

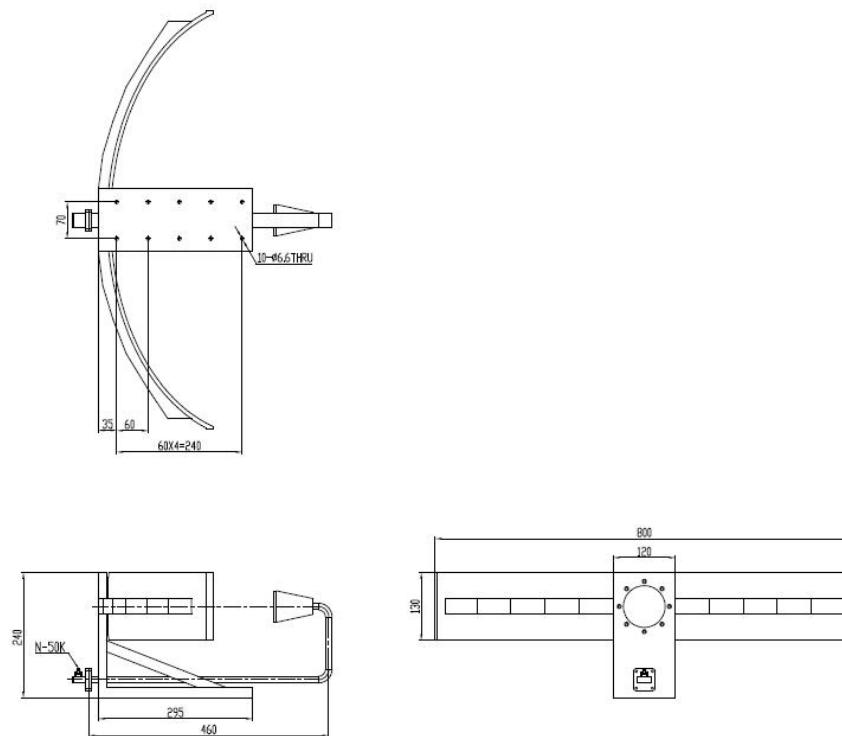
Preliminary Antenna Design Specification

Cut Parabolic Reflector Antenna

Based on the finalized technical requirements, the antenna is designed using a cut parabolic reflector structure to generate a fan-shaped beam pattern.

Electrical and Mechanical Specifications

Item	Specification
Product Name	Cut Parabolic Reflector Antenna
Model	ZAT-FBA-0910-V-WR90-A or ZAT-FBA-9G10G-V-NF-A
Frequency Range	9–10 GHz
VSWR	≤ 1.5
Gain	≥ 26 dB
Azimuth Beamwidth	≤ 3°
Elevation Beamwidth	≥ 10°
Azimuth Sidelobe Level	≤ -20 dB
Elevation Sidelobe Level	≤ -15 dB
RF Interface	FBP100 or N-50K
Reflector Type	Cut / fan-shaped parabolic reflector
Reflector Aperture	800 × 100 mm
Overall Dimensions	W × H × L = 800 × 240 × 500 mm
Dimension Tolerance	±1 mm
Material	Aluminum
Surface Treatment	Chromate conversion coating
Paint Finish	Anti-corrosion grey paint
Waveguide Type	WR90
Waveguide Size	22.86 × 10.16 mm



The antenna uses a cut parabolic reflector design. The reflector surface is approximately 800×100 mm, and the front feed source illuminates the reflector to achieve fan-shaped beam radiation.

The RF output interface is designed as a detachable structure. A waveguide-to-coaxial transition can be installed to provide an N-type coaxial interface.

If a direct waveguide interface is required in a later system configuration, the waveguide-to-coaxial transition can be removed, allowing the antenna to be connected directly through the waveguide interface.

