

Sciencetech 2133 Global System for Mobile Communication platform is a modem or mobile equipment for transmission of voice and data calls as well as SMS (Short Message Service) in GSM Network.

To control the GSM modem there is an advanced set of AT commands according to GSM ETSI (European Telecommunications Standards Institute) 07.07 and 07.05 implemented. The GSM standard has established itself across continents.

The platform is well suited for studying AT commands by camping to real networks using SIM card.

Features

- Operate on Windows and Linux platform
- USB Interface for communication
- Best suitable for IoT gateway application
- External connector to interface with any microcontroller
- Easy understanding of AT commands
- Real time operation
- Built in network status LED
- Audio interface connector
- Simple / Easy operation
- External Antenna
- Application module relay interface for AC device (optional)

Scope of Learning

- GSM Theory & Standards
- Understanding of GSM technology, its network, GSM capability & data services.
- Understanding RF environment & study of GSM network by actually connecting to the GSM environment by any service provider.
- GSM based application development
- Command Level study
- Real Time study of GSM 07.05 & 07.07 Commands in various Categories :
 - Modem & SIM card related
 - Network registration
 - Call control
 - Call setting
 - Call information
 - Phone Book
 - Serial link control
 - Message setting
 - GPRS related
 - Storing/restoring
 - Error message handling & survey

Technical specifications

GSM capability : GSM 900 / 1800/850/1900 MHz E - GSM

GSM data services : Asynchronous, Transparent & Non Transparent modes. 14.4 kbits/s

SIM Interface : 3 V

RF characteristics :

Receiver

EGSM Sensitivity : < -104 dBm

DCS Sensitivity : < -102 dBm

Selectivity @ 200 KHz : >+9 dBc

Selectivity @ 400 KHz : >+41 dBc

Dynamic range : 63 dB

Intermodulation : ≥ 43 dBm

C-channel rejection : ≥ 43

Transmitter

Maximum output power : 33 dBm \pm 2 dB (EGSM)

Maximum output power : 30 dBm \pm 2 dB (DCS)

Minimum output power : 5 dBm \pm 5 dB (EGSM)

Minimum output power : 0 dBm \pm 5 dB (DCS 1800)

Noise in 925 - 935 MHz : < -67 dBm

Noise in 935 - 960 MHz : < -79 dBm

Noise in 1805 - 1880 MHz : < -71 dBm

Phase error at peak power : < 5° RMS

Frequency error : $\pm 0,1$ ppm max.

Power supply(module) : 12 VDC 1Amp.

Current consumption : Max 500 mA

Power Supply : 110V - 260 V AC, $\pm 10\%$, 50/60Hz

o Operating Conditions : 0-40°C, 80% RH

Weight : 360 grm. approximately

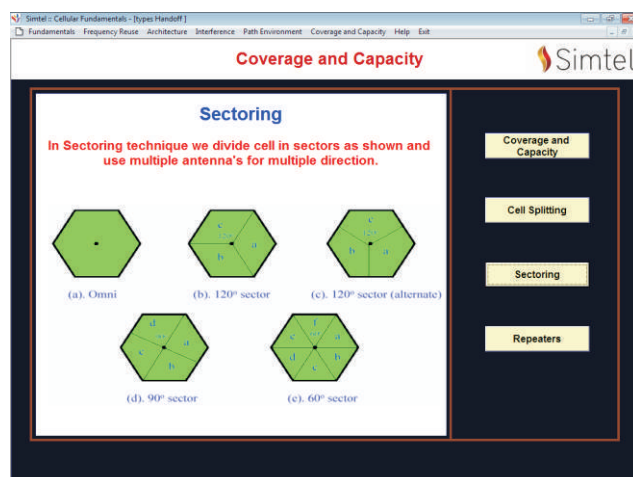
Dimensions (mm) : W 255 x D 155 x H 80

Included Accessories :

USB Cable with Hands Free: 1 no.

Antenna with Coaxial : 1 no. (Cable 30 cm)

Simtel 13 - Wireless Communication Interactive Software (optional)



Topics

- Cellular Fundamentals: Fundamentals, Frequency Reuse, Architecture, Interference, Path Environment, Coverage and Capacity
- GSM Network: History, GSM Family, Network, Subsystem entities, Logical Channel, Multiplexing scheme, GSM Management, Call Management, Call setup, call release, Handover, GSM Security
- CDMA: Multiple Access Techniques, CDMA Transmitter, Working, Spread Spectrum, DSSS, Frequency Hoping, Pseudo Random Code, Power Control, Handoff Process, Rake Receiver, Capacity of CDMA

For more details refer Simtel 13 Catalog