WIZ550SR Datasheet

Overview

This page provides information about the hardware description of WIZ550SR as following:

- Hardware Specification
- Electrical Characteristics
- Schematic
- Dimension

The revision history will be updated in this page in case of any changes of hardware specification or exterior design.

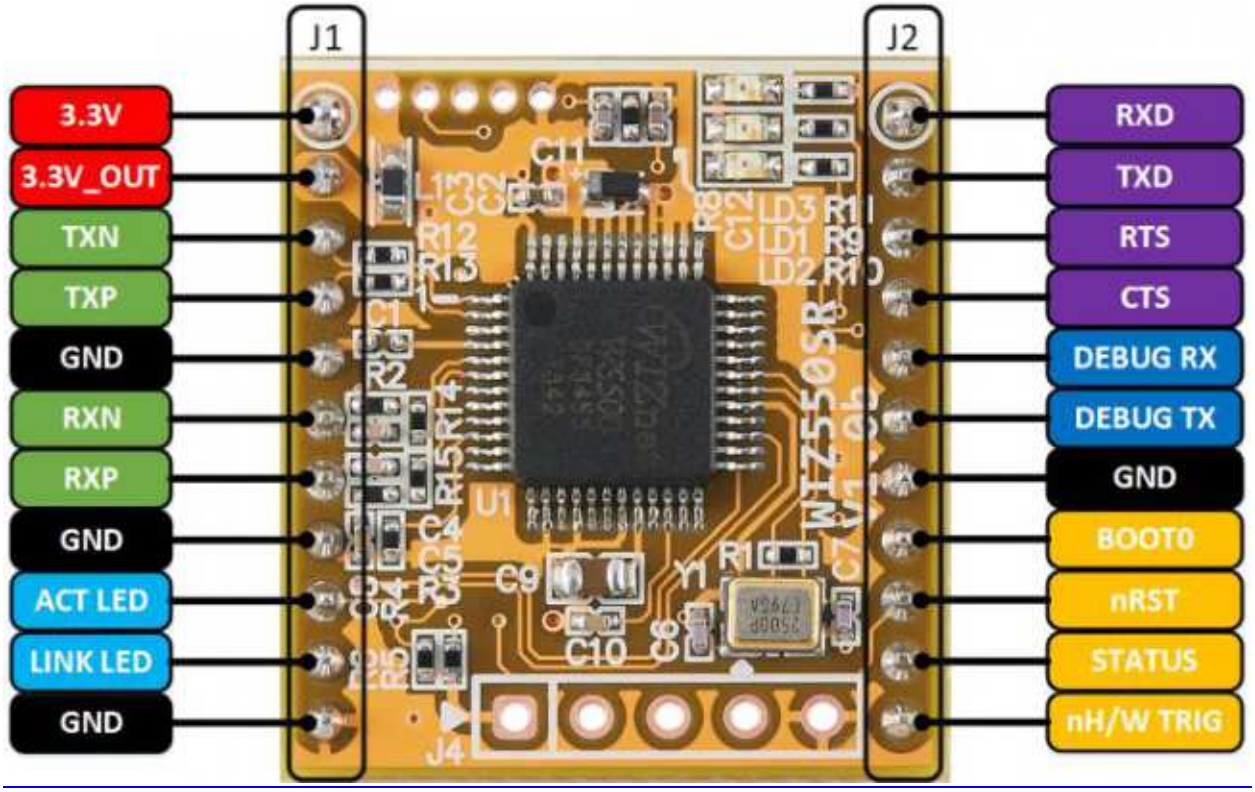
Hardware Specification

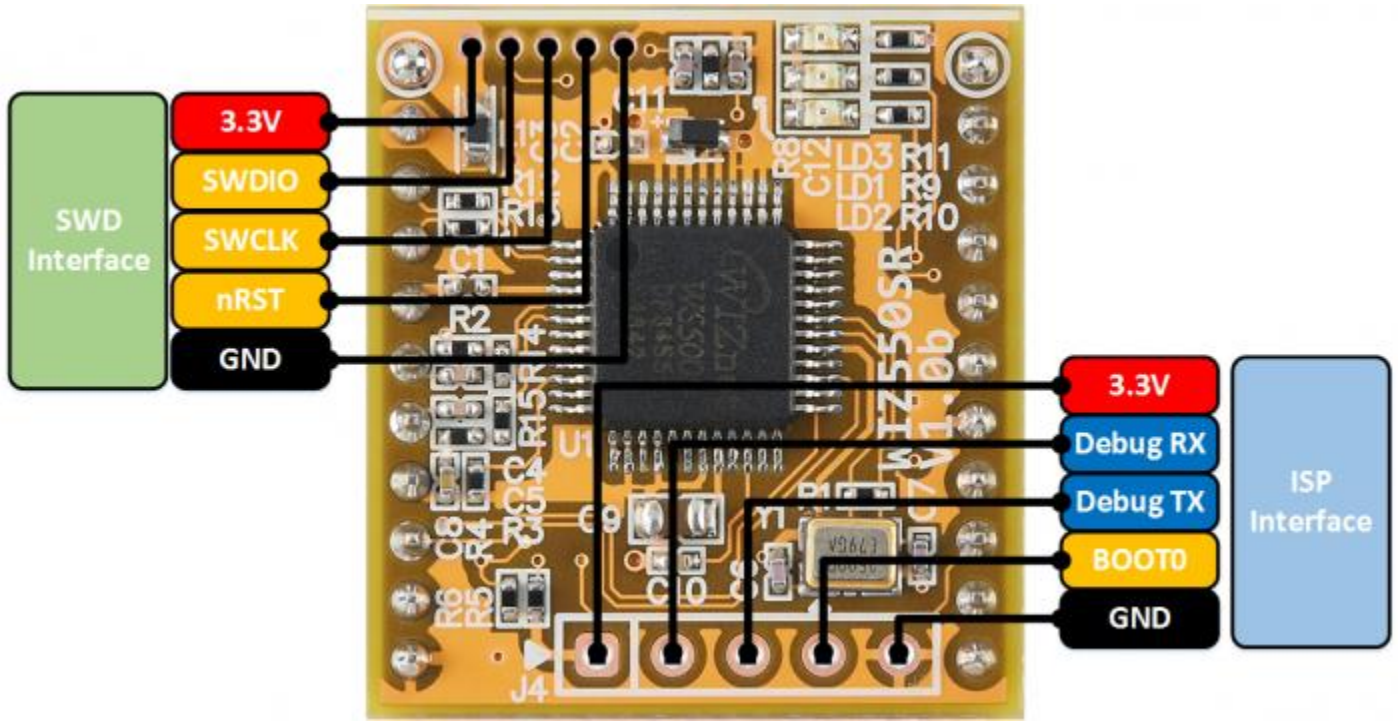
WIZ550SR

- Very small size Serial to Ethernet Module.
- WIZnet TCP/IP Chip **W5500**.
- STM32F103RCT6.
- Not include a transformer and RJ45.
- 2.00mm Pitch Pin Header Type, 1×11.
- Support the **MDI**(Medium Dependent Interface).
    - TXN, TXP, RXN, RXP
- Support the **UART** interface.
    - RXD, TXD, RTS, CTS, DSR(Option), DTR(Option)
    - Support the RS-232C Interface.
    - Will be soppoted the RS-422/485 Interface.
- Support the Debug UART.
    - DEBUG RXD, DEBUG TXD
- Support the PHY Status Output.
    - Active LED, Link LED
- Support the STATUS output.
    - LOW : TCP Connect.
    - HIGH : TCP Diconnect.
- System Pins.
    - RESET : System Reset, Active Low.
    - BOOT0 : MCU BOOT mode operation, Active High.
    - H/W TRIG : App BOOT mode operation, Active Low.
- Support the Indicator LED.
    - Power LED(LD3).
    - LED 0(LD1) :
    - LED 1(LD2) :
- Support the Pin Header Hole for Firmware upload.

    - 2.54mm Pitch, Not Mount.
- Support the Pin Header Hole for SWD.
    - 1.27mm Pitch, Not Mount.
- Include eeprom for data storage.
- Operation Temperature : -40℃ ~ 85℃
- Size : 22mm x 24mm x 13mm

WIZ550SR Pin Out





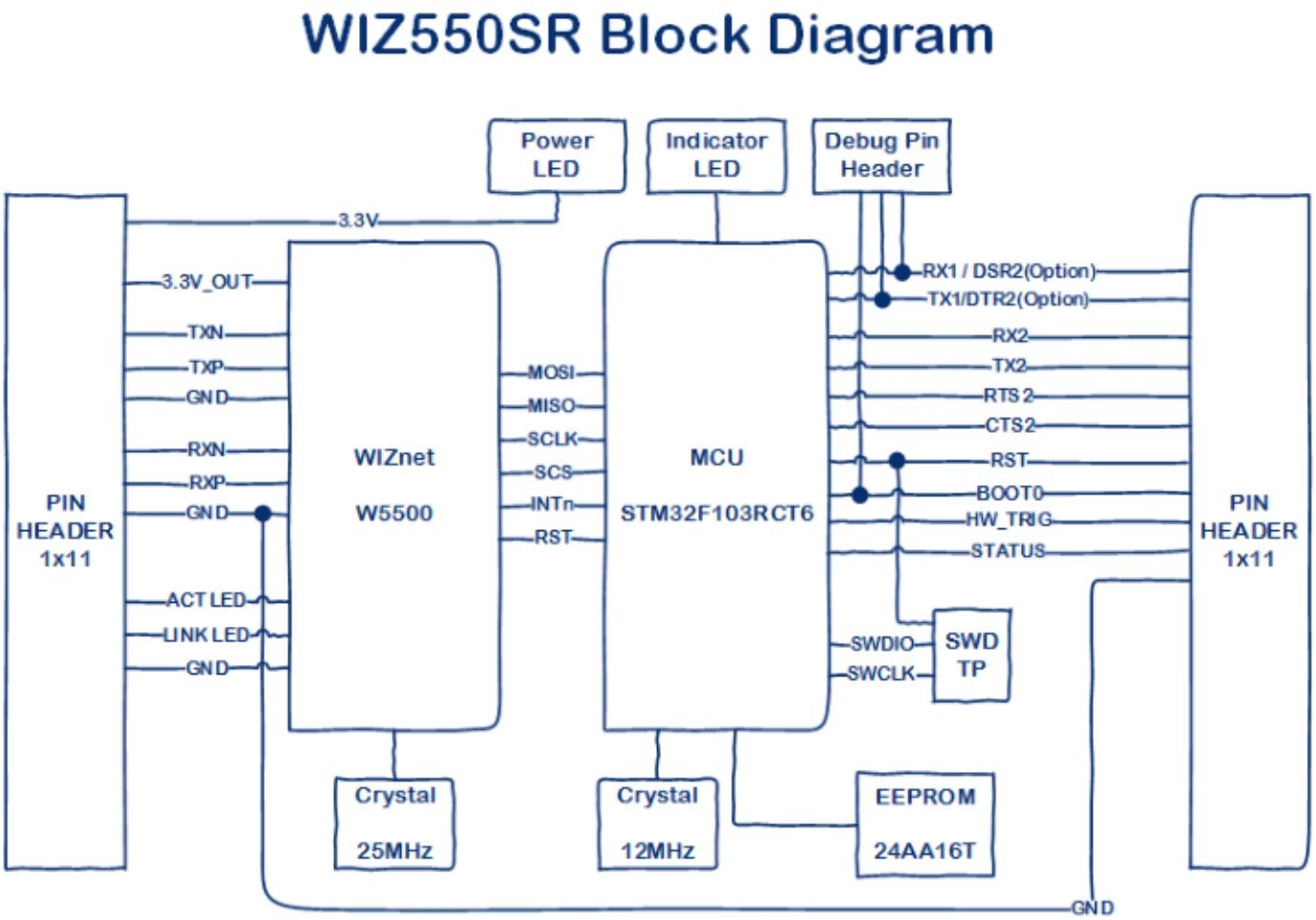
WIZ550SR Pin Description

Ref No.	Pin No.	Symbol	Type	Description
J1	1	3.3V	P	**+3.3V Input Power**
	2	3.3V_OUT	P	**+3.3V Output Power.** This pin is connected to the TX resistor of MDI signal and Center TAP of RJ45.
	3	TXN	O	**MDI Signal.** TX Positive.
	4	TXP	O	**MDI Signal.** TX Negative.
	5	GND	P	**Ground.**
	6	RXN	I	**MDI Signal.** RX Negative.
	7	RXP	I	**MDI Signal.** RX Positive.
	8	GND	P	**Ground.**
	9	ACT LED	O	**PHY Active LED**

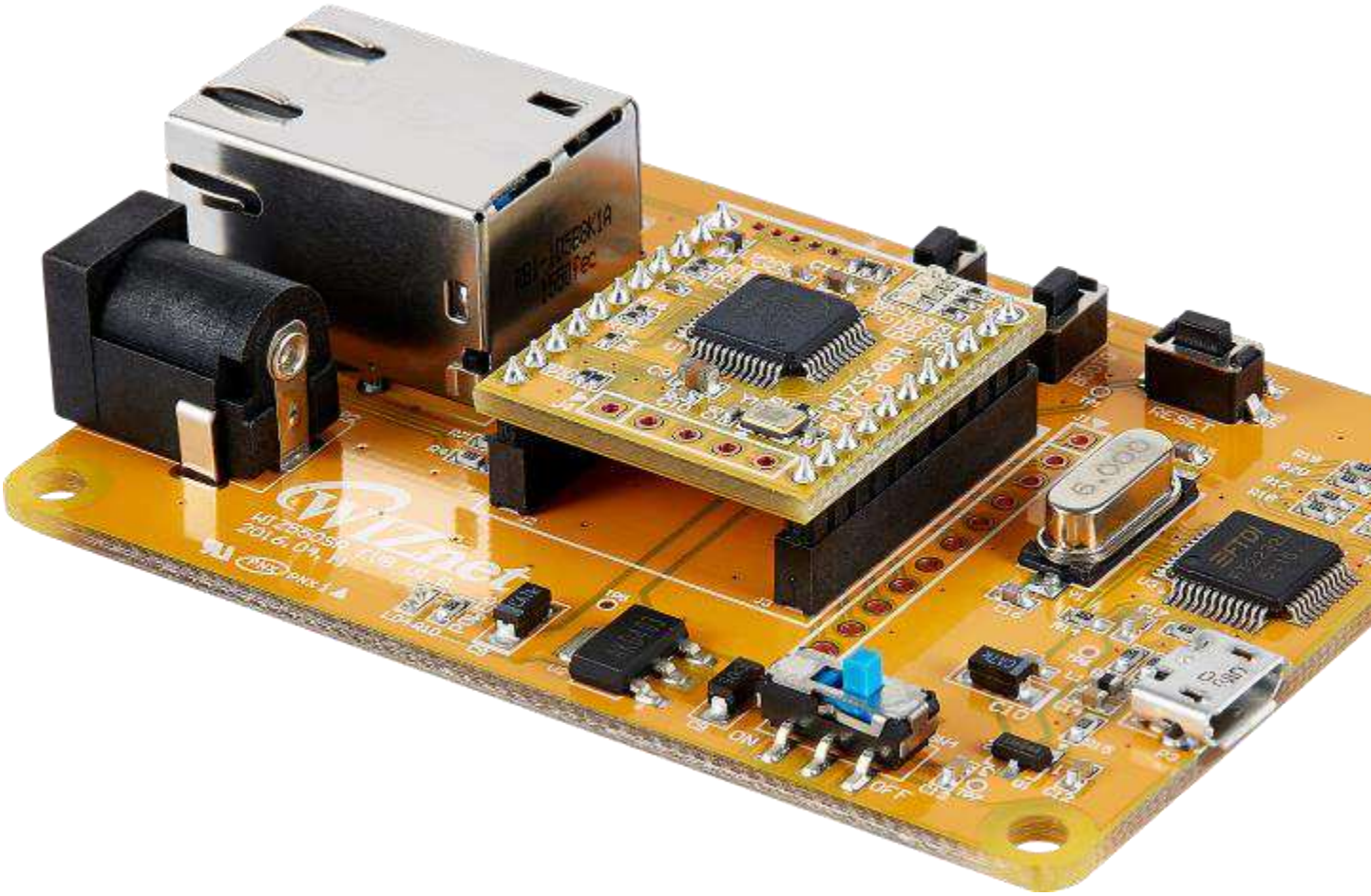
Ref No.	Pin No.	Symbol	Type	Description
	10	LINK LED	O	PHY Link LED
	11	GND	P	Ground.

Ref No.	Pin No.	Symbol	Type	Description
J2	1	RXD	I	**Data UART.** Recieve Pin.
	2	TXD	O	**Data UART.** Transmit Pin.
	3	RTS	O	**Data UART.** Request to Send Pin.
	4	CTS	I	**Data UART.** Clear to Send Pin.
	5	DEBUG_RX	I	**Debug UART.** Recieve Pin.
	6	DEBUG_TX	O	**Debug UART.** Transmit Pin.
	7	GND	P	**Ground.**
	8	BOOT0	I	**MCU Boot.** Active High
	9	nRST	I	**Reset.** Active Low
	10	STATUS	O	**Status Output.** High : Disconnect. Low : Connect.
	11	nH/W TRIG	I	**App Boot.** Hardware TRIG Input. Active Low

WIZ550SR Block Diagram

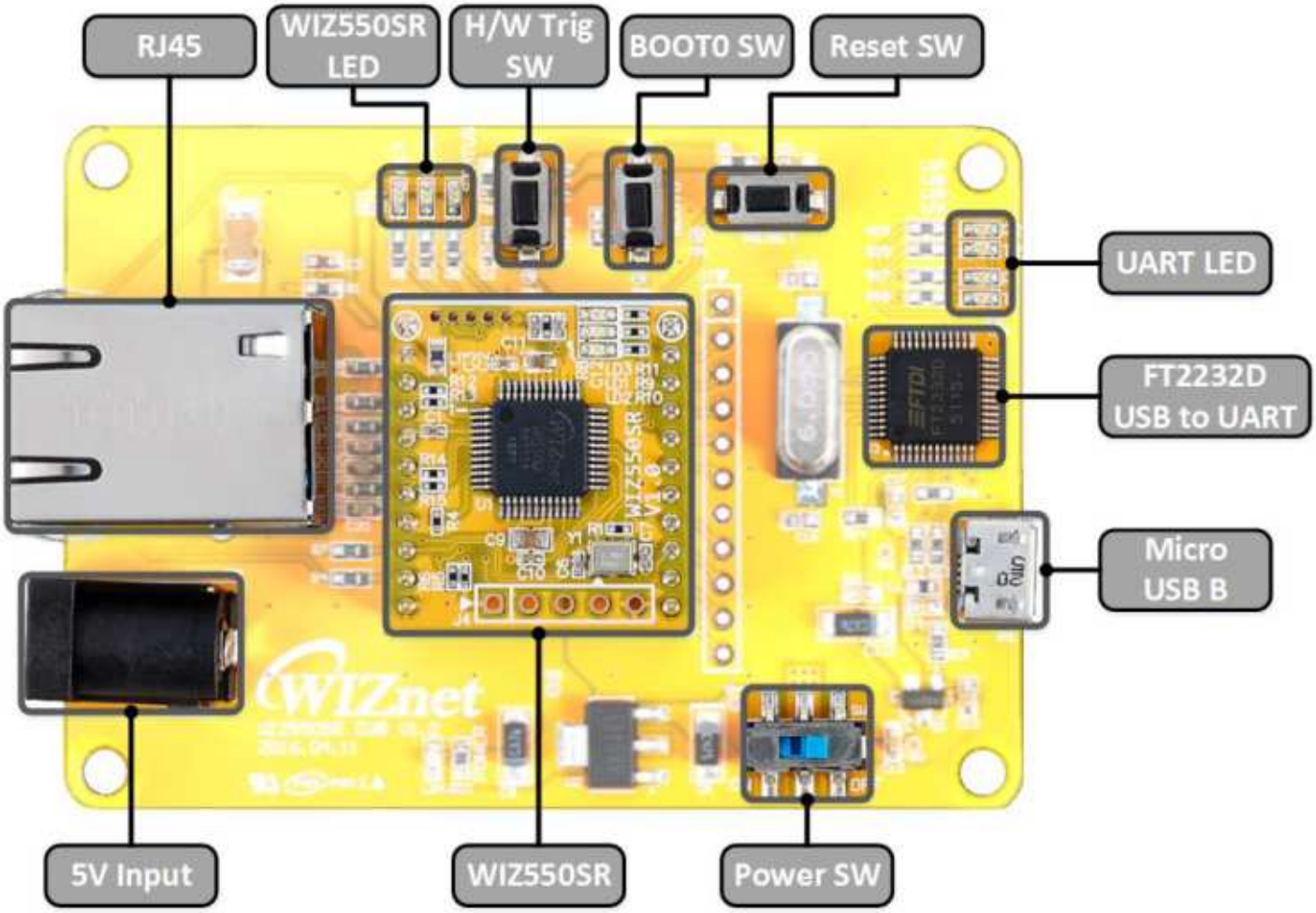


WIZ550SR EVB

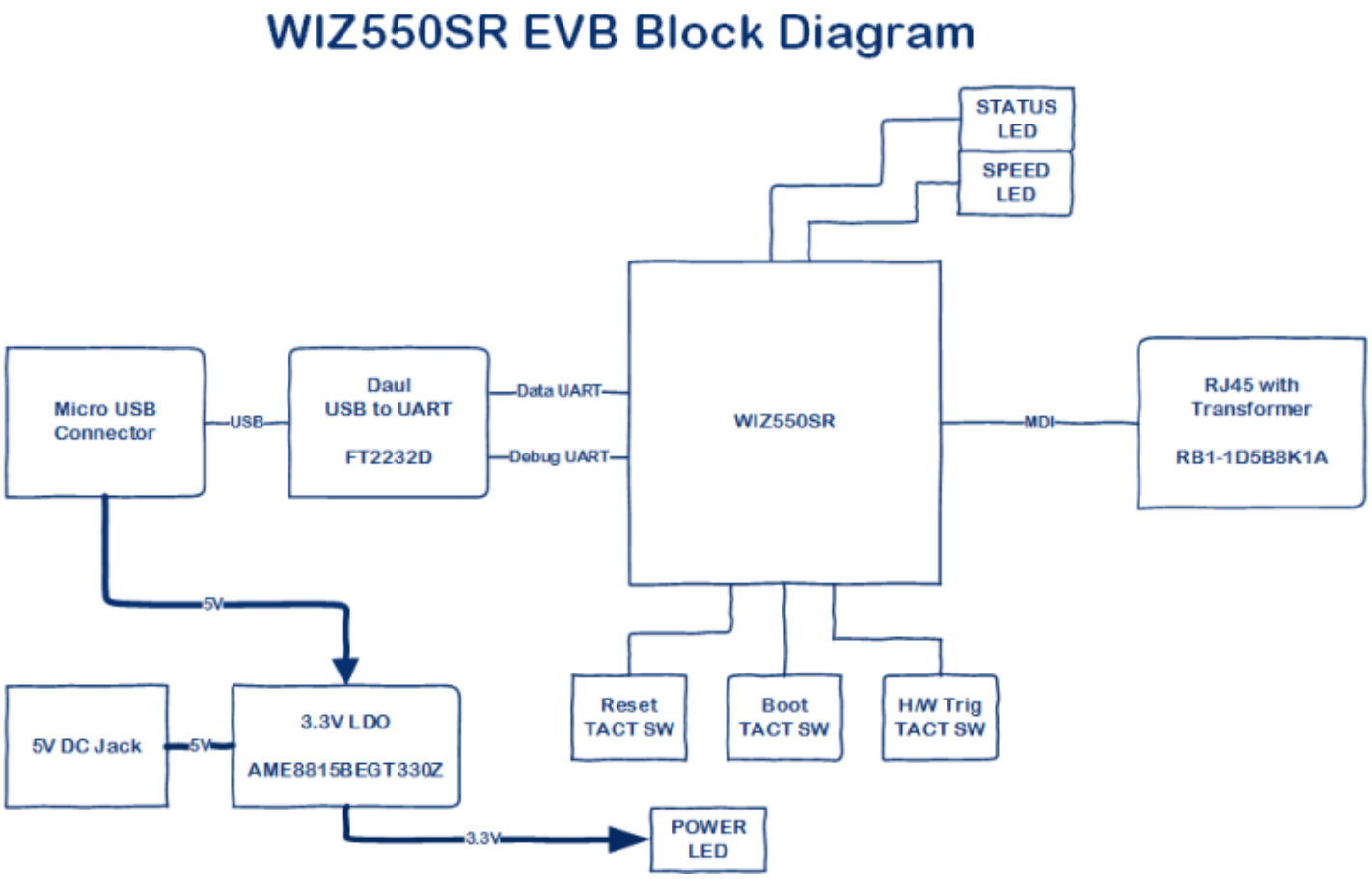


- WIZ550SR Developer Board.
- USB to UART chip, FT2232D.
- RJ45 with Transformer, RB1-1D5B8K1A.
- RESET Tact SW.
- BOOT0 Tact SW.
- H/W Trig Tact SW.
- LED Indicators.
- Micro USB.

WIZ550SR EVB Call Out



WIZ550SR EVB Block Diagram



Electrical Characteristics

Operating conditions at power-up / power-down

Symbol	Parameter	Conditions	Min	Max	Unit
T*VDD*	**V*DD* rise time rate**	-	0	-	us/V
	V*DD* fall time rate		20	-	

DC Characteristics

Symbol	Parameter	Pins	Min	Typ	Max	Unit
V*DD*	**Supply voltage**	3.3V	2.97	3.3	3.6	V

Symbol	Parameter	Pins	Min	Typ	Max	Unit
VIL	**High level input voltage**	ALL	1.833		3.6	V
VIH	**Low level input voltage**	ALL	-0.3		1.166	V
VOL	**Low level output voltage**	ALL			0.4	V
VOH	**High level output voltage**	ALL	3.0			V
LOL	**Low level input Current** Sink Current	ALL			-25	mA
LOH	**High level output Current** Source Current	ALL			25	mA
IDD	**Supply Current (Normal operation mode)**	3.3V		TBD		mA

nRST pin Characterisrics

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
VIL(nRST)	**NRST Input low level voltage**	-	-0.5	-	0.8	V
VIH(nRST)	**NRST Input high level voltage**	-	-2	-	3.8V	V
Vhys(nRST)	**NRST Schmitt trigger voltage hysteresis**	-	-	200	-	mV
RPU	**Weak pull-up equivalent resistor**	-	30	40	50	kΩ
VF(nRST)	**NRST Input filtered pulse**	-	-	-	100	ns
VNF(nRST)	**NRST Input not filtered pulse**	-	300	-	-	ns

Power Dissipation

Condition	Min	Typ	Max	Unit
100M Link	-	180	-	mA
10M Link	-	TBD	-	mA
Un-Link (Auto-negotiation mode)	-	TBD	-	mA

Condition	Min	Typ	Max	Unit
100M Transmitting	-	TBD	-	mA
10M Transmitting	-	TBD	-	mA
Power Down mode	-	TBD	-	mA

- WIZ550SR Ref Schematic : Download

WIZ550SR Schematic

- WIZ550SR V1.0 Schematic : Download(Altium)
- WIZ550SR V1.0 Schematic : Download(PDF)

WIZ550SR BOM

- WIZ550SR V1.0 BOM: Download

WIZ550SR EVB Schematic

- WIZ550SR EVB V1.0 Schematic : Download(Altium)
- WIZ550SR EVB V1.0 Schematic : Download(PDF)

WIZ550SR EVB BOM

- WIZ550SR EVB V1.0 BOM : Download

Dimension

- WIZ550SR V1.0 3D PDF : Download