

# 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

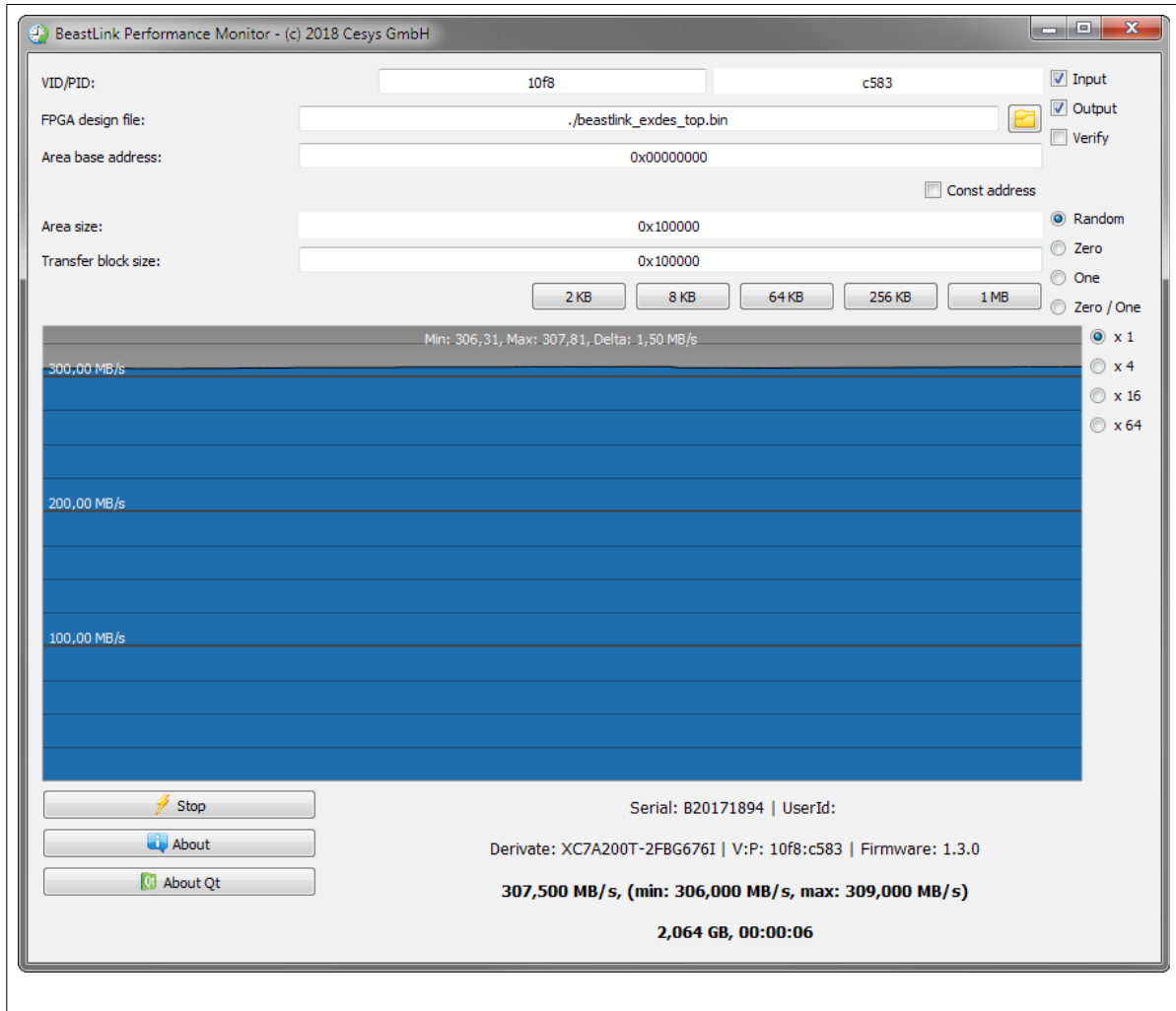
## Introduction

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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