

Calculation for Allocated(Necessary) Bandwidth:

For QPSK 3/4 rate FEC turbo coding the Symbol Rate(SR) for a 256Kbps Data Rate(DR) is calculated using

$$SR = DR / (m \times CR_v \times CR_r)$$

where:

Data Rate(bit/sec)	256000
CR _v = Viterbi forward error correction (FEC) Code Rate of 3/4	0.75
CR _r = Reed Solomon forward error correction (FEC) code rate	0.9995
m = modulation factor (transmission rate bits per symbol) QPSK = 2	2
SR = Symbol Rate (symbol/sec)	170752
Occupied Bandwidth 0.793*SR	135406.4
Allocated Bandwidth 0.9*SR (bit/sec)	153676.8