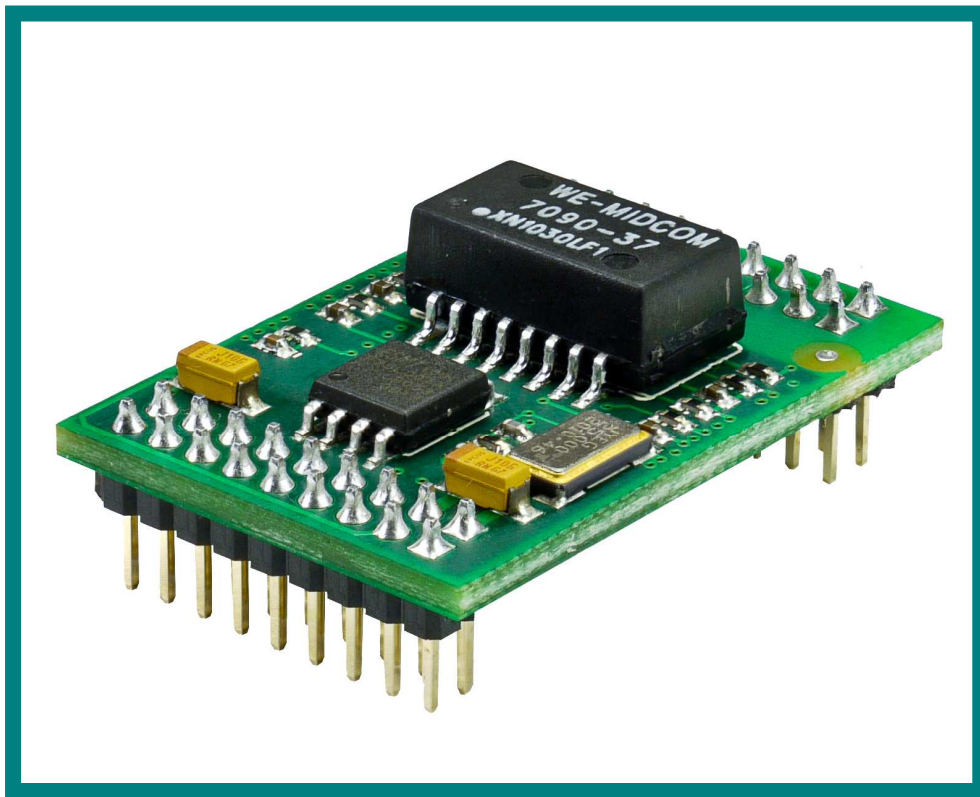




XT-PICO-USB

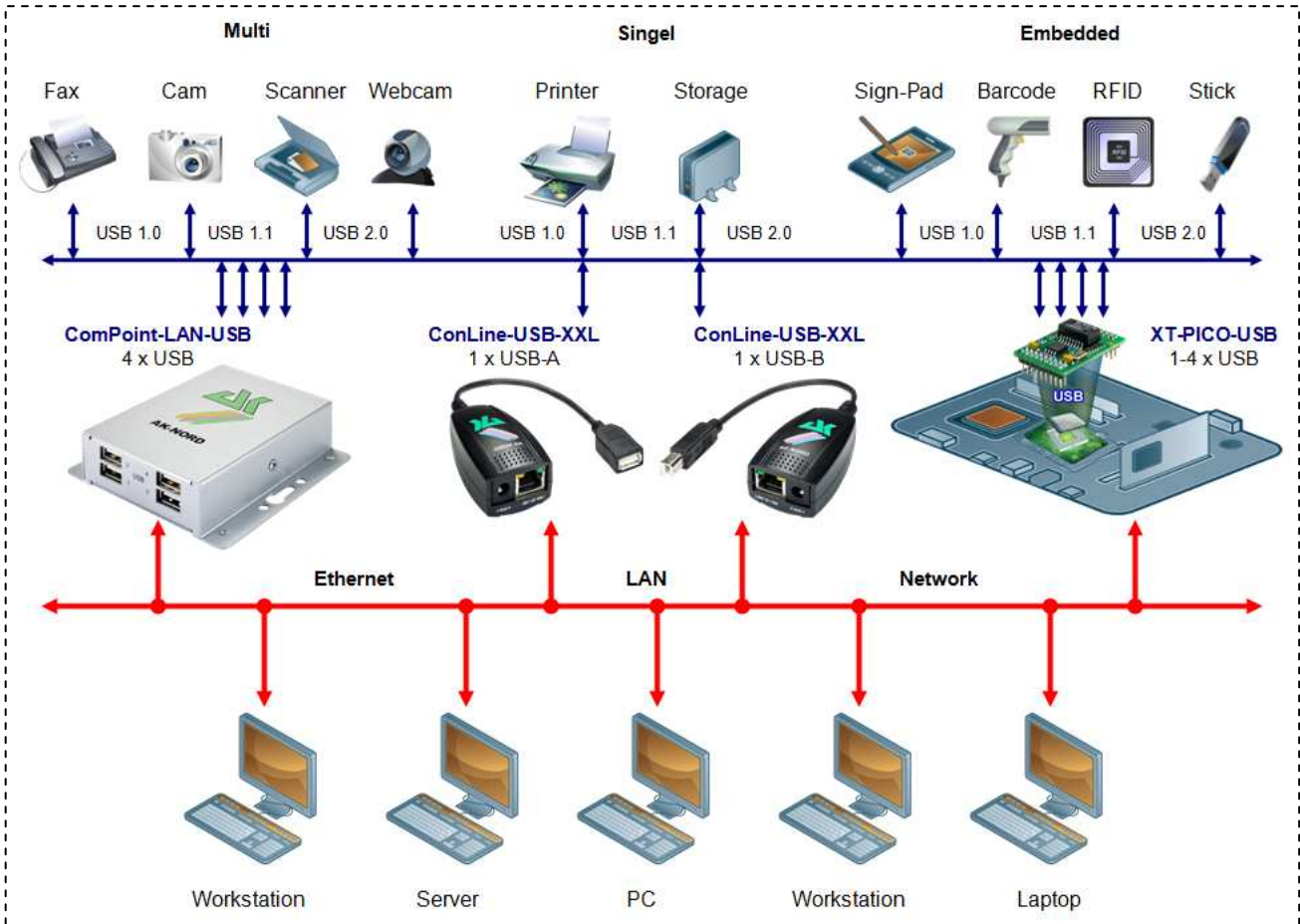


Design guide V1.0

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Functional description

Using the AK NORD USB device servers it is possible to integrate any USB terminals, such as faxes, cameras, scanners, web cams, printers, hard disks, sign pads, barcode readers, RFIP readers, USB sticks, measurement devices, sensors and industrial machines equipped with a USB connection, etc. into a network.

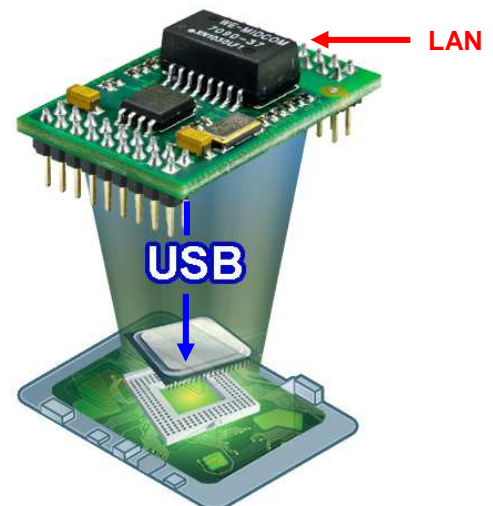


Then they can be directly addressed and controlled via a PC in the network. A driver is installed on the PC which makes you available such USB devices via a virtual USB interface. By disconnecting the virtual connection in the software such USB devices can also be shared in the network and in this way they are available from any place.

The XT-PICO USB is an embedded installation solution and can be directly connected to a microcontroller via the USB interface. Just connect **USB_DP** and **USB_DM** to your microcontroller.

It couldn't be easier

You can directly reach and control your microcontroller via the network using our virtual USB device driver.



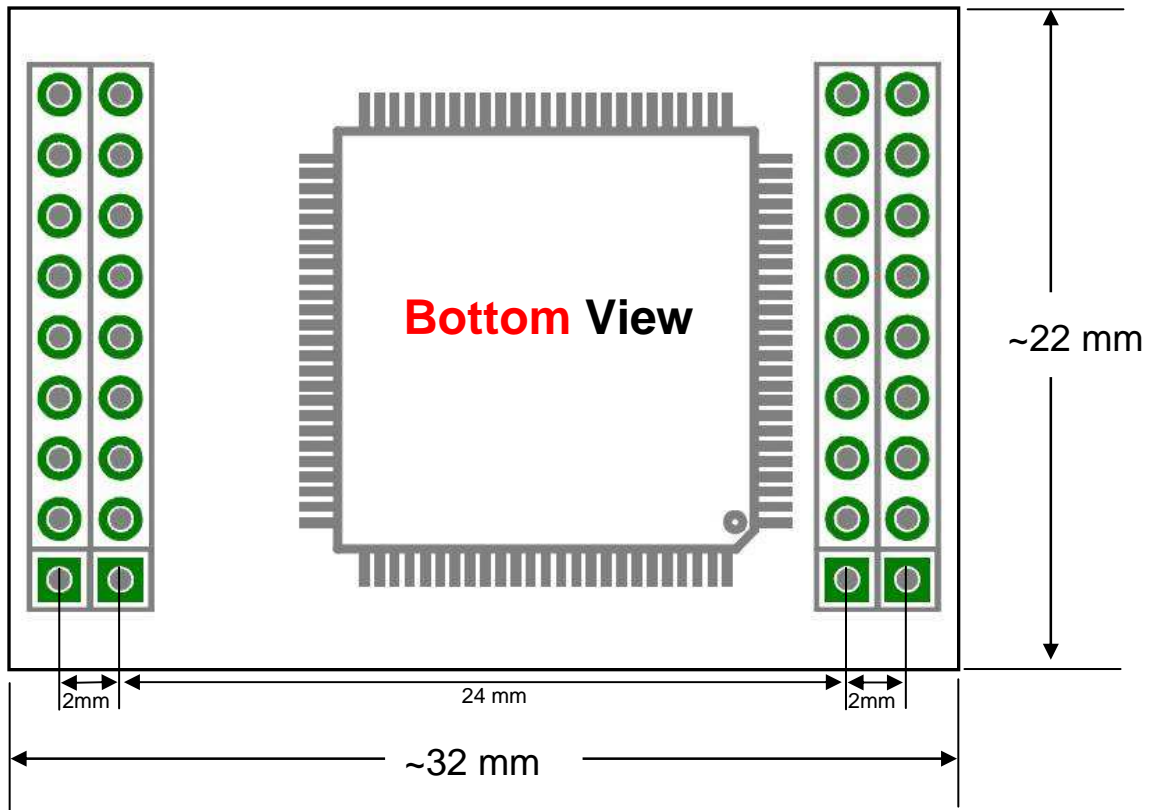
Technical data

Dimensions:	32 x 22 mm
Voltages / Current consumption:	1.8 volts / about 120 mA 3.3 volts / about 110 mA
Network connections:	Ethernet 10/100MBit (MDIX) RJ45 (PoE pins are executed)
Network speed:	10/100 MBit Full/Half Duplex
Network protocols:	IP, TCP, UDP, ICMP, ARP, LPR, DHCP, BOOTP, HTML, HTTP
Interfaces:	USB1.1/USB2.0 (high-speed) Host controller
Special features:	up to 4 USB devices via external USB 2.0 HUB
Temperature range:	from -10° to +60°
Data throughput:	up to 10MByte / sec

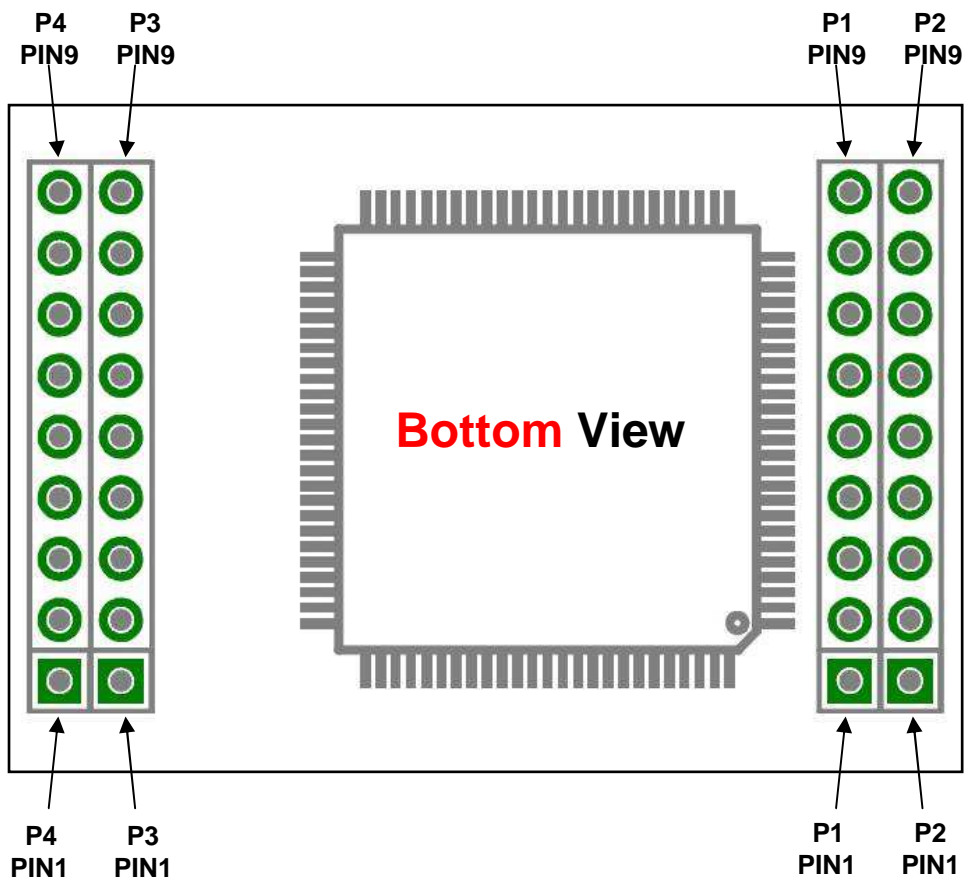
DC characteristics

Symbol	Description	Min	Type	Max	Unit
VCC18	Core power supply	1.65	1.8	1.95	V
VCC33	Power supply of 3.3V I/O	3.0	3.3	3.6	V
ICC18	Active current consumption			120	mA
ICC33	Active current consumption			110	mA
TSTG	Storage temperature	-40	20	150	°C
TAMB	Ambient operating temperature	-10	25	70	°C
TJUNC	Junction temperature		54.5		°C/W
HTRESET	Reset hold time	10			ms
HTDEFAULT	Default hold time	10			ms

Dimensions



Pin assignment



Pin description

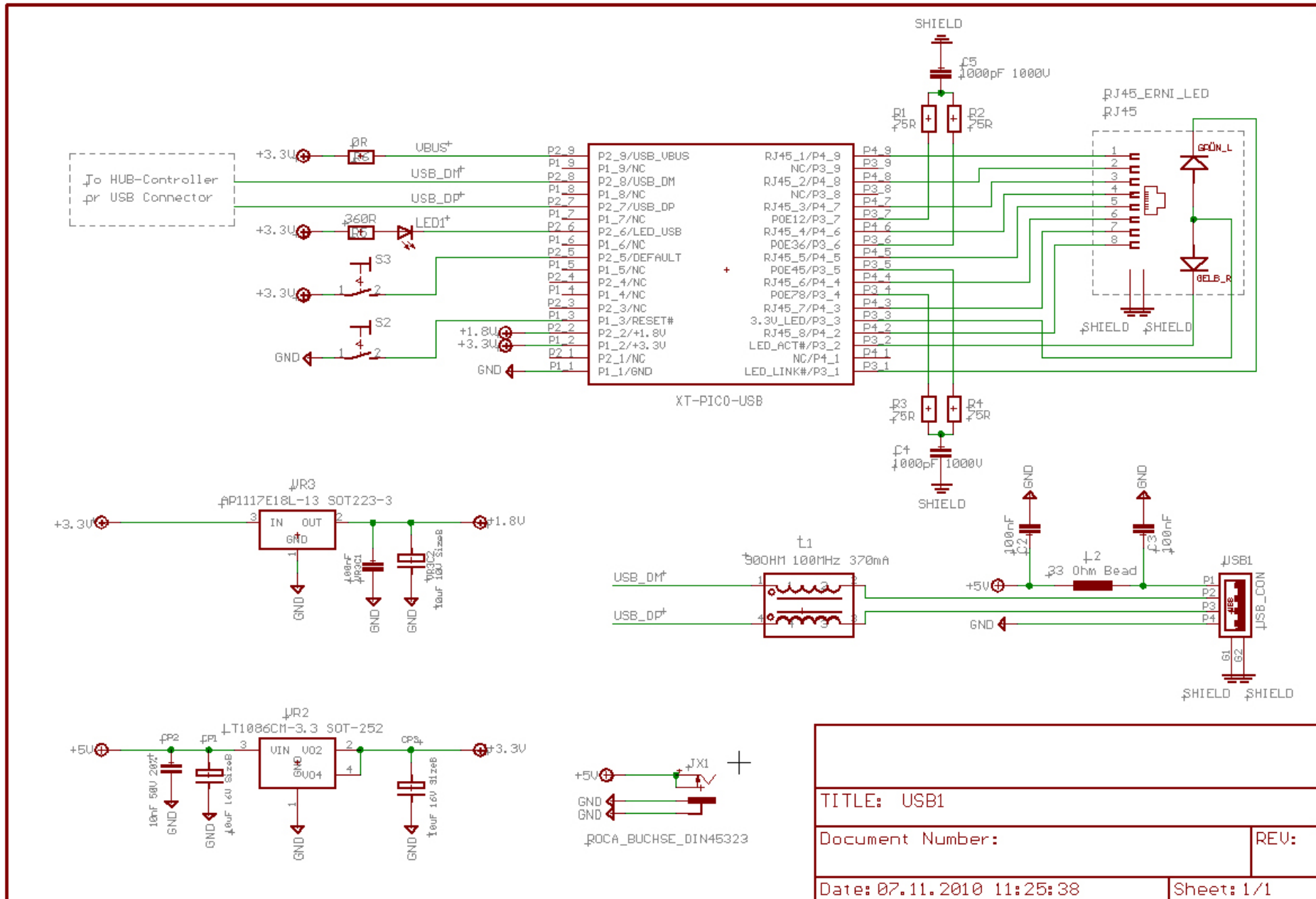
PIN	USB - Connector	DIR	USB - 2.0 HUB	DIR		BUS
P1_1	Ground	PWR	Ground	PWR		P W R
P1_2	+3.3Volt	PWR	+3.3Volt	PWR	+3.3V IO voltage / min. 110mA	
P1_3	Reset\	in	Reset\	in	Chip reset, active low.	
P1_4	NC		NC			B U S 1
P1_5	NC		NC			
P1_6	NC		NC			
P1_7	NC		NC			
P1_8	NC		NC			
P1_9	NC		NC			
P2_1	NC		NC			B U S 2
P2_2	+1.8Volt	PWR	+1.8Volt	PWR	+1.8V core voltage / min. 120mA	
P2_3	NC		NC			
P2_4	NC		NC			
P2_5	Set Default	in	Set Default	in	Active high input to restore the factory default setting / or NC	
P2_6	LED_USB\	out	LED_USB\	out	USB connector detected (without any resistor)	
P2_7	USB+	IO	USB+	IO	USB differential data plus.	
P2_8	USB-	IO	USB-	IO	USB differential data minus.	
P2_9	NC		VBUS	in	Hub Power mode High = Self powered / Low = Bus - powered	
P3_1	LED_LINK\	out	LED_LINK\	out	Ethernet Link, active LOW (contains 270 Ohm series resistor)	L E D
P3_2	LED_ACT\	out	LED_ACT\	out	Ethernet Activity, active LOW (contains 270 Ohm series resistor)	
P3_3	+3.3Volt LED	out	+3.3Volt LED	out	connected to +3.3V in	
P3_4	POE78		POE78			P O E
P3_5	POE45		POE45			
P3_6	POE36		POE36			
P3_7	POE12		POE12			
P3_8	NC		NC			N C
P3_9	NC		NC			
P4_1	NC		NC			L A N R J 4 5
P4_2	RJ45_8		RJ45_8			
P4_3	RJ45_7		RJ45_7			
P4_4	RJ45_6		RJ45_6			
P4_5	RJ45_5		RJ45_5			
P4_6	RJ45_4		RJ45_4			
P4_7	RJ45_3		RJ45_3			
P4_8	RJ45_2		RJ45_2			
P4_9	RJ45_1		RJ45_1			

Everything else you might need is an RJ45 connector and two LEDs.

You can directly use the LED female connectors. The series resistors are already available on the **XT-PICO-USB**. It is also possible to directly connect the RJ45 connectors on the RJ45 female connector. The required transformer is also available on the **XT-PICO-USB**.

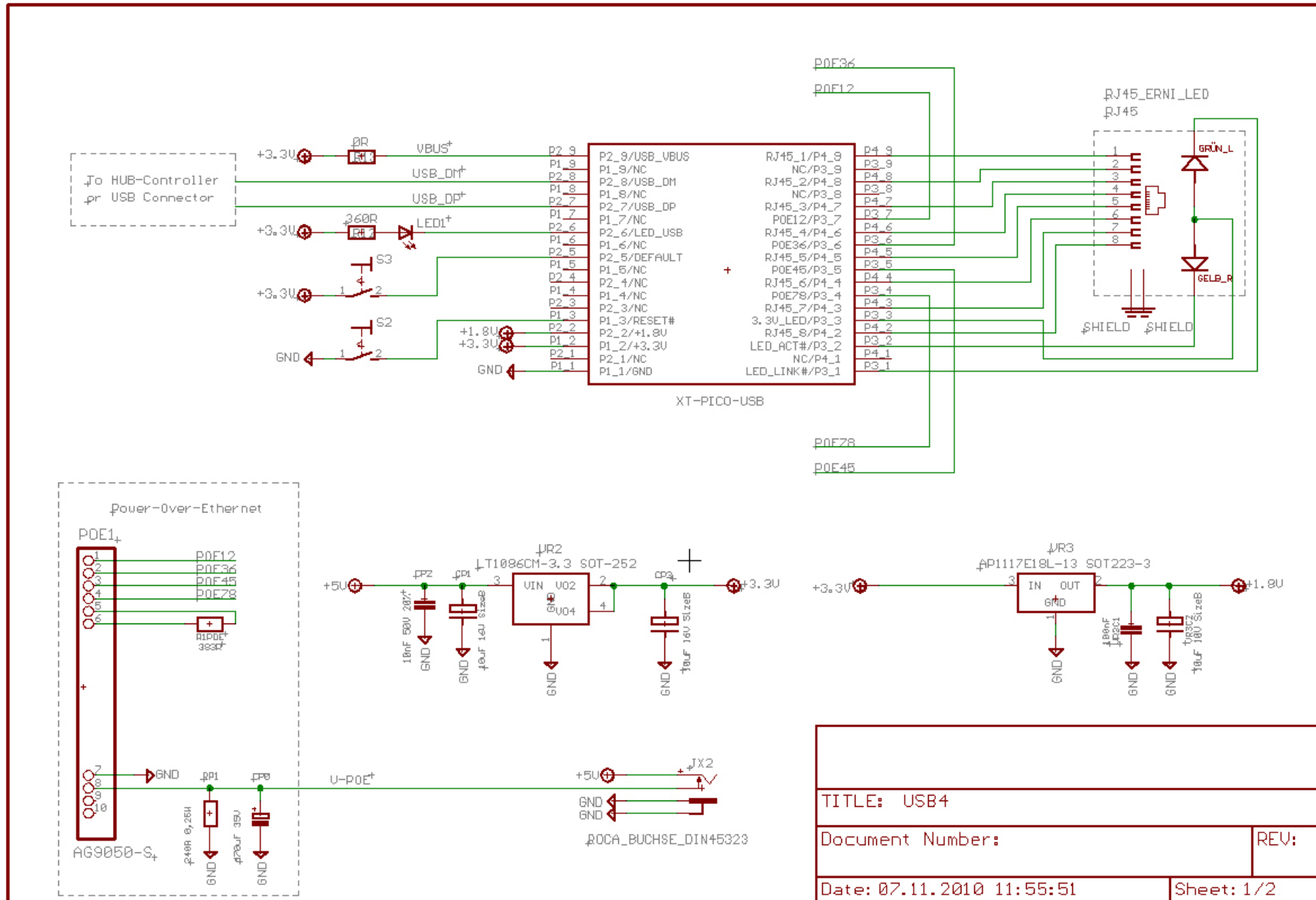
Schematics

XT-PICO USB incl. USB connection



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XT-PICO USB incl. PowerOverEthernet



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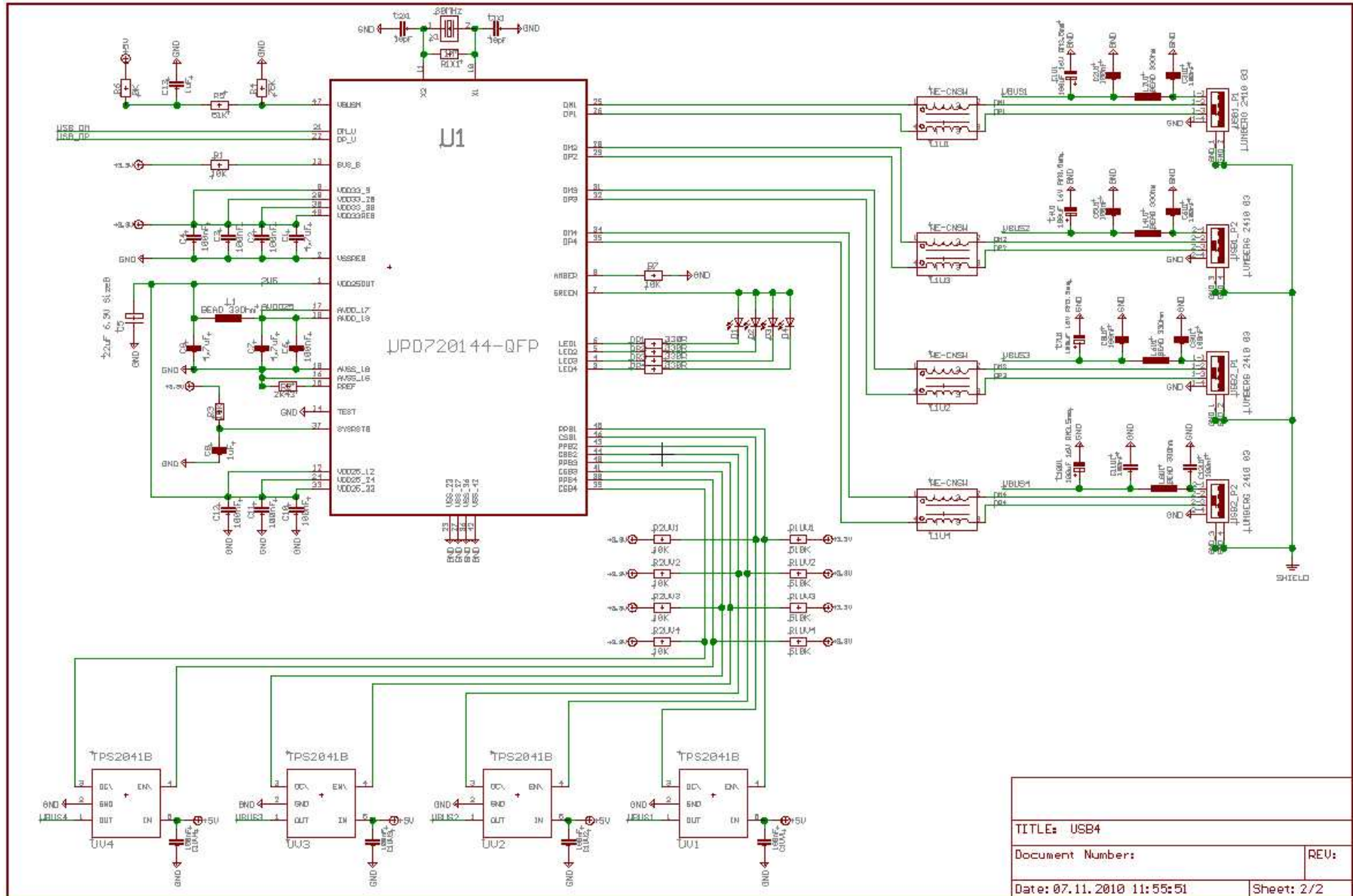
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XT-PICO USB incl. HUB controller



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