

Baluns kit for manual measurement

Manual method to characterize communication cable



Remark : indicative pictures

DESCRIPTION

Increasingly, communication cable manufacturers want to know the behaviour of their products for R&D and marketing purposes. AESA proposes a non-automated solution to perform basic tests at a lower cost.

Thanks to our impedance transformers (Baluns), we are able to measure impedance, attenuation, crosstalk and all related parameters in order to make sure the cable's quality is heading in the right direction.

The various frequency ranges of our Baluns allow testing, for example, Cat 5, 6, 7 and 8 cables against international standards. The Baluns have been designed to be connected to a High Frequency Vector Network Analyser (VNA) with "N" type connectors. After performing a usual calibration (1 port or full 2 ports), it is possible to make measurements on the 100Ω symmetric parts of the Baluns, using special golden WAGO type connectors.

The Baluns are presented in a heavy duty plain aluminium package. To measure shielded products, the shield can be connected to the Balun in order to maintain the floor noise down to 90dB. Cable preparation is also very important to respect the technical constraints when measuring in the high frequency range.

In order to facilitate these measurements, AESA has developed an optional software package called Optitest, running in the Windows™ environment. Specifications, calibrations and reports are prepared by the system manager. Measurements files can be archived or exported under ASCII format toward EXCEL or other high level quality management programs.

KEY FEATURES

- Cost effective solution for sporadic measurements of communication cables
- Used with 50 Ohm ports of AESA ATE's or an additional VNA
- Optional software for guided measurements

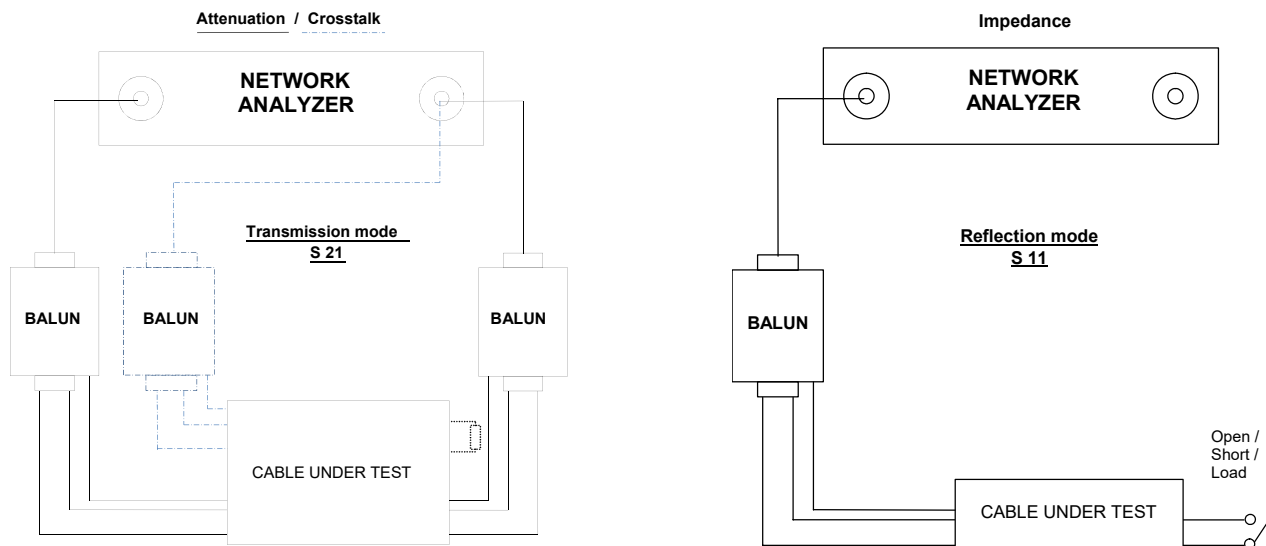


AESA Cortaillod

TECHNICAL SPECIFICATIONS

Frequency Range	3 versions available, other frequency ranges upon request: <ul style="list-style-type: none"> 0.772 MHz to 600 MHz 0.772 MHz to 1.2 GHz 0.772 MHz to 2.0 GHz 		
Specifications	<ul style="list-style-type: none"> Insertion Loss: < 4 dB Asymmetric connector: type SMA (N) Symmetrical impedance: $100 \Omega \pm 10 \Omega$ (typical $\pm 5 \Omega$) Asymmetrical impedance: 50Ω SMA/N Power: 1 W nominal 		
Components	<p>The kit consists of:</p> <ul style="list-style-type: none"> 1 pair of baluns (2 units) Calibration kit (open-short-load) Wago connectors 		
Versions	600 MHz	1.2 GHz	2.0 GHz
Article Nb.	50.0001.0020.0	50.0001.0030.0	50.0001.0074.0

MEASUREMENT PRINCIPLE:



REQUIRED COMPONENTS

The baluns must be completed with:

- Vector Network Analyzer (VNA). This can be provided by AESA or by the customer;
- or
- Scorpius 1 DT, fully integrated system with embedded VNA, PC and software;
- or
- Using them as an option with an existing AESA test equipment (ATE).

AVAILABLE OPTIONS

The kit can be completed with:

- Software Optitest XL
- Training

Options

1. Software *Optitest XL*

Article No: 52.0001.0006.0

The measuring system is equipped with OptiTest (a module of our CIQ quality data management software) which allows to prepare a measurement, to control the ATE to automatically acquire all the values of the defined parameters, to evaluate the results, to provide the measurement reports in the desired format and finally to save or export the measured values.

The software has been developed in the Microsoft® Windows™ environment and complies with the Windows features.

Creation and administration of test specification

The early creation of "Test Plan" file allows to define:

- the successive measuring sequences (Line test, LF, HF, EMC, ...)
- the appropriated limits and conditions (including complex limit curves)
- the scales (logarithmic or linear)
- the HF measuring method (sweep or frequency table; start/stop frequencies; number of points,...)
- the configuration of reports

The test plan is created only once per cable type and can be saved and re-used accordingly.

Possibility to create an unlimited number of cable specifications and test sequences.

These "test specifications" will be stored with an individual customised name and are easily retrievable.

Most of the limits and formulas recommended by the international standards are already integrated.

Their variables are programmable to enable the preparation of special specifications

Measurement

The operator only needs to connect the cable on the frame, set the right test plan, fulfil the specific data (order number, operator name,...) and start the full automatic measurement.

- Fully automatic calibration management including automated calibration procedure
- Preliminary line test to verify the cable connection (short cut, crossover,...)
- Switching sequences indicated by LEDs
- In case of problem, the operator can repeat the measurement or continue in accepting the wrong value.

Reporting

Report generation is set in the test plan and is automatically generated.

The results may be displayed, printed, stored as PDF files, exported (e.g. Excel) or sent by email.

Different highly comprehensive reports can be generated containing a limit case compilation with graphics and for each measuring block a separate summary with related graphics.

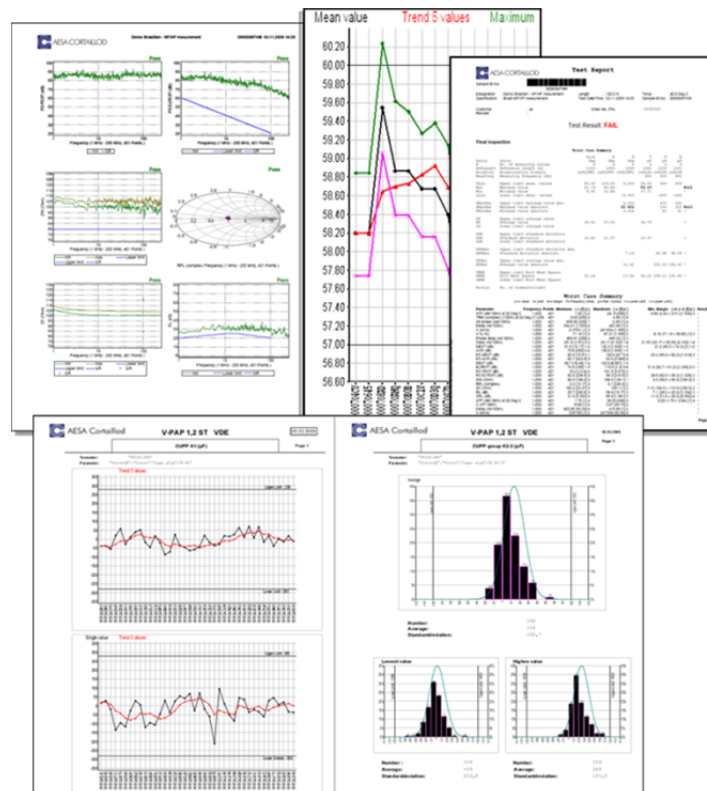
Filters and search criteria normally generate sample lists which facilitate multiple further actions such as:

- Display and process measured values
- Print reports and labels

Evaluation

All data is available for evaluation at any time. Thus, all test data of a cable can be collectively evaluated and printed. Some examples of how to perform evaluations are:

- Sample list sorted by test order
- Search with pre-defined or customized filters through the data pool
- Generate quality charts (statistics)
- Statistical distribution (Gauss type curve)
- Evolution and parameter survey as function of time
- Measurements repartition in a defined time period to determine the testing load



Data management

Connected to CIQ (AESA quality data management system), all data gathered with OptiTest can be used for further statistical evaluations and combined with other measurements gathered during the complete manufacturing process, from incoming good inspection to the dispatch of the finished product.

2. Training session (on hourly basis)

Article No: 60.0100.0004.0

Training can be given either on-site, in our premises, or via remote connection by our AESA specialists