



# USG5000M Series RF Signal Generators

**Data Sheet** 

V 1.0 September 2025

### **USG5000M** Series RF Signal Generators



### **Main Features**

- Maximum frequency: 14 GHz/22 GHz
- Output frequency resolution: 0.001 Hz
- Level range: -135 dBm to 25 dBm
- High signal purity, phase noise: < -122 dBc/Hz @ 1 GHz, offset 20 kHz (Typ.)
- Amplitude accuracy: < 0.7 dB (Typ.)
- Supports analog modulation: AM, FM, and ΦM
  Various modulation modes: Internal, external, and internal + external
- Equipped with a highly stable clock source
- Built-in 50 MHz function/arbitrary waveform generator
- Power meter kit: Power measurement, power output control, and line loss calibration (Option)
- Pulse modulation: On-off ratio of up to 80 dB and customizable pulse trains (Option)
- Narrow pulse modulation: Minimum pulse width of 20 ns with resolution of 10 ns (Option)



USG5000M series RF signal generators deliver high-quality signals, precise signal levels, and an ultra-wide output power range, meeting the demanding testing needs of wireless communication, aerospace, automotive electronics, industrial manufacturing, semiconductor, and research and education industries.



Wireless Communication



Aerospace



Industrial Manufacturing



Automotive Electronics



Semiconductor



Research and Education

### **Technical Advantages**

### **High Performance**

- Precision Signal Output: Delivering ultra-low phase noise and high-power output, the USG5000M series ensures consistent, reliable performance for advanced testing scenarios.
- Flexible Modulation Capability: Support for AM, FM, ΦM, and pulse modulation enables seamless integration into varied applications. Researchers can design and deploy custom pulse trains to meet specific experimental requirements.
- Comprehensive Sweep Modes: Frequency, amplitude, and list sweeps, with user-defined configurations, streamline testing processes for complex and dynamic environments.



USG5000M features an easy human-computer interface with a flat design. It allows intuitive display of both input and output waveforms, and users can switch between time-domain and frequency-domain waveforms seamlessly.



USG5000M is equipped with a function signal generator that supports standard waves, sweep, and modulation.

Frequency			Le	evel	Frequency		Test		Level
1.000 000 000 000 GHz RF off		AM FM Pul	-	130.00 dBm	1.000 000 000	000 GHz off	Ref Mod	AM FM Pul	-130.00 dBm
Type Sine 义	Sine			LF Base	Туре	AM 🔰	AM FM		LF Base
Load HighZ 🔰	Pulse			LF Sweep	Mod wave	Sine 🔰	ФМ		LF Sweep
Freq	Ramp			1 E	Freq		Pulse	hout the the	1.5
50.000 000 kHz	Arb			Modulate		<b>1.000</b> нz	ASK	MAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	Modulate
Ampt	DC	$\rightarrow$			Depth		FSK		
2.000 vpp	Noise					50.0 %	PSK		
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High-precision Pulse Generator (Option)

USG5000M series features a stable clock source and offers optional pulse modulation and a narrow pulse generator. It delivers a minimum pulse width of 20 ns with a resolution of 10 ns, meeting the requirements of automotive millimeter-wave radar systems.



### **Convenient Operation**

USG5000M series features a touch screen and supports control via LAN, USB, and GPIB ports. Users can also remotely log in and control the instrument using Web Control software or send SCPI commands for automated control.

#### 1. Touch Screen

USG5000M offers a human-computer interaction system with full touch control. All functions, except for the power switch, can be operated via the touch interface.

#### 2. Power Meter Kit

The power meter kit connects to the instrument via the front panel USB port, enabling power measurement, power output control, and line loss calibration.

### 3. LAN and USB Port (Option GPIB)

USG5000M can be controlled via the LAN, USB, and GPIB ports on the rear panel, either by sending commands directly or through host computer control. It supports the standard SCPI command set, enabling remote operation through these ports. Additionally, users can employ programming tools like Excel and LabVIEW to automate batch command execution, meeting diverse automated testing requirements.

#### 4. Web Control

Users can access the Web Control page by entering the IP address of the USG5000M into a web browser's address bar. The page supports connections from both PC and mobile devices.

#### 5. Device Manager (V2.5.0 and higher)

UNI-T offers free instrument management software for device control. By installing device manager on a PC, users can manage the instrument via LAN (VXI-11, Socket), USB Device (USB-TMC), or GPIB.



# **USG5000M Panel Overview**



### **Front Panel**

No.	Description	No.	Description
1	USB Host	2	Auxiliary function key
3	Touch display	4	Function menu keys
5	Numeric keypad	6	Output control key
7	Multi-function rotary knob Arrow keys	8	LF output terminal
9	RF output terminal	10	Power switch



No.	Description	No.	Description
1	GPIB port (Option)	2	USB port
3	LAN port	4	Main power switch AC power supply
5	Signal Out	6	Mod In (Analog modulation input)
7	Trigger Out	8	Trigger In
9	Pulse Out (Pulse signal output)	10	Pulse In (Pulse signal input)
11	10MHz Ref In (Reference input)	12	10MHz Ref Out (Reference output)
13	Safety lock	14	Ground terminal

# **Technical Specification**

Definitions:

- "Technical Specification" provides a detailed description of the parametric performance that is covered by the product warranty. Unless otherwise stated, these specifications are valid within a temperature range of 20°C to 30°C.
- **"Typical Value (Typ.)"** refers to performance data that is not covered in the product warranty. It represents the usual performance under standard conditions but does not guarantee adherence to specific performance metrics. When performance exceeds these typical values, 80% of the units are expected to demonstrate the specified performance with a 95% confidence level, within the 20°C to 30°C temperature range. It is important to note that measurement uncertainties are not included in the typical performance values.
- "Nominal Value (Nom.)" describes the expected mean or average performance of the product, which is useful in product applications but is not covered under the product warranty.
  Conditions:

To meet these specifications, the instrument should first meet the following conditions.

- The instrument must be warmed up for at least 30min within the calibration period.
- If the instrument is stored in an environment that is within the allowable storage temperature range but outside the allowable operating temperature range, it must be allowed to acclimate to the allowable operating temperature range for at least two hours before being powered on.

	USG5014M	USG5014M-P	USG5022M-P
RF output	•	•	•
LF output	•	•	•
High stability clock source	•	•	•
Pulse modulation	0	0	0
Narrow pulse generator	0	0	0
Mechanical attenuator	×	•	•
Power meter kit	0	0	0
GPIB port	0	0	0
I/Q Mode	×	×	×

Product Function and Model Comparison Table

Note: ● standard ○ option × Not Available

# **Frequency Specifications**

Frequency Range		
Model	USG5014M/USG5014M-P	USG5022M-P
Frequency range	9 kHz to 14 GHz	9 kHz to 22 GHz
Resolution	0.001 Hz	
Phase Offset	Step of 0.1°	
Frequency Band		
Band	Frequency range	Ν
1	9 kHz ≤ f≤ 5 MHz	Digital synthesis
2	5 MHz < f ≤ 137.5 MHz	0.0625
3	137.5 MHz < f ≤ 250 MHz	0.125
4	250 MHz < f ≤ 468.75 MHz	0.03125
5	468.75 MHz < f < 937.5 MHz	0.0625
6	937.5 MHz ≤f <1875 MHz	0.125
7	1875 MHz ≤ f ≤ 3750 MHz	0.25
8	3750 MHz < f ≤ 7500 MHz	0.5
9	7500 MHz < f ≤ 15000 MHz	1
10	15000 MHz < f ≤ 22000 MHz	2

Note: N indicates a factor used to define certain specifications in this document.

### Internal Reference Frequency

	± (Time since last adjustment x Aging rate)
A	± Temperature effects
Accuracy	± Line voltage effects
	± Calibration accuracy
Oscillator aging rate	≤ ± 0.2 ppm/year
Initial calibration accuracy	≤ ± 40 ppb
Adjustment resolution	± 1 ppb
Temperature effects	≤ ± 10 ppb
Line voltage effects	≤ ± 10.0 ppb
Reference Output	
Frequency	10 MHz
Amplitude	≥ 0 dBm (Nom.), 50 Ω
External Reference Inpu	ıt
Input frequency	10 MHz
Stability	Follows the stability of external reference input signal

Sync range	± 10 ppm
Amplitude	0 dBm to +20 dBm (Nom.)
Impedance	50 Ω (Nom.)
Waveform	Sine wave, square wave
Sweep Mode (Frequence	y and Amplitude)
Operating mode	Step sweep, list sweep
Sweep range	Within instrument frequency range
Dwell time	100 µs to 100 s
Number of solute	2 to 65535 (Step sweep)
	1 to 500 (List sweep)
Step change	Linear or logarithmic
Triggering mode	Free-running, external, key, bus (LAN, USB, GPIB)
Frequency Switching S	peed
The time elapsed from t	he receipt of the SCPI command or trigger signal until the
amplitude stabilizes with	nin 0.2 dB.
	Continuous Wave (CW) Mode
SCPI mode	≤ 40 ms
List/step sweep mode	≤ 40 ms

### **Level Specification**

#### ALC (Automatic Level Control) Mode

USG5000M series includes three ALC operating modes.

ALC Auto: Automatically sets the optimum ALC mode based on the current operating state.

ALC On: When level control is in a closed-loop state, it is suitable for continuous wave (CW),

frequency modulation (FM), and phase modulation ( $\Phi$ M).

ALC S&H (Off): When frequency or amplitude changes, the level control is initially set to closed-loop. Then, the sampling control voltage is applied to retain the control voltage. When ALC is automatic, amplitude modulation, or pulse modulation can be operated in this state.

Output Parameter			
Settable range	-135 dBm to + 25 dBm		
Resolution	0.01 dB		
Step attenuator (Option)	0 to 110 dB, step of 10 dB		
Maximum Output Power			
Frequency	USG5014M	USG5014M-P/USG5022M-P	
9 kHz to 5MHz	+ 13 dBm	+ 16 dBm	
>5 MHz to 250 MHz	+ 14 dBm	+ 17 dBm	
>250 MHz to 3.6 GHz	+ 18 dBm	+ 23 dBm	
> 3.6 GHz to 7.5 GHz	+ 15 dBm	+ 20 dBm	
>7.5 GHz to 14 GHz	+ 12 dBm	+ 18 dBm	
>14 GHz to 22 GHz		+ 16 dBm	



#### Absolute Level Accuracy in CW Mode (ALC on, Typ.)

- 1. Quoted specifications between 20 °C and 30 °C. For temperatures outside this range, absolute level accuracy decreased by 0.01 dB/°C.
- 2. Output power may drift up to 0.10 dB < 3 GHz and 0.15 dB > 3 GHz per g/kg change in absolute humidity (Nom.).

Range	+10 dBm to -20 dBm	< -20 to -110 dBm	<-110 to -130 dBm
9 kHz to 100 kHz	± 0.7 dB	± 0.7 dB	± 1.0 dB

>100 kHz to 5MHz	± 0.7 dB	± 0.7 dB	± 1.0 dB	
>5 MHz to 3 GHz	± 0.7 dB	± 1.0 dB	± 1.2 dB	
> 3 GHz to 6.5 GHz	± 0.7 dB	± 1.0 dB	± 1.5 dB	
>6.5 GHz to 20 GHz	± 0.7 dB	± 1.0 dB	± 2.0 dB	
>20 GHz to 22 GHz	± 1.5 dB	± 1.5 dB	± 2.0 dB	









### SWR (Standing-wave Ratio) in CW Mode

Range	Attenuator State			
	Undamped	0 to 10dB	Above 20 dB	
≤1.0GHz	<1.8: 1 (Nom.)	<1.6: 1 (Nom.)	<1.5: 1 (Nom.)	
>1.0 to 6.5 GHz	<1.8: 1 (Nom.)	<1.6: 1 (Nom.)	<1.5: 1 (Nom.)	
> 6.5 to 22 GHz	< 2.0: 1 (Nom.)	<1.6: 1 (Nom.)	<1.5: 1 (Nom.)	
Maximum Reverse Powe	er (Nom.)			
<1 GHz	0 dBm			
>1 GHz to 2 GHz	25 dBm			
>2 GHz to 22 GHz	25 dBm			
Maximum DC voltage	0 VDC			
Trip level	25 dBm			
Amplitude Switching Speed				
The time elapsed from the receipt of the SCPI command or trigger signal until the amplitude stabilizes within 0.2 dB.				

CW Mode

SCPI mode	≤ 40 ms
List/step sweep mode	≤ 40 ms

### **Spectral Purity Specifications**

#### SSB (Single Side Band) Phase Noise [dBc/Hz, CW, at 20 kHz offset (Typ.)]

-125 dBc/Hz
-128 dBc/Hz
-122 dBc/Hz
-109 dBc/Hz
-102 dBc/Hz
-98 dBc/Hz



### Residual FM (CW mode, 300 Hz to 3 kHz BW, CCITT, rms)

5 MHz to 22 GHz < N × 3 Hz (measured value), see N value in frequency table

Residual AM (CW mode, 300 Hz to 3 kHz BW, rms, 0 dBm)

100 kHz to 22 GHz	< 0.01% (measured value)	
Harmonics (CW Mode)		

Range	Output Amplitude 0 dBm	
9 kHz to 250 MHz	≤ -40 dBc	
> 250 MHz to 1 GHz	≤ -50 dBc	
>1 GHz to 7.5 GHz	≤ -40 dBc	
> 7.5 GHz to 14 GHz	≤ -35 dBc	
>14 GHz to 22 GHz	≤ -35 dBc	
Non-harmonics (CW Mode)		
Range	>10 kHz offset	
9 kHz to < 5 MHz	-75 dBc (Nom.)	

5 MHz to <750 MHz	-60 dBc	
750 MHz to < 7.5 GHz	-65 dBc	
7.5 GHz to < 14 GHz	-60 dBc	
14 GHz to < 22 GHz	-55 dBc	
Sub-harmonics (CW Mode)		
9 kHz to 15 GHz	None	
15 GHz to 22 GHz	-70 dBc	

# **Analog Modulation Specifications**

Frequency Band			
Band No.	Frequency range N		
1	9 kHz ≤ f ≤ 5 MHz	Digital synthesis	
2	5 MHz < f≤ 137.5 MHz	0.0625	
3	137.5 MHz < f ≤ 250 MHz	0.125	
4	250 MHz < f≤ 468.75 MHz	0.03125	
5	468.75 MHz < f < 937.5 MH	Hz 0.0625	
6	937.5 MHz ≤ f < 1875 MHz	0.125	
7	1875 MHz ≤ f ≤ 3750 MHz	0.25	
8	3750 MHz < f ≤ 7500 MHz	0.5	
9	7500 MHz < f ≤ 15000 MHz	: 1	
10	15000 MHz < f ≤ 22000 MH	lz 2	
FM (Frequency Modul	ation)		
Modulation source	Internal, external, internal + external		
Maximum offset	N × 10 MHz (Nom.), see N value mentioned above		
Resolution	0.001 Hz		
Offset accuracy	< ± 2% + 20 Hz (1 kHz rate, offset is N × 50 kHz)		
Modulation frequency respond	< 3 dB	0.001 Hz to 50 kHz (Nom.)	
Carrier frequency	< ± 0.2% × set offset + (N ×1 Hz)		
accuracy			
THD (Total harmonic distortion)	< 0.4% (1 kHz rate, offset is N × 50 kHz)		
	Sensitivity	+ 1 V peak for offset indication (Nom.)	
FM external modulation	Input impedance	50 Ω	
input	Path	FM summed internally for composite	

ФМ (Phase Modulation)			
Modulation source	Internal, external, internal + external		
Maximum offset	N × 5 rad (Nom.)		
Modulation frequency respond	3 dB bandwidth	0.001 Hz to 50 kHz (Nom.)	
Resolution	0.01 rad/0.1 deg		
Offset accuracy	< + 0.5% + 0.01 rad [1 kHz	rate (Typ.)]	
THD	< 0.2% [1 kHz rate (Typ.)]		
	Sensitivity	+ 1 V peak for offset indication (Nom.)	
ΦM external	Input impedance	50 Ω (Nom.)	
modulation input	Path	ΦM summed internally for composite modulation	
AM (Amplitude Modu	lation)		
Modulation source	Internal, external, internal +	- external	
Modulation depth	0% to 99%		
Resolution	0.1%		
	f < 5 MHz	< 1.5% of set value+1% (Typ., 0.5% + 1% of set value)	
AM depth error	5 MHz ≤ f ≤ 2 GHz	< 3%+1% of set value	
1 kHz frequency sum < 80% modulation depth	2 GHz < f < 3 GHz	< 5%+1% of set value (Typ., 3%+1% of set value)	
	3 GHz < f < 7.5 GHz	(Typ., 4%+1% of set value)	
	7.5 GHz < f < 22 GHz	(Typ., 4%+1% of set value)	
		30% depth, < 0.25% (Typ.)	
THD	T < 5 MHZ	80% depth, < 0.5% (Typ.)	
(1 kHz frequency)		30% depth, < 2%	
	5 MHZ \$ T < ZZ GHZ	80% depth, < 3%	
Modulation frequency respond	30% depth, 3 dB bandwidth	0.001 Hz to 50 kHz	
	Sensitivity	+ 1 V peak for offset indication (Nom.)	
AM external	Input impedance	50 Ω (Nom.)	
modulation input	Path	AM summed internally for composite modulation	
AM specifications apply 10 dB below maximum specified power from 20 to 30 °C.			
Pulse Modulation (Option)			
Mode	Free-Run, Square, Ext Triggered, Adjustable Doublet, Ext Trigger Doublet, Gated, Ext Pulse, Pulse Train		

Modulation source	Internal, external		
On-off ratio	1 MHz < f ≤ 6.5 GHz	≥ 80 dBc (Typ.)	
	6.5 MHz < f ≤ 22 GHz	≥ 70 dBc (Typ.)	
Rising/falling time	<20 ns (Typ.)		
Minimum pulse width	100 µs to (Pulse period -1 µs)		
Pulse period	Pulse width +1 $\mu$ s to 42 s	Pulse width +1 µs to 42 s	
Resolution	1 μs		
Adjustable delay	Free-run: 0 to (Period – Pulse width -1 µs)		
	Trigger: 1 µs to (Maximum pulse period-1 µs)		
Level accuracy	< ± 0.5 dB (Relative to CW)		
Width compression	≤ 10 ns (Relative to RF width of pulse output)		
Video feed-through	≤ 50 mV		
External pulse input	500 ns (Nom) external input t	to pulse output terminal	
delay			
Radio-frequency delay	50 ns (Nom.), pulse input to RI	F output	
Pulse overshoot	≤ 20%		
Input level	+ 1 Vpeak = RF on 50 $\Omega$ (Nom.)		



Narrow Pulse Generator (Option)		
Pulse period	40 ns to 42 s	
Pulse width	20 ns to (Pulse period -20 ns)	
Resolution	10 ns	

	Free-running: 0 to (Period – Pulse width -20 ns)			
Adjustable delay	Trigger: 20 ns to (Maximum pulse period -20 ns)			
Simultaneous and Composite Modulation				
	All modulation types (FM,	AM, ΦΙ	M, and PM) may be si	multaneously
Simultaneous	enabled, except that FM a	and pha	se modulation cannot	be combined.
modulation	Additionally, two modulati	on type:	s cannot be simultaned	ously generated
	using the same modulation	n sourc	е.	
	AM, FM, and ΦMeach co	nsist of	two modulation paths	which are
Composite modulation	summed internally for cor	mposite	modulation; modulatio	on can be any
	combination of internal or	r externa	al sources.	
Modulation Type	AM I	FM	ФМ	PM
AM		•	•	•
FM	•		×	•
ФМ	•	×		•
PM	•	•	•	
• Compatible; × Incom	npatible			
External Modulation I	nput			
Mod In	AM, FM, ΦΜ (50Ω)			
Pulse Out/In	ΡΜ (50Ω)			
Internal Function Gen	erator (LF)			
Waveform	Sine, Square, Pulse, Triangular, Arbitrary, DC, Noise			
	Sine wave		0.001 Hz to 50 MHz	
Frequency range	Square, pulse, arbitrary w	aves	0.001 Hz to 15 MHz	
	Triangular wave		0.001 Hz to 3 MHz	
Frequency resolution	0.001 Hz (Nom.)			
Frequency accuracy	Same as RF reference sou	urce (No	vm.)	
LF output amplitude	1 mVpp to 2 Vpp, 50 Ω			
	Тур.			
Accuracy	(1 kHz sine wave, 0 V offs	set, >1(	) ± (1% of set value	+1 mVpp)
	mVpp)			
DC offset accuracy	$\pm$ 1% of offset set value $\pm$ 0.5% $\pm$ 2 mV of amplitude set value			
			≤ 100 kHz: ± 0.2 c	IB
Flatnoss	Тур.		≤ 20 MHz: ± 0.4 c	IB
Flatiless	(1 kHz sine wave, 1 Vpp)		≤ 40 MHz: ± 0.6 c	IB
			≤ 50 MHz: ± 0.8 c	IB
LF Frequency Sweep				
Sweep mode	Linear, logarithmic, step			

Sweep shape	Positive/negative sawtooth, positive/negative triangular
Sweep time	1 ms to 500 s
Sweep frequency range	0.001 Hz to 50 MHz
Trigger input	Auto, key trigger, external trigger, bus trigger
Trigger output	Off, rising edge, falling edge
LF Modulation	
Modulation mode	AM, FM, ΦM, Pulse, ASK, FSK, PSK, QAM
Modulation frequency	0.002 Hz to 5 MHz
Modulation wave	Sine, square, triangular, arbitrary waves
Carrier type	Sine, square, pulse, triangular, arbitrary waves
AM depth	0.00% to 120.00%
FM frequency offset	DC to 25 MHz
ΦM phase Offset	0.00° to 360.00°
Pulse duty ratio	0.00 to 100.00%
ASK data pattern	PN7, PN9, PN11, PN17, PN19, PN21, PN23, PN25
FSK mode	2FSK, 4FSK
PSK mode	2PSK, 4PSK
QAM mode	QAM4, QAM8, QAM16, QAM32, QAM64, QAM128, QAM256

### Input and Output Terminal

<b>Connector on Front Panel</b>		
RF output	NMD 2.92, 50 Ω	
Internal function generator	BNC female header, 50 $\Omega$	
LF output		
Connector on Rear Panel		
Trigger In	BNC female header, high resistance (Nom.), TTL (Supports	
	multiple level input)	
Trigger Out	BNC female header, LVTTL	
Mod In (Analog modulation	$PNC$ female header $FO_{10}$ (Nerr) + 1)/	
input)	BNC remate fielder, 50 12 (Nom.), ± 1 V	
Pulse input	BNC female header, 50 $\Omega$ (Nom.), (Input amplitude >1 V)	
Pulse output	BNC female header, 50 $\Omega$ (Nom.), (Input amplitude >1 V)	
10MHz Ref In	BNC female header, 50 $\Omega$ (Nom.), 0 dBm to +20 dBm	
10MHz Ref Out	BNC female header, 50 $\Omega$ (Nom.), >0 dBm	
Signal Out	BNC female header, LVTTL	

<b>Communication Port</b>	
USB-HOST	USB-A 2.0
USB-DEVICE	USB-B 2.0
LAN	LAN (VXI-11,10/100/1000 Base, RJ-45)
GPIB	GPIB IEEE-488.2

## **General Specifications**

Power Supply					
Power voltage	100 to 240 VAC (Fluctuation: ±10%), 50 Hz/60 Hz				
	100 to 120 VAC (Fluctuation: ±10%) , 400 Hz				
Power consumption	Less than 75 W				
Display screen					
Display type	5-inch capacitive multi-touch panel				
Display resolution	800×480				
Environmental Requirements					
Temperature range	Operating: +10°C to +40°C				
	Non-operating: -20°C to +60°C				
Cooling	Fan-forced cooling				
Humidity	Below +35°C: ≤ 90% RH.				
	+35°C to +40°C: ≤ 60% RH.				
Altitude	Operating: Below 2,000 meters				
	Non-operating: Below 15,000 meters				
Pollution degree	2				
Operating environment	For indoor use only				
<b>Machine Specifications</b>					
Dimension	449mm×100mm×474mm (H×W×L)				
	426mm×88mm×400mm (H×W×L)				
	excluding handles, feet, pads, and side straps				
Weight	<20 kg				
Calibration period	One year				
<b>Regulatory Requiremen</b>	t				
Electromagnetic	Compliant with EMC (2014/30/EU); compliant with or superior to IEC				
compatibility	61326-1:2021/EN61326-1:2021, IEC 61326-2-1:2021/EN61326-2-1:2021				
Conducted emission	CISPR 11/EN 55011	CLASS B group 1, 150 kHz-30 MHz			
radiation disturbance	CISPR 11/EN 55011	CLASS B group 1, 30 MHz-1 GHz			

Electro-static discharge	IEC 61000-4-2/EN	(0, 1)/(Contact) = 0, 1)/((A:r))	
(ESD)	61000-4-2	4.0 KV (CONTACT), 0.0 KV (AII)	
Radio frequency	IEC 61000-4-3/EN 61000-4-3	0 V/m (80 MHz to 1 GHz)	
electromagnetic field		3 V/m (1.4 GHz to 2 GHz)	
immunity		1 V/m (2.0 GHz to 2.7 GHz)	
Electrical fast transient	IEC 61000-4-4/EN	2 kV (AC input port)	
(EFT)	61000-4-4		
Surge	IEC 61000-4-5/EN	1 kV (Live line to zero line)	
	61000-4-5	2 kV (Live/zero line to ground)	
RF continuous conduction	IEC 61000-4-6/EN	3 V, 0.15-80 MHz	
immunity	61000-4-6		
		Voltage dips:	
		0% UT during 1 cycle	
Voltage dips and short	IEC 61000-4-11/EN	40% UT during 10/12 cycles	
interruptions	61000-4-11	70% UT during 25/30 cycles	
		Short interruptions: 0% UT during	
		250/300 cycles	
Safety Regulation			
	EN 61010-1:2010+A1:2019		
	EN IEC61010-2-030:2021+A11:2021		
	UL 61010-1:2012 Ed.3+ R:19 Jul2019 UL 61010-2-030:2018 Ed.2 CSA C22.2#61010-1:2012 Ed.3+U1; U2; A1 CSA C22.2#61010-2-030:2018 Ed.2		

# Order Information and Warranty Period

Description			Order No.
RF signal generator, frequency 9 kHz to 14 GHz			USG5014M
RF signal ge	enerato		
Mechanical attenuator			
RF signal generator, frequency 9 kHz to 22 GHz			USG5022M-P
Mechanical attenuator			
Compliant with the host country's standards Power			
cord x1			
USB data cable x1			UT-D14
2.92-KKG connector x1			UT-C04-40GHz
UT-CK02	UT-W03-40GHz-2.92J Rf cable x1		UT-W03-40GHz
	2.92-KKG connector x2		UT-C04-40GHz
	UT-C	03-18GHz Rf adapter SMA-N x1	UT-C03-18GHz
Pulse modulation		Pulse modulation	USG5000M-PM
		Narrow pulse generator	USG5000M-PG
Power meter kit			USG5000M-PK
GPIB port			USG5000M-GPIB
	Descriptio	DescriptionRF signal generatorRF signal generatorMechanical attenuRF signal generatorMechanical attenuCompliant with thecord x1USB data cable x12.92-KKG connectorUT-CK022.92-IUT-CK02Pulse modulationPower meter kitGPIB port	DescriptionRF signal generator, frequency 9 kHz to 14 GHzRF signal generator, frequency 9 kHz to 14 GHzMechanical attenuatorRF signal generator, frequency 9 kHz to 22 GHzMechanical attenuatorCompliant attenuatorCompliant with the host country's standards Powercord x1USB data cable x12.92-KKG connector x1UT-CK022.92-KKG connector x2UT-C03-18GHz Rf adapter SMA-N x1Pulse modulationNarrow pulse generatorPower meter kitGPIB port

# **Options ordering and installation**

- Purchase options: Based on your requirements, please purchase the specified function options from UNI-T Sales Personnel and provide the serial number of the instrument that needs the option installed.
- 2. Receive certificate: You will receive the license certificate based on the address provided in the order.
- 3. Register and obtain license: Visit the UNI-T official website license activation session for registration. Use the license key and instrument serial number provided in the certificate to obtain the option license code and license file.
- 4. Install the option: Download the option license file to the root directory of a USB storage device and connect the USB storage device to the instrument. Once the USB storage device is recognized, the Option Install menu will be activated. Press this menu key to begin installing the option.

# **Limited Warranty and Liability**

UNI-T guarantees that the Instrument product is free from any defect in material and workmanship within three years from the purchase date. This warranty does not apply to damages caused by accident, negligence, misuse, modification, contamination, or improper handling. If you need a warranty service within the warranty period, please contact your seller directly. UNI-T will not be responsible for any special, indirect, incidental, or subsequent damage or loss caused by using this device. For the probes and accessories, the warranty period is one year. Visit instrument.uni-trend.com for full warranty information.



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