# 2 Specifications

# Environmental Requirements

**Table 2-1 Environmental Requirements**

| Parameter | Limits |
|---|---|
| Operating temperature[a] | +18 °C to +28 °C (+64 °F to +82 °F) |
| Error-corrected temperature range[b] | ±1 °C of measurement calibration temperature |
| Storage temperature | –40 °C to +75 °C (–40 °F to +167 °F) |
| Altitude | |
| Operation | < 4,500 meters (≈15,000 feet) |
| Storage | < 15,000 meters (≈50,000 feet) |
| Relative humidity | Always non-condensing |
| Operation | 0 to 80% (26 °C maximum dry bulb) |
| Storage | 0 to 95% |

a. The temperature range over which the calibration standards maintain conformance to their specifications.
b. The allowable network analyzer ambient temperature drift during measurement calibration and during measurements when the network analyzer error correction is turned on. Also, the range over which the network analyzer maintains its specified performance while correction is turned on.

## Temperature—What to Watch Out For

Changes in temperature can affect electrical characteristics. Therefore, the operating temperature is a critical factor in performance. During a measurement calibration, the temperature of the calibration devices must be stable and within the range specified in Table 2-1.

**IMPORTANT** Avoid unnecessary handling of the devices during calibration because your fingers are a heat source.

# Mechanical Specifications

The mechanical specifications in Table 2-2 apply to the devices in the 85036B and the 85036E 75 Ω type-N calibration kits.

**Table 2-2 Mechanical Specifications**

| Device | Specification |
|---|---|
| Type-N Male Open | Inside diameter of outer conductor: 6.985 to 7.010 |
| Type-N Male Short | Inside diameter of outer conductor: 7 ±0.015 mm<br>Distance from reference plane to shorting plane: 5.29 ±0.013 mm |

## Supplemental Mechanical Characteristics

Supplemental characteristics are values which are typically met by a majority of the calibration kit devices tested at Agilent. These supplemental characteristics are intended to provide information useful in calibration kit applications by giving typical, but non-warranted performance parameters. Table 2-3 lists the typical characteristics of the devices in this kit.

**Table 2-3 Mechanical Characteristics**

| Device | Characteristic |
|---|---|
| Type-N Male Short | Diameter of male pin: 0.897 ±0.013 mm |
| All Type-N Male Connectors | Pin depth: 0.207 to 0.210 inch |
| All Type-N Female Connectors | Pin depth: 0.204 to 0.207 inch |

# Electrical Specifications

The electrical specifications in Table 2-4 apply to the devices in your calibration kit when connected with an Agilent precision interface.

**Table 2-4 Electrical Specifications**

| Device | Specification | Frequency (GHz) |
|---|---|---|
| Loads[a] | Return loss ≥ 46 dB (ρ ≤ 0.00501) | DC to ≤ 2 |
| | Return loss ≥ 40 dB (ρ ≤ 0.01000) | > 2 to ≤ 3 |

a. 23° +5 °C; typical resistance change: ±300 ppm/°C

## Certification

Agilent Technologies certifies that this product met its published specifications at the time of shipment from the factory. Agilent further certifies that its calibration measurements are traceable to the United States National Institute of Standards and Technology (NIST) to the extent allowed by the institute's calibration facility, and to the calibration facilities of other International Standards Organization members. See "How Agilent Verifies the Devices in This Kit" on page 4-2 for more information.