



ComAvia
Systems Technologies Pvt. Ltd.

ARINC-429 IP Core

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IP DATASHEET

Features:

- Supports ARINC-429 multiple channels
- User ARINC-429 configuration manager
- RS232 / USB / PCI interface
- IP Core can be fused in to any FPGA Vendor device
- Transmitter and Receiver can be Enabled / Disabled
- Supports Mark 33 Digital Information Transfer System(DITS) Specification

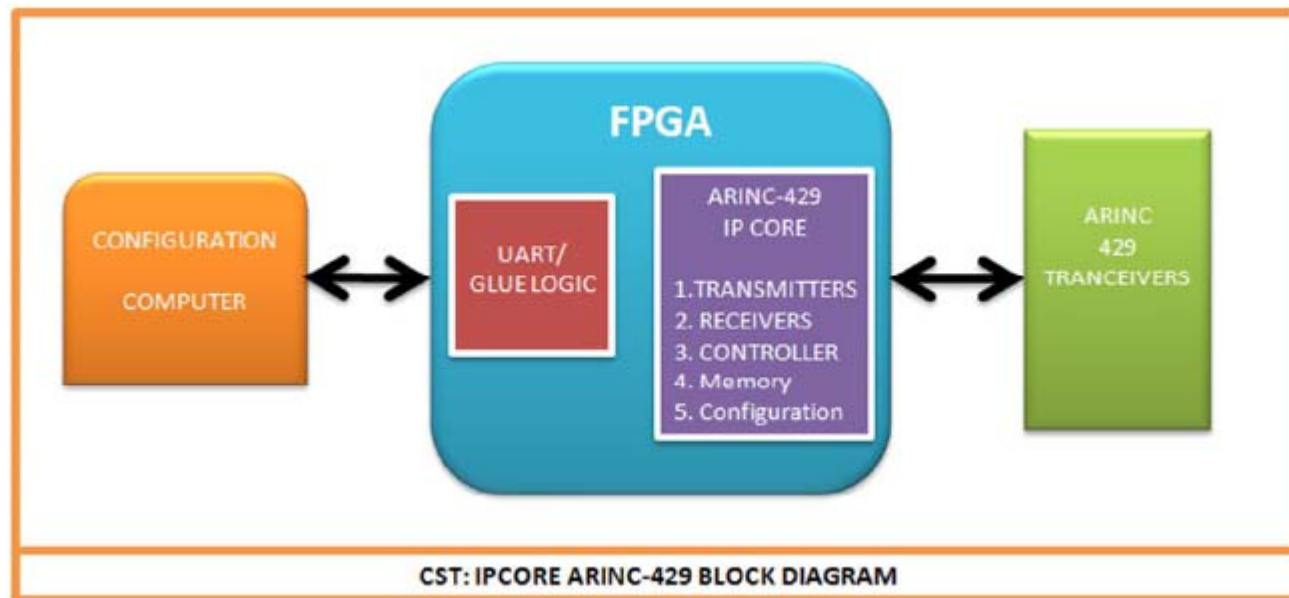
Introduction:

ARINC-429 is unidirectional protocol used in commercial aircraft networking systems. It is the most widely used and very reliable system

ARINC-429 is also known as the Mark 33 Digital Information Transfer System(DITS) Specification

General Description:

ARINC-429 IP Core provides a complete Transmitter(Tx) and Receiver(Rx). A typical system Implementation using IP Core ARINC-429 is shown in the block diagram below



The core consists of 6 main blocks: Transmitters, Receivers, Controller, Memory and Configuration block for CPU Interface. UART is used for serial communication and baud Rate of 115200 Hz

Configuration Description:

IP Core has a user configuration tool called as “ARINC-429_Configuration_Manager” which defines the parameters as follows

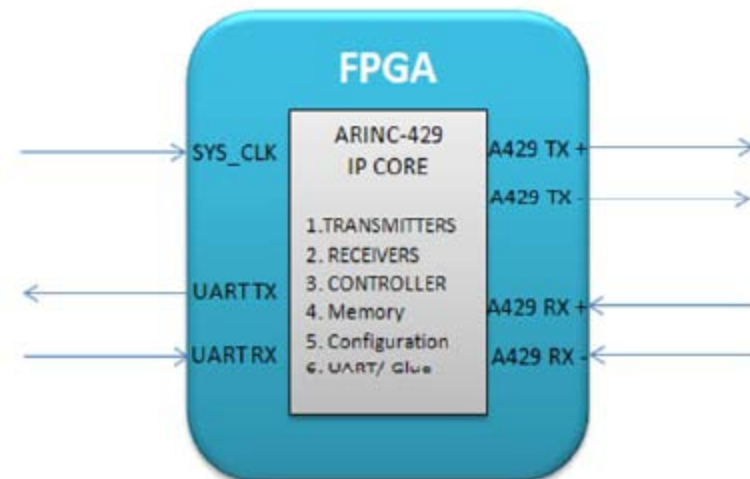
- ARINC429 speed Low(12-14.5 kbps)/High (100 Kbps)
- Transmitter and Receiver enable / disable
- Transmitter message definition such as Label, SDI, SSM and Data bits
- Transmitter and Receiver mutli-channels

External Components

There are two external components required for proper operation of ARINC-429 IP Core:

- Standard ARINC 429 line driver
- Standard ARINC 429 line receiver

IPCore External Interface Diagram



Performance and Resource Utilization:

Below table show the device utilization of ARINC-429 IP Core for a single Transmitter and Receiver Cores.

FPGA VENDOR	DEVICE PART NUMBER	IP Core	Slices	4 Input LUTs	PINS	TOOL CHAIN
Xilinx	XC3S200-FT256C	ARINC-429	335	554	7	ISE 10.1 FOUNDATION

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