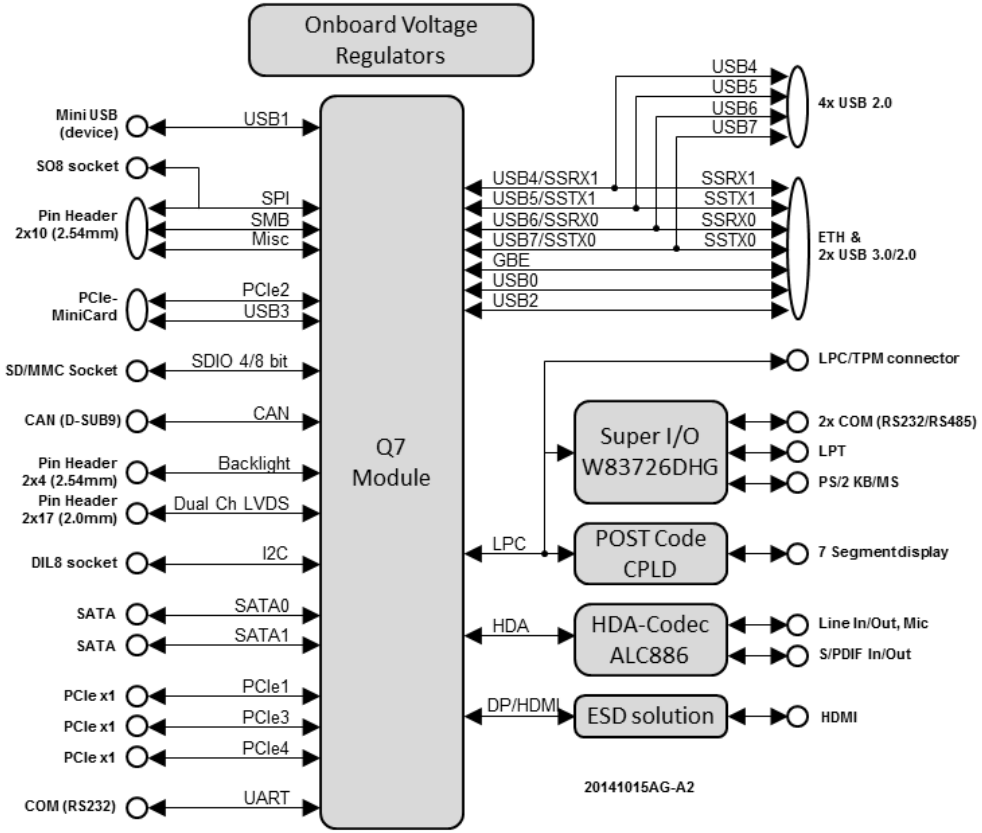
Block Diagram



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Title	Q7-BASE - Blockdiagram		
Size A3	Document Number Q7-BASE (51-77A02-0A30)	Designer MS/AG/SK	Rev A3
Date: Monday, March 02, 2015	Sheet 1 of 14		

Q7-BASE - Overview

REVISION INFORMATION	PROJECT NO.: 201300xx	PROJECT: 77A02-0A10 / Q7-BASE	INITIAL RELEASE: A1	DATE: 20.8.2013	DESIGNER: MS

DESCRIPTION: Carrier Board for Q7 CPU Modules (Rev 2.0 SGET)

DESIGN OVERVIEW:

NO.	SHEET NAME	NO.	SHEET NAME	NO.	SHEET NAME
01	Overview	06	PS2, LPT	11	LVDS, DDI
02	Block Diagram	07	PCIe	12	POST-Code, TPM-Con.
03	Q7 Connector	08	HDA-Codec	13	Misc
04	SuperIO	09	SATA, SD/MMC, CAN	14	Power
05	COM, UART	10	USB, GBE		

REDESIGN: A2 | DATE: 07.07.2014 | DESIGNER: MS/AG

SHEET#	SHEET	CHANGES
02	Block Diagram	include new functionality
03	Q7 Connector	Mounting Holes: each a filter, add R376/R723 as SMB pullup
06	PS2,LPT	swap KB/MS at connector
07	PCIe	clock buffer corrected
08	HDA-Codec	C615=2.2pF, directions corrected
09	SATA, SD/MMC, CAN	CAN isolated power removed Added ESD protection on SD/MMC-Card connector
10	USB, GBE	USB Dev CC and ID corrected USB3.0 corrected, R489-R492 in 0603
11	LVDS, DDI	DDI HP Detection inverted, generate HDMI
12	POST-Code, TPM-Con.	7SEG common pis: Common-Anode and Common-Cathode usabel new TPM connector
13	Misc	FAN: 5V or 12V VCC, U69 with new P/N
14	Power	ATXPG versions: 5V and 3.3V available MPCIe HalfSize Mounting Holes Added decoupling caps on ATX connector

REDESIGN: A3 | DATE: 05.02.2015 | DESIGNER: AG/SK

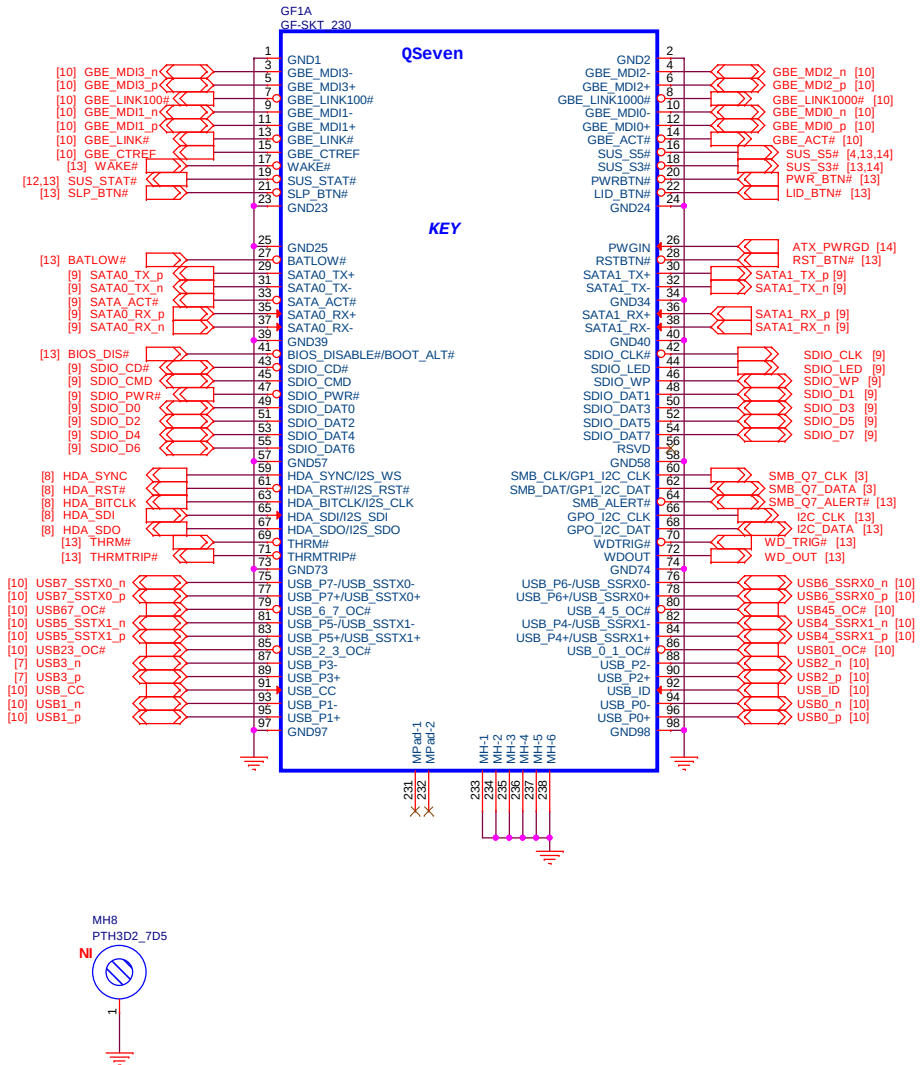
SHEET#	SHEET	CHANGES
09	SATA, SD/MMC, CAN	Change R516/R517 to 680ohm Add 100K PD R769 to SDIO_LED signal
11	LVDS, DDI	Unstuff R724, stuff R717 and Q19, add R760 (NI) PD to DDI_HPD# Add 0R0 (NI) series resistors to DDC_A and DDC_B side R763-R766 Add additional levelshifter U98 for DDC signals. Changed B72/B75 to Bead with 100ohm/3A type Remove CN64, B74, C548 and connect VCC_LCD to CN65 Pin2 stuff R675
13	Misc	Changed LED13/LED14 to none EOL part Move R733 to page 14 - Power Stuff R733

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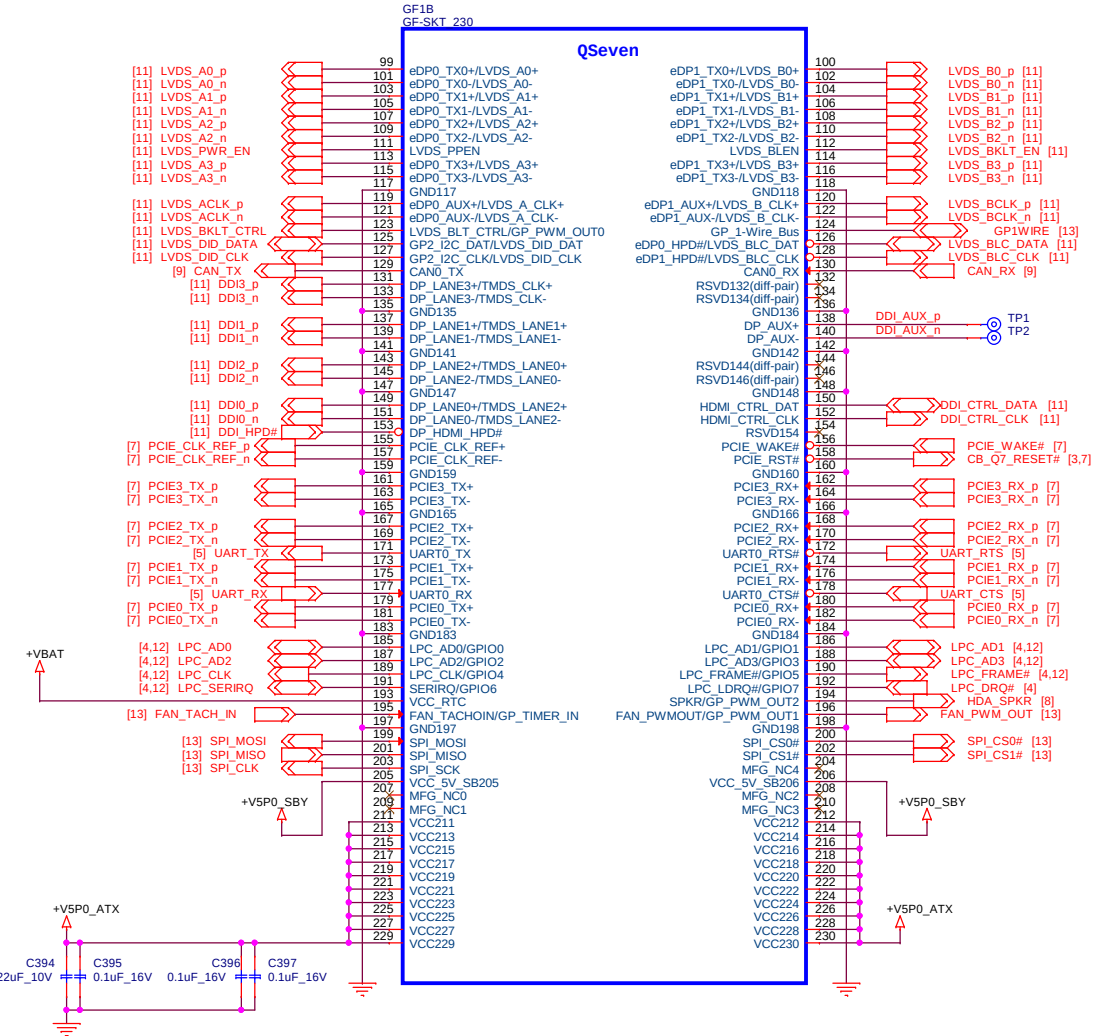
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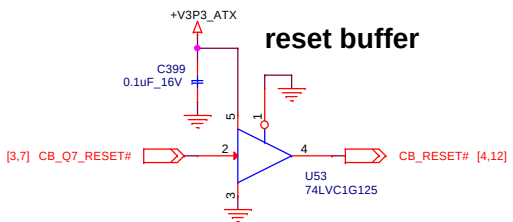
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Size: A3	Document Number: Q7-BASE (51-77A02-0A30)	Designer: MS/AG/SK	Rev: A3
Date: Monday, March 02, 2015	Sheet 2 of 14		

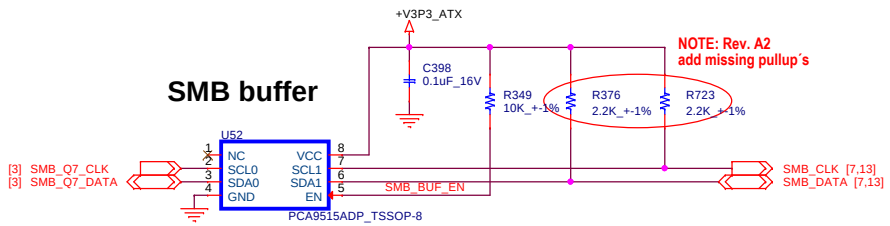
Q7 connector (1/2)



Q7 connector (2/2)





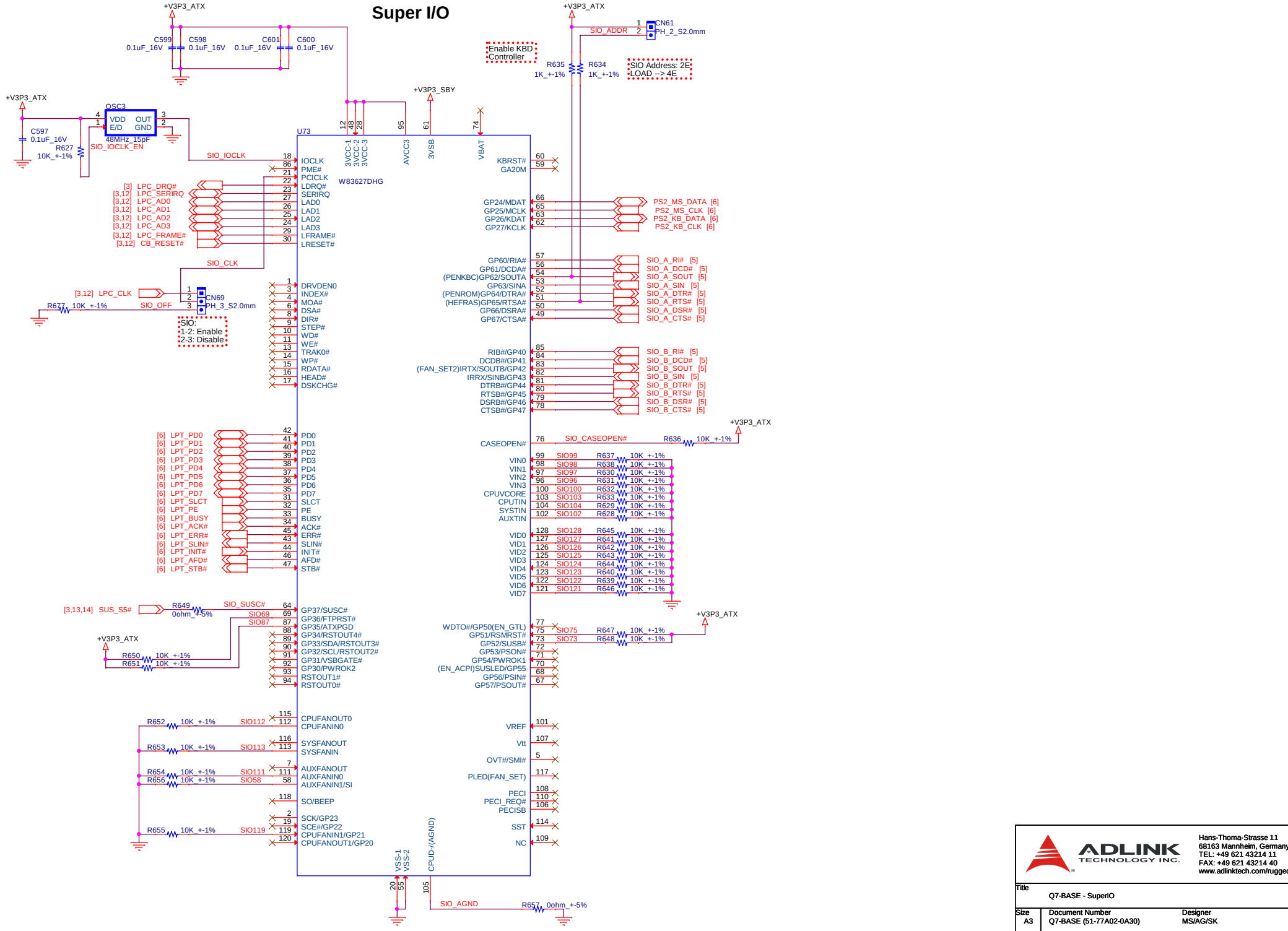


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Title	Q7-BASE - Q7-Connector		
Size A3	Document Number Q7-BASE (51-77A02-0A30)	Designer MS/AG/SK	Rev A3
Date: Monday, March 02, 2015	Sheet 3 of 14		

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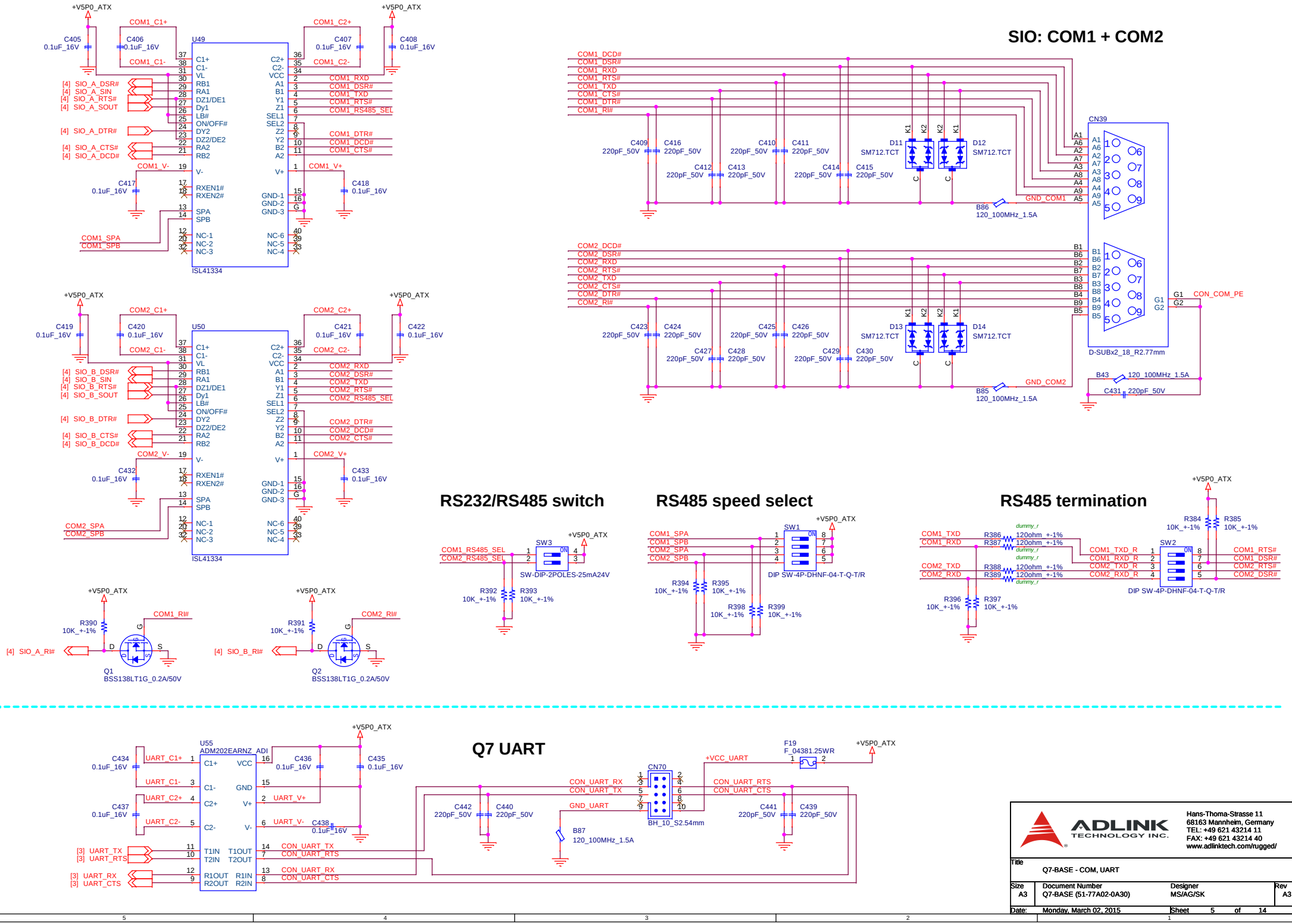
Super I/O



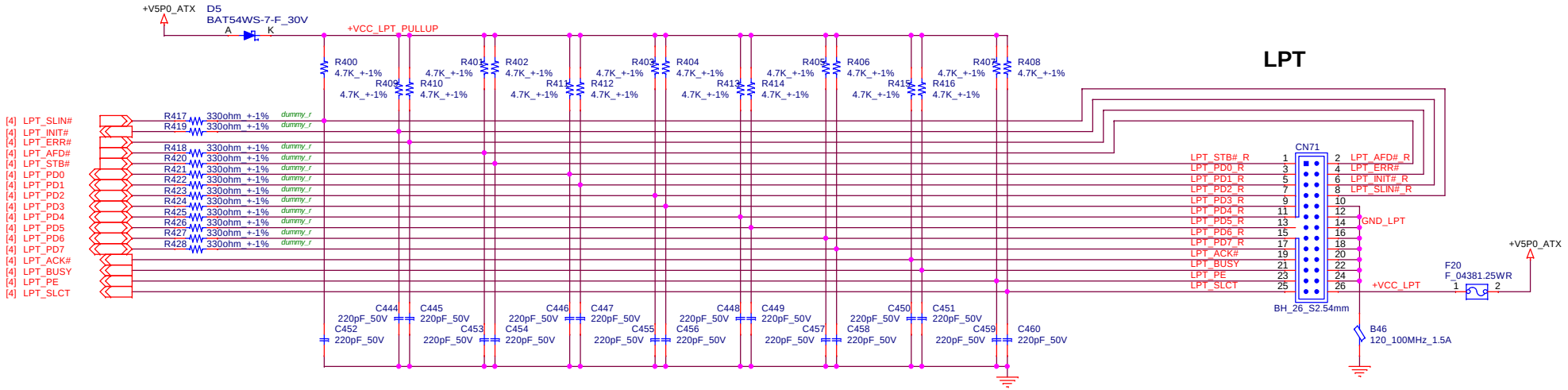
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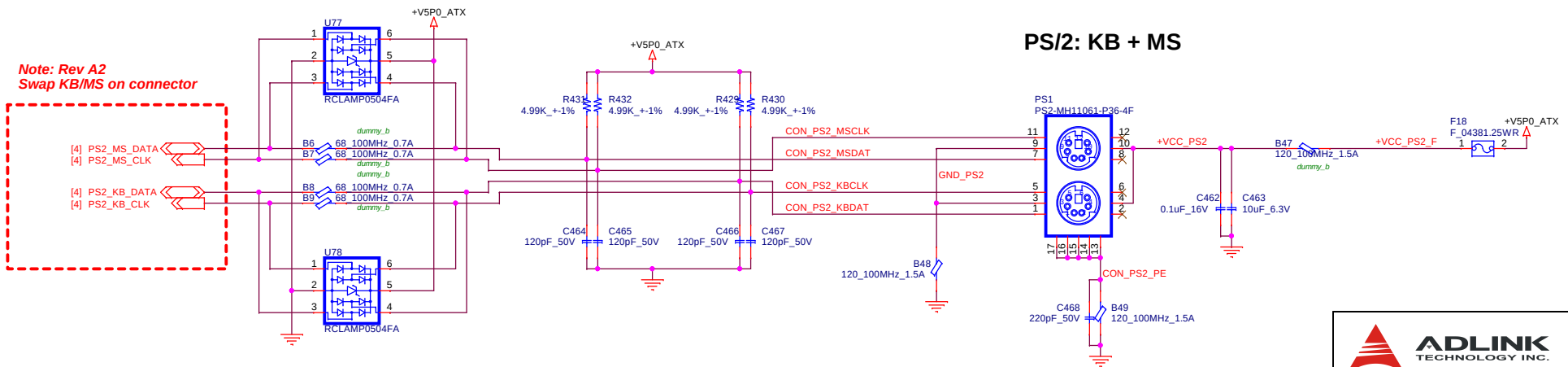
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Size A3	Document Number Q7-BASE (51-77A02-0A30)	Designer MS/AG/SK	Rev A3
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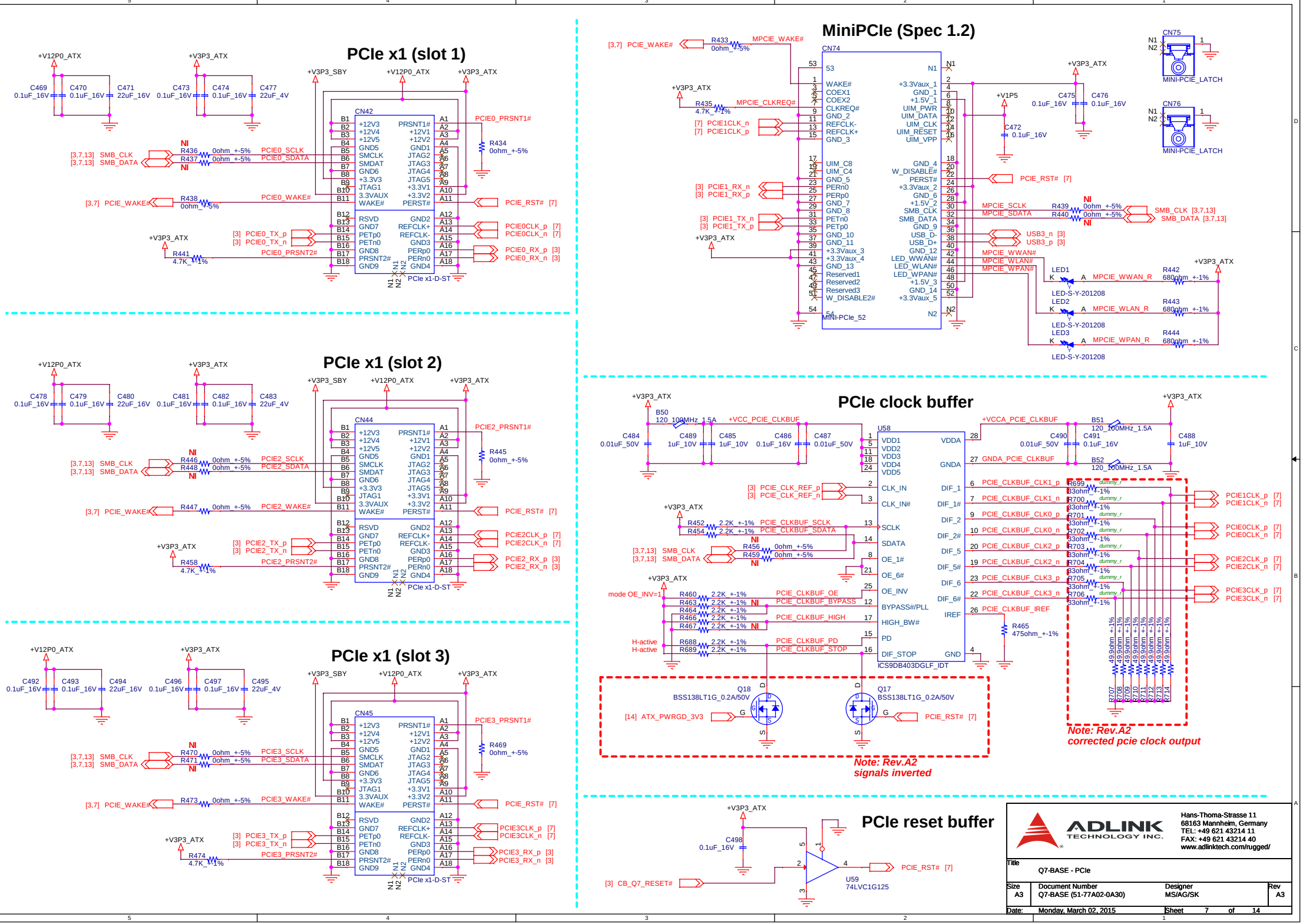




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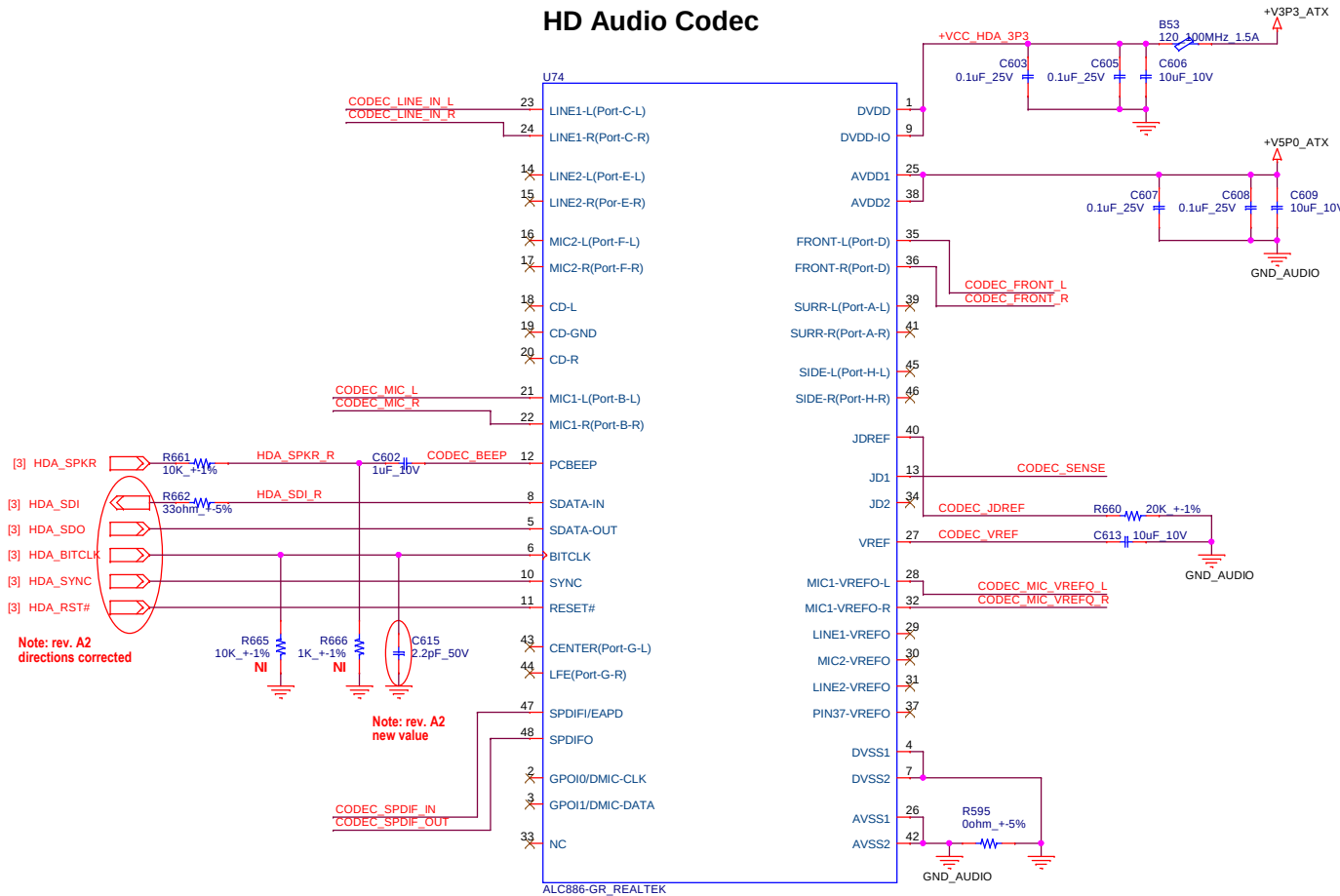
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Size A3	Document Number Q7-BASE (51-77A02-0A30)	Designer MS/AG/SK	Rev A3
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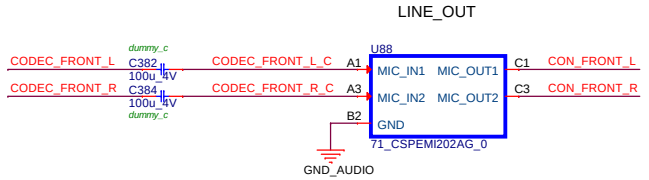


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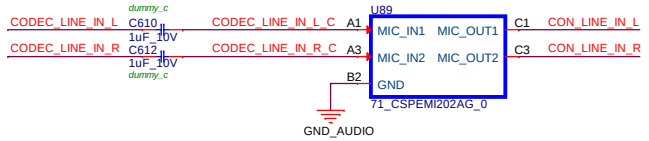
HD Audio Codec



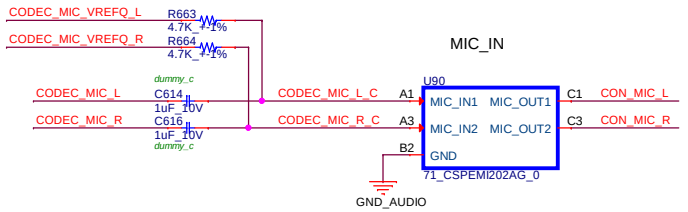
LINE_OUT



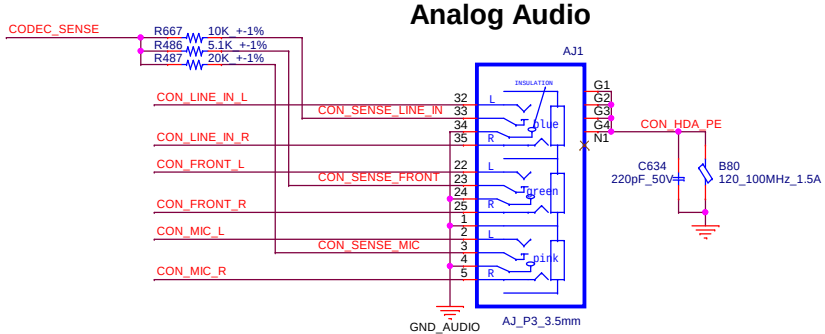
LINE_IN



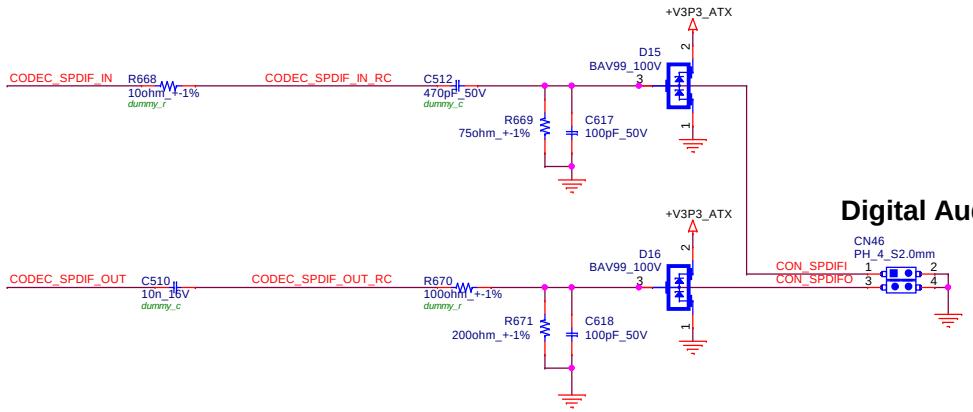
MIC_IN



Analog Audio



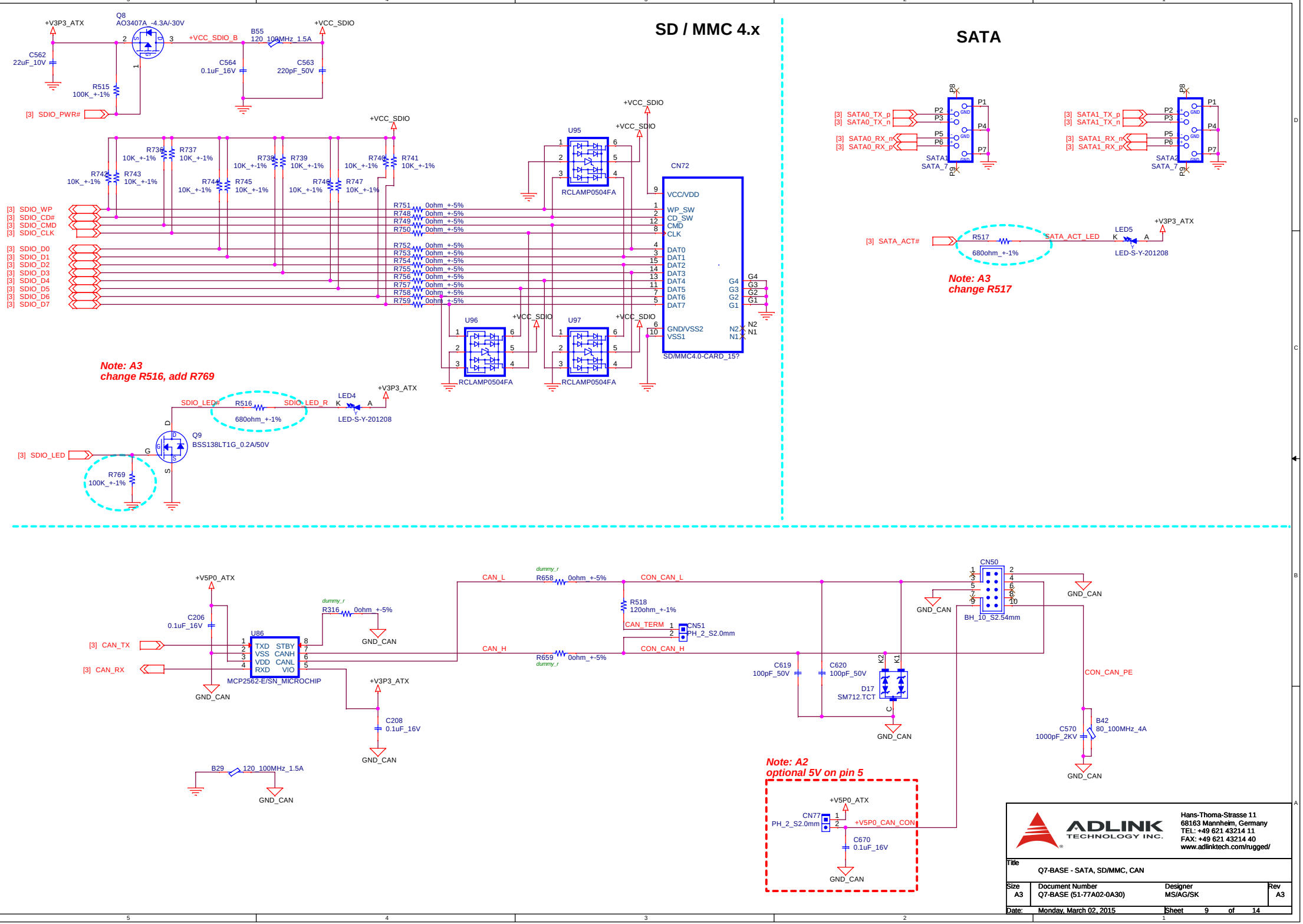
Digital Audio



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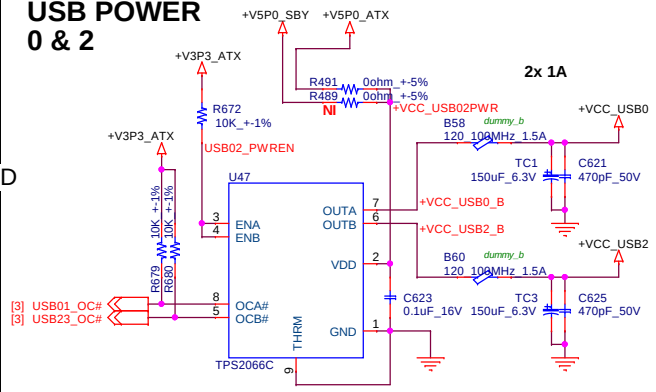
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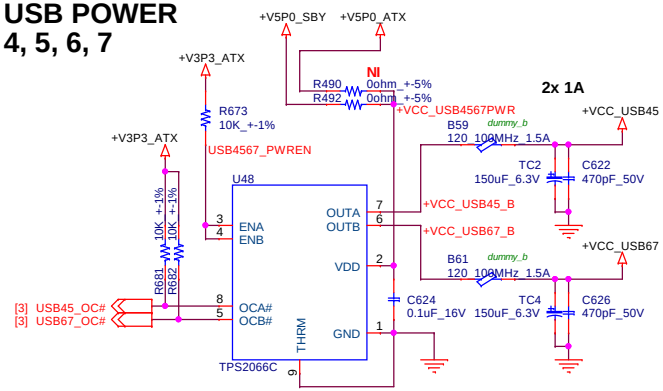


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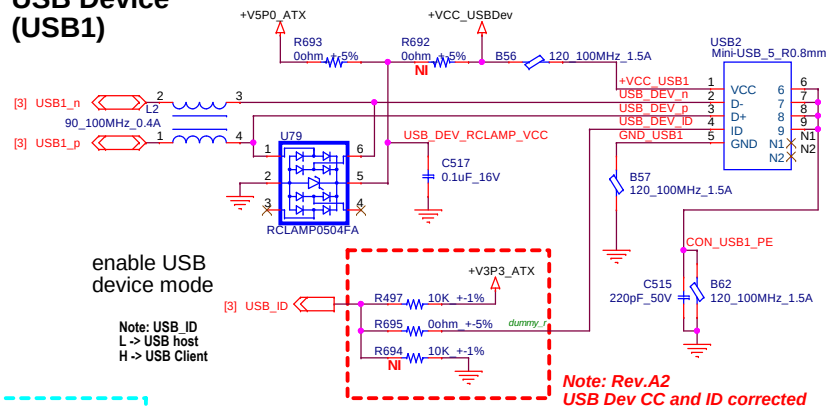
USB POWER 0 & 2



USB POWER 4, 5, 6, 7

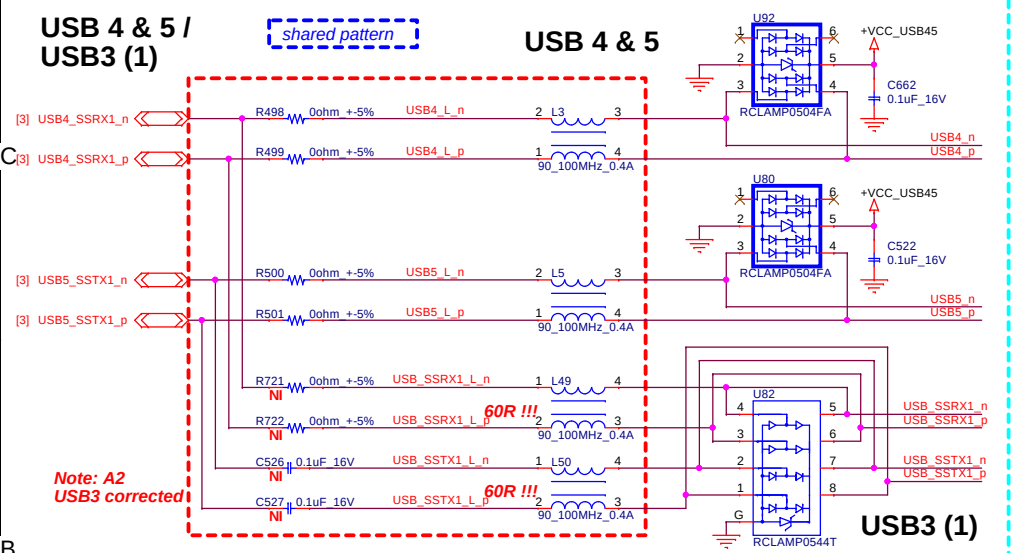


USB Device (USB1)

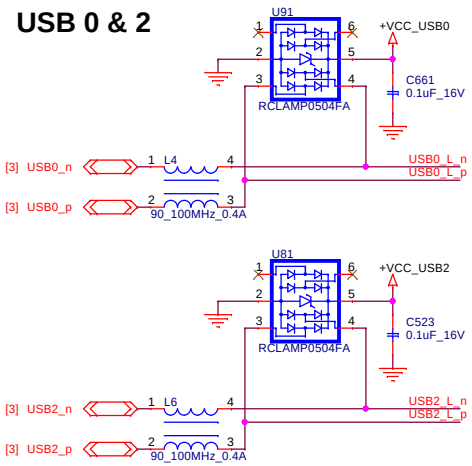


USB 4 & 5 / USB3 (1)

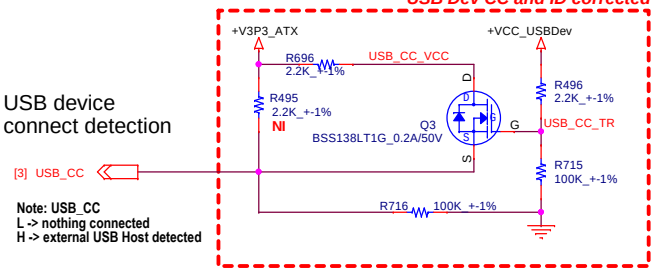
shared pattern



USB 0 & 2

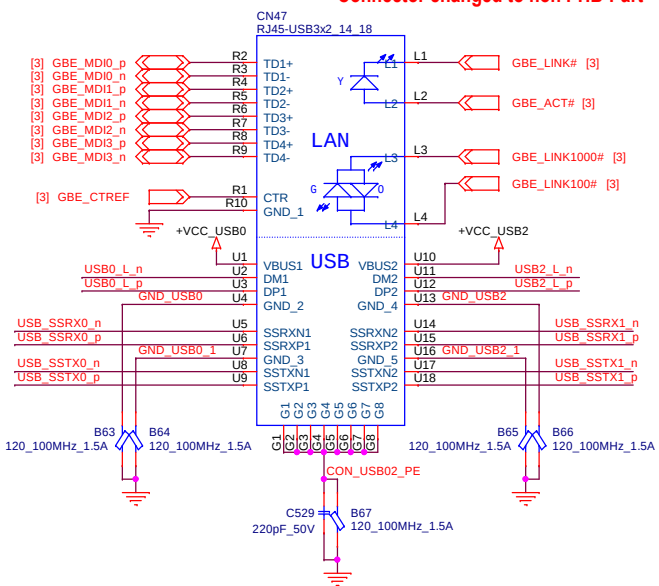


USB device connect detection



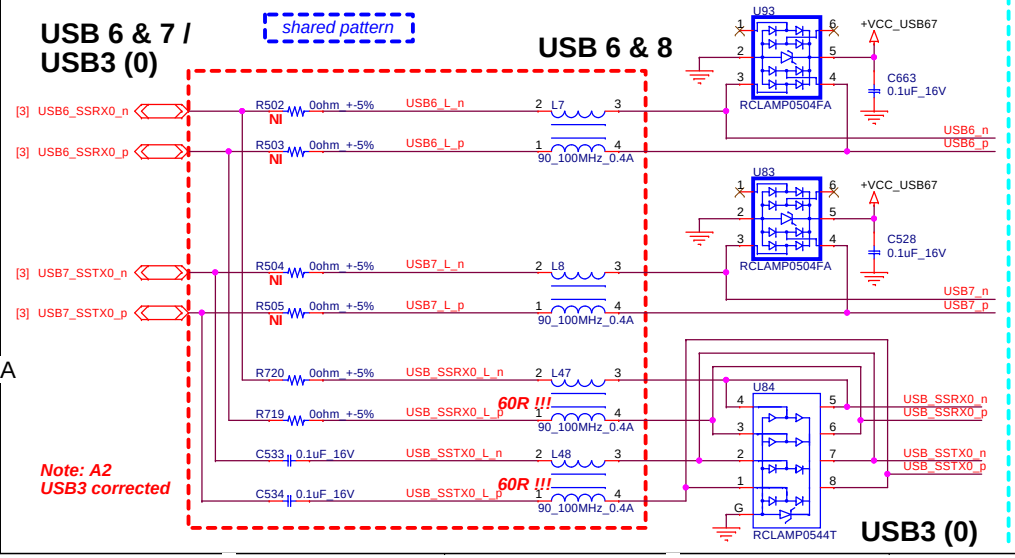
GBE & 2x USB 3.0/2.0

Connector changed to non PHB-Part

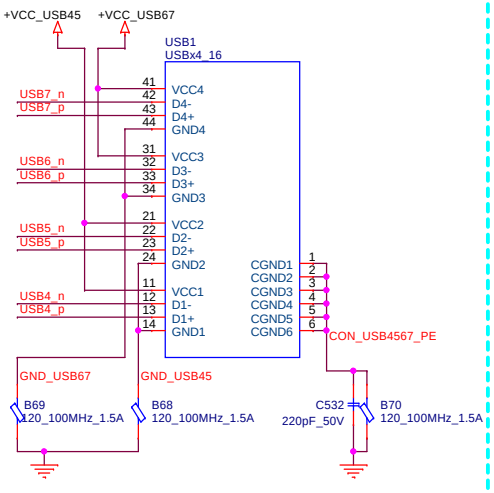


USB 6 & 7 / USB3 (0)

shared pattern



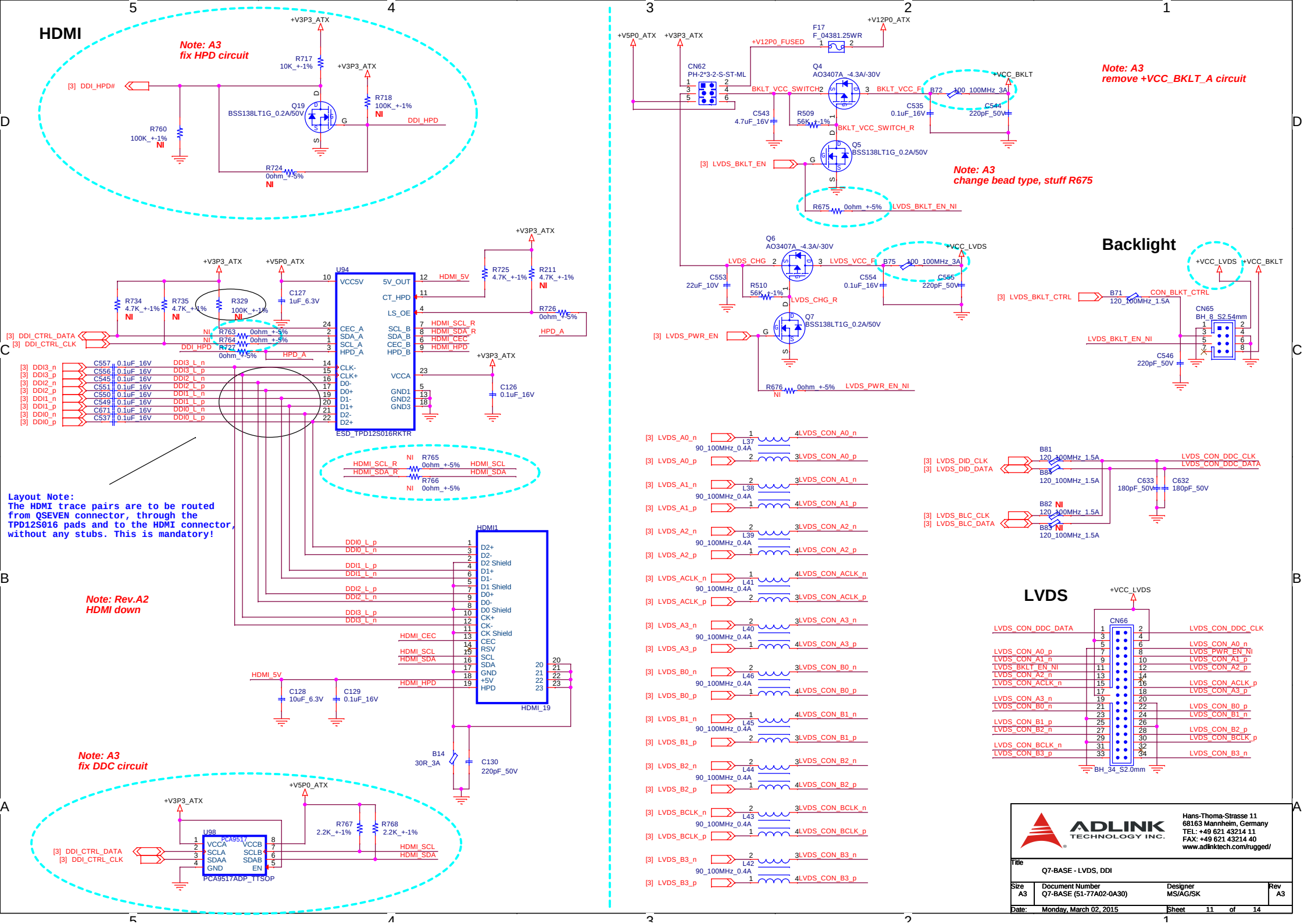
Optional, instead of USB3.0 4x USB 2.0 + 2x USB 2.0 on GBE Con



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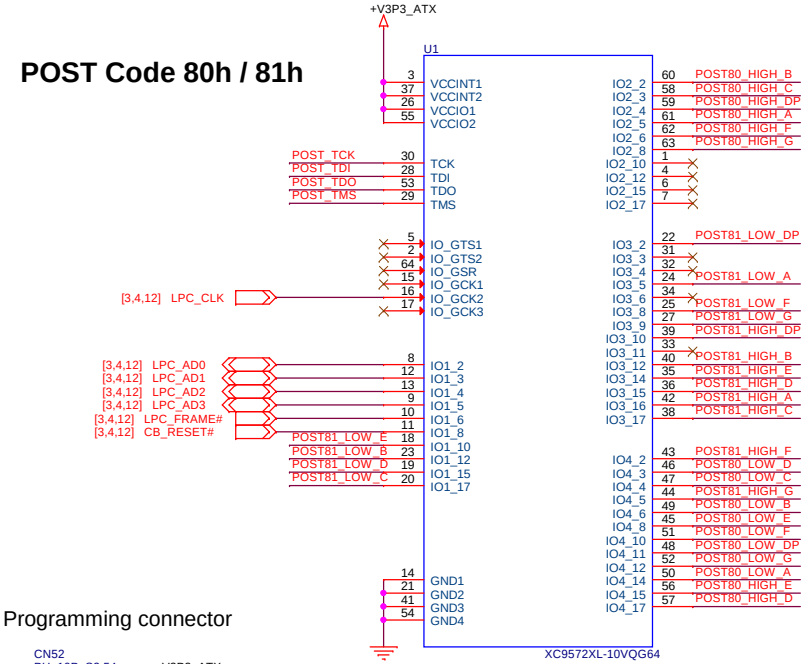
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Size A3	Document Number Q7-BASE (51-77A02-0A30)	Designer MS/AG/SK	Rev A3
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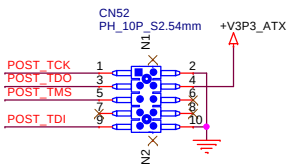


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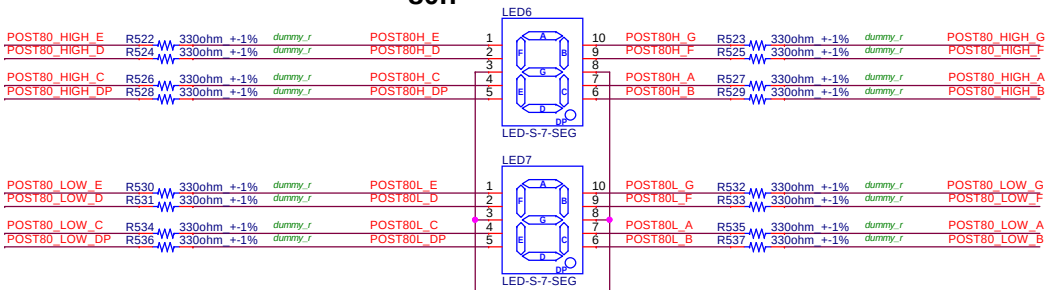
POST Code 80h / 81h



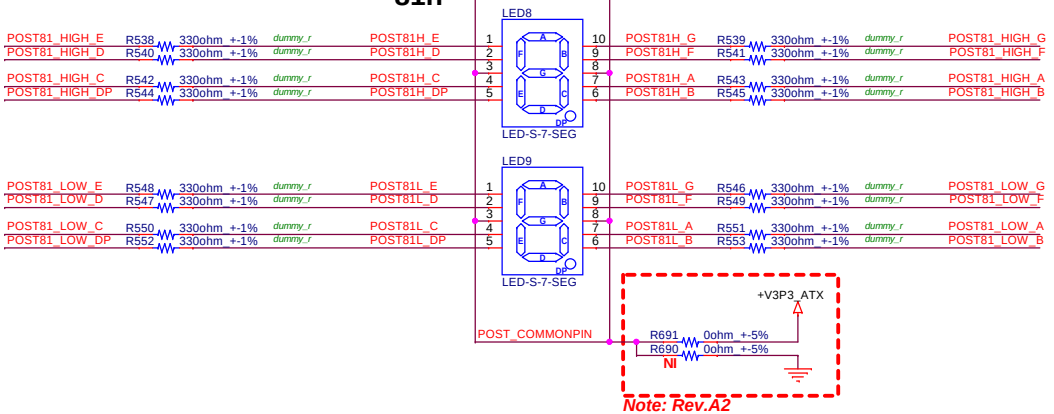
CPLD Programming connector



80h

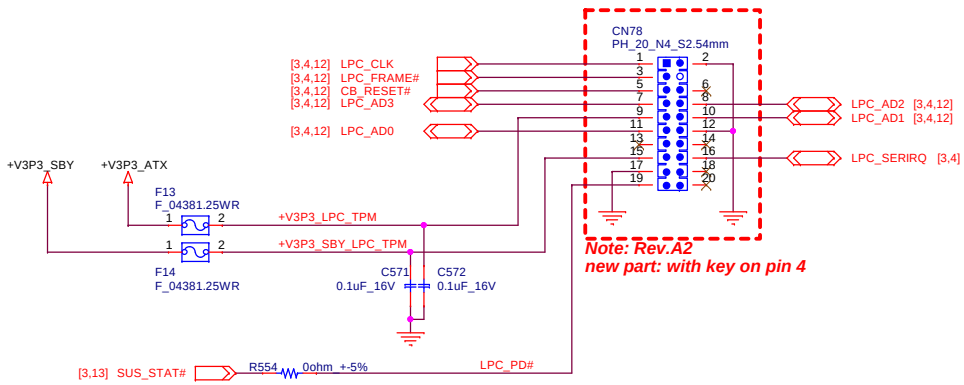


81h



Note: Rev.A2
common-anode and common-cathode usable:
PU: common-anode
PD: common-cathode

LPC / TPM socket



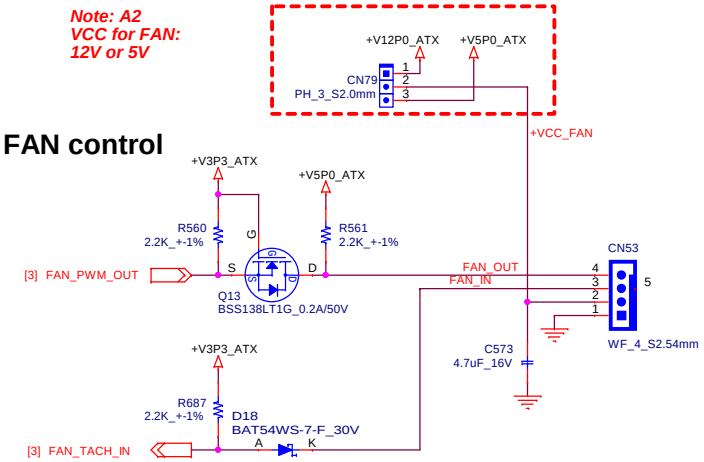
Note: Rev.A2
new part: with key on pin 4

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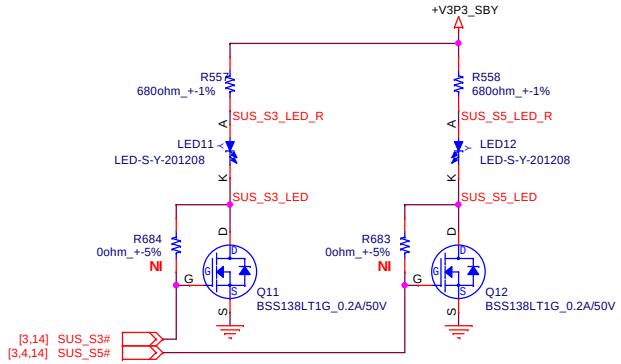
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Size A3	Document Number Q7-BASE (51-77A02-0A30)	Designer MS/AG/SK	Rev A3
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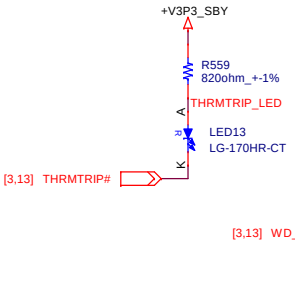
FAN control



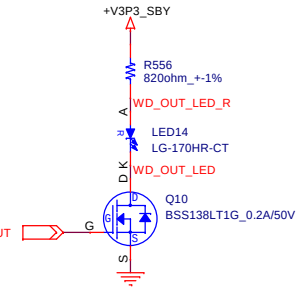
S3 / S5 LEDs



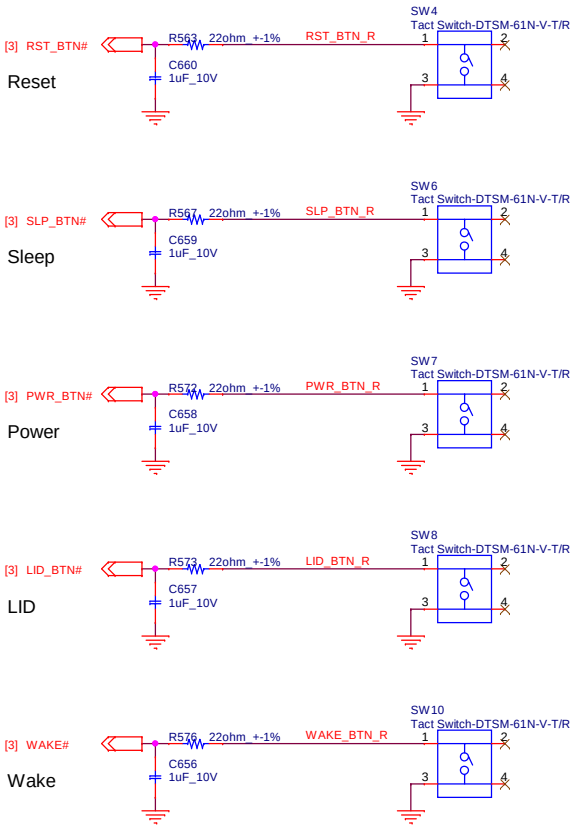
Thermtrip# LED



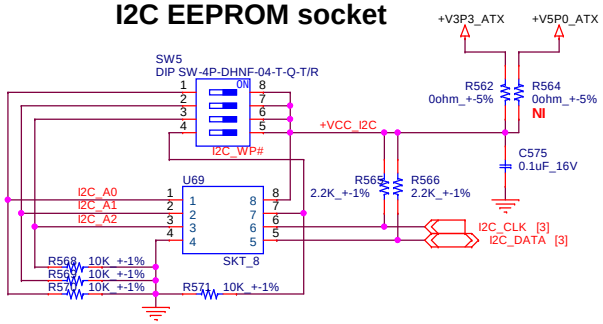
Watchdog LED



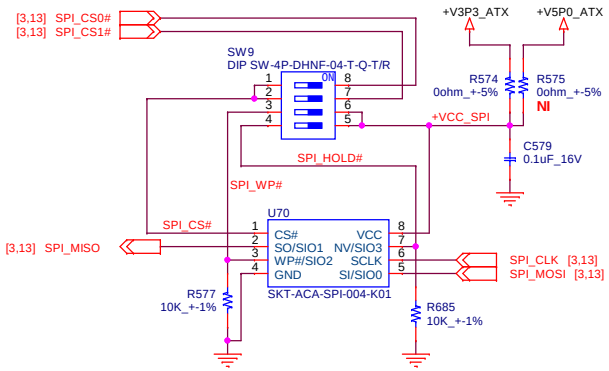
Buttons: Reset, Power, Sleep, LID, Wake



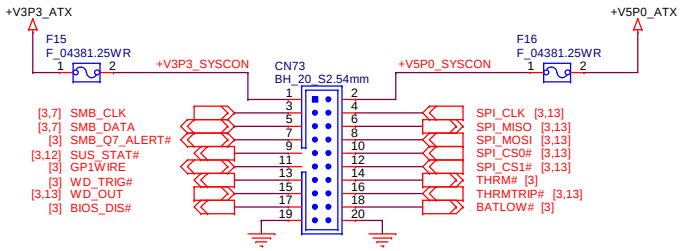
I2C EEPROM socket



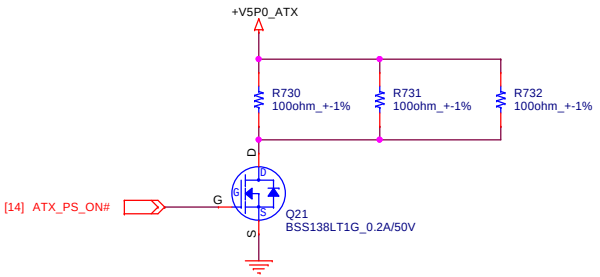
SPI EEPROM socket



System connector



LOAD

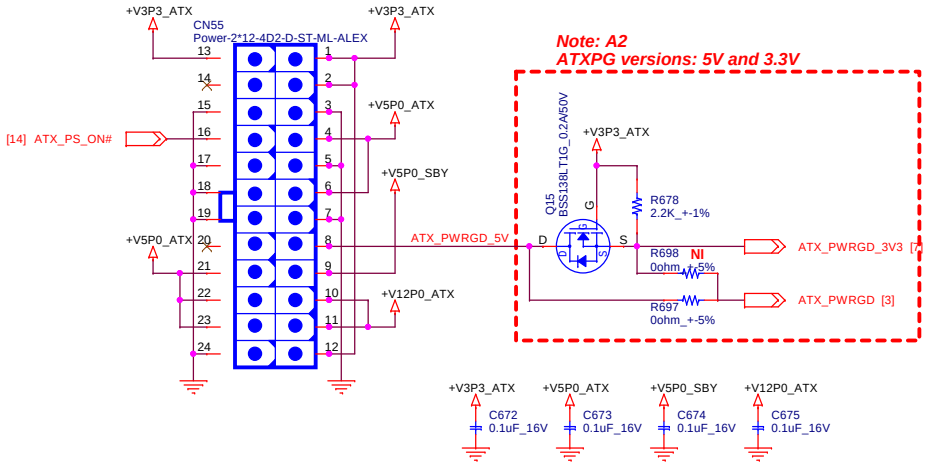


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Title	Q7-BASE - Misc		
Size A3	Document Number Q7-BASE (51-77A02-0A30)	Designer MS/AG/SK	Rev A3
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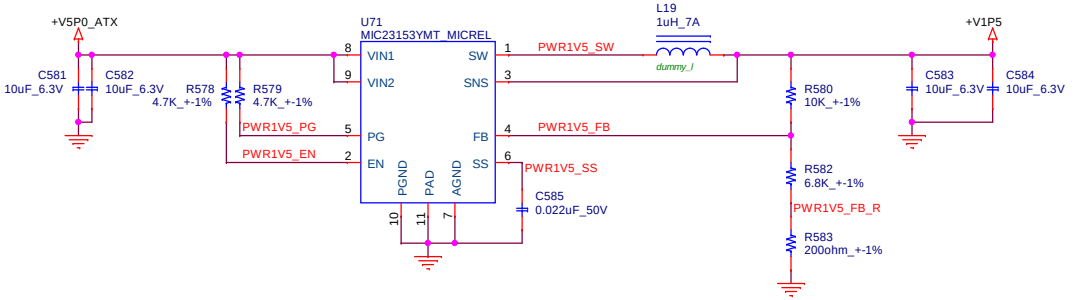
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ATX Power connector

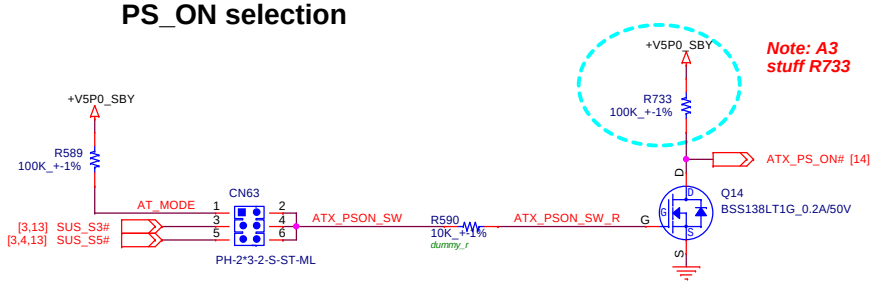


Layout Note: place caps close to the ATX connector

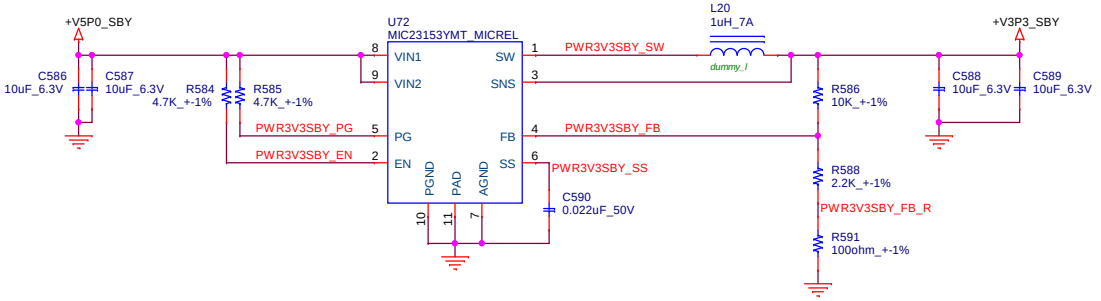
1.5 Voltage for MiniPCIe



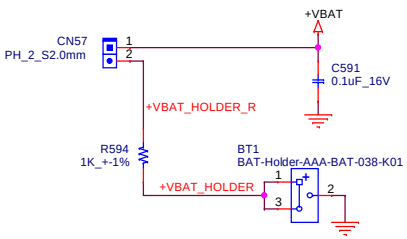
PS_ON selection



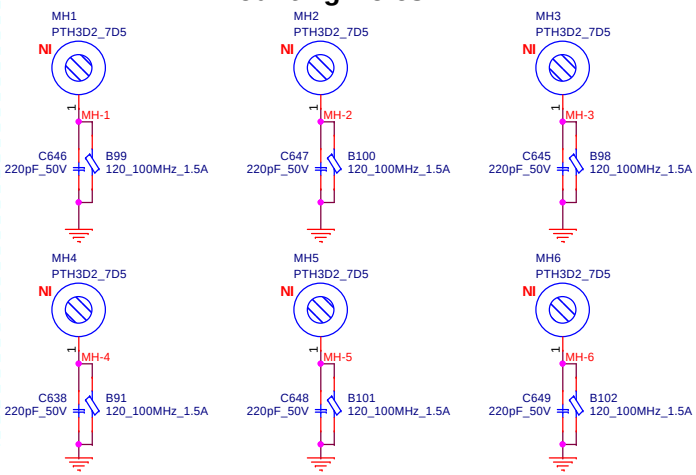
5.0V SBY --> 3.3V SBY



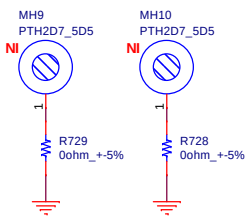
VBAT (VRTC)



Mounting Holes



MPCIe HalfSize Mounting Holes



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