



WHAT IS MICROWAVE COMMUNICATION?

A communication system that utilize the radio frequency band spanning 2 to 60 GHz. As per IEEE, electromagnetic waves between 30 and 300 GHz are called millimeter wave (MMW) instead of microwaves as their wavelengths are about 1 to 10mm.



WHAT IS MICROWAVE COMMUNICATION?

Small capacity systems generally employ the frequencies less than 3 GHz while medium and large capacity systems utilize frequencies ranging from 3 to 15 GHz.

Frequencies > 15 GHz are essentially used for short – haul transmission.



MICROWAVE RADIO-MODULES

- Microwave Radio Terminal has 3 Basic Modules
 - Digital Modem: To interface with customer equipment and to convert customer traffic to a modulated signal.
 - RF Unit: To Up and Down Convert signal in RF Range.
 - Passive Parabolic Antenna: For Transmitting and Receiving RF Signal.
- Two Microwave Terminals Forms a HOP.
- Microwave Communication requires LOS.



BASIC HARDWARE CONFIGURATION

- Non Protected or I+0 Configuration
- Protected or I+I Configuration, also know as MHSB (Monitored Hot Stand By)
- In MHSB Modem and RF Unit are duplicated.



MICROWAVE RADIO-CAPACITY CONFIGURATION

- Commonly Used Capacity Configurations

- 4×2 Mbps or $4 \times EI$
- 8×2 Mbps or $8 \times EI$
- 16×2 Mbps or $16 \times EI$
- 155 Mbps or STMI