iWave
Embedding Intelligence

AXI4-Lite Interface

Streaming Video Tx Interface

ARINC 818-2 IP Core

Streaming Video Rx Interface

User Interface

Transceiver Interface

iW ARINC 818-2 IP core is compatible with the ARINC 818-2 specification. The ARINC 818-2 IP core can be implemented on any transceiver based FPGA. It can be used for both transmit-and-receive applications. This core supports simple streaming interface which can be integrated with video & image processing IP cores supported by the FPGA vendors.

Applications

- Avionics Cockpit Display System like HUD/MFD
- Mission Computer
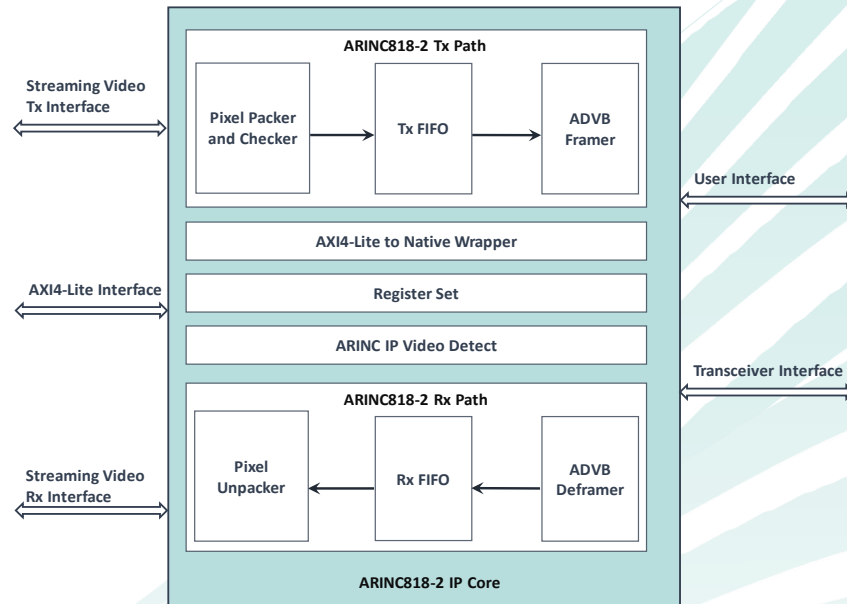- Video Concentrator etc…

Highlights

- Quick customization as per customer's Interface Control Document (ICD) and deliver the same within 3-4 weeks' timeline
- Our IP core is not limiting the maximum resolution support and it completely depends on FPGA transceiver speed
- Transmission medium
    - Optical
    - 75-ohm, 100-ohm or 150-ohm Copper

Features

- IP Compliant to ARINC 818-2 specification
- Video TX and RX interface: Simple Streaming Interface
- Custom data transmission & reception during video blanking period
- Supports Progressive and Interlaced Video Formats
- Supports video resolutions up-to 4k @60fps resolution
- Supports Monochrome, RGB, RGBA and YCbCr Color Formats
- Supports all Pixel Aspect Ratio
- Supports 8-bit Components, four components per transmission word
- Supported Pixel Array Order: Left to Right, Top to Bottom
- Supports Line Synchronous Mode
- Supports Link Rates up-to FC 12x
- User configurable parameters as per ICD requirement
    - No. Of Rows
    - No. Of Columns
    - Video Format Code
    - Pixel Aspect Ratio
    - Video Frame rate
    - Color Information Code

iW ARINC 818-2 block diagram

ARINC818-2 IP Core

ARINC818-2 Tx Path

Pixel Packer and Checker → Tx FIFO → ADVB Framer

Streaming Video Tx Interface

User Interface

AXI4-Lite to Native Wrapper

Register Set

ARINC IP Video Detect

AXI4-Lite Interface

Transceiver Interface

ARINC818-2 Rx Path

Pixel Unpacker ← Rx FIFO ← ADVB Deframer

Streaming Video Rx Interface

https://www.iwavesystems.com/product/arinc818-2-ip-core/

Deliverables

- RTL source code or Netlist
- IP example design
- IP datasheet
- Integration Manual
- Linux/BareMetal driver reference
- User Manual

Licensing Options

- Non-Transferable: Single Project/Product Netlist License – Single Site
- Non-Transferable: Multi Project/Product Netlist License – Single Site
- Non-Transferable: Single Project/Product RTL Source Code License – Single Site
- Non-Transferable: Multi Project/Product RTL Source Code License – Single Site

Technical Support

iWave provides comprehensive support during your system integration & validation.

- The Client may open a new support incident by emailing to a technical support engineer
- iWave's response time shall be within 24 hours of the initial call, with the details of the action plan to resolve
- Support assistance shall be delivered by telephone, email and/or remote assistance via a web meeting
- iWave shall provide remote debugging support irrespective of the time zone/ region

iWave Systems, a leading FPGA design house enhances your design productivity by providing an extensive suite of proven, optimized and easy-to-use FPGA IP Cores along with reference designs to complement and quicken your applications development. Our extensive suite of IP Cores covers all key markets and applications. Along with the rich set of FPGA IP cores, iWave also offers custom FPGA designs tailored to meet the client specifications which includes RTL Design, Integration of iWave's or 3rd Party IP Cores on our FPGA SOMs with Carrier Card / Custom Hardware / Off-the-Shelf Evaluation Kits to provide end-to-end solutions targeting Low-Power, High-Performance and Optimized Designs.

iW ARINC 818-2 FPGA IP
The IP can be ordered online from the iWave Website https://www.iwavesystems.com/product/arinc818-2-ip-core/
Or from our Local Partners in your region http://www.iwavesystems.com/about-us/business-partner.html

www.iwavesystems.com