

QUESTION 7: PURPOSE OF EXPERIMENT

CAES Advanced Program Development (APD) is developing a missile FMCW radar proximity fuse under subcontract to Lockheed Martin who in turn is being funded by the Army. The radar operates around 10 GHz (exact carrier frequency TBD) with a chirp maximum bandwidth of 20 MHz. Current EIRP design is to transmit 25 dBm followed by up to 18 dBi transmit antenna gain. Colorado Engineering CAES needs to conduct target and clutter experiments outdoors in the vicinity of our building prior to delivery to Lockheed. The radius is local and will be well below 150 km.

Nominal frequency range is 10000 MHz to 10010 10020 MHz. The antennas are space constrained which may require scaling them down in size. If we increase frequency, the instantaneous bandwidth would still be 10 MHz nominally.