XGSPON ONU Stick SFP+ 8311

Firmware Version User Guide

1. Preparation:

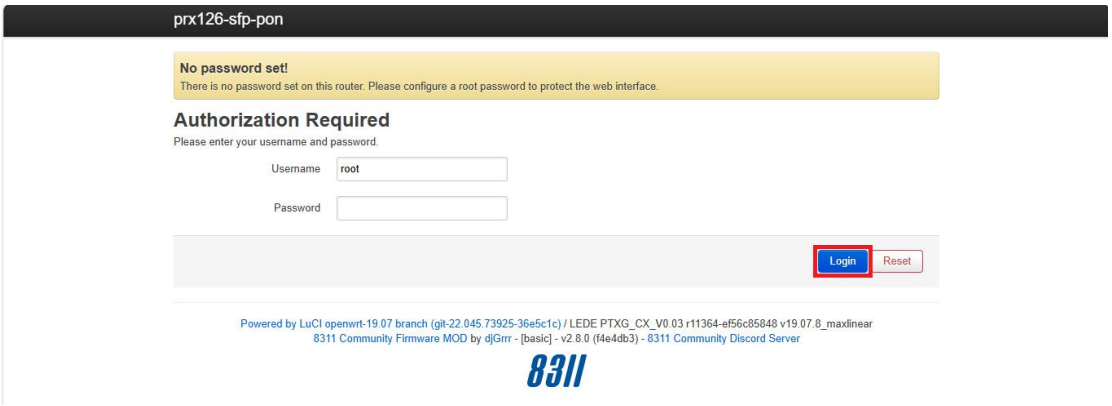
(1) Computer, network cable;

(2) A switch or router that supports 10G optical ports.

2. Connect XGSPON STICK ONU:

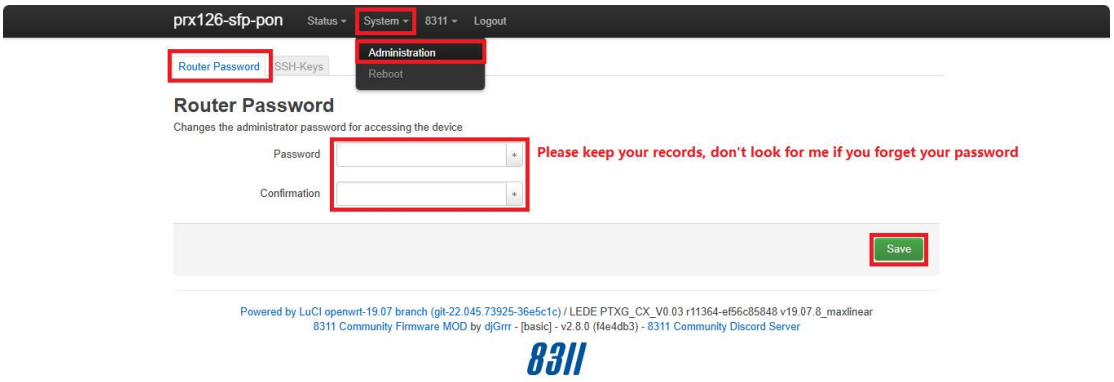
(1) Connect the computer's network cable and XGSPON ONU Stick SFP+ to the switch, set the computer's IP address to be in the same subnet as XGSPON ONU Stick SFP+: 192.168.11.2.

(2) Enter 192.168.11.1 in the web browser, follow the prompt to switch to HTTPS. There is no password default; click the "Login" button to log in.



(3) Set the XGSPON ONU Stick SFP+ password in the menu path: 8311 --> System --> Administration --> Router

Password Tab:



3. Configuration Instructions:

(1) Set PON mode: Current firmware supports switching between XGS-PON and XG-PON modes.

(2) Set OMCI: Includes Vendor ID, Equipment ID, Hardware Version, Software Version A, Software Version B, OMCC Version, MIB File (the default /etc/mibs/prx300_1U.ini supports Huawei OLT).

It is recommended to first enter simple verification information for testing; if it fails, proceed to more detailed settings (Vendor ID, Equipment ID, Hardware Version, etc.).

(3) Authentication Configuration: LOID, LOID + MAC, SN, Password, SN + Password.

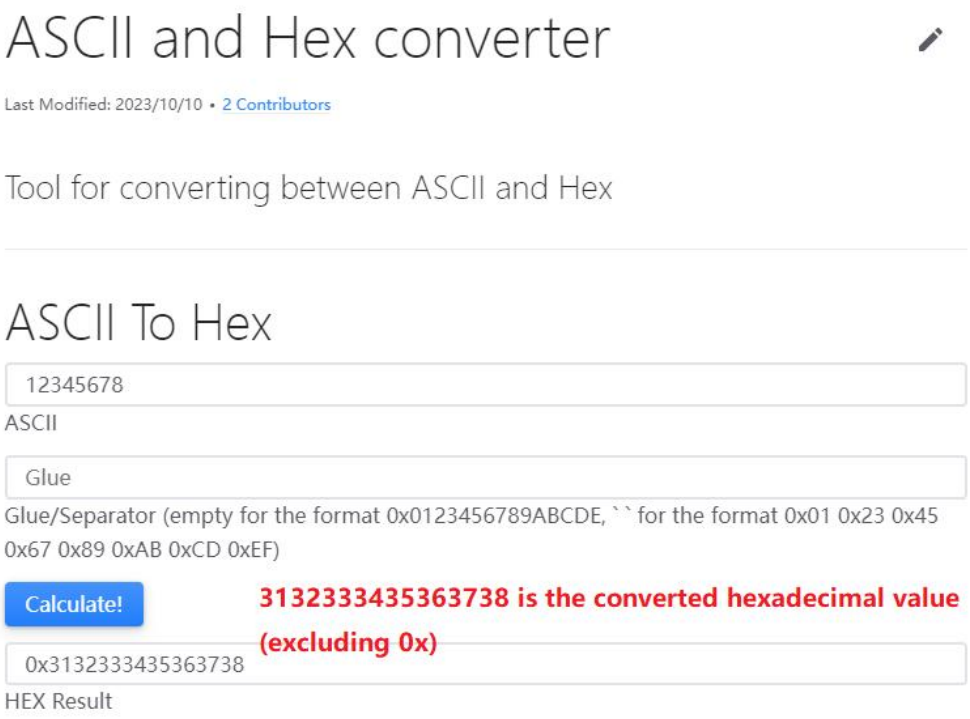
(4) The Password (Ploam Password / Registration ID) value must be converted to hexadecimal format. Online tools such as the following can assist in the conversion:

https://coding.tools/cn/ascii-to-hex

ASCII to Hex Online Tool - Coding.Tools

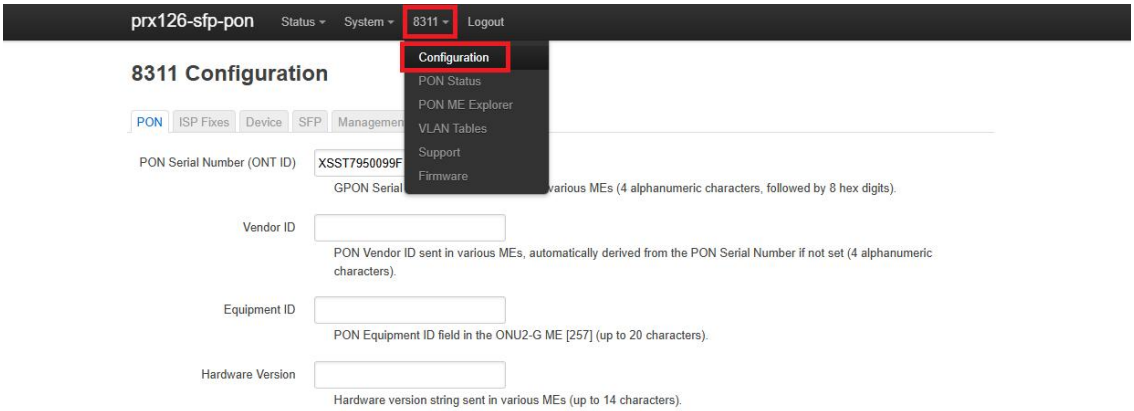
https://hack-gpon.org/ascii-hex

ASCII and Hex Converter | Hack GPON

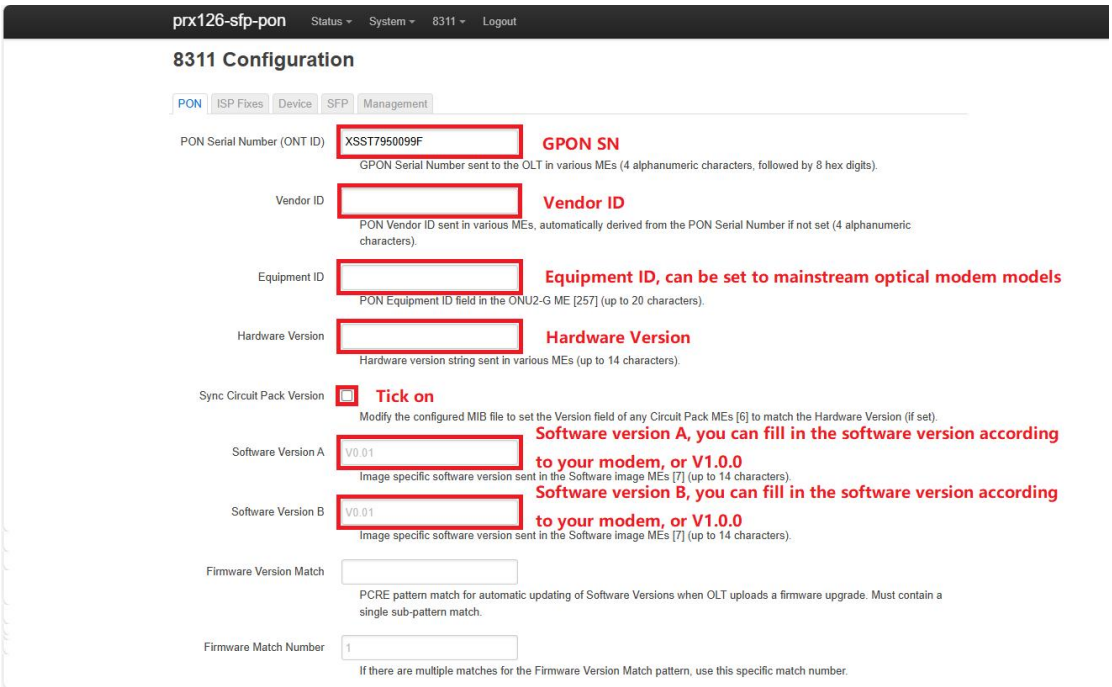


4. Steps to Configure:

Menu Location: 8311 --> Configuration --> PON.

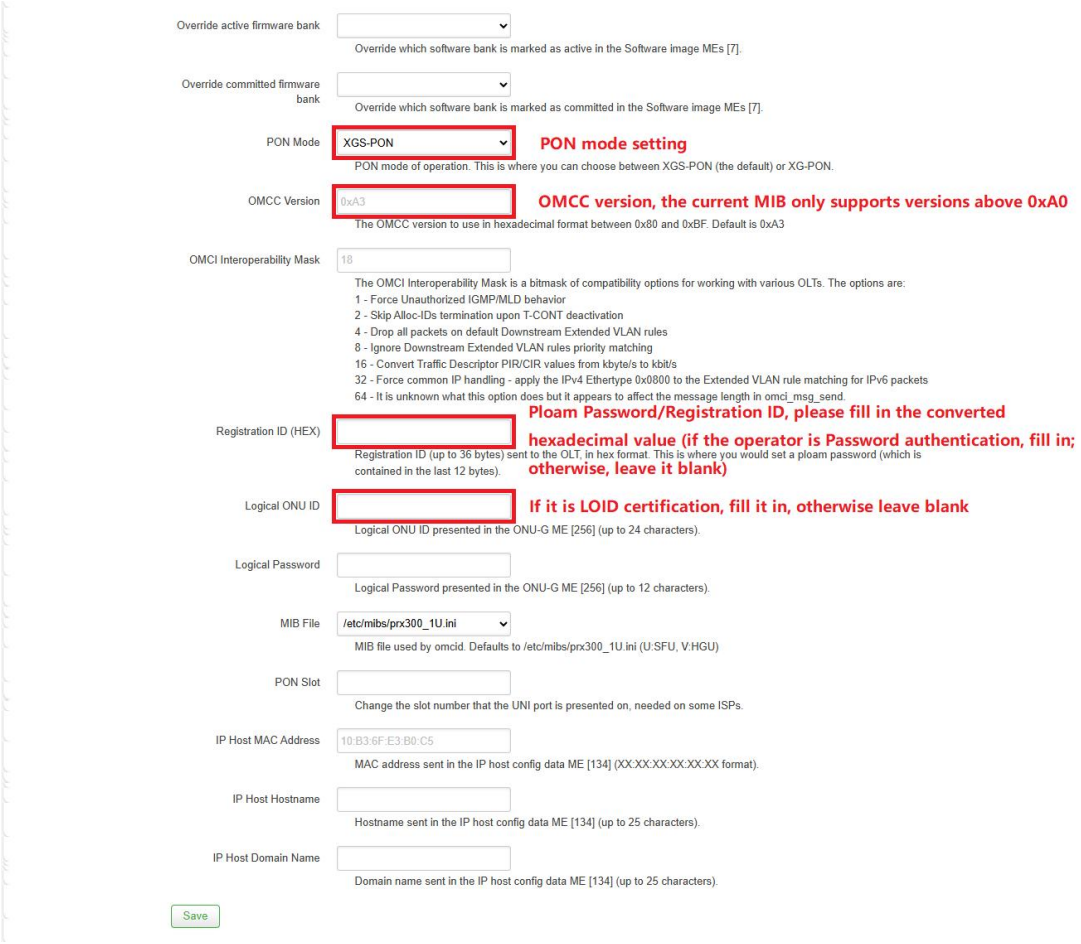


It is recommended to verify information first and modify only if it fails.
For example, if your ISP only uses SN for authentication, you only need to fill in the SN for verification. Input Vendor ID, Equipment ID, Hardware Version, etc., to communicate with XGSPON OLT. Below is an example; you can refer to the status page info of your previous optical modem for details.
Input the SN in the first field; PON SN refers to the device SN.



The default is XGSPON mode; if needed, you can switch to XGPON mode.

Remember to click "Save."



MIB files cannot establish a dial-up connection by default. Try modifying other fields, then save and reboot the XGSPON ONU Stick SFP+.

If modifying the MIB causes a freeze and you cannot access the webui:

1) Some MIB modifications may trigger a freeze (due to a "unbrickable uboot" setup). Follow these steps:

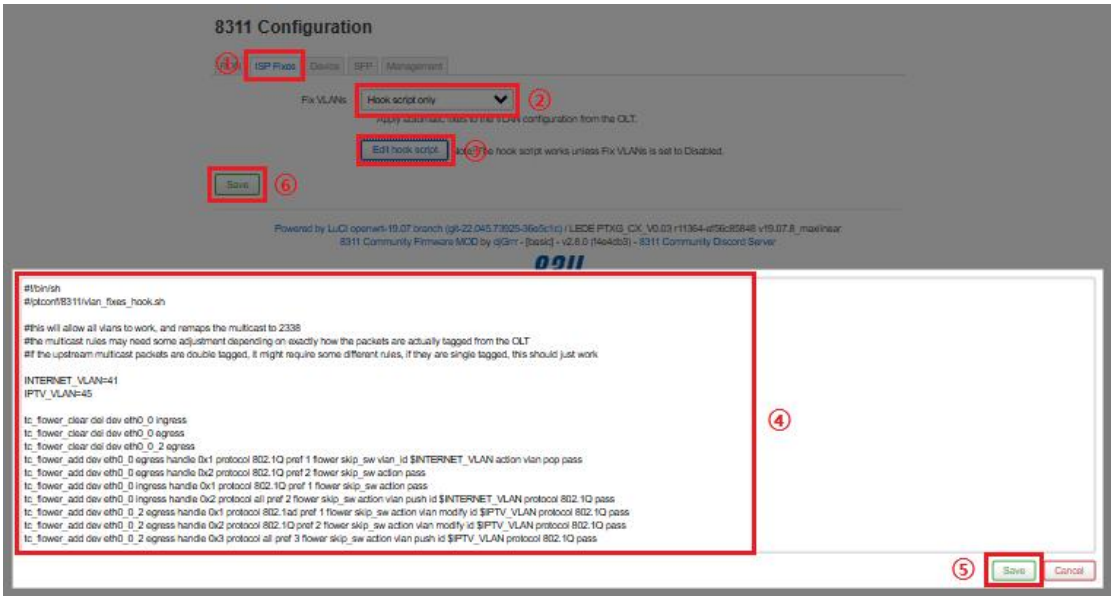
2) Ping 192.168.11.1 on your computer. Unplug and replug the XGSPON ONU Stick SFP+. Once the ping succeeds, quickly access the web UI, revert the MIB to default, save, and reboot the device. You have only ~20 seconds to complete this before it freezes again.

5. VLAN Configuration

Menu Location: 8311 → Configuration → ISP Repair

(1) Under Fix VLAN, select "Hook Script Only".

(2) Click Step 3 in the image below, open Edit Hook Script, and verify that the script matches the example shown.



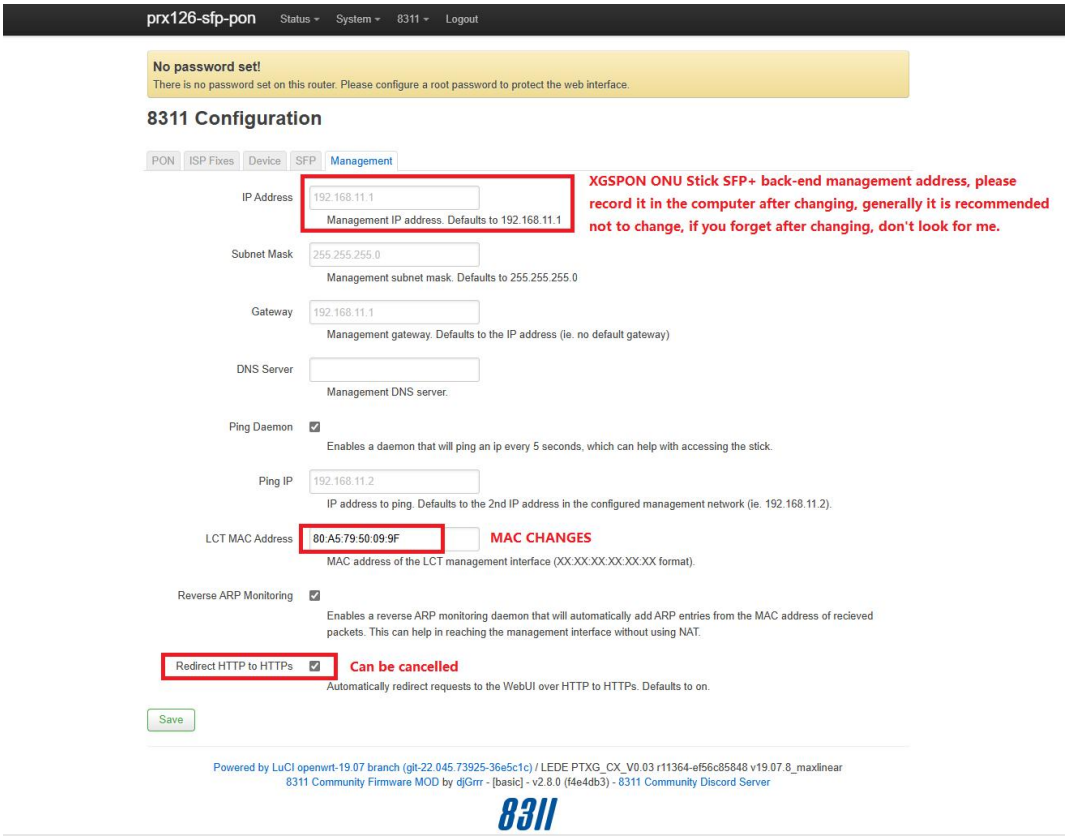

```
#!/bin/sh
#/ptconf/8311/vlan_fixes_hook.sh

#this will allow all vlans to work, and remaps the multicast to 41
#the multicast rules may need some adjustment depending on exactly how the packets are actually tagged from the OLT
#if the upstream multicast packets are double tagged, it might require some different rules, if they are single tagged, this should just work

INTERNET_VLAN=41   41 is the VLAN for internet access, it needs to be changed to my own
IPTV_VLAN=45       45 is the VLAN for IPTV service, it needs to be changed to your own

tc_flower_clear del dev eth0_0 ingress
tc flower_clear del dev eth0_0 egress
tc flower_clear del dev eth0_0_2 egress
tc_flower_add dev eth0_0 egress handle 0x1 protocol 802.1Q pref 1 flower skip_sw vlan_id $INTERNET_VLAN action vlan pop pass
tc_flower_add dev eth0_0 egress handle 0x2 protocol 802.1Q pref 2 flower skip_sw action pass
tc_flower_add dev eth0_0 ingress handle 0x1 protocol 802.1Q pref 1 flower skip_sw action pass
tc_flower_add dev eth0_0 ingress handle 0x2 protocol all pref 2 flower skip_sw action vlan push id $INTERNET_VLAN protocol 802.1Q pass
tc_flower_add dev eth0_0_2 egress handle 0x1 protocol 802.1ad pref 1 flower skip_sw action vlan modify id $IPTV_VLAN protocol 802.1Q pass
tc_flower_add dev eth0_0_2 egress handle 0x2 protocol 802.1Q pref 2 flower skip_sw action vlan modify id $IPTV_VLAN protocol 802.1Q pass
tc_flower_add dev eth0_0_2 egress handle 0x3 protocol all pref 3 flower skip_sw action vlan push id $IPTV_VLAN protocol 802.1Q pass
 If your broadband has not activated the IPTV service, then delete the 9th, 13th, 18th, 19th, and 20th lines before uploading to the cat stick
```

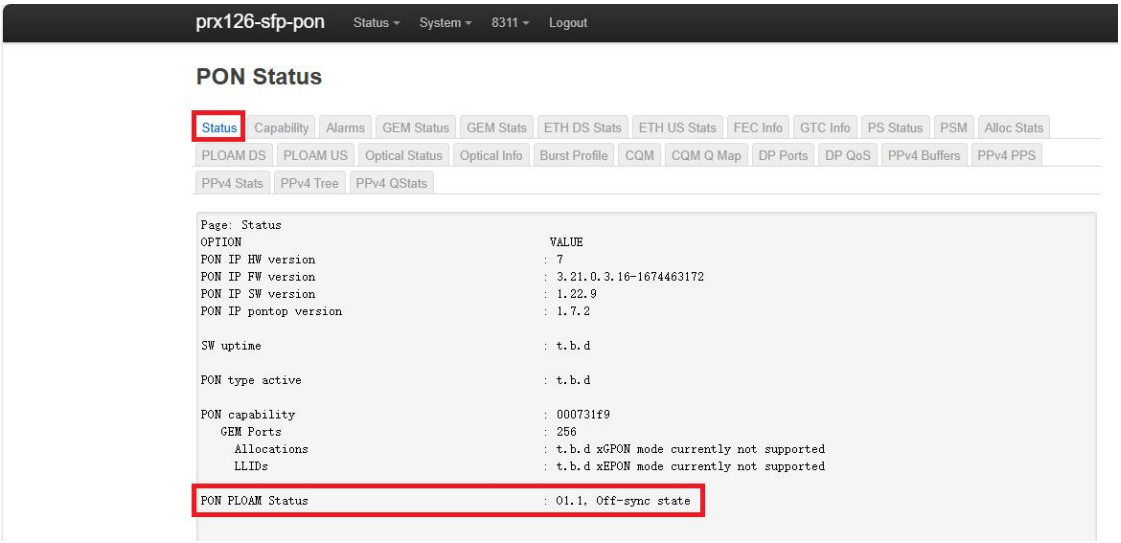
6. MAC and IP Modification



7. Post-Setup Verification

Reboot the XGSPON ONU Stick SFP+ and check the Registration/Authentication Status.

PON Authentication Status / Optical Module Status / Optical Module Information Query:



PON PLOAM Status:

05 indicates authentication success; router dialing is possible.

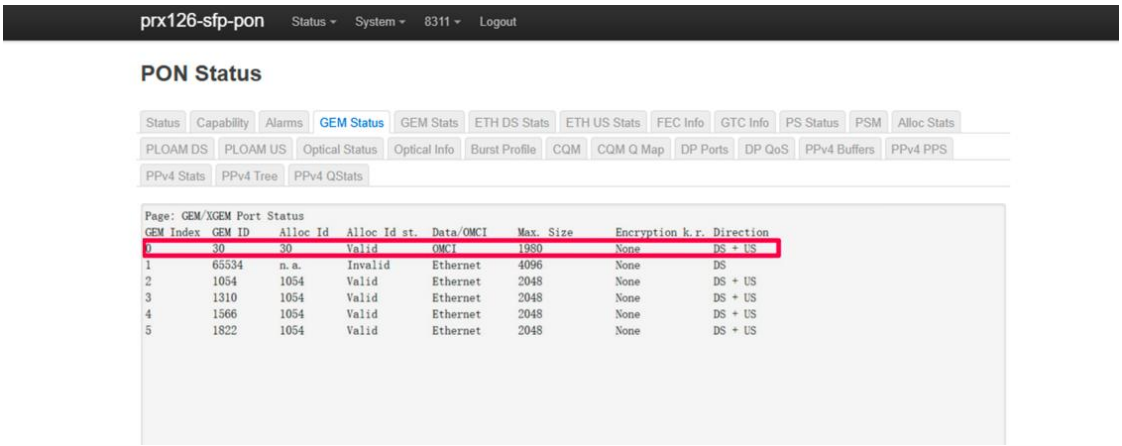
05 but unable to dial—check VLAN settings and ensure the XGSPON ONU Stick SFP+ has been rebooted.

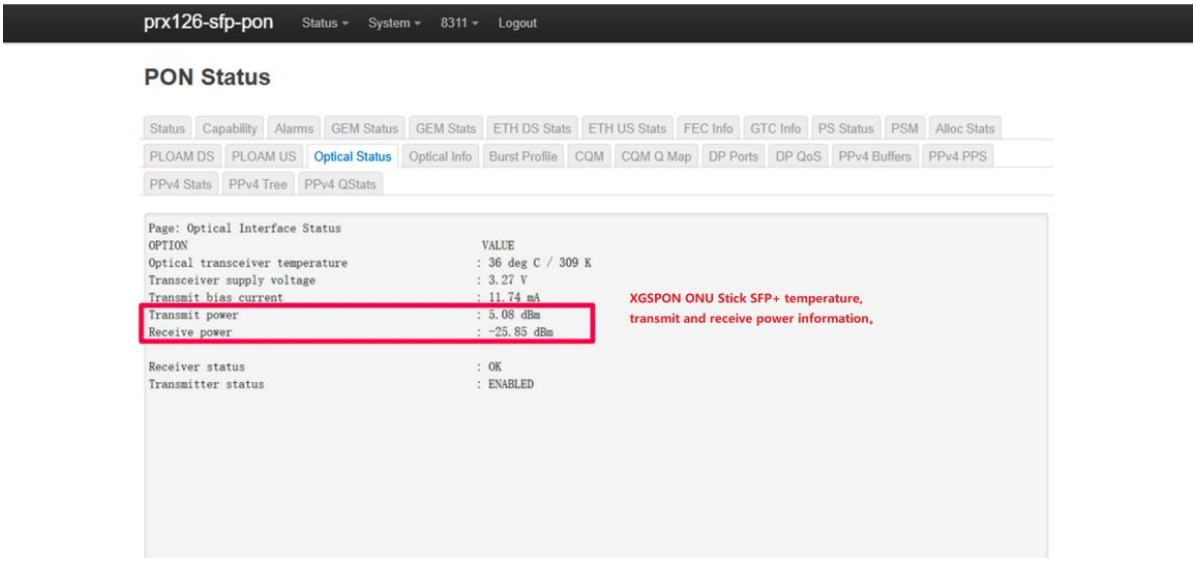
01 indicates fiber disconnection or that the line is EPON.

02-03 indicates failed verification—check for incorrect or incomplete information and configurations.

04 indicates OLT rejection.

GEM Port Allocation: GEM ID/Alloc ID is the ONU ID assigned by OLT.





If the XGSPON ONU Stick SFP+ shows status 05 and VLAN is correctly configured, router dialing is possible. Regarding temperature, aim to keep it below 80℃. Specific temperature details can be viewed in the interface.

If you need router VLAN dialing, modify the content of the UNTAG script "vlan_fixes_hook.sh" as follows:

```
#!/bin/sh
tc_flower_clear del dev eth0_0 ingress
tc_flower_clear del dev eth0_0 egress
```

Other operations remain the same as the UNTAG script. Finally, set VLAN dialing in the router.