



# 1466 Series Signal Generator

1466C/D/E/G/H/L/N/P

(6kHz to 13GHz/20GHz/33GHz/45GHz/53GHz/67GHz/90GHz/110GHz)



**Ceyear Technologies Co., Ltd**

# Product Overview

Ceyear 1466 series signal generator is a general-purpose test instrument for microwave and millimeter-wave cutting-edge testing, with wide frequency coverage, high signal spectral purity, output power with high accuracy and large dynamic range. With single-machine dual-RF channel and design, can meet your various test requirements. Rich built-in functions such as analog scanning, analog modulation and pulse modulation make daily testing more convenient.

The new upgrade of human-computer interaction, with large screen touch graphics guided interaction, mobile browser access control, multi-manufacturer power meter connection identification, multi-client deployment, SCPI command recording, control interface customization and a series of new functions to bring user's test happiness. The Ceyear 1466 series signal generator is ideal for high standard testing from component level to system level.



## Main Features

### Excellent RF Performance

- Coaxial connectors: 6kHz to 13GHz/20GHz/33GHz/45GHz/53GHz/67GHz/90GHz/110GHz
- Excellent spectral purity: SSB < -132 dBc/Hz (typ.10 GHz carrier at 10kHz offset), Spurious < -80 dBc (10 GHz carrier)
- Brilliant wideband noise floor, SSB< -161 dBc/Hz (typ.20GHz carrier at 30MHz offset)
- Large dynamic range of high output power: settable power ranges from -150dBm to +25dBm
- Support AM,FM,  $\Phi$ M and pulse modulation, the min.pulse width of pulse modulation is 20ns
- Support stepping, list, power and analog scanning
- Support one main unit with two channels, each channel can be set separately

## Newly updated interactive interface

- Large-screen touch graphics guide interaction, support user-defined menus
- Cross-platform client and browser access control
- SCPI instruction real-time recording and program control sample project automatic generation

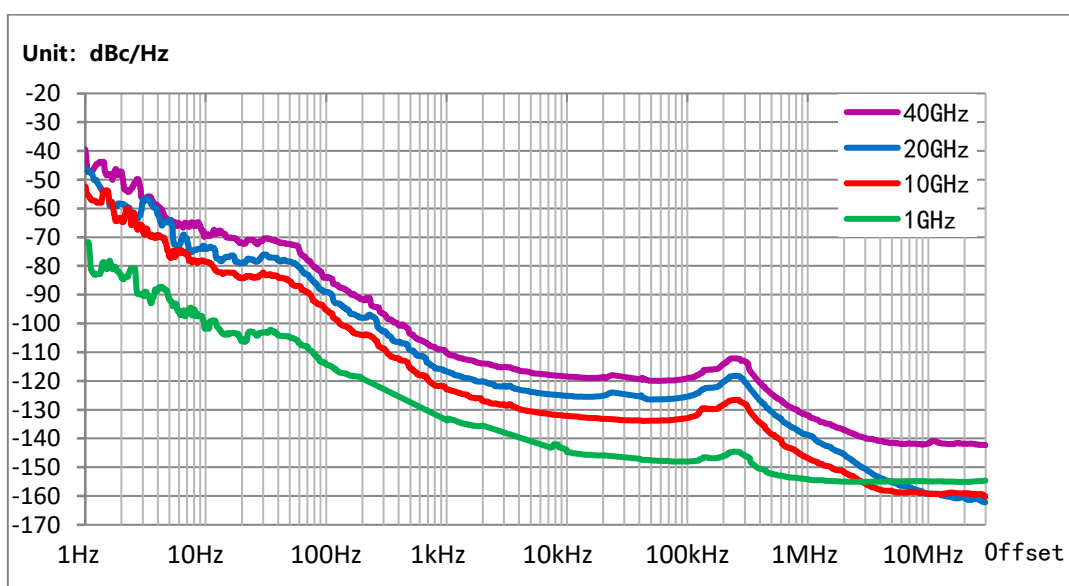
## Excellent RF Performance

### 110GHz coaxial frequency coverage, easier and more accurate testing

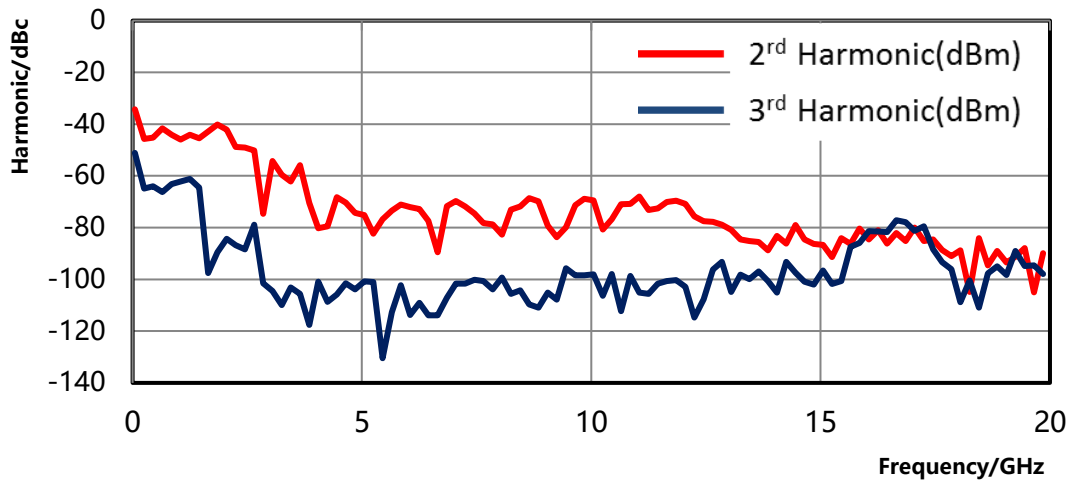
Ceyear 1466 series signal generator coaxial output frequency covers 6kHz to 110GHz, at the same time, it has high-precision large dynamic range amplitude control which can provide excellent power accuracy and stability. Ceyear 1466 series signal generator supports external Ceyear 8240X series signal source extender which can further expand the frequency to 750GHz. It is a powerful tool for efficient millimeter-wave 5G communication RF conformance testing .

### Excellent spectral purity, making cutting-edge testing easier

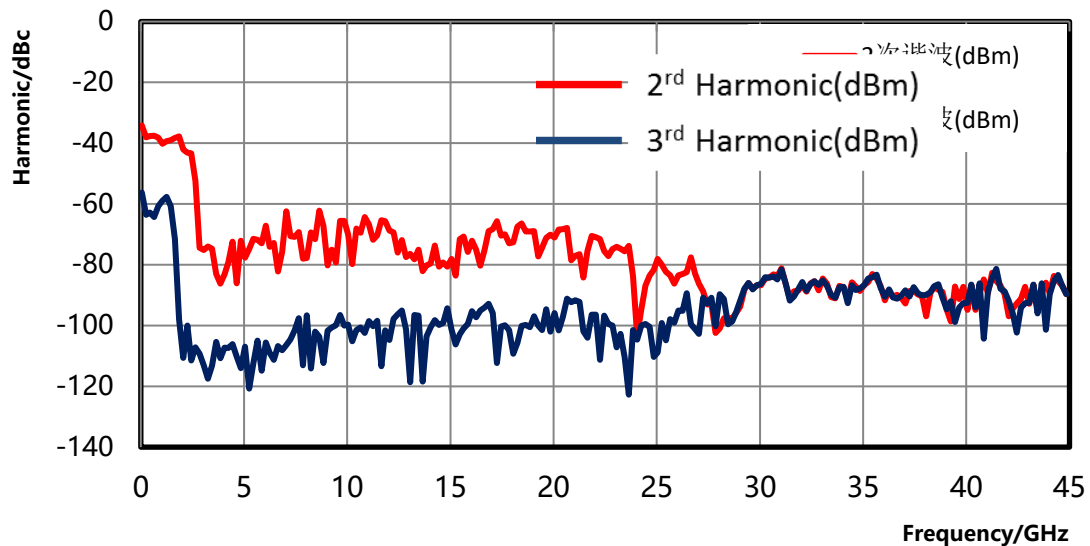
Ceyear 1466 series signal generator supports high spectral purity output signal, SSB phase noise:  $-145\text{dBc/Hz}$  @10kHz offset at 1GHz carrier,  $-132\text{dBc/Hz}$  @10kHz offset at 10GHz carrier, Wideband noise floor:  $-161\text{dBc/Hz}$  @30MHz offset at 20GHz carrier, spurious  $<-80\text{dBc}$  at 10GHz carrier, harmonics  $<-55\text{dBc}$ . The purer signal makes you no longer troubled by interfering signals when testing microwave and millimeter wave components, systems, and OTA.



Option H04-2: SSB phase noise measured value



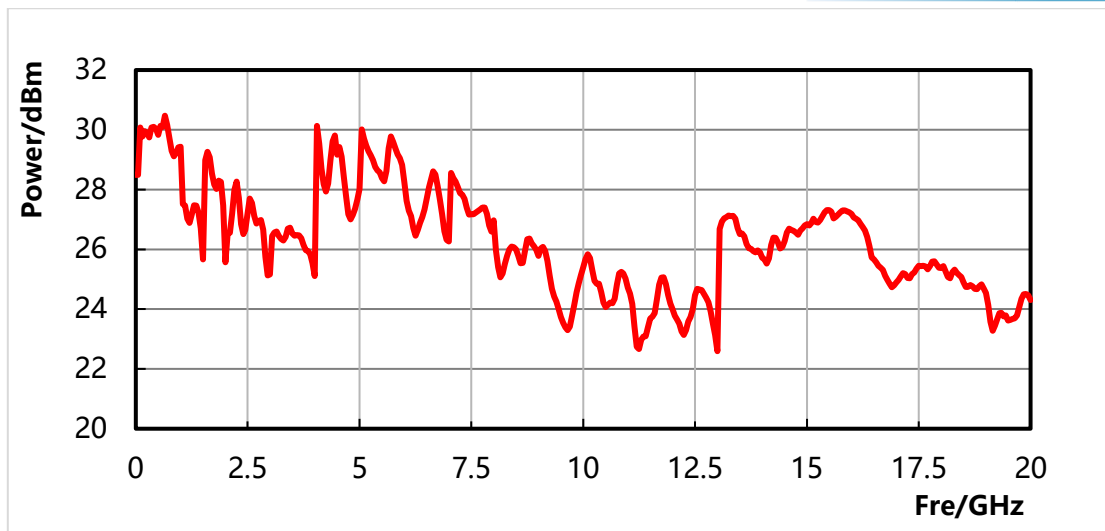
1466D harmonic measured value



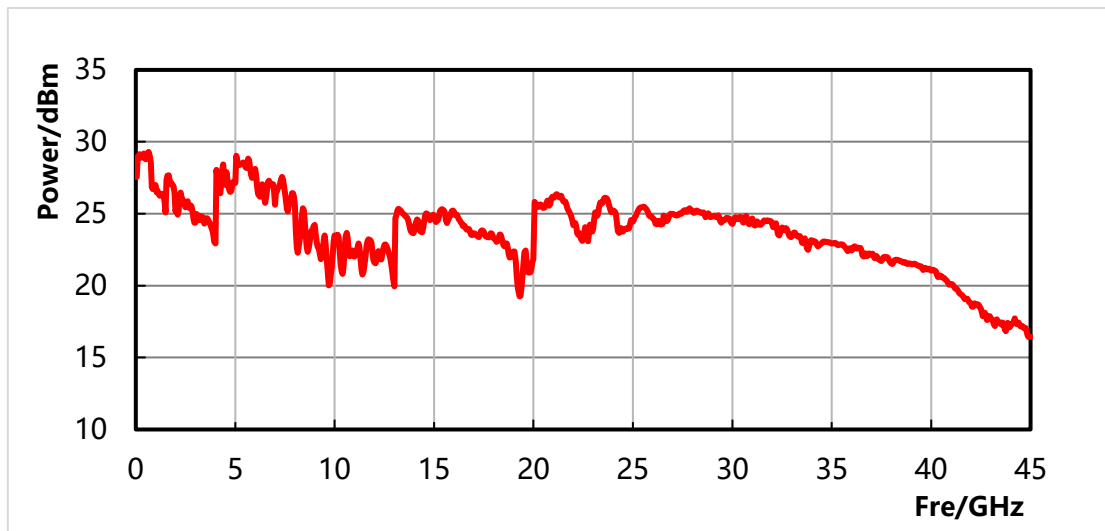
1466G harmonic measured value

### Large dynamic range, high accuracy power output

Ceyear 1466 series signal generator maximum output power typical value: +27dBm @5GHz, +24dBm@ 20GHz, +25dBm @30GHz, +22dBm@ 60GHz, +3dBm @110GHz. Minimum settable output power can up to -150dBm,dynamic range of output power can reach 170dB. Industry-leading power accuracy specifications:<0.5dB below 20GHz(typ).



1466D max. output power measured value (large power option H05-20)



1466G max. output power measured value (large power option H05-45)

## Rich built-in functions

### Full range of analog modulation

Amplitude modulation, frequency modulation, phase modulation and pulse modulation are supported. It has complex pulse modulation functions such as double pulse, pulse train, PRF jittering, PRF staggering, and PRF sliding.



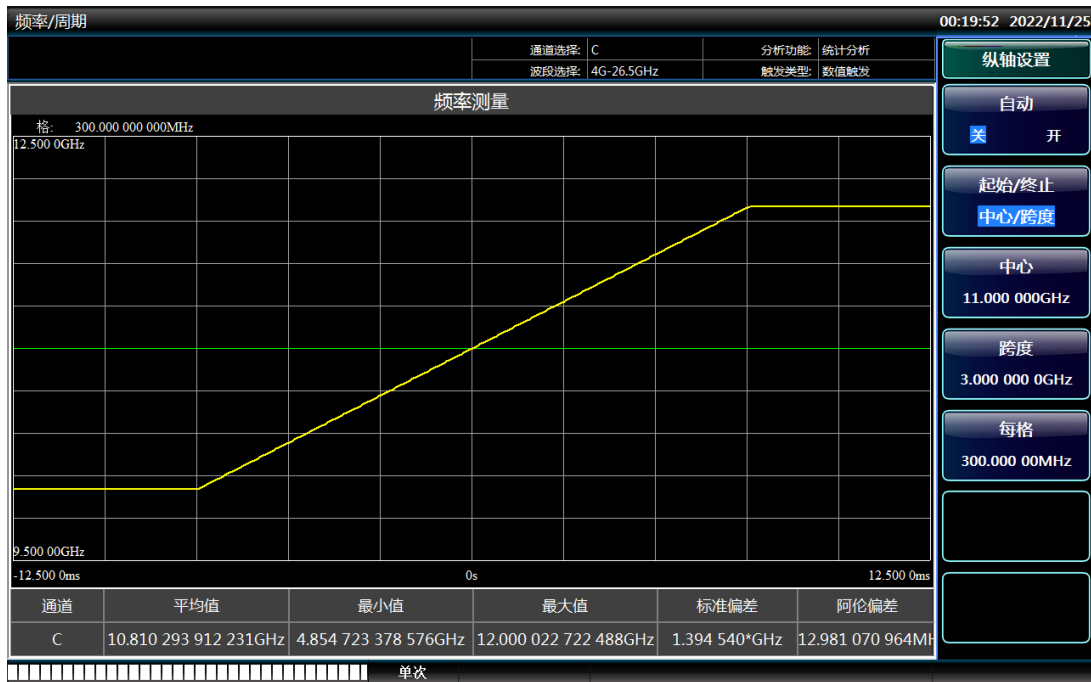
Analog modulation interface

## Multi-style sweep mode

Support Step sweep, List sweep, ramp sweep and power sweep functions.



Step scanning measured value



Analog scanning (slope scanning) measured value

## Newly upgraded human-machine interaction

### Touchable graphic guide interaction

The 11.6-inch high-resolution touch screen is used to clearly display the main parameters and instrument status information, and with the signal flow diagram guidance interface, the display is more intuitive and the interaction is more friendly.



Signal flow diagram guidance interface

## Flexible user control interface

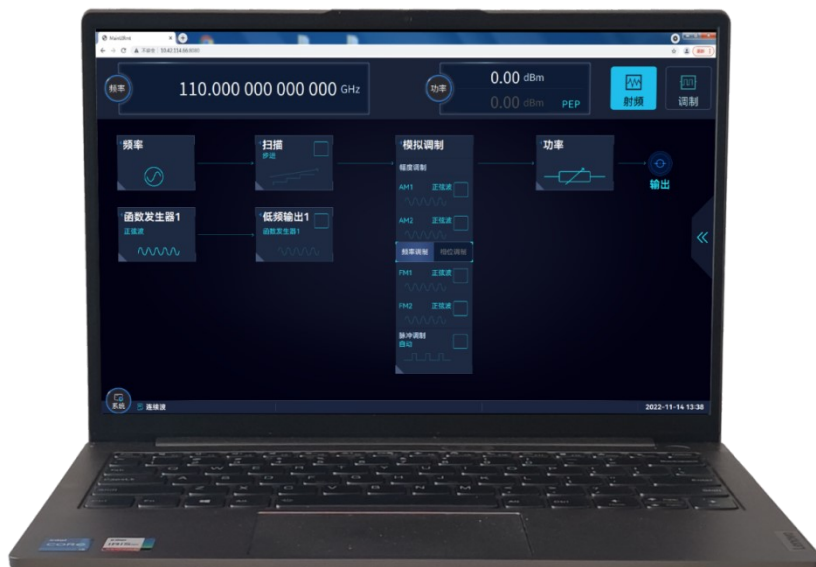
Support user-defined menus, tailor-made personalized user control interface according to test habits, realize multi-function operations in one window, and avoid the trouble of too deep menus and repeated searches.



User-defined menu

## Support cross-platform client control

Cross-platform output client and browser access control. Support multiple clients to connect at the same time, and the working status of the instrument is refreshed synchronously. Supports web browser access control for mobile devices.



Browser access



## Simultaneous recording of SCPI commands and one-click script generation

Not only can you export recorded SCPI commands with one click, but also automatically generate VS (C++, C#), Qt, Matlab, LabView program control example projects, making program control easier.



SCPI command recording

# Technical Specifications

Frequency characteristics			
<b>Frequency</b>	1466C:6kHz to 13GHz 1466D:6kHz to 20GHz 1466E:6kHz to 33GHz 1466G:6kHz to 45GHz 1466H:6kHz to 53GHz 1466L:6kHz to 67GHz 1466N:6kHz to 90GHz 1466P:6kHz to 110GHz	<b>Frequency range</b>	<b>N1</b>
		6kHz≤f≤10MHz	-
		10MHz<f≤50MHz	-
		50MHz<f≤62.5MHz	1/256
		62.5MHz<f≤125MHz	1/128
		125MHz<f≤250MHz	1/64
		250MHz<f≤500MHz	1/32
		500MHz<f≤1GHz	1/16
		1GHz<f≤2GHz	1/8
		2GHz<f≤4GHz	1/4
		4GHz<f≤8GHz	1/2
		8GHz<f≤20GHz	1
		20GHz<f≤40GHz	2
40GHz<f≤67GHz	4		
100GHz<f≤110GHz	6		
<b>Resolution</b>	0.001Hz		
<b>Switching speed</b>	<15ms		
<b>Aging rate(typ)</b>	±5×10 <sup>-10</sup> /day after 30 days		
<b>Reference output</b>	Frequency	10MHz	
	Power	>+4dBm into 50Ω load	
<b>Reference input</b>	Frequency	1 to 100MHz,step:1Hz	
	Power	-5dBm to +10dBm,impedance: 50Ω	
Sweep characteristics			
<b>Sweep mode</b>	Step sweep List sweep Ramp(analog) sweep (option S15), Power sweep(option S16)		
<b>Ramp(analog) sweep (Option S15)</b>	Maximum sweep rate	f>4GHz	400MHz/ms
	Frequency accuracy	±0.05% of span (at 100ms sweep time, for sweep spans less than maximum values as 100ms)	
Power characteristics			
<b>Minimum output power</b>	<b>Model</b>	<b>Standard</b>	<b>Option H01-90/120/130</b>
	1466C/D/E/G	-10dBm(can be set as -20dBm)	Option H01-130 6kHz≤f≤100kHz -90.0dBm(minimum settable output power):-150dBm) f > 100kHz -120.0dBm(minimum settable output power):-150dBm)
	1466H/L	-10dBm(can be set as -20dBm)	Option H01-90: -90.0dBm(minimum settable output power):-110dBm) Option H01-120: -90.0dBm(minimum settable output power):-110dBm)

			poer:-140dBm)		
	1466N/P	-10dBm(can be set as -20dBm)	Option H01-50: -50.0dBm(minimum poer:-70dBm)	settable	outpue
<b>Maximum output power (CW, 25±10°C)</b>	<b>1466C</b>				
	<b>Configuration</b> <b>Frequency range</b>	<b>Standard</b>	<b>Programmable step attenuator Option H01-130/B130</b>	<b>High output power (option H05-13/B13)</b>	<b>High output power and programmable step attenuator (option H01-130+H05-13; H01-B130+H05-B13)</b>
	6kHz≤f≤50MHz	≥+15.0	≥+15.0	≥+15.0	≥+15.0
	50MHz<f≤13GHz	≥+15.0	≥+15.0	≥+20.0	≥+20.0
	<b>1466D</b>				
	<b>Configuration</b> <b>Frequency range</b>	<b>Standard</b>	<b>Programmable step attenuator Option H01-130/B130</b>	<b>High output power (option H05-20/B20)</b>	<b>High output power and programmable step attenuator (option H01-130+H05-20; H01-B130+H05-B20)</b>
	6kHz≤f≤50MHz	≥+15.0	≥+15.0	≥+15.0	≥+15.0
	50MHz<f≤20GHz	≥+15.0	≥+15.0	≥+20.0	≥+20.0
	<b>1466E</b>				
	<b>Configuration</b> <b>Frequency range</b>	<b>Standard</b>	<b>Programmable step attenuator Option H01-130/B130</b>	<b>High output power (option H05-33/B33)</b>	<b>High output power and programmable step attenuator (option H01-130+H05-33; H01-B130+H05-B33)</b>
	6kHz≤f≤50MHz	≥+8.0	≥+8.0	≥+8.0	≥+8.0
	50MHz<f≤6GHz	≥+12.0	≥+12.0	≥+20.0	≥+18.0
	6GHz<f≤18GHz	≥+12.0	≥+12.0	≥+18.0	≥+18.0
	18GHz<f≤30GHz	≥+12.0	≥+12.0	≥+17.0	≥+17.0
	30GHz<f≤33GHz	≥+12.0	≥+12.0	≥+18.0	≥+18.0
	<b>1466G</b>				
	<b>Configuration</b> <b>Frequency range</b>	<b>Standard</b>	<b>Programmable step attenuator Option H01-130/B130</b>	<b>High output power (option H05-45/B45)</b>	<b>High output power and programmable step attenuator (option H01-130+H05-45; H01-B130+H05-B45)</b>
	6kHz≤f≤50MHz	≥+8.0	≥+8.0	≥+8.0	≥+8.0
	50MHz<f≤6GHz	≥+12.0	≥+12.0	≥+20.0	≥+20.0
	6GHz<f≤18GHz	≥+12.0	≥+12.0	≥+18.0	≥+18.0
	18GHz<f≤30GHz	≥+12.0	≥+12.0	≥+17.0	≥+17.0
	30GHz<f≤40GHz	≥+12.0	≥+12.0	≥+18.0	≥+18.0
	40GHz<f≤45GHz	≥+12.0	≥+12.0	≥+14.0	≥+14.0

<b>1466H</b>				
<b>Configuration</b>				
	<b>Standard</b>	<b>Programmable step attenuator Option H01-90/120, H01-B90/120</b>	<b>High output power (option H05-45/B53)</b>	<b>High output power and programmable step attenuator (option H01-90/120+H05-53; H01-B90/120+H05-B53)</b>
<b>Frequency range</b>				
6kHz≤f≤50MHz	≥+8.0	≥+8.0	≥+8.0	≥+8.0
50MHz<f≤20GHz	≥+8.0	≥+8.0	≥+17.0	≥+16.0
20GHz<f≤40GHz	≥+8.0	≥+8.0	≥+15.0	≥+13.0
40GHz<f≤53GHz	≥+8.0	≥+8.0	≥+20.0	≥+18.0
<b>1466L</b>				
<b>Configuration</b>				
	<b>Standard</b>	<b>Programmable step attenuator Option H01-90/120, H01-B90/120</b>	<b>High output power (option H05-67/B67)</b>	<b>High output power and programmable step attenuator (option H01-90/120+H05-53; H01-B90/120+H05-B53)</b>
<b>Frequency range</b>				
6kHz≤f≤50MHz	≥+8.0	≥+8.0	≥+8.0	≥+8.0
50MHz<f≤20GHz	≥+8.0	≥+8.0	≥+17.0	≥+16.0
20GHz<f≤40GHz	≥+8.0	≥+8.0	≥+15.0	≥+13.0
40GHz<f≤53GHz	≥+8.0	≥+8.0	≥+20.0	≥+18.0
53GHz<f≤65GHz	≥+8.0	≥+8.0	≥+18.0	≥+16.0
65GHz<f≤67GHz	≥+8.0	≥+8.0	≥+15.0	≥+12.0
<b>1466N</b>				
<b>Configuration</b>				
	<b>Standard</b>	<b>Programmable step attenuator Option H01-50/B50,</b>	<b>High output power (option H05-90/B90)</b>	<b>High output power and programmable step attenuator (option H01-50+H05-90; H01-B50+H05-B90)</b>
<b>Frequency range</b>				
6kHz≤f≤50MHz	≥+5.0	≥+5.0	≥+8.0	≥+8.0
50MHz<f≤20GHz	≥+5.0	≥+5.0	≥+13.0	≥+13.0
20GHz<f≤40GHz	≥+5.0	≥+5.0	≥+12.0	≥+10.0
40GHz<f≤67GHz	≥3.0	≥+3.0	≥+10.0	≥+8.0
67GHz<f≤85GHz	≥0.0	≥0.0	≥+7.0	≥+5.0
85GHz<f≤90GHz	≥-5.0	≥-5.0	≥3.0	≥0.0
<b>1466P</b>				
<b>Configuration</b>				
	<b>Standard</b>	<b>Programmable step attenuator Option H01-50/B50,</b>	<b>High output power (option H05-90/B90)</b>	<b>High output power and programmable step attenuator (option H01-50+H05-90; H01-B50+H05-B90)</b>
<b>Frequency range</b>				
6kHz≤f≤50MHz	≥+5.0	≥+5.0	≥+8.0	≥+8.0
50MHz<f≤20GHz	≥+5.0	≥+5.0	≥+13.0	≥+13.0
20GHz<f≤40GHz	≥+5.0	≥+5.0	≥+12.0	≥+10.0

	40GHz<f≤67GHz	≥3.0	≥3.0	≥+10.0	≥+8.0	
	67GHz<f≤85GHz	≥0.0	≥0.0	≥+7.0	≥+0.0	
	85GHz<f≤110GHz	≥-5.0	≥-5.0	≥+3.0	≥+5.0	
<b>Power accuracy (25±10°C)</b>	<b>Standard</b>					
	<b>Power(dBm)</b>	<b>-10dBm&lt;P≤+10dBm</b>		<b>+10dBm&lt;P≤+25dBm</b>		
	<b>Frequency</b>					
	6kHz≤f≤50MHz	±1.0dB		±1.0dB		
	50MHz<f≤3GHz	±0.5dB		±0.5dB		
	3GHz<f≤20GHz	±0.9dB		±0.9dB		
	20GHz<f≤40GHz	±1.0dB		±1.0dB		
	40GHz<f≤50GHz	±1.3dB		±1.3dB		
	50GHz<f≤67GHz	±1.8dB		±1.8dB		
	67GHz<f≤85GHz	±2.0dB		±2.0dB		
	85GHz<f≤110GHz	±2.2dB		—		
	<b>H01-130/120/90/50/B130 programmable step attenuator option</b>					
	<b>Power(dBm)</b>	<b>+120dBm&lt;P ≤-90dBm</b>	<b>-90dBm&lt;P≤- 50dBm</b>	<b>-50dBm&lt;P≤ +10dBm</b>	<b>+10dBm&lt;P≤ +25dBm</b>	<b>+25dBm&lt;P</b>
	<b>Frequency</b>					
	6kHz≤f≤50MHz	—	±1.5dB	±1.0dB	±1.0dB	—
	50MHz<f≤3GHz	±1.2dB	±0.7dB	±0.5dB	±0.5dB	±1.0dB
	3GHz<f≤20GHz	±1.8dB	±0.9dB	±0.9dB	±0.9dB	±1.2dB
	20GHz<f≤40GHz	—	±1.2dB	±1.0dB	±1.0dB	—
40GHz<f≤50GHz	—	±1.5dB	±1.3dB	±1.3dB	—	
50GHz<f≤67GHz	—	±2.0dB	±1.8dB	±1.8dB	—	
67GHz<f≤85GHz	—	—	±2.0dB	±2.0dB	—	
85GHz<f≤110GHz	—	—	±2.2dB	—	—	
<b>Power resolution</b>	0.01dB					
<b>Temperature stability</b>	0.02dB/°C (typ)					
<b>Output impedance</b>	50Ω(nom)					
<b>VSWR(internal leveled)(typ)</b>	100kHz≤f≤20GHz	<1.6				
	20GHz<f≤40GHz	<1.8				
	40GHz<f≤67GHz	<2.0				
	67GHz<f≤85GHz	<2.5				
	85GHz<f≤110GHz	<3.0				
<b>Maximum reverse power</b>	0.5W(0V DC)(nom)					
<b>Spectral purity characteristics</b>						
<b>Harmonics (dBc at +10dBm or maximum specified output power, whichever is lower)</b>	<b>Frequency</b>	<b>Standard</b>				
	100kHz≤f≤3GHz	<-30dBc				
	3GHz<f≤67GHz	<-55dBc				
<b>Sub-harmonics (at +10dBm or maximum specified output power, whichever is lower)</b>	67GHz<f≤110GHz	<-40dBc				
	6kHz≤f≤20GHz	<-80dBc				
	20GHz<f≤40GHz	<-60dBc				
<b>Non-harmonics(dBc at 0dBm, for offset &gt;3kHz)</b>	<b>Frequency</b>	<b>Option H04-1</b>		<b>Option H04-2</b>		
	6kHz≤f≤250MHz	<-58dBc		<-68dBc		
	250MHz<f≤4GHz	<-70dBc		<-80dBc		

	4GHz<f≤10GHz	<-70dBc				<-80dBc		
	10GHz<f≤20GHz	<-64dBc				<-74dBc		
	20GHz<f≤40GHz	<-58dBc				<-68dBc		
	40GHz<f≤67GHz	<-52dBc				<-62dBc		
	67GHz<f≤110GHz	<-48dBc				<-58dBc		
<b>SSB phase noise (dBc/Hz, at +10dBm or maximum specified output power, whichever is lower)</b>	<b>Offset from carrier</b>	<b>10Hz</b>	<b>100Hz</b>	<b>1kHz</b>	<b>10kHz</b>	<b>100kHz</b>	<b>1MHz</b>	<b>10MHz</b>
	<b>H04-1 low phase noise option</b>							
	100MHz	—	<-118	<-141	<-148	<-150	—	—
	250MHz<f≤500MHz	—	<-111	<-130	<-145	<-143	—	—
	0.5 GHz<f≤1GHz	—	<-105	<-124	<-140	<-138	—	—
	1 GHz<f≤2GHz	—	<-100	<-118	<-134	<-132	—	—
	2 GHz<f≤4GHz	—	<-93	<-113	<-128	<-126	—	—
	4GHz<f≤10GHz	—	<-85	<-105	<-120	<-118	—	—
	10GHz<f≤20GHz	—	<-79	<-99	<-114	<-112	—	—
	20GHz<f≤40GHz	—	<-73	<-93	<-108	<-106	—	—
	40GHz<f≤67GHz	—	<-67	<-87	<-103	<-101	—	—
	67GHz<f≤110GHz	—	<-61	<-81	<-97	<-95	—	—
	<b>H04-2 ultra low phase noise option</b>							
	100MHz	<-102	<-118	<-141	<-148	<-150	<-152	<-152
	250MHz<f≤500MHz	<-92	<-112	<-135	<-146	<-148	<-150	<-150
	0.5GHz<f≤1GHz	<-90	<-110	<-134	<-144	<-147	<-150	<-150
	1GHz<f≤2GHz	<-88	<-104	<-127	<-138	<-142	<-148	<-148
	2 GHz<f≤4GHz	<-82	<-99	<-122	<-135	<-136	<-146	<-148
	4GHz<f≤10GHz	<-77	<-91	<-115	<-128	<-128	<-140	<-154
	10GHz<f≤20GHz	<-71	<-85	<-109	<-122	<-122	<-134	<-152
20GHz<f≤40GHz	<-63	<-79	<-99	<-116	<-116	<-128	<-142	
40GHz<f≤67GHz	<-57	<-73	<-94	<-110	<-110	<-122	<-136	
67GHz<f≤110GHz	<-51	<-67	<-88	<-104	<-104	<-116	<-130	
<b>Modulation characteristics</b>								
<b>Frequency modulation (50MHz&lt;f≤50GHz, Option S11)</b>	Maximum deviation: N×20MHz(N: YO harmonic number) Accuracy(at 1kHz, N×20kHz≤deviation<N×800kHz): <± (2.5%× set frequency offset +20Hz) Modulation rate(3dB bandwidth, N×500kHz frequency offset):DC-10MHz Distortion(at 1kHz, N×20kHz≤deviation<N×800kHz): <1%							
<b>Phase modulation (50MHz&lt;f≤50GHz, Option S11)</b>	Maximum deviation: Normal mode: N×20.0rad(N: YO harmonic number) Broadband mode: N×2rad Low noise mode: N×0.2rad Accuracy(at 1kHz, N×0.2rad≤phase deviations<N×8rad, normal mode): <± (3% of setting deviation+0.01 rad) Modulation rate (3dB bandwidth), (Broadband mode): DC to 10MHz(typ) Distortion (at 1kHz, N×0.8rad≤deviations<N×8rad, THD): <0.8%							

<b>Amplitude modulation (10MHz&lt;f≤50GHz, Option S11)</b>	Maximum depth: >90% Modulation rate (3 dB bandwidth, 30% modulation depth):DC to 100kHz Accuracy (1kHz modulation rate,30% modulation depth): $\pm(5\%$ of setting+1%) Distortion (1kHz modulation rate,Linear mode,THD,30% modulation depth) <1.5%		
<b>Pulse modulation (option S13 would cover option S12)</b>	<b>Option S12</b>	<b>&gt;50MHz to 67GHz</b>	<b>&gt;67GHz</b>
	On/off ratio	>80dB	>60dB
	Rise/fall times	<20ns	<30ns
	Repetition frequency	0Hz to 25MHz	0Hz to 25MHz
	Minimum pulse width	0.1μs	0.1μs
	<b>Option S13</b>	<b>&gt;50MHz to 67GHz</b>	
	On/off ratio	>80dB	—
	Rise/fall times	<10ns	—
	Repetition frequency	0Hz to 25MHz	—
	Minimum pulse width	20ns	—
<b>LF out/Function generator(option S14)</b>	Support frequency/phase modulation, amplitude modulation output Waveform: sina, square, triangle, sawtooth, noise, double sine, sweep sine Frequency range: DC to 10MHz for sine, double sine, sweep sine waveform; 0.1Hz to 1MHz for square, triangle, swatooth waveform. Frequency resolution:0.1Hz Low frequency output: amplitude: 0 to 5Vpp(nom), into 50Ω load		
<b>General characteristics</b>			
<b>RF output interface</b>	1466C/D:3.5mm (Male), Impedance 50Ω 1466E/G:2.4mm (Male), Impedance 50Ω 1466H/L:1.85mm (Male), Impedance 50Ω 1466N/P:1.0mm (Male), Impedance 50Ω		
<b>Dimension (W×H×D)</b>	475mm×193mm×620mm(Includes handle and protective bottom corner) 426mm×177mm×500mm(Excludes handle and protective bottom corner)		
<b>Weight</b>	<35kg (weight depend on product model and option)		
<b>Power requirements</b>	100 to 120VAC,50 to 60Hz or 200 to 240VAC,50 to 60Hz (adaptive power supply)		
<b>Power consumption</b>	< 600W		
<b>Temperature range</b>	Operating temperature range:0℃ to +50℃;Storage temperature range:-40℃ to +70℃		

# Ordering Information

## ● Mainframe:

1466C Signal Generator: 6kHz to 13GHz  
 1466D Signal Generator: 6kHz to 20GHz  
 1466E Signal Generator: 6kHz to 33GHz  
 1466G Signal Generator: 6kHz to 45GHz  
 1466H Signal Generator: 6kHz to 53GHz  
 1466L Signal Generator: 6kHz to 67GHz  
 1466N Signal Generator: 6kHz to 90GHz  
 1466P Signal Generator: 6kHz to 110GHz

## ● Standard:

No.	Description	Remarks
1	Power cable assembly	
2	The Product certificate of conformity	/

## ● Option:

Option No.	Description	Function and performance requirements
<b>Programmable Step Attenuator Option</b>		
1466-H01-130	130dB programmable step attenuator	To expand output power dynamic range for 1466C/D/E/G
1466-H01-90	90dB programmable step attenuator	To expand output power dynamic range for 1466H/L
1466-H01-120	120dB programmable step attenuator	To expand output power dynamic range for 1466H/L
1466-H01-50	50dB programmable step attenuator	To expand output power dynamic range for 1466N/P
1466-H01-B130	Channel B 130dB programmable step attenuator	To expand Channel B output power dynamic range for 1466C/D, Requires option 1466-H11-B13/B20
<b>Low Phase Noise Option</b>		
1466-H04-1	Low phase noise	Improved phase noise performance, 10GHz@10kHz: -120dBc/Hz. For option 1466-H04-1 and 1466-H04-2, one of them must be selected.
1466-H04-2	Ultra low phase noise	Improved phase noise performance, 10GHz@10kHz: -128dBc/Hz. For option 1466-H04-1 and 1466-H04-2, one of them must be selected.
1466-H04-B1	Channel B low phase noise	Improved Channel B phase noise performance, 10GHz@10kHz: -120dBc/Hz, Regarding options 1466-H11-B13/B20. 1466-H04-B1, 1466-H04-B2 either one of them must be selected to configure the 1466 Signal Generator.



Option No.	Description	Function and performance requirements
1466-H04-B2	Channel B ultra low phase noise	Improved Channel B phase noise performance, 10GHz@10kHz:-128dBc/Hz, Regarding options 1466-H11-B13/B20, 1466-H04-2, 1466-H04-B1, 1466-H04-B2, either one of them must be selected to configure the 1466 Signal Generator.
<b>High Power Option</b>		
1466-H05-13	13GHz High output power	Improve maximum output power for 1466C
1466-H05-20	20GHz High output power	Improve maximum output power for 1466D
1466-H05-33	33GHz High output power	Improve maximum output power for 1466E
1466-H05-45	45GHz High output power	Improve maximum output power for 1466G
1466-H05-53	53GHz High output power	Improve maximum output power for 1466H
1466-H05-67	67GHz High output power	Improve maximum output power for 1466L
1466-H05-90	90GHz High output power	Improve maximum output power for 1466N
1466-H05-110	110GHz High output power	Improve maximum output power for 1466P
1466-H05-B13	13GHz Channel B High output power	Improve Channel B maximum output power for 1466C, Option 1466-H11-B13 need to be configured
1466-H05-B20	20GHz Channel B High output power	Improve Channel B maximum output power for 1466D, Option 1466-H11-B20 need to be configured
<b>Dual Channel Option</b>		
1466-H11-B13	13GHz Channel B	Add Channel B, output 6kHz to 13GHz analog signal for 1466C/D
1466-H11-B20	20GHz Channel B	Add Channel B, output 6kHz to 20GHz analog signal for 1466D
<b>Matched Option</b>		
1466-H94	Rack mount kit	Mount kit for rack
1466-H98	English version	
1466-H99	Aluminum alloy transport case	High-intensity portable aluminum alloy transport case, with carrying handle and omni-directional wheel, convenient for transportation
1466-H100	User Manual paper version	A detailed user manual in hard copy is provided.
<b>Analog Modulation Option</b>		
1466-S11	Analog modulation	Add analog modulation function including AM, FM, $\Phi$ M
1466-S12	Pulse modulation	Add pulse modulation function, minimum pulse width 100ns
1466-S13	Narrow pulse modulation	Add pulse modulation function, minimum pulse width 20ns

Option No.	Description	Function and performance requirements
1466-S14	LF output/function waveform generator	Add low frequency output and function waveform signal generation
<b>Scanning Option</b>		
1466-S15	Ramp(analog)sweep	Add analog sweep function(Ramp sweep)
1466-S16	Power sweep	Add power sweep function