2018

Wi-Fi bridge Connection and Setting

Application to Operation Manual DEL-150E/DEL-150V

CONTENT

1. DESCRIPTION AND WORK

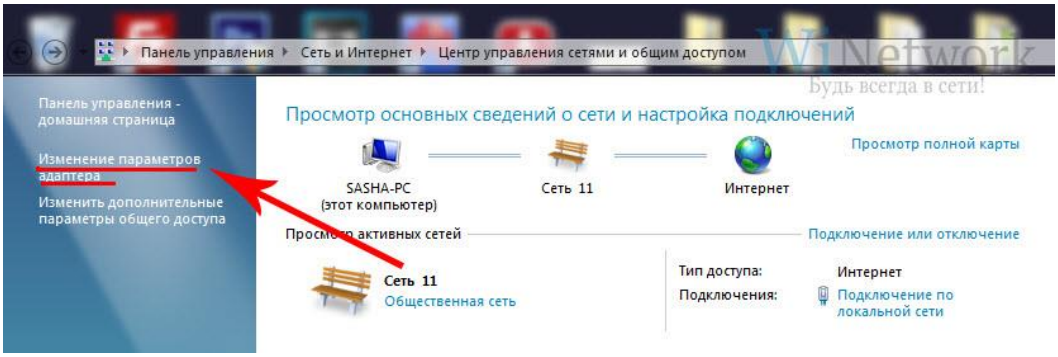
To organize a communication channel between two points that are remote from each other, but are in direct line of sight, the optimal solution is to create a radio bridge between them. The best solution would be to use equipment that has directional antennas. One of the options for implementing this solution is to use a Wi-Fi bridge. It is advisable to carry out the setup and testing stage of the equipment on the table: this will allow you to check the channel's performance before installation. To create a bridge, you will need two devices, the first of which acts as an access point (hereinafter referred to as the "Wi-Fi bridge" Master), the second to a transceiver station (hereinafter referred to as the Wi-Fi bridge "Slave").

2. Wi-Fi BRIDGE SETTING AS «MASTER»

2.1 Connect the device as shown in figure 1.

Figure 1 - Wi-Fi bridge connection ("Master") to PC

2.2 At PC network settings (рис.2) IP-адрес 192.168.1.222 is chosen (it can be any range from 1-19 and 23-254) and network mask 255.255.255.0. Gateway and DNS may not be pointed.



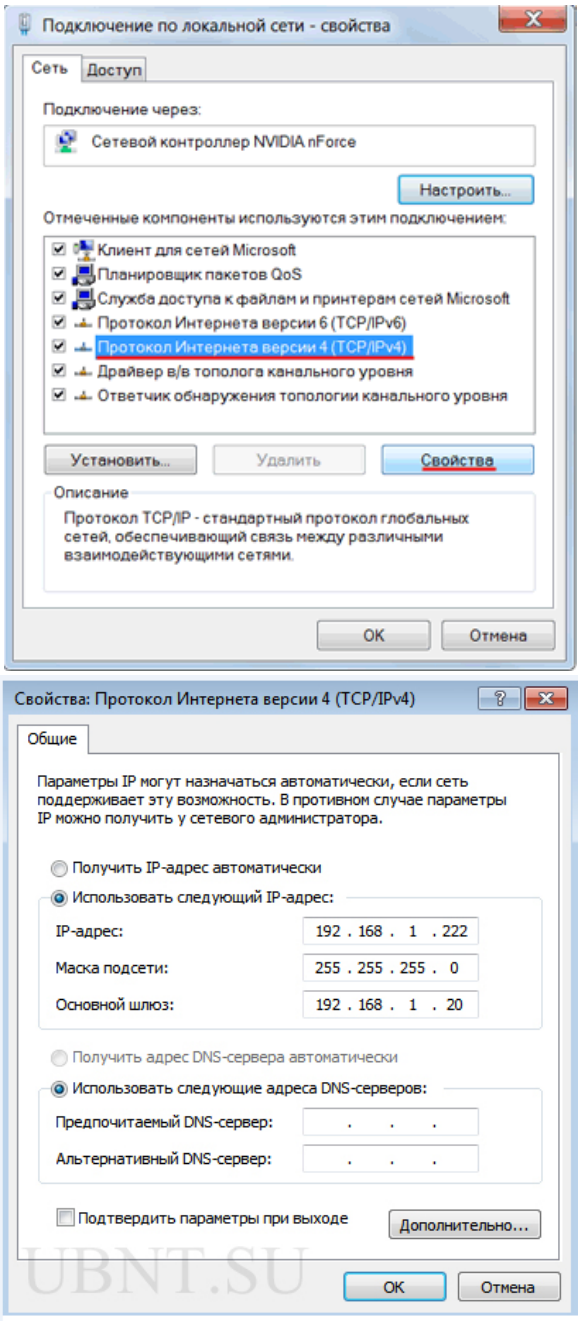
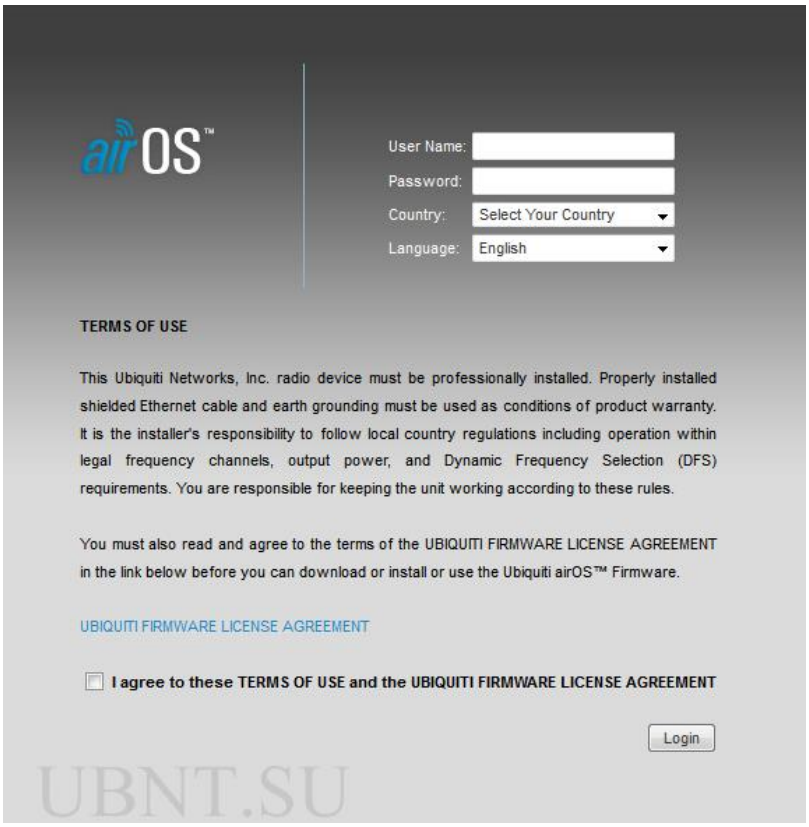


Figure 2 – PC network settings

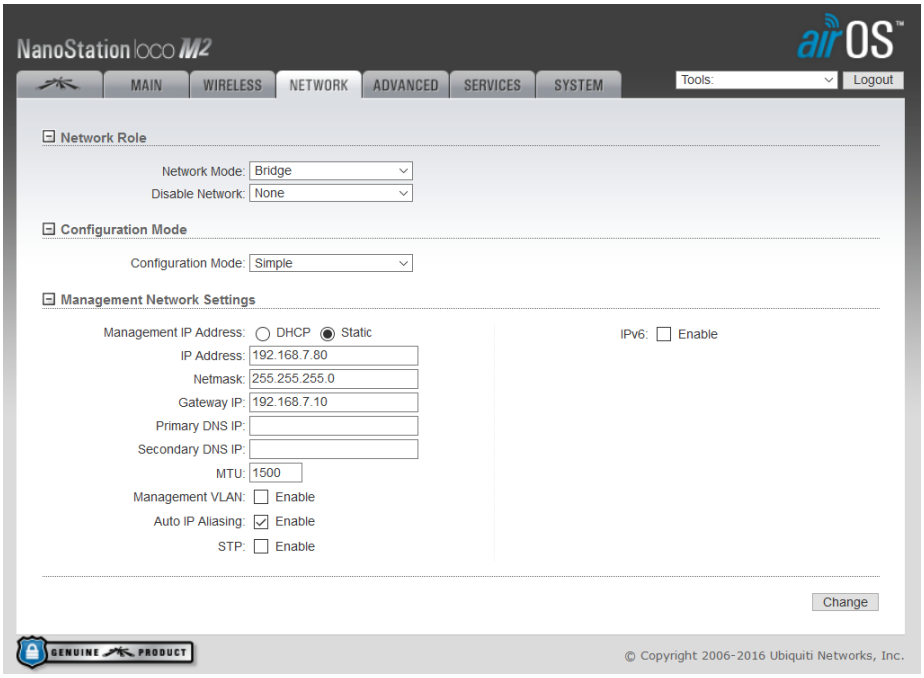
2.3 Connect LAN-port power unit of Wi-Fi bridge ("Master") and set network map of your PC by a usual network cable (Ethernet).

2.4 In the address bar of any of the modern browsers of your PC, enter the address 192.168.1.20 (the default IP address of the antenna). If everything is connected correctly, we see the following picture:



2.5 As the username and password, enter the word ubnt, in the third field, select the country of use. This choice determines the maximum allowable transmitter power, as different countries have different restrictions. In the fourth field, select the language. The default is English. Unfortunately, there is no Russian. Do not forget to confirm with the checkmark our agreement with the terms and conditions of the license, click the Login button and go to one of the AirOS pages.

2.6 Go to the Network tab of the AirOS interface.



2.7 In the section:

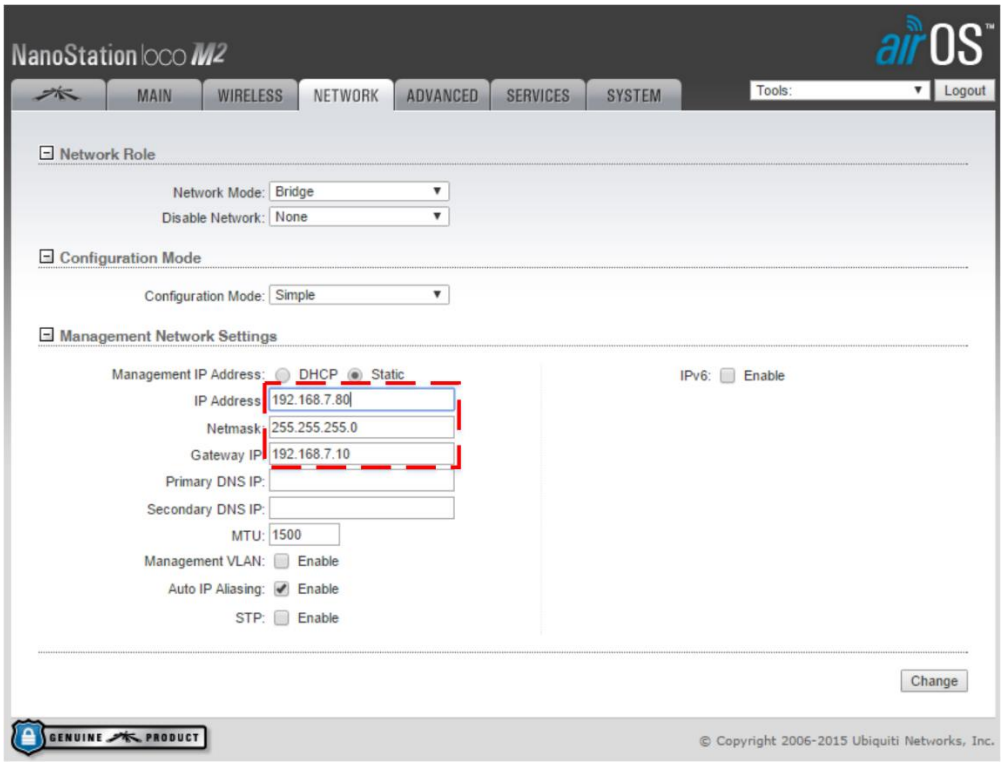
• Network Mode, select the bridge mode - Bridge.

• Select Disable Network - None.

• Management Network Settings specify the network settings for Wi-Fi bridge ("Master"). Two options are possible: a) (DHCP mode) or Wi-Fi bridge ("Master") receives the IP from the DHCP server: in this case, you only need to specify the backup IP and mask so that Wi-Fi bridge ("Master") is available if IP is not received via DHCP; the rest of the device will receive from DHCP server; b) a static IP (Static mode) address at which Wi-Fi bridge ("Master") is always available at the same address and the operation of DHCP servers does not affect it at all. In our case, select the Static mode.

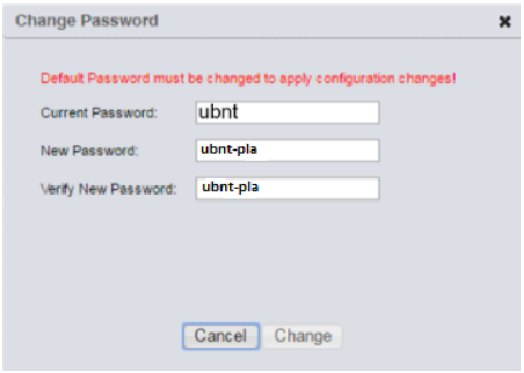
• Change the IP address, mask and gateway of Wi-Fi bridge ("Master"):

IP Address	**192.168.7.80**
Netmask (маска)	**255.255.255.0**
Gateway IP (шлюз)	**192.168.7.10**

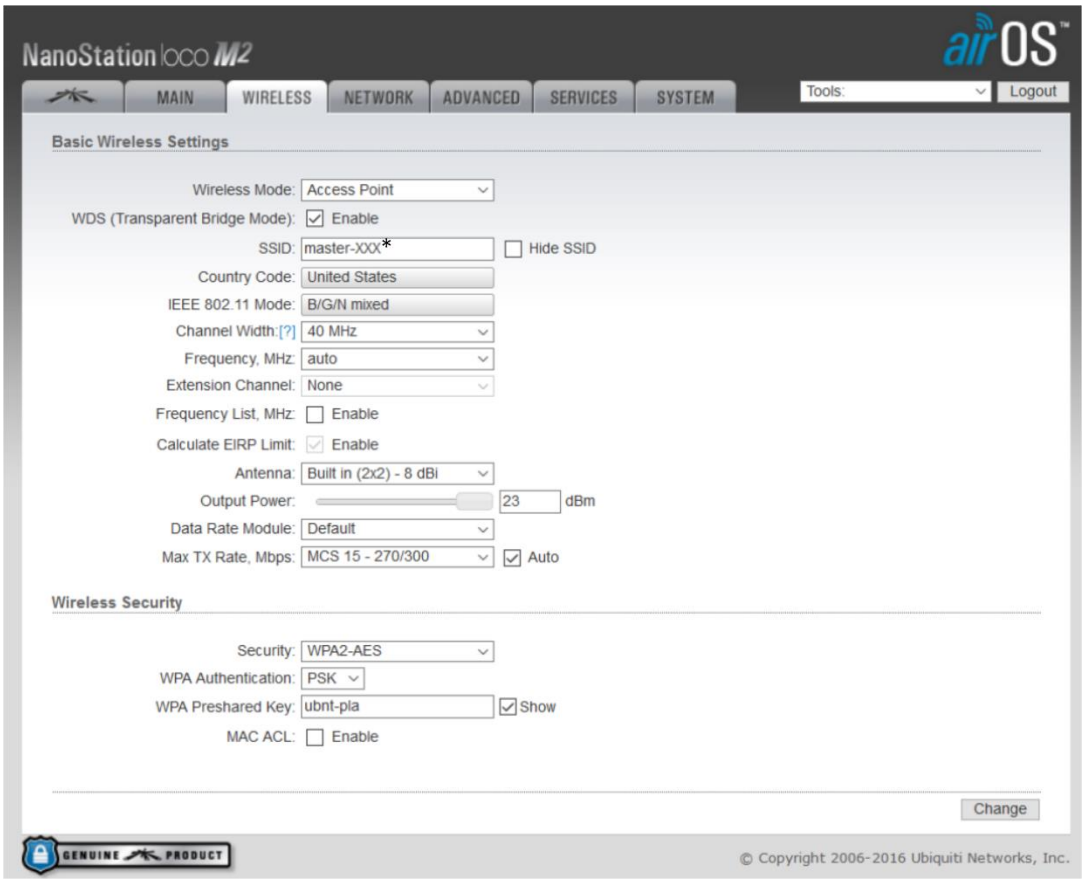


2.8 After changing the settings, click the Change button.

When the window for changing the password for entering the Web-interface of Wi-Fi bridge ("Master") appears, enter the values as in the picture below:



2.9 Press the Change button (in the lower right corner.) After saving, the password for entering the antenna WEB interface: ubnt-pla. Open «Wireless».



*XXX-device serial number

2.10 In the “Basic Wireless Settings” section, the basic wireless network settings are defined:

• Wireless Mode (wireless mode) set as Access Point, after which the content of the window changes slightly.

• WDS (Transparent Bridge Mode) - organization of a virtual channel. **INCLUDE MANDATORY !!!**

• SSID - the name of your Wi-Fi network in which the radio bridge will work, in our case "master-XXX", where XXX is the serial number of the device.

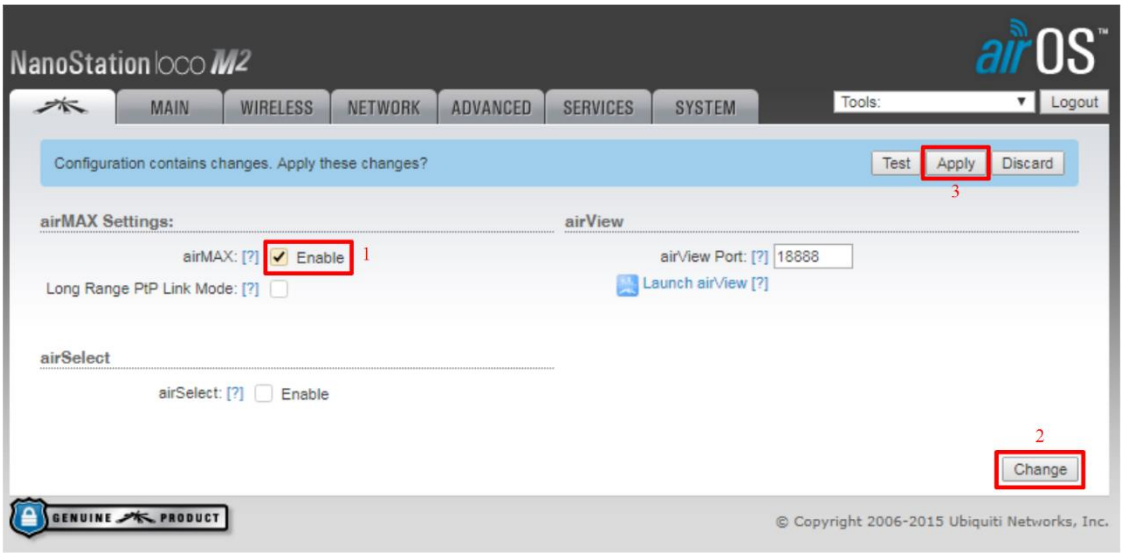
• Wireless Security indicates security settings. By default, encryption is disabled. Leaving the network open is not recommended. Security - choose an encryption algorithm. As a more modern and crypto-resistant, we choose WPA2-AES. WPA Autentification authorization type is PSK. WPA Preshared Key - a key (password) for connecting to a Wi-Fi network. Before entering the password, put a “tick” Show - in this case, instead of asterisks, the entered characters will be displayed in the password field. In our case, the password is ubnt-pla.

• Save the settings, button Change.

2.11 Go to this sign  of AirOS interface

- *airMAX* – tick «mark»

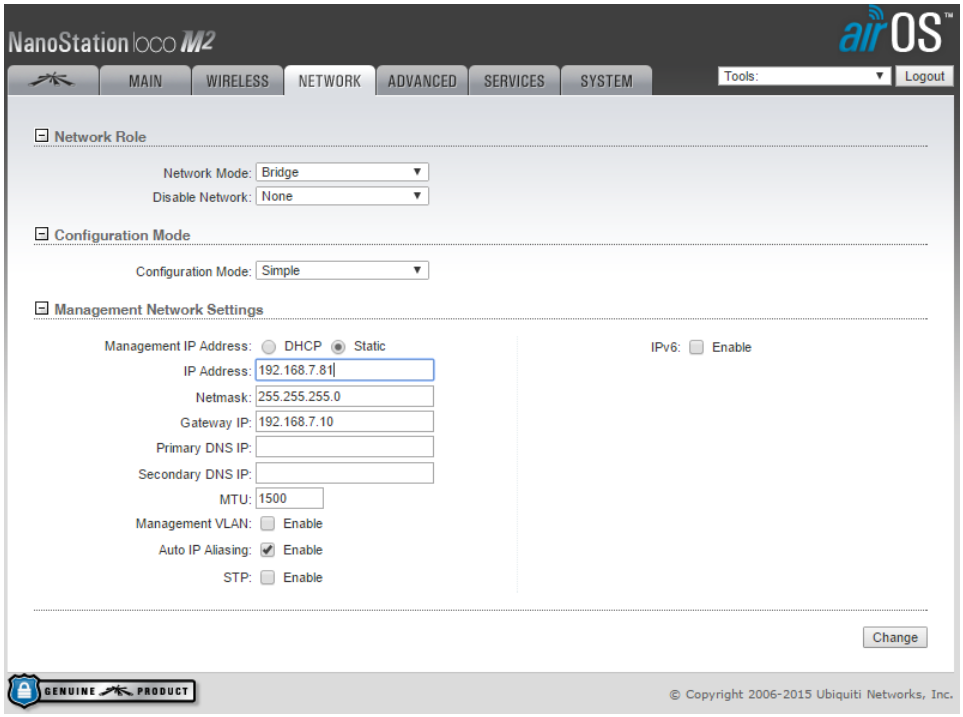
2.12 Save the settings, the **Change** button, then **Apply**, reboot the device, disconnect it from the computer network (cable from the PC, see Fig. 1) and put it next to the second device and go to Wi-Fi bridge setup ("Slave").



3 Wi-Fi BRIDGE SETTING AS «SLAVE»

3.6 Carry out steps 2.1-2.6.

3.7 Specify an IP different from the IP of the first device, but located on the same subnet 192.168.7.81-192.168.7.89. The rest of the settings are performed as in the picture below.

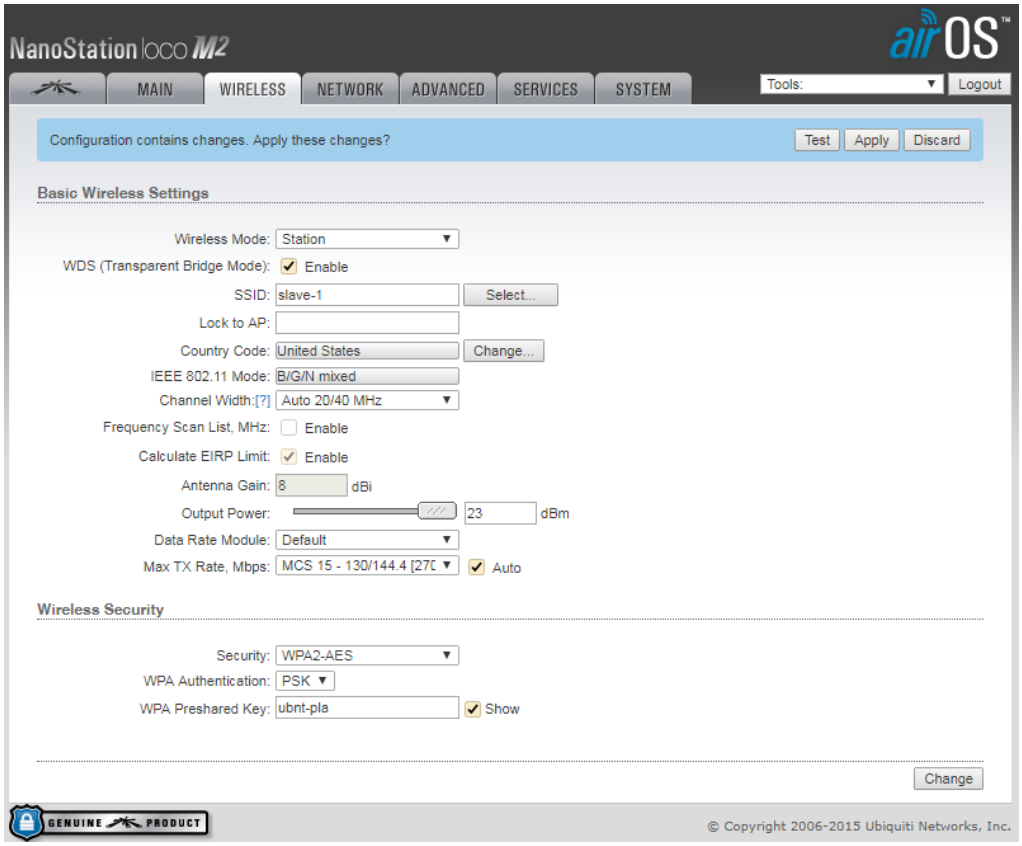


3.6 Save settings, Change button

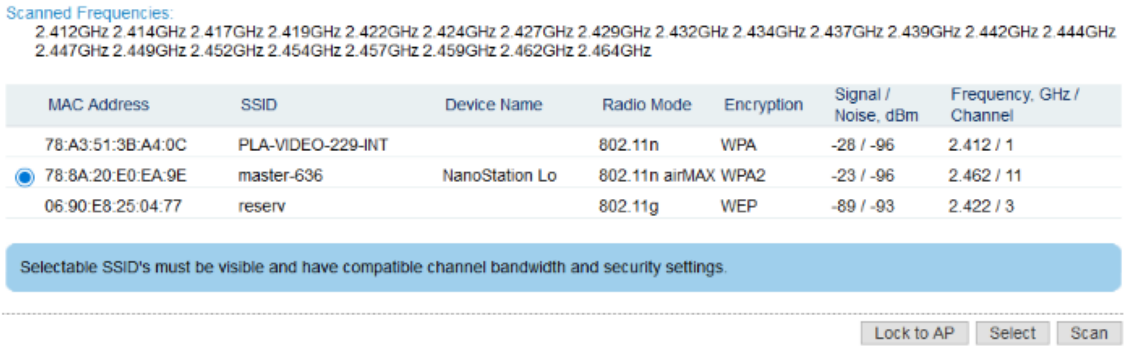
3.7 Go to the “Wireless” tab.

• Set Wireless Mode as Station. Make sure that LAN interface of Wi-Fi bridge power supply ("Master") is not connected to your PC.

• SSID — the name of your Wi-Fi network in which the radio bridge will work, in our case “slave-1”.

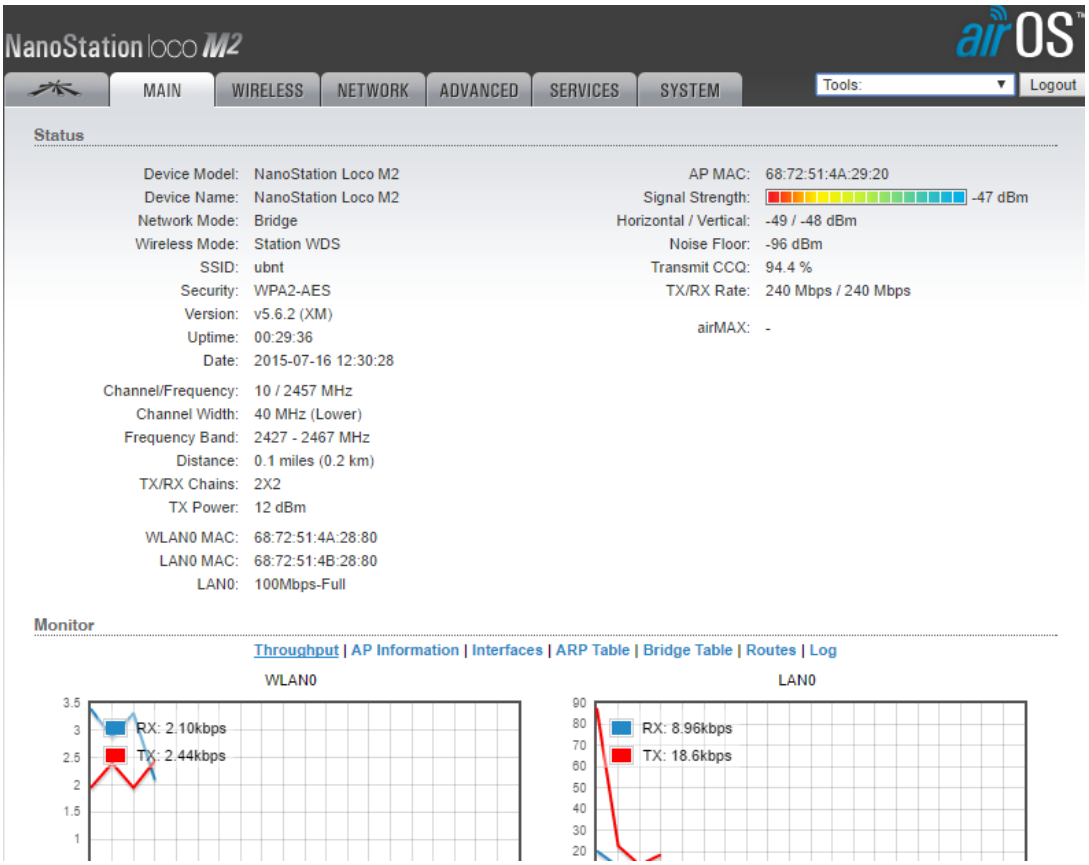


- Click the Select button next to SSID field. Wait for a few seconds and in the list of Wi-Fi networks that opens, find our network (in our case, “master-636”). Mark our network by clicking on the switch in the left column, and then press the “Lock to AP” button below, thereby “tying” our station to the access point.



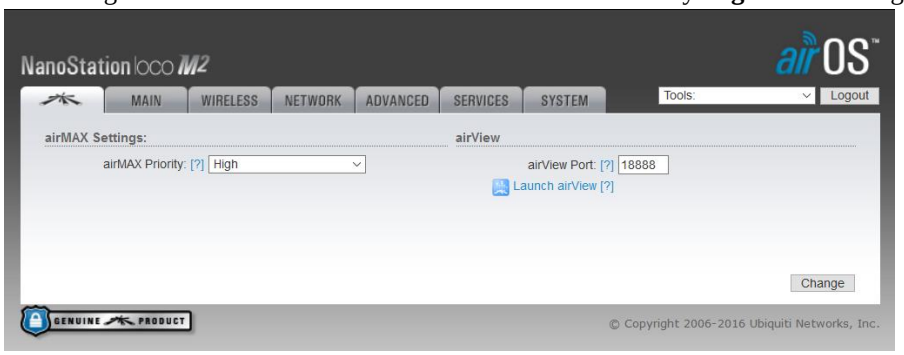
3.6 Bare in mind that at Lock to AP field MAC-address of Wi-Fi bridge appeared ("Master-636"). Enter the encryption key attentively (in our case, ubnt-pla). Save the settings, button Change.

3.7 At Main observe the connection between our devices.



3.8 In the upper right corner in the list of Wi-Fi bridges ("Slave"), select Ping and in the Select Destination IP list of the window that opens, specify the IP address of the second device, click **Start** and make sure the connection is stable.

3.9 Pass to sign  AirOS interface. Select airMax Priority/**High** in the settings**.**

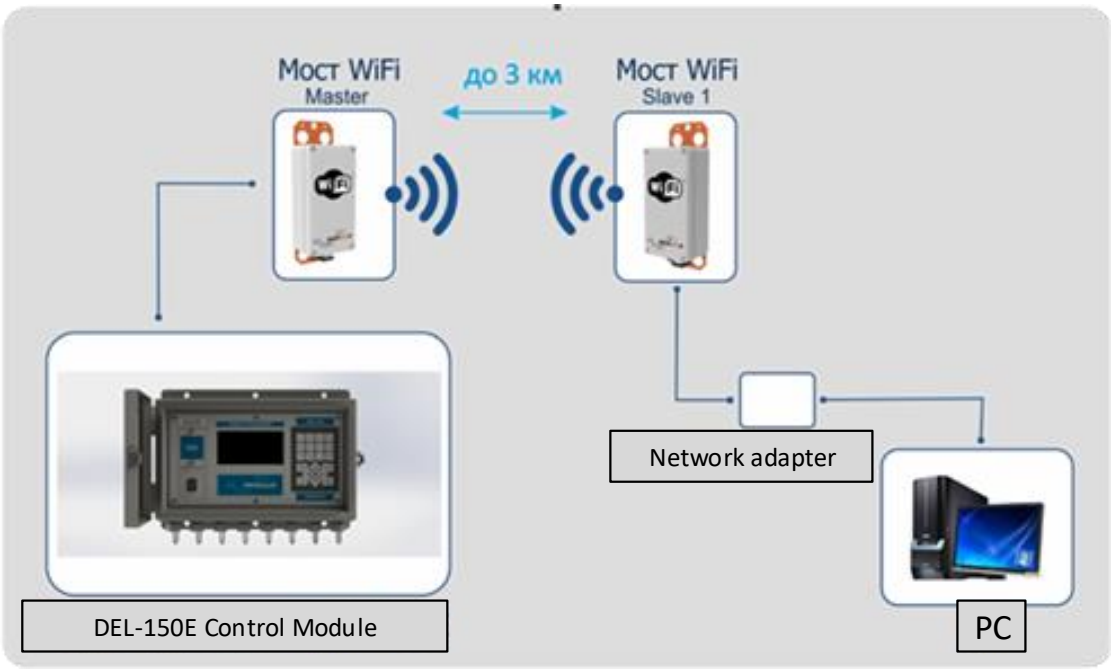


3.10 Save settings, button **Change, then Apply**

3.11 After confirming the operability of the bridge, the configuration stage can be considered completed.

4 Wi-Fi BRIDGE CONNECTION TO DEL-150E/DEL-150V SYSTEMS

4.6 Wi-Fi bridge connection to DEL-150E



4.7 Wi-Fi bridge connection to DEL-150V system