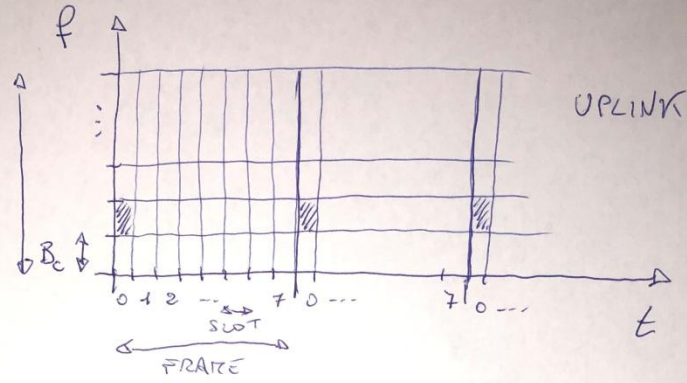


GSM

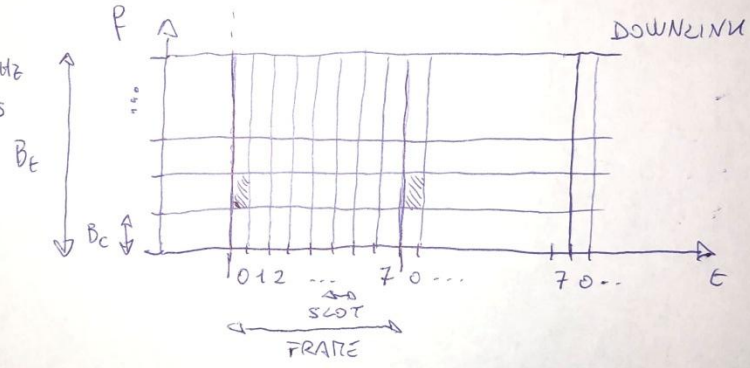
$B_c = 200 \text{ KHz}$

$T_f \approx 4.6 \mu\text{s}$

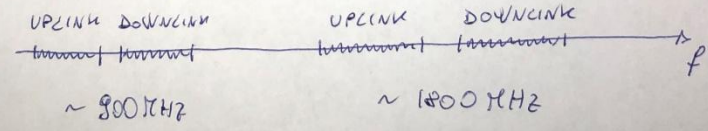


$B_c = 200 \text{ KHz}$

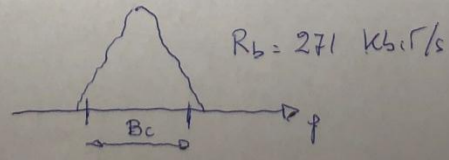
$T_f \approx 4.6 \mu\text{s}$



Spectrum allocated to one Telco



Spectrum of GSM

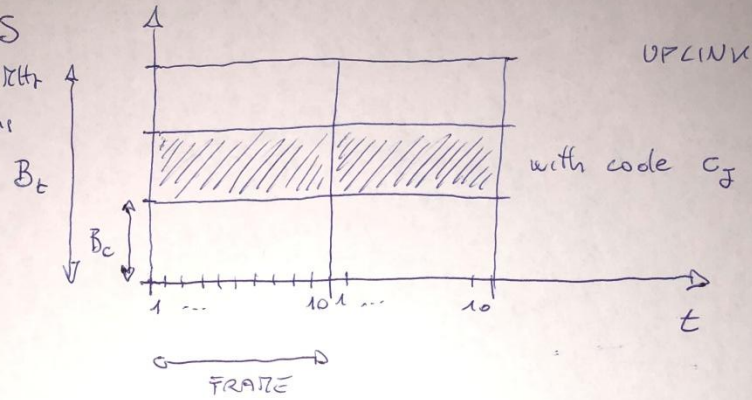


NRN - YNA

UMTS

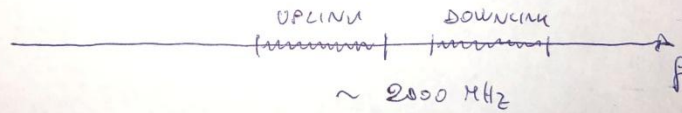
$B_c = 5 \text{ MHz}$

$T_f = 10 \text{ ms}$

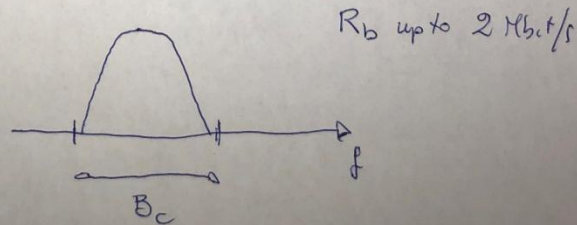


similary for DOWNLINK

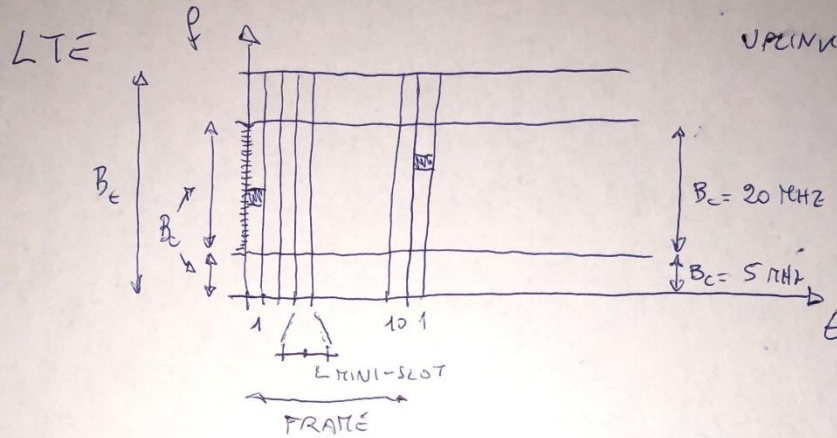
Spectrum allocated to one Telco



Spectrum of DS-SSM

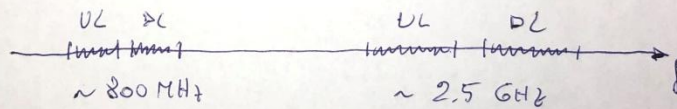


MCRN - MNA



Similarly for DOWNLINK

Spectrum allocated to on Teles



Spectrum of OFDM

