

MWAVES MODULE PROGRAMMING GUIDE

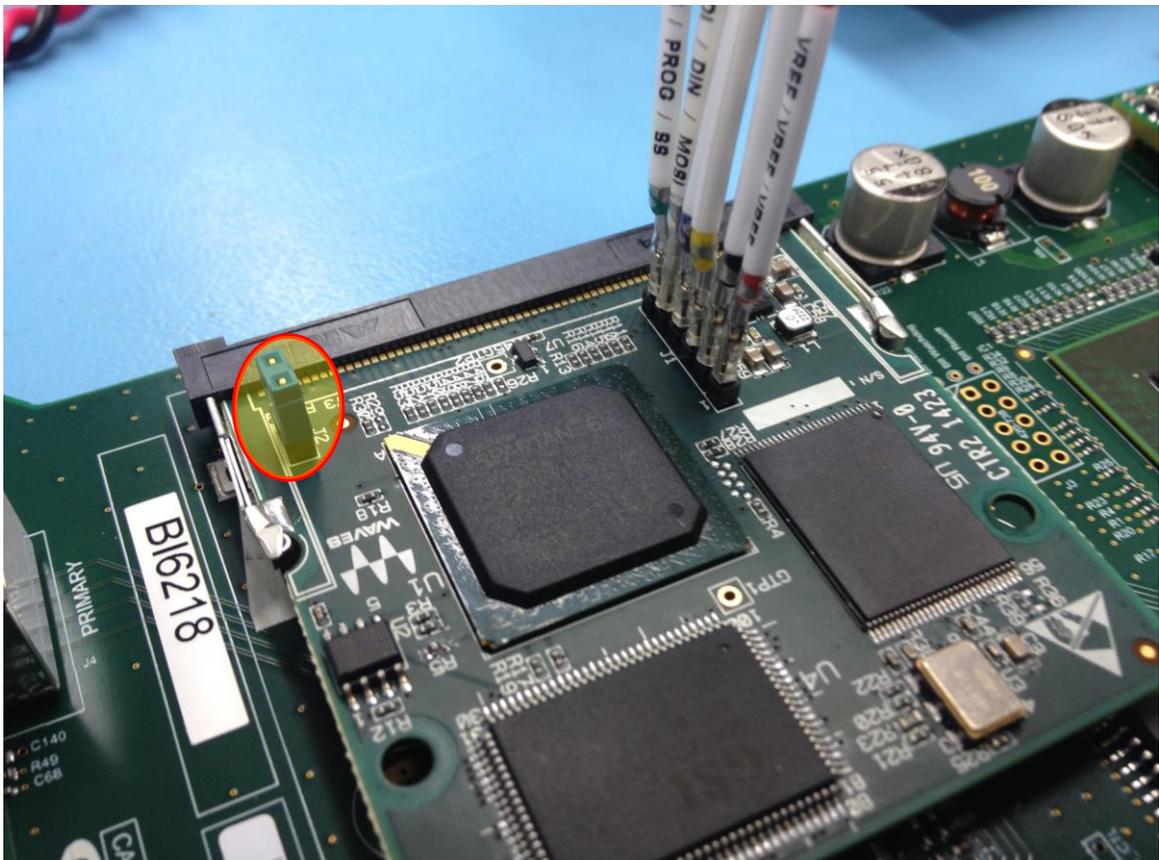
To install the firmware on blank mWaves modules sourced from Allen & Heath so that they are useable as Calrec devices, you need to follow these instructions:

Equipment Required

- Xilinx Platform Cable USB II with flying lead extension
- Xilinx Impact (ISE v13 or higher)
- Cat5e cable

Method

1. Ensure the BI6218 board is powered off
2. Fit an A&H mWaves module into the mini-PCI connector on the BI6218
3. Fit a jumper to header J2 on the mWaves module



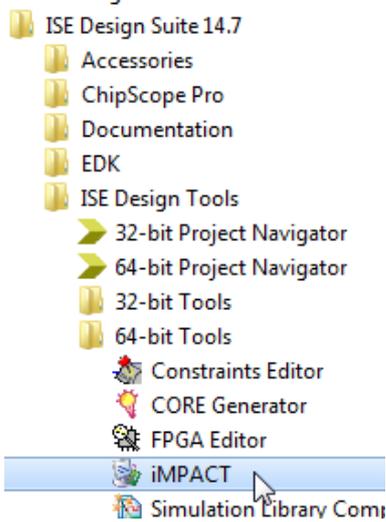
4. Attach a Cat5e cable between your host PC and the Primary RJ45 port on the BI6218 card
5. Using the flying lead extension, attach the Xilinx Platform Cable to JTAG header J1 of the mWaves module as shown below...

J1 Pin	1	2	3	4	5	6
Signal	Vref	GND	TCK	TDO	TDI	TMS
Wire Colour	red	black	yellow	purple	white	green

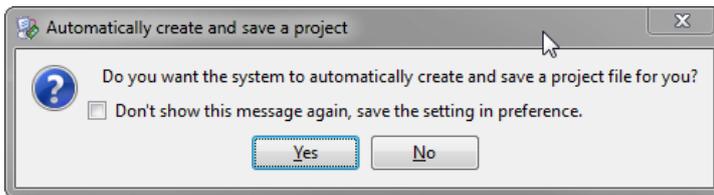
6. Power up the BI6218

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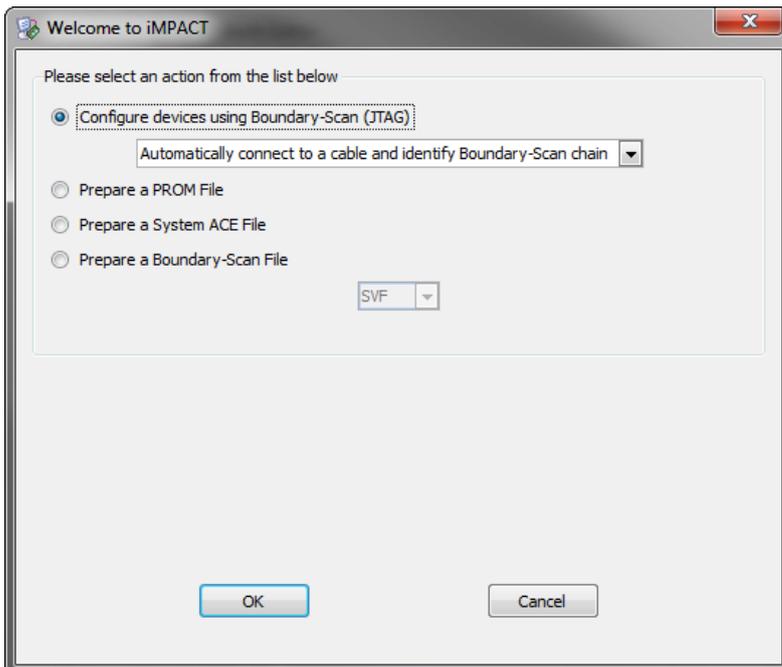
- 7. Load Xilinx iMPACT from the ISE Design Tool Suite, found under [Start][All Programs][Xilinx Design Tools][ISE Design Suit XX.x][ISE Design Tools][32/64-bit Tools][iMPACT]



- 7. Click **Yes** to automatically create a new project...

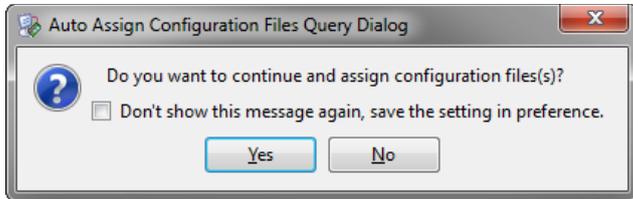


- 8. Choose **Configure devices using Boundary-Scan (JTAG)**...

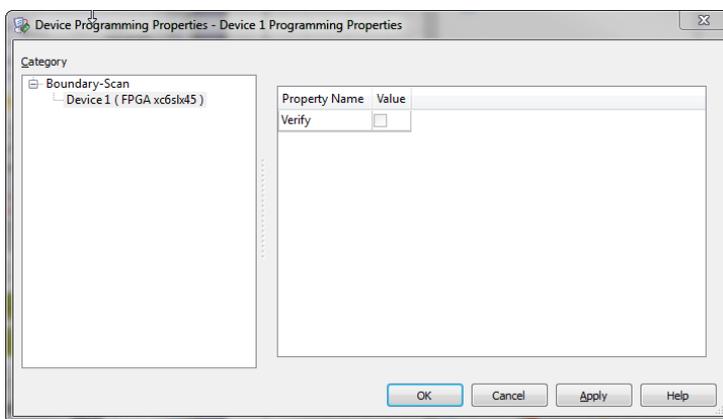


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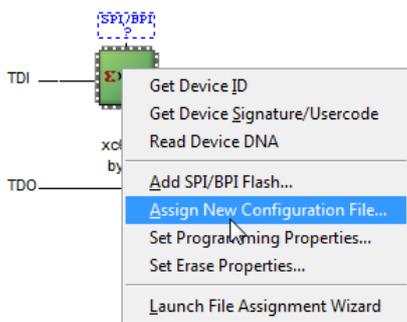
9. iMPACT should automatically identify the Spartan 6 FPFA on the mWaves module and ask if you want to assign a configuration file...



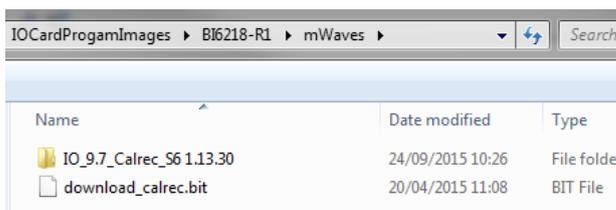
10. Click **Yes**
11. In the Device Programming Properties dialogue, click **OK**...



12. In the Boundary Scan panel, right click on the FPGA's icon and select **Assign New Configuration File...**

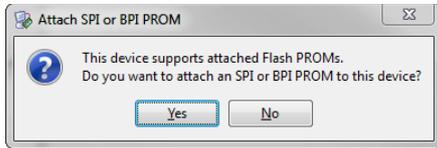


13. Navigate to `\IOCardProgamImages\BI6218-R1\mWaves` in the current release folder for the BI6218 and open the file `download_calrec.bit`...

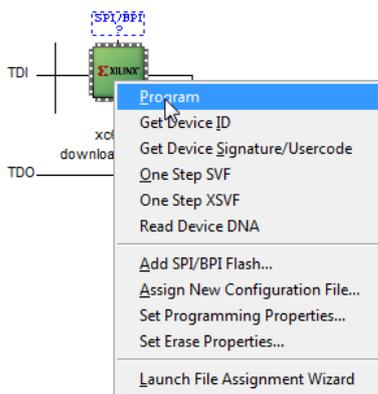


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11. You will then see a dialogue box called Attach SPI or BPI PROM. Click **No...**



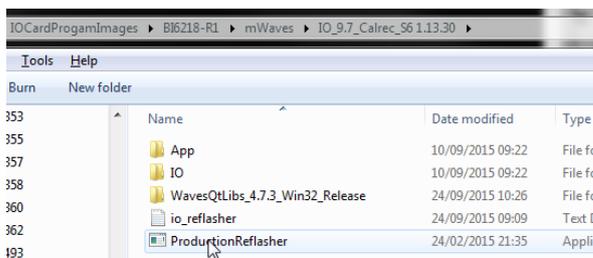
12. Back in the Boundary Scan panel, right-click on the FPGA icon and select Program...



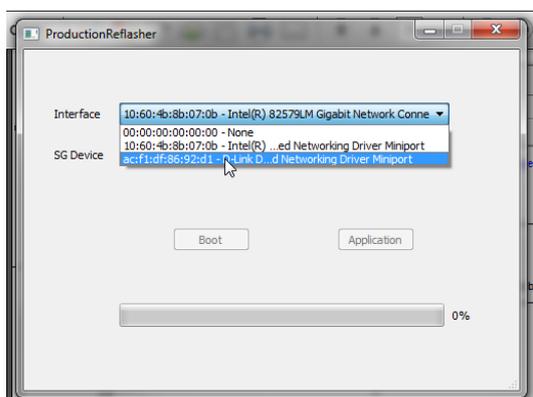
13. Once programming is complete, close iMPACT

12. **DO NOT POWER OFF THE BI6218!**

13. Run the application `ProductionReflasher.exe`, located in `\IOCardProgamImages\BI6218-R1\mWaves\IO_9.7_Calrec_S6 1.13.30...`

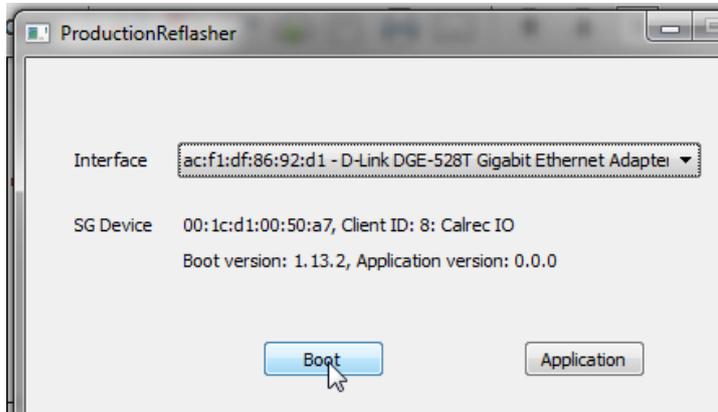


14. Chose the PC Ethernet adapter to which your Cat5e cable is connected from the drop-down **Interface** menu...

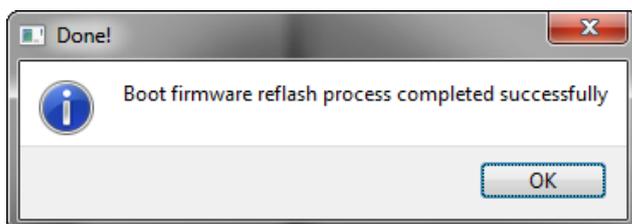
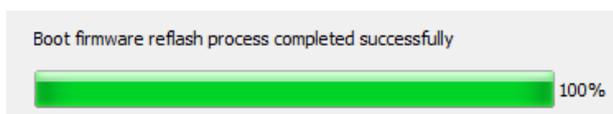
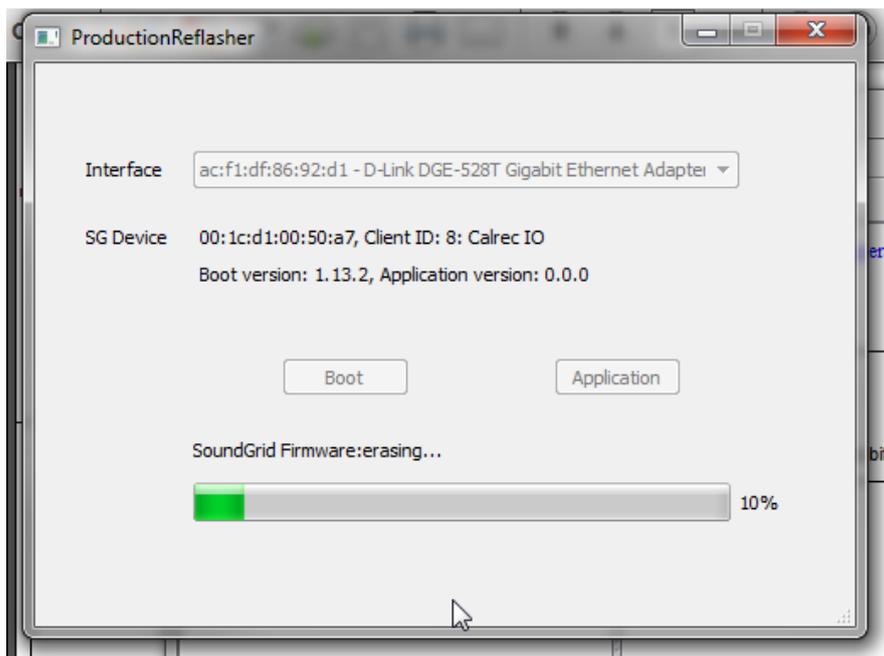


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- 15. The mWaves module should be recognised as an SG Device with a Client ID of **8: Calrec IO**
- 16. Click on the **Boot** button...

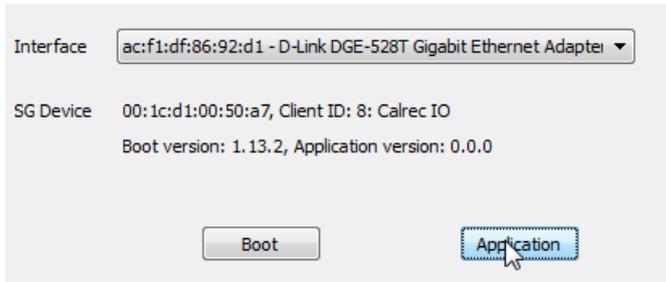


- 17. ProductionRefresher will update the SoundGrid firmware...

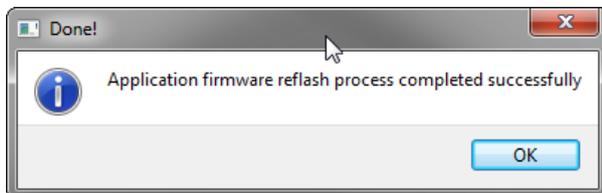


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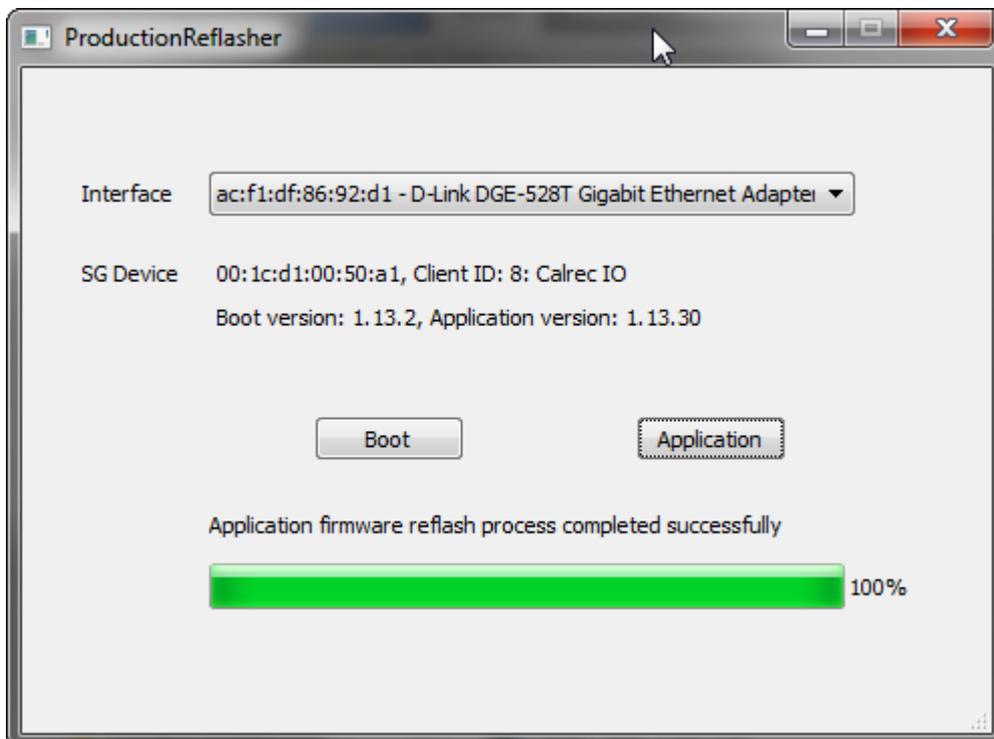
16. Then click on the **Application** button...



17. ProductionReflasher will update the SoundGrid application on the mWaves module...



18. Remove the jumper from **J2** on the mWaves module and reboot the BI6218. The Application version should show as the latest release version (1.13.30 in the case below)...



19. The card is now ready to use