NET-SER-DT-RS232, NET-SER-DT-RS485

Description

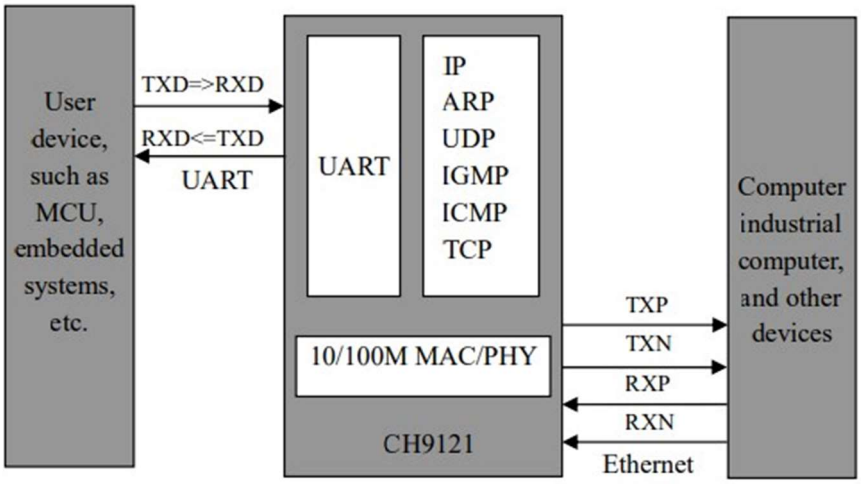
NET-SER-DT-RS232, NET-SER-DT-RS485 represent evaluation boards for CH9121 (Network and UART Transparent Transmission Chip).

1. Overview

NET-SER-DT-RS232, NET-SER-DT-RS485 contain CH9121 chip realizing transparent transmission between network and UART.

CH9121 integrates TCP/IP protocol stack, which can realize bidirectional transparent transmission between network data packets and serial data. It has 4 working modes: TCP CLIENT, TCP SERVER, UDP CLIENT and UDP SERVER. The serial baud rate can be up to 921600bps. It can be easily configured by upper computer software or serial commands, which is convenient and quick.

The figure below is a general application block diagram of CH9121 chip.



2. Features

● Internal Ethernet MAC layer and PHY layer

● Realize bidirectional transparent transmission between serial data and network data

● Support 10/100M, full/half duplex self-adaption Ethernet interface, compatible with 802.3 protocol

● Support automatic MDI/MDIX line conversion

● Support DHCP automatic access to IP address, and DNS domain name access

● Set the chip working mode, port, IP and other network parameters through upper computer software and serial commands

● Support four working modes: TCP CLIENT, TCP SERVER, UDP CLIENT and UDP SERVER

● Support up to two independent UARTs, independent transparent transmission

● Serial baud rate supports 300bps ~ 921600bps

● Serial TTL level, compatible with 3.3V and 5V

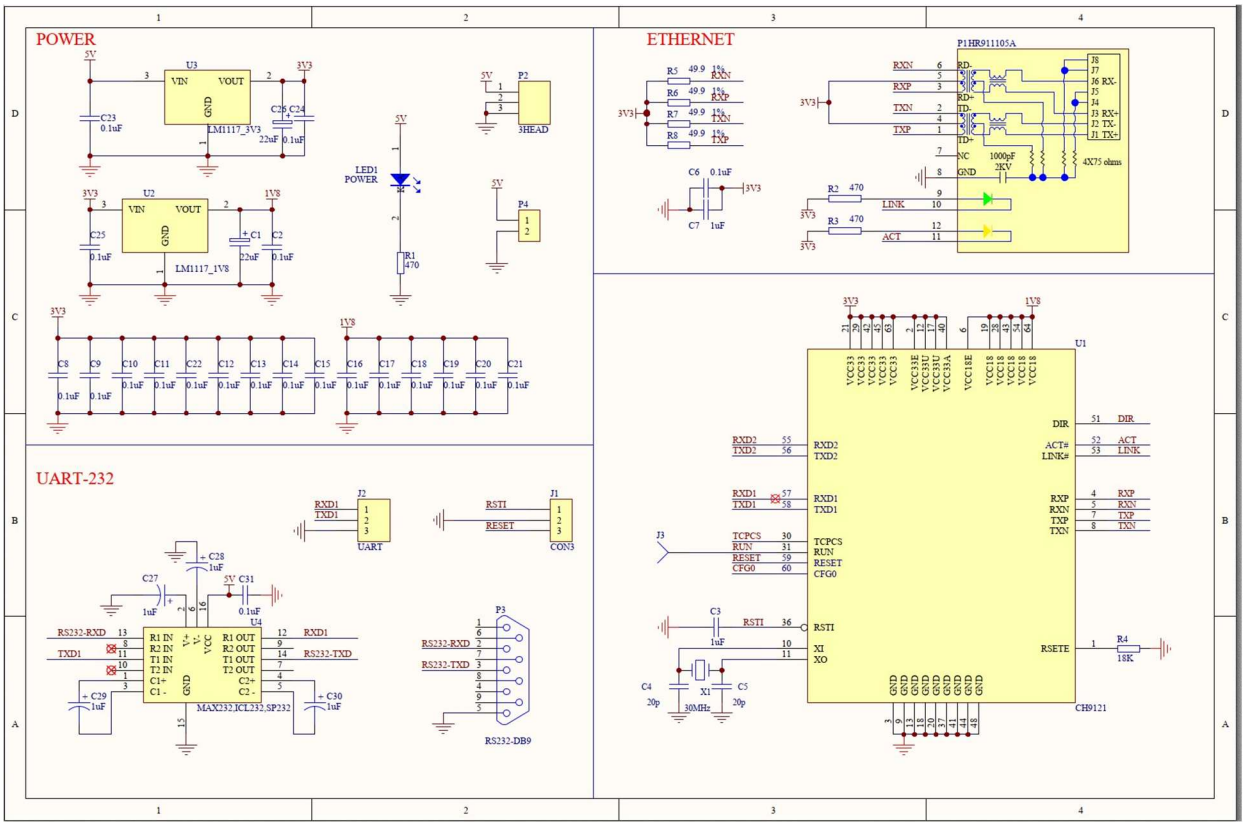
● UART supports full-duplex and half-duplex serial communication, and RS485 transceiving automatic switch

● Support and provide virtual serial software

● Support KEEPALIVE mechanism

3. Electrical schemes

NET-SER-DT-RS232



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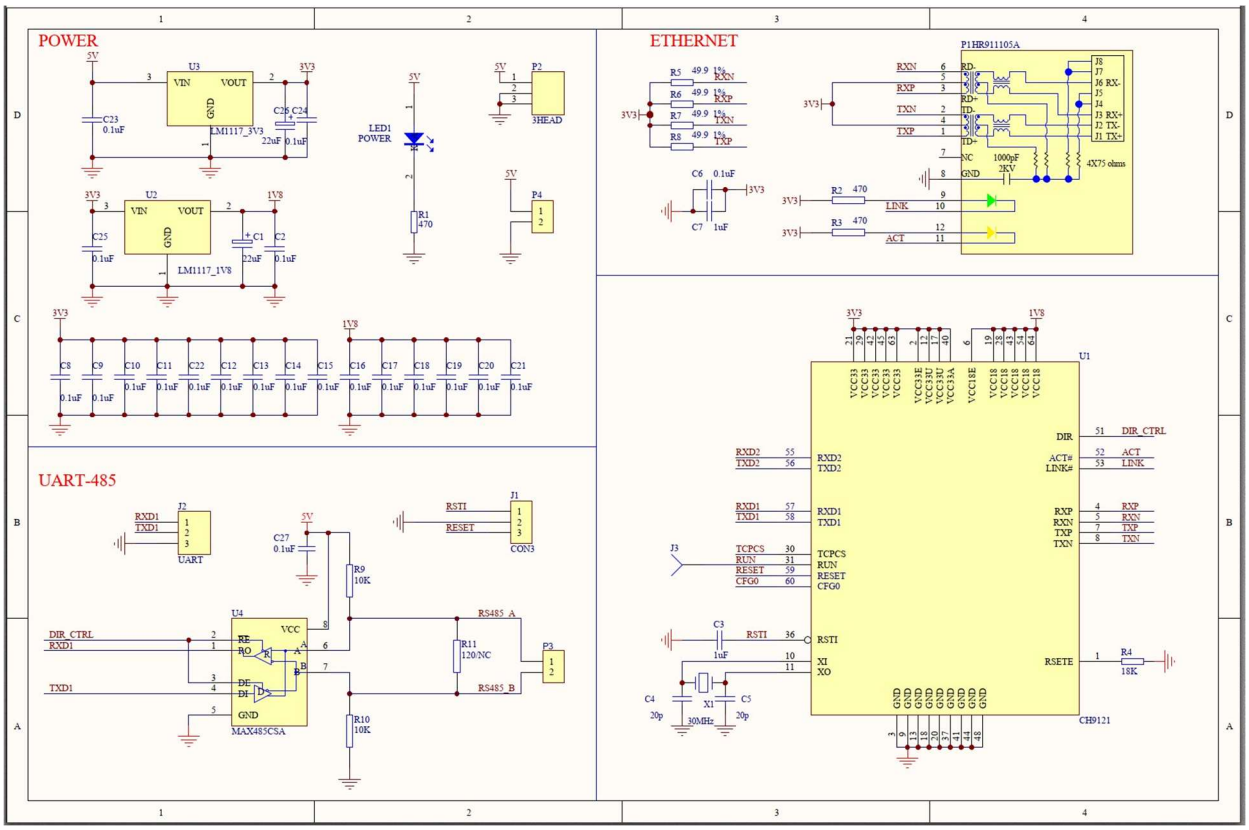

TXD1 and RXD1 are compatible with 3.3V and 5V level, and the RS485 control pin DIR can be suspended if not used.

P1 is RJ45 port, with built-in network transformer, used to connect network equipment such as switches and router. It contains two pairs of Ethernet differential signals.