Zynq Mini-ITX Development Board

12/23/2013
2:44:20 PM
Layout Note:

1. JTAG signals should be routed on the outer layers away from noisy analog sources.
2. Route TCK and TMS in a star topology.
3. Connection of TDO of last device in scan chain to board TDO should be as short as possible.
VADJ must be set to 2.5V when the LVDS Touch Panel is used.
Layout Note:
Micro SD signal routing should adhere to the following guidelines:
1. Minimum trace length: SD_CLK - 2500 mils, All others - 1800 mils
2. Target impedence for all signals is > 55 ohms
3. Length match all SD signal traces to within 500 mils
4. Place buffer (MAX1335) and series termination resistors close to Zynq device if SD_CLK trace length exceeds 800 mils

Assembly Note:
QSPI IC land patterns designed to accommodate Spinpoint (shown) or Micron QSPI device N25Q128A11ESF40.
To implement Micron QSPI:
Bank 500 - POR, QSPI, uSD
Place: R113, R120

User Note:
Configuration mode settings on SW7 are:
JTAG - SW7[4] = 0 = 40-pin
QSPI - SW7[0:4] = 0 = 16-pin
QSPI - SD - SW7[4] = 0 = 40-pin
QSPI - uSD - SW7[4] = 0 = 16-pin
SW7[2] = 0 = Cascade JTAG
SW7[1] = 1 = Independent JTAG
SW7[0] = 0 = Disable PLLa
SW7[0] = 1 = Enable PLLa

Document Number: DNP
DDR routing should adhere to the following guidelines:

1. Do not route any DDR signals over splits, gaps or set-pads.
2. Ensure that traces cross over the edge of a reference plane outside of at least 10 inch gap to the edge of the reference plane.
3. Match trace lengths on a per-pin basis.
4. Match trace lengths between groups and try to maintain equal impedance.
5. Target impedance for DDR lines is to allow single ended and bit close differential.
6. Tracing between pins and any other signal should be at least 25 mils.
1. Target impedance is 100 ohms differential or 50 ohms single ended
2. Length match traces within a pair to within 10 mils
3. Length match pair to pair within 20 mils
4. Routing without vias is preferred
5. Route signals within a pair symmetrically
6. Do not route over plane splits or anti-pads
7. Stub length shall not exceed 1000 mils