Lossless Image Compression IP Cores Family

Standalone, Compact, and Low-Power Lossless Compression Acceleration

Lossless Image Compression Cores	QOID	QOIE	JPEG-LS-D	JPEG-LS-E	PNG-D	PNG-E
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	1 line + 40
ASIC Area (eq. Gates)	15k	15k	40k-65k(1)	40k-65k(1)	25k	N/A
Memory Requirements	-	-	1 Image Line + 17k bits(1)	1 Image Line + 23k bits(1)	1 Image Line + 264 kbits	1 Image Line + 256k bits
Max. Clock Freq.	Very High	Very High	High	High	High	High
Available in RTL Source Code	✓	✓	✓	✓	✓	✓
Available as targeted netlist	✓	✓	✓	✓	✓	✓

Notes:
1) Silicon Resources for one sample/cycle configuration, and 8 bits per color sample.