

**Paket KERNEL\_5\_4**  
**Version 4.0.0-testing-x86-r60723**

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# 1 Dokumentation des Pakets KERNEL\_5\_4

## 1.1 Kernel 5.4

Dieses Kapitel dokumentiert die verfügbaren Treiber des Linux-Kernels in der Version 5.4, bereitgestellt vom Paket kernel\_5\_4.

### 1.1.1 Netzwerkkartentreiber

Dieser Abschnitt listet alle von diesem Kernel unterstützten Netzwerkkartentreiber auf. Dabei wird zwischen LAN-Treibern für kabelgebundene Netzwerke und WLAN-Treibern für drahtlose Netzwerke unterschieden. Treiber für drahtlose Netzwerke benötigen zusätzlich zum base- und diesem Kernel-Paket das Paket “wlan”.

Tabelle 1.1: Verfügbare LAN-Adapter-Treiber in Linux 5.4

| Bus    | NET_DRV_x    | Kartenfamilie  |
|--------|--------------|--|
| isa    | 3c509        | 3Com Etherlink III (3c509, 3c509B, 3c529, 3c579) ethernet    |
| isa    | 3c515        | 3Com 3c515 Corkscrew   |
| pcmcia | 3c574_cs     | 3Com 3c574 series PCMCIA ethernet                            |
| pcmcia | 3c589_cs     | 3Com 3c589 series PCMCIA ethernet                            |
| pci    | 3c59x        | 3Com 3c59x/3c9xx ethernet                                    |
| pci    | 8139cp       | RealTek RTL-8139C+ series 10/100 PCI Ethernet                |
| pci    | 8139too      | RealTek RTL-8139 Fast Ethernet                               |
| pci    | acenic       | AceNIC/3C985/GA620 Gigabit Ethernet                          |
| pci    | alx          | Qualcomm Atheros(R) AR816x/AR817x PCI-E Ethernet Network     |
| pci    | amd-xgbe     | AMD 10 Gigabit Ethernet                                      |
| pci    | amd8111e     | AMD8111 based 10/100 Ethernet Controller                     |
| usb    | aqc111       | Aquantia AQtion USB to 5/2.5GbE Controllers                  |
| usb    | asix         | ASIX AX8817X based USB 2.0 Ethernet Devices                  |
| pci    | atl1         | Atheros L1 Gigabit Ethernet                                  |
| pci    | atl1c        | Qualcomm Atheros 100/1000M Ethernet Network                  |
| pci    | atl1e        | Atheros 1000M Ethernet Network                               |
| pci    | atl2         | Atheros Fast Ethernet Network                                |
| isa    | atp          | RealTek RTL8002/8012 parallel port Ethernet                  |
| usb    | atusb        | ATUSB IEEE 802.15.4  |
| usb    | ax88179_178a | ASIX AX88179/178A based USB 3.0/2.0 Gigabit Ethernet Devices |

*(wird auf der nächsten Seite fortgesetzt)*

Tabelle 1.1: Verfügbare LAN-Adapter-Treiber in Linux 5.4 (fortgesetzt)

| Bus     | NET_DRV_x   | Kartenfamilie   |
|---------|-------------|---|
| pcmcia  | axnet_cs    | Asix AX88190 PCMCIA ethernet  |
| pci     | b44         | Broadcom 44xx/47xx 10/100 PCI ethernet  |
| pci     | be2net      | Emulex OneConnect NIC Driver 12.0.0.0   |
| pci     | bnx         | QLogic BR-series 10G PCIe Ethernet  |
| pci     | bnx2        | QLogic BCM5706/5708/5709/5716   |
| pci     | bnx2x       | Broadcom NetXtreme II BCM57710/ 57711/ 57711E/<br>57712/ 57712_MF/ 57800/ 57800_MF/ 57810/<br>57810_MF/ 57840/ 57840_MF |
| pci     | bnxt_en     | Broadcom BCM573xx network   |
| pci     | cassini     | Sun Cassini(+) ethernet   |
| usb     | catc        | CATC EL1210A NetMate USB Ethernet   |
| usb     | cdc_eem     | USB CDC EEM   |
| usb     | cdc_ether   | USB CDC Ethernet devices  |
| usb     | cdc_mbim    | USB CDC MBIM host   |
| usb     | cdc_ncm     | USB CDC NCM host  |
| usb     | cdc_subset  | Simple 'CDC Subset' USB networking links  |
| usb     | ch9200      | QinHeng CH9200 USB Network device   |
| usb     | cx82310_eth | Conexant CX82310-based ADSL router USB ethernet   |
| pci     | cxgb        | Chelsio 10Gb Ethernet   |
| pci     | cxgb3       | Chelsio T3 Network  |
| pci     | cxgb4       | Chelsio T4/T5/T6 Network  |
| pci     | cxgb4vf     | Chelsio T4/T5/T6 Virtual Function (VF) Network  |
| pci     | de2104x     | Intel/Digital 21040/1 series PCI Ethernet   |
| isa     | de4x5       | Digital DE425, DE434, DE435, DE450, DE500   |
| pci     | defxx       | DEC FDDIcontroller TC/EISA/PCI<br>(DEFTA/DEFEA/DEFPA) driver v1.11 2014/07/01   |
| pci     | dl2k        | D-Link DL2000-based Gigabit Ethernet Adapter  |
| usb     | dm9601      | Davicom DM96xx USB 10/100 ethernet devices  |
| pci     | dmfe        | Davicom DM910X fast ethernet  |
| virtual | dummy       | Dummy Network Interface   |
| pci     | dwc-xlgmac  | Synopsys DWC XLGMAC   |
| pci     | e100        | Intel(R) PRO/100 Network  |
| pci     | e1000       | Intel(R) PRO/1000 Network   |
| pci     | e1000e      | Intel(R) PRO/1000 Network   |
| pci     | ec_bhf      |   |
| pci     | ena         | Elastic Network Adapter (ENA)   |
| pci     | enic        | Cisco VIC Ethernet NIC  |
| pci     | epic100     | SMC 83c170 EPIC series Ethernet   |
| pci     | et131x      | 10/100/1000 Base-T Ethernet Driver for the ET1310 by<br>Agere Systems   |
| pci     | fealnx      | Myson MTD-8xx 100/10M Ethernet PCI Adapter  |
| pci     | fm10k       | Intel(R) Ethernet Switch Host Interface   |

(wird auf der nächsten Seite fortgesetzt)

Tabelle 1.1: Verfügbare LAN-Adapter-Treiber in Linux 5.4 (fortgesetzt)

| Bus      | NET_DRV_x      | Kartenfamilie  |
|----------|----------------|--|
| pcmcia   | fmvj18x_cs     | fmvj18x and compatible PCMCIA ethernet                           |
| pci      | forcedeth      | Reverse Engineered nForce ethernet                               |
| usb      | gl620a         | GL620-USB-A Host-to-Host Link cables                             |
| pci      | gve            | gVNIC  |
| pci      | hamachi        | Packet Engines 'Hamachi' GNIC-II Gigabit Ethernet                |
| eisa,pci | hp100          | HP CASCADE Architecture Driver for 100VG-AnyLan Network Adapters |
| usb      | hso            | USB High Speed Option  |
| usb      | huawei_cdc_ncm | USB CDC NCM host driver with encapsulated protocol support       |
| pci      | i40e           | Intel(R) Ethernet Connection XL710 Network                       |
| pci      | iavf           | Intel(R) Ethernet Adaptive Virtual Function Network              |
| pci      | ice            | Intel(R) Ethernet Connection E800 Series Linux                   |
| pci      | igb            | Intel(R) Gigabit Ethernet Network                                |
| pci      | igbvf          | Intel(R) Gigabit Virtual Function Network                        |
| pci      | igc            | Intel(R) 2.5G Ethernet Linux                                     |
| usb      | int51x1        | Intellon usb powerline adapter                                   |
| usb      | ipheth         | Apple iPhone USB Ethernet  |
| pci      | ixgb           | Intel(R) PRO/10GbE Network                                       |
| pci      | ixgbe          | Intel(R) 10 Gigabit PCI Express Network                          |
| pci      | ixgbevf        | Intel(R) 10 Gigabit Virtual Function Network                     |
| pci      | jme            | JMicron JMC2x0 PCI Express Ethernet                              |
| usb      | kalmia         | Samsung Kalmia USB network                                       |
| usb      | kaweth         | KL5USB101 USB Ethernet   |
| pci      | ks784x         | KS7841/2 PCI network   |
| usb      | lan78xx        | LAN78XX USB 3.0 Gigabit Ethernet Devices                         |
| isa      | lance          | AMD LANCE and PCnet (AT1500, NE2100)                             |
| usb      | lg-vl600       | LG-VL600 modem's ethernet link                                   |
| usb      | mcs7830        | USB to network adapter MCS7830)                                  |
| pci      | mlx4_core      | Mellanox ConnectX HCA low-level                                  |
| pci      | mlx4_en        | Mellanox ConnectX HCA Ethernet                                   |
| pci      | mlx5_core      | Mellanox 5th generation network adapters (ConnectX series) core  |
| pci      | mlxsw_spectrum | Mellanox Spectrum  |
| pci      | mlxsw_switchib | Mellanox SwitchIB and SwitchIB-2                                 |
| pci      | mlxsw_switchx2 | Mellanox SwitchX-2   |
| pci      | myri10ge       | Myricom 10G driver (10GbE)                                       |
| pci      | natsemi        | National Semiconductor DP8381x series PCI Ethernet               |
| isa      | ne             | NE1000/NE2000 ISA/PnP Ethernet                                   |
| pci      | ne2k-pci       | PCI NE2000 clone   |
| usb      | net1080        | NetChip 1080 based USB Host-to-Host Links                        |
| pci      | netxen_nic     | QLogic/NetXen (1/10) GbE Intelligent Ethernet                    |

(wird auf der nächsten Seite fortgesetzt)

Tabelle 1.1: Verfügbare LAN-Adapter-Treiber in Linux 5.4 (fortgesetzt)

| Bus    | NET_DRV_x   | Kartenfamilie   |
|--------|-------------|---|
| isa    | ni65        | AMD Lance Am7990  |
| pci    | niu         | Sun Neptun Ethernet   |
| pcmcia | nmclan_cs   | New Media PCMCIA ethernet   |
| pci    | ns83820     | National Semiconductor DP83820 10/100/1000  |
| pci    | pch_gbe     | EG20T PCH Gigabit ethernet  |
| pci    | pcnet32     | PCnet32 and PCnetPCI based ethercards   |
| pcmcia | pcnet_cs    | NE2000 compatible PCMCIA ethernet   |
| usb    | pegasus     | Pegasus/Pegasus II USB Ethernet   |
| usb    | plusb       | Prolific PL-2301/2302/25A1/27A1 USB Host to Host Link   |
| pci    | qede        | QLogic FastLinQ 4xxxx Ethernet  |
| pci    | qla3xxx     | QLogic ISP3XXX Network Driver v2.03.00-k5   |
| pci    | qlcnlc      | QLogic 1/10 GbE Converged/Intelligent Ethernet  |
| usb    | qmi_wwan    | Qualcomm MSM Interface (QMI) WWAN   |
| pci    | r6040       | RDC R6040 NAPI PCI FastEthernet   |
| usb    | r8152       | Realtek RTL8152/RTL8153 Based USB Ethernet Adapters   |
| pci    | r8169       | RealTek RTL-8169 Gigabit Ethernet   |
| usb    | rndis_host  | USB Host side RNDIS   |
| usb    | rtl8150     | rtl8150 based usb-ethernet  |
| pci    | s2io        | Neterion 10GbE Server NIC   |
| isa    | sb1000      | General Instruments SB1000  |
| pci    | sc92031     | Silan SC92031 PCI Fast Ethernet Adapter   |
| pci    | sfc         | Solarflare network  |
| pci    | sfc-falcon  | Solarflare Falcon network   |
| pci    | sis190      | SiS sis190/191 Gigabit Ethernet   |
| pci    | sis900      | SiS 900 PCI Fast Ethernet   |
| pci    | skfp        | SysKonnect FDDI PCI adapter   |
| pci    | skge        | SysKonnect Gigabit Ethernet   |
| pci    | sky2        | Marvell Yukon 2 Gigabit Ethernet  |
| isa    | smc-ultra   | SMC Ultra/EtherEZ ISA/PnP Ethernet  |
| isa    | smc9194     | SMC's 9000 series of Ethernet cards   |
| pcmcia | smc91c92_cs | SMC 91c92 series PCMCIA ethernet  |
| usb    | smc75xx     | SMSC75XX USB 2.0 Gigabit Ethernet Devices   |
| pci    | smc9420     | SMSC LAN9420  |
| usb    | smc95xx     | SMSC95XX USB 2.0 Ethernet Devices   |
| usb    | sr9700      | SR9700 one chip USB 1.1 USB to Ethernet device from <a href="http://www.corechip-sz.com/">http://www.corechip-sz.com/</a> |
| usb    | sr9800      | SR9800 USB 2.0 USB2NET Dev : <a href="http://www.corechip-sz.com">http://www.corechip-sz.com</a>                          |
| pci    | starfire    | Adaptec Starfire Ethernet   |
| pci    | stmmac-pci  | STMMAC 10/100/1000 Ethernet PCI   |

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Tabelle 1.1: Verfügbare LAN-Adapter-Treiber in Linux 5.4 (fortgesetzt)

| Bus    | NET_DRV_x    | Kartenfamilie  |
|--------|--------------|--|
| pci    | sundance     | Sundance Alta Ethernet   |
| pci    | sungem       | Sun GEM Gbit ethernet  |
| pci    | sunhme       | Sun HappyMealEthernet(HME) 10/100baseT ethernet                  |
| pci    | tehuti       | Tehuti Networks(R) Network                                       |
| pci    | tg3          | Broadcom Tigon3 ethernet   |
| pci    | tlan         | TI ThunderLAN based ethernet PCI adapters                        |
| pci    | tulip        | Digital 21*4* Tulip ethernet                                     |
| pci    | typhoon      | 3Com Typhoon Family (3C990, 3CR990, and variants)                |
| pci    | uli526x      | ULi M5261/M5263 fast ethernet                                    |
| pci    | via-rhine    | VIA Rhine PCI Fast Ethernet                                      |
| pci    | via-velocity | VIA Networking Velocity Family Gigabit Ethernet Adapter          |
| pci    | vxge         | Neterion's X3100 Series 10GbE PCIe I/OVirtualized Server Adapter |
| isa    | wd           | Western Digital wd8003/wd8013 ; SMC Elite, Elite16 ethernet      |
| pci    | winbond-840  | Winbond W89c840 Ethernet   |
| pcmcia | xirc2ps_cs   | Xircom PCMCIA ethernet   |
| pci    | xircom_cb    | Xircom Cardbus ethernet  |
| pci    | yellowfin    | Packet Engines Yellowfin G-NIC Gigabit Ethernet                  |
| usb    | zaurus       | Sharp Zaurus PDA, and compatible products                        |

Tabelle 1.2: Verfügbare WLAN-Adapter-Treiber in Linux 5.4

| Bus     | NET_DRV_x    | Kartenfamilie  |
|---------|--------------|--|
| pci     | adm8211      | IEEE 802.11b wireless cards based on ADMtek ADM8211                |
| isa,pci | airo         | Cisco/Aironet 802.11 wireless ethernet cards                       |
| pcmcia  | airo_cs      | Cisco/Aironet 802.11 wireless ethernet cards                       |
| usb     | ar5523       | Atheros AR5523 based USB dongles                                   |
| usb     | at76c50x-usb | Atmel at76x USB Wireless LAN                                       |
| pci     | ath10k_pci   | Driver support for Qualcomm Atheros 802.11ac WLAN PCIe/AHB devices |
| pci     | ath5k        | 5xxx series of Atheros 802.11 wireless LAN cards                   |
| usb     | ath6kl_usb   | Driver support for Atheros AR600x USB devices                      |
| pci     | ath9k        | Atheros 802.11n wireless LAN cards                                 |
| usb     | ath9k_htc    | Atheros driver 802.11n HTC based wireless devices                  |
| pcmcia  | atmel_cs     | Atmel at76c50x 802.11 wireless ethernet cards                      |
| pci     | atmel_pci    | Atmel at76c50x 802.11 wireless ethernet cards                      |
| pci     | b43          | Broadcom B43 wireless  |

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Tabelle 1.2: Verfügbare WLAN-Adapter-Treiber in Linux 5.4 (fortgesetzt)

| Bus      | NET_DRV_x       | Kartenfamilie  |
|----------|-----------------|--|
| pci      | b43legacy       | Broadcom B43legacy wireless  |
| pci, usb | brcmfmac        | Broadcom 802.11 wireless LAN fullmac                                 |
| pci      | brcmsmac        | Broadcom 802.11n wireless LAN  |
| usb      | carl9170        | Atheros AR9170 802.11n USB wireless                                  |
| pcmcia   | hostap_cs       | Intersil Prism2-based 802.11 wireless LAN cards (PC Card)            |
| pci      | hostap_pci      | Intersil Prism2.5-based 802.11 wireless LAN PCI cards                |
| pci      | hostap_plx      | Intersil Prism2-based 802.11 wireless LAN cards (PLX)                |
| pci      | ipw2100         | Intel(R) PRO/Wireless 2100 Network                                   |
| pci      | ipw2200         | Intel(R) PRO/Wireless 2200/2915 Network                              |
| pci      | iwl3945         | Intel(R) PRO/Wireless 3945ABG/BG Network Connection driver for Linux |
| pci      | iwl4965         | Intel(R) Wireless WiFi 4965 driver for Linux                         |
| pci      | iwlwifi         | Intel(R) Wireless WiFi driver for Linux                              |
| pcmcia   | libertas_cs     | Marvell 83xx compact flash WLAN cards                                |
| usb      | libertas_tf_usb | 8388 USB WLAN Thinfirm   |
| virtual  | mac80211_hwsim  | Software simulator of 802.11 radio(s) for mac80211                   |
| usb      | mt7601u         |  |
| pci      | mt7603e         |  |
| pci      | mt7615e         |  |
| pci      | mt76x0e         |  |
| usb      | mt76x0u         |  |
| pci      | mt76x2e         |  |
| usb      | mt76x2u         |  |
| pci      | mwifiex_pcie    | Marvell WiFi-Ex PCI-Express Driver version 1.0                       |
| usb      | mwifiex_usb     | Marvell WiFi-Ex USB Driver version1.0                                |
| pci      | mwl8k           | Marvell TOPDOG(R) 802.11 Wireless Network                            |
| pcmcia   | orinoco_cs      | PCMCIA Lucent Orinoco, Prism II based and similar wireless cards     |
| pci      | orinoco_nortel  | wireless LAN cards using the Nortel PCI bridge                       |
| pci      | orinoco_plx     | wireless LAN cards using the PLX9052 PCI bridge                      |
| pci      | orinoco_tmd     | wireless LAN cards using the TMD7160 PCI bridge                      |
| usb      | orinoco_usb     | Orinoco wireless LAN cards using EZUSB bridge                        |
| pci      | p54pci          | Prism54 PCI wireless   |
| usb      | p54usb          | Prism54 USB wireless   |
| pcmcia   | ray_cs          | Raylink/WebGear wireless LAN   |
| usb      | rndis_wlan      | RNDIS based USB Wireless adapters                                    |
| usb      | rsi_usb         | Common USB layer for RSI drivers                                     |
| pci      | rt2400pci       | Ralink RT2400 PCI & PCMCIA Wireless LAN                              |
| pci      | rt2500pci       | Ralink RT2500 PCI & PCMCIA Wireless LAN                              |
| usb      | rt2500usb       | Ralink RT2500 USB Wireless LAN                                       |
| pci      | rt2800pci       | Ralink RT2800 PCI & PCMCIA Wireless LAN                              |

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Tabelle 1.2: Verfügbare WLAN-Adapter-Treiber in Linux 5.4 (fortgesetzt)

| <b>Bus</b> | <b>NET_DRV_x</b> | <b>Kartenfamilie</b>                                     |
|------------|------------------|--|
| usb        | rt2800usb        | Ralink RT2800 USB Wireless LAN                           |
| pci        | rt61pci          | Ralink RT61 PCI & PCMCIA Wireless LAN                    |
| usb        | rt73usb          | Ralink RT73 USB Wireless LAN                             |
| usb        | rtl8187          | RTL8187/RTL8187B USB wireless                            |
| pci        | rtl8188ee        | Realtek 8188E 802.11n PCI wireless                       |
| pci        | rtl818x_pci      | RTL8180 / RTL8185 / RTL8187SE PCI wireless               |
| pci        | rtl8192ce        | Realtek 8192C/8188C 802.11n PCI wireless                 |
| usb        | rtl8192cu        | Realtek 8192C/8188C 802.11n USB wireless                 |
| pci        | rtl8192de        | Realtek 8192DE 802.11n Dual Mac PCI wireless             |
| pci        | rtl8192ee        | Realtek 8192EE 802.11n PCI wireless                      |
| pci        | rtl8192se        | Realtek 8192S/8191S 802.11n PCI wireless                 |
| pci        | rtl8723ae        | Realtek 8723E 802.11n PCI wireless                       |
| pci        | rtl8723be        | Realtek 8723BE 802.11n PCI wireless                      |
| pci        | rtl8821ae        | Realtek 8821ae 802.11ac PCI wireless                     |
| usb        | rtl8xxxu         | RTL8XXXu USB mac80211 Wireless LAN                       |
| usb        | sierra_net       | USB-to-WWAN Driver for Sierra Wireless modems            |
| pcmcia     | spectrum_cs      | Symbol Spectrum24 Trilogy cards with firmware downloader |
| usb        | usb8xxx          | 8388 USB WLAN  |
| pci        | wil6210          | 60g WiFi WIL6210 card                                    |
| pcmcia     | wl3501_cs        | Planet wl3501 wireless                                   |
| usb        | zd1201           | ZyDAS ZD1201 based USB Wireless adapters                 |
| usb        | zd1211rw         | USB driver for devices with the ZD1211 chip              |

# **Abbildungsverzeichnis**

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