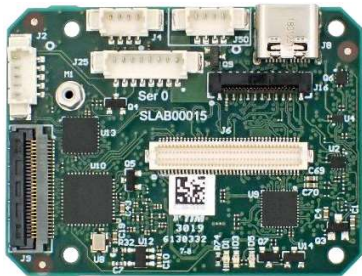# Onboard Video Processors

SightLine video processors provide powerful edge processing for any real-time application. Operating at the source, SightLine processors deliver low-latency performance and exceptional video quality.

These third-generation ARM processors are SightLine's newest and most powerful hardware options, providing higher performance, lower power, and enhanced user integration options.

4100-OEM	1750-OEM
• Most powerful option • Processing and streaming to 4Kp30	• Smaller and lower power than 4100-OEM for use in the smallest systems • Processing and streaming up to 1080p30
• Multiple video inputs – Dual channel processing • Multiple video outputs – Dual-stream H.264/H.265 IP video, HDMI, HDSDI • OEM and SOM-only integration options	

Third-Party ARM Processors

The ARM Library provides analytics licensing option for integrator architectures using third-party processors.

• Analyze + Render + Encoding functions licensable on NVIDIA Jetson, Qualcomm 820/5165/3150, NXP IMX8+
• Analyze functions licensable on any 64-bit ARM processor running Linux
• Integrator responsible for camera capture and system interfaces

Video Processing Software

SightLine **Video Processing Software** delivers essential functionality for a wide range of ISR applications. SightLine provides tailorable, powerful solutions. These newest processors will be supported by software versions beyond the current 3.6.x version. *See the **Software Functions page** for more information about image processing functions.*

Specifications

Criteria		1750-OEM	4100-OEM
Processor		NXP i.MX 8M Plus SOM	Lantronix QRB5165 [*]
Multi-Camera		Full feature SW Single-channel processing Limited feature SW Dual-channel processing	Multi-channel processing and display options: multi-streaming, picture-in-picture, blending, and switching

Video Inputs:	Digital Video	Three: 1 x Parallel digital + camera adapter
		         1 x MIPI (MIPI cameras or 2nd camera adaptor)
		         1 x USB 3.0	

	Analog	1 x using 3000-AB analog adapter board	2 x using two 3000-AB adaptors, one each installed on OEM and MIPI adapter
Video Outputs:	Encoded Video	H.264 and H.265 encoding, MPEG2 TS/RTP encapsulation	
	HDMI	Yes. HDMI out via FFC ribbon	
	HDSDI	Yes. With HDMI-HDSDI converter board	
	Camera Link	Full raw LVDS output with external CL connector	Not Available
KLV / Metadata		System metadata can be inserted into KLV IP stream, used in OSD, with JPEG EXIF headers, full pixel snapshots, and KML or NITF files. KLV metadata is generated in accordance with MISB standards	
Recording		Micro SD. Class 10 SDHC cards up to 400 GB	
Frame Size / Rates		Dual: 720p30 + 480p30 with common SW features Dual: 720p60 with limited SW features Single: 1080p30 with common SW features	Dual: 1080p30 with common SW features Single: 4K30 with common SW features
Serial Ports Available		2 (@3.3V) + 4 with MIPI-Input adapter	5 (@3.3V) + 3 with MIPI-Input adapter [*]
Additional User IO		GPIO (1) + GPIO (3) with MIPI-IN adapter	I^2C, GPIO (4) + GPIO (2) with MIPI-Input adapter
Ethernet Interface		10/100 BASE-T Ethernet PHY. UDP, TCP, and RTSP connectivity, unicast, multicast with magnetic coupling	
Voltage In / Power		8 - 15 VDC (12 VDC nom) 3 W typical	8 - 15 VDC (12 VDC nom) ≤5 W typical [*]
Physical		1.3 x 1.8 x 0.5 in (33.3 x 45.0 x 11.6 mm) 16.9g (SOM only 7.1g)	1.5 x 2.0 x 0.7 in (38.1 x 50.5 x 16.5 mm) [*] 29.7g (SOM only 8.5g) [*]
Environment:	Temperature	-40°C to + 85°C	-40°C to + 85°C [*]
Fabrication Quality Assurance		Boards are assembled to IPC-A-610 Class2 specifications by a facility certified to ISO 9001 and AS 9100 standards and using ROHS Directive 2011/65/EU and 2015/863/EU compliant materials and processes	

[*] Indicates spec difference from the 4000-OEM

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