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Complex WLE600VX Wlan (ath10k - Atheros QCA9882) not detected for Blue Interface

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Complex WLE600VX Wlan (ath10k - Atheros QCA9882) not detected for Blue Interface

66

Julien69
Posts: 5
Joined: November 27th, 2015, 6:11 pm

■ by **Julien69** » November 28th, 2015, 10:01 am

Hello,

I recently bought an PC Engines APU1D4 with a WLE600VX wlan card (see links below if you need more information) in order to replace my old Linksys WRT54GL.

<http://www.pcengines.ch/wle600vx.htm>
<http://www.compex.com.sg/product/wle600vx/>

I was able to install the latest IPFire (with the full iso image) on a serial connection, but I can't get the Wi-Fi AP working.

I searched this forum and found 3 topics about the ath10k driver which is used for wlan card

Here are information I can give you to help me and the following steps I did :

```
CODE: SELECT ALL
[root@apu1d4 ~]# lspci | grep Qualcomm
04:00.0 Ethernet controller: Qualcomm Atheros Device abcd (rev 01)

CODE: SELECT ALL
[root@apu1d4 ~]# uname -a
Linux apu1d4 3.14.43-ipfire #1 SMP Sat Oct 24 12:53:32 GMT 2015 i686 GNU/Linux

CODE: SELECT ALL
[root@apu1d4 ~]# modinfo ath10k_pci
filename:       /lib/modules/3.14.43-ipfire/kernel/drivers/net/wireless/ath/ath10k/ath10k_pci.ko
firmware:      ath10k/QCA988X/hw2.0/board.bin
firmware:      ath10k/QCA988X/hw2.0/[b]firmware-3.bin[/b]
license:       Dual BSD/GPL
description:    Driver support for Atheros QCA988X PCIe devices
author:        Qualcomm Atheros
version:        backported from Linux (v3.18.1-0-g39ca484) using backports v3.18.1-0-g5e9ec4c
srcversion:     5CD35DED4B7604922CA098
alias:         pci:v0000168C:00000003:sv*sd*bc*sc*i*
depends:        ath10k_core,compat
vermagic:       3.14.43-ipfire SMP mod_unload modversions 586TSC REFCOUNT GRSEC
irq:            irq_mode=0; auto; 1: legacy, 2: msi (default: 0) (uint)
nomm:           reset_mode=0; auto; 1: warm_reset (default: 0) (uint)
```

As SharkMan explained in his topic (<viewtopic.php?f=50&t=12224>) I downloaded two firmwares and pushed them in the right (missing) directory

board.bin from <https://github.com/kvalo/ath10k-firmwar...er/QCA988X>
firmware-2-ct-full-community.bin renamed into **firmware-2** from <http://www.candelatech.com/downloads/fi...munity.bin>

```
CODE: SELECT ALL
[root@apu1d4 ~]# mkdir -p /lib/firmware/ath10k/QCA988X/hw2.0
[root@apu1d4 ~]# cp board.bin /lib/firmware/ath10k/QCA988X/hw2.0
[root@apu1d4 ~]# cp firmware-2.bin /lib/firmware/ath10k/QCA988X/hw2.0
```

Then I load the kernel module and try to execute setup again in order to change the configuration to green + red + blue as I found here <http://wiki.ipfire.org/en/addons/wireless/start> but I can't see my wlan card in the list of interfaces available

```
CODE: SELECT ALL
[root@apu1d4 ~]# modprobe ath10k_pci
[root@apu1d4 ~]# lsmod | grep ath10k
ath10k_pci      25890  0
ath10k_core    126949  1 ath10k_pci
ath             17700  1 ath10k_core
mac80211       556694  1 ath10k_core
cfg80211       462636  3 ath,mac80211,ath10k_core
compat         4997   3 cfg80211,mac80211,ath10k_pci
[root@apu1d4 ~]# setup
```

Can you help me and tell me what I am missing ?

I have also some comments :

Will be no support of IEEE 802.11ac in future releases of IPFire for reasons mentioned in Michael post ?
Anyway if I just want make a IEEE 802.11a/g/n Wi-Fi Access Point with my actual wlan card can I ?

Re: Missing ath10k firmware & other issues
Postby Arne.F » December 31st, 2014, 9:27 am

The firmware pack in IPFire 2.17 is not up to date yet.

But it seems that the ath10k firmware is still missing in the official firmware repo for the kernel... <http://git.kernel.org/cgi/linux/kernel...mware.git/>
Maybe there are license issues.
Arne

It seems there are some firmwares available now since October 2015, maybe IPFire devs can include them in a next release so it makes things easier

<http://git.kernel.org/cgi/linux/kernel...p&q=ath10k>

Re: ath10k
Postby Arne.F » December 31st, 2014, 9:11 am

Rtl8812 is not supported by the linux kernel yet (also with current 3.18.x) and hostapd of IPFire will not support ac. We also not spend time into this because it is nearly useless. (Blocks the whole wlan frequency range and have no coverage). See also Michaels Planet post: <http://planet.ipfire.org/post/about-pol...-wifi-band>
Arne

I'm not sure what it means :
Will be no support of IEEE 802.11ac in future releases of IPFire for reasons mentioned in Michael post ?
Anyway if I just want make a IEEE 802.11a/g/n Wi-Fi Access Point with my actual wlan card can I ?

Thanks you

Re: Complex WLE600VX Wlan (ath10k - Atheros QCA9882) not detected for Blue Interface

66

■ by **Julien69** » December 2nd, 2015, 9:38 am

Nobody can help me ?

Julien69
Posts: 5
Joined: November 27th, 2015, 6:11 pm

Re: Complex WLE600VX Wlan (ath10k - Atheros QCA9882) not detected for Blue Interface

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■ by **trymes** » December 4th, 2015, 6:46 pm

Regarding not supporting 802.11ac, did you read Michael's Post? <http://planet.ipfire.org/post/about-pol...-wifi-band>
A quick search turned up this site, which might have the firmware files you are looking for.:
<https://github.com/ajaybhatia/Qualcomm-...377.tar.xz>

Tom

trymes
Posts: 664
Joined: February 9th, 2011, 4:10 pm
Location: New England, USA

Re: Complex WLE600VX Wlan (ath10k - Atheros QCA9882) not detected for Blue Interface

66

■ by **Julien69** » December 13th, 2015, 5:42 pm

Hello,

I finally get my WLE600VX wlan card worked
I just re-download these firmwares...

board.bin from <here>
firmware-2.bin_10.1.467.3-1 from <here> which I renamed into **firmware-2.bin**
firmware-3.bin_10.2.2.39.6-1 from <here> which I renamed into **firmware-3.bin**

... put it in the right place

```
CODE: SELECT ALL
[root@apu1d4 ~]# mkdir -p /lib/firmware/ath10k/QCA988X/hw2.0
[root@apu1d4 ~]# cp board.bin /lib/firmware/ath10k/QCA988X/hw2.0
[root@apu1d4 ~]# cp firmware-2.bin /lib/firmware/ath10k/QCA988X/hw2.0
[root@apu1d4 ~]# cp firmware-3.bin /lib/firmware/ath10k/QCA988X/hw2.0
```

... load the modules

```
CODE: SELECT ALL
[root@apu1d4 ~]# modprobe ath10k_pci
[root@apu1d4 ~]# lsmod | grep ath10k
ath10k_pci      25890  0
ath10k_core    126949  1 ath10k_pci
ath             17700  1 ath10k_core
mac80211       556694  1 ath10k_core
cfg80211       462636  3 ath,mac80211,ath10k_core
compat         4997   3 cfg80211,mac80211,ath10k_pci
```

... check which firmware version is used (according to <here> and the kernel version we need to use IPFire 10.2 which is firmware-3.bin

```
CODE: SELECT ALL
[root@apu1d4 ~]# uname -a
Linux apu1d4 3.14.57-ipfire #1 SMP Thu Dec 3 18:08:59 GMT 2015 i686 GNU/Linux
```

```
CODE: SELECT ALL
[root@apu1d4 ~]# modinfo ath10k_pci
filename:       /lib/modules/3.14.43-ipfire/kernel/drivers/net/wireless/ath/ath10k/ath10k_pci.ko
firmware:      ath10k/QCA988X/hw2.0/board.bin
firmware:      ath10k/QCA988X/hw2.0/[b]firmware-3.bin[/b]
license:       Dual BSD/GPL
description:    Driver support for Atheros QCA988X PCIe devices
author:        Qualcomm Atheros
version:        backported from Linux (v3.18.1-0-g39ca484) using backports v3.18.1-0-g5e9ec4c
srcversion:     5CD35DED4B7604922CA098
alias:         pci:v0000168C:00000003:sv*sd*bc*sc*i*
depends:        ath10k_core,compat
```

```
CODE: SELECT ALL
[root@apu1d4 ~]# ethtool -i blue0
driver: ath10k_pci
version: 3.14.57-ipfire
firmware-version: 10.2.2.39.6-1
bus-info: 0000:04:00.0
supports-statistics: yes
supports-test: no
supports-eeprom-access: no
supports-register-dump: no
supports-priv-flags: no
```

Finally I run Setup again to configure my blue interface

```
CODE: SELECT ALL
[root@apu1d4 ~]# setup
```

I have a last question regarding the HT caps in the WLAN AP configuration page
I download the datasheet of my wlan card <here> and set these HT caps :

[OFDM][BPSK][QPSK][16-QAM][64-QAM][256-QAM][LDPC]

Is it correct or did I miss one ?

P.S : If someone can add the wlan card to the <Network Adapter Hardware Compatibility List> it will be helpful.

Thanks

Last edited by **Julien69** on March 1st, 2017, 11:19 am, edited 1 time in total.

Re: Complex WLE600VX Wlan (ath10k - Atheros QCA9882) not detected for Blue Interface

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■ by **trymes** » December 13th, 2015, 11:35 pm

Thanks for the update, I'm sure someone will find this useful in the future.

P.S : If someone can add the wlan card to the Network Adapter Hardware Compatibility List it will be helpful.

That would be helpful! Luckily, the list is part of the wiki, so you can update it yourself (hint,hint, :-)

Let us know if you have any trouble.

trymes
Posts: 664
Joined: February 9th, 2011, 4:10 pm
Location: New England, USA

Re: Complex WLE600VX Wlan (ath10k - Atheros QCA9882) not detected for Blue Interface

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■ by **Julien69** » December 18th, 2015, 12:43 pm

Wiki update done, I just have to complete pci ID when I get home, let me know if it's OK.

Can anybody confirm or give me some advices for the HT Caps ?

Julien69
Posts: 5
Joined: November 27th, 2015, 6:11 pm

Re: Complex WLE600VX Wlan (ath10k - Atheros QCA9882) not detected for Blue Interface

66

■ by **MichaelTremmer** » December 18th, 2015, 1:35 pm

Julien69 wrote:
It seems there are some firmwares available now since October 2015, maybe IPFire devs can include them in a next release so it makes things easier

I could not find a license for these files. If we don't have the right to redistribute the files, we cannot do that.

-Michael

<Support the project with our Donation Challenge!>

<Get Commercial Support for IPFire and more from Lightning Wire Labs!>

MichaelTremmer
Core Developer
Posts: 5799
Joined: August 11th, 2005, 9:02 am

Re: Complex WLE600VX Wlan (ath10k - Atheros QCA9882) not detected for Blue Interface

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■ by **Julien69** » December 18th, 2015, 5:32 pm

It's not that ?

<http://git.kernel.org/cgi/linux/kernel...1366cf10dc>

Julien69
Posts: 5
Joined: November 27th, 2015, 6:11 pm

Re: Complex WLE600VX Wlan (ath10k - Atheros QCA9882) not detected for Blue Interface

66

■ by **MichaelTremmer** » December 18th, 2015, 8:29 pm

This is a different repository though. If these firmware files are working well, we could include them with one of the next updates.

<Support the project with our Donation Challenge!>

<Get Commercial Support for IPFire and more from Lightning Wire Labs!>

MichaelTremmer
Core Developer
Posts: 5799
Joined: August 11th, 2005, 9:02 am

Re: Complex WLE600VX Wlan (ath10k - Atheros QCA9882) not detected for Blue Interface

66

■ by **SilverPhoenix** » December 23rd, 2015, 8:20 pm

MichaelTremmer wrote:
This is a different repository though. If these firmware files are working well, we could include them with one of the next updates.

I would very much appreciate this as well.

I was just now looking into if I can upgrade my APU1C4 to support 802.11ac with the WLE600VX card. My first stop was to check the ipfire forum to check if anyone was talking about it. From the above, sounds like it's workable but until it is included with the ipfire update I would have to backtrack through the trail Julien69 left behind to get it up and running.

Re: Complex WLE600VX Wlan (ath10k - Atheros QCA9882) not detected for Blue Interface

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■ by **Daniel L.** » January 15th, 2016, 9:24 am

You can get it working but it needs manual intervention (see <viewtopic.php?f=27&t=15300&p=92586&hlit=ath10k#p93831>). I've a Complex WLE900VX and WLE200NX both working fine.

For ac you need to set the VHT caps. I can paste my hostapd.conf later, when I'm back home.

Daniel L.
Posts: 11
Joined: December 14th, 2015, 9:04 am

Re: Complex WLE600VX Wlan (ath10k - Atheros QCA9882) not detected for Blue Interface

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■ by **digit12** » January 21st, 2016, 5:31 pm

Please paste hostapd.conf!

digit12
Posts: 103
Joined: January 21st, 2012, 12:16 pm

Re: Complex WLE600VX Wlan (ath10k - Atheros QCA9882) not detected for Blue Interface

66

■ by **Daniel L.** » January 22nd, 2016, 11:04 am

```
CODE: SELECT ALL
driver=n180211
interface=your_wlan_device>
bssid=mac_of_your_wlan_device>
logger_syslog_level=0
logger_stdout_level=0
ctrl_interface=/var/run/hostapd
ctrl_interface_group=0
ssid=your_network_name>
country_code=your_country_code>
ieee80211d=1
ieee80211h=1
```

Daniel L.
Posts: 11
Joined: December 14th, 2015, 9:04 am

Re: Complex WLE600VX Wlan (ath10k - Atheros QCA9882) not detected for Blue Interface

66

■ by **cfusco** » August 21st, 2016, 11:05 pm

Hello, I just installed IPFire 2.19 (x86_64 - core103 on a Pcenigines apu2c4 <http://www.pcenigines.ch/apu2c4.htm> with Complex WLE600VX wifi card <http://www.pcenigines.ch/pdf/wle600vx.pdf>. The installation went very smoothly. The card worked pretty much out of the box, I had only to install hostapd with Pacfire. The /etc/hostapd.conf generated by the web interface works well, if you don't mess up the channels. Overall it was safer and more reliable to add:

```
CODE: SELECT ALL
channel=0
```

to allow the automatic search. I wish the option would be available in the web interface among the list of channels.

In order to have 802.11ac working I had to struggle a bit, however finally I determined that this hostapd.conf works pretty well:

```
CODE: SELECT ALL
driver=n180211
##### basic hostapd configuration #####
#
interface=blue0
country_code=your country code>
ieee80211d=1
ieee80211h=1
channel=0
#acs_num_scons=5
#acs_chan_bias=52:0.8 56:0.8 60:0.8 64:0.8
hw_mode=d
ieee80211n=1
ht_capab=[HT40-][LDPC][SHORT-GI-20][SHORT-GI-40][TX-STBC][RX-STBC1][DSSS_CCK-40][SMPS-STATIC]
ieee80211ac=1
```

Re: Complex WLE600VX Wlan (ath10k - Atheros QCA9882) not detected for Blue Interface

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■ by **cfusco** » August 23rd, 2016, 4:41 pm

Is there any objection if I change the wiki to state that now this card works out of the box, at least for 802.11n?

cfusco
Posts: 184
Joined: March 23rd, 2015, 4:19 pm

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