

DATASHEET

GNSS ANTENNA FOR CUBESATS



Figure 1.
Prototype
(Mounted on a 1U Mockup)

High-Performance GNSS Antenna for In-Orbit Positioning of CubeSats

The antenna is constructed to receive all GNSS signals in L band and enables robust positioning and timing. It consists of a number of lightweight self-supporting sheet metal parts and a thin two-sided printed circuit board and hence can be manufactured at low cost. The dimensions are in accordance with the antenna specifications for all CubeSat sizes incl. 1U (max $100 \times 83 \times 10 \text{ mm}^3$). The mass is only 20 g. There are no such products on the market at the present time.

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Technical Data

Parameter	Value
Passband	1160–1300 MHz and 1525–1610 MHz
Polarization	RHCP
Passive zenith gain	L1, E1, G1 (1.52–1.61 GHz): >1.5 dBic
	L5, L2, E6 (1.16–1.30 GHz): >0 dBic
Passive horizon gain	>-7 dBic
Axial ratio	<3 dB @ zenith
Impedance	50 Ohms
VSWR output connector	<2:1
Connector	SMA female
Internal diameter (octagon-shaped)	82 mm
Height (w/o SMA)	9.5 mm
Mass	20 g

Table 1. Specifications

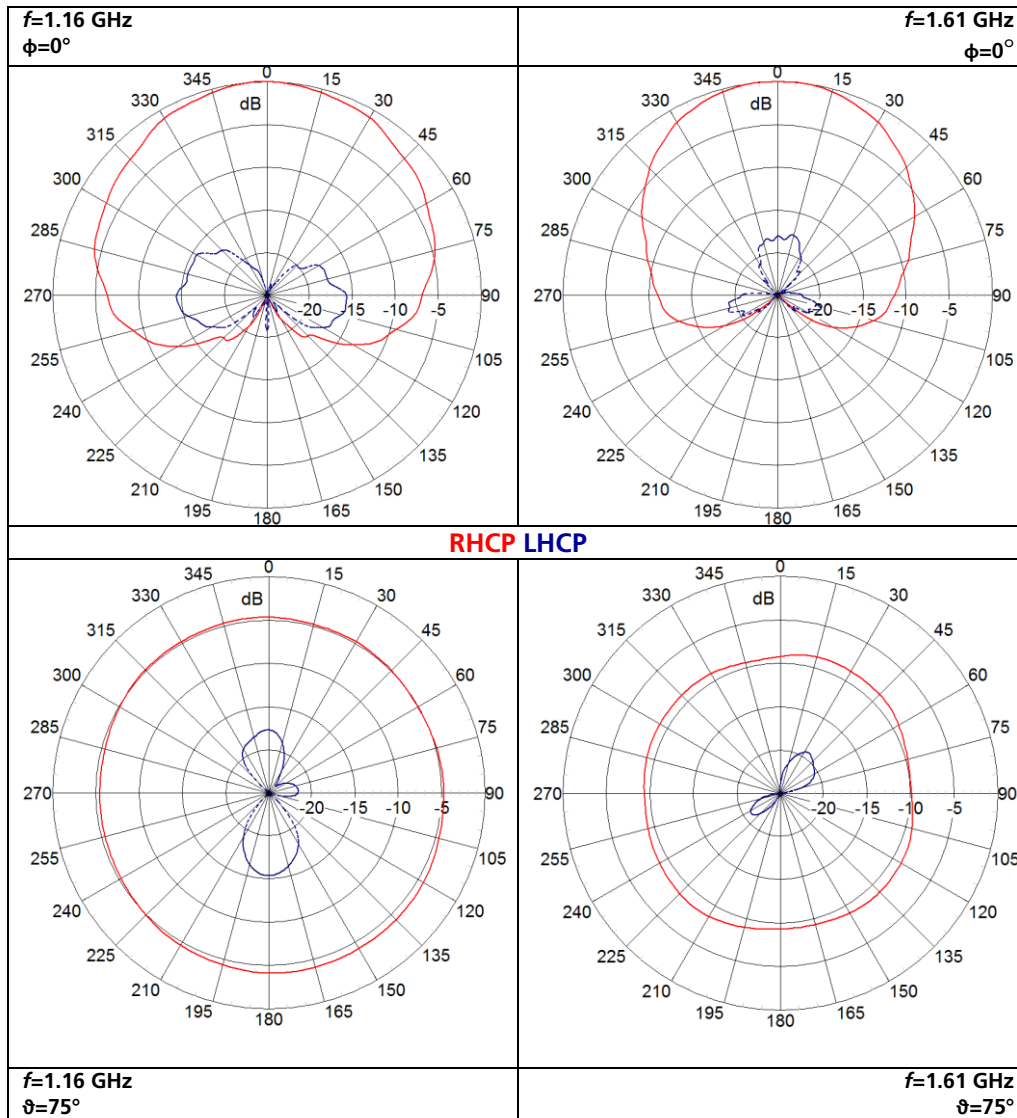


Figure 2. Measured Radiation Pattern (Normalized)