

# N210 Getting Started Guides

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- USRP N200/N210
  - 1 Gigabit Ethernet Cable
  - Power Supply
  - 2 SMA-Bulkhead Cables



Make sure that your kit contains all the items listed above. If any items are missing, please contact your sales agent or Ettus Research Technical support immediately.

- A host computer with an available 1-GigE port

All Ettus Research products are individually tested before shipment. The USRP? is guaranteed to be functional at the time it is received by the customer. Improper use or handling of the USRP? can easily cause the device to become non-functional. Listed below are some examples of actions which can prevent damage to the unit:

- Never allow metal objects to touch the circuit board while powered.
- Always properly terminate the transmit port with an antenna or 50 $\Omega$  load.
- Always handle the board with proper anti-static methods.
- Never allow the board to directly or indirectly come into contact with any voltage spikes.
- Never allow any water, or condensing moisture, to come into contact with the boards.
- Always use caution with FPGA, firmware, or software modifications.



Never apply more than -15 dBm of power into any RF input.



Always use at least 30dB attenuation if operating in loopback configuration

The USRP N200/N210 and compatible RF daughterboards are shipped separately. To operate the device you will need to install the RF daughterboards and supplied bulkhead cables. This can be accomplished by removing the top plate of the USRP N200/N210, which is secured with two screws. After installation, the daughterboards and cables should be secured with the hardware provided. The device must be powered off when installing daughterboards to avoid potential damage. For detailed step-by-step instructions on assembling up your USRP N200/N210, see the [USRP N Series Quick Start \(Daughterboard Installation\)](#) page.

In order to use your Universal Software Radio Peripheral (USRP?), you must have the software tools correctly installed and configured on your host computer. A step-by-step guide for doing this is available at the [Building and Installing the USRP Open-Source Toolchain \(UHD and GNU Radio\)](#) on [Linux](#), [OS X](#) and [Windows](#) Application Notes. Release 3.8.4 or later of the USRP Hardware Driver, UHD, is required. It is recommended to use the latest stable version of UHD that is available.

If you have a USB stick with the [Live SDR Environment](#) installed on it, then you may boot your host computer from that. The LiveUSB SDR Environment does not require anything to be installed on your host computer, and contains a Linux-based environment with the UHD software and the GNU Radio framework already installed. More information about the [Live SDR Environment](#) is available at the [Live SDR Environment Getting Started Guides](#) page.

Once the software tools are installed on the host computer, or using the [Live SDR Environment](#), verify the correct operation of the USRP by running the utility programs on the host computer. More information is available at the [Verifying the Operation of the USRP Using UHD and GNU Radio](#) Application Note.

Technical support for USRP hardware is available through email only. If the product arrived in a non-functional state or you require technical assistance, please contact [support@ettus.com](mailto:support@ettus.com). Please allow 24 to 48 hours for response by email, depending on holidays and weekends, although we are often able to reply more quickly than that.

We also recommend that you subscribe to the community mailing lists. The mailing lists have a responsive and knowledgeable community of hundreds of developers and technical users who are located around the world. When you join the community, you will be connected to this group of people who can help you learn about SDR and respond to your technical and specific questions. Often your question can be answered quickly on the mailing lists. Each mailing list also provides an archive of all past conversations and discussions going back many years. Your question or problem may have already been addressed before, and a relevant or helpful solution may already exist in the archive.

Discussions involving the USRP hardware and the UHD software itself are best addressed through the **u?srp--users** mailing list at <http://usrp-users.ettus.com>.

Discussions involving the use of **GNU Radio** with USRP hardware and UHD software are best addressed through the **d?iscuss--gnuradio** mailing list at <https://lists.gnu.org/mailman/listinfo/discuss-gnuradio>.

Discussions involving the use of **OpenBTS®** with USRP hardware and UHD software are best addressed through the **o?penbts--discuss** mailing list at <https://lists.sourceforge.net/lists/listinfo/openbts-discuss>.

The support page on our website is located at <https://www.ettus.com/support>. The Knowledge Base is located at <https://kb.ettus.com>.

Every country has laws governing the transmission and reception of radio signals. Users are solely responsible for insuring they use their USRP system in compliance with all applicable laws and regulations. Before attempting to transmit and/or receive on any frequency, we recommend that you determine what licenses may be required and what restrictions may apply.

- NOTE: This USRP product is a piece of test equipment.

If you have any non-technical questions related to your order, then please contact us by email at [orders@ettus.com](mailto:orders@ettus.com), or by phone at +1-408-610-6399 (Monday-Friday, 8 AM - 5 PM, Pacific Time). Please be sure to include your order number and the serial number of your USRP.

Terms and conditions of sale can be accessed online at the following link: <http://www.ettus.com/legal/terms-and-conditions-of-sale>