

Lossless Image Compression IP Cores Family

Standalone, Compact, and Low-Power Lossless Compression Acceleration

Lossless Image Compression Cores	<u>QOID</u>	<u>QOIE</u>	<u>JPEG-LS-D</u>	<u>JPEG-LS-E</u>	<u>PNG-D</u>	<u>PNG-E</u>
Function	Decoder	Encoder	Decoder	Encoder	Decoder	Encoder
Standard	QOI v1.0		JPEG-LS – ISO/IEC 14495-1		PNG – ISO/IEC 15948	
Lossless Compression	✓	✓	✓	✓	✓	✓
Compression Efficiency	N/A	Moderate	N/A	Excellent	N/A	Good
Near Lossless Compression	X	X	✓	✓	X	X
Color Depth	8-bit	8-bit	8-bit to 16-bit	8-bit to 16-bit	8-bit or 16-bit	8-bit or 16-bit
Palletized Color	X	X	X	X	✓	✓
Number of Colors	3 or 4	3 or 4	1 to 4	1 to 4	1, 3, or 4	1, 3, or 4
Throughput (Samples/cycle)	3 or 4	3 or 4	Scalable / 1 to N		1	1
Latency (Clock Cycles)	4	9	40-50	28-40	64 - 6200	N/A
ASIC Area (eq. Gates)	15k	15k	40k-65k ⁽¹⁾	40k-65k ⁽¹⁾	25k	N/A
Max. Clock Freq.	Very High		High	High	High	High
Available in RTL Source Code	✓	✓	✓	✓	✓	Soon
Available as targeted netlist	✓	✓	✓	✓	✓	Soon
Notes:						
1) Silicon Resources for one sample/cycle configuration, and 8 bits per color sample.						