

## Justification For Extension Request

Much has been learned to date, including extraordinary sensitivity of millimeter-band radar to environmental effects. However, a final six month extension is requested to complete the series of tests, due to the loss of test time caused by 3 environmental hindrances:

1. Nearby unrelated daytime construction has caused vibration, motion of radar antenna (a significant wave fraction at 3 mm wavelength), causing signal distortion. This reduces available test time to after hours and weekends.
2. Doppler processing is utilized in image formation. Wind causes tree leaf motion, adding Doppler noise, smearing images. Severe weather has hampered collection of good imagery, reducing available test time to clear weather.

3. Diurnal temperature variations due to sunshine distort the physical equipment (antennas and feeds), restricting test time to nights.