ML505/506 Three GTPs IBERT Design Creation
Using 9.1i SP3 ChipScope™ Pro

April 2007
ML505 IBERT Overview

• Software Requirements
• Design Generation
  – Highlighting the Virtex-5 RocketIO™ GTP Transceivers
Additional Setup Details

- Refer to ml505_overview_setup document for details on:
  - Software Requirements
  - ML505 Board Setup
    - Equipment and Cables
    - Software
    - Network
  - Terminal Programs
    - This presentation requires the 9600-8-N-1 Baud terminal setup

Note: This presentation can be used for ML505 or ML506; see notes at bottom of these pages
ChipScope Software Requirement

- Xilinx ChipScope 9.1i SP3

Note: Presentation applies to the ML505 and ML506
IBERT Generation

- Open the ChipScope Pro Core Generator
- Select IBERT

Note: Presentation applies to the ML505 and ML506
IBERT Generation

- Set the output to your design directory
- Make these settings:
  - Virtex5
  - xc5vlx50t
  - ff1136
  - -1

Note: For the ML506, use Device xc5vsx50t
IBERT Generation

- System Clock Settings:
  - I/O Std: LVCMOS33
  - P Source Pin: AH15
  - Set Freq: 100

Note: Presentation applies to the ML505 and ML506
IBERT Generation

- Select Enable GTP_DUAL_X0Y1
  - Set Max Line Rate to 2500
  - Set Ref Clock Frequency to 100
- Set the Pattern Settings as shown

Note: Presentation applies to the ML505 and ML506
IBERT Generation

- Select Enable GTP_DUAL_X0Y3
  - Set Max Line Rate to 2500
  - Set Ref Clock Frequency to 125
- Select Enable GTP_DUAL_X0Y4
  - Set Max Line Rate to 3000
  - Set Ref Clock Frequency to 150

Note: Presentation applies to the ML505 and ML506
IBERT Generation

- Leave this screen as is
IBERT Generation

- Click Generate Design

Note: Presentation applies to the ML505 and ML506
IBERT Generation

- Bitstream is compiled and ready to use
Documentation

• ML505/506
  – ML505 Overview
    http://www.xilinx.com/ml505
  – ML506 Overview
    http://www.xilinx.com/ml506
  – ML505/506 Getting Started Tutorial – UG348
  – ML505/506 Schematics
Documentation

• RocketIO
  – RocketIO GTP User Guide – UG196

• ChipScope Pro
  – ChipScope Pro 9.1i Serial IO Toolkit User Manual
    http://www.xilinx.com/ise/verification/chipscope_pro_siotk_9_1i_ug213.pdf
  – ChipScope Pro 9.1i User Manual
    http://www.xilinx.com/ise/verification/chipscope_pro_sw_cores_9_1i_ug029.pdf