

Calibration Kit WRD-180 Operating From 18 to 40 GHz Including Waveguide to Coax Adapter, Termination, Short, and Offsets Components



FMWCK1010

Features

- WRD-180 waveguide size
- Frequency range from 18 to 40 GHz
- Precision fabricated and manufactured
- Compatible with standard TRL & SSLT calibration techniques
- Additional waveguide test standards available upon request

Applications

- Test & Measurement
- Lab Equipment Accessories
- Engineering Test and Evaluation
- General Purpose Test and Evaluation

Description

FMWCK1010 is a precision WRD-180 calibration kit assembled to support standard TRL (Thru-Reflect-Line) and SSLT (Short-Short-Load-Thru) calibrations on industry standard vector network analyzers (VNA). The WRD-180 calibration kit comes with two fixed flush waveguide shorts, 1/8 wavelength, 1/4 wavelength and 3/8 wavelength waveguide offsets, one matched waveguide fixed termination and two precision WRD-180 waveguide-to-coax adapters. Additional WRD-180 precision waveguide straight sections are available for purchase separately. Precision waveguide components in FMWCK1010 are designed to work in full WRD-180 band from 18 to 40 GHz. FMWCK1010 is one of the many calibration kits and T&M components which are readily available in stock and for same-day shipment at Fairview Microwave.

Configuration

Waveguide Size	WRD-180
Connector	2.92mm
Frequency Range	18 to 40 GHz

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WRD-180 Calibration Kit Components

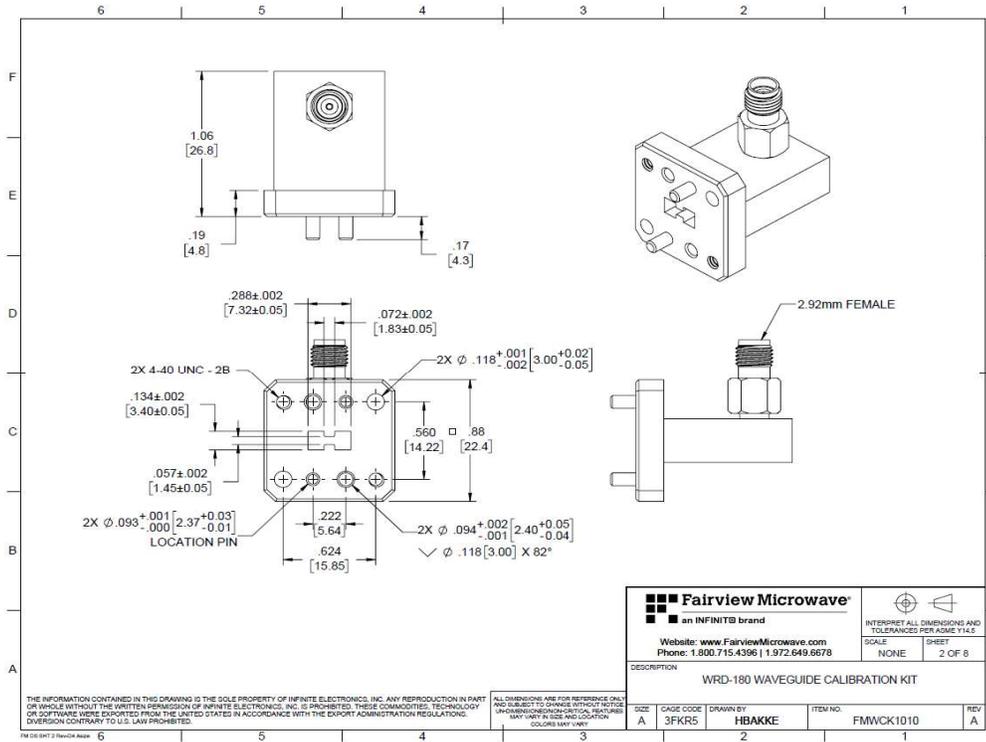
Components	Frequency (GHz)	Quantity
WRD-180 Waveguide to Coax Adapter with N-Type Female Connector	18 to 40 GHz	1
WRD-180 Waveguide to Coax Adapter with N-Type Male Connector	18 to 40 GHz	1
WRD-180 Waveguide Termination	18 to 40 GHz	1
WRD-180 Waveguide Short	18 to 40 GHz	1
WRD-180 Waveguide Offset 1/8λ Section	18 to 40 GHz	1
WRD-180 Waveguide Offset 1/4λ Section	18 to 40 GHz	1
Washer 3 (GB/T 97.1-2002)	N/A	20
Washer 3 (GB/T 93-1987)	N/A	20
Screws	N/A	8
Screws	N/A	4
Screws	N/A	8

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WRD-180 Waveguide to Coax Adapter with N-Type Female Connector



Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range	18		40	GHz
VSWR			1.6:1	
Insertion Loss			0.5	dB

Mechanical Specifications

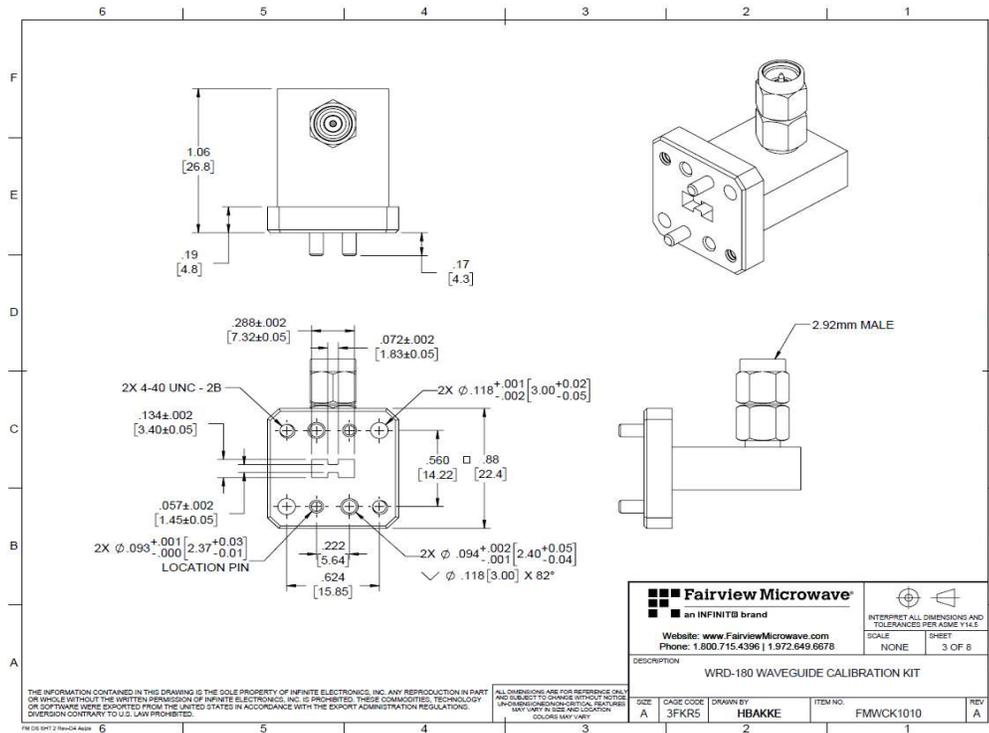
Item	Description	Units
Waveguide Size	WRD-180	
Flange Type	Rectangular Cover	
RF Connector Type and Gender	2.92mm Female	
Body	Right Angle	
Body Material and Plating	Brass, Silver Plating	
Housing	Black Paint	
Dimensions	1.06 [26.8 mm] L, 0.88 [22.4 mm] H, 0.88 [22.4 mm] W	inches

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FMWCK1010

WRD-180 Waveguide to Coax Adapter with N-Type Male Connector



Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range	18		40	GHz
VSWR			1.8:1	
Insertion Loss			0.5	dB

Mechanical Specifications

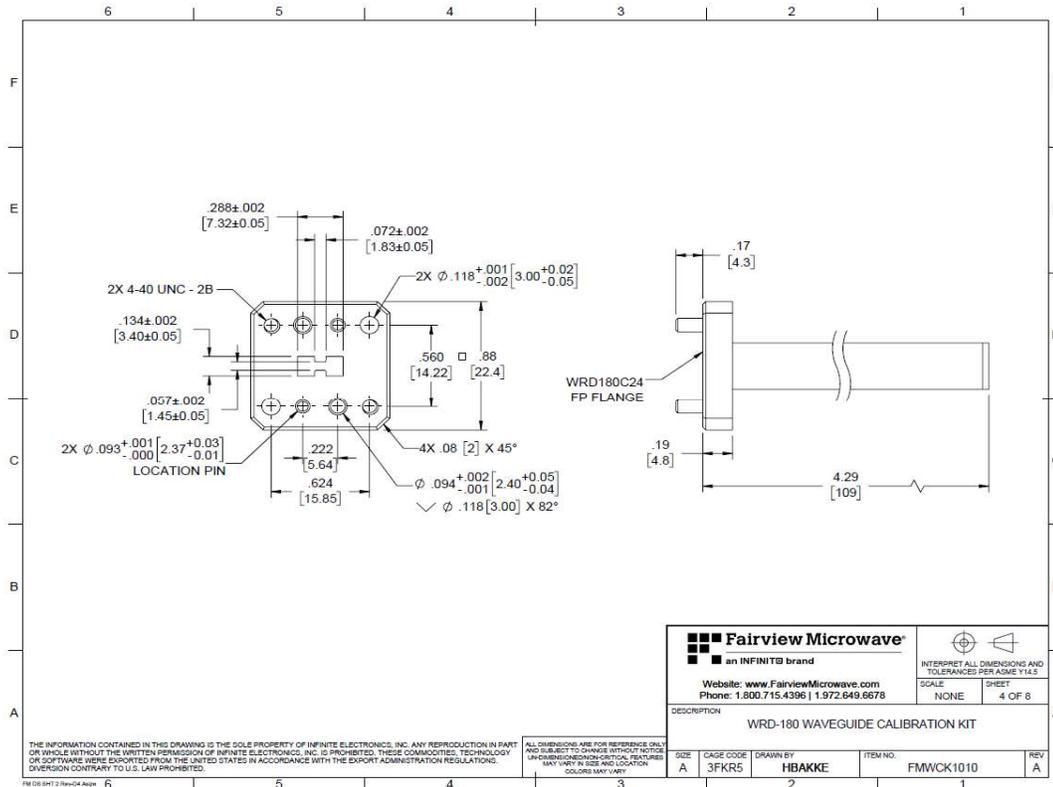
Item	Description	Units
Waveguide Size	WRD-180	
Flange Type	Rectangular Cover	
RF Connector Type and Gender	2.92mm Male	
Body	Right Angle	
Body Material and Plating	Brass, Silver Plating	
Housing	Black Paint	
Dimensions	1.06 [26.8 mm] L, 0.88 [22.4 mm] H, 0.88 [22.4 mm] W	inches

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WRD-180 Waveguide Termination



Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range	18		40	GHz
VSWR			1.1:1	

Mechanical Specifications

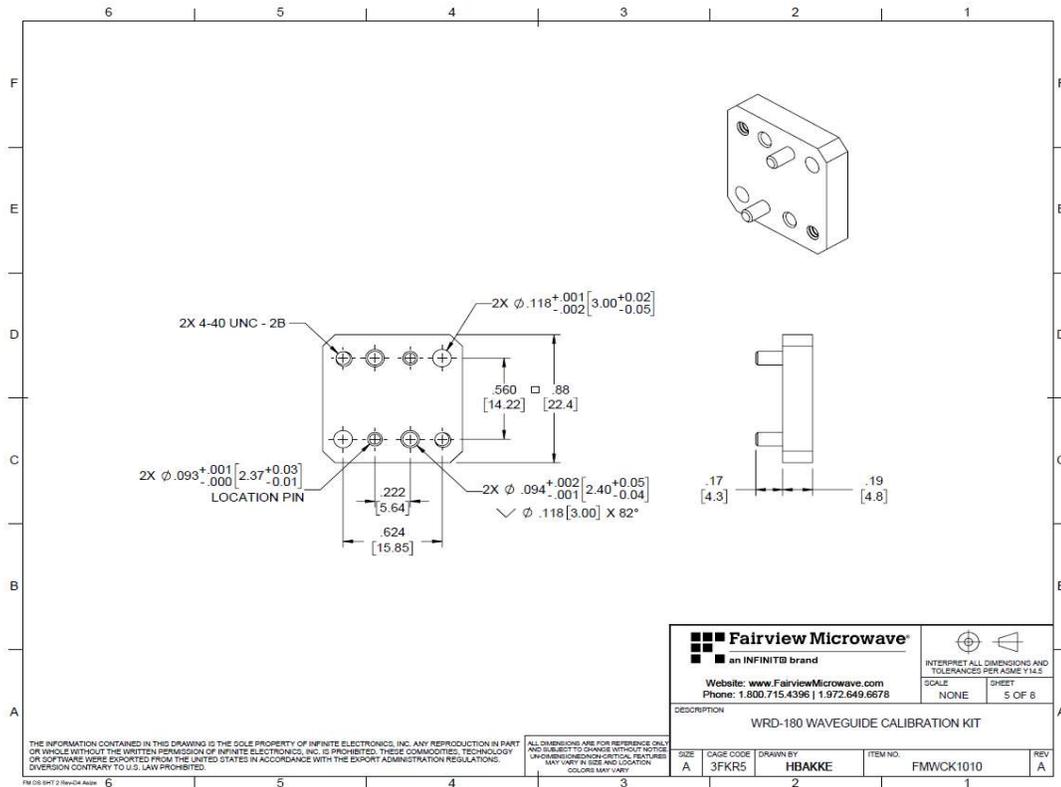
Item	Description	Units
Waveguide Size	WRD-180	
Flange Type	Rectangular Cover	
Body Material and Plating	Brass, Silver Plating	
Housing	Black Paint	
Dimensions	4.29 [109 mm] L, 0.88 [22.4 mm] H, 0.88 [22.4 mm] W	inches

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WRD-180 Waveguide Short



Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range	18		40	GHz
VSWR	60:1			

Mechanical Specifications

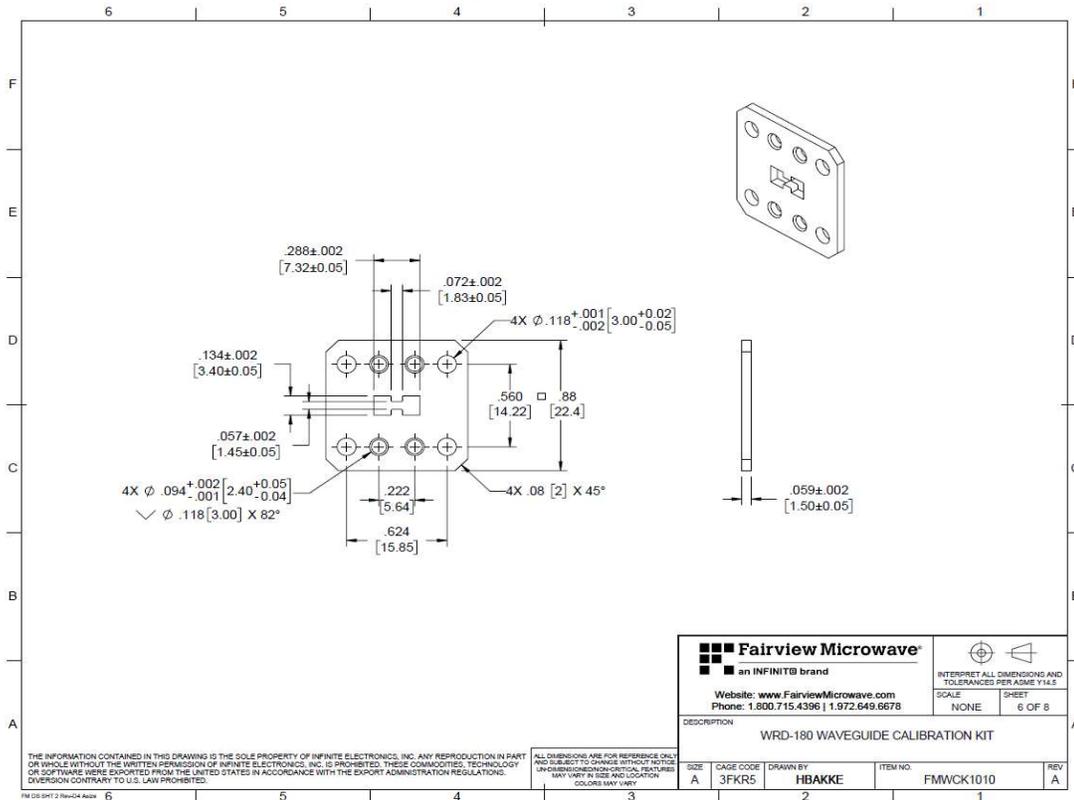
Item	Description	Units
Waveguide Size	WRD-180	
Flange Type	Rectangular Cover	
Body Material and Plating	Brass, Silver Plating	
Housing	Black Paint	
Dimensions	0.19 [4.8 mm] L, 0.88 [22.4 mm] H, 0.88 [22.4 mm] W	inches

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WRD-180 Waveguide Offsets (1/8λ Section)



Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range	18		40	GHz

Mechanical Specifications

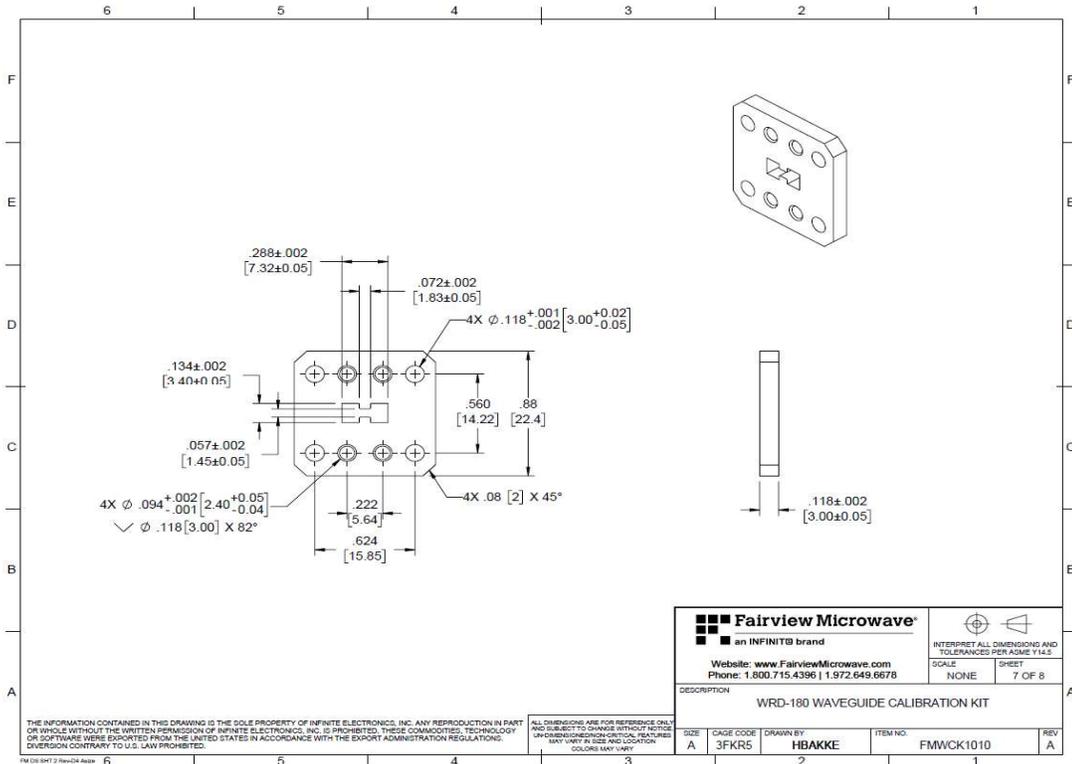
Item	Description	Units
Waveguide Size	WRD-180	
Flange Type	Rectangular Cover	
Wavelength Offset	1/8λ Section	
Body Material and Plating	Brass, Silver Plating	
Housing	Black Paint	
Dimensions (L, H, W)	0.59 [15 mm] L, 0.88 [22.4 mm] H, 0.88 [22.4 mm] W	inches

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WRD-180 Waveguide Offsets (1/4λ Section)



Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range	18		40	GHz

Mechanical Specifications

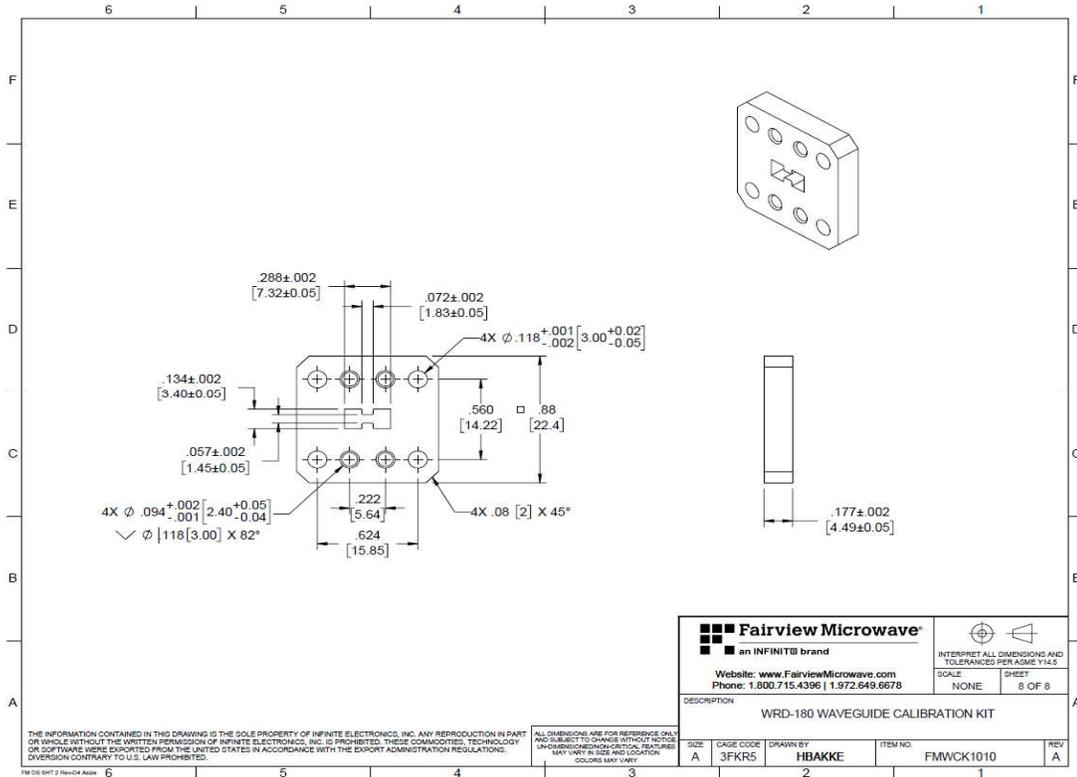
Item	Description	Units
Waveguide Size	WRD-180	
Flange Type	Rectangular Cover	
Wavelength Offset	1/4λ Section	
Body Material and Plating	Brass, Silver Plating	
Housing	Black Paint	
Dimensions (L, H, W)	0.12 [3 mm] L, 0.88 [22.4 mm] H, 0.88 [22.4 mm] W	inches

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WRD-180 Waveguide Offsets (3/8λ Section)



Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range	18		40	GHz

Mechanical Specifications

Item	Description	Units
Waveguide Size	WRD-180	
Flange Type	Rectangular Cover	
Wavelength Offset	3/8λ Section	
Body Material and Plating	Brass, Silver Plating	
Housing	Black Paint	
Dimensions (L, H, W)	0.18 [4.49 mm] L, 0.88 [22.4 mm] H, 0.88 [22.4 mm] W	inches

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FMWCK1010

Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

Notes:

- Values at 25 °C, sea level

Calibration Kit WRD-180 Operating From 18 to 40 GHz Including Waveguide to Coax Adapter, Termination, Short, and Offsets Components from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [Calibration Kit WRD-180 Operating From 18 to 40 GHz Including Waveguide to Coax Adapter, Termination, Short, and Offsets Components FMWCK1010](#)

URL: <https://www.fairviewmicrowave.com/open-short-load-calibration-kit-type-2.92mm-40-ghz-fmck1010-p.aspx>

The information contained within this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part in order to implement improvements. Fairview Microwave reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Fairview Microwave does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Fairview Microwave does not assume liability arising out of the use of any part or document.

FMWCK1010 CAD Drawing

Calibration Kit WRD-180 Operating From 18 to 40 GHz Including Waveguide to Coax Adapter, Termination, Short, and Offsets Components

ZONE	REV	DESCRIPTION	DATE	CHANGED BY	APPROVED
	A	INITIAL RELEASE	02/13/2026	HBAKKE	SPONG

NO	QTY	DESCRIPTION	PARAMETER
1	1	WAVEGUIDE TO COAXIAL ADAPTER	2.92mm FEMALE CONNECTOR
2	1	WAVEGUIDE TO COAXIAL ADAPTER	2.92mm MALE CONNECTOR
3	1	WAVEGUIDE MATCHED TERMINATION	VSWR≤1.1
4	2	WAVEGUIDE SHORT PLATE	VSWR≥60
5	1	1/8λ PRECISION WAVEGUIDE SECTION	L=1/8λ
6	1	1/4λ PRECISION WAVEGUIDE SECTION	L=1/4λ
7	1	3/8λ PRECISION WAVEGUIDE SECTION	L=3/8λ
8	1	FASTENERS (NOT SHOWN)	1 SET

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. DIMENSIONS IN [] ARE MILLIMETERS.

TOLERANCES:

.X = ±.2 [5] FRACTIONS ± 1/32

.XX = ±.02 [0.5] ANGLES ± 1°

.XXX = ±.005 [0.13]

CABLE LENGTH TOLERANCES:

>12 [305] ≤ 60 [1524] = ±.125 [-0]

>60 [1524] ≤ 120 [3048] = ±.125 [-0]

>120 [3048] ≤ 300 [7620] = ±.125 [-0]

>300 [7620] = ±.25 [-0]

ALL DIMENSIONS ARE FOR REFERENCE ONLY. UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. DIMENSIONS IN [] ARE MILLIMETERS. COLORS MAY VARY.

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DESCRIPTION: WRD-180 WAVEGUIDE CALIBRATION KIT

SCALE: NONE SHEET: 1 OF 8

INTERPRET ALL DIMENSIONS AND TOLERANCES PER ASME Y14.5

SIZE	CAGE CODE	DRAWN BY	ITEM NO.
A	3FKR5	HBAKKE	FMWCK1010