



RIGOL

# DNA5000 Series

## Vector Network Analyzer

Data Sheet

DSR01102-1110

Dec.2025

# Product Features

## Product Features

- Frequency range: 5 kHz to 26.5 GHz
- Number of Ports: 2
- Frequency resolution 1 Hz
- Max. output power 10 dBm
- High dynamic range 127 dB (typ.)
- Trace noise: 0.005 dB
- IF BW: 1 Hz to 10 MHz
- Compatible with the mechanical calibration kit and the Ecal electronic calibration kit, supporting various calibration types (SOLT, Response Short, Response Open, OSL, Enhanced Response 1 to 2, Response Through)
- Integrates S-parameters, impedance, VSWR, TDA, fixture embedding/de-embedding, antenna test, and etc.
- Portable and light-weighted design, with the compact size of (358.1 mm x 214.8 mm x 121.4 mm) and light weight of 5.3 kg
- 10.1" 1280x800 HD touch screen
- Supports LAN, USB Device, USB Host, and HDMI interfaces
- Supports standard SCPI instruction sets
- Supports Web Control for remote operation
- Supports both physical key operation and touch screen operation; allowing you to use externally connected keyboard and mouse to input values

---

DNA5000 series vector network analyzer provides various calibration methods such as frequency response, single-port, response isolation, enhanced response, full dual-port, and electronic calibration. It supports various display formats such as Log Mag, Lin Mag, SWR, Phase, Group Delay, Smith Chart, and Polar Chart. Through the connectivity with the instrument under test via the standard interfaces such as USB, LAN, and HDMI, this series can accurately measure the amp/freq characteristics, phase/freq characteristics, and group delay characteristics of the microwave network.

While maintaining the high-performance characteristics in terms of its specifications, appearance, display effects, and software interface, the DNA5000 series features compact size, light weight, and low noise, offering you better user experience. This series product can be widely used in the electronics, communication, and microwave fields. It is the commonly used test instrument in the R&D and batch production for the industry and universities.

---

# Specifications

Specifications are valid under the following conditions: the instrument is within the calibration period; stored for at least two hours at 0°C to 40°C temperature; 60-minute warm-up. Unless otherwise noted, the specifications in the manual include the measurement uncertainty.

- **Typical (typ.):** typical performance, which 80 percent of the measurement results will meet at room temperature (approximately 25°C). The data are not warranted and do not include the measurement uncertainty.
- **Nominal (nom.):** the expected mean or average performance or a designed attribute (such as the 50Ω connector). The data are not warranted and are measured at room temperature (approximately 25°C).
- **Measured (meas.):** an attribute measured during the design phase which can be compared to the expected performance, e.g. the amplitude drift varies with time. The data are not warranted and are measured at room temperature (approximately 25°C).
- **Specification:** guaranteed performance. The Specification includes the limit conditions, which are applicable to all the specifications and characteristics at room temperature (approximately 25°C), unless otherwise noted.

## NOTE:

All charts in this manual are the measurement results of multiple instruments at room temperature unless otherwise noted.

## Product Model

| Model   | Frequency         | Number of Ports |
|---------|-------------------|-----------------|
| DNA5042 | 5 kHz to 4.5 GHz  | 2               |
| DNA5082 | 5 kHz to 8.5 GHz  | 2               |
| DNA5142 | 5 kHz to 14 GHz   | 2               |
| DNA5202 | 5 kHz to 20 GHz   | 2               |
| DNA5262 | 5 kHz to 26.5 GHz | 2               |

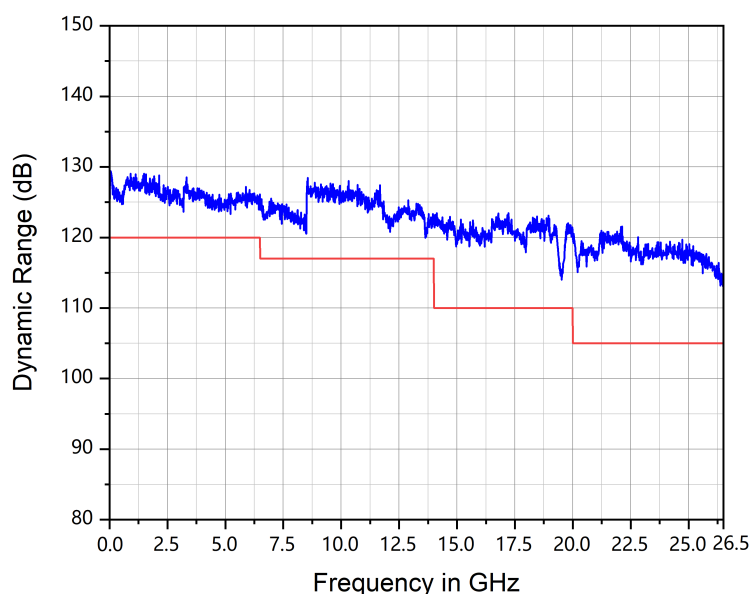
## Dynamic Range

Measurement condition: 10 Hz IF BW; ambient temperature: 23°C ( $\pm 3^\circ\text{C}$ ), deviation from the calibration temperature less than 1°C

### System Dynamic Range <sup>[1]</sup>

| Frequency Range    | Specification | Typical |
|--------------------|---------------|---------|
| 100 kHz to 10 MHz  | 105 dB        | 115 dB  |
| 10 MHz to 6.5 GHz  | 120 dB        | 127 dB  |
| 6.5 GHz to 8.5 GHz | 117 dB        | 122 dB  |
| 8.5 GHz to 14 GHz  | 117 dB        | 122 dB  |
| 14 GHz to 20 GHz   | 110 dB        | 115 dB  |
| 20 GHz to 26.5 GHz | 105 dB        | 110 dB  |

[1] System Dynamic Range = Actual Maximum Power - Receiver Noise Floor at 10 Hz IF BW



## System Performance after Error Correction (Calibration)

### Calibration Error with Mechanical Calibration Kit 85052D<sup>[1]</sup>

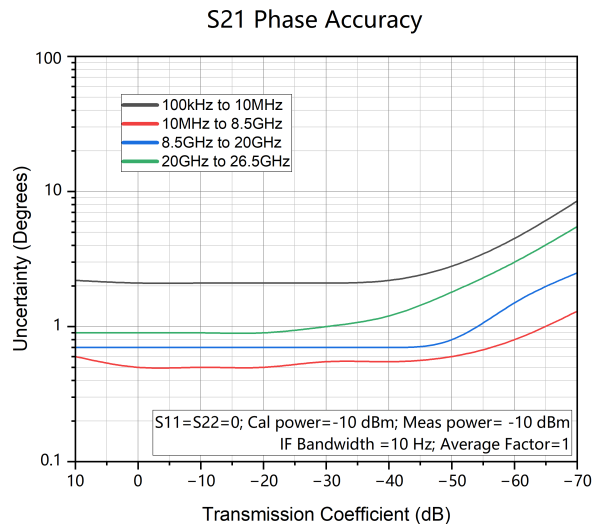
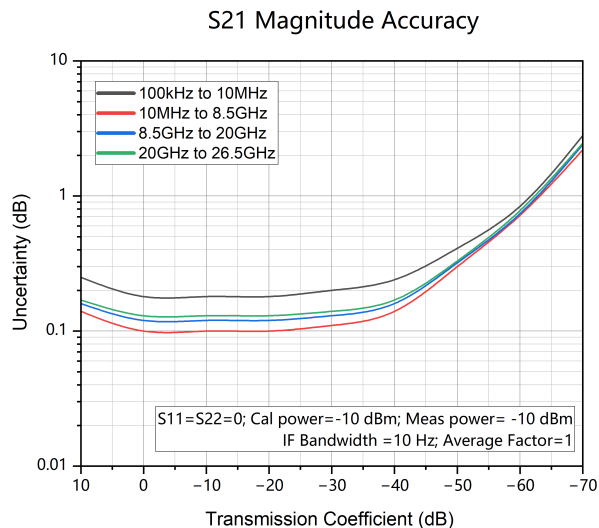
| Frequency Range    | Directivity | Load Match | Source Match | Transmission Tracking | Reflection Tracking |
|--------------------|-------------|------------|--------------|-----------------------|---------------------|
| 5 kHz to 100 kHz   | 20 dB       | 20 dB      | 20 dB        | $\pm 0.30$ dB         | $\pm 0.30$ dB       |
| 100 kHz to 10 MHz  | 42 dB       | 42 dB      | 40 dB        | $\pm 0.01$ dB         | $\pm 0.01$ dB       |
| 10 MHz to 6.5 GHz  | 42 dB       | 38 dB      | 40 dB        | $\pm 0.01$ dB         | $\pm 0.01$ dB       |
| 6.5 GHz to 8.5 GHz | 42 dB       | 38 dB      | 40 dB        | $\pm 0.05$ dB         | $\pm 0.03$ dB       |

## Calibration Error with Mechanical Calibration Kit 85052D<sup>[1]</sup>

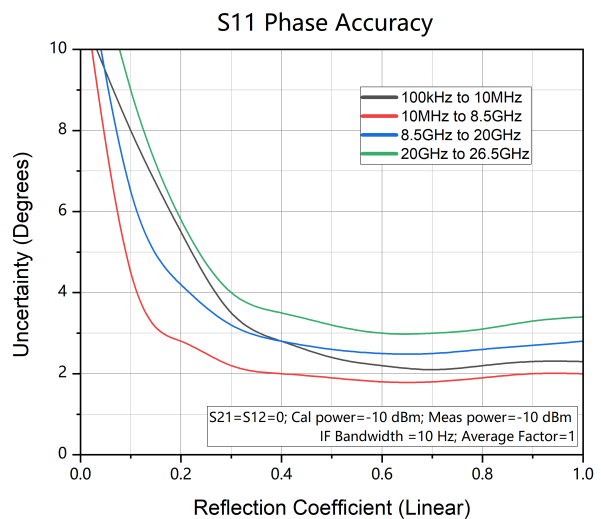
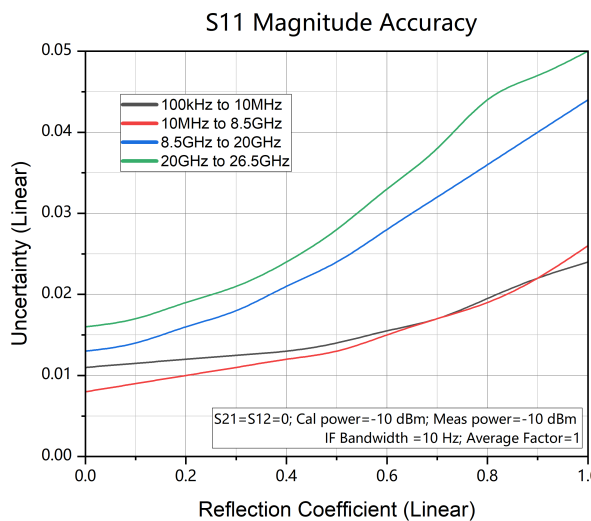
|                    |       |       |       |          |          |
|--------------------|-------|-------|-------|----------|----------|
| 8.5 GHz to 14 GHz  | 42 dB | 35 dB | 36 dB | ±0.05 dB | ±0.06 dB |
| 14 GHz to 20 GHz   | 40 dB | 35 dB | 35 dB | ±0.07 dB | ±0.07 dB |
| 20 GHz to 26.5 GHz | 40 dB | 35 dB | 35 dB | ±0.07 dB | ±0.10 dB |

[1] Measurement condition: 10 Hz IF BW; data not averaged; ambient temperature: 23°C (±3°C), deviation from the calibration temperature less than 1°C.

### Transmission Uncertainty (Amplitude and Phase)



### Reflection Uncertainty (Amplitude and Phase)



## System Performance Without Error Correction/Calibration

### Uncorrected Error (Specification)

| Frequency Range   | Directivity | Load Match | Source Match | Transmission Tracking | Reflection Tracking |
|-------------------|-------------|------------|--------------|-----------------------|---------------------|
| 100 kHz to 10 MHz | 25 dB       | 15 dB      | 25 dB        | ±1.5 dB               | ±1.5 dB             |
| 10 MHz to 6.5 GHz | 25 dB       | 15 dB      | 25 dB        | ±1.5 dB               | ±1.5 dB             |

| Uncorrected Error (Specification) |       |       |       |         |         |
|-----------------------------------|-------|-------|-------|---------|---------|
| 6.5 GHz to 8.5 GHz                | 25 dB | 15 dB | 25 dB | ±1.5 dB | ±1.5 dB |
| 8.5 GHz to 14 GHz                 | 23 dB | 13 dB | 23 dB | ±1.5 dB | ±1.5 dB |
| 14 GHz to 20 GHz                  | 20 dB | 10 dB | 20 dB | ±1.5 dB | ±1.5 dB |
| 20 GHz to 26.5 GHz                | 20 dB | 8 dB  | 20 dB | ±1.5 dB | ±1.5 dB |

| Uncorrected Error (Specification) |             |            |              |                       |                     |
|-----------------------------------|-------------|------------|--------------|-----------------------|---------------------|
| Frequency Range                   | Directivity | Load Match | Source Match | Transmission Tracking | Reflection Tracking |
| 100 kHz to 10 MHz                 | 35 dB       | 25 dB      | 35 dB        | ±0.5 dB               | ±0.5 dB             |
| 10 MHz to 6.5 GHz                 | 35 dB       | 25 dB      | 30 dB        | ±0.5 dB               | ±0.5 dB             |
| 6.5 GHz to 8.5 GHz                | 35 dB       | 25 dB      | 30 dB        | ±0.5 dB               | ±0.5 dB             |
| 8.5 GHz to 14 GHz                 | 35 dB       | 20 dB      | 25 dB        | ±0.5 dB               | ±0.5 dB             |
| 14 GHz to 20 GHz                  | 30 dB       | 20 dB      | 25 dB        | ±0.5 dB               | ±0.5 dB             |
| 20 GHz to 26.5 GHz                | 30 dB       | 20 dB      | 25 dB        | ±0.5 dB               | ±0.5 dB             |

## Test Port Output

| Frequency Characteristics    |                                                  |
|------------------------------|--------------------------------------------------|
| Aging Rate                   | <1 ppm/year                                      |
| Temperature Stability        | <0.5 ppm<br>0°C to 40°C, with the reference 25°C |
| Initial Calibration Accuracy | 1 ppm                                            |
| Frequency Resolution         | 1 Hz                                             |
| Sweep Points                 | 1 to 100,001                                     |
| IF BW Range                  | 1 Hz to 10 MHz                                   |

| Max. Output Power |        |
|-------------------|--------|
| 5 kHz to 100 kHz  | 0 dBm  |
| 100 kHz to 10 MHz | 5 dBm  |
| 10 MHz to 6.5 GHz | 10 dBm |

| Max. Output Power  |       |
|--------------------|-------|
| 6.5 GHz to 8.5 GHz | 8 dBm |
| 8.5 GHz to 14 GHz  | 8 dBm |
| 14 GHz to 20 GHz   | 6 dBm |
| 20 GHz to 26.5 GHz | 0 dBm |

| Power Sweep Range  |                   |
|--------------------|-------------------|
| 5 kHz to 100 kHz   | -40 dBm to 0 dBm  |
| 100 kHz to 10 MHz  | -40 dBm to 5 dBm  |
| 10 MHz to 6.5 GHz  | -40 dBm to 10 dBm |
| 6.5 GHz to 8.5 GHz | -40 dBm to 8 dBm  |
| 8.5 GHz to 14 GHz  | -40 dBm to 8 dBm  |
| 14 GHz to 20 GHz   | -40 dBm to 6 dBm  |
| 20 GHz to 26.5 GHz | -40 dBm to 0 dBm  |

| Power Level Accuracy |               |         |
|----------------------|---------------|---------|
| Frequency Range      | Specification | Typical |
| 100 kHz to 100 MHz   | ±1.0 dB       | ±0.6 dB |
| 100 MHz to 8.5 GHz   | ±1.0 dB       | ±0.6 dB |
| 8.5 GHz to 26.5 GHz  | ±1.5 dB       | ±0.6 dB |

| Power Linearity <sup>[1]</sup> |         |
|--------------------------------|---------|
| 100 kHz to 100 MHz             | ±0.6 dB |
| 100 MHz to 8.5 GHz             | ±0.6 dB |
| 8.5 GHz to 26.5 GHz            | ±0.6 dB |

[1] Given the power linearity in relative to 0 dBm, sweep mode:  $-20 \text{ dBm} \leq \text{Power} \leq 0 \text{ dBm}$ .

| Power Characteristics |         |
|-----------------------|---------|
| Power Resolution      | 0.01 dB |

## Power Characteristics

|                         |         |
|-------------------------|---------|
| Maximum Available Power | 10 dBm  |
| Minimum Available Power | -40 dBm |

## Harmonics & Spurious<sup>[1]</sup>

|                          |         |
|--------------------------|---------|
| Second Harmonics         |         |
| 100 kHz to 26.5 GHz      | -25 dBc |
| Third Harmonics          |         |
| 100 kHz to 100 MHz       | -30 dBc |
| 100 MHz to 8.5 GHz       | -40 dBc |
| 8.5 GHz to 26.5 GHz      | -30 dBc |
| Spurious (non-harmonics) |         |
| 100 kHz to 20 GHz        | -30 dBc |
| 20 GHz to 26.5 GHz       | -25 dBc |

[1] frequency listed is the harmonic frequency, measured at 0 dBm.

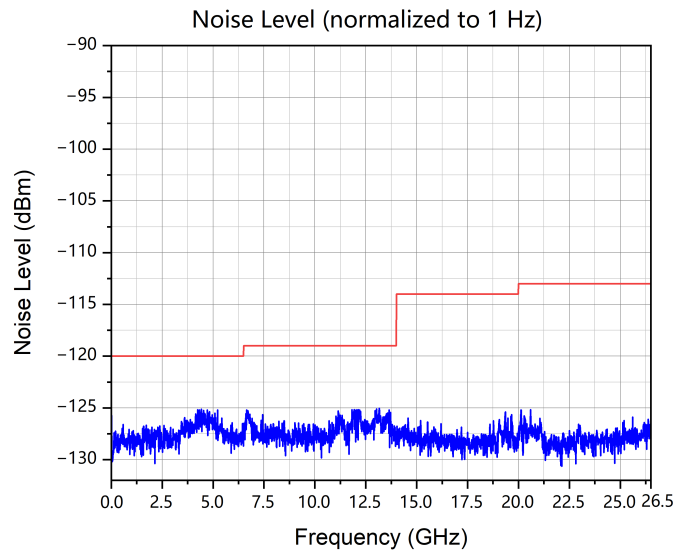
## Test Port Input

### Test Port Noise Floor<sup>[1]</sup>

| Frequency Range    | Specification | Typical  |
|--------------------|---------------|----------|
| 100 kHz to 10 MHz  | -105 dBm      | -120 dBm |
| 10 MHz to 6.5 GHz  | -120 dBm      | -125 dBm |
| 6.5 GHz to 8.5 GHz | -119 dBm      | -124 dBm |
| 8.5 GHz to 14 GHz  | -119 dBm      | -124 dBm |
| 14 GHz to 20 GHz   | -114 dBm      | -119 dBm |
| 20 GHz to 26.5 GHz | -113 dBm      | -118 dBm |

[1] Noise Power is defined as the RMS value of the test transmission coefficient at 10 kHz IF BW, and normalized to 1 Hz.

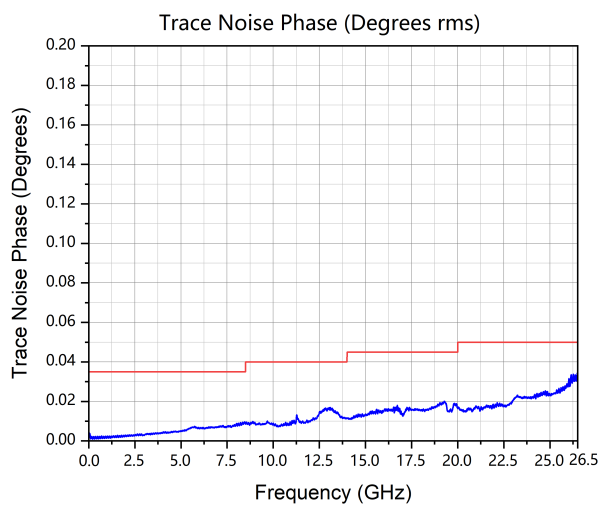
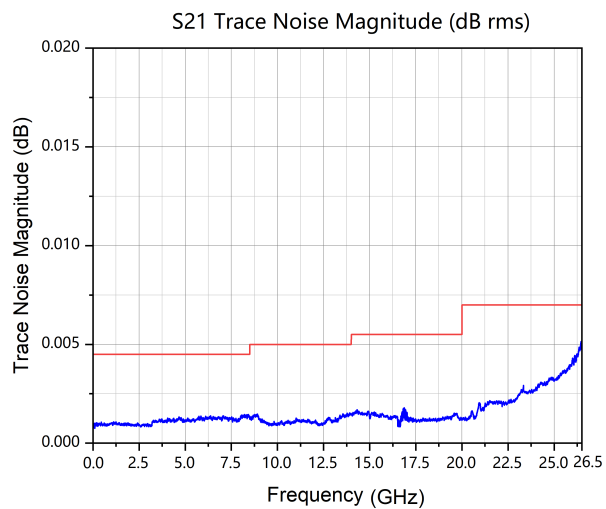




### Trace Noise<sup>[1]</sup>

| Frequency Range    | Magnitude                |                          | Phase                       |                             |
|--------------------|--------------------------|--------------------------|-----------------------------|-----------------------------|
|                    | Specification            | Typical                  | Specification               | Typical                     |
| 100 kHz to 10 MHz  | 0.006 dB <sub>rms</sub>  | 0.003 dB <sub>rms</sub>  | 0.045 degree <sub>rms</sub> | 0.025 degree <sub>rms</sub> |
| 10 MHz to 8.5 GHz  | 0.0045 dB <sub>rms</sub> | 0.0015 dB <sub>rms</sub> | 0.035 degree <sub>rms</sub> | 0.013 degree <sub>rms</sub> |
| 8.5 GHz to 14 GHz  | 0.005 dB <sub>rms</sub>  | 0.002 dB <sub>rms</sub>  | 0.04 degree <sub>rms</sub>  | 0.022 degree <sub>rms</sub> |
| 14 GHz to 20 GHz   | 0.0055 dB <sub>rms</sub> | 0.0025 dB <sub>rms</sub> | 0.045 degree <sub>rms</sub> | 0.025 degree <sub>rms</sub> |
| 20 GHz to 26.5 GHz | 0.007 dB <sub>rms</sub>  | 0.005 dB <sub>rms</sub>  | 0.05 degree <sub>rms</sub>  | 0.040 degree <sub>rms</sub> |

[1] Tested under default power at power-on. Transmission and Reflection Trace Noise: for signal <10 MHz, IF BW is 1 kHz; for signal ≥10 MHz, IF BW is 10 kHz.

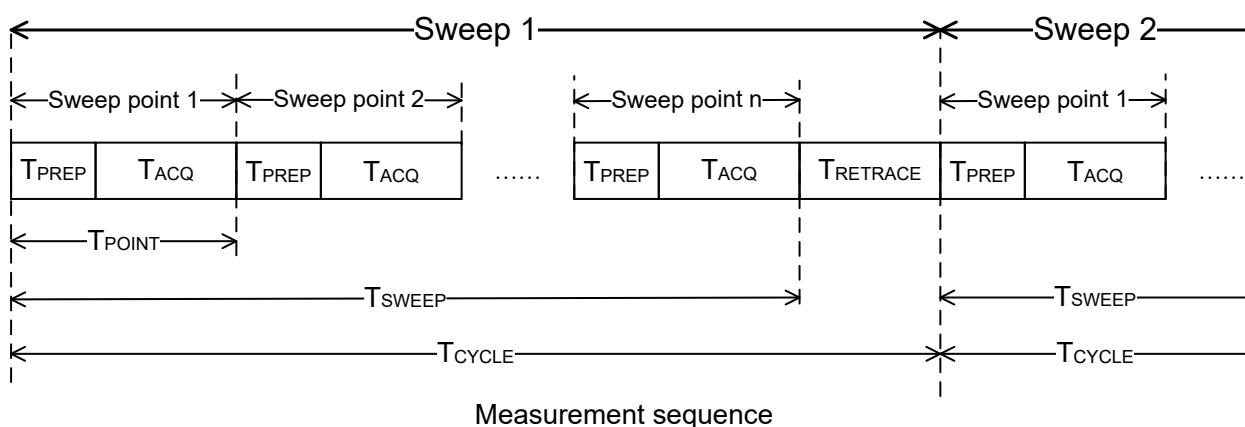


| Temperature Stability (Typical) |            |                |
|---------------------------------|------------|----------------|
| Frequency Range                 | Magnitude  | Phase          |
| 100 kHz to 10 MHz               | 0.05 dB/°C | 1.00 degree/°C |
| 10 MHz to 6.5 GHz               | 0.03 dB/°C | 0.25 degree/°C |
| 6.5 GHz to 8.5 GHz              | 0.04 dB/°C | 0.30 degree/°C |
| 8.5 GHz to 14 GHz               | 0.04 dB/°C | 0.45 degree/°C |
| 14 GHz to 20 GHz                | 0.05 dB/°C | 0.60 degree/°C |
| 20 GHz to 26.5 GHz              | 0.07 dB/°C | 0.80 degree/°C |

| Damage Input Level |                         |
|--------------------|-------------------------|
| Damage Input Level | +27 dBm or $\pm 35$ VDC |

## Meas Time

| Sweep time (sweep type CW, 1 GHz center frequency, 200 MHz span, 201 sweep points, measurement parameter S11) |           |              |
|---------------------------------------------------------------------------------------------------------------|-----------|--------------|
|                                                                                                               | Band Span | Time         |
| T <sub>SWEEP</sub>                                                                                            | 1 MHz     | 7.71 ms      |
|                                                                                                               | 500 kHz   | 8.05 ms      |
| T <sub>CYCLE</sub>                                                                                            | 1 MHz     | 8.23 ms      |
|                                                                                                               | 500 kHz   | 8.59 ms      |
| T <sub>PREP</sub>                                                                                             | /         | 35 $\mu$ s   |
| T <sub>ACQ</sub>                                                                                              | 1 MHz     | 3.5 $\mu$ s  |
|                                                                                                               | 500 kHz   | 5.3 $\mu$ s  |
| T <sub>POINT</sub>                                                                                            | 1 MHz     | 38.5 $\mu$ s |
|                                                                                                               | 500 kHz   | 40.3 $\mu$ s |



- $T_{SWEEP}$ : Time required for one sweep
- $T_{CYCLE}$ : Sweep cycle time ( $T_{CYCLE} = T_{SWEEP} + T_{RETRACE}$ )
- $T_{PREP}$ : Preparation time required to set up the internal hardware components
- $T_{ACQ}$ : Data acquisition time ( $T_{ACQ} = \text{Filter settling time} + \text{Detector time}$ )
- $T_{POINT}$ : Total time for one sweep point
- $T_{RETRACE}$ : Time between two sweeps

#### Data Transmission Time (IFBW = 1 MHz)

| Frequency Range   |                       | RBW     | 201 points | 401 points | 1601 points |
|-------------------|-----------------------|---------|------------|------------|-------------|
| 10 MHz to 4.5 GHz | Not Calibrated        | 1 MHz   | 9.8 ms     | 17.58 ms   | 64.7 ms     |
|                   |                       | 500 kHz | 10.1 ms    | 18.3 ms    | 67.3 ms     |
|                   |                       | 100 kHz | 12.5 ms    | 23.2 ms    | 86.9 ms     |
|                   |                       | 1 kHz   | 248 ms     | 498 ms     | 1985 ms     |
| 10 MHz to 4.5 GHz | Dual-port Calibration | 1 MHz   | 19.15 ms   | 34.9 ms    | 128.6 ms    |
|                   |                       | 500 kHz | 19.85 ms   | 36.2 ms    | 134.2 ms    |
|                   |                       | 100 kHz | 24.8 ms    | 46.1 ms    | 174 ms      |
|                   |                       | 1 kHz   | 501 ms     | 996 ms     | 3965 ms     |
| 10 MHz to 8.5 GHz | Not Calibrated        | 1 MHz   | 10.76 ms   | 18.5 ms    | 65.1 ms     |
|                   |                       | 500 kHz | 11.08 ms   | 19.2 ms    | 67.8 ms     |
|                   |                       | 100 kHz | 13.58 ms   | 24.2 ms    | 87.6 ms     |
|                   |                       | 1 kHz   | 251 ms     | 500 ms     | 1980 ms     |

| Data Transmission Time (IFBW = 1 MHz) |                       |         |          |          |          |
|---------------------------------------|-----------------------|---------|----------|----------|----------|
| 10 MHz to 8.5 GHz                     | Dual-port Calibration | 1 MHz   | 22 ms    | 37.45 ms | 130.6 ms |
|                                       |                       | 500 kHz | 22.65 ms | 38.9 ms  | 136.2 ms |
|                                       |                       | 100 kHz | 27.6 ms  | 48.7 ms  | 175.5 ms |
|                                       |                       | 1 kHz   | 502 ms   | 998 ms   | 3960 ms  |
| 10 MHz to 26.5 GHz                    | Not Calibrated        | 1 MHz   | 15.2 ms  | 24.4 ms  | 70.8 ms  |
|                                       |                       | 500 kHz | 15.58 ms | 25.15 ms | 73.8 ms  |
|                                       |                       | 100 kHz | 18.05 ms | 30.1 ms  | 93.4 ms  |
|                                       |                       | 1 kHz   | 257 ms   | 506 ms   | 2,000 ms |
| 10 MHz to 26.5 GHz                    | Dual-port Calibration | 1 MHz   | 31 ms    | 49.4 ms  | 142.5 ms |
|                                       |                       | 500 kHz | 31.65 ms | 50.7 ms  | 147.5 ms |
|                                       |                       | 100 kHz | 36.55 ms | 60.7 ms  | 187 ms   |
|                                       |                       | 1 kHz   | 511 ms   | 1008 ms  | 3990 ms  |

# Input/Output

## RF Test Port Input

| RF Test Port Input (on the front panel) |                                                                |
|-----------------------------------------|----------------------------------------------------------------|
| Frequency Range                         | 5 kHz to 26.5 GHz                                              |
| Number of Ports                         | 2                                                              |
| Input Impedance                         | 50 $\Omega$ (nom.)                                             |
| Connector Type                          | 3.5mm Threaded Male Connector (applicable to DNA5202, DNA5262) |
|                                         | N-type female (applicable to DNA5042, DNA5082, DNA5142)        |

## 10 MHz Reference Clock Connector

| 10 MHz Reference Output (on the rear panel)      |                                  |
|--------------------------------------------------|----------------------------------|
| Frequency                                        | 10 MHz (fixed)                   |
| Output Level                                     | +3 dBm to +10 dBm, +7 dBm (typ.) |
| Output Impedance                                 | 50 $\Omega$ (nom.)               |
| Connector Type                                   | BNC (F)                          |
| 10 MHz Reference Clock Input (on the rear panel) |                                  |
| Frequency                                        | 10 MHz $\pm$ 10 ppm              |
| Input Level                                      | 0 dBm to +10 dBm                 |
| Input Impedance                                  | 50 $\Omega$ (nom.)               |
| Connector Type                                   | BNC (F)                          |

## Ext Trigger I/O

| Trig Input (on the rear panel) |                            |
|--------------------------------|----------------------------|
| Input Impedance                | $\geq 1$ k $\Omega$ (nom.) |
| Input Level                    | 3.3 V TTL Level            |
| Connector Type                 | BNC (F)                    |

| Trig Output (on the rear panel) |                    |
|---------------------------------|--------------------|
| Impedance                       | 50 $\Omega$ (nom.) |
| Output Level                    | 3.3 V TTL Level    |
| Connector Type                  | BNC (F)            |

## Communication Interface

| Communication Interface |                                         |
|-------------------------|-----------------------------------------|
| USB DEVICE              | USB 3.0, 1 on the rear panel            |
| USB HOST                | USB 3.0, 1 on the rear panel            |
| HDMI                    | 1 on the rear panel, HDMI 1.4, A plug   |
| LAN                     | 1 on the rear panel, 10/100/1000 Base-T |

# General Specifications

## Display

| Display            |                                                                    |
|--------------------|--------------------------------------------------------------------|
| LCD                | 10.1-inch capacitive multi-touch screen, gesture enabled operation |
| Display Resolution | 1280*800                                                           |

## Power

| Power Supply      |                                                              |
|-------------------|--------------------------------------------------------------|
| Power Supply      | 100 Vrms to 240 Vrms, 50 Hz/60 Hz                            |
| Power Consumption | 80 W (DNA5042, DNA5082)<br>100 W (DNA5142, DNA5202, DNA5262) |
| Fuse              | 5 A, T degree, 250 V                                         |

## Processor System

| Operating System |                  |                                   |
|------------------|------------------|-----------------------------------|
| Operating System |                  | Linux                             |
| Mass Memory      | Internal Storage | 256GB                             |
|                  | External Storage | USB storage device (not supplied) |

## Working Environment

| Environment       |           |            |
|-------------------|-----------|------------|
| Temperature Range | Operating | 0°C~40°C   |
|                   | Storage   | -20°C~70°C |

## Environment

|                |                  |                                                                                                                                                    |
|----------------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Humidity Range | Operating        | 0°C to 30°C: ≤95%RH<br>30°C to 40°C: ≤75%RH                                                                                                        |
|                | Non-Operating    | Below +40°C: 5% to 90%, without condensation<br>+40°C to +60°C: 5% to 80%, without condensation<br>+60°C to +70°C: 5% to 40%, without condensation |
| Altitude       | Operating Height | Below 2000 m (6561.68 feet)                                                                                                                        |

## Regulations

### Electromagnetic Compatibility and Safety

|                                     |                                                                           |                                                                                                                                        |
|-------------------------------------|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Electromagnetic Compatibility (EMC) | Anti-interference conforms to specifications in EMC Directive 2014/30/EU; |                                                                                                                                        |
|                                     | EMC RF and emission limits conforms to CISPR11/EN 55011, Group 1, Class A |                                                                                                                                        |
|                                     | IEC61000-4-2:2008/EN61000-4-2                                             | ±4.0 kV (contact discharge), ±8.0 kV (air discharge)                                                                                   |
|                                     | IEC61000-4-3:2002/EN61000-4-3                                             | 3 V/m (80 MHz to 1 GHz);<br>3 V/m (1.4 GHz to 2 GHz);<br>1 V/m (2.0 GHz to 2.7 GHz)                                                    |
|                                     | IEC61000-4-4:2004/EN61000-4-4                                             | 1 kV power line                                                                                                                        |
|                                     | IEC61000-4-5:2001/EN61000-4-5                                             | 0.5 kV (phase-to-neutral voltage);<br>1 kV (phase-to-earth voltage);<br>1 kV (neutral-to-earth voltage)                                |
|                                     | IEC61000-4-6:2003/EN61000-4-6                                             | 3 V, 0.15 MHz-80 MHz                                                                                                                   |
|                                     | IEC61000-4-11:2004/EN 61000-4-11                                          | Voltage dip: 0% UT during half cycle<br>0% UT during 1 cycle<br>70% UT during 25 cycles<br>Short interruption: 0% UT during 250 cycles |
| Safety                              | EN 61010-1, IEC 61010-1, UL 61010-1, CAN/CSA-C22.2 No. 61010-1            |                                                                                                                                        |



## Electromagnetic Compatibility and Safety

|             |                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environment | Samples of this product have been type tested in accordance with RIGOL's reliability test regulations and verified to be robust against the environmental stresses of storage, transportation, and end-use; those stresses include, but are not limited to, temperature, humidity, shock, and vibration. The test methods are compliant with standards specified in GB/T65872 Class 2 and MIL-PRF-28800F Class 3. |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Mechanical Dimensions

### Mechanical Dimensions

|                        |                                     |                                                                            |
|------------------------|-------------------------------------|----------------------------------------------------------------------------|
| Dimensions (W x H x D) |                                     | 358.1 mm x 214.8 mm x 121.4 mm<br>14.1-inch x 8.45-inch x 4.8-inch         |
| Rack Mount Kit         |                                     | 5U                                                                         |
| Weight                 | Mechanical Calibration Kit Excluded | Package Excluded: < 5 kg (11.02 lb)<br>Package Included: < 7 kg (15.43 lb) |

## Warranty and Calibration Interval

### Warranty and Calibration

|                                  |  |                                                       |
|----------------------------------|--|-------------------------------------------------------|
| Recommended Calibration Interval |  | 18 months                                             |
| Warranty                         |  | Three years for the mainframe, excluding accessories. |

# Order Information and Warranty Period

## Order Information

|                                | Description                                                                     | Order No.    |
|--------------------------------|---------------------------------------------------------------------------------|--------------|
| Model                          | Vector Network Analyzer, 5 kHz to 4.5 GHz, 2 ports                              | DNA5042      |
|                                | Vector Network Analyzer, 5 kHz to 8.5 GHz, 2 ports                              | DNA5082      |
|                                | Vector Network Analyzer, 5 kHz to 14 GHz, 2 ports                               | DNA5142      |
|                                | Vector Network Analyzer, 5 kHz to 20 GHz, 2 ports                               | DNA5202      |
|                                | Vector Network Analyzer, 5 kHz to 26.5 GHz, 2 ports                             | DNA5262      |
| Standard Accessory             | Power Cord                                                                      | -            |
| Measurement Application Option | TDA (Time-Domain Analysis)                                                      | DNA-TDA10    |
|                                | DTF (Distance to Fault)                                                         | DNA-DTF10    |
| Optional Accessories           | Electronic Calibration Kit, 100 kHz to 9 GHz, 2 ports, Type-N (F), 50 $\Omega$  | ECAL109-NF2  |
|                                | Electronic Calibration Kit, 100 kHz to 14 GHz, 2 ports, Type-N (F), 50 $\Omega$ | ECAL114-NF2  |
|                                | Electronic Calibration Kit, 100 kHz to 26.5 GHz, 3.5 mm (F), 2 ports            | ECAL126-35F2 |
|                                | 4-in-1 OSLT Mechanical Calibration Kit, DC to 26.5 GHz, 3.5 mm (F)              | MCAL226-35F5 |

|                      |                                                                      |              |
|----------------------|----------------------------------------------------------------------|--------------|
| Optional Accessories | Mechanical Calibration Kit, DC to 4.5 GHz, Type-N (M), 50 $\Omega$   | MCAL104-NM1  |
|                      | Mechanical Calibration Kit, DC to 4.5 GHz, Type-N (F), 50 $\Omega$   | MCAL104-NF1  |
|                      | Mechanical Calibration Kit, DC to 9 GHz, Type-N (M), 50 $\Omega$     | MCAL109-NM1  |
|                      | Mechanical Calibration Kit, DC to 9 GHz, Type-N (F), 50 $\Omega$     | MCAL109-NF1  |
|                      | Mechanical Calibration Kit, DC to 9 GHz, Type-N (M & F), 50 $\Omega$ | MCAL109-NK1  |
|                      | Mechanical Calibration Kit, DC to 4.5 GHz, 3.5 mm (M)                | MCAL104-SM1  |
|                      | Mechanical Calibration Kit, DC to 4.5 GHz, 3.5 mm (F)                | MCAL104-SF1  |
|                      | Mechanical Calibration Kit, DC to 9 GHz, 3.5 mm (M)                  | MCAL109-SM1  |
|                      | Mechanical Calibration Kit, DC to 9 GHz, 3.5 mm (F)                  | MCAL109-SF1  |
|                      | Mechanical Calibration Kit, DC to 9 GHz, 3.5 mm (M & F)              | MCAL109-SK1  |
|                      | Mechanical Calibration Kit, DC to 26.5 GHz, 3.5 mm (M & F)           | MCAL126-35K1 |

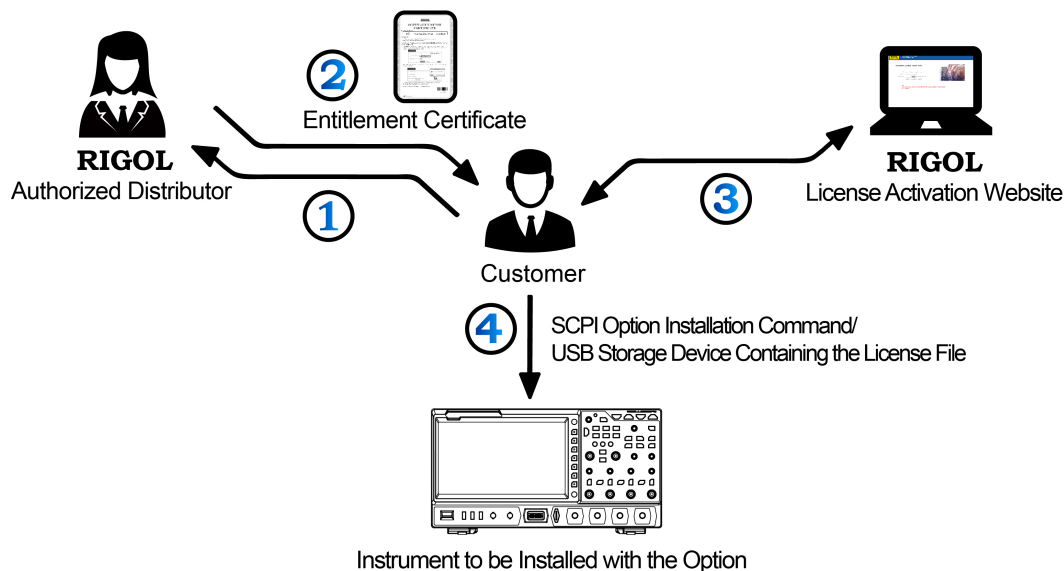
## NOTE:

For all the mainframes, accessories, and options, please contact the local office of RIGOL.

## Warranty Period

Three years for the mainframe, excluding the accessories.

# Option Ordering and Installation Process



1. According to the usage requirements, please purchase the specified function options from **RIGOL Sales Personnel**, and provide the serial number of the instrument that needs to install the option.
2. After receiving the option order, the **RIGOL** factory will mail the paper software product entitlement certificate to the address provided in the order.
3. Log in to **RIGOL** official website for registration. Use the software key and instruments serial number provided in the entitlement certificate to obtain the option license code and the option license file.
4. Install the option by running the SCPI command concerning the option installation. You can also save the option license file to the root directory of the USB storage device. Then insert it to the instrument. After being recognized, follow the instructions to install the option.

## NOTE:

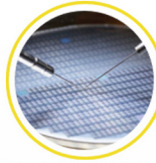
If any problems occur during the option installation process, please contact **RIGOL** technical team.

# Boost Smart World and Technology Innovation

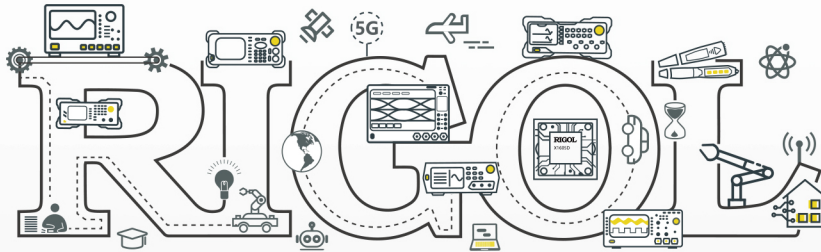
Industrial Intelligent  
Manufacturing



Semiconductors



Education &  
Research



Communication

System Integration



New Energy



- 5G Cellular-5G/WIFI
- UWB/RFID/ ZIGBEE
- Digital Bus/Ethernet
- Optical Communication

- Digital/Analog/RF Chip
- Memory and MCU Chip
- Third-Generation Semiconductor
- Solar Photovoltaic Cells

- New Energy Automobile
- PV/Inverter
- Power Test
- Automotive Electronics

*Provide Testing and Measuring Products  
and Solutions for Industry Customers*

## HEADQUARTER

**RIGOL TECHNOLOGIES CO., LTD.**  
No.8 Kelong Road, New District,  
Suzhou, Jiangsu, P.R.China  
Tel: +86-400620002  
Email: info-cn@rigol.com

## JAPAN

**RIGOL JAPAN CO., LTD.**  
5F, 3-45-6, Minamitsuka, Toshima-Ku,  
Tokyo, 170-0005, Japan  
Tel: +81-3-6262-8932  
Fax: +81-3-6262-8933  
Email: info.jp@rigol.com

## EUROPE

**RIGOL TECHNOLOGIES EU GmbH**  
Friedrichshafener Str. 5  
82205 Gilching  
Germany  
Tel: +49(0)8105-27292-21  
Email: info-europe@rigol.com

## KOREA

**RIGOL KOREA CO., LTD.**  
5F, 222, Gonghang-daero,  
Gangseo-gu, Seoul, Republic of Korea  
Tel: +82-2-6953-4466  
Fax: +82-2-6953-4422  
Email: info.kr@rigol.com

## NORTH AMERICA

**RIGOL TECHNOLOGIES, USA INC.**  
10220 SW Nimbus Ave.  
Suite K-7  
Portland, OR 97223  
Tel: +1-877-4-**RIGOL**-1  
Email: sales@rigol.com

## For Assistance in Other Countries

Email: info.int@rigol.com

**RIGOL®** is the trademark of **RIGOL TECHNOLOGIES CO., LTD.** Product information in this document is subject to update without notice. For the latest information about **RIGOL's** products, applications and services, please contact local **RIGOL** channel partners or access **RIGOL** official website: **www.rigol.com**