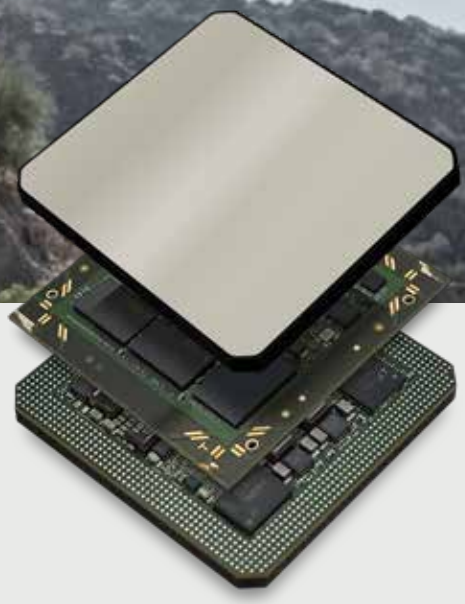

TRUPACK RADIO FREQUENCY SYSTEM IN PACKAGE (RFSIP)

SECURE PROCESSING

Advanced capabilities with a small footprint

As technology advances, Collins Aerospace delivers with the small and secure TruPack Radio Frequency System in Package (RFSiP) technology for secure radios, sensors and control.

Collins TruPack RFSiP offers integration with Xilinx Zynq™ Ultrascale+™ Radio Frequency System on Chip (RFSoC), combining RF and digital in a low SWaP-C Package. The TruPack SiP is configurable to meet the varying security needs of US Government military systems. Additionally it is manufactured in our Defense Microelectronics Activity-certified facility enhancing the supply-chain trust needed to ensure the TruPack SiP will operate free of any unintended operations.

TruPack RFSiP enables programmable radio frequency generation and reception for multifunction communications, radar and electronic warfare. It serves as a radar phased array, directional communications phased array, multi-channel wideband transceiver, interferometric direction finder, or passive radio sensor. TruPack RFSiP enables programmable radio frequency for multifunction communications, radar and electronic warfare. It serves as a radar phased array, directional communications phased array, multi-channel wideband transceiver or interferometric direction finder.

With a simplified design, TruPack reduces non-recurring engineering costs and makes it easier to reuse firmware and software code. Offering over 2GHz of instantaneous bandwidth per channelof instantaneous bandwidth per channel, with up to 16 channels.

When size and security are your most important requirements, choose TruPack.

KEY FEATURES & BENEFITS

- FPGA & processors with integrated power conversion, clock generation, memory, startup sequencing, and ADCs/DACs in one BGA
- Single 5 volt power input
- Built-in power sequencing for the on-board SoC
- Internal reference clock and clock distribution
- Built-in LPDDR4 RAM, DDR4 RAM, and SoC Boot Flash
- Faster software and host board development

TruPack46, TruPack48 and TruPack49 specifications

		TRUPACK46	TRUPACK48	TRUPACK49
SoC Core		Xilinx ZU46DR	Xilinx ZU48DR	ZU49DR
Voltage in		3.7 to 5.5 VDC	3.7 to 5.5 VDC	3.7 to 5.5 VDC
Power consumption	Nominal use Heavy use	35 W 70 W	35 W 70 W	35 W 70 W
Size	Riser ring adds 2.7 mm	42.5 mm x 42.5 mm x 3.6 mm 1.6 in. x 1.6 in. x 0.14 in.	42.5 mm x 42.5 mm x 3.6 mm 1.6 in. x 1.6 in. x 0.14 in.	42.5 mm x 42.5 mm x 3.6 mm 1.6 in. x 1.6 in. x 0.14 in.
Weight	Riser ring adds 3.9 g	26.6 g 0.94 oz	26.6 g 0.94 oz	26.6 g 0.94 oz
Environmental	Junction temperature	- 40 ° C to 100 ° C	- 40 ° C to 100 ° C	- 40 ° C to 100 ° C
Nonvolatile memory		2 Gb NOR Flash	2 Gb NOR Flash	2 Gb NOR Flash
PL RAM		8 GB DDR4, Two independent 32 bit lanes	8 GB DDR4, Two independent 32 bit lanes	8 GB DDR4, Two independent 32 bit lanes
PS RAM		4 GB LPDDR4, One 32 bit lane	4 GB LPDDR4, One 32 bit lane	4 GB LPDDR4, One 32 bit lane
Clock source		25 MHz internal reference oscillator or 10 to 7000 MHz external clock for ADC/DAC clock	25 MHz internal reference oscillator or 10 to 7000 MHz external clock for ADC/DAC clock	25 MHz internal reference oscillator or 10 to 7000 MHz external clock for ADC/DAC clock
Clock synchronization		Input clock and SYS_REF	Input clock and SYS_REF	Input clock and SYS_REF
High speed transceivers	High speed SERDES (GTY)	16 @ 28 Gbps	16 @ 28 Gbps	16 @ 28 Gbps
	Low speed SERDES (GTR)	4 @ 6 Gbps	4 @ 6 Gbps	4 @ 6 Gbps
General Purpose I/O	HDIO	85 (12 differential pairs)	85 (12 differential pairs)	85 (12 differential pairs)
	HPIO	93 (44 differential pairs)	93 (44 differential pairs)	93 (44 differential pairs)
	PSMIO	72	72	72
	µcontroller I/O pins	22	22	22
RF input (100 Ω diff)	14-bit ADC	Qty 8 @ 2.5 Gsps Qty 4 @ 5.0 Gsps	Qty 8 @ 5 Gsps	Qty 16 @ 2.5 Gsps
RF output (100 Ω diff)	14-bit DAC	Qty 12 @ 9.85 Gsps	Qty 8 @ 9.85 Gsps	Qty 16 @ 9.85 Gsps
Enhanced security		Available	Available	Available
Export category		ITAR XI(c)(2)	ITAR XI(c)(2)	5A002.A.4
HTS		8542.31.00.01	8542.31.00.01	8542.31.00.01

Specifications subject to change without notice.

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An RTX Business

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