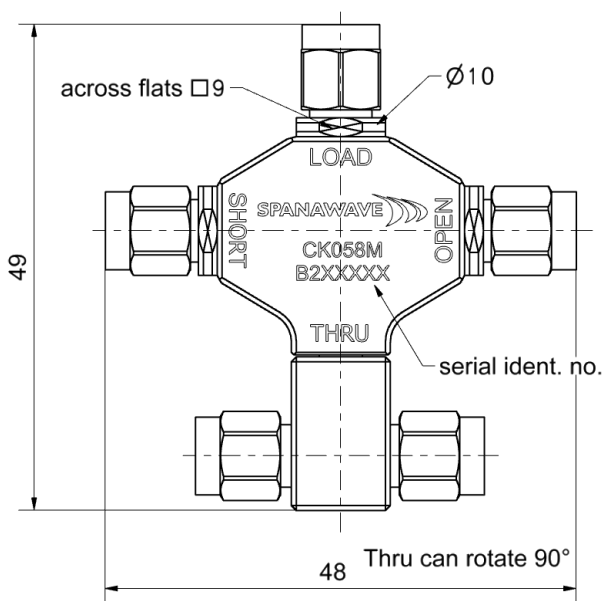


**CK058M:** 4-in-1 OSLT Calibration Kit, DC to 70 GHz, Type-1.85 mm (m)



**Interface**

According to 1.85mm (m)  
Mechanically compatible with 2.4 mm

**Contents and Documentation**

This kit is delivered with

- **Standard Definitions Card**  
Printed Standard Definitions that can be used on nearly all Vector Network Analyzers
- **Test Results Documentation**
- **Hard Shell Case**

**Material and plating**

**Connector parts**

Center conductor  
Outer conductor  
Coupling nut  
Body  
Dielectric  
Substrate

**Material**

Beryllium copper  
Stainless steel  
Stainless steel  
Aluminum  
PS  
Al<sub>2</sub>O<sub>3</sub>

**Plating**

Gold, min. 1.27 μm, over nickel  
Passivated  
Passivated  
black anodized

## CK058M: 4-in-1 OSLT Calibration Kit, DC to 70 GHz, Type-1.85 mm (m)

### Electrical data

Frequency range DC to 70.0 GHz

#### Thru

Return loss  
 ≥ 28 dB, DC to 4 GHz  
 ≥ 21 dB, 4 GHz to 26.5 GHz  
 ≥ 20 dB, 26.5 GHz to 50 GHz  
 ≥ 17 dB, 50 GHz to 70 GHz

#### Open

Error from nominal phase<sup>1</sup>  
 ≤ 2.0°, DC to 4 GHz  
 ≤ 5.0°, 4 GHz to 26.5 GHz  
 ≤ 7.0°, 26.5 GHz to 50 GHz  
 ≤ 10.0°, 50 GHz to 70 GHz

#### Short

Error from nominal phase<sup>2</sup>  
 ≤ 2.0°, DC to 4 GHz  
 ≤ 5.0°, 4 GHz to 26.5 GHz  
 ≤ 7.0°, 26.5 GHz to 50 GHz  
 ≤ 10.0°, 50 GHz to 70 GHz

#### Load

Return loss  
 ≥ 35.0 dB, DC to 4 GHz  
 ≥ 25.0 dB, 4 GHz to 26.5 GHz  
 ≥ 22.0 dB, 26.5 GHz to 50 GHz  
 ≥ 20.0 dB, 50 GHz to 70 GHz

DC Resistance 50 Ω ± 0.5 Ω

Power handling ≤ 0.5 W

<sup>1</sup> The nominal phase is defined by the Offset Delay, the Offset Loss and the Fringing Capacitances.

<sup>2</sup> The nominal phase is defined by the Offset Delay, the Offset Loss and the Short Inductance.

### Mechanical data

Mating cycles ≥ 500  
 Maximum torque 1.65 Nm  
 Recommended torque 0.90 Nm  
 Gauge 0.00 mm to 0.05 mm

### General standard definitions

For proper operation the vector network analyzer (VNA) needs a model describing the electrical behavior of this calibration standard. The different models, units, and terms used will depend on the VNA type and they will have to be entered into the VNA. All values are based on typical geometry and plating.

#### Thru

Offset Z<sub>o</sub> / Impedance / Z<sub>o</sub> 50 Ω  
 Offset Delay 84.492 ps  
 Length (electrical) / Offset Length 25.33 mm  
 Offset Loss 4.00 GΩ/s  
 Loss 0.0294 dB/√GHz  
 Line Loss @ 1GHz 0.0012 dB/mm

## CK058M: 4-in-1 OSLT Calibration Kit, DC to 70 GHz, Type-1.85 mm (m)

### Open

Offset $Z_o$ / Impedance / $Z_o$	50 $\Omega$
Offset Delay	16.678 ps
Length (electrical) / Offset Length	5.00 mm
Offset Loss	3.75 G $\Omega$ /s
Loss	0.0109 dB/ $\sqrt{\text{GHz}}$
Fringing Capacitances	$C_0 = 10.0000 \times 10^{-15} \text{ F} \quad / \quad 10.0000 \text{ fF}$ $C_1 = -500.000 \times 10^{-27} \text{ F/Hz} \quad / \quad -0.50000 \text{ fF /GHz}$ $C_2 = 11.5000 \times 10^{-36} \text{ F/Hz}^2 \quad / \quad 0.01150 \text{ fF /GHz}^2$ $C_3 = -0.10000 \times 10^{-45} \text{ F/Hz}^3 \quad / \quad -0.00010 \text{ fF /GHz}^3$

### Short

Offset $Z_o$ / Impedance / $Z_o$	50 $\Omega$
Offset Delay	16.678 ps
Length (electrical) / Offset Length	5.00 mm
Offset Loss	4.17 G $\Omega$ /s
Loss	0.0121 dB/ $\sqrt{\text{GHz}}$
Short Inductance	$L_0 = -12.0000 \times 10^{-12} \text{ H} \quad / \quad -12.0000 \text{ pH}$ $L_1 = 250.000 \times 10^{-24} \text{ H/Hz} \quad / \quad 0.25000 \text{ pH/GHz}$ $L_2 = -8.10000 \times 10^{-33} \text{ H/Hz}^2 \quad / \quad -0.00810 \text{ pH/GHz}^2$ $L_3 = 0.08000 \times 10^{-42} \text{ H/Hz}^3 \quad / \quad 0.00008 \text{ pH/GHz}^3$

### Load

Offset $Z_o$ / Impedance / $Z_o$	50 $\Omega$
Offset Delay	0.0000 ps
Length (electrical) / Offset Length	0.000 mm
Offset Loss	0.00 G $\Omega$ /s
Loss	0.0000 dB/ $\sqrt{\text{GHz}}$

### Environmental data

Operating temperature range <sup>3</sup>	+20 °C to +26 °C
Rated temperature range of use <sup>4</sup>	0 °C to +50 °C
Storage temperature range	-40 °C to +85 °C
RoHS	compliant

<sup>3</sup> Temperature range over which these specifications are valid.

<sup>4</sup> This range is underneath and above the operating temperature range, within the calibration kit is fully functional and could be used without damage.

### Includes

Standard delivery for this kit includes Test Results. The documentation issued reports which quantities were tested individually, traceable to national / international standards. Model based standard definitions of the calibration standards are reported in Agilent / Keysight, Rohde & Schwarz and Anritsu compatible VNA format.

### Calibration interval

Recommendation	12 months
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### Packing

Standard	1 per bag
Weight	1.20 oz.

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