

sUTP 5018

BASE STATION EMULATOR

FOR CUSTOM CELLULAR NETWORKS



PRODUCT

Applications: Cellular Signaling Test for Validation and Production



Front



Rear

NOFFZ BSE with N-type Connectors for 4x4 MIMO RF and Ethernet for Remote Control

FEAUTRES AND HIGHLIGHTS

Bring a whole mobile network to your lab or production: NOFFZ Base Station Emulator (BSE) creates a custom cellular test network. This makes testing cellular devices easier than ever before. Compact, cost-effective testing of multiple DUTs in parallel from 2G to 5G, including endurance testing for several days..

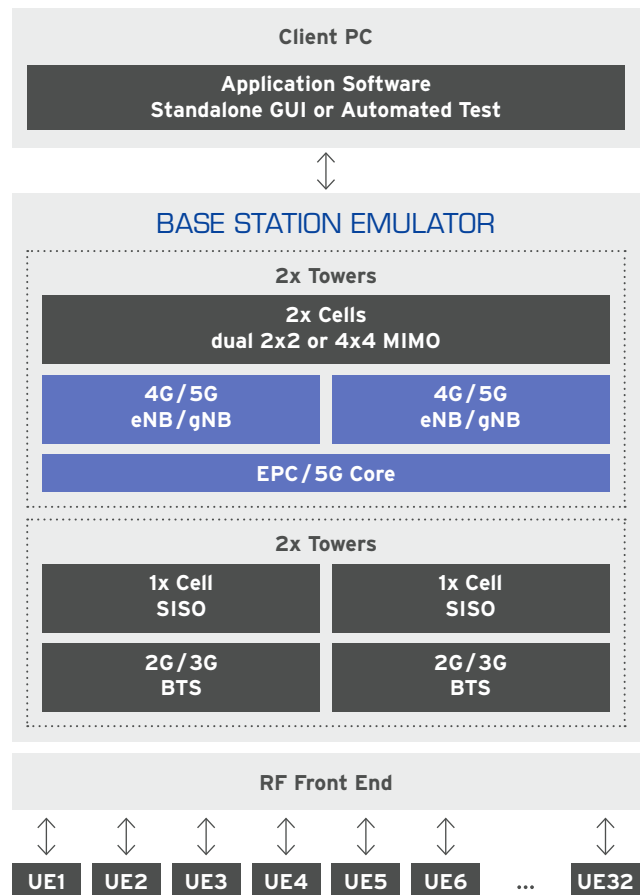
- > Fraction of the cost of traditional instruments
- > Single-box, full coverage: GSM, UMTS, LTE, 5G NR FR1
- > IoT support: LTE-M and NB-IoT
- > Parallel registration and measurements on multiple DUTs
- > Test data connection, voice-, eCall, VoIP, handover
- > Automate test cases in any sequencer

PRIVATE MOBILE NETWORK

Validation of mobile devices such as automotive telematics control units (TCUs), smart city gateways, connected smart sensors, industrial remote controllers, batteries, phones and IoT gadgets require replication of complex RF test scenarios in the lab. It is not enough to go to the live network and test only a fraction of the features. Modern labs and factories can highly benefit from an affordable, private 5G mobile network to test their products, develop systems and services.

APPLICATION AREAS

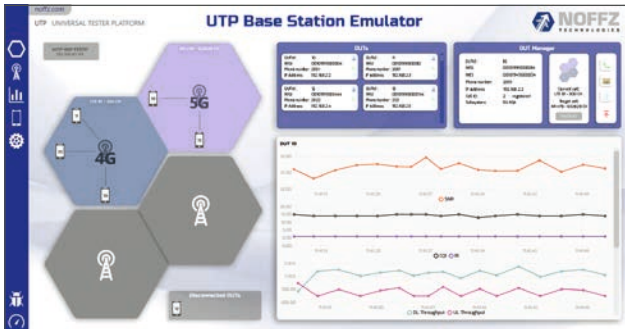
- > Automated Validation Test
- > Field Return Analysis
- > End-of-Line Production Test
- > HIL Simulation
- > R&D Application Development
- > EMC Lab, Environmental Monitoring
- > Education and many more



SPECIAL FEATURES

Single box from 2G to 5G

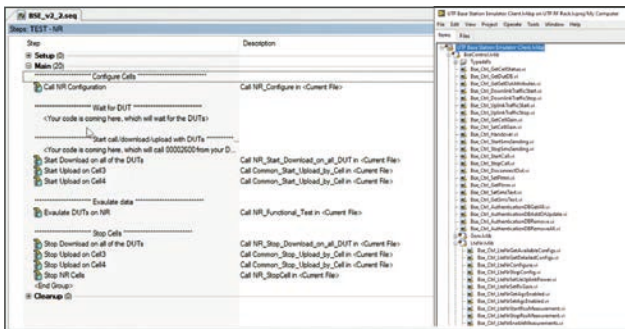
- › Configurable for upto 4 radio towers
- › 2 dedicated towers for legacy: 2G and 3G
- › 2 towers for 4G and 5G in any combination
- › Change configs easily from 5G NSA to SA with focus on URLLC, eMTC, IoT applications or eMBB



NOFFZ BSE Manager software UI to setup and monitor activities on the test network

Multi DUT connectivity

- › Attach DUTs easily to the network by inserting test SIM/eSIM data in the subscriber database
- › Register upto 32x devices and start using the network
- › DUTs can also interact with each other



Automate test cases based on standard API (LV, .NET)

Cost-efficient

- › Based on cots CPU architecture
- › Using software-defined-radios instead of instrument grade hardware
- › No need to become 3GPP expert to configure and operate

TECHNICAL DATA

Cellular Network

5G NR	NR Rel-16 compliant (Request for Rel-17) Non-Standalone support (NSA) Standalone support (SA) 5 - 100 MHz support FR1 (sub-6GHz) SISO, 2x2 MIMO (NSA and SA) 4x4 MIMO (only SA) Handover support 256-QAM PUSCH/PDSCH
LTE	LTE Rel-16 compliant LTE-M, NB-IoT (in-band, guard band and standalone) SISO dual band 2x2 MIMO dual band 4x4 MIMO single band Carrier aggregation 5 x CC VoIP support Handover support
GSM	GSM 850, GSM 900, DCS 1800 and PCS 1900 2x simultaneous ARFCNs Handover support Emergency Call support GPRS/EDGE
UMTS	Band 1, 4, 5, 8, 19 1 x UARFCN Rel-1999 support
Authentication	Use test SIM card or test eSIM profile Supported algorithms: Milenage, XOR, TUAK and COMP128v1 (legacy)

Specifications

RF Performance	Max Tx Output RF Power: +3.3 dBm @900 MHz Max Rx Input RF Power: +5 dBm Frequency accuracy: +/- 2.5 ppm EVM (20MHz BW, 64QAM): @2.6GHz, < 2% @3.5GHz, < 4% Phase Noise (1.8GHz): -80 dBc/Hz @10 kHz, -100 dBc/Hz @100 kHz
RF Interfaces (front panel)	4x N-type; MIMO 1: GSM, UMTS, NR/LTE stream 1 MIMO 2-4: NR/LTE stream 2-4
Interfaces (back panel)	2x Ethernet , 1Gbit 3x USB 3.0 - debug only 4x SMA RF - debug only AC power: 100-240 V, 50-60 Hz
Dimensions	Without mounting brackets: W 480 x H 480 x D 630 mm With mounting brackets: W 505 x H 480 x D 630 mm Weight: 25 kg
Temperature	Maximum operating temperature range of 0 °C to 65 °C. Maximum environmental temperature is 35 °C



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