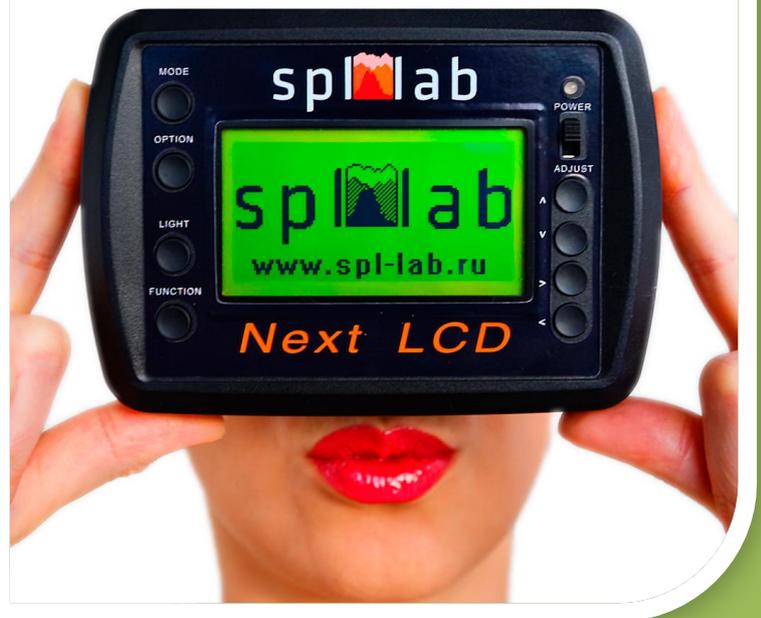


2015

Connection to Next-Lab devices
via the wireless network

The **NEXT** era
will come in **2015**



Spl-Lab

31.10.2015

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Introduction

The wireless communication technologies became an integral part of our everyday life. New product line of Spl-Lab devices is no exception as well. The devices of Next-Lab product line can be supplied with the inbuilt Wi-Fi module for connecting to the Windows based PC or Android/iOS-based tablet PC/smartphone. The Wi-Fi module is being installed optionally; be certain to clarify with your Spl-Lab dealer about the availability and price of this option. At a later time the Wi-Fi module can be purchased and installed only in Spl-Lab service centre. Unassisted installation of the module is impossible.

The device with the inbuilt Wi-Fi module can be connected to the wireless network only as a client. Wi-Fi module cannot serve as the hotspot for other devices; it is impossible to connect to it as a client.

The module can be directly connected to:

- Wireless hotspot (router),
- Smartphone/tablet PC in tethering mode (hotspot),
- PC in tethering mode (hotspot).

Connection to the internet via Wi-Fi when in tethering mode (hotspot) is impossible.

Connection with the device that has Wi-Fi module is available as follows:

- The device and PC/tablet PC/smartphone are connected to one hotspot, at the same time PC/tablet PC/smartphone can be connected both through wired and wireless network;
- The device is directly connected to a PC/tablet PC/smartphone that has tethering mode (hotspot) enabled;
- The device is connected to a hotspot, and a PC/tablet PC/smartphone is also connected to the internet. In such case additional configuration of the hotspot might be required for port forwarding.

Configuration of the Wi-Fi module

For connecting to the wireless network as a client the Wi-Fi module of the device should receive connection settings, such as network name (SSID), access password (if the network is protected), gateway/client IP address (if using DHCP is impossible). In case of special necessity a number of the default port, through which connection is implemented, can be changed.

Configuration can be carried out as follows:

- Connecting the device to the PC using *Measuring Center for Windows* software via USB port;
- Through Android/iOS-based tablet PC/smartphone using Smart-Config technology in *Measuring Center for Android/iOS*;
- Through the device interface directly (only for Next-LCD).

Configuration of the Wi-Fi module using PC

Install Next-Lab and *Measuring Center for Windows* drivers from “Support” section at www.spl-lab.ru website or from the CD that is included into the delivery set.

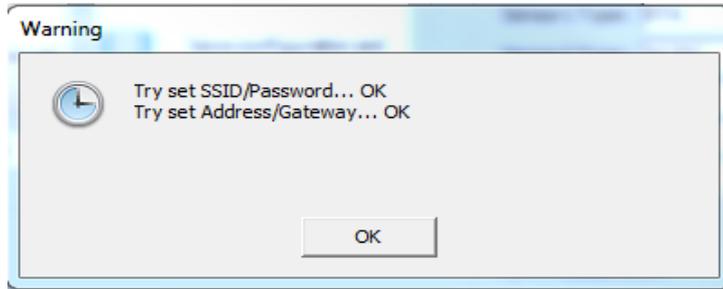
- Switch on the Next-Lab device and wait until it is completely booted (the Power indicator glows constantly).
- Connect the device to the PC and wait until drivers are installed.
- Launch the *Measuring Center for Windows* software.
- Go to **Config** tab of the program.
- If you did everything correctly, you will see your Next-Lab device in the dropdown list; select it.
- If your device has Wi-Fi module, you will see relevant pictogram in **Wi-Fi** field of the **Next-Lab Settings** region. Also the **Next-Lab Wi-Fi Config** region, as presented below, will be available:



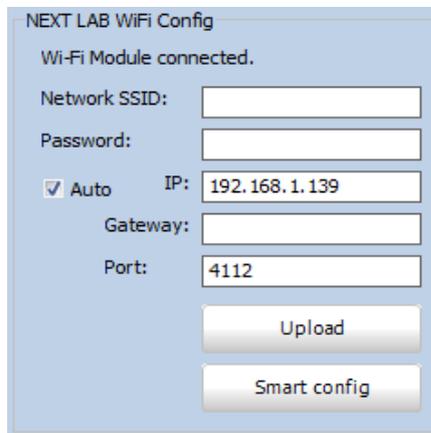
The image shows a software dialog box titled "NEXT LAB WiFi Config". At the top, it displays the message "Wi-Fi Module is not connected!". Below this, there are several input fields for configuration: "Network SSID:", "Password:", "IP:" (with a checked "Auto" checkbox), "Gateway:", and "Port:" (with the value "4112"). At the bottom of the dialog, there are two buttons: "Upload" and "Smart config".

- Enter the name of the network (**Network SSID**), access password (**Password**), if using DHCP is impossible, enter gateway/client IP address (**Gateway, IP**) and uncheck *Auto* checkbox. In case of special necessity number of the default port, through which connection is implemented, can be changed (but it is not advisable).

- Press the *Upload* button and wait until the operation is completed:



- Switch off the device and close the *Measuring Center*.
- Switch on the device, wait until it is completely booted and start the *Measuring Center* software. In case of successful connection in **Next-Lab Wi-Fi Config** region the module status will switch to **Wi-Fi Module Connected**, and in **IP** field the IP address of the device in the network will be shown.



Please note that:

- *The Wi-Fi module might require some time (1-2 minutes) for connecting; for refreshing the connection status press **Update device list** button.*
- *If the module is unable to connect within 2 minutes, it goes into sleep mode, and for reconnecting the module the device has to be restarted.*
- *In some cases for successful connection the Wi-Fi access point/PC/smartphone/tablet PC should be restarted.*

Configuration according to the Smart-Config technology

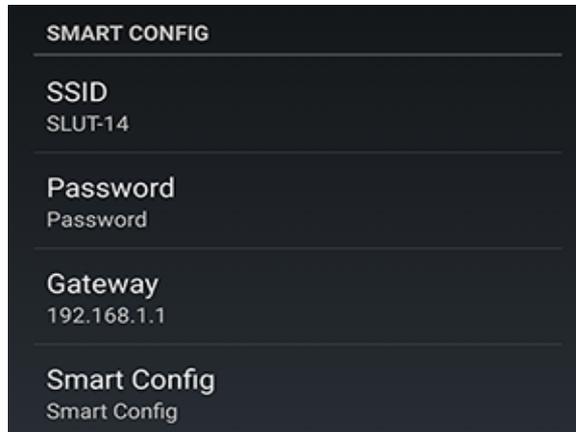
The Smart-Config technology allows remotely configuring the Wi-Fi module of Next-Lab devices using Android/iOS-based tablet PC/smartphone. For using Smart-Config technology you will need a *Measuring Center* for *Android/iOS* application. The application can be downloaded from the corresponding stores (Google Play, App Store) or from “Support” section of the www.spl-lab.ru website (only for Android).

It is important to note that the tablet PC/smartphone, which is being used for configuration of the Next-Lab device according to the Smart-Config technology, should be connected to the same wireless network, to which it is planned to connect the device. In other words, configuration of the device for connecting it to tablet PC/smartphone, which has tethering mode (hotspot) enabled, is possible only through another device (one more tablet PC or smartphone).

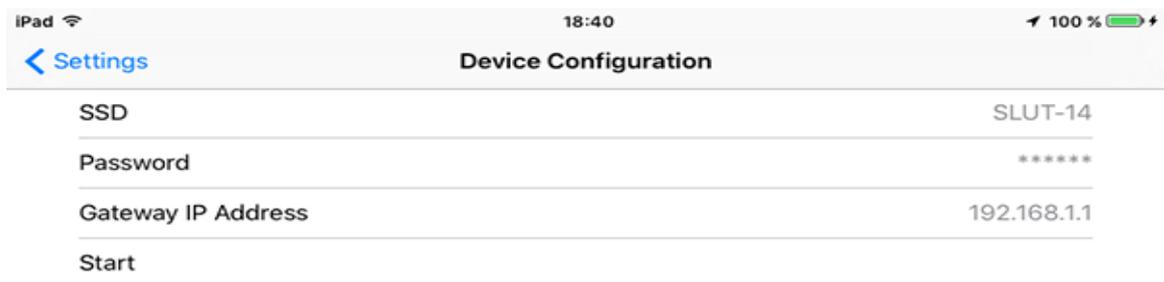
Preparation of a Tablet PC/smartphone

- Launch the *Measuring Center for Android/iOS* on your tablet PC/smartphone.
- Open the **Config** tab from the main menu of the program. For iOS press **Smart-Config-Config** button.

Android



iOS



- Enter the password for accessing the wireless network in the field **Password**. The **SSID** and **Gateway** fields will be filled in automatically.

Activating the mode on the device

Activate the Smart-Config mode on your Next-Lab device. It can be done in three ways:

- **On the device** - switch on the device simultaneously pressing button #1 pressed on, wait until the power indicator blinks 5 times;
- **On the Next-LCD** - select a **Start Smart Config** in the **Wi-Fi Settings** configuration section of the Next-LCD device;
- **On the PC** - press **Smart Config** in the **Next-Lab Wi-Fi Config** region of *Measuring Center for Windows* software.

Running Smart-Config procedure

At once (not later than in 2 seconds) after activation of Smart-Config mode on the device, start the Smart-Config procedure on your tablet PC/smartphone. For that press **Smart-Config** button (Android) or **Start** (iOS).

After the operation is finished you will see relevant text either on the display of the device (Next-LCD), or in the software on the PC, or the Power indicator will blink 5 times. For stopping the operation on Android tap the display of the device.

If you see the text **Smart Config timeout**, repeat the operation until the text **Smart Config Finished** appears on-screen.

The module connection status can be checked in **Wi-Fi Settings-Wi-Fi Status** menu (Next-LCD) or in *Measuring Center* software.

Please note that:

- *The Wi-Fi module might require some time (1-2 minutes) for connecting.*
- *If the module is unable to connect within 2 minutes, it goes into sleep mode, and for reconnecting the module the device has to be restarted.*
- *In some cases for successful connection the Wi-Fi access point/PC/smartphone/tablet PC should be restarted.*

Configuration of the Wi-Fi module through the interface in Next-LCD device

This function is available in the later versions of Next-LCD device microcode. If you are unable to enter **Wi-Fi Settings** mode on your device, download the latest microcode version from “**Support**” section of the www.spl-lab.ru website and run the update for your device according to the instruction given in the archive with firmware upgrade.

- Start the device and wait until it is completely booted. Enter **Wi-Fi Settings** mode by pressing #2 button (**Option**) in CFG mode.
- Select **Connect to Network** item. The device will carry out a search of available wireless networks.
- Select a wireless network to which you have to connect to.
- If the network is password protected, enter a password, using buttons #5 and #6 to choose the group of symbols, buttons #7 and #8 to choose specific symbol, button 4 to enter the symbol, button #1 for deleting entered symbol, button #2 to complete entering a password and to connect to the network.
- Then the device will attempt to connect and inform about the results on-screen.
- The module connection status can be checked in **Wi-Fi Settings-Wi-Fi Status** menu or in *Measuring Center* software.

Please note that:

- *The Wi-Fi module might require some time (1-2 minutes) for connecting.*
- *If the module is unable to connect within 2 minutes, it goes into sleep mode, and for reconnecting the module the device has to be restarted.*
- *In some cases for successful connection the Wi-Fi access point/PC/smartphone/tablet PC should be restarted.*

Setting of a PC/tablet PC/smartphone for operation with the device

After successful completion of configuration and connecting the Next-Lab device to the wireless network, you will need to set the *Measuring Center* on your PC/tablet PC/smartphone for connecting it with the device for further work.

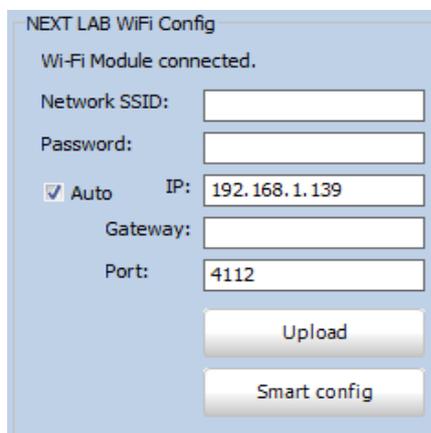
After connection to the wireless network a Next-Lab device receives a unique IP address and port. You can find connection settings in one of the following ways:

- In **Wi-Fi Settings-Wi-Fi Status** of the Next-LCD device menu;
- On the PC in *Measuring Center for Windows* software, after connecting the device through USB port;
- After running Measuring **Lean Search** on a tablet PC/smartphone in the *Measuring Center for Android/iOS*;
- If the connection is implemented remotely via the Internet, request an IP address and port number from the owner of the device.

It is important to note that the device is unable to exchange data via USB and Wi-Fi at the same time. Disconnect the device from USB port of a PC to enable the device connection to the wireless network.

Setting the PC

- Switch on the Next-Lab device and wait until it is completely booted (the Power indicator glows constantly).
- Connect the device to a PC using USB cable.
- Launch the *Measuring Center for Windows* software.
- Go to **Config** tab of the program.
- Select your Next-Lab device from the device dropdown list.
- Skip the next step if you know IP address and port of the device.
- The device, after it is switched on, requires some time (1-2 minutes) for connecting to the wireless network. After the device is connected to the network, in **Next-Lab Wi-Fi Config** region the module status will switch to **Wi-Fi Module Connected**, and in **IP** field the IP address of the device in the network will be shown. If the information about IP address is missing, press **Update device list** several times until status changes to **Wi-Fi Module Connected** and IP address is shown. If the status of the device has changed to **Wi-Fi Module is off**, restart the device and repeat the procedure.



NEXT LAB WiFi Config

Wi-Fi Module connected.

Network SSID:

Password:

Auto IP:

Gateway:

Port:

- Check the **Enabled** checkbox and enter the IP address of the device in **IP** and **Port** fields of the **LAN Config** region.

- Save configuration by pressing **Save configuration and close page** button.
- Disconnect the device from USB port.
- Restart the *Measuring Center*.
- If the connection is established, you will see your Next-Lab device in the list of devices on the **Config** tab.

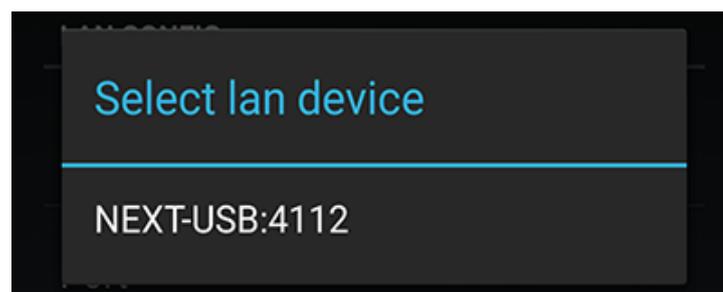
Please note that:

- *The Wi-Fi module might require some time (1-2 minutes) for connecting.*
- *If the module is unable to connect within 2 minutes, it goes into sleep mode, and for reconnecting the module the device has to be restarted.*
- *In some cases for successful connection the Wi-Fi access point/PC/smartphone/tablet PC should be restarted.*

Setting of a Tablet PC/smartphone

- Switch on the Next-Lab device and wait until it is completely booted (the Power indicator glows constantly).
- Launch the *Measuring Center for Android/iOS* on your tablet PC/smartphone.
- Open the **Config** tab from the main menu of the program.
- Skip the next step if you know IP address and port of the device.
- Press **Lan Search** button and wait until the device is detected. Select a device from the list of detected devices:

Android



iOS



- If you have performed search, fields **IP address** and **Port** will be filled in automatically. Otherwise fill this information manually.
- Check the **Using in Search** checkbox.
- If the connection with the device was successful your Next-Lab device will be shown in the **Input Device** list. Select it and exit configuration.