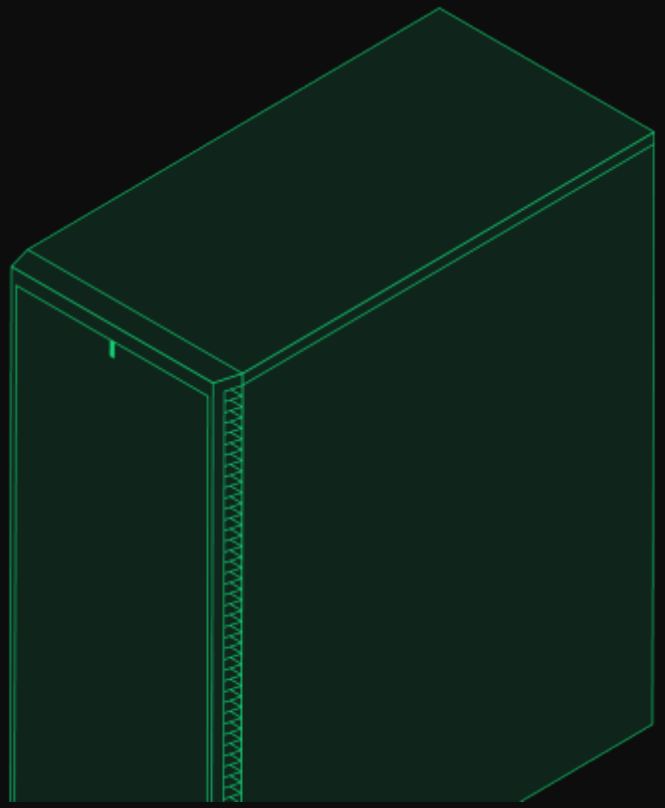
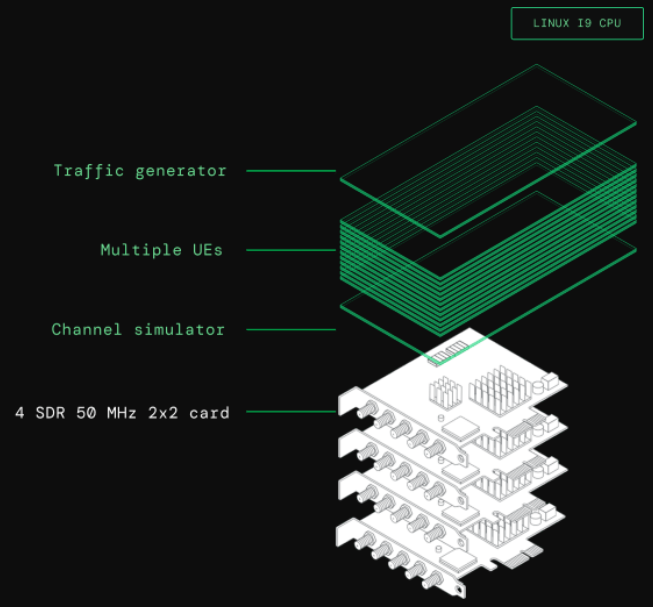
AMARI UE Simbox LTE Series

amarisoft



Hundreds of UEs on your desk

The Amarisoft UE simulator stands as an optimal solution for facilitating functional and performance testing in 4G networks. Operating as a 3GPP compliant LTE, LTE-M, and NB-IOT UE, it excels in simulating numerous UEs concurrently within the same spectrum.



In stock - Lead time 4 weeks - Contact us

Capabilities

LTE

The AMARI UE Simbox emulates multiple UEs supporting LTE and LTE-A.

LTE-M

The AMARI UE Simbox emulates multiple UEs supporting LTE-M.

NB-IOT

The AMARI UE Simbox emulates multiple UEs supporting NB-IOT category NB1 and NB2. It also supports Non Terrestrial Network (NTN) NB-IOT.

Up to 1000 UEs

Depending the AMARI UE Simbox platform, and the eNodeB configuration, it can emulate up to 1000 concurrent active UEs.

800 Mbps - 300 Mbps

Depending on the AMARI UE Simbox platform, and the eNodeB configuration, the product can deliver up to 800 Mbps in downlink and 300 Mbps in uplink.

Handover

Intra and Inter eNB handover are supported.

Carrier aggregation

The AMARI UE Simbox can aggregate multiple TDD and FDD LTE cells for high throughput testing.

VoLTE

Thanks to our partner Simnovus add-on, the AMARI UE Simbox support VoLTE.

Highlighted features

Logging and Measurements

Selective logging and display of all layers of 3GPP LTE as well as useful graphs and analytic tools.

LOG EXAMPLE

Automatic Test Setup and Scripting

Extensive WebSocket API allowing to send remote commands to UE Simulator software to ease test automation.

TUTORIAL

Easy Configuration

Easy configuration thanks to JSON files with example configurations already included in each software release.

End to End Data Testing

Running on top of standard Linux in user space mode allowing easy integration with IP services.

Data Traffic Generator

Embedded traffic generator provides a controlled environment for reproducible results as well as a variety of traffic types such as TCP, UDP and HTTP.

Channel Simulation

On the downlink side, depending on the simulated UE path loss, the channel simulator modifies the PER of PDSCH and PDCCH and updates measured RSRP/CQI and modifies the uplink signal level accordingly.

TUTORIAL

High Performance

Highly optimized software supporting multiple UEs and cells

3GPP Features

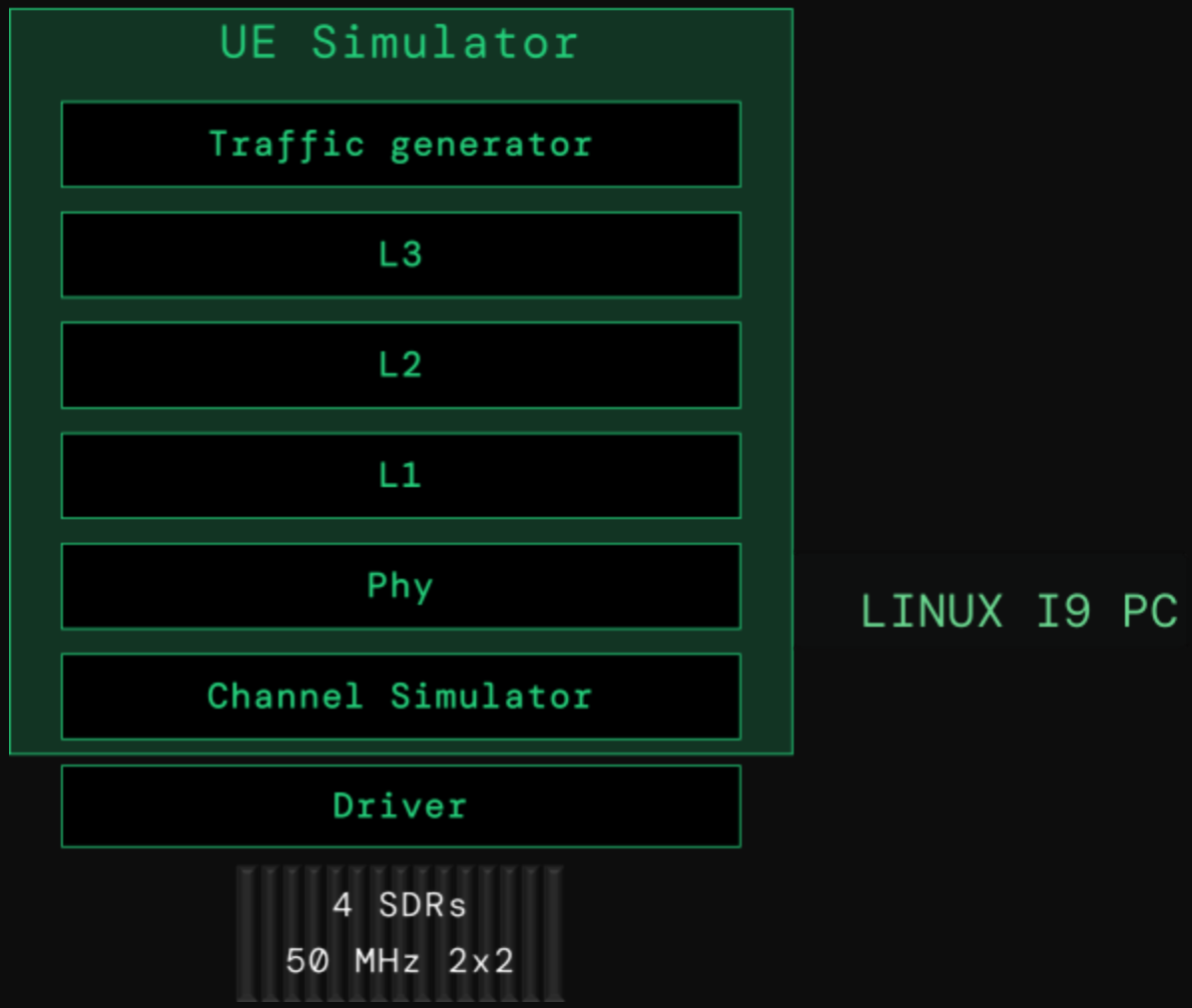
Early access to 3GPP features for rapid validation of features under development.

Frequency Agnostic

Support of a wide range of FDD and TDD frequency bands even nonstandard ones.

TUTORIAL

Architecture

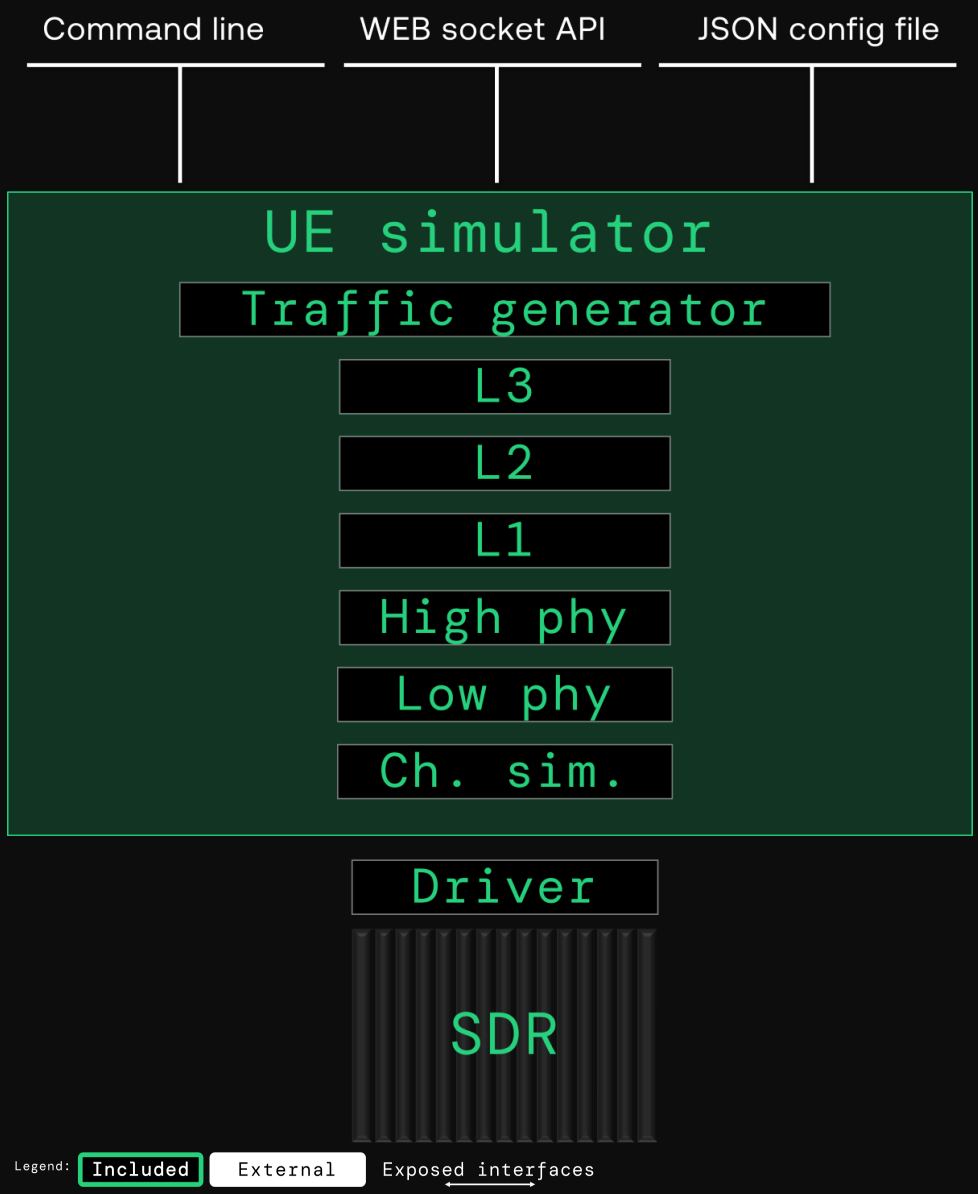


Software components

4G 5G UE Simulator

A UE Simulator software able to simulate a large number of LTE, LTE-M, NB-IOT including NTN, RedCap and 5G NR including NTN UEs sharing the same spectrum.

TECHNICAL DOC



Hardware components

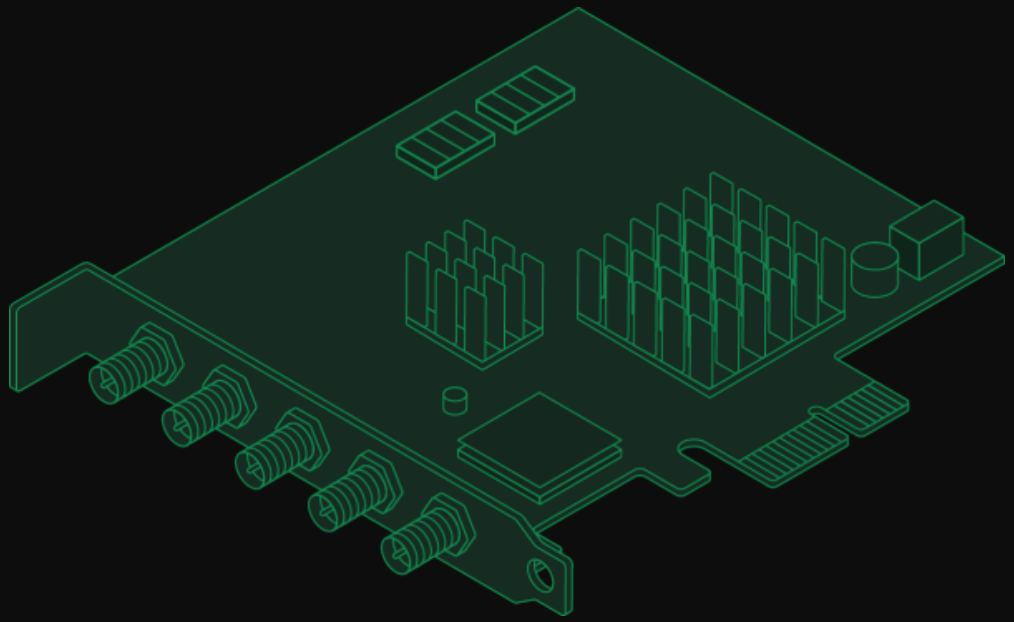
Simbox Specfication

Simbox Specification	
Dimensions H × W × D	46.5 cm × 23.3 cm × 53.3 cm
Weight	14 kg
# AMARI PCIe SDR 2x2 Cards	4
Power supply voltage	100 - 240V AC
CPU	Intel i9

AMARI PCIe SDR 2x2 Card

AMARI PCIe SDR 2x2 is a software defined radio (SDR) card using AD9361 2x2 RF transceiver. It supports MIMO 2x2, FDD and TDD operations in any frequency between 500 MHz and 6GHz. It has an integrated GPS for precise time and frequency synchronization. The cards can be easily chained thanks to a provided cable allowing clock and PPS propagation in between the cards. This will facilitate testing of higher MIMO layers and carrier aggregation. The total bandwidth of the card is 56 MHz, and its output power is around 0 dBm depending on the used frequency. The card requires at least gen 2 PCIe slot. This RF is used in AMARI Callbox Mini, AMARI Callbox Classic and AMARI UE Simbox LTE Series products.

TECHNICAL DOC



AMARI PCIe SDR 2x2 Card technical specification

Dimensions H × W × D	2 cm × 11.5 cm × 12.8 cm
Weight	0.1 kg
Frequency range	500 MHz to 6.0 GHz
RF bandwidth	200 KHz to 56 MHz
Power supply voltage	12 V DC input
Operation mode	FDD and TDD
MIMO	2x2
ADC/DAC sample rate	61.44 MS/s
ADC/DAC resolution	12 bits
Frequency accuracy	2 ppm
PCIe minimum requirements	1x / Gen 2
LTE 20MHz 64QAM EVM	<4% RMS (f<3.5 GHz) <2% RMS (f<2.6 GHz)
Synchronization	Internal clock , PPS signal, GPS , Reference external clock (LVDS)

Capacity

The software employed across all AMARI UE Simbox Series products remains uniform. The key distinctions among the Simboxes arise from variations in hardware specifications, including CPU power and the number and type of SDRs. These variances result in differences in capacity, encompassing factors such as the number of cells, cell bandwidth, MIMO layers, and the quantity of emulated UEs. Specifically, the AMARI UE Simbox LTE Series is purpose-built for LTE eNodeB testing and offers five different variants to support 1, 64, 128, 256, or 1000 UEs.

For comprehensive 5G base station testing, explore the capabilities of the AMARI UE Simbox E Series and AMARI UE Simbox MBS.

Use Case	Part Number	Product	LTE			
			up to 20 MHz 2x2		up to 20 MHz 4x4	
			1 CC	4 CC	1 CC	2 CC
			Number of UEs			
LTE	A0113, A0114, A0115	AMARI UE Simbox LTE 001	+	+	+	+
	A0116, A0117, A0118	AMARI UE Simbox LTE 064	+	+	+	+
	A0119, A0120, A0121	AMARI UE Simbox LTE 128	+	+	+	+
	A0122, A0123, A0124	AMARI UE Simbox LTE 256	+	+	+	+
	A0125, A0126, A0127	AMARI UE Simbox LTE 1000	+	256	256	256

Cells with + means that the number of UEs in the product name is supported in this config.
Cells with a number (256, 1000…) shows the supported number of UEs in this configuration.
Emply cells means that this config is not supported in this product.

USE CASES VIEW ALL →

- Load testing →
- Feature testing →
- 4G 5G network element testing →
- Overcome commercial UEs limitations →
- VoLTE and VoNR →

amarisoft

Web: www.amarisoft.com
Mail: sales@amarisoft.com
Linkedin: www.linkedin.com/company/amarisoft
Twitter: twitter.com/amarisoft

HQ in Paris
16-18 Rue Rivay,
92300 Levallois Perret
FRANCE

South of France Office
80, Route des Lucioles, Bat. L2,
06560 Sophia antipolis
FRANCE

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