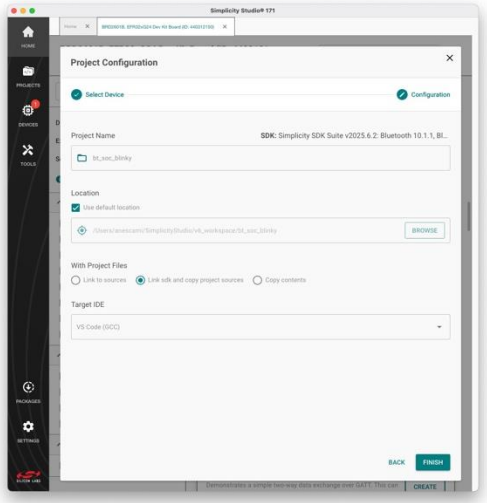


1) SDK Explorer shows all examples for *all devices*, **"Technology First"**

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



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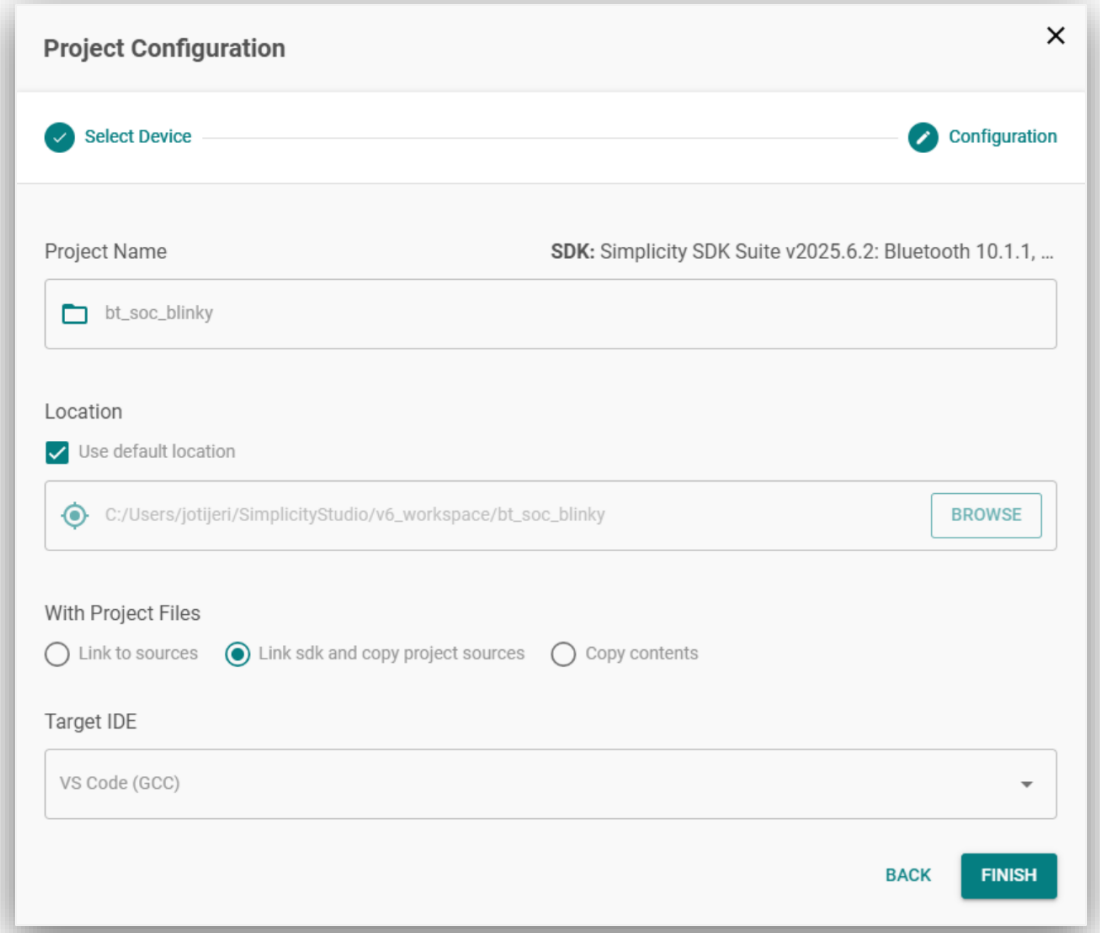
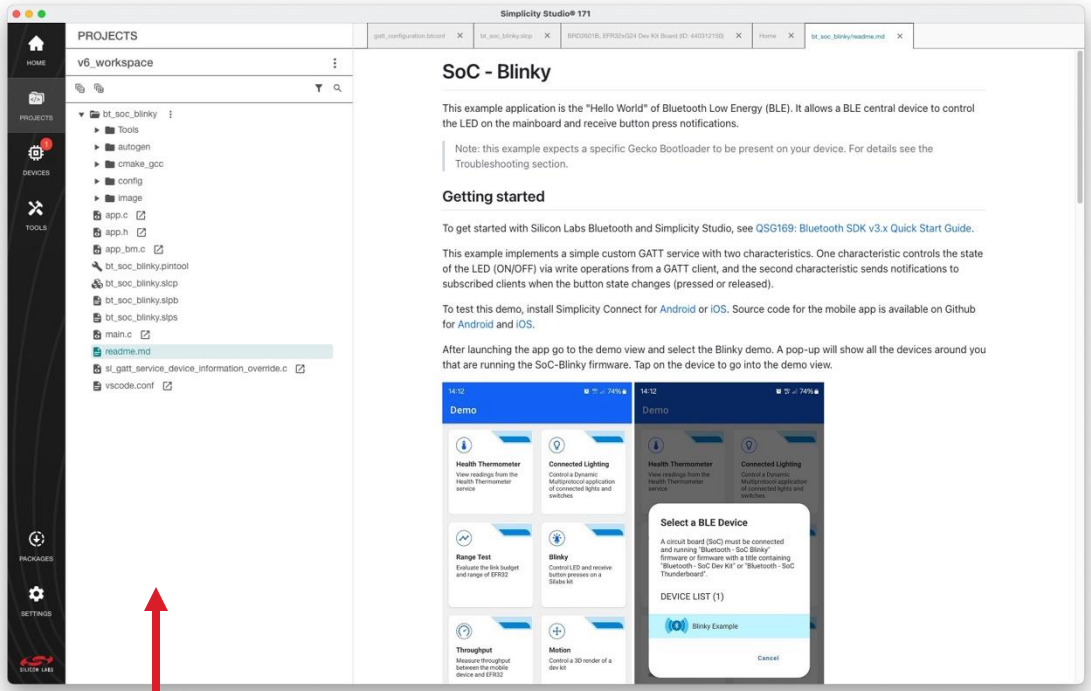
Simplicity Studio 6 – Project Management



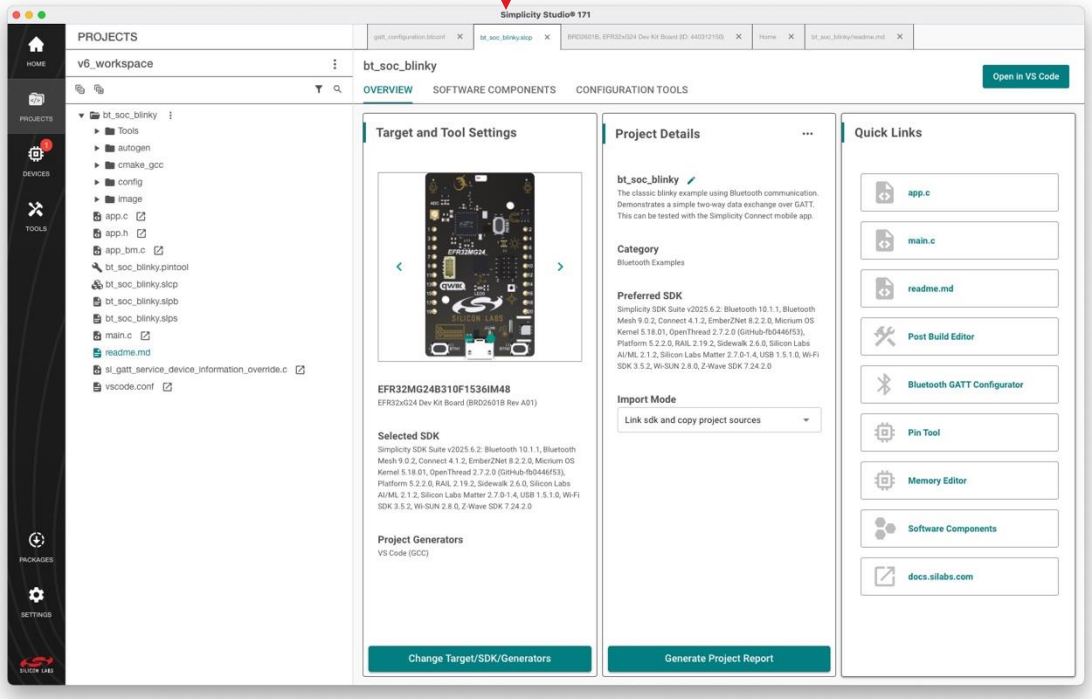
- **Flexible source management**
  - Link to SDK or copy all contents to local project folder
- **Broad toolchain support**
  - VSCode / GCC
  - IAR / IAR
  - Cmake / GCC
  - Makefile / GCC

Project Generation and Configuration – Project Explorer



Project Explorer

Project Configuration tools



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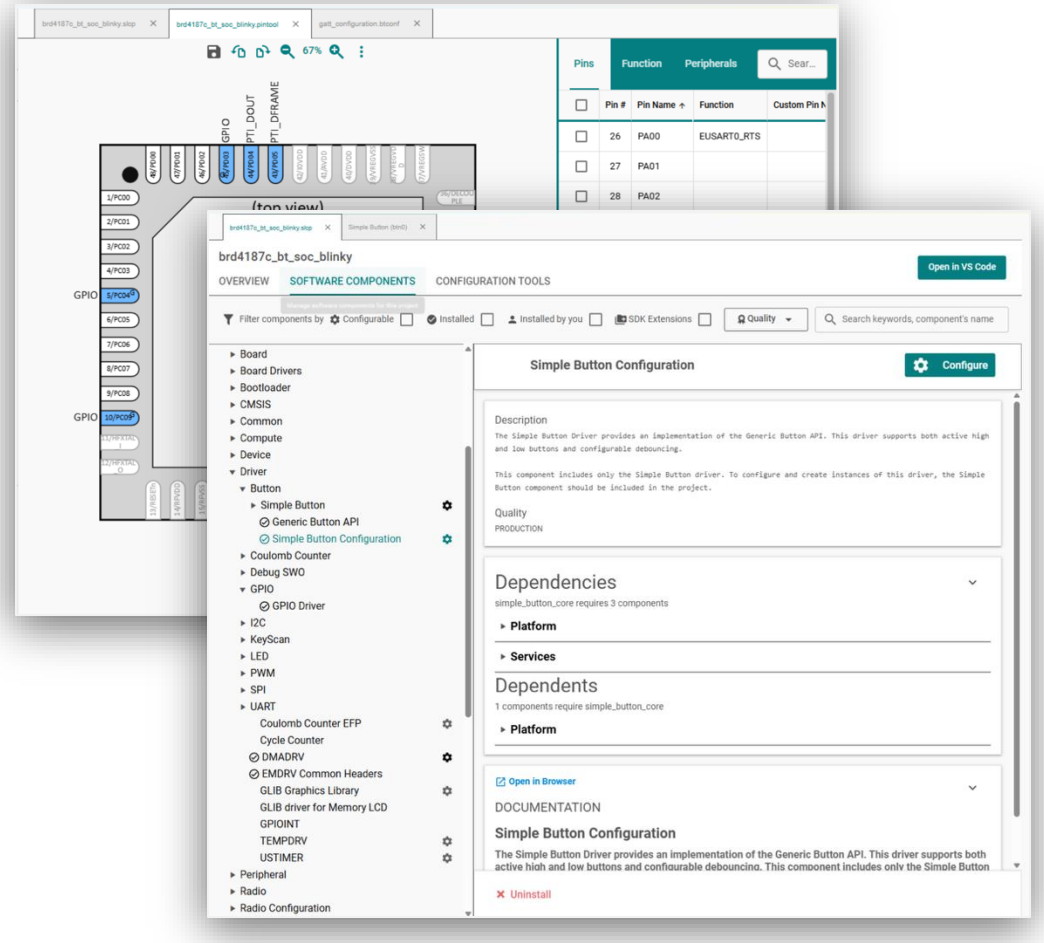
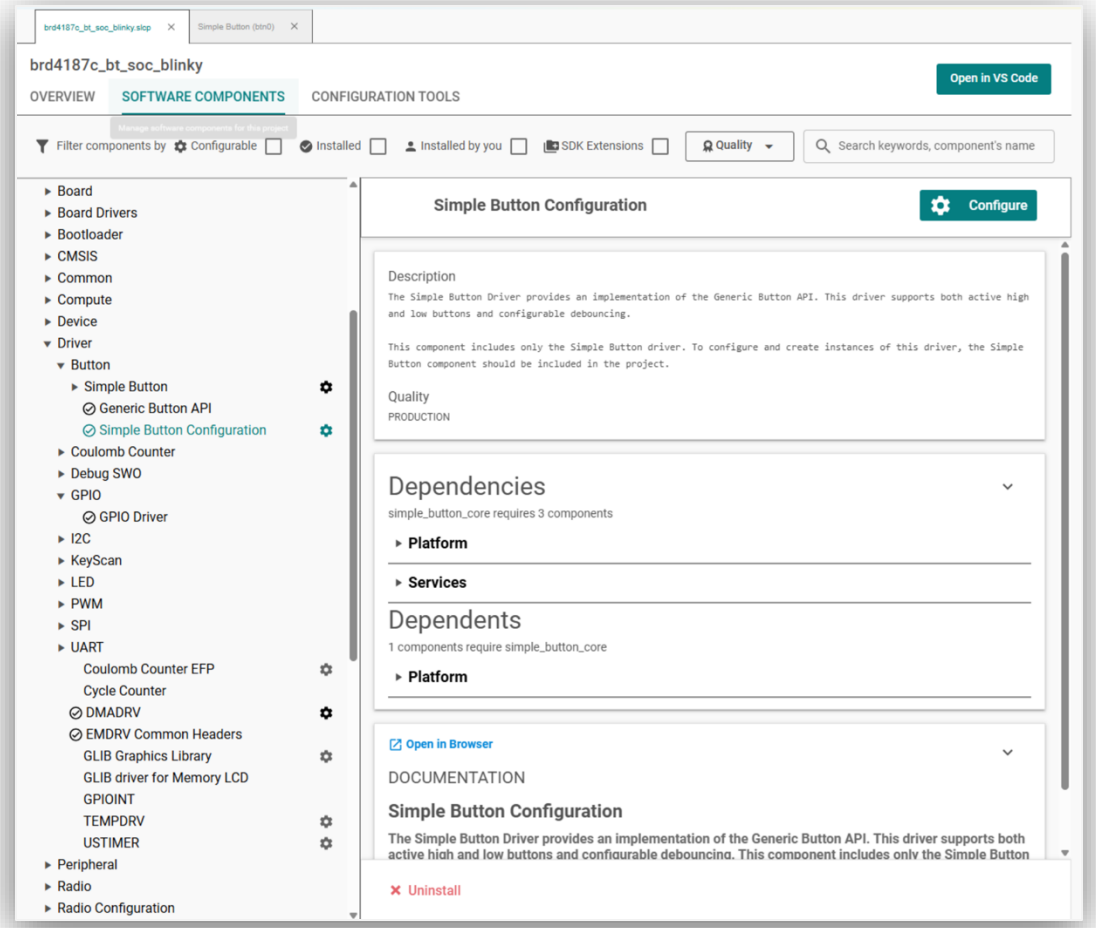
Simplicity Studio 6 – Project Configuration Tools



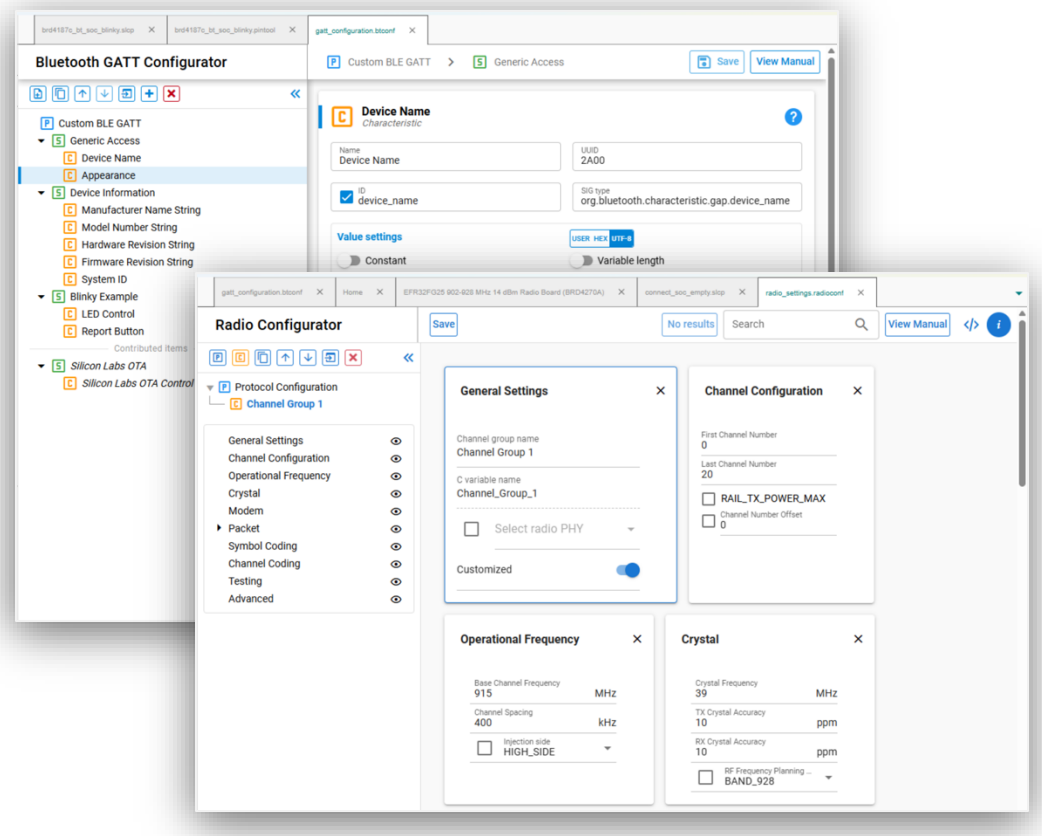
- **Quickly set up and customize your application:**
  - **Pin Configurator** – Assign and manage I/O pins with visual ease
  - **Software Component Configurator** – Select and integrate drivers, middleware, and stacks
  - **Memory Editor** – Visualize and adjust memory usage and placement

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

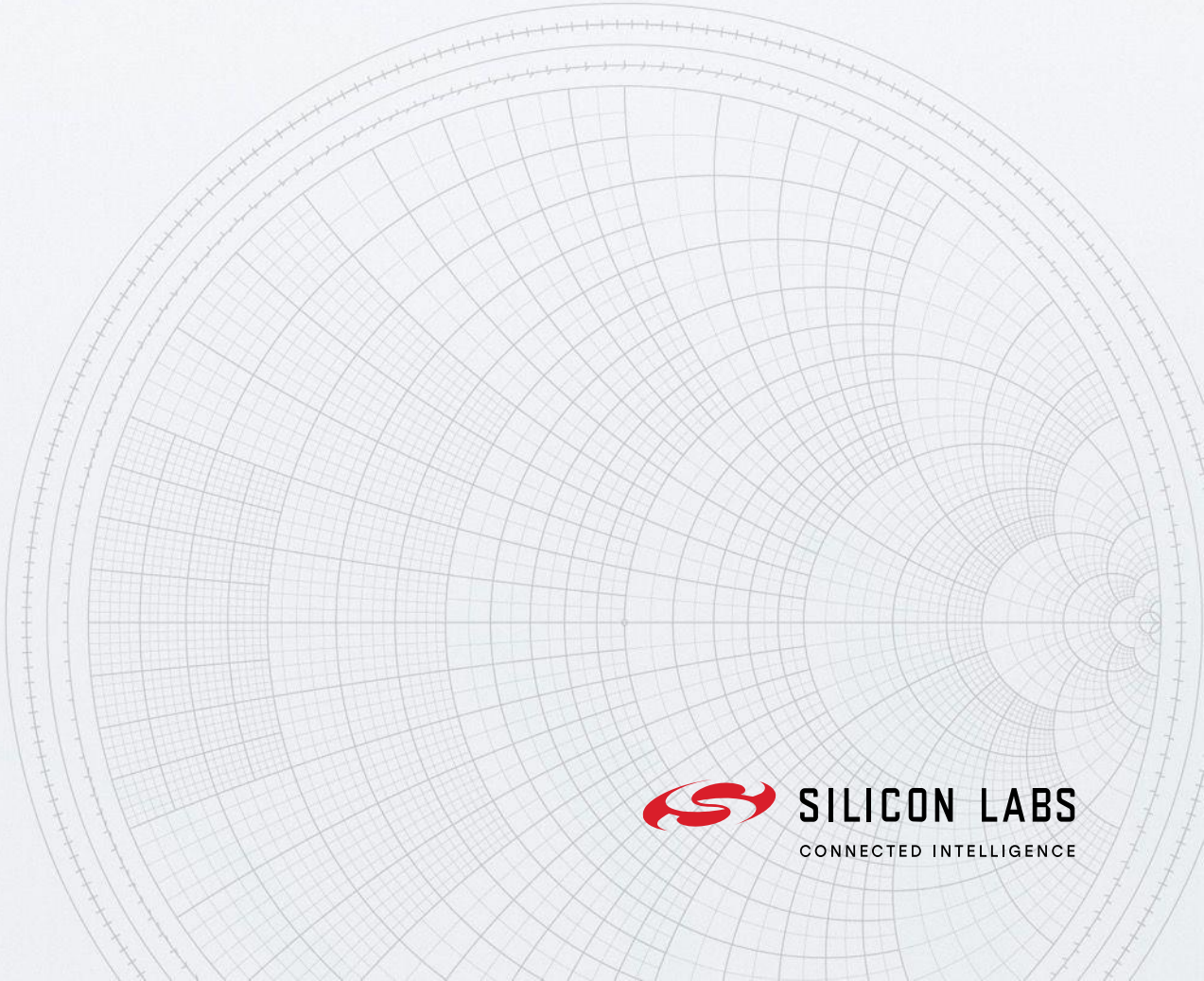
Simplicity Studio 6 – Protocol-Specific Wireless Configuration Tools



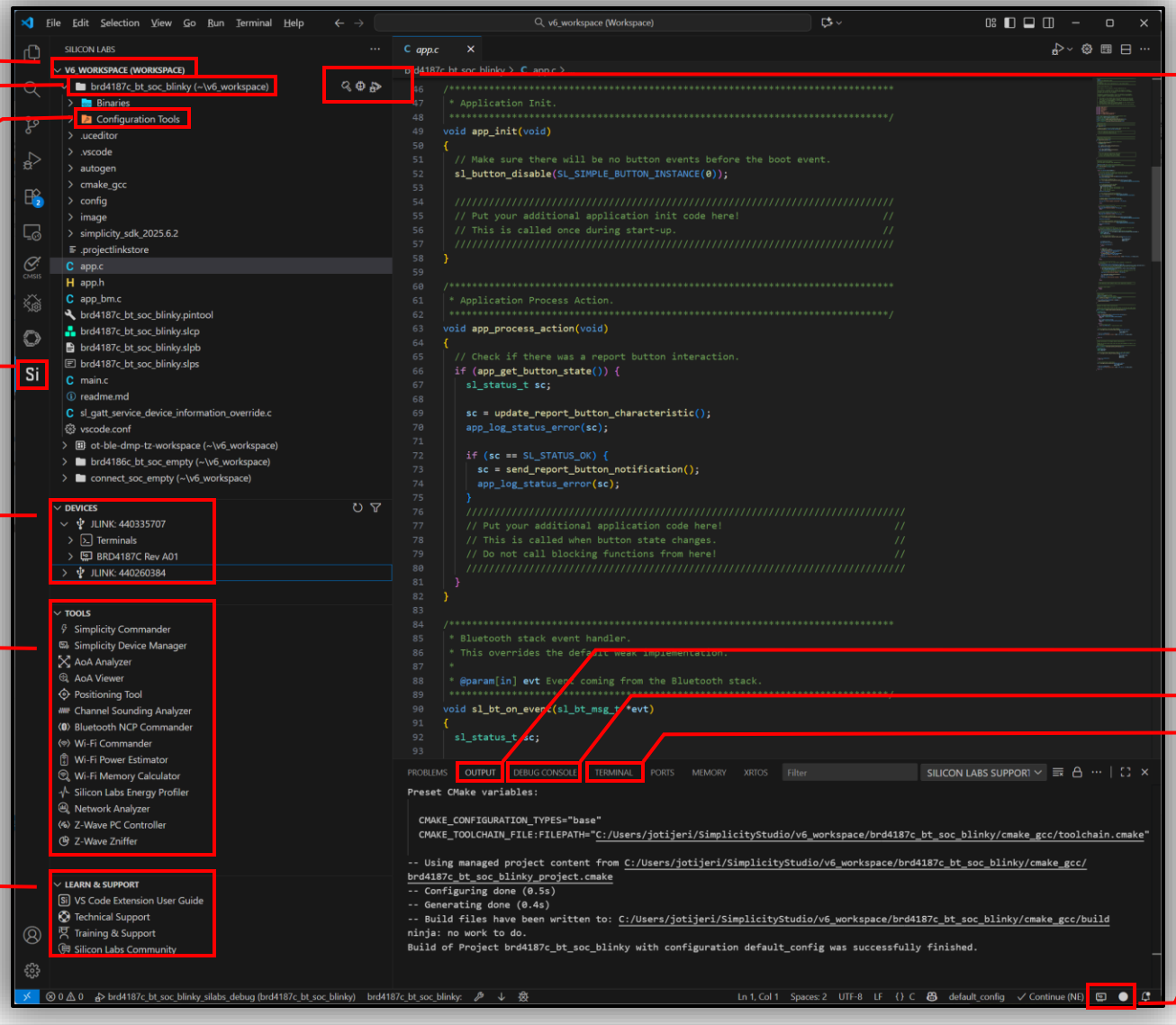
- **Build, optimize, and fine-tune your wireless application with dedicated configurators**
  - **Bluetooth GATT Configurator:** Define services and characteristics with a graphical editor
  - **Bluetooth Mesh Configurator:** Set up mesh nodes and models visually
  - **Proprietary Radio Configurator:** 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



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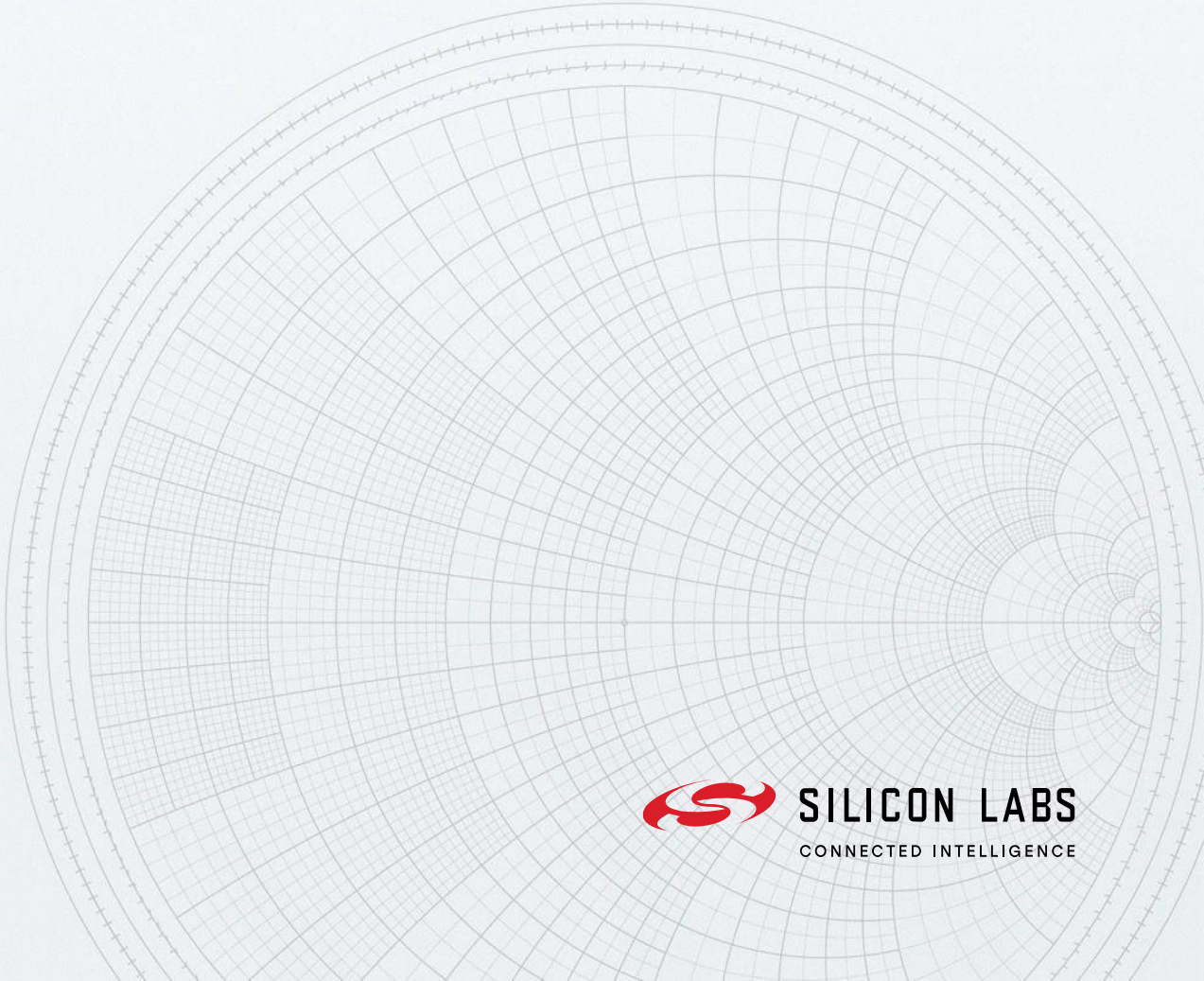
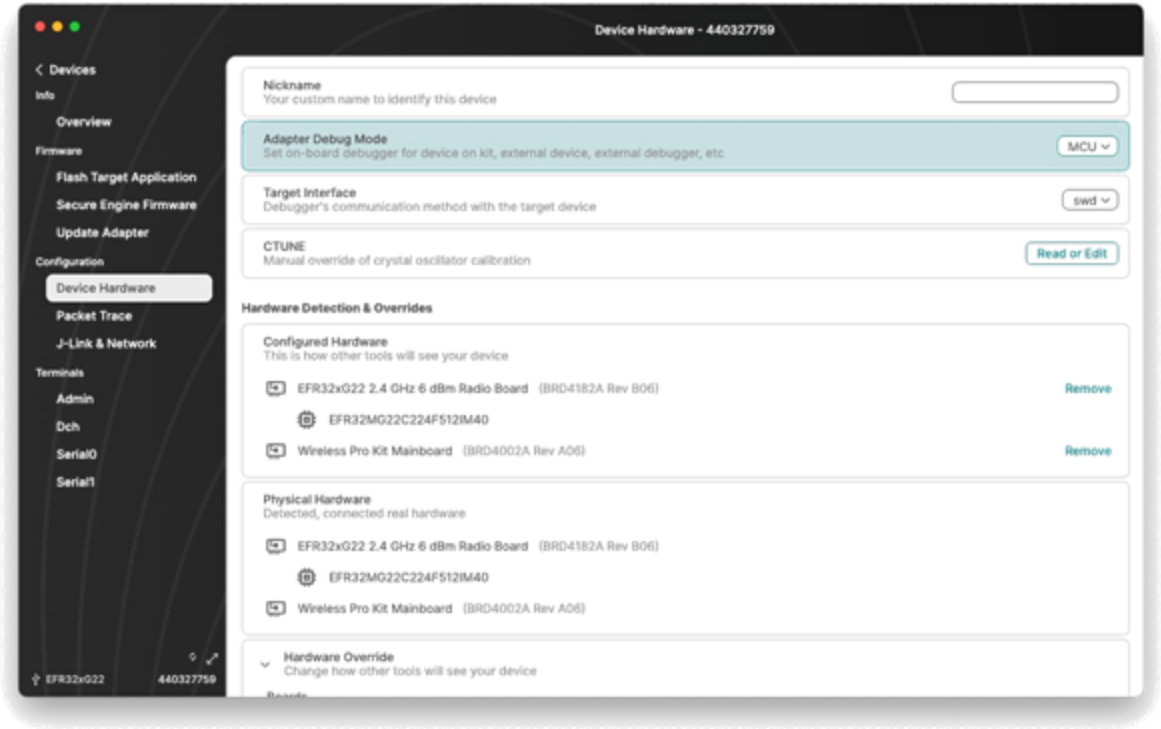
Demo

Working with VS Code

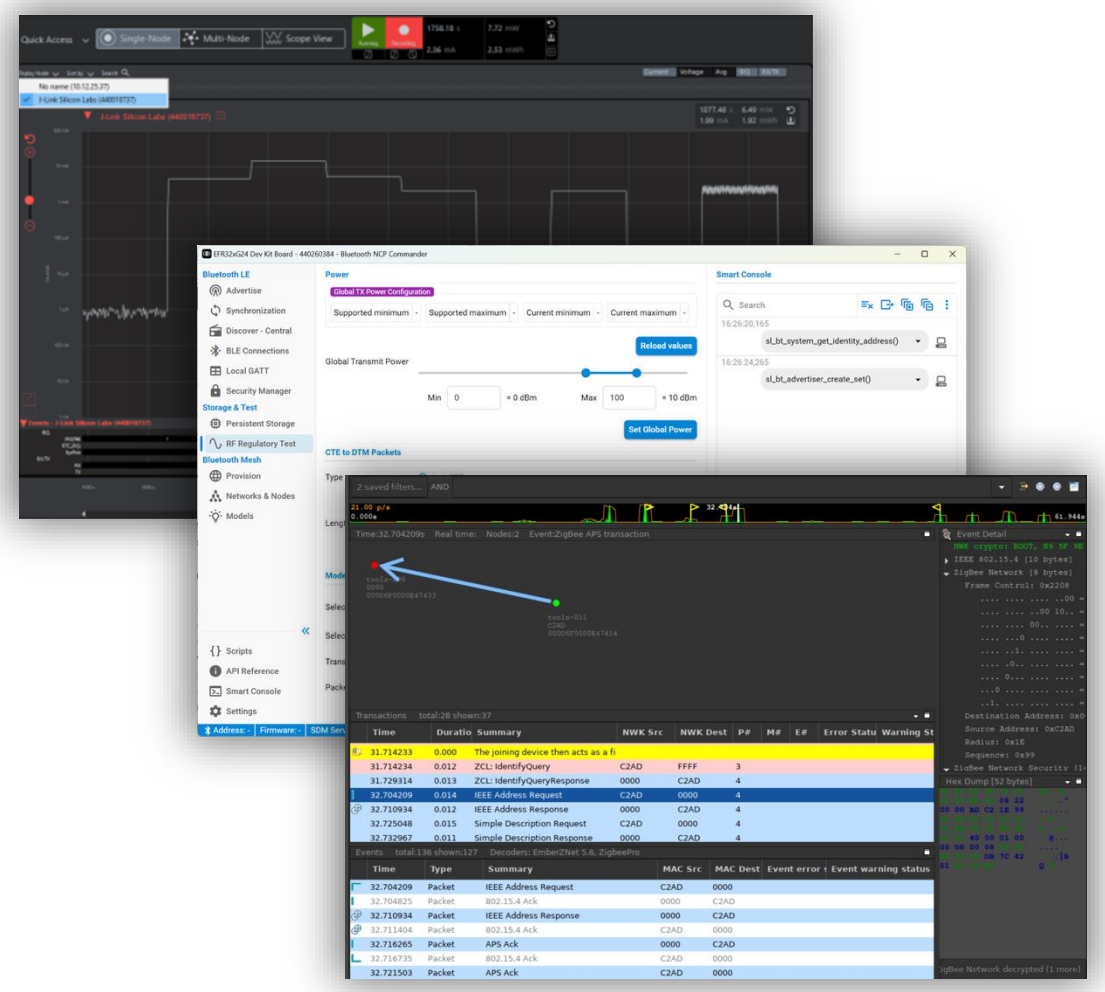


Simplicity Device Manager



- **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

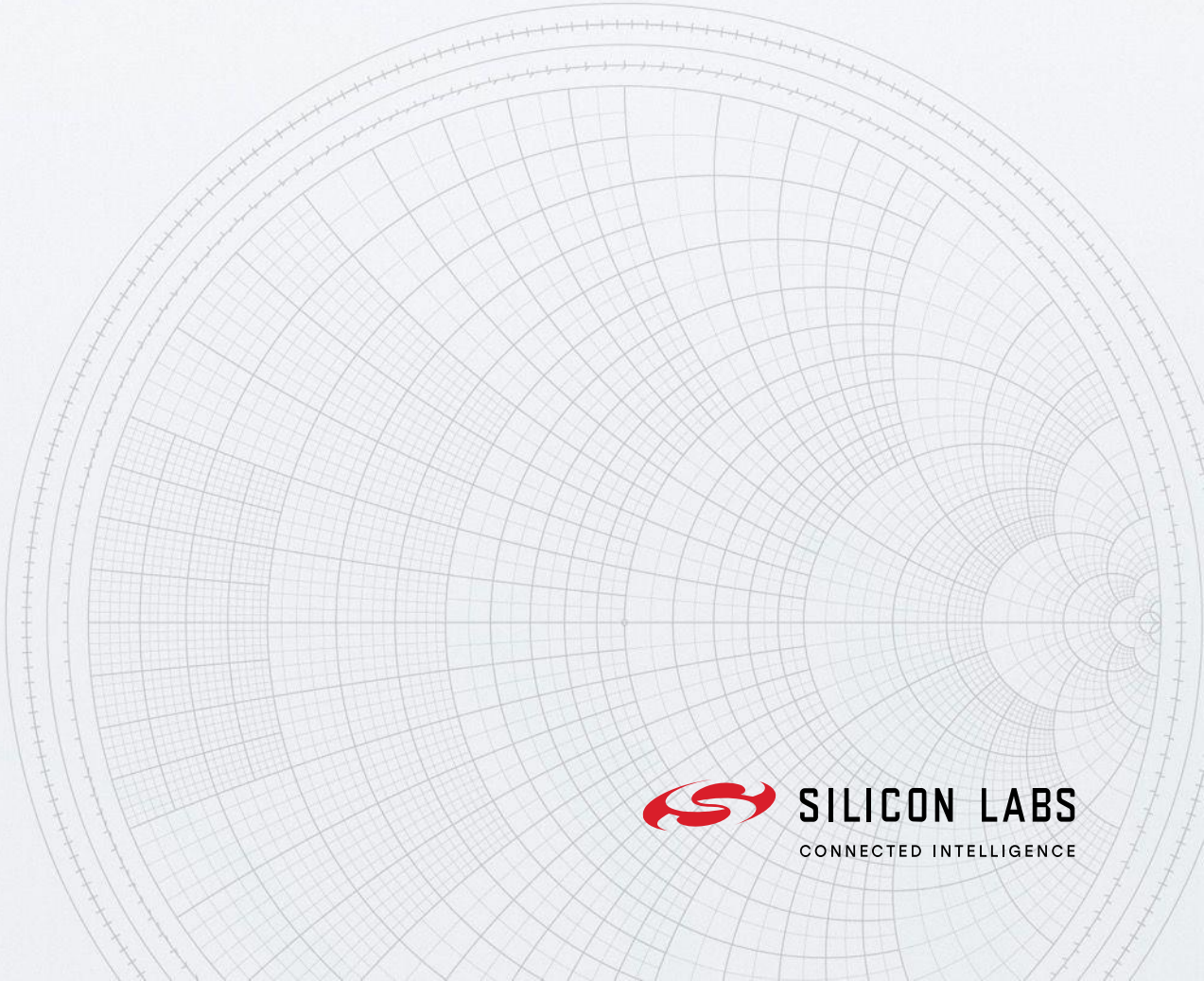
Simplicity Analysis Tools



- **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



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