TECHNOLOGY TRANSFER

Interest Exploratory Note

Compact L5 Band Ceramic Antenna

Compact L5 band ceramic antenna is a compact RCP Microstrip patch antenna, designed and developed by VSSC/ISRO. This antenna uses a high dielectric constant ceramic substrate (εr=65) to achieve size reduction. The ceramic substrate is also indigenously developed by VSSC/ISRO and its technology is also available for transfer.

Portable navigation devices require compact antennas that can be accommodated with minimum space requirements. Compact L5 antenna can be effectively utilized in the NavIC receivers which requires a right circularly polarized (RCP) antenna operating at L5 (1176MHz) frequency with return loss less than 10dB and axial ratio less than 3dB.

Specifications of the antenna:

Parameter	Value	Remarks
Frequency	1176 MHz	
Band width	±5	@10 dB return loss
Peak Gain	-2 dBi	
Polarization	RCP	
Axial Ratio	<3 dB	@1176 MHz
Beam Width (3 dB)	120°	
Feed type	Coaxial	
Dimensions	25 mm x 25 mm x 4 mm	

Application(s)

- Can be used in navigation devices that work with NavIC/IRNSS or any other navigation system working on L5 frequency.
- Compact size of the proposed antenna makes it best suited for portable applications.

Department of Space has authorised NSIL for Technology Transfer of Compact L5 Band Ceramic Antenna to suitable entrepreneurs/ Industry in India. Interested Parties may please fill the enclosed form and send by email to contact-nsil@isro.gov.in