

**Calibration Guide**

# **Model 34 Series**

**Precision Coaxial Adapters**





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## Chinese RoHS Compliance Statement

产品中有毒有害物质或元素的名称及含量

For Chinese Customers Only NLNB

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 [Cr (VI)]	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
印刷线路板 (PCA)	×	○	×	×	○	○
机壳、支架 (Chassis)	×	○	×	×	○	○
其他 (电缆、风扇、连接器等) (Appended goods)	×	○	×	×	○	○
○：表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T11363-2006 标准规定的限量要求以下。						
×：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T11363-2006 标准规定的限量要求。						

环保使用期限



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注) 生产日期标于产品序号的前四码 (如 S/N 0728XXXX 为 07 年第 28 周生产)。

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## Safety Symbols

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To prevent the risk of personal injury or loss related to equipment malfunction, Anritsu Company uses the following symbols to indicate safety-related information. For your own safety, please read the information carefully *before* operating the equipment.

### Symbols Used in Manuals

#### Danger



This indicates a very dangerous procedure that could result in serious injury or death, or loss related to equipment malfunction, if not performed properly.

#### Warning



This indicates a hazardous procedure that could result in light-to-severe injury or loss related to equipment malfunction, if proper precautions are not taken.

#### Caution



This indicates a hazardous procedure that could result in loss related to equipment malfunction if proper precautions are not taken.

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## Safety Symbols Used on Equipment and in Manuals

The following safety symbols are used inside or on the equipment near operation locations to provide information about safety items and operation precautions. Ensure that you clearly understand the meanings of the symbols and take the necessary precautions *before* operating the equipment. Some or all of the following five symbols may or may not be used on all Anritsu equipment. In addition, there may be other labels attached to products that are not shown in the diagrams in this manual.



This indicates a prohibited operation. The prohibited operation is indicated symbolically in or near the barred circle.



This indicates a compulsory safety precaution. The required operation is indicated symbolically in or near the circle.



This indicates a warning or caution. The contents are indicated symbolically in or near the triangle.



This indicates a note. The contents are described in the box.



These indicate that the marked part should be recycled.

# Table of Contents

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## Chapter 1—General Information

- 1-1 Introduction . . . . . 1-1
- 1-2 Description . . . . . 1-1
- 1-3 Recommended Test Equipment . . . . . 1-1

## Chapter 2—Performance Verification

- 2-1 Introduction . . . . . 2-1
- 2-2 Specifications . . . . . 2-1
- 2-3 Test Procedure . . . . . 2-2





# Chapter 1 — General Information

## 1-1 Introduction

This guide provides performance verification procedures for Anritsu N Type Model 34 Series Precision Coaxial Adapters.

## 1-2 Description

The N Type Model 34 Series family consists of the following models:

**Table 1-1.** Model 34 Series Precision Coaxial Adapters

<b>Anritsu Part Number</b>	<b>Description</b>
34NN50A	N male to N male Precision Adapter, DC to 18 GHz
34NFN50	N female to N female Precision Adapter, DC to 18 GHz

## 1-3 Recommended Test Equipment

**Table 1-2.** Recommended Test Equipment

<b>Equipment</b>	<b>Critical Specification</b>	<b>Recommended Manufacturer/Model</b>
Vector Network Analyzer	Frequency: 40 MHz to 20 GHz	Anritsu Model 37247D or 37347D
Calibration Kit	Connector Type: N Impedance: 50 Ohm	Anritsu Model 3653
Adapter	Connector: N(m) to K(f)	Anritsu Model 34NKF50
Adapter	Connector: N(f) to K(f)	Anritsu Model 34NFKF50



# Chapter 2 — Performance Verification

## 2-1 Introduction

This chapter contains tests that can be used to verify the performance of the N Type Model 34 Series Precision Coaxial Adapters.

## 2-2 Specifications

Refer to [Table 2-1](#) for the N Type Model 34 series specifications.

**Table 2-1.** Model 34 Series Specifications

Specification	Anritsu Part Number	
	34NN50A	34NFnF50
Frequency Range	DC to 18 GHz	DC to 18 GHz
SWR	1.1	1.1

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## 2-3 Test Procedure

1. Allow the VNA to warm up for a minimum of 1 hour.
2. Install an appropriate K to N adapter to the VNA Port 1 so the test port has a connector than can mate with the Adapter Under Test. For example, install a 34NFKF50 adapter for testing the 34NN50A adapter.
3. Press the **Default Program** key to reset the VNA.
4. Set the Start Frequency to 40 MHz and the Stop Frequency to 18 GHz.
5. Load the Cal Kit Coefficients disk into the VNA (Utility Menu key).
6. Perform a Reflection-Only Port 1 Calibration using the following steps:
  - a. Press “Begin Cal”
  - b. Ensure that the Cal Method is “SOLT” and the Transmission Line type is “Coaxial”.
  - c. Make the following selections to set up the calibration:
    - i. Next Cal Step
    - ii. Reflection Only
    - iii. Port 1 Only
    - iv. Normal (1601 Data Points)
    - v. 401 Max Points
    - vi. Start frequency: 40 MHz
    - vii. Stop frequency: 18 GHz
    - viii. Next Cal Step
    - ix. Port 1 Connector type should be changed to “Type N(f)” for 34NN50A  
or  
“Type N(m)” for 34NFNF50
    - x. Load type: BROADBAND FIXED LOAD
    - xi. Start Cal
7. Follow instructions on the VNA display.
8. After the calibration is complete, set the VNA to display Single Channel, S11, SWR Graph type.

9. Under the Set Scale Key:
    - a. Set the Resolution to 500 mU/div.
    - b. Set the Reference Value equal to 1.1
  10. Install the Adapter Under Test to VNA Port 1.
  11. Install the appropriate termination from the 3653 cal kit to the open end of the Adapter Under Test.
  12. Verify that the SWR of the Adapter Under Test is within specification (refer to [Table 2-1, "Model 34 Series Specifications"](#)).
- Hint:* Use a marker to find the maximum SWR value.





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