

### **Directional Antenna Information for WiN3100 (Base Unit)**

The WiN3100 (consisting of either WiN3101 or WiN3102) has an antenna beam that is 90 degrees in the horizontal plane and 8 degrees in the vertical plane at the half-power point. EchoStar anticipates testing different horizontal orientations for the WiN3100, so it requests authority to point the antenna in any direction in the horizontal plane. EchoStar plans on using the WiN3100 with a flat vertical orientation i.e. it will not be angled either up or down.

### **Directional Antenna Information for WiN2000 (Subscriber Unit)**

The WiN2000 (consisting of either WiN2001 or WiN2002) has an antenna beam that is 15 degrees in the horizontal plane and 18 degrees in the vertical plane at the half-power point. EchoStar anticipates testing different horizontal orientations for the WiN2000, so it requests authority to point the antenna in any direction in the horizontal plane. EchoStar plans on using the WiN2000 with a flat vertical orientation i.e. it will not be angled either up or down.