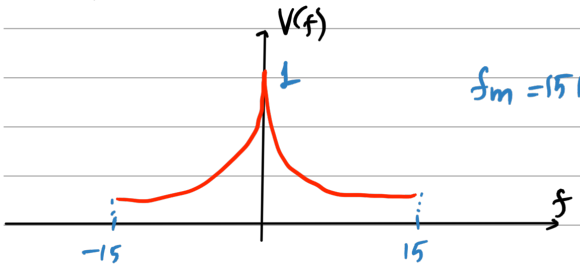
→ Ποιο το $(SNR)_q$, αν έχω ημίτονο με $A = 8$ Volts και $\Delta = 62.75$mV ?

$P = \frac{A^2}{2}$, $SNR_q = \frac{A^2/2}{\Delta^2/12} = \frac{6A^2}{\Delta^2}$, $\Delta = \frac{2 m_{max}}{L}$, $L = \frac{2 \cdot 8}{62.75m} =$

$\sigma_q^2 = \frac{A^2}{12}$

→ SNR_q ? $V(f) = e^{-3|f|}$ με $|f| \le 15 Hz$, $\Delta = 156.25$mV , $V_{max} = 10$ Volt



$L = \frac{2 \cdot V_{max}}{\Delta} = 128$, $R = \log_2 128 = 7$, $P = \int_R |V(f)|^2 = \int_{-15}^{15} e^{-6|f|} df = 2 \int_0^{15} e^{-6f} df = \frac{1}{3}$

$= \frac{1}{3}$

$SNR = \frac{\frac{1}{3}}{\frac{\Delta^2}{12}} = 163.89 \xrightarrow{10\log} 22.144 dB$

Δ : δείγμα κβαντίσμού