

AFC / AFCK JTAG SCANSTA Configuration Guide

To access FPGA using JTAG on AFC / AFCK cards it is necessary to set SCANSTA bridge in appropriate mode. This can be done with a simple TCL script.

Steps

- 1. Make sure Platform Cable device is connected both to the computer and AFC/AFCK.
- 2. Run Vivado. If you have Hardware Manager opened, you should see something like:





3. Select *localhost* and then *Close Server*

<u>E</u> ile <u>E</u> dit F <u>l</u> ow <u>T</u> ools <u>W</u> indow Layout <u>V</u> iew <u>H</u> elp	Q- Quick Access
🔁 📾 🖉 🖶 🗙 😽 📴 🗄 Default Layout 💿 🗸 🔌 🔪 💿 Dashboard 🗸 🖏	
Hardware Manager - localhost/xilinx_tcf/Xilinx/0000000000000	? X
Hardware ? _ C X Name Statu P i localhost (1) B Refresh Server Close Server Export to Spreadsheet	
Hardware Server Properties ? - C Z ×	
Hardware server host: localhost Hardware server port: 3121 Status: Connected	
General Properties	
Close hardware server	

Creotech Instruments S.A.



4. Then, from the top menu, select *Tools* \rightarrow *Run TCL Script...*





5. Select *jtag_scansca.tcl* script file and click OK.

Look <u>i</u> n: 💋	scripts	🖃 😨 🗙 😂 🖉 🧟 🤹 😒
📜 jtag scans	sta.tcl	Recent Directories
		C /home/ms/Data/CTI/HETMAN/GW/FMC_ADC_250M_16b_4c >
		File Preview
		<pre>set JTAG */xilinx_tcf/Xilinx/* #set JTAG */xilinx_tcf/Digilent/*</pre>
		catch open_hw catch {connect_hw_server -url localhost:3121} net bw targets
		<pre>current_hw_target [get_hw_targets \$JTAG] set_property PARAM.FREQUENCY 3000000 [get_hw_targets \$J catch {open_hw_target -jtag_mode 1}</pre>
		<pre>run_state_hw_jtag reset run_state_hw_jtag idle run_state_hw_gtag idle</pre>
		scan_ir_hw_jtag 8 - tdi a0
		scan_ir_hw_jtag 8 -tdi a5 scan_dr_hw_itag 8 -tdi 5a
		scan_ir_hw_jtag 8 -tdi c3
		scan_dr_hw_jtag 8 -tdi 5a -tdo 00
		close hw target
		opoin_im_corgor
File name:	litag scansta.tcl	
Files of type		
Thes of type:	Terrines (itely	
		OK Cancel



6. Vivado window should look like beneath and you should be able to program FPGA.



Creotech Instruments S.A. ul. Gen. L. Okulickiego 7/9, 05-500 Piaseczno k. Warszawy tel. **+48 22 233 10 27**, e-mail: **kontakt@creotech.pl | www.creotech.pl**



Troubleshooting

- If you get ERROR: [Labtoolstcl 44-127] hw_target property 'PARAM.FREQUENCY' is read-only. It probably means that you did not close Hardware Server before running *jtag_scansca.tcl* script.
- There is no device related to the Hardware Server:



Check connection between Platform Cable and AFC/AFCK.

• On repeating failure try restarting computer and repeat all the steps.



jtag_scansta.tcl listing

set JTAG */xilinx_tcf/Digilent/*

catch open_hw
catch {connect_hw_server -url localhost:3121}
get_hw_targets
current_hw_target [get_hw_targets \$JTAG]
set_property PARAM.FREQUENCY 3000000 [get_hw_targets \$JTAG]
catch {open_hw_target -jtag_mode 1}

run_state_hw_jtag reset run_state_hw_jtag idle scan_ir_hw_jtag 8 -tdi 00 scan_ir_hw_jtag 8 -tdi a0 scan_ir_hw_jtag 8 -tdi a5 scan_dr_hw_jtag 8 -tdi 5a scan_ir_hw_jtag 8 -tdi c3 #On proper setup last step should return 0x00 scan_dr_hw_jtag 8 -tdi 5a -tdo 00 close_hw_target open_hw_target