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WIZ750SR Datasheet

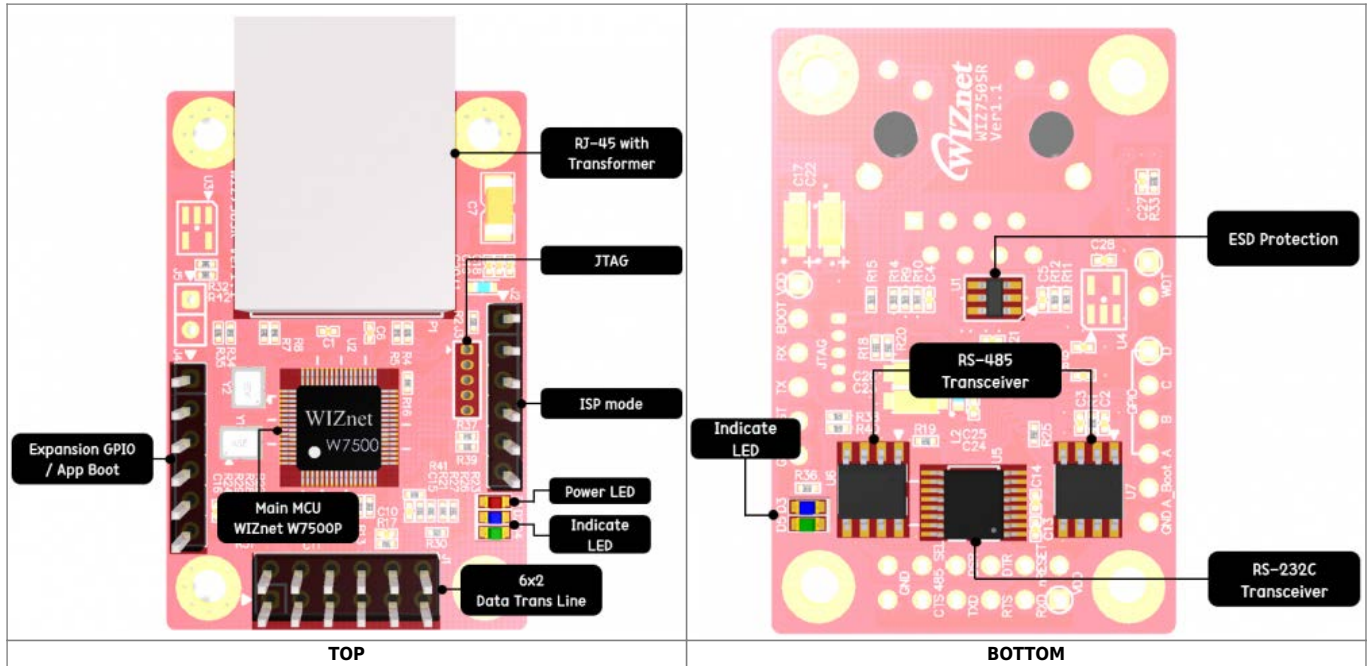
Hardware Specification

Product Spec Table

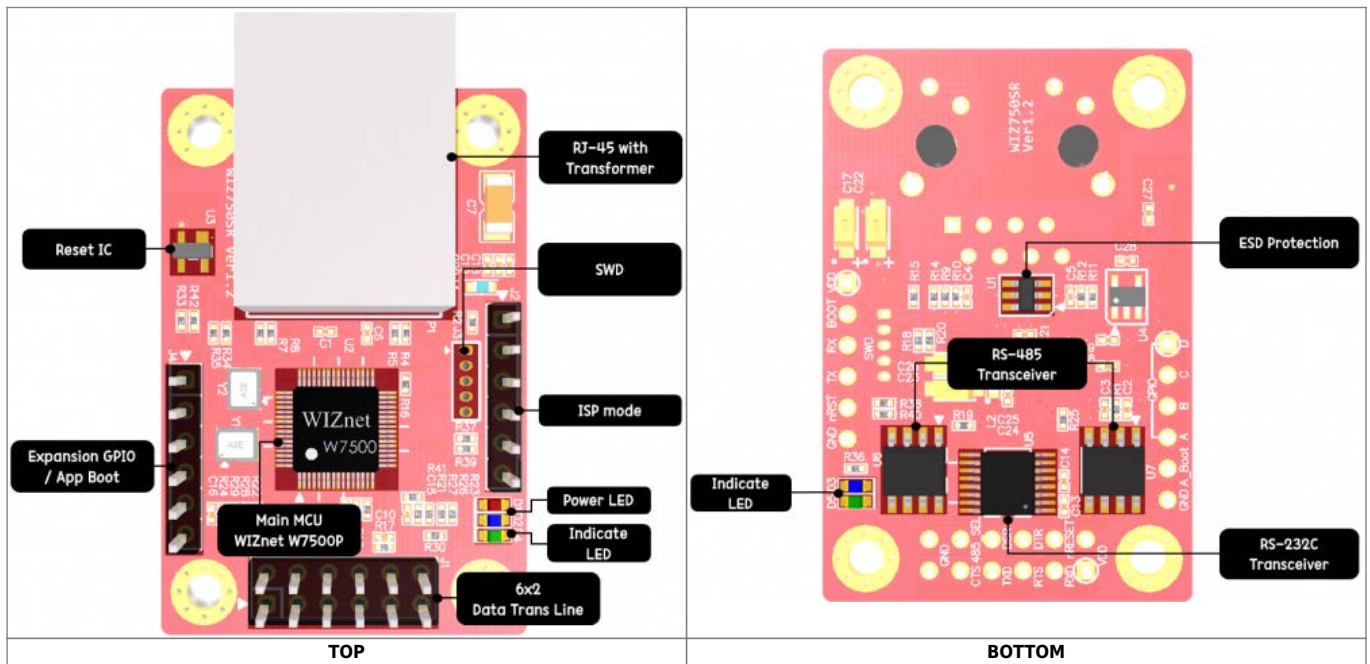
Category		Description
MCU	ARM Cortex-M0 Core	W7500P PHY Included 48Mhz maximum frequency Internal 8Mhz RC Oscillator Flash: 128KB Large flexible-size SRAM buffer for various User Application - Min 16KB available if full 32KB socket buffer used - Max 48KB available if no socket buffer used ROM for boot code: 6 KB
	Hardwired TCP/IP Core	8 independent Sockets SRAM for socket: 32KB MII (Medium-Independent Interface) TCP/IP Protocols: TCP, UDP, ICMP, IPv4, ARP, IGMP, PPPoE
	PHY	IC+(IP101G) PHY Auto negotiation (Full-duplex and Half-duplex) Auto MDI/MDIX
Serial	Interface	WIZ750SR-TTL: TTL Version WIZ750SR-232: 232 Version WIZ750SR-422/485: 422/485 Version
	Signal	TXD, RXD, RTS, CTS, GND
	Parameters	Parity: None, Odd, Even Data bits: 7, 8 bit Flow control: None, RTS / CTS, XON / XOFF
	Speed	Up to 460Kbps
Dimension	45mm x 30mm (PCB board size) 48mm x 30mm x 18mm (Include part size)	
Connector type	2.54mm Pitch 6x2 Pin-header(Data Line) 2.54mm Pitch 1x6 Pin-header(ISP) 2.54mm Pitch 1x6 Pin-header(Expansion GPIO & app_boot) 1.27mm Pitch 1x5 Pin-header (JTAG)	
Input Voltage	DC 3.3V	
Temperature	0°C ~ 70°C (Operation), -40°C ~ 85°C (Storage range)	

Callout

Rev1.0/Rev1.1

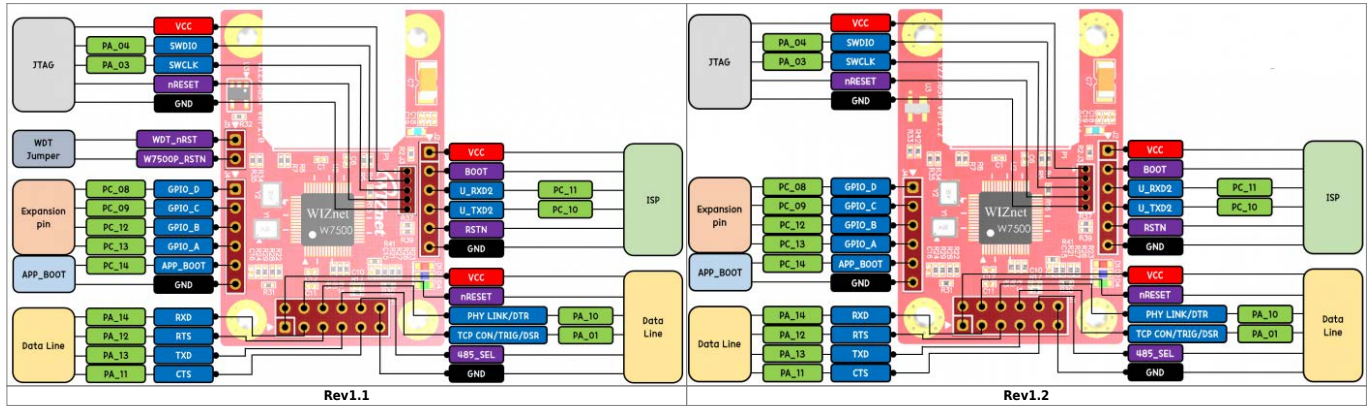


Rev1.2



- WIZ750SR Rev1.2 has erased Watchdog IC and J5 connector and added POR(MIC811SUY) IC for stable operation.

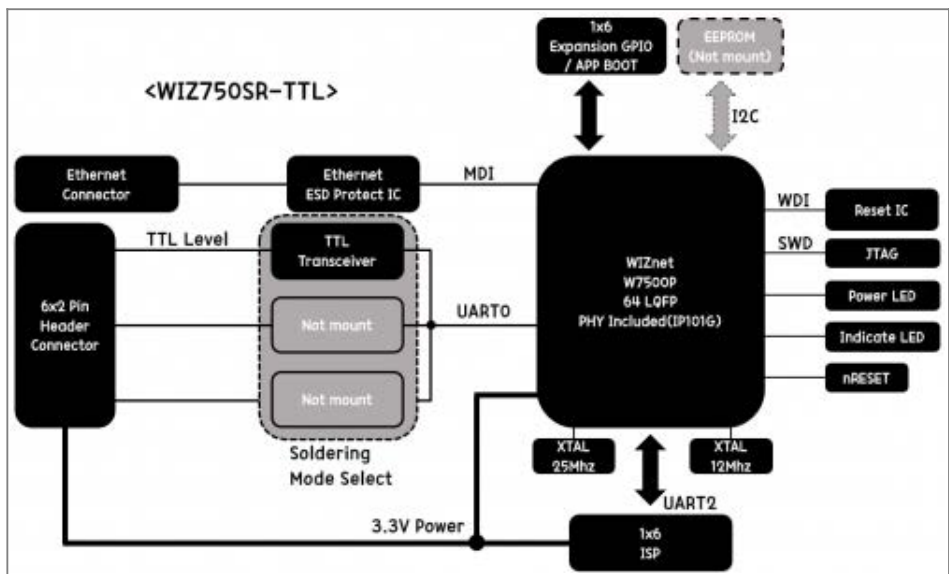
WIZ750SR Pinout

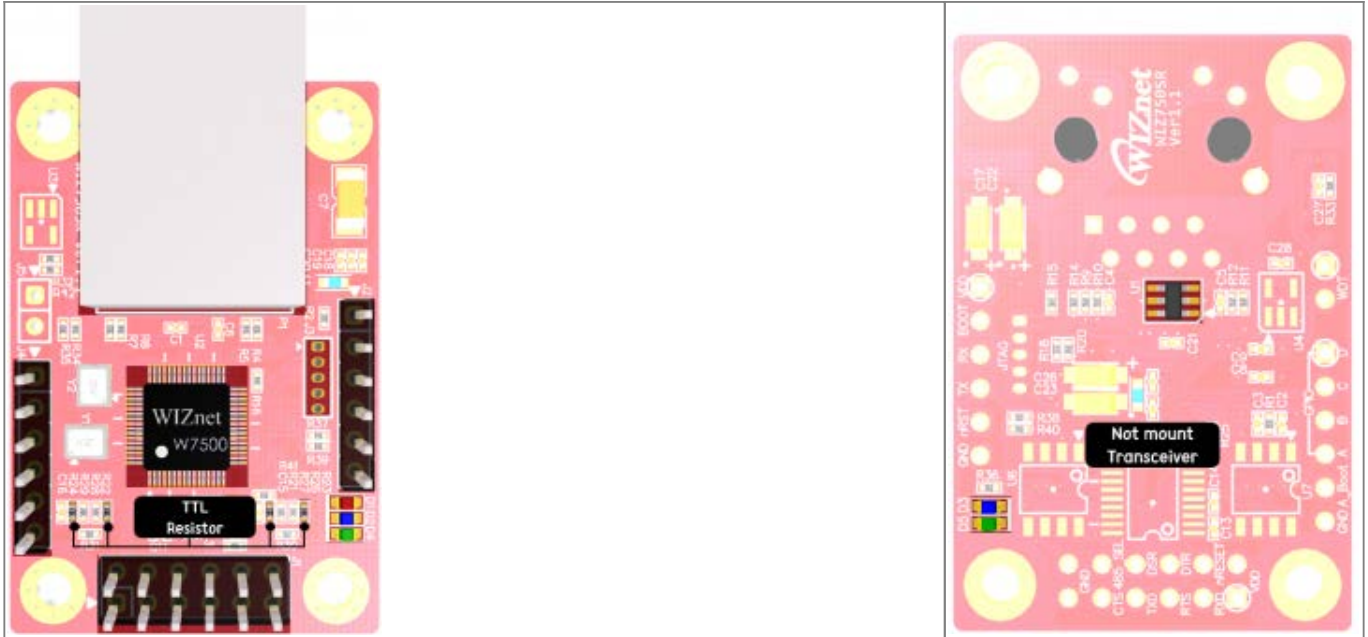


Product Comparison Table

Specification	WIZ750SR-TTL	WIZ750SR-232	WIZ750SR-485 (RS-422)	WIZ750SR-485 (RS-485)
Operation mode	Single-Ended	Single-Ended	Differential	
Communication Method	Full Duplex	Full Duplex	Full Duplex	Half Duplex
Transceiver	N/A (Resistor)	RS-232C	RS-422/485	RS-422/485

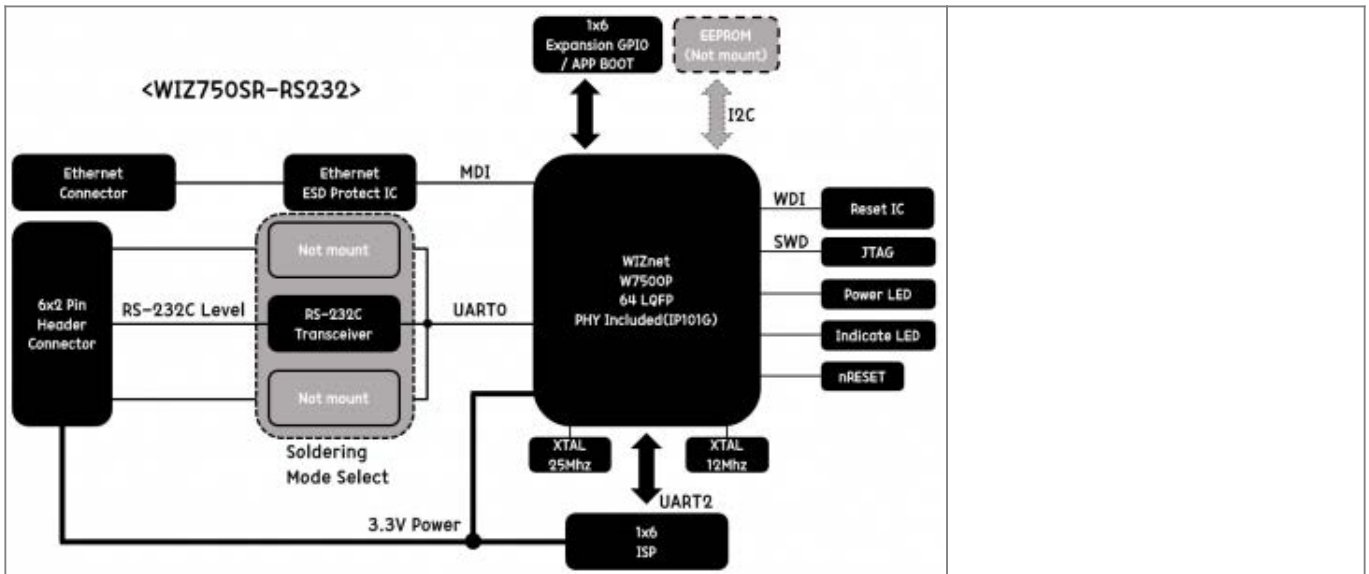
WIZ750SR-TTL

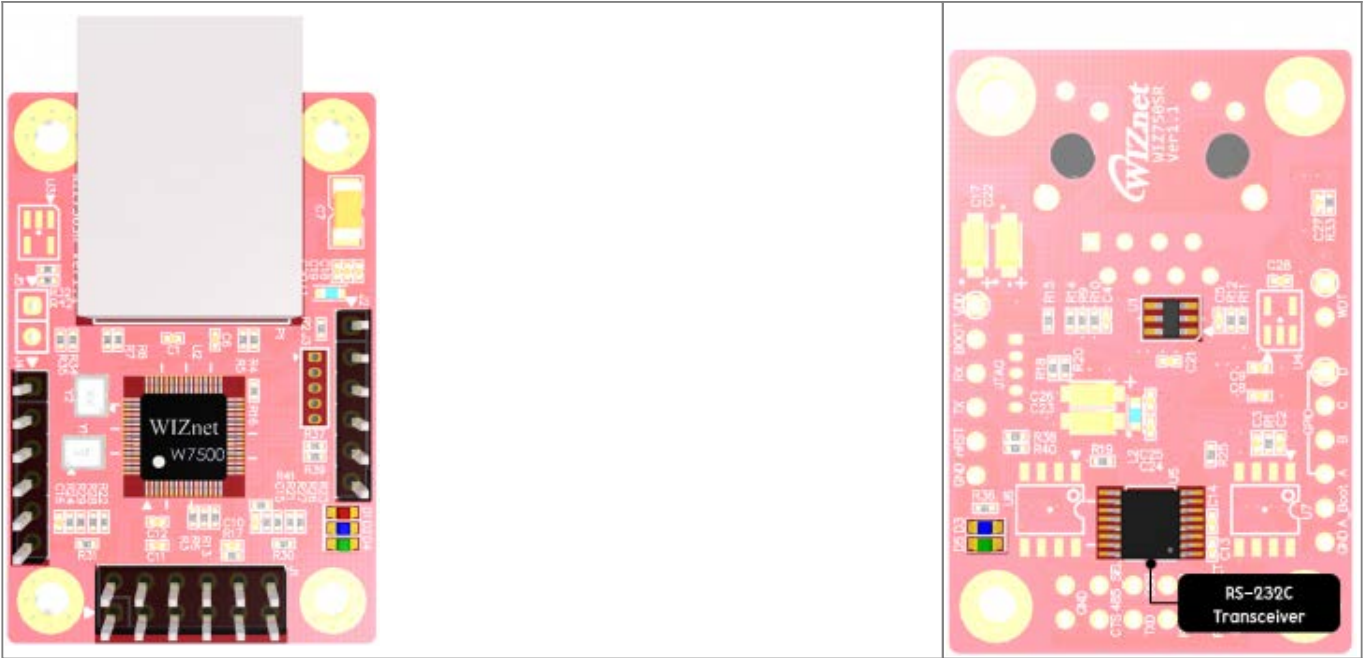




- Feature
 - This Product operates with WIZ750SR-TTL/232 EVB Board.
 - Caution) This product doesn't have any RS-232C & RS-422/485 Transceivers on it.

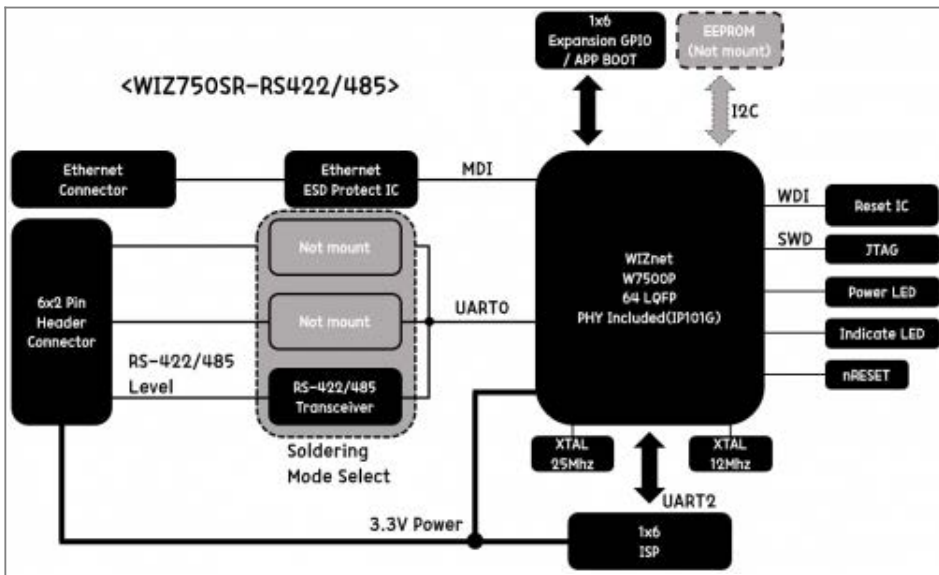
WIZ750SR-232

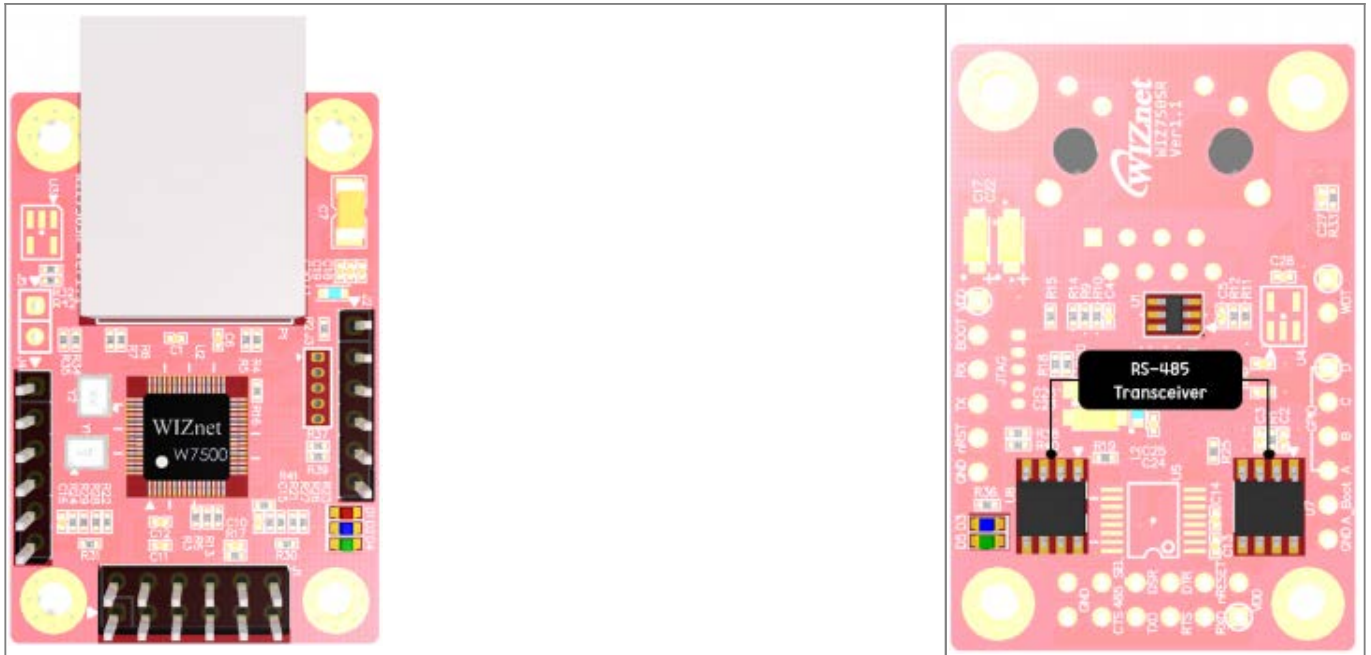




- Feature
 - This Product operates with WIZ750SR-TTL/232 EVB Board.

WIZ750SR-485



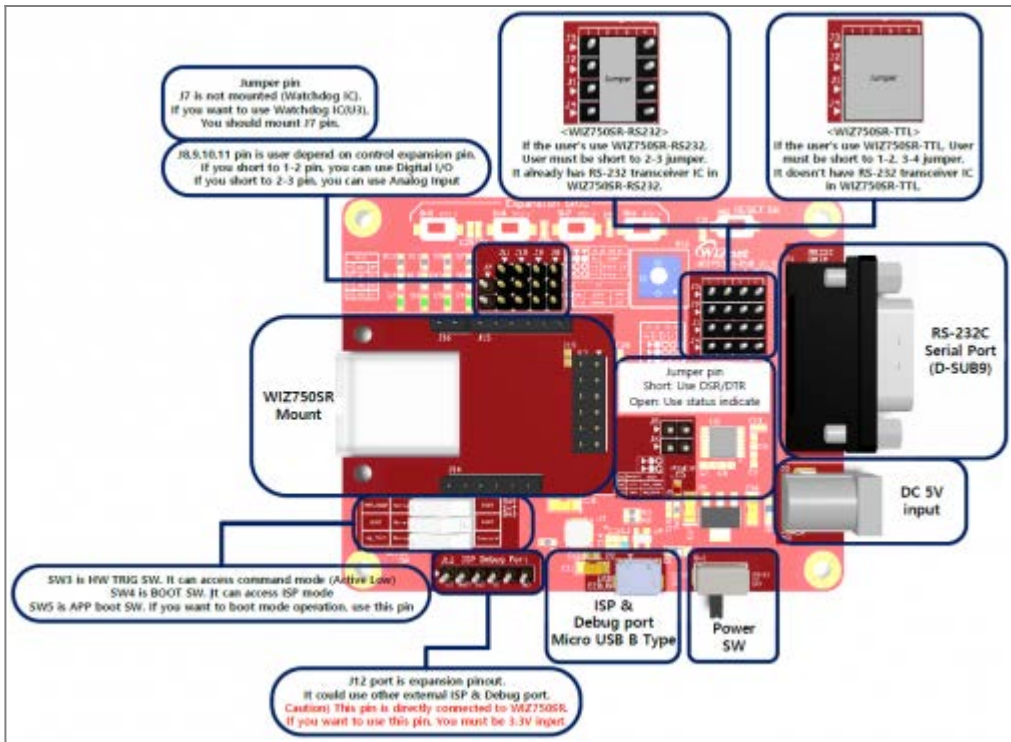


- Feature
 - This Product operates with WIZ750SR-422/485 EVB Board.

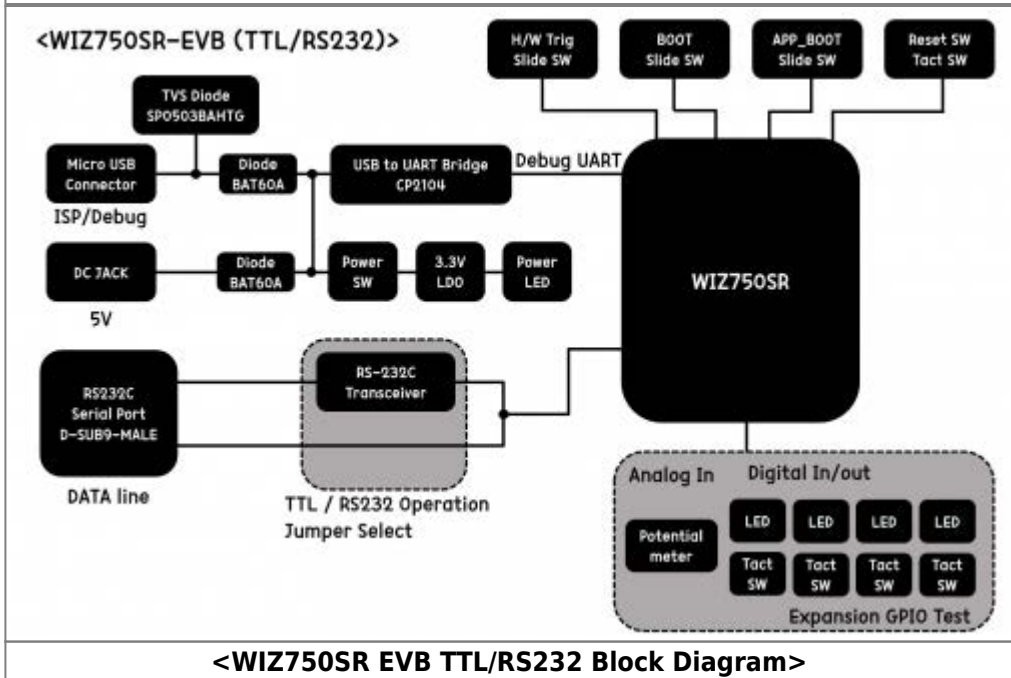
WIZ750SR-EVB

- WIZ750SR Developer Board.
- USB to UART chip, CP2104.
- RESET Tact SW.
- BOOT0 Slide SW.
- H/W Trig Slide SW.
- Expansion GPIO TEST (Digital / Analog)
- Micro USB.
- WIZ750SR-EVB (TTL/232)
 - RS-232C Connector, D-SUB9-MALE.
- WIZ750SR-EVB (422/485)
 - RS-422/485 Connector, ECH381R.

TTL / RS232 Version

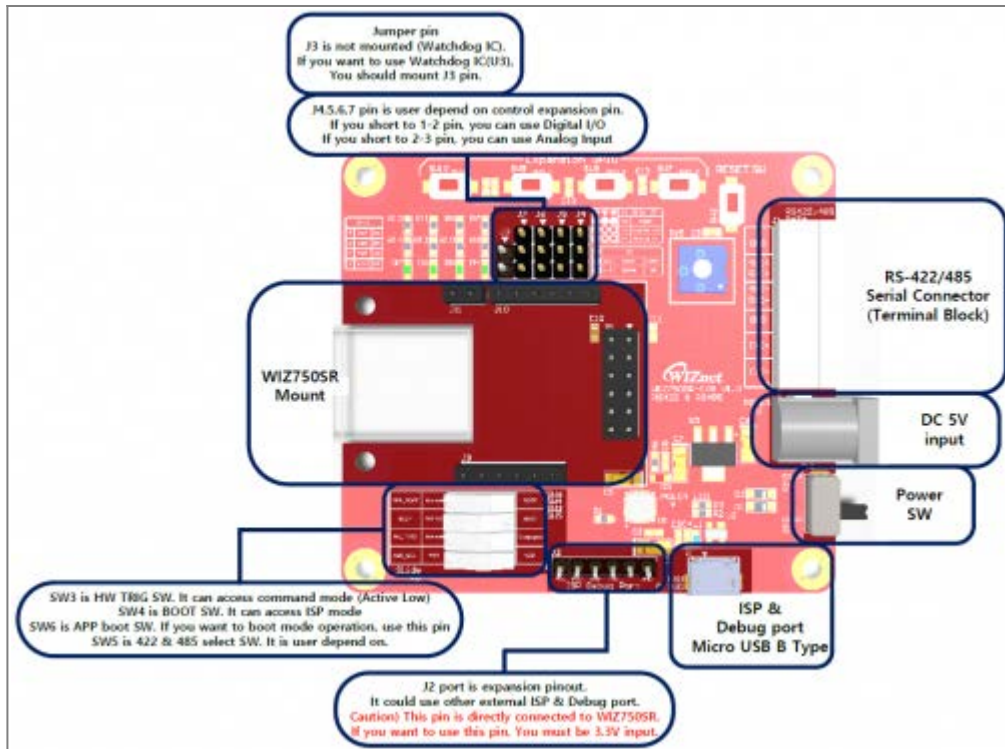


<WIZ750SR EVB TTL/RS232 Call Out>

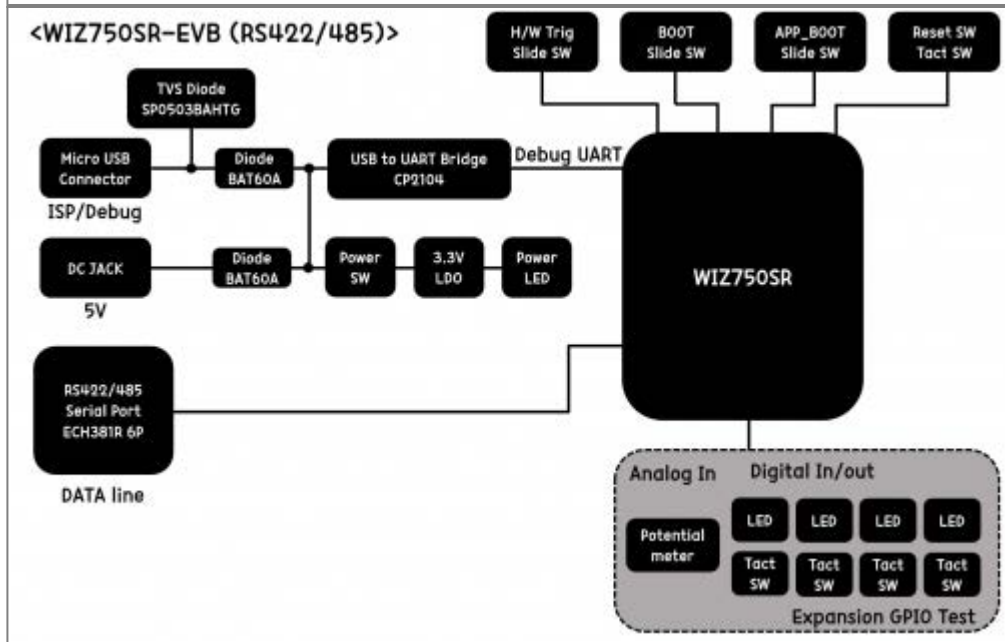


<WIZ750SR EVB TTL/RS232 Block Diagram>

RS422 / RS485 Version









<WIZ750SR EVB RS422/485 Call Out>







<WIZ750SR EVB RS422/485 Block Diagram>

Schematic

WIZ750SR













H/W version	Type	Filetype	Download Link	Remarks
1.0	TTL RS-232 RS-485	Altium	 Download	-
		PDF	 Download	-
Altium		 Download	-	
PDF		 Download		
1.2		Altium	 Download	Latest version H/W
		PDF	 Download	







WIZ750SR-EVB

H/W version	Type	Filetype	Download Link	Remarks
1.0	TTL RS-232	Altium	 Download	Latest version H/W
		PDF	 Download	
	RS-422 RS-485	Altium	 Download	
		PDF	 Download	













Part list

WIZ750SR

H/W version	Type	Filetype	Download Link	Remarks
1.0	TTL	Excel	 Download	-
		PDF	 Download	
	RS-232	Excel	 Download	
		PDF	 Download	
	RS-485	Excel	 Download	
		PDF	 Download	
1.1	TTL	Excel	 Download	-
		PDF	 Download	
	RS-232	Excel	 Download	
		PDF	 Download	
	RS-485	Excel	 Download	
		PDF	 Download	

H/W version	Type	Filetype	Download Link	Remarks
1.2	TTL	Excel	 Download	Latest version H/W
		PDF	 Download	
	RS-232	Excel	 Download	
		PDF	 Download	
	RS-485	Excel	 Download	
		PDF	 Download	

WIZ750SR-EVB

H/W version	Type	Filetype	Download Link	Remarks
1.0	TTL	Excel	 Download	BOM version 1.0
		PDF	 Download	
	RS-232	Excel	 Download	
		PDF	 Download	
	RS-485	Excel	 Download	
		PDF	 Download	
1.0	TTL	Excel	 Download	BOM version 1.1 Latest version H/W
		PDF	 Download	
	RS-232	Excel	 Download	
		PDF	 Download	
	RS-485	Excel	 Download	
		PDF	 Download	

Electrical Characteristics

Operating Conditions

Symbol	Parameter	Pins	Min	Typ	Max	Unit
Vcc	Operating Voltage	3.3V	3.135	3.3	3.465	V
Vss	Ground	ALL		0	50	mV
fCLK	Internal CPU clock frequency	ALL	0	-	48	MHz
Tstg	Storage Temperature (max)	ALL	-40		85	°C
TA	Ambient operating temperature	ALL	-40	85		°C
VIO	I/O Signal voltage (Tolerance)	ALL	Vss-0.3	3.3	5	V
VIH	Input high voltage	ALL	2.5			V
VIL	Input low voltage	ALL			0.6	V

Symbol	Parameter	Pins	Min	Typ	Max	Unit
VOH	Output high voltage (High driving strength Current load = 6mA) (Low driving strength Current load = 3mA)	ALL	2.83			V
VOL	Output high voltage (High driving strength Current load = 6mA) (Low driving strength Current load = 3mA)	ALL			0.32	V

Flash Memory

Symbol	Parameter	Min	Unit
NEND	Sector Endurance	10,000	Cycles
TDR	Data Retention	10	Years

EEPROM

Symbol	Parameter	Min	Unit
NEND	Sector Endurance	1M	Cycles
TDR	Data Retention	200	Years

Ethernet Power Dissipation

WIZ750SR-TTL

Condition	Min	Typ	Max	Tol	Unit
100M Link	-	67	-	±3	mA
10M Link	-	52	-		mA
Unlink (Auto-negotiation mode)	45	50	57	±3	mA
100M Transmitting	-	74	-	±3	mA
10M Transmitting	-	62	-		mA

WIZ750SR-RS232

Condition	Min	Typ	Max	Tol	Unit
100M Link	-	72	-	±3	mA
10M Link	-	57	-		mA
Unlink (Auto-negotiation mode)	46	54	61	±3	mA
100M Transmitting	-	79	-	±3	mA
10M Transmitting	-	61	-		mA

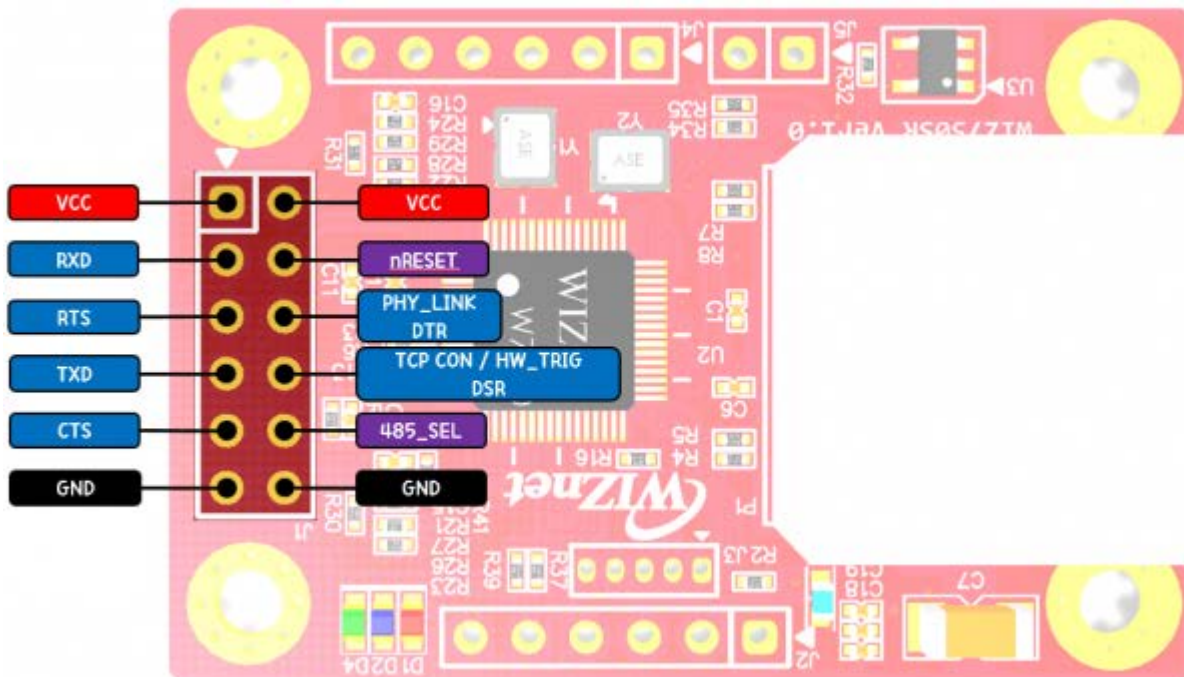
WIZ750SR-RS422/485

Condition	Min	Typ	Max	Tol	Unit
100M Link	-	95	-	±3	mA
10M Link	-	80	-		mA
Unlink (Auto-negotiation mode)	74	79	85	±3	mA
100M Transmitting	-	102	-	±3	mA
10M Transmitting	-	83	-		mA

WIZ750SR Connector Specification

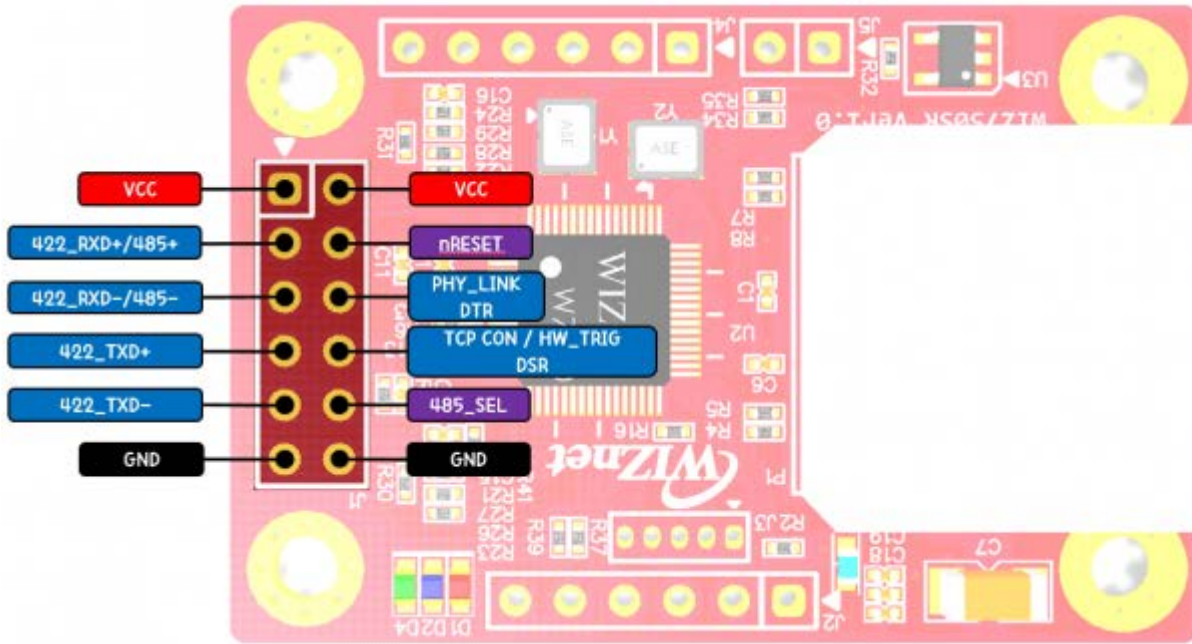
6x2 Data Pin Connector

TTL/RS-232



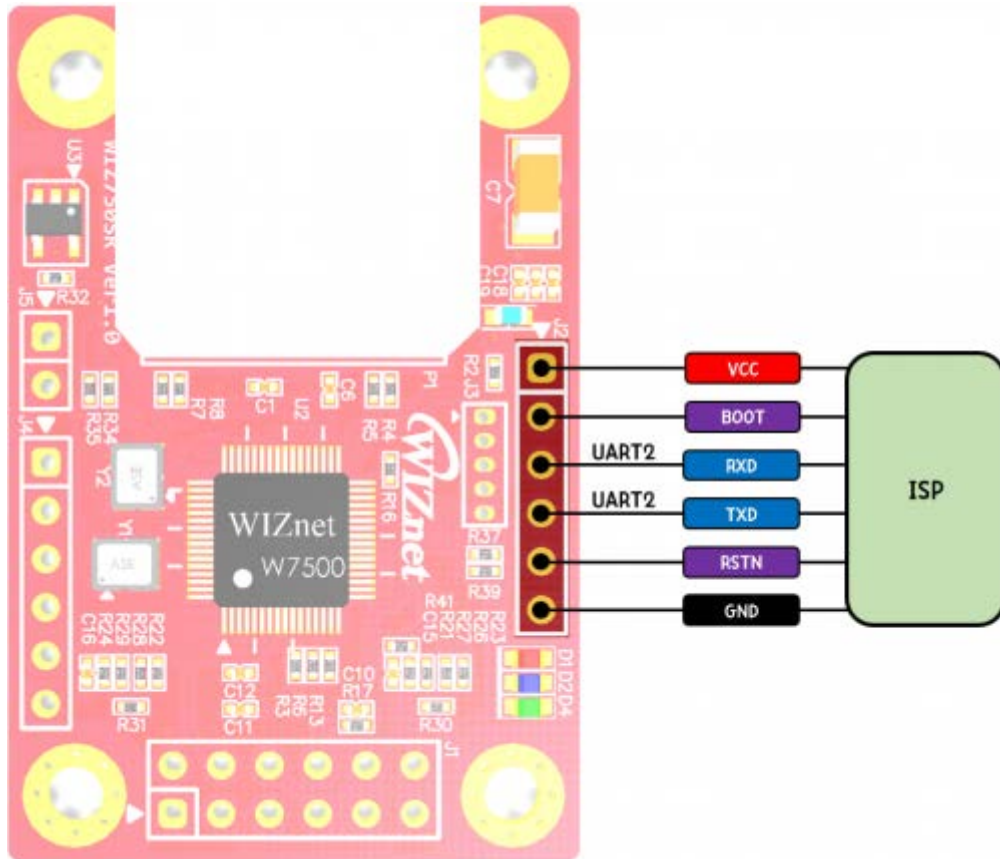
Pin Number	Signal	Description
1	VCC	System Power input (3.3V)
2	VCC	System Power input (3.3V)
3	U_RXD0	Receive Data (TTL : 3.3V)
4	nRESET	System Reset signal (Active Low)
5	U_RTS0	Request To Send (TTL : 3.3V)
6	U_DTR0 PHY LINK	Data Terminal Ready (TTL : 3.3V) PHY Link status check signal
7	U_TXD0	Transmit Data (TTL : 3.3V)
8	U_DSR0 TCP CON HW_TRIG	Data Set Ready (TTL : 3.3V) TCP Connection check signal Hardware Trigger signal (Active Low)
9	U_CTS0	Clear To Send (TTL : 3.3V)
10	Not use	This pin use to RS-422/485 mode
11	GND	System Ground
12	GND	System Ground

RS-422/485



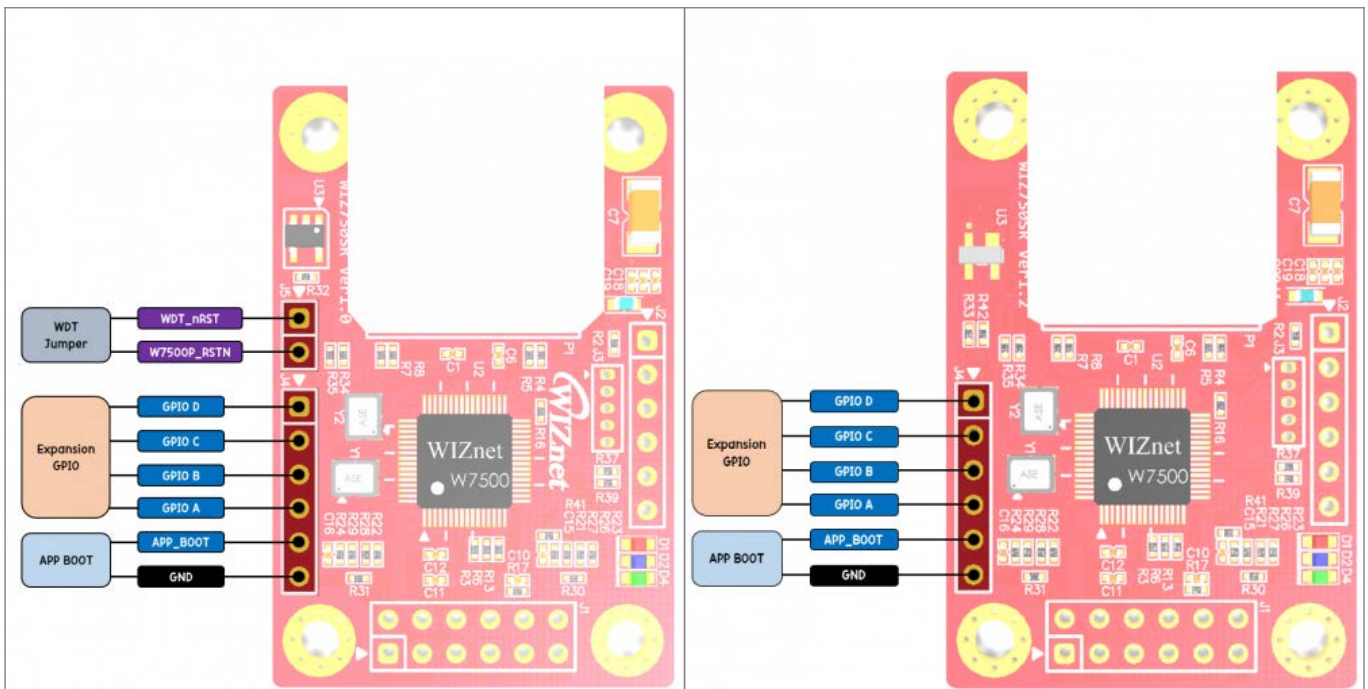
Pin Number	Signal	Description
1	VCC	System Power input (3.3V)
2	VCC	System Power input (3.3V)
3	422_RXD+ / 485+	Differential Data + RS-485+
4	nRESET	System Reset signal (Active Low)
5	422_RXD- / 485-	Differential Data - RS-485-
6	U_DTR0 PHY LINK	Data Terminal Ready (TTL : 3.3V) PHY Link status check signal
7	422_TXD+	Differential Data +
8	U_DSR0 TCP CON HW_TRIG	Data Set Ready (TTL : 3.3V) TCP Connection check signal Hardware Trigger signal (Active Low)
9	422_TXD-	Differential Data -
10	485_SEL	WIZ750SR-485, 485/422 MODE Select pin
11	GND	System Ground
12	GND	System Ground

1x6 ISP Connector



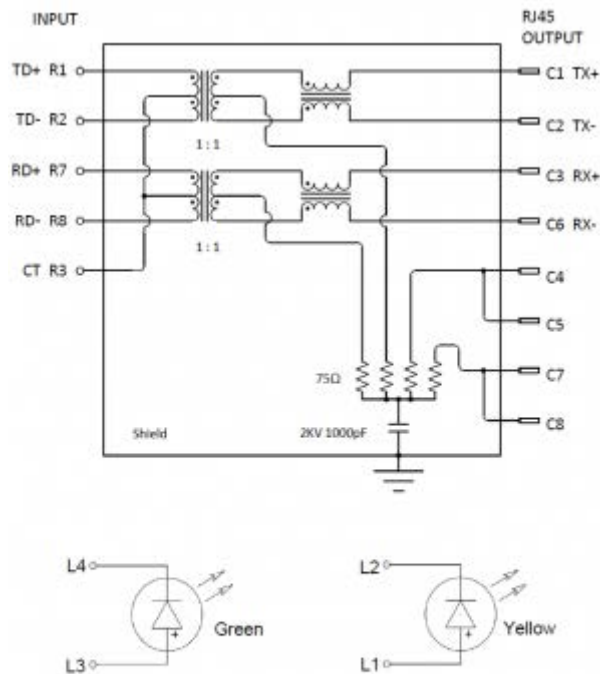
Pin Number	Signal	Description
1	VCC	System Power input (3.3V)
2	BOOT	BOOT mode (Active High)
3	U_TXD2	Simple UART2(Debug port) ISP mode firmware downloader port
4	U_RXD2	Simple UART2(Debug port) ISP mode firmware downloader port
5	nRESET	System Reset signal (Active Low)
6	GND	System Ground

1x2 Supervisor Jumper / 1x6 Expansion GPIO & APP BOOT



Rev1.1		Rev1.2
Pin Number	Signal	Description
1	WDT_nRST(input)	It only has rev1.0/1.1
2	W7500P_RSTN(output)	
Pin Number	Signal	Description
1	Expansion GPIOD	Expansion User's depend on GPIO port
2	Expansion GPIOC	
3	Expansion GPIOB	
4	Expansion GPIOA	
5	APP BOOT	Application Jump at BOOT mode
6	GND	System Ground

RJ-45 Connector (BS-RB10005)

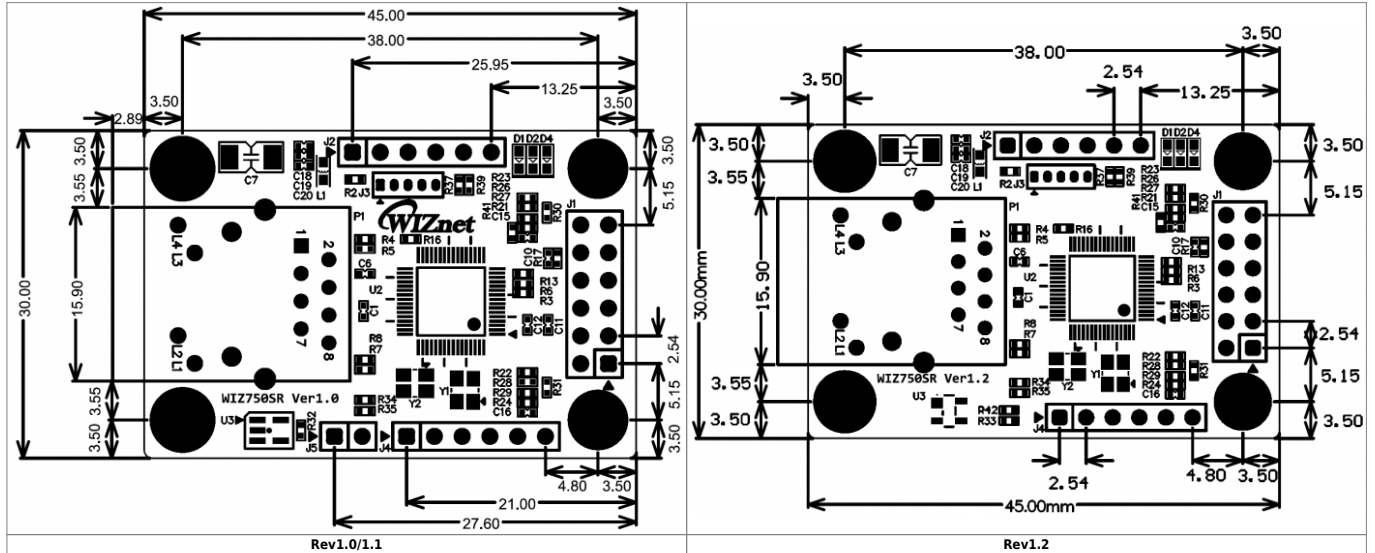


Emitting Color	Ap (nm)	Vf @If=20mA	Ir @Vf=5V
Green	565	1.7 ~2.6 V	10µA max.
Yellow	585	1.7 ~2.6 V	10µA max.

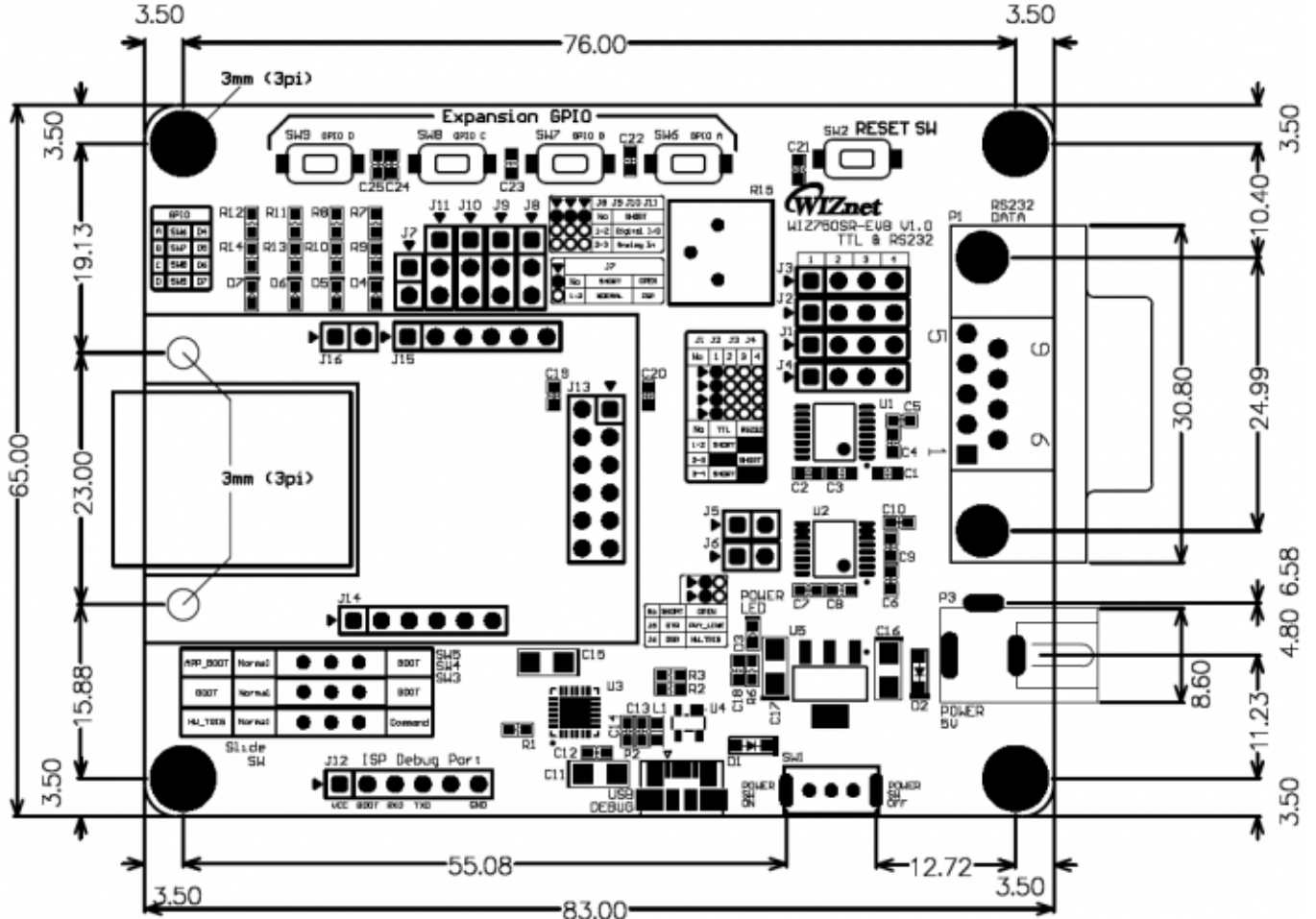
Pin Number	Pin	Signal
1	R1	TX+
2	R2	TX-
3	R3	TCT/RCT(Center tap)
4	R7	RX+
5	R8	RX-
6	L1+(Active LED)	Anode
7	L2- (Active LED)	Cathode
8	L3+(LINK LED)	Anode
9	L4- (LINK LED)	Cathode

WIZ750SR Dimension

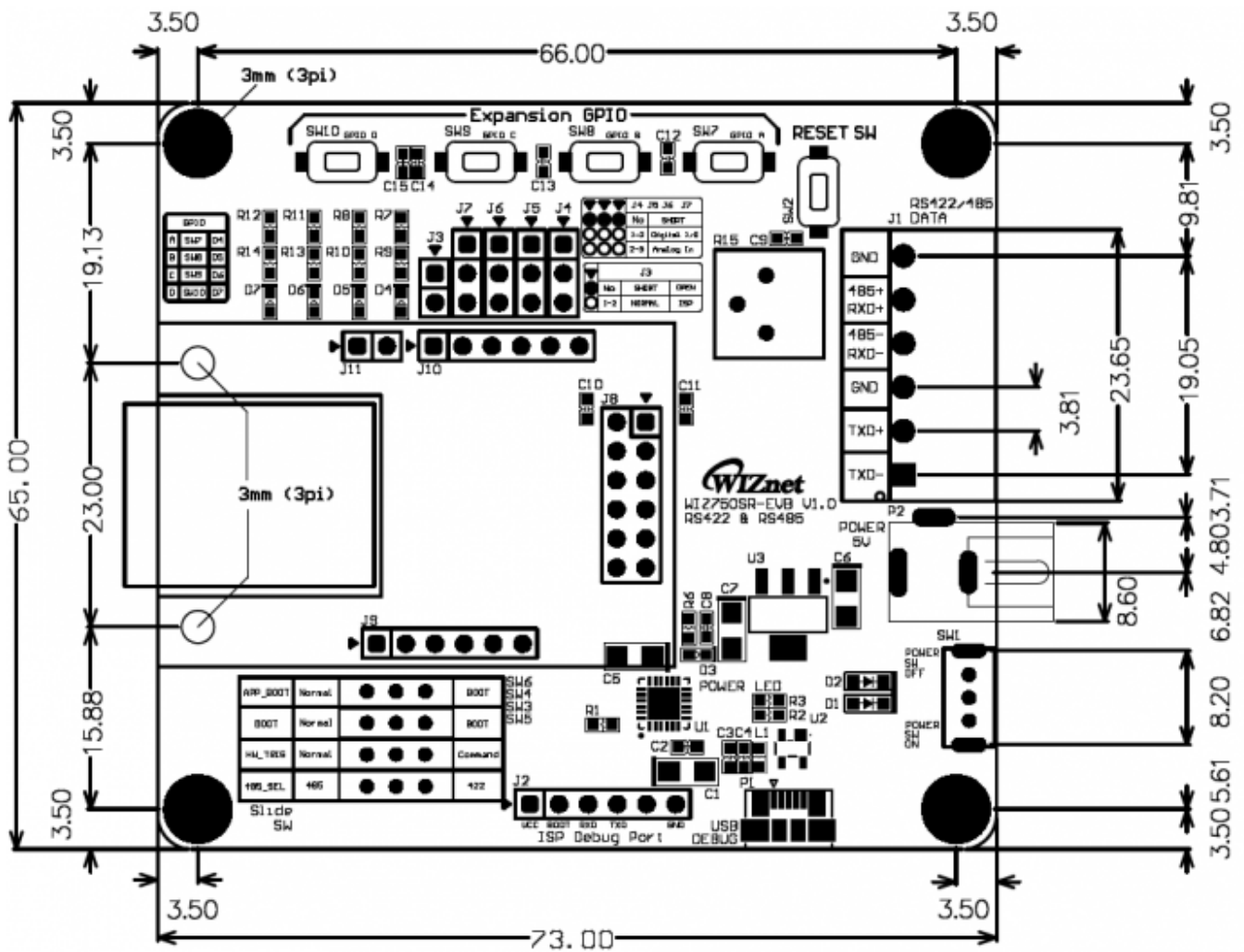
- The board size of the WIZ750SR Rev1.1 is the same as Rev1.0.
- WIZ750SR Dimension :
 - 45mm x 30mm (PCB board size)
 - 48mm x 30mm x 18mm (Included part size)



- WIZ750SR-EVB (TTL/RS232) Rev1.0 Dimension :
 - 83mm x 65mm (PCB board size)
 - 83mm x 65mm x 18mm (Included part size)



- WIZ750SR-EVB (RS422/485) Rev1.0 Dimension :
 - 73mm x 65mm (PCB board size)
 - 73mm x 65mm x 18mm (Included part size)



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