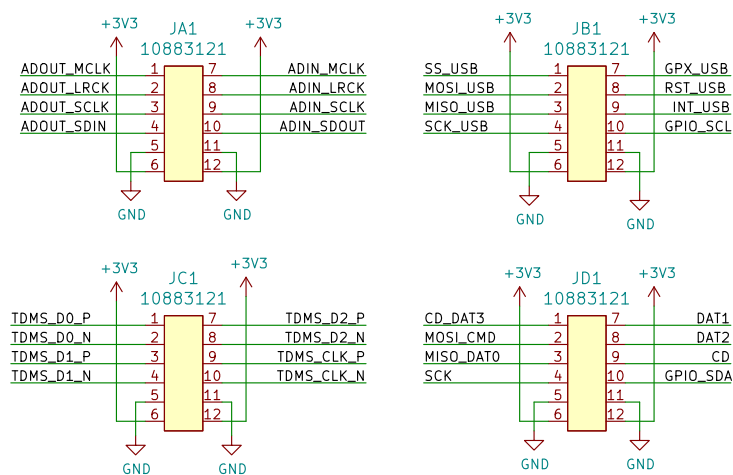


Arty PMOD Connectors

HDMI connector

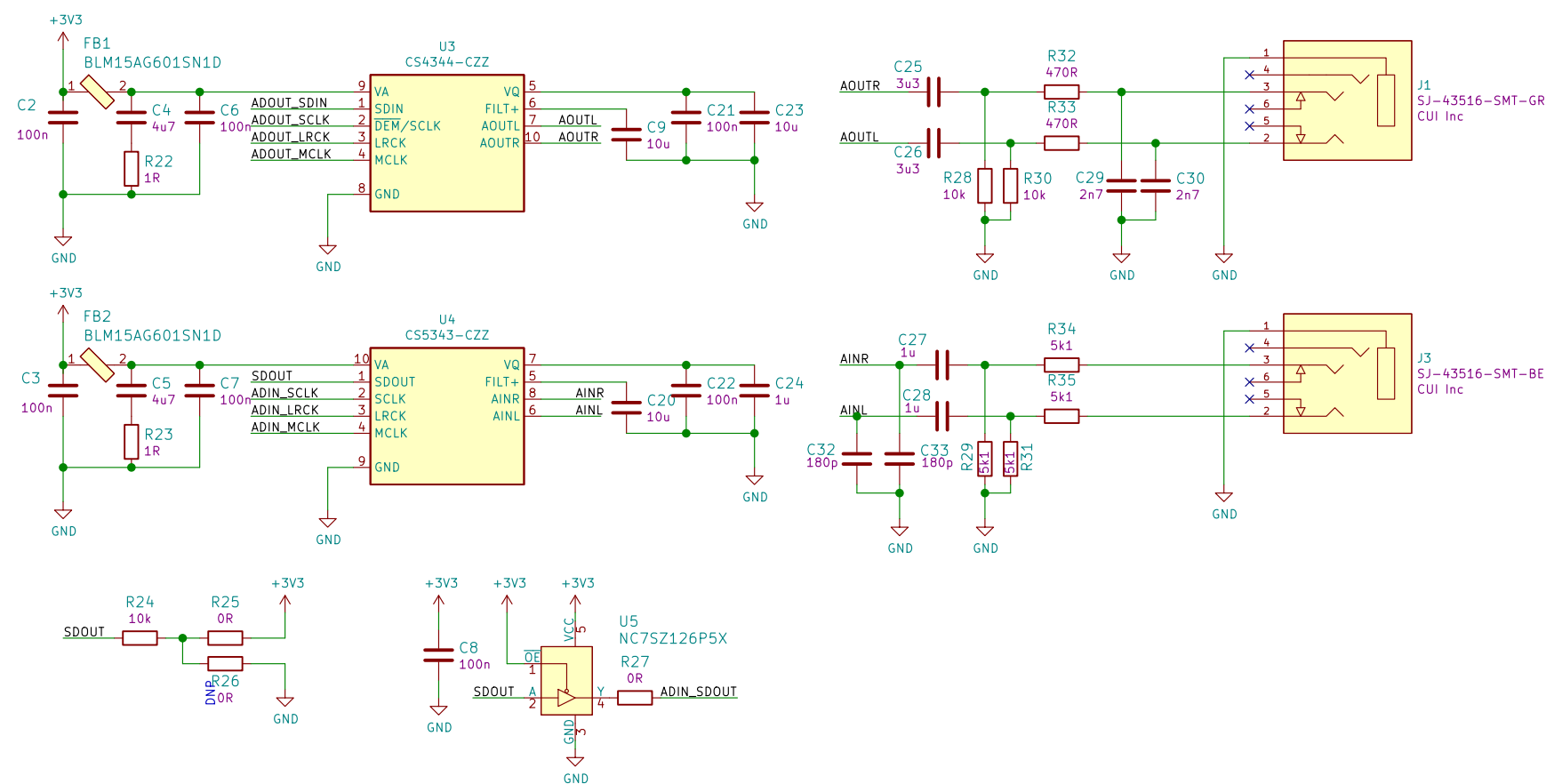
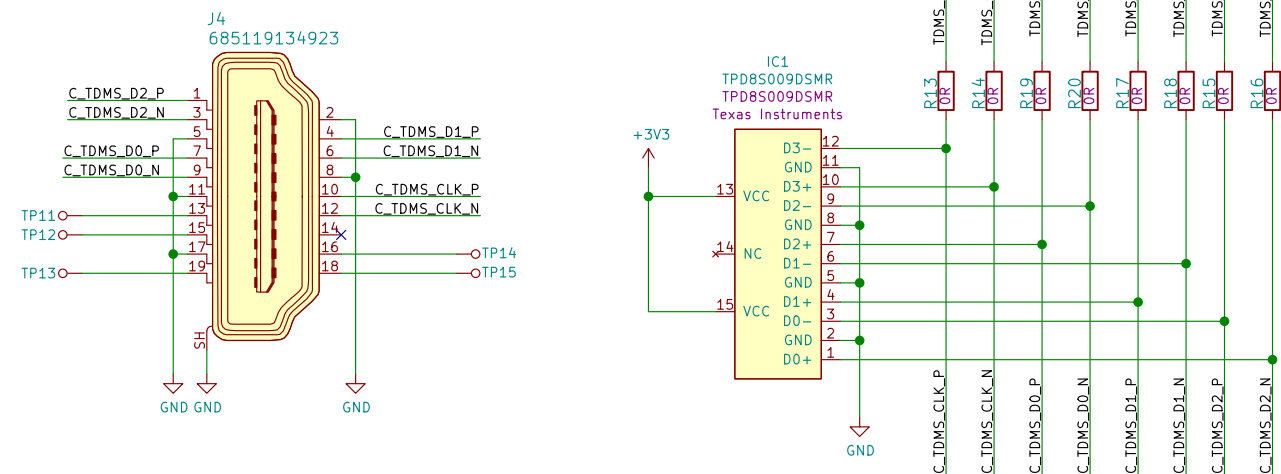
The diagram illustrates the pin configurations and connections for the Arty PMOD connectors (JA1, JB1, JC1, JD1) and the HDMI connector (J4). The connectors are shown with their respective pin numbers and the signals they are connected to. The connections are as follows:

- JA1:** 1 (+3V3), 2 (ADOUT_MCLK), 3 (ADOUT_LRCK), 4 (ADOUT_SCLK), 5 (ADOUT_SPIN), 6 (GND), 7 (+3V3), 8 (ADIN_MCLK), 9 (ADIN_LRCK), 10 (ADIN_SCLK), 11 (ADIN_SDOUT), 12 (GND).
- JB1:** 1 (+3V3), 2 (SS_USB), 3 (MOSI_USB), 4 (MISO_USB), 5 (SCK_USB), 6 (GND), 7 (+3V3), 8 (GFX_USB), 9 (RST_USB), 10 (INT_USB), 11 (GPIO_SCL), 12 (GND).
- JC1:** 1 (+3V3), 2 (TDMS_D0_P), 3 (TDMS_D0_N), 4 (TDMS_D1_P), 5 (TDMS_D1_N), 6 (GND), 7 (+3V3), 8 (TDMS_D2_P), 9 (TDMS_D2_N), 10 (TDMS_CLK_P), 11 (TDMS_CLK_N), 12 (GND).
- JD1:** 1 (+3V3), 2 (CD_DAT3), 3 (MOSI_CMD), 4 (MISO_DATA), 5 (SCK), 6 (GND), 7 (+3V3), 8 (DAT1), 9 (DAT2), 10 (CD), 11 (GPIO_SDA), 12 (GND).
- J4 (HDMI connector):** 1 (C_TDMS_D2_P), 2 (C_TDMS_D2_N), 3 (C_TDMS_D0_P), 4 (C_TDMS_D0_N), 5 (TP11), 6 (TP12), 7 (TP13), 8 (GND), 9 (GND), 10 (GND), 11 (GND), 12 (GND), 13 (GND), 14 (GND), 15 (GND), 16 (GND), 17 (GND), 18 (GND), 19 (GND), 20 (GND), 21 (GND), 22 (GND), 23 (GND), 24 (GND), 25 (GND), 26 (GND), 27 (GND), 28 (GND), 29 (GND), 30 (GND), 31 (GND), 32 (GND), 33 (GND), 34 (GND), 35 (GND), 36 (GND), 37 (GND), 38 (GND), 39 (GND), 40 (GND), 41 (GND), 42 (GND), 43 (GND), 44 (GND), 45 (GND), 46 (GND), 47 (GND), 48 (GND), 49 (GND), 50 (GND), 51 (GND), 52 (GND), 53 (GND), 54 (GND), 55 (GND), 56 (GND), 57 (GND), 58 (GND), 59 (GND), 60 (GND), 61 (GND), 62 (GND), 63 (GND), 64 (GND), 65 (GND), 66 (GND), 67 (GND), 68 (GND), 69 (GND), 70 (GND), 71 (GND), 72 (GND), 73 (GND), 74 (GND), 75 (GND), 76 (GND), 77 (GND), 78 (GND), 79 (GND), 80 (GND), 81 (GND), 82 (GND), 83 (GND), 84 (GND), 85 (GND), 86 (GND), 87 (GND), 88 (GND), 89 (GND), 90 (GND), 91 (GND), 92 (GND), 93 (GND), 94 (GND), 95 (GND), 96 (GND), 97 (GND), 98 (GND), 99 (GND), 100 (GND).



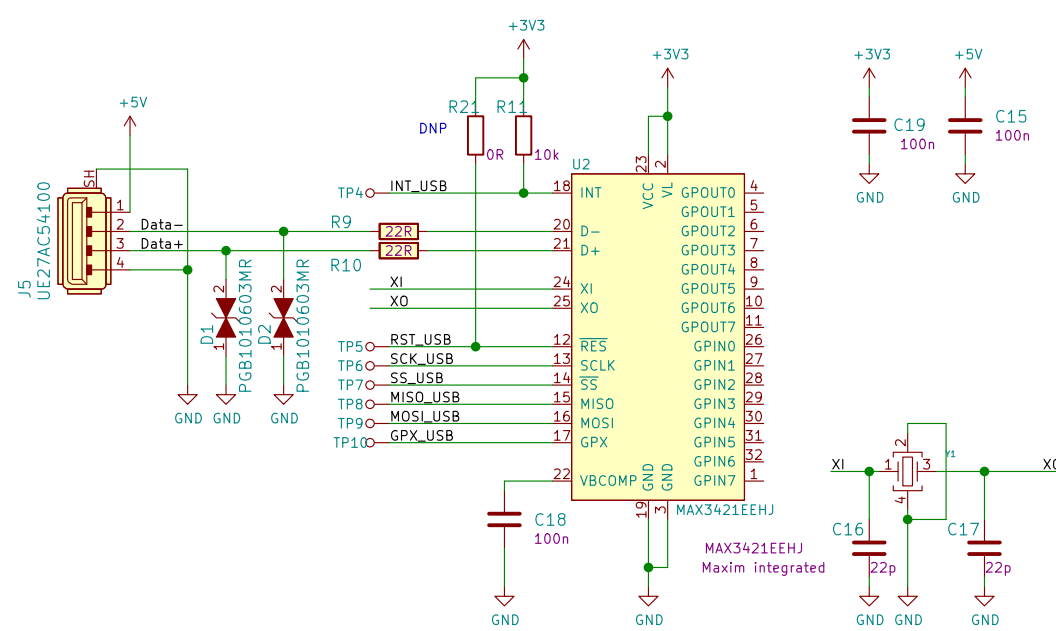
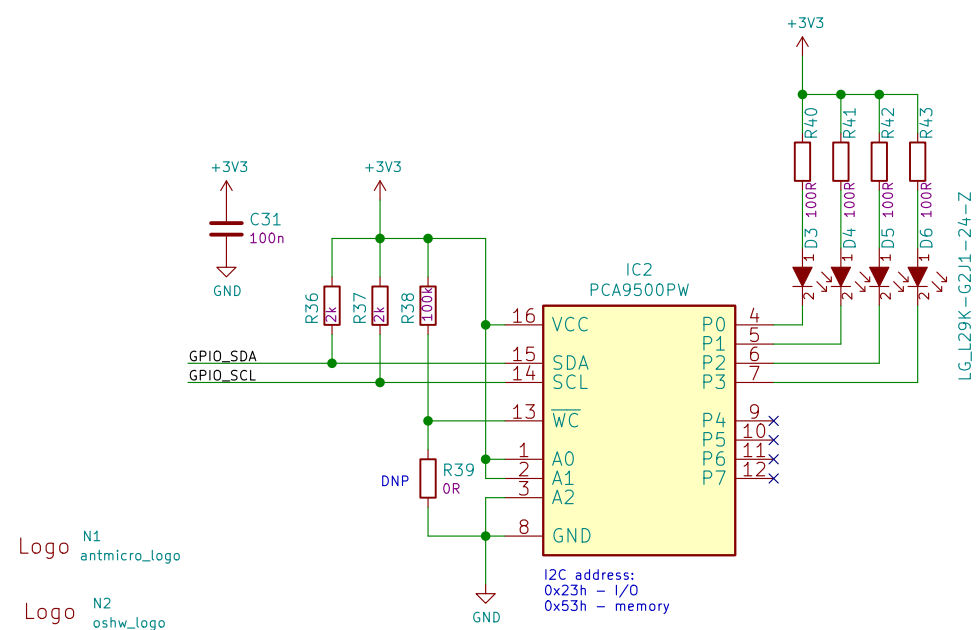
HDMI connector

The diagram illustrates the internal wiring of an HDMI connector. The connector, labeled J4 (685119134923), is shown with its 19 pins. The pins are connected to the TPD8S5009D5MR (IC1) Texas Instruments chip. The chip is powered by +3V3 and has its NC pin connected to GND. The chip's outputs are connected to the HDMI connector pins. The connector pins are labeled: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19. The chip pins are labeled: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19. The chip is also labeled with 'TPD8S5009D5MR' and 'Texas Instruments'.



USB controller

The schematic diagram illustrates the USB controller circuit. The USB connector J5 (UE27AC54100) is connected to the MAX3421EEH (U2) controller. The controller is powered by +3V3 and +5V. The circuit includes several capacitors (C18, C19, C15, C16, C17) and resistors (R1, R2, R9, R10). The controller has various pins for data (Data-, Data+, XI, XO), control (INT, D-, D+, RST_USB, SCK_USB, SS_USB, MISO_USB, MOSI_USB, GPX_USB), and power (VBCOMP, GND).

[illegible]

The schematic diagram illustrates the electrical connections for an SD card slot and a DC-DC step-up converter.

SD card slot: The slot is represented by a yellow component labeled "microSD CARD" with a "Shell". It has 10 pins. The connections are as follows:

- Pin 1:** DAT2
- Pin 2:** CD_DAT3
- Pin 3:** MOSI_CMD
- Pin 4:** CMD
- Pin 5:** VDD
- Pin 6:** CLK
- Pin 7:** VSS
- Pin 8:** DAT0
- Pin 9:** DAT1
- Pin 10:** CD2

External components and connections for the SD card slot include:

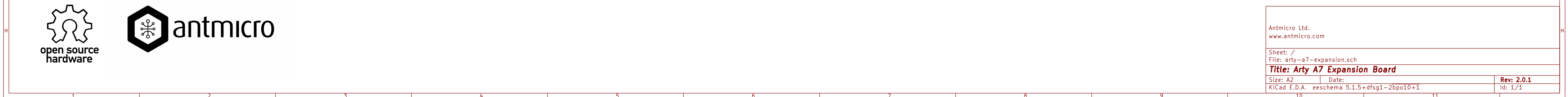
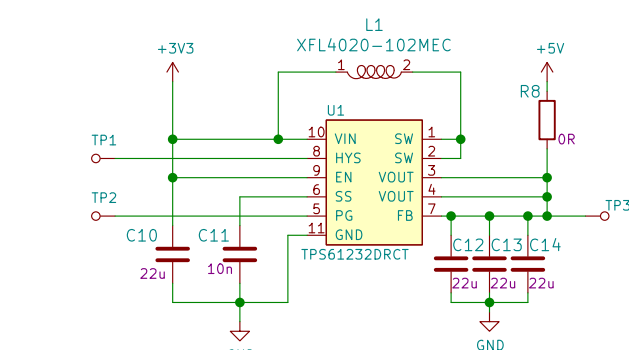
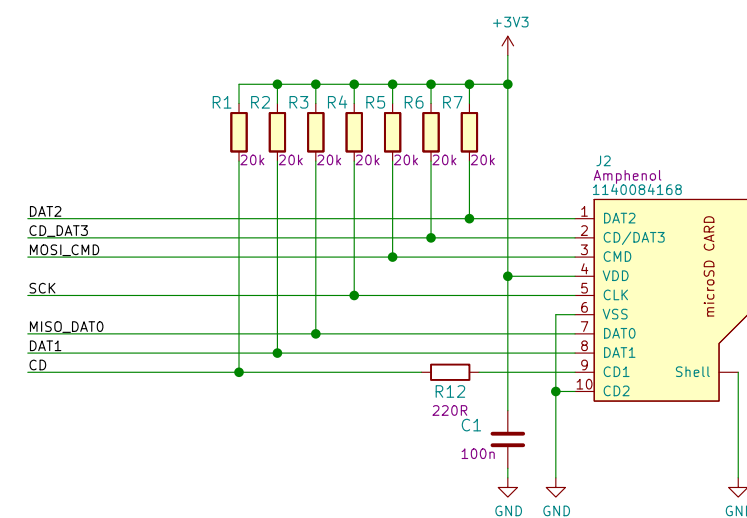
- Resistors:** R1, R2, R3, R4, R5, R6, R7 (20k) connected to pins 1 through 7 respectively. R12 (220R) connected to pin 10.
- Capacitors:** C1 (100n) connected to pin 10 to GND.
- Power:** +3V3 supply connected to pin 5 (VDD) and pin 10 (CD2). GND connections are shown for pins 7 (VSS) and pin 10 (CD2).

DC-DC step-up: The converter is represented by a yellow component labeled "TPS61232DRCT". It has 10 pins. The connections are as follows:

- Pin 1:** VIN
- Pin 2:** HYS
- Pin 3:** EN
- Pin 4:** S5
- Pin 5:** PG
- Pin 6:** VOUT
- Pin 7:** VOUT
- Pin 8:** SW
- Pin 9:** SW
- Pin 10:** FB

External components and connections for the DC-DC step-up converter include:

- Inductor:** L1 (XFL4020-102MEC) connected between pins 8 and 9.
- Capacitors:** C10 (22u) connected to VIN (pin 1) to GND. C11 (10n) connected to EN (pin 3) to GND. C12 (22u) connected to VOUT (pin 6) to GND. C13 (22u) connected to VOUT (pin 7) to GND. C14 (22u) connected to FB (pin 10) to GND.
- Power:** +3V3 supply connected to pin 1 (VIN). +5V supply connected to pin 6 (VOUT) and pin 7 (VOUT). GND connections are shown for pins 3 (EN), 6 (VOUT), 7 (VOUT), and 10 (FB).
- Other:** TP1 and TP2 are test points connected to pins 1 and 3 respectively. TP3 is a test point connected to pin 10. R8 (0R) is connected to pin 6 (VOUT) to +5V.



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