

1.85mm VNA Calibration Kits

7850CK30/31 SERIES

These precision 1.85mm TRL/LRL calibration kits are designed for use with a broad range of vector network analyzers (VNAs) and are used to make error-corrected measurements, from DC to 67 GHz, for devices supplied with 1.85mm connectors. Each kit includes a full complement of calibration standards (shorts, fixed loads and air lines). Three 1.85mm in-series, calibration-grade (metrology), adapters are included in the 7850CK31 kits but are not included in the 7850CK30 kits. All kit components are provided in an attractive foam-lined, wood instrument case.

Features

- > 1.85mm Connectors
- > DC to 67 GHz (Operates to 70 GHz)
- > Keysight, Rohde & Schwarz and Anritsu VNAs Supported

Calibration Methods Supported

- > TRM – Thru-Reflect-Match (DC to 800 MHz)
- > TRL – Thru-Reflect-Line (800 MHz to 13.0 GHz)
- > LRL – Line-Reflect-Line (13.0 to 67.0 GHz)

Components Included in 7850CK30 Kits

QUANTITY	DESCRIPTION	MODEL
1	1.85mm female fixed short circuit (0.5cm)	7846A
1	1.85mm male fixed short circuit (0.5cm)	7847A
1	1.85mm female fixed termination	7831A1
1	1.85mm male fixed termination	7831B1
1	1.85mm female to male air line (0.96cm)	7843S0.96
1	1.85mm female to male air line (1.15cm)	7843S1.15
1	1.85mm female to male air line (3.00)	7843S3.00
1	Torque wrench (8 in. lbs)	8799A1
1	5/16-inch double end wrench	8770Z6
1	3/16-inch double end wrench	7960Z1
1	Foam-lined wood instrument case	—

7850CK30



7850CK31



Components Included in 7850CK31 Kits

QUANTITY	DESCRIPTION	MODEL
1	1.85mm female fixed short circuit (0.5cm)	7846A
1	1.85mm male fixed short circuit (0.5cm)	7847A
1	1.85mm female fixed termination	7831A1
1	1.85mm male fixed termination	7831B1
1	1.85mm female to male air line (0.96cm)	7843S0.96
1	1.85mm female to male air line (1.15cm)	7843S1.15
1	1.85mm female to male air line (3.00)	7843S3.00
1	1.85mm female to 1.85mm female	7821A
1	1.85mm male to 1.85mm male	7821B
1	1.85mm female to 1.85mm male	7821C
1	Torque wrench (8 in. lbs)	8799A1
1	5/16-inch double end wrench	8770Z6
1	3/16-inch double end wrench	7960Z1
1	Foam-lined wood instrument case	—



DATA SHEET
2Z-056



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2.4mm VNA Calibration Kits

7950CK40/41 SERIES AND
7950CK50/51 SERIES

Features

- > 2.4mm Connectors
- > DC to 50 GHz
- > Compatible with Insight calibration SW and uncertainty analysis*
- > Keysight, Rohde & Schwarz and Anritsu VNAs Supported

Calibration Methods Supported

- > 7950CK40/41 – Fixed Load SOLT (DC–50 GHz)
- > 7950CK50/51 – Characterized Device (CD) SOLT (0.05–50 GHz)

7950CK40



7950CK41



Maury precision 2.4mm VNA calibration kits include each of the calibration standards and tools shown in the tables at the right. The 7950CK40/50 kits do not include adapters; the 7950CK41/51 kits include one each of the in-series adapters shown. Other in-series and between series adapters are sold separately.

Components Included in 7950CK40/41 Kits

QUANTITY	DESCRIPTION	MODEL
1	2.4mm female fixed short circuit	7946A2
1	2.4mm male fixed short circuit	7946B2
1	2.4mm female open circuit termination	7948A2
1	2.4mm male open circuit termination	7948B2
1	2.4mm female fixed termination	7931A2
1	2.4mm male fixed termination	7931B2
1*	2.4mm female to 2.4mm female adapter	7921A1
1*	2.4mm male to 2.4mm male adapter	7921B1
1*	2.4mm female to 2.4mm male adapter	7921C1
1	Foam-lined wood Instrument case	—
1	5/16-inch torque wrench — 8 in. lbs.	8799A1
1	5/16-inch double end wrench	8770Z6

* These adapters are provided in the 7950CK41 kits, but are not included in the 7950CK40 kits.

Components Included in 7950CK50/51 Kits

QUANTITY	DESCRIPTION	MODEL
1	2.4mm female fixed short circuit	7946A2
1	2.4mm male fixed short circuit	7946B2
1	2.4mm female open circuit termination	7948A2
1	2.4mm male open circuit termination	7948B2
1	2.4mm female fixed termination	7931A2
1	2.4mm male fixed termination	7931B2
1*	2.4mm female to 2.4mm female adapter	7921A1
1*	2.4mm male to 2.4mm male adapter	7921B1
1*	2.4mm female to 2.4mm male adapter	7921C1
1	Foam-lined wood Instrument case	—
1	5/16-inch torque wrench — 8 in. lbs.	8799A1
1	5/16-inch double end wrench	8770Z6

* These adapters are provided in the 7950CK51 kits, but are not included in the 7950CK50 kits.



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2Z-072



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2.92mm VNA Calibration Kits

8770CK40/41 SERIES, AND
8770CK50/51 SERIES

Features

- > 2.92mm Connectors
- > DC to 40 GHz
- > Compatible with Insight calibration SW and uncertainty analysis*
- > Keysight, Rohde & Schwarz and Anritsu VNAs Supported

Calibration Methods Supported

- > 8770CK40/41 – Fixed Load SOLT (DC–40 GHz)
- > 8770CK50/51 – Characterized Device (CD) SOLT (0.05–40 GHz)

8770CK40



8770CK41



Maury precision 2.92mm VNA calibration kits include each of the calibration standards and tools shown in the tables at the right. The 8770CK40/50 kits do not include adapters; the 8770CK41/51 kits include one each of the in-series adapters shown. Other in-series and between-series adapters are sold separately.

Components Included in 8770CK40/41 Kits

QUANTITY	DESCRIPTION	MODEL
1	2.92mm female fixed short circuit	8771F4
1	2.92mm male fixed short circuit	8772F4
1	2.92mm female open circuit termination	8773A4
1	2.92mm male open circuit termination	8773B4
1	2.92mm female fixed termination	8775A4
1	2.92mm male fixed termination	8775B4
1*	2.92mm female to 2.92mm female adapter	8714A2
1*	2.92mm male to 2.92mm male adapter	8714B2
1*	2.92mm female to 2.92mm male adapter	8714C2
1	Foam-lined wood Instrument case	—
1	5/16-inch torque wrench — 8 in. lbs.	8799A1
1	5/16-inch double end wrench	8770Z6

* These adapters are provided in the 8770CK41 kits, but are not included in the 8770CK40 kits.

Components Included in 8770CK50/51 Kits

QUANTITY	DESCRIPTION	MODEL
1	2.92mm female fixed short circuit	8771F4
1	2.92mm male fixed short circuit	8772F4
1	2.92mm female open circuit termination	8773A4
1	2.92mm male open circuit termination	8773B4
1	2.92mm female fixed termination	8775A4
1	2.92mm male fixed termination	8775B4
1*	2.92mm female to 2.92mm female adapter	8714A2
1*	2.92mm male to 2.92mm male adapter	8714B2
1*	2.92mm female to 2.92mm male adapter	8714C2
1	Foam-lined wood Instrument case	—
1	5/16-inch torque wrench — 8 in. lbs.	8799A1
1	5/16-inch double end wrench	8770Z6

* These adapters are provided in the 8770CK51 kits, but are not included in the 8770CK50 kits.



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2Z-073



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3.5mm VNA Calibration Kits

8050CK40/41 SERIES, AND
8050CK50/51 SERIES

Features

- > 3.5mm Connectors
- > DC to 26.5 GHz
- > Compatible with Insight calibration SW and uncertainty analysis*
- > Keysight, Rohde & Schwarz and Anritsu VNAs Supported

Calibration Methods Supported

- > 8050CK40/41 – Fixed Load SOLT (DC–26.5 GHz)
- > 8050CK50/51 – Characterized Device (CD) SOLT (0.05–26.5 GHz)

8050CK40



8050CK41



Maury precision 3.5mm VNA calibration kits include each of the calibration standards and tools shown in the tables at the right. The 8050CK40/50 kits do not include adapters; the 8050CK41/51 kits include one each of the in-series adapters shown. Other in-series and between-series adapters are sold separately.

Components Included in 8050CK40/41 Kits

QUANTITY	DESCRIPTION	MODEL
1	3.5mm female fixed short circuit	8046F6
1	3.5mm male fixed short circuit	8047F6
1	3.5mm female open circuit termination	8048A6
1	3.5mm male open circuit termination	8048B6
1	3.5mm female fixed termination	8031A6
1	3.5mm male fixed termination	8031B6
1*	3.5mm female to 3.5mm female adapter	8021A3
1*	3.5mm male to 3.5mm male adapter	8021B3
1*	3.5mm female to 3.5mm male adapter	8021C3
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 8050CK41 kits, but are not included in the 8050CK40 kits.

Components Included in 8050CK50/51 Kits

QUANTITY	DESCRIPTION	MODEL
1	3.5mm female fixed short circuit	8046F6
1	3.5mm male fixed short circuit	8047F6
1	3.5mm female open circuit termination	8048A6
1	3.5mm male open circuit termination	8048B6
1	3.5mm female fixed termination	8031A6
1	3.5mm male fixed termination	8031B6
1*	3.5mm female to 3.5mm female adapter	8021A3
1*	3.5mm male to 3.5mm male adapter	8021B3
1*	3.5mm female to 3.5mm male adapter	8021C3
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 8050CK51 kits, but are not included in the 8050CK50 kits.



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7mm VNA Calibration Kits

MODELS 2650CK40 AND
2650CK50

Maury precision 7mm VNA calibration kits include each of the calibration standards and tools shown in the tables at the right. The 2650CK40/50 kits do not include adapters; in-series and between-series adapters are sold separately.

Features

- > 7mm Connectors
- > DC to 18 GHz
- > Compatible with Insight calibration SW and uncertainty analysis*
- > Keysight, Rohde & Schwarz and Anritsu VNAs Supported

Calibration Methods Supported

- > 2650CK40 – Fixed Load SOLT (DC–18.0 GHz)
- > 2650CK50 – Characterized Device (CD) SOLT (0.05–18.0 GHz)

Components Included in 2650CK40 Kits

QUANTITY	DESCRIPTION	MODEL
1	7mm fixed short circuit	2615D3
1	7mm open circuit termination	2616F1
1	7mm fixed termination	2610F1
1	3/4-inch torque wrench — 12 in. lbs.	2698C2
1	Foam-lined wood Instrument case	—

Components Included in 2650CK50 Kits

QUANTITY	DESCRIPTION	MODEL
1	7mm fixed short circuit	2615D3
1	7mm open circuit termination	2616F1
1	7mm fixed termination	2610F1
1	3/4-inch torque wrench — 12 in. lbs.	2698C2
1	Foam-lined wood Instrument case	—

2650CK40



2650CK50



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2Z-075



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Type N VNA Calibration Kits

8850CK40/41 SERIES AND
8850CK50/51 SERIES

Features

- > Type N Connectors
- > DC to 18 GHz
- > Compatible with Insight calibration SW and uncertainty analysis*
- > Keysight, Rohde & Schwarz and Anritsu VNAs Supported

Calibration Methods Supported

- > 8850CK40/41 – Fixed Load SOLT (DC–18.0 GHz)
- > 8850CK50/51 – haracterized Device (CD) SOLT (0.05–18.0 GHz)

8850CK40



8850CK41



Maury precision Type N VNA calibration kits include each of the calibration standards and tools shown in the tables at the right. The 8850CK40/50 kits do not include adapters; the 8850CK41/51 kits include one each of the in-series adapters shown. Other in-series and between-series adapters are sold separately.

Components Included in 8850CK40/41 Kits

QUANTITY	DESCRIPTION	MODEL
1	Type N female fixed short circuit	8806G2
1	Type N male fixed short circuit	8807C2
1	Type N female open circuit termination	8809B2
1	Type N male open circuit termination	8810B2
1	Type N female fixed termination	2510E2
1	Type N male fixed termination	2510F2
1*	Type N female to Type N female adapter	8828A2
1*	Type N male to Type N male adapter	8828B2
1*	Type N female to Type N male adapter	8828C2
1	3/4-inch torque wrench — 12.0 in. lbs.	2698C2
1	Foam-lined wood Instrument case	—
1	1/2 - 9/16 inch end wrench	2517S3

* These adapters are provided in the 8850CK41 kits, but are not included in the 8850CK40 kits.

Components Included in 8850CK50/51 Kits

QUANTITY	DESCRIPTION	MODEL
1	Type N female fixed short circuit	8806G2
1	Type N male fixed short circuit	8807C2
1	Type N female open circuit termination	8809B2
1	Type N male open circuit termination	8810B2
1	Type N female fixed termination	2510E2
1	Type N male fixed termination	2510F2
1*	Type N female to Type N female adapter	8828A2
1*	Type N male to Type N male adapter	8828B2
1*	Type N female to Type N male adapter	8828C2
1	3/4-inch torque wrench — 12.0 in. lbs.	2698C2
1	Foam-lined wood Instrument case	—
1	1/2 - 9/16 inch end wrench	2517S3

* These adapters are provided in the 8850CK51 kits, but are not included in the 8850CK50 kits.



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2Z-076



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75Ω Type N VNA Calibration Kits

888040/41 SERIES

Features

- > 75Ω Type N Connectors
- > DC to 18 GHz
- > Simple Fixed Load Calibration
- > Keysight, Rohde & Schwarz and Anritsu VNAs Supported

Calibration Methods Supported

- > 8880CK40/41 – Fixed Load SOLT (DC–18 GHz)

8880CK40



8880CK41



Maury precision 75Ω Type N VNA calibration kits include each of the calibration standards shown in the tables below. The 8880CK40 kits do not include adapters; the 8880CK41 kits include one each of the in-series adapters shown.

Components Included in 8880CK40 Kits

QUANTITY	DESCRIPTION	MODEL
1	75Ω Type N female fixed short circuit	8884A1
1	75Ω Type N male fixed short circuit	8884B1
1	75Ω Type N female open circuit	8885A1
1	75Ω Type N male open circuit	8885B1
1	75Ω Type N female fixed termination	8883A1
1	75Ω Type N male fixed termination	8883B1
1	Foam-lined wood Instrument case	—

Components Included in 8880CK41 Kits

QUANTITY	DESCRIPTION	MODEL
1	75Ω Type N female fixed short circuit	8884A1
1	75Ω Type N male fixed short circuit	8884B1
1	75Ω Type N female open circuit	8885A1
1	75Ω Type N male open circuit	8885B1
1	75Ω Type N female fixed termination	8883A1
1	75Ω Type N male fixed termination	8883B1
1*	75Ω Type N female to 75Ω Type N female adapter	8882A1
1*	75Ω Type N male to 75Ω Type N male adapter	8882B1
1*	75Ω Type N female to 75Ω Type N male adapter	8882C1
1	Foam-lined wood Instrument case	—

* These adapters are provided in the 8880CK41 kits, but are not included in the 8880CK40 kits.



DATA SHEET
2Z-061A



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TNC VNA Calibration Kits

MODELS 8650CK10/11 AND
8650CK20/21

Features

- > TNC Connectors
- > DC to 18 GHz
- > High Performance
- > Keysight, Rohde & Schwarz and Anritsu VNAs Supported

Calibration Methods Supported

- > 8650CK10 & 8650CK11 – Fixed Load SOLT (DC–18.0 GHz)
- > 8650CK20 & 8650CK21 – Sliding/ Fixed Load SOLT (DC–18.0 GHz)

Maury precision TNC VNA calibration kits include each of the calibration standards and tools shown in the tables at the right. The 8650CK10/20 kits do not include adapters; the 8650CK11/21 kits include one each of the in-series adapters shown. Other in-series and between-series adapters are sold separately.

Components Included in 8650CK10/11 Kits

QUANTITY	DESCRIPTION	MODEL
1	TNC female fixed short circuit	8615A
1	TNC male fixed short circuit	8615B
1	TNC female open circuit	8609B
1	TNC male open circuit	8610B
1	TNC female fixed termination	332E
1	TNC male fixed termination	332F
1*	TNC female to TNC female adapter	232A11
1*	TNC male to TNC male adapter	232B11
1*	TNC female to TNC male adapter	232C11
1	Foam-lined wood instrument case	—

* These adapters are provided in the 8650CK11 kits, but are not included in the 8650CK10 kits.

8650CK10



8650CK11



Components Included in 8650CK20/21 Kits

QUANTITY	DESCRIPTION	MODEL
1	TNC female fixed short circuit	8615A
1	TNC male fixed short circuit	8615B
1	TNC female open circuit	8609B
1	TNC male open circuit	8610B
1	TNC female fixed termination	332E
1	TNC male fixed termination	332F
1*	TNC female to TNC female adapter	232A11
1*	TNC male to TNC male adapter	232B11
1*	TNC female to TNC male adapter	232C11
1	TNC female sliding termination	452A1
1	TNC male sliding termination	452B1
1	9/16-inch torque wrench — 12 in. lbs.	2698G1
1	7/16-inch open end wrench	8770Z7
1	Foam-lined wood instrument case	—

* These adapters are provided in the 8650CK21 kits, but are not included in the 8650CK20 kits.



DATA SHEET
2Z-062



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AFTNC VNA Calibration Kits

MODELS 8680CK10/11 AND
8680CK20/21

Features

- > AFTNC Connectors
- > DC to 20 GHz
- > High Performance
- > Keysight, Rohde & Schwarz and Anritsu VNAs Supported

Calibration Methods Supported

- > 8680CK10 & 8680CK11 – Fixed Load SOLT (DC–20.0 GHz)
- > 8680CK20 & 8680CK21 – Sliding/Fixed Load SOLT (DC–20.0 GHz)

Maury precision AFTNC VNA calibration kits include each of the calibration standards and tools shown in the tables at the right. The 8680CK10/20 kits do not include adapters; the 8680CK11/21 kits include one each of the in-series adapters shown. Other in-series and between-series adapters are sold separately.

Components Included in 8680CK10/11 Kits

QUANTITY	DESCRIPTION	MODEL
1	AFTNC female fixed short circuit	8686A
1	AFTNC male fixed short circuit	8687A
1	AFTNC female open circuit	8685A
1	AFTNC male open circuit	8685B
1	AFTNC female fixed termination	8684A
1	AFTNC male fixed termination	8684B
1*	AFTNC female to AFTNC female adapter	8688A
1*	AFTNC male to AFTNC male adapter	8688B
1*	AFTNC female to AFTNC male adapter	8688C
1	Foam-lined wood instrument case	—

* These adapters are provided in the 8680CK11 kits, but are not included in the 8680CK10 kits.

8680CK10



8680CK11



Components Included in 8680CK20/21 Kits

QUANTITY	DESCRIPTION	MODEL
1	AFTNC female fixed short circuit	8686A
1	AFTNC male fixed short circuit	8687A
1	AFTNC female open circuit	8685A
1	AFTNC male open circuit	8685B
1	AFTNC female fixed termination	8684A
1	AFTNC male fixed termination	8684B
1*	AFTNC female to AFTNC female adapter	8688A
1*	AFTNC male to AFTNC male adapter	8688B
1*	AFTNC female to AFTNC male adapter	8688C
1	AFTNC female sliding termination	8683A
1	AFTNC male sliding termination	8683B
1	9/16-inch torque wrench — 12 in. lbs.	2698G1
1	7/16-inch open end wrench	8770Z7
1	Foam-lined wood instrument case	—

* These adapters are provided in the 8680CK21 kits, but are not included in the 8680CK20 kits.



DATA SHEET
2Z-062A



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BNC VNA Calibration Kits

8550CK10 & 8580CK10 MODELS

Features

- > 50Ω or 75Ω BNC Connectors
- > DC to 10.0 GHz & DC to 12.0 GHz
- > Simple Fixed Load Calibration
- > Keysight, Rohde & Schwarz and Anritsu VNAs Supported

Calibration Methods Supported

- > 8550CK10 (50Ω) – Fixed Load SOLT (DC–10.0 GHz)
- > 8580CK10 (75Ω) – Fixed Load SOLT (DC–12.0 GHz)

8550CK10



8580CK10



Maury precision BNC VNA calibration kits include each of the calibration standards and tools shown in the tables at the right. Between-series adapters are sold separately.

Components Included in 8550CK10 Kits

QUANTITY	DESCRIPTION	MODEL
1	50Ω BNC female fixed short circuit	361N2
1	50Ω BNC male fixed short circuit	361P2
1	50Ω BNC female open circuit	371N2
1	50Ω BNC male open circuit	371P2
1	50Ω BNC female fixed termination	351A2
1	50Ω BNC male fixed termination	351B2
1	Foam-lined wood instrument case	—

Between series adapters are available by separate order. Go to maurymw.com for more information.

Components Included in 8580CK10 Kits

QUANTITY	DESCRIPTION	MODEL
1	75Ω BNC female fixed short circuit	8584A1
1	75Ω BNC male fixed short circuit	8584B1
1	75Ω BNC female open circuit	8585A1
1	75Ω BNC male open circuit	8585B1
1	75Ω BNC female fixed termination	8583A1
1	75Ω BNC male fixed termination	8583B1
1	Foam-lined wood instrument case	—

Between series adapters are available by separate order. Go to maurymw.com for more information.



DATA SHEET
2Z-069



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Waveguide VNA Calibration Kits

CK10/12 & CK30/32 MODELS

Features

- > 2.6 to 50 GHz
- > WR284 Through WR22
- > SSLT and TRL calibration
- > Keysight, Rohde & Schwarz and Anritsu VNAs Supported

Components Included in CK10/12 Kits

Qty	Description	Model
1**	Fixed flush (reference plane) short	344 series
1	1/8- λ fixed offset short	340 series
1	3/8- λ fixed offset short	340 series
1	Precision fixed termination	301 series
1**	Straight section (rectangular)	102/3/6 series
1*	3/32-in. hex ball driver *	J998T2
1	Flange hardware (including the indexing pin set)	—
1	Instrument case	—

Components Included in CK30/32 Kits

Qty	Description	Model
1	Fixed flush (reference plane) short	344 series
1	1/4- λ straight section (shim)	322 series
1	Precision fixed termination	301 series
1**	Straight section (rectangular)	102/3/6 series
1*	3/32-in. hex ball driver *	J998T2
1	Flange hardware (including the indexing pin set)	—
1	Instrument case	—

* Included in the K, Q, U and J band kits only.

** Included in CK12/32 kits.



The Importance of VNA Calibration

Any uncalibrated test setup has systematic errors inherent in the equipment used. The ability to obtain an accurate measurement of a device under test. The basis of network analyzer error correction is the measurement of known electrical standards, such as a thru, open circuit, short circuit, and precision load impedance. By calibrating your network analyzer with these standards, you can compensate for the inherent imperfections.

Description

CK10/12 - The CK10/12 SSLT Waveguide Calibration Kits are designed to provide accurate calibration of vector network analyzers (VNAs) that are used for measurements in standard rectangular waveguide from 2.6 to 50 GHz (WR284–WR22). Each kit includes all the components needed for accurate calibration of most VNAs to ensure high effective directivity after calibration.

CK30/32 - Maury CK30/32 calibration kits are designed to provide accurate Thru-Reflect-Line (TRL), Short-Short-Load-Thru (SSLT) and Offset Load calibrations of vector network analyzers (VNAs) for measurements in rectangular waveguide from 2.6 to 50 GHz (WR284 to WR22). Each kit includes all the components needed for accurate TRL, SSLT or Offset Load calibration of supported VNA models.

**Precision straight sections and a fixed (reference plane) short are also provide as verification standards in the CK12 or CK32 options.*

Flange Description

The components in these kits are equipped with Maury Precision Flanges (MPF) which conform to EIA WR standards for rectangular or round waveguide flanges. MPF flanges have precision indexing holes and corresponding indexing pins for precise alignment when mating, which ensures excellent measurement repeatability. Flange diagrams and other details can be found at <http://www.maurymw.com>. (Use the search feature with search term “MPF”).

Calibration Methods

CK10/12 - These kits are configured for use in performing one-port SSL (Short-Short-Load) calibrations for measuring VSWR/Return Loss, or full two-port SSLT (Short-Short-Load-Thru) calibrations to perform forward and reverse transmission and reflection measurements.

CK30/32 - These kits are configured for use in performing full two-port TRL (Thru-Reflect-Line) and SSLT (Short-Short-Load-Thru) calibrations; two standard methods for measuring forward and reverse transmission and reflection measurements). They can also be used to perform Offset Load calibrations on VNAs that support that calibration method.



DATA SHEET
3H-081



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Component Specifications

CK10/12 SSLT & CK30/32 TRL Kits

Fixed Flush Shorts – Model Series 344

These machined fixed shorts are flat-face/flat-plane shorts designed to terminate round or rectangular waveguide connectors at the mating plane, over a frequency range from 2.6 to 50 GHz. They are used to establish a reference plane in systems and in making loss measurements.

1/8λ & 3/8λ Fixed Offset Shorts – Model Series 340

These fixed offset shorts are considered one of the more accurate means of obtaining a 180° phase difference in waveguide. Using these single-piece devices reduces the number of flange interfaces during calibration; helping to maintain an essentially constant magnitude of current flow across the calibration plane. Those in rectangular waveguide are nominally 1/8λ and 3/8λ offset at frequencies near the waveguide band centers. These frequencies are chosen to equalize phase differences at band edges, and thus are not at the exact band centers.

Offset delay ranges from 50.835 – 4.007 ps for the 1/8λ shorts and 152.506 – 12.002 for the 3/8λ shorts; calculated without consideration for the dispersive effect of waveguide if the short is in air dielectric coaxial line. This conforms to the convention established for Agilent network analyzers. Anritsu analyzers use the actual mechanical offset in centimeters.

1/4λ Precision Straight Sections – Model Series 322B

These 322B series 1/4λ straight sections are reduced height spacers or shims which provide an accurately known VSWR which is directly calculable from their mechanical dimensions. The shims are designed for a theoretical VSWR of 1.00. The shims are fabricated from aluminum and are provided with precision indexing holes for excellent flange alignment. Their simple geometry allows direct calculation of reflection, loss, transfer and group delay characteristics and makes them ideally suited for quickly checking the performance and accuracy of automated network analyzers.

Precision Fixed Terminations – Model Series 301

These low power fixed terminations feature low VSWR (1.025 – 1.040 max up to 50.0 GHz; typically <1.02 from 3.95 to 18.0 GHz). Power handling is rated from 25W (avg)/10kW (peak) to 0.2W (avg)/0.03kW (peak) depending on frequency range.

Verification Stds – Precision Straight Sections

These precision straight sections exhibit low VSWR (1.025 max) across the frequency range of operation. These precision stds can be used along with the fixed flush shorts as verification stds to validate accuracy of calibration.

Available Models

Waveguide Designation (EIA WR NO.)	FREQUENCY RANGE (GHz)	MMC WAVEGUIDE BAND	SSLT CALIBRATION KIT	SSLT CALIBRATION KIT w\ VERIFICATION STD.	TRL CALIBRATION KIT	TRL CALIBRATION KIT w\ VERIFICATION STD.	FLANGE DESIGN
WR284	2.60 - 3.95	S	WR284CK10	WR284CK12	WR284CK30	WR284CK32	MPF284C
WR229	3.30 - 4.90	E	WR229CK10	WR229CK12	WR229CK30	WR229CK32	MPF229B
WR187	3.95 - 5.85	G	WR187CK10	WR187CK12	WR187CK30	WR187CK32	MPF187C
WR159	4.90 - 7.05	F	WR159CK10	WR159CK12	WR159CK30	WR159CK32	MPF159B
WR137	5.85 - 8.20	C	WR137CK10	WR137CK12	WR137CK30	WR137CK32	MPF137C
WR112	7.05 - 10.0	H	WR112CK10	WR112CK12	WR112CK30	WR112CK32	MPF112B
WR90	8.20 - 12.4	X	WR90CK10	WR90CK12	WR90CK30	WR90CK32	MPF90C
WR75	10.0 - 15.0	M	WR75CK10	WR75CK12	WR75CK30	WR75CK32	MPF75B
WR62	12.4 - 18.0	P	WR62CK10	WR62CK12	WR62CK30	WR62CK32	MPF62
WR51	15.0 - 22.0	N	WR51CK10	WR51CK12	WR51CK30	WR51CK32	MPF51B
WR42	18.0 - 26.5	K	WR42CK10	WR42CK12	WR42CK30	WR42CK32	MPF42
WR34	22.0 - 33.0	Q	—	—	WR34CK30	WR34CK32	MPF34
WR28	26.5 - 40.0	U	WR28CK10	WR28CK12	WR28CK30	WR28CK32	MPF28
WR22	33.0 - 50.0	J	WR22CK10	WR22CK12	WR22CK30	WR22CK32	MPF22

