

# SR-uSOM-MX6 PCB rev 1.5

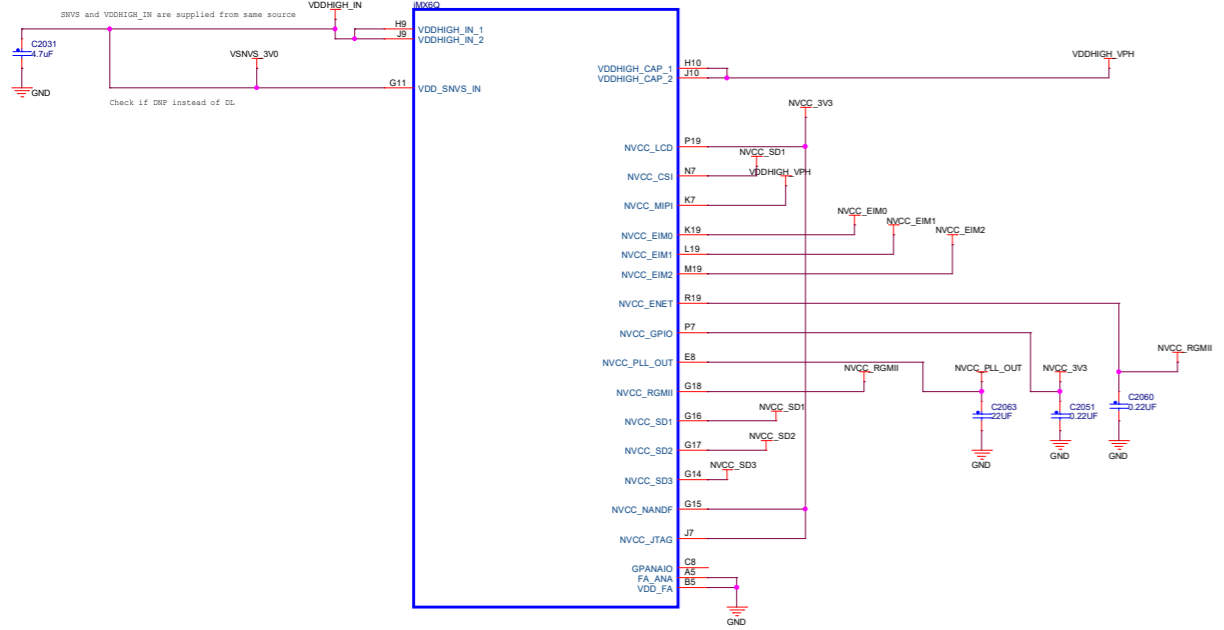
Simplified schematics for SR-uSOM-MX6  
i.MX6 based Micro-SOM.

Assembly options naming convention.

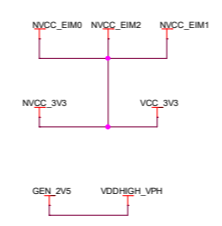
Some components in the schematics might have assembly option  
note near them, following are the options -

1. No note - always assembled
2. DNP - Never assembled. Typically used for debug.
3. GE - gigabit ethernet
4. WIFI - TI Wilink8
5. !WIFI - TI Wilink8 not assembled
6. eMMC assembled on SOM
7. WIFI\_2nd\_antenna - Used when assembling TI Wilink MIMO version
8. SPI - Used when assembling the on SOM SPI flash

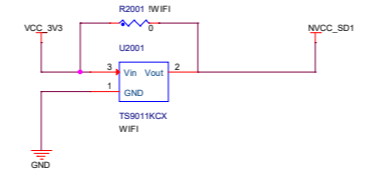
### i.MX6Q - POWER



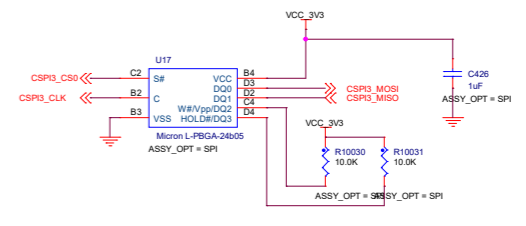
SoLo and DL can only support single EMI1/2/3  
 In this design NVCC\_EIM0,1,2 are shorted



The following LDO is used since TI Milltek8 digital interface is 1.8v.  
 But the same power rail drives UART1, so it is level shifted back again to 3.3v (look at the board to board headers page).



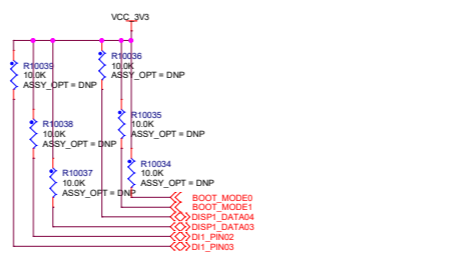
PCB rev 1.5 adds an optional SPI flash that can be placed on the SOM.  
 The SPI flash can go up to 16bit in size.



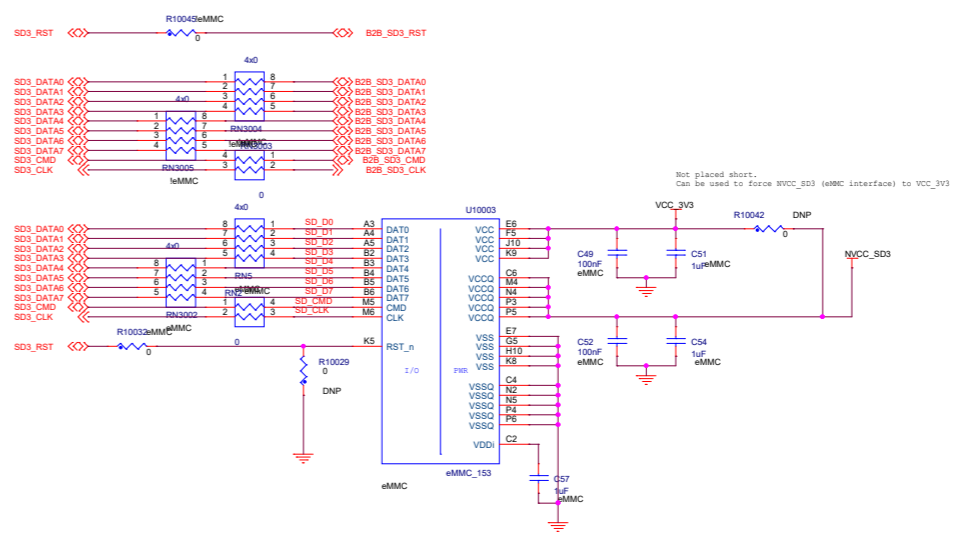
JTAG interface -  
 Refer to the iM-uSOM-M06 reference manual  
 With regards placement of the JTAG test points.  
 JTAG is available only on rev 1.3 of the PCB.  
 Rev 1.5 removed the JTAG test points to gain more space



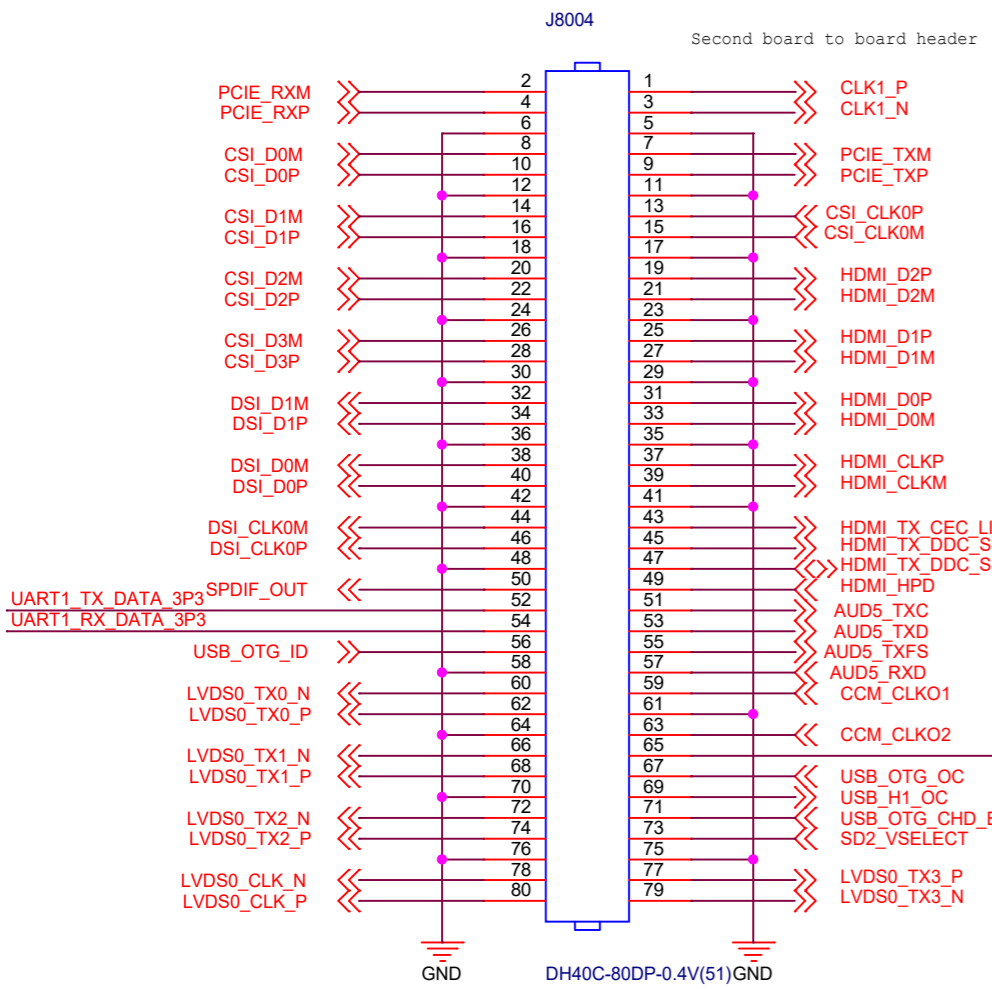
On-SOM pull up resistors for booting options.  
 These are typically used for prototyping in case the carrier used doesn't have boot select option.  
 Notice that all of them are unassembled.



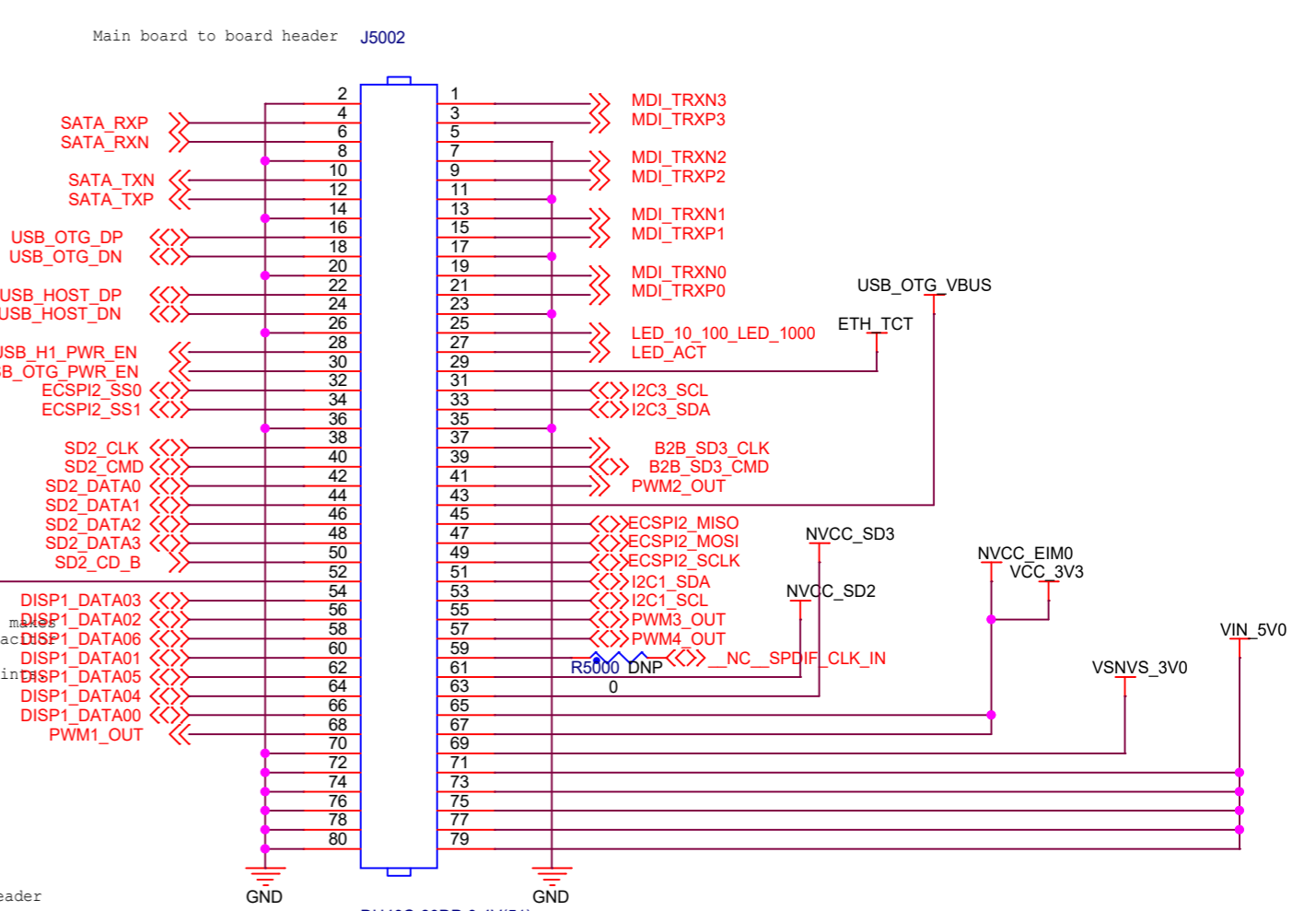
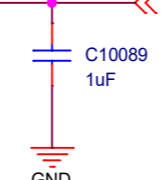
PCB rev 1.5 adds an option to have an eMMC on the SOM.  
 If that option is used then the SD3 interface that goes to the 70 pin header is cut and redirected to the eMMC on the SOM,  
 otherwise backward compatibility is achieved.  
 Notice that the DRP resistors are implemented near the 70 pin header  
 and has minimal stubs for the signals.



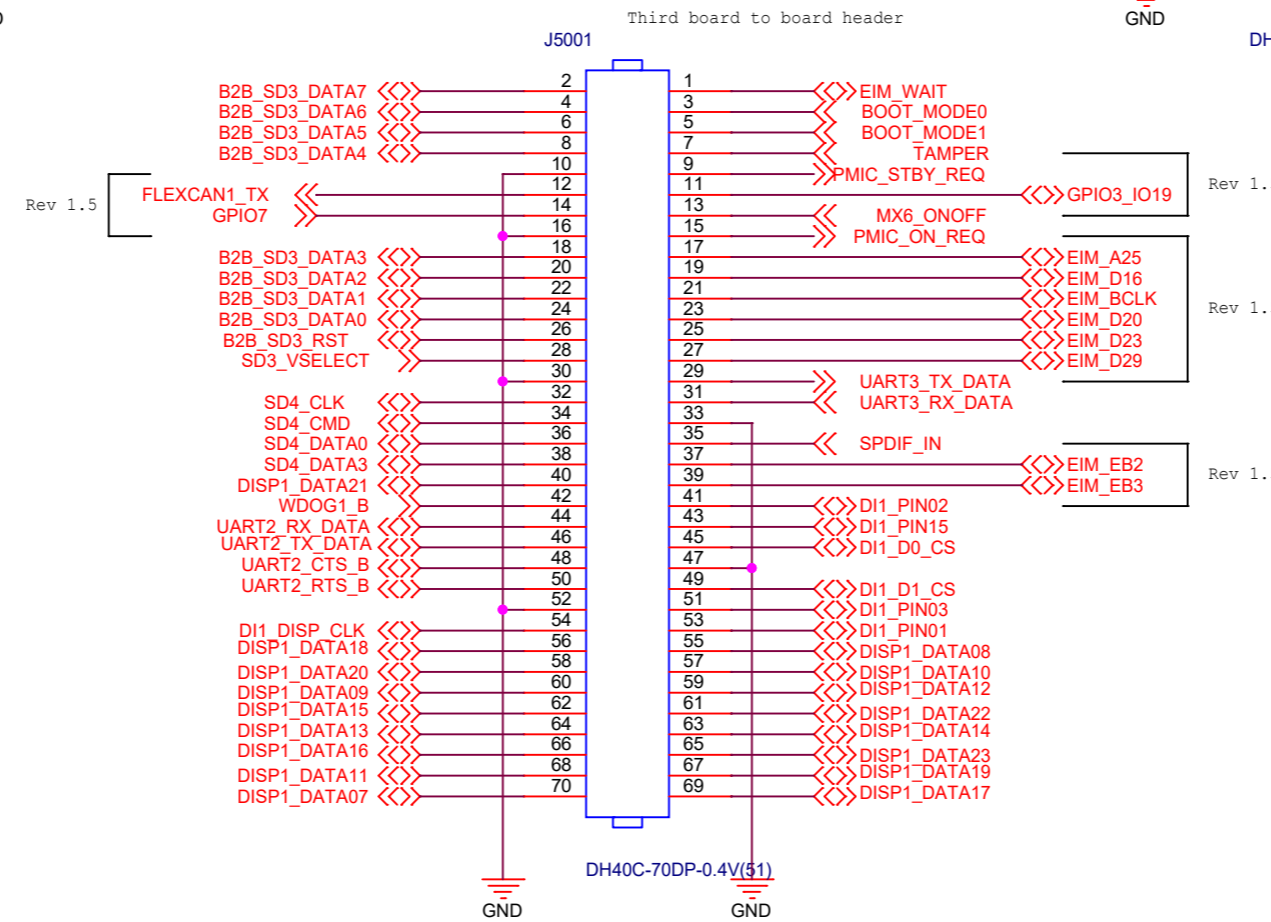
Not placed short.  
 Can be used to force NVCC\_SD3 (eMMC interface) to VCC\_3V3



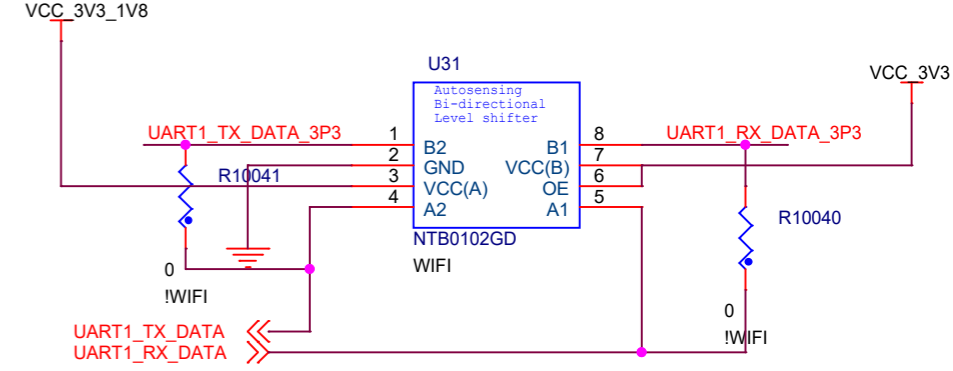
With regards the added capacitor on POR\_B - There were complaints from customers that touching the POR\_B signal with a probe resets the signal. Also other customers complaining that radiated emissions test on the system reset (and still be functional) while adding a capacitor on the POR\_B signal fixes it. So this capacitor is harmless and should fix the above complaint.



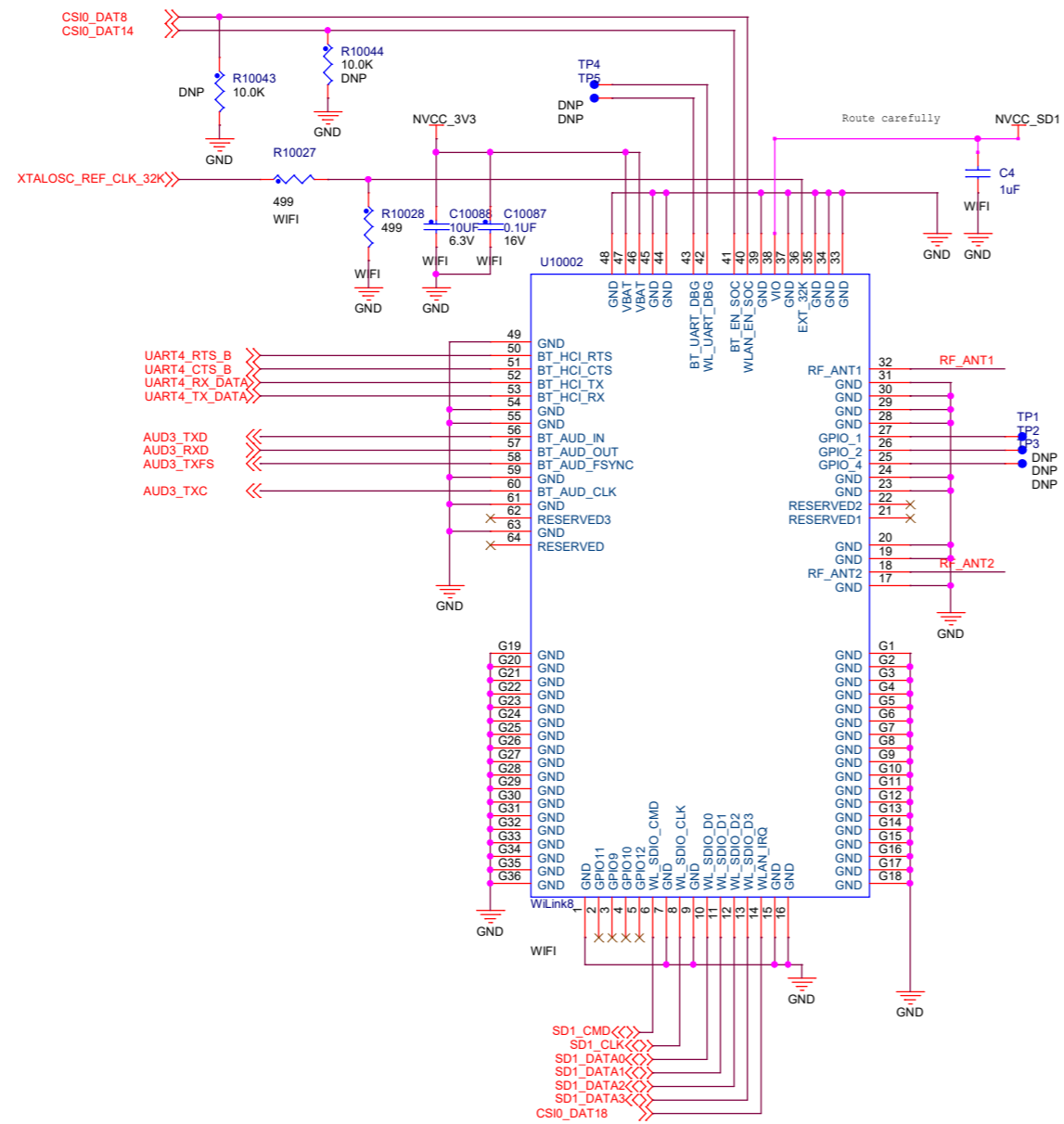
Third board to board header note- Note 11 new signals that PCB rev 1.5 adds connectivity wise. The highlights are that two signals exposes more flexcan options And the rest exposes signals important for electronic paper connectivity By default this board to board header is assembled, unless it's strictly used in CuBox-i or first HummingBoard where the carrier doesn't have that 3rd board to board header and SolidRun might ship without this 3rd board to board header. By default CuBox-i and HummingBoard do not use this header. Due to that typical build of CuBox-i and HummingBoard comes without this header assembled.



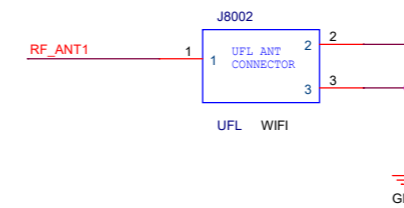
Since UART1 signals are on 1.8 voltage domain when the WiFi chip is assembled, a uart level shifter is added to the board.



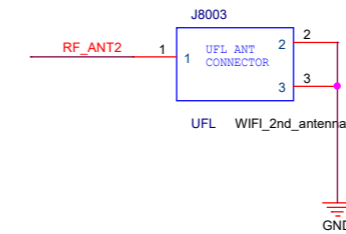




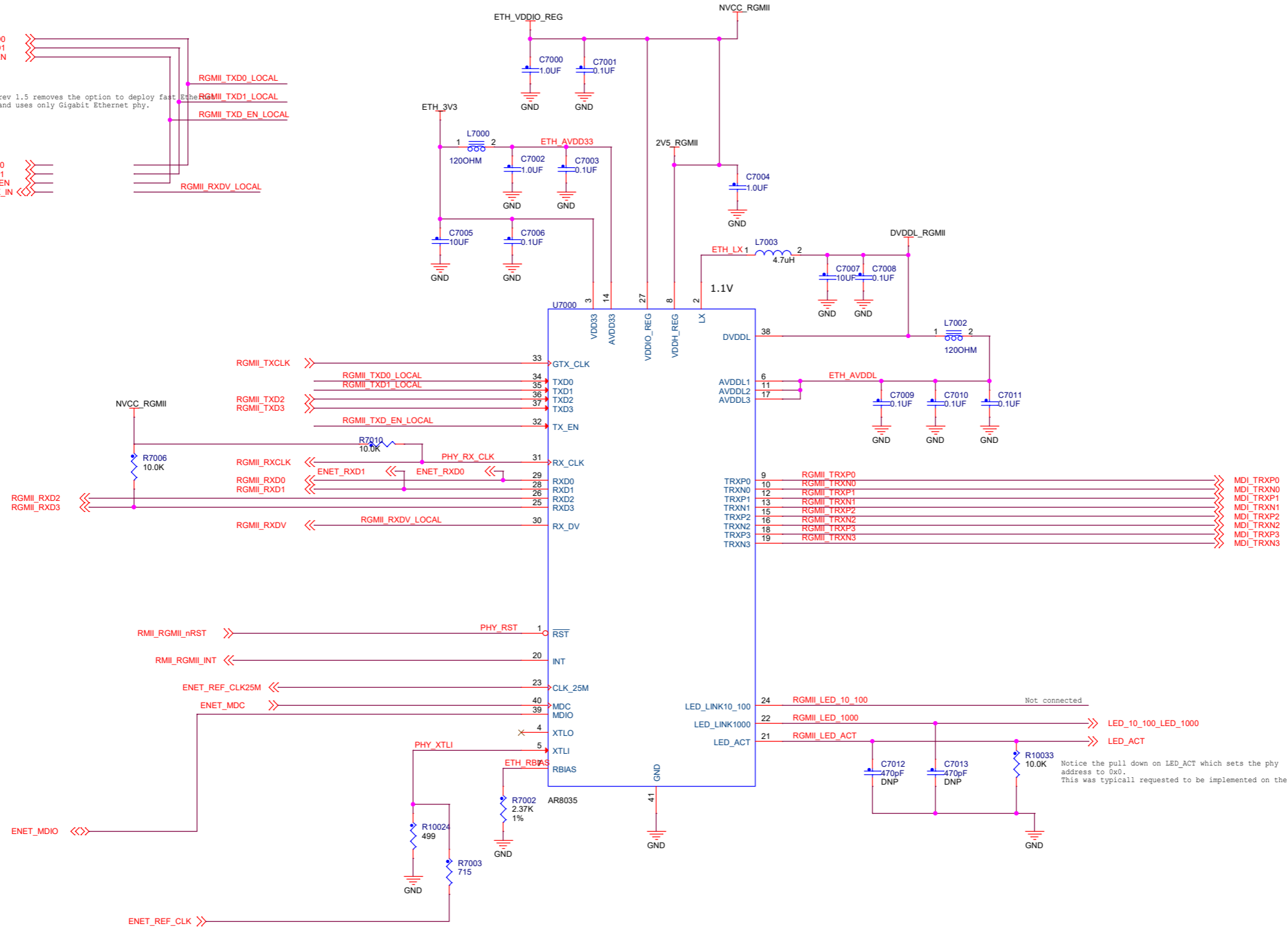
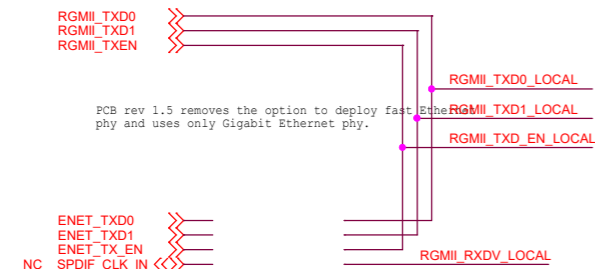
RF\_ANT1 and RF\_ANT2 are small micro strips that are 50 ohm impedance controlled between the WiFi device and the uFL connectors



Notice second antenna is assembled only when using MIMO capable TI WLink8 device



VCC\_3V3 ETH\_3V3



Notice the pull down on LED\_ACT which sets the phy address to 0x0. This was typically requested to be implemented on the carrier, but on PCB rev 1.5 it's on the SOM.