

Scorpius 6 DT

Complete solution for coaxial cables



DESCRIPTION

Scorpius DT automatic test equipment (ATE) is designed to measure high frequency parameters of coaxial cables.

Our dedicated N-type (N50 and N75/F75) interfaces let you quickly connect your different products while ensuring perfect contact of both the core and the shield of your coax cable.

This fully integrated automatic testing equipment (ATE) is not only offering operating comfort, but is also providing high measurement accuracy.

KEY FEATURES

- **Complete solution**
 - Embedded VNA (Vector Network Analyser)
 - Integrated computer and software
- **For any type of coaxial cable**
 - 50 Ohms
 - 75 Ohms
 - \varnothing 2 to 9 mm
- **High Accuracy**
 - checked against traceable calibration standards according ISO/IEC 17025
- **Easy to operate**
- **Fast measurements**
- **Overall accuracy**
 - specifications related to the whole system, not the VNA only



AESA Cortailod

TECHNICAL SPECIFICATIONS

Measuring range	100 kHz – 6 GHz (frequency extension on request)
Diameter range	∅ 2 to 9 mm on shield
Accuracy	See table below
Integrated equipment	<ul style="list-style-type: none"> • Network Analyser for HF measurements • Embedded windows based PC with Windows 10 operating system
Standards	Performs all electrical tests on cables responding to: <ul style="list-style-type: none"> • ANSI/TIA-568.4-D for Broadband Coaxial Cabling and Component Standard • IEC 61196-x • EN 50117-x
Supply voltage	100 - 240 VAC / 50-60Hz
Interfaces	6 x USB (e.g. for printer) 1 x VGA Display Port connector for external monitor (delivered with the system) 1 x DVI Display Port 1 x HDMI 1 x RJ45 for LAN connection
Components	<ul style="list-style-type: none"> • Embedded network analyser • Embedded PC with Windows operating system, external display, keyboard & mouse • 1 license OptiTest, AESA measurement and result management software • Power supply, interface and connecting cables
Dimensions	400 x 410 x 250 mm (15.8" x 16.1" x 9.9")
Weight	≈ 11 kg (24 lbs)
Article No	20.9706.0001.00

ACCURACY

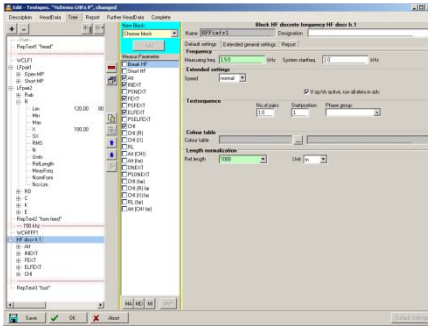
	From	To		100 kHz 100 MHz	100 MHz 500 MHz	500 MHz 1 GHz	1 GHz 3 GHz	3 GHz 6 GHz
S21 transmission (Attenuation, NEXT) corrected at 20°C	-80	-50	dB	± 1.5 dB	± 1.7 dB	± 1.9 dB	± 2.4 dB	± 3.0 dB
	-50	-25	dB	± 0.5 dB	± 0.6 dB	± 0.7 dB	± 0.9 dB	± 1.5 dB
	-25	-10	dB	± 0.2 dB	± 0.3 dB	± 0.4 dB	± 0.8 dB	± 1.3 dB
	-10	0	dB	± 0.2 dB	± 0.2 dB	± 0.4 dB	± 0.8 dB	± 1.3 dB
Impedance	50	50	Ω	± 0.5 Ω	± 0.7 Ω	± 1.0 Ω	± 1.5 Ω	± 4.0 Ω
	75	75	Ω	± 0.75 Ω	± 1.2 Ω	± 1.5 Ω	± 2.0 Ω	± 6.0 Ω

OPTIONS

- Calibration kits N50, N75, F75
- Low frequency option
- Regularity of Impedance
- Printer
- Maintenance contract
- Gating (to remove the connector influence)
- Fastcon
(customized connector for a fast and reliable connection)
- EMC parameters (Electro Magnetic Compatibility)
(Transfer Impedance TI, Screening Attenuation AS)
- 9800 HF standards (50Ω SMA)

AESA proposes other specific equipment for high frequency measurement.

KEY BENEFITS



USER-FRIENDLY

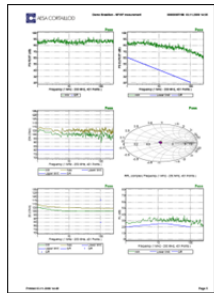
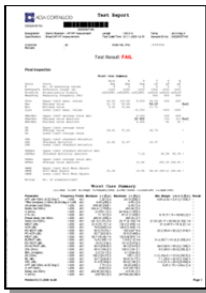
- Optitest software is multilingual
- Direct results without post calculation
- Calibration automatically managed/saved by computer
- Test orders library

ISO 17025 ACCREDITED



ACCURATE

- The equipment is checked against traceable calibration standards according to ISO/IEC 17025
- The risk of human error is reduced to its minimum



SMART

- All data (results and conditions) are saved in its internal PC
- Reports can be printed
- Data can be exported through the LAN in an ASCII or XLS file



UNIVERSAL

- All Coax can be measured (\varnothing 2 to 9 mm on shield)

Options

1. LF 9100 measuring parameters option

Article No: 50.0001.00036.0

The low frequency parameters measuring technology provides a self-calibration. Different measuring frequencies (from 12.5 to 1000 Hz) are integrated in the capacitance bridge in two versions: one version provides measurements at 12.5, 125 and 800Hz, the second one at 12.5, 125 and 1'000Hz. Please specify which type you prefer when ordering.

Description	Designation	Accuracy	Scale
Resistance (core and screen)	Ra, Rb	$\pm 0,1\% + 10 \text{ m}\Omega$	0 - 19,999 k Ω
Capacitance	C	$\pm 0,25\% \pm 10\text{pF @}800 \text{ Hz / 1kHz}$ $\pm 0,25\% \pm 10\text{pF @}125 \text{ Hz}$ $\pm 0,25\% \pm 50\text{pF @}12,5\text{Hz}$	0 – 2'000nF

Calculated parameters at 800Hz – 1 kHz

- Attenuation
- Phase
- Characteristic Impedance
- Velocity of propagation (VOP)

Statistical parameters

- Maximum and minimum measured values
- Quality factor up
- Absolute minimum measured value
- Quality factor down
- Average value
- RC product
- Quadratic average
- Standard deviation RC
- Standard deviation
- Variance

2. Gating option

Article No: 52.0001.0009.0

Gating for cables is used to remove the connector influence. This function allows to selectively remove or reduce unexpected mismatches in transmission occurring out of the defined gate. Gating is a function designed to set a measuring “gate” in the “time domain”, meaning to set start and stop positions.

3. Regularity of Impedance

Article No: 52.0001.0010.0

Regularity of impedance for coaxial cables is used to measure the impedance along the cable length, means in the time domain. As described in IEC 62153-1-1(Measurement of the pulse/step return loss in the frequency domain using the Inverse Discrete Fourier Transformation (IDFT)), the measurement in frequency domain is transformed into time domain by IDFT. The maximum measured length is 500m for measurements from one side and 1000m for measurements applied from both sides.

4. Fastcon Connectors

Article No: 50.0100.0013.0

AESA proposes customized connectors for a fast and reliable connection of your coax to the N-type ports



5. EMC Parameters

Article No: 51.0001.0035.0

➤ Transfer Impedance Kit, inc. and Screening Attenuation 2.3-9.8 mm

To perform Transfer Impedance (TI) measurements with the triaxial method, following accessories are required:

- One hardware package to prepare the sample and take care for the impedance adaptation
- One software package (specific module)



6. Calibration Kits

➤ **Mini Calibration kit type N 50 or 75 Ohms**



Type N:

The calibration kit contains of a male load and a one-piece male open/short circuit.

➤ 50 Ohms: [Article No: 45.8503.0001.0](#)

➤ 75 Ohms: [Article No: 45.8503.0002.0](#)

Type F:

The calibration kit contains of male and female loads, opens and shorts and a female-female thru.

➤ 75 Ohms: [Article No: 45.8503.0005.0](#)

➤ **Thru cable**

➤ 50 Ohms: [Article No: 50.0001.0041.0](#)

➤ 75 Ohms: [Article No: 50.0001.0040.0](#)

7. Printer

[Article No: 55.0500.0012.0](#)

LaserJet printer.

8. Maintenance contract

[Article No: 60.0100.0002.0](#)

Details upon request.