jetson_power

jetson_power.sch

jetson_pcie

jetson_pcie.sch

jetson_enet

jetson_enet.sch

jetson_hdmi

jetson_hdmi.sch

jetson_usb

jetson_usb.sch

jetson_jtag

jetson_jtag.sch

jetson_sdcard

jetson_sdcard.sch

jetson_uarts

jetson_uarts.sch

jetson_sata

jetson_sata.sch

power

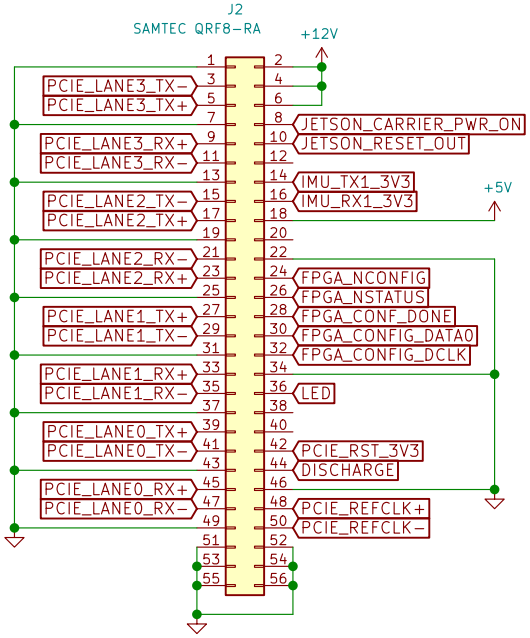
power.sch

jetson_gpio

jetson_gpio.sch

THIS DEVICE IS INTENDED ONLY FOR R&D PROTOTYPING IN LAB USE BY TRAINED PERSONNEL!

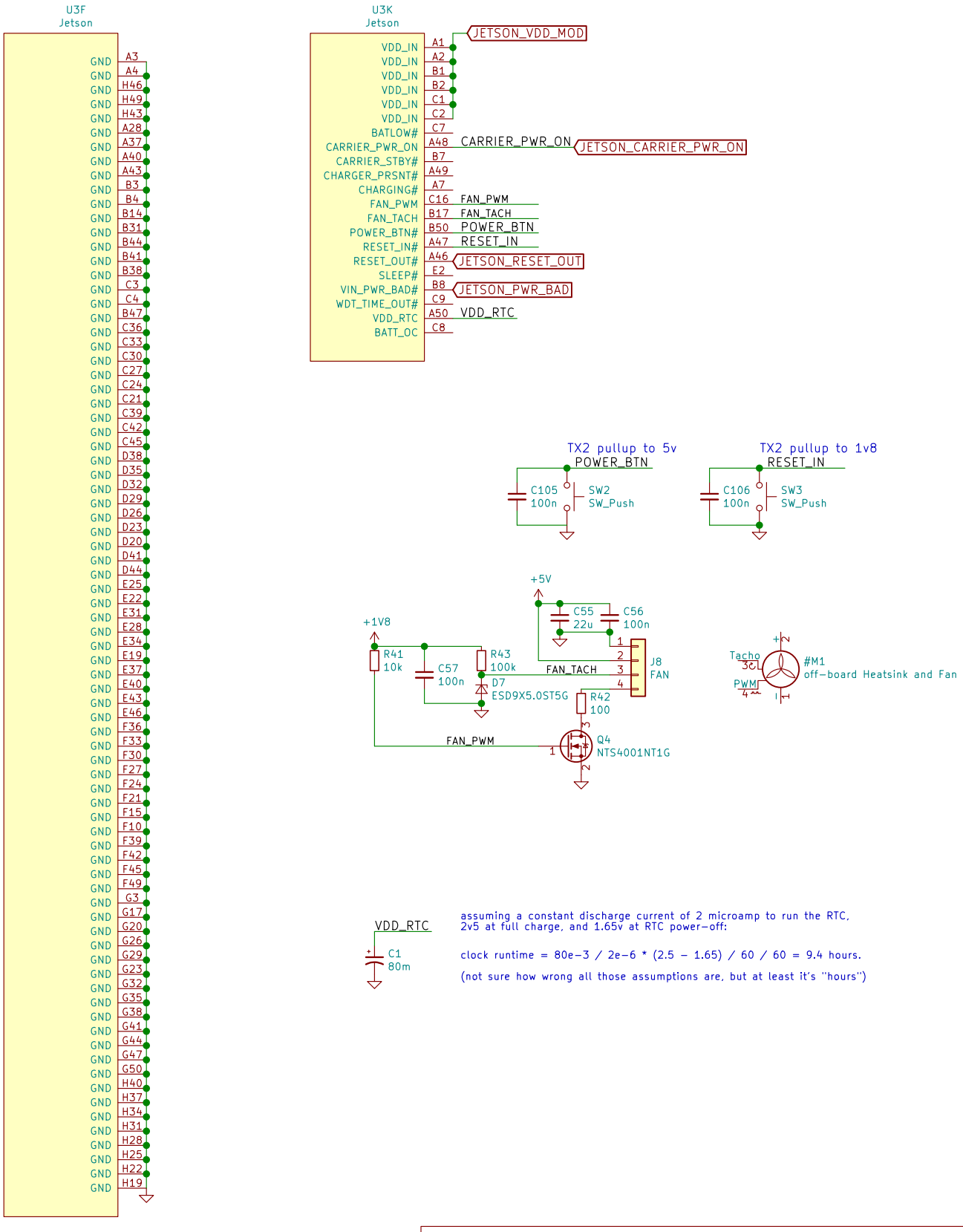
DO NOT RUN UNATTENDED!



Sheet: /
File: ovc2_mobo.sch

Title: ovc2_mobo

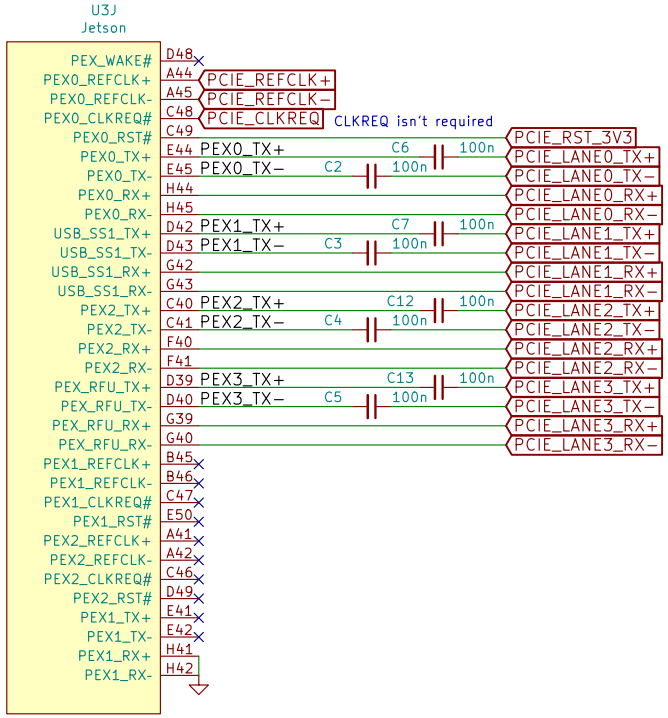
Size: A4	Date: 2018-10-15	**Rev: B**
KiCad E.D.A.	kicad 6.0.0-rc1-unknown-0777d1184ubuntu16.04.1	Id: 1/12



Sheet: /jetson_power/
File: jetson_power.sch

Title: ovc2_mobo

Size: USLetter	Date: 2018-10-15	**Rev: B**
KiCad E.D.A. kicad 6.0.0-rc1-unknown-0777d1184ubuntu16.04.1		Id: 2/12

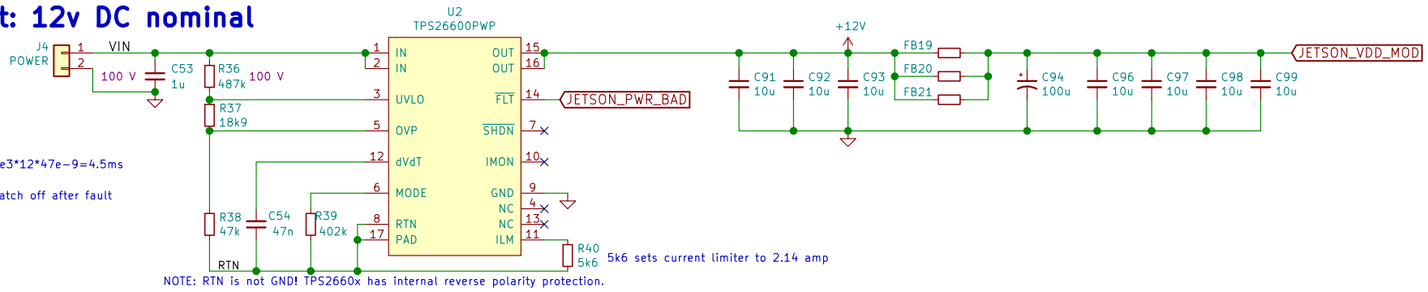


Sheet: /jetson_pcie/
File: jetson_pcie.sch

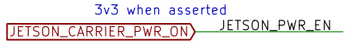
Title: ovc2_mobo

Size: USLetter	Date: 2018-10-15	**Rev: B**
KiCad E.D.A. kicad 6.0.0-rc1-unknown-0777d1184ubuntu16.04.1		Id: 3/12

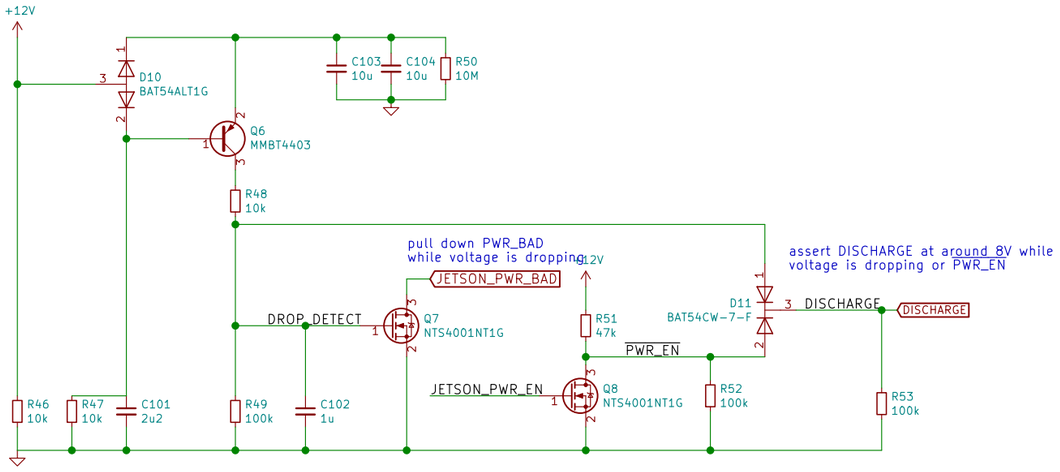
input: 12v DC nominal



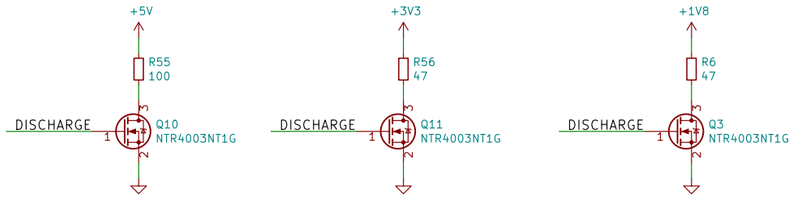
3v3 when asserted

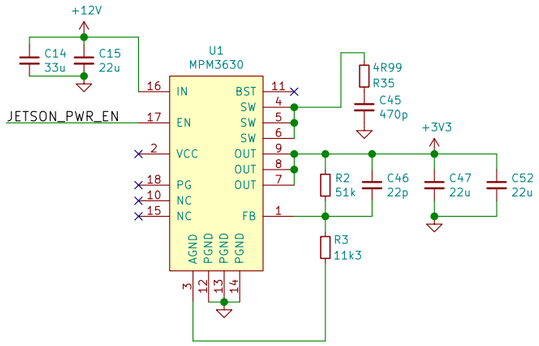


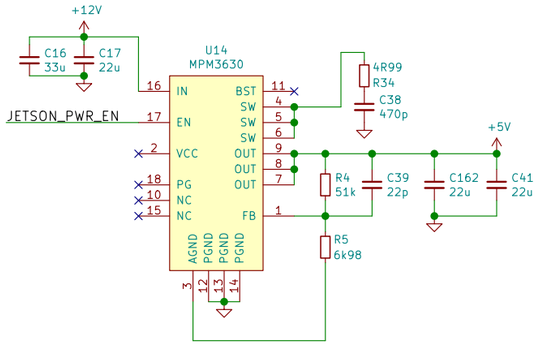
analog voltage-drop detector

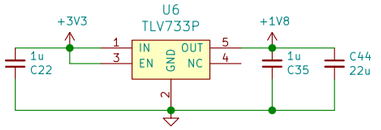


active discharge of all rails

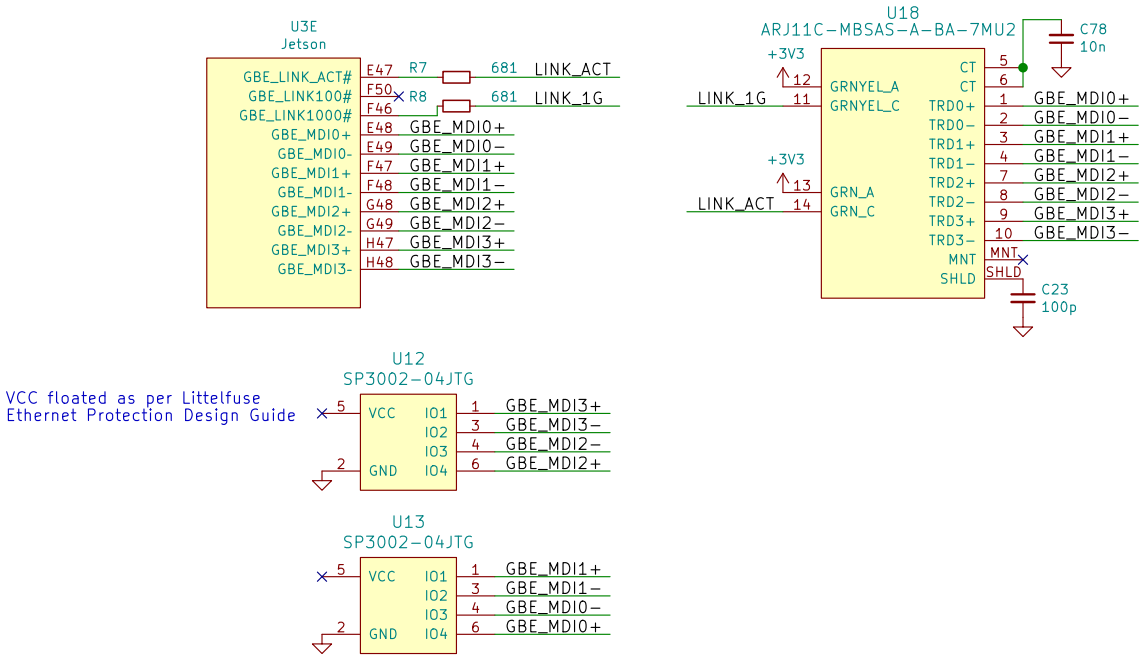








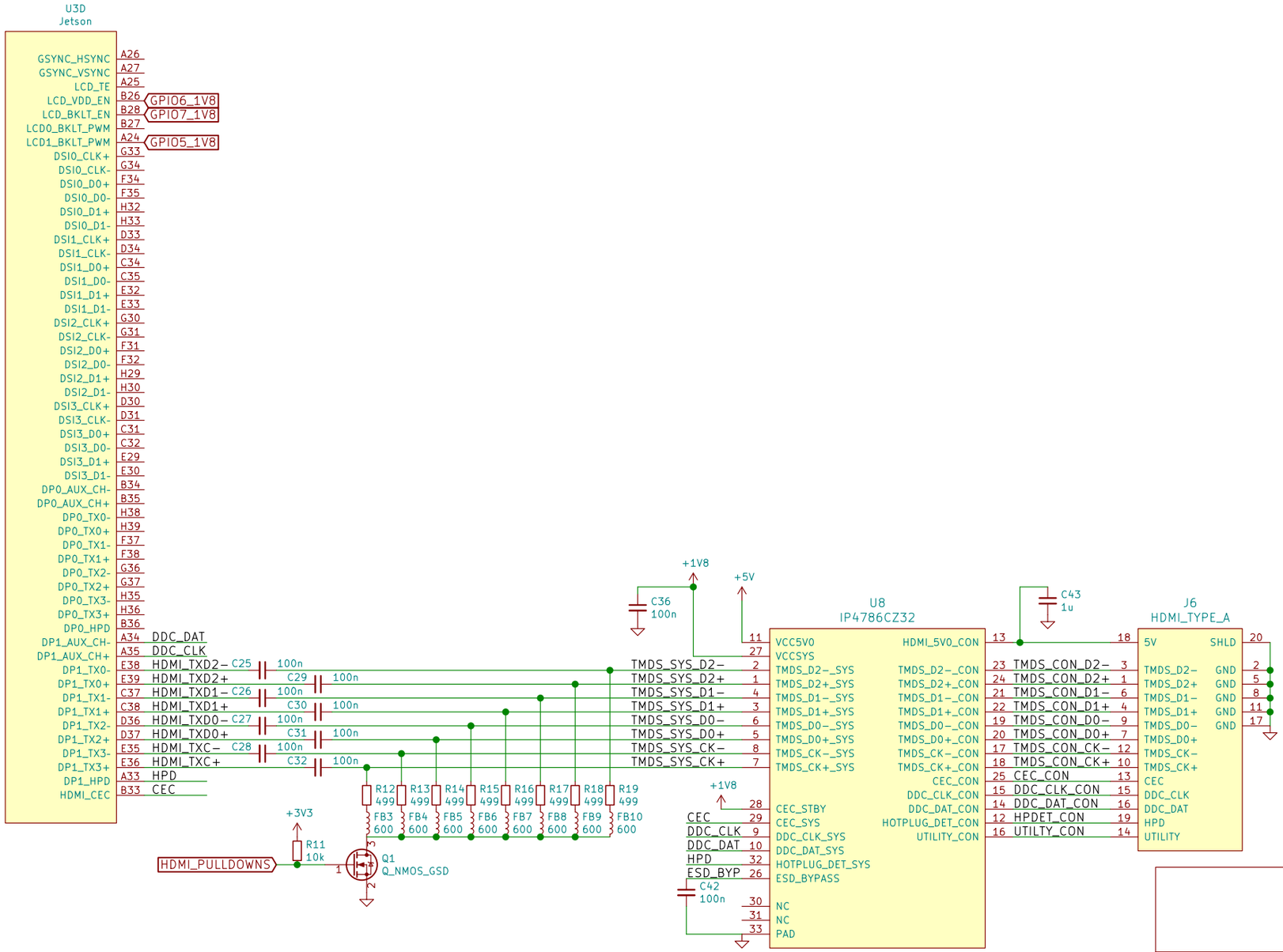
Sheet: /power/		
File: power.sch		
Title: ovc2_mobo		
Size: A3	Date: 2018-10-15	**Rev: B**
KiCad E.D.A. kicad 6.0.0-rc1-unknown-0777d1184ubuntu16.04.1		Id: 4/12



Sheet: /jetson_enet/
File: jetson_enet.sch

Title: ovc2_mobo

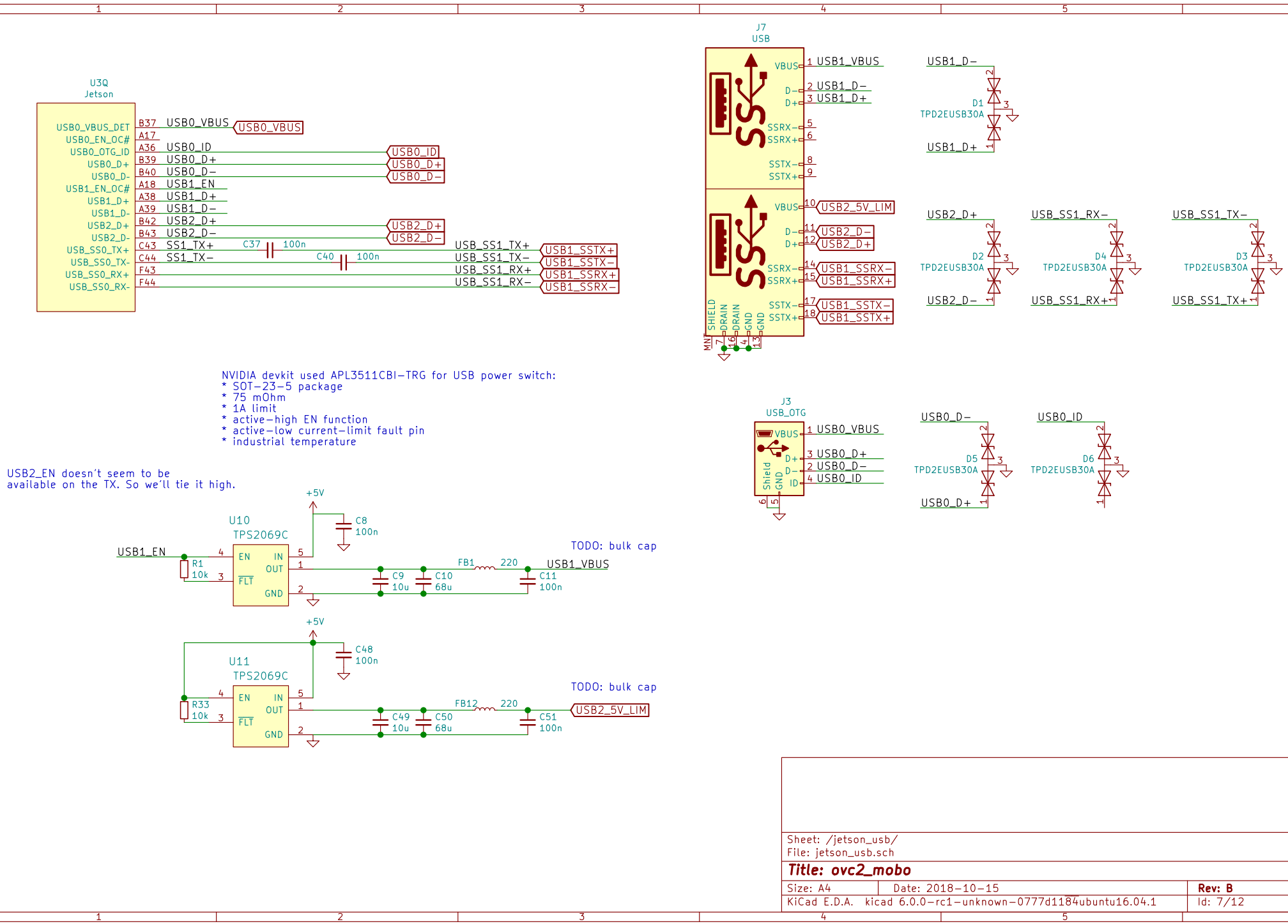
Size: A4	Date: 2018−10−15	**Rev: B**
KiCad E.D.A. kicad 6.0.0−rc1−unknown−0777d1184ubuntu16.04.1		Id: 5/12

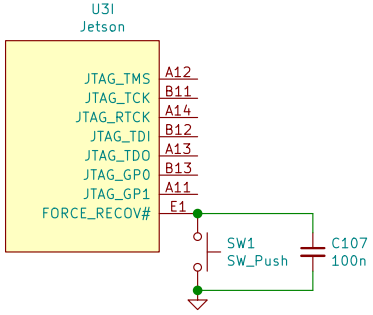


Sheet: /jetson_hdmi/
File: jetson_hdmi.sch

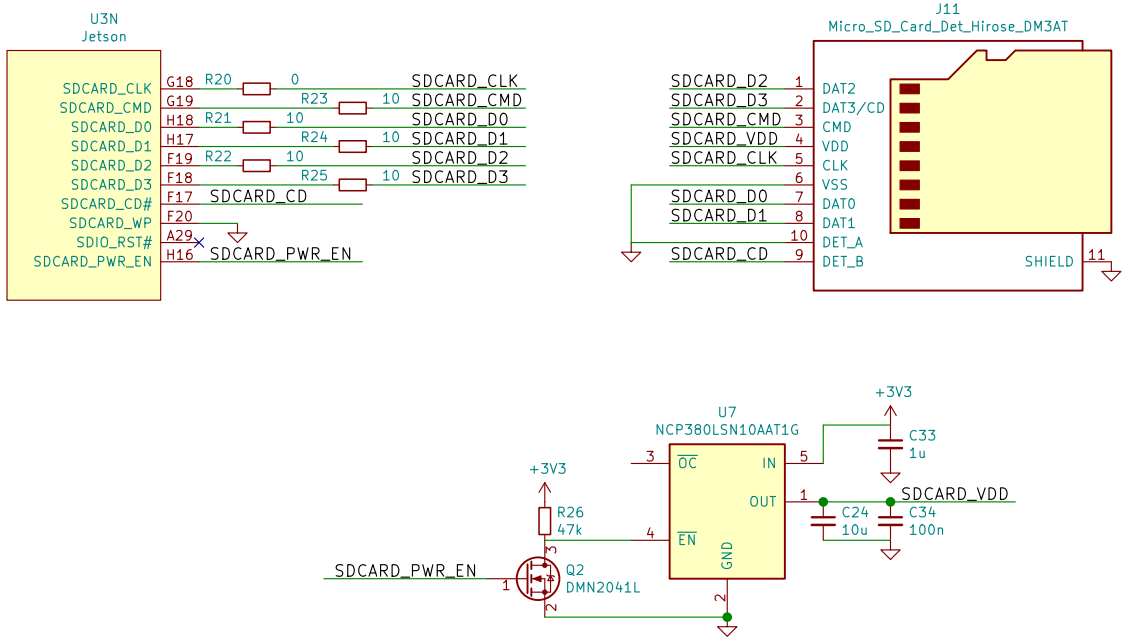
Title: ovc2_mobo

Size: USLegal	Date: 2018-10-15	**Rev: B**
KiCad E.D.A. kicad 6.0.0-rc1-unknown-0777d1184ubuntu16.04.1		Id: 6/12

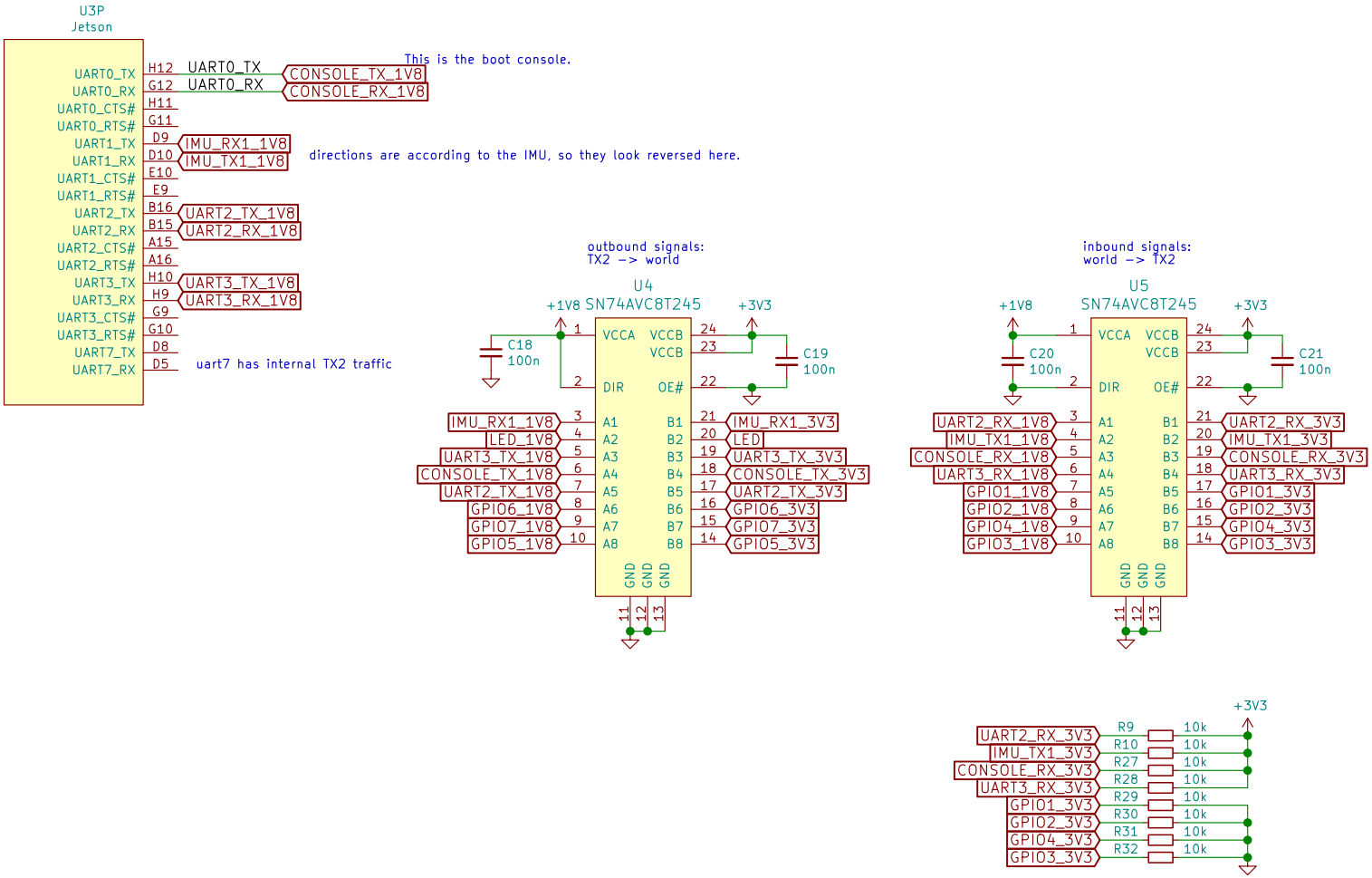

U3Q
Jetson
USB0_VBUS_DET
USB0_EN_OC#
USB0_OTG_ID
USB0_D+
USB0_D-
USB1_EN_OC#
USB1_D+
USB1_D-
USB2_D+
USB2_D-
USB_SS0_TX+
USB_SS0_TX-
USB_SS0_RX+
USB_SS0_RX-
B37 USB0_VBUS
A17
A36 USB0_ID
B39 USB0_D+
B40 USB0_D−
A18 USB1_EN
A38 USB1_D+
A39 USB1_D−
B42 USB2_D+
B43 USB2_D−
C43 SS1_TX+
C44 SS1_TX−
F43
F44
C37 100n
C40 100n
USB0_VBUS
USB0_ID
USB0_D+
USB0_D−
USB2_D+
USB2_D−
USB_SS1_TX+
USB_SS1_TX−
USB_SS1_RX+
USB_SS1_RX−
USB1_SSTX+
USB1_SSTX−
USB1_SSRX+
USB1_SSRX−
J7
USB
VBUS
D−
D+
SSRX−
SSRX+
SSTX−
SSTX+
1 USB1_VBUS
2 USB1_D−
3 USB1_D+
5
6
8
9
10 USB2_5V_LIM
11 USB2_D−
12 USB2_D+
14 USB1_SSRX−
15 USB1_SSRX+
17 USB1_SSTX−
18 USB1_SSTX+
SHIELD
DRAIN
DRAIN
GND
GND
MNT
7
19
4
13
USB1_D−
D1
TPD2EUSB30A
USB1_D+
USB2_D+
D2
TPD2EUSB30A
USB2_D−
USB_SS1_RX−
D4
TPD2EUSB30A
USB_SS1_RX+
USB_SS1_TX−
D3
TPD2EUSB30A
USB_SS1_TX+
J3
USB_OTG
VBUS
D+
D−
ID
Shield
GND
1 USB0_VBUS
3 USB0_D+
2 USB0_D−
4 USB0_ID
6
5
USB0_D−
D5
TPD2EUSB30A
USB0_D+
USB0_ID
D6
TPD2EUSB30A
NVIDIA devkit used APL3511CBI−TRG for USB power switch:
* SOT−23−5 package
* 75 mOhm
* 1A limit
* active−high EN function
* active−low current−limit fault pin
* industrial temperature
USB2_EN doesn't seem to be
available on the TX. So we'll tie it high.
+5V
U10
TPS2069C
EN
IN
OUT
FLT
GND
USB1_EN
R1
10k
C8
100n
C9
10u
C10
68u
FB1
220
C11
100n
USB1_VBUS
TODO: bulk cap
U11
TPS2069C
R33
10k
C48
100n
C49
10u
C50
68u
FB12
220
C51
100n
USB2_5V_LIM
TODO: bulk cap
Sheet: /jetson_usb/
File: jetson_usb.sch
Title: ovc2_mobo
Size: A4
Date: 2018−10−15
Rev: B
KiCad E.D.A. kicad 6.0.0−rc1−unknown−0777d1184ubuntu16.04.1
Id: 7/12



Sheet: /jetson_jtag/		
File: jetson_jtag.sch		
Title: ovc2_mobo		
Size: A4	Date: 2018-10-15	**Rev: B**
KiCad E.D.A. kicad 6.0.0-rc1-unknown-0777d1184ubuntu16.04.1		Id: 8/12



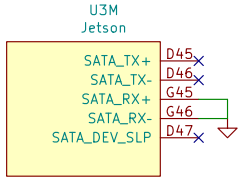
Sheet: /jetson_sdcard/		
File: jetson_sdcard.sch		
Title: ovc2_mobo		
Size: A4	Date: 2018-10-15	**Rev: B**
KiCad E.D.A. kicad 6.0.0-rc1-unknown-0777d1184ubuntu16.04.1		Id: 9/12



Sheet: /jetson_uarts/
File: jetson_uarts.sch

Title: ovc2_mobo

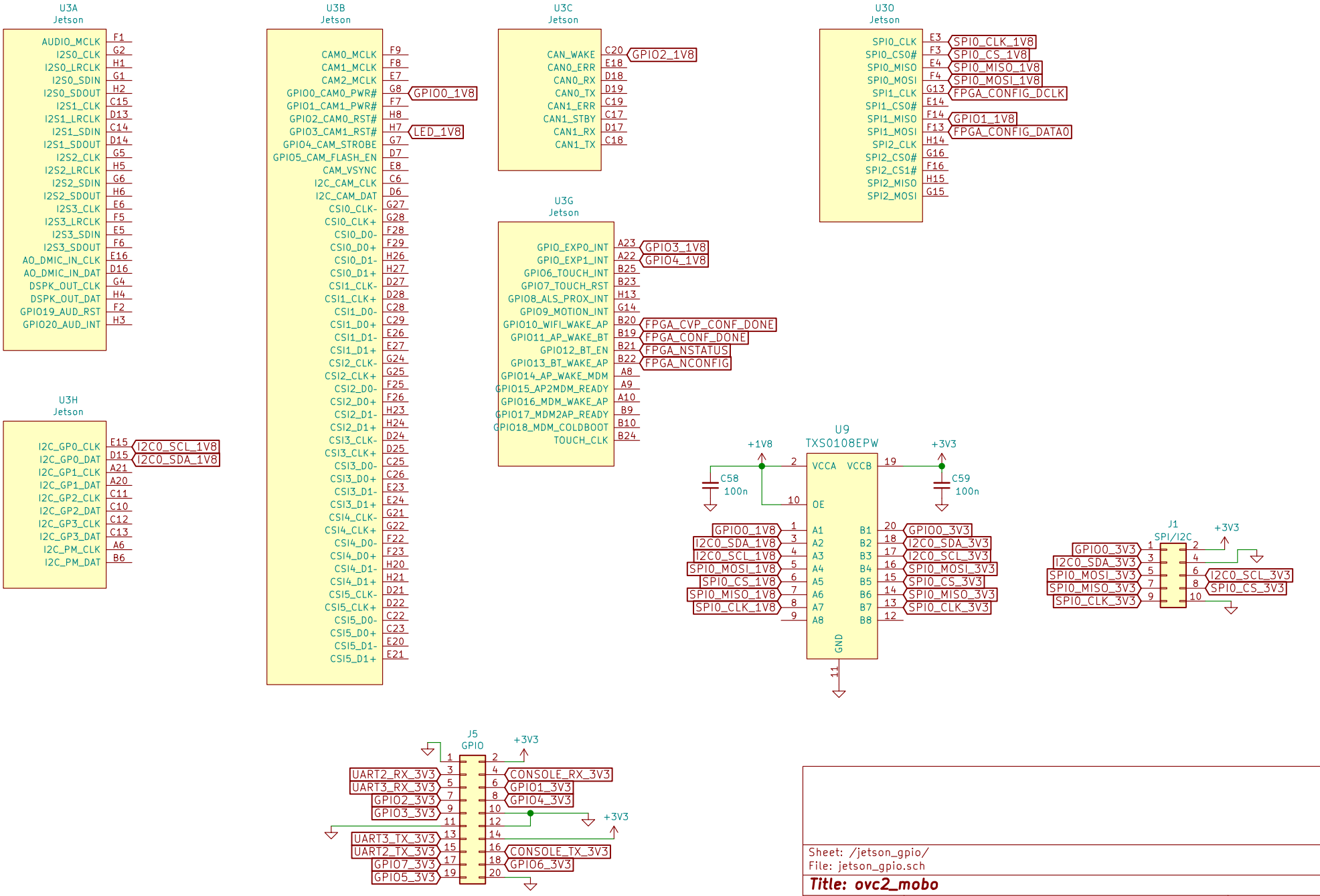
Size: A4	Date: 2018-10-15	**Rev: B**
KiCad E.D.A. kicad 6.0.0-rc1-unknown-0777d1184ubuntu16.04.1		Id: 10/12



Sheet: /jetson_sata/
File: jetson_sata.sch

Title: ovc2_mobo

Size: A4	Date: 2018-10-15	**Rev: B**
KiCad E.D.A. kicad 6.0.0-rc1-unknown-0777d1184ubuntu16.04.1		Id: 11/12


U3A
Jetson
AUDIO_MCLK F1
I2S0_CLK G2
I2S0_LRCLK H1
I2S0_SDIN G1
I2S0_SDOUT H2
I2S1_CLK C15
I2S1_LRCLK D13
I2S1_SDIN C14
I2S1_SDOUT D14
I2S2_CLK G5
I2S2_LRCLK H5
I2S2_SDIN G6
I2S2_SDOUT H6
I2S3_CLK E6
I2S3_LRCLK F5
I2S3_SDIN E5
I2S3_SDOUT F6
AO_DMIC_IN_CLK E16
AO_DMIC_IN_DAT D16
DSPK_OUT_CLK G4
DSPK_OUT_DAT H4
GPIO19_AUD_RST F2
GPIO20_AUD_INT H3
U3B
Jetson
CAM0_MCLK F9
CAM1_MCLK F8
CAM2_MCLK E7
GPIO0_CAM0_PWR# G8 GPIO0_1V8
GPIO1_CAM1_PWR# F7
GPIO2_CAM0_RST# H8
GPIO3_CAM1_RST# H7 LED_1V8
GPIO4_CAM_STROBE G7
GPIO5_CAM_FLASH_EN D7
CAM_VSYNC E8
I2C_CAM_CLK C6
I2C_CAM_DAT D6
CSI0_CLK- G27
CSI0_CLK+ G28
CSI0_D0- F28
CSI0_D0+ F29
CSI0_D1- H26
CSI0_D1+ H27
CSI1_CLK- D27
CSI1_CLK+ D28
CSI1_D0- C28
CSI1_D0+ C29
CSI1_D1- E26
CSI1_D1+ E27
CSI2_CLK- G24
CSI2_CLK+ G25
CSI2_D0- F25
CSI2_D0+ F26
CSI2_D1- H23
CSI2_D1+ H24
CSI3_CLK- D24
CSI3_CLK+ D25
CSI3_D0- C25
CSI3_D0+ C26
CSI3_D1- E23
CSI3_D1+ E24
CSI4_CLK- G21
CSI4_CLK+ G22
CSI4_D0- F22
CSI4_D0+ F23
CSI4_D1- H20
CSI4_D1+ H21
CSI5_CLK- D21
CSI5_CLK+ D22
CSI5_D0- C22
CSI5_D0+ C23
CSI5_D1- E20
CSI5_D1+ E21
U3C
Jetson
CAN_WAKE C20 GPIO2_1V8
CAN0_ERR E18
CAN0_RX D18
CAN0_TX D19
CAN1_ERR C19
CAN1_STBY C17
CAN1_RX D17
CAN1_TX C18
U3D
Jetson
SPI0_CLK E3 SPI0_CLK_1V8
SPI0_CS0# F3 SPI0_CS_1V8
SPI0_MISO E4 SPI0_MISO_1V8
SPI0_MOSI F4 SPI0_MOSI_1V8
SPI1_CLK G13 FPGA_CONFIG_DCLK
SPI1_CS0# E14
SPI1_MISO F14 GPIO1_1V8
SPI1_MOSI F13 FPGA_CONFIG_DATA0
SPI2_CLK H14
SPI2_CS0# G16
SPI2_CS1# F16
SPI2_MISO H15
SPI2_MOSI G15
U3G
Jetson
GPIO_EXP0_INT A23 GPIO3_1V8
GPIO_EXP1_INT A22 GPIO4_1V8
GPIO6_TOUCH_INT B25
GPIO7_TOUCH_RST B23
GPIO8_ALS_PROX_INT H13
GPIO9_MOTION_INT G14
GPIO10_WIFI_WAKE_AP B20 FPGA_CVP_CONF_DONE
GPIO11_AP_WAKE_BT B19 FPGA_CONF_DONE
GPIO12_BT_EN B21 FPGA_NSTATUS
GPIO13_BT_WAKE_AP B22 FPGA_NCONFIG
GPIO14_AP_WAKE_MDM A8
GPIO15_AP2MDM_READY A9
GPIO16_MDM_WAKE_AP A10
GPIO17_MDM2AP_READY B9
GPIO18_MDM_COLDBOOT B10
TOUCH_CLK B24
U3H
Jetson
I2C_GP0_CLK E15 I2C0_SCL_1V8
I2C_GP0_DAT D15 I2C0_SDA_1V8
I2C_GP1_CLK A21
I2C_GP1_DAT A20
I2C_GP2_CLK C11
I2C_GP2_DAT C10
I2C_GP3_CLK C12
I2C_GP3_DAT C13
I2C_PM_CLK A6
I2C_PM_DAT B6
U9
TXS0108EPW
+1V8
+3V3
C58
100n
C59
100n
VCCA
VCCB
OE
GND
A1 GPIO0_1V8
A2 I2C0_SDA_1V8
A3 I2C0_SCL_1V8
A4 SPI0_MOSI_1V8
A5 SPI0_CS_1V8
A6 SPI0_MISO_1V8
A7 SPI0_CLK_1V8
A8
B1 GPIO0_3V3
B2 I2C0_SDA_3V3
B3 I2C0_SCL_3V3
B4 SPI0_MOSI_3V3
B5 SPI0_CS_3V3
B6 SPI0_MISO_3V3
B7 SPI0_CLK_3V3
B8
J1
SPI/I2C
+3V3
GPIO0_3V3
I2C0_SDA_3V3
SPI0_MOSI_3V3
SPI0_MISO_3V3
SPI0_CLK_3V3
I2C0_SCL_3V3
SPI0_CS_3V3
J5
GPIO
+3V3
UART2_RX_3V3
UART3_RX_3V3
GPIO2_3V3
GPIO3_3V3
CONSOLE_RX_3V3
GPIO1_3V3
GPIO4_3V3
+3V3
UART3_TX_3V3
UART2_TX_3V3
GPIO7_3V3
GPIO5_3V3
CONSOLE_TX_3V3
GPIO6_3V3
Sheet: /jetson_gpio/
File: jetson_gpio.sch
Title: ovc2_mobo
Size: A4
Date: 2018-10-15
Rev: B
KiCad E.D.A. kicad 6.0.0-rc1-unknown-0777d1184ubuntu16.04.1
Id: 12/12