

Necessary Bandwidth Description

This experimental system requires a bandwidth of 5MHz, which is the required bandwidth per channel for UMTS systems (upon which this system is based).

The chiprate used by the experimental system is 3.84Mcps. A root-raised cosine filter with rolloff factor $\alpha = 0.22$ is used for pulse shaping. This results in a required bandwidth of 4.6848MHz. A guardband of 157.6kHz is used on either side of the spectrum in order to utilize a 5MHz channel.