

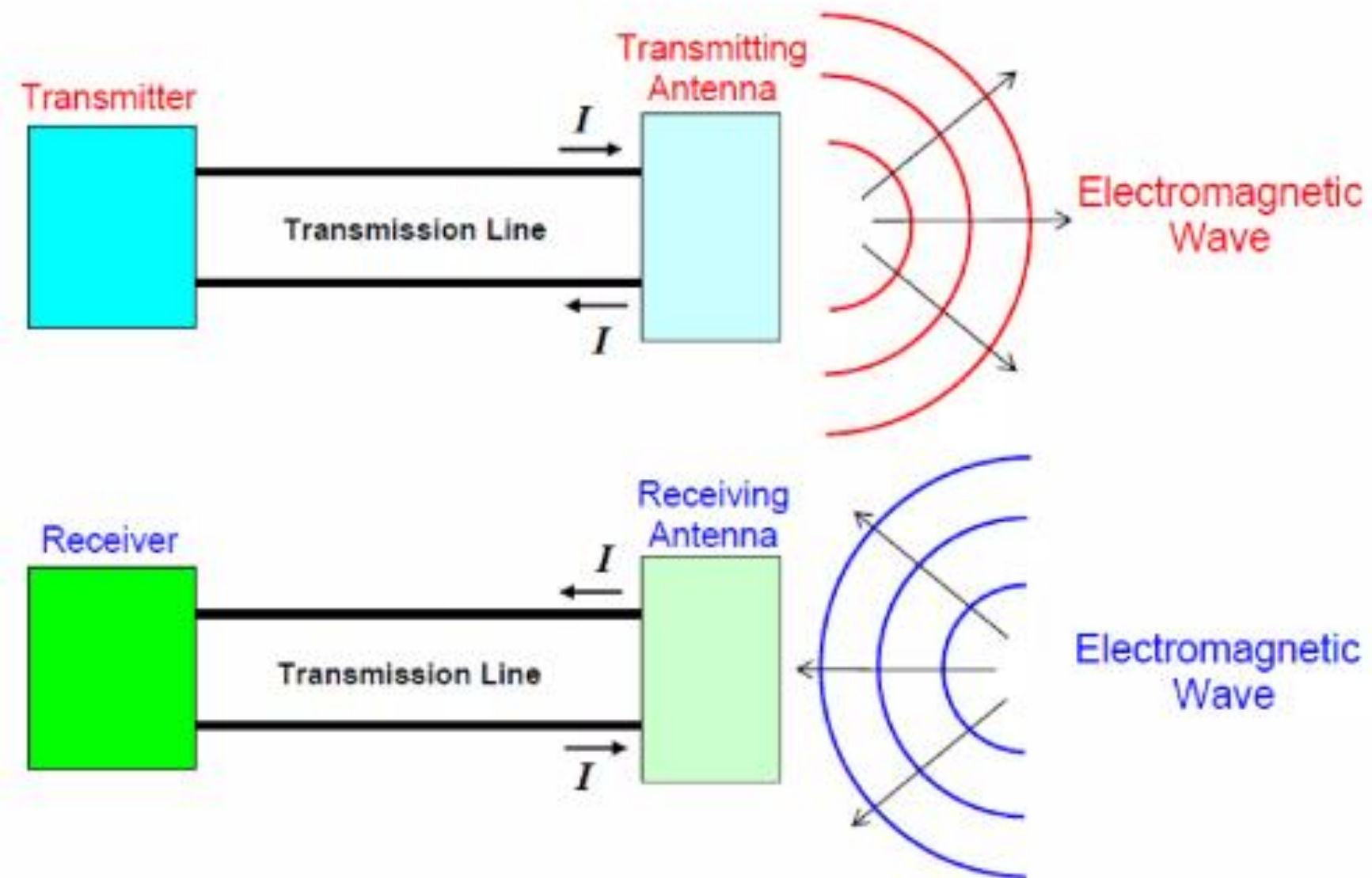


what is an antenna ?

(everything can radiate)

- antenna is a filter in frequency and spatial domain

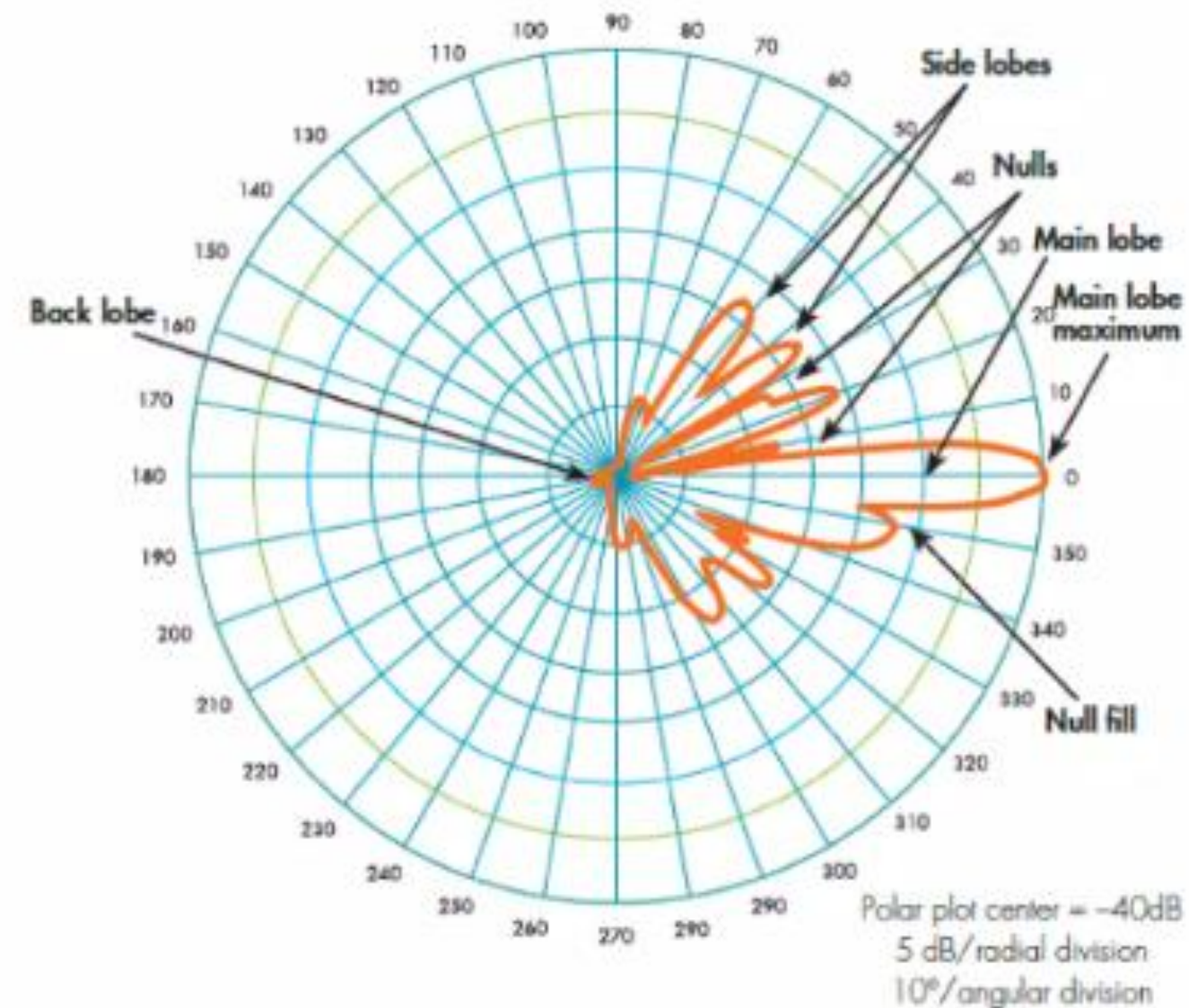
Antennas



Antennas are transducers that transfer electromagnetic energy between a transmission line and free space.

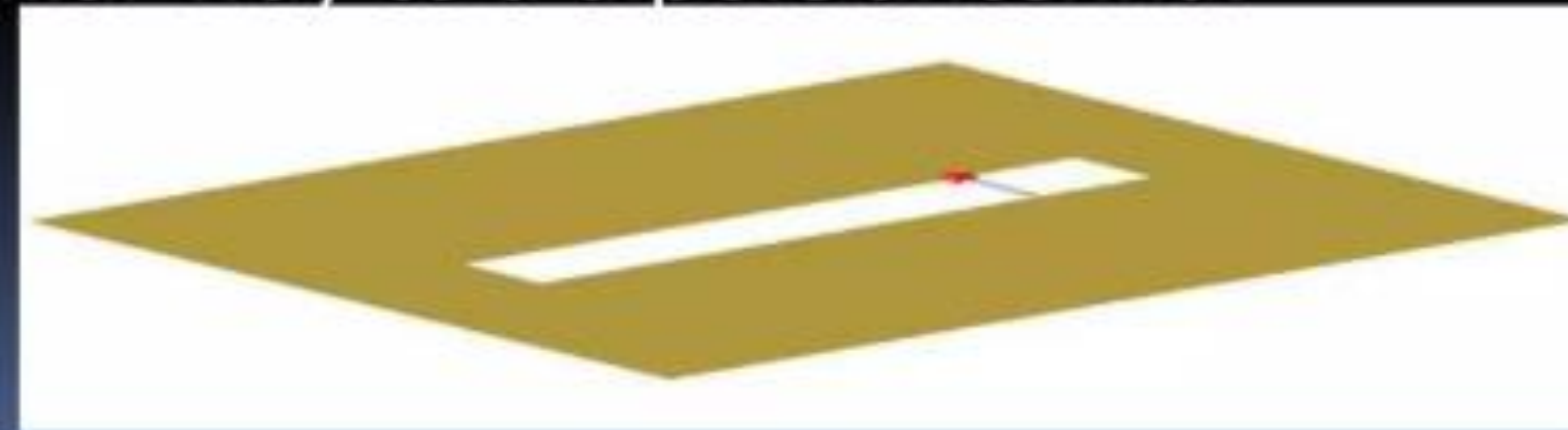
Antenna parameters

- Gain
- Vertical opening angle
- Horizontal opening angle
- Front to Back ratio
- Tilt
- Upper side lobe suppression
- Null fill
- Polarization
- CPR(Cross Polar Ratio)
- VSWR/Return Loss



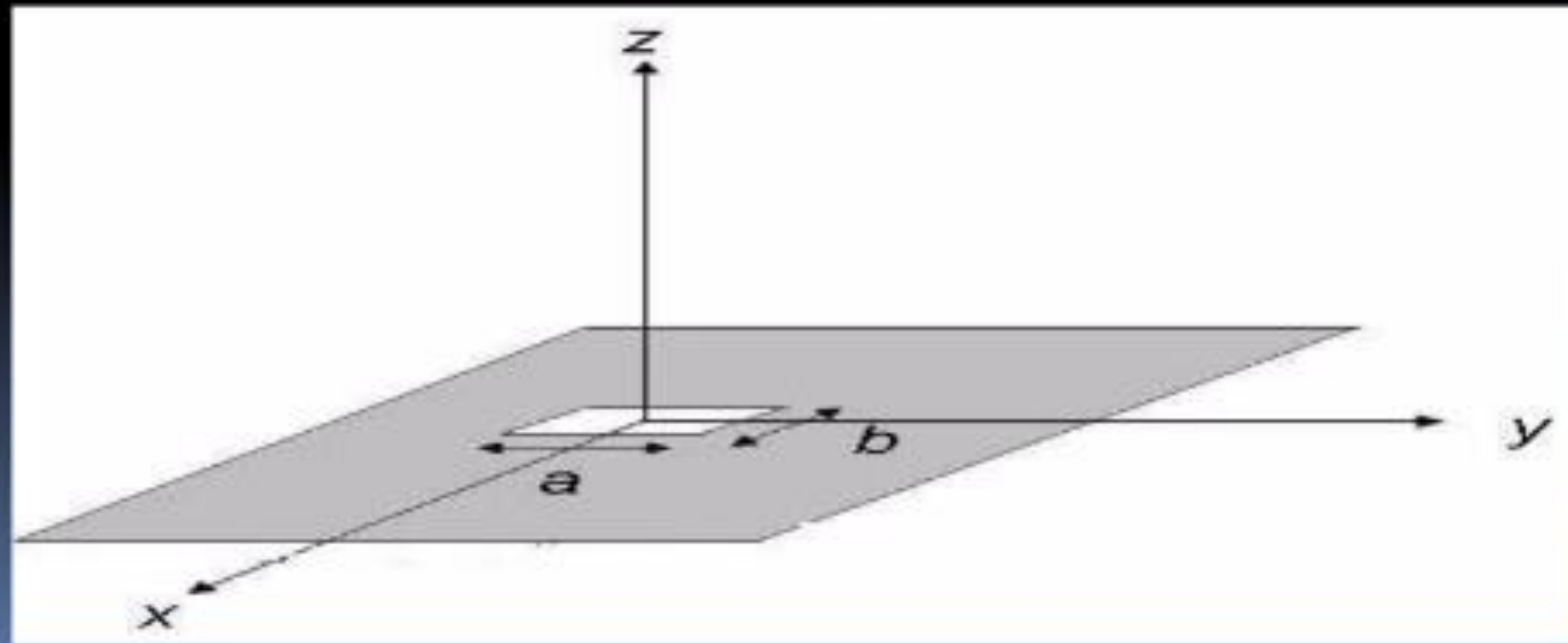
SLOT ANTENNA

- A **slot antenna** consists of a metal surface, usually a flat plate, with a hole or slot cut out.
- **Slot antennas** are used typically at frequencies between 300 MHz and 24 GHz.
- the slot radiates electromagnetic waves in similar way to a dipole antenna.



SLOT ANTENNA

- Consider an infinite conducting sheet, with a rectangular slot cut out of dimensions a and b , as shown in Figure.
- If we can excite some reasonable fields in the slot (often called the aperture), we have a slot antenna.





SLOT ANTENNA Applications

- Slot antennas are widely used in radar antennas
- In sector antennas used for cell phone base stations.
- A slot antenna's main advantages are its size, design simplicity