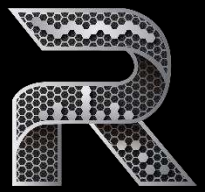
RIGOL

Possibilities and More

2020.09.03

www.rigol.com



NPI for DSG3000B RF Signal Generator

RIGOL µW/RF signal source product family

RF Signal Generator

DSG3000(Obsolete)

- 3.0/6.0/12GHz
- <-110 dBc/Hz@20kHz
- -130dBm~+13dBm
- IQ

DSG800A

- 2.1/3.6GHz
- <-115 dBc/Hz@20kHz
- -110dBm~+13dBm
- IQ

DSG800

- 1.5/3.0GHz
- <-105 dBc/Hz@20kHz
- -110dBm~+13dBm

1.0Gz 1.5GHz 3.2GHz 4.5GHz 6.5GHz 12GHz

RIGOL μW/RF signal source product family

DSG800/A Series

Freq Range: 9 kHz~1.5/2.1/3/3.6 GHz

Phase Noise: -112 dBc/Hz@20kHz offset (typ.)

Output Range: -110dBm~+13dBm
Setting Range：-110dBm~+20dBm

Amplitude Accuracy：0.5dB(typ.)

Modulation Type：AM/FM/Φm/Pulse/IQ（A Model）

3.5” Display

DSG3000 Series (Obsolete)

Freq Range: 9 kHz~3/6 GHz

Phase Noise: -110 dBc/Hz@20kHz offset (typ.)

Output Range: -130dBm~+13dBm
Setting Range：-140dBm~+25dBm

Amplitude Accuracy：0.5dB(typ.)

Modulation Type：AM/FM/Φm/Pulse/IQ（-IQ Model）

4.3” Display

RIGOL

New DSG3000B Series RF/μW Signal Generator

RIGOL μW/RF signal source product family

DSG800/A Series

Freq Range: 9 kHz~1.5/2.1/3/3.6 GHz

Freq Range: -112 dBc/Hz@20kHz offset (typ.)

Output Range: -110dBm~+13dBm
Setting Range：-110dBm~+20dBm

Amplitude Accuracy：0.5dB(typ.)

Modulation Type：AM/FM/Φm/Pulse/IQ（A Model）

3.5” Display

DSG3000 系列(Obsolete)

Freq Range: 9 kHz~3/6 GHz

Freq Range: -110 dBc/Hz@20kHz offset (typ.)

Output Range: -130dBm~+13dBm
Setting Range：-140dBm~+25dBm

Amplitude Accuracy：0.5dB(typ.)

Modulation Type：AM/FM/Φm/Pulse/IQ（-IQ Model ）

4.3” Display

DSG3000B Series

Freq Range: 9 kHz~6.5/13.6 GHz

Freq Range: -116 dBc/Hz@20kHz offset (typ.)

Output Range: -110dBm~+20dBm
Setting Range：-130dBm~+27dBm

Amplitude Accuracy：0.5dB(typ.)

Modulation Type：AM/FM/Φm/Pulse/IQ（-IQ Model ）

4.3” Display

Main Characteristics

- ✓ Maximum frequency range: Up to 13.6 GHz
- ✓ Optimal phase noise: <-116 dBc/Hz (typical)
- ✓ Amplitude accuracy: <0.5 dB (typical)
- ✓ Greater power output: -110dBm~+20dBm
- ✓ Power setting range: -130dBm~+27dBm
- ✓ Support analog modulation: AM/FM/ΦM/Pulse
- ✓ Support IQ modulation (-IQ model): internal modulation bandwidth 60MHz
- ✓ Digital ALC technology
- ✓ Standard LAN/USB Host & Device interface

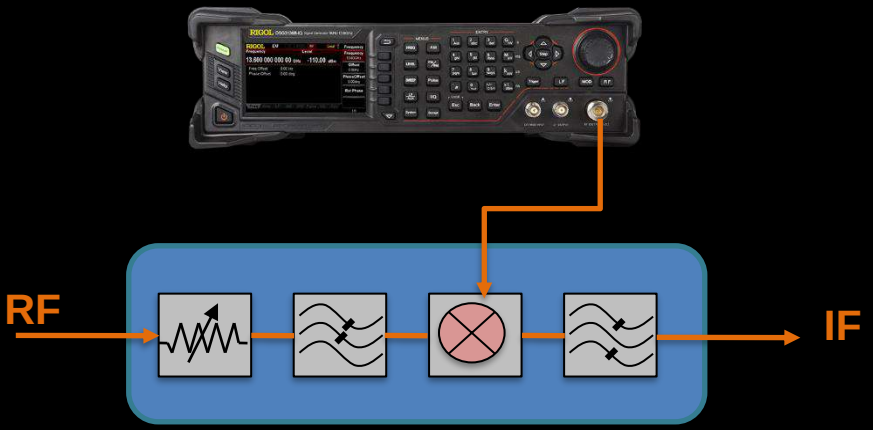
DSG3136B/DSG3136B-IQ

DSG3065B/DSG3065B-IQ

Main Applications

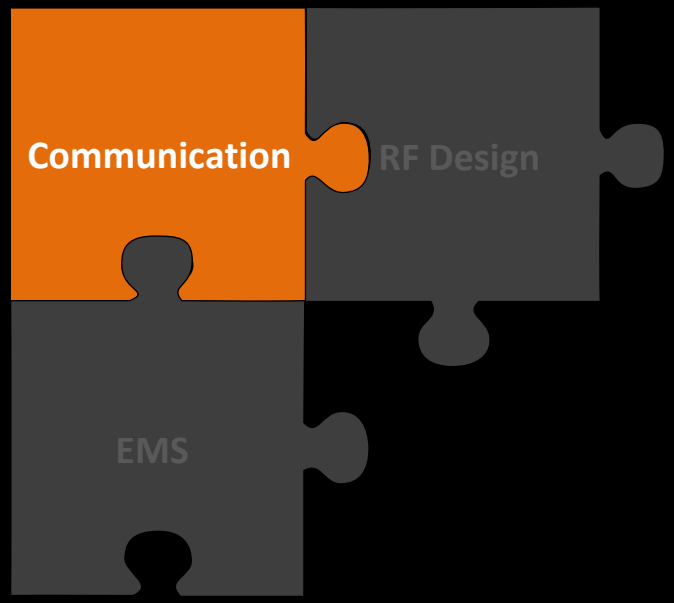
- Receiver Sensitivity Test
- Stimulus Response Test
- EMS Immunity test

- Non-linear testing of amplifiers
- Receiver out-of-band test-channel selectivity
- Spurious immunity test



- Use as a local oscillator

Industry & Applications



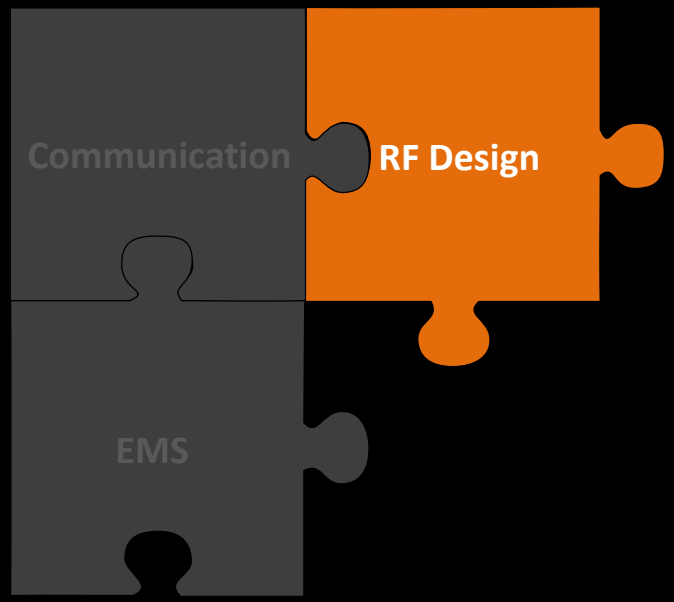
✓**Wireless Communication**

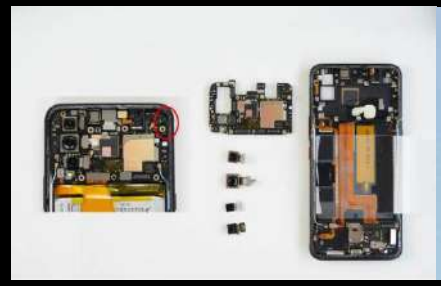
In a wireless communication system, testing the receiving sensitivity of the system or module includes cellular communication, narrowband Internet of Things (NB-IoT), LoRa, short-range wireless communication (Wi-Fi, Bluetooth, ZigBee), etc.

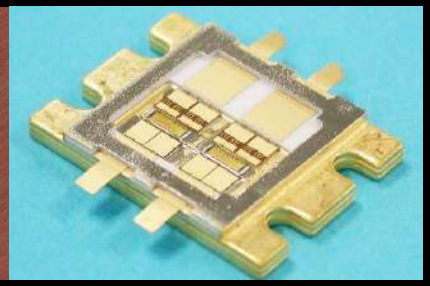
✓**Satellite or Broadcast System**

Used in satellite communications or broadcasting systems to test the receiving sensitivity of systems or modules (such as high-frequency head LNB), or to generate excitation signals for excitation response testing of core devices.

Industry & Applications



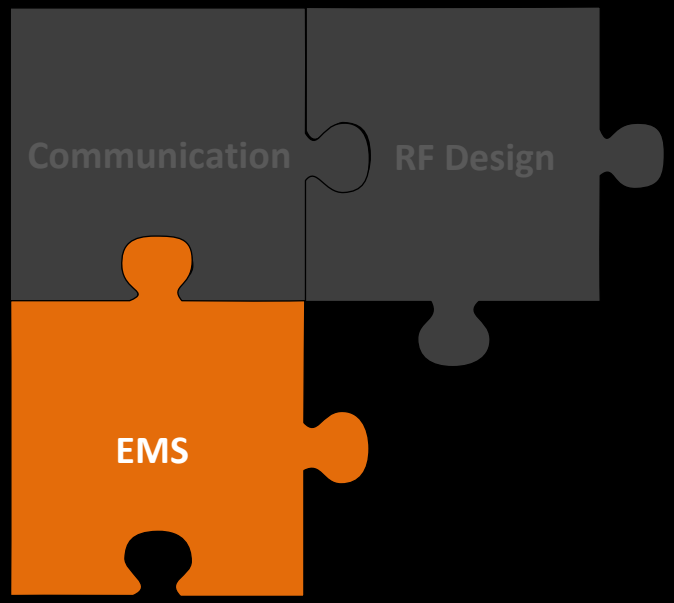




✓**Test the nonlinear performance of RF devices**

In wireless communication systems, in order to achieve excellent spectrum efficiency, the frequency channel spacing is very small. Narrow frequency channel spacing and broadband communication systems require rigorous testing of redundant and nonlinear spectrum distortion. The distortion products may be unwanted spectrum signals that appear in the channel, in the frequency band, and outside the frequency band. Distortion not only degrades the performance of the transmitter, but also causes interference to other receivers. Improve system performance by testing the harmonic distortion and intermodulation distortion of the device

Industry & Applications



✓**EMS immunity test**

As part of the Radiate Susceptibility test system, it provides signals such as CW/AM/FM/pulse modulation to test the radiated immunity performance of the device under test.

Product Introduction

Freq Range Up to 6.5/13.6GHz

Max Output Power : +20dBm (+27dBm)

Min Output Power : -110dBm (-130dBm)

AM/FM/ΦM/Pulse/IQ modulation

Internal and external modulation sources

Product Introduction

- Provide a numeric keyboard for easy parameter input
- Individual low frequency (LF), modulation (MOD) and radio frequency (RF) output control
- Provide low frequency output
- External modulation input

Product Introduction

- Pulse modulation input/pulse gate control input/pulse signal generator output
- Trigger input/signal effective output designed for system integration
- IQ baseband input/output interface (IQ model)
- OCXO high stability clock reference (option)
- USB Host & Device
- LAN
- Internal clock output/input

Comparison - Internal

	DSG800	DSG3000(Obsolete)	DSG3000B
Freq Range	9kHz~2.1/3.6GHz	9kHz~3/6GHz	9kHz~6.5/13.6GHz
Phase Noise	-112dBc/Hz@20kHz (typ.)	-110dBc/Hz@20kHz (typ.)	-116dBc/Hz@20kHz (typ.)
Output Power	-110dBm~+13dBm -110dBm~+20dBm(Setting range)	-130dBm~+13dBm -140dBm~+25dBm(Setting range)	-110dBm~+20dBm -130dBm~+27dBm(Setting range)
Amplitude Accuracy	0.5dB (typ.)	0.5dB (typ.)	0.5dB (typ.)
Analog Modulation	AM/FM/ΦM(Standard)	AM/FM/ΦM(Standard)	AM/FM/ΦM(Standard)
Pulse Modulation	Rise/Fall Time<50ns On-off ratio 70dB (Option)	Rise/Fall Time<10ns (typ.) On-off ratio 80dB	Rise/Fall Time<50ns On-off ratio 70dB(opt.)
IQ Modulation	Internal modulation bandwidth 60MHz External modulation bandwidth 120MHz (IQ Model, Carrier 50MHz~3.2GHz)	Internal modulation bandwidth 60MHz External modulation bandwidth 240MHz (IQ Model, Carrier50MHz~6GHz)	Internal modulation bandwidth 60MHz External modulation bandwidth 120MHz (IQ Model, Carrier 50MHz~6.5GHz)
Appearance size and weight	261.5 mm × 112 mm × 318.4 mm 4.4kg	364 mm × 112 mm × 420mm 6.4~7.7kg	364 mm × 112 mm × 420mm 8kg
Interface	LAN/USB Host & Device/GPIB(opt.)	LAN/USB Host & Device/GPIB	LAN/USB Host & Device

Comparison – External (Analog)

	N5171B K Brand	SMB100B R Brand	SSG5000X S Brand	DSG3000B-IQ RIGOL
Freq Range	9kHz~6 GHz	9kHz~6GHz	9kHz~6GHz	9kHz~6.5/13.6GHz
Phase Noise	-122dBc/Hz@20kHz (typ.)	-132dBc/Hz@20kHz (typ./opt,)	-120dBc/Hz@20kHz (typ.)	-116dBc/Hz@20kHz (typ.)
Output Power	-110dBm~+18dBm -144dBm~+19dBm(Setting range)	-127Bm~+18dBm -145dBm~+20dBm(Setting range)	-130dBm~+20dBm -140dBm~+26dBm(Setting range)	-110dBm~+20dBm -130dBm~+27dBm(Setting range)
Amplitude Accuracy	0.6dB 0.3dB (typ.)	0.5dB	0.7dB	0.7dB 0.5dB (typ.)
Analog Modulation	AM/FM/ΦM(Option)	AM/FM/ΦM(Option)	AM/FM/ΦM(Standard)	AM/FM/ΦM(Standard)
Pulse Modulation	Rise/Fall Time<10ns On-off ratio >80dB(opt.)	Rise/Fall Time<5ns On-off ratio >80dB(opt.)	Rise/Fall Time<15ns On-off ratio >70dB	Rise/Fall Time<50ns On-off ratio >70dB(opt.)
IQ Modulation	N/A	N/A	N/A	N/A
Appearance size and weight	426mm× 88mm× 489mm 13.6Kg	344 mm× 108 mm× 372 mm 6.8Kg	338 mm× 123mm× 369mm 5.3kg	364 mm× 112 mm× 420mm 8kg
Interface	LAN/USB Host & Device/GPIB	LAN/USB Host & Device	LAN/USB Host & Device	LAN/USB Host & Device

Comparison – External (Vector)

	N5166B K Brand	N5172B K Brand	SMCV100B R Brand	SSG5000X-V S Brand	DSG3000B-IQ RIGOL
Freq Range	9kHz~3/6GHz	9kHz~3/6 GHz	9kHz~3/6/7.125GHz	9kHz~4/6GHz	9kHz~6.5/13.6GHz
Phase Noise	-119dBc/Hz@20kHz (typ.)	-122dBc/Hz@20kHz (typ.)	-100dBc/Hz@20kHz (typ.) -125dBc/Hz@20kHz (opt,)	-120dBc/Hz@20kHz (typ.)	-116dBc/Hz@20kHz (typ.)
Output Power	-110dBm~+18dBm -144dBm~+19dBm(Setting range)	-110dBm~+18dBm -144dBm~+30dBm(Setting range)	-120dBm~+15dBm -145dBm~+16dBm(Setting range)	-130dBm~+20dBm -140dBm~+26dBm(Setting range)	-110dBm~+20dBm -130dBm~+27dBm(Can be set)
Amplitude Accuracy	0.6dB 0.3dB (typ.)	0.6dB 0.3dB (typ.)	0.5dB	0.7dB	0.7dB 0.5dB (typ.)
Analog Modulation	AM/FM/ΦM(Option)	AM/FM/ΦM(Option)	AM/FM/ΦM(Option)	AM/FM/ΦM(Standard)	AM/FM/ΦM(Standard)
Pulse Modulation	Rise/Fall Time<10ns On-off ratio >80dB(opt.)	Rise/Fall Time<10ns On-off ratio >80dB(opt.)	Rise/Fall Time<5ns On-off ratio >80dB(opt.)	Rise/Fall Time<15ns On-off ratio 70dB	Rise/Fall Time<50ns On-off ratio >70dB(opt.)
IQ Modulation	Internal modulation bandwidth 60/120MHz External modulation bandwidth 200MHz (Option)	Internal modulation bandwidth60/120MHz External modulation bandwidth 200MHz (Option)	Internal modulation bandwidth60/120/160/240MHz (Option)	Internal modulation bandwidth 75/150MHz External modulation bandwidth 200MHz (IQ Model Standard , Carrier 10MHz~6GHz)	Internal modulation bandwidth 60MHz External modulation bandwidth 120MHz (IQ Model Standard , Carrier50MHz~6.5GHz)
Appearance size and weight	426mm× 88mm× 489mm 15.9Kg	426mm× 88mm× 489mm 15.9Kg	222 mm× 97 mm× 366 mm 4.7Kg	338 mm× 123mm× 369mm 5.3kg	364 mm× 112 mm× 420mm 8kg
Interface	LAN/USB Host & Device/GPIB	LAN/USB Host & Device/GPIB	LAN/USB Host & Device	LAN/USB Host & Device	LAN/USB Host & Device

Product & Accessories Information

DSG3000B

Model	DSG3065B	DSG3136B	DSG3065B-IQ	DSG3136B-IQ
Frequency Range	9 kHz~6.5 GHz	9 kHz~13.6 GHz	9 kHz~6.5 GHz IQ Modulation	9 kHz~13.6 GHz IQ Modulation
Price-€	€7299	**Get a quote**	€10599	**Get a quote**

Options & Accessories

DSG3000B-PUG	Pulse Modulation & Pulse sequence Generator
OCXO-B08	High stability clock reference
RM-DSG3000	Rack mount Kit

RIGOL

Empowering Technology Exploration,
Possibilities and More