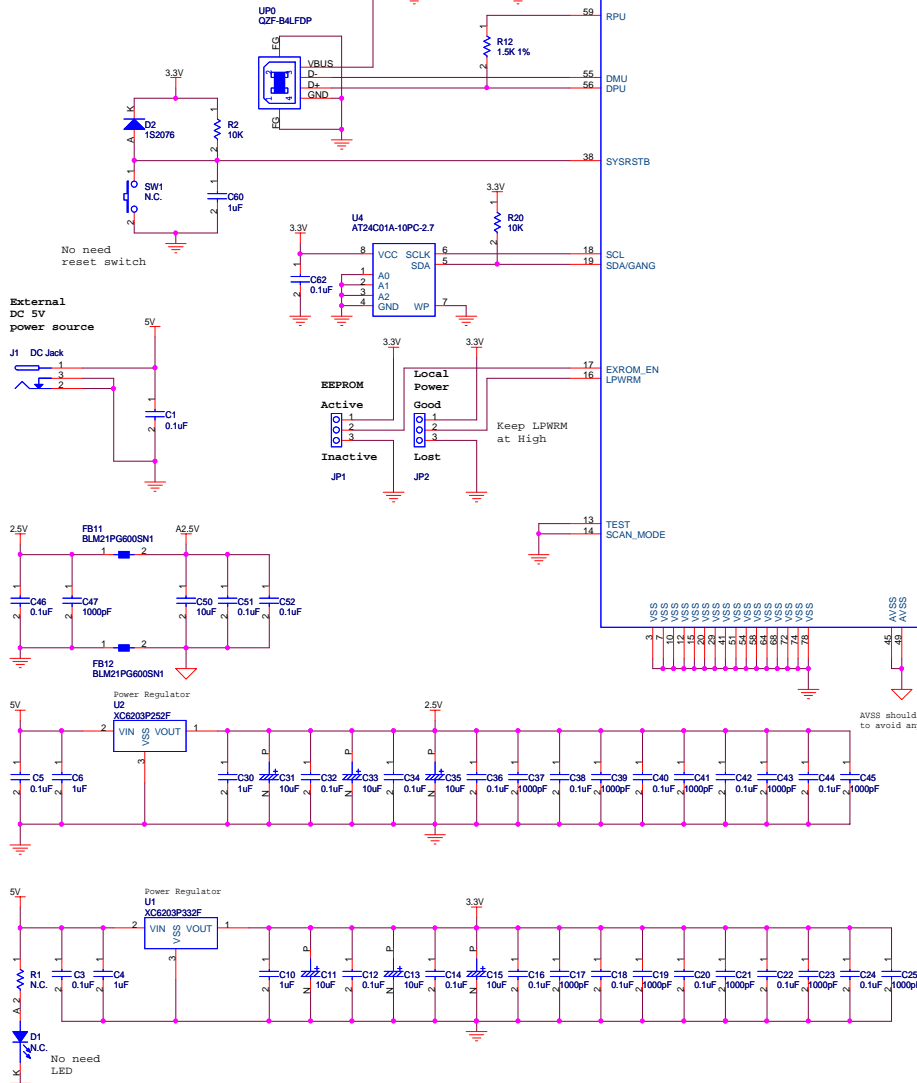




# uPD720113 USB2.0 7port HUB Evaluation Board ET-0146

## USB "B" Receptacles

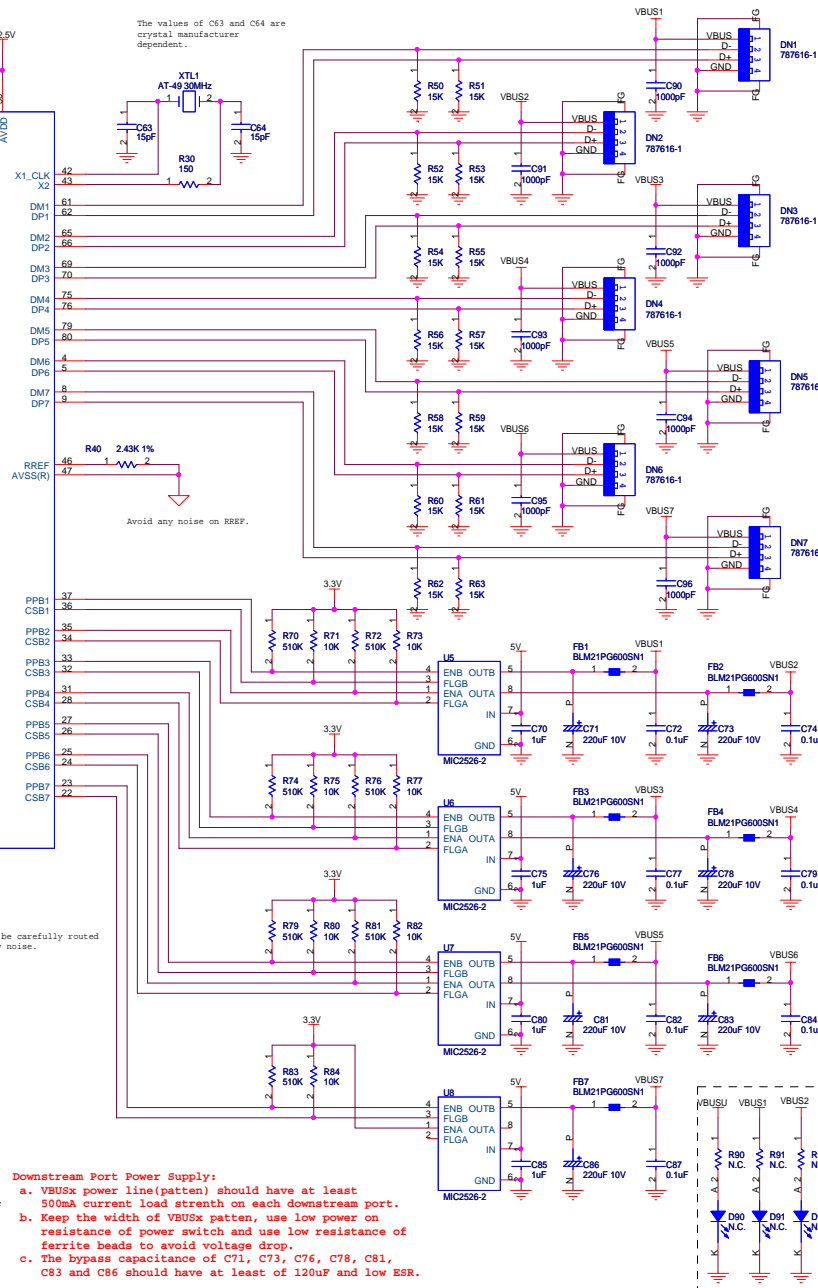


\*All resistors are 5% tolerance unless specified otherwise

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The values of C63 and C64 are crystal manufacturer dependent.

## USB "A" Receptacles



- Downstream Port Power Supply:
- VBUSx power line(patten) should have at least 500mA current load strenth on each downstream port.
  - Keep the width of VBUSx patten, use low power on resistance of power switch and use low resistance of ferrite beads to avoid voltage drop.
  - The bypass capacitance of C71, C73, C76, C78, C81, C83 and C86 should have at least of 120uF and low ESR.

- USB signal line trace:
- Keep traces of USB bus D+ and D- in the same length.
  - Achieve 90 ohm differential characteristic impedance.
  - Achieve 45 ohm common characteristic impedance.
  - Maintain parallelism between D+ and D-.
  - Do not route USB2.0 D+ and D- over the power plane split.
  - Do not route USB2.0 D+ and D- over the other high frequency signals.
  - It is preferred to route USB2.0 D+ and D- over ground layer.
  - It is preferred to route USB2.0 D+ and D- using single layer.
- For more detail, see design guideline in design kit.

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