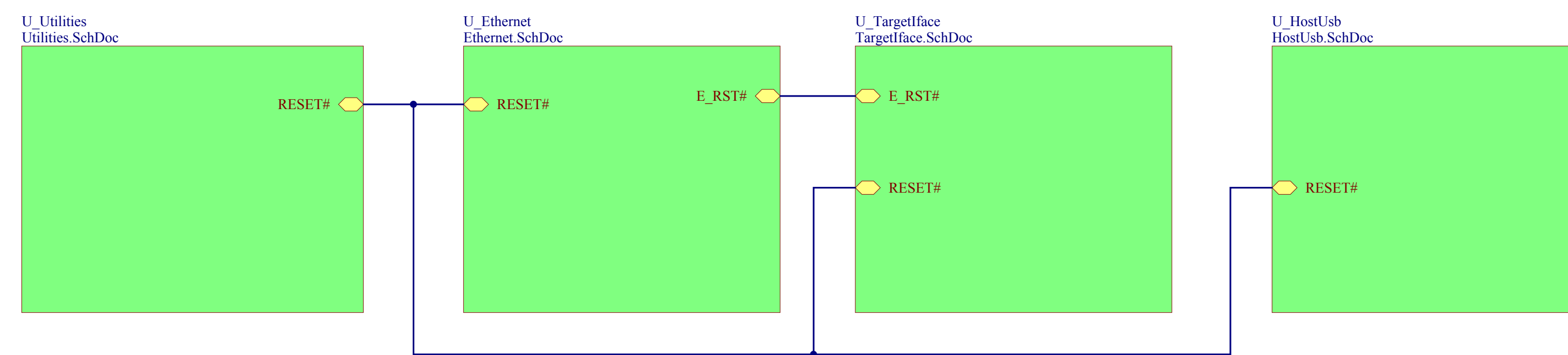


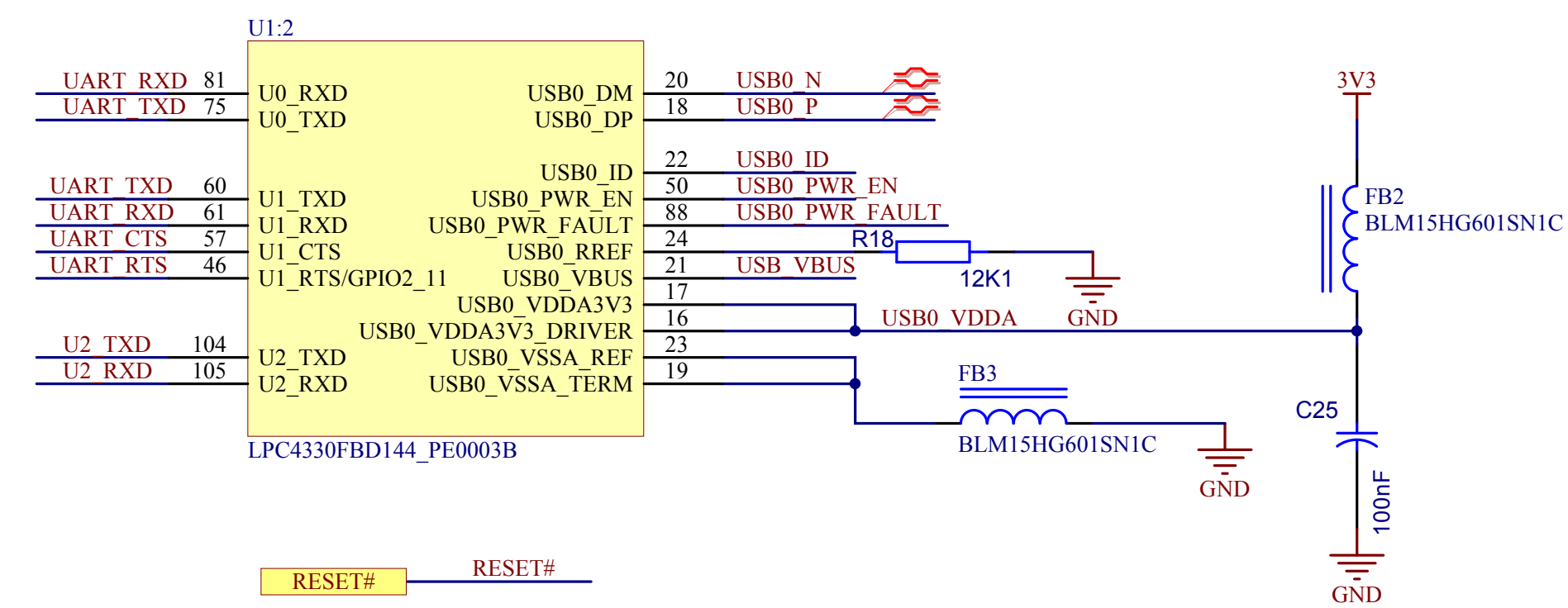
CML Microcircuits

COMMUNICATION SEMICONDUCTORS

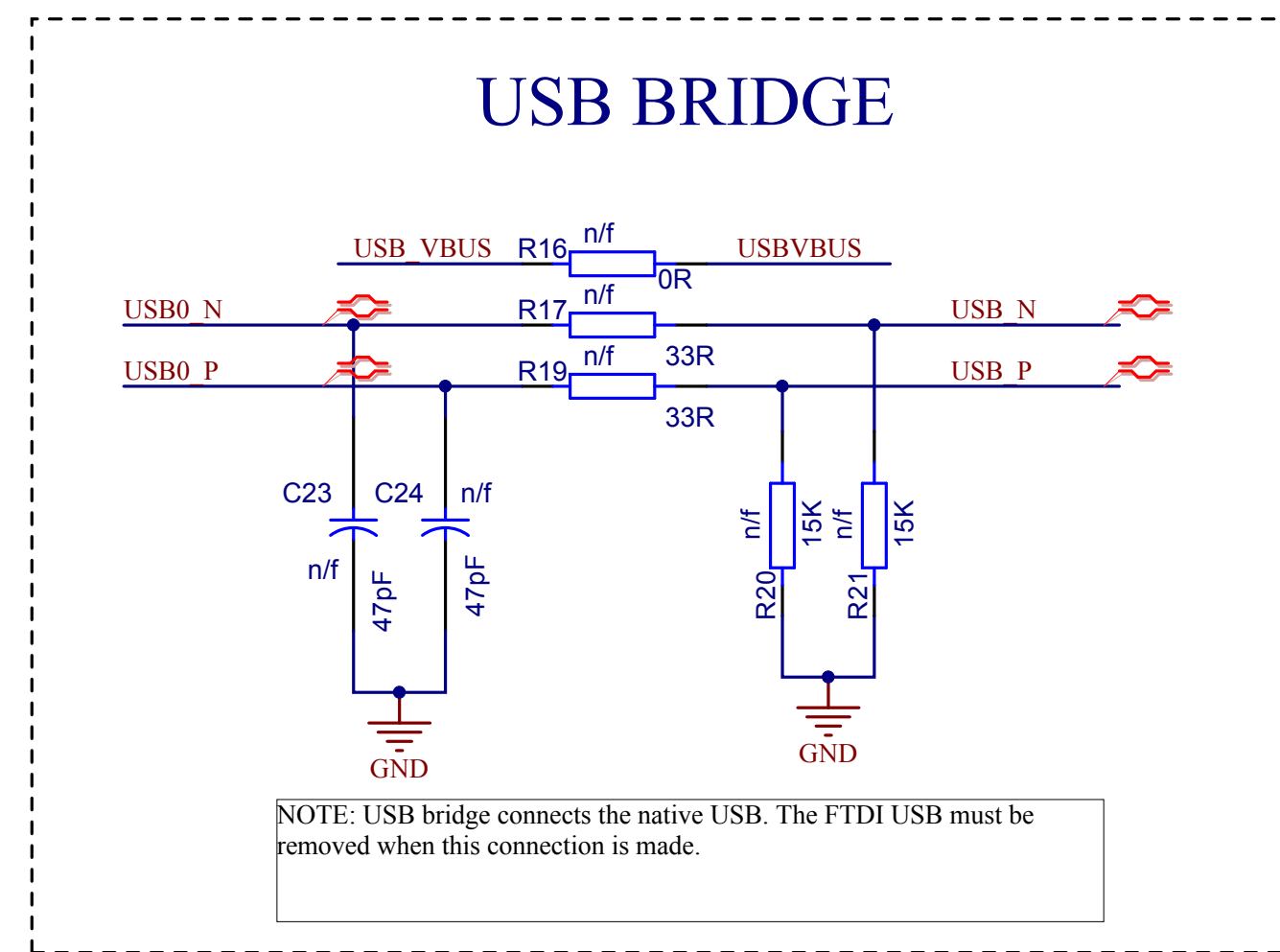
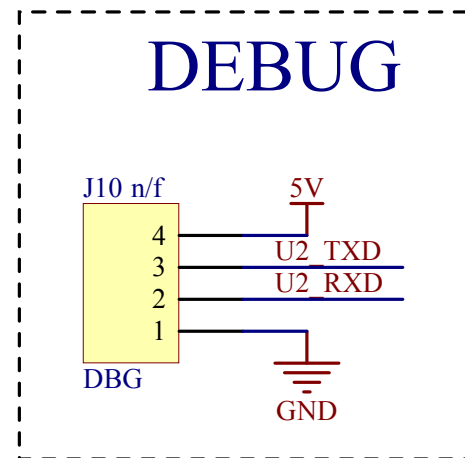
High Resolution Circuit Diagrams for PE0003 August 2017



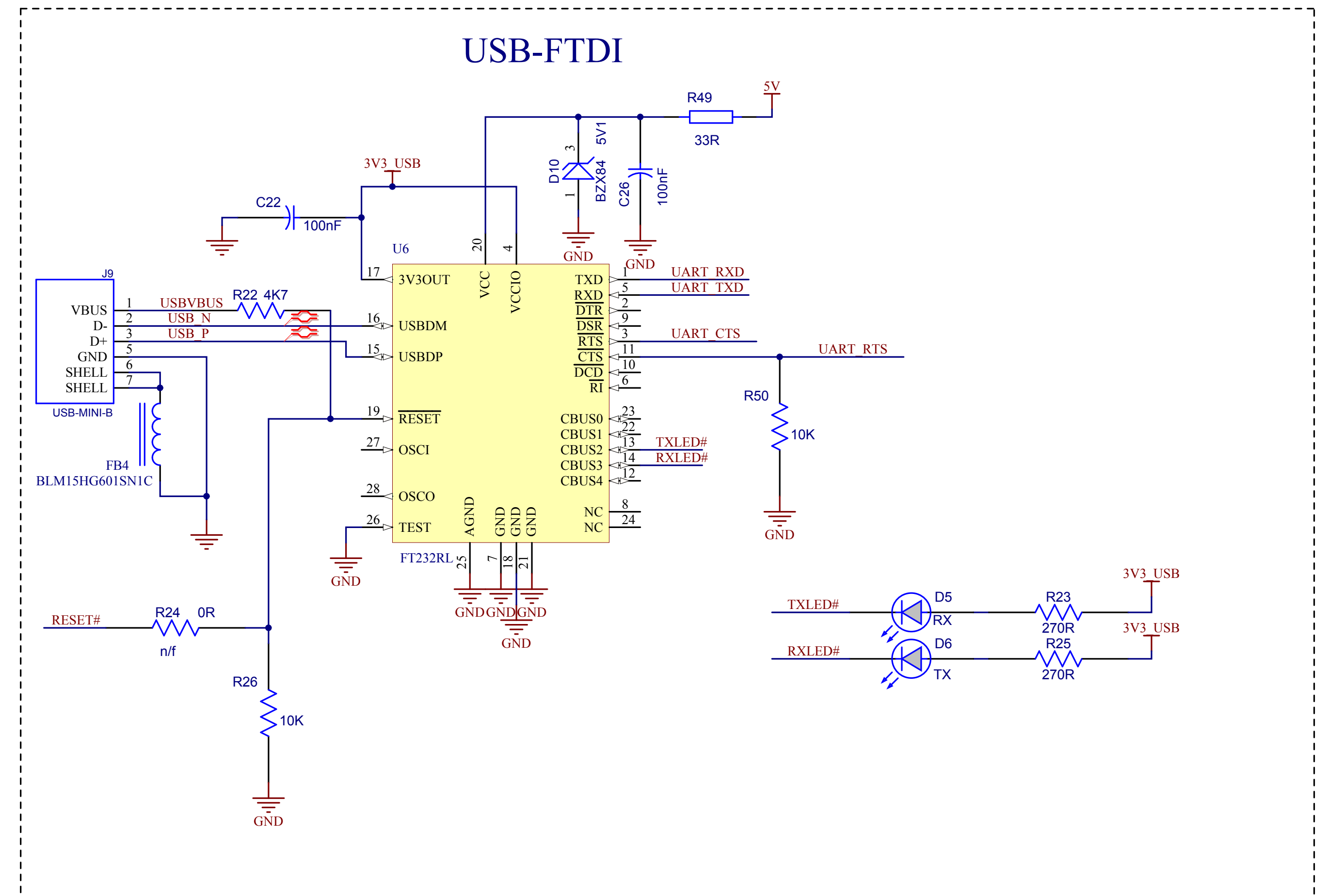
- CML Logo
- Serial Number & Mod 1-9 Check Box
- Small 6 Layer Box



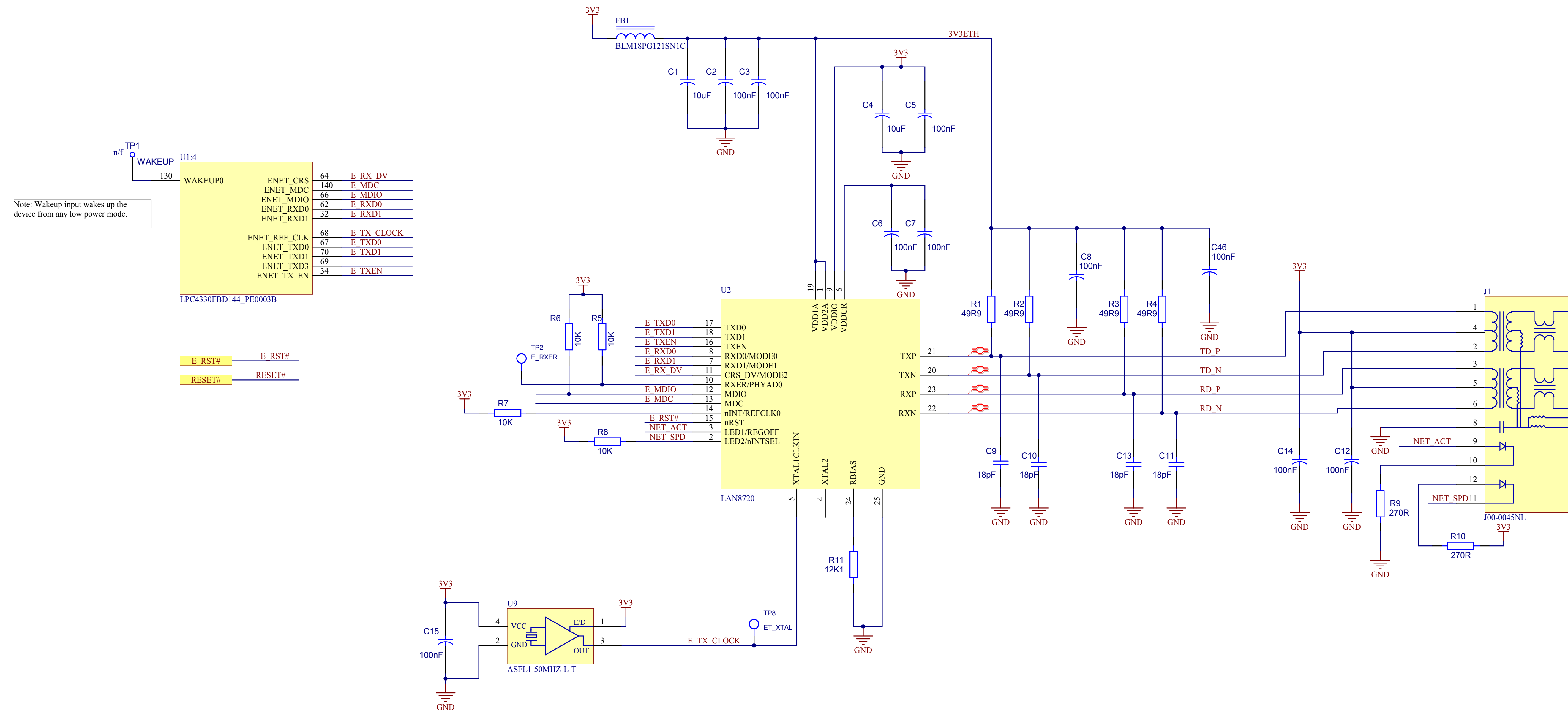
NOTE: UART1 and USART0 are connected to the same FTDI. Use one at a time, with the other disabled.



USB ROUTING GUIDELINES
 =>Route USB trace pairs together [DM & DP].
 =>Do not route USB traces under crystals, oscillators,magnetic devices or ICs that use and/or duplicate clocks.
 =>Route high-speed USB signals using a minimum of vias and corners.
 =>Use 0.5mm minimum spacing between high-speed USB signal pairs and other signal traces for optimal signal quality.



ETHERNET



ROUTING GUIDELINES

- => Keep trace length difference between TX+ and TX- (or RX+ and RX-) in 700 mils.
- => Keep RX+/- signal on the top layer, the RX+/- signal should avoid any vias, if possible. Avoid right angle signal trace.
- => The crystal/oscillator clock and the switching noise from digital signals should be far away from TX+/-, RX+/- pairs.
- => Keep TX, RX differential signals running symmetric, equal length, and closely. The trace spacing between TX+ and TXor between RX+ and RX- pair should be 8 to 10 mils.
- The better spacing between TX+/- and RX+/- pairs should be larger than 200 mils
- => The trace length from LAN8720 to the transformer should not be longer than 5 inches, keep the trace as straight as possible, and keep it parallel for differential pairs.
- => The termination resistors 49.90Ohm and capacitors of TX± and RX± pairs should be placed near the transformer side and should be shorter than 400 mils.

