What happens when hardware puts software freedom first? We built a router to find out

Denver Gingerich

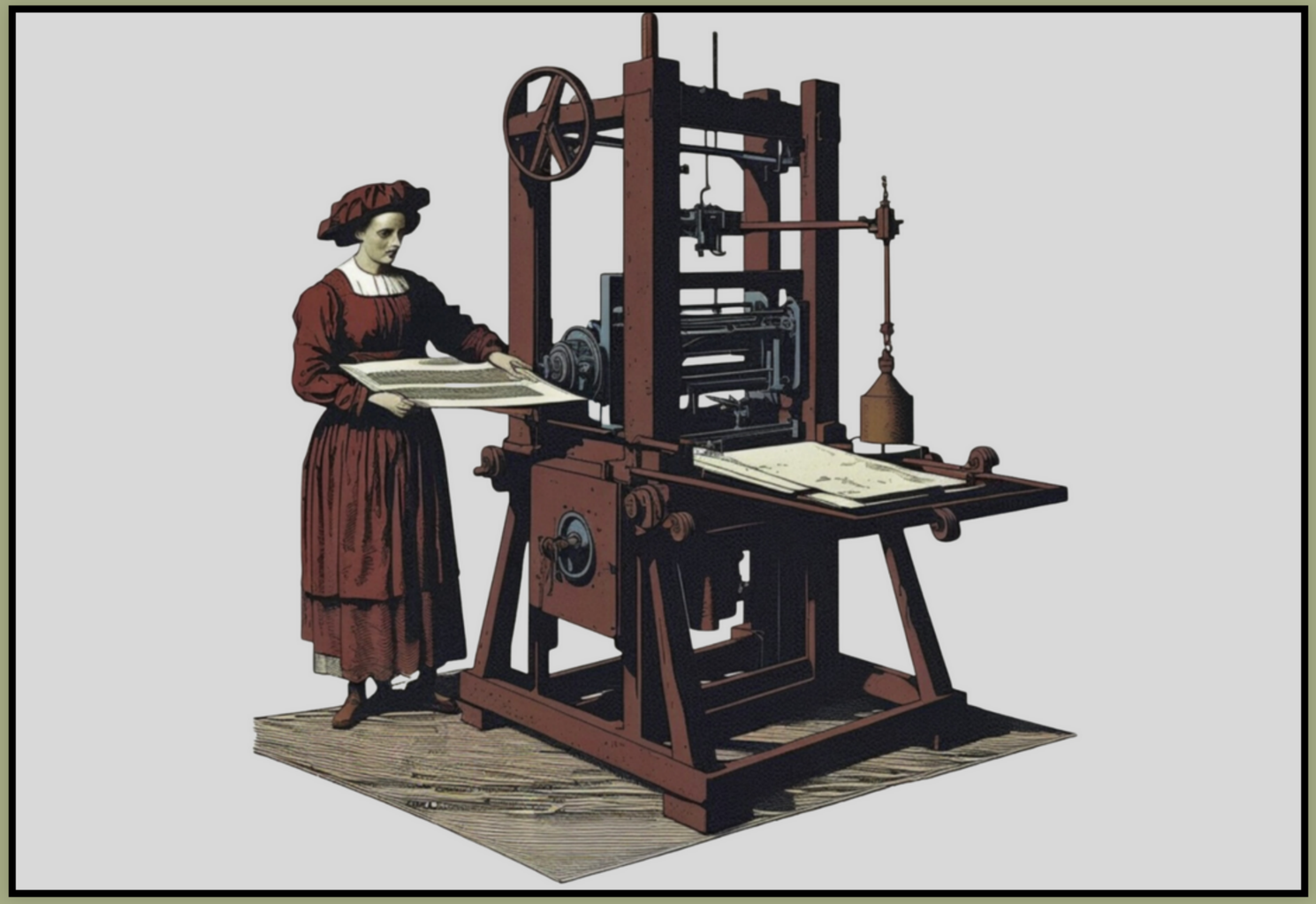
SCALE 22x

Sunday 9 March 2025

https://ossguy.com/talks/20250309_scale/

1. why are we here?

cool technology



power

quantify

can you ___?

can you repair?

can you modify?

can you install?

INSTALL


Built using Knoppix Technology.
KNOPPIX comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Accessing KNOPPIX CD at /dev/hdb...
Found primary KNOPPIX compressed image at /cdrom/KNOPPIX/KNOPPIX.
Total memory found: 157452 kB
Creating /ramdisk (dynamic size=119036k) on shared memory...Done.
Creating unionfs and symlinks on ramdisk...
>> Read-only CD system successfully merged with read-write /ramdisk.
Done.
Starting init process.
INIT: version 2.78-knoppix booting
Running Linux Kernel 2.6.12.
Processor 0 is Pentium 75 - 200 133MHz
Skipping ACPI Bios detection as requested on boot commandline.
Skipping PCMCIA detection as requested on boot commandline.
Skipping USB detection as requested on boot commandline.
Skipping Firewire detection as requested on boot commandline.
Autoconfiguring devices...


14:40
SMS
Texto
25
Calendario
Fotos
Cámara
Tiempo
Mapas
Bolsa
YouTube
Ajustes
Notas
Calculadora
Reloj
Twitterrific
Cydia
App Store
iTunes
iPod
Safari
Mail
Teléfono


MOTOROLA
verizon


NOKIA
4:23 pm
Now playing
N900
1/1 songs
ALL ABOUT MAEMO
AAM Podcast #1 - Maemo Summit
15:04
38:10
All About Maemo
All About Maemo Podcast
Sym
Ctrl


DISPLAY UPDATE
Updating Your VIZIO SmartCast Home Theater Display.
60%
Once update is complete, this display will restart.
Do not power off this display during update.
VIZIO

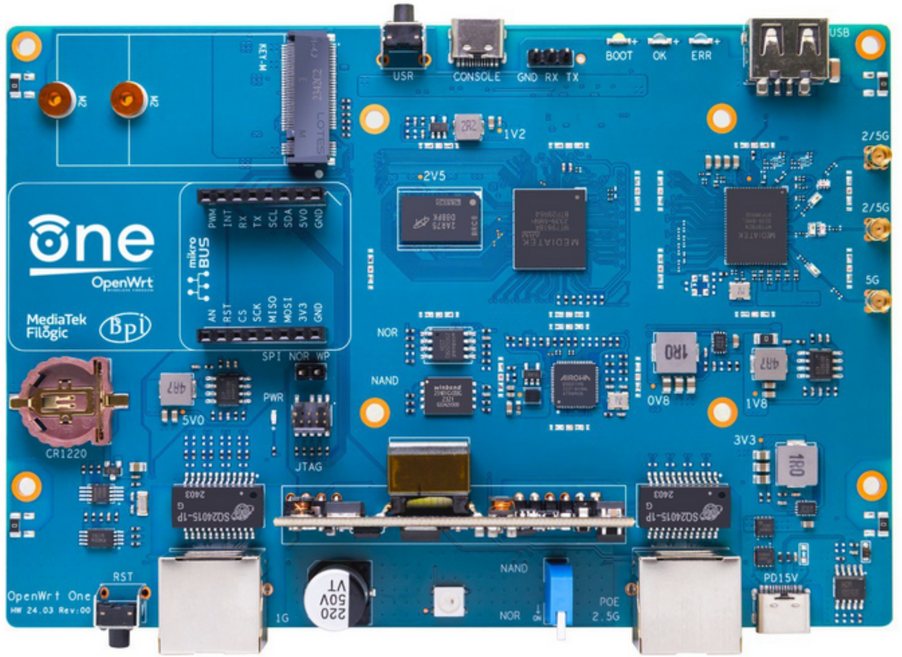
ethical technology

software freedom

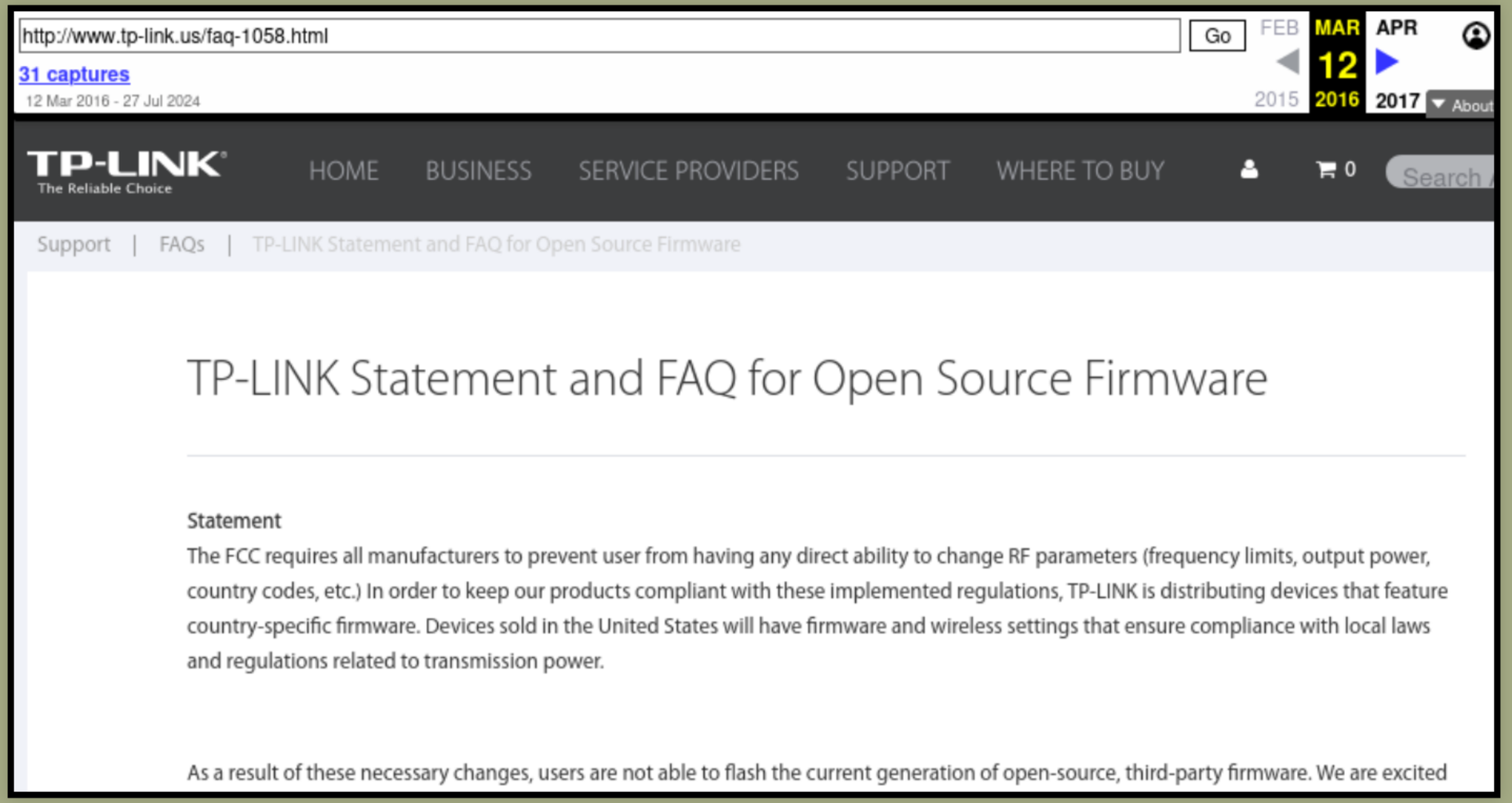
software freedom
conservancy

2. build hardware: OpenWrt One


one
Reset
1G
NAND
NOR
2.5G / PoE
Power


USR
CONSOLE
GND RX TX
BOOT
OK
ERR
USB
1V2
2V5
2/5G
2/5G
5G
One
OpenWrt
MediaTek
Filogic
Bpi
mikro
BUS
PWM
INT
RX
TX
SCL
SDA
3V0
GND
AN
RST
CS
SCK
MISO
MOSI
3V3
GND
SPI NOR WP
NOR
NAND
PWR
3V0
CR1220
JTAG
0V8
1V8
3V3
PD15V
RST
NAND
NOR
POE
2.5G
1G
OpenWrt One
HW 24.03 Rev:00

why?


http://www.tp-link.us/faq-1058.html
Go
31 captures
12 Mar 2016 - 27 Jul 2024
FEB
MAR
APR
12
2015
2016
2017
About
TP-LINK
The Reliable Choice
HOME
BUSINESS
SERVICE PROVIDERS
SUPPORT
WHERE TO BUY
0
Search
Support | FAQs | TP-LINK Statement and FAQ for Open Source Firmware
TP-LINK Statement and FAQ for Open Source Firmware
Statement
The FCC requires all manufacturers to prevent user from having any direct ability to change RF parameters (frequency limits, output power, country codes, etc.) In order to keep our products compliant with these implemented regulations, TP-LINK is distributing devices that feature country-specific firmware. Devices sold in the United States will have firmware and wireless settings that ensure compliance with local laws and regulations related to transmission power.
As a result of these necessary changes, users are not able to flash the current generation of open-source, third-party firmware. We are excited

```
$ make
[...]
linking broadcom/net/wl/bcm947622/main/components/router/hnd/ => impl
linking broadcom/net/wl/bcm947622/main/components/router/hnd_emf/ => impl
linking broadcom/net/wl/bcm947622/main/components/router/hnd_igs/ => impl
linking broadcom/net/wl/bcm947622/main/components/router/hnd_dhd/ => impl
linking broadcom/net/wl/bcm947622/main/components/router/hnd_wl/ => impl
  CHK     include/generated/utsrelease.h
Installing bcm_headers
mkdir -p /home/denver/GPL_X90_1/bcm675x/bcm963xx_router/targets/TP6755/fs.build/bcmdrivers//include/
cp -f --no-preserve=mode -r
/home/denver/GPL_X90_1/bcm675x/bcm963xx_router/bcmdrivers/broadcom/include/bcm963xx/*
/home/denver/GPL_X90_1/bcm675x/bcm963xx_router/targets/TP6755/fs.build/bcmdrivers//include/
cp -f --no-preserve=mode -r
/home/denver/GPL_X90_1/bcm675x/bcm963xx_router/bcmdrivers/opensource/include/bcm963xx/*
/home/denver/GPL_X90_1/bcm675x/bcm963xx_router/targets/TP6755/fs.build/bcmdrivers//include/
for i in `egrep -l '^bcm_headers_install:'
/home/denver/GPL_X90_1/bcm675x/bcm963xx_router/bcmdrivers/*/*/*/bcm947622/Makefile`
; \
          do make -C `dirname $i` -f $i bcm_headers_install INC_BCMDRIVER_PATH=/home/denver/GPL_X90_1/bcm675x
/bcm963xx_router/targets/TP6755/fs.build/bcmdrivers/
; \
          done
  CC      scripts/mod/empty.o
/home/denver/GPL_X90_1/bcm675x/toolchain/opt/toolchains/crosstools-arm-gcc-5.5-linux-4.1-glibc-2.26-binutils-2
.28.1/bin/../libexec/gcc/arm-buildroot-linux-gnueabi/5.5.0/cc1:
error while loading shared libraries: libmpc.so.3: cannot open shared object
file: No such file or directory
```

```
$ make MODEL=WR902ACV3 apps_build
[...]
cd /home/TP-LINK/WR902ACV3_GPL/build/../apps/public/iptables-1.4.17 && make
AR=mipsel-linux-ar
make[1]: Entering directory
`/home/TP-LINK/WR902ACV3_GPL/apps/public/iptables-1.4.17'
make  all-recursive
make[2]: Entering directory
`/home/TP-LINK/WR902ACV3_GPL/apps/public/iptables-1.4.17'
Making all in libiptc
make[3]: Entering directory
`/home/TP-LINK/WR902ACV3_GPL/apps/public/iptables-1.4.17/libiptc'
make[4]: Entering directory
`/home/TP-LINK/WR902ACV3_GPL/apps/public/iptables-1.4.17'
make[4]: Leaving directory
`/home/TP-LINK/WR902ACV3_GPL/apps/public/iptables-1.4.17'
/bin/sh ../libtool --tag=CC   --mode=compile mipsel-linux-gcc -DHAVE_CONFIG_H
-I. -I..  -D_LARGEFILE_SOURCE=1 -D_LARGE_FILES -D_FILE_OFFSET_BITS=64
-D_REENTRANT -DXTABLES_LIBDIR=\"/usr/local/lib/xtables\" -DXTABLES_INTERNAL
-I../include -I../include   -Wall -Waggregate-return -Wmissing-declarations
       -Wmissing-prototypes -Wredundant-decls -Wshadow -Wstrict-prototypes     -Winline
-pipe -g -O2 -MT libip4tc.lo -MD -MP -MF .deps/libip4tc.Tpo -c -o libip4tc.lo
libip4tc.c
../libtool: 1564: ../libtool: preserve_args+= --tag CC: not found
../libtool: 1: eval: base_compile+= mipsel-linux-gcc: not found
../libtool: 1: eval: base_compile+= -DHAVE_CONFIG_H: not found
../libtool: 1: eval: base_compile+= -I.: not found
../libtool: 1: eval: base_compile+= -I..: not found
../libtool: 1: eval: base_compile+= -D_LARGEFILE_SOURCE=1: not found
../libtool: 1: eval: base_compile+= -D_LARGE_FILES: not found
../libtool: 1: eval: base_compile+= -D_FILE_OFFSET_BITS=64: not found
../libtool: 1: eval: base_compile+= -D_REENTRANT: not found
../libtool: 1: eval: base_compile+=
-DXTABLES_LIBDIR=\"/usr/local/lib/xtables\": not found
```

https://device.report/asus/rt-ax92u

ASUS RT-AX92U AX6100 Wireless Tri-Band Gigabit Router featuring Wi-Fi 6 (802.11ax), Up to 6100 Mb/s, 1 x 2.4 GHz / 2 x 5 GHz - NETWORKING - WHOLE HOME WIFI

MSRP: 399.99

Amazon Rating: 4.4 Stars

Best Buy Rating: 4.1 Stars

Release Date: 2019-09-01

Security vulnerabilities for the asus rt ax92u are present, details can be found at cve.report : asus rt ax92u

https://www.snbforums.com/threads/asus-updates-its-eol-list-adds-rt-ac1750-ac1900p-ac88u-ac5300.86036/

Forums | What's new | Members | Better Search

Asus updates its EOL list, adds RT-AC1750, AC1900P, AC88U, AC5300

Yota · Jul 21, 2023

1 2 3 4 5 Next

Yota
Very Senior Member

Jul 21, 2023 #1

This update adds quite a few AC (WiFi5) devices.

Basically, variants of the most classic model RT-AC68U have entered the EOL list, such as RT-AC1900P, and RT-AC1750 of RT-AC66U_B1.

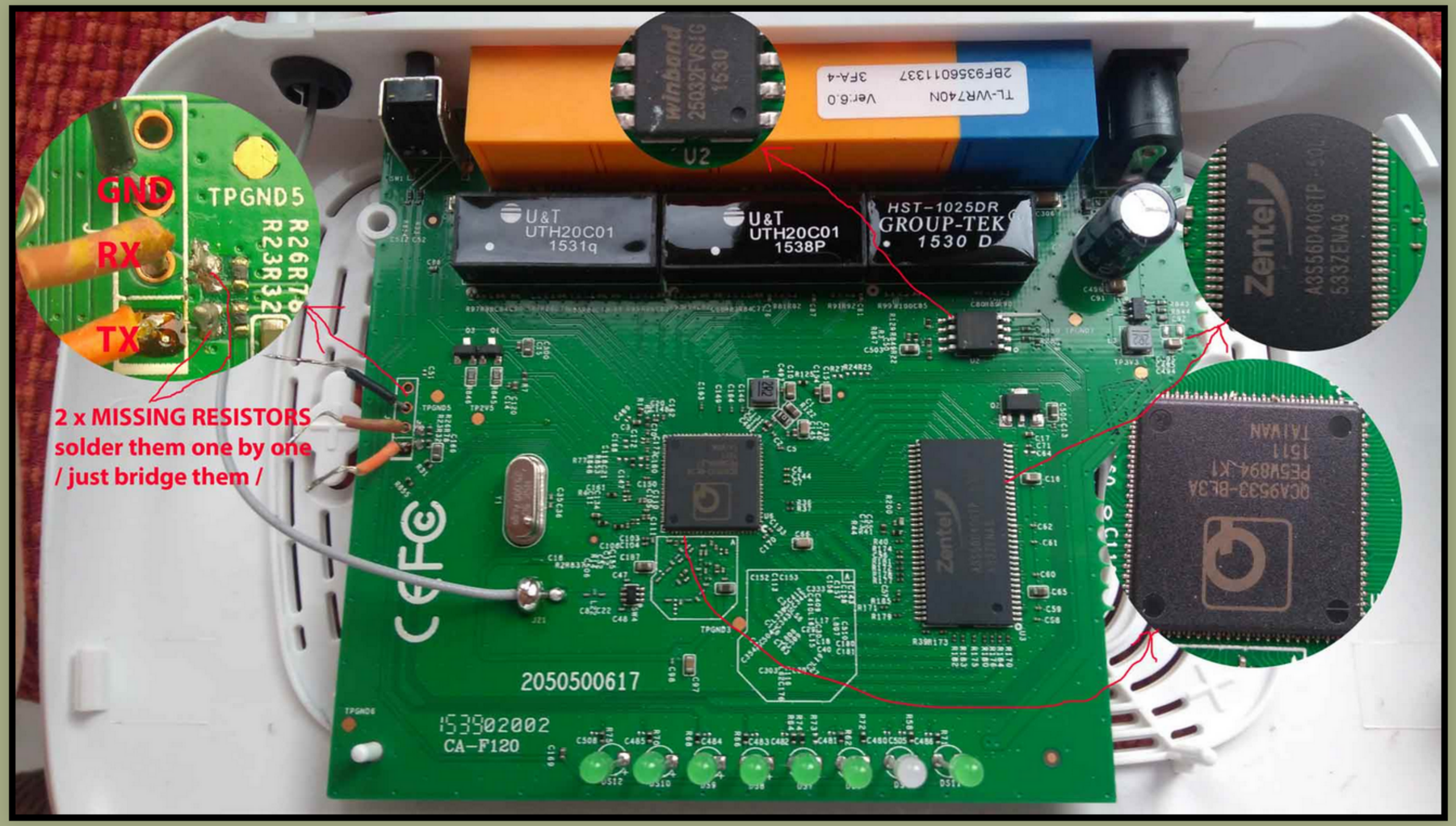
RT-AC3100, RT-AC3200, RT-AC68U_V4, RT-AC88U, RT-AC5300, GT-AC5300 and even RT-AX92U have all entered the EOL list.

Rmerlin said it is very likely that the RT-AC68U will be added to the list in the future:

> **RMerlin said:**
>
> The next 386 release will mark the end of the road for multiple models. Asus just added the RT-AC88U and RT-AC5300 to their EOL list, so 386.12 will most likely be the last GPL merge for most 386 models. Local stores are also getting rid of RT-AC66U_B1 inventories at less than half their regular price, so I suspect the RT-AC68U might be next on the chopping block.

So I guess it's time to say goodbye to AC models.

Check out the EOL list here: https://www.asus.com/event/network/eol-product/


GND
RX
TX
TPGND5
2 x MISSING RESISTORS
solder them one by one
/ just bridge them /
U2
U&T
UTH20C01
1531q
U&T
UTH20C01
1538P
HST-1025DR
GROUP-TEK
1530 D
Zentel
2050500617
153502002
CA-F120


12
1
2
10
9
9
4
8
7
6
5

who?

how?

https://lists.openwrt.org/pipermail/openwrt-devel/2024-January/042018.html

OpenWrt One - celebrating 20 years of OpenWrt

John Crispin john at phrozen.org
Tue Jan 9 02:49:56 PST 2024

- Previous message (by thread): [PATCH dt-schema] schemas: chosen: Add OpenWrt LEDs properties for system states
- Next message (by thread): OpenWrt One - celebrating 20 years of OpenWrt
- **Messages sorted by:** [date] [thread] [subject] [author]

---

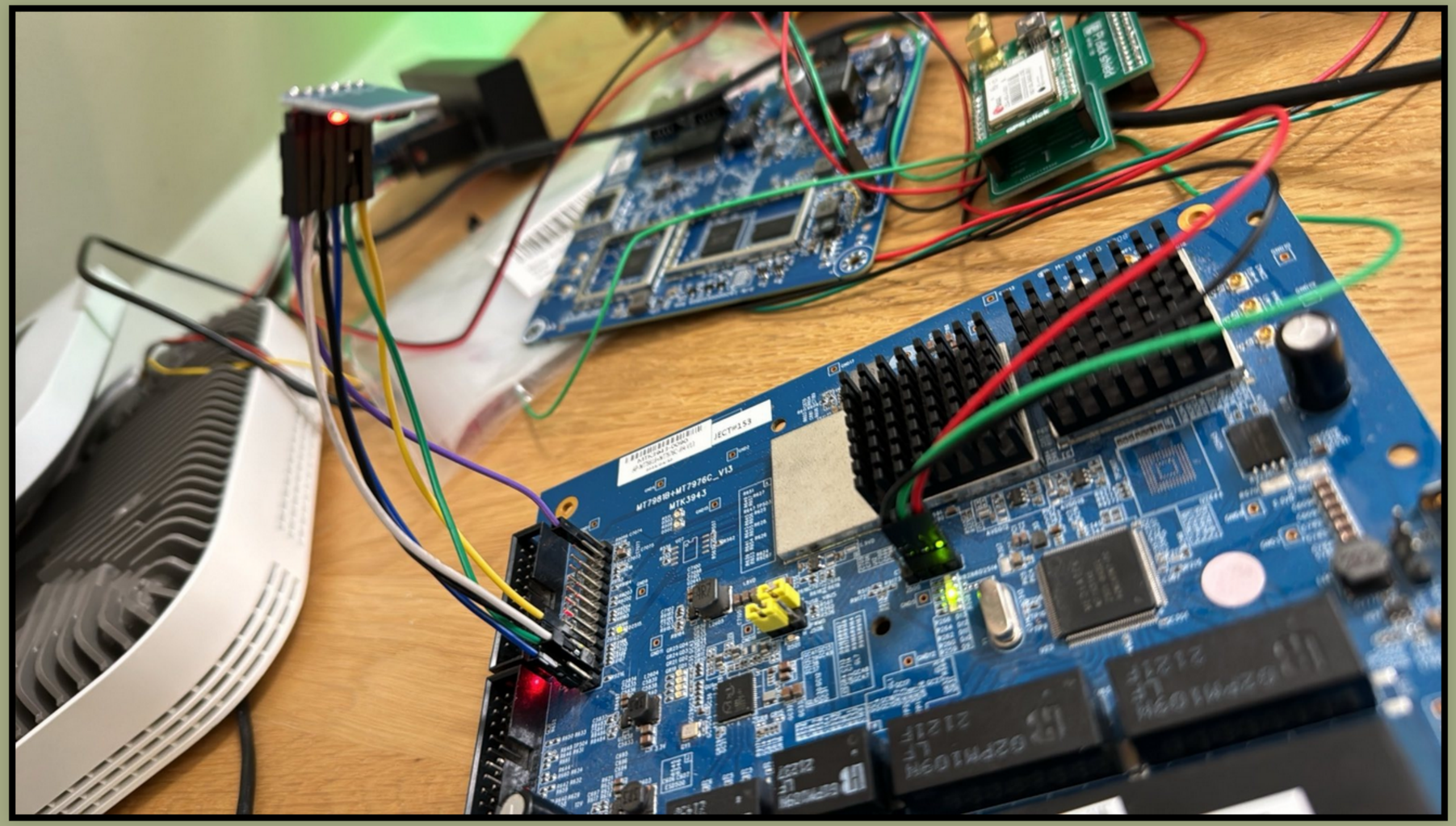
tl;dr

In 2024 the OpenWrt project turns 20 years! Let's celebrate this
anniversary by launching our own first and fully upstream supported
hardware design.

If the community likes the idea outlined below in greater details, we
would like to start a vote.

The idea

It is not new. We first spoke about this during the OpenWrt Summits in
2017 and also 2018. It became clear start of December 2023 while
tinkering with Banana Pi style devices that they are already pretty
close to what we wanted to achieve in '17/'18. Banana PIs have grown in
popularity within the community. They boot using a self compiled Trusted
Firmware-A (TF-A)and upstream U-Boot (thx MTK/Daniel) and some of the
boards are already fully supported by the upstream Linux kernel. The


MT7981B+MT7976C_V1.3
MTK3943

burn-in testing, fixing RTC

First Router Designed Specifically For OpenWrt Released

The New OpenWrt One on sale now for $89 — Ultimate Gift for Right-To-Repair Enthusiasts

November 29, 2024

Today, we at SFC, along with our OpenWrt member project, announce the production release of the OpenWrt One. This is the first wireless Internet router designed and built with your software freedom and right to repair in mind. The OpenWrt One will never be locked down and is forever unbrickable. This device services **your** needs as its owner and user. Everyone deserves control of their computing. The OpenWrt One takes a great first step toward bringing software rights to your home: you can control your own network with the software of your choice, and ensure your right to change, modify, and repair it as you like.

The OpenWrt One demonstrates what's possible when hardware designers and manufacturers prioritize your software right to repair; OpenWrt One exuberantly follows these requirements of the copyleft licenses of Linux and other GPL'd programs. This device provides the fully copyleft-compliant source code release from the start. Device owners have all the rights as intended on Day 1; device owners are encouraged to take full advantage of these rights to improve and repair the software on their OpenWrt One.

what did we fix?

everything*

TCB

GRANT OF EQUIPMENT AUTHORIZATION

TCB

Certification

Issued Under the Authority of the

Federal Communications Commission

By:

KL-Certification GmbH
Heinrich-Hertz-Allee 7
St. Ingbert, 66386
Germany

Date of Grant: 11/19/2024

Application Dated: 11/19/2024

GUANGDONG BIPAI KEJI.CPA.,LTD
Room 701, 7th floor, RongYi Building,
Songshan Lake High-tech Industrial
Development Zone, DONGGUAN, Guangdong, 523808
China

Attention: Judy Huang

NOT TRANSFERABLE

EQUIPMENT AUTHORIZATION is hereby issued to the named GRANTEE, and is VALID ONLY for the equipment identified hereon for use under the Commission's Rules and Regulations listed below.

FCC IDENTIFIER:	2BLLI-HW24
Name of Grantee:	GUANGDONG BIPAI KEJI.CPA.,LTD
Equipment Class:	**Digital Transmission System**
Notes:	**OpenWrt One**

```
$ cat how_to_compile_and_install.txt
OpenWrt One
-----------

Before you can compile an image your linux machine needs to be setup.
--> https://openwrt.org/docs/guide-developer/toolchain/install-buildsystem

Install luci webui
--> ./scripts/feeds install luci

Once this was done, simply type
--> make -j$(nproc)

The resulting images will be located inside bin/targets/mediatek/filogic/

Simply copy openwrt-mediatek-filogic-openwrt_one-squashfs-sysupgrade.itb to the
device using scp and execute

--> sysupgrade /tmp/openwrt-mediatek-filogic-openwrt_one-squashfs-sysupgrade.itb

For further information please visit the wiki page.

--> https://openwrt.org/toh/openwrt/one
$
```

```
 make[3] -C package/system/fstools compile
 make[3] -C package/base-files compile
 make[3] -C package/boot/uboot-envtools compile
 make[3] -C package/system/procd compile
 make[2] package/install
 make[2] target/install
 make[3] -C target/linux install
 make[2] package/index
 make[2] json_overview_image_info
 make[2] checksum
denver@cherry:~/OpenWrt-One-sources-3098b4bf07$ echo $?
0
denver@cherry:~/OpenWrt-One-sources-3098b4bf07$ ls -l bin/targets/mediatek/filogic/
total 76664
-rw-r--r-- 1 denver denver     1072 Mar  3 14:52 config.buildinfo
-rw-r--r-- 1 denver denver      231 Mar  3 14:52 feeds.buildinfo
-rw-r--r-- 1 denver denver   210365 Mar  3 14:55 mt7981-ram-ddr3-bl2.bin
-rw-r--r-- 1 denver denver   210365 Mar  3 14:56 mt7981-ram-ddr4-bl2.bin
-rw-r--r-- 1 denver denver   189656 Mar  3 14:57 mt7986-ram-ddr3-bl2.bin
-rw-r--r-- 1 denver denver   189656 Mar  3 14:57 mt7986-ram-ddr4-bl2.bin
-rw-r--r-- 1 denver denver   239053 Mar  3 14:57 mt7988-ram-comb-bl2.bin
-rw-r--r-- 1 denver denver 22282240 Mar  3 15:03 openwrt-mediatek-filogic-openwrt_one-factory.ubi
-rw-r--r-- 1 denver denver  8847360 Mar  3 15:03 openwrt-mediatek-filogic-openwrt_one-initramfs.itb
-rw-r--r-- 1 denver denver     4986 Mar  3 15:03 openwrt-mediatek-filogic-openwrt_one.manifest
-rw-r--r-- 1 denver denver   350492 Mar  3 15:03 openwrt-mediatek-filogic-openwrt_one-nor-bl31-uboot.fip
-rw-r--r-- 1 denver denver 10420224 Mar  3 15:03 openwrt-mediatek-filogic-openwrt_one-nor-factory.bin
-rw-r--r-- 1 denver denver   222893 Mar  3 15:03 openwrt-mediatek-filogic-openwrt_one-nor-preloader.bin
-rw-r--r-- 1 denver denver   960665 Mar  3 15:03 openwrt-mediatek-filogic-openwrt_one-snand-bl31-uboot.fip
-rw-r--r-- 1 denver denver 23330816 Mar  3 15:03 openwrt-mediatek-filogic-openwrt_one-snand-factory.bin
-rw-r--r-- 1 denver denver   234341 Mar  3 15:03 openwrt-mediatek-filogic-openwrt_one-snand-preloader.bin
-rw-r--r-- 1 denver denver 10748693 Mar  3 15:03 openwrt-mediatek-filogic-openwrt_one-squashfs-sysupgrade.itb
drwxr-xr-x 3 denver denver    12288 Mar  3 15:03 packages
-rw-r--r-- 1 denver denver     3275 Mar  3 15:03 profiles.json
-rw-r--r-- 1 denver denver     1980 Mar  3 15:03 sha256sums
-rw-r--r-- 1 denver denver        8 Mar  3 14:52 version.buildinfo
denver@cherry:~/OpenWrt-One-sources-3098b4bf07$
```

community support timeline, like Debian


one

building hardware: 11 months

bringing lawsuit: 47(+?) months

* there is still a blob or two :(

why a blob?

power

power that we don't have yet

we can fix this

but how?

we are your Wi-Fi

is this enough?

3. humanity-first software

Reproducible Builds


OpenWrt®
WIRELESS FREEDOM

Wine


git

etherpad

https://pad.sfconservancy.org/


OUTREACHY

4. get your rights - lawsuits :(

your rights

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Source code for these executables and libraries can be obtained using the following link: http://www.sony.net/Products/Linux/

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The software included in this product contains open source software. You may obtain the complete corresponding source code for a period of three years after the last shipment of this product by contacting our support team via http://opensource.samsung.com (Please use the "Inquiry" menu.)

It is also possible to obtain the complete corresponding source code in a physical medium such as a CD-ROM; a minimal charge will be required.

The following URL http://opensource.samsung.com/opensource/SMART_AT_051/seq/0 leads to the open source license information as related to this product. This offer is valid to anyone in receipt of this information.

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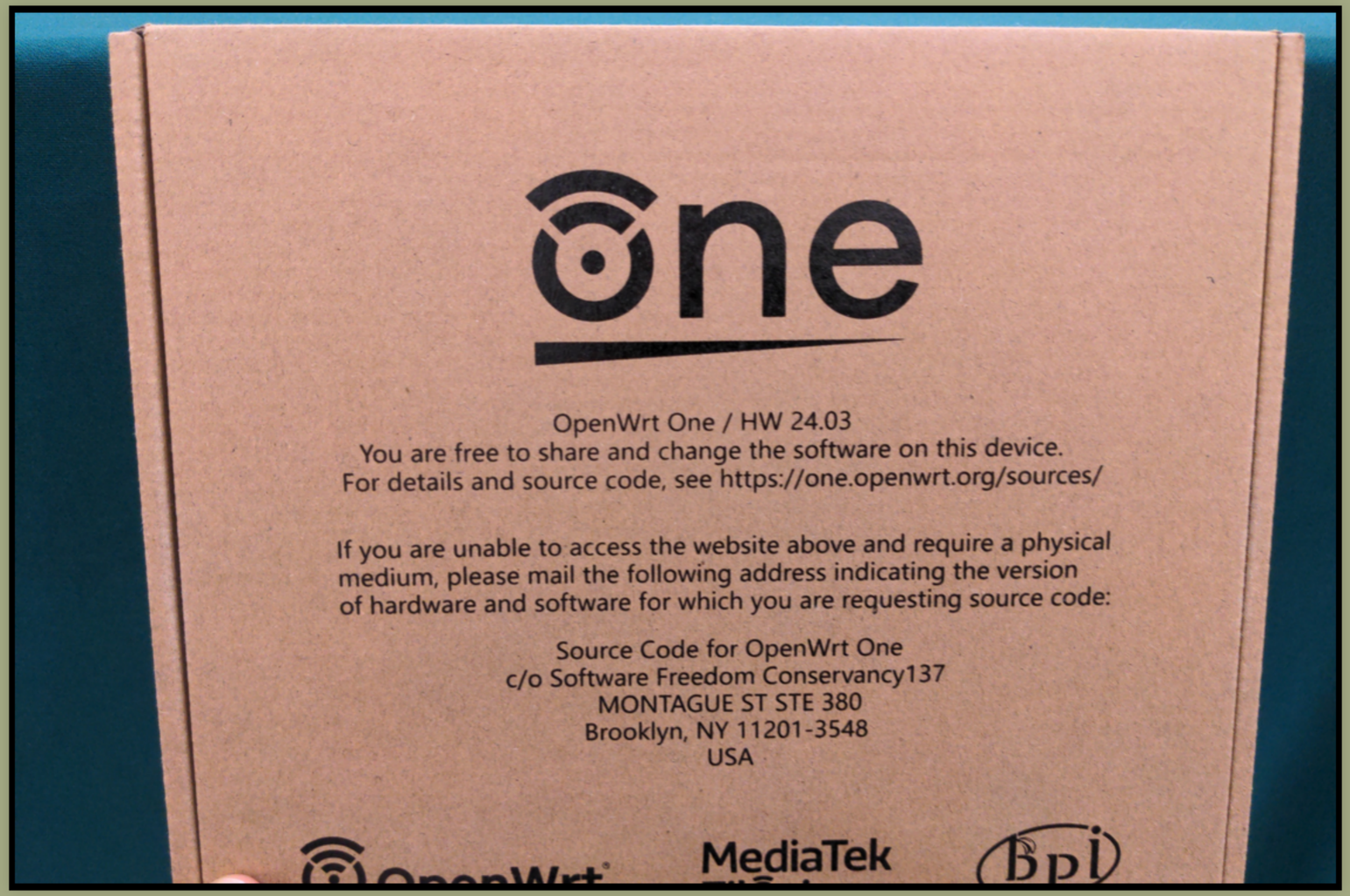
One
OpenWrt One / HW 24.03
You are free to share and change the software on this device.
For details and source code, see https://one.openwrt.org/sources/
If you are unable to access the website above and require a physical medium, please mail the following address indicating the version of hardware and software for which you are requesting source code:
Source Code for OpenWrt One
c/o Software Freedom Conservancy137
MONTAGUE ST STE 380
Brooklyn, NY 11201-3548
USA
MediaTek
BPI

the bargain


I AM ALTERING THE DEAL
PRAY I DON'T ALTER IT ANY FURTHER

ask nicely

show our work

Use The Source

OPENWRT ONE ROUND 2 OF 2

Download source

Download image

Vendor: OpenWrt

Device: One

Released: Dec. 3, 2024

This source release is provided to people who purchased an OpenWrt One (from **https://www.aliexpress.com/item/1005007795779282.html** for example) and requested source code for it. It is an updated version of **https://sfconservancy.org/usethesource/candidate/openwrt-one-round-1-of-2/** that replaced the earlier version a few days after its release.

Comments

denver — March 3, 2025, 6:33 p.m.

This was successfully compiled on the day of its release and confirmed again to do so correctly today.

The issues that some users reported in the Round 1 candidate have been fixed, so the steps in how_to_compile_and_install.txt appear to work correctly for everyone who has tried, regardless of whether they are online or not while completing the steps.

The resulting binaries successfully install onto the device using the steps in how_to_compile_and_install.txt and the binaries built from those steps correspond to the binaries shipped on the device.

We are grateful for how quickly the OpenWrt community acts on feedback and pleased to have received this very solid source code release that can be built entirely offline!

THINKPENGUIN TPE-R1300 ROUND 1 OF 1

Download source

Download image

Vendor: ThinkPenguin

Device: TPE-R1300

Released: May 11, 2023

This candidate is an image of the CD that is provided in the box alongside the TPE-R1300. Note that in addition to being confirmed as the firmware running on the device, the binary firmware image is also available inside the source CD, in the bin folder.

Comments

denver — Nov. 8, 2023, 4:08 p.m.

I have confirmed that this candidate builds. And I have previously confirmed that install (including with modifications) works. It also corresponds according to prior analysis.

Note that as part of "gcc" (per the README file), one does need to install the "g++" package on Debian as well. The build was tested on Debian 10 (buster).

Excellent work, ThinkPenguin!

GOOGLE NEST HELLO ROUND 2 OF N

Download source

Download image

Vendor: Google

Device: Nest Hello

Released: Aug. 13, 2020

Found via offer for source code with the device. Note that included repos need to be cloned before use, as this is not the original format Google provided (it was via web links to Git repos) and Google has deleted some of these original Git repos so we are mirroring the complete set we received here.

Comments

denver — Feb. 2, 2024, 7:26 p.m.

This is the report we sent to Google on 2020-08-17:

Here are the results of the CCS check I did on the source candidate published on Google's site as of 2020-08-13 for the Nest Hello "smart doorbell", firmware version 4030024 (the second candidate).

= Check summary of sources provided =

We were not able to find any README file to describe how to build all the packages at once. Furthermore, the individual packages did not contain adequate README or similar files for compiling corresponding source either. So we were unable to build object code that corresponded to Google's binaries (see below for how we determined the object code did not correspond, the linux-3.10 section in particular).

The main issue preventing us from building corresponding object code was that Google did not provide any information on which compiler to use. Since it is rare for a device like Nest Hello to self-host, we chose to use our desktop (running Debian 9 on x86_64 hardware) to build the source candidate that Google provided. Because the candidate did not specify any compiler, we used the default compiler, which creates x86_64 binaries, clearly not corresponding to the Nest Hello object code (per below). If there is a way for us to compile the Nest Hello object code on the Nest Hello itself, please do tell us how to do this so we can use its default compiler. Otherwise, we must receive details on which exact custom compiler must be used. It is sufficient for compilation compliance purposes to give detailed specifications for the cross-compiler, such as configuration options used to build upstream GCC for the purpose.

TP-LINK DECO X90 V1 1.1.2 ROUND 6 OF N

Download source

Download image

Vendor: TP-Link

Device: Deco X90 V1

Released: Jan. 23, 2024

These are the source candidate and firmware images provided on TP-Link's website for this product. Note that as of 2024-02-02, the version 1.1.2 firmware does not seem to be available on the website anymore, so we are re-posting it here.

Comments

denver — Feb. 2, 2024, 8:03 p.m.

A firmware image is produced when following the steps, but it lacks many kernel modules found in the stock firmware image. There may be additional issues, and installation has not been tested due to the incompleteness so far.

BOSCH SHP65CM5N DISHWASHER ROUND 2 OF N

Download source

Download image

Vendor: Bosch

Device: SHP65CM5N

Released: July 30, 2024

This is an update we received from Bosch after reporting the respective issues found in the round 1 candidate at **https://sfconservancy.org/usethesource/candidate/bosch-shp65cm5n-dishwasher-round-1-of-n/**

Comments

denver — Oct. 15, 2024, 7:35 p.m.

We were unable to find any "scripts used to control ... installation of the library" for libnl and other programs in the source candidate and on the device.

more on lawsuits

Bradley Kuhn

Ballroom G

11:45

AVM FRITZ!BOX 4020 6.83 ROUND 3 OF N

Download source

Download image

Vendor: AVM

Device: FRITZ!Box 4020

Released: June 7, 2024

This is an update received from AVM after reporting the respective issues found in the round 2 candidate at **https://sfconservancy.org/usethesource/candidate/avm-fritzbox-4020-683-round-2-of-n/** and filing a lawsuit. As with the Round 2 candidate, in this candidate the compile*.sh file was created by the user to help AVM come into compliance more quickly. The only part of the compile*.sh file that AVM provided was the value of KERNEL_LAYOUT.

SFC-funded lawsuit gets software repair and reinstall for users of AVM routers

AVM chooses not to appeal purchaser's suit that established users' rights on wireless router

January 9, 2025

Software Freedom Conservancy (SFC) today announces the conclusion of a lawsuit that we funded and supported in Germany. (As is typical with German cases, SFC was unable to give public updates during the case.) The defendant, Berlin-based AVM, ultimately delivered the necessary information to reinstall modified software on their device. Delivery of this information resolved the lawsuit. The plaintiff was Sebastian Steck, who received a grant from SFC to pursue this work. Steck purchased an AVM router in May 2021 and quickly found that the source code candidate which AVM sent him could not be compiled and reinstalled onto his router. AVM, the largest home router manufacturer in Germany, refused to correct its source code candidate. Steck sued AVM in a Berlin court in July 2023.

Months after the lawsuit was filed, AVM finally provided Steck with all remaining source code that Steck requested, including “the scripts used to control ... installation of the library”. Steck brought his claim under copyleft terms of the Lesser General Public License, version 2.1 (LGPLv2.1). As part of the case's resolution, AVM paid Steck's attorney's fees. The appeal deadline elapsed two weeks ago. AVM chose not to appeal the court's ruling on the fees.

The favorable result of this lawsuit exemplifies the power of copyleft — granting users the freedom to modify, repair, and secure the software on their own devices. Companies like AVM receive these immense benefits themselves. This lawsuit reminded AVM that downstream users must receive those very same rights under copyleft.

Vizio

5. what are you going to do?

SFC v. Vizio

September 15, 2025

Central Justice Center
700 Civic Center Drive West
Santa Ana, CA 92701

talk to us


IF YOU SEE SOMETHING,
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received a source candidate?

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software freedom
conservancy

Thanks!

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