C64 WiFi-Modem for User Port Rev. 0

Functional Description

J1 is connecting to the C64 user port. The logic levels are TTL (5V)-levels. The NodeMCU v3 (M1) contains all functionality, WiFi included. Its signal level is 3.3V, so level shifters are required. Those are implemented in the MOSFETs (Q1 – Q5).

The modem signals are active low. The inverters (IC1) are used to drive LEDs. The RxD and TxD lines might toggle often. To obtain a good LED brightness, the output of the inverters IC1D and IC1E are buffered in a capacitor, which is charged via a diode and discharged via the base resistor and the base of a transistor, which is then driving an LED.

The last LED (LD6) is driven by the signal EXLED from the NodeMCU. It can serve as a status LED (e.g. for WiFi), which needs to be implemented in the NodeMCU’s software, otherwise the behavior of the LED is not defined.