

LTE/GSM LabKit

The LabKit is a full-function, low-power LTE eNodeB that can be operated in any band up to 2.6 GHz, FDD or TDD. It can be used with any EPC or with our cloud-based EPC subscription service. It can also be operated in GSM/GPRS mode.

Typical Use Cases

- testing roaming interconnections and routing
- testing handset compatibility with apps and network features
- functional testing of handsets and IoT systems
- security testing with threat reproduction
- MAC-level traces of handset and application behavior



Specification summary

- All standard bandwidths supported, 1.4 MHz to 20 MHz.
- SISO 1×1 operation, up to 18 mW output.
- Management through web interface, telnet, or configuration file.
- Standard S1 interface (S1-C with S1AP and S1-U with GTP-U) on IPv4 or IPv6.
- Supports simultaneous connection to multiple MMEs and multiple PLMNs.
- Provides PCAP traces (for Wireshark) on GSM, LTE, and S1 interfaces.
- Linux-based OS supports scripting and automation.

Included in the Kit

- LTE/GSM LabKit
- power adapter for 120/220 VAC
- 10 USIMs
- 2 phones
- antennas
- bandpass receive filters for GSM850 and GSM900

Hardware

Dimensions	31 x 24 x 7 cm
Weight	2 kg
Power Consumption	12 VCD, 2 A max, includes 120/220 VAC power adapter
Environmental	desktop or lab use, 0-40 C. IP-30

NOTE: These values are rounded to nearest units. For more exact values, please contact us.

Radio Performance

Bands Supported	All standalone LTE bands (TDD and FDD) up to 2.6 GHz GSM 850, E-GSM 900, DCS 1800, PCS 1900
GSM Multi-TRX Configurations	1, 2, or 4
Output Power	Up to 18 dBm (70 mW) for LTE or GSM 1-TRX operation Up to 9 dBm (9 mW) per TRX for 2-TRX or 4-TRX operation
Receiver Sensitivity	-103 dBm (on GSM 271 kHz bandwidth)
Internal Clock	Stratum 3 OCXO, 25 ppb over 6 months long-term automatic calibration from NTP

LTE Features

MCS Modes	up to 64-QAM DL, up to 16-QAM UL
Bandwidths	1.4, 3, 5, 10, 15, or 20 MHz
Scheduler	proportional fairness or randomized
Maximum Advertised PLMNs	12
Maximum Attached UEs	No fixed limit, approx 100, depending on activity

GSM Features

GPRS Specifications	Multislot classes 1-9 CS1, CS4 NMO 1-3
Speech Codecs	GSM-FR
Channel Combinations	I, IV, V, VII

Network and Management Interfaces

GSM CS Interfaces	SIP call signaling (RFC3261) SIP MESSAGE method for SMS, ASCII or 3GPP PDU encoding RTP traffic (RFC3550) sideband DTMF (RFC2833)
GPRS Interfaces	Gi GTP-U with internal SGSN ("data roaming mode") SGi local IP breakout ("NiPC mode")
LTE Interfaces	S1 (S1AP on S1-C and GTP-U on S1-U) IPv4 or IPv6
Management Interfaces	web UI telnet UI JSON over HTTP Zabbix templates

About Us

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