

Universal DS Channelization

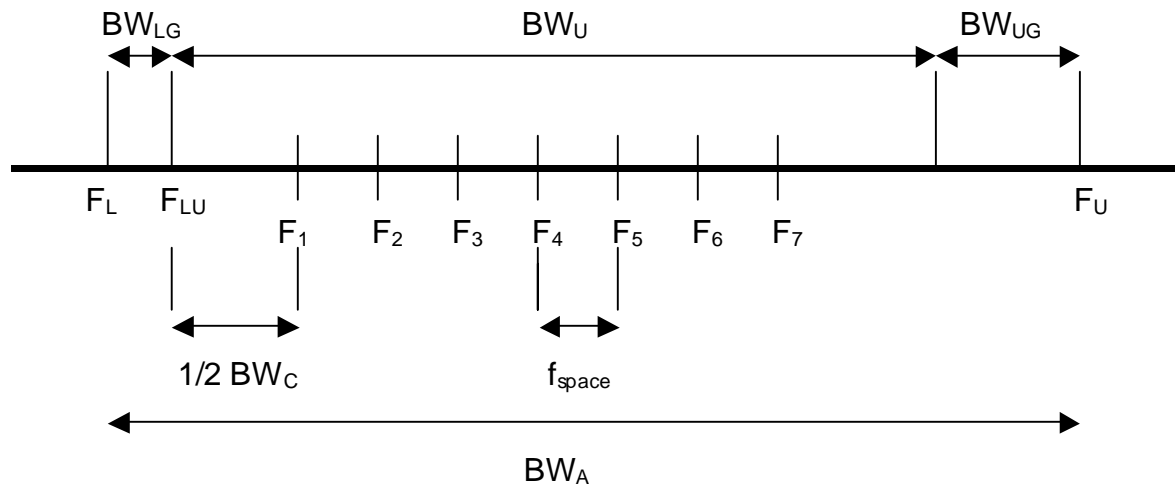
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Simple Algorithm to Assign Channels

- Six parameters are all that are needed
 - Upper and lower band edges (F_U, F_L)
 - Upper and lower guard band (BW_{UG}, BW_{LG})
 - Channel bandwidth (BW_C)
 - Channel spacing (f_{space})
- The rest can be determined through simple equations

Graphical Representation



The Equations

$$BW_A = F_U - F_L$$

$$BW_U = BW_A - (BW_{UG} + BW_{LG})$$

$$n_{\max} = \left\lfloor \frac{(BW_U - BW_C)}{f_{space}} \right\rfloor$$

$$F_{LU} = F_L + BW_{LG}$$

$$f_n = F_{LU} + \frac{BW_C}{2} + (n-1) \times f_{space}$$

Example (U.S. Channels)

$$F_U = 2483.5$$

$$F_L = 2400.0$$

$$1 \leq BW_{UG} \leq 5.5$$

$$BW_{LG} = 1$$

$$BW_C = 22$$

$$f_{space} = 5$$