

Purpose of this Project:

to develop an experimental low power (1 watt into the dish)
FM-CW weather radar to operate in the already prescribed band.

Bandwidth requirements are given by the equation:

$$f = ((\Delta_{\text{Voltage}}) / (.5T_s)) * KV_{co} * (2 * R / c)$$

T_s = sweep period = 10 Hertz

KV_{co} = 4.08 Mhz/volt

Maximum Range = 22 Statute miles

Δ_{voltage} = 2.0 peak to peak

f = desired audio passband = 0 to 20 KHz

the aforementioned parameters yield a required bandwidth
of about 8 Mhz. We have increased this by 25% to allow
for a guard bandwidth.