PRODUCT SUMMARY

Kick start your application development

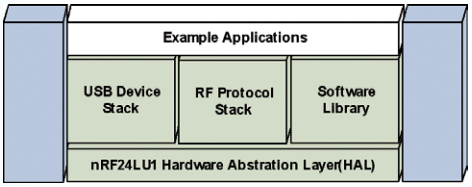
With the nRF24LU1 Software Development Kit

The nRF24LU1 Software Development Kit (SDK) is a complete software development platform for the nRF24LU1 a single chip 2.4GHz transceiver with USB, microcontroller and flash memory.

The SDK provides full integration with the Keil µVision™ development environment, and includes verified software modules for all basic functionality. This presents a number of advantages for application developers:

- Main focus can be on developing innovative application layer, by reusing software modules for lower level functionality
- Faster time to market
- Lower development cost and risk

Block Diagram



A Complete Development Platform

The SDK includes everything needed for application development on the nRF24LU1 including:

- Vertical integration with Keil µVision™ development environment
- Qualified USB Device Stack firmware for the full-speed USB 2.0 device controller
- Complete RF protocol stack for advanced control devices (Wireless Desktop Protocol)
- Hardware abstraction layers for the nRF24LU1 providing a flexible and easy to use interface for the different hardware modules in the nRF24LU1
- Software library with commonly used functions
- Vertical integration with System Navigator™ hardware debugger from First Silicon Solutions (FS2)
- Stand alone PC application for programming the nRF24LU1 flash memory

Qualified USB Device Stack Firmware

Complete solution for wireless control devices

The USB device stack firmware supports the nRF24LU1 Full-speed USB 2.0 device controller and runs on the embedded 8051 microcontroller. It provides a complete solution for wireless control devices:

- Conforms to USB specification version 2.0
- Conforms to USB HID specification version 1.11
- Full-speed (12 Mbps) USB transfer rate
- Control and interrupt data transfer support
- Supports composite USB devices, enabling support for multiple different wireless devices for one USB dongle. Examples wireless mouse, keyboard and remote control all with one USB dongle.
- Standard HID class support including mouse, keyboard and remote control
- No need for custom PC drivers using the standard classes
- Easy to extend included HID classes with custom functionality.
- Advanced power management including support for suspend and resume mode

NORDIC SEMICONDUCTOR

RF Silicon | Software | Reference Design | **Development Tools**

PRODUCT BRIEF
Nordic Semiconductor

nRF24LU1 Software Development Kit

nRF24LU1-SDK

KEY FEATURES

- Complete software development platform for the nRF24LU1
- Seamless integration with Keil µVision™ IDE
- Qualified USB device stack firmware
- Conforms to USB HID specification 1.11
- Control and interrupt data transfer support
- Supports composite USB devices enabling multiple wireless devices for one dongle
- Mouse, keyboard and remote HID classes
- Proven RF protocol stack

Wireless Desktop Protocol (nRF2601)

- Seamless integration with USB dongle reference design (nRF24LU1-DONGLE) and Development Kit (nRF24LU1-DK)
- Hardware Abstraction Layer for easy to use interface for nRF24LU1 hardware modules
- Example application including dongle for mouse and keyboard
- Supports System Navigator™ hardware debugger from First Silicon Solutions
- Easy to use flash programming application
- Modular ANSI-C implementation
- Includes evaluation version of Keil µVision™ IDE
- Complete set of deliverables including source code and comprehensive documentation

SUMMARY OF BENEFITS

- Kick starts application development with a comprehensive set of verified software modules
- Little RF and USB knowledge required for application development
- Develop directly on the USB dongle reference design or custom hardware
- Faster time to market
- Lower development cost and risk

Hardware Integration

Seamless integration with nRF24LU1 development kit and reference design

The SDK provides seamless integration with Nordics hardware development platforms for the nRF24LU1, enabling application developers to get started without any hardware development. There are two alternatives

- Develop the application directly on the production ready USB dongle reference design (nRF24LU1-DONGLE)
- Develop the application on the more sophisticated and flexible nRF24LU1 Development Kit

Develop application on custom hardware

Using the SDK

By making the programming interface and optionally the JTAG interface of the nRF24LU1 available on custom hardware, it is easy to develop application on the nRF24LU1 directly on custom hardware

Hardware Debugging

Using System Navigator from First Silicon Solutions (FS2)

The SDK provides support for System Navigator from FS2, enabling application developer to true hardware debugging of applications directly on the nRF24LU1. With this solution all internal operations (memory, register, IO) are visible and can controlled from the PC:

For more information

Please contact you local Nordic sales representative

About Nordic Semiconductor ASA

Ultra low power RF silicon solutions

Nordic Semiconductor is fabless semiconductor company specializing in ultra low power short-range wireless communication. Nordic is a public company listed on the Norwegian stock exchange.

Nordic provides RF Silicon solutions including:

- Highly integrated RF silicon
- Sophisticated and flexible development tools
- Application specific communication software
- Complete reference designs

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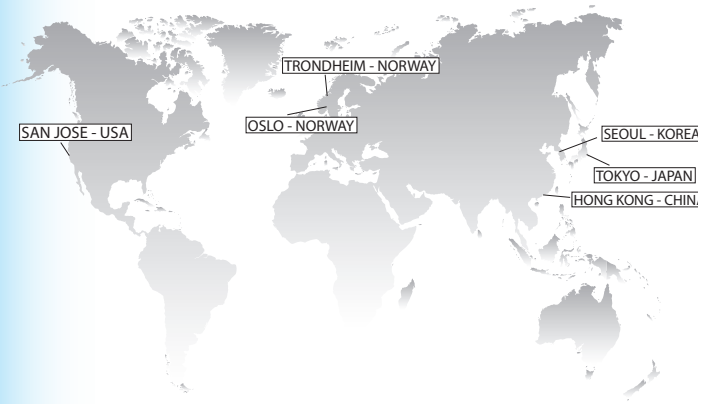

SDK content

Software source code and comprehensive documentation

The kit is delivered as a single installer files that includes:

- Evaluation version of Keil µVision IDE (max 4kbyte program size)
- Software for System Navigator hardware debugger (Hardware must be purchased separately from First Silicon Solutions www.fs2.com)
- Complete source code for USB firmware, Hardware Abstraction Layer, RF protocol stack and software library
- Complete source code for example application for a USB dongle supporting a wireless desktop (keyboard and mouse)
- Complete source code for a simple application that compiles on the evaluation version of Keil
- PC application for flash programming
- Software Developer Guide

SPECIFICATIONS

IDE Integration	Keil µVision
Hardware Debug support	System Navigator from First Silicon Solutions
Embedded hardware platform	nRF24LU1 Enhanced 8051 microcontroller, USB device controller and peripherals
RF Protocol Stack	Wireless Desktop Protocol (nRF2601)
USB Device Stack	Full-speed USB 2.0 compliant
Firmware	- USB HID 1.11 compliant - Control and interrupt data transfer - Mouse, keyboard and remote HID classes - Supports composite USB device - Suspend and resume mode support
Programming language	ANSI-C

Related Products

nRF24LU1	Single chip 2.4GHz transceiver with USB, microcontroller and flash memory
nRF24LU1-DK	Hardware Development Kit for nRF24LU1 including Application Suite for Evaluation and configuration
nRD24LU1-DONGLE	Wireless voice headset reference design
Wireless Desktop Protocol (nRF2601)	Complete RF protocol stack for wireless control devices
nRF24L01	Single chip ultra low power 2.4GHz transceiver

Visit **www.nordicsemi.no** for Nordic Semiconductor sales offices and distributors worldwide.