Eileen HDK 2.0 HMD BD SCHEMATIC

MODIFY HISTORY

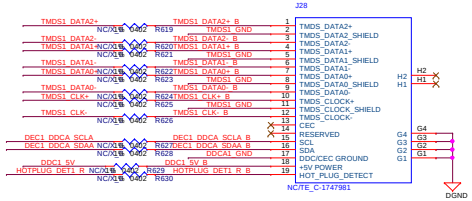
Rev.	STAGE	RELEASE NOTE
G007_A	8L - MOCK UP	1. 12L change to 8L. 2. Add bypass Solomon SD2848 resistor. 3. Reserved EMI recommend solution.
G007_B	8L - DVT	1. Remove Solomon SD2848. 2. Modify reserved EDID download circuit. 3. Add Discharge circuit. 4. Add HOTPLUG_DET powered-down circuit.
G001_A	8L - PVT	1. Fine tune 8870 Core Voltage. 2. Add U54,U61 Enable Pin RC soft start. 3. Reserved MCU HDMI 5V & hotplug detect circuit. 4. Fine tune power sw ic enable soft start.

TOP

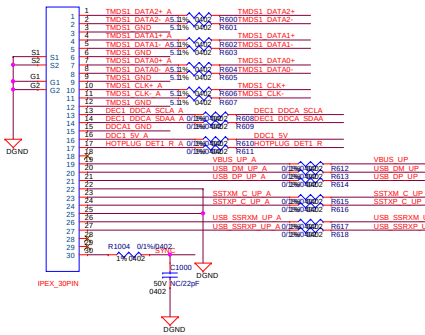
DDCA_SDA is a 3.3 V input that is 5 V tolerant

DDCA_SCL is a 3.3 V input that is 5 V tolerant

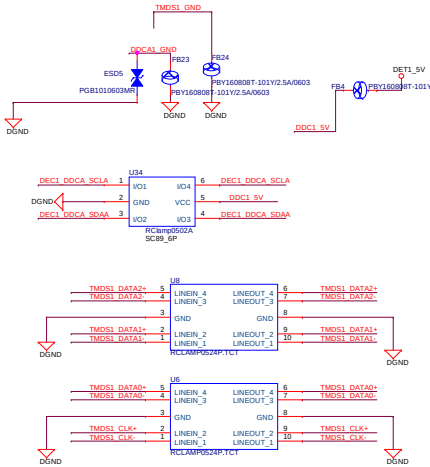
HDMI Connector

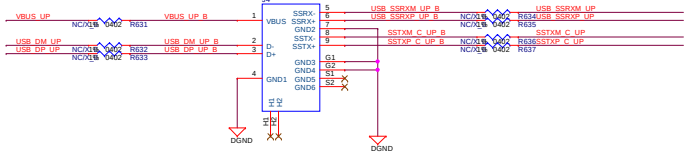


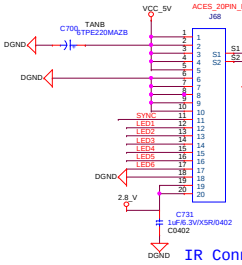
Universal Connector

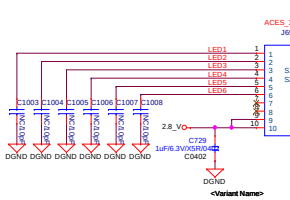


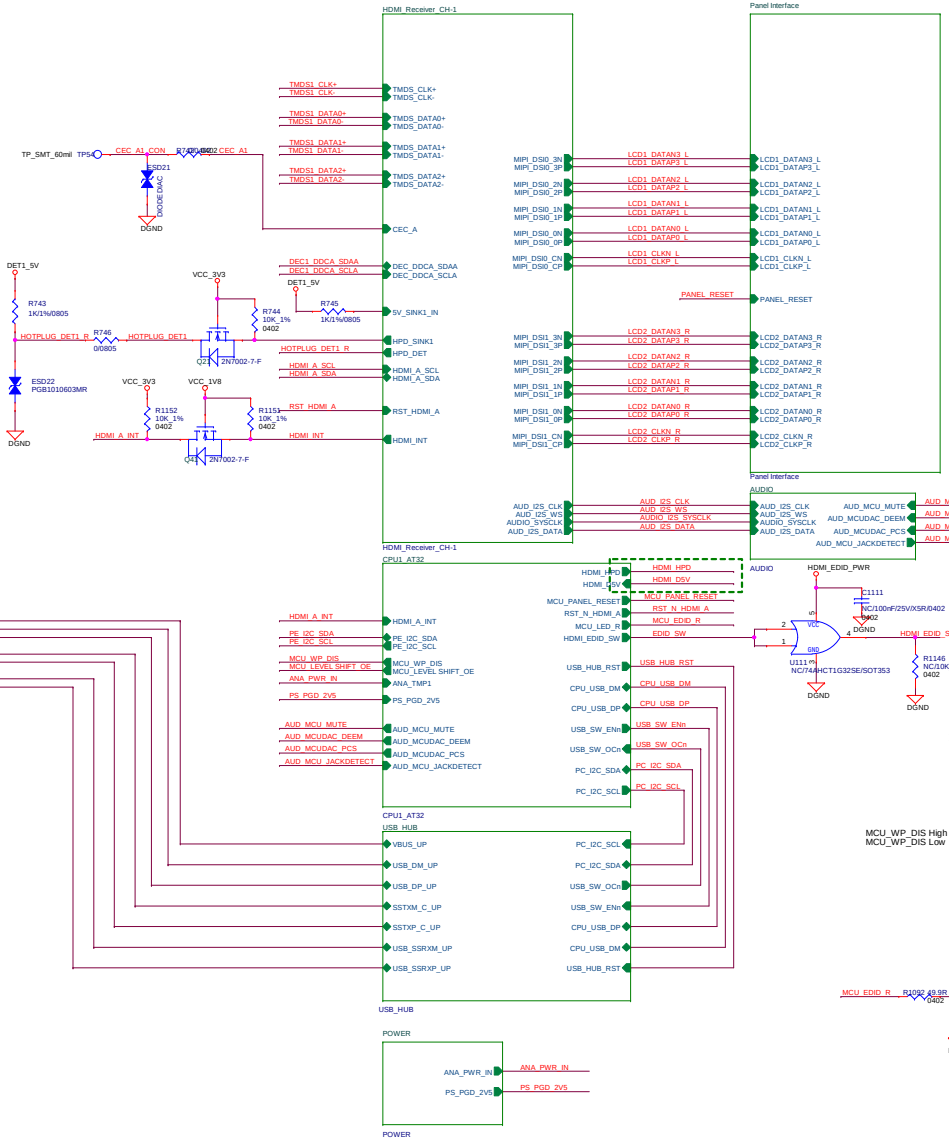
ESD PROTECTION

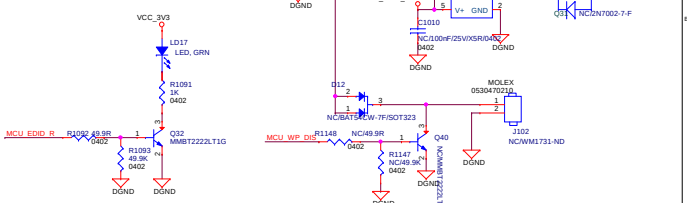












DNP R461 R463 C576

DNP FB59 , C641 ,U50, R560, R561 C642

MUTE FUNCTION
LOW mute off
HIGH mute on

SFOR1 SFOR0 INPUT FORMAT
LOW LOW I2S-bus input
LOW HIGH LSB-justified 16 bits input
HIGH LOW LSB-justified 20 bits input
HIGH HIGH LSB-justified 24 bits input

3-level input: pin PCS
VIH HIGH-level input voltage 0.9VDDD ? VDDD + 0.5 V
VIM MID-level input voltage 0.4VDDD ? 0.6VDDD V
VIL LOW-level input voltage ?0.5 ? +0.5 V

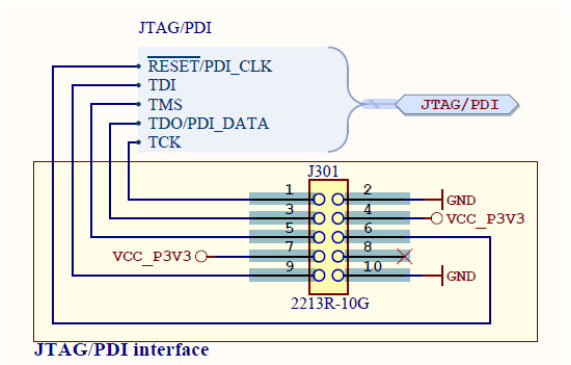
Apple iPhone
Left Audio
Right Audio
Ground
Mic

ø3.5 MATE PLUG

AUDIO

<Variant Name>

Title	AUDIO	
Size C	Document Number	Rev A
Date: Tuesday, May 24, 2016	Sheet 3 of 9	



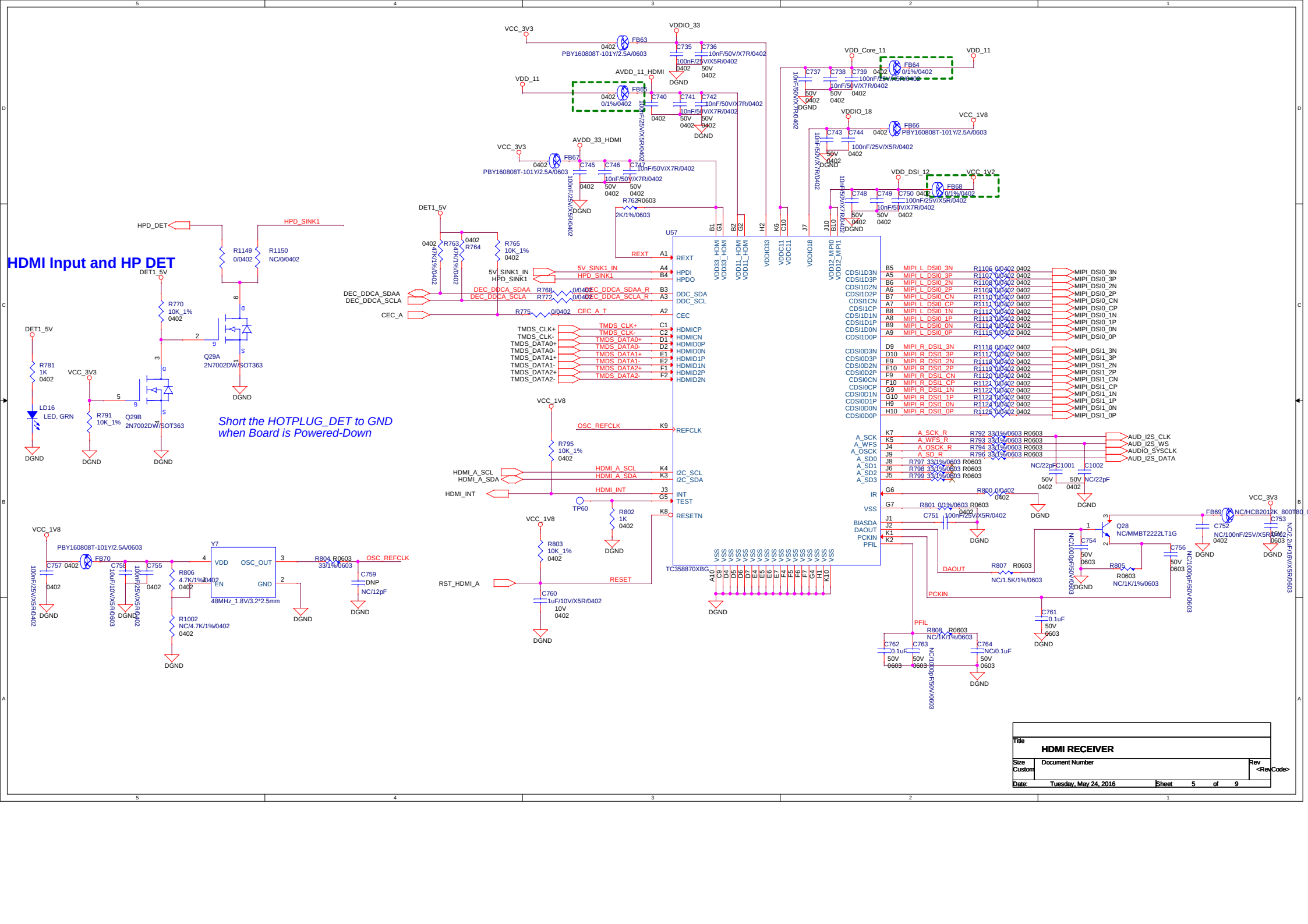
FPGA UARTx2

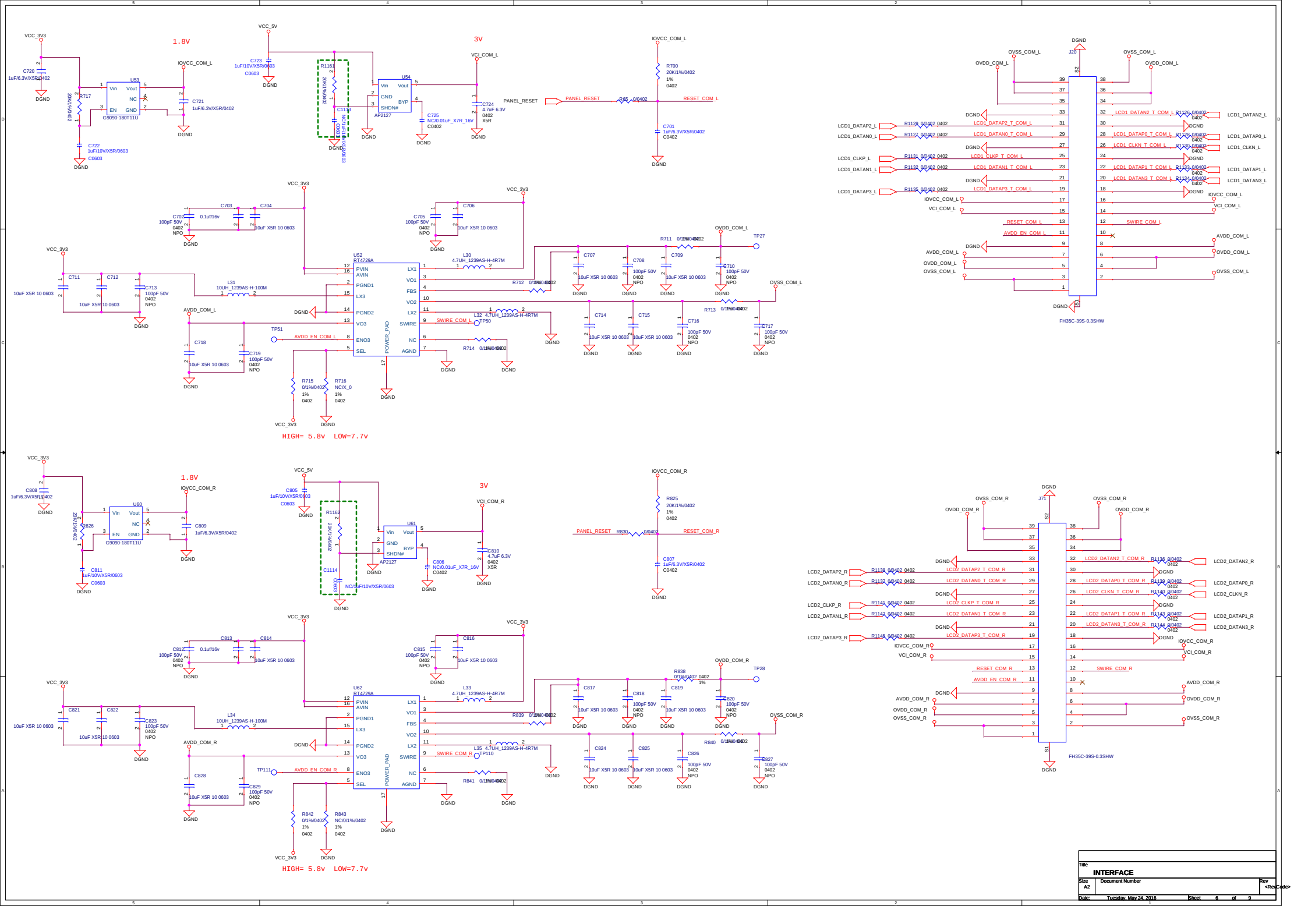
External --> USB mini or type-A

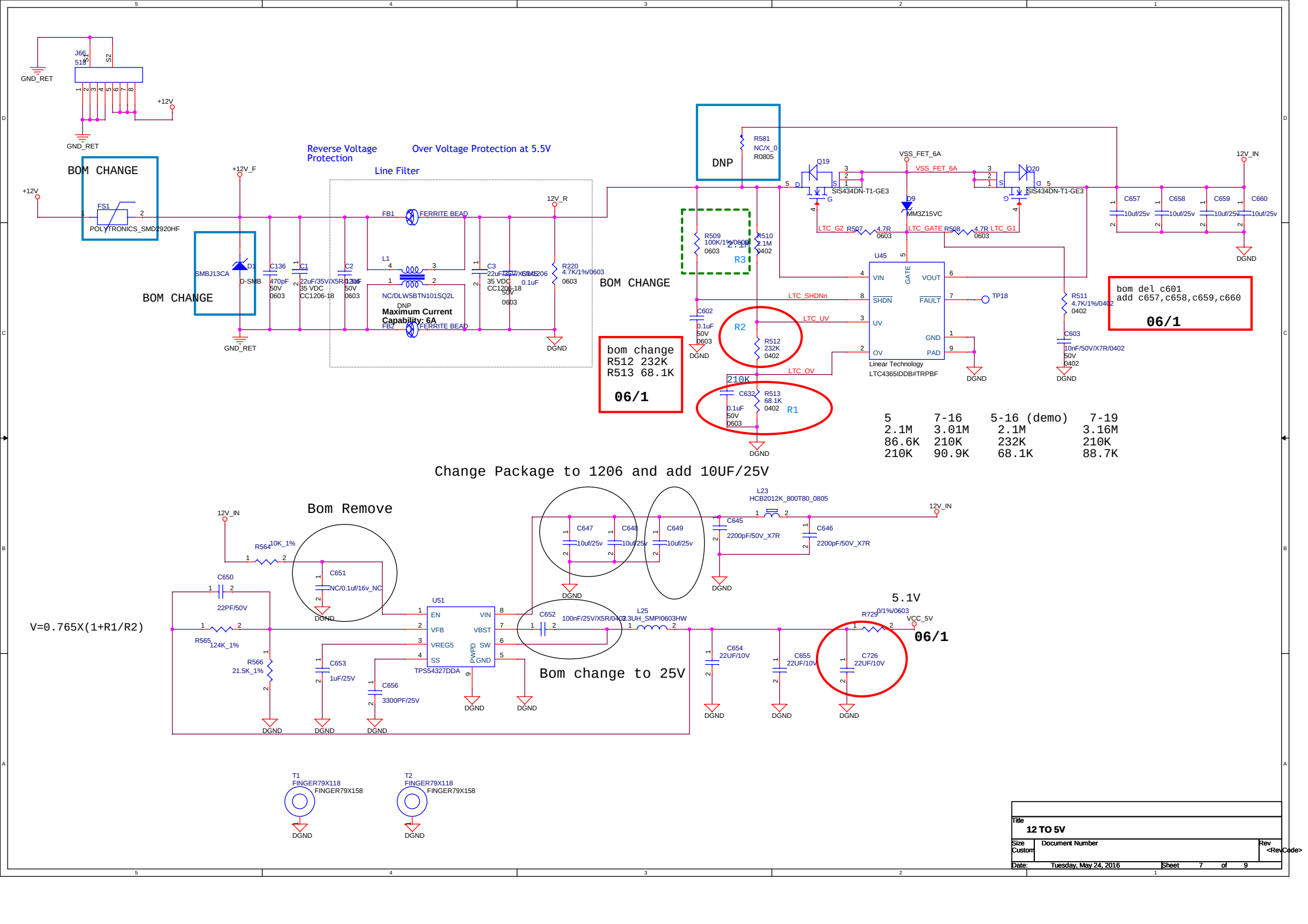
CON JTAG for MC and CON for FPGA

CPU1 AT32UC3

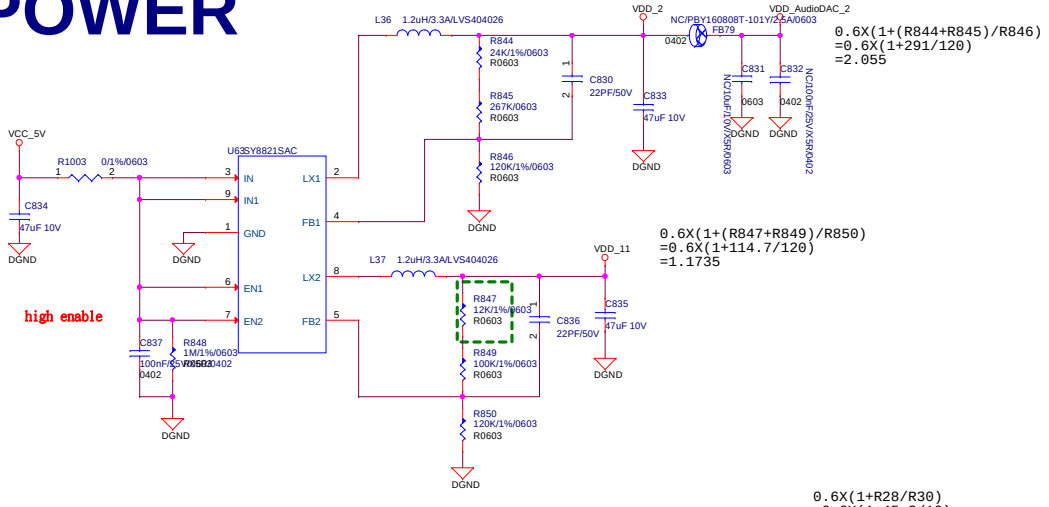
<Variant Name>		
Title: CPU1 AT32UC3		
Size: C	Document Number	Rev: A
Date: Tuesday, May 24, 2016	Sheet 4 of 9	

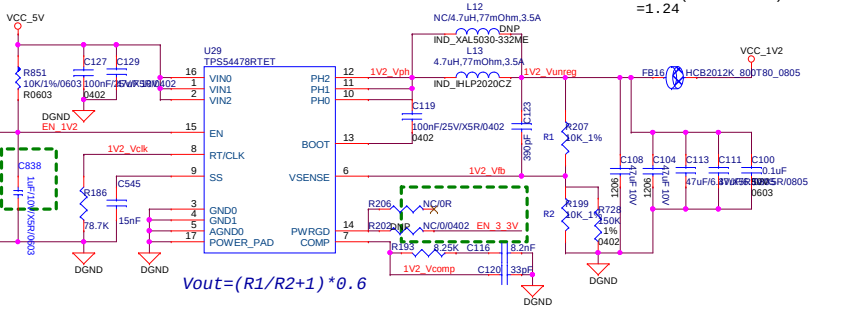

HDMI Input and HP DET
Short the HOTPLUG_DET to GND when Board is Powered-Down
HDMI RECEIVER
Size Custom
Document Number
Rev <RevCode>
Date: Tuesday, May 24, 2016
Sheet 5 of 9

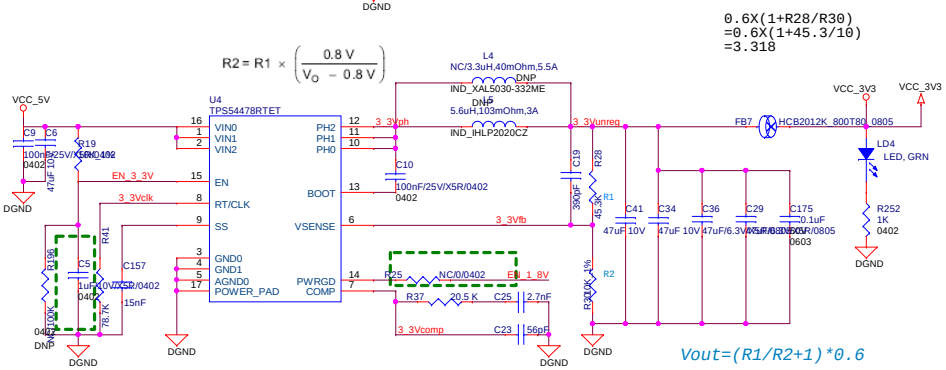

1.8V
3V
VCC_3V3
VCC_5V
IOVCC_COM_L
VCI_COM_L
PANEL_RESET
RESET_COM_L
U53
G9090-180T11U
U54
AP2127
R700 20K/1%/0402 1% 0402
C701 1uF/6.3V/X5R/0402 C0402
C720 1uF/6.3V/X5R/0402
C721 1uF/6.3V/X5R/0402
C722 1uF/10V/X5R/0603 C0603
C723 1uF/10V/X5R/0603 C0603
C724 4.7uF 6.3V 0402 X5R
C725 NC/0.01uF_X7R_16V C0402
R161 200K/1%/0402
C1113 NC/1uF/10V/X5R/0603
DGND
OVSS_COM_L
OVDD_COM_L
J20
S2
S1
FH35C-39S-0.3SHW
LCD1_DATAP2_L
LCD1_DATAN0_L
LCD1_CLKP_L
LCD1_DATAN1_L
LCD1_DATAP3_L
LCD1_DATAN2_L
LCD1_DATAP0_L
LCD1_CLKN_L
LCD1_DATAP1_L
LCD1_DATAN3_L
RESET_COM_L
AVDD_EN_COM_L
SWIRE_COM_L
AVDD_COM_L
OVDD_COM_L
OVSS_COM_L
U52
RT4729A
L30 4.7UH_1239AS-H-4R7M
L31 10UH_1239AS-H-100M
L32 4.7UH_1239AS-H-4R7M
TP27
TP50
TP51
C703 C704 C705 C706 C707 C708 C709 C710 C711 C712 C713 C714 C715 C716 C717 C718 C719
R711 R712 R713 R714 R715 R716
HIGH= 5.8v LOW=7.7v
U60
U61
U62
C808 C809 C810 C811 C812 C813 C814 C815 C816 C817 C818 C819 C820 C821 C822 C823 C824 C825 C826 C827 C828 C829
R825 R826 R830 R838 R839 R840 R841 R842 R843
TP28
TP110
TP111
IOVCC_COM_R
VCI_COM_R
J71
LCD2_DATAP2_R
LCD2_DATAN0_R
LCD2_CLKP_R
LCD2_DATAN1_R
LCD2_DATAP3_R
LCD2_DATAN2_R
LCD2_DATAP0_R
LCD2_CLKN_R
LCD2_DATAP1_R
LCD2_DATAN3_R
RESET_COM_R
AVDD_EN_COM_R
SWIRE_COM_R
AVDD_COM_R
OVDD_COM_R
OVSS_COM_R
Title
INTERFACE
Size A2
Document Number
Rev <Rev.Code>
Date: Tuesday, May 24, 2016
Sheet 6 of 9

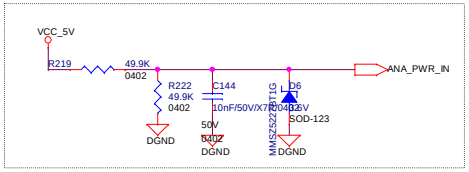

BOM CHANGE
Reverse Voltage Protection
Over Voltage Protection at 5.5V
Line Filter
DNP
BOM CHANGE
bom change
R512 232K
R513 68.1K
06/1
bom del c601
add c657,c658,c659,c660
06/1
5 7-16 5-16 (demo) 7-19
2.1M 3.01M 2.1M 3.16M
86.6K 210K 232K 210K
210K 90.9K 68.1K 88.7K
Change Package to 1206 and add 10UF/25V
Bom Remove
V=0.765X(1+R1/R2)
Bom change to 25V
5.1V
06/1
Title
12 TO 5V
Size Custom
Document Number
Rev
<RevCode>
Date: Tuesday, May 24, 2016
Sheet 7 of 9

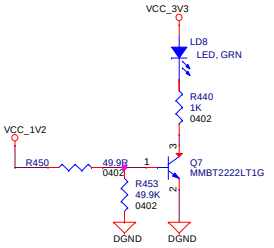
POWER

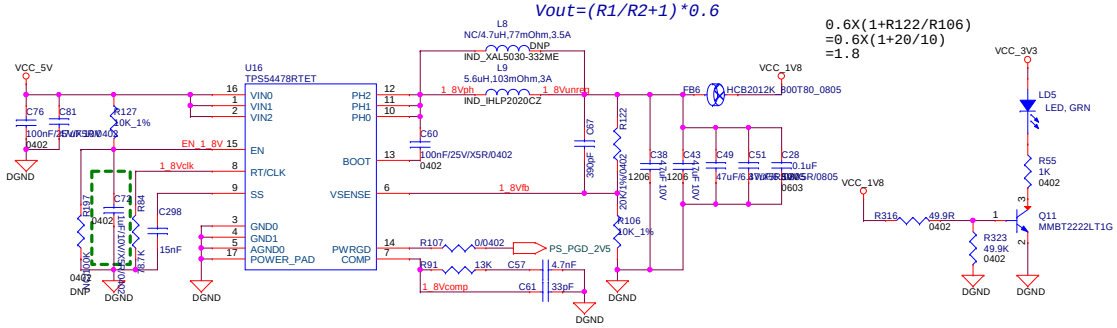






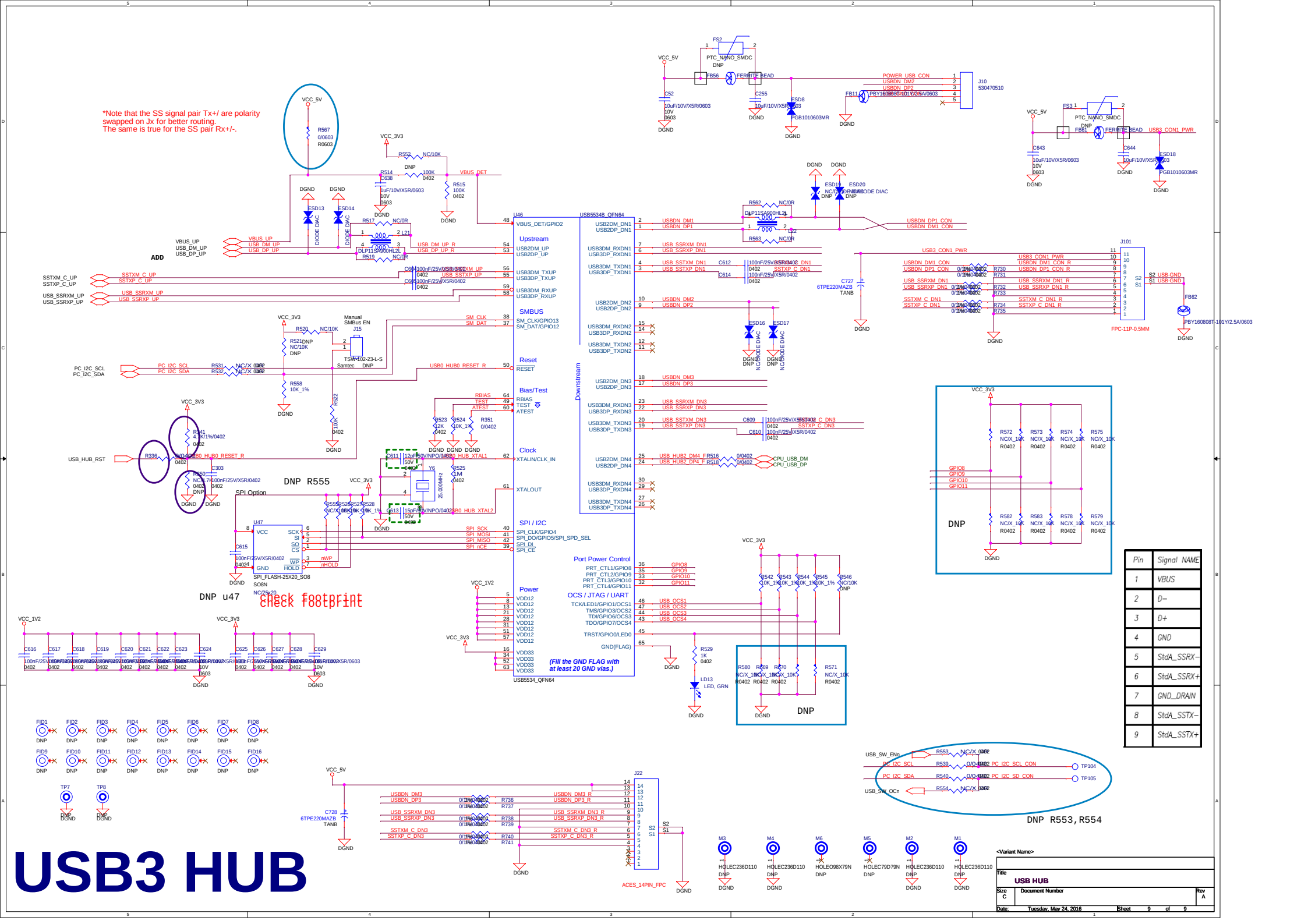






<variant_name>

Title	POWER	
Size: Custom	Document Number	Rev: A
Date: Tuesday, May 24, 2016	Sheet 8 of 9	


*Note that the SS signal pair Tx+/ are polarity swapped on Jx for better routing.
The same is true for the SS pair Rx+/-.
ADD
DNP R555
DNP u47
check footprint
SPI Option
(Fill the GND FLAG with at least 20 GND vias.)
DNP R553,R554
USB3 HUB
Pin
Signal NAME
1 VBUS
2 D−
3 D+
4 GND
5 StdA_SSRX−
6 StdA_SSRX+
7 GND_DRAIN
8 StdA_SSTX−
9 StdA_SSTX+
<Variant Name>
Title
USB HUB
Size C
Document Number
Rev A
Date: Tuesday, May 24, 2016
Sheet 9 of 9