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

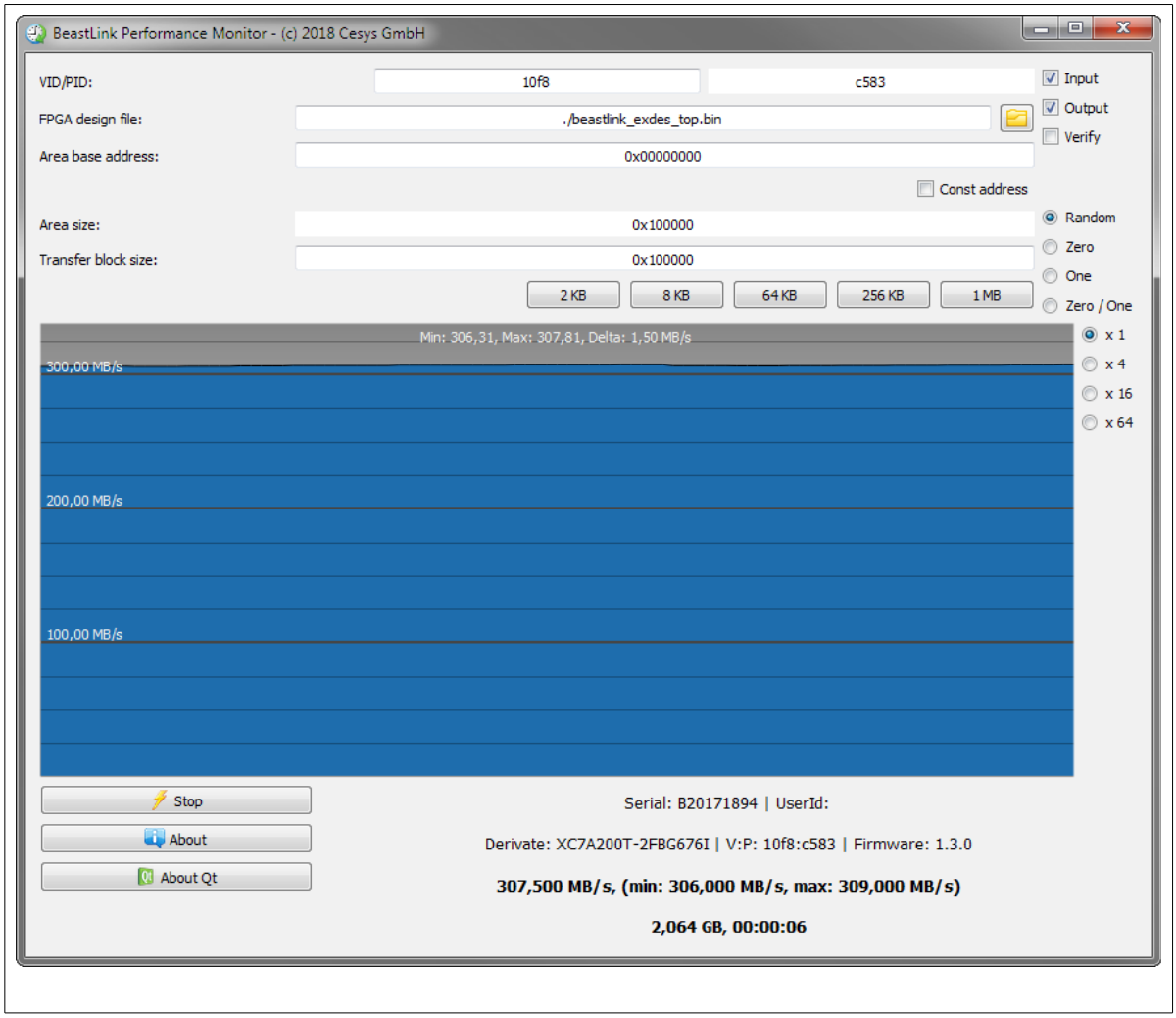
Introduction

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

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CRITICAL APPLICATIONS

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