

XDG2035 Waveform Generator



- + Max 35MHz frequency output
- + 500MSa/s Sample rate , Vertical resolution 1 μ Hz
- + 14 bits Vertical Resolution , 10Marb waveform length
- + Comprehensive waveform output : 6 basic waveforms, and 150 built-in arbitrary waveforms
- + Comprehensive modulation functions : AM, FM, PM, FSK, 3FSK, 4FSK, PSK, OSK, ASK, BPSK, PWM, Sweep, and Burst
- + High-accuracy frequency counter integrated, supported range 100mHz - 200MHz
- + SCPI, and LabVIEW supported
- + 7 inch (800 × 480 pixels) multi-touch screen, support

+ Performance Specifications

Model	XDG2035
Channel	2
Frequency Output	35MHz
Sample Rate	500MSa/s
Vertical Resolution	14 bits
Waveform	
Standard Waveform	Far sine, square, pulse, ramp, noise, and harmonic
Arbitrary Waveform	exponential rise, exponential fall, sin(x)/x, step wave, and others, total 150 built-in waveforms, and user-defined arbitrary waveform
Frequency (resolution 1μHz)	
Sine	1 μ Hz-35MHz
Square	1 μ Hz ~ 15MHz
Pulse	1 μ Hz ~ 15MHz
Ramp	1 μ Hz ~ 3MHz
Noise	35MHz (-3dB , typical)
Arbitrary Waveform	1 μ Hz ~15MHz
Harmonic	1 μ Hz ~17.5MHz
Accuracy	\pm 2ppm, 25°C \pm 5°C
Sine Wave Spectrum Purity	
Harmonic Distortion (typical (0dB))	DC ~ 1MHz : <-65dBc 1MHz ~ 10MHz : <-60dBc 10MHz ~ 60MHz : <-55dBc 60MHz ~ 120MHz : <-50dBc
Total Harmonic Distortion	<0.05 % , 10 Hz to 20 kHz, 1 Vpp
Spurious (non-harmonic) (typical (0dB))	\leq 10MHz : <-70dBc >10MHz : <-70dBc + 6dB/ octave band
Phase Noise (typical (0 dBm, 10 kHz deviation))	typical (0dBm , 10kHz offset) 1MHz : -110dBc/Hz

Square

Rise / Fall Time	<8ns
Overshoot	< 3%
Duty Cycle	50.0% (fixed)
Jitter (rms)	≤5MHz:<300ps + 2ppm;>5MHz 300ps

Pulse

Period	66.667ns~1000000s
Pulse Width	≥18ns
Rise / Fall Time	≥8ns
Overshoot	< 3%
Jitter (rms)	≤5MHz:<300ps + 2ppm;>5MHz 300ps
Duty cycle	0.1%~99.9%

Ramp

Linearity	≤0.5% of peak output (typical, 1kHz, 1 Vpp, 50% symmetry)
Symmetry	0% ~ 100%

Arbitrary

Waveform Length	2 points - 10M points
Minimum Rise/Fall Time	<8ns
Jitter (rms) (1MHz,1Vpp,50Ω)	≤5MHz:<300ps + 2ppm; >5MHz 300ps

Amplitude

into 50Ω load	1mVpp ~ 10Vpp (≤ 25MHz) ; 1mVpp ~ 5Vpp (≤60MHz) ;
Resolution	0.1mVpp or 4digits , (amplitude > 1Vpp : 1mVpp)
DC Offset Range (AD+DC)	±5V(50Ω)、 ±10V(high resistance)
DC offset resolution	0.1mV or 4digits
Load Impedance	50Ω (typical)
DC offset Accuracy	±(1% of setting + 1 mVpp+ amplitude Vpp * 0.5%) (typical 1kHz sine, 0V offset)
Unit	mVpp , Vpp , Vrms , mVrms , dBm

Modulation

Type	AM、DSB- AM、FM、PM、ASK、FSK、PSK、BPSK、QPSK、3FSK、4FSK、OSK、PWM、SUM
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DSB-AM

Carrier Waveform	sine, square, ramp
Source	internal / external
Internal Modulation Waveform	sine, square, ramp

AM

Carrier Waveform	sine, square, ramp, and arbitrary (except DC)
Source	internal / external
Modulating Waveform	sine, square, ramp, noise, and arbitrary
Depth	0.0%~120.0%

Modulating Frequency	2 mHz ~1MHz
FM	
Carrier Waveform	sine, square, ramp, and arbitrary (except DC)
Source	internal / external
Modulating Waveform	sine, square, ramp, noise, and arbitrary
Modulating Frequency	2 mHz ~1MHz
PM	
Carrier Waveform	sine, square, ramp, and arbitrary (except DC)
Source	internal / external
Modulating Waveform	sine, square, ramp, noise, and arbitrary
Phase Deviation	0° - 180°
Modulating Frequency	2 mHz - 1MHz
ASK	
Carrier Waveform	sine, square, ramp, and arbitrary (except DC)
Source	internal / external
Modulating Waveform	square with 50% duty cycle
Key Frequency	2 mHz - 1MHz
FSK/3FSK/4FSK	
Carrier Waveform	sine, square, ramp, and arbitrary (except DC)
Source	internal
Modulating Waveform	square with 50% duty cycle
Key Frequency	2 mHz - 1MHz
PSK	
Carrier Waveform	sine, square, ramp, and arbitrary (except DC)
Source	internal / external
Modulating Waveform	square with 50% duty cycle
Key Frequency	2 mHz - 1MHz
BPSK	
Carrier Waveform	sine, square, ramp, and arbitrary (except DC)
Source	internal
Modulating Waveform	square with 50% duty cycle
Key Frequency	2 mHz - 1MHz
OSK	
Carrier Waveform	sine, square, ramp, and arbitrary (except DC)
Source	internal
Oscillation Time	square with 50% duty cycle
Key Frequency	2 mHz - 1MHz
Concussion time	8ns - 249.75s
SUM (Dual tone)	
Carrier Waveform	sine, square, ramp
Source	internal / external
Internal Modulation Waveform	sine, square, ramp , white noise, arbitrary waveform
Internal am frequency	2mHz~1MHz
Depth	0.0%~100.0%

PWM

Carrier Waveform	pulse
Source	internal / external
Modulating Waveform	sine, square, ramp, noise, and arbitrary
Width Deviation	0~99%
Modulating Frequency	2 mHz ~ 1MHz
Deviation	0~min

Pulse train responses

Carrier	Sine , Square , Harmonic , Pulse,Noise and Arbitrary Waveform
Carrier frequency	2mHz ~ BW/2
Type	count (1 to 1000000 cycles), unlimited, gated
Internal cycle	20 ns ~ 500 s
Gated Source	external trigger

Sweep characteristic

carrier	sine, square, ramp, and arbitrary (except DC)
Maximum / termination frequency	sine: 35MHz square: 15MHz ramp: 3MHz arbitrary:15MHz (Built-in) or 25MHz (User defined)
Type	linear, logarithmic, step
Direction	up / down
Scanning time	1 ms to 500 s \pm 0.1%
Trigger source	Internal, external, manual

Frequency Counter

Function	Frequency , period, +width, -width, +duty, and -duty
Frequency Range	100mHz ~ 200MHz
Frequency Resolution	7 digits
Coupling mode	AC,DC

Input / Output

Display	7" 800 x 480 pixels touch screen LCD
Input mode	frequency counter, external modulation input, external trigger input, Internal clock output, external reference clock input / output
Communication Interface	USB Host, USB Device,LAN , COM

Mechanical specifications

Size	340mm x 177mm x 90mm
Weight	2.3kg

Specifications subject to change without prior notice

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پتروفرهان گستر جنوب

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