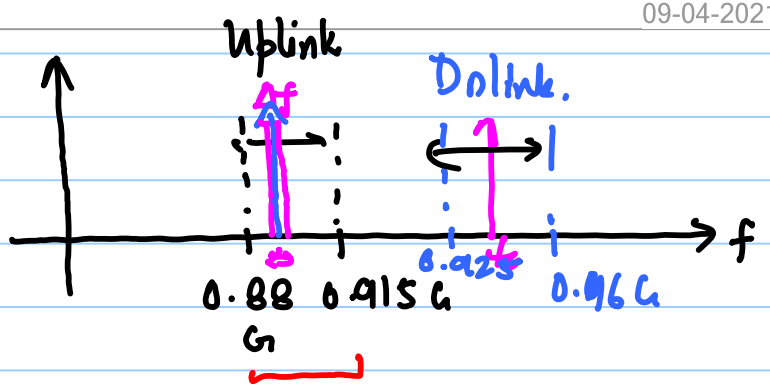
Lecture #31

Note Title 09-04-2021

Analog Filters

Applications

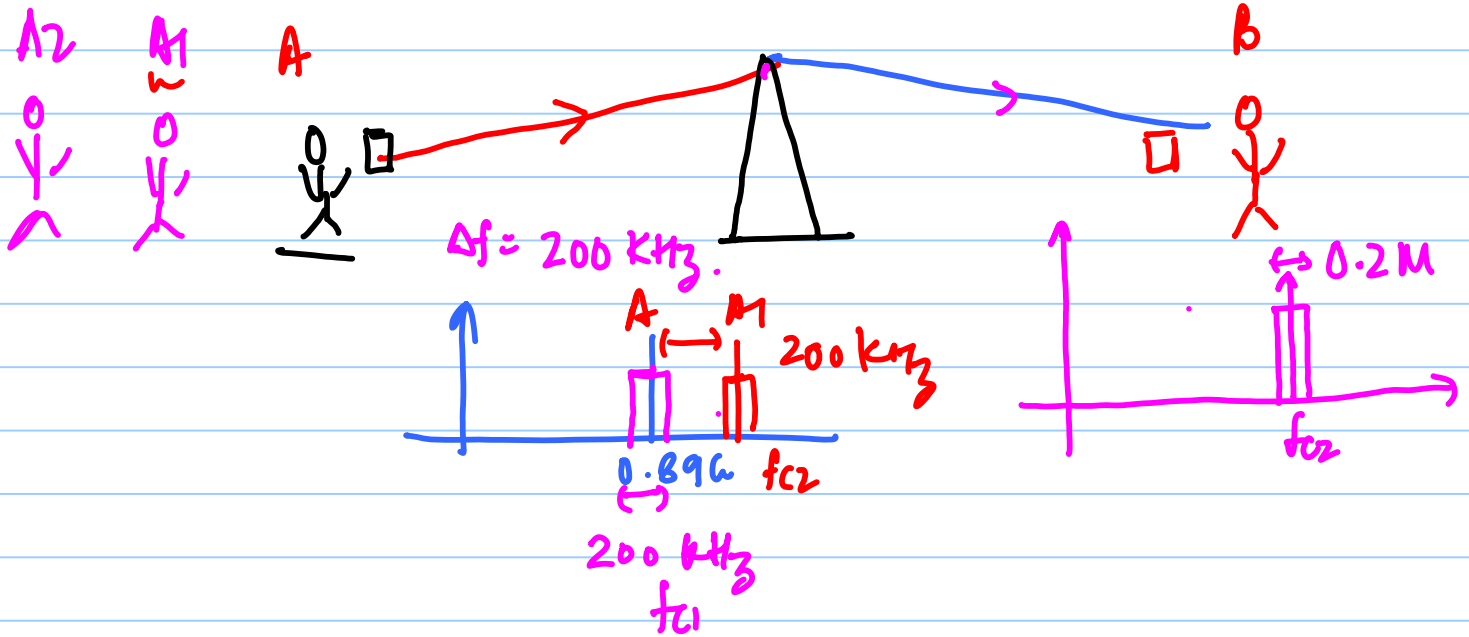


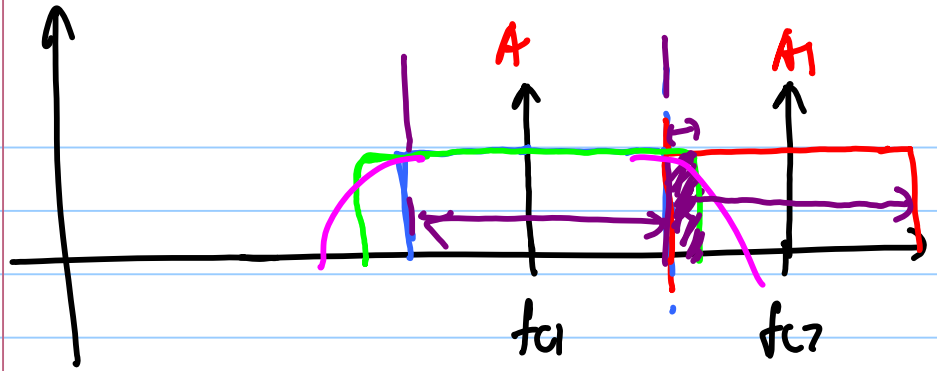
1. Communication:

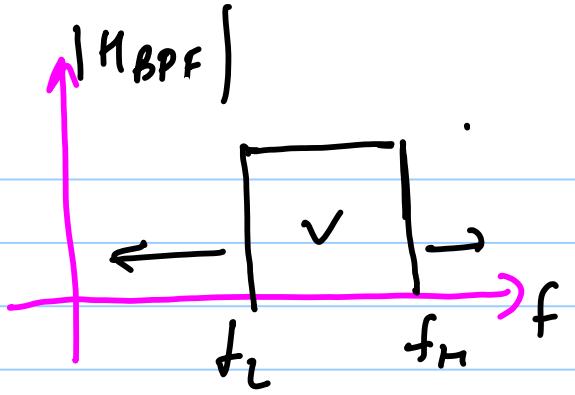
$\Delta f = 35\ M$

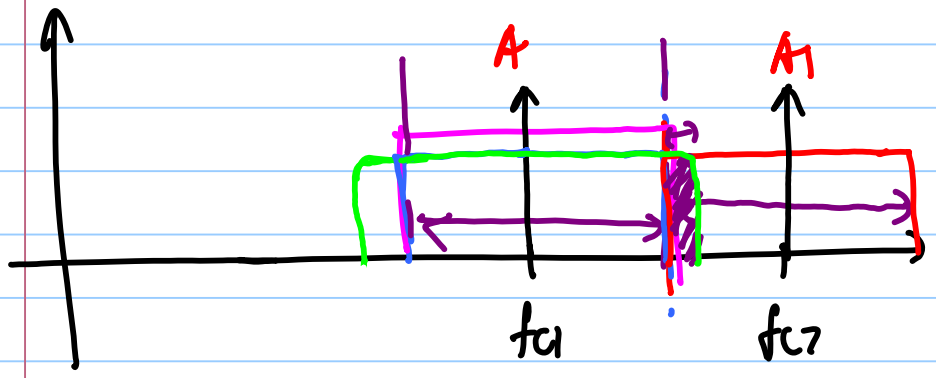
E-GSM 900 : Uplink → 880 M – 915 M (0 – 124 channels)

Dnlink → 925 M – 960 M

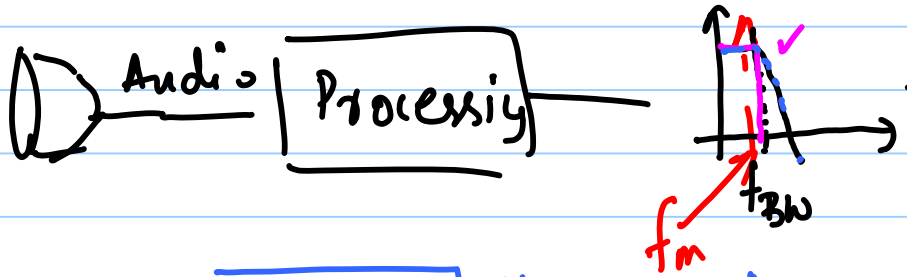


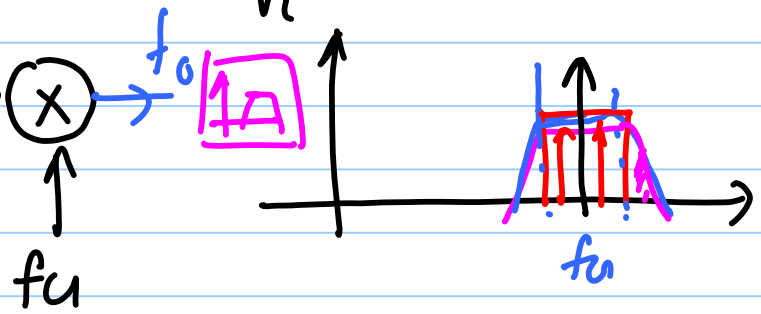


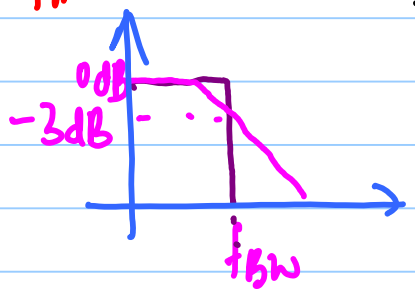




$$\frac{V_o}{V_i} = H_{BPF}$$







$$V_o = \sin(2\pi f_c t) \cdot \cos(2\pi f_m t)$$

$$= \frac{1}{2}\left[\sin(2\pi f_c + f_m t) + \sin(2\pi f_c - f_m t)\right]$$

2. Sensors
   - biomedical sensor
   - ultrasonic sensors
   - photo diode

3. Analog to digital converters