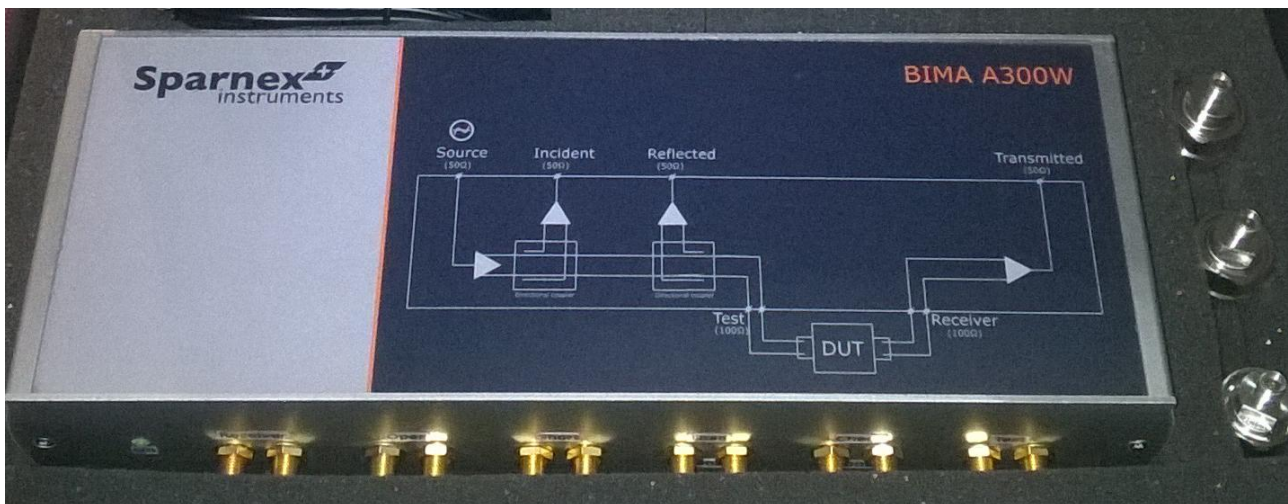# BIMA A300W

3Hz...300MHz

Balanced Network Analysis
Test Adapter

1. Product highlights

The state-of-the-art BIMA A300W Balanced Network Analysis Adapter converts a typical **unbalanced** 50 Ω Vector Network Analyzer (VNA) into a **balanced** 100 Ω VNA. It replaces a multitude of balun transformers that are used for transmission based VNA measurements such as insertion loss; insertion phase or delay, transmission parameters S12 or S21.. It also replaces the Impedance Test Adapters with balanced-unbalanced (balun) transformer combination for balanced reflection based VNA measurements such as return loss, impedance, inductance, capacitance, reflection parameters S11 or S22, etc ..

The BIMA A300W may also be used to convert the **unbalanced** 50 Ω ports into **balanced** 100 Ω ports of other equipment including Scalar Network Analyzers, Selective Level Meters with a tracking source, and more. Even when only a Function Generator and an Oscilloscope are available (both 50 Ω), the BIMA A300W enables indicative network analysis (attenuation and return loss measurements) or TDR measurement on balanced networks.

> ➢ Balanced Transmission/Reflection measurements
> ➢ Balanced Impedance measurements
> ➢ Balanced S-parameter measurements
> ➢ and more...

Note: the BIMA A300W may be used with 75 Ω equipment by adding SMA minimum loss 75 Ω -50 Ω impedance matching pads to each 50 Ω BIMA port, if the 5.72 dB power loss that each matching pad produces is taken into account. Such special adapters can be purchases at Sparnex Instruments (sales@sparnexinstruments.com)
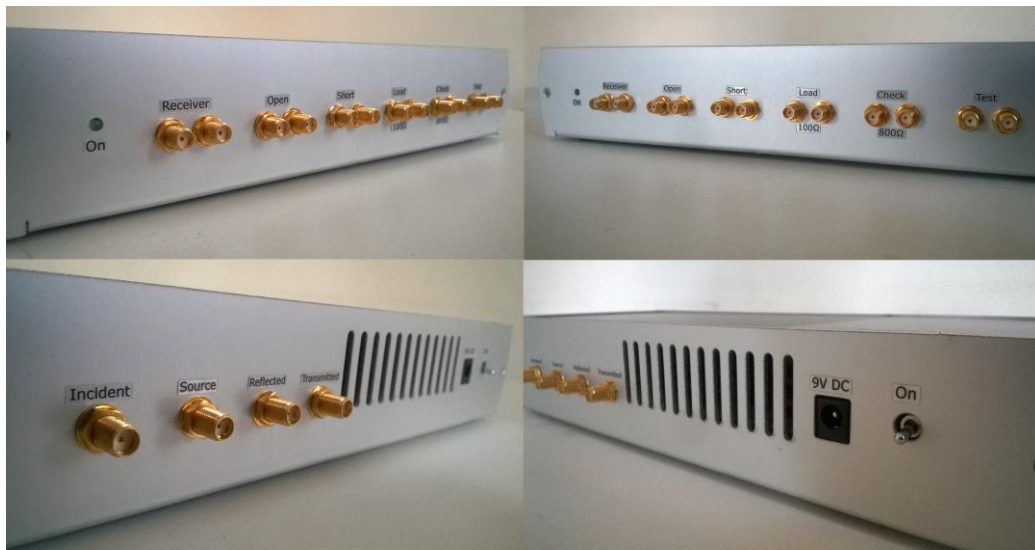
2. Signal levels and level conversions

The BIMA A300W has essentially no power losses or scale factors.
The reference level is 0 dBm at all ports.

Quick dBm to mV conversion example:

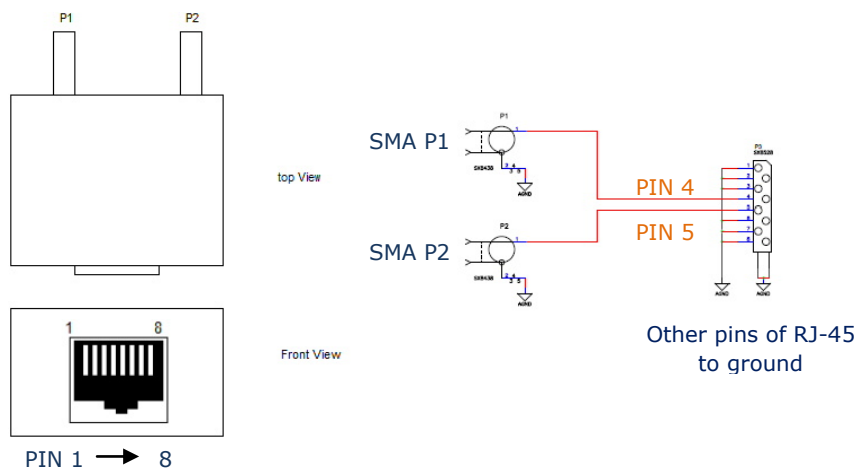0dBm @ 100Ω = 894.4mVpp = 447.2mVp = 316.2mVrms (sinewave!)
0dBm @ 50Ω = 632.5mVpp = 316.2mVp = 223.6mVrms (sinewave!)

3. Included Accessories

- Power adapter: PSA15R-090P 100~240 AC/50Hz (9V, 15W)

- 2 SMA adapters

- 3 SMA-N adapter

- 8 SMA-SMA double shielded cable

- 2 pair SMA-SMA double shielded matched phase cable

- Case

- Manual

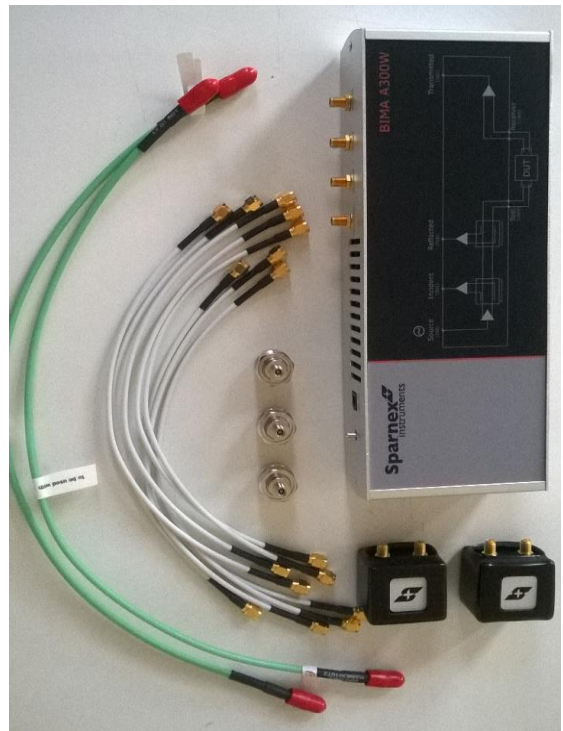## 4. RJ-45 - SMA connector art. 26.99.0006

5. Electrical specifications BIMA A300W

- Usable Bandwidth assuming VNA calibration/correction: 1Hz ~ 300MHz
- Balun operation bandwidth without VNA calibration/correction: 3Hz ~ 220MHz (-3dB)
- Return loss: 25dB @ 100MHz
- Unbalance: 25dB @ 100MHz
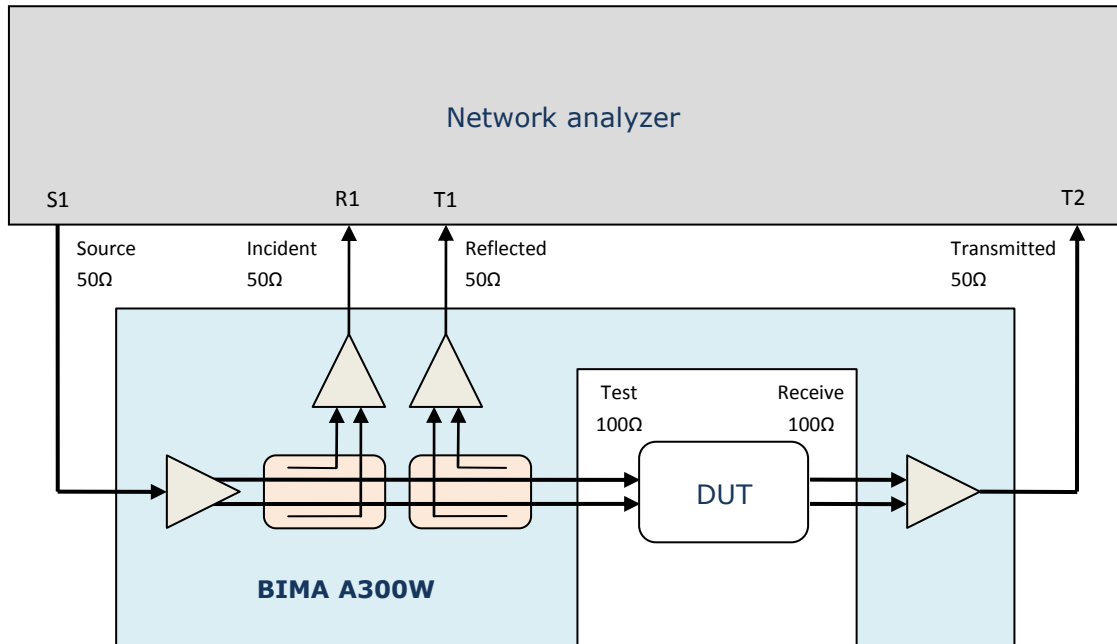- Maximum applied signal (any port): 0dBm

Model	Impedance	Usable Frequency	Return loss	Insertion loss
BIMA A300W	50 Ω unbalanced ~ 100 Ω balanced	3 Hz - 300 MHz	< 25 dB @ 100 MHz	< 3 dB
Ordering number	91.57.9300			

6. Mechanical specifications BIMA A300W

- Test adapter BIMA = 260 mm x 95 mm x 48 mm (without connectors)
- with connectors = 260 mm x 115 mm x 48 mm
- Humidity max 85 %
- Operating Temperature range : 10°C ~ 27°C
- ca. 700 gr
- 4 anti-slip grips
- Blue light weight and impact resistant thermo-formed storage case with integrated handle for easy transport, size 33 cm x 22 cm x 6.5 cm

Typical Use - Setup

Network analyzer

S1   R1   T1   T2

Source   Incident   Reflected   Transmitted
50Ω   50Ω   50Ω   50Ω

Test   Receive
100Ω   100Ω

DUT

BIMA A300W

for any additional information on price and availability, please send your request to
Sales@sparnexinstruments.com