

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *Maury Microwave 8021A2* at our website: ***Click HERE***

3.5mm VNA Calibration Kits

DATA SHEET / 2Z-059

Models:

8050CK10 – Fixed Load Kit
8050CK11 – Fixed Load Kit Plus Adapters
8050CK20 – Sliding Load Kit - Basic
8050CK21 – Sliding Load Kit Plus Adapters
8050CK30 – TRL Kit - Basic
8050CK31 – TRL Kit Plus Adapters



Maury Microwave

// NOVEMBER 2017

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

3.5mm VNA Calibration Kits

8050CK10/11 SERIES, 8050CK20/21 SERIES, AND 8050CK30/31 SERIES

Features

- 3.5mm Connectors
- DC to 26.5 GHz
- Keysight, Rhode & Schwarz and Anritsu VNAs Supported

Calibration Methods Supported

- 8050CK10/11 – Fixed Load SOLT (DC–26.5 GHz)
- 8050CK20/21 – Fixed/Sliding Load SOLT (DC–26.5 GHz)
- 8050CK30/31 – TRM/TRL/LRL (DC–26.5 GHz)

The Importance of VNA Calibration

Imperfections exist in even the finest test equipment. If un- corrected these systematic imperfections cause the equipment to yield less accurate measurements. The basis of network analyzer error correction is referred to as “calibration” of which multiple methods exist.

Calibration Methods

SOLT calibration, which uses Short, Open and Load standards, requires precise models of the standards’ electrical performance. Fixed load SOLT uses fixed terminations and is adequate for measuring devices with mid-range reflection coefficients. The lowest return loss is limited by the reflection coefficient of the fixed load standard (typically better than 20 dB return loss*).

The sliding load SOLT kit can accurately measure lower reflection coefficients due to the improved termination performance provided by the sliding load (typically better than 30 dB return loss).

TRL calibration, using Thru, Reflect and Line standards, relies on the characteristic impedance of the air lines (Line). TRL calibration is the most accurate method of measuring devices at low (typically better than 40 dB return loss) and high reflection coefficients. *Refer to specifications on page 3.

8050CK10/11/20/21 kits are configured for use in performing one-port SOL (Short-Open-Load) response calibrations (a method used for measuring VSWR/ Return Loss), and full two-port SOLT (Short-Open-Load-Thru) calibration (for performing forward and reverse transmission and reflections measurement).

8050CK30/31 TRL/LRL calibration kits contain the components needed to perform TRM, TRL and LRL calibrations. Source match can also be measured using the 15cm air line with the short circuit provided.

8050CK11/21/31 kits include three 3.5mm in-series adapters for applications that require female/female, male/male, or male/female connections. A wide range of between-series adapters in 3.5mm to other types are also available by separate order.

A050A



8799A1



8009A *8009B* *7909B1* *7909B2*



Go to www.maurymw.com/Precision/Adapters.php to see all Maury 3.5mm in-series and between series adapters.

Recommended Accessories

A050A Digital Connector Gage Kit:

Contains two “thread-on” type, digital gages for measuring female and male contact pin location. They provide an easy and accurate way to measure critical linear interface dimensions of 2.92mm and 3.5mm coaxial connectors.

8799A1 5/16-inch Precision Torque Wrench (8.0 inch lbs):

For proper torquing of 1.85mm, 3.5mm, 2.92mm and 3.5mm connections. Factory preset to 8.0 inch lbs to ensure the precise torque needed for optimum repeatability. Employs a “break” design that makes it impossible to over-torque your connections. These torque wrenches are provided with 8050CK20/21 and 80500CK30/31 kits, and are highly recommended for use with 8050CK10/11 kits.

8009A & 8009B 3.5mm NMD test port adapters:

Precision 3.5mm to NMD3.5mm; DC–26.5 GHz. Saves unnecessary wear and tear on your VNA test ports.

7909B1 & 7909B2 2.4mm NMD test port adapters:

Precision NMD2.4mm to 3.5mm; DC–34.0 GHz. Saves unnecessary wear and tear on your VNA test port connectors.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Maury 2.4mm VNA Calibration Kits

Maury precision 3.5mm VNA calibration kits include each of the calibration standards and tools shown in the tables at the right. The 8050CK10/20/30 kits do not include adapters; the 8050CK11/21/31 kits include one each of the in-series adapters shown. Other in-series and between-series adapters are sold separately.

Components Included in 8050CK10/11 Kits

QUANTITY	DESCRIPTION	MODEL
1	3.5mm female fixed short circuit	8046F
1	3.5mm male fixed short circuit	8047F
1	3.5mm female open circuit termination	8048A1
1	3.5mm male open circuit termination	8048B1
1	3.5mm female fixed termination	8031A5
1	3.5mm male fixed termination	8031B5
1*	3.5mm female to 3.5mm female adapter	8021A5
1*	3.5mm male to 3.5mm male adapter	8021B2
1*	3.5mm female to 3.5mm male adapter	8021C2
1	Foam-lined wood Instrument case	—

** These adapters are provided in the 8050CK11 kits, but are not included in the 8050CK10 kits.*

Components Included in 8050CK20/21 Kits

QUANTITY	DESCRIPTION	MODEL
1	3.5mm female fixed short circuit	8046F
1	3.5mm male fixed short circuit	8047F
1	3.5mm female open circuit termination	8048A1
1	3.5mm male open circuit termination	8048B1
1	3.5mm female fixed termination	8031A5
1	3.5mm male fixed termination	8031B5
1*	3.5mm female to 3.5mm female adapter	8021A2
1*	3.5mm male to 3.5mm male adapter	8021B2
1*	3.5mm female to 3.5mm male adapter	8021C2
1	3.5mm female sliding termination	8037A
1	3.5mm male sliding termination	8037B
1	Pin depth adjusting tool	8777S02
1	5/16-inch torque wrench — 8 in. lbs.	8799A1
1	7/16-inch double end wrench	8770Z7
1	5/16-inch double end wrench	8770Z6
1	Foam-lined wood Instrument case	—

** These adapters are provided in the 8050CK21 kits, but are not included in the 8050CK20 kits.*

Components Included in 8050CK30/31 Kits

QUANTITY	DESCRIPTION	MODEL
1	3.5mm female fixed short circuit	8046F
1	3.5mm male fixed short circuit	8047F
1	3.5mm female fixed termination	8031A5
1	3.5mm male fixed termination	8031B5
1*	3.5mm female to 3.5mm female adapter	8021A2
1*	3.5mm male to 3.5mm male adapter	8021B2
1*	3.5mm female to 3.5mm male adapter	8021C2
1	3.5mm female to male air line (5cm)	8043S5
1	3.5mm female to male air line (5.25cm)	8043S5.3
1	3.5mm female to male air line (6cm)	8043S6
1	3.5mm female to male air line (15cm)	8043S15
1	5/16-inch torque wrench — 8 in. lbs.	8799A1
1	7/16-inch double end wrench	8770Z7
1	5/16-inch double end wrench	8770Z6
1	Foam-lined wood Instrument case	—

** These adapters are provided in the 8050CK31 kits, but are not included in the 8050CK30 kits.*

8050CK10



8050CK11



8050CK20



8050CK21



8050CK30



8050CK31



Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

COMPONENT SPECIFICATIONS



Air Lines – Models 8043S15, 8043S6, 8043S5.3 & 8043S5

Frequency Range -- DC to 26.5 GHz
Electrical Length:
- 8043S15 -- 15cm
- 8043S6 -- 6cm
- 8043S5.3 -- 5.3cm
- 8043S5 -- 5cm

Electrical Length Accuracy -- ±0.0025cm
Minimum Return Loss (excluding connector interface) -- 48 dB
Nominal Impedance -- 50 ohm



Fixed Terminations – Models 8031A5 & 8031B5

Frequency Range -- DC to 26.5 GHz
Maximum VSWR:
- DC to 3.0 GHz -- 1.020
- 3.0 to 6.0 GHz -- 1.032
- 6.0 to 20.0 GHz -- 1.052
- 20.0 to 26.5 GHz -- 1.083

Power Handling -- 0.25 watt CW, 0.5 kW peak
Nominal Impedance -- 50 ohm



Open Circuits – Models 8048A1 & 8048B1

Frequency Range -- DC to 26.5 GHz
Minimum Reflection Coefficient -- 0.98
Phase Accuracy -- ±1.4 degrees
Nominal Impedance -- 50 ohm



Sliding Terminations – Models 8037A & 8037B

Frequency Range -- 2.0 to 34.0 GHz
Maximum VSWR of Terminating Element:
- 2.0 to 4.0 GHz -- 1.09
- 4.0 to 34.0 GHz -- 1.05

Air Line Accuracy -- 50 dB min return loss (equivalent return loss of air line impedance)
Nominal Impedance -- 50 ohm
Power Handling -- 1.0 watt CW, 1.0 kW peak
Travel -- Greater than 1/2 wavelength at 2.0 GHz



Fixed Shorts – Models 8046F & 8047F

Frequency Range -- DC to 26.5 GHz
Minimum Reflection Coefficient -- 0.98
Phase Accuracy -- ±2.0 degrees
Nominal Impedance -- 50 ohm



Precision 3.5mm Adapters – Models 8021A2/B2/C2

Frequency Range -- DC to 34.0 GHz
Maximum VSWR:
- DC to 18.0 GHz -- 1.05
- 18.0 to 26.5 GHz -- 1.08
- 26.5 to 34.0 GHz -- 1.12

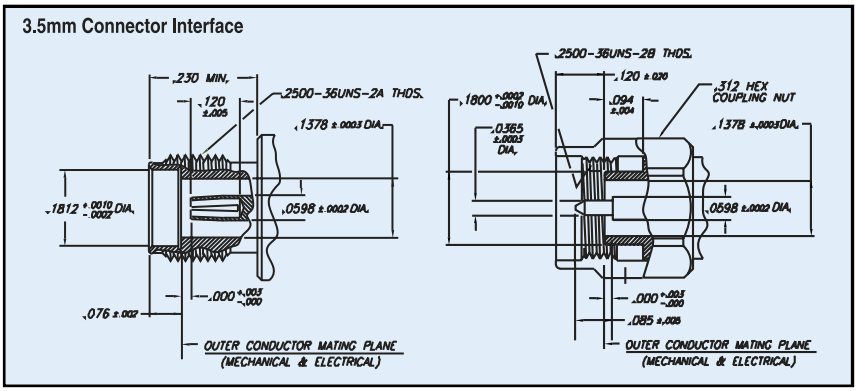
Nominal Impedance -- 50 ohm

(Note: These adapters are included in the 8050CK11/21/31 kits, but are not included in the 8050CK10/20/30 kits.)

Connector Description

The precision 3.5mm connectors on the components in these kits are miniature, instrument grade, air-interface connectors that operate mode free up to 34 GHz, and comply with IEEE standard 287 general precision connector, instrument grade GPC3.5.

For detailed interface specifications please refer to Maury data sheet 5E-062.

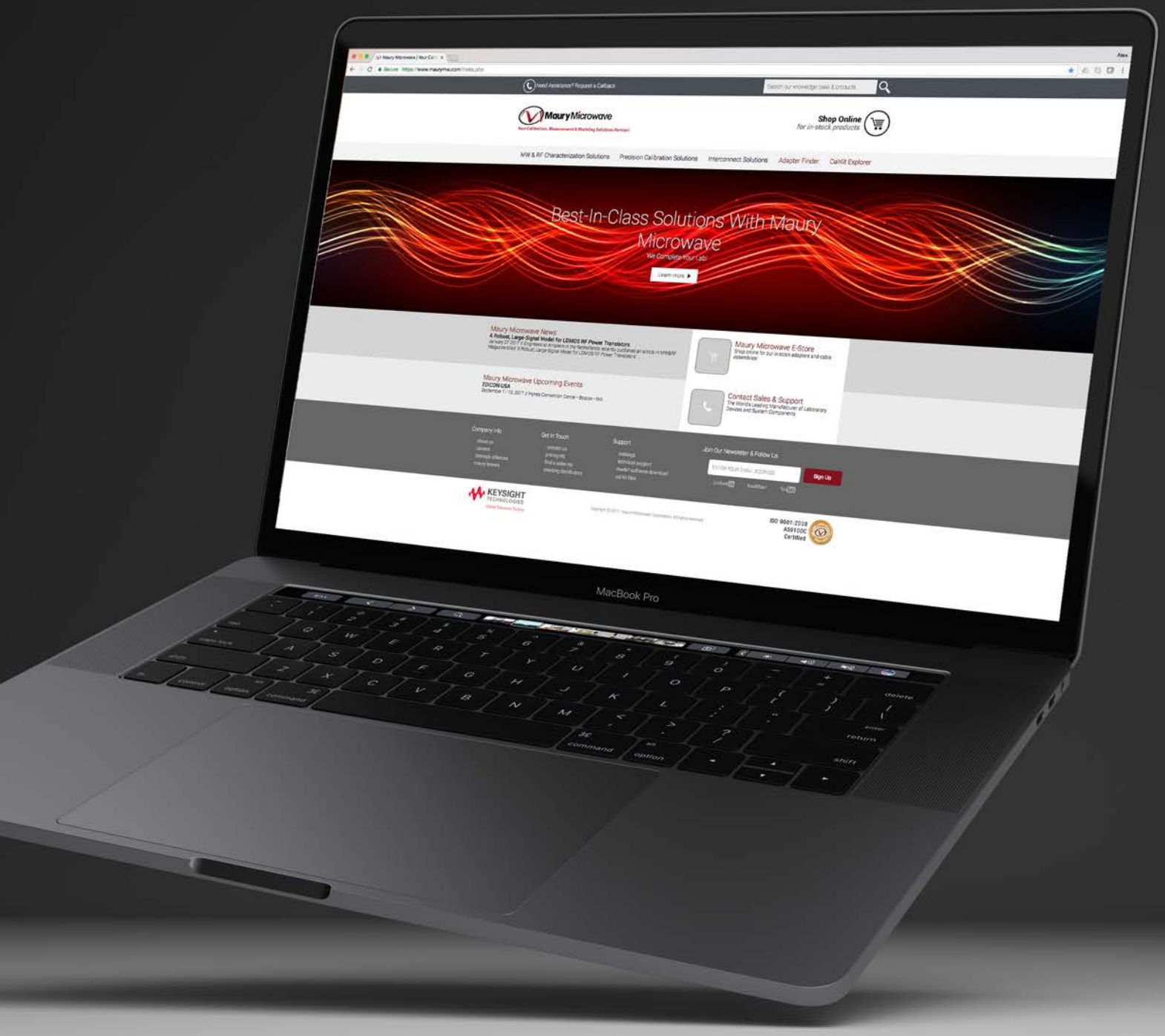


Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

VISIT OUR WEB STORE

TO LEARN MORE ABOUT

OUR PRODUCTS



www.maurymw.com

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Maury Microwave

DATA SHEET / 2Z-059

© 2017 Maury Microwave Corporation. All Rights Reserved.
Specifications are subject to change without notice.
Maury Microwave is ISO: 9001:2008/AS9100C Certified.

CONTACT US:
W / maurymw.com
E / maury@maurymw.com
P / +1-909-987-4715
F / +1-909-987-1112
2900 Inland Empire Blvd
Ontario, CA 91764



Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP