

# S400 RF Option Specifications

## 9400-20GM 20GHZ VNA WITH KEITHLEY S41 6X6 SWITCH MATRIX

### RF PARAMETERS:

**Frequency:** 40MHz–20GHz

**Switch Configuration:** Non-blocking coaxial matrix with six inputs and six outputs.

**Impedance:** 50 Ohm

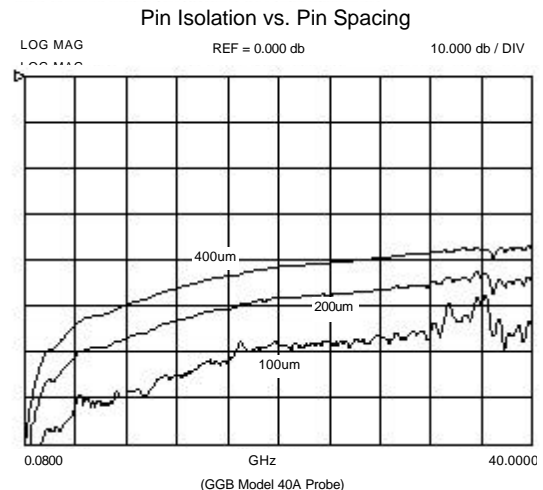
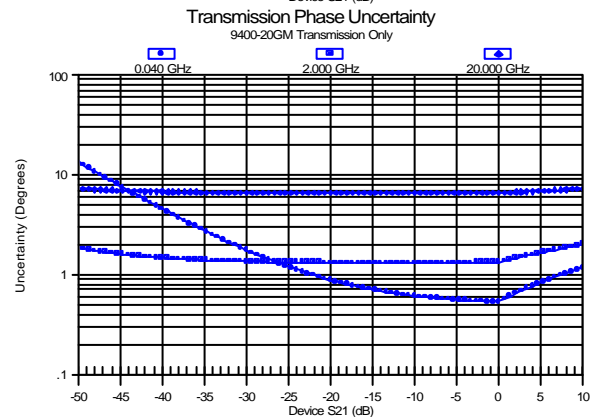
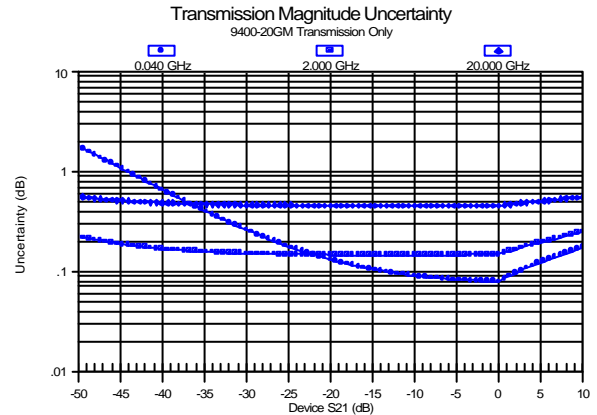
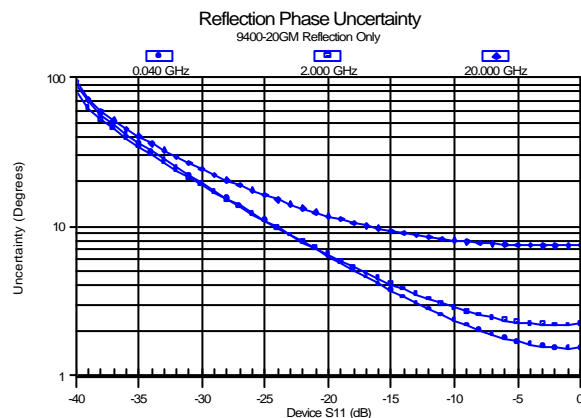
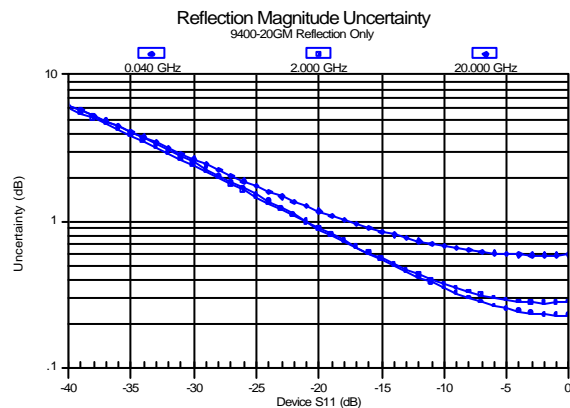
**Probe Card:** Coplanar Probes – Ground, Signal, Ground

**Calibration Substrate:** Manufactured for probe card design

**DC Bias:** 16 Volts Max., 100mA Max.<sup>1</sup>

### MEASUREMENT UNCERTAINTY<sup>2</sup>:

The following graphs give measurement uncertainty after 12-Term vector error correction. The errors are worst case contributions of residual directivity, load and source match, frequency response, isolation, network analyzer dynamic accuracy, and connector repeatability. In preparing the following graphs, 10 Hz IF bandwidth and averaging of 512 points were used. Changes in the IF bandwidth or averaging can result in variations at low levels. 0dB = -7dBm



Crosstalk performance of two Model 40A-GSG-150-P Picoprobes while contacting a bare sapphire substrate with spacings of 100, 200, and 400 microns.

# S400 RF Option Specifications

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## STANDARDS:

**Safety:** Conforms with European Union Directive 73/23/EEC:  
EN61010-1

**EMC:** Conforms with European Union Directive 89/336/EEC:  
EN61326

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## ENVIRONMENT:

**Operating:** 21°C to 25°C, <50% relative humidity

**Storage:** -25°C to +65°C.

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## Notes:

1. The S400 system is capable of outputting higher voltages and currents than the bias tees are rated. The user must take this into consideration when programming the test routines by limiting voltage and current levels.
2. All RF specifications listed are based on a 24 Hour calibration with appropriate calibration substrate. Changing of probe card, breaking and reconnecting interconnect cables, and 24 Hours elapsed time from calibration requires that the system be recalibrated.

Specifications subject to change without notice.

# S400 RF Option Specifications

## 9405-20G 20GHz VNA WITHOUT SWITCH MATRIX

### RF PARAMETERS:

**Frequency:** 40MHz–20GHz

**Impedance:** 50 Ohm

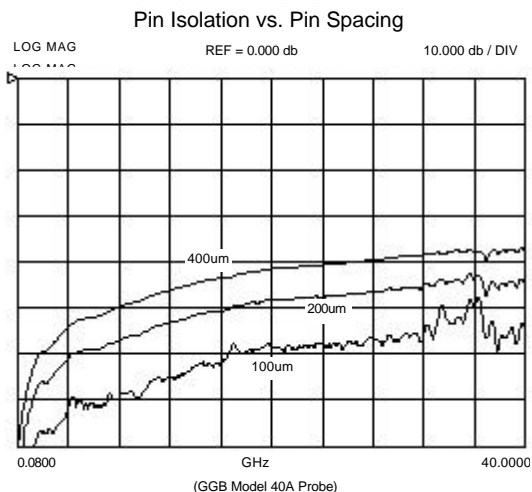
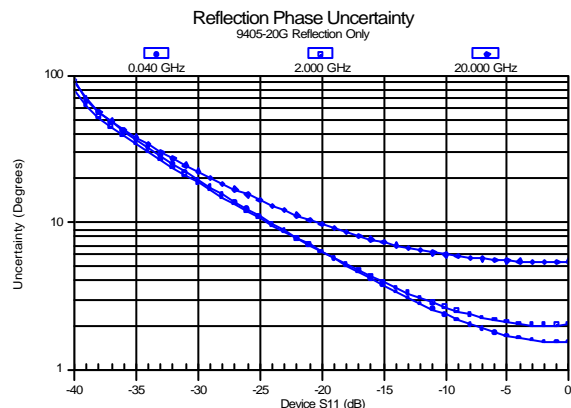
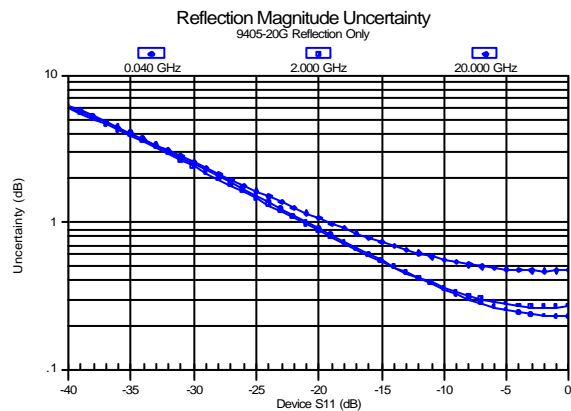
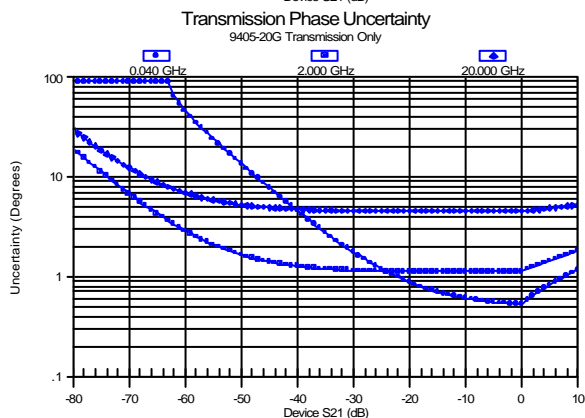
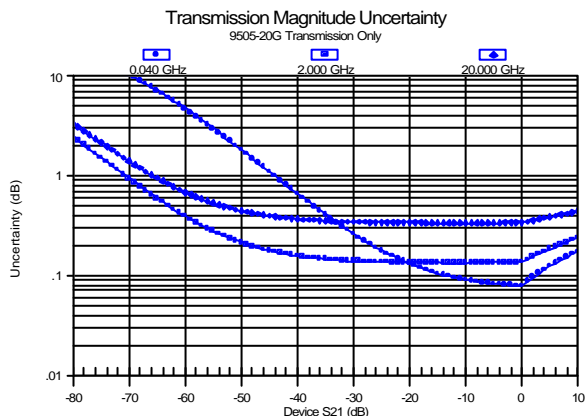
**Probe Card:** Coplanar Probes – Ground, Signal, Ground

**Calibration Substrate:** Manufactured for probe card design

**DC Bias:** 16 Volts Max., 100mA Max.<sup>1</sup>

### MEASUREMENT UNCERTAINTY<sup>2</sup>:

The following graphs give measurement uncertainty after 12-Term vector error correction. The errors are worst case contributions of residual directivity, load and source match, frequency response, isolation, network analyzer dynamic accuracy, and connector repeatability. In preparing the following graphs, 10 Hz IF bandwidth and averaging of 512 points were used. Changes in the IF bandwidth or averaging can result in variations at low levels. 0dB = -7dBm



Crosstalk performance of two Model 40A-GSG-150-P Picoprobes while contacting a bare sapphire substrate with spacings of 100, 200, and 400 microns.

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## ENVIRONMENT:

**Operating:** 21°C to 25°C, <50% relative humidity

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## Notes:

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# S400 RF Option Specifications

## 9410-40G 40GHz VNA WITHOUT SWITCH MATRIX

### RF PARAMETERS:

**Frequency:** 40MHz–40GHz

**Impedance:** 50 Ohm

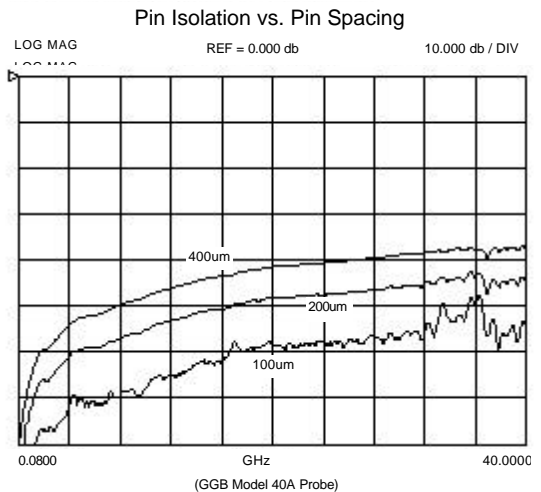
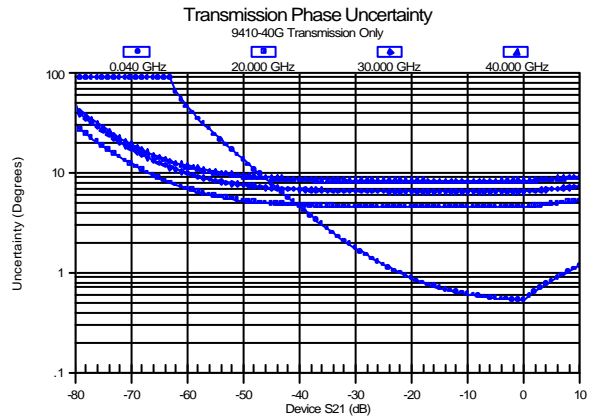
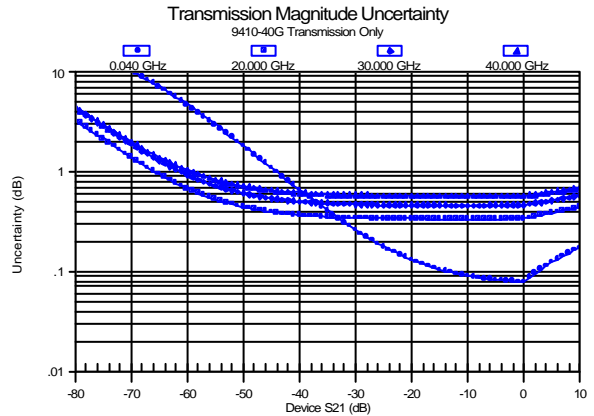
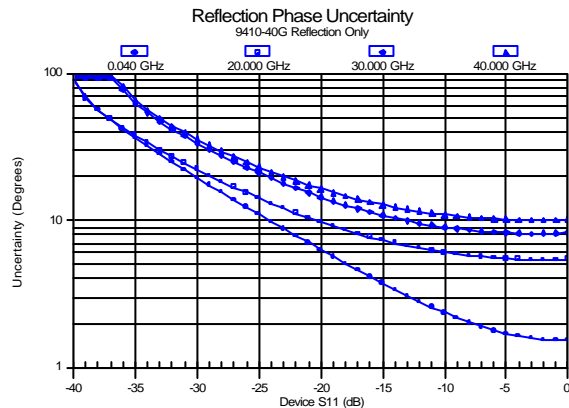
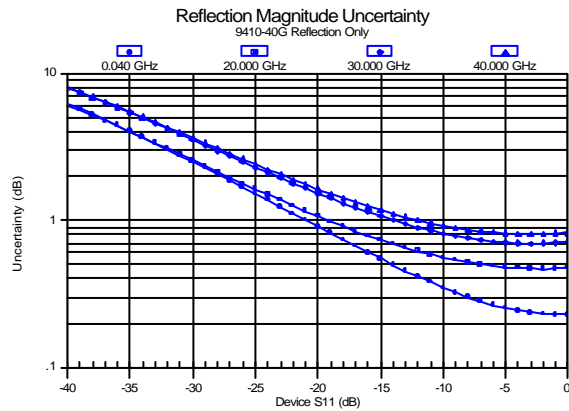
**Probe Card:** Coplanar Probes – Ground, Signal, Ground

**Calibration Substrate:** Manufactured for probe card design

**DC Bias:** 16 Volts Max., 100mA Max.<sup>1</sup>

### MEASUREMENT UNCERTAINTY<sup>2</sup>:

The following graphs give measurement uncertainty after 12-Term vector error correction. The errors are worst case contributions of residual directivity, load and source match, frequency response, isolation, network analyzer dynamic accuracy, and connector repeatability. In preparing the following graphs, 10 Hz IF bandwidth and averaging of 512 points were used. Changes in the IF bandwidth or averaging can result in variations at low levels. 0dB = -7dBm



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**Operating:** 21°C to 25°C, <50% relative humidity

**Storage:** -25°C to +65°C.

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2. All RF specifications listed are based on a 24 Hour calibration with appropriate calibration substrate. Changing of probe card, breaking and reconnecting interconnect cables, and 24 Hours elapsed time from calibration requires that the system be recalibrated.

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