

IRIDIUM antenna specification.

Antenna requirements:

The antenna requirements have been developed to allow the maximum flexibility in the selection of the antenna equipment configuration so as to provide the performance required for reliable link operation.

The requirements are such that, as a minimum, they may be met by the use of a suitable unstabilized omnidirectional antenna.

Gain:

The antenna gain, relative to a right hand circularly polarized isotropic antenna over the frequency rang 1616.0 to 1626.5 MHz, shall be such that the receive G/T and transmit EIRP requirements are satisfied.

Polarization:

Right hand circular polarization shall be employed for both receive and transmit, in accordance with the definition in CCIR Recommendation 573 (1.6.1).

Coverage region:

The coverage region shall at least be +5° to +90° in elevation and 0 - 360° in azimuth.

Axial ratio:

The Axial ratio over the coverage region shall not exceed 6 dB (2:1).

Antenna Gain Ga:

3.0dBic in the Receive band and in the Transmit band. The radiation is illustrated below and shall be regarded as minimum requirement.

Ga is the available power gain from the antenna measured at the N-connector of the antenna according to the IEEE definition of system G/T and EIRP

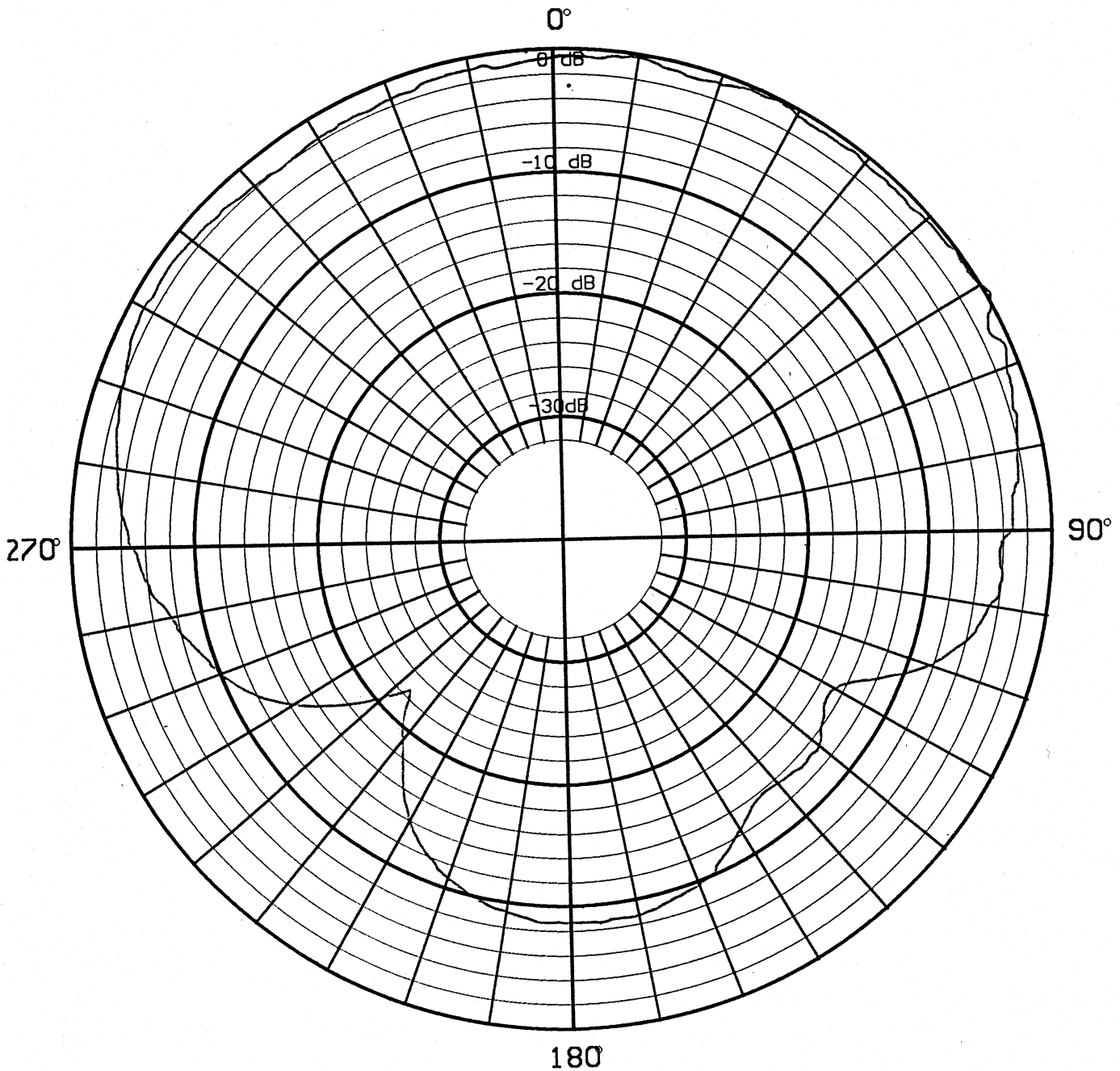
Noise Temperature:	The antenna noise temperature Ta shall be below 100°K including ground noise contribution. This is to be shown by calculation and assumes 20k contribution from ground.
Radiation Pattern:	$P = 3 - 1.5 \sin(\theta - 5)$ (dB) for $\theta = 90^\circ$ to 5° $P = -1 + 4 \cos[4.5(\theta - 5)]$ (dB) for $\theta = 5^\circ$ to -15°
RF-port	The RF port shall be N-connector at the bottom of the antenna within a proper protection from exposure directly to the environment.
VSWR	1.5:1 in the receive and transmit band.



MASTERCOM IRI 161-1
Iridium antenna ver. 1.0

. ved 0° = Reference = 0 dBic

RHCP pattern



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Power	Max. 8W, Continuous	
Mounting	Rod mounting shall be the preferred mounting possibility to the superstructure. painted white	
Dimensions/ Shape	As small and light as possible.	
Weight	Less than 2kgs	
Environment	Temperature -35° to +65°C	(Working)
Humidity	40°C 95% Humidity	(Working)
Vibration	4-35Hz +/-1.0g	(Working)

