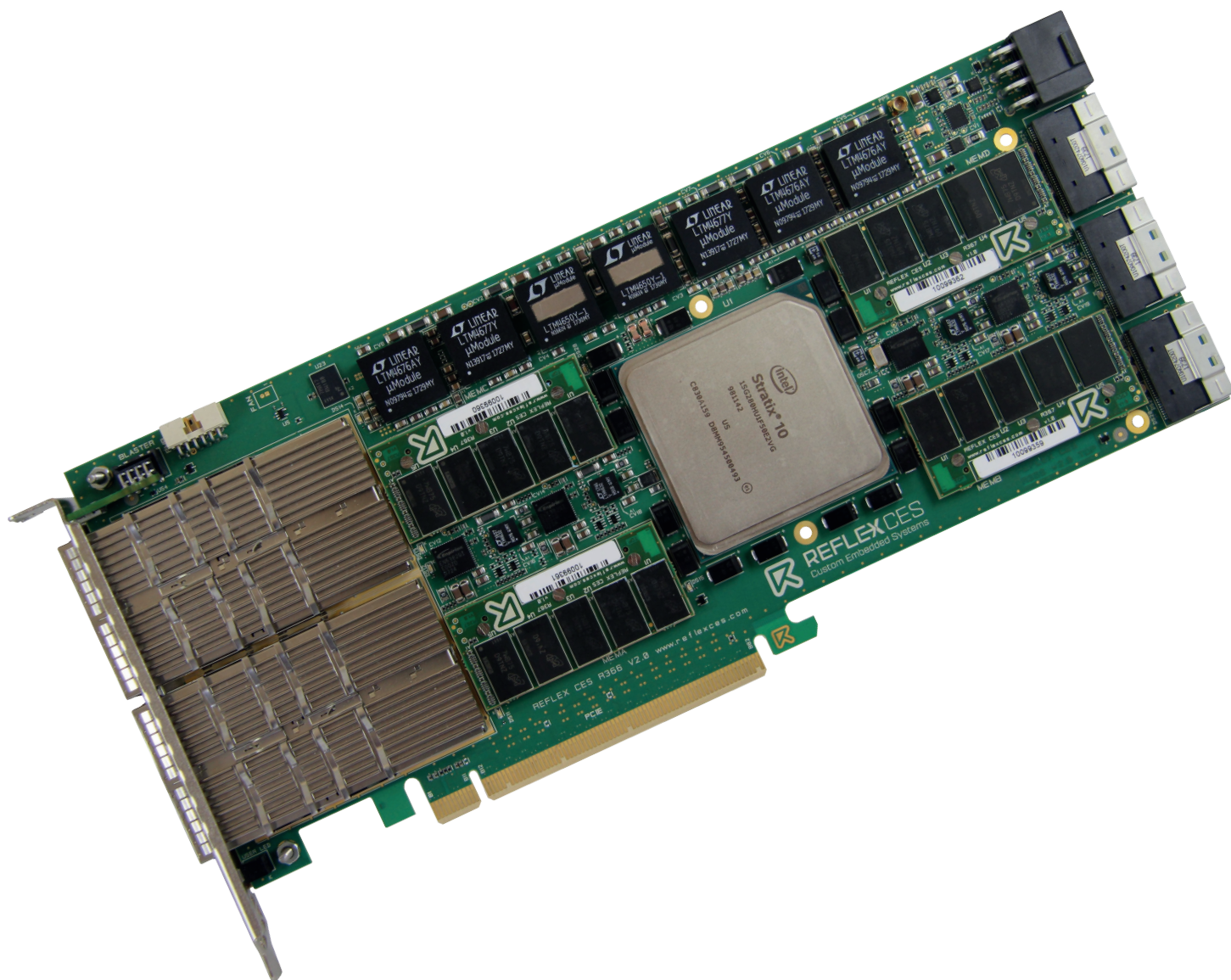




**REFLEXCES**  
Custom Embedded Systems

# XpressGX S10-FH800G

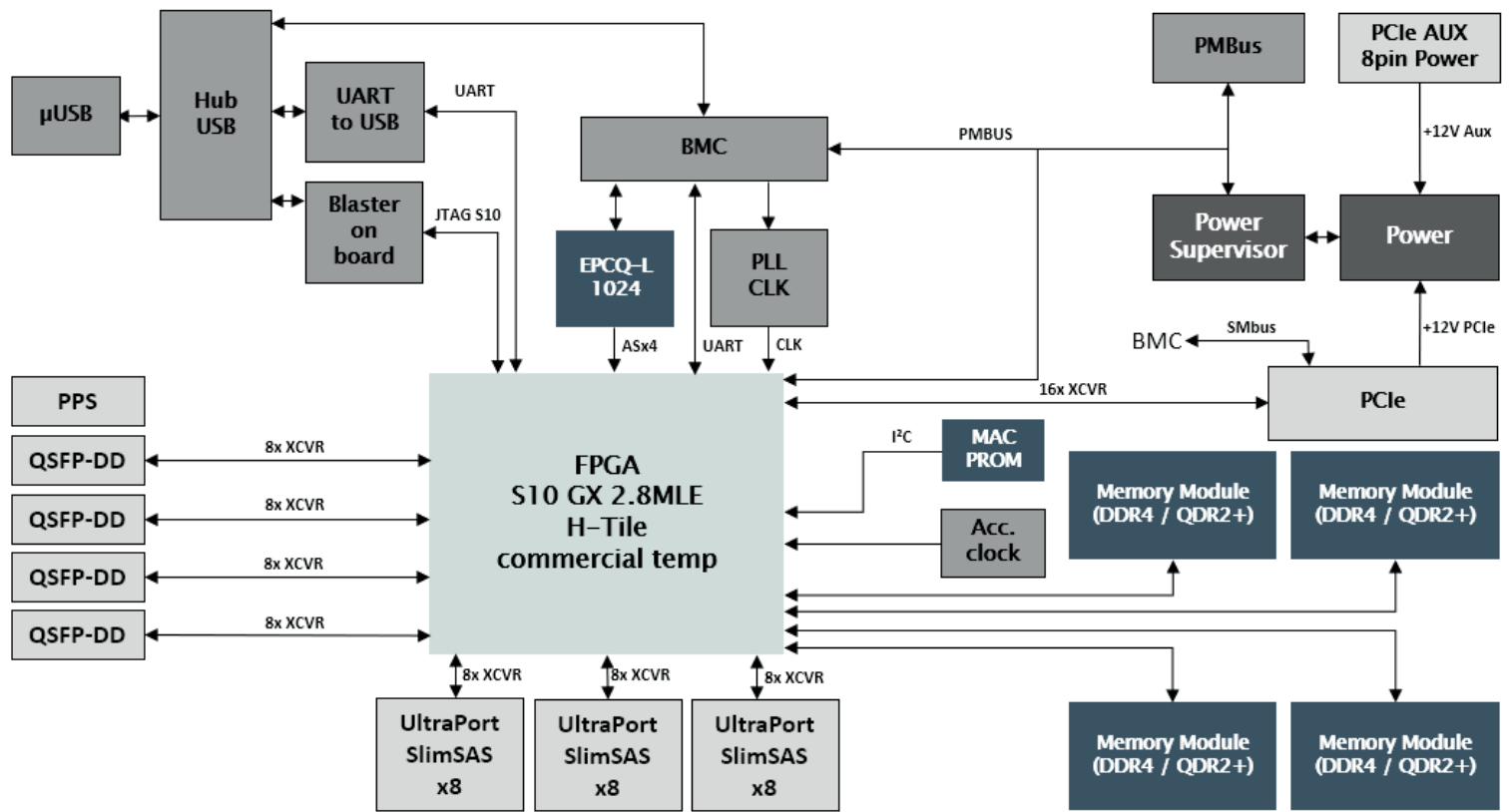
Full height profile PCIe Network Processing FPGA board  
Featuring 800G Ethernet



Intel® Stratix® 10 GX  
2800 KLE  
PCIe Gen3 x16

- 4x200 GbE
- 4x DDR4 or 4x QDR2+
- Board-to-board connection

- Networking Acceleration
  - Security
- High Performance Computing



## Full Specifications

<b>FPGA Configuration</b>	<ul style="list-style-type: none"> <li>Stratix 10 GX, H-tile</li> <li>USB2.0 Micro connector for JTAG, UART and BMC</li> <li>1x Nor Flash 1GBytes quad SPI FPGA AS configuration</li> </ul>	<b>Communication Interfaces</b>	<ul style="list-style-type: none"> <li>PCI Gen3 x16</li> <li>4x QSFP-DD optical cage (4 x 8 XCVR : 28 Gb/s capable per XCVR link)</li> <li>QSFP-DD compatible with QSFP28 transceivers</li> <li>3x UltraPort SlimSAS connector (NVMe interface capable, SFF-8654, 1 interface 28 Gb/s capable 8 XCVR)</li> </ul>
<b>Memory</b>	<ul style="list-style-type: none"> <li>On board memory module with mix memory type DDR4 or QDRII</li> <li>0 to 4 banks DDR4, 8GBytes each, x72bits, up to 2400MT/s</li> <li>0 to 4 banks QDRII+ 576Mbits each, x36bits, up to 550MHz</li> </ul>	<b>Other Resources</b>	<ul style="list-style-type: none"> <li>Programmable PLL oscillators (Si5342 &amp; Si5344), output clocks frequency between 0.0001 MHz to 750 MHz</li> <li>High precision oscillator, clock accuracy 20MHz- 0.05ppm for Precision Time Protocol (PTP) IEEE 1588</li> <li>One coax connector for PPS (pulse per second)</li> <li>Max10 USB Blaster on board, UART over USB interface</li> <li>PMBus interface</li> </ul>
<b>Power</b>	<ul style="list-style-type: none"> <li>Max 200W, delivered with a custom 1 slot PCIe passive heat-sink</li> <li>Powered by the PCIe slot and a 8-pins PCIe Aux ATX external connector (additional power)</li> </ul>	<b>SDK &amp; Toolkit</b>	<p>The REFLEX CES Toolkit is provided with every board purchased, to be a link between the REFLEX CES board and the host system. It is a suite of software development tools, including drivers, libraries, utilities and example projects.</p>
<b>Operating Range</b>	0°C to 40°C	<b>Standards and Compliance</b>	<ul style="list-style-type: none"> <li>RoHS/REACH compliant</li> <li>UL certified</li> <li>ISO9001 certified</li> </ul>
<b>Storage Temp Range</b>	0°C to 70°C		
<b>Board Dimensions</b>	254mm x 111.15mm, single slot PCIe		
<b>Board Management Controller</b>	<ul style="list-style-type: none"> <li>FPGA monitoring</li> <li>NOR Flash and clock programming</li> </ul>		

## Deliverables

- Full height 1 slot PCIe board with passive heat-sink and PCIe bracket
- Board Support Package (Manuals, HDL reference designs)
- 4 memory modules DDR4 or QDRII+ (depends on the board version)
- DWF/STEP models and 2D drawing (upon request)
- LTPowerPlay project
- S-parameters (upon request)
- Characterization report (upon request)
- Online support at support.reflexces.com

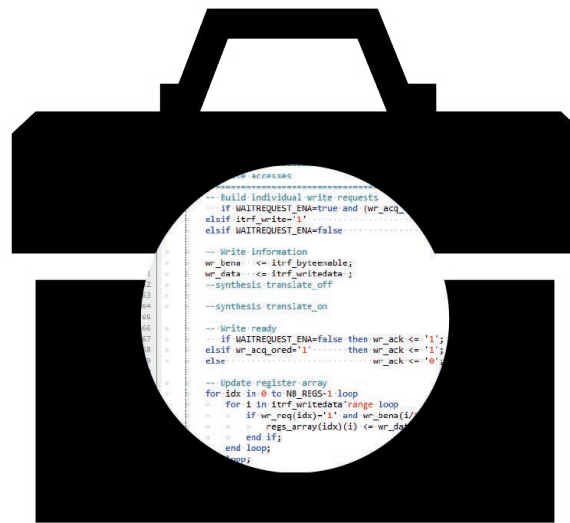
## Ordering information

- XpressGXS10H-FH800GT = Intel Stratix 10 GX H-Tile (1SG280HU1F50E2VG), 4 banks DDR4
- XpressGXS10H-FH801GT = Intel Stratix 10 GX H-Tile (1SG280HU1F50E2VG), 4 banks QDRII+
- XpressGXS10H-FH802GT = Intel Stratix 10 GX H-Tile (1SG280HU1F50E2VG), without memory



**REFLEX CES**  
Custom Embedded Systems

# REFLEX CES Toolkit

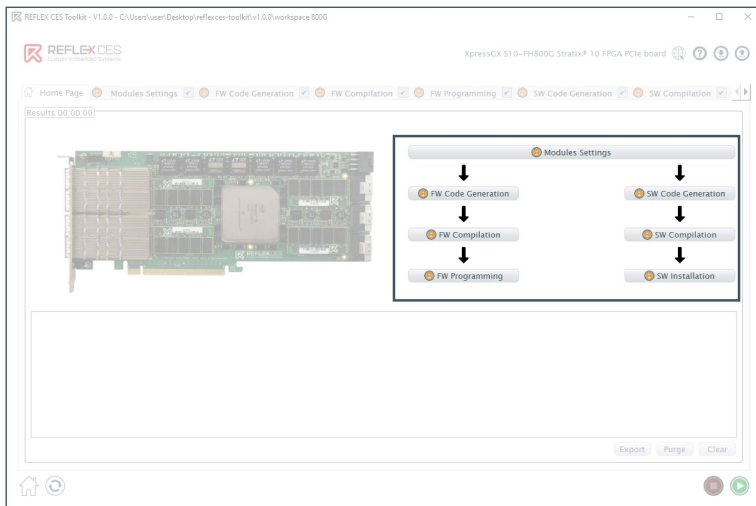


The REFLEX CES Toolkit makes it **fast and easy** to get started with our XpressGXS10-FH800G !

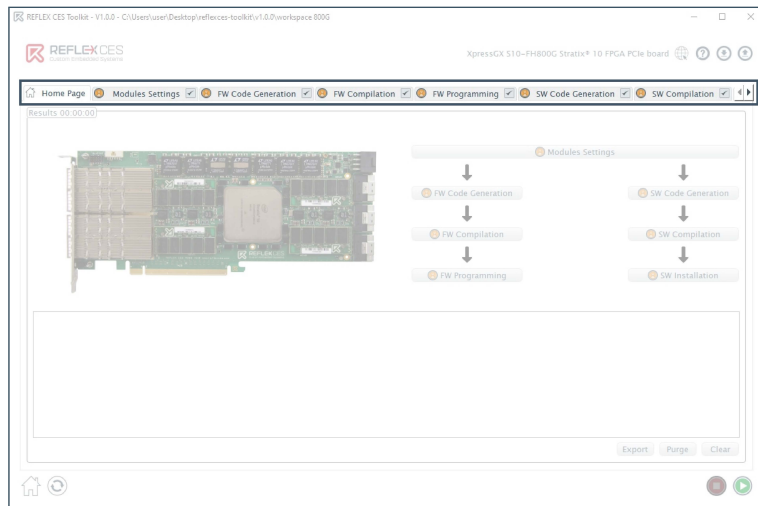
- Fully customizable Toolkit
- Fast and easy start

- Quick configuration of a design and programming of the board, to test all the interfaces available

- Generation of a complete HDL project, including IP and test modules selected by the user through the graphical interface

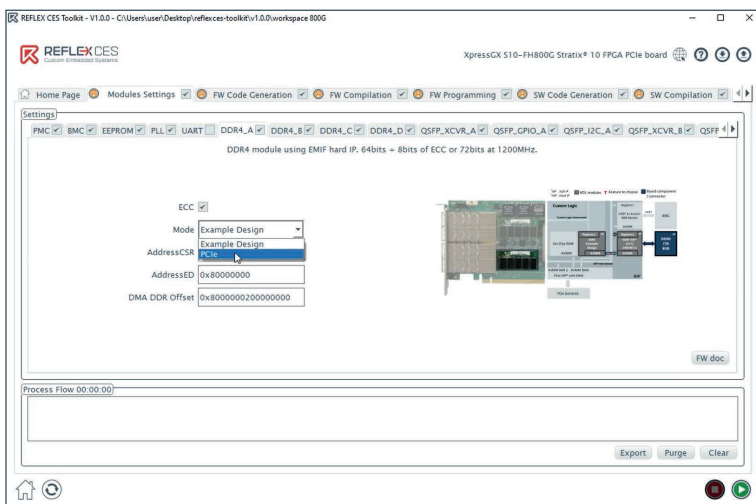


The design flow summarizes all running and deactivated tasks, and follow a logical order.



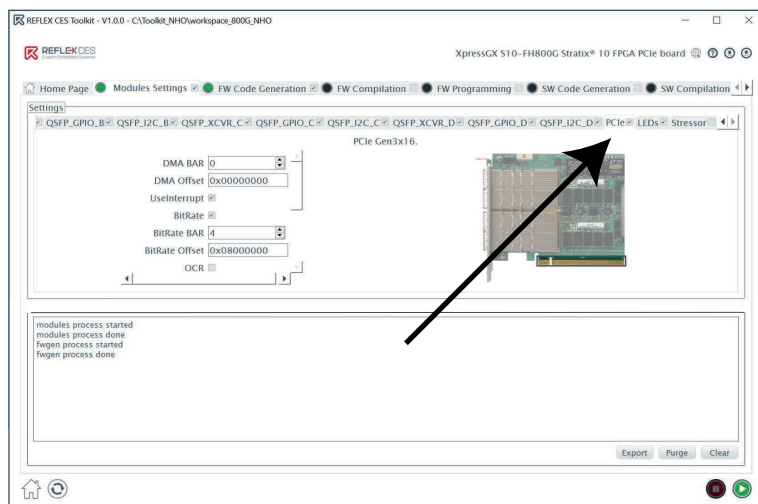
7 tasks are available on the upper banner, and can be activated and deactivated by clicking on the check box.

A page is dedicated to each task, with its specific technical information.



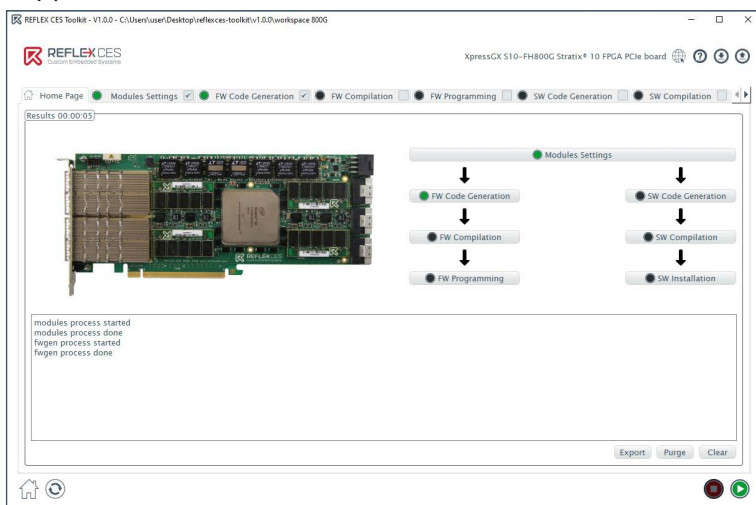
The generated design is fully customizable.

On the module settings tab, users can choose and configure only the interfaces required for their application.

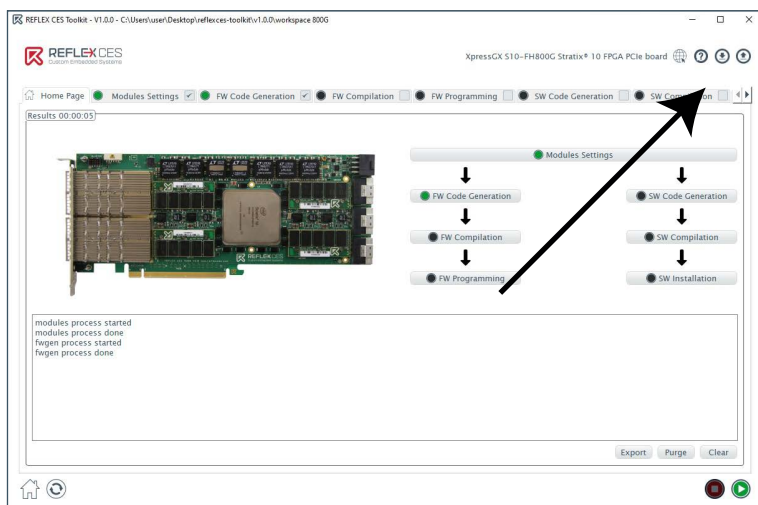
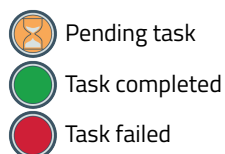


The REFLEX CES PCIe SDK is included in the Toolkit.

The PCIe SDK consist of drivers, an API, and a test HMI provided as a software example.



The status of the currently running task is indicated by the color of the LED.



In the event of a problem, click on the button at the top right to go to the web page or to display the user guide.

If files need to be shared with REFLEX CES technical support, they can be exported.

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

ReFLEX CES:

[XpressGXS10H-FH801GT](#) [XpressGXS10H-FH800GT](#) [XpressGXS10H-FH800GTES](#)