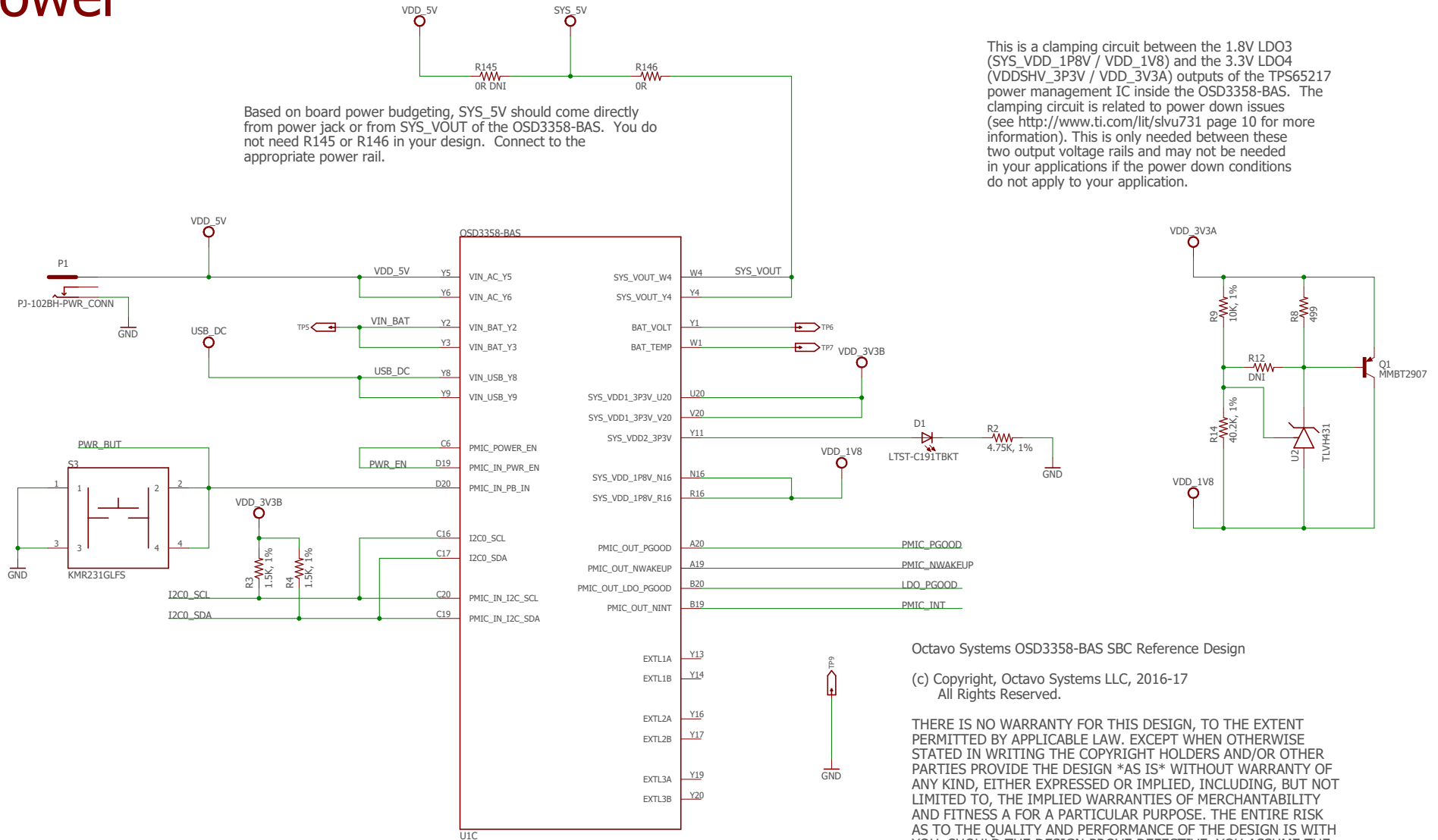


Power

Based on board power budgeting, SYS_5V should come directly from power jack or from SYS_VOUT of the OSD3358-BAS. You do not need R145 or R146 in your design. Connect to the appropriate power rail.

This is a clamping circuit between the 1.8V LDO3 (SYS_VDD_1P8V / VDD_1V8) and the 3.3V LDO4 (VDDSHV_3P3V / VDD_3V3A) outputs of the TPS65217 power management IC inside the OSD3358-BAS. The clamping circuit is related to power down issues (see <http://www.ti.com/lit/slvu731> page 10 for more information). This is only needed between these two output voltage rails and may not be needed in your applications if the power down conditions do not apply to your application.



Octavo Systems OSD3358-BAS SBC Reference Design

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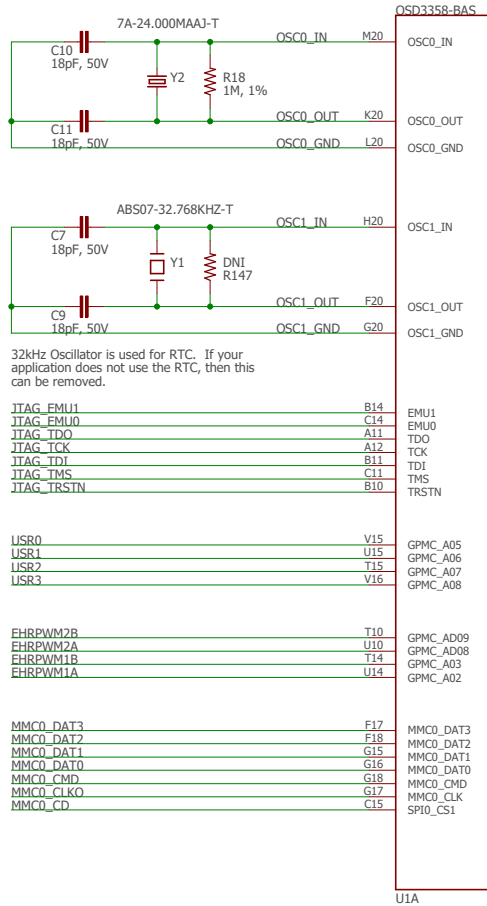
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To Print: Use 8.5"x11" paper in landscape; 0.69 scaling factor.



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Clocks & Reset



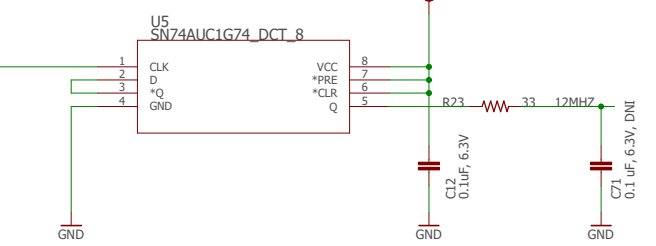
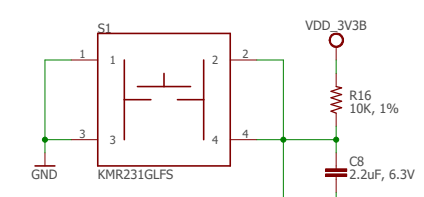
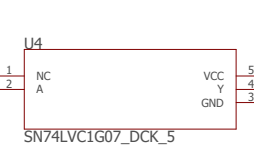
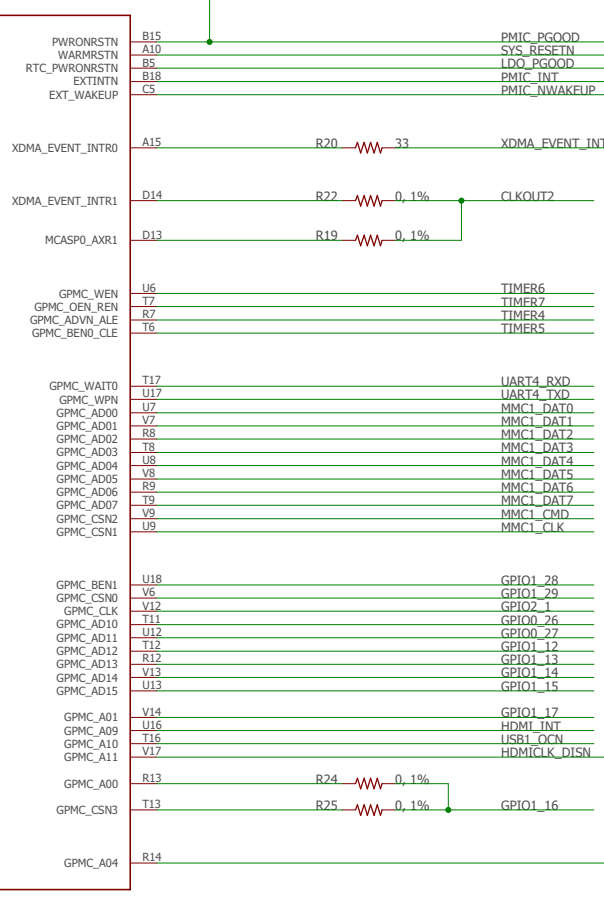
32kHz Oscillator is used for RTC. If your application does not use the RTC, then this can be removed.

JTAG_EMU11	B14
JTAG_EMU10	C14
JTAG_TDO	A11
JTAG_TCK	A12
JTAG_TDI	B11
JTAG_TMS	C11
JTAG_TRSTN	B10

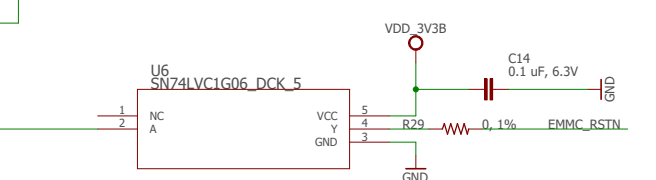
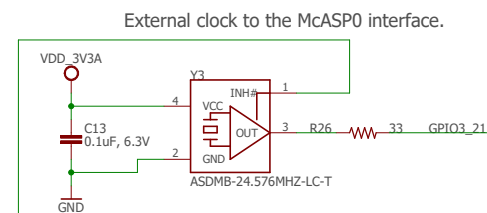
USR0	V15
USR1	U15
USR2	T15
USR3	V16

FHRPWM2B	T10
FHRPWM2A	U10
FHRPWM1B	T14
FHRPWM1A	U14

MMC0_DAT3	F17
MMC0_DAT2	F18
MMC0_DAT1	G15
MMC0_DAT0	G16
MMC0_CMD	G18
MMC0_CLKO	G17
MMC0_CD	C15



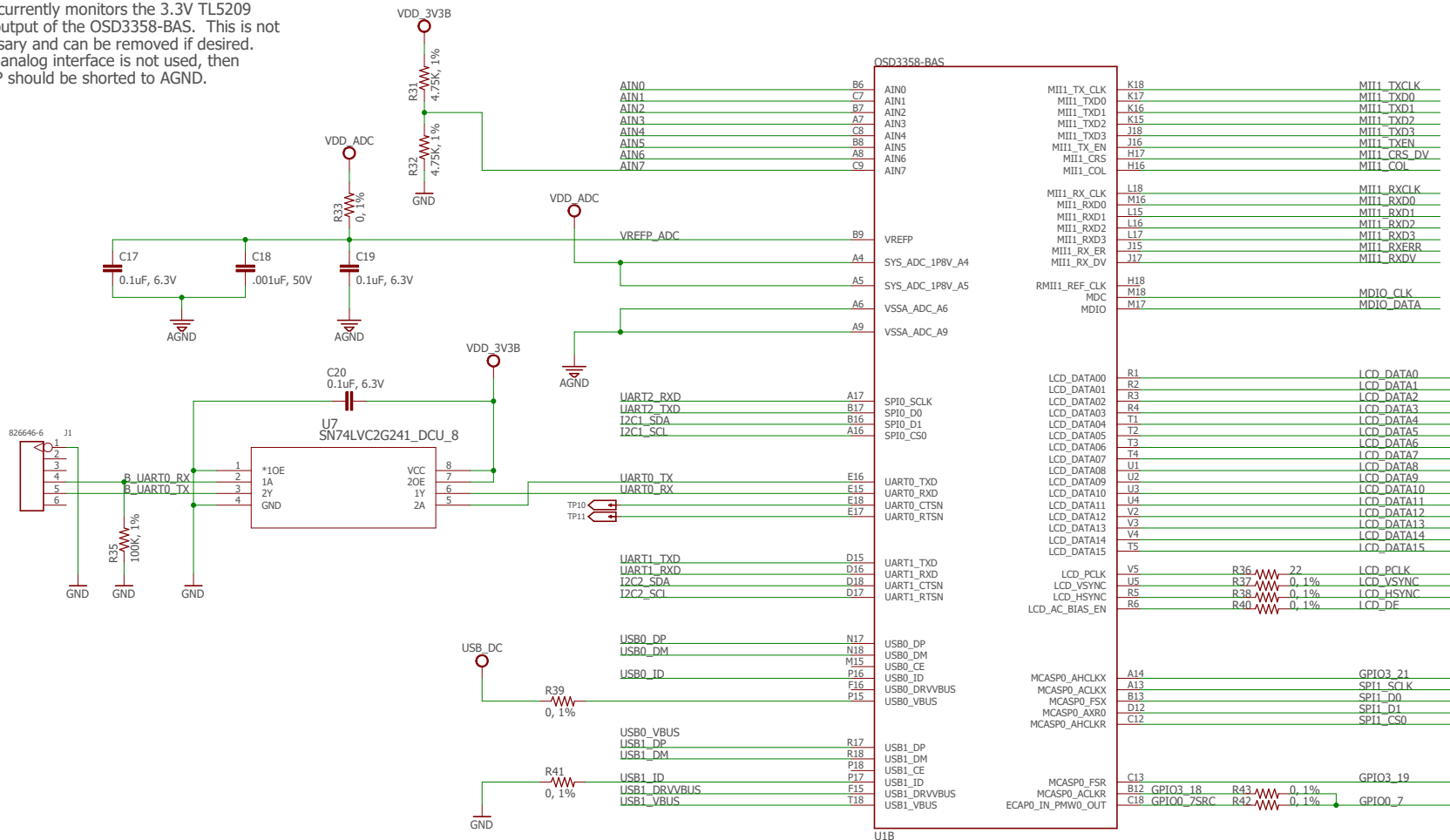
This clock divider is very noisy and care should be taken if re-using this circuit for the HDMI interface. It can cause challenges when trying to pass FCC / CE certification. R20 / R23 can be replaced with ferrite beads and C70 / C71 can be populated to help reduce EMI.



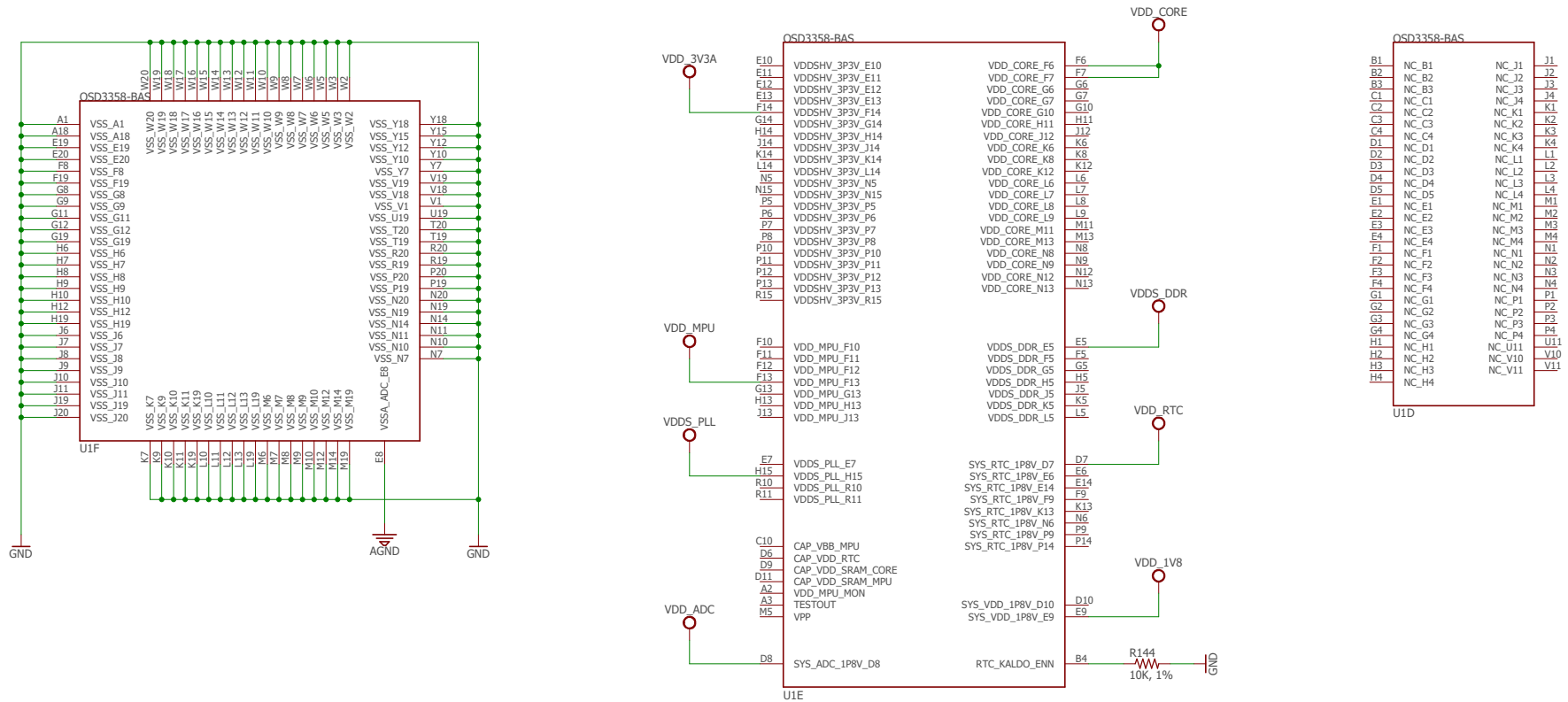
This inverter can be removed if SW is updated to change the polarity the processor drives the eMMC reset.

SiP Interfaces

AIN7 currently monitors the 3.3V TL5209 LDO output of the OSD3358-BAS. This is not necessary and can be removed if desired. If the analog interface is not used, then VREFP should be shorted to AGND.

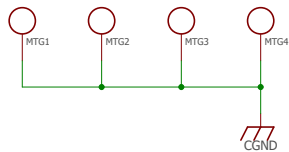


SiP Power & GND



Even though RTC-only mode is not supported due to the use of the TPS65217C within the OSD3358-BAS, RTC_KALDO_ENN is still grounded so that the internal RTC LDO is enabled and CAP_VDD_RTC does not need to be connected to VDD_CORE.

Mounting Holes

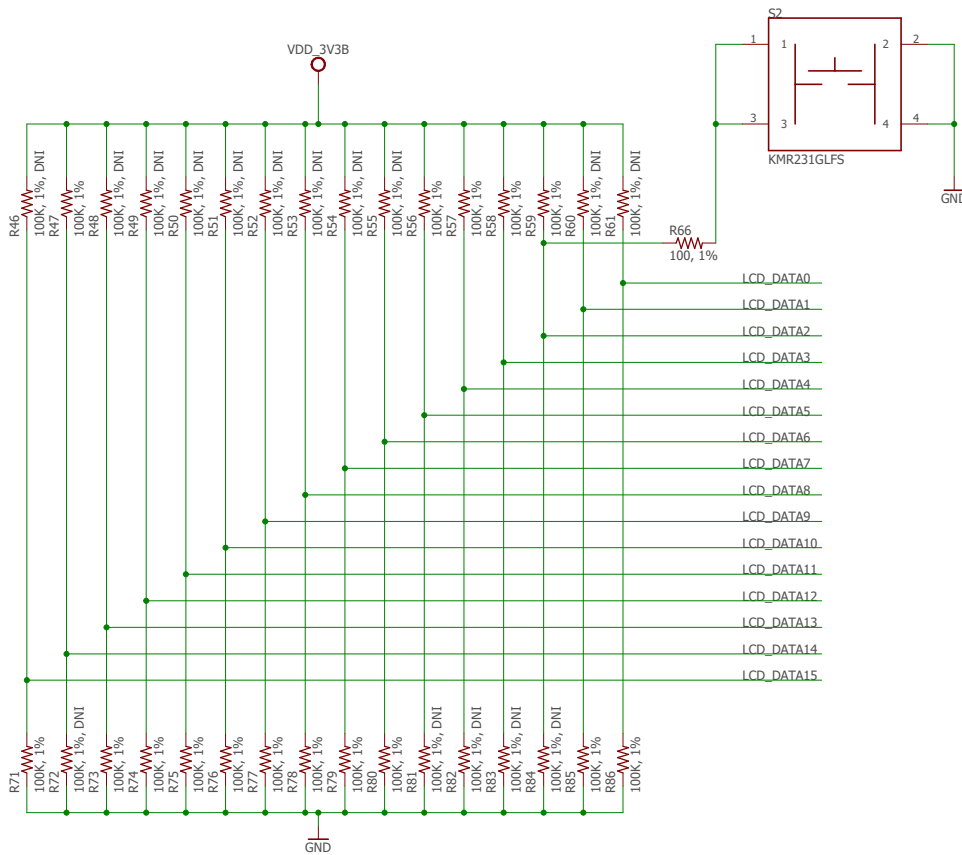


Mounting holes and other connector shields are part of a ground ring, CGND. This ring is connected to ground via a resistor on the Ethernet Page.



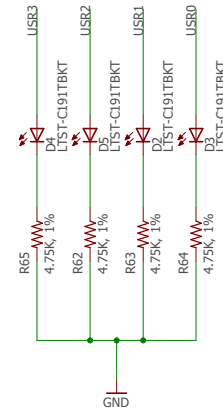
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Boot configuration

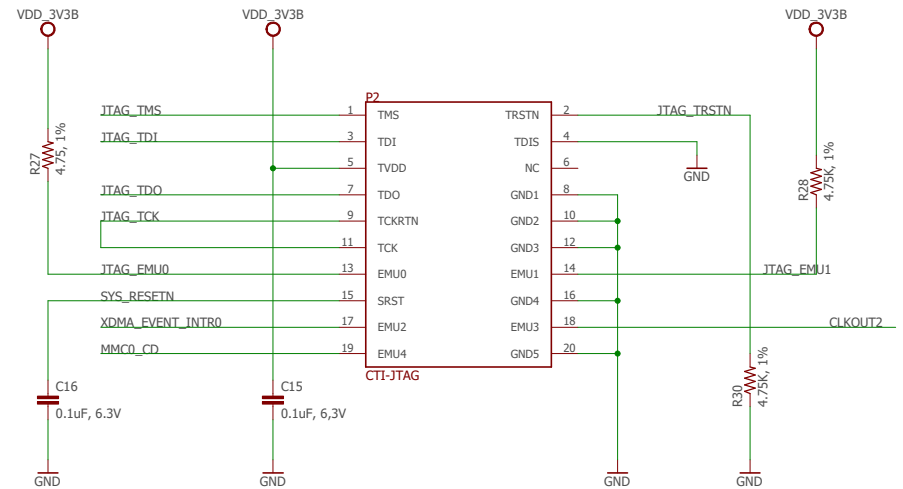


Half of these resistors can be removed if needed. Only 16 resistors are needed in order to select the default boot mode. The button above is used to choose an optional SD card boot mode.

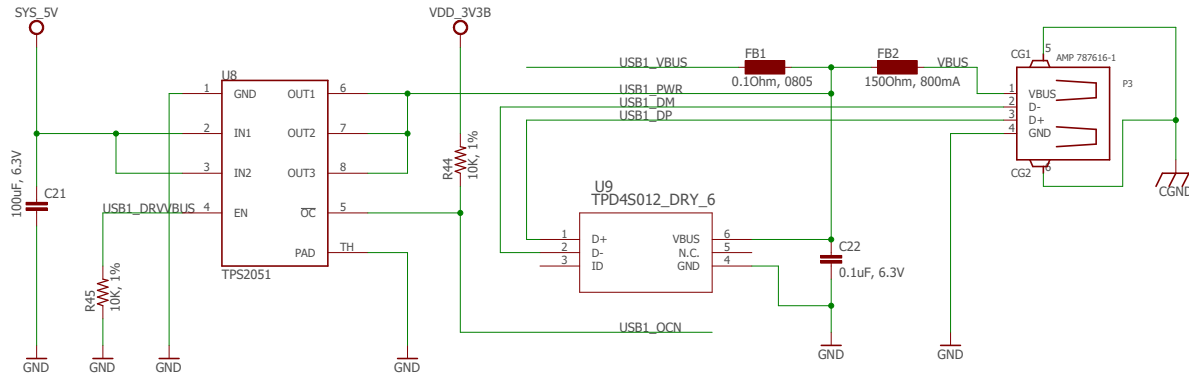
User LEDs



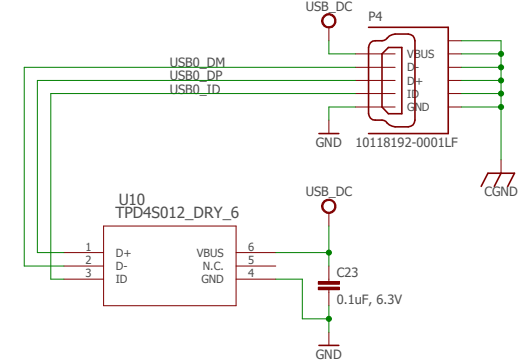
JTAG Header



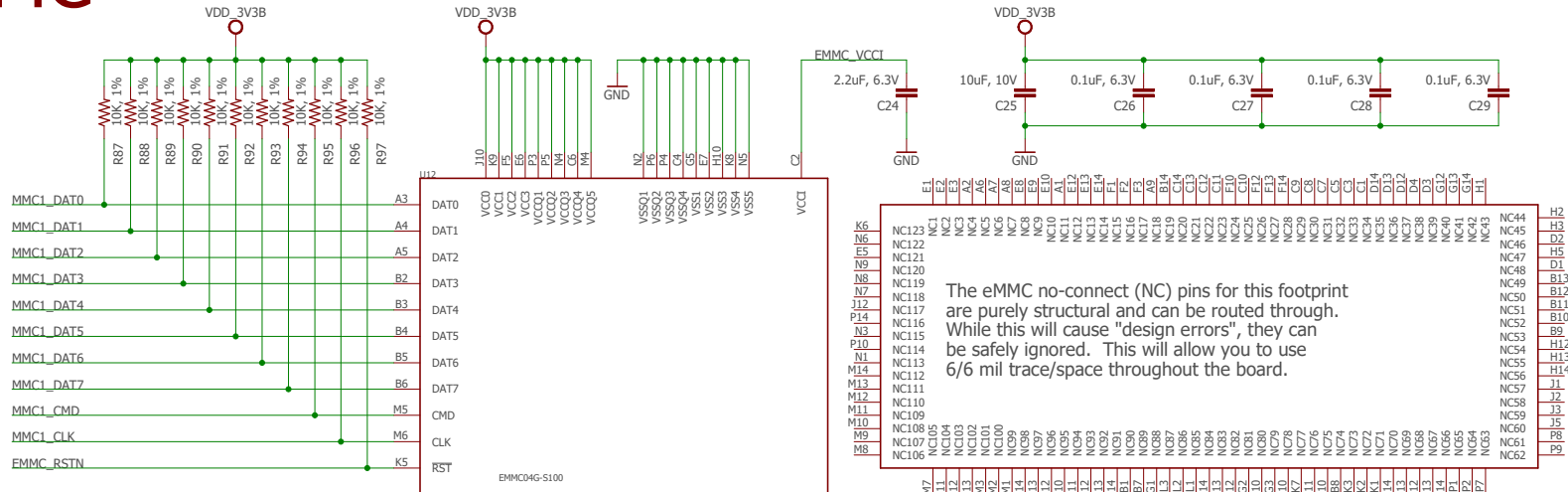
USB Host



USB Client

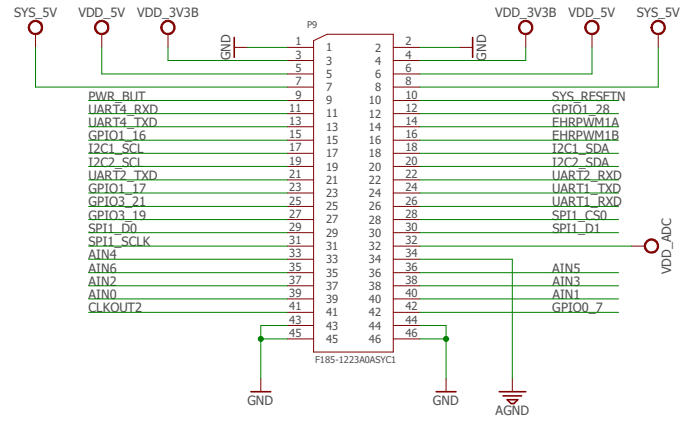
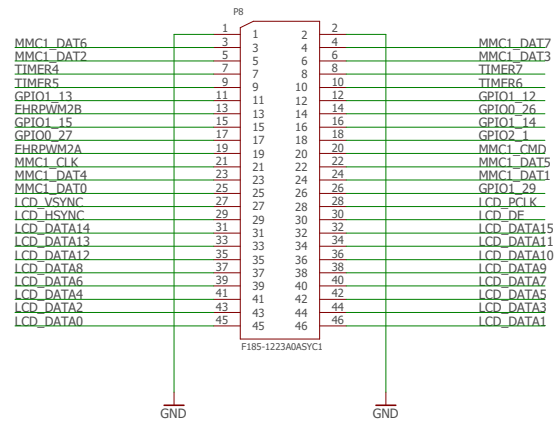


eMMC

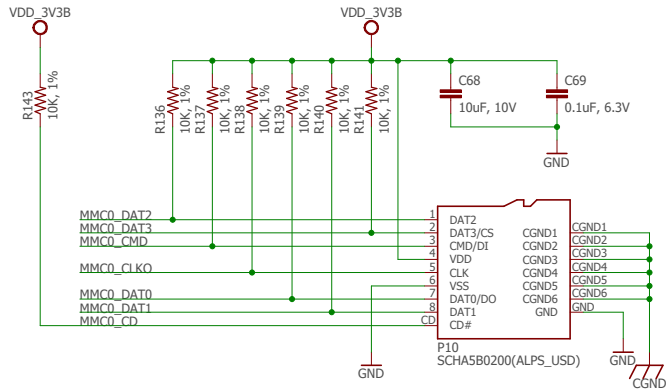


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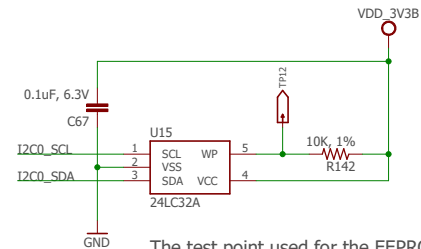
Cape Headers



Micro SD card slot



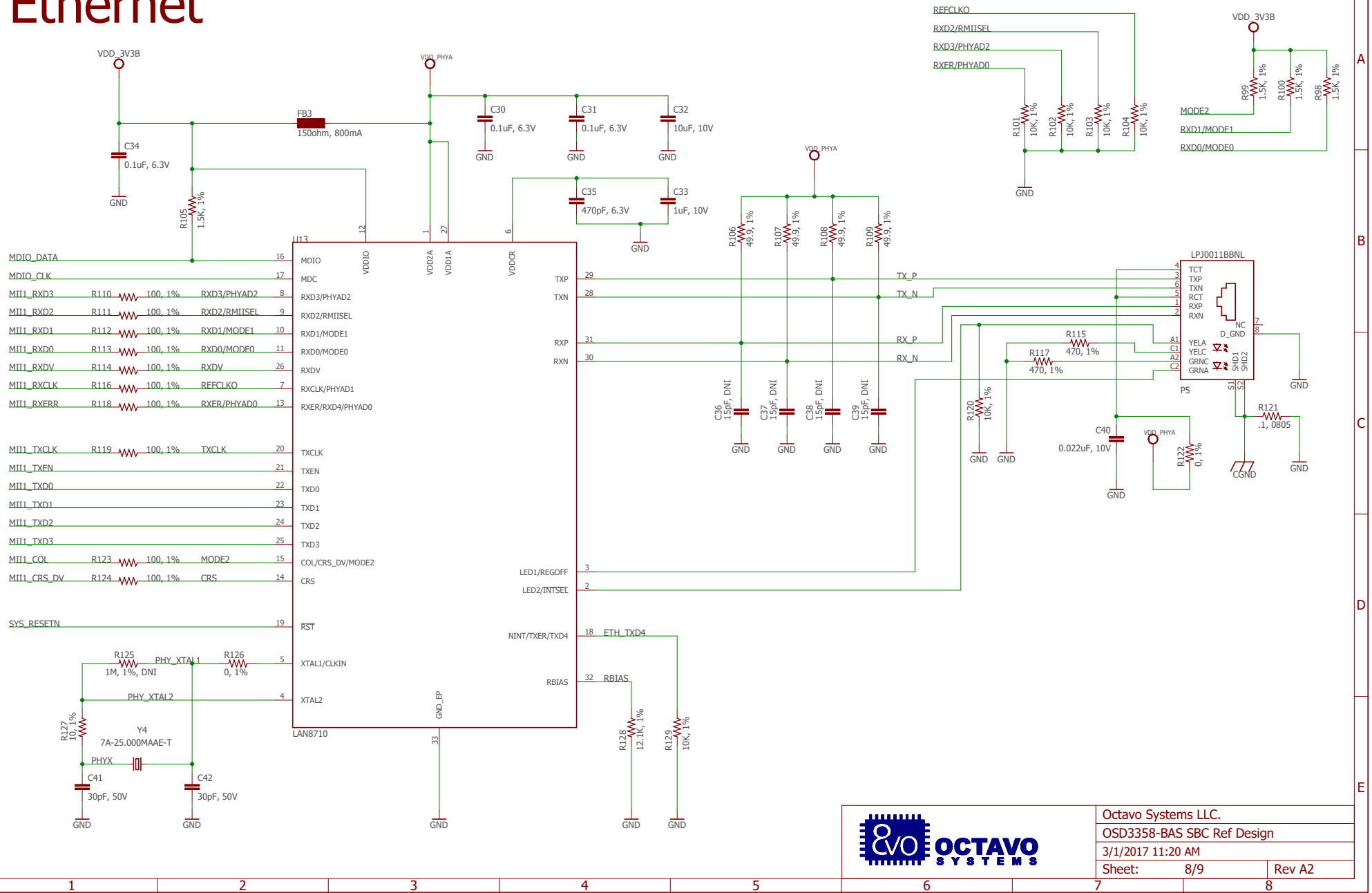
EEPROM



The test point used for the EEPROM-WP should be easily accessible and close to a ground pin. It is recommended to use a thru-hole test point so that it is easy to ground in order to program the EEPROM.

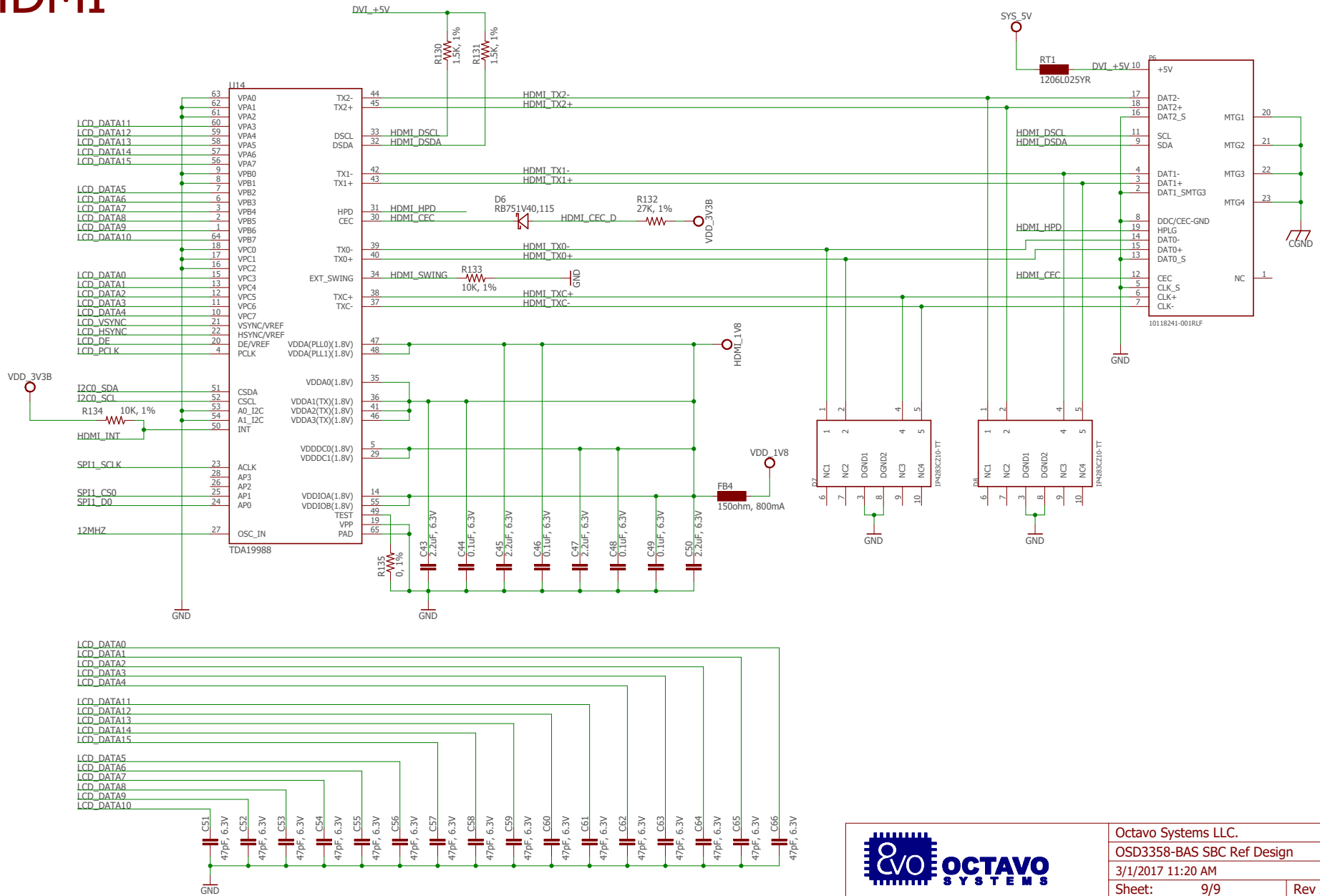


Ethernet



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HDMI



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