

IR54 Gigabit Ethernet Router module Gigabit Ethernet AP control IPSEC Padavan/openwrt MT7621A

Introduction

The IR54 module use the MT7621A chipset. The MT7621A integrates dual-core MIPS-1004Kc (880MHz), HNAT/HQoS/Samba/VPN accelerators, 5-port GbE switch, RGMII, USB3.0, USB2.0, 3xPCIe, SD-XC. The powerful CPU with rich portfolio is suitable for 802.11ac, LTE cat4/5, edge, hotspot, VPN,AC (Access Control). It can also connect to touch-panel, ZigBee/Z-Wave for Internet Service Router and Home Security Gateway. For the next generation router, MT7621A provides several dedicated hardware engines to accelerate the NAT, QoS, Samba and VPN traffic. These accelerators relieve the CPU for other upper layer applications.

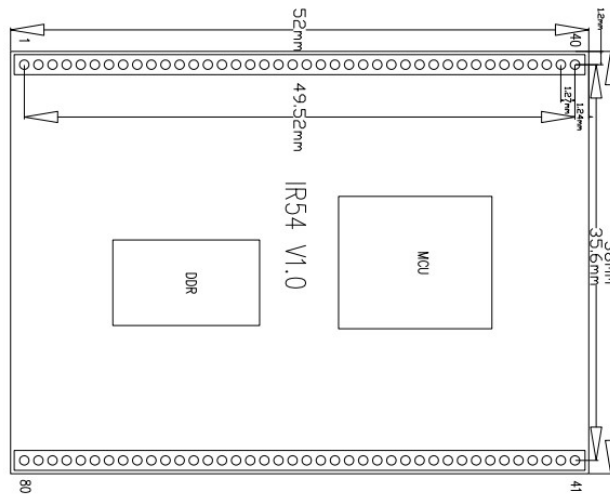
Features

- Embedded MIPS1004Kc (880 MHz, Dual-Core)
 - 32 KB I-Cache and 32 KB D-Cache per core
 - 256 KB L2 Cache (shared by Dual-Core)
 - SMP capable
 - Single processor operation configurable
- Gigabit Switch
 - 5 ports with full-line rate
 - 5-port 10/100/1000Mbps MDI transceivers
- One RGMII/MII interface
- 16-bit DDR2/3 up to 256/512 Mbytes
- SPI(2 chip select), NAND Flash(SLC), SDXC, eMMC(4 bits)
- USB3 x 1+ USB2 x 1 or USB2 x 2 (all host)
- PCIe host x 3
- I2C, UART Lite x 3, JTAG, MDC, MDIO, GPIO
- VoIP support (I2S, PCM)
- Audio interface (SPDIF-Tx, I2S, PCM)
- Deliver the superb Samba performance via USB2.0/USB 3.0/SD-XC
- HW storage accelerator
- HW NAT
 - 2Gbps wired speed
 - L2 bridge
 - IPv4 routing, NAT, NAPT

- IPv6 routing, DS-Lite, 6RD, 6to4
- HW QoS
 - 16 hardware queues to guarantee the min/max bandwidth of each flow.
 - Seamlessly co-work with HW NAT engine.
 - 2Gbps wired speed.
- HW Crypto

Specifications

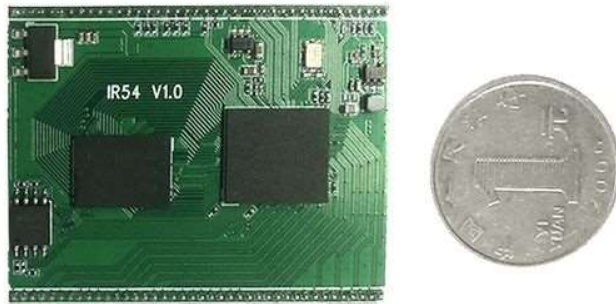
Master chip	MT7621A
Core	MIPS1004Kc
Dominant frequency	800MHz
Memory	256/512M
Interface type	UART/I2C/PWM/GPIO/PCM/USB2.0/3.0/PCIe
Operating voltage	DC3.3V±0.2V
Operating current	500mA
Environmental standards	Operating temperature: -40-80°C Operating humidity: 10%-90%RH (no condensation) Storage temperature: -40-40°C Storage humidity: 5%-90%RH (no condensation)
Size	52x38x3mm(±0.2mm)



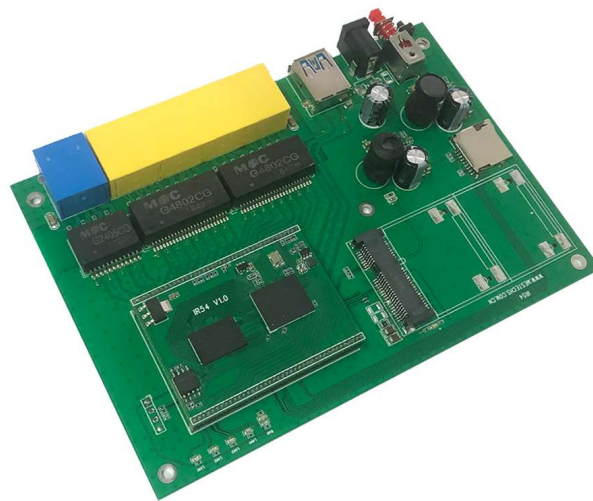
Pins Description

Pin	Definition	Pin	Definition	Pin	Definition	Pin	Definition
1	3V3	21	WDT_RST_N	41	ESW_TXVN_D_P4	61	ESW_TXVN_B_P2
2	3V3	22	PERST_N	42	ESW_TXVP_D_P4	62	ESW_TXVP_B_P2
3	3V3	23	GND	43	ESW_TXVN_C_P4	63	ESW_TXVN_A_P2
4	3V3	24	PCIE_CKN2	44	ESW_TXVP_C_P4	64	ESW_TXVP_A_P2
5	GND	25	PCIE_CKP2	45	ESW_TXVN_B_P4	65	ESW_TXVN_D_P1
6	GND	26	PCIE_RXP2	46	ESW_TXVP_B_P4	66	ESW_TXVP_D_P1
7	SSUSB_TXP	27	PCIE_RXN2	47	ESW_TXVN_A_P4	67	ESW_TXVN_C_P1
8	SSUSB_TXN	28	PCIE_TXP2	48	ESW_TXVP_A_P4	68	ESW_TXVP_C_P1
9	SSUSB_RXP	29	PCIE_TXN2	49	ESW_TXVN_D_P3	69	ESW_TXVN_B_P1
10	SSUSB_RXN	30	I2C_SD	50	ESW_TXVP_D_P3	70	ESW_TXVP_B_P1
11	USB_DP	31	I2C_SCLK	51	ESW_TXVN_C_P3	71	ESW_TXVN_A_P1
12	USB_DM	32	RXD1	52	ESW_TXVP_C_P3	72	ESW_TXVP_A_P1
13	GND	33	TXD1	53	ESW_TXVN_B_P3	73	ESW_TXVN_D_P0
14	ND_D0	34	GND	54	ESW_TXVP_B_P3	74	ESW_TXVP_D_P0
15	ND_D1	35	ESW_P4_LED_0	55	ESW_TXVN_A_P3	75	ESW_TXVN_C_P0
16	ND_D2	36	ESW_P3_LED_0	56	ESW_TXVP_A_P3	76	ESW_TXVP_C_P0
17	ND_D3	37	ESW_P2_LED_0	57	ESW_TXVN_D_P2	77	ESW_TXVN_B_P0
18	ND_ALE	38	ESW_P1_LED_0	58	ESW_TXVP_D_P2	78	ESW_TXVP_B_P0
19	ND_RB_N	39	ESW_P0_LED_0	59	ESW_TXVN_C_P2	79	ESW_TXVN_A_P0

20	GND	40	GND	60	ESW_TXVP_C_P2	80	ESW_TXVP_A_P0
----	-----	----	-----	----	---------------	----	---------------



Dev-kit board



Order Information

Product Description
Gigabit Ethernet Router module
Dev-kit board

Order Code
IR54
MT-IR54