

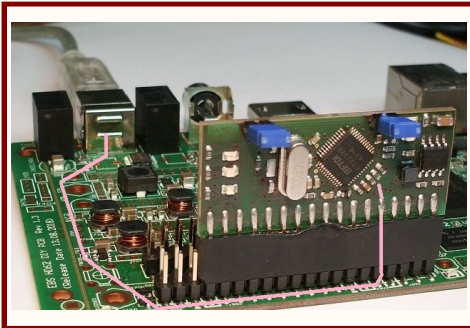
EBS HD62 DIY PCB (PCB-Rev. 1.3)

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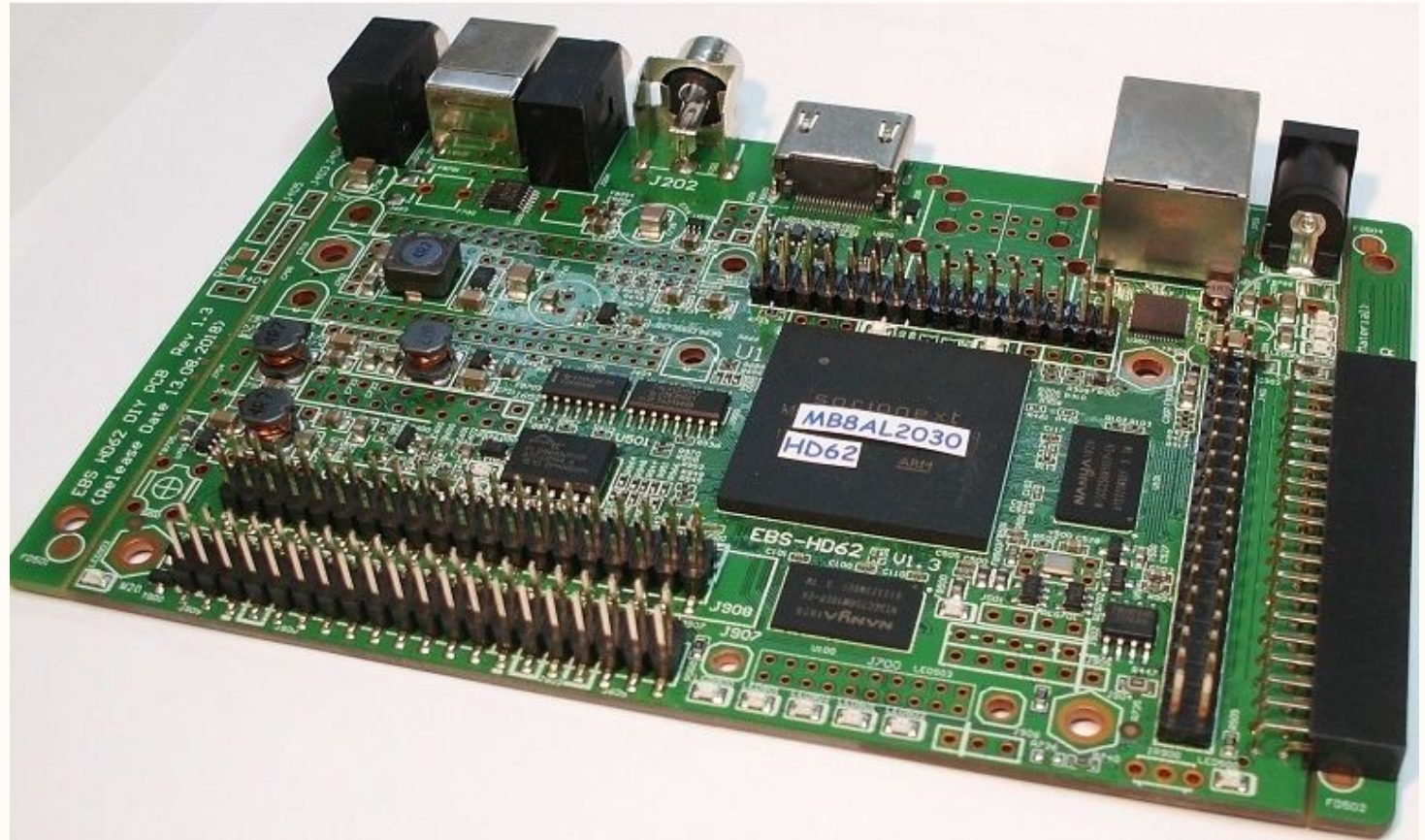
a 'Multimedia Decoder Board' using the Fujitsu/Socionext MB8AL2030 (HD62) Soc

by EBS-Engineering GmbH

NOTE: this Schematic (EbsHd62Diy_Sch_Vxxxxxyzz.pdf) is provided for public interest and non commercial use
(for some description refer to the associated 'EbsHd62Pcb_PubHwNotes_Vxxxxxyzz.pdf')



with opt. JTAG-Debug & RS232
"plug on PCB"



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Consulting & Design-Services for Electronics (HW/SW)
SoC-Components, with focus on Multimedia-Applications

Phone : +49 607121817

NOTE: picutre only in "color *.pdf"

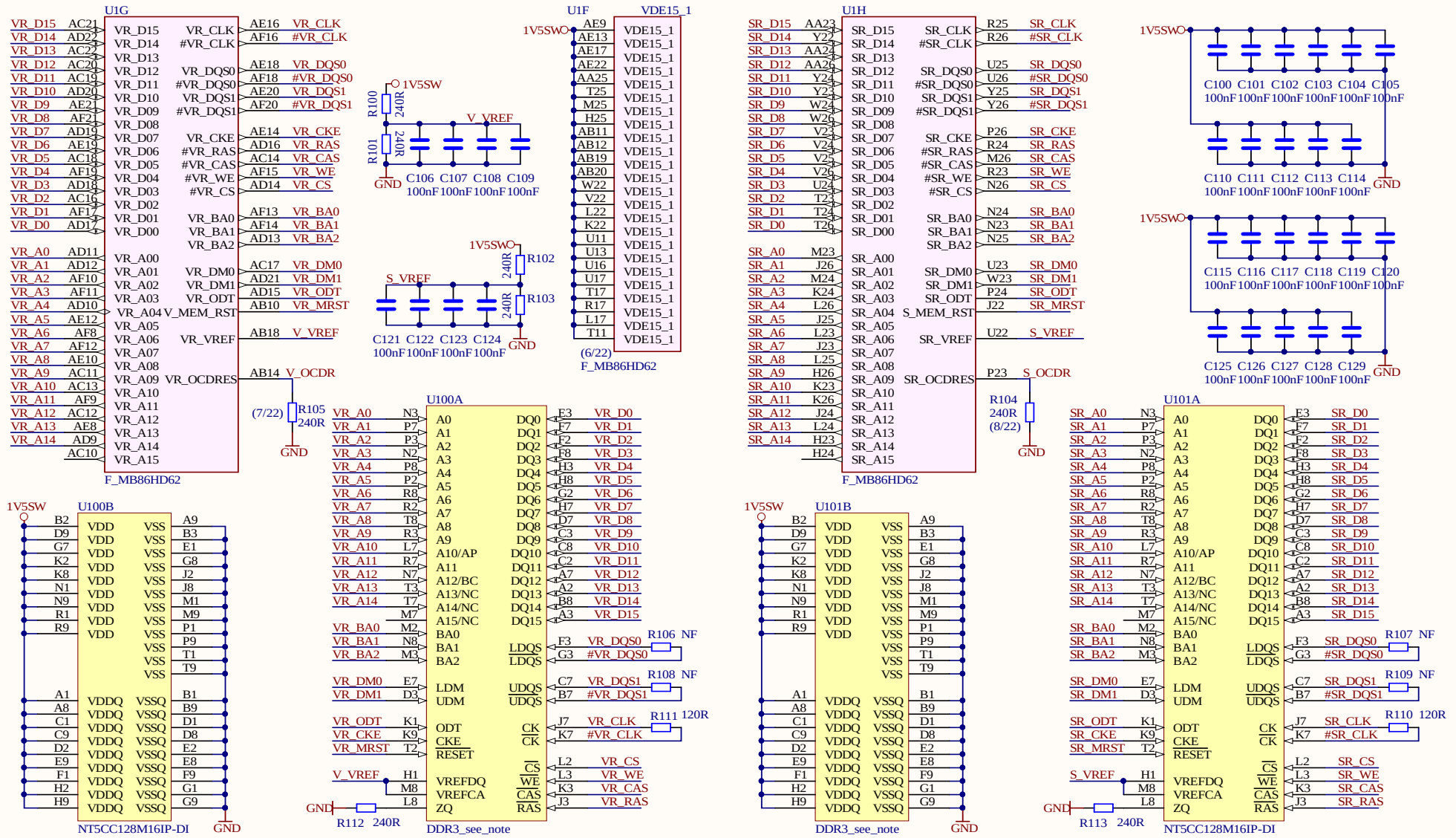
eMai: Edmund.Bendels@EBS-GmbH.net

Web www.EBS-GmbH.net

Title EBS HD62 DIY		
Size: A4	Number:1	Revision:1.3
Date: 11/15/2019	Time: 4:30:44 PM	Sheet1 of 10
File: D:\Tmp\EdHd62DiyV1.3\EBS_HD62_PCB_Notes.SchDoc		



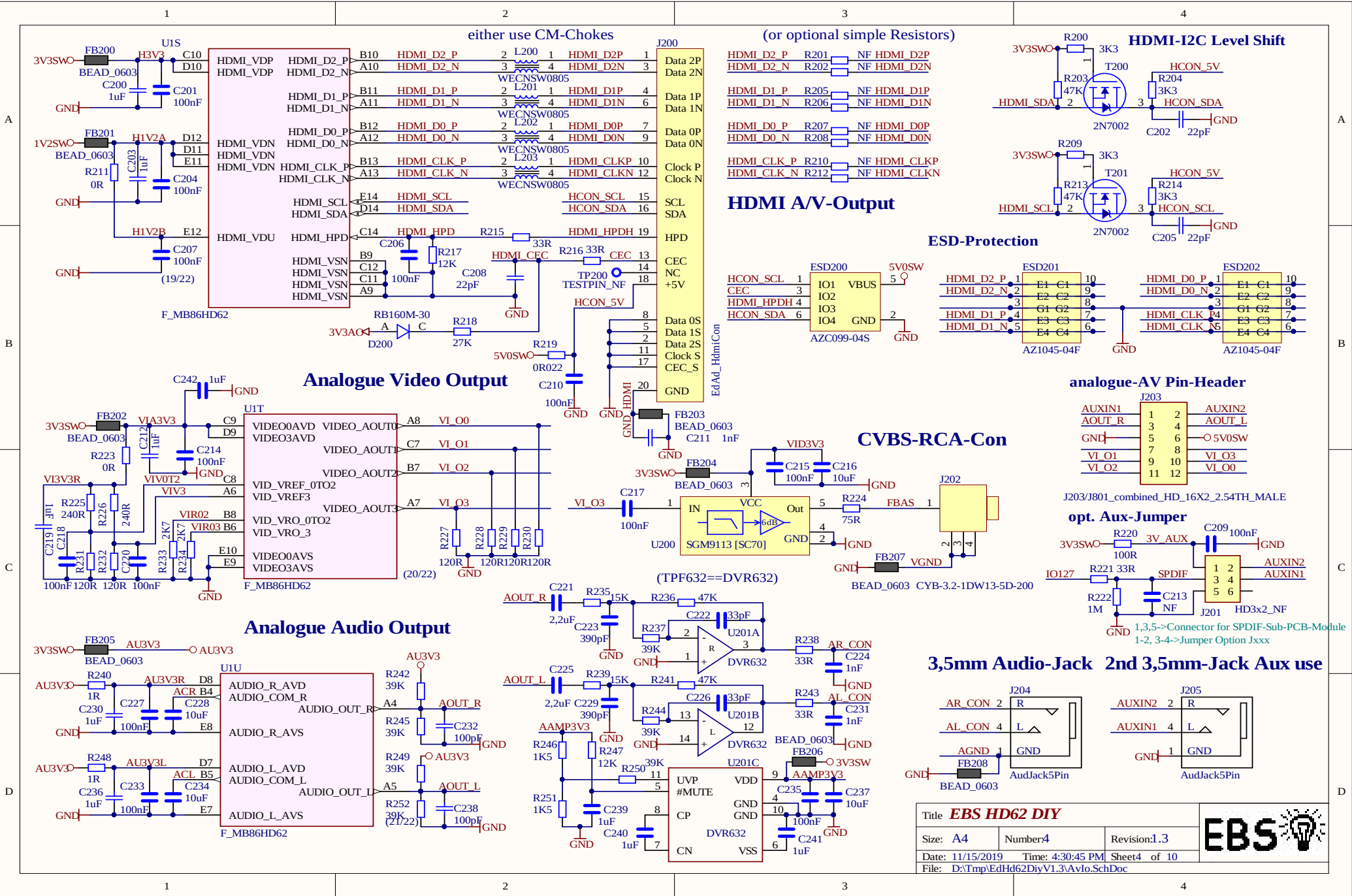




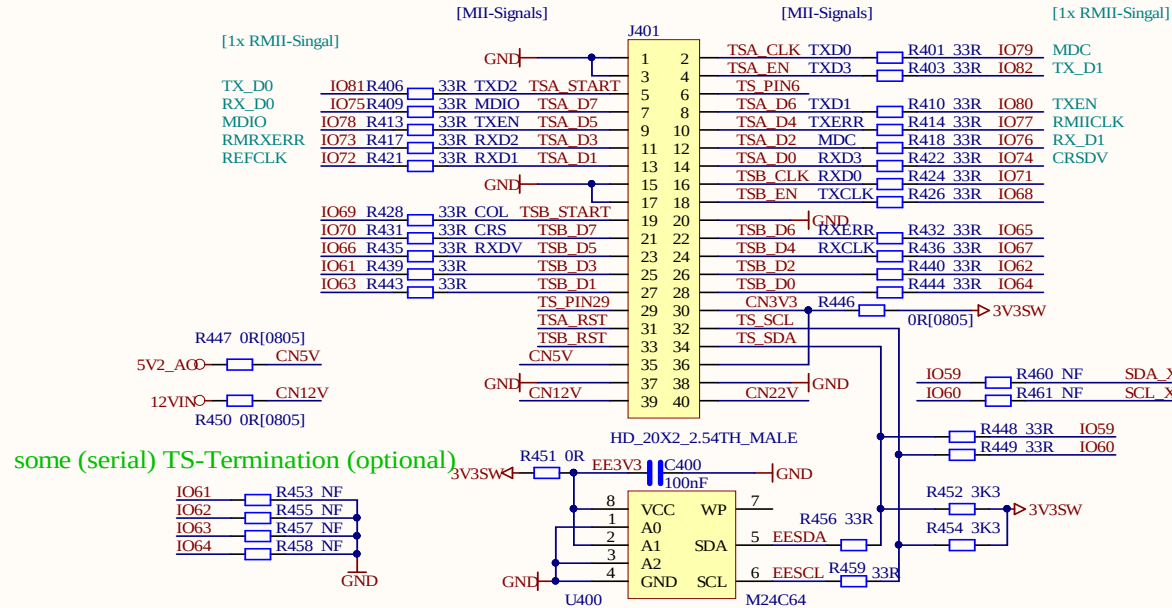
2x DDR3-Memory

Title EBS HD62 DIY		
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File: D:\Tmp\EdHd62DiyV1.3\Ddr3Mem.SchDoc		





TSA/TSB-Connector TOP

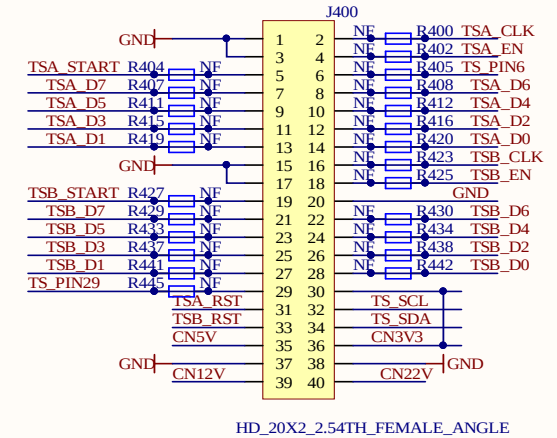


EEProm (can be used to store freq. used non-vol. data)

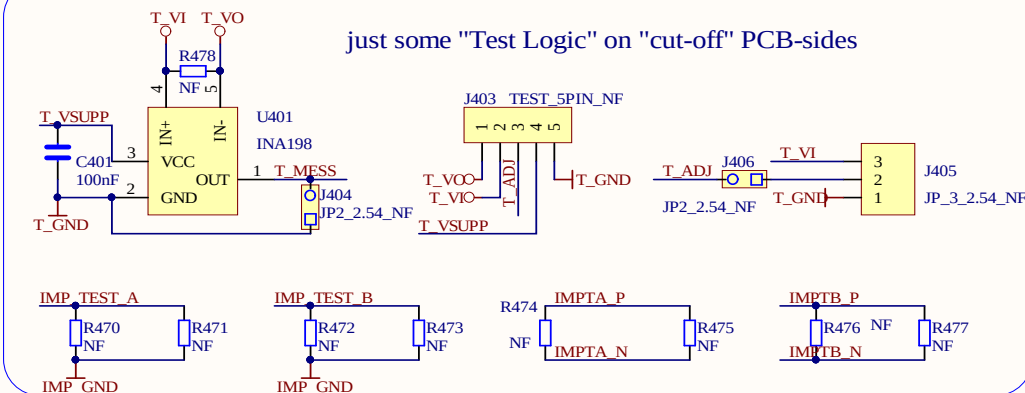
NOTE: TS-A/B pins/nets labled as "original Fujitsu DK-version"

However for "EBS applications" TS-B is preferably used as 'main (1st) TS-Input'
(TS-A might actually be used as 'TS-Output' or for other ext. boards, e.g. 2nd Eth. IF)

TSA/TSB-Connector BOT



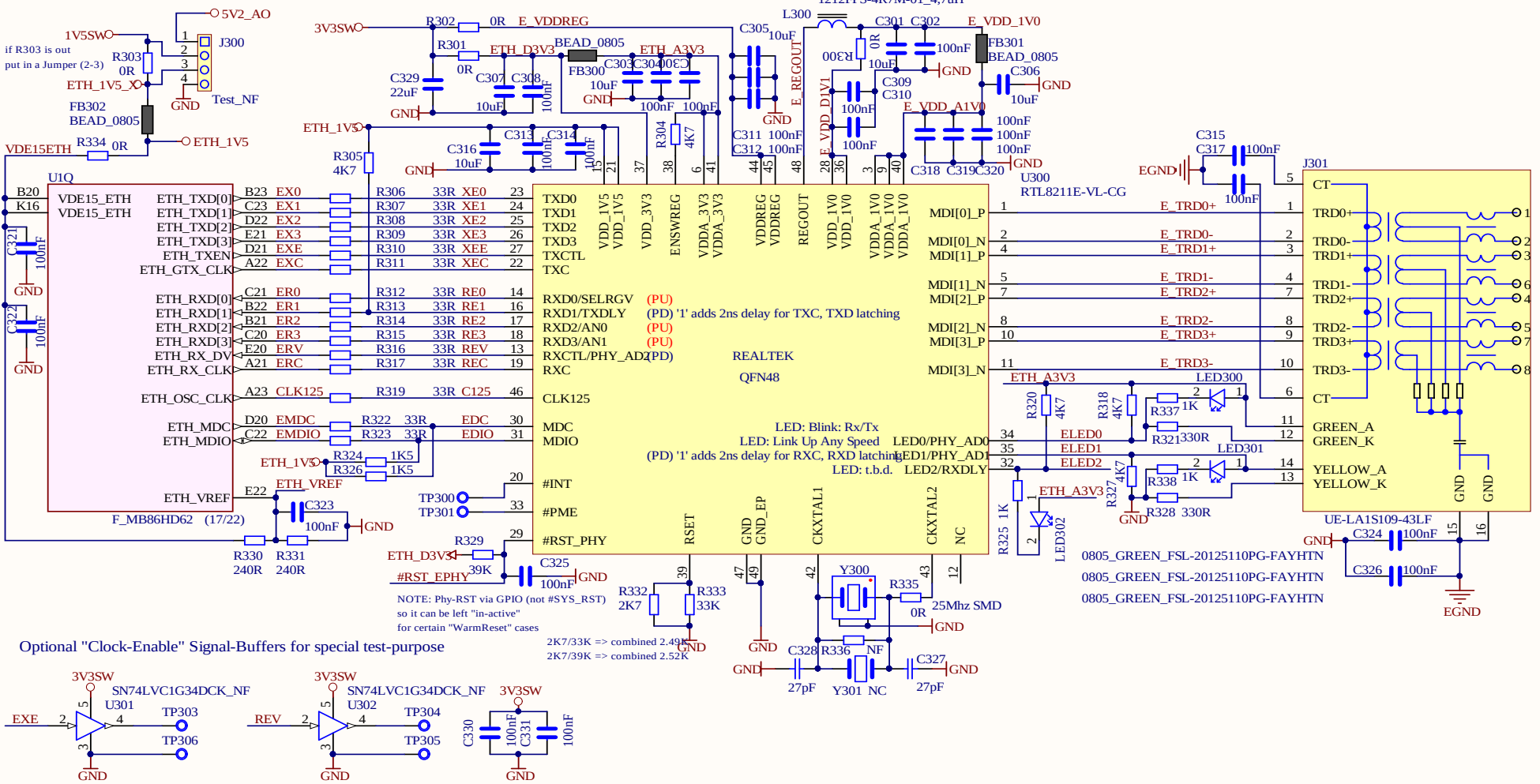
just some "Test Logic" on "cut-off" PCB-sides



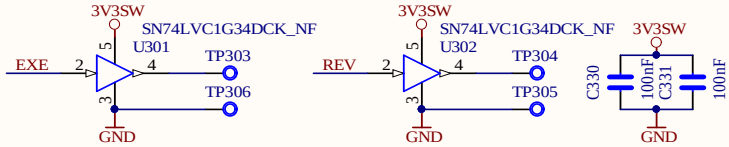
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Date: 11/15/2019	Time: 4:30:45 PM	Sheet: 5 of 10	
File: D:\Tmp\EdHd62DiyV1.3\TslnpEtc.SchDoc			

Gigabit Ethernet Interface

NOTE: Option for Ethernet-Supply, allow testing also other (out of spec) supply voltages e.g. "2V5"

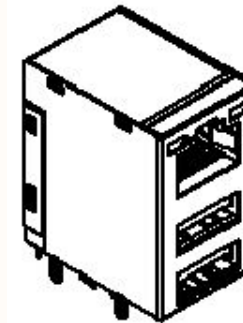
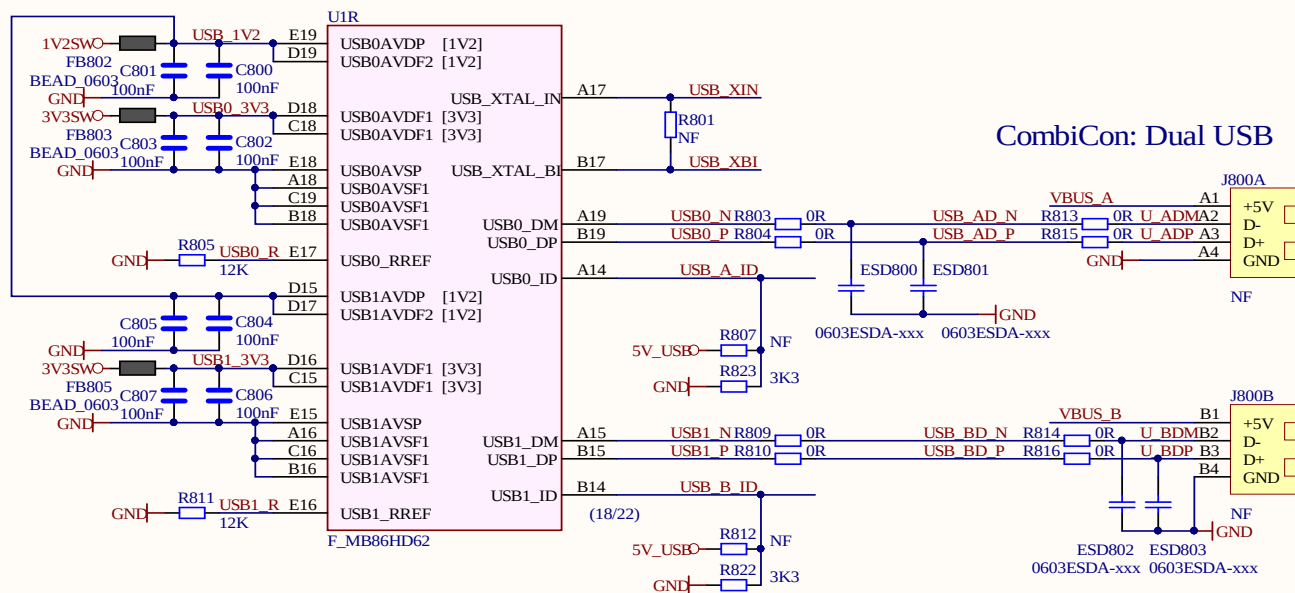


Optional "Clock-Enable" Signal-Buffers for special test-purpose



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File: D:\Tmp\EdHd62DiyV1.3\Ethernet.SchDoc		

EBS 

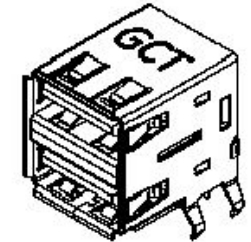


Combi-Connector

Eth.Jack

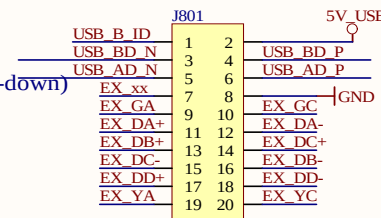
2x USB 2.0

e.g. WR-MJ Modular Jack
+ Dual USB stacked
<https://katalog.we-online.de/em/datasheet/615016338621.p>



or opt. just dual USB-Connector

Pin-Header connecting to
- USB Signals
- Eth.Jack of "Combi-Connector"

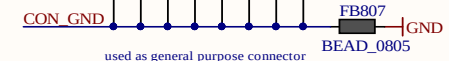
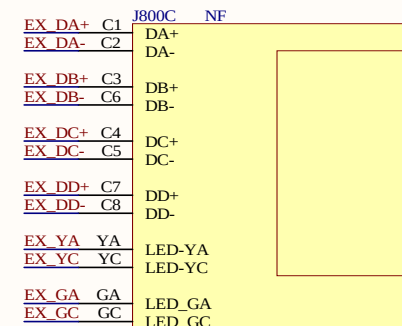


J203/J801_combined_HD_16X2_2.54TH_MALE

NOTE: The Eth.Jack "Ex. " Signals have no function on this PCB, they only allow connect an "inside plugged-on Ext.Boarc to the "outside"

Since the "Combi Connector" is relatively high, optionally a "dual USB-Connector" can be populated instead

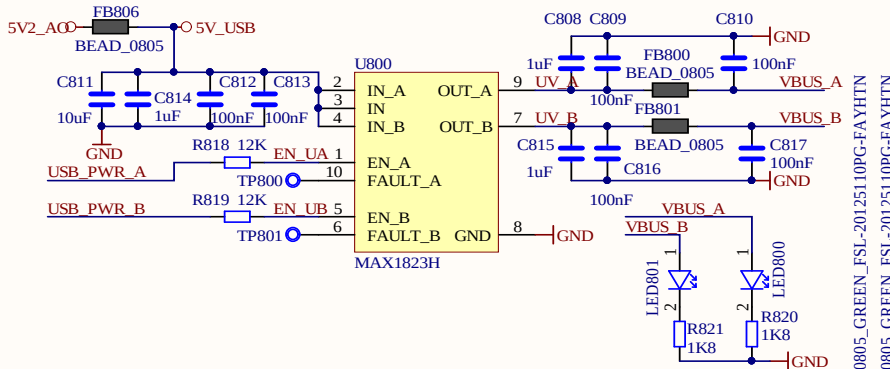
CombiCon: Eth.Jack



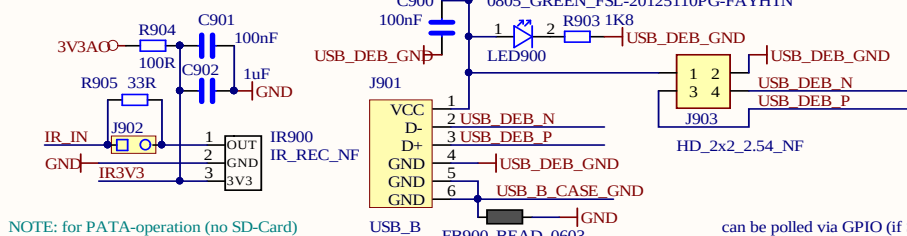
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Size: A4	Number 8	Revision 1.3
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File: D:\Tmp\EdHd62DiyV1.3\UsbInterface.SchDoc		



we use "5V_AO", VBUS-On/Off via USB_PWR_x), (can be switched OFF during PWR-down)

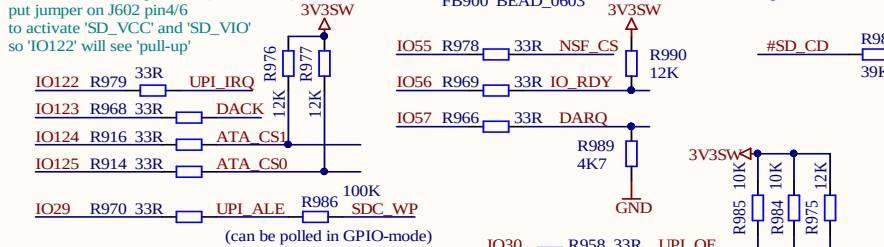


Connection "Ext-USB-Con" to J903

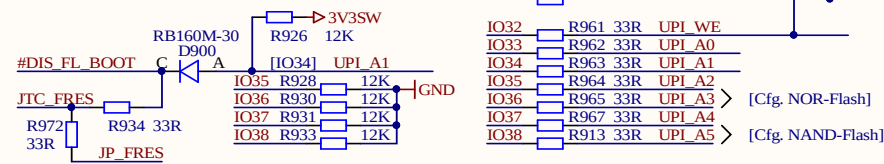


NOTE: for PATA-operation (no SD-Card) put jumper on J602 pin4/6 to activate 'SD_VCC' and 'SD_VIO' so 'IO122' will see 'pull-up'

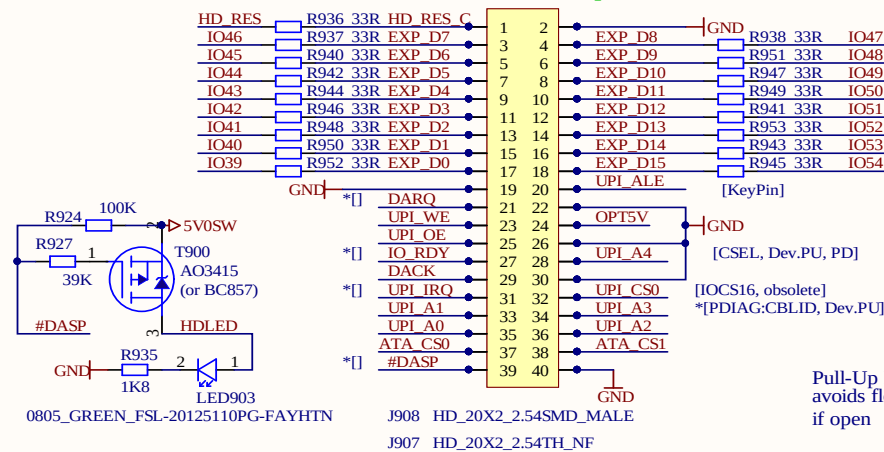
can be polled via GPIO (if SFlash not active)



"Boot Config GPIOs" (at reset)



UPI-BUS on "ATA" compatible Connector



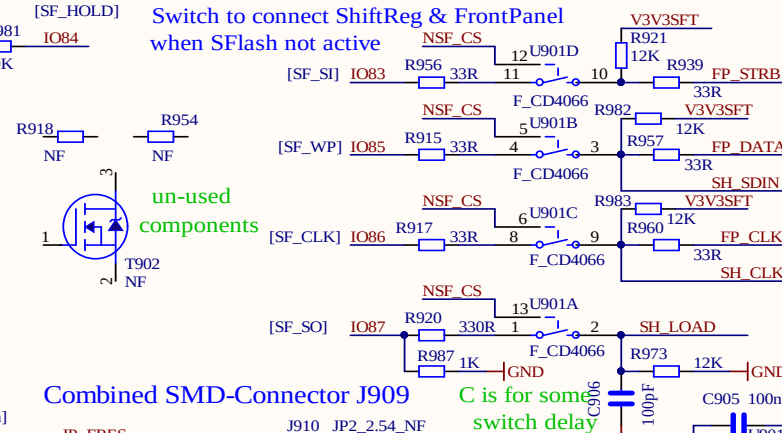
0805_GREEN_FSL-20125110PG-FAYHTN

J908 HD_20X2_2.54SMD_MALE
J907 HD_20X2_2.54TH_NF

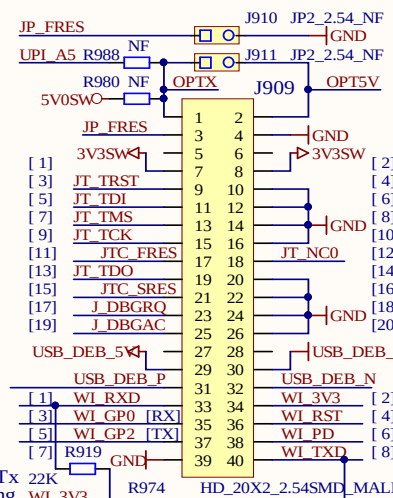
Pull-Up Rx/Tx avoids floating if open

("OnTop" of J910, J911, J900, J903, J605)

Switch to connect ShiftReg & FrontPanel when SFlash not active



Combined SMD-Connector J909



[J900]
[J903]
[J605]

using ShiftRegister to realize some Control-Outputs

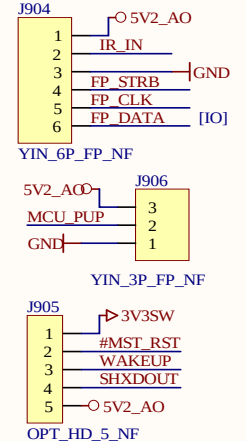
NOTE: if peripheral supply (SW)-voltages are in Power-Down J_SRES might be const. low causing a "master reset"

JTC_SRES R906 0R #SYS_RST
JTC_SRES R907 NF #MST_RST

LEDs can be used for 'alive/status' indications

WI_PD 1 R922 1K GND
LED901 0805_GREEN_FSL-20125110PG-FAYHTN
WI_RST 1 R925 1K GND
LED902 0805_GREEN_FSL-20125110PG-FAYHTN

FrontPanelConnectors

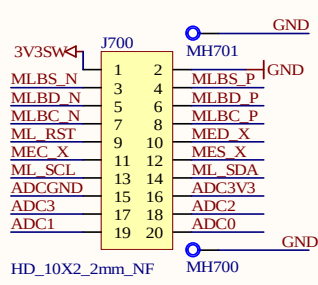
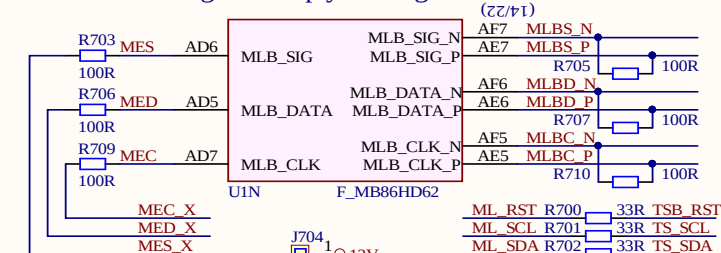


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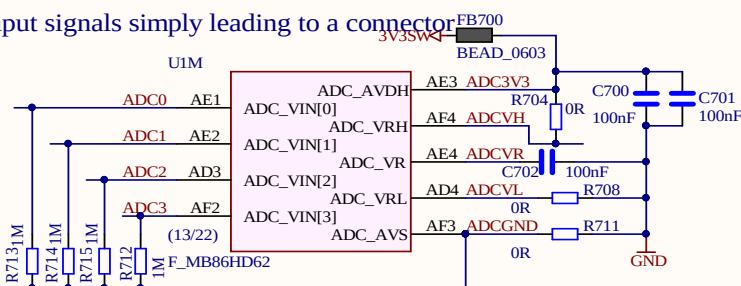
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EBS

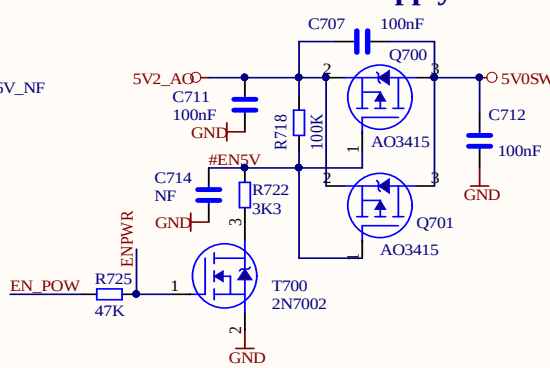
"Media-LB ®" signals simply leading to a connector



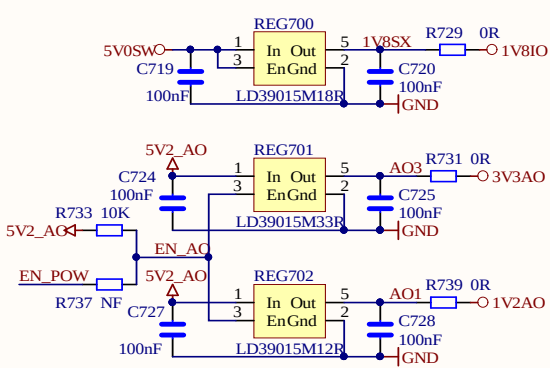
A/D-Input signals simply leading to a connector



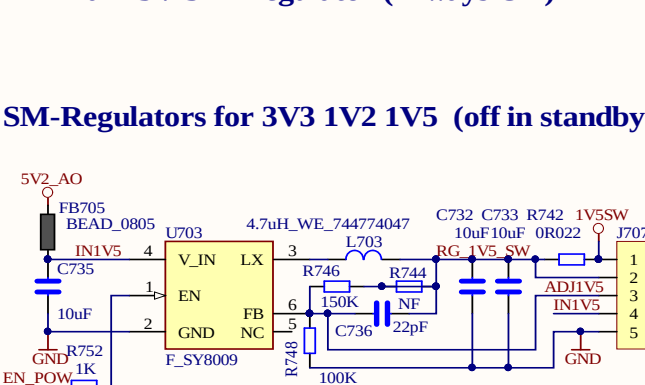
Switch for "5V0SW" Supply



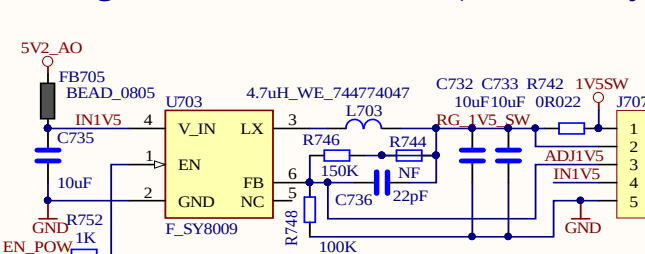
Linear-Regulators for low-power standby logic



Main-5V SM-Regulator (Always ON)



SM-Regulators for 3V3 1V2 1V5 (off in standby)



Title EBS HD62 DIY			
Size: A4	Number:10	Revision:1.3	
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