

# RB3X25 反射电桥使用说明

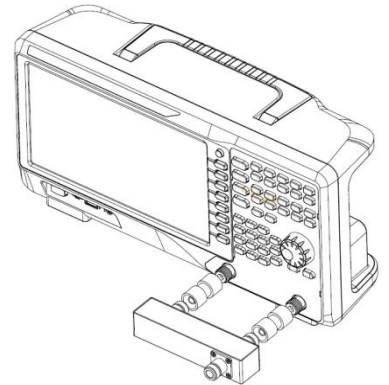
## 产品介绍

RB3X25 反射电桥可用于被测设备进行回波损耗、反射系数和电压驻波比等 S11 相关指标的测量。电桥具备 N 型 F 端口，同时提供 2 个 N(M)-N(M)型适配器，用于与 N 型 F 端口的仪器连接。

接口说明：

- IN (TG) : 激励输入，用于连接激励信号源
- COUPLE (RF) : 耦合输出，用于连接测量接收端口
- DUT: 用于连接被测设备

RB3X25 可与网络分析仪配合使用。当配合鼎阳 SSA3000X 和 SSA3000X Plus 系列频谱分析仪（需要安装 Refl 选件）时，信号激励输入和耦合输出与频谱分析仪的端口位置精确匹配，无需额外电缆连接，提高了匹配度。



## 与 SSA 系列频谱分析仪的配合

### 1、连接方式：

电桥与频谱仪连接方式如图所示：

使用两个 N(M)-N(M)适配器分别连接反射电桥的 IN 端口和频谱分析仪的 TG 端口、反射电桥的 COUPLE 端口与频谱分析仪 RF 输入端口。被测设备与电桥之间的连接尽量少地使用线缆或转接器，以减少失配误差和插入损耗。

### 2、测试说明：

- 1) 选择频谱分析仪的**反射测量**菜单后，跟踪源会被打开，TG 指示灯点亮；
- 2) 按照界面提示，DUT 端口连接 OPEN/SHORT 负载或直接悬空，进行校准；
- 3) 将被测设备连接到 DUT 端口；
- 4) 选择和调整光标，光标表中会显示相应的频率、回波损耗、反射系数和电压驻波比的测量结果。

## 性能指标

频率范围	1 MHz 至 2500 MHz		
端口形式	N（阴）型		
端口阻抗	50 Ω		
插入损耗	IN 至 DUT : 3 dB（典型值）		
方向性	1 MHz – 1.5 GHz	1.5 GHz – 2.0 GHz	2.0 GHz – 2.5 GHz
	25 dB（典型值）	20 dB（典型值）	15 dB（典型值）
尺寸	136 mm × 75 mm × 30 mm, 0.5 kg		

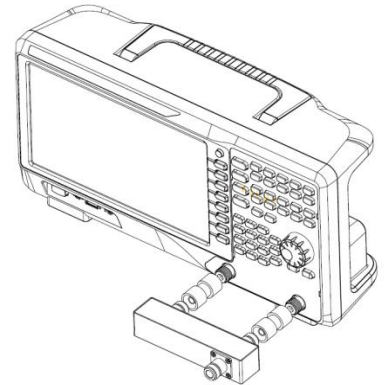
# RB3X25 Reflection Bridge Instructions

## Product Introduction

RB3X25 Reflection Bridge is a hardware accessory designed to enable spectrum analyzer measurements of S11-related parameters such as return loss, reflection coefficient and VSWR. It provides N type female port, with 2 N (Male)-N(Male) adapters to facilitate connections.

The reflection bridge has 3 ports:

- IN (TG): Signal input terminal. This terminal connects to the generator/source.
- COUPLE (RF): Coupling output terminal. This terminal connects to the receiver/analyzer input.
- DUT: This port is connected to the Device-Under Test (DUT).



It can be used with any analyzer that has a working generator output and RF input, but the distance between the RB3X25 ports is designed to match the connectors on the SSA3000X/Plus series spectrum analyzers which improves accuracy by eliminating the need for extra cables.

## Measurement Procedure with SIGLENT SSA analyzers

### 1. Connection:

The connection of the bridge and spectrum analyzer is shown in the figure above.

Use the N(M)-to-N(M) adapters to connect the output terminal of the tracking generator and RF input terminals of the spectrum analyzer to the IN and COUPLE terminals of the reflection bridge respectively.

The cables between the DUT and bridge should be as short as possible, in order to reduce mismatches and loss.

### 2. Measurement procedure (for analyzers with active REFL licenses):

- 1) Select Reflection Meas. The Tracking Generator (TG) indicator light will be illuminated
- 2) Perform port calibration according to the message instructions
- 3) Connect the DUT to the Reflection Bridge
- 4) Move the Marker and the Reflection Table will display the frequency, return loss, reflection coefficient and VSWR

## Specifications

Frequency range	1 MHz- 2500 MHz		
Connector type	N (Female)		
Impedance	50 $\Omega$		
Insertion loss	IN to DUT : 3 dB (typ.)		
Directivity	1 MHz – 1.5 GHz	1.5 GHz – 2.0 GHz	2.0 GHz – 2.5 GHz
	25 dB (typ.)	20 dB (typ.)	15 dB (typ.)
Size& Weight	136 mm ×75 mm × 30 mm, 0.5 kg		