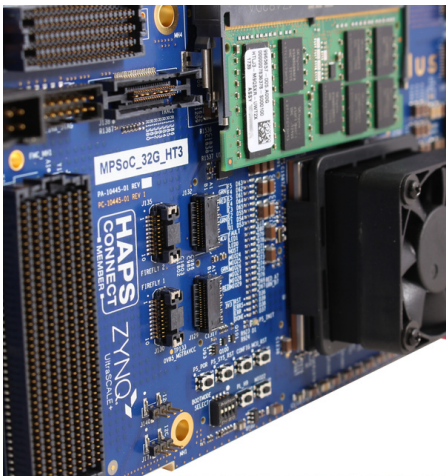# MANTYSS-32G

Zynq UltraScale+ Synopsys HAPS Prototyping Module

Fidus – With more than 20 years of experience, we have learned how to transform ideas, visions and concepts into exceptional products. That's because we are experienced at taking complex problems and delivering solutions against dynamic environments and tight deadlines.

We apply our industry experience, and leverage the expertise of our people to make sure your product performs to your expectations before it goes out the door. No exceptions.

The Fidus Mantyss-32G integrates a AMD® Zynq® UltraScale+™ with multiple Arm® processors, 32Gbps transceivers, and a collection of other real-world IO peripherals onto a daughter card designed specifically for the Synopsys HAPS prototyping solution. With direct connections to your HAPS system through its HapsTrak™ 3 connectors, Mantyss provides an integrated way of prototyping high speed links and designs containing an Arm processor.

FEATURES

AMD Zynq UltraScale+ ZU19EG MPSoC
- Quad-core Arm® Cortex-A53 platform with huge FPGA fabric (PL)
- -3 speed grade, verified to 32 Gbps operation

High Speed Links
- Samtec FireFly™ 1, 4 lanes x 32Gbps (GTY)
- Samtec FireFly 2, 4 lanes x 32Gbps (GTY)
- Samtec FireFly 3, 4 lanes x 16Gbps (GTH)
- Samtec FireFly 4, 4 lanes x 16Gbps (GTH)
- FMC+, 8 lanes x 32Gbps (GTY), 16 lanes x 16Gbps (GTH)

I/O Interfaces
- FMC+ (VITA 57.4), 4 x FireFly (optical or electrical), USB3.0
- GigE, microSD, SD, UART-over-USB serial port
- AMD JTAG, Arm JTAG, Arm Trace (MICTOR-38)
- MMCX clock IO, PMOD, Pushbutton/LED header

Memory
- SO-DIMM, 16GB x72, Dual Rank, resource PS
- SD slot, for memory or SD peripherals, PL resource
- USB3.0 port for peripherals or for additional storage
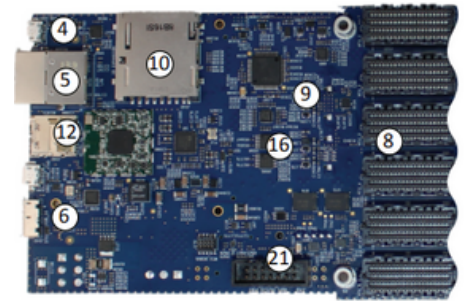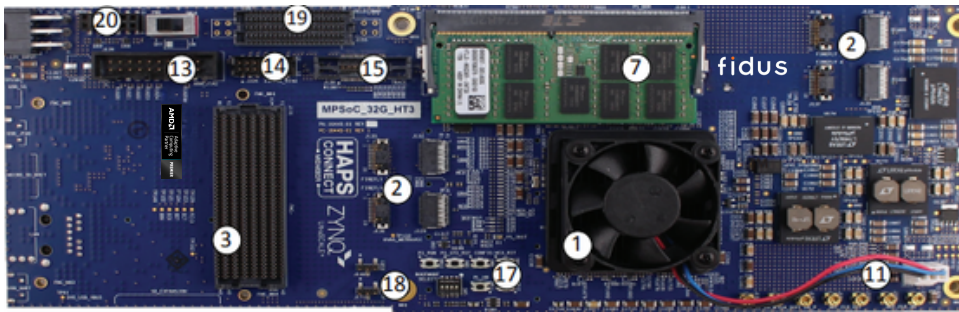
HAPS Connections
- Directly connects to HAPS using six HT3 connectors
- HT3 connections pinned out to the HP banks on the PL
- Provision multiple Mantyss modules on HAPS

BENEFITS

- **Connects directly to the HAPS-70 and HAPS-80 Systems** with interoperability verified by Synopsys
- Enables prototyping of numerous high-speed links at rates up to 32Gbps
- Quickly adds a quad-core **Arm Cortex-A53** processing sub-system to your prototyping environment
- The ultimate in **flexibility** and convenience with support of common interfaces and debugging ports
- Quick-start your program with available example designs

A FIDUS SYSTEMS **Data Sheet**

SOLUTION

Top Side

① Zynq UltraScale+ MPSoC ZU19EG
② Samtec FireFly connecters (support for electrical and optical)
③ FMC+ (VITA 57.4 compatible)
④ UART-over-USB serial port
⑤ Gigabit Ethernet Port
⑥ USB 3.0, host or device configurable
⑦ DDR4 - SO-DIMM, 16GB x72, Dual Rank @1866MT/s on PS

⑧ HapsTrak 3 connectors
⑨ Board Controller (control, power and thermal monitoring)
⑩ SD expansion port
⑪ MMCX clock inputs and outputs
⑫ microSD boot programming port
⑬ Arm JTAG port
⑭ AMD JTAG port

Bottom Side

⑮ Arm trace port
⑯ Multi-clock generators and jitter attenuators
⑰ Local pushbuttons
⑱ Bootmode select
⑲ Additional SEAM connection
⑳ PMOD interface
㉑ Synopsys Pushbutton / LED port

IN THE BOX

- Mantyss-32G circuit card assembly
- MicroSD Memory Card
- Desktop Adapter
- Cables (ethernet, USB, power)
- Mounting screws

Sales and Support

For additional information, questions or request for quotation, **visit: www.fidus.com**

Customize your Mantyss

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20+
years experience

Collaborating with smart teams is what fuels us every day.

3,000+
successful projects

Your unique challenges are our obsession.

400+
customers

Extending your team with our expertise brings designs to market faster.

95%
repeat customers

Customers love to work with us, again and again.

ABOUT FIDUS

Fidus Systems, founded in 2001, specializes in leading-edge electronic product development with offices in Ottawa and Waterloo, Ontario, and San Jose, California. Our hardware, software, FPGA, verification, wireless, mechanical and signal integrity teams work to innovate, design and deliver next-generation products for customers in emerging technology markets. Fueled by 20+ years' experience and creativity, along with our collaborative and process driven approach, we turn complex challenges into well-designed solutions. And with over 400 customers and 3000+ completed projects, we have the expertise to be a seamless extension of your team, providing a clear focus and commitment to getting designs and prototypes to market faster. Once you start working with us, you'll trust us like one of your own. Our hallmark is transparency. Our guiding principle is first time right.

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