

Beam Steering Antenna

Transmit 27.5-31 GHz & Receive 17.7-21.2 GHz

LEOLINK200

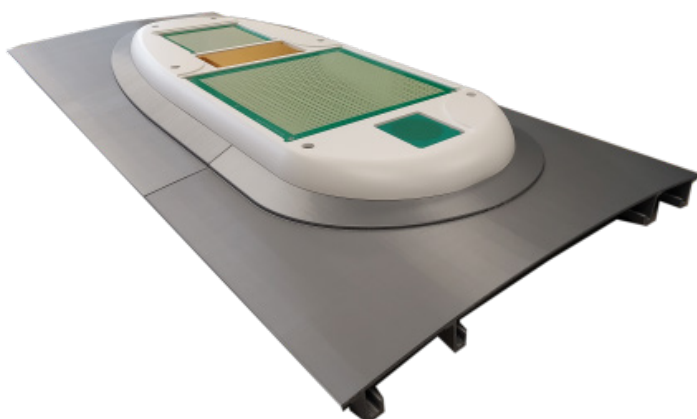
A Ka-band Beam Steering Antenna operating in bands within the transmit frequency of 27.5-31 GHz and receive frequency of 17.7-21.2 GHz.

Overview

A high-performance solution for modern communication systems. The antenna can be used for satellite, aviation and ground communications in remote areas as well as 5G systems. Offering a small profile and flat geometry, this technology enables wide operational bandwidth, good polarization and high EIRP. The control board is offered as an optional add-on, providing further customization to suit specific operational requirements.

The antenna is designed for multiple platforms including aircraft and other mobile platforms that need to interact with low earth orbit satellites. The antenna is of phased array design, hence having a flat profile. The number of elements is 1024 and complex tapering algorithms are used to enable very high sidelobe suppression so as not to interfere with other space craft.

The platform slots onto a standard commercial airframe but other formats can be accommodated.



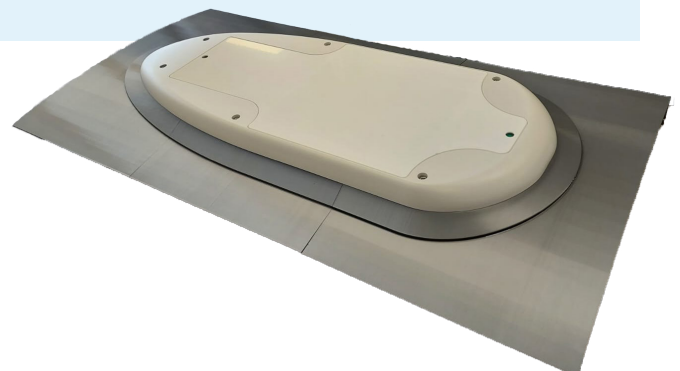
Features

- Covers Satellite Bands 17.7-21.2 and 27.5-31 GHz
- Hi Gain/EIRP Flat Ka band Satellite Antenna System
- Omnidirectional +60 degree scan angle
- Circular polarisation
- Complete with Up/Down- Conversion
- Directly interfaces with any SDR/Modem



Applications

- Mobile LEO Satellite platforms including aerospace
- Drones and UAVs
- Autonomous Vehicles
- Remote Internet Reception
- Satellite 5G Base Stations



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Transmit Section

Parameter	Value	Unit
Frequency Band	27.5-31	GHz
Bandwidth	3.5	GHz
EIRP	76 @ 0° scan 72 @ 60° scan	dBm
HPBW	3.4 @ 0° scan 5.9 @ 60° scan	Degree
Gain	34 @ 0° scan 30 @ 60° scan	dBi
Axial Ratio Over Bandwidth	<3	dB
Steering Angle	±60°	Degree
SLL	Meets ITU-R S.580-6	
Polarization	LHCP, RHCP	
RF Port VSWR	<2	
Rf Input Power (Maximum)	0	dBm
IF Frequency	950-2000 (adjustable)	MHz
Connector	Rugged SMA	

Receive Section

Parameter	Value	Unit
Frequency Band	17.7-21.2	GHz
Bandwidth	3.5	GHz
HPBW	3.6 @ 0° scan 6.2 @ 60° scan	Degree
Gain	34 @ 0° scan 30 @ 60° scan	dBi
Axial Ratio Over Bandwidth	<3	dB
Steering Angle	±60°	Degree
SLL	Meets ITU-R S.580-6	
Polarization	LHCP, RHCP	
G/T	<10	dB/K
RF Port VSWR	<2	
Noise Figure	2.5 typ	dB
Board Size	120 x 90.5	mm
Connector	2.92 (K)	mm

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Preliminary Datasheet

General

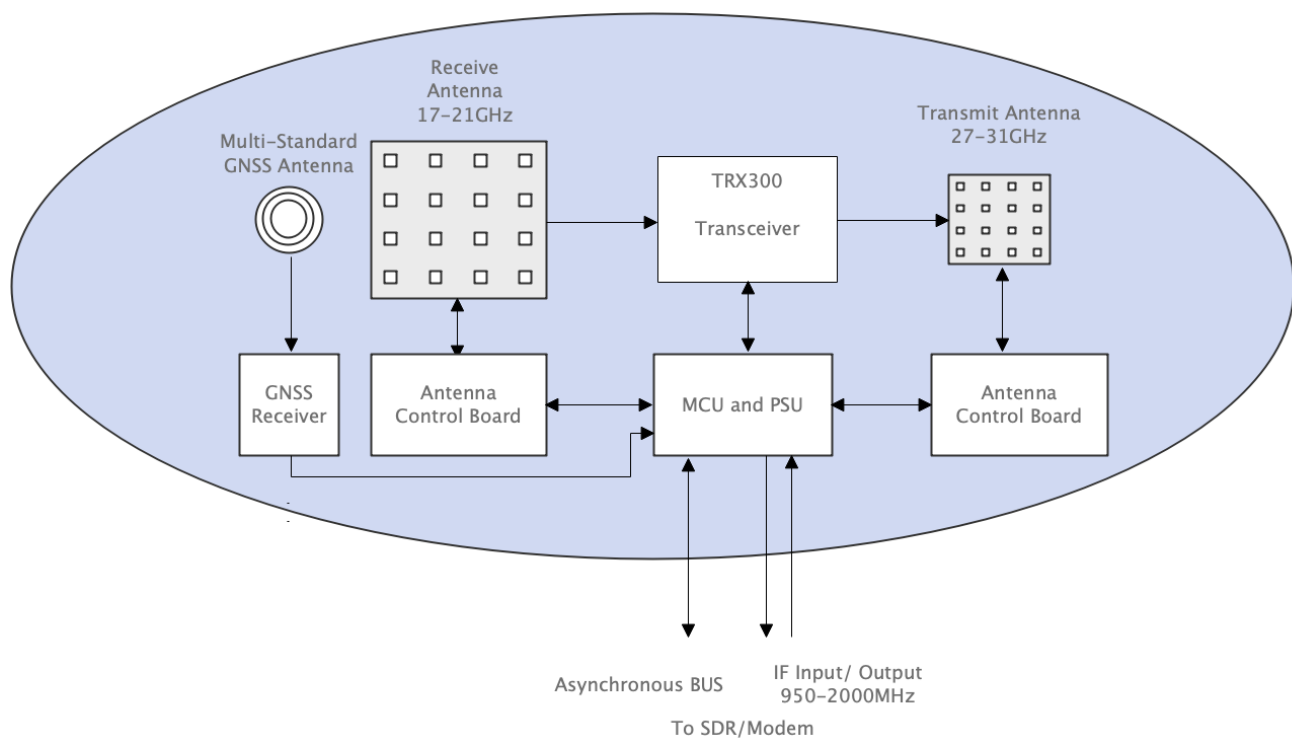
Parameter	Value	Unit
Dimensions L x W x H	810 x 320 x 50	mm
Weight	2.5	Kg
DC Power Consumption		Watts
DC Power Supply	12-50	VDC
GNSS Bands	GPS L1, L2, L5, Galileo, Glonass	
GNSS Interface	NMEA and UBX	Degree
Interface	Asynchronous	
Interface Connector	RG45	
Temperature Range	-60 to +120	DegC
Shock	MIL-STD 810	
Vibration	MIL-STD 167	
EMC	MIL-STD461G	
RTCA Specifications		TBA



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Block Diagram



Each antenna contains a control board, frequency adjustable transceiver with optional GNSS antenna and receiver. The unit is housed in a robust aerodynamic enclosure with very low loss radome.

Contact Information

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