

## Overview:

Aeronautical Radio Incorporation (ARINC) defines the standards for Avionics devices/ equipment's. The ARINC 429 Specification defines the standard requirements for the transfer of digital data between avionics systems on commercial aircraft.

## Key Features:

- Compliant with ARINC Specification 429 PART-1-18 (429P1-18)
- Implemented in System Verilog with UVM methodology environment.

## Deliverables:

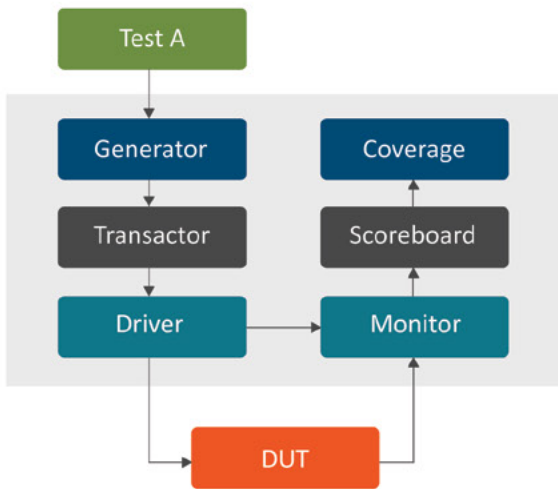
ARINC 429 VIP UVM Source Code

User Reference Manual

Sample Test cases

Functional Coverage Analysis

## Layered Model of Verification Component



## Supports

- Return to Zero encoding format
- Low (12-14.5 KHz  $\pm$  1 %) and High (100 KHz  $\pm$  1 %) Speed Operation Data Transmission
- BCD (Binary Coded Decimal Notation) and BNR
- Error Injection and Detection for odd parity for ARINC Word, parity error, 'x'/'y' bit, frame length, word gap and jitter
- Call back mechanism for various scenarios.

Table 1: Configuration Parameter for ARINC TX

| Configuration Parameter | Value   |
|-------------------------|---|
| tx_checks_enable        | 1 - TX checkers enable, 0 - TX checkers disable |
| tx_coverage_enable      | 1 - TX coverage enable, 0 - TX coverage disable |
| tx_bit_rate             | TX high speed bit rate, TX low speed bit rate   |
| tx_is_active            | 1- Active agent, 0- Passive agent               |
| tx_speed_selection      | HIGH_SPEED, LOW_SPEED                           |
| tx_clock_from           | USE_INTERNAL_CLK, USE_EXTERNAL_CLK              |
| tx_reset_from           | USE_INTERNAL_RST, USE_EXTERNAL_RST              |

Table 2: Configuration Parameter for ARINC RX

| Configuration Parameter | Value   |
|-------------------------|---|
| rx_checks_enable        | 1 - RX checkers enable, 0 - RX checkers disable |
| rx_coverage_enable      | 1 - RX coverage enable, 0 - RX coverage disable |
| rx_bit_rate             | RX high speed bit rate, RX low speed bit rate   |
| rx_is_active            | 1- Active agent, 0- Passive agent               |
| rx_speed_selection      | HIGH_SPEED, LOW_SPEED                           |
| rx_clock_from           | USE_INTERNAL_CLK, USE_EXTERNAL_CLK              |
| rx_reset_from           | USE_INTERNAL_RST, USE_EXTERNAL_RST              |

## Custom VIP Development and Verification Services

eInfochips has developed dozens of complex VIPs for top global EDA companies and end-customers. Our experience includes VIPs for the latest high-speed and low-power protocol standards, like MIPI, SERDES, USB 3.0, DDR3, HDMI and eMMC. Today, eInfochips has contributed to VIPs that are deployed by hundreds of customers to bring confidence to their ASIC, SOC and FPGA designs.

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