

Arm Mali Image Signal Processor (ISP) Comparison Table

The Mali family of ISPs brings next-generation image processing capabilities to commercial, industrial and consumer devices. These offer a complete ISP solution for a wide range of IoT, automotive and embedded use cases, including computer vision applications, smart displays, and advanced driver assistance systems (ADAS).

Feature	Mali-C32	Mali-C52	Mali-C55	Mali-C71AE	Mali-C78AE	Mali-C720AE
Sensor Interface	Single sensor	Single sensor	Multi-sensor	Multi-sensor	Multi-sensor	Multi-sensor
Multi-Camera Support	Up to 4 cameras	Up to 4 cameras	Up to 8 cameras	Up to 4 real-time or 16 virtual cameras	Up to 4 real-time or 16 virtual cameras	Up to 16 virtual cameras
Multi-CFA Support	RGGB, RGBIr	RGGB, RGBIr	RGGB	RGGB, RCCC, RCCB, RCCG, RGBIr	RGGB, RCCC, RCCB, RYYCy	RGGB, RYYCy, RCCB, RCCG, RGBIr 4x4
Maximum Image Resolution	16Mpix (4608 x 3456)	16Mpix (4608 x 3456)	48Mpix (8192 x 6144)	12Mpix (4096 x 2560)	18Mpix (5696 x 3328)	8192 x 4608
High Dynamic Range (HDR) Support	4:1	4:1	2:1	4:1	4:1	On-sensor, 2:1
Spatial Noise Reduction	Sinter 2.5	Sinter 3.0	Sinter 2.6 or Sinter Lite	Sinter 2.5	Sinter 2.5	Sinter 2.7
Temporal Noise Reduction	Temper 3	Temper 3	Temper 4	N/A	N/A	Temper 4
Chroma Noise Reduction	Yes	Yes	Yes (optional)	No	Yes	Yes
Tone Mapping	Iridix v8.0	Iridix v8.0	Iridix v8.1	Iridix v8.0	Iridix v8.2	Iridix v8.3
Throughput	Up to 600 Megapixels/second	Up to 600 Megapixels/second	Up to 1200 Megapixels/second	Up to 1200 Megapixels/second	Up to 1200 Megapixels/second	Up to 1.5 Gpix/s (in 5nm)
Output Formats	RGB, YUV	RGB, YUV	RGB, YUV	RGB, YUV, S, LAB, LUV, R, IR, HS	RGB, YUV, LAB, LUV, RAW, HS	RGB, YUV
Output bit Depth (companded, linear)	10, 12	10, 12	10, 16	16	16	8, 10, 16
Scaled Output	Yes	Yes	Yes	No	Yes	Yes
Interfaces	AXI3, AHB-lite	AXI3, AHB-lite	AXI3, AHB-lite	AXI3, APB	AXI3 (w/QoS), APB	AXI5
Built-in Safety Features	No	No	No	Designed to achieve: <ul style="list-style-type: none">ISO 26262 ASIL BIEC 61508 SIL 2	Designed to achieve: <ul style="list-style-type: none">ISO 26262 ASIL BIEC 61508 SIL 2	Designed to achieve: <ul style="list-style-type: none">ISO 26262 ASIL BIEC 61508 SIL 2
Safety Package	N/A	N/A	N/A	Yes – extended level of support	Yes – extended level of support	Yes – extended level of suppo
Parallel Output Pipelines	Full-res and downscaled	Full-res and downscaled	Full-res and downscaled	No	No	Up to 4 (full-res and downscaled)

For more information, contact your Arm account manager today or explore the products in more detail here: developer.arm.com/ip-products/graphics-and-multimedia/mali-camera