

BeastLink Performance Monitor

The BeastLink Performance Monitor is a tool to measure data transfer speeds between a host PC and BeastLink compatible devices. It can also test data integrity by performing write-readback-compare loops.

Free Edition

Pro Edition

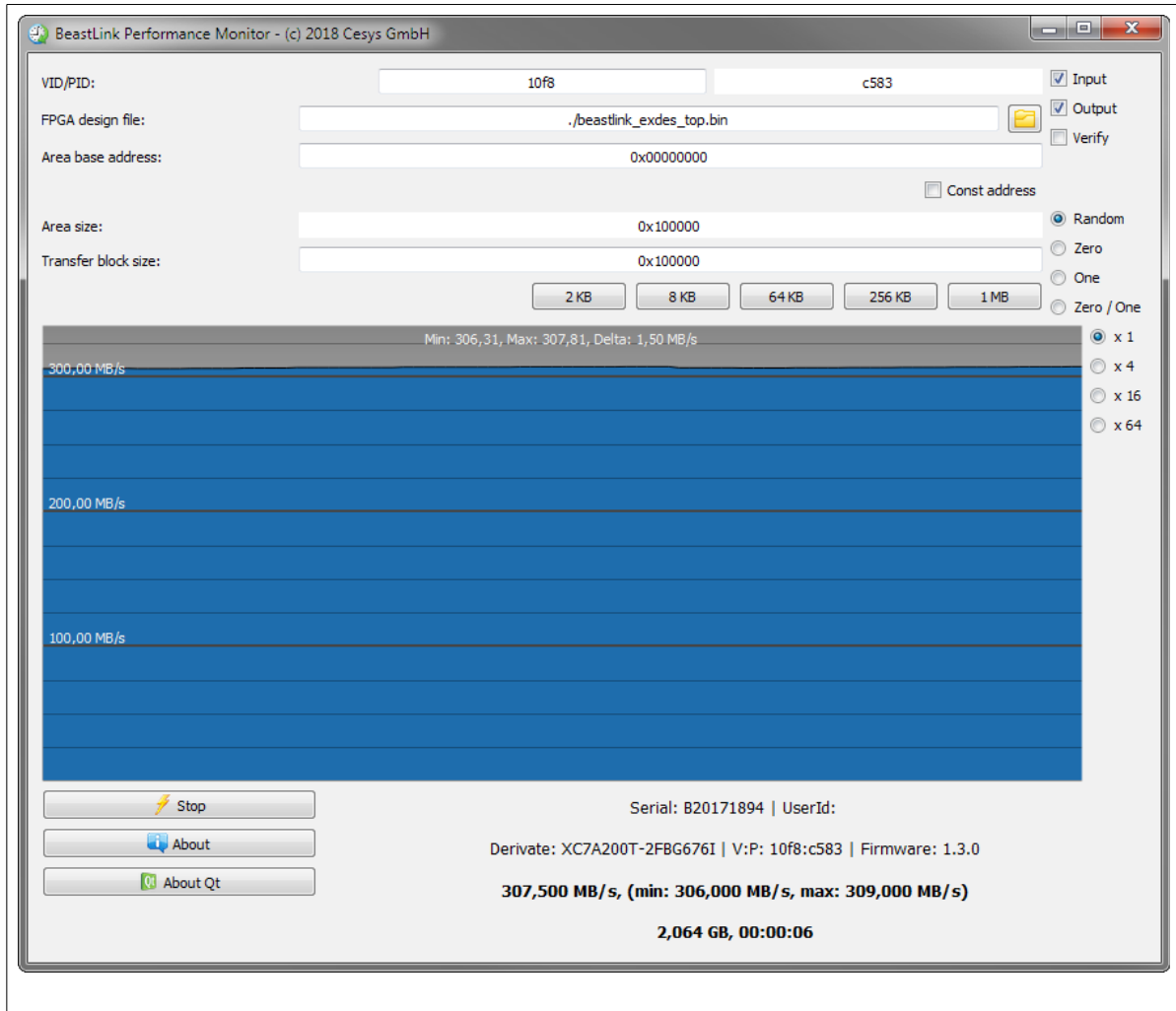
Introduction

BeastLink Performance Monitor is a tool that helps to maximize the data transfer rate with BeastLink-compatible devices. It can be used to locate bottlenecks and errors in the devices FPGA designs.

The tool configures the FPGA of the device using a user defined bitstream and transfers data to and from a specified address range. It displays the maximum data throughput while continuous transferring the data. There is a selectable option to verify data when using bi-directional communication. It is a good idea to select an address range that maps to BRAM, DDR2 SDRAM or other memory resource of the FPGA board when selecting "Verify".

Options

The image below shows the BeastLink Performance Monitor.



The **VID/PID** allows the selection of the device to run the test with. Default values are VID/PID from EFM-03 devices. The test will use the first device found during enumeration.

FPGA design file must contain the path to the bitstream file. The button right of the input control opens a file browser to ease the selection.

Area base address and **Area size** specify the area to which data is written and / or read from. Every single transfer is done using a block size as specified in **Transfer block size**. Data is transferred starting to / from the **Area base address** and continued at **Area base address + Transfer block size** and so on until **Area size** is reached. This is the reason why **Area size**

must be a multiple of **Transfer block size**.

Values in these fields are interpreted as decimal, except they are prefixed using 0x, in which case the values are expected to be hexadecimal.

If **Const address** is checked, data is always transferred to / from Area base address only and the const address flag is used. Use the buttons directly below **Transfer block size** to set these values to common sizes.

Input and Output check boxes define the direction of the transfer. Direction is interpreted from host side. Either one or both options must be selected. If both are selected, **Verify** is a valid option.

Random, Zero, One and **Zero / One** define the content used for transfer. **Random** is randomly generated data, **Zero** are just buffers filled with 0. **One** and **Zero / One** must be interpreted as bits in this context. **One** means buffers filled with 0xFFFFFFFF. **Zero / One** uses alternating bit patterns per 32 bit data line (0xFFFFFFFF / 0x00000000) to produce a maximum toggle rate on the data lines.

The factors right of the performance graph (**x 1, x 4, x 16, x 64**) are pure visualization related options and specify the time factor of the graph.

The **Start / Stop** button switches between idle and running state. Starting a new test uses the currently selected options. Changing the options while a test is running, will not affect the test.

Revision history

Version	Date	Comment	Author	Approved
1.0	Feb, 26 2018	Initial release	th	mr

Copyright Notice

This file contains confidential and proprietary information of Cesys GmbH and is protected under international copyright and other intellectual property laws.

Disclaimer

This disclaimer is not a license and does not grant any rights to the materials distributed herewith. Except as otherwise provided in a valid license issued to you by Cesys, and to the maximum extent permitted by applicable law:

(1) THESE MATERIALS ARE MADE AVAILABLE "AS IS" AND WITH ALL FAULTS, AND CESYS HEREBY DISCLAIMS ALL WARRANTIES AND CONDITIONS, EXPRESS, IMPLIED, OR STATUTORY, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY, NON-INFRINGEMENT, OR FITNESS FOR ANY PARTICULAR PURPOSE;

and

(2) Cesys shall not be liable (whether in contract or tort, including negligence, or under any other theory of liability) for any loss or damage of any kind or nature related to, arising under or in connection with these materials, including for any direct, or any indirect, special, incidental, or consequential loss or damage (including loss of data, profits, goodwill, or any type of loss or damage suffered as a result of any action brought by a third party) even if such damage or loss was reasonably foreseeable or Cesys had been advised of the possibility of the same.

CRITICAL APPLICATIONS

CESYS products are not designed or intended to be fail-safe, or for use in any application requiring fail-safe performance, such as life-support or safety devices or systems, Class III medical devices, nuclear facilities, applications related to the deployment of airbags, or any other applications that could lead to death, personal injury, or severe property or environmental damage (individually and collectively, "Critical Applications"). Customer assumes the sole risk and liability of any use of Cesys products in Critical Applications, subject only to applicable laws and regulations governing limitations on product liability.

THIS COPYRIGHT NOTICE AND DISCLAIMER MUST BE RETAINED AS PART OF THIS FILE AT ALL TIMES.

Address

CESYS Gesellschaft für angewandte Mikroelektronik mbH
Gustav-Hertz-Str. 4
D - 91074 Herzogenaurach
Germany