

Beam Steering Antenna

Transmit 27.5-30 GHz & Receive 17.7-20.2 GHz

LEOLINK64

A Ka-band Beam Steering Antenna operating with a transmit frequency of 27.5-30 GHz and receive frequency of 17.7-20.2 GHz.

Overview

The LEOLINK64 is an active transmitting Beam Steering Antenna developed by ReliaSat.

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 in accordance with customer needs. The control board is offered as an optional add-on, providing further customization to suit specific operational requirements.



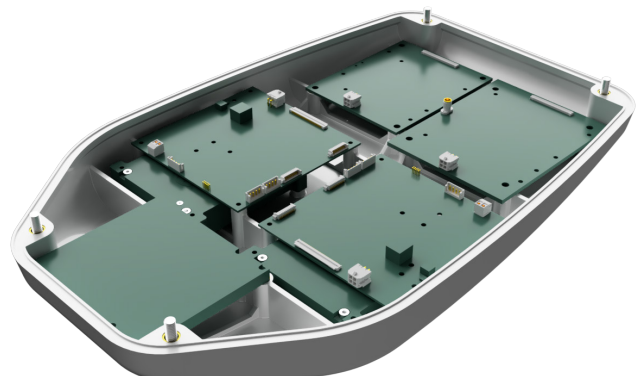
Features

- Transmit 27.5-30 GHz
- Receive 17.7-20.2 GHz
- -60 to 60 degree steering in both azimuth and elevation direction
- Circular polarization
- The control board is offered as an optional add-on



Applications

- Satellite communications
- Aviation communications
- Ground communications in remote areas
- 5G



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Transmit Specification

Parameter	Value	Unit
Frequency Band	27.5 - 30	GHz
Bandwidth	2.5	GHz
EIRP	48 @ 0° scan 44.6 @ 60° scan	dBm
HPBW	13.6 @ 0° scan 22.4 @ 60° scan	Degree
Gain	22 @ 0° scan 18.6 @ 60° scan	dBi
Axial Ratio Over Bandwidth	<3	dB
Steering Angle	±60°	Degree
Side Lobe Level	-13 to -20 (controllable)	dB
Polarization	LHCP, RHCP	
RF Port VSWR	<2	
RF Input Power (Maximum)	0	dBm
DC Power Consumption	9.6	Watts
Board Size	110.5 x 90.5	mm
Connector	2.92 (K)	mm

Receive Specification

Parameter	Value	Unit
Frequency Band	17.7 - 20.2	GHz
Bandwidth	2.5	GHz
HPBW	14.2 @ 0° scan 23.2 @ 60° scan	Degree
Gain	21.9 @ 0° scan 18.4 @ 60° scan	dBi
Axial Ratio Over Bandwidth	<3	dB
Steering Angle	±60°	Degree
Side Lobe Level	-13 to -20 (controllable)	dB
Polarization	LHCP, RHCP	
RF Port VSWR	<2	
DC Power Consumption	6.4	Watts
Board Size	120 x 90.5	mm
Connector	2.92 (K)	mm

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The diagram illustrates the architecture of a software-defined radio system. It features four main functional blocks: an RX (Receiver) block, a TX (Transmitter) block, an Up/Down Converter block, and a Control Unit block. The RX block is labeled with a frequency range of 17-21 GHz. The TX block is labeled with a frequency range of 27-31 GHz. The Up/Down Converter block is the central component that interfaces with both the RX and TX. The Control Unit block is responsible for managing the system's operation. The signal flow is as follows: the RX block outputs a signal to the Up/Down Converter block, which then outputs to the TX block. The Control Unit block provides control signals to both the Up/Down Converter block and the TX block. Additionally, the Up/Down Converter block has a bidirectional interface for 1750 MHz IF (Intermediate Frequency) signals, labeled '1750 MHz IF: In/Out'. The Control Unit block also has an 'Asynchronous Control' input/output line.

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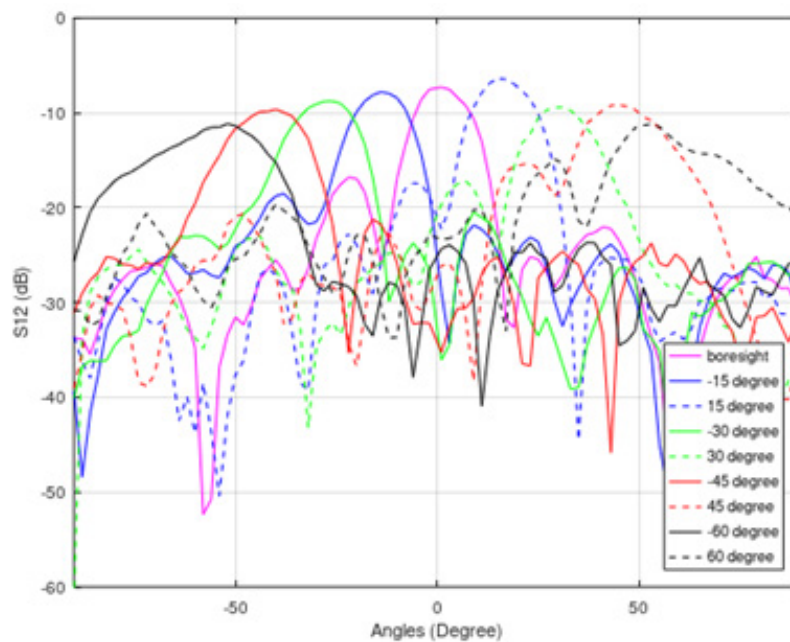
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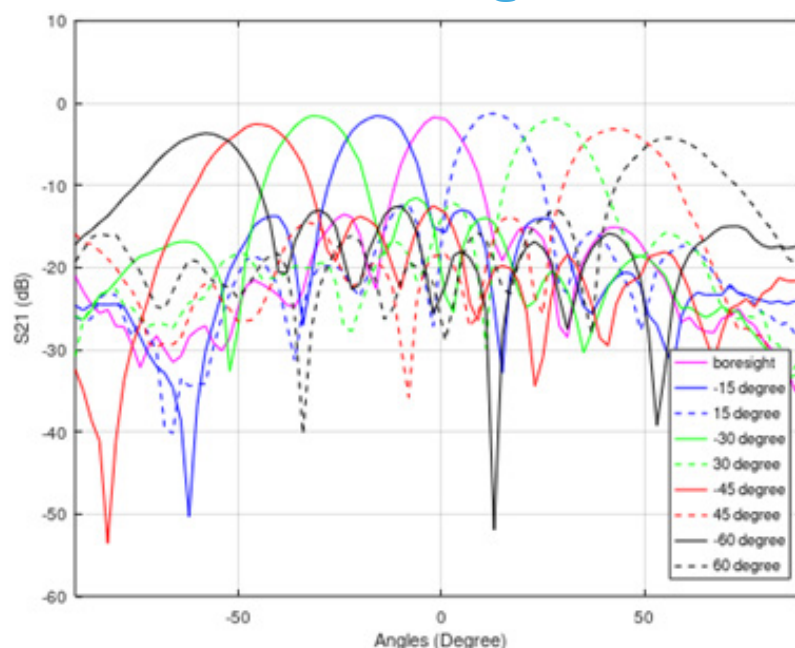
Product Datasheet

Test Results

Transmit Array - Radiation Pattern In Elevation Direction @28.75 GHz



Receive Array - Radiation Pattern In Elevation Direction @19 GHz



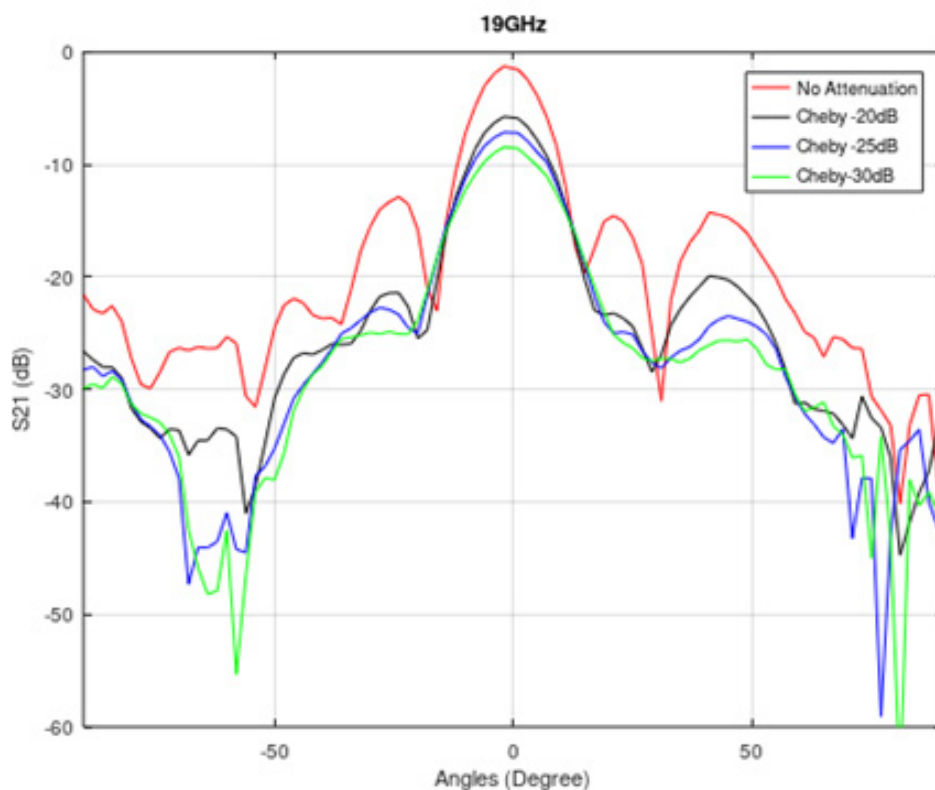
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Product Datasheet

Side Lobe level Control



Apply amplitude tapering for lower side lobes (Chebyshev distribution applied)

Contact Information

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