

Class Description

This application note describes the base class *HpeJTAG_basis*, which is used for all *Gleichmann Electronics Research Hpe[®]_JTAG* scripts using the *JtagExampleLib* (<*Hpe[®]_JTAG install directory*>/scripts/*JTAG*/) (see figure 1).

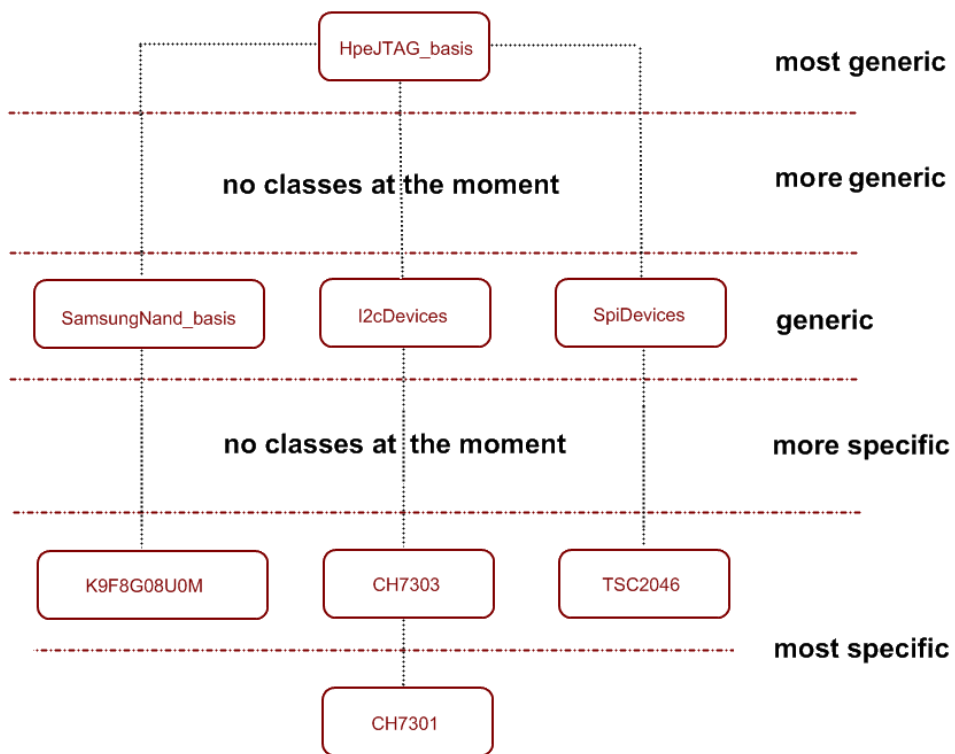


Figure 1: *Hpe[®]_JTAG* JtagExampleLib class system

The *HpeJTAG_basis* contains methods for bus interfaces:

- `__setBusData()`
- `__setBusToInput()`
- `__setBusToOutput()`

<code>__setBusData()</code>	...	This function is needed before every bus input/output direction change.
<code>__setBusToInput()</code>	...	Change the bus direction to input.
<code>__setBusToOutput()</code>	...	Change the bus direction to output.

The *HpeJTAG_basis* contains methods for single signals:

- `__setData()`
- `__setToInput()`
- `__setToOutput()`

These three function have the same functionality as the methods for bus interfaces but only for single signals. The *HpeJTAG_basis* contains a method for reading a value out of a jtag register:

- `__seadValue()`

Reads out the register cell value of a with `sig_id` specified JTAG-chain register.

The *HpeJTAG_basis* contains methods to generate a clk signal:

- `__genClk01()`
- `__genClk10()`
- `__genClk1()`
- `__genClk0()`

<code>__genClk01()</code>	...	generates <code>num_clks</code> clock period (first half period = 0 and the other one = 1).
<code>__genClk10()</code>	...	generates <code>num_clks</code> clock period (first half period = 1 and the other one = 0).
<code>num_clks</code>	...	function parameter for <code>genClk01()</code> and <code>genClk10()</code> .
<code>__genClk1()</code>	...	setting the clock signal to 1.
<code>__genClk0()</code>	...	setting the clock signal to 0.

General Information:

`__<methodname>()` ... means that this is a private class method

The described *HpeJTAG_basis* can be found in the file *hpeJTAG.py*. Detailed information of all *Hpe[®]_JTAG* basic functions (beginning with `self.jtag.` or `self.devConfig.`) can be found in the *Hpe[®]_JTAG* manual [1].

The *hpeJTAG.py* contains also some general usefull functions:

- `PotRange()`
- `Binary2Denary()`
- `Denary2Binary()`
- `Binary2Hex()`

<code>PotRange()</code>	...	this function generates values with potential steps (like: 2^{**0} , 2^{**1} , 2^{**2} , ...)
<code>Binary2Denary()</code>	...	converts a binary string into an integer value.
<code>Denary2Binary()</code>	...	converts an integer value into a binary string.
<code>Binary2Hex()</code>	...	converts a 4 bit binary value into the corresponding hexadecimal value.

Revision History

Version 1.0: Initial Version

Bibliography

- [1] Gleichmann Electronics Research. *Hpe[®]_JTAG* demo. <http://www.ge-research.com/downloads.html>, March 2009.

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