

GL.iNet GL-MT6000

The GL-MT6000 (Flint 2) is a router based on the MediaTek Filogic 830 SoC that has dual-band 4×4 WiFi 6, two 2.5Gbit [WAN\(\)](#), four 1Gbit [LAN\(\)](#), 1GB DDR4 RAM, 8GB eMMC storage, and USB 3.2.



Hardware Highlights

Model	CPU	CPU MHz	CPU Cores_numcores	Flash MB	RAM MB	WLAN Hardware	Ethernet 1Gbit ports	Ethernet 2.5Gbit ports	USB ports	
GL-MT6000 (Flint 2)	MediaTek MT7986AV	2000	4	eMMC	1024	MediaTek MT7976GN, MediaTek MT7976AN	4	2	1x 3.0	Edit

Installation

The GL-MT6000 ships with a modified fork of OpenWrt. Installation of official OpenWrt is performed by simply flashing a *sysupgrade* image (do not use a *factory* image see warning box below) which will also retain the OEM U-boot and recovery method. First time install of OpenWrt can be achieved from either the OEM webUI or U-boot webUI. If creating a custom image, do not leave the “Script to run on first boot (uci-defaults)” box empty. If you do, the default reflash will be “Keep Configuration”, causing problems later. A simple `#`` entered into the empty box is sufficient.

Installation using GL-iNet web UI

1. Download the latest *sysupgrade* image for GL-MT6000 from [Firmware Selector](#) (<https://firmware-selector.openwrt.org/?target=mediatek%2Ffilogic&id=glinet-gl-mt6000>).
2. Browse to the router OEM web interface, default [IP\(\)](#) is 192.168.8.1.
3. Go to the Update page and drag in the sysupgrade image you downloaded, select *do not keep configuration*.
4. This will flash and reboot the router into OpenWrt using the now default [IP\(\)](#) of 192.168.1.1.
5. After flashing, OpenWrt can be configured as described in the Quick Start guide.

For firmware updates always use *sysupgrade* images. If you installed a snapshot remember it does not come with LuCI, install via [SSH\(\)](#): `opkg update && opkg install luci`.

To install via OEM U-boot or on a bricked device use the **Recovery** section below.

WARNING: Always install a *sysupgrade* image.

Attempting to flash a *factory* image first, then flashing an OpenWrt image will very likely lead to bricking!

It is not necessary to replace the OEM u-boot with OpenWrt u-boot. If you wish to do so you will need to flash a preloader image first then the u-boot image.

For further information about the preloader process, see this [commit](#) (<https://github.com/openwrt/openwrt/commit/10f9743935d6986e80e7c008246966c5a03f0>).

Configuration

Set WiFi country code

Before enabling each SSID set your Country Code to ensure the correct WiFi channels and transmit power are used:

1. In LuCI go to Network → Wireless
2. Click "Edit" on the SSID you want to enable
3. Select your "Country Code" from the dropdown
4. Save and Apply

Alternatively, set via `SSH()` with `iw reg set .`

Hardware Acceleration

MediaTek supports hardware acceleration for their SoCs which increases throughput and greatly reduces load off the CPU. It does this by processing traffic on their Packet Processing Engine (aka Network Accelerator). Users can expect 2.5Gbit routing with near 0/0/0 load across the CPU cores. The downside to this approach is it *cannot* be used in combination with `QoS()` features such as SQM and AQL. This is not enabled by default in OpenWrt. To enable, read below.

Hardware Flow Offloading

HFO enables hardware offloading of routing/NAT() packets. The caveat being it is incompatible with SQM. This can be enabled via `/etc/config/firewall` or in LuCI as follows:

1. Network → Firewall → Flow offloading type → Hardware flow offloading
2. Save and Apply

Wireless Ethernet Dispatch

WED enables hardware offloading of wireless traffic. The caveat being it will also bypass AQL which may result in higher WiFi latency (<https://forum.openwrt.org/t/gl-inet-gl-mt6000-aql-and-wifi-latency/196384/24>). This feature is not yet available in LuCI. To enable it, use the command line:

1. `SSH()`: `nano /etc/modules.conf`
2. Append: `options mt7915e wed_enable=Y`
3. Save and reboot

To check if WED is enabled, the following module will return either Y or N (yes or no): `cat /sys/module/mt7915e/parameters/wed_enable`

To check traffic offloaded to the PPEs for wired and wireless, cat `bind/status` in `ppe0/ppe1`, e.g.: `cat /sys/kernel/debug/ppe0/bind` and `cat /sys/kernel/debug/ppe1/bind`

Adjusting AQL

This device uses the mt76 mac80211 wifi driver which supports AQL (<https://github.com/torvalds/linux/commit/3ace10f5b5ad94606d4b419dc9da2217d57720a9>). While the default values are sensible, reducing TX queue limits can improve latency, albeit with a reduction in peak throughput. See forum post for adjusting AQL limits (<https://forum.openwrt.org/t/gl-inet-gl-mt6000-aql-and-wifi-latency/196384>) showing limits in the 1500-2500 range yield the lowest latency results. As always with WiFi, results will vary due to a variety of clients, frequencies, obstructions, etc. As noted above this cannot be used with WED enabled.

Check current AQL limits: `cat /sys/kernel/debug/ieee80211/phy*/aql_txq_limit`

Example for setting different limits on both radios:

```
for ac in 0 1 2 3; do echo $ac 2500 8500 > /sys/kernel/debug/ieee80211/phy0/aql_txq_limit; done
for ac in 0 1 2 3; do echo $ac 2500 8500 > /sys/kernel/debug/ieee80211/phy1/aql_txq_limit; done
```

To retain configuration after reboot save to `/etc/rc.local`:

```
# AQL Tweaks
aql_txq_limit_l=2500
aql_txq_limit_h=8500
for ac in 0 1 2 3; do echo $ac $aql_txq_limit_l $aql_txq_limit_h > /sys/kernel/debug/ieee80211/phy0/aql_txq_limit; done
for ac in 0 1 2 3; do echo $ac $aql_txq_limit_l $aql_txq_limit_h > /sys/kernel/debug/ieee80211/phy1/aql_txq_limit; done
```

Access Point mode

If configuring this device to function only as a wireless access point (dumb `AP()`) follow the bridgedap guide and consider leaving hardware acceleration features off as explained below.

Flow Offloading

A dumb `AP()` does not perform routing/`NAT()` since it is on the same `LAN()` as the router. Flow offloading (SFO and HFO) will therefore have no impact, better to leave these off.

WED

Since a dumb `AP()` does not perform other functions there is plenty of CPU headroom, therefore WiFi will typically have lower latency by leaving WED disabled so it will utilize AQL. Nevertheless if you would like to use WED, enable it as described above, then install the `bringer` package which does some BPF (Berkeley Packet Filter) magic to track and offload bridged streams. Optionally, edit `/etc/config/bringer` and define a device or bridge to exclude from bridge forwarding acceleration.

Docker

Given the generous 8GB eMMC and 1GB RAM, and with hardware offloading the CPU cores are unloaded, this becomes a viable device for Docker. Is Adblock missing a feature? Try Pi-hole container. Samba not powerful enough? Host a NAS container. Want to run a media server? Try Jellyfin. Need several wireless APs across a larger location? Consider Unifi-network-application. Or perhaps a simple Nethack server you can login and play.

- Docker Host for installation guide
- Docker container hub (<https://hub.docker.com/>) for countless containers ready to run

Recovery

OEM Recovery

The recovery and U-boot installation works independently of running OpenWrt firmware, OEM firmware, or a bricked firmware. This procedure (<https://docs.gl-inet.com/router/en/4/faq/debrick/>) is summarized below:

1. Configure your computer ethernet interface with a static `IP()` address of 192.168.1.2.
2. Connect an ethernet cable from a `LAN()` port (lan2-5) of the MT6000 to the ethernet port of your computer.
3. Unplug the power cord from the MT6000.
4. Press and hold the "Reset" button on the MT6000, then plug in the power lead while still holding the button.
5. Keep holding the button and wait for the LED to stabilize (about 10 seconds). Then release the button.
6. On your computer web browser, go to 192.168.1.1, you will see the u-boot web interface.
7. Select your downloaded sysupgrade image then click upload, you should see "Update in progress".
8. The MT6000 will reboot and you should be able to `SSH()` into 192.168.1.1 and install LuCI to continue configuring the MT6000.
9. Don't forget to set your computer back from static to `DHCP()` when you have finished.

Return to OEM

The GL.iNet OEM firmware being a fork of OpenWrt is compatible with official OpenWrt *sysupgrade* images, so returning to OEM is done simply by flashing their *sysupgrade* image without keeping settings and vice versa. Remember their OEM default `IP()` is 192.168.8.1. They offer two branch options, one with kernel 5.4 using the MTK SDK and wifi driver, and the other closer to official OpenWrt with kernel 6.6 and open source mt76 driver. SFO, HFO, and WED are enabled by default.

Misc

U-Boot

GL.iNet source code to U-Boot (<https://github.com/gl-inet/mt798x-boot/>) to compile bootloaders for a number of their devices. Follow their instructions here (<https://docs.gl-inet.com/router/en/3/tutorials/debrick/>) to replace your U-Boot. Proceed with caution.

Note that there is no strong motivation to modify the bootloader which is unlocked and suitable for OpenWrt purposes unless you wish to add secure boot or to lock it down. Given the ample storage space available on this device the included bootloader is sufficient.

Failsafe

Generic OpenWrt Failsafe mode and factory reset is available for resetting settings etc.

The LED blinks rapidly for a short period during the boot process to indicate failsafe mode triggering. For GL-MT6000 that is 10-15 seconds after power-on. Push the reset button during that rapid blinking to enter failsafe mode.

Beamforming and Basic Service Set Coloring

These are enabled by default as per [commit](https://github.com/openwrt/openwrt/commit/590eaaed59a9eb6037a1480587fc410de182523) (https://github.com/openwrt/openwrt/commit/590eaaed59a9eb6037a1480587fc410de182523). It is not recommended to change these settings unless you have a good reason. See commit comment for adjustments that can be made under the corresponding radio in /etc/config/wireless . Restart wireless or reboot to take effect.

Beamforming (<https://www.techspot.com/article/1769-wi-fi-6-explained/>) improves data rates and range by directing signals toward specific clients instead of being omnidirectional. By controlling transmissions from several antennas, it will cause their signals to interfere on purpose and redirect the resulting signal in a new direction. MediaTek also has a proprietary beamforming feature called iBF (<https://cdn-www.mediatek.com/page/iBF-Technology.pdf>) which supports legacy devices without BF built-in. Most clients have some form of BF support so iBF is generally not needed over the built-in solution.

Basic Service Set (BSS) Coloring (<https://www.commscope.com/blog/2018/wi-fi-6-fundamentals-basic-service-set-coloring-bss-coloring/>) marks shared frequencies to allow access points to determine whether simultaneous use of spectrum is permissible. This reduces interference due to congestion and ensures consistent service to multiple connected devices in high-density environments.

Replacing the SoC firmware

The MediaTek firmware included with OpenWrt is generally reliable and can be left alone. However users wanting to replace it with the upstream firmware which includes bug fixes and other changes may download it here (<https://git01.mediatek.com/plugins/gitiles/openwrt/feeds/mtk-openwrt-feeds/>) and compile from source or replace the binaries under /lib/firmware/mediatek/. See forum post (<https://forum.openwrt.org/t/gl-inet-firmware-gl-mt6000-snapshot-experimental-bleeding-edge/19727810>) for a script to partially automate this.

To check running firmware version: `dmesg | grep -i firmware .`

LEDs

The device has one frontside LED which can be either blue or white. OpenWrt has this hardcoded to show the boot process as follows:

- sysupgrade: white LED blinks
- bootloader, early boot: blue LED on (10-15 seconds)
- preinit/failsafe: blue LED blinks rapidly (2 seconds for failsafe entrance)
- late boot: blue LED blinks slowly (10+ seconds depending on packages)
- boot completed, running normally: white LED on

Brightness can be set by assigning `brightness` a value 0-255, from dimmest to brightest, via `SSH()` in: `/sys/class/leds/`

For example, to set LED to off (add to /etc/rc.local to keep after reboot): `echo 0 > /sys/class/leds/white:system/brightness`

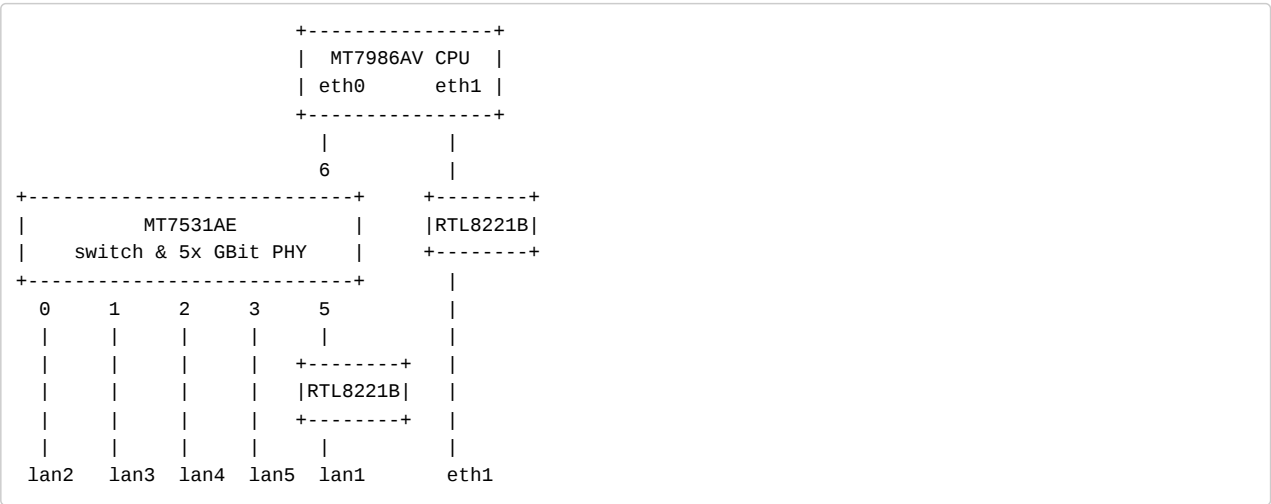
Flash layout

The default filesystems are as follows:

```
root@OpenWrt:~# df -h
Filesystem      Size      Used Available Use% Mounted on
/dev/root        5.3M        5.3M          0 100% /rom
tmpfs           493.3M    428.0K    492.9M      0% /tmp
/dev/loop0       7.2G     240.8M      7.0G      3% /overlay
overlayfs:/overlay 7.2G     240.8M      7.0G      3% /
tmpfs           512.0K          0    512.0K      0% /dev
root@OpenWrt:~# lsblk
NAME        MAJ:MIN RM  SIZE RO TYPE MOUNTPOINTS
loop0         7:0    0   7.2G  0 loop /overlay
mmcblk0     179:0    0   7.3G  0 disk
└─mmcblk0p1  179:1    0   512K  0 part
└─mmcblk0p2  179:2    0    2M   0 part
└─mmcblk0p3  179:3    0    2M   0 part
└─mmcblk0p4  179:4    0    2M   0 part
└─mmcblk0p5  179:5    0    2M   0 part
└─mmcblk0p6  179:6    0   32M   0 part
└─mmcblk0p7  179:7    0   7.2G  0 part /rom
mmcblk0boot0 179:8    0    4M   1 disk
mmcblk0boot1 179:16   0    4M   1 disk
```

Switch

A MediaTek 1Gbit switch and two Realtek 2.5Gbit chips are used. Network traffic for LAN1-5 passes through a single port to the CPU at eth0. The WAN() port is directly connected to the CPU at eth1.

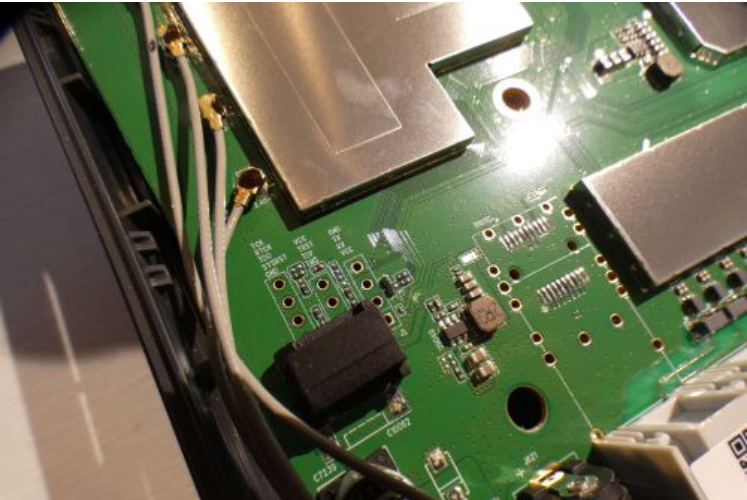


Serial

→ port.serial general information about the serial port, serial port cable, etc.

Serial connection parameters	Serial connection voltage
No data available in table	

The pins are unpopulated, but clearly labeled and accessible without removing the heatsink.



JTAG

→ port.jtag general information about the JTAG port, JTAG cable, etc.

Like the serial pins, they are unpopulated, but clearly labeled and accessible without removing the heatsink. See photo above.

Performance

A forum user posted some speedtests on Kernel 5.15 (<https://forum.openwrt.org/t/gl-mt6000-up-to-900-mbps-using-wireguard/173524/230>) and later on Kernel 6.6 (<https://www.waveform.com/tools/bufferbloat?test-id=fe841d79-96bf-4de2-bf27-17a845ff1f03>) using a cable modem with 950/30 rated gigabit service. Wireless tests were line of sight at about 15ft (5m) from the router. File sharing tests used a USB 3.0 SSD formatted exFAT using Samba 4.18.8, Ksmbd performance was noted to be similar.

WAN() to LAN():

1. SFO+HFO: 958/36 Mbps, Load%: 0/0.7/0/0, +18ms, +33ms, Bufferbloat: B

2. SQM Cake + packet steering: 885/20 Mbps, Load%: 70/50/50/50, +2ms, +0ms, Bufferbloat: A+, [Speedtest results \(https://www.waveform.com/tools/bufferbloat?test-id=0c2c424a-5647-4366-8d1e-6ab04c5ad7e8\)](https://www.waveform.com/tools/bufferbloat?test-id=0c2c424a-5647-4366-8d1e-6ab04c5ad7e8)
3. SQM Fq_codel + packet steering: 900/20 Mbps, Load%: 70/40/45/30, +3ms, +0ms, Bufferbloat: A+, [Speedtest results \(https://www.waveform.com/tools/bufferbloat?test-id=fe841d79-96b1-4de2-bf27-17a345f1f03\)](https://www.waveform.com/tools/bufferbloat?test-id=fe841d79-96b1-4de2-bf27-17a345f1f03)

WAN() to WLAN():

1. Default 5GHz 80MHz: 750/37 Mbps, Load%: 31/20/18/22
2. WED 5GHz 80MHz: 810/37 Mbps, Load%: 5/0/0/0
3. WED 2.4GHz 20MHz: 55/37 Mbps, Load% 1/0/0/0

Samba on LAN():

1. Read: 85 MB/s (680 Mbps), Load%: 13/8/32/5
2. Write: 115 MB/s (920 Mbps), Load%: 30/25/25/15

WireGuard on device:

1. 806 Mbps using this [forum \(https://forum.openwrt.org/t/a-wireguard-comparison-dp/187586\)](https://forum.openwrt.org/t/a-wireguard-comparison-dp/187586) script. Note speeds may be higher to VPN() providers, this on-device script was used for comparison to other targets.

Power consumption:

1. A user submitted this device to The Power Consumption Database [here \(https://www.tpcdb.com/product.php?id=7698\)](https://www.tpcdb.com/product.php?id=7698).

Community Builds

Custom builds by pesa1234 (<https://forum.openwrt.org/t/mt6000-custom-build-with-luci-and-some-optimization-kernel-6-6-x/185241>) includes the newer mtk wifi firmware, iBF settings, QAM-256 VHT on 2.4GHz, and many configuration tweaks and built-in packages.

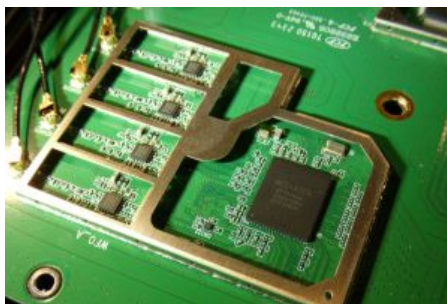
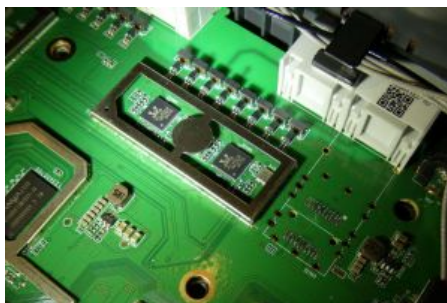
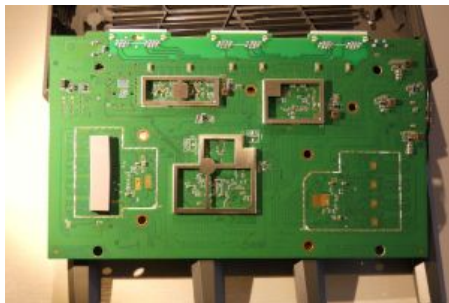
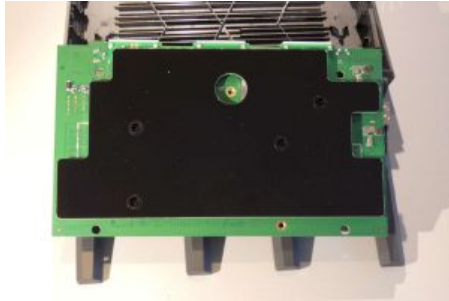
Opening the case

The bottom of the case includes two wall mount slots.

- Dimensions: 233 x 137 x 53mm
- Weight: 761g

Under 4 rubber feet are 4 phillips screws. After removing these it must be pried open. You may break a few clips, but it'll open. (You won't really need the clips later, the 4 screws will hold it shut perfectly fine.) You'll then find a giant heatsink. 2 screws on the top will free the PCB and heatsink from the case. Be careful with the 8 antenna cables. You could disconnect those but leave them connected and just fold the board over. There is also a large backplate, 4 screws will free the heatsink and backplate from the PCB. There are multiple thick thermal pads on both sides of the PCB, so both the backplate and heatsink may stick a bit to the board. On the board there are multiple RF shields. If you want, you could spuder those open to find even more thermal pads.

Photos



Wi-Fi features

Radiation patterns for this device are posted in the FCC filing (<https://fccid.io/2AE1W-MT6000/Test-Report/Antenna-Information/6969609.pdf>).

```
root@OpenWrt:~# iw list Wiphy phy1 wiphy index: 1 max # scan SSIDs: 4 max scan IEs length: 2190 bytes max # sched scan SSIDs: 0
max # match sets: 0 Retry short limit: 7 Retry long limit: 4 Coverage class: 0 (up to 0m) Device supports AP-side u-APSD. Device
supports T-DLS. Available Antennas: TX 0xf RX 0xf Configured Antennas: TX 0xf0 RX 0xf0 Supported interface modes: * IBSS *
managed * AP * AP/VLAN * monitor * mesh point * P2P-client * P2P-GO Band 2: Capabilities: 0x9ff RX LDPC HT20/HT40 SM Power
Save disabled RX Greenfield RX HT20 SGI RX HT40 SGI TX STBC RX STBC 1-stream Max AMSDU length: 7935 bytes No DSSS/CKK
HT40 Maximum RX AMPDU length 65535 bytes (exponent: 0x003) Minimum RX AMPDU time spacing: 2 usec (0x04) HT TX/RX MCS
rate indexes supported: 0-31 VHT Capabilities (0x339b79f6): Max MPDU length: 11454 Supported Channel Width: 160 MHz RX LDPC
short GI (80 MHz) short GI (160/80+80 MHz) TX STBC SU Beamformer SU Beamformee MU Beamformer MU Beamformee RX antenna
pattern consistency TX antenna pattern consistency VHT RX MCS set: 1 streams: MCS 0-9 2 streams: MCS 0-9 3 streams: MCS 0-9 4
streams: MCS 0-9 5 streams: not supported 6 streams: not supported 7 streams: not supported 8 streams: not supported VHT RX
highest supported: 0 Mbps VHT TX MCS set: 1 streams: MCS 0-9 2 streams: MCS 0-9 3 streams: MCS 0-9 4 streams: MCS 0-9 5
streams: not supported 6 streams: not supported 7 streams: not supported 8 streams: not supported VHT TX highest supported: 0 Mbps
VHT extended NSS: supported HE Iftypes: managed HE MAC Capabilities (): +HTC HE Supported Trigger Frame MAC Padding
Duration: 2 OM Control Maximum A-MPDU Length Exponent: 3 A-MSDU in A-MPDU HE PHY Capabilities (): HE40/HE80/5GHz
HE160/5GHz 242 tone RUs/5GHz Device Class: 1 LDPC Coding in Payload HE SU PPDU with 1x HE-LTF and 0.8us GI NDP with 4x
HE-LTF and 3.2us GI STBC Tx <= 80MHz STBC Rx <= 80MHz Full Bandwidth UL MU-MIMO Partial Bandwidth UL MU-MIMO DCM Max
Constellation: 2 DCM Max Constellation Rx: 2 SU Beamformer SU Beamformee Beamformee STS <= 80MHz: 3 Beamformee STS >
80MHz: 3 Sounding Dimensions <= 80MHz: 3 Sounding Dimensions > 80MHz: 3 Codebook Size SU Feedback Codebook Size MU
Feedback Triggered CQI Feedback Partial Bandwidth Extended Range Partial Bandwidth DL MU-MIMO PPE Threshold Present Power
Boost Factor ar HE SU PPDU & HE PPDU 4x HE-LTF 0.8us GI Max NC: 2 20MHz in 40MHz HE PPDU 2.4GHz 20MHz in
160/80+80MHz HE PPDU 80MHz in 160/80+80MHz HE PPDU DCM Max BW: 1 Longer Than 16HE SIG-B OFDM Symbols Non-
Triggered CQI Feedback TX 1024-QAM RX 1024-QAM RX Full BW SU Using HE MU PPDU with Compression SIGB RX Full BW SU
Using HE MU PPDU with Non-Compression SIGB HE RX MCS and NSS set <= 80 MHz 1 streams: MCS 0-11 2 streams: MCS 0-11 3
streams: MCS 0-11 4 streams: MCS 0-11 5 streams: not supported 6 streams: not supported 7 streams: not supported 8 streams: not
supported HE TX MCS and NSS set <= 80 MHz 1 streams: MCS 0-11 2 streams: MCS 0-11 3 streams: MCS 0-11 4 streams: MCS 0-11
5 streams: not supported 6 streams: not supported 7 streams: not supported 8 streams: not supported HE RX MCS and NSS set 160
MHz 1 streams: MCS 0-11 2 streams: MCS 0-11 3 streams: MCS 0-11 4 streams: MCS 0-11 5 streams: not supported 6 streams: not
supported 7 streams: not supported 8 streams: not supported HE TX MCS and NSS set 160 MHz 1 streams: MCS 0-11 2 streams: MCS
0-11 3 streams: MCS 0-11 4 streams: MCS 0-11 5 streams: not supported 6 streams: not supported 7 streams: not supported 8 streams:
not supported PPE Threshold 0x3b 0x1c 0xc7 0x71 0x1c 0xc7 0x71 0x1c 0xc7 0x71 HE Iftypes: AP HE MAC Capabilities (): +HTC HE
Supported TWT Responder BSR OM Control Maximum A-MPDU Length Exponent: 3 BQR A-MSDU in A-MPDU OM Control UL MU Data
Disable RX HE PHY Capabilities: (0x0c20ce926f1bafd000c00): HE40/HE80/5GHz HE160/5GHz LDPC Coding in Payload NDP with 4x
HE-LTF and 3.2us GI STBC Tx <= 80MHz STBC Rx <= 80MHz Full Bandwidth UL MU-MIMO Partial Bandwidth UL MU-MIMO DCM Max
Constellation: 2 DCM Max Constellation Rx: 2 SU Beamformer SU Beamformee MU Beamformer Beamformee STS <= 80MHz: 3
Beamformee STS > 80MHz: 3 Sounding Dimensions <= 80MHz: 3 Sounding Dimensions > 80MHz: 3 Codebook Size SU Feedback
Codebook Size MU Feedback Triggered SU Beamforming Feedback Triggered MU Beamforming Feedback Partial Bandwidth Extended
Range PPE Threshold Present Max NC: 2 STBC Tx > 80MHz STBC Rx > 80MHz TX 1024-QAM RX 1024-QAM HE RX MCS and NSS
set <= 80 MHz 1 streams: MCS 0-11 2 streams: MCS 0-11 3 streams: MCS 0-11 4 streams: MCS 0-11 5 streams: not supported 6
streams: not supported 7 streams: not supported 8 streams: not supported HE TX MCS and NSS set <= 80 MHz 1 streams: MCS 0-11 2
streams: MCS 0-11 3 streams: MCS 0-11 4 streams: MCS 0-11 5 streams: not supported 6 streams: not supported 7 streams: not
supported 8 streams: not supported HE RX MCS and NSS set 160 MHz 1 streams: MCS 0-11 2 streams: MCS 0-11 3 streams: MCS 0-
11 4 streams: MCS 0-11 5 streams: not supported 6 streams: not supported 7 streams: not supported 8 streams: not supported HE TX
MCS and NSS set 160 MHz 1 streams: MCS 0-11 2 streams: MCS 0-11 3 streams: MCS 0-11 4 streams: MCS 0-11 5 streams: not
supported 6 streams: not supported 7 streams: not supported 8 streams: not supported PPE Threshold 0x3b 0x1c 0xc7 0x71 0x1c 0xc7
0x71 0x1c 0xc7 0x71 HE Iftypes: mesh point HE MAC Capabilities (): +HTC HE Supported OM Control Maximum A-MPDU Length
Exponent: 3 A-MSDU in A-MPDU HE PHY Capabilities (): HE40/HE80/5GHz HE160/5GHz LDPC Coding in Payload STBC Tx <= 80MHz
STBC Rx <= 80MHz HE RX MCS and NSS set <= 80 MHz 1 streams: MCS 0-11 2 streams: MCS 0-11 3 streams: MCS 0-11 4 streams:
MCS 0-11 5 streams: not supported 6 streams: not supported 7 streams: not supported 8 streams: not supported HE TX MCS and NSS
set <= 80 MHz 1 streams: MCS 0-11 2 streams: MCS 0-11 3 streams: MCS 0-11 4 streams: MCS 0-11 5 streams: not supported 6
streams: not supported 7 streams: not supported 8 streams: not supported HE RX MCS and NSS set 160 MHz 1 streams: MCS 0-11 2
streams: MCS 0-11 3 streams: MCS 0-11 4 streams: MCS 0-11 5 streams: not supported 6 streams: not supported 7 streams: not
supported 8 streams: not supported HE TX MCS and NSS set 160 MHz 1 streams: MCS 0-11 2 streams: MCS 0-11 3 streams: MCS 0-
11 4 streams: MCS 0-11 5 streams: not supported 6 streams: not supported 7 streams: not supported 8 streams: not supported
Frequencies: * 5180.0 MHz [36] (23.0 dBm) * 5200.0 MHz [40] (23.0 dBm) * 5220.0 MHz [44] (23.0 dBm) * 5240.0 MHz [48] (23.0 dBm) *
5260.0 MHz [52] (24.0 dBm) (radar detection) * 5280.0 MHz [56] (24.0 dBm) (radar detection) * 5300.0 MHz [60] (24.0 dBm) (radar
detection) * 5320.0 MHz [64] (24.0 dBm) (radar detection) * 5500.0 MHz [100] (24.0 dBm) (radar detection) * 5520.0 MHz [104] (24.0
dBm) (radar detection) * 5540.0 MHz [108] (24.0 dBm) (radar detection) * 5560.0 MHz [112] (24.0 dBm) (radar detection) * 5580.0 MHz
[116] (24.0 dBm) (radar detection) * 5600.0 MHz [120] (24.0 dBm) (radar detection) * 5620.0 MHz [124] (24.0 dBm) (radar detection) *
5640.0 MHz [128] (24.0 dBm) (radar detection) * 5660.0 MHz [132] (24.0 dBm) (radar detection) * 5680.0 MHz [136] (24.0 dBm) (radar
detection) * 5700.0 MHz [140] (24.0 dBm) (radar detection) * 5720.0 MHz [144] (24.0 dBm) (radar detection) * 5745.0 MHz [149] (30.0
```


dBm) * 5765.0 MHz [153] (30.0 dBm) * 5785.0 MHz [157] (30.0 dBm) * 5805.0 MHz [161] (30.0 dBm) * 5825.0 MHz [165] (30.0 dBm) * 5845.0 MHz [169] (27.0 dBm) (no IR) * 5865.0 MHz [173] (27.0 dBm) (no IR) * 5885.0 MHz [177] (27.0 dBm) (no IR) valid interface combinations: * #{ IBSS } <= 1, #{ AP, mesh point } <= 16, #{ managed } <= 19, total <= 19, #channels <= 1, STA/AP BI must match, radar detect widths: { 20 MHz (no HT), 20 MHz, 40 MHz, 80 MHz, 160 MHz } HT Capability overrides: * MCS: ff ff ff ff ff ff ff ff * maximum A-MSDU length * supported channel width * short GI for 40 MHz * max A-MPDU length exponent * min MPDU start spacing max # scan plans: 1 max scan plan interval: -1 max scan plan iterations: 0 Supported extended features: * [VHT_IBSS]: VHT-IBSS * [RRM]: RRM * [BEACON_RATE_LEGACY]: legacy beacon rate setting * [BEACON_RATE_HT]: HT beacon rate setting * [BEACON_RATE_VHT]: VHT beacon rate setting * [FILS_STA]: STA FILS (Fast Initial Link Setup) * [CQM_RSSI_LIST]: multiple CQM_RSSI_THOLD records * [CONTROL_PORT_OVER_NL80211]: control port over nl80211 * [ACK_SIGNAL_SUPPORT]: ack signal level support * [TXQS]: FQ-CoDel-enabled intermediate TXQs * [SCAN_RANDOM_SN]: use random sequence numbers in scans * [SCAN_MIN_PREQ_CONTENT]: use probe request with only rate IEs in scans * [CAN_REPLACE_PTK0]: can safely replace PTK 0 when rekeying * [AIRTIME_FAIRNESS]: airtime fairness scheduling * [STA_TX_PWR]: TX power control per station * [AQL]: Airtime Queue Limits (AQL) * [CONTROL_PORT_NO_PREAUTH]: disable pre-auth over nl80211 control port support * [DEL_IBSS_STA]: deletion of IBSS station support * [SCAN_FREQ_KHZ]: scan on kHz frequency support * [CONTROL_PORT_OVER_NL80211_TX_STATUS]: tx status for nl80211 control port support * [FILS_DISCOVERY]: FILS discovery frame transmission support * [UNSOL_BCAST_PROBE_RESP]: unsolicited broadcast probe response transmission support * [BEACON_RATE_HE]: HE beacon rate support (AP/mesh) * [BSS_COLOR]: BSS coloring support * [RADAR_BACKGROUND]: Radar background support * [POWERED_ADDR_CHANGE]: can change MAC address while up Wiphy phy0 wiphy index: 0 max # scan SSIDs: 4 max scan IEs length: 2200 bytes max # sched scan SSIDs: 0 max # match sets: 0 Retry short limit: 7 Retry long limit: 4 Coverage class: 0 (up to 0m) Device supports AP-side u-APSD. Device supports T-DLS. Available Antennas: TX 0xf RX 0xf Configured Antennas: TX 0xf RX 0xf Supported interface modes: * IBSS * managed * AP * AP/VLAN * monitor * mesh point * P2P-client * P2P-GO Band 1: Capabilities: 0x9ff RX LDPC HT20/HT40 SM Power Save disabled RX Greenfield RX HT20 SGI RX HT40 SGI TX STBC RX STBC 1-stream Max AMSDU length: 7935 bytes No DSSS/CCK HT40 Maximum RX AMPDU length 65535 bytes (exponent: 0x003) Minimum RX AMPDU time spacing: 2 usec (0x04) HT TX/RX MCS rate indexes supported: 0-31 HE Iftypes: managed HE MAC Capabilities (): +HTC HE Supported Trigger Frame MAC Padding Duration: 2 OM Control Maximum A-MPDU Length Exponent: 3 A-MSDU in A-MPDU HE PHY Capabilities (): HE40/2.4GHz 242 tone RUs/2.4GHz Device Class: 1 LDPC Coding in Payload HE SU PPDU with 1x HE-LTF and 0.8us GI NDP with 4x HE-LTF and 3.2us GI STBC Tx <= 80MHz STBC Rx <= 80MHz Full Bandwidth UL MU-MIMO Partial Bandwidth UL MU-MIMO DCM Max Constellation: 2 DCM Max Constellation Rx: 2 SU Beamformer SU Beamformee Beamformee STS <= 80MHz: 3 Beamformee STS > 80MHz: 3 Sounding Dimensions <= 80MHz: 3 Sounding Dimensions > 80MHz: 3 Codebook Size SU Feedback Codebook Size MU Feedback Triggered CQI Feedback Partial Bandwidth Extended Range Partial Bandwidth DL MU-MIMO PPE Threshold Present Power Boost Factor ar HE SU PPDU & HE PPDU 4x HE-LTF 0.8us GI Max NC: 2 20MHz in 40MHz HE PPDU 2.4GHz 20MHz in 160/80+80MHz HE PPDU 80MHz in 160/80+80MHz HE PPDU DCM Max BW: 1 Longer Than 16HE SIG-B OFDM Symbols Non-Triggered CQI Feedback TX 1024-QAM RX 1024-QAM RX Full BW SU Using HE MU PPDU with Compression SIGB RX Full BW SU Using HE MU PPDU with Non-Compression SIGB HE RX MCS and NSS set <= 80 MHz 1 streams: MCS 0-11 2 streams: MCS 0-11 3 streams: MCS 0-11 4 streams: MCS 0-11 5 streams: not supported 6 streams: not supported 7 streams: not supported 8 streams: not supported HE TX MCS and NSS set <= 80 MHz 1 streams: MCS 0-11 2 streams: MCS 0-11 3 streams: MCS 0-11 4 streams: MCS 0-11 5 streams: not supported 6 streams: not supported 7 streams: not supported 8 streams: not supported PPE Threshold 0x3b 0x1c 0xc7 0x71 0x1c 0xc7 0x71 0x1c 0xc7 0x71 HE Iftypes: AP HE MAC Capabilities (): +HTC HE Supported TWT Responder BSR OM Control Maximum A-MPDU Length Exponent: 3 BQR A-MSDU in A-MPDU OM Control UL MU Data Disable RX HE PHY Capabilities: (0x0220ce926f1bafd0000c00): HE40/2.4GHz LDPC Coding in Payload NDP with 4x HE-LTF and 3.2us GI STBC Tx <= 80MHz STBC Rx <= 80MHz Full Bandwidth UL MU-MIMO Partial Bandwidth UL MU-MIMO DCM Max Constellation: 2 DCM Max Constellation Rx: 2 SU Beamformer SU Beamformee MU Beamformer Beamformee STS <= 80MHz: 3 Beamformee STS > 80MHz: 3 Sounding Dimensions <= 80MHz: 3 Sounding Dimensions > 80MHz: 3 Codebook Size SU Feedback Codebook Size MU Feedback Triggered SU Beamforming Feedback Triggered MU Beamforming Feedback Partial Bandwidth Extended Range PPE Threshold Present Max NC: 2 STBC Tx > 80MHz STBC Rx > 80MHz TX 1024-QAM RX 1024-QAM HE RX MCS and NSS set <= 80 MHz 1 streams: MCS 0-11 2 streams: MCS 0-11 3 streams: MCS 0-11 4 streams: MCS 0-11 5 streams: not supported 6 streams: not supported 7 streams: not supported 8 streams: not supported HE TX MCS and NSS set <= 80 MHz 1 streams: MCS 0-11 2 streams: MCS 0-11 3 streams: MCS 0-11 4 streams: MCS 0-11 5 streams: not supported 6 streams: not supported 7 streams: not supported 8 streams: not supported PPE Threshold 0x3b 0x1c 0xc7 0x71 0x1c 0xc7 0x71 0x1c 0xc7 0x71 HE Iftypes: mesh point HE MAC Capabilities (): +HTC HE Supported OM Control Maximum A-MPDU Length Exponent: 3 A-MSDU in A-MPDU HE PHY Capabilities (): HE40/2.4GHz LDPC Coding in Payload STBC Tx <= 80MHz STBC Rx <= 80MHz HE RX MCS and NSS set <= 80 MHz 1 streams: MCS 0-11 2 streams: MCS 0-11 3 streams: MCS 0-11 4 streams: MCS 0-11 5 streams: not supported 6 streams: not supported 7 streams: not supported 8 streams: not supported HE TX MCS and NSS set <= 80 MHz 1 streams: MCS 0-11 2 streams: MCS 0-11 3 streams: MCS 0-11 4 streams: MCS 0-11 5 streams: not supported 6 streams: not supported 7 streams: not supported 8 streams: not supported Frequencies: * 2412.0 MHz [1] (30.0 dBm) * 2417.0 MHz [2] (30.0 dBm) * 2422.0 MHz [3] (30.0 dBm) * 2427.0 MHz [4] (30.0 dBm) * 2432.0 MHz [5] (30.0 dBm) * 2437.0 MHz [6] (30.0 dBm) * 2442.0 MHz [7] (30.0 dBm) * 2447.0 MHz [8] (30.0 dBm) * 2452.0 MHz [9] (30.0 dBm) * 2457.0 MHz [10] (30.0 dBm) * 2462.0 MHz [11] (30.0 dBm) * 2467.0 MHz [12] (disabled) * 2472.0 MHz [13] (disabled) * 2484.0 MHz [14] (disabled) valid interface combinations: * #{ IBSS } <= 1, #{ AP, mesh point } <= 16, #{ managed } <= 19, total <= 19, #channels <= 1, STA/AP BI must match, radar detect widths: { 20 MHz (no HT), 20 MHz, 40 MHz, 80 MHz, 160 MHz } HT Capability overrides: * MCS: ff ff ff ff ff ff ff ff * maximum A-MSDU length * supported channel width * short GI for 40 MHz * max A-MPDU length exponent * min MPDU start spacing max # scan plans: 1 max scan plan interval: -1 max scan plan iterations: 0 Supported extended features: * [VHT_IBSS]: VHT-IBSS * [RRM]: RRM * [BEACON_RATE_LEGACY]: legacy beacon rate setting * [BEACON_RATE_HT]: HT beacon rate setting * [BEACON_RATE_VHT]: VHT beacon rate setting * [FILS_STA]: STA FILS (Fast Initial Link Setup) * [CQM_RSSI_LIST]: multiple CQM_RSSI_THOLD records * [CONTROL_PORT_OVER_NL80211]: control port over nl80211 * [ACK_SIGNAL_SUPPORT]: ack signal level support * [TXQS]: FQ-CoDel-enabled intermediate TXQs * [SCAN_RANDOM_SN]: use random sequence numbers in

scans * [SCAN_MIN_PREQ_CONTENT]: use probe request with only rate IEs in scans * [CAN_REPLACE_PTK0]: can safely replace PTK 0 when rekeying * [AIRTIME_FAIRNESS]: airtime fairness scheduling * [STA_TX_PWR]: TX power control per station * [AQL]: Airtime Queue Limits (AQL) * [CONTROL_PORT_NO_PREAUTH]: disable pre-auth over nl80211 control port support * [DEL_IBSS_STA]: deletion of IBSS station support * [SCAN_FREQ_KHZ]: scan on kHz frequency support * [CONTROL_PORT_OVER_NL80211_TX_STATUS]: tx status for nl80211 control port support * [FILS_DISCOVERY]: FILS discovery frame transmission support * [UNSOL_BCAST_PROBE_RESP]: unsolicited broadcast probe response transmission support * [BEACON_RATE_HE]: HE beacon rate support (AP/mesh) * [BSS_COLOR]: BSS coloring support * [RADAR_BACKGROUND]: Radar background support * [POWERED_ADDR_CHANGE]: can change MAC address while up

Bootlogs

OEM bootlog

```
[ 0.000000] Booting Linux on physical CPU 0x000000000 [0x410fd034] [ 0.000000] Linux version 5.15.134 (gl-ci@gl-ci-server)
(aarch64-openwrt-linux-musl-gcc (OpenWrt GCC 12.3.0 r23497-6637af95aa) 12.3.0, GNU ld (GNU Binutils) 2.40.0) #0 SMP Mon Oct 9
21:45:35 2023 [ 0.000000] Machine model: GL.iNet GL-MT6000 [ 0.000000] Zone ranges: [ 0.000000] DMA [mem
0x0000000040000000-0x000000007ffffff] [ 0.000000] DMA32 empty [ 0.000000] Normal empty [ 0.000000] Movable zone start for each
node [ 0.000000] Early memory node ranges [ 0.000000] node 0: [mem 0x0000000040000000-0x0000000042ffffff] [ 0.000000] node 0:
[mem 0x0000000043000000-0x000000004302ffff] [ 0.000000] node 0: [mem 0x0000000043030000-0x000000004fbffff] [ 0.000000] node
0: [mem 0x000000004fc00000-0x000000004ffbffff] [ 0.000000] node 0: [mem 0x000000004ffc0000-0x000000007ffffff] [ 0.000000]
Initmem setup node 0 [mem 0x0000000040000000-0x000000007ffffff] [ 0.000000] psci: probing for conduit method from DT. [ 0.000000]
psci: PSCIv1.1 detected in firmware. [ 0.000000] psci: Using standard PSCI v0.2 function IDs [ 0.000000] psci: MIGRATE_INFO_TYPE
not supported. [ 0.000000] psci: SMC Calling Convention v1.2 [ 0.000000] percpu: Embedded 17 pages/cpu s30424 r8192 d31016
u69632 [ 0.000000] pcpu-alloc: s30424 r8192 d31016 u69632 alloc=17*4096 [ 0.000000] pcpu-alloc: [0] 0 [0] 1 [0] 2 [0] 3 [ 0.000000]
Detected VIPT I-cache on CPU0 [ 0.000000] CPU features: detected: GIC system register CPU interface [ 0.000000] CPU features:
kernel page table isolation disabled by kernel configuration [ 0.000000] Built 1 zonelists, mobility grouping on. Total pages: 258048 [
0.000000] Kernel command line: root=PARTLABEL=rootfs rootwait [ 0.000000] Dentry cache hash table entries: 131072 (order: 8,
1048576 bytes, linear) [ 0.000000] Inode-cache hash table entries: 65536 (order: 7, 524288 bytes, linear) [ 0.000000] mem auto-init:
stack:off, heap alloc:off, heap free:off [ 0.000000] Memory: 1011432K/1048576K available (8512K kernel code, 934K rwddata, 2300K
rodata, 448K init, 303K bss, 37144K reserved, 0K cma-reserved) [ 0.000000] SLUB: HWalign=64, Order=0-3, MinObjects=0, CPUs=4,
Nodes=1 [ 0.000000] rcu: Hierarchical RCU implementation. [ 0.000000] Tracing variant of Tasks RCU enabled. [ 0.000000] rcu: RCU
calculated value of scheduler-enlistment delay is 10 jiffies. [ 0.000000] NR_IRQS: 64, nr_irqs: 64, preallocated irq: 0 [ 0.000000] GICv3:
GIC: Using split EOI/Deactivate mode [ 0.000000] GICv3: 640 SPIs implemented [ 0.000000] GICv3: 0 Extended SPIs implemented [
0.000000] GICv3: Distributor has no Range Selector support [ 0.000000] Root IRQ handler: gic_handle_irq [ 0.000000] GICv3: 16 PPIs
implemented [ 0.000000] GICv3: CPU0: found redistributor 0 region 0:0x00000000c080000 [ 0.000000] arch_timer: cp15 timer(s)
running at 13.00MHz (phys). [ 0.000000] clocksource: arch_sys_counter: mask: 0xffffffff max_cycles: 0x2ff89eacb, max_idle_ns:
440795202429 ns [ 0.000001] sched_clock: 56 bits at 13MHz, resolution 76ns, wraps every 4398046511101ns [ 0.000112] Calibrating
delay loop (skipped), value calculated using timer frequency.. 26.00 BogoMIPS (lpj=130000) [ 0.000121] pid_max: default: 32768
minimum: 301 [ 0.000328] Mount-cache hash table entries: 2048 (order: 2, 16384 bytes, linear) [ 0.000337] Mountpoint-cache hash table
entries: 2048 (order: 2, 16384 bytes, linear) [ 0.001368] rcu: Hierarchical SRCU implementation. [ 0.001630] smp: Bringing up secondary
CPUs ... [ 0.001892] Detected VIPT I-cache on CPU1 [ 0.001916] GICv3: CPU1: found redistributor 1 region 0:0x00000000c0a0000 [
0.001942] CPU1: Booted secondary processor 0x0000000001 [0x410fd034] [ 0.002207] Detected VIPT I-cache on CPU2 [ 0.002219]
GICv3: CPU2: found redistributor 2 region 0:0x00000000c0c0000 [ 0.002230] CPU2: Booted secondary processor 0x0000000002
[0x410fd034] [ 0.002468] Detected VIPT I-cache on CPU3 [ 0.002478] GICv3: CPU3: found redistributor 3 region
0:0x00000000c0e0000 [ 0.002488] CPU3: Booted secondary processor 0x0000000003 [0x410fd034] [ 0.002513] smp: Brought up 1
node, 4 CPUs [ 0.002527] SMP: Total of 4 processors activated. [ 0.002531] CPU features: detected: 32-bit EL0 Support [ 0.002534]
CPU features: detected: CRC32 instructions [ 0.002559] CPU features: emulated: Privileged Access Never (PAN) using TTBR0_EL1
switching [ 0.002613] CPU: All CPU(s) started at EL2 [ 0.002621] alternatives: patching kernel code [ 0.005129] clocksource: jiffies:
mask: 0xffffffff max_cycles: 0xffffffff, max_idle_ns: 19112604462750000 ns [ 0.005150] futex hash table entries: 1024 (order: 4, 65536
bytes, linear) [ 0.005294] pinctrl core: initialized pinctrl subsystem [ 0.005939] NET: Registered PF_NETLINK/PF_ROUTE protocol family
[ 0.006183] DMA: preallocated 128 KiB GFP_KERNEL pool for atomic allocations [ 0.006204] DMA: preallocated 128 KiB
GFP_KERNEL|GFP_DMA pool for atomic allocations [ 0.006221] DMA: preallocated 128 KiB GFP_KERNEL|GFP_DMA32 pool for
atomic allocations [ 0.006472] thermal_sys: Registered thermal governor 'fair_share' [ 0.006474] thermal_sys: Registered thermal
governor 'bang_bang' [ 0.006478] thermal_sys: Registered thermal governor 'step_wise' [ 0.006481] thermal_sys: Registered thermal
governor 'user_space' [ 0.006644] ASID allocator initialised with 65536 entries [ 0.006966] pstore: Registered ramoops as persistent
store backend [ 0.006970] ramoops: using 0x10000@0x42fff000, ecc: 0 [ 0.015054] cryptd: max_cpu_glen set to 1000 [ 0.016920] SCSI
subsystem initialized [ 0.017000] libata version 3.00 loaded. [ 0.017796] clocksource: Switched to clocksource arch_sys_counter [
0.018245] NET: Registered PF_INET protocol family [ 0.018332] IP IDs hash table entries: 16384 (order: 5, 131072 bytes, linear) [
0.018793] tcp_listen_portaddr_hash hash table entries: 512 (order: 1, 8192 bytes, linear) [ 0.018808] Table-perturb hash table entries:
65536 (order: 6, 262144 bytes, linear) [ 0.018815] TCP established hash table entries: 8192 (order: 4, 65536 bytes, linear) [ 0.018852]
TCP bind hash table entries: 8192 (order: 5, 131072 bytes, linear) [ 0.018932] TCP: Hash tables configured (established 8192 bind
8192) [ 0.019060] MPTCP token hash table entries: 1024 (order: 2, 24576 bytes, linear) [ 0.019099] UDP hash table entries: 512
(order: 2, 16384 bytes, linear) [ 0.019117] UDP-Lite hash table entries: 512 (order: 2, 16384 bytes, linear) [ 0.019219] NET: Registered
PF_UNIX/PF_LOCAL protocol family [ 0.019238] PCI: CLS 0 bytes, default 64 [ 0.021219] workingset: timestamp_bits=46 max_order=18
```

```

bucket_order=0 [ 0.024019] squashfs: version 4.0 (2009/01/31) Phillip Lougher [ 0.024034] jffs2: version 2.2 (NAND) (SUMMARY)
(LZMA) (RTIME) (CMODE_PRIORITY) © 2001-2006 Red Hat, Inc. [ 0.045845] Block layer SCSI generic (bsg) driver version 0.4 loaded
(major 251) [ 0.046712] gpio-export gpio-export: 1 gpio(s) exported [ 0.049497] Serial: 8250/16550 driver, 16 ports, IRQ sharing enabled [
0.050870] printk: console [ttyS0] disabled [ 0.071009] 11002000.serial: ttyS0 at MMIO 0x11002000 (irq = 121, base_baud = 2500000) is
a ST16650V2 [ 0.724762] printk: console [ttyS0] enabled [ 0.729604] mtk_rng 1020f000.rng: registered RNG driver [ 0.729661] hwrng: no
data available [ 0.738400] cacheinfo: Unable to detect cache hierarchy for CPU 0 [ 0.746571] loop: module loaded [ 0.749740] Loading
iSCSI transport class v2.0-870. [ 0.878972] mtk_soc_eth 15100000.ethernet: generated random MAC address [ 0.887196] mtk_soc_eth
15100000.ethernet: generated random MAC address [ 1.609629] mtk_soc_eth 15100000.ethernet eth0: mediatek frame engine at
0xfffffc0097000000, irq 129 [ 1.619444] mtk_soc_eth 15100000.ethernet eth1: mediatek frame engine at 0xfffffc0097000000, irq 129 [
1.628972] i2c_dev: i2c /dev entries driver [ 1.634198] mtk-wdt 1001c000.watchdog: Watchdog enabled (timeout=31 sec, nowayout=0) [
1.642684] NET: Registered PF_INET6 protocol family [ 1.648354] Segment Routing with IPv6 [ 1.652026] In-situ OAM (IOAM) with
IPv6 [ 1.655962] NET: Registered PF_PACKET protocol family [ 1.661059] bridge: filtering via arp/ip/ip6tables is no longer available by
default. Update your scripts to load br_netfilter if you need this. [ 1.674092] 8021q: 802.1Q VLAN Support v1.8 [ 1.679239] pstore:
Using crash dump compression: deflate [ 1.729856] mt7530-mdio mdio-bus:1f: configuring for fixed/2500base-x link mode [ 1.738931]
mt7530-mdio mdio-bus:1f: Link is Up - 2.5Gbps/Full - flow control rx/tx [ 1.747872] mt7530-mdio mdio-bus:1f lan2 (uninitialized): PHY
[mt7530-0:00] driver [MediaTek MT7531 PHY] (irq=137) [ 1.759528] mtk-msdc 11230000.mmc: phase: [map:ffffff] [maxlen:28] [final:9] [
1.766882] mmc0: new HS400 MMC card at address 0001 [ 1.768584] mt7530-mdio mdio-bus:1f lan3 (uninitialized): PHY [mt7530-0:01]
driver [MediaTek MT7531 PHY] (irq=138) [ 1.772651] mmcbkl0: mmc0:0001 8GTF4R 7.28 GiB [ 1.787670] GPT:Primary header thinks
Alt. header is not at the end of the disk. [ 1.791957] mt7530-mdio mdio-bus:1f lan4 (uninitialized): PHY [mt7530-0:02] driver [MediaTek
MT7531 PHY] (irq=139) [ 1.795074] GPT:1 != 15269887 [ 1.808331] GPT:Alternate GPT header not at the end of the disk. [ 1.814317]
GPT:1 != 15269887 [ 1.815149] mt7530-mdio mdio-bus:1f lan5 (uninitialized): PHY [mt7530-0:03] driver [MediaTek MT7531 PHY]
(irq=140) [ 1.817268] GPT: Use GNU Parted to correct GPT errors. [ 1.817291] mmcbkl0: p1 p2 p3 p4 p5 p6 p7 [ 1.837947]
mmcbkl0boot0: mmc0:0001 8GTF4R 4.00 MiB [ 1.843735] mmcbkl0boot1: mmc0:0001 8GTF4R 4.00 MiB [ 1.848952] mmcbkl0rmpb:
mmc0:0001 8GTF4R 512 KiB, chardev (250:0) [ 2.057807] mt7530-mdio mdio-bus:1f lan1 (uninitialized): PHY [mdio-bus:07] driver
[RTL8221B-VB-CG 2.5Gbps PHY] (irq=63) [ 2.069347] DSA: tree 0 setup [ 2.075258] VFS: Mounted root (squashfs filesystem) readonly
on device 179:7. [ 2.082546] Freeing unused kernel memory: 448K [ 2.127855] Run /sbin/init as init process [ 2.131935] with arguments:
[ 2.134886] /sbin/init [ 2.137577] with environment: [ 2.140711] HOME=/ [ 2.143055] TERM=linux [ 2.238076] init: Console is alive [
2.241569] init: - watchdog - [ 2.597751] kmodloader: loading kernel modules from /etc/modules-boot.d/* [ 2.625579] install gl_hw_info [
2.632285] usbcore: registered new interface driver usbfs [ 2.637814] usbcore: registered new interface driver hub [ 2.643145] usbcore:
registered new device driver usb [ 2.652151] gl-tertf: (C) 2021 jianhui zhao jianhui.zhao@gl-inet.com (mailto:jianhui.zhao@gl-inet.com) [
2.660745] ehci_hcd: USB 2.0 'Enhanced' Host Controller (EHCI) Driver [ 2.668093] gl-kmwan: (C) 2023 chongjin luo loochongjun@gl-
inet.com (mailto:loochongjun@gl-inet.com) [ 2.675089] fsl-ehci: Freescale EHCI Host controller driver [ 2.681287] ehci-platform: EHCI
generic platform driver [ 2.687865] ohci_hcd: USB 1.1 'Open' Host Controller (OHCI) Driver [ 2.694546] ohci-platform: OHCI generic
platform driver [ 2.700576] uhci_hcd: USB Universal Host Controller Interface driver [ 2.710462] xhci-mtk 11200000.usb: xHCI Host
Controller [ 2.715698] xhci-mtk 11200000.usb: new USB bus registered, assigned bus number 1 [ 2.726179] xhci-mtk 11200000.usb: hcc
params 0x01403f99 hci version 0x110 quirks 0x0000000000210010 [ 2.735345] xhci-mtk 11200000.usb: irq 122, io mem 0x11200000 [
2.741175] xhci-mtk 11200000.usb: xHCI Host Controller [ 2.746385] xhci-mtk 11200000.usb: new USB bus registered, assigned bus
number 2 [ 2.753773] xhci-mtk 11200000.usb: Host supports USB 3.2 Enhanced SuperSpeed [ 2.761139] hub 1-0:1.0: USB hub found [
2.764891] hub 1-0:1.0: 2 ports detected [ 2.769182] usb usb2: We don't know the algorithms for LPM for this host, disabling LPM. [
2.777506] hub 2-0:1.0: USB hub found [ 2.781369] hub 2-0:1.0: 1 port detected [ 2.789212] usbcore: registered new interface driver usb-
storage [ 2.795934] usbcore: registered new interface driver uas [ 2.801499] kmodloader: done loading kernel modules from
/etc/modules-boot.d/* [ 2.811621] init: - preinit - [ 3.064427] mtk_soc_eth 15100000.ethernet eth0: configuring for fixed/2500base-x link
mode [ 3.072890] mtk_soc_eth 15100000.ethernet eth0: Link is Up - 2.5Gbps/Full - flow control rx/tx [ 3.084372] mt7530-mdio mdio-
bus:1f lan1: configuring for phy/2500base-x link mode [ 3.237803] usb 1-2: new high-speed USB device number 2 using xhci-mtk [
4.888820] usb 2-1: new SuperSpeed USB device number 2 using xhci-mtk [ 4.921046] scsi host0: uas [ 4.933089] xhci: xhci: procd:
uninitialized urandom read (4 bytes read) [ 5.096981] scsi 0:0:0: Direct-Access Samsung PSSD T7 0 PQ: 0 ANSI: 6 [ 5.106218] sd
0:0:0: [sda] 3907029168 512-byte logical blocks: (2.00 TB/1.82 TiB) [ 5.114038] sd 0:0:0: [sda] Write Protect is off [ 5.118820] sd
0:0:0: [sda] Mode Sense: 43 00 00 00 [ 5.124008] sd 0:0:0: [sda] Write cache: enabled, read cache: enabled, doesn't support DPO or
FUA [ 5.133130] xhci-mtk 11200000.usb: ERROR Transfer event for unknown stream ring slot 1 ep 2 [ 5.141458] xhci-mtk 11200000.usb:
@0000000040bf2650 428fe100 00000000 1a000200 01038001 [ 5.149854] sd 0:0:0: [sda] Optimal transfer size 33553920 bytes [
5.158035] sda: sda1 [ 5.161514] sd 0:0:0: [sda] Attached SCSI disk [ 5.172262] mount_root: loading kmodes from internal overlay [
5.186819] kmodloader: loading kernel modules from etc/modules-boot.d/* [ 5.195697] kmodloader: done loading kernel modules from
etc/modules-boot.d/* [ 5.296867] block: attempting to load /etc/config/fstab [ 5.303954] block: unable to load configuration (fstab: Entry
not found) [ 5.310676] block: no usable configuration [ 5.315136] loop0: detected capacity change from 0 to 15178752 [ 5.377798] loop0:
detected capacity change from 15178752 to 15088128 [ 5.391184] mount_root: overlay filesystem in /dev/loop0 has not been formatted
yet [ 7.921010] F2FS-fs (loop0): Found nat_bits in checkpoint [ 7.974084] F2FS-fs (loop0): Mounted with checkpoint version = 8f5dc87 [
8.028078] block: attempting to load /etc/config/fstab [ 8.033341] block: unable to load configuration (fstab: Entry not found) [ 8.040052]
block: no usable configuration [ 8.044660] mount_root: overlay filesystem has not been fully initialized yet [ 8.052008] mount_root:
switching to f2fs overlay [ 8.059150] overlayfs: null uuid detected in lower fs '/', falling back to xino=off,index=off,nfs_export=off. [
8.210466] urandom-seed: Seed file not found (/etc/urandom.seed) [ 8.272981] procd: - early - [ 8.275903] procd: - watchdog - [ 8.393290]
random: jshn: uninitialized urandom read (4 bytes read) [ 8.482534] random: jshn: uninitialized urandom read (4 bytes read) [ 8.552689]
random: jshn: uninitialized urandom read (4 bytes read) [ 8.810140] procd: - watchdog - [ 8.813434] procd: - ubus - [ 8.868383] procd: -
init - [ 9.089786] kmodloader: loading kernel modules from /etc/modules.d/* [ 9.119805] ntfs: driver 2.1.32 [Flags: R/O MODULE]. [
9.126459] tun: Universal TUN/TAP device driver, 1.6 [ 9.162240] GACT probability on [ 9.166004] Mirror/redirect action on [ 9.174060]
u32 classifier [ 9.176767] input device check on [ 9.180541] Actions configured [ 9.181805] urngd: v1.0.2 started. [ 9.193630] fuse: init

```

```
(API version 7.34) [ 9.200059] crypto-safexcel 10320000.crypto: EIP97:230(0,1,4,4)-HIA:270(0,5,5),PE:150/433(alg:7fcdcf00)/0/0/0 [
9.224081] Bridge firewalling registered [ 9.229641] usbcore: registered new interface driver cdc_acm [ 9.235299] cdc_acm: USB Abstract
Control Model driver for USB modems and ISDN adapters [ 9.244371] usbcore: registered new interface driver cdc_wdm [ 9.251403]
Loading modules backported from Linux version v6.1.24-0-g0102425ac76b [ 9.259083] Backport generated by backports.git v5.15.92-1-
44-gd6ea70fafd36 [ 9.268331] usbcore: registered new interface driver ipheth [ 9.291836] random: crng init done [ 9.295252] random: 35
urandom warning(s) missed due to ratelimiting [ 9.310577] usbcore: registered new interface driver usbserial_generic [ 9.317175]
usbserial: USB Serial support registered for generic [ 9.340127] xt_time: kernel timezone is -0000 [ 9.345500] usbcore: registered new
interface driver cdc_ether [ 9.352775] usbcore: registered new interface driver cdc_ncm [ 9.367933] usbcore: registered new interface
driver huawei_cdc_ncm [ 9.392885] mt798x-wmac 18000000.wifi: attaching wed device 0 version 2 [ 9.435656] platform 15010000.wed:
MTK WED WO Firmware Version: DEV_000000, Build Time: 20221012175005 [ 9.445137] platform 15010000.wed: MTK WED WO Chip
ID 00 Region 3 [ 9.948169] mt798x-wmac 18000000.wifi: HW/SW Version: 0x8a108a10, Build Time: 20230825174645a [ 9.948169] [
10.055514] mt798x-wmac 18000000.wifi: WM Firmware Version: 000000, Build Time: 20230825174709 [ 10.124946] mt798x-wmac
18000000.wifi: WA Firmware Version: 000000, Build Time: 20230825174916 [ 10.272195] mt798x-wmac 18000000.wifi: eeprom load fail,
use default bin [ 10.278973] mt798x-wmac 18000000.wifi: Direct firmware load for mediatek/mt7986_eeprom_mt7976_dual.bin failed with
error -2 [ 10.290079] mt798x-wmac 18000000.wifi: Falling back to sysfs fallback for: mediatek/mt7986_eeprom_mt7976_dual.bin [
10.347647] PPP generic driver version 2.4.2 [ 10.352997] NET: Registered PF_PPPOX protocol family [ 10.359234] usbcore: registered
new interface driver qmi_wwan [ 10.366222] usbcore: registered new interface driver rndis_host [ 10.374983] wireguard: WireGuard 1.0.0
loaded. See www.wireguard.com (http://www.wireguard.com) for information. [ 10.382862] wireguard: Copyright (C) 2015-2019 Jason A.
Donenfeld Jason@zx2c4.com (mailto:Jason@zx2c4.com). All Rights Reserved. [ 10.393660] usbcore: registered new interface driver
option [ 10.399337] usbserial: USB Serial support registered for GSM modem (1-port) [ 10.408973] kmodloader: done loading kernel
modules from /etc/modules.d/* [ 16.108950] kmwan: sensitivity and mode are set. [ 16.701932] mtk_soc_eth 15100000.ethernet eth0:
Link is Down [ 16.713419] mtk_soc_eth 15100000.ethernet eth0: configuring for fixed/2500base-x link mode [ 16.721885] mtk_soc_eth
15100000.ethernet eth0: Link is Up - 2.5Gbps/Full - flow control rx/tx [ 16.723105] device eth0 entered promiscuous mode [ 16.735556]
mt7530-mdio mdio-bus:1f lan1: configuring for phy/2500base-x link mode [ 16.777893] IPv6(): ADDRCONF(NETDEV_CHANGE): eth0:
link becomes ready [ 16.784748] br-lan: port 1(lan1) entered blocking state [ 16.789994] br-lan: port 1(lan1) entered disabled state [
16.796544] device lan1 entered promiscuous mode [ 16.811259] mt7530-mdio mdio-bus:1f lan2: configuring for phy/gmii link mode [
16.821107] br-lan: port 2(lan2) entered blocking state [ 16.826335] br-lan: port 2(lan2) entered disabled state [ 16.833343] device lan2
entered promiscuous mode [ 16.844833] mt7530-mdio mdio-bus:1f lan3: configuring for phy/gmii link mode [ 16.854710] br-lan: port
3(lan3) entered blocking state [ 16.860018] br-lan: port 3(lan3) entered disabled state [ 16.867149] device lan3 entered promiscuous
mode [ 16.878509] mt7530-mdio mdio-bus:1f lan4: configuring for phy/gmii link mode [ 16.888311] br-lan: port 4(lan4) entered blocking
state [ 16.893529] br-lan: port 4(lan4) entered disabled state [ 16.900821] device lan4 entered promiscuous mode [ 16.912088] mt7530-
mdio mdio-bus:1f lan5: configuring for phy/gmii link mode [ 16.921935] br-lan: port 5(lan5) entered blocking state [ 16.927158] br-lan: port
5(lan5) entered disabled state [ 16.934586] device lan5 entered promiscuous mode [ 17.177805] mtk_soc_eth 15100000.ethernet eth1:
PHY [mdio-bus:01] driver [RTL8221B-VB-CG 2.5Gbps PHY] (irq=62) [ 17.188063] mtk_soc_eth 15100000.ethernet eth1: configuring for
phy/2500base-x link mode [ 17.859628] br-lan: port 6(wlan0) entered blocking state [ 17.864952] br-lan: port 6(wlan0) entered disabled
state [ 17.870584] device wlan0 entered promiscuous mode [ 17.918767] br-lan: port 6(wlan0) entered blocking state [ 17.924093] br-lan:
port 6(wlan0) entered forwarding state [ 17.929937] IPv6(): ADDRCONF(NETDEV_CHANGE): br-lan: link becomes ready [ 18.164975]
br-lan: port 7(wlan1) entered blocking state [ 18.170352] br-lan: port 7(wlan1) entered disabled state [ 18.175871] device wlan1 entered
promiscuous mode [ 18.225106] br-lan: port 7(wlan1) entered blocking state [ 18.230472] br-lan: port 7(wlan1) entered forwarding state [
18.406801] terf: br-lan registered, add it [ 18.647235] exFAT-fs (sda1): Volume was not properly unmounted. Some data may be corrupt.
Please run fsck. [ 18.813373] br-lan: port 6(wlan0) entered disabled state [ 18.825197] br-lan: port 7(wlan1) entered disabled state [
19.034905] mt7530-mdio mdio-bus:1f lan3: Link is Up - 10Mbps/Half - flow control off [ 19.042793] br-lan: port 3(lan3) entered blocking
state [ 19.048035] br-lan: port 3(lan3) entered forwarding state [ 19.508677] mt7530-mdio mdio-bus:1f lan2: Link is Up - 1Gbps/Full - flow
control rx/tx [ 19.516700] br-lan: port 2(lan2) entered blocking state [ 19.521974] br-lan: port 2(lan2) entered forwarding state [
20.722271] mtk_soc_eth 15100000.ethernet eth1: Link is Up - 1Gbps/Full - flow control off [ 20.730697] IPv6():
ADDRCONF(NETDEV_CHANGE): eth1: link becomes ready [ 20.878054] mt7530-mdio mdio-bus:1f lan4: Link is Up - 1Gbps/Full - flow
control rx/tx [ 20.886009] br-lan: port 4(lan4) entered blocking state [ 20.891255] br-lan: port 4(lan4) entered forwarding state [
21.065966] HTB: quantum of class 10001 is big. Consider r2q change. [ 21.081619] HTB: quantum of class 10001 is big. Consider r2q
change. [ 21.279529] HTB: quantum of class 10001 is big. Consider r2q change. [ 21.372511] HTB: quantum of class 10001 is big.
Consider r2q change. [ 21.389651] HTB: quantum of class 10001 is big. Consider r2q change. [ 21.900156] [add_dev_config 307]add
node success. iface:wan, dev:eth1, ifindex:3 [ 21.967913] [set_fib_nh 94]ifindex:3 route_flag:2 [ 23.481772] HTB: quantum of class
10001 is big. Consider r2q change. [ 23.498169] HTB: quantum of class 10001 is big. Consider r2q change. [ 23.736839] HTB: quantum
of class 10001 is big. Consider r2q change. [ 23.824346] HTB: quantum of class 10001 is big. Consider r2q change. [ 23.840993] HTB:
quantum of class 10001 is big. Consider r2q change. [ 27.184187] br-lan: port 7(wlan1) entered blocking state [ 27.189511] br-lan: port
7(wlan1) entered forwarding state [ 30.276946] br-lan: port 6(wlan0) entered blocking state [ 30.282273] br-lan: port 6(wlan0) entered
forwarding state [ 32.897830] device br-lan entered promiscuous mode [ 42.240957] device br-lan left promiscuous mode
```

OpenWrt bootlog

```
[ 0.000000] Booting Linux on physical CPU 0x0000000000 [0x410fd034] [ 0.000000] Linux version 6.6.86 (builder@buildhost) (aarch64-
openwrt-linux-musl-gcc (OpenWrt GCC 13.3.0 r28597-0425664679) 13.3.0, GNU ld (GNU Binutils) 2.42) #0 SMP Sun Apr 13 16:38:32
2025 [ 0.000000] Machine model: GL.iNet GL-MT6000 [ 0.000000] OF: reserved mem: 0x0000000042ff0000..0x0000000042ffff (64 KiB)
map non-reusable ramoops@42ff0000 [ 0.000000] OF: reserved mem: 0x0000000043000000..0x000000004302fff (192 KiB) nomap
non-reusable secmon@43000000 [ 0.000000] OF: reserved mem: 0x000000004fc00000..0x000000004fcffff (1024 KiB) nomap non-
reusable wmcpu-reserved@4fc00000 [ 0.000000] OF: reserved mem: 0x000000004fd00000..0x000000004fd3fff (256 KiB) nomap non-
```

```

reusable wo-emi@4fd00000 [ 0.000000] OF: reserved mem: 0x000000004fd40000..0x000000004fd7ffff (256 KiB) nomap non-reusable
wo-emi@4fd40000 [ 0.000000] OF: reserved mem: 0x000000004fd80000..0x000000004ffbffff (2304 KiB) nomap non-reusable wo-
data@4fd80000 [ 0.000000] Zone ranges: [ 0.000000] DMA [mem 0x0000000040000000-0x000000007ffffff] [ 0.000000] DMA32 empty [
0.000000] Normal empty [ 0.000000] Movable zone start for each node [ 0.000000] Early memory node ranges [ 0.000000] node 0: [mem
0x0000000040000000-0x0000000042ffffff] [ 0.000000] node 0: [mem 0x0000000043000000-0x000000004302ffff] [ 0.000000] node 0:
[mem 0x0000000043030000-0x000000004fbffff] [ 0.000000] node 0: [mem 0x000000004fc00000-0x000000004ffbffff] [ 0.000000] node
0: [mem 0x000000004ffc0000-0x000000007ffffff] [ 0.000000] Initmem setup node 0 [mem 0x0000000040000000-0x000000007ffffff] [
0.000000] psci: probing for conduit method from DT. [ 0.000000] psci: PSCIv1.1 detected in firmware. [ 0.000000] psci: Using standard
PSCI v0.2 function IDs [ 0.000000] psci: MIGRATE_INFO_TYPE not supported. [ 0.000000] psci: SMC Calling Convention v1.2 [
0.000000] percpu: Embedded 18 pages/cpu s35560 r8192 d29976 u73728 [ 0.000000] pcpu-alloc: s35560 r8192 d29976 u73728
alloc=18*4096 [ 0.000000] pcpu-alloc: [0] 0 [0] 1 [0] 2 [0] 3 [ 0.000000] Detected VIPT I-cache on CPU0 [ 0.000000] CPU features:
detected: GIC system register CPU interface [ 0.000000] CPU features: kernel page table isolation disabled by kernel configuration [
0.000000] alternatives: applying boot alternatives [ 0.000000] Kernel command line: root=PARTLABEL=rootfs rootwait [ 0.000000] Dentry
cache hash table entries: 131072 (order: 8, 1048576 bytes, linear) [ 0.000000] Inode-cache hash table entries: 65536 (order: 7, 524288
bytes, linear) [ 0.000000] Built 1 zonelists, mobility grouping on. Total pages: 258048 [ 0.000000] mem auto-init: stack:off, heap alloc:off,
heap free:off [ 0.000000] software IO TLB: SWIOTLB bounce buffer size adjusted to 1MB [ 0.000000] software IO TLB: area num 4. [
0.000000] software IO TLB: mapped [mem 0x000000007fb05000-0x000000007fc05000] (1MB) [ 0.000000] Memory:
1010432K/1048576K available (9024K kernel code, 1000K rwddata, 1672K rodata, 448K init, 307K bss, 38144K reserved, 0K cma-
reserved) [ 0.000000] SLUB: HWalign=64, Order=0-3, MinObjects=0, CPUs=4, Nodes=1 [ 0.000000] rcu: Hierarchical RCU
implementation. [ 0.000000] Tracing variant of Tasks RCU enabled. [ 0.000000] rcu: RCU calculated value of scheduler-enlistment delay
is 10 jiffies. [ 0.000000] NR_IRQS: 64, nr_irqs: 64, preallocated irq: 0 [ 0.000000] GICv3: GIC: Using split EOI/Deactivate mode [
0.000000] GICv3: 640 SPIs implemented [ 0.000000] GICv3: 0 Extended SPIs implemented [ 0.000000] Root IRQ handler:
0xfffffc080010080 [ 0.000000] GICv3: GICv3 features: 16 PPIs [ 0.000000] GICv3: CPU0: found redistributor 0 region
0:0x00000000c080000 [ 0.000000] rcu: srcu_init: Setting srcu_struct sizes based on contention. [ 0.000000] arch_timer: cp15 timer(s)
running at 13.00MHz (phys). [ 0.000000] clocksource: arch_sys_counter: mask: 0xffffffff max_cycles: 0x2ff89eacb, max_idle_ns:
440795202429 ns [ 0.000000] sched_clock: 56 bits at 13MHz, resolution 76ns, wraps every 4398046511101ns [ 0.000063] Calibrating
delay loop (skipped), value calculated using timer frequency.. 26.00 BogoMIPS (lpj=130000) [ 0.000071] pid_max: default: 32768
minimum: 301 [ 0.002050] Mount-cache hash table entries: 2048 (order: 2, 16384 bytes, linear) [ 0.002057] Mountpoint-cache hash table
entries: 2048 (order: 2, 16384 bytes, linear) [ 0.003619] cacheinfo: Unable to detect cache hierarchy for CPU 0 [ 0.004003] RCU Tasks
Trace: Setting shift to 2 and lim to 1 rcu_task_cb_adjust=1 rcu_task_cpu_ids=4. [ 0.004112] rcu: Hierarchical SRCU implementation. [
0.004114] rcu: Max phase no-delay instances is 1000. [ 0.004420] smp: Bringing up secondary CPUs ... [ 0.004676] Detected VIPT I-
cache on CPU1 [ 0.004711] GICv3: CPU1: found redistributor 1 region 0:0x00000000c0a0000 [ 0.004741] CPU1: Booted secondary
processor 0x0000000001 [0x410fd034] [ 0.005036] Detected VIPT I-cache on CPU2 [ 0.005056] GICv3: CPU2: found redistributor 2
region 0:0x00000000c0c0000 [ 0.005068] CPU2: Booted secondary processor 0x0000000002 [0x410fd034] [ 0.005325] Detected VIPT
I-cache on CPU3 [ 0.005342] GICv3: CPU3: found redistributor 3 region 0:0x00000000c0e0000 [ 0.005352] CPU3: Booted secondary
processor 0x0000000003 [0x410fd034] [ 0.005380] smp: Brought up 1 node, 4 CPUs [ 0.005383] SMP: Total of 4 processors activated. [
0.005386] CPU features: detected: 32-bit EL0 Support [ 0.005388] CPU features: detected: CRC32 instructions [ 0.005414] CPU
features: emulated: Privileged Access Never (PAN) using TTBR0_EL1 switching [ 0.005418] CPU: All CPU(s) started at EL2 [ 0.005419]
alternatives: applying system-wide alternatives [ 0.008198] clocksource: jiffies: mask: 0xfffffff max_cycles: 0xfffffff, max_idle_ns:
19112604462750000 ns [ 0.008215] futex hash table entries: 1024 (order: 4, 65536 bytes, linear) [ 0.009087] pinctrl core: initialized
pinctrl subsystem [ 0.009966] NET: Registered PF_NETLINK/PF_ROUTE protocol family [ 0.010268] DMA: preallocated 128 KiB
GFP_KERNEL pool for atomic allocations [ 0.010286] DMA: preallocated 128 KiB GFP_KERNEL|GFP_DMA pool for atomic allocations [
0.010303] DMA: preallocated 128 KiB GFP_KERNEL|GFP_DMA32 pool for atomic allocations [ 0.010594] thermal_sys: Registered
thermal governor 'fair_share' [ 0.010597] thermal_sys: Registered thermal governor 'bang_bang' [ 0.010599] thermal_sys: Registered
thermal governor 'step_wise' [ 0.010601] thermal_sys: Registered thermal governor 'user_space' [ 0.010638] ASID allocator initialised
with 65536 entries [ 0.011387] pstore: Using crash dump compression: deflate [ 0.011391] pstore: Registered ramoops as persistent
store backend [ 0.011393] ramoops: using 0x10000@0x42fff000, ecc: 0 [ 0.012303] /soc/interrupt-controller@c000000: Fixed
dependency cycle(s) with /soc/interrupt-controller@c000000 [ 0.016974] Modules: 29616 pages in range for non-PLT usage [ 0.016983]
Modules: 521136 pages in range for PLT usage [ 0.017905] cryptd: max_cpu_qlen set to 1000 [ 0.018750] SCSI subsystem initialized [
0.019044] libata version 3.00 loaded. [ 0.020123] clocksource: Switched to clocksource arch_sys_counter [ 0.021738] NET: Registered
PF_INET protocol family [ 0.021828] IP() idents hash table entries: 16384 (order: 5, 131072 bytes, linear) [ 0.023029]
tcp_listen_portaddr_hash hash table entries: 512 (order: 1, 8192 bytes, linear) [ 0.023041] Table-perturb hash table entries: 65536 (order:
6, 262144 bytes, linear) [ 0.023049] TCP() established hash table entries: 8192 (order: 4, 65536 bytes, linear) [ 0.023085] TCP() bind
hash table entries: 8192 (order: 6, 262144 bytes, linear) [ 0.023247] TCP(): Hash tables configured (established 8192 bind 8192) [
0.023501] MPTCP token hash table entries: 1024 (order: 2, 24576 bytes, linear) [ 0.023582] UDP() hash table entries: 512 (order: 2,
16384 bytes, linear) [ 0.023597] UDP()-Lite hash table entries: 512 (order: 2, 16384 bytes, linear) [ 0.023834] NET: Registered
PF_UNIX/PF_LOCAL protocol family [ 0.023855] PCI: CLS 0 bytes, default 64 [ 0.024734] workingset: timestamp_bits=46 max_order=18
bucket_order=0 [ 0.028007] squashfs: version 4.0 (2009/01/31) Phillip Lougher [ 0.028013] jffs2: version 2.2 (NAND) (SUMMARY)
(LZMA) (RTIME) (CMODE_PRIORITY) © 2001-2006 Red Hat, Inc. [ 0.049540] Block layer SCSI generic (bsg) driver version 0.4 loaded
(major 251) [ 0.053449] Serial: 8250/16550 driver, 16 ports, IRQ sharing enabled [ 0.056429] printk: console [ttyS0] disabled [ 0.076765]
11002000.serial: ttyS0 at MMIO 0x11002000 (irq = 116, base_baud = 2500000) is a ST16650V2 [ 0.076802] printk: console [ttyS0]
enabled [ 0.864663] mtk_rng 1020f000.rng: registered RNG driver [ 0.872824] loop: module loaded [ 1.001834] i2c_dev: i2c /dev entries
driver [ 1.007415] mtk-wdt 1001c000.watchdog: Watchdog enabled (timeout=31 sec, nowayout=0) [ 1.016349] NET: Registered
PF_INET6 protocol family [ 1.022027] Segment Routing with IP_v6() [ 1.025703] In-situ OAM (IOAM) with IP_v6() [ 1.029643] NET:
Registered PF_PACKET protocol family [ 1.034718] bridge: filtering via arp/ip/ip6tables is no longer available by default. Update your

```

```

scripts to load br_netfilter if you need this. [ 1.047827] 8021q: 802.1Q VLAN() Support v1.8 [ 1.098539] mtk-msdc 11230000.mmc: Final
PAD_DS_TUNE: 0x14414 [ 1.104568] mmc0: new HS400 MMC card at address 0001 [ 1.110926] mmcblk0: mmc0:0001 8GTF4R 7.28
GiB [ 1.116417] GPT:Primary header thinks Alt. header is not at the end of the disk. [ 1.123809] GPT:1 != 15269887 [ 1.126762]
GPT:Alternate GPT header not at the end of the disk. [ 1.132750] GPT:1 != 15269887 [ 1.135701] GPT: Use GNU Parted to correct GPT
errors. [ 1.140902] mmcblk0: p1 p2 p3 p4 p5 p6 p7 [ 1.146337] mmcblk0boot0: mmc0:0001 8GTF4R 4.00 MiB [ 1.152068]
mmcblk0boot1: mmc0:0001 8GTF4R 4.00 MiB [ 1.157180] mmcblk0rmpb: mmc0:0001 8GTF4R 512 KiB, chardev (250:0) [ 1.913125]
mtk_soc_eth 15100000.ethernet eth0: mediatek frame engine at 0xfffffc081d80000, irq 119 [ 1.923045] mtk_soc_eth 15100000.ethernet
eth1: mediatek frame engine at 0xfffffc081d80000, irq 119 [ 2.031023] mt7530-mdio mdio-bus:1f: configuring for fixed/2500base-x link
mode [ 2.039727] mt7530-mdio mdio-bus:1f: Link is Up - 2.5Gbps/Full - flow control rx/tx [ 2.050713] mt7530-mdio mdio-bus:1f lan2
(uninitialized): PHY [mt7530-0:00] driver [MediaTek MT7531 PHY] (irq=124) [ 2.072926] mt7530-mdio mdio-bus:1f lan3 (uninitialized):
PHY [mt7530-0:01] driver [MediaTek MT7531 PHY] (irq=125) [ 2.094904] mt7530-mdio mdio-bus:1f lan4 (uninitialized): PHY [mt7530-
0:02] driver [MediaTek MT7531 PHY] (irq=126) [ 2.116866] mt7530-mdio mdio-bus:1f lan5 (uninitialized): PHY [mt7530-0:03] driver
[MediaTek MT7531 PHY] (irq=127) [ 2.360255] mt7530-mdio mdio-bus:1f lan1 (uninitialized): PHY [mdio-bus:07] driver [RTL8221B-VB-
CG 2.5Gbps PHY (C45)] (irq=62) [ 2.372337] mtk_soc_eth 15100000.ethernet eth0: entered promiscuous mode [ 2.379050] DSA: tree 0
setup [ 2.382287] clk: Disabling unused clocks [ 2.388560] VFS: Mounted root (squashfs filesystem) readonly on device 179:7. [
2.395874] Freeing unused kernel memory: 448K [ 2.400346] Run /sbin/init as init process [ 2.404425] with arguments: [ 2.407376]
/sbin/init [ 2.410067] with environment: [ 2.413195] HOME=/ [ 2.415540] TERM=linux [ 2.516581] init: Console is alive [ 2.520065] init: -
watchdog - [ 2.738963] kmodloader: loading kernel modules from /etc/modules-boot.d/* [ 2.760541] usbcore: registered new interface
driver usbfs [ 2.766060] usbcore: registered new interface driver hub [ 2.771394] usbcore: registered new device driver usb [ 2.777005]
gpio_button_hotplug: loading out-of-tree module taints kernel. [ 2.788843] xhci-mtk 11200000.usb: xHCI Host Controller [ 2.794087] xhci-
mtk 11200000.usb: new USB bus registered, assigned bus number 1 [ 2.804542] xhci-mtk 11200000.usb: hcc params 0x01403f99 hci
version 0x110 quirks 0x0000000000200010 [ 2.813693] xhci-mtk 11200000.usb: irq 128, io mem 0x11200000 [ 2.819513] xhci-mtk
11200000.usb: xHCI Host Controller [ 2.824815] xhci-mtk 11200000.usb: new USB bus registered, assigned bus number 2 [ 2.832207]
xhci-mtk 11200000.usb: Host supports USB 3.2 Enhanced SuperSpeed [ 2.839642] hub 1-0:1.0: USB hub found [ 2.843408] hub 1-0:1.0:
2 ports detected [ 2.847706] usb usb2: We don't know the algorithms for LPM for this host, disabling LPM. [ 2.856089] hub 2-0:1.0: USB
hub found [ 2.859848] hub 2-0:1.0: 1 port detected [ 2.866804] kmodloader: done loading kernel modules from /etc/modules-boot.d/* [
2.884304] init: - preinit - [ 3.061949] mtk_soc_eth 15100000.ethernet eth0: configuring for fixed/2500base-x link mode [ 3.070395]
mtk_soc_eth 15100000.ethernet eth0: Link is Up - 2.5Gbps/Full - flow control rx/tx [ 3.080000] mt7530-mdio mdio-bus:1f lan1: configuring
for phy/2500base-x link mode [ 3.310137] usb 1-2: new high-speed USB device number 2 using xhci-mtk [ 7.341571] loop0: detected
capacity change from 0 to 15178752 [ 7.420130] loop0: detected capacity change from 15178752 to 15167232 [ 7.477592] F2FS-fs
(loop0): Disable nat_bits due to incorrect cp_ver (7567851543940090605, 4494705274311985867) [ 7.492009] F2FS-fs (loop0):
Mounted with checkpoint version = d70caed [ 7.499065] mount_root: loading kmodes from internal overlay [ 7.533423] kmodloader:
loading kernel modules from /tmp/overlay/upper/etc/modules-boot.d/* [ 7.545180] usbcore: registered new interface driver usb-storage [
7.551989] usbcore: registered new interface driver uas [ 7.557465] kmodloader: done loading kernel modules from
/tmp/overlay/upper/etc/modules-boot.d/* [ 7.643808] block: attempting to load /tmp/overlay/upper/etc/config/fstab [ 7.651956] block:
extroot: not configured [ 7.656193] block: attempting to load /etc/config/fstab [ 7.661477] block: unable to load configuration (fstab: Entry
not found) [ 7.668182] block: no usable configuration [ 7.673267] mount_root: switching to f2fs overlay [ 7.678975] overlayfs: null uuid
detected in lower fs '/', falling back to xino=off,index=off,nfs_export=off. [ 7.690404] urandom-seed: Seeding with /etc/urandom.seed [
7.714913] random: procd: uninitialized urandom read (4 bytes read) [ 7.717335] procd: - early - [ 7.724275] procd: - watchdog - [
8.260482] procd: - watchdog - [ 8.264319] procd: - ubus - [ 11.350361] random: crng init done [ 11.353194] procd: - init - [ 11.574205]
kmodloader: loading kernel modules from /etc/modules.d/* [ 11.603742] GACT probability on [ 11.607350] Mirror/redirect action on [
11.614429] u32 classifier [ 11.617137] input device check on [ 11.620792] Actions configured [ 11.628873] nft3: Enabled Linux POSIX
ACLs support [ 11.635827] crypto-safexcel 10320000.crypto: EIP97:230(0,1,4,4)-HIA:270(0,5,5),PE:150/433(alg:7fcdcf00)/0/0/0 [
11.650745] Loading modules backported from Linux version v6.12.6-0-ge9d65b48ce1a [ 11.658222] Backport generated by backports.git
v6.1.110-1-35-g410656ef04d2 [ 11.674584] xt_time: kernel timezone is -0000 [ 11.756761] urngd: v1.0.2 started. [ 12.033906] mt798x-
wmac 18000000.wifi: HW/SW Version: 0x8a108a10, Build Time: 20240823160656a [ 12.033906] [ 12.138769] mt798x-wmac
18000000.wifi: WM Firmware Version: 000000, Build Time: 20240823160721 [ 12.223611] mt798x-wmac 18000000.wifi: WA Firmware
Version: DEV_000000, Build Time: 20240823160840 [ 12.329697] mt798x-wmac 18000000.wifi: registering led 'mt76-phy0' [ 12.371551]
mt798x-wmac 18000000.wifi: registering led 'mt76-phy1' [ 12.471459] PPP generic driver version 2.4.2 [ 12.476572] NET: Registered
PF_PPPOX protocol family [ 12.483762] kmodloader: done loading kernel modules from /etc/modules.d/* [ 14.414237] mtk_soc_eth
15100000.ethernet eth0: Link is Down [ 14.422637] mtk_soc_eth 15100000.ethernet eth0: configuring for fixed/2500base-x link mode [
14.423614] mtk_soc_eth 15100000.ethernet eth0: Link is Up - 2.5Gbps/Full - flow control rx/tx [ 14.425914] mt7530-mdio mdio-bus:1f
lan1: configuring for phy/2500base-x link mode [ 14.460831] br-lan: port 1(lan1) entered blocking state [ 14.460850] br-lan: port 1(lan1)
entered disabled state [ 14.460894] mt7530-mdio mdio-bus:1f lan1: entered allmulticast mode [ 14.460902] mtk_soc_eth
15100000.ethernet eth0: entered allmulticast mode [ 14.463532] mt7530-mdio mdio-bus:1f lan1: entered promiscuous mode [ 14.476193]
mt7530-mdio mdio-bus:1f lan2: configuring for phy/gmii link mode [ 14.479862] br-lan: port 2(lan2) entered blocking state [ 14.479884] br-
lan: port 2(lan2) entered disabled state [ 14.479917] mt7530-mdio mdio-bus:1f lan2: entered allmulticast mode [ 14.481588] mt7530-mdio
mdio-bus:1f lan2: entered promiscuous mode [ 14.491024] mt7530-mdio mdio-bus:1f lan3: configuring for phy/gmii link mode [
14.494666] br-lan: port 3(lan3) entered blocking state [ 14.494687] br-lan: port 3(lan3) entered disabled state [ 14.494726] mt7530-mdio
mdio-bus:1f lan3: entered allmulticast mode [ 14.496541] mt7530-mdio mdio-bus:1f lan3: entered promiscuous mode [ 14.505623]
mt7530-mdio mdio-bus:1f lan4: configuring for phy/gmii link mode [ 14.509272] br-lan: port 4(lan4) entered blocking state [ 14.509293] br-
lan: port 4(lan4) entered disabled state [ 14.509327] mt7530-mdio mdio-bus:1f lan4: entered allmulticast mode [ 14.511389] mt7530-mdio
mdio-bus:1f lan4: entered promiscuous mode [ 14.519978] mt7530-mdio mdio-bus:1f lan5: configuring for phy/gmii link mode [
14.523638] br-lan: port 5(lan5) entered blocking state [ 14.523649] br-lan: port 5(lan5) entered disabled state [ 14.523674] mt7530-mdio
mdio-bus:1f lan5: entered allmulticast mode [ 14.525802] mt7530-mdio mdio-bus:1f lan5: entered promiscuous mode [ 14.760200]

```


mtk_soc_eth 15100000.ethernet eth1: PHY [mdio-bus:01] driver [RTL8221B-VB-CG 2.5Gbps PHY (C45)] (irq=61) [14.760475]
mtk_soc_eth 15100000.ethernet eth1: configuring for phy/2500base-x link mode [16.563033] br-lan: port 6(phy1-ap0) entered blocking
state [16.563053] br-lan: port 6(phy1-ap0) entered disabled state [16.563085] mt798x-wmac 18000000.wifi phy1-ap0: entered
allmulticast mode [16.563223] mt798x-wmac 18000000.wifi phy1-ap0: entered promiscuous mode [16.563301] br-lan: port 6(phy1-ap0)
entered blocking state [16.563306] br-lan: port 6(phy1-ap0) entered forwarding state [16.564524] br-lan: port 6(phy1-ap0) entered
disabled state [16.661357] mt7530-mdio mdio-bus:1f lan4: Link is Up - 10Mbps/Half - flow control off [16.661394] br-lan: port 4(lan4)
entered blocking state [16.661411] br-lan: port 4(lan4) entered forwarding state [16.976540] mt7530-mdio mdio-bus:1f lan2: Link is Up -
1Gbps/Full - flow control rx/tx [16.976569] br-lan: port 2(lan2) entered blocking state [16.976586] br-lan: port 2(lan2) entered forwarding
state [17.147568] br-lan: port 6(phy1-ap0) entered blocking state [17.147583] br-lan: port 6(phy1-ap0) entered forwarding state [
17.910340] usb usb1-port2: attempt power cycle [18.048442] mt7530-mdio mdio-bus:1f lan3: Link is Up - 1Gbps/Full - flow control rx/tx [
18.048464] br-lan: port 3(lan3) entered blocking state [18.048479] br-lan: port 3(lan3) entered forwarding state [18.060189] usb 2-1:
new SuperSpeed USB device number 2 using xhci-mtk [18.093381] scsi host0: uas [18.252467] mtk_soc_eth 15100000.ethernet eth1:
Link is Up - 1Gbps/Full - flow control off

Notes

1. Power cable: a relatively short 3ft (1m) cable is included. Users may want to purchase an [extension cable \(https://www.amazon.com/dp/B085JXJG48/\)](https://www.amazon.com/dp/B085JXJG48/).
2. Power switch: users may want to add an on/off switch (<https://www.amazon.com/dp/B0BZJ5CKXG/>) which also extends the length of the cable slightly.
3. USB port: located on the side. Users wanting to hide the cable to an external drive may use a [USB 3.0 angled adapter \(https://www.amazon.com/gp/product/B0BZ4LC8QF/\)](https://www.amazon.com/gp/product/B0BZ4LC8QF/).

Tags

How to add tags

This website uses cookies. By using the website, you agree with storing cookies on your computer. Also you acknowledge that you have read and understand our Privacy Policy. If you do not agree leave the website. [More information about cookies](#)

mediatek

u-boot

4core

mt7986

8192nand

1024ram

emmc

6port

2.5gigabitethernet

gigabitethernet

jumboframes

4ant

2wnic

wifi6

802.11ax

802.11bgn

1usb

usb3.0

hwwlan

armv8

12v powered

serial

jtag

filologic

Last modified: 2025/05/07 16:43 by phinn

Self-registration in the wiki has been disabled.
If you want to contribute to the OpenWrt wiki, please post [HERE \(https://forum.openwrt.org/t/applying-for-openwrt-wiki-account/101671\)](https://forum.openwrt.org/t/applying-for-openwrt-wiki-account/101671) in the forum or ask on [IRC\(\)](#) for access.



Except where otherwise noted, content on this wiki is licensed under the following license:
CC Attribution-Share Alike 4.0 International