

Modulation scheme	Demodulator output SNR, (S/N)	Observations
Baseband	$(S/N)_b = P_R/N_0W$	Baseline
DSB-SC AM	$(S/N)_{O,DSB} = (S/N)_b$	Up/down-conversion has no effect on noise performance
SSB-SC AM	$(S/N)_{O,SSB} = (S/N)_b$	Single sideband has no effect on noise performance
DSB-LC AM (Conventional AM)	$(S/N)_{O,AM} = \eta (S/N)_b$ . with $\eta = a^2 P_{mn}/(a^2 P_{mn} + 1)$	Inserting the carrier results in a loss of $-10 \log[a^2 P_m/(a^2 P_{mn} + 1)]$ dB
FM	$(S/N)_{O,FM} = \frac{3 \beta_f^2 P_m}{(\max\{ m(t) \})^2} (S/N)_b$	Improvement in noise performance proportional to $\beta_f^2$ . That is, <i>the higher the bandwidth the higher the demodulator output SNR</i>