

ARINC 818 SOLUTIONS

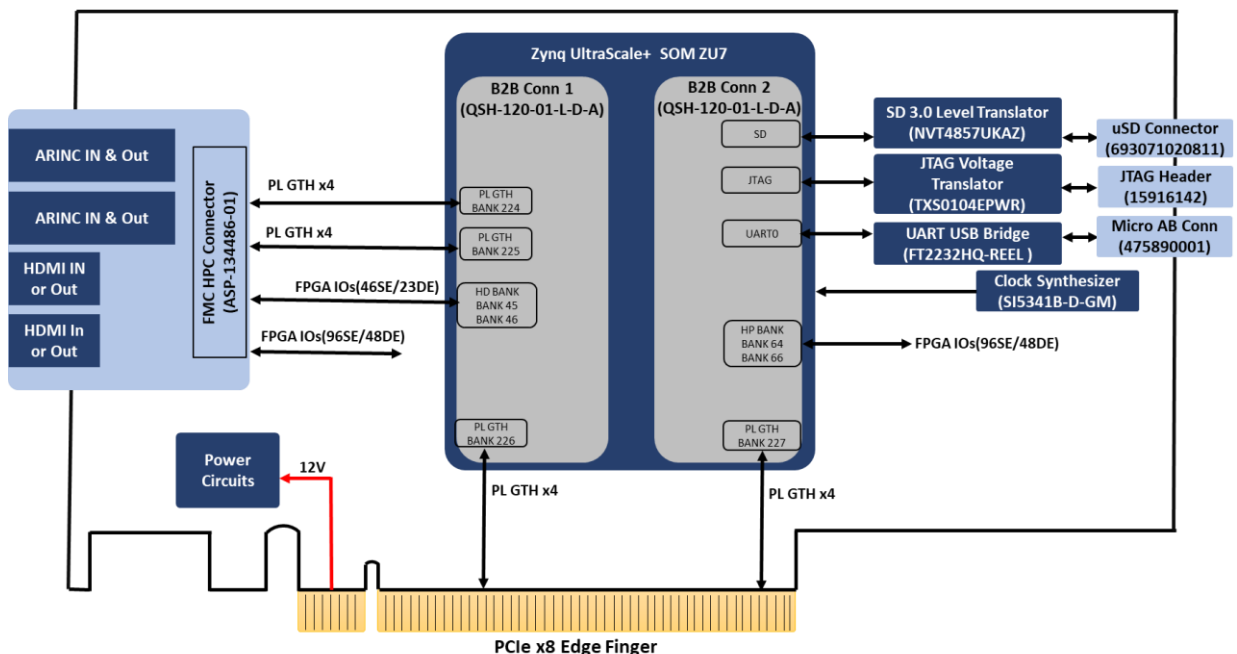
ARINC 818 Frame Grabber

The ARINC 818 frame grabber is designed to capture high-speed digital video streams compliant with the ARINC 818 standard. It enables video streaming or storage on a Host PC and can display the video on an HDMI monitor. Additionally, it supports video input from either the Host PC or an HDMI source, converting it into the ARINC 818 format for transmission via SFP. This device enables seamless reception, transmission, and conversion of uncompressed video data, delivering low latency and high bandwidth for performance & mission-focused applications.

Highlights

- ❖ Handles multiple resolutions and refresh rates up to UHD @30FPS or 2K @60FPS.
- ❖ PCIe Gen 3 x8 lane with a total maximum theoretical bandwidth of 64Gbps.
- ❖ ARINC 818 to HDMI and HDMI to ARINC 818 Conversion supported.
- ❖ Full-Height Half-Length PCIe form factor, suitable for integration into Host PC systems.
- ❖ Compatible with Linux OS for flexible deployment.
- ❖ Supports video node detection for applications like VLC media, OBS studios and more.

Block Diagram



Technical Specifications

Interfaces	• 2 x SFP-based optical/Copper interface for ARINC 818 video transmission/Reception up to 10 Gbps. • 2 x HDMI IN or 2 x HDMI Out or 1 x HDMI IN and HDMI Out interface Based on user Requirement. • PCIe Gen3 x 8 edge connector • 1 x μSD Connector • 1 x JTAG header • 1 x Micro USB Type AB Connectors																			
Software Features	• Compatible with Linux operating system using V4L2 framework driver. • Supports video node detection for automatic Video Device recognition for applications like VLC media, OBS studios and more. • Supports Application like Gstreamer and FFmpeg. • Singel/dual channel ARINC 818 receiver data capture from the PCIe card to the host PC. • Support for real-time video data streaming from the host PC to the ARINC 818 transmitter. • Supports ARINC 818 to HDMI and HDMI to ARINC 818 Conversion. • Automatic detection of ARINC 818 video resolution and frame rate on the host. • Dynamic ARINC 818 transmitter configurations with standard or custom resolution based on ICD. • Dynamic ARINC 818 transceiver link rate control from the host PC.<table><tr><th>FC rate</th><th>Bit Rate (Gbps)</th></tr><tr><td rowspan="2">1x</td><td>1.0625</td></tr><tr><td>1.5</td></tr><tr><td rowspan="2">2x</td><td>2.125</td></tr><tr><td>2.5</td></tr><tr><td>3x</td><td>3.1875</td></tr><tr><td rowspan="2">4x</td><td>4.25</td></tr><tr><td>5</td></tr><tr><td>6x</td><td>6.375</td></tr><tr><td>8x</td><td>8.5</td></tr><tr><td>Custom</td><td>10</td></tr></table> • Configurable ARINC 818 transmitter settings, including resolution, frame rate, pixel clock, sync timings, front and back porch, color format, and SOF class.	FC rate	Bit Rate (Gbps)	1x	1.0625	1.5	2x	2.125	2.5	3x	3.1875	4x	4.25	5	6x	6.375	8x	8.5	Custom	10
FC rate	Bit Rate (Gbps)																			
1x	1.0625																			
	1.5																			
2x	2.125																			
	2.5																			
3x	3.1875																			
4x	4.25																			
	5																			
6x	6.375																			
8x	8.5																			
Custom	10																			
OS Support	Linux																			
Power Input	PCIe Slot Power																			
Form Factor	Full height (111.15 mm) and Half length (167.65 mm) PCIe form factor																			
Operating Temp.	0°C to +55°C																			
Environment Spec.	REACH & RoHS3 Compliant																			

Deliverables

- ARINC 818 Frame Grabber Card with Enclosure
- Copper SFP module / Fiber SFP module with Optic Fiber Cable

Resources

- Datasheet
- User Manual

A Global Leader in Embedded Systems Engineering and Solutions

Since 1999, we have pioneered leadership in embedded systems technology, establishing ourselves as a strategic embedded technology partner for advanced solutions. Our comprehensive portfolio encompasses ARM and FPGA System on Modules, COTS FPGA solutions, and ODM solutions which include Telematics, Gateways & HMI Solutions.

Beyond our robust product ecosystem, we provide comprehensive ODM support with specialized custom design and manufacturing capabilities, enabling customers to accelerate and optimize their product development roadmaps. With a strategic focus on industrial, automotive, medical, and avionics markets, we deliver innovative technology solutions to global clients.

mktg@iwave-global.com

iWave Global

Bangalore, India

iWave USA

Campbell, California

iWave Global

Ras Al Khaimah, UAE

iWave Global GmbH

Ratingen, Germany

iWave Europe

Rotterdam, Netherlands

iWave APAC

Taipei City, Taiwan

iWave Korea

Gyeonggi-do, Korea

iWave Japan

Yokohama, Kanagawa

iWave
Global