

The Bal-Cal kit is a **connectivity & calibration kit** for VNA-measurements in sub-miniature RF-electronic circuits.

for whom

You will need the BalCal kit for:

- connecting to sub-miniature RF-electronic circuits through **UFL-connectors**
- connecting and measuring in a **true balanced** way, into lecher-lines
- **calibrating** with **UFL-connectors** into 50 ohm
- **calibrating** with **balanced circuits** (lecher-lines), into 50, 10 and 200 ohm

The kit comes in a handy accessory box.

The **User Manual** explains you the use, tips & tricks, and so on.

This will quickly lead you into the realm of measurement of sub-miniature single ended and balanced RF-circuits. An a well defined calibrated way!

small sized connectivity

The today's RF engineer is confronted with some serious problems when he or she wants to connect a Vector Network Analyser to sub-miniature Rf circuits, because most of the connectors are way too bulky and influence the measurement. This even the case with the SMA-connectors, which ten years ago were still considered as “small”. But nowadays many complete RF- subsystems including antenna are about the size of an SMA!

This asks for much smaller connectors like UFL.

For this the Bal-Cal kit contains SMA/UFL converters, UFL/UFL cables, UFL-PCB-connectors, UFL-calibration tools so that you can hit the road immediately.

balanced, differential probing

Furthermore many RF-circuits are balanced, so being able to measure in a *true balanced way* is obligatory when you are looking for the characteristics of the circuit. This can be a 50 ohm balanced circuit, but often the impedances are higher, 100 or 200 ohm. This not only calls for the right Balanced Probe, but also for the right calibration tools.

Connection to your circuit is done by way of a special pin header, connecting to the balanced lecher-line on your circuit.

calibration tools

There are two kinds of calibration tools included, one for single ended UFL and one for balanced-lecher-line.

- UFL: Open, Short, Load (50 ohm), Through.
Layer spacing on your PCB gives you a slight difference in calibration. The calibration tool gives you the possibility to choose three different layer spacings (360, 1240, 1500 um), needed when you want to really go into detail.
- BAL: Open, Short, Load (50, 100 and 200 ohm), Through. Calibrating the Balanced, differential probes in a sub-miniature lecher line

The Bal-Cal kit contains

The Bal-Cal kit comes in a small accessory box which you can reuse for storing the items when not in use and contains:

SMA to UFL converter	3
SMA male/male adapter	3
UFL/UFL cable	10
UFL PCB jack (mating with the UFL/UFL-cables)	20
UFL calibration tool, 3 layer sizes each	2
Balanced Probe: 1xSMA to lecher-line	2
Balanced Probe: 1xUFL to lecher-line	2
Differential probe; 2x UFL to lecher-line	1
Differential OSLT calibration kit	2
Pin Header to connect to lecher-line, 24 pin each	2
Printed Bal-Cal User Manual	1