

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.

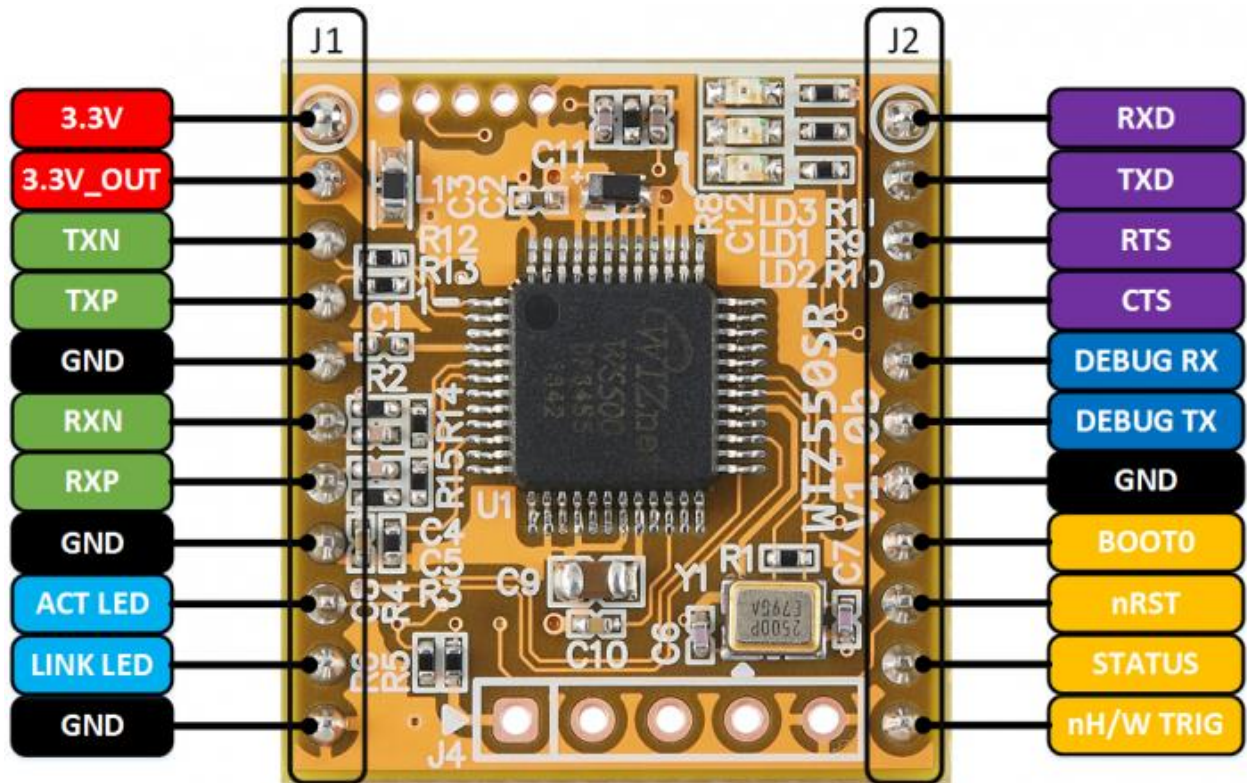
Hardware Specification

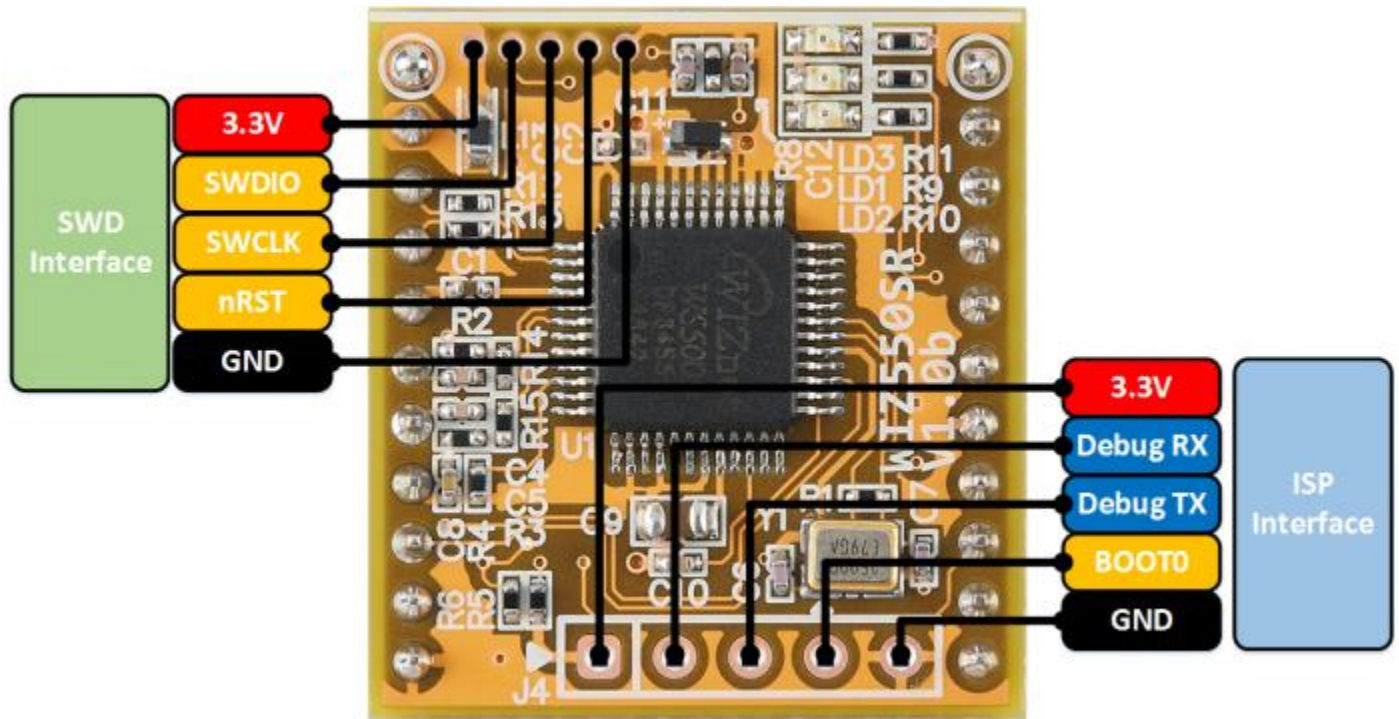
WIZ550SR

- 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(Optional), DTR(Optional)
 - Support the RS-232C Interface.
 - Will be supported 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 Disconnect.
- 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°C ~ 85°C
- Size : 22mm x 24mm x 13mm

WIZ550SR Pin Out





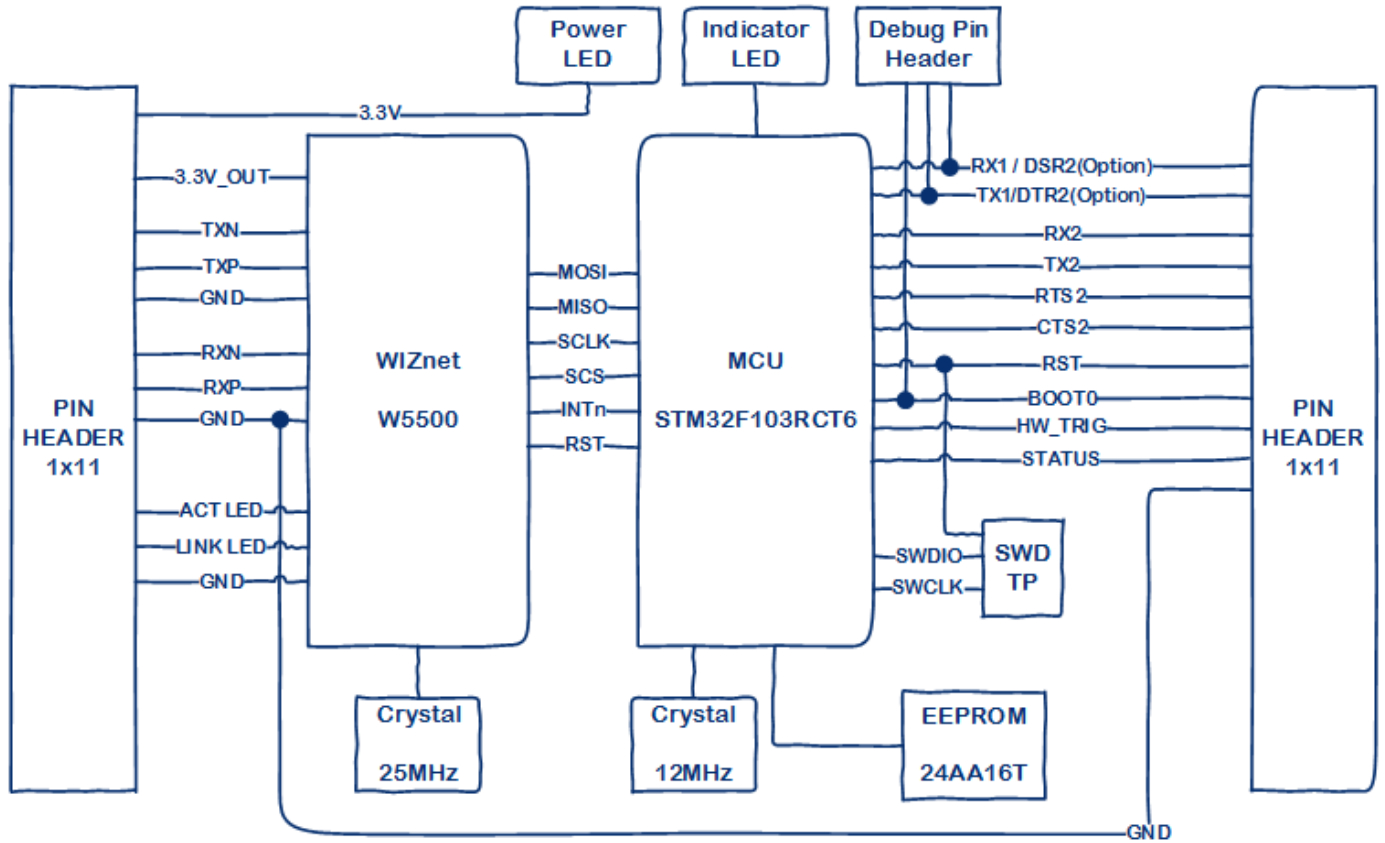
WIZ550SR Pin Description

Ref No.	Pin No.	Symbol	Type	Description
	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.
J1	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

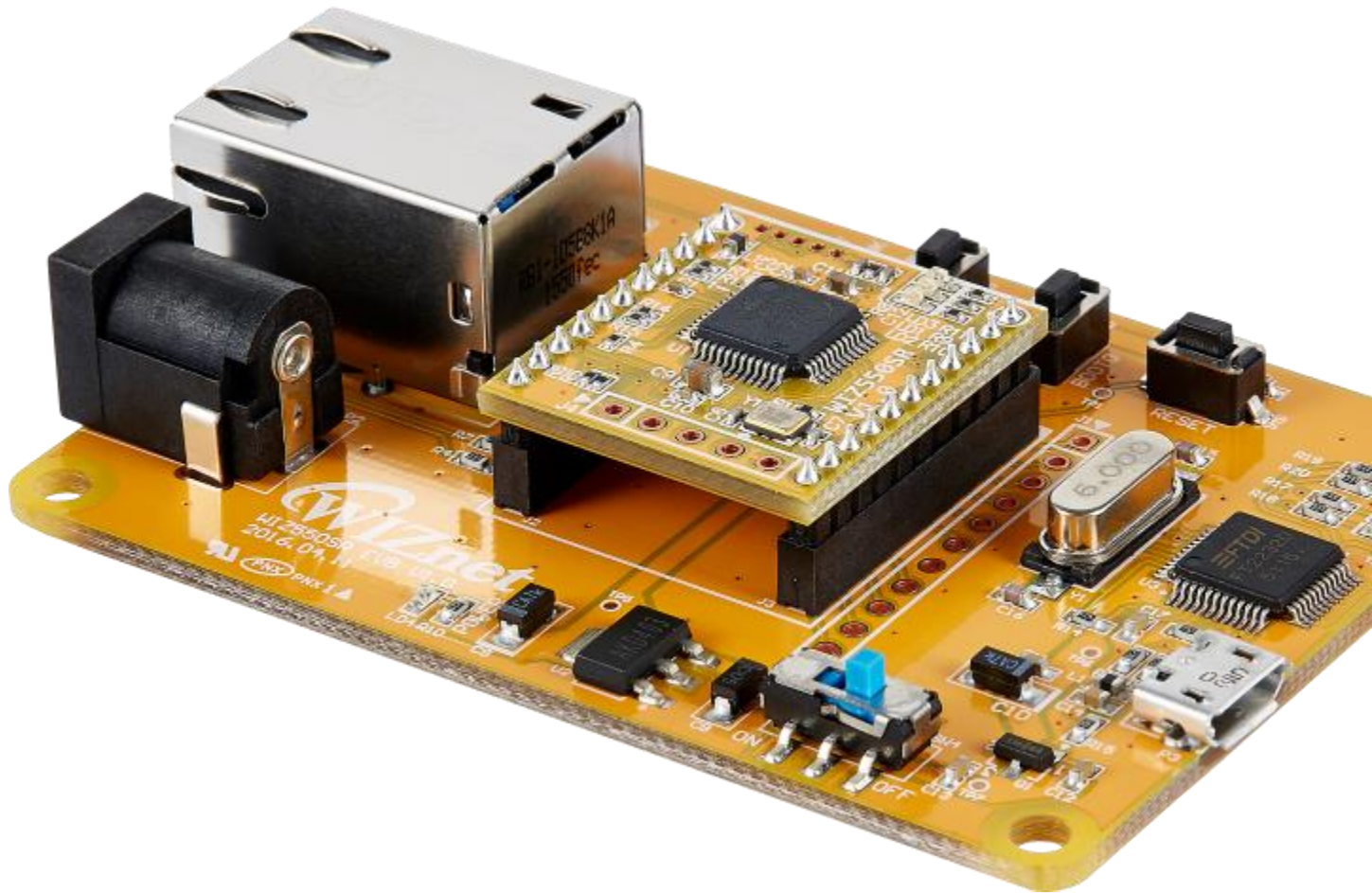
Ref No.	Pin No.	Symbol	Type	Description
	10	LINK LED	O	PHY Link LED
	11	GND	P	Ground.

Ref No.	Pin No.	Symbol	Type	Description
	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.
J2	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

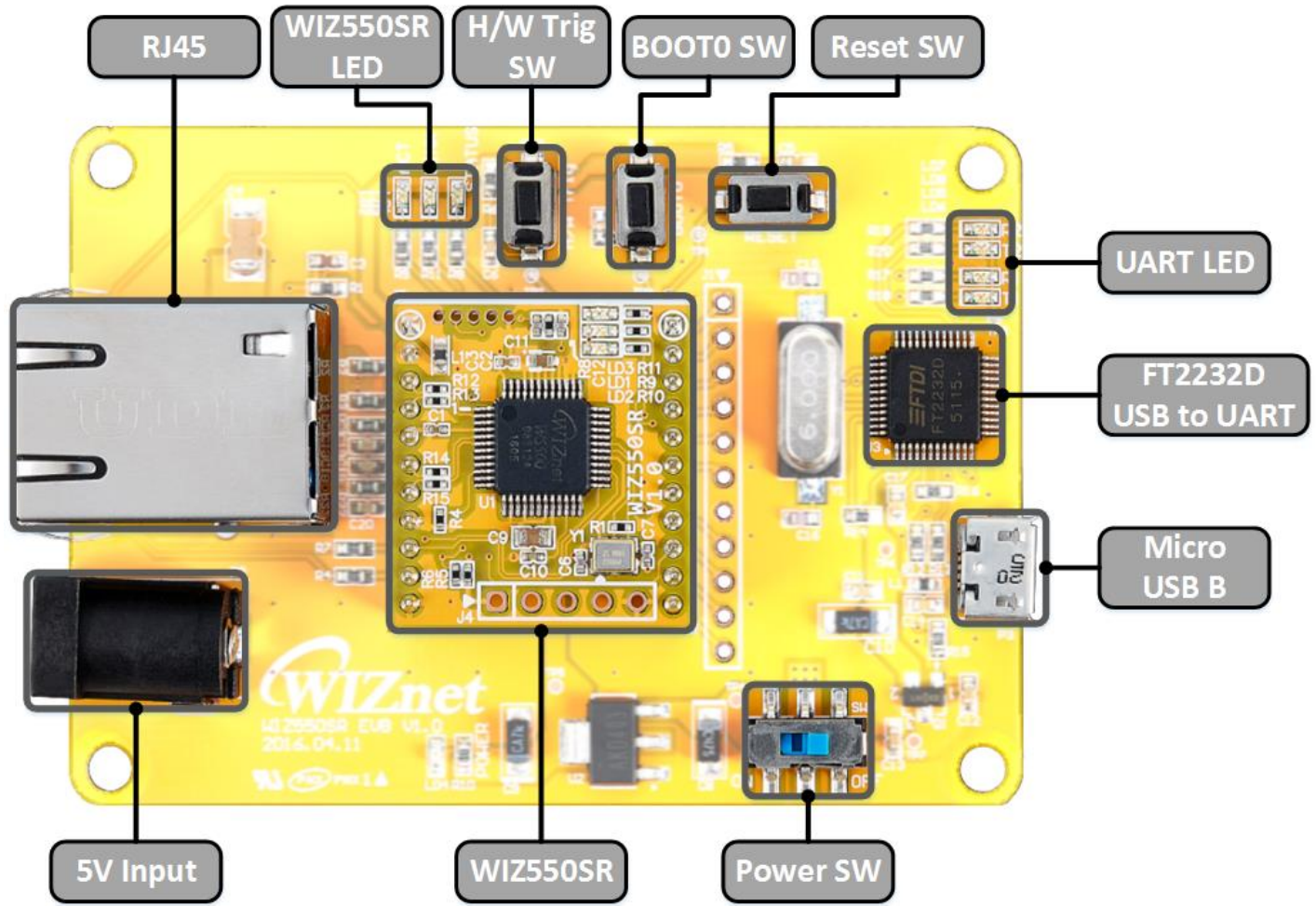


WIZ550SR EVB

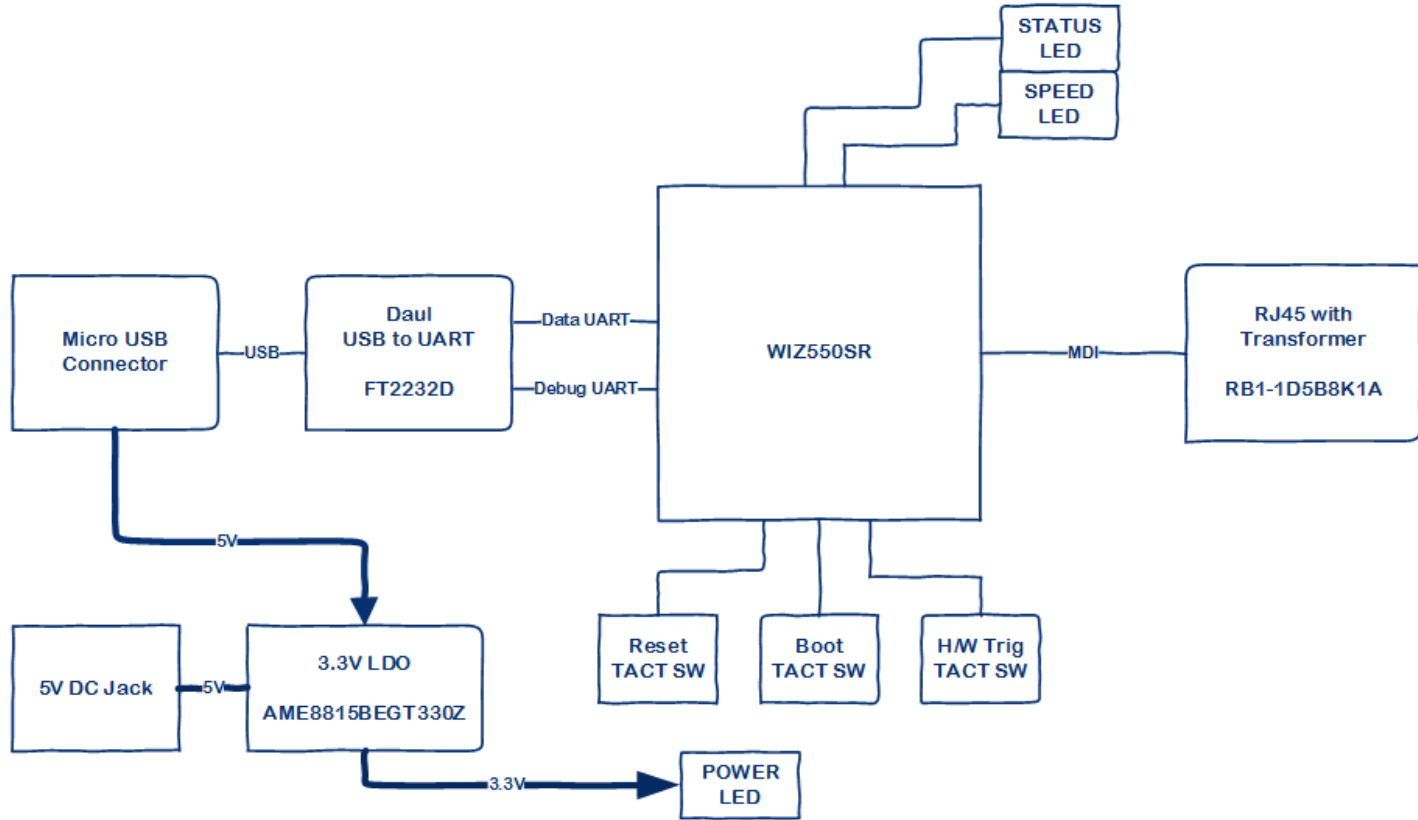


- WIZ550SR Developer Board.
- USB to UART chip, FT2232D.
- RJ45 with Transformer, RB1-1D5B8K1A.
- RESET Tact SW.
- BOOT0 Tact SW.
- H/W Trig Tact SW.
- LED Indicators.
- Micro USB.

WIZ550SR EVB Call Out



WIZ550SR EVB Block Diagram



Electrical Characteristics

Operating conditions at power-up / power-down

Symbol Parameter Conditions Min Max Unit

TVDD	VDD rise time rate		0	-	us/V
	VDD fall time rate		20	-	

DC Characteristics

Symbol Parameter Pins Min Typ Max Unit

VDD	Supply voltage	3.3V	2.97	3.3	3.6	V
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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 Characteristics

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](#)
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Dimension

- WIZ550SR V1.0 3D PDF : [Download](#)