

**RIGOL**

# Test & Measurement Product Catalog



# DSG800 Series RF Signal Generators



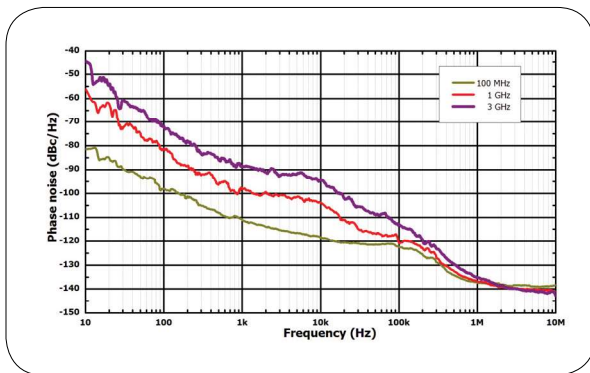
DSG800 establishes a new standard of economical RF signal generator by the unprecedented cost-effective advantage. Combining with DSA800 economical spectrum analyzer, the product pair provides a screaming solution for RF test and measurement application.

DSG800 offers outstanding performance comparing with the same-level economical RF signal generator. It covers the frequency range from 9 kHz to 1.5 GHz or 3 GHz. Maximum output power is +20 dBm (typical). Phase noise reaches -105 dBc/Hz (typical).

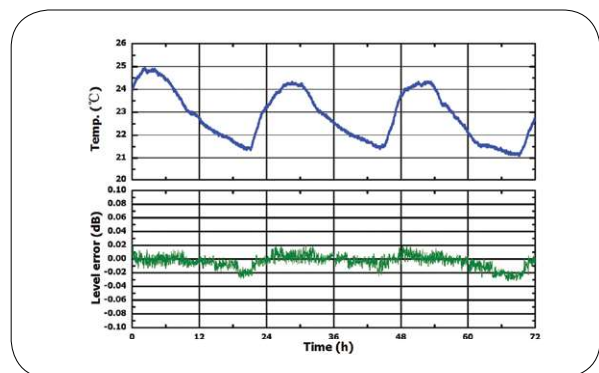
DSG800 provides the frequency and level sweep functions, AM/FM/ØM analog modulations as well as powerful pulse modulation function. Thus DSG800 can be used as an excitation source to output all kinds of high quality signals (including RF, LF, sweep, pulse and a variety of analog modulated signals), and can be used as a reference source.

- Up to -105 dBc/Hz (typical) phase noise
- Up to +20 dBm (typical) maximum output power
- Special digital ALC circuit ensuring its stability and reliability
- Flexible frequency and amplitude sweep functions
- Complete AM/FM/ØM analog modulation functions
- Powerful pulse modulation function
- Prominent portability; Simple and easy to operate

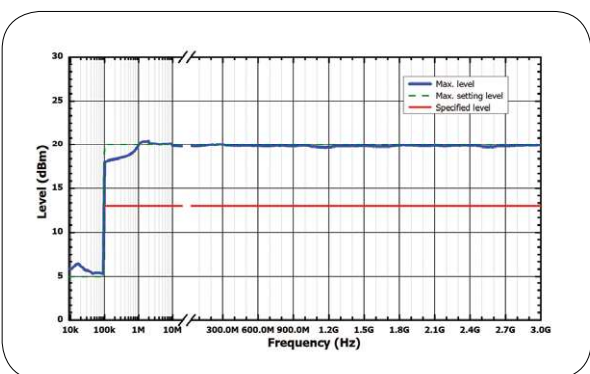
Measured SSB phase noise



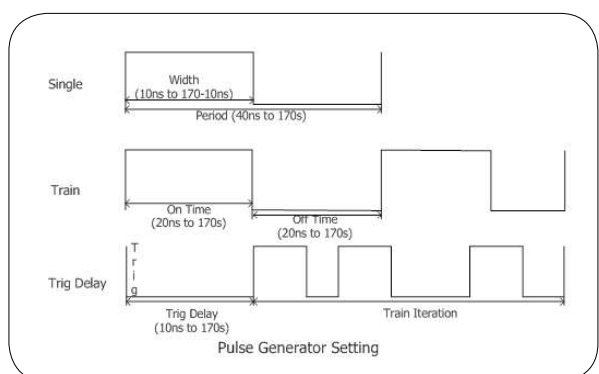
Measured level repeatability @ 1 GHz, 0 dBm



Measured maximum level vs. frequency



Powerful pulse modulation and pulse train generator



## Simultaneous Modulation

	AM	FM	ØM	Pulse mod. (opt.)
AM	—	○	○	△
FM	○	—	×	○
ØM	○	×	—	○
Pulse mod. (opt.)	△	○	○	—

Note: ○: Compatible; ×: Not compatible; △: Compatible, but the AM performance will decrease when pulse modulation is turned on.

## Key Specifications

Models		DSG815	DSG830
Frequency range		9kHz-1.5GHz	9kHz-3GHz
Amplitude Output Level		-110dBm - +13dBm	
Amplitude Setting Level		-110dBm - +20dBm	
Level uncertainty		<0.9dB (< 0.5dB typ.)	
Clock stability		< 2ppm, <5ppb(With option OCXO-B08)	
Spectral Purity	SSB phase noise	100KHz ≤ f ≤ 1.5GHz, <-100dBc/Hz (<-105dBc/Hz typ.) 1.5GHz ≤ f ≤ 3GHz, <-94dBc/Hz (<-99dBc/Hz typ.) CW mode, carrier offset =20KHz	
	Harmonic	<-30dBc CW mode 1MHz ≤ f ≤ 3GHz, Levels ≤ +13dBm	
	Non-harmonic	100KHz ≤ f ≤ 1.5GHz, <-60dBc (<-70dBc typ. ); 1.5GHz ≤ f ≤ 3GHz, <-54dBc/Hz (<-64dBc/Hz typ. )	
Sweep	Sweep type	Linear sweep, Step/List sweep, Single/Continue sweep	
	Sweep points	2 ~65535(Step sweep); 1-6001 (List sweep)	
Modulation type		AM, FM, ØM, Pulse mod	
AM	modulation depth	0%-100%	
	Uncertainty	< setting value x 4% + 1%	
	Modulation frequency response	<3dB(10Hz ~ 100kHz m<80%)	
FM	Max. deviation	N x 1MHz	
	Uncertainty	< setting value x 2% + 20Hz	
	Modulation frequency response	<3dB(10Hz – 100KHz)	
PM	Max. deviation	N x 5rad	
	Uncertainty	< setting value x 1% + 0.1rad	
	Modulation frequency response	<3dB(10Hz – 100kHz)	
Pulse modulation	On/off ratio	>70dB(100kHz ≤ f <3GHz)	
	Rise/fall time	<50ns, 10ns (typ.)	
	Pulse mode	Single pulse, pulse train (option DSG800-PUG)	
General	Interfaces	Std.: USB, LAN	
		Front Panel: RF output, Internal modulation generator (LF) output	
		Rear Panel: External trigger input, Signal valid output, Pulse input or output	
		External modulating signal input, 10MHz input/output	

## Ordering Information

	Description	Order Number
Models	DSG830 RF Signal Generator, 9kHz-3GHz	DSG830
	DSG815 RF Signal Generator, 9kHz-1.5GHz	DSG815
Standard Accessories	Power Cable, Quick Guide (Hard Copy)	-
Options	Pulse Modulation, Pulse Generator	DSG800-PUM
	Pulse Train Generator (DSG800-PUM Included)	DSG800-PUG
	High Stable Reference Clock	OCXO-B08
	Rack Mount Kit (For one Instrument)	RM-1-DG1000Z
	Rack Mount Kit (For two Instrument)	RM-2-DG1000Z