

Experiment 8:



Public Land Mobile Network (PLMN)

PLMN (Public Land Mobile Network)

A Public Land Mobile Network (PLMN) is a wireless communications network operated by a telecom provider to offer mobile services, such as voice, messaging, and data, to users.

It is identified by a unique PLMN Identifier (PLMN ID) and enables connectivity between mobile devices and the core network.

Public Land Mobile Network (PLMN) PLMN Structure

PLMN consists of the following key components:

1. Mobile Station (MS)
User devices (e.g., smartphones, tablets).
Connects to the network via SIM cards and radio signals.

Base Station Subsystem (BSS)

Includes Base Transceiver Stations (BTS) and Base Station Controllers (BSC).

Manages radio communication with mobile devices.
Network Switching Subsystem (NSS)

Includes Mobile Switching Center (MSC), Home Location Register (HLR), Visitor Location Register (VLR), and Authentication Center (AUC).

Handles call switching, authentication, and subscriber management.

Core Network (CN)

Supports packet-switched and circuit-switched communication.
Includes GPRS Core (SGSN, GGSN) for data services.

PLMN Identifier (PLMN ID)

A PLMN ID is a unique code used to identify a specific mobile network. It consists of:

Mobile Country Code (MCC) - Identifies the country (e.g., 310 for the USA, 404 for India).

Mobile Network Code (MNC) - Identifies the telecom operator (e.g., 01 for AT&T, 10 for Vodafone India).

Example:

PLMN ID for Vodafone India → MCC: 404, MNC: 1040410