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

\[ BW_A = F_U - F_L \]
\[ BW_U = BW_A - (BW_{UG} + BW_{LG}) \]
\[ n_{\text{max}} = \left\lfloor \frac{(BW_U - BW_C)}{f_{\text{space}}} \right\rfloor \]
\[ F_{LU} = F_L + BW_{LG} \]
\[ f_n = F_{LU} + \frac{BW_C}{2} + (n - 1) \times f_{\text{space}} \]
Example (U.S. Channels)

\[ F_U = 2483.5 \]
\[ F_L = 2400.0 \]
\[ 1 \leq BW_{UG} \leq 5.5 \]
\[ BW_{LG} = 1 \]
\[ BW_C = 22 \]
\[ f_{space} = 5 \]