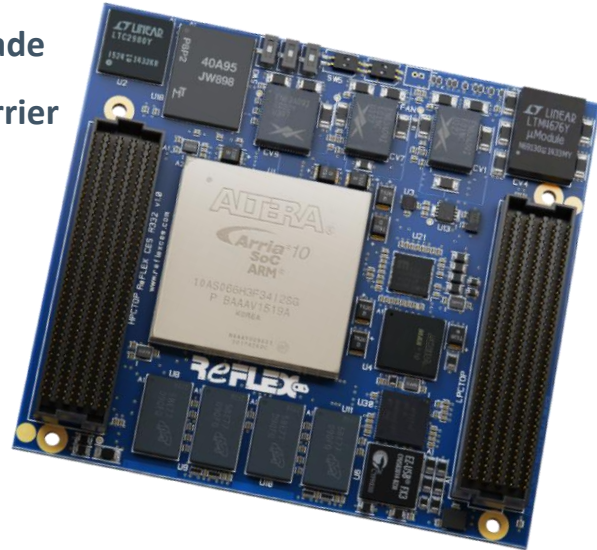




Arria 10 SoC SoM

System-on-Module featuring

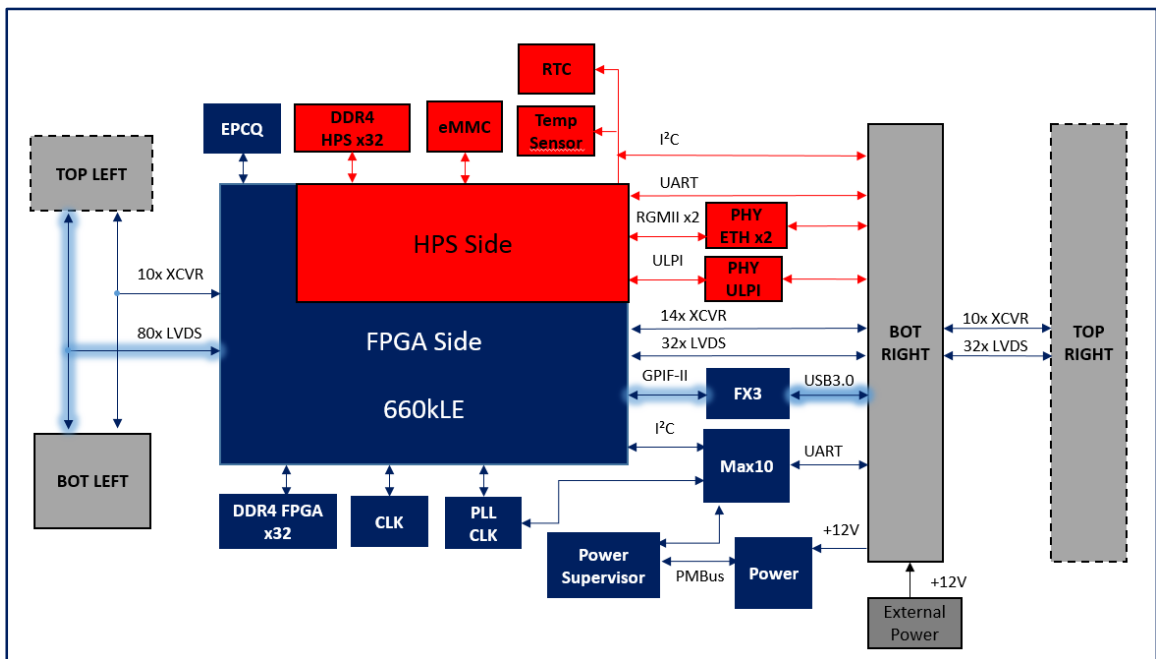
- Highly integrated Altera Arria10 SoC Module
- 270 or 660 KLE, Commercial or Industrial Temp grade
- Dual mode as a System-on-module or FMC carrier board
- 2x Gbit Ethernet HPS, USB 2.0 OTG, USB 3.0
- DDR4 HPS and FPGA
- eMMC Flash Memory
- PCIe Gen3 x8
- Dual FMC Capability



Target markets:

Automotive
Industrial
Video Broadcast
Machine and Intelligent Vision

Military
Medical
Test & Measurement



Contact :



Full Specifications

Arria 10 SoC FPGA	<ul style="list-style-type: none"> • Dual ARM® Cortex™-A9 MPCore™ processor-based hard processor system (HPS) 270 KLE or 660 KLE – F34 package (1152 pins) – Commercial or Industrial temp grade
2x DDR4 SDRAM up to 2400MT/s	<ul style="list-style-type: none"> • 32-bit wide bank for FPGA (2GB with Lite and Indus or 4GB with Turbo version) • 32-bit wide bank for HPS (2GB with Lite and Indus or 4GB with Turbo version)
System-on-Module usage (Bottom connectors only)	<ul style="list-style-type: none"> • 1x FMC LPC bottom connector with HPS signals and 14 transceivers (Bottom-Right) • 1x FMC HPC or LPC bottom connector depending on FPGA density (Bottom-Left): <ul style="list-style-type: none"> ▪ LPC bottom connector for 270 KLE density with 10 transceivers ▪ HPC bottom connector for 660 KLE density with 10 transceivers
Carrier board usage (Bottom and Top connectors)	<ul style="list-style-type: none"> • In addition to the System-on-Module usage, • 1x FMC LPC Top connector with 10 transceivers, 1.8V VITA 57.1 (Top-Right) • 1x FMC HPC or LPC Top connector with 10 transceivers, 1.8V VITA 57.1 (Top-Left): <ul style="list-style-type: none"> ▪ LPC Top connector for 270 KLE density ▪ HPC Top connector for 660 KLE density
LVDS, LVCMOS & XCVR	<ul style="list-style-type: none"> • 24 transceivers speed of 11.3Gbps, most optimized use • 80 LVDS bidirectional (or 160 Single ended) on FMC HPC connector (Top-Left/Bot-Left) • 32 LVDS bidirectional (or 64 Single ended) on FMC LPC connector (Top-Right/Bot-Right)
USB 3.0 Device USB 2.0 Device/Host	<ul style="list-style-type: none"> • USB 3.0 device connectivity using Cypress FX3 super speed controller (660 KLE version) • USB OTG support connected to the HPS
System Controller	<ul style="list-style-type: none"> • Max10 CPLD for system control
2x Gigabit Ethernet	<ul style="list-style-type: none"> • 10/100/1000 Base-T Ethernet interfaces connected to the HPS
Serial interfaces	<ul style="list-style-type: none"> • I²C, UART connected to the HPS. UART connected to System controller
Soft programming /eMMC FPGA programming	<ul style="list-style-type: none"> • Store U-boot, Kernel and RootFS (8GB on 270 KLE and 32GB on 660 KLE) • AS configuration supported with EPCQL512, remote upgrade and failsafe
Power Management	<ul style="list-style-type: none"> • PMBus support / cooling solution provided • With heat spreader and active heatsink
Module dimensions Deliverable	<ul style="list-style-type: none"> • 86mm x 95mm (3,4 x 3,8 inches) • VHDL test designs • Mechanical files : 3D DWF/STEP models and 2D drawing (upon request) • Guidelines for baseboard development (upon request) • Module informations (power, decoupling, signal features, S-parameters) (upon request)

Ordering information

Version	Part number	Comments
▪ Module "Lite" version (Commercial grade)	RXCA10S027PF34-SOM00L	270 KLE, speed grade -2, Commercial temp grade, Two banks DDR4 / by 32bit / 4GBytes / @1866MT/s, eMMC 8GBytes, Bottom connectors
▪ Module "Turbo" version (Commercial grade)	RXCA10S066PF34-SOM00T	660 KLE, speed grade -1, Commercial temp grade, Two banks DDR4 / by 32bit / 8GBytes / @2400MT/s, eMMC 32GBytes, USB3.0, Bottom & Top connectors
▪ Module "Indus" version (Industrial grade)	RXCA10S066PF34-SOM00I	660 KLE, speed grade -1, Industrial temp grade, Two banks DDR4 / by 32bit / 4GBytes / @2400MT/s, eMMC 32Gbytes, USB3.0, Bottom & Top connectors

Development Kit

- For the Development Kit, ask information about the Achilles Instant-DevKit (flyer available)
- The Kit is using the "Turbo" version

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