

Reflashing of SFP module Huawei MA5671A

MA5671A

Flash 16MB, RAM 64MB, System OpenWRT

Pros - Good compatibility with Huawei and third-party vendors. Highly configurable through commands.

Cons - Hardware adapter and soldering required for full shell. No graphical web interface. Change SN/Password via command line.

G-010S-P

Flash 16MB, RAM 64MB, System OpenWRT

Pros - Good compatibility with Alcatel/Nokia. Web interface. Highly configurable through CLI commands

Cons - IPTV may not work with third-party vendors.

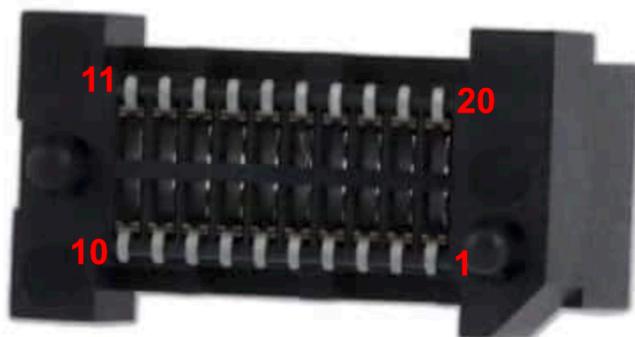
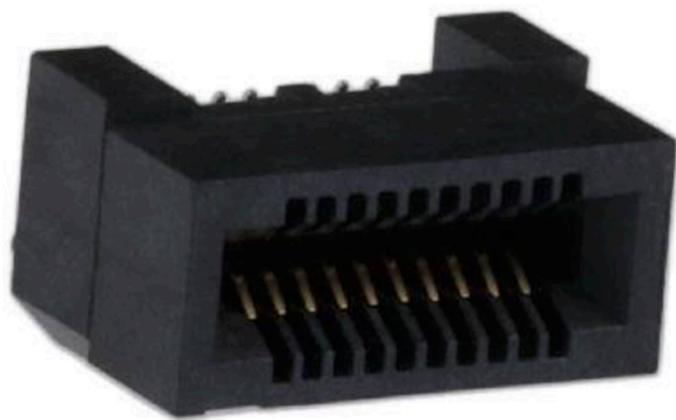
CarlitoxxPro CPGOS03-0490 / HL23446

Flash 16MB, RAM 64MB, System OpenWRT

Pros - Good web interface. Several vendor profiles. Highly configurable through CLI commands. Supports LOID

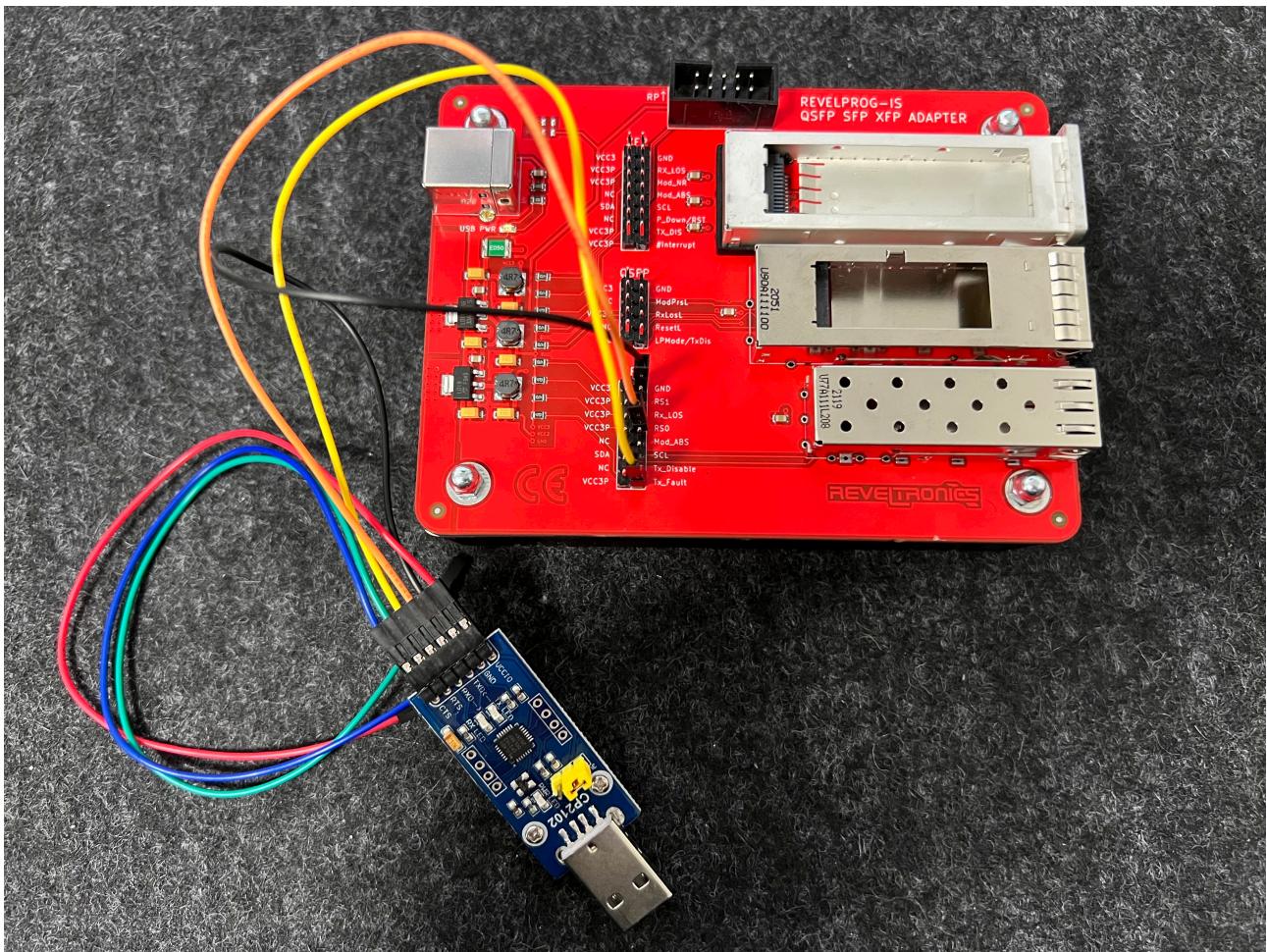
The firmware is interchangeable between: Source Photonics SPS-34-24T-HP-TDFO, Huawei MA5671, Alcatel G-010S-P, Hilink HL23446, CarlitoxxPro CPGOS03-0490, Dasan H650SFP, DpOptics D23446

To connect SFP you need **HSEC8-110-01-S-DV-A** socket or SFP breakout board.



I use QSFP SFP XFP ADAPTER from REVELTRONICS.

Line	Color	Socket PIN	Reveltronics Adapter
3.3 V	Red	#15 + #16	has own power
TX	Orange	#2	RS1
RX	Yellow	#7	SDA
GND	Black	#10	GND



After boot you'll see locked bootloader:

```
U-Boot 2011.12-lantiq-gpon-1.2.24 (Nov 03 2014 - 22:46:28), Build: falcon_sfp_linux

Board: SFP
DRAM: 64 MiB
Now running in RAM - U-Boot at: 83fc8000
SF: Detected W25Q128 with page size 4 KiB, total 16 MiB

ROM: V1.1.4
ROM: CFG 0x00000006
ROM: SFLASH-4
hw fuse format 1
```



Disconnect SFP, connect together pin #4 and #5 and power it back on. You'll see ROM boot menu:

Release lock between pin #4 and #5, choose 7 and start uploading of file **uboot_env.bin** via XMODEM protocol. When done, press **CTRL+C**, exit to console and execute next commands:

```
setenv bootdelay 5
setenv asc 0
setenv preboot "gpio input 105;gpio input 106;gpio input 107;gpio input 108;gpio set 3;gpio
set 109;gpio set 110;gpio clear 423;gpio clear 422;gpio clear 325;gpio clear 402;gpio clear
424"
saveenv
```

Restart system and you'll see unlocked boot:

```
U-Boot 2011.12-lantiq-gpon-1.2.24 (Nov 03 2014 - 22:46:28), Build: falcon_sfp_linux

Board: SFP
DRAM: 64 MiB
Now running in RAM - U-Boot at: 83fc8000
SF: Detected W25Q128 with page size 4 KiB, total 16 MiB
Chip: FALCON-S (A22)
Bootmode: 0x06
Reset cause: Power-On Reset
CPU Clock: 400 MHz
Net: SGMII, SERDES [PRIME]
gpio: pin 105 (gpio 105) value is 0
gpio: pin 106 (gpio 106) value is 0
gpio: pin 107 (gpio 107) value is 0
gpio: pin 108 (gpio 108) value is 1
gpio: pin 3 (gpio 3) value is 1
gpio: pin 109 (gpio 109) value is 1
gpio: pin 110 (gpio 110) value is 1
gpio: pin 423 (gpio 423) value is 0
gpio: pin 422 (gpio 422) value is 0
gpio: pin 325 (gpio 325) value is 0
gpio: pin 402 (gpio 402) value is 0
gpio: pin 424 (gpio 424) value is 0
Press SPACE to delay and Ctrl-C to abort autoboot in 5 seconds
```

Press CTR+C again to stop boot and enter next command:
loady 0x80800000

start upload **carlitoxx_linux.bin** image using YMODEM protocol.

When done, enter next commands one by one:

```
sf probe 0
sf erase C0000 740000
sf write 80800000 C0000 740000
setenv committed_image 0
saveenv
```

Now you can insert your SFP into media converter or router and get access to it. Its IP will be **192.168.1.57**, or **192.168.1.10** for some firmware, or 192.168.1.1 after factory reset.

Access http web interface and set password. It is the password for web interface and for user root via ssh user root.

After setting of password, send **carlitoxx_image1.bin** via scp:

```
scp carlitoxx_image1.bin root@192.168.1.57:/tmp
```

Then ssh into device and run:

```
mtd -e image1 write /tmp/carlitoxx_image1.bin image1
```

After flashing, reboot. Your device is ready.

Start configuration from setting GPON serial and PLOAM password in web interface under GPON -> GTC Configuration.

If you don't need password use "**0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00**".
Serial number should looks like "**0x48 0x57 0x54 0x43 0x9D 0xAC 0xC7 0xA3**".

Congratulations.

Possible useful commands:

```
mtd -e uboot_env write /tmp/carlitoxx_mtd2.bin uboot_env
mtd -e linux write /tmp/carlitoxx_mtd2.bin linux
mtd -e image1 write /tmp/carlitoxx_mtd5.bin image1
```

```
uci set gpon.ploam.nPassword="0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00"
uci set gpon.ploam.nSerial="0x48 0x57 0x54 0x43 0x9D 0xAC 0xC7 0xA3"
uci commit
```

```
fw_setenv / fw_printenv
```