



ANTENNA MEASUREMENT SERVICES

Northrop Grumman is a leader in the development, production and measurement of RF products. Its experienced antenna measurement team works with complex terrestrial and space systems operating in the UHF, L, S, C, X, Ku, K, Ka, and V bands.

The company's antenna measurement facilities, located in Redondo Beach, CA, can measure antennas operating at frequencies from 100 MHz to 65 GHz and accommodate antenna systems ranging from a small single reflector to an entire spacecraft with its antenna array fully deployed.

The antenna ranges perform measurements for wideband antennas, reflector antennas, wire type antennas, feeds, multi-beam antennas and phased array antennas. The combination of expertise, experience and physical capability enables Northrop Grumman to provide tailored solutions that meet customers' technical, cost and schedule requirements.

ANTENNA MEASUREMENT CAPABILITIES

- RF (UHF, L, S, C, X, Ku, K, Ka, and V bands)
- Thermal
- Thermal vacuum
- Mechanical
- Life

ANTENNA DESIGN CAPABILITIES

Antenna electrical and mechanical design expertise:

- Reflector antennas - multi-beam, multi-band, array fed, deployable
- Wideband - multi-octave
- High reliability, space qualified
- Feeds - multi-band, tracking

DESIGN TOOLS

- RF Simulation: Ansys Electronics Desktop, CST Microwave Studio, Ticra GRASP, FEKO, MATLAB
- Mechanical Design: CREO, CATIA
- Structural Analysis: FEMAP, ABAQUS

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ANTENNA MEASUREMENT FACILITIES



Spherical Near-Field Range



Spherical Near-Field Range



Large Horizontal Near-Field Range

Type of Facility	Characteristics	RF Capability
Large Anechoic Chamber	45' length; 6' quiet zone	100MHz - 18 GHz
Medium Anechoic Chamber	15' length; 1' quiet zone	2 - 26.5 GHz
Compact Range	8' quiet zone	6 - 65 GHz
High Frequency Chamber	15' chamber	12 - 65 GHz
Spherical NF	4' sphere	500 MHz - 50 GHz
Planar NF (Horizontal)	15' x 15'	2 - 65 GHz
Planar NF (Horizontal)	11' x 22'	2 - 65 GHz
Planar NF (Horizontal)	8' x 8'	6 - 65 GHz
Planar NF (Horizontal, Dual Bridge)	Up to 50' x 50'	500 MHz - 65 GHz



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