

LimeSDR-USB

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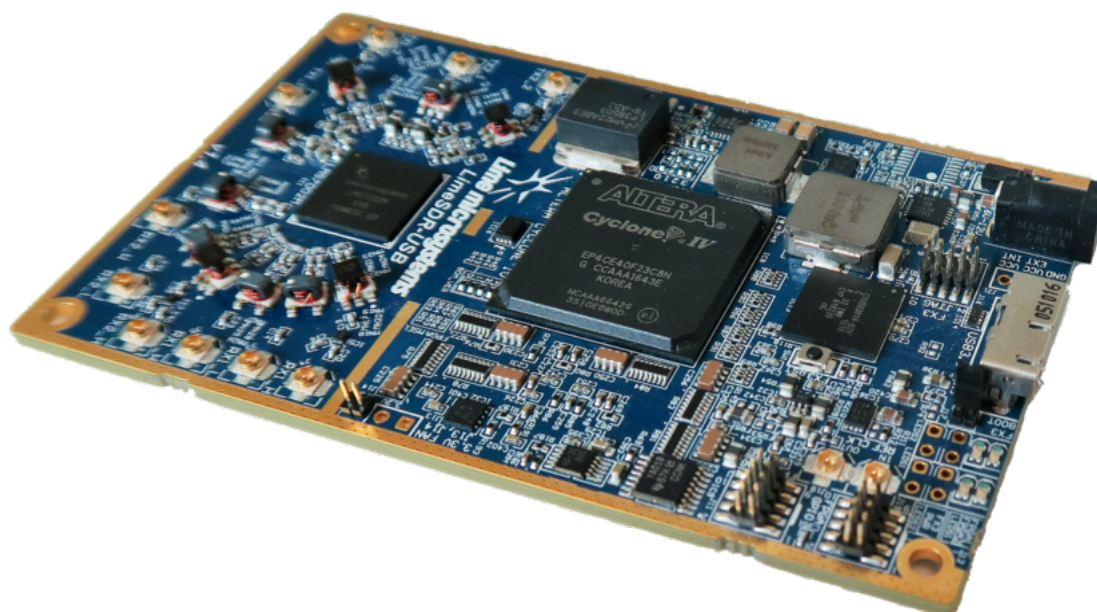
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LimeSDR-USB Boards

The LimeSDR-USB is available in versions with a Micro USB Type B socket and a USB Type A plug. Both versions are identical except USB connector.

LimeSDR-USB board with Micro USB Type B socket:



LimeSDR-USB board with USB Type A plug:



Features and Specifications

Feature	Description
RF Transceiver	Lime Microsystems LMS7002M MIMO FPRF
FPGA	Altera Cyclone IV EP4CE40F23 – also compatible with EP4CE30F23
USB 3.0 controller	Cypress USB 3.0 CYUSB3014-BZXC
Oscillator	Rakon RPT7050A @30.72MHz
Continuous frequency range	100 kHz – 3.8 GHz
Bandwidth	61.44MHz
RF connection	10 U.FL connectors (6 RX, 4 TX)
Power Output (CW)	Up to 10dBm
Multiplexing	2×2 MIMO
Power Supply	Via USB connector or optional external power supply
Status indicators	Programmable LEDs
Dimensions	100mm x 60mm

Getting Help

If you have questions, the [MyriadRF Discourse \(https://discourse.myriadrfr.org/\)](https://discourse.myriadrfr.org/) is a best place to ask for help.

Documentation

- [LimeSDR-USB hardware description](#) - LimeSDR-USB hardware description
- [LimeSDR-USB driver installation description](#) - LimeSDR-USB USB driver installation description
- [Getting Started with LimeSDR-USB and LimeSuiteGUI](#) - Using LimeSDR-USB board with LimeSuiteGUI software
- [LimeSDR-USB Board Programming](#) - LimeSDR-USB FX3 USB microcontroller and FPGA flashing guide
- ~~[LimeSDR-USB User Guide](#) - LimeSDR-USB hardware description (old)~~
- [LimeSDR-USB Quick Test](#) - How to check if LimeSDR-USB is working correctly
- [LimeSDR-USB HF Performance](#) - LimeSDR-USB board performance in HF band and RF network modification
- [Acrylic Case and Assembly Guide \(https://github.com/myriadrf/LimeSDR-USB_acrylic_case#lime-sdr-usb-acrylic-case\)](https://github.com/myriadrf/LimeSDR-USB_acrylic_case#lime-sdr-usb-acrylic-case) - Acrylic Case Description and Assembly Guide
- [LMS7002M \(Mask 1\) Transceiver Calibration](#) - LMS7002Mr3 calibration guide, using internal MCU
- [LimeSDR Made Simple](#) - Demystifying using SDR in the real world and programming a simple example with confidence, through bite sized chunks.
- [LMS7002M Datasheet \(PDF\) \(https://github.com/myriadrf/LMS7002M-docs/blob/master/LMS7002M_Data_Sheet_v3.2r00.pdf\)](https://github.com/myriadrf/LMS7002M-docs/blob/master/LMS7002M_Data_Sheet_v3.2r00.pdf) - LMS7002M RF transceiver datasheet
- [LMS7002M Programming and Calibration Guide \(PDF\) \(https://github.com/myriadrf/LMS7002M-docs/blob/master/LMS7002M_Programming_and_Calibration_Guide_v31r05.pdf\)](https://github.com/myriadrf/LMS7002M-docs/blob/master/LMS7002M_Programming_and_Calibration_Guide_v31r05.pdf) - LMS7002M programming and calibration guide

USB Drivers

Windows only, OSX and Linux users do not need to install drivers for USB support. Follow driver installation instructions in [Driver Installation Documentation](#).

Software

- [LimeSuiteGUI](#)
- [LimeQuickTest](#)
- [LimeSDR ExtIO Plugin for HDSDR](#)
- [gr-limesdr Plugin for GNURadio](#)

USB3 MCU and FPGA Binaries

Here are the links to pre-compiled MCU firmware and FPGA gateway (bitstream):

- [USB3 MCU firmware \(https://github.com/myriadrf/LimeSDR-USB_FX3/blob/master/Debug/LimeSDR-USB_fx3_fw.img\)](https://github.com/myriadrf/LimeSDR-USB_FX3/blob/master/Debug/LimeSDR-USB_fx3_fw.img)
- [FPGA gateway \(https://github.com/myriadrf/LimeSDR-USB_GW/blob/master/output_files/LimeSDR-USB_lms7_trx_HW_1.4.rbf\)](https://github.com/myriadrf/LimeSDR-USB_GW/blob/master/output_files/LimeSDR-USB_lms7_trx_HW_1.4.rbf)

Board Design Files

Here are links to the schematic, PCB project and BOM:

- LimeSDR-USB 1.4v plug version Schematic (PDF) (https://github.com/myriadrfr/LimeSDR-USB/blob/master/hardware/plug/1v4/Project%20Outputs%20for%20LimeSDR-USB_1v4_LMS031pad/LimeSDR-USB_1v4_schematic_r7.PDF)
- LimeSDR-USB 1.4v socket version Schematic (PDF) (https://github.com/myriadrfr/LimeSDR-USB/blob/master/hardware/socket/1v4/Project%20Outputs%20for%20LimeSDR-USB_1v4s_LMS031pad/LimeSDR-USB_1v4s_schematic_r7.PDF)
- LimeSDR-USB 1.4v plug version PCB project (Altium project) (<https://github.com/myriadrfr/LimeSDR-USB/tree/master/hardware/plug/1v4>)
- LimeSDR-USB 1.4v socket version PCB project (Altium project) (<https://github.com/myriadrfr/LimeSDR-USB/tree/master/hardware/socket/1v4>)
- LimeSDR-USB 1.4v plug version BOM (XLS) (https://github.com/myriadrfr/LimeSDR-USB/blob/master/hardware/plug/1v4/Project%20Outputs%20for%20LimeSDR-USB_1v4_LMS031pad/BOM/LimeSDR-USB_1v4_BOMr7.xls)
- LimeSDR-USB 1.4v socket version BOM (XLS) (https://github.com/myriadrfr/LimeSDR-USB/blob/master/hardware/socket/1v4/Project%20Outputs%20for%20LimeSDR-USB_1v4s_LMS031pad/BOM/LimeSDR-USB_1v4s_BOMr7.xls)

Additional Components

Here is a list of additional components to be used with LimeSDR-USB board.

- U.FL to SMA adapter cable (<http://uk.farnell.com/lr-research/080-0001/cable-ufl-to-sma-rp-female-bulkhead/dp/2324836>)
- Tested fans:
 - MB40100V2-000U-A99 (<http://www.digikey.com/product-detail/en/sunon-fans/MB40100V2-000U-A99/259-1565-ND/2757776>)
 - MC30060V1-000U-A99 (<http://www.digikey.com/product-detail/en/sunon-fans/MC30060V1-000U-A99/259-1545-ND/2757809>)

- [v](https://wiki.myriadrfr.org/index.php?title=Template:Community&action=edit)
- [t](https://wiki.myriadrfr.org/index.php?title=Template:Community&action=edit)
- [e](https://wiki.myriadrfr.org/index.php?title=Template:Community&action=edit) (<https://wiki.myriadrfr.org/index.php?title=Template:Community&action=edit>)

Myriad-RF Community Documentation

Introduction	What is SDR? - Getting Started
Software	Drivers - Frameworks - Applications - Packages
Resources	Tutorials - Blog Posts



Other documentation hosted on this wiki: **Lime Microsystems**

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