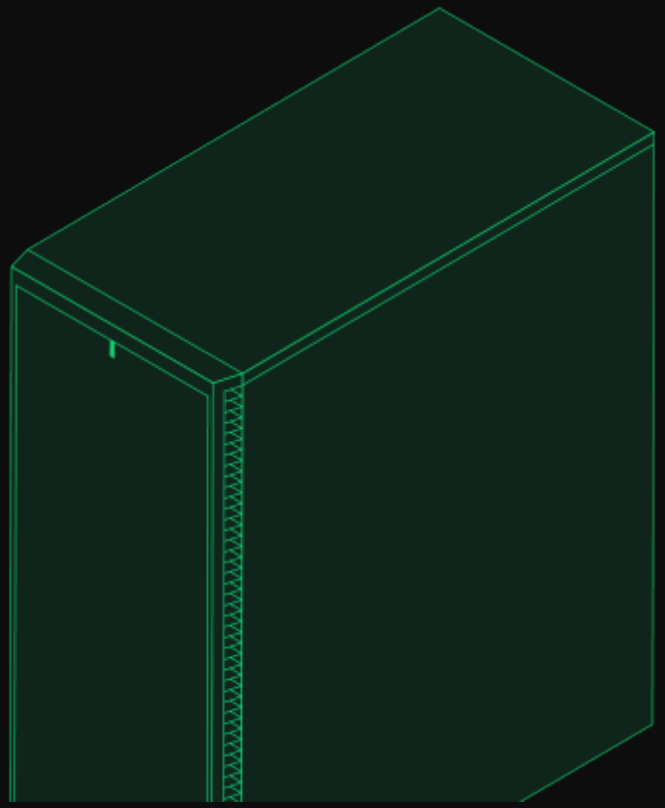
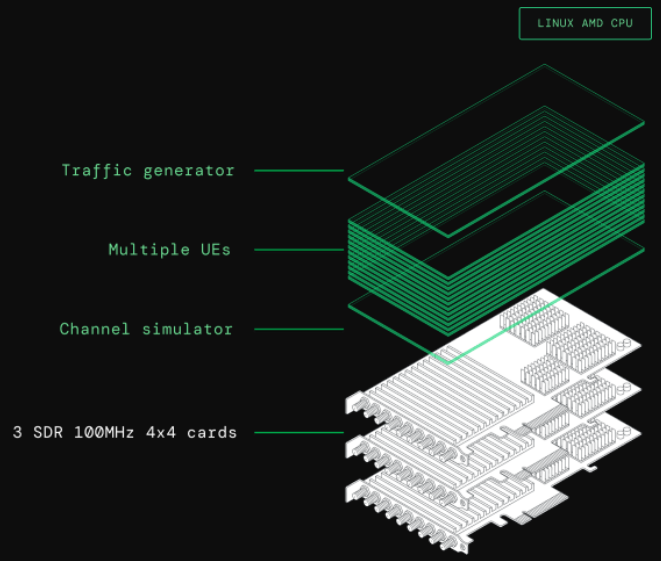
AMARI UE Simbox MBS Series

amarisoft



Hundreds of UEs on your desk

The Amarisoft UE simulator presents an optimal solution for conducting both functional and performance testing in 4G and 5G networks. Functioning as a 3GPP compliant LTE, LTE-M, NB-IOT, and 5G SA/NSA UE, it excels in simulating numerous UEs simultaneously within the same spectrum.



In stock - Lead time 4 weeks - Contact us

Capabilities

5G

The AMARI UE Simbox emulates multiple UEs supporting 5G standalone mode (SA) . 5G Non Terrestrial Network (NTN) and 5G Reduced Capacity (RedCap) are also supported.

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/gNodeB configuration, it can emulate up to 1000 concurrent active UEs.

4 Gbps - 3 Gbps

Depending on the AMARI UE Simbox platform, and the eNodeB/gNodeB configuration, the product can deliver up to 4 Gbps in downlink and 3 Gbps in uplink.

Handover

Intra and Inter eNB/gNB handover are supported.

Carrier aggregation

The AMARI UE Simbox can aggregate multiple TDD and FDD LTEor NR FR1 cells for high throughput testing.

VoLTE VoNR

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

Highlighted features

Logging and Measurements

Selective logging and display of all layers of 3GPP LTE and NR stacks 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

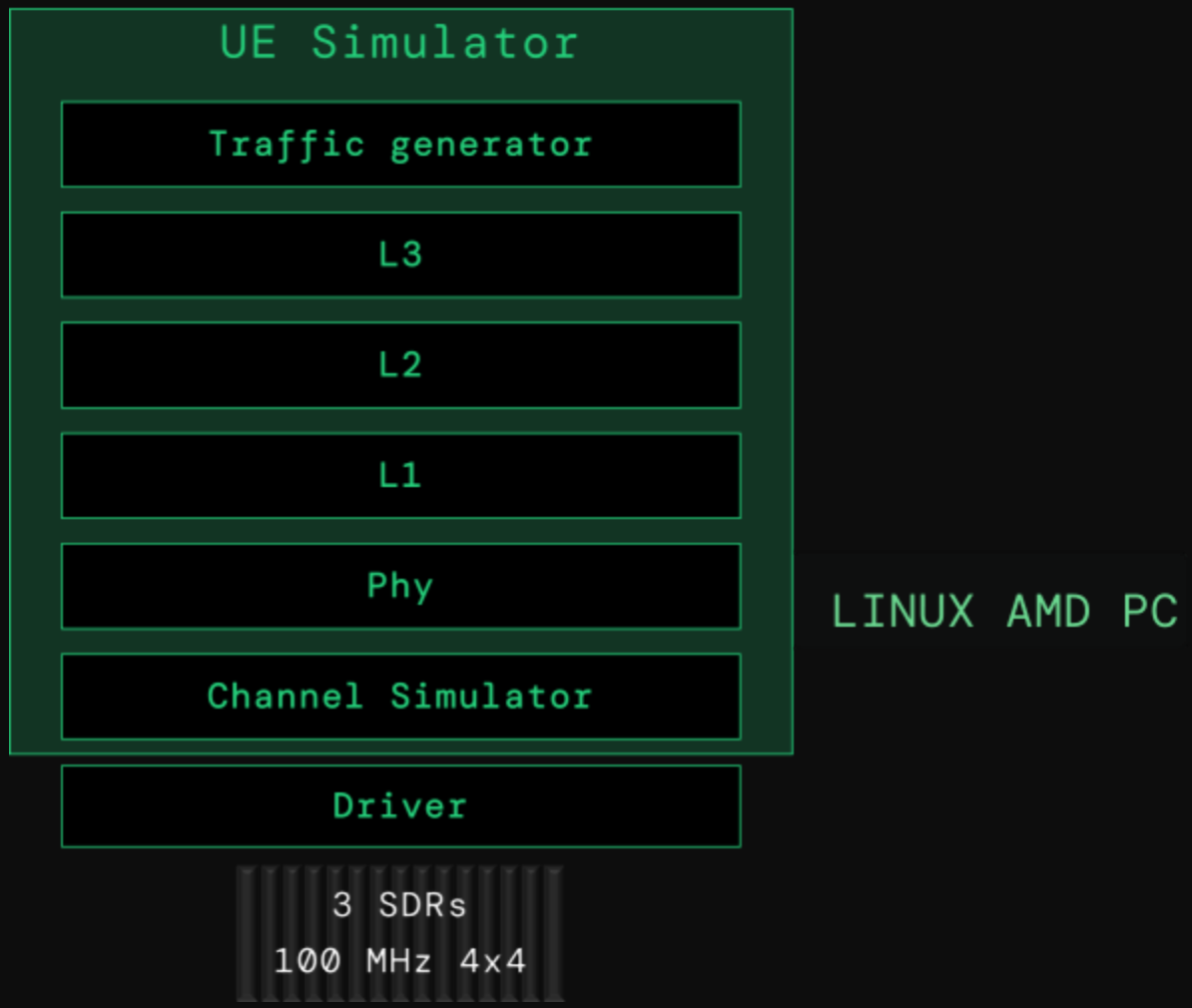
Early access to 3GPP features for rapid validation of features under development.

Frequency Agnostic

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

TUTORIAL

Architecture

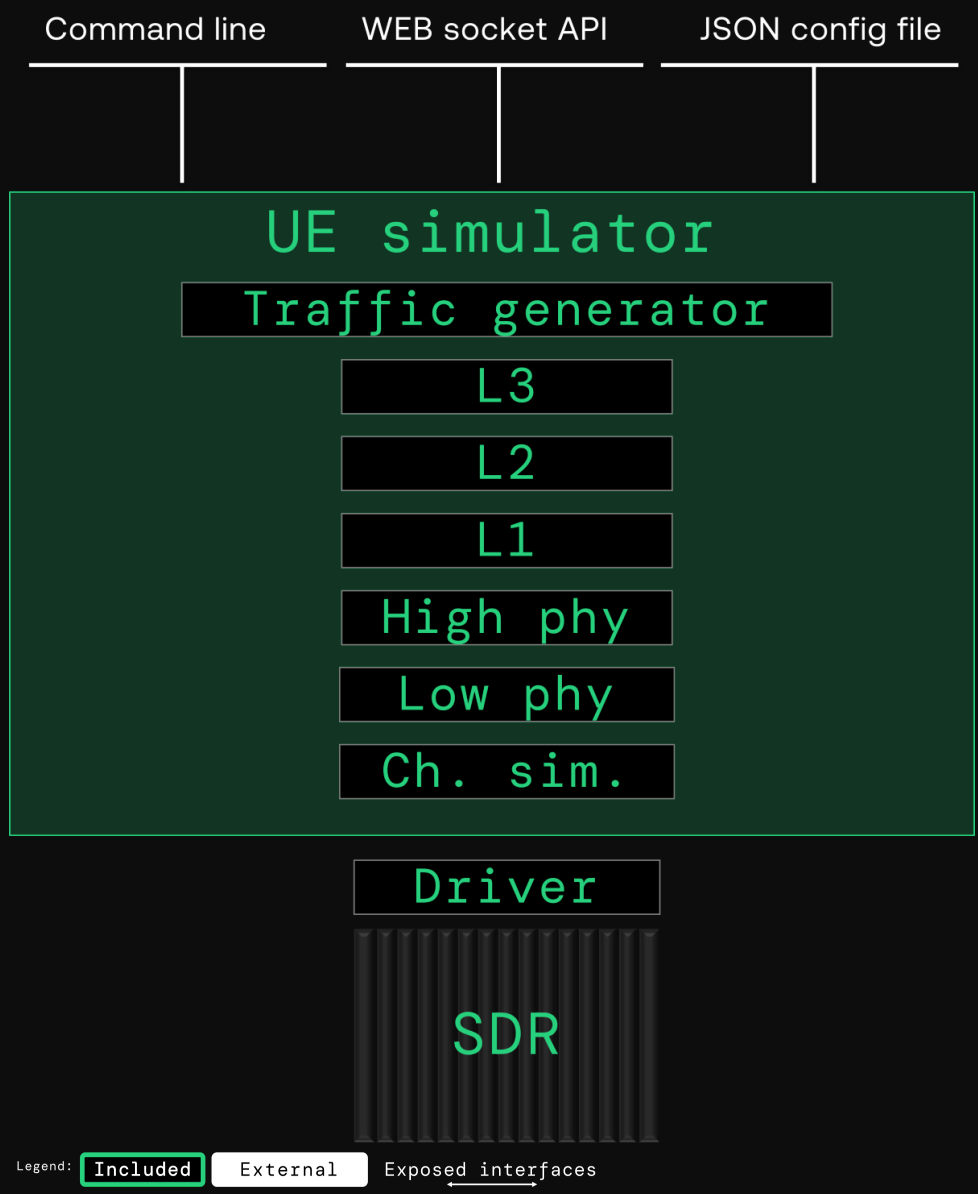


Software components

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

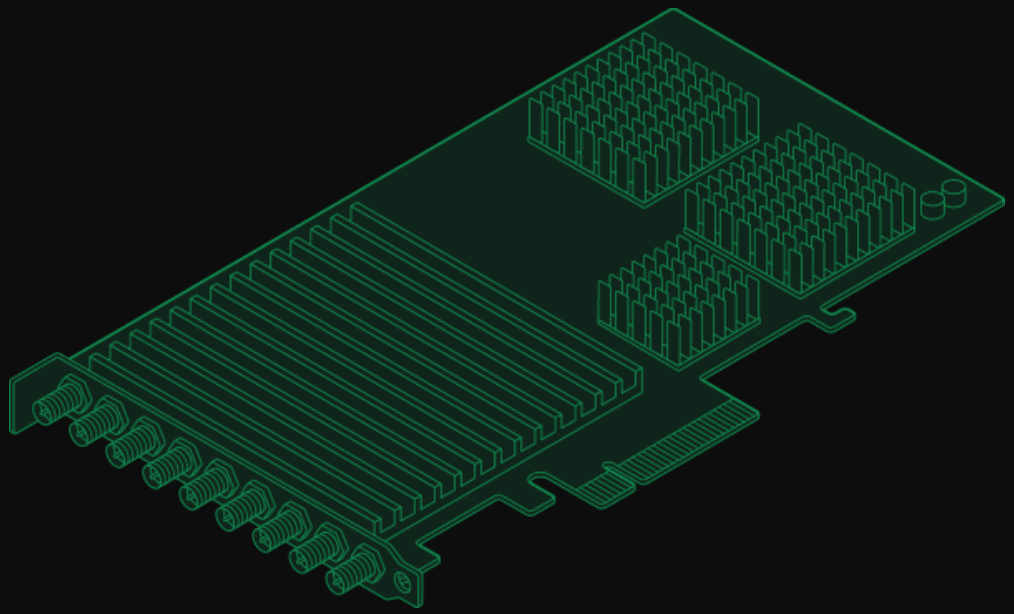
Simbox Specfication

Simbox Specification	
Dimensions H × W × D	46.5 cm × 23.3 cm × 53.3 cm
Weight	14 kg
# AMARI PCIe SDR 100 4x4 Cards	3
Power supply voltage	100 - 240V AC
CPU	Intel i9

AMARI PCIe SDR 100 4x4 Card

AMARI PCIe SDR 100 4x4 is a software defined radio (SDR) card based on AD9361 2x2 RF transceivers. It supports MIMO 4x4, FDD and TDD operations in any frequency between 500 MHz and 6GHz. It has an integrated GPS for accurate 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 100 MHz, and its output power is around 12 dBm depending on the frequency used. The card requires at least gen 3 PCIe slot. This RF is used in AMARI Callbox Advanced, AMARI Callbox Ultimate, AMARI Callbox Extreme, AMARI UE Simbox E Series and AMARI UE Simbox MBS Series products.

TECHNICAL DOC

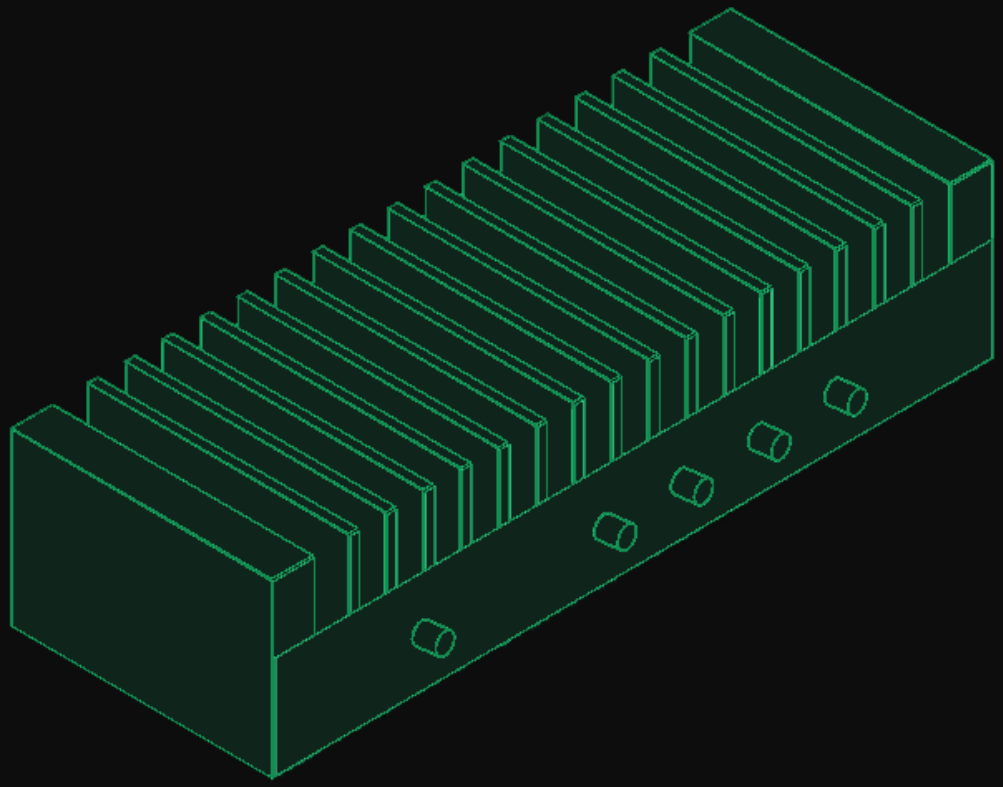


AMARI PCIe SDR 100 4x4 Card technical specification

Dimensions H × W × D	2 cm × 13 cm × 22 cm
Weight	0.2 kg
Frequency range	500 MHz to 6.0 GHz
RF bandwidth	1.4 MHz to 100 MHz
Power supply voltage	12 V DC input
Operation mode	FDD and TDD
MIMO	4x4
ADC/DAC sample rate	122.88 MS/s
ADC/DAC resolution	12 bits
Frequency accuracy	< 1 ppm
PCIe minimum requirements	8x / Gen 3
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)

AMARI FR2 Hardware Package

The AMARI FR2 HW Package enables mmWave technology on the AMARI Callbox Advanced, Ultimate, and Extreme and AMARI UE Simbox MBS models. It comprises a UDC (Up-Down Converter), RF cables, and horn antennas. The UDC serves to convert the sub6 signal from the AMARI PCIe SDR 100 4x4 Card into mmWave signal, and vice versa.



AMARI UDC technical specification

Dimensions H × W × D	4 cm × 9.5 cm × 27.5 cm
Weight	0.2 kg
Frequency range	two SKUs: 24 to 30 GHz or 37 to 40 GHz
RF bandwidth	1 GHz
Power supply voltage	12 V DC input

Capacity

The software employed across all AMARI UE Simbox Series products remains consistent. The primary differentiators among the Simboxes lie in the hardware specifications, encompassing factors like CPU power and the number and type of SDRs. These variations translate into differences in capacity, spanning parameters such as the number of cells, cell bandwidth, MIMO layers, and the quantity of emulated UEs.

Notably, the AMARI UE Simbox MBS Series stands out as the premier platform within the AMARI Simbox lineup. Specifically designed for macro basestation gNodeB testing, it offers five distinct variants to support 1, 64, 128, 256, or 1000 UEs. Furthermore, it includes support for 5G NTN as a software option, and both 5G FR2 software and hardware options are also available.

Part Number	Product	LTE		5G SA FR1		5G NSA FR1		5G SA FR2	5G NSA FR2
		20 MHz 2x2	20 MHz 4x4	100 MHz 4x4		100 MHz 4x4		100 MHz 2x2	100 MHz 2x2
		6 CC	3 CC	2 CC	3 CC	1 CC	2 CC	4 CC	3 CC
		Number of UEs							
A0795, A0796, A0797	AMARI UE Simbox MBS 001	+	+	+	+	+	+	+	+
A0801, A0802, A0803	AMARI UE Simbox MBS 064	+	+	+	+	+	+	+	+
A0804, A0805, A0806	AMARI UE Simbox MBS 128	+	+	+	+	+	+	+	+
A0807, A0808, A0809	AMARI UE Simbox MBS 256	+	+	+	+	+	+	128	128

A0810, A0811, A0812	AMARI UE Simbox MBS 1000	+	+	+	256	+	256	128	128

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 →

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