

Forum: [Hack Forums](#)

Thread: [LimeSDR Mini - A full-duplex SDR for \\$139](#)

?Anubis - September 20, 2017, 3:10 pm

Since nobody posted this here, at least I've not seen, I thought I would post myself.

Lime Micro released other SDR device after the successful LimeSDR. This time it only costs \$139 (\$99 for the early birds). It comes with half the channels, half the bandwidth/sample rate and with a big step down in the FPGA. Apart from that, the frequency range suffered minor changes and the oscillator precision and output power stayed the same.

Here is the complete list of features: Frequency Range: 10 MHz - 3.5 GHz

RF Bandwidth: 30.72 MHz

Sample Rate: 30.72MSPS

Sample Depth: 12 bit

TX Channels: 1

RX Channels: 1

Duplex: Full

Interface: USB 3.0

Programmable Logic Gates: 16K

Chipset: LMS7002M

Oscillator Precision: +/- 1 ppm initial, +/- 4 ppm stable

Transmit Power: max 10 dBm (depending on freq.)

FPGA: Altera MAX 10 (10M16SAU169C8G)

Flash Memory: 4 MB flash

EEPROM Memory: 2 x 128 KB (for RF transceiver, MCU firmware and data)

VCTCXO Clock: 30.72 MHz

Connectivity: 2x SMA (for antennas) with a switch for choosing the desired matching network, and 1x U.FL for and external clock source

FPGA GPIO Headers: Yes

An Acrylic Case and a set of 2x Taoglas TG.09.0113 antennas are also available for \$40 each.

As an original backer of the LimeSDR, I will warn you that you may not get good performance, if any, in some of the frequency bands. This happens due to the matching networks. I hope Lime won't make the same mistake again. They pointed out that there will be two different matching networks for each channel, one for high and other for low frequencies. I've already requested the actual frequency range of these matching networks and I'm waiting for an answer. Please keep this in mind before buying, the original LimeSDR had a pretty big problem with the HF band, it didn't pick up almost anything, it was necessary a mod in the board for receiving in this band (the mod consisted of removing an inductor from one of the matching networks circuit).

Hope this helps, any question feel free to contact-me.

Faith Connors - September 20, 2017, 3:32 pm

was looking at sdrs earlier today actually, found hackrfs for like 250\$ or something on ali, 300+ official, so this is really nice, with this kind of affordability i may pick it up.

how difficult was modding the device for the quick fix? do you need like crazy hand precision or nah?

yayimamember - September 20, 2017, 11:31 pm

I didn't read about it too much but it seems to use the same chipset as limesdr. Why don't they have the same specs?

?Anubis - September 22, 2017, 4:41 am

(Sep 20, 2017 03:32 PM)Faith Connors Wrote: [\[CITE\]](#) was looking at sdrs earlier today actually, found hackrfs for like 250\$ or something on ali, 300+ official, so this is really nice, with this kind of affordability i may pick it up.

how difficult was modding the device for the quick fix? do you need like crazy hand precision or nah?Yes, but beware that the HackRF is only Half-Duplex, this means you can only use one channel at time (rx or tx).

(Sep 20, 2017 11:31 PM)yayimamember Wrote: [\[CITE\]](#) I didn't read about it too much but it seems to use the same chipset as limesdr. Why don't they have the same specs?The frequency range suffered minor changes, probably because of the matching networks, and the LimeSDR Mini has half of the channels, 1 Tx and 1 Rx, while the LimeSDR has 2 Tx and 2 Rx. Apart from that there's not much, I described this in detail in the post.

cyberghost101 - November 21, 2019, 9:22 am

How can I build a relay attack device - full duplex?