

A Compact Dual Frequency Microstrip Antenna

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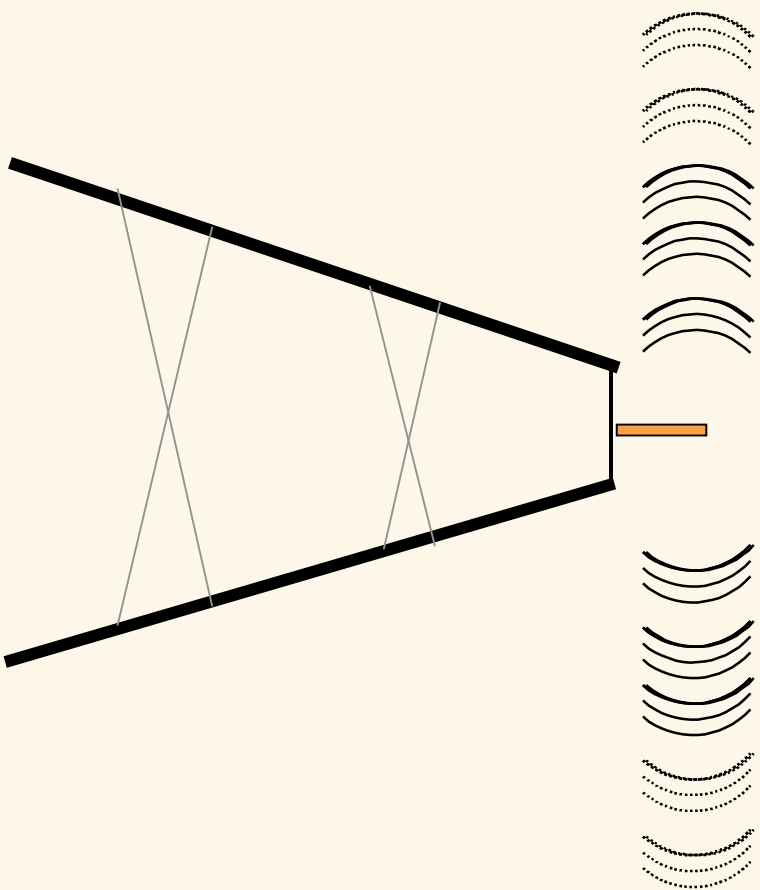
A device for

* sending out signals

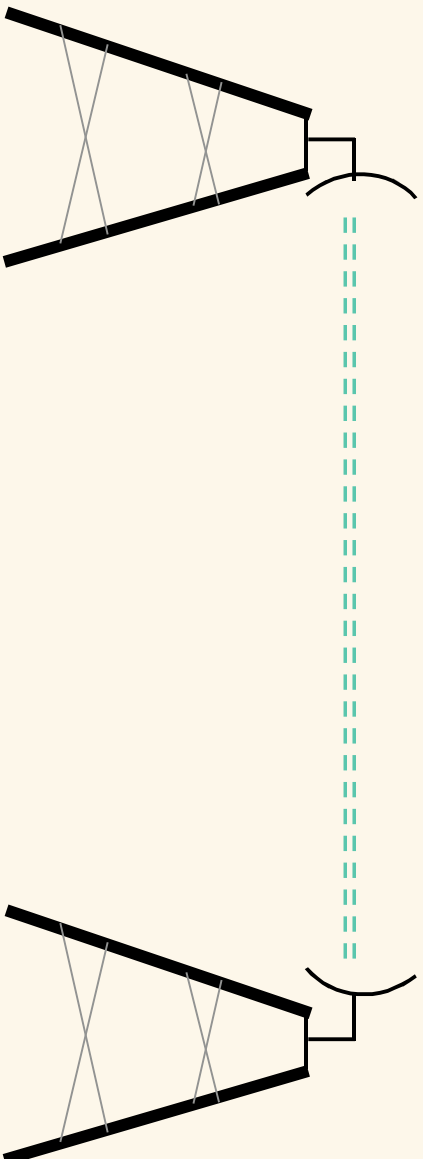
Transmitting Mode

* accepting signals

Receiving Mode



Broadcasting
Antenna



Microwave Link

Antenna Characteristics remain the same
in the Tx and Rx Mode

1. Radiation Pattern

- In which directions it can transmit energy *or*
- from which directions it can receive energy

2. Gain

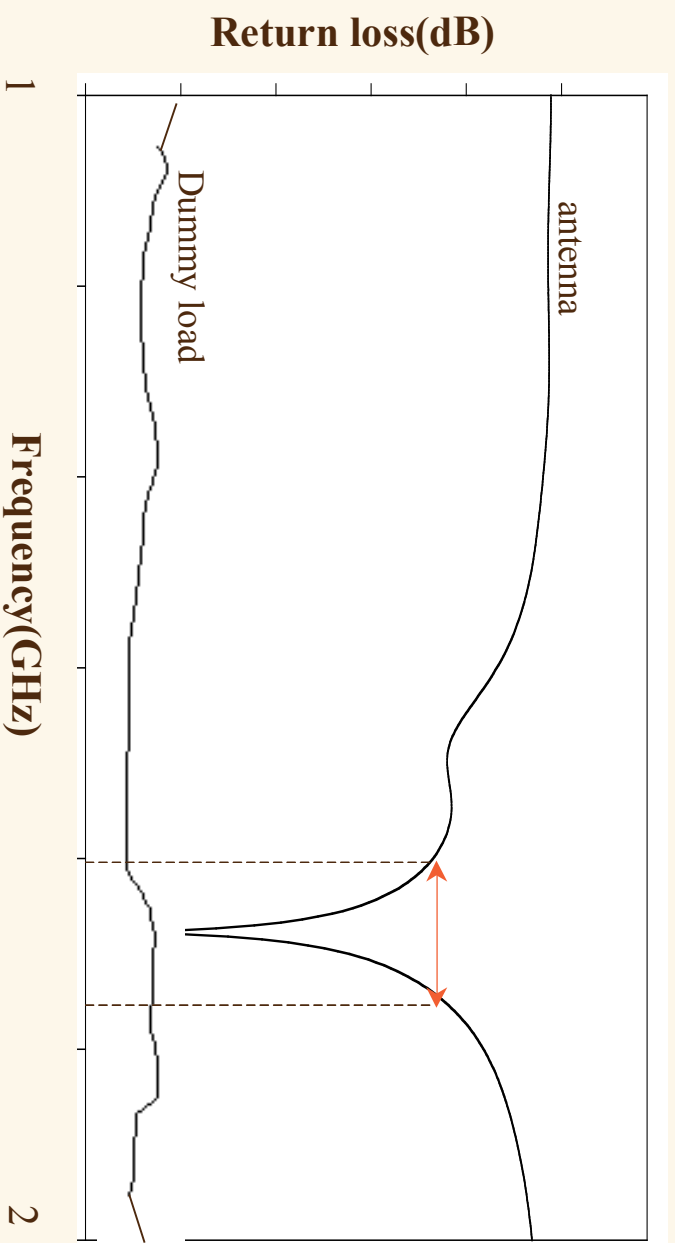
how effectively the antenna can concentrate energy in a desired direction

3. Polarisation

the orientation of electric field in the em wave

4. Bandwidth

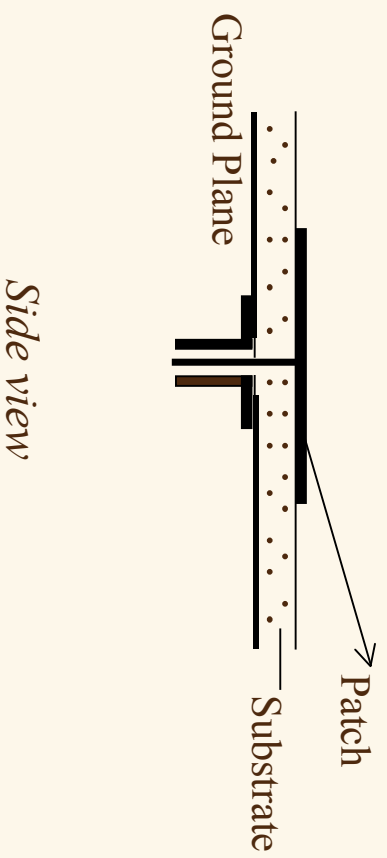
Frequency band over which the characteristics are within the specified range



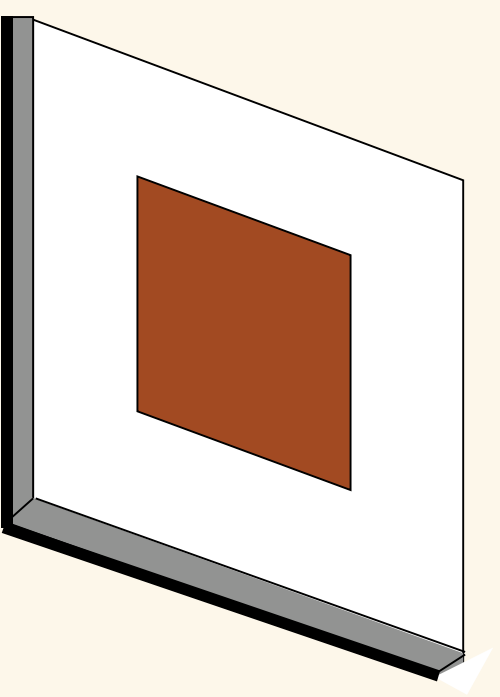
Dummy load is perfectly matched, but it is not radiating !

Microstrip Antenna

Antenna that can be integrated to the circuit



Side view

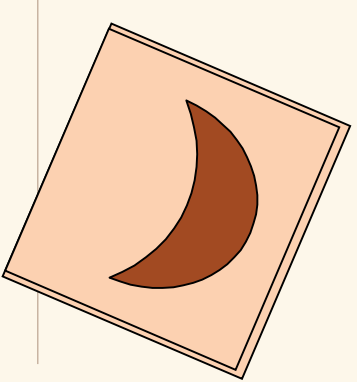


Top view

Attractive Features

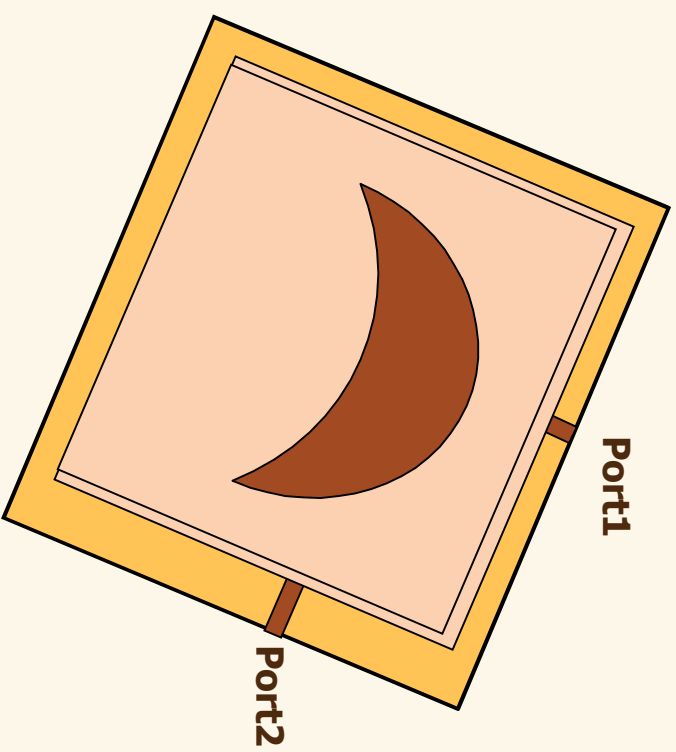
- ⇒ It is conformal
 - Reduces aerodynamic problems in moving vehicles
- ⇒ Smaller in size
 - Suitable for compact systems
- ⇒ Inexpensive in mass production

Geometry of the Patch determines the Antenna Characteristics



New Design

- ◆ More compact than currently available Microstrip Antennas
- ◆ Operates at two frequency bands
- ◆ Two bands are orthogonally polarised
- ◆ Antenna can be energised independently using two feeding ports without any interference between the two bands



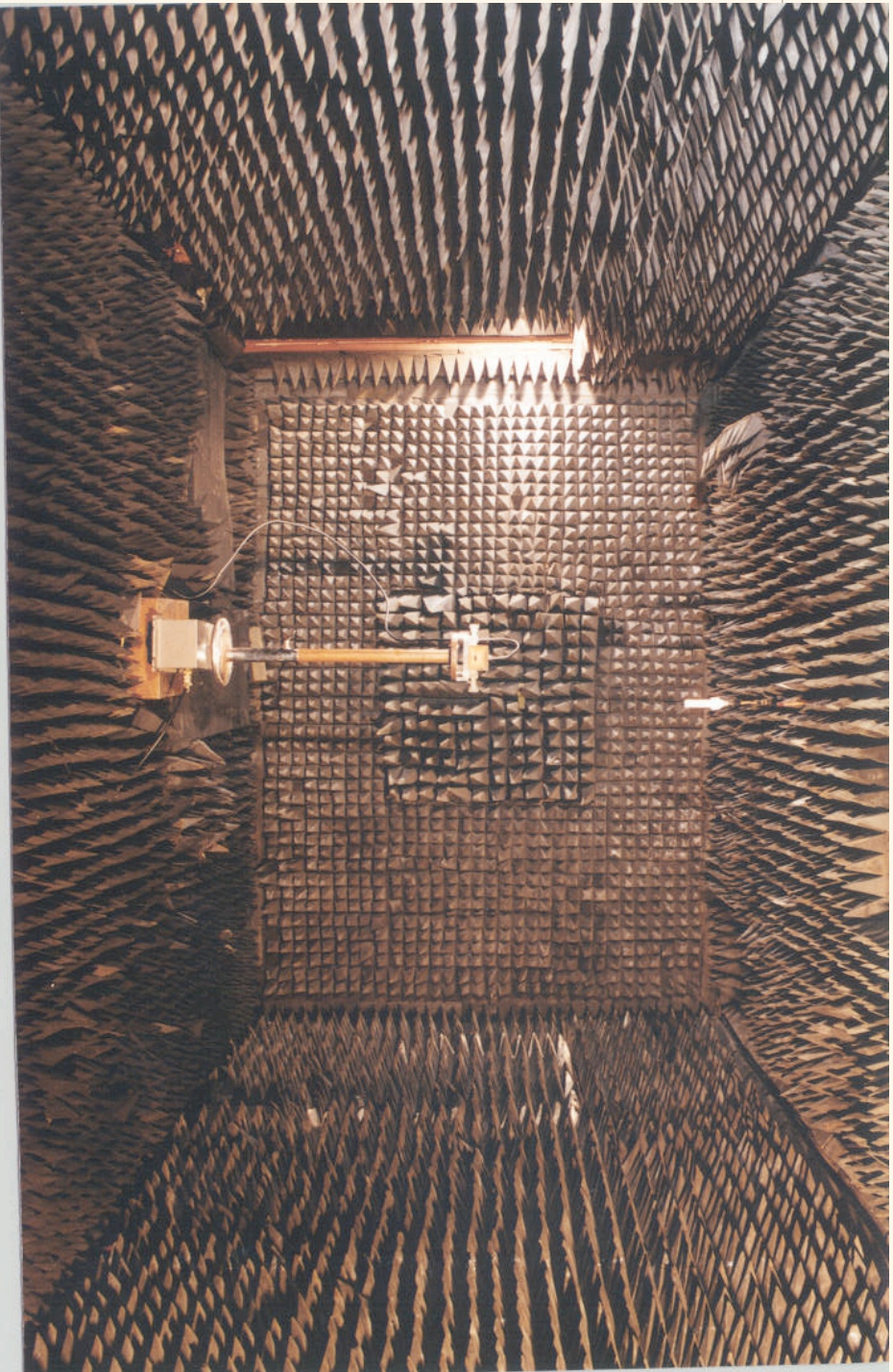
Crescent shaped Microstrip Antenna

HP 8510C Network Analyser

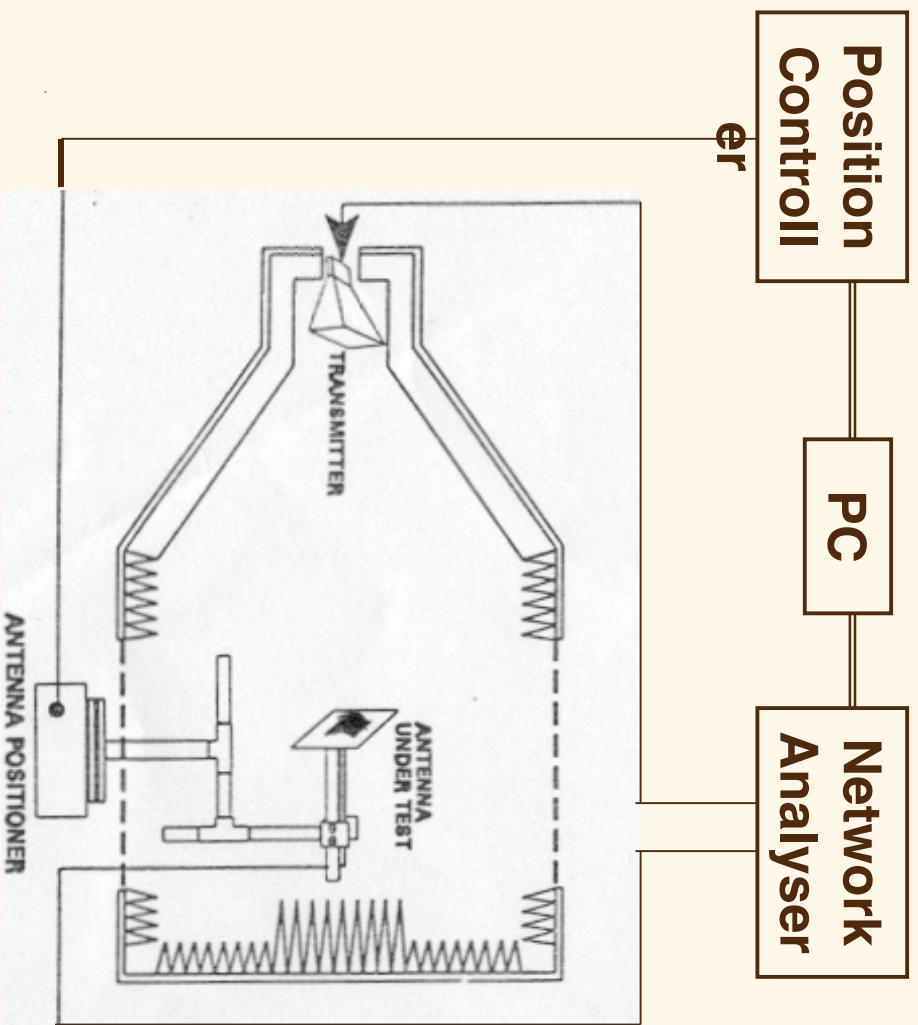


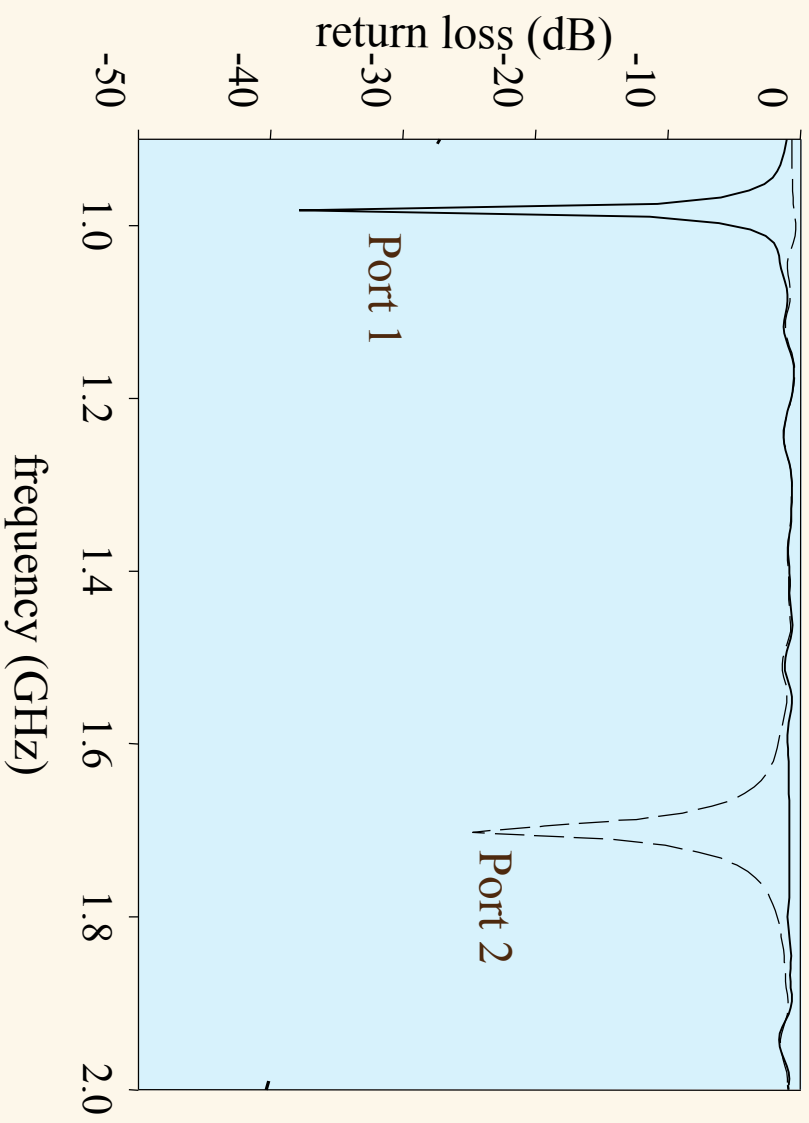
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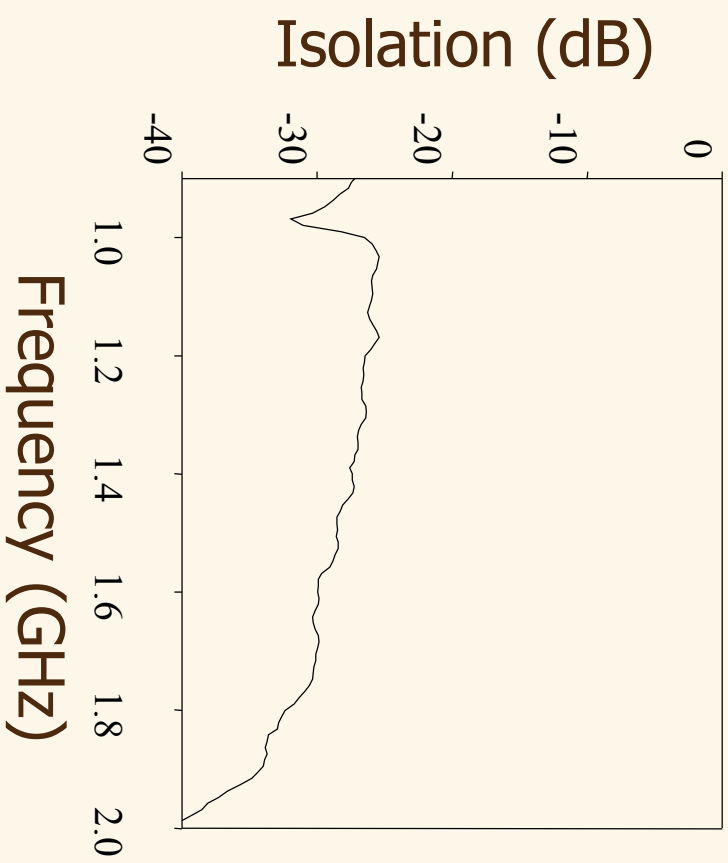
Anechoic Chamber



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Radiation Patterns

