

Tiny Lab - RF

Learn RF from everywhere!

Tiny Lab - RF, the 10-in-1 solution



Presentation

Radiofrequency

Spectrum analysis

mmW

Smith Chart

IoT

Rx-Tx

Antenna

5G

SDR

Summary

Tiny Lab – RF

Use case #1

2

Use case #2

3

Technical specifications

VNA + RF generator 1
+ RF spectrum analyzer 1

4

VNA + RF generator 2
+ RF spectrum analyzer 2

5

Oscilloscope + Function
generator
+ AWG + Spectrum analyzer 3

6

Softwares

Application softwares

8

Tiny Lab - RF

Use case #1



Stuck at home, far from lab,
at hospital... keep learning!



Distance learning is finally
possible, even for RF...



Home-office is more and
more usual.
Why wouldn't it be used for RF
education?

Tiny Lab - RF

Use case #2



**Missing Space in
your lab ?**

Keep welcoming your
students in traditional
classrooms!

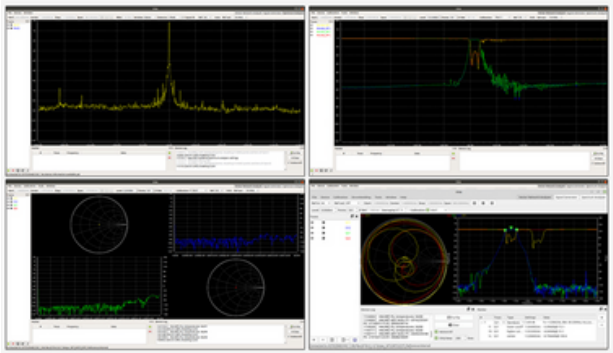
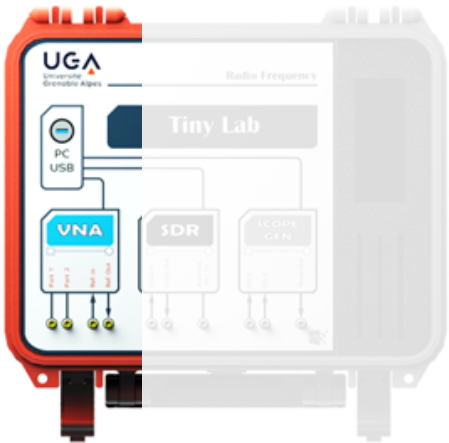
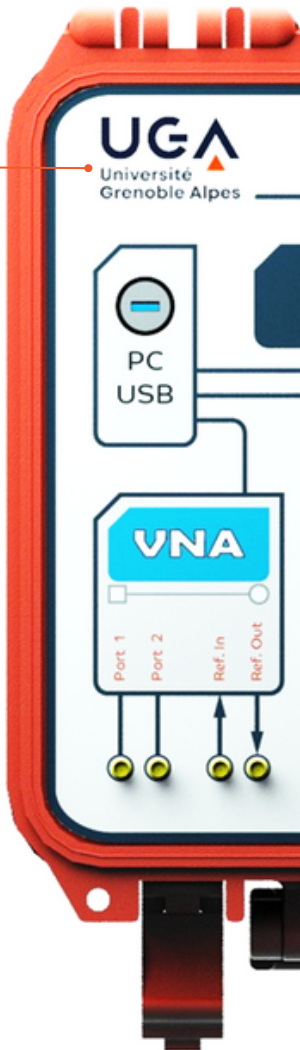


Technical specifications

VNA
+ RF generator 1
+ RF spectrum analyzer 1

VNA	
FREQUENCY RANGE	100 kHz - 6 GHz
TEST PORTS	2
MEASUREMENT PARAMETERS	S11, S21, S12, S22
IMPEDANCE	50 Ω
MEASUREMENT BANDWIDTH	10 Hz - 50 kHz
OUTPUT POWER	-40 dBm - 0 dBm
DYNAMIC RANGE	> 95 dB (< 3 GHz) > 50 dB (< 6 GHz)
MEASUREMENT POINTS	2 - 4501
RF GENERATOR #1	
FREQUENCY RANGE	100 kHz - 6 GHz
OUTPUT POWER	-40 dBm - 0 dBm
SPECTRUM ANALYZER #1	
FREQUENCY RANGE	100 kHz - 6 GHz
RESOLUTION BANDWIDTH	13 Hz - 112 kHz
PHASE NOISE	-103 dBc/Hz (1 GHz, 10 kHz offset)

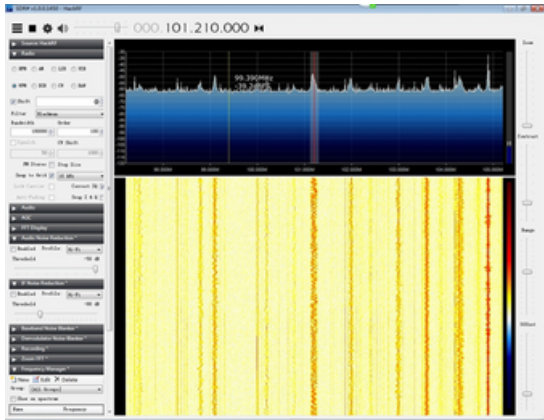
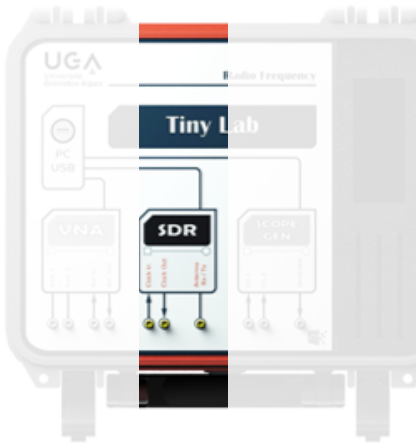
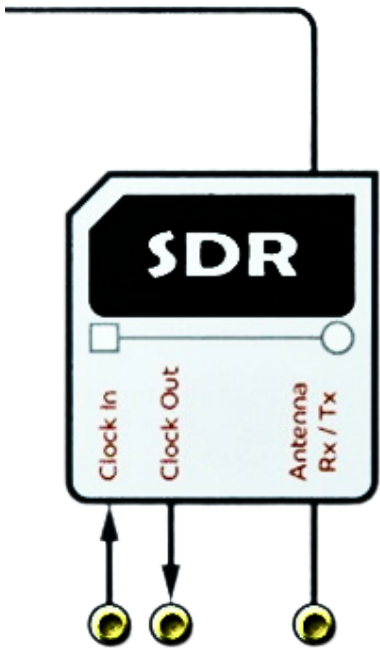
Your logo here



Technical specifications

SDR
+ RF generator 2
+ RF spectrum analyzer 2

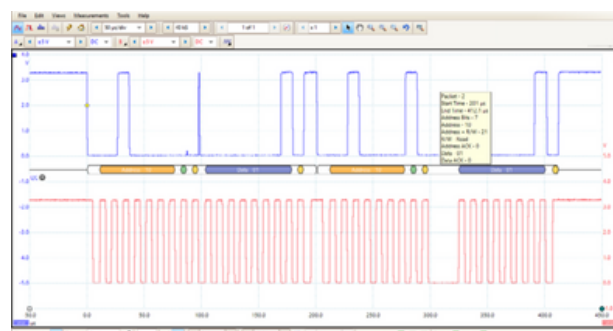
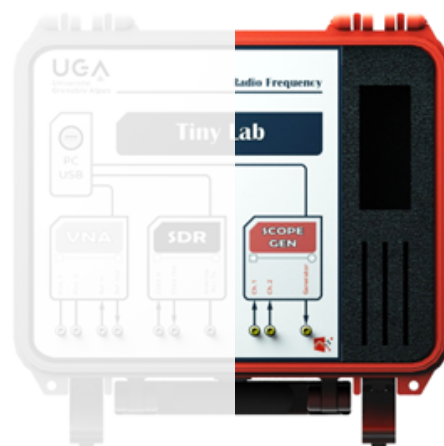
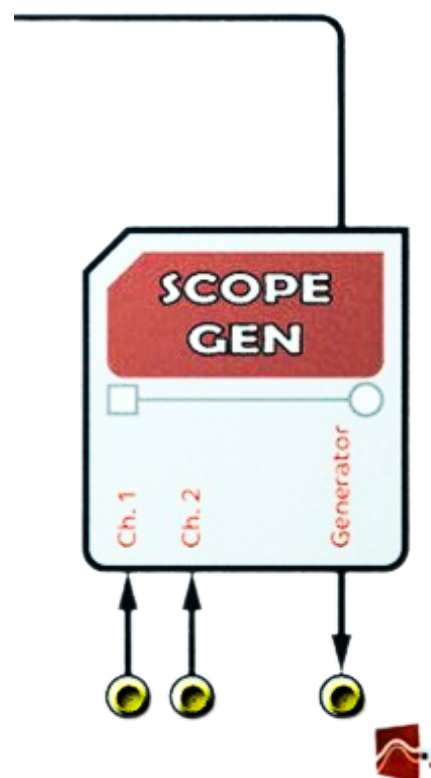
SDR	
TRANSCIEVER MODE	Half-Duplex
OPERATING FREQUENCIES	1 MHz to 6 GHz
SUPPORTED SAMPLE RATES	2 MSps to 20 MSps (quadrature)
RESOLUTION	8 Bits
RF GENERATOR #2	
FREQUENCY RANGE	1 MHz to 6 GHz
MAXIMUM TX POWER	1 MHz to 10 MHz: 5 dBm to 15 dBm
	10 MHz to 2150 MHz: 5 dBm to 15 dBm
	2150 MHz to 2750 MHz: 13 dbm to 15 dbm
	2750 MHz to 4000 MHz: 0 dBm to 5 dBm
	4000 MHz to 6000 MHz: -10 dbm to 0 dbm
SPECTRUM ANALYZER #2	
FREQUENCY RANGE	1 MHz to 6 GHz



Technical specifications

Oscilloscope
+ Function generator
+ AWG
+ Spectrum analyzer 3

OSCILLOSCOPE	
NUMBER OF CHANNELS	2
BANDWIDTH	25 MHz
SAMPLING RATE	200 MS/s real time 4 GS/s ETS mode
MEMORY DEPTH	16 kS
ADC RESOLUTION	8 bits
SERIAL PROTOCOLS TRIGGERING AND DECODING	1-Wire, ARINC 429, DCC, DMX512, I ² C, LIN, Modbus ASCII, Modbus RTU, PS/2, SPI, SENT, UART/RS-232, USB 1.1
FUNCTION GENERATOR + AWG	
OUTPUT SIGNALS	Sine, square, triangle, DC voltage, ramp, sinc, gaussian, half-sinus, arbitrary
STANDARD SIGNAL FREQUENCY	DC - 100 kHz
AWG MEMORY DEPTH	4 kS
AWG RESOLUTION	12 bits
SPECTRUM ANALYZER #3	
FREQUENCY RANGE	DC - 25 MHz



Julien will study at home, thanks to the Tiny Lab - RF...

01

"I have to hurry to install my Tiny Lab - RF.
I'm late for my remote RF experiment..."
(Julien)



02

Julien discovers the RF version of the Tiny Lab
Lab - RF in preview. He will be able to realize
his experiment of RF electronics using this
mobile and compact laboratory.



03

"A vector network analyzer up to 6GHz, a
SDR, an oscilloscope... They have thought of
everything!" (Julien)

The neat and condensed aspect of the case
did not indeed skimp on performance!



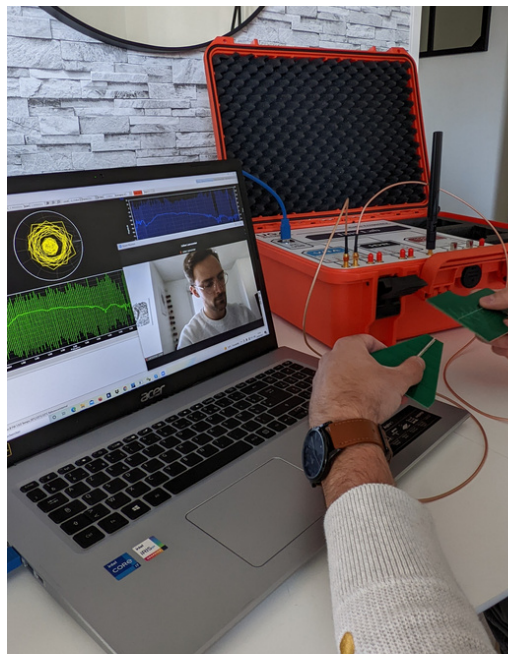
04

All the softwares are provided and
free of access. The plug & play
format allows you to install your
work environment very quickly.



05

"Very well, I send you my report of practical
work and will bring you back the Tiny Lab - RF
at the next lesson. It was really easy to use"
(Julien)

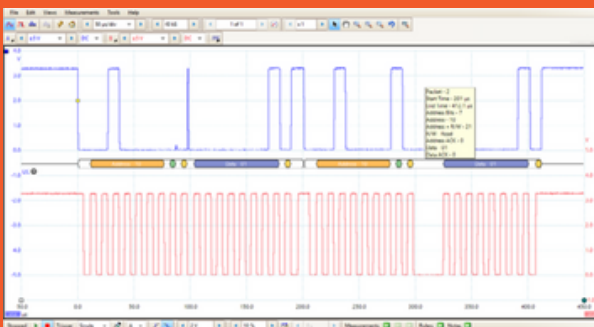
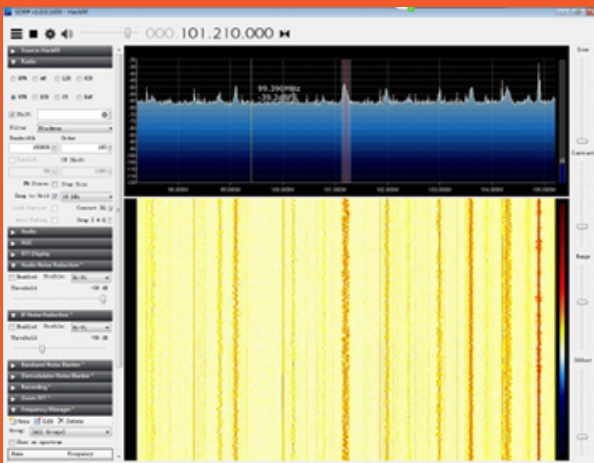
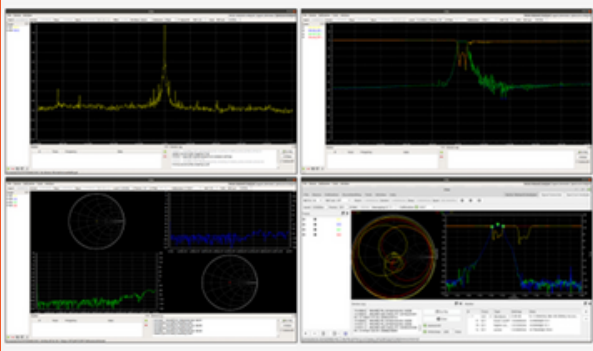


06

"Do you think they have a Tiny Lab - RF
model for me?" (Cat)



Application softwares



USB Key provided
in the case,

including the 3
softwares

Copyright @FASTER LAB <https://www.fasterlab.fr>
Rev 1.02 – 2023-06
All rights reserved. Information in this publication
supersedes all earlier versions.
Specifications subject to change without notice.