The AS-49090 has flown on the Titan/Centaur rocket as the telemetry antenna. It consists of a single layer microstrip patch antenna with parasitic tabs on fused silica. It is fed by a perpendicular probe. This antenna is inherently-circularly polarized. It has the advantage of low height, high efficiency, and full hemispherical coverage. The materials used in the construction of the antenna were chosen to minimize the effects of the extreme environments. Its baseplate is curved to mount to a 100-inch radius vehicle. The baseplate can be modified to suit the mounting requirements of a particular vehicle. An aerospace test coupler, P/N 750606, is available for this antenna. This enables open loop testing while the vehicle is on the launch pad.

**FEATURES:**
- Space Qualified
- Temperature Extremes
- High Vibration Levels
- Ideal Telemetry Antenna
- Circular Polarization

**SPECIFICATIONS FOR: AS-49090 SINGLE LAYER MICROSTRIP PATCH ANTENNA**

### ELECTRICAL
- **Frequency Range:** 2.26 to 2.28 GHz
- **VSWR:** 1.8:1, max
- **Gain**
  - Over 70% of Hemisphere: -5 dBi, min
  - Peak: 7 dBi, nom
- **Polarization:** Right Hand Circular
- **3 dB Beamwidth:** 70°, nom
- **Power Handling:** 50 watts CW

### MECHANICAL
- **Connector:** TNC Female
- **Weight:** 1 lb, (454 gm)

### ENVIRONMENTAL
- **Temperature:** -30° F (-184° C), +300° F (+149° C)
- **Temperature Shock:** +500° F (+288° C)
- **Altitude:** Operating 10-5 torr
- **Humidity:** 95% at 179.6° F (+82° C)
- **Pyrotechnic Shock:** Triaxial
  - Freq: 100-2000-3000
- **Vibration**
  - **Radial Axis**
    - Freq. (Hz)
      - 20-80: 12.0, g²
      - 80-2000: 12.0
    - G_rms: +12
    - Duration/Axis: 152.4, 3 min/axis
  - **Transverse Axes**
    - Freq. (Hz)
      - 20-50: 0.48, g²
      - 50-100: 0.48
      - 100-250: 0.48
      - 250-2000: 3.0
    - G_rms: +6
    - Duration/Axis: 74.3, 3 min/axis
AS-49090
Single Layer Microstrip Patch Antenna

INCHES [CENTIMETERS]

Consult with factory for mounting specifications.