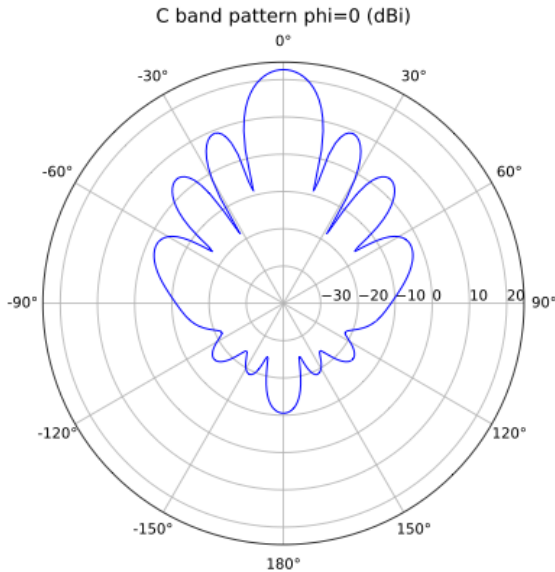
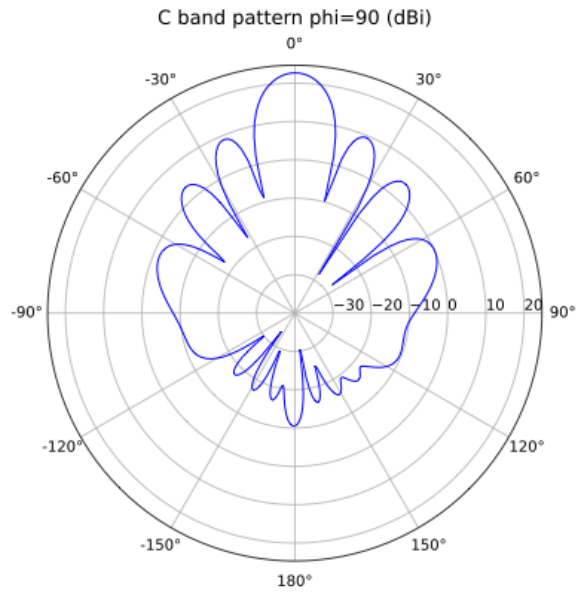


Exhibit A. Antenna Beam Information and Patterns

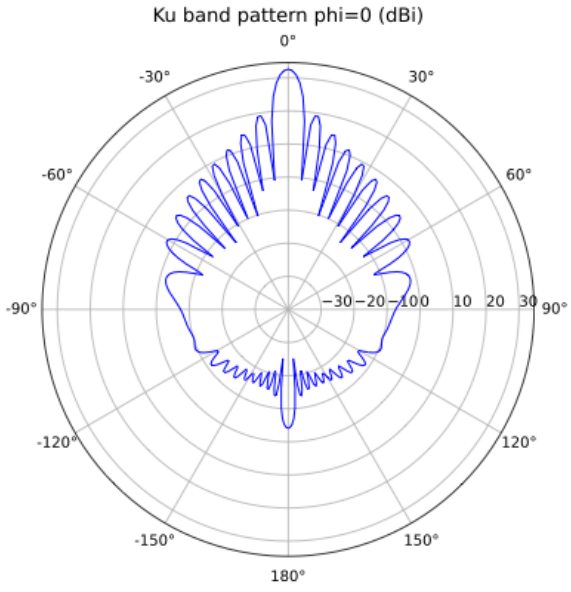
C band radar antenna

Manufacturer	Orban Microwave
Quantity	1
Purpose	Radar
Antenna frequency range	4970 - 5950 MHz
Input signal frequency range	5380 - 5440 MHz
Peak gain	22 dBi
Half power beamwidth	13°
Pointing	Perpendicular to the antenna plane
Polarization	Linear
Graphic (Phi=0) <i>Standalone antenna performance</i>	 A polar plot showing the antenna radiation pattern for the C band at phi=0. The plot is circular with concentric grid lines representing gain in dBi, ranging from -30 to 20. Radial lines indicate angles from 0° to 180° in 30° increments. The radiation pattern is plotted in blue, showing a main lobe centered at 0° with a peak gain of approximately 22 dBi. There are several side lobes and a complex pattern of nulls and minor lobes extending across the rest of the plot.

Graphic (Phi=90)
Standalone antenna performance



Ku band radar antenna

Manufacturer	Orban Microwave
Quantity	1
Purpose	Radar
Antenna frequency range	11.8 - 15.2 GHz
Input signal frequency range	13.34 - 13.66 GHz
Peak gain	31 dBi
Half power beamwidth	4° by 6°
Pointing	Perpendicular to the antenna plane
Polarization	Linear
Graphic (Phi=0) <i>Standalone antenna performance</i>	 A polar plot titled "Ku band pattern phi=0 (dBi)" showing the antenna's radiation pattern. The plot is circular with concentric grid lines representing gain in dBi, labeled at -30, -20, -10, 0, 10, 20, and 30. Radial lines indicate angles from 0° to 180° in 30° increments. The pattern shows a main lobe centered at 0° with a peak gain of approximately 31 dBi. There are several side lobes, with the most prominent ones at approximately ±45° and ±135°, reaching gains of about -10 dBi. The pattern is symmetric about the 0°/180° axis.

Graphic (Phi=90)
Standalone antenna performance

