Link Pre-configuration in the lab

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To the certification exam

Usually, before going into the field, it is recommended to pre-configure in the lab the Infinet Wireless units to verify the link establishment. Therefore, let's take the units to be used for this course out of the package and place them on the table.

NOTE

A minimum set of requirements must be met during devices pre-configuration in the lab:

- Make sure the devices are not directed at each other in order to prevent radio modules damage.
- A minimum transmit output power must be set.
- In case of two devices with external antennas, it is recommended to connect them in the link directly, with RF cables and RF attenuators with attenuation of at least 40 dB for each polarization (installation\deinstallation of the RF attenuators and RF cables should only be performed when the devices are switched off).
- Grids shoud be the same on both Master and Slave units.

Step 1: Connection scheme

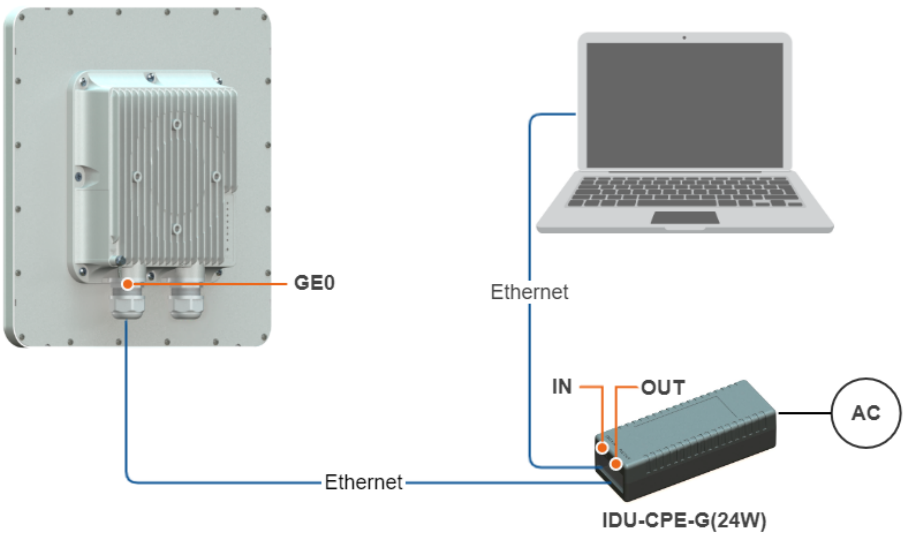
The equipment list required for the lab configuration:

1. Outdoor units - 2 pcs.
2. Power supply - 2 pcs.
3. Power cord - 2 pcs.
4. Ethernet cables - 4 pcs.
5. Laptop with Ethernet port available.

We will perform the settings mentioned below for each unit of the link and check if wireless link was established correctly.

Use the following instruction to assemble a test scheme:

1. Connect Gigabit Ethernet port at the ODU to the power supply port labeled as "OUT".
2. Connect Ethernet port at the laptop to the power supply port labeled as "IN".
3. Connect the power cord to power supply and plug it to AC mains.



Step 2: Access to the device

Let's access each unit to the default IP address 10.10.10.1 with mask 255.255.255.0 via a web browser. Before, make sure the Ethernet port of the Laptop has an IP address assigned from the same subnetwork as the one for the unit (e.g., set 10.10.10.10 with mask 255.255.255.0).

> **NOTE**
>
> We assume that each unit used in this setup has not been configured before and runs with the factory settings.

Use any letters or numbers for the initial authentication on each unit, for example:

- Login: login.
- Password: password.

> **NOTE**
>
> We strongly recommend to change your login and password after the first login.

After the first login, let's configure a distinctive name for each unit and set a custom login and password. Go to the "Settings" → "General" section and configure:

- Device Name (e.g., Master/Slave).

Go to the "Settings" → "Security" section and configure:

- Login (e.g., admin).
- Password (e.g., admin).

> **NOTE**
>
> At the next login, type "admin" for the Login and Password (if these are the credentials set before) to access the unit in the privileged mode.

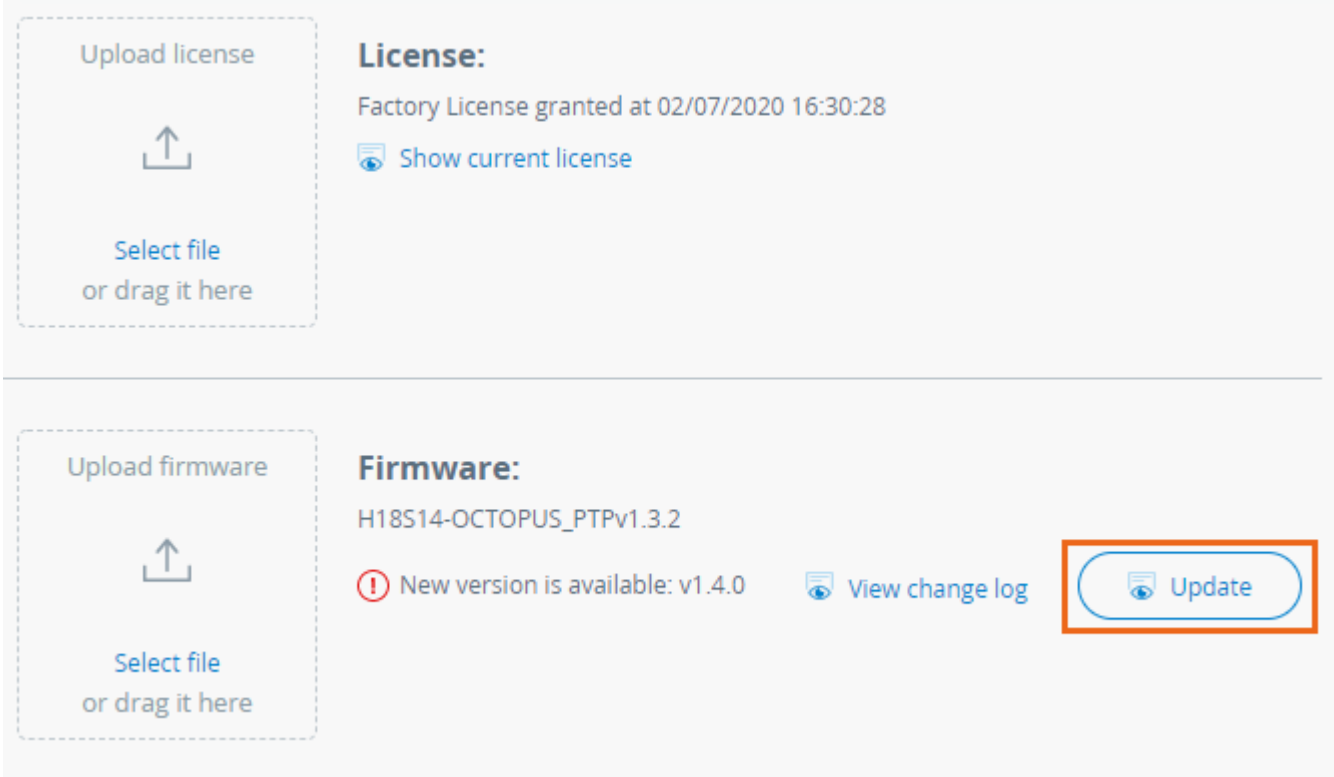
Step 3: Firmware upgrade

Let's upgrade each unit to the latest stable firmware version. In case the laptop has an access to the Internet, a new software version will be detected automatically, update on both devices.

Otherwise, the manual firmware upgrade process should be performed:

- Download latest release from the ftp server https://ftp.infinet.ru/pub/Firmware.
- In the "Maintenance" section click the "Select file" button and set the path to the downloaded file, or drug it to the specified area.
- File will be uploaded to the device. Changes will take force after reboot.

Title



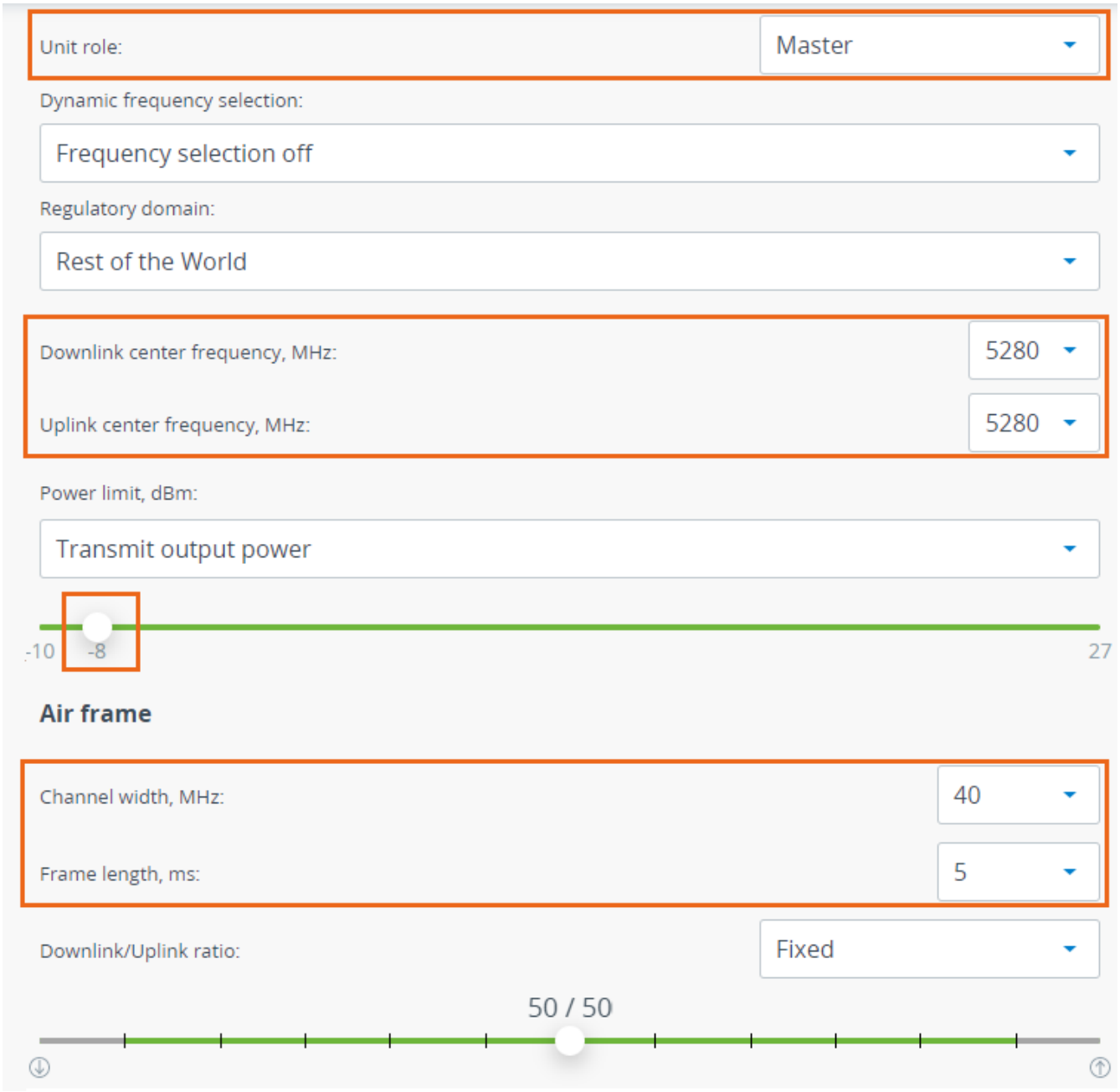
Step 4: Radio parameters configuration

Let's configure the minimum needed radio parameters to establish the link.

At the unit named Master at step #2 above, go to the "Settings" → "General" section and set the "Link ID" parameter, it must be the same on both sides of the link. Then to "Radio" and set this unit with:

- Unit role: one device should be Master, another one - Slave.
- Downlink center frequency use values selected at the Link Planning stage.
- Uplink center frequency: only for the Slave device.
- Power limit: set the minimum value in the range, as currently, we are in the lab, and we don't need high output power.
- Channel width: use value selected at the Link Planning stage.
- Frame length: same on both devices.

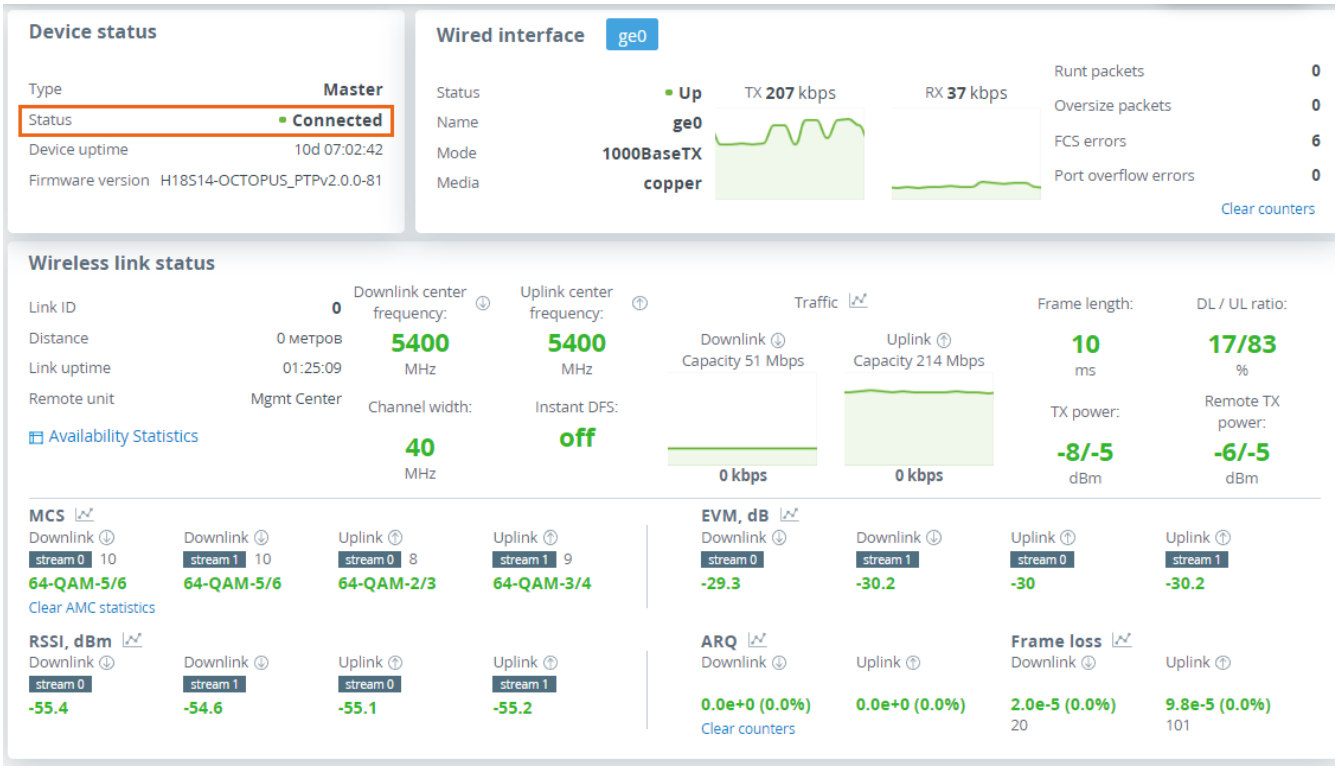
The rest of parameters remain with the default values.



Step 5: Check the wireless link status

Let's apply all settings described above for each unit and go to the "Dashboard" section and check if the device status has changed to "Connected".

Title


Device status
Type Master
Status Connected
Device uptime 10d 07:02:42
Firmware version H18S14-OCTOPUS_PTPv2.0.0-81
Wired interface
ge0
Status Up
Name ge0
Mode 1000BaseTX
Media copper
TX 207 kbps
RX 37 kbps
Runt packets 0
Oversize packets 0
FCS errors 6
Port overflow errors 0
Clear counters
Wireless link status
Link ID 0
Distance 0 метров
Link uptime 01:25:09
Remote unit Mgmt Center
Availability Statistics
Downlink center frequency: 5400 MHz
Uplink center frequency: 5400 MHz
Channel width: 40 MHz
Instant DFS: off
Traffic
Downlink Capacity 51 Mbps
Uplink Capacity 214 Mbps
0 kbps
0 kbps
Frame length: 10 ms
DL / UL ratio: 17/83 %
TX power: -8/-5 dBm
Remote TX power: -6/-5 dBm
MCS
Downlink stream 0 10 64-QAM-5/6
Downlink stream 1 10 64-QAM-5/6
Uplink stream 0 8 64-QAM-2/3
Uplink stream 1 9 64-QAM-3/4
Clear AMC statistics
EVM, dB
Downlink stream 0 -29.3
Downlink stream 1 -30.2
Uplink stream 0 -30
Uplink stream 1 -30.2
RSSI, dBm
Downlink stream 0 -55.4
Downlink stream 1 -54.6
Uplink stream 0 -55.1
Uplink stream 1 -55.2
ARQ
Downlink 0.0e+0 (0.0%)
Uplink 0.0e+0 (0.0%)
Clear counters
Frame loss
Downlink 2.0e-5 (0.0%) 20
Uplink 9.8e-5 (0.0%) 101