

K/Ka - Antenna Feeding Network

17.7 - 31 GHz, WR42/WR28, 1 dB Axial Ratio

DESCRIPTION

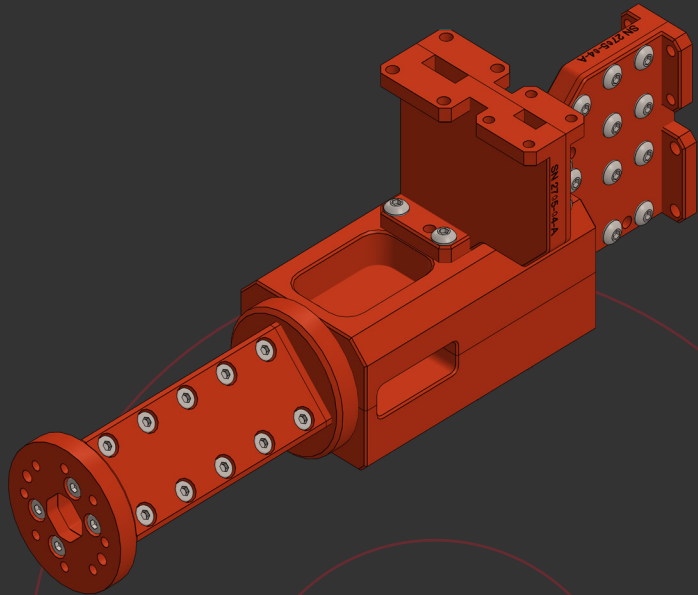
Anteral's DCPFN-SAT-KKa-01 is a four-port dual-circular polarization antenna feeding network which operates from 17.7 to 21.2 GHz and from 27.5 to 31 GHz. It is ideal for feeding an antenna for satellite applications in K/Ka band.

DCPFN-SAT-KKa-01 benefits from a high performance polarizer which achieves RHCP and LHCP with less than 1 dB typical axial ratio. It is fed by a high-performance orthomode transducer whose inputs are matched to a diplexer, which achieves more than 80-dB isolation between the transmission and reception channels.

Therefore, Anteral's DCPFN-SAT-KKa-01 benefits from two RHCP and LHCP transmission ports and two RHCP and LHCP reception ports, providing a full reconfigurable subsystem. DCPFN-SAT-KKa-01 is configured with an antenna port especially designed to connect an antenna with 5.6 mm radius and two WR42 ports for the RHCP and LHCP reception channels and two WR28 ports for the RHCP and LHCP transmission channels.

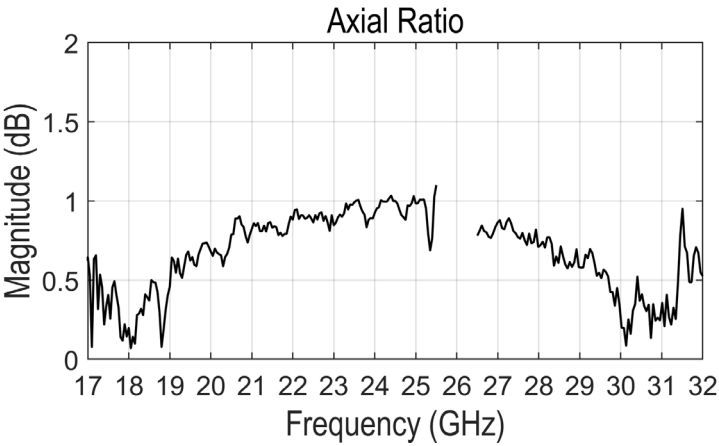
APPLICATIONS

DCPFN-SAT-KKa-01 is especially useful for antenna feeding for SATCOM terminals, new-space applications, 5G and CATR systems.



ELECTRICAL SPECIFICATIONS

Parameter	Pass band RX	Pass band TX
Frequency	17.7-21.2 GHz	27.5-31 GHz
Return Loss	> 18 dB	
Insertion Loss	< 0.45 dB	
Isolation TX/RX & RX/TX	> 80 dB	
Axial Ratio	< 1 dB	

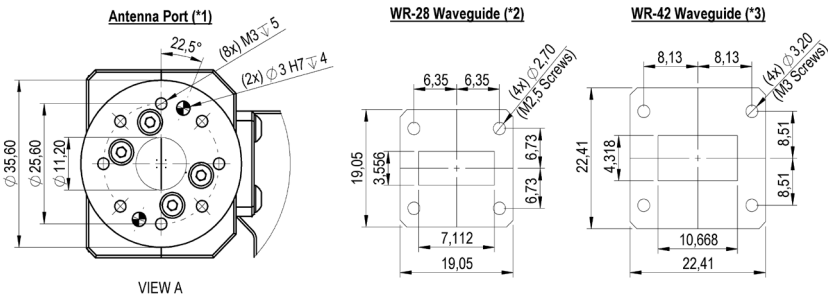


Additional notes

All values are typical.
The subsystem isolation will depend mainly on the return losses of the antenna.
The axial ratio data are measured from a sample. The rest of the values are simulated.
Actual values have been checked experimentaly but they could vary slightly.
The return loss and axial ratio of all items are checked before delivery to fulfill specifications.

MECHANICAL SPECIFICATIONS

Parameter	Description
Antenna Port (circular waveguide)	radius = 5.6 mm
Antenna Flange	See mechanical outline
WR42 Port	WR-42 (10.668 mm x 4.318 mm)
WR42 Flange	See mechanical outline
WR28 Port	WR-28 (7.112 mm x 3.556 mm)
WR28 Flange	See mechanical outline
Size	56 x 75 x 189 mm
Weight	400 g
Material	Aluminum



MECHANICAL OUTLINE

