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DESIGN NOTE:
Example text for debug notes.

DESIGN CONSIDERATIONS

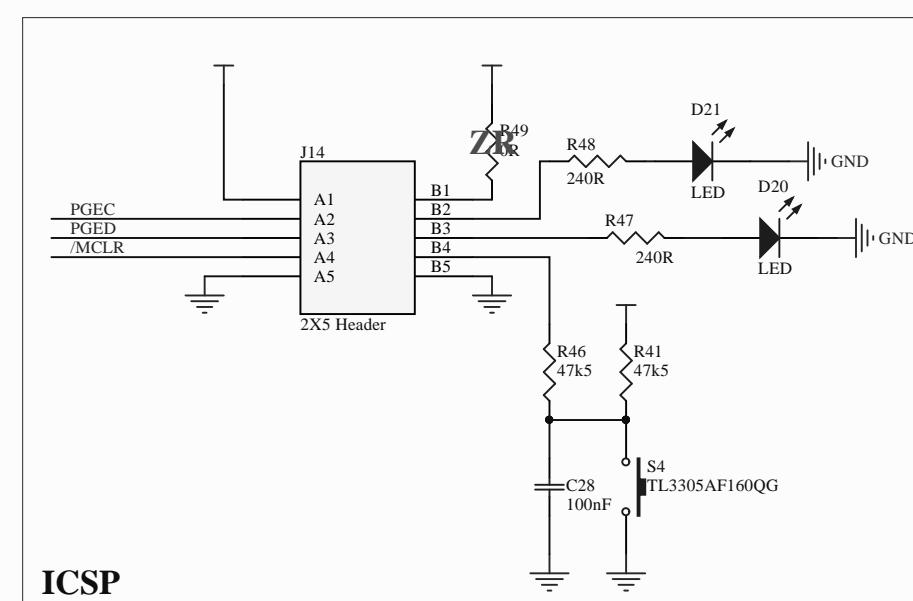
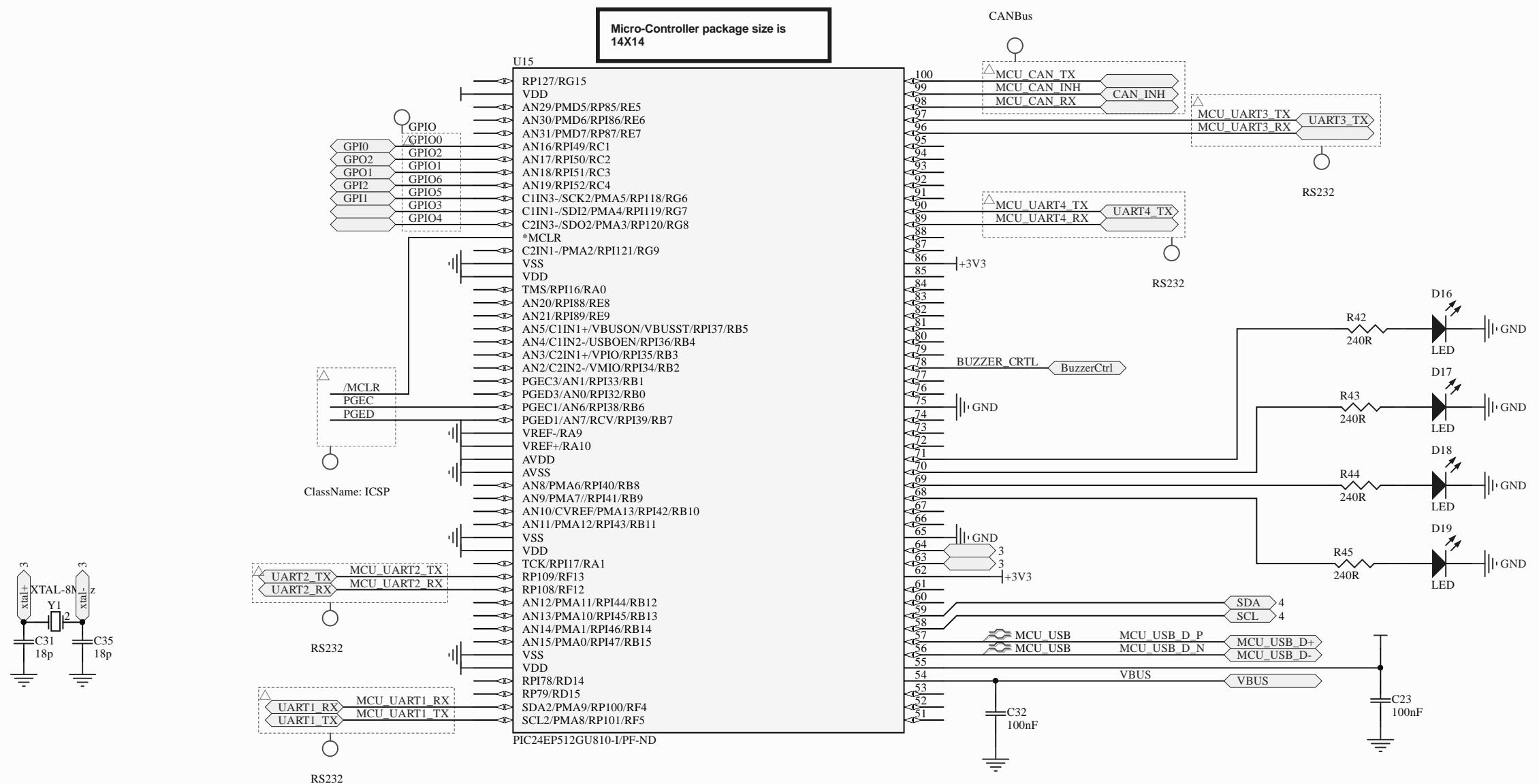
DESIGN NOTE:
Example text for informational design notes.

DESIGN NOTE:
Example text for critical design notes.

DESIGN NOTE:
Example text for cautionary design notes.

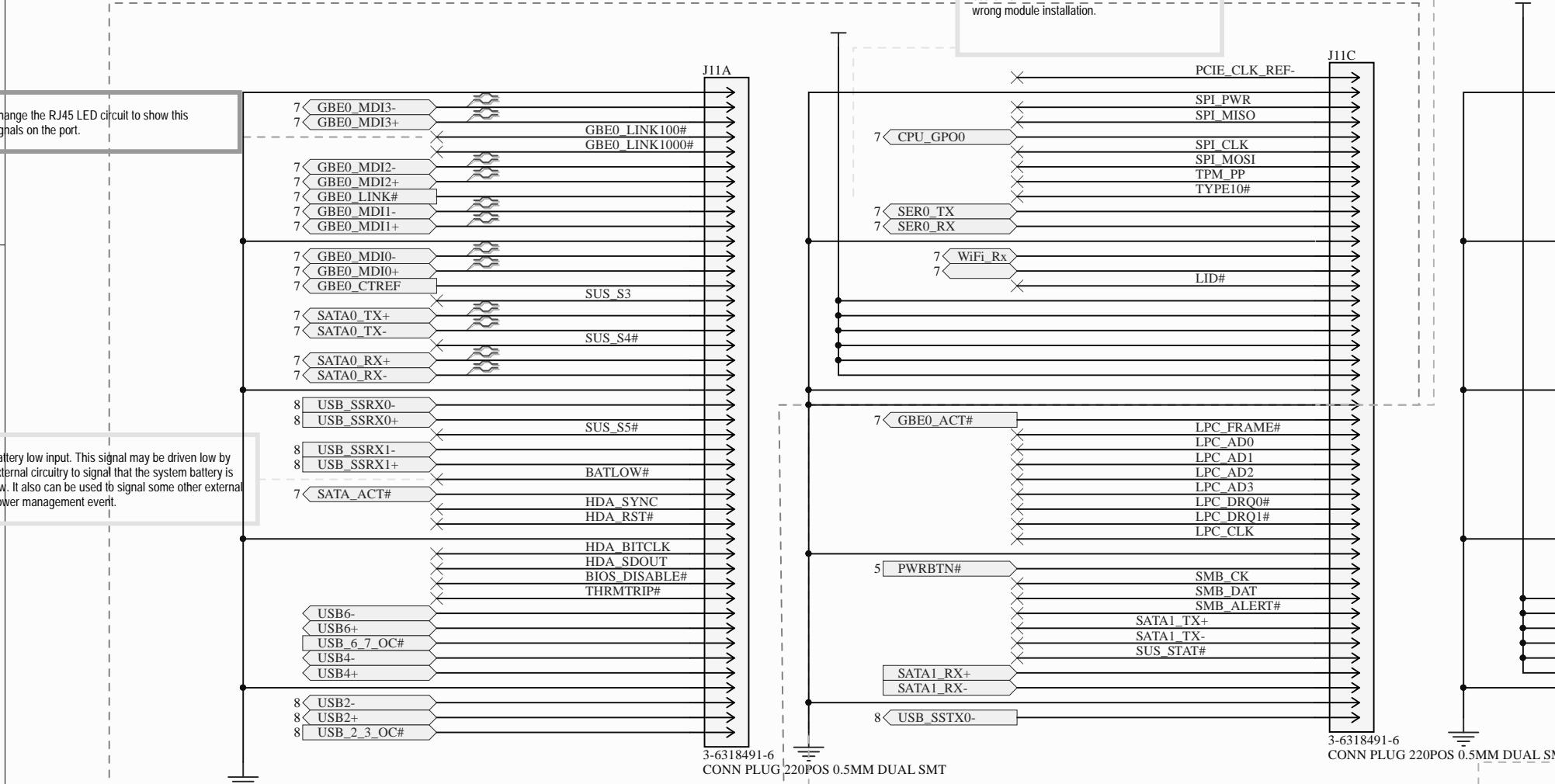
LAYOUT NOTE:
Example text for critical layout guidelines.

MICRO-CONTROLLER

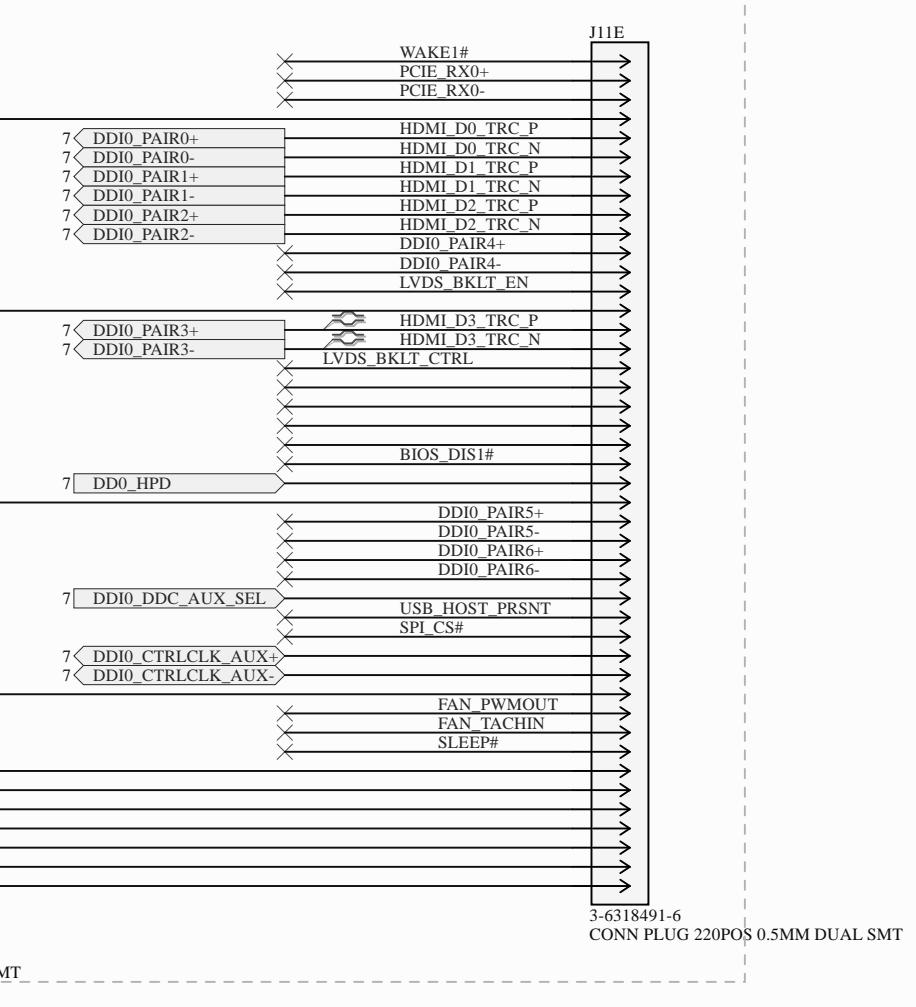


COM EXPRESS TYPE 10 CONNECTOR

SIDE A



SIDE B



Connector X1A Row B

Pin	Signal	Description
B1	GND	Power Ground
B2	GBEO_ACT	Ethernet Activity LED
B3	LPC_FRAME#	LPC Frame Indicator
B4	LPC_ADD0	LPC Multiplexed Command, Address & Data 0
B5	LPC_ADD1	LPC Multiplexed Command, Address & Data 1
B6	LPC_ADD2	LPC Multiplexed Command, Address & Data 2
B7	LPC_ADD3	LPC Multiplexed Command, Address & Data 3
B8	LPC_DRQ0#	LPC Serial DMA/Master Request 0
B9	LPC_DRQ1#	LPC Serial DMA/Master Request 1
B10	LPC_CLK	33MHz LPC clock
B11	GND	Power Ground
B12	PWRBTN#	Power Button
B13	SMB_CK	SMBus Clock
B14	SMB_DAT	SMBus Data
B15	SMB_ALERT#	SMBus Alert
B16	SATA1_TX+	SATA1 Transmit Pair +
B17	SATA1_TX-	SATA1 Transmit Pair -
B18	SUS_STAT#	Suspend Status
B19	SATA1_RX+	SATA1 Receive Pair +
B20	SATA1_RX-	SATA1 Receive Pair -
B21	GND	Power Ground
B22	USB_SSTX0-	USB 3.0 Transmit Pair 0 +
B23	USB_SSTX0+	USB 3.0 Transmit Pair 0 -
B24	PWR_OK	Power OK
B25	USB_SSTX1-	USB 3.0 Transmit Pair 1 +
B26	USB_SSTX1+	USB 3.0 Transmit Pair 1 -
B27	WDO	Watch Dog Time-out event
B28	AC/HDA_SDIN2	HD Audio Serial Data In 2
B29	AC/HDA_SDIN1	HD Audio Serial Data In 1
B30	AC/HDA_SDIN0	HD Audio Serial Data In 0
B31	GND	Power Ground
B32	SPKR	Speaker
B33	I2C_CK	I2C Clock
B34	I2C_DAT	I2C Data
B35	THRM#	Over Temperature Input
B36	USB2-	USB 2.0 Data Pair Port 7 -
B37	USB2+	USB 2.0 Data Pair Port 7 +
B38	USB_4_5_OC#	USB Overcurrent Indicator Port 4/5
B39	USB5-	USB 2.0 Data Pair Port 5 -
B40	USB5+	USB 2.0 Data Pair Port 5 +
B41	GND	Power Ground
B42	USB2-	USB 2.0 Data Pair Port 3 -
B43	RSVD	Reserved for future use
B44	RSVD/eDP_HPD	Reserved (shared eDP hot plug detection)
B45	PCIE_CLK_REF+	Reference PCI Express Clock +
B46	PCIE_CLK_REF-	Reference PCI Express Clock -
B47	EXCD0_PERST#	Express Card Reset Port 1
B48	EXCD0_CPP#	Express Card Capable Card Request Port 1
B49	SYS_RESET#	Reset Button Input
B50	CB_RESET#	Carrier Board Reset
B51	GND	Power Ground
B52	RSVD	Reserved for future use
B53	RSVD	Reserved for future use
B54	GPO1	General Purpose Output 1
B55	RSVD	Reserved for future use
B56	RSVD	Reserved for future use
B57	GPO2/SD_WP	General Purpose Output 2 (shared SD wr. protect)

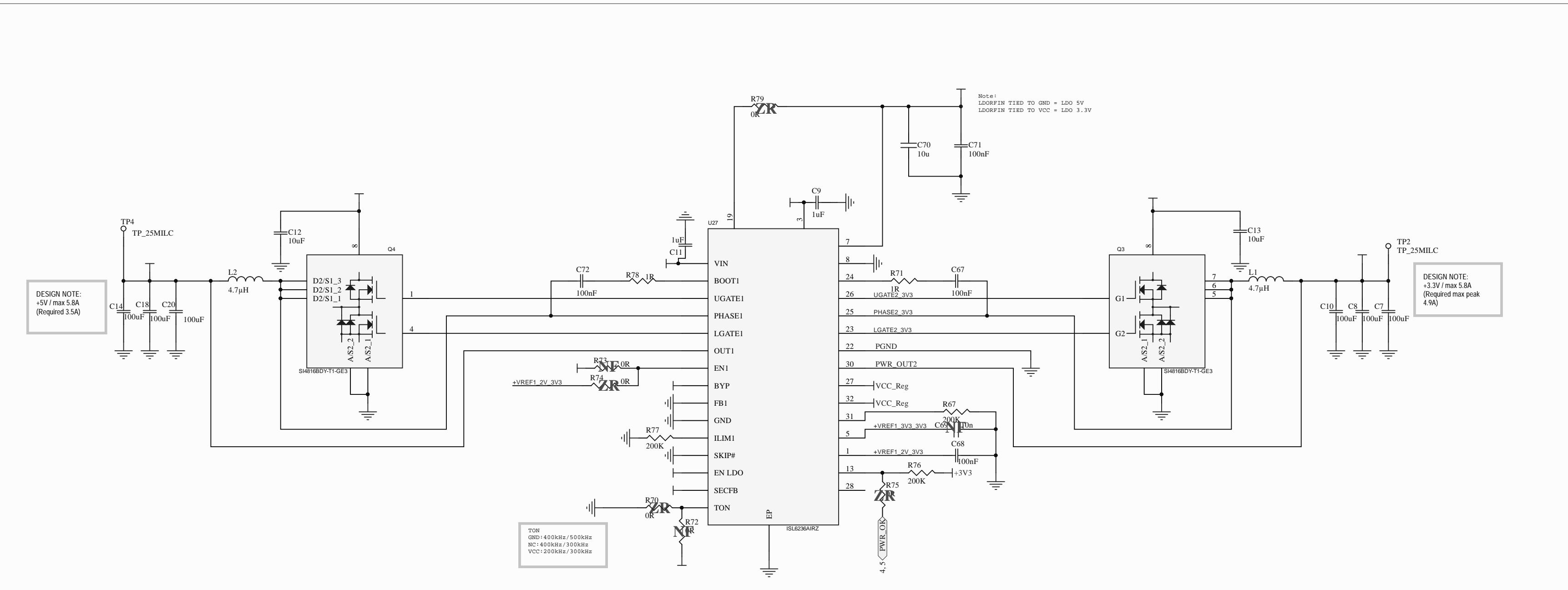
Connector X1A Row A

Pin	Signal	Description
A1	PCIE_TX3+	PCI Express Lane 3 Transmit +
A58	PCIE_TX3-	PCI Express Lane 3 Transmit -
A2	GBEO_MDI3-	Ethernet Media Dependent Interface 3 -
A59	PCIE_TX3-	PCI Express Lane 3 Transmit -
A3	GBEO_MDI3+	Ethernet Media Dependent Interface 3 +
A60	GND	Power Ground
A4	GBEO_LINK100#	Ethernet Speed LED
A61	PCIE_TX2+	PCI Express Lane 2 Transmit +
A62	PCIE_TX2-	PCI Express Lane 2 Transmit -
A63	GPI1/SD_DATA1	General Purpose Input 1 (shared SD DATA1)
A64	GBEO_MDI2-	Ethernet Media Dependent Interface 2 -
A65	PCIE_TX1+	PCI Express Lane 1 Transmit +
A66	PCIE_TX1-	PCI Express Lane 1 Transmit -
A67	GPI2/SD_DATA2	General Purpose Input 2 (shared SD DATA2)
A68	PCIE_TX0+	PCI Express Lane 0 Transmit +
A69	PCIE_TX0-	PCI Express Lane 0 Transmit -
A70	GND	Power Ground
A71	LVDS_A0+/eDP_TX2+	LVDS Channel A Data0+ (shared eDP TX2+)
A72	LVDS_A0-/eDP_TX2-	LVDS Channel A Data0- (shared eDP TX2-)
A73	LVDS_A1+/eDP_TX1+	LVDS Channel A Data1+ (shared eDP TX1+)
A74	LVDS_A1-/eDP_TX1-	LVDS Channel A Data1- (shared eDP TX1-)
A75	LVDS_A2+/eDP_TX0+	LVDS Channel A Data2+ (shared eDP TX0+)
A76	LVDS_A2-/eDP_TX0-	LVDS Channel A Data2- (shared eDP TX0-)
A77	LVDS/eDP_VDD_EN	LVDS/eDP Panel Power Control
A78	LVDS_A3+	LVDS Channel A Data3 +
A79	LVDS_A3-	LVDS Channel A Data3 -
A80	GND	Power Ground
A21	GND	Power Ground
A22	USB_SSRX0-	USB 3.0 Receive Pair 0 -
A23	USB_SSRX0+	USB 3.0 Receive Pair 0 +
A24	SUS_S5#	Soft Off Indicator
A25	USB_SSRX1-	USB 3.0 Receive Pair 1 -
A26	USB_SSRX1+	USB 3.0 Receive Pair 1 +
A27	BATLOW#	Battery Low
A28	(S)ATAACT#	Serial ATA activity LED
A29	AC/HDA_SYNC	HD Audio Sync
A30	AC/HDA_RST#	HD Audio Reset
A31	GND	Power Ground
A32	AL/HDA_B11CLK	HD Audio Bit Clock Output
A33	AC/HDA_SDOUT	HD Audio Serial Data Out
A34	BIOS_DIS0#	BIOS Selection Strap 0
A35	THRMTrip#	Thermal Trip
A36	USB6-	USB 2.0 Data Pair Port 6 -
A37	USB6+	USB 2.0 Data Pair Port 6 +
A38	USB6_-OC#	USB Overcurrent Indicator Port 6/7
A39	USB6-	USB 2.0 Data Pair Port 6 -
A40	USB4+	USB 2.0 Data Pair Port 4 +
A41	GND	Power Ground
A42	USB2-	USB 2.0 Data Pair Port 2 -
A43	USB2+	USB 2.0 Data Pair Port 2 +
A44	USB2_3_OC#	USB Overcurrent Indicator Port 2/3
A45	USB0-	USB 2.0 Data Pair Port 0 -
A46	USB0+	USB 2.0 Data Pair Port 0 +
A47	VCC_RTC	Real-Time Clock Circuit Power Input
A48	EXCD0_PERST#	Express Card Reset Port 0
A49	EXCD0_CPP#	Express Card Capable Card Request Port 0
A50	LPC_SERIRQ#	Serial Interrupt Request
A51	GND	Power Ground
A52	RSVD	Reserved for future use
A53	RSVD	Reserved for future use
A54	GPI0/SD_DATA0	General Purpose Input 0 (shared SD DATA0)
A55	RSVD	Reserved for future use
A56	RSVD	Reserved for future use
A57	GND	Power Ground

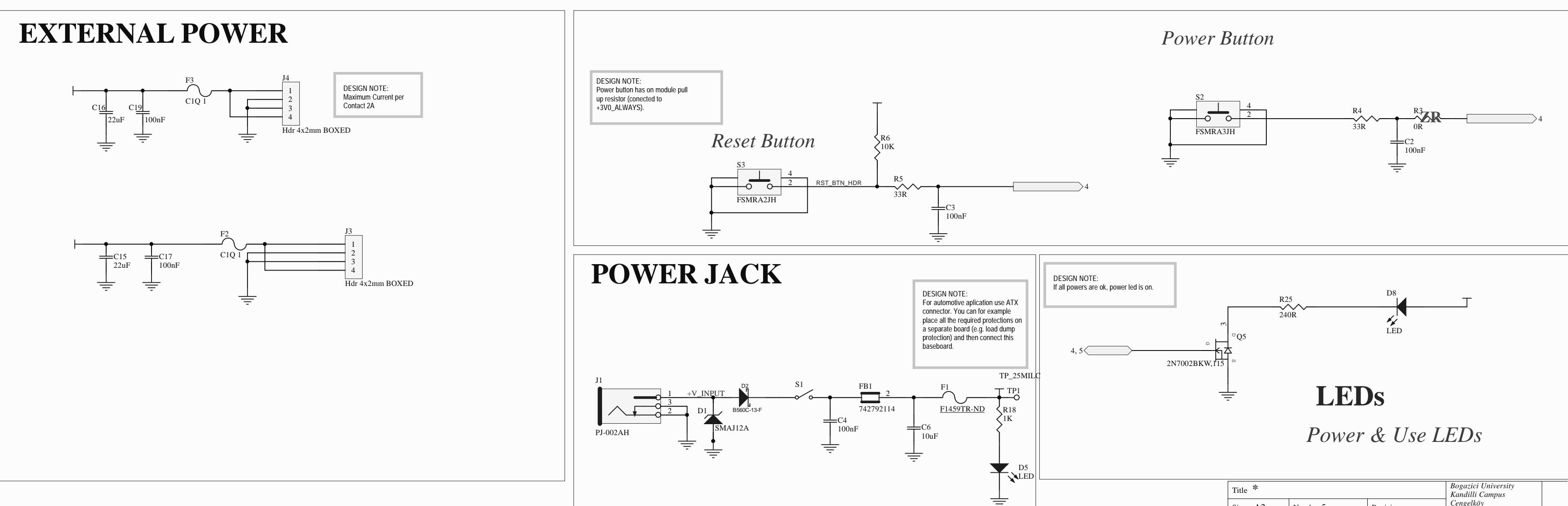
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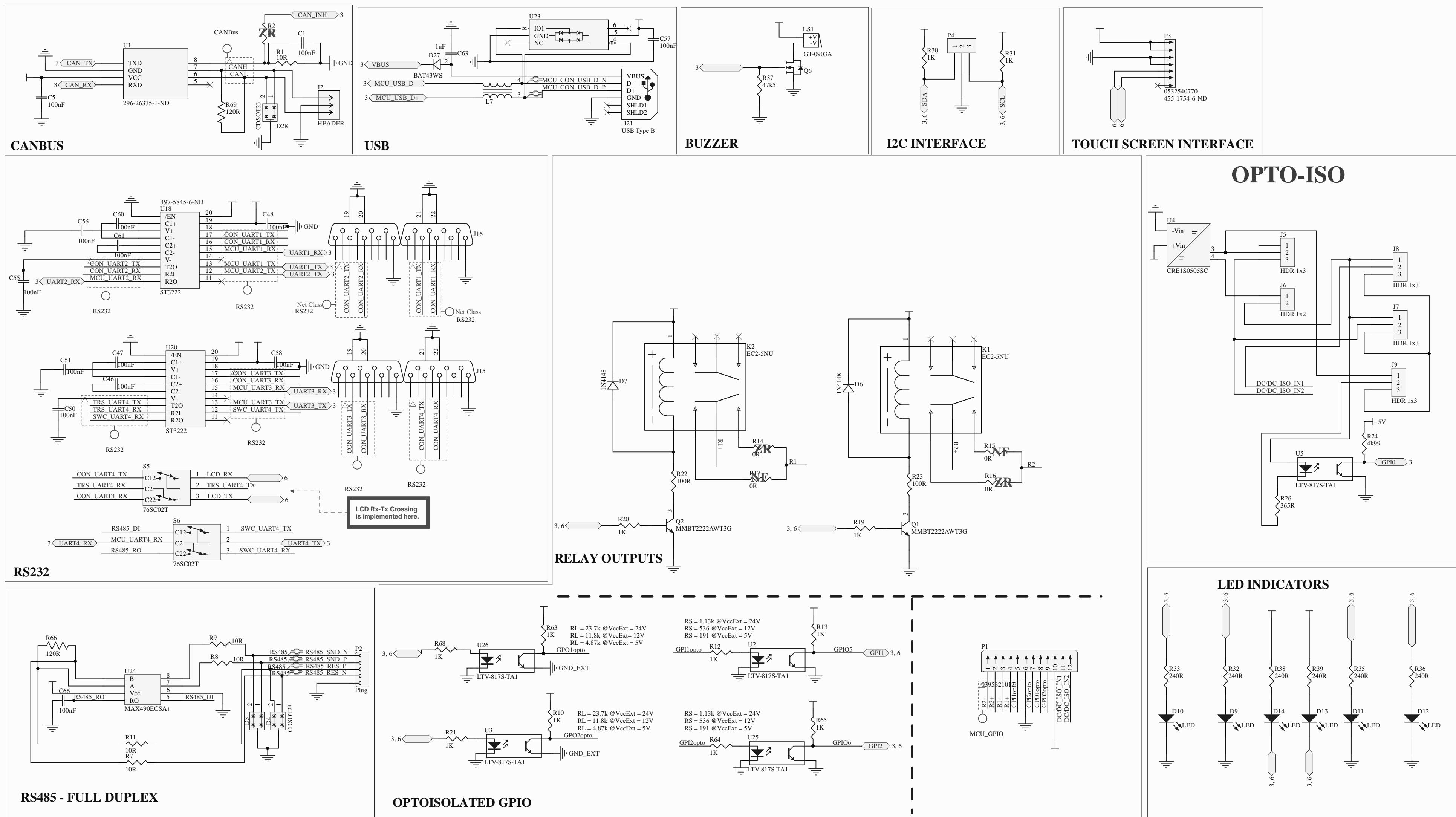
POWER

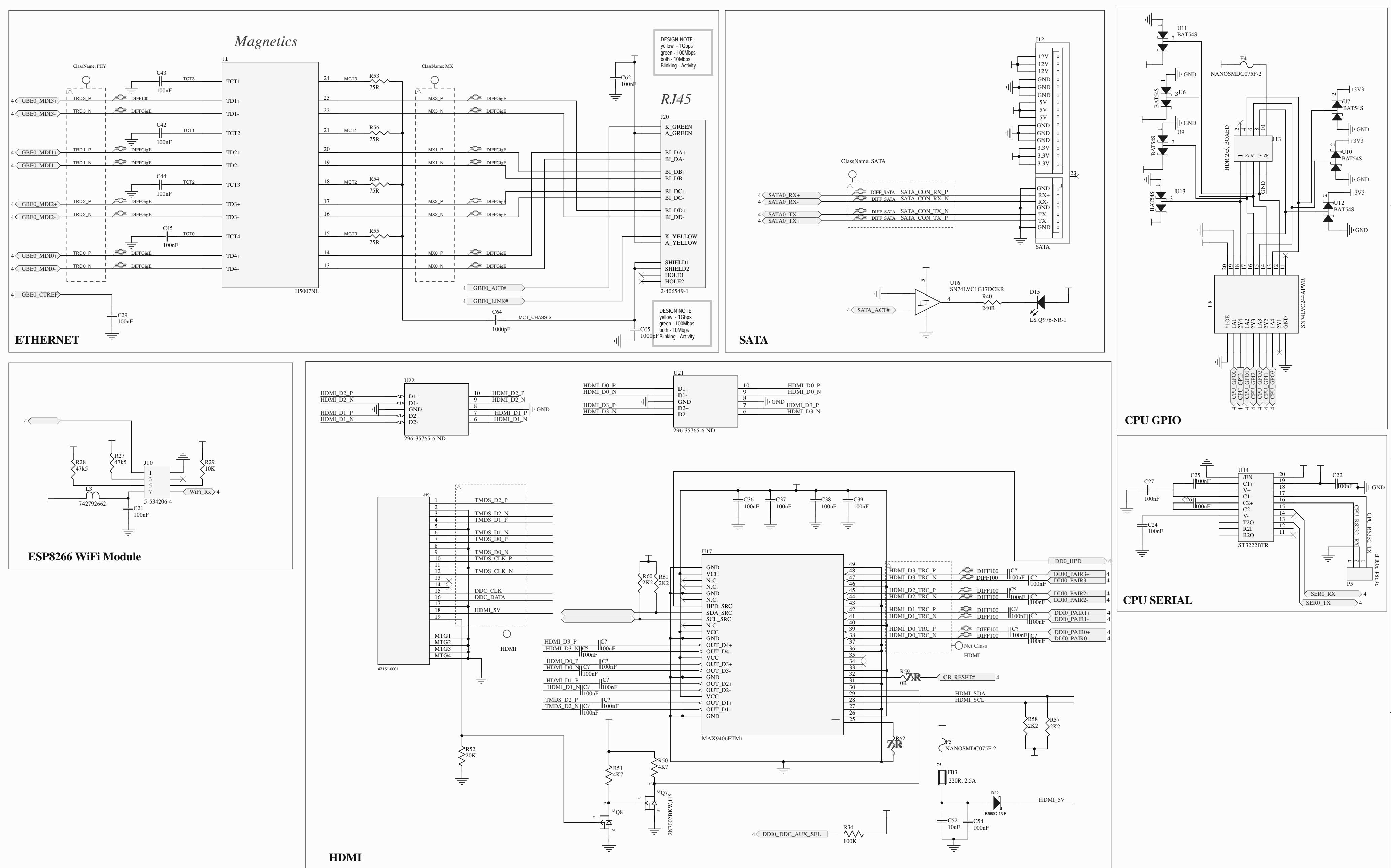


POWER REGULATOR

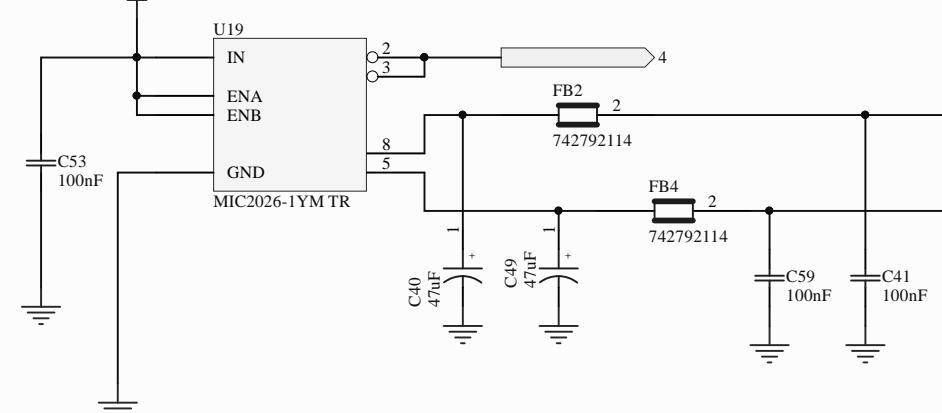


MICRO-CONTROLLER CONNECTIONS

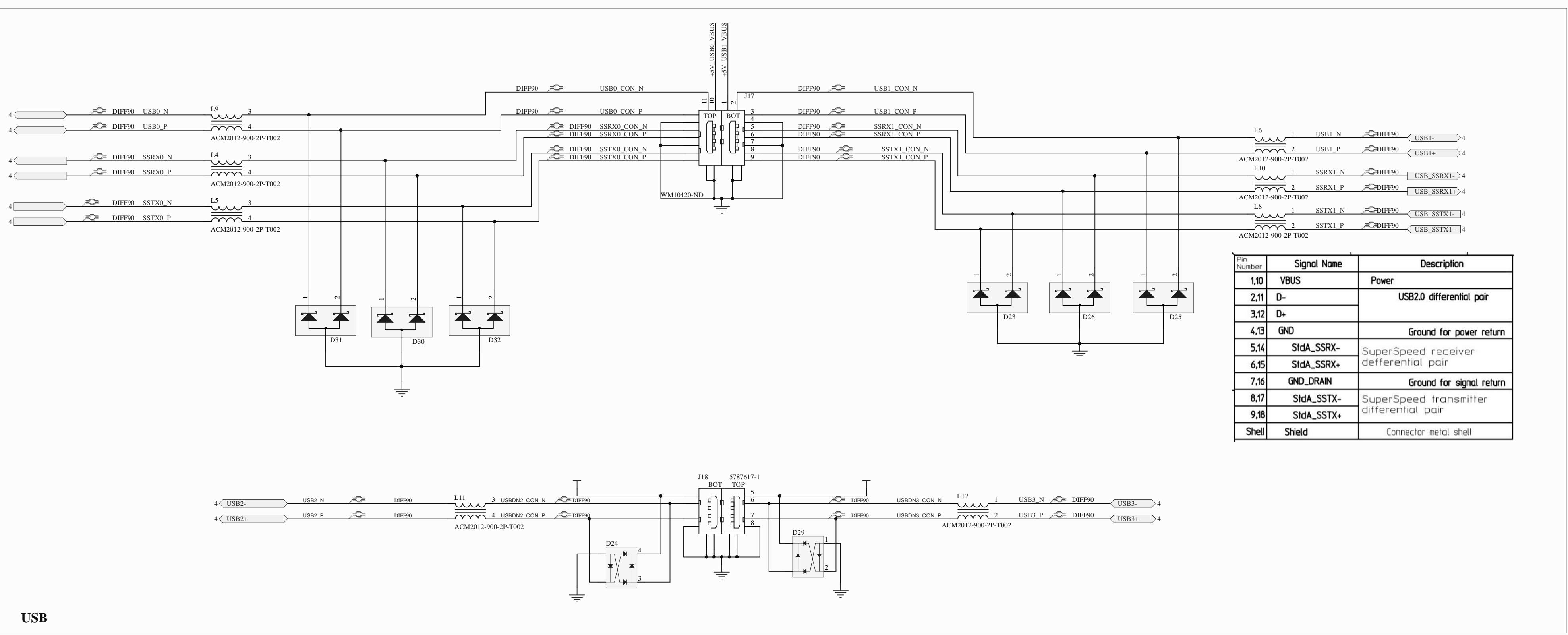
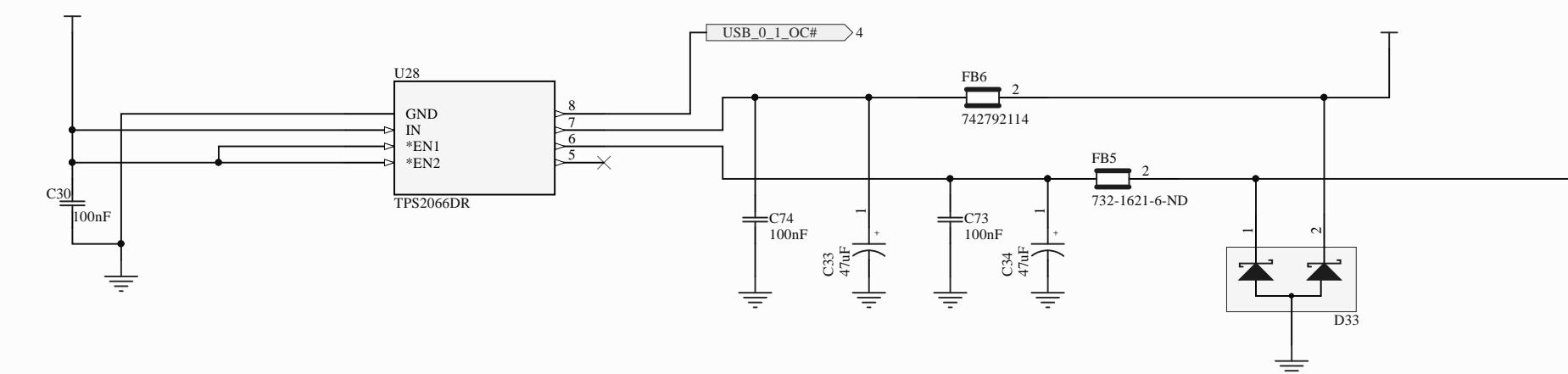




CPU USB



USB SWITCHES



USB

PCB AND MECHANICAL

