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ECE300 VII

1. 8-PSK, 6 Mbps bit rate, 16 samples per symbol, \sqrt{RC} pulses with 20% rolloff.

(a) Symbol rate

$$R_s = \frac{1}{T_s}$$

8-PSK - 8 possible symbols

each symbol carries 3 bits

2 Msps

2×10^6 symbols/sec

(b) Sampling rate

16 samples per symbol

2 Msps

32×10^6 samples per sec

3.2×10^7

(c) Bandwidth of pulses

$$W = (1+\beta) \frac{R_s}{2}$$

20% rolloff

$$\beta = 0.2$$

$$W = 1.2 \times 10^6$$

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