LittleBee Flash Based FPGAs

GOWIN's LittleBee® product family offers flash based, non-volatile FPGAs with an abundance of logic resources, multiple IO standards, embedded RAM, DSPs, PLLs, embedded security and additional user flash while being optimized for low power, low cost and small footprint applications requiring instant-on, high IO count, high throughput and low latency programmable computing.

As a result, LittleBee® FPGAs are leading the industry in I/O intensive source synchronous interfacing and bridging applications such as MIPI CSI-2, MIPI DSI, USB 2.0, Ethernet, HDMI, MIPI I3C and more. They are also an ideal candidate for hardware management applications offering instant-on booting and built-in security functions.

The LittleBee® FPGA family is complimented by multiple innovative product line sub-features such as extended memory, hardened ARM Cortex-M processor cores, security and Bluetooth LE expanding its capabilities and usage compared to traditional FPGA products.

GOWIN Semiconductor also provides highly optimized and easy to use FPGA development software supporting the LittleBee® product family including synthesis, mapping, placement, routing and bitstream generation along with programming tools, embedded logic analyzer, and power calculator.

LittleBee FPGA Product Features:

- Small Form Factor
  -As small as 2.3x2.4mm2
- Embedded Flash
  -Bitstream
  -User
- Extensive Pipeline Computing Resources
  -Higher DSP Ratio
  -Higher RAM Ratio
- Flexible Programming Interface
  -JTAG, MSPI, SSPI, I2C, CPU
  -Multi-Boot

- Serialized Interface Support
  - -MIPI CSI-2, MIPI DSI, LVDS, HDMI
  - -USB 2.0, PCI, Ethernet
  - -DDR3, HyperRAM, PSRAM
- Embedded Security
  - -Bitstream Encryption
  - -Device Locking
- Extension Features
  - -Integrated PSRAM
  - -Hardened ARM Cortex-M3 and Synopsys ARC MCU Cores
  - -Bluetooth Low Energy Transceiver
  - -PUF Based Asynchronous Application Security
  - -AEC-100Q Automotive Qualified