===== End-to-end metrics for each (quantizer, coder) =====

quantizerID	coderID	M	SNRdB_total	totalBits	bitsPerSym	latencySym	latencySec	EbN0dB_chan	ber_uncoded_chan	ber_coded_chan
{'Q2' }	{'CFIX'}	2	4.3795	50000	1	1	1	6	0.00248	4e-05
{'Q2' }	{'CHUF'}	2	4.3795	50000	1	50000	50000	6	0.00246	2e-05
{'QU8' }	{'CFIX'}	8	10.44	1.5e+05	3	1	1	6	0.00246	2e-05
{'QU8' }	{'CHUF'}	8	10.44	1.0746e+05	2.1493	50000	50000	6	0.0021961	3.7221e-05
{'QU16'}	{'CFIX'}	16	16.491	2e+05	4	1	1	6	0.00234	1.5e-05
{'QU16'}	{'CHUF'}	16	16.491	1.5274e+05	3.0549	50000	50000	6	0.0023307	1.9641e-05
{'QL8' }	{'CFIX'}	8	14.521	1.5e+05	3	1	1	6	0.00234	2e-05
{'QL8' }	{'CHUF'}	8	14.521	1.4432e+05	2.8863	50000	50000	6	0.0026955	1.3858e-05
{'QL16'}	{'CFIX'}	16	20.063	2e+05	4	1	1	6	0.00244	1.5e-05
{'QL16'}	{'CHUF'}	16	20.063	1.8733e+05	3.7467	50000	50000	6	0.0023274	2.1352e-05

===== Average bits/symbol per quantizer & coder =====

	CFIX	CHUF
Q2	1	1
QU8	3	2.1493
QU16	4	3.0549
QL8	3	2.8863
QL16	4	3.7467

===== Same quantizer, different coders (identical SNR) =====

Pair	SNRdB	bitsPerSym_1	bitsPerSym_2
{'Q=Q2: CFIX vs CHUF' }	4.3795	1	1
{'Q=QU8: CFIX vs CHUF' }	10.44	3	2.1493
{'Q=QU16: CFIX vs CHUF'}	16.491	4	3.0549
{'Q=QL8: CFIX vs CHUF' }	14.521	3	2.8863
{'Q=QL16: CFIX vs CHUF'}	20.063	4	3.7467

===== Same coder, different quantizers (≈ equal SNR) =====

No SNR-matched quantizer pairs with tol = 0.10 dB.

===== Channel BER summary (uncoded vs coded) =====

quantizerID	coderID	EbN0dB_chan	ber_uncoded_chan	ber_coded_chan
{'Q2' }	{'CFIX'}	6	0.00248	4e-05
{'Q2' }	{'CHUF'}	6	0.00246	2e-05
{'QU8' }	{'CFIX'}	6	0.00246	2e-05
{'QU8' }	{'CHUF'}	6	0.0021961	3.7221e-05
{'QU16'}	{'CFIX'}	6	0.00234	1.5e-05
{'QU16'}	{'CHUF'}	6	0.0023307	1.9641e-05
{'QL8' }	{'CFIX'}	6	0.00234	2e-05
{'QL8' }	{'CHUF'}	6	0.0026955	1.3858e-05
{'QL16'}	{'CFIX'}	6	0.00244	1.5e-05
{'QL16'}	{'CHUF'}	6	0.0023274	2.1352e-05

===== Channel Coding Gain (BER_uncoded / BER_coded) =====

Quantizer	Coder	EbN0dB	BER_uncoded	BER_coded	Gain

{'Q2' }	{'CFIX'}	6	0.00248	4e-05	62
{'Q2' }	{'CHUF'}	6	0.00246	2e-05	123
{'QU8' }	{'CFIX'}	6	0.00246	2e-05	123
{'QU8' }	{'CHUF'}	6	0.0021961	3.7221e-05	59
{'QU16'}	{'CFIX'}	6	0.00234	1.5e-05	156
{'QU16'}	{'CHUF'}	6	0.0023307	1.9641e-05	118.67
{'QL8' }	{'CFIX'}	6	0.00234	2e-05	117
{'QL8' }	{'CHUF'}	6	0.0026955	1.3858e-05	194.5
{'QL16'}	{'CFIX'}	6	0.00244	1.5e-05	162.67
{'QL16'}	{'CHUF'}	6	0.0023274	2.1352e-05	109

Analysis completed.
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