

# SSG6082A-V

## RF Vector Signal Generator



Datasheet  
EN01A



SIGLENT TECHNOLOGIES CO.,LTD

# SSG6082A-V

## General Description

The SSG6082A-V Vector Signal Generator offers an output frequency range from 9 kHz to 8 GHz. It supports AM, FM, and PM analog modulation, as well as pulse modulation and pulse sequence generator functions. It features an internal 500 MHz bandwidth IQ baseband source, which, when combined with the SigIQPro PC software, can generate common digital modulated signals and communication protocol signals such as 5G NR, WLAN, LTE, BLUETOOTH, and IOT. After factory calibration, the RF output exhibits excellent 1 GHz broadband characteristics and good ACPR performance, making it suitable for various applications in research and development, production, and other scenarios.

## Features and Benefits

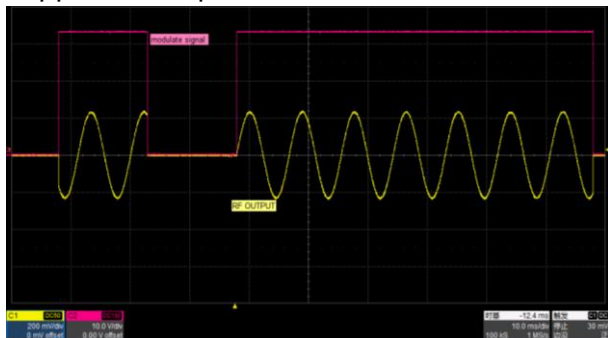
- Highest Frequency: 8 GHz
- Output Frequency Resolution: Up to 0.001 Hz
- Level Setting Range: -140 dBm to 30 dBm
- Phase Noise: < -132 dBc/Hz @ 1 GHz, offset 10 kHz (typical value)
- Amplitude Accuracy:  $\leq 0.7$  dB (typical value)
- Modulation Support: Supports AM/FM/PM analog modulation, internal and external modulation options.
- Pulse Modulation: Supports pulse modulation function, pulse train generator, and user-defined pulse sequences (optional).
- General Modulation: Capable of real-time output of QAM, FSK, ASK, PSK, multi-tone, and various other modulated signals. Supports playback of waveform files and sequences.
- Support waveform file playback: waveform sequence generation and playback.
- Communication Protocol Signals: Supports generation of common communication protocol signals such as 5G NR, WLAN, LTE, BLUETOOTH, IOT, etc., when used with SigIQPro software.
- MIMO and Other Applications: Supports MIMO and various other application scenarios.
- Real-time IQ Baseband AWGN: Supports real-time IQ baseband AWGN, allowing accurate control of signal and noise power, simplifying additional measurements and calculations required for receiver measurements.
- Power Meter Control Kit: Facilitates power measurement, control of power output, and line loss correction using a power meter.
- Vector Mode S-Parameter Compensation: Supports S-parameter compensation in vector mode to optimize the broadband characteristics of the test system.
- Web Remote Control: Supports web remote control for convenient remote operation by users.

## Model and Main index

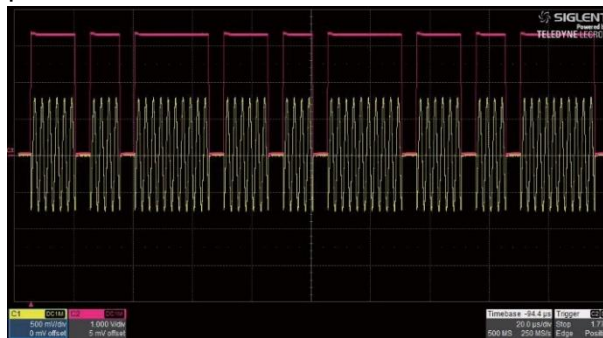
| Model                        | SSG6082A-V                                          |
|------------------------------|-----------------------------------------------------|
| Frequency Range              | CW MODE: 9 kHz to 8 GHz<br>IQ MODE: 10 MHz to 8 GHz |
| Frequency Setting Resolution | 0.001 Hz                                            |
| Amplitude Resolution         | 0.7 dB                                              |
| Phase noise                  | -132 dBc/Hz @ 1 GHz, offset 10 kHz (typical value)  |
| RF (I+Q) bandwidth           | 500 MHz<br>1000 MHz (option SSG6080AV-B1000)        |
| Display                      | 5-inch capacitive touchscreen, 800 (RGB) × 480      |

## Design Features

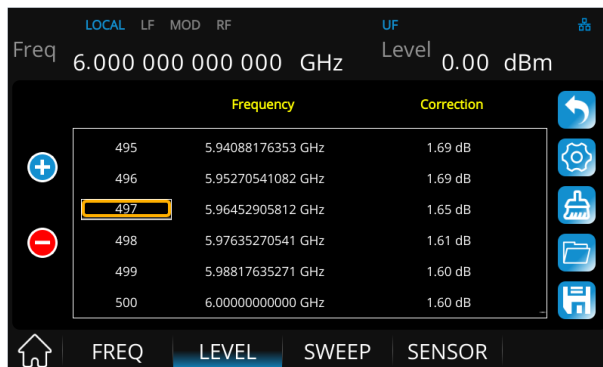
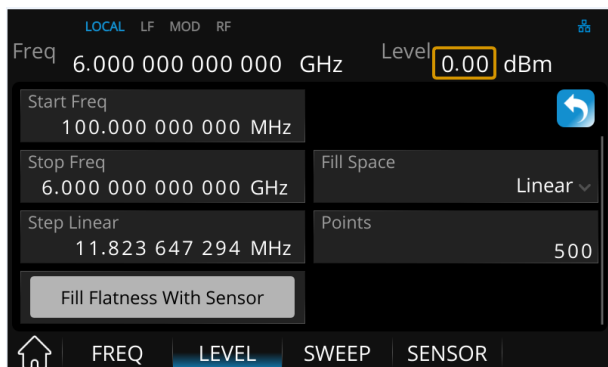
Supports dual-pulse modulation



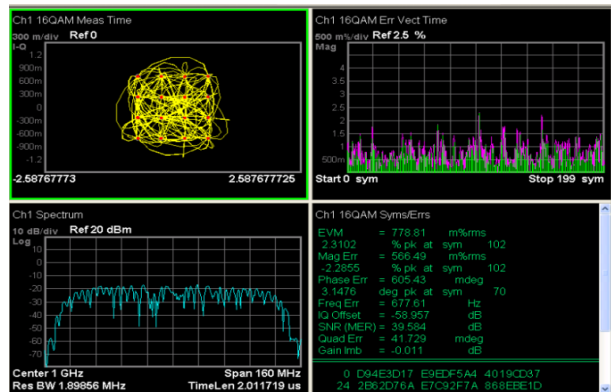
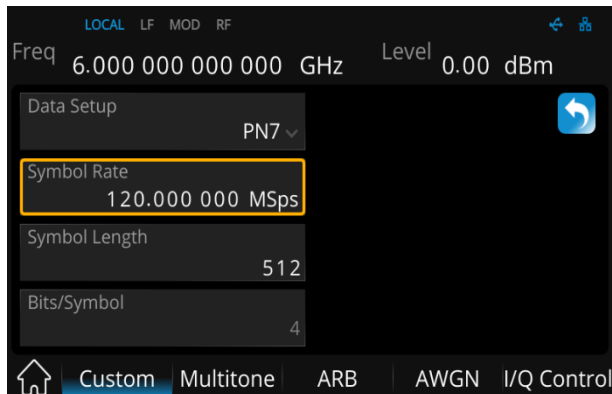
Supports pulse sequence output with up to 2047 pulses



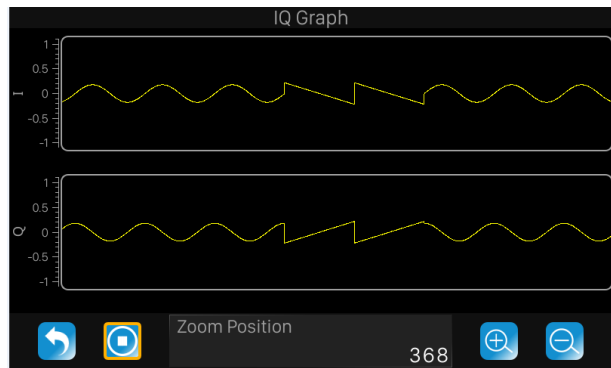
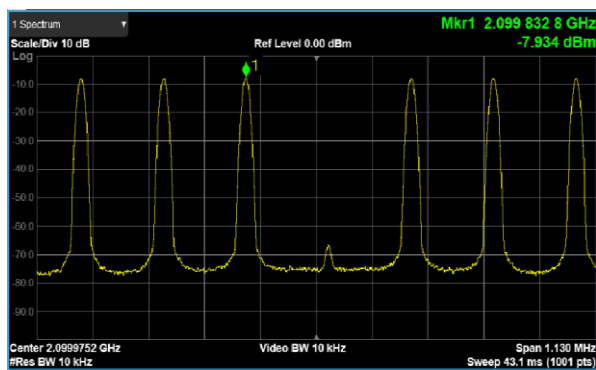
Supports power meter probe kit for flatness correction using a power meter, facilitating convenient line loss correction



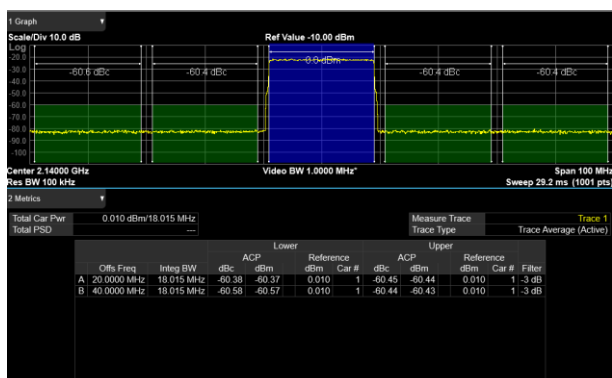
In CUSTOM mode, capable of outputting common IQ modulated signals such as QAM, PSK, ASK, FSK, etc., with a symbol rate up to 625 MHz



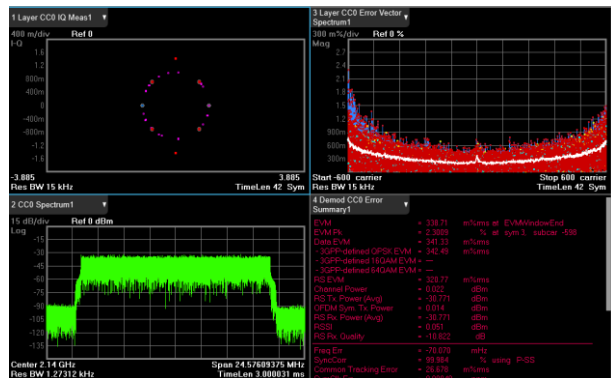
Capable of outputting up to 65536 multi-tone ARB mode to build and replay waveform signals.



In ARB mode, the sampling rate can reach up to 1.25 GHz, and it can be used with the SigIQPro PC software to generate common communication protocol signals such as 5G NR, LTE, WLAN, etc.

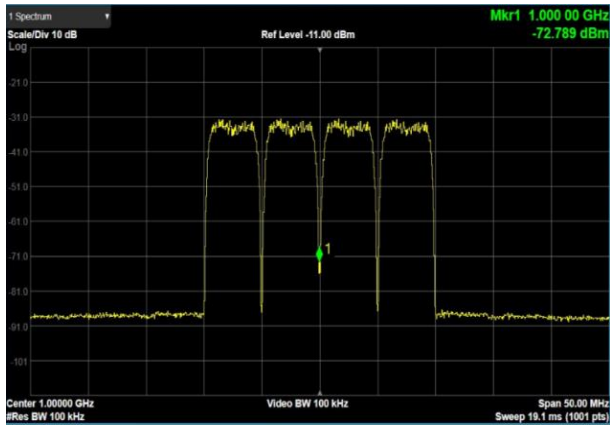


LTE FDD TM1.1 20M ACPR

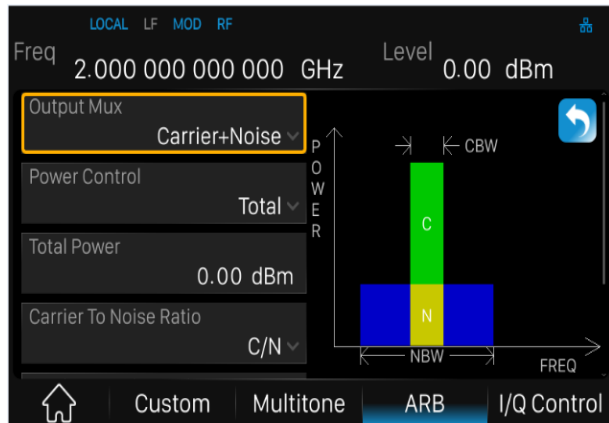


LTE FDD TM1.1 20M EVM

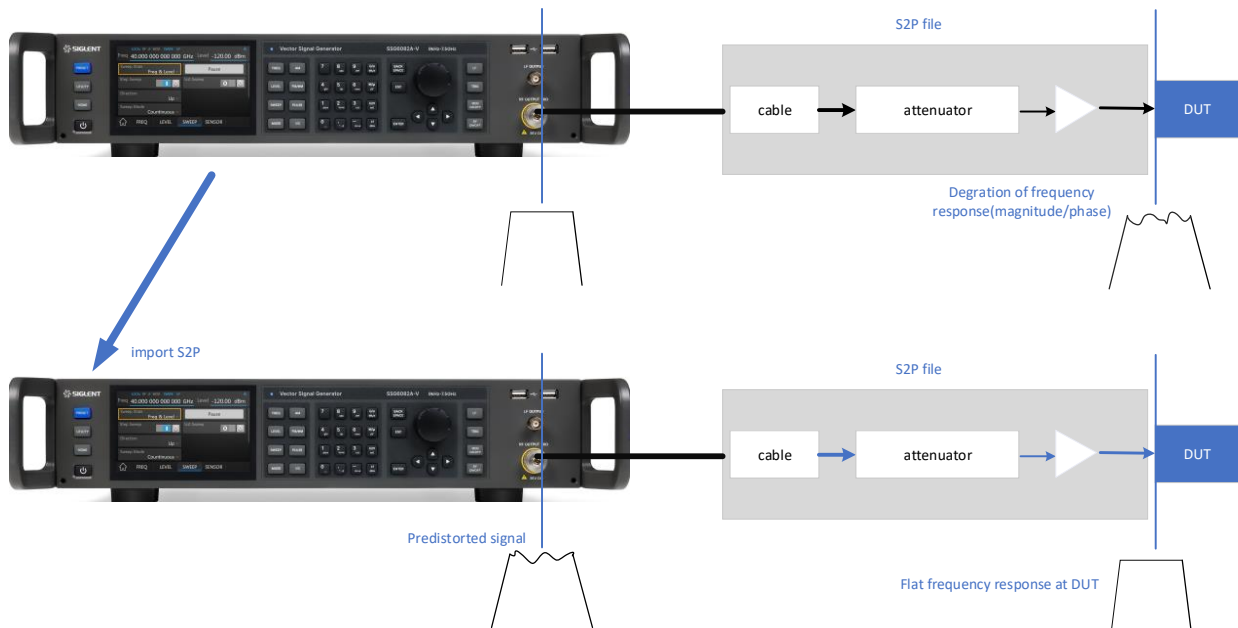
## Generating multi-carrier signals in ARB mode



Supports adding real-time AWGN (additive white Gaussian noise) to modulated signals in ARB mode, meeting various test scenarios for receiver measurements



User Vector Compensation: Supports user vector compensation using S-parameters for amplitude frequency response and phase compensation.



## Rich Interface

The power supply includes USB and Ethernet communication interfaces as standard, and a USB-GPIB converter module as optional. The embedded Web Server enables control and monitor of the power supply directly from a web browser, eliminating the need to install software drivers or applications.

The screenshot displays the Web Server Interface for the SSG6082A-V power supply. On the left is a sidebar with three buttons: Home (orange), Configure (blue), and About (blue). The main content area is divided into two sections.

The top section contains a table showing the status of three channels (CH1, CH2, CH3). The table has columns for State, Voltage(V), Current(A), Power(W), Channal Enabled, List, Vset(V), Iset(A), and Output.

|     | State | Voltage(V) | Current(A) | Power(W) | Channal Enabled                     | List                     | Vset(V) | Iset(A) | Output                      |
|-----|-------|------------|------------|----------|-------------------------------------|--------------------------|---------|---------|-----------------------------|
| CH1 | CV    | 29.991     | 0.000      | 0.005    | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 30      | 6       | ON <input type="checkbox"/> |
| CH2 | CC    | 0.000      | 0.000      | 0.000    | <input type="checkbox"/>            | <input type="checkbox"/> | 0       | 0       |                             |
| CH3 | CC    | 0.000      | 0.000      | 0.000    | <input type="checkbox"/>            | <input type="checkbox"/> | 0       | 0       |                             |

Below the table is a 'Submit' button.

The bottom section contains a sequence editor. It has a header with 'Add Stop', radio buttons for CH1 (selected), CH2, and CH3, and buttons for 'Download', 'Import', and 'Export'. Below this is a table with 10 steps, each with input fields for Vset(V), Iset(A), Delay Time(s), Running Time(s), and Slope(V/s), and a 'Delete' button.

| Step | Vset(V) | Iset(A) | Delay Time(s) | Running Time(s) | Slope(V/s) | Operation |
|------|---------|---------|---------------|-----------------|------------|-----------|
| 1    | 3       | 4       | 3             | 3               | 3          | Delete    |
| 2    | 3       | 3       | 2             | 3               | 3          | Delete    |
| 3    | 2       | 2       | 2             | 2               | 4          | Delete    |
| 4    | 3       | 3       | 3             | 1               | 1          | Delete    |
| 5    | 2       | 3       | 3             | 1               | 1          | Delete    |
| 6    | 3       | 2       | 1             | 3               | 1          | Delete    |
| 7    | 3       | 2       | 2             | 4               | 1          | Delete    |
| 8    | 2       | 2       | 3             | 3               | 1          | Delete    |
| 9    | 3       | 2       | 2             | 2               | 2          | Delete    |
| 10   | 1       | 3       | 3             | 2               | 2          | Delete    |

Web Server Interface

## Technical Specifications

The specifications in this manual apply under the conditions that the instrument is within the calibration cycle, has been stored in an indoor environment for at least two hours, and has been warmed up for 40 minutes. Unless otherwise specified, the data in this manual are technical indicators that include measurement uncertainty.

Specifications: All products are guaranteed to meet published specifications when operating temperatures from 5 to 45°C, unless otherwise noted.

Typical (typ.): Performance deemed typical implies that 80 percent of the measurement results will meet the typical published performance with a 95th percentile confidence level at room temperature (approximately 20 °C). Typical performance is not warranted and does not include measurement uncertainty.

Nominal (nom.): This value indicates the expected mean or average performance, or an attribute whose performance is by design, such as the 50 Ohm connector.

| Frequency characteristics          |                                                                                                                                                                                     |           |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| SSG6082A-V                         |                                                                                                                                                                                     |           |
| Frequency                          | CW MODE 9 kHz to 8 GHz                                                                                                                                                              |           |
|                                    | 10 MHz to 8 GHz                                                                                                                                                                     |           |
| Frequency resolution               | 0.001 Hz                                                                                                                                                                            |           |
| Setting time                       | < 2 ms (typical value) with ALC ON<br>< 5 ms (typical value) with ALC OFF (S&H), CW mode<br>< 10 ms (typical value) with ALC OFF (S&H), IQ mode, with RF broadband compensation off |           |
| Resolution of phase offset setting | 0.01                                                                                                                                                                                |           |
| Phase Offset Setting Range         | ±180°                                                                                                                                                                               |           |
| Internal Reference Source:         |                                                                                                                                                                                     |           |
| Standard                           |                                                                                                                                                                                     |           |
| Reference Frequency                | 10.000000 MHz                                                                                                                                                                       |           |
| Initial Accuracy                   | ±100 ppb                                                                                                                                                                            |           |
| Temperature Stability              | ±1 ppb, from 0°C to 50°C                                                                                                                                                            |           |
| Frequency Aging Rate               | 50 ppb/1 year                                                                                                                                                                       |           |
| Frequency sweep                    |                                                                                                                                                                                     |           |
| Sweep type                         | Frequency steps with equal or logarithmic intervals<br>Frequency steps with arbitrary list                                                                                          |           |
| Sweep range                        | Full frequency range                                                                                                                                                                |           |
| Sweep shape                        | Triangle wave, sawtooth wave                                                                                                                                                        |           |
| Sweep mode                         | Single, continuous                                                                                                                                                                  |           |
| Step spacing                       | Linear, logarithmic                                                                                                                                                                 |           |
| Number of points                   | Step sweep                                                                                                                                                                          | 2 - 65535 |
|                                    | List sweep                                                                                                                                                                          | 1 -65535  |

|                               |                                                                               |
|-------------------------------|-------------------------------------------------------------------------------|
| Dwell time range              | 10 ms - 100 s                                                                 |
| Dwell time setting resolution | 0.1 ms                                                                        |
| Trigger source                | Automatic, key trigger, external trigger, bus trigger (GPIB, USB, LAN)        |
| Trig Edge                     | Rising edge trigger, falling edge trigger (only when the trigger is external) |

## Level characteristics

### ALC modes

The SSG6082A-V includes three ALC operating modes:

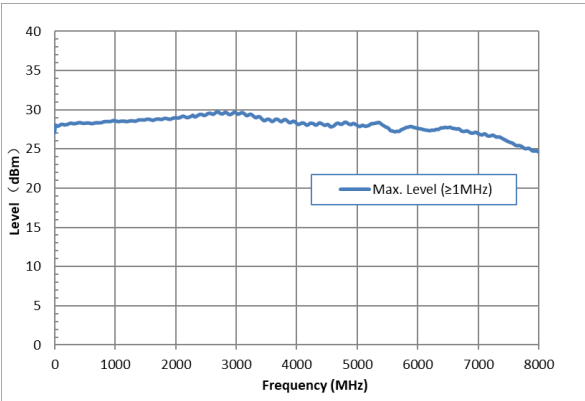
ALC STATE AUTO : The best suited ALC mode is set automatically.

ALC STATE ON : The level control loop is closed. This mode is suitable for CW, FM and PM.

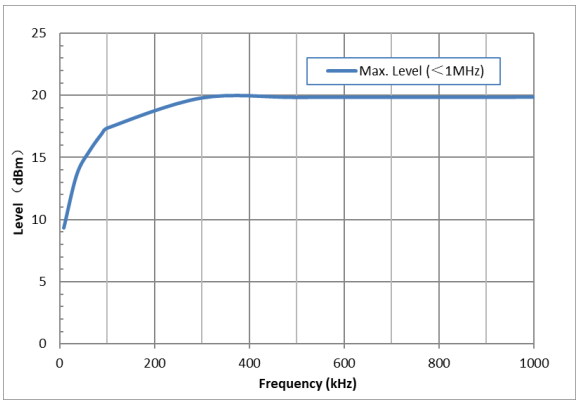
ALC STATE SAMPLE & HOLD (S&H) : When the frequency or amplitude changes, the level control loop is closed first, then the control voltage is sampled and kept constant. When the ALC operating mode is automatic, amplitude modulation or pulse modulation, IQ modulation mode will work in this state.

| Level characteristics                             |                                                                                              |                      |                     |                      |
|---------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------|---------------------|----------------------|
| Level setting (PEP)                               |                                                                                              |                      |                     |                      |
| Level setting range                               | 9 kHz ≤ f < 300 kHz                                                                          | -140 dBm to + 9 dBm  |                     |                      |
|                                                   | 300 kHz ≤ f < 1 MHz                                                                          | -140 dBm to + 25 dBm |                     |                      |
|                                                   | 1 MHz ≤ f ≤ 8 GHz                                                                            | -140 dBm to + 30 dBm |                     |                      |
| Resolution of setting                             | 0.01 dB                                                                                      |                      |                     |                      |
| Level of performance range                        |                                                                                              |                      |                     |                      |
| 9 kHz ≤ f < 300 kHz                               | -110 dBm to + 8 dBm                                                                          |                      |                     |                      |
| 300 kHz ≤ f < 1 MHz                               | -110 dBm to + 20 dBm                                                                         |                      |                     |                      |
| 1 MHz ≤ f ≤ 4 GHz                                 | -130 dBm to + 24 dBm                                                                         |                      |                     |                      |
| 4 GHz < f ≤ 8 GHz                                 | -130 dBm to + 20 dBm                                                                         |                      |                     |                      |
| Level error (ALC on, temperature is 20 °C ~30 °C) |                                                                                              |                      |                     |                      |
|                                                   | Max performance power to -40 dBm                                                             | -40 dBm to -90 dBm   | -90 dBm to -110 dBm | -110 dBm to -130 dBm |
| 9 kHz ≤ f < 300 kHz                               | ≤ 0.7 dB                                                                                     | ≤0.7 dB              | ≤1.1 dB             |                      |
| 300 kHz ≤ f < 1 MHz                               | ≤ 0.7 dB                                                                                     | ≤ 0.7 dB             | ≤1.1 dB             | ≤ 1.6 dB             |
|                                                   | ≤ 0.5 dB (typ.)                                                                              | ≤ 0.5 dB (typ.)      | ≤0.7 dB (typ.)      |                      |
| 1 MHz ≤ f ≤ 8 GHz                                 | ≤ 0.7 dB                                                                                     | ≤ 0.7 dB             | ≤ 1.1 dB            | ≤ 2 dB               |
|                                                   | ≤ 0.5 dB (typ.)                                                                              | ≤ 0.5 dB (typ.)      | ≤ 0.7 dB (typ.)     |                      |
| Additional level error                            | ALC State Off (S&H)                                                                          |                      | < 0.3 dB            |                      |
| VSWR                                              |                                                                                              |                      |                     |                      |
| Output impedance VSWR in 50 Ω system              |                                                                                              |                      |                     |                      |
| VSWR                                              | 1 MHz ≤ f ≤ 8 GHz                                                                            |                      |                     | ≤ 2 (nom.)           |
| Level setting                                     |                                                                                              |                      |                     |                      |
| Level setting time                                | CW mode, IQ mode, fixed frequency, temperature range 20°C - 30°C, broadband compensation off |                      |                     | < 5 ms               |
|                                                   | CW mode, IQ mode, fixed frequency, temperature range 20°C - 30°C, broadband compensation on  |                      |                     | < 10 ms              |
| Reverse power                                     |                                                                                              |                      |                     |                      |
| Maximum permissible DC                            | 50 V                                                                                         |                      |                     |                      |

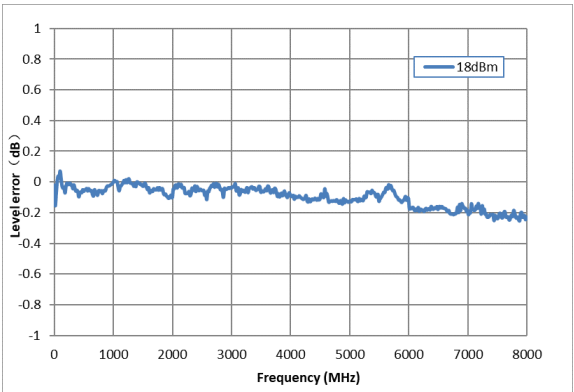
|                                |                                                             |           |
|--------------------------------|-------------------------------------------------------------|-----------|
| voltage                        |                                                             |           |
| Maximum reverse input power    | $1 \text{ MHz} \leq f \leq 8 \text{ GHz}$                   | + 30 dBm  |
| Level step sweep               |                                                             |           |
| Maximum permissible DC voltage | 50 V                                                        |           |
| Maximum reverse input power    | $1 \text{ MHz} \leq f \leq 8 \text{ GHz}$                   | + 30 dBm  |
| Level step sweep               |                                                             |           |
| Sweep type                     | Amplitude step (linear or logarithmic step), arbitrary list |           |
|                                | Full specified level range                                  |           |
| Sweep shape                    | Triangle, saw-tooth                                         |           |
| Sweep range                    | The device output range                                     |           |
| Trigger mode                   | Free run, single                                            |           |
| Step spacing                   | Linear                                                      |           |
| Sweep points                   | Step sweep                                                  | 2 - 65535 |
|                                | List sweep                                                  | 1 - 65535 |
| Dwell time setting range       | 10 ms - 100 s                                               |           |
| Dwell time setting resolution  | 0.1 ms                                                      |           |
| Trigger source                 | Automatic, key trigger, external trigger, bus trigger       |           |
| Trigger Edge                   | Positive, negative                                          |           |



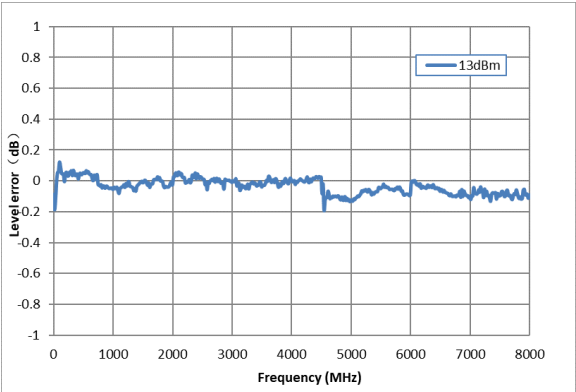
CW Signal Maximum Output Power vs Frequency  
( $f \geq 1$  MHz)



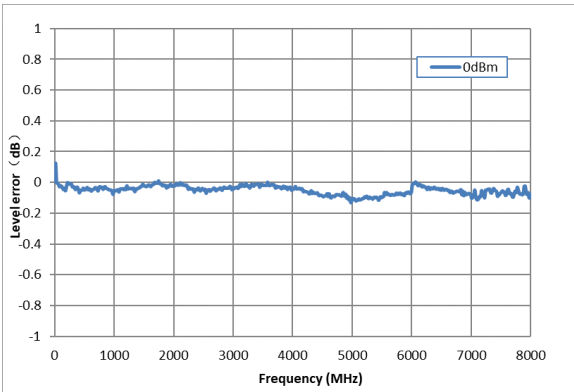
CW Signal Maximum Output Power vs Frequency  
( $f < 1$  MHz)



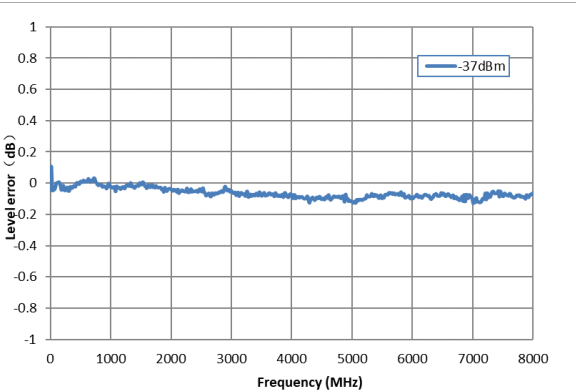
Measured level error versus frequency,  
Level = +18 dBm



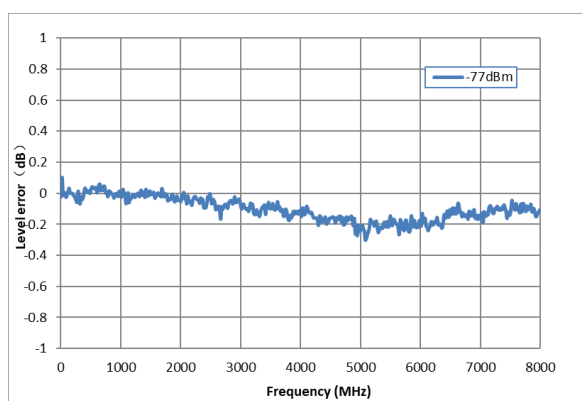
Measured level error versus frequency,  
Level = +13 dBm



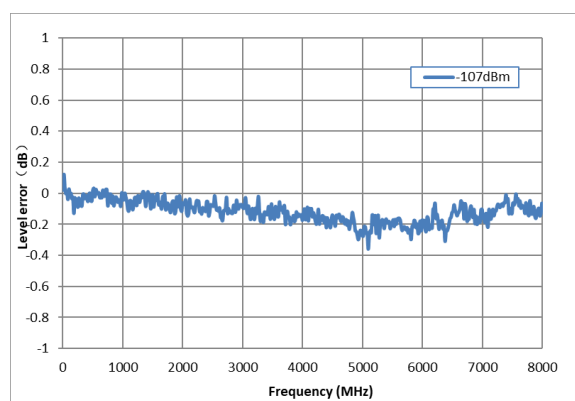
Measured level error versus frequency,  
Level = 0 dBm



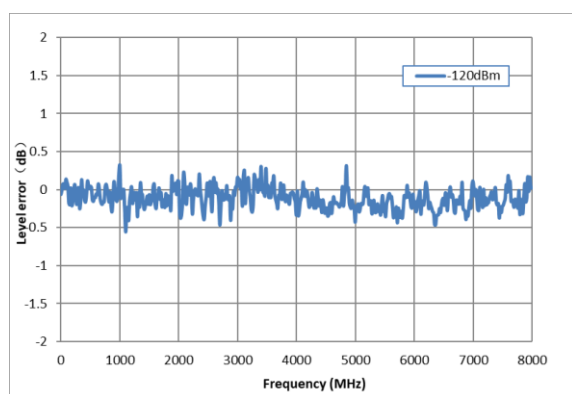
Measured level error versus frequency,  
Level = -37 dBm



Measured level error versus frequency,  
Level = -77 dBm



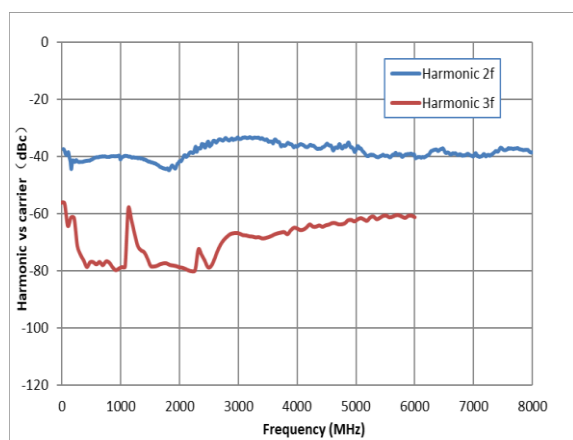
Measured level error versus frequency,  
Level = -107 dBm



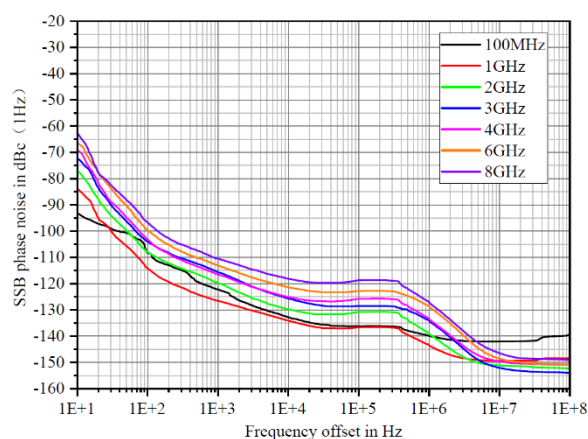
Measured level error versus frequency,  
Level = -120 dBm

| Spectral purity |                                                                                                                                                                                                                                                                                                                                                                                            |                                |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| Harmonics       | CW mod, $1 \text{ MHz} < f \leq 8 \text{ GHz}$ , Level $< +13 \text{ dBm}$                                                                                                                                                                                                                                                                                                                 | $< -30 \text{ dBc}$            |
| Sub harmonics   | CW mod, $1 \text{ MHz} < f \leq 8 \text{ GHz}$ , Level $\leq +13 \text{ dBm}$                                                                                                                                                                                                                                                                                                              | $< -80 \text{ dBc}$            |
| Non-harmonics   | CW mod, offset $> 10 \text{ kHz}$ , Level $\leq +13 \text{ dBm}$ ,<br>$1 \text{ MHz} < f \leq 8 \text{ GHz}$                                                                                                                                                                                                                                                                               | $< -65 \text{ dBc}$            |
| Wideband noise  | Carrier offset = 40 MHz, measurement bandwidth: 1 Hz<br>In CW mode, output = 8 dBm:<br>For frequencies $10 \text{ MHz} < f < 250 \text{ MHz}$ : $< -135 \text{ dBc}$<br>For frequencies $250 \text{ MHz} < f < 1 \text{ GHz}$ : $< -145 \text{ dBc}$ (Typ $< -150 \text{ dBc}$ )<br>For frequencies $1 \text{ GHz} < f < 8 \text{ GHz}$ : $< -148 \text{ dBc}$ (Typ $< -152 \text{ dBc}$ ) |                                |
| SSB Phase noise | CW mod, offset = 10 kHz, 1 Hz measurement bandwidth                                                                                                                                                                                                                                                                                                                                        |                                |
|                 | $f = 100 \text{ MHz}$                                                                                                                                                                                                                                                                                                                                                                      | $< -132 \text{ dBc/Hz (typ.)}$ |
|                 | $f = 1 \text{ GHz}$                                                                                                                                                                                                                                                                                                                                                                        | $< -132 \text{ dBc/Hz (typ.)}$ |
|                 | $f = 2 \text{ GHz}$                                                                                                                                                                                                                                                                                                                                                                        | $< -128 \text{ dBc/Hz (typ.)}$ |
|                 | $f = 3 \text{ GHz}$                                                                                                                                                                                                                                                                                                                                                                        | $< -126 \text{ dBc/Hz (typ.)}$ |

|                               |                                                                                                |                      |
|-------------------------------|------------------------------------------------------------------------------------------------|----------------------|
|                               | f = 4 GHz                                                                                      | < -123 dBc/Hz (typ.) |
|                               | f = 5 GHz                                                                                      | < -120 dBc/Hz (typ.) |
|                               | f = 6 GHz                                                                                      | < -119 dBc/Hz (typ.) |
|                               | f = 7 GHz                                                                                      | < -118 dBc/Hz (typ.) |
|                               | f = 8 GHz                                                                                      | < -117 dBc/Hz (typ.) |
| Residual Frequency Modulation | In CW mode, carrier frequency 1 GHz, Level = 10 dBm, 300 Hz to 3 kHz: 100 MHz (typical value)  |                      |
| Residual Amplitude Modulation | In CW mode, carrier frequency 1 GHz, Level = 10 dBm, 300 Hz to 30 kHz: < 0.02% (typical value) |                      |



Measured harmonics versus carrier frequency at  
level  $\leq +13$  dBm



Measured phase noise

| Internal modulation generator (LF)  |                                                 |                                     |
|-------------------------------------|-------------------------------------------------|-------------------------------------|
| Waveforms                           | Sine wave, square wave, saw-tooth, triangle, DC |                                     |
| Frequency range                     | Sine wave                                       | 0.1 Hz - 1 MHz <sup>[2]</sup>       |
|                                     | Square wave, triangle, saw-tooth                | 0.1 Hz - 20 kHz                     |
| Resolution of frequency setting     | 0.01 Hz                                         |                                     |
| Frequency error                     | Similar with RF source                          |                                     |
| Frequency response                  | Sine wave < 0.3 dB                              |                                     |
| Level Offset                        | Setting range                                   | min $(2.5V - \frac{1}{2}LEVEL, 2V)$ |
|                                     | Offset resolution                               | 0.01 V                              |
| Output voltage range <sup>[3]</sup> | Vp at connector                                 | 1 mVpp - 3 Vpp                      |
|                                     | Resolution of amplitude setting                 | 1 mVpp                              |
| DC Voltage Error                    | 1% of set value $\pm$ 3 mV                      |                                     |
| Output impedance                    | 50 $\Omega$ (nom.)                              |                                     |

[2] When use modulation and LF simultaneously, the LF frequency range and wave type will be restricted.

[3] Measured value with a load of 50  $\Omega$ .

| LF frequency sweep            |                                                       |
|-------------------------------|-------------------------------------------------------|
| Operating mode                | Digital sweep in discrete steps                       |
| Step spacing                  | Linear, logarithmic                                   |
| Sweep shape                   | Sawtooth wave, triangle wave                          |
| Sweep direction               | Upward, downward                                      |
| Sweep range                   | 0.01 Hz - 1 MHz                                       |
| Trigger mode                  | Automatic, key trigger, external trigger, bus trigger |
| Trigger edge                  | Positive, negative                                    |
| Dwell time setting range      | 1 ms - 500 s                                          |
| Dwell time setting resolution | 0.1 ms                                                |

| Analog modulation                                                                                                                                                                                                                                         |                                         |                      |                    |                  |               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|----------------------|--------------------|------------------|---------------|
|                                                                                                                                                                                                                                                           | Simultaneous modulation                 |                      |                    |                  |               |
|                                                                                                                                                                                                                                                           | Amplitude modulation                    | Frequency modulation | Phase modulation   | Pulse modulation | IQ modulation |
| Amplitude modulation                                                                                                                                                                                                                                      |                                         | ●                    | ●                  | (●)              | (●)           |
| Frequency modulation                                                                                                                                                                                                                                      | ●                                       |                      | ×                  | ●                | ●             |
| Phase modulation                                                                                                                                                                                                                                          | ●                                       | ×                    |                    | ●                | ●             |
| Pulse modulation                                                                                                                                                                                                                                          | ●                                       | ●                    | ●                  |                  | (●)           |
| IQ modulation                                                                                                                                                                                                                                             | (●)                                     | ●                    | ●                  | (●)              |               |
| ●=compatible, ×=incompatible, (●) =compatible limitations; (●) indicates limited compatibility. Enabling pulse modulation reduces the performance of amplitude modulation. For IQ modulation, if RF blanking is enabled, pulse modulation cannot be used. |                                         |                      |                    |                  |               |
| Amplitude modulation                                                                                                                                                                                                                                      |                                         |                      |                    |                  |               |
| Modulation source                                                                                                                                                                                                                                         | Internal, external, internal + external |                      |                    |                  |               |
| AM depth setting range                                                                                                                                                                                                                                    | 0% ~ 100%                               |                      |                    |                  |               |
| Resolution of setting                                                                                                                                                                                                                                     | 0.1%                                    |                      |                    |                  |               |
| AM depth error                                                                                                                                                                                                                                            | f-mod = 1 kHz, m < 80%, Level = 0 dBm   |                      | < 4% of setting+1% |                  |               |
| AM distortion                                                                                                                                                                                                                                             | f-mod = 1 m < 30%, level=0 dBm          |                      | < 3% (typ.)        |                  |               |
| Modulation frequency                                                                                                                                                                                                                                      | m < 80%, 10 Hz-100 kHz                  |                      | < 3 dB (nom.)      |                  |               |
| Frequency Modulation and Phase Modulation Frequency Bands                                                                                                                                                                                                 |                                         |                      |                    |                  |               |
| Band                                                                                                                                                                                                                                                      |                                         |                      | N                  |                  |               |
| 1                                                                                                                                                                                                                                                         | 9 KHz < f ≤ 1 MHz                       |                      | 1                  |                  |               |
| 2                                                                                                                                                                                                                                                         | 1 MHz < f ≤ 250 MHz                     |                      | 1/8                |                  |               |

|                                  |                                                        |                               |
|----------------------------------|--------------------------------------------------------|-------------------------------|
| 3                                | 250 MHz < f ≤ 400 MHz                                  | 1/32                          |
| 4                                | 400 MHz < f ≤ 800 MHz                                  | 1/8                           |
| 5                                | 800 MHz < f ≤ 1600 MHz                                 | 1/4                           |
| 6                                | 1600 MHz < f ≤ 3200 MHz                                | 1/2                           |
| 7                                | 3200 MHz < f ≤ 6400 MHz                                | 1                             |
| 8                                | 6400 MHz < f ≤ 8000 MHz                                | 1                             |
| Modulation source                | Internal, external, internal + external                |                               |
| Maximum deviation                | N*4 MHz (typ.)                                         |                               |
| Resolution                       | 0.1% of set deviation or 1 Hz, whichever is larger     |                               |
| FM deviation error               | Fmod = 1 kHz, internal                                 | < (2% of setting + 20 Hz)     |
| FM distortion                    | Fmod = 1kHz, deviation ≤ N*4 MHz                       | < 0.5% (nom.)                 |
| Modulation frequency response    | 10 Hz - 100 kHz                                        | < 3 dB (nom.)                 |
| Phase modulation                 |                                                        |                               |
| Modulation source                | Internal, external, internal + external                |                               |
| Maximum deviation                | N*5 rad                                                |                               |
| Resolution                       | 0.1% of set deviation or 0.01 rad, whichever is larger |                               |
| ΦM deviation error               | Fmod = 1 kHz, internal, Deviation ≤ N*5 rad            | < (2 % of setting + 0.05 rad) |
| ΦM distortion                    | Fmod = 1 kHz, Deviation ≤ N*5 rad                      | < 0.5 % (nom.)                |
| Modulation frequency response    | 10 Hz - 100 kHz                                        | < 3 dB (nom.)                 |
| Pulse modulation                 |                                                        |                               |
| Modulation source                | Internal, external                                     |                               |
| On/off ration                    | 1 MHz < f < 8 GHz                                      | > 80 dBc                      |
| Rise / fall time (10 % / 90 %)   | 10 % to 90 % of RF amplitude                           | < 15 ns                       |
| Pulse repetition time            | Setting range                                          | 40 ns - 300 s                 |
| Pulse Amplitude Accuracy/ALC Off | ±0.5 dB typ                                            |                               |
| Bandwidth Compression            | 10 ns                                                  |                               |
| Video Feedthrough                | < 20 mV                                                |                               |
| Video Delay                      | 45 ns                                                  |                               |
| RF Delay                         | 40 ns                                                  |                               |
| Pulse Overshoot                  | < 8%                                                   |                               |
| Pulse generator                  |                                                        |                               |

|                                               |                                                                                       |               |
|-----------------------------------------------|---------------------------------------------------------------------------------------|---------------|
| Pulse modes                                   | Single pulse, double pulse                                                            |               |
| Pulse source                                  | Internal, external                                                                    |               |
| Pulse polarity                                | Positive, negative                                                                    |               |
| Pulse period                                  | Setting range                                                                         | 40 ns - 300 s |
|                                               | Resolution of setting                                                                 | 10 ns         |
| Pulse width                                   | Retting range                                                                         | 40 ns - 300 s |
|                                               | Resolution of setting                                                                 | 10 ns         |
| Double pulse Delay                            | Setting range                                                                         | 40 ns - 300 s |
|                                               | Resolution of setting                                                                 | 10 ns         |
| 2# Width                                      | Setting range                                                                         | 40 ns - 300s  |
|                                               | Resolution of setting                                                                 | 10 ns         |
| Trigger modes                                 | Automatic, external trigger, external gate, key trigger, bus trigger (GPIB, USB, LAN) |               |
| Trigger Edge                                  | Normal, inverse (used in external gate trigger mode)                                  |               |
| Trigger Slope                                 | Positive, negative (used in external trigger mode)                                    |               |
| External trigger delay                        | 140 ns - 300 s                                                                        |               |
| External trigger delay resolution of setting  | 10 ns                                                                                 |               |
| Pulse train generator (SSG6080AV-PT)          |                                                                                       |               |
| Number of pulses                              |                                                                                       | 1 - 2047      |
| Number of repetitionsper pulse                |                                                                                       | 1 - 65535     |
| Pulse on time and off time setting rang       |                                                                                       | 40 ns - 300 s |
| Pulse on time and off time setting resolution |                                                                                       | 10 ns         |

$T_d$  video delay (variable)

$T_w$  video pulse width (variable)

$T_p$  pulse period (variable)

$T_m$  RF delay

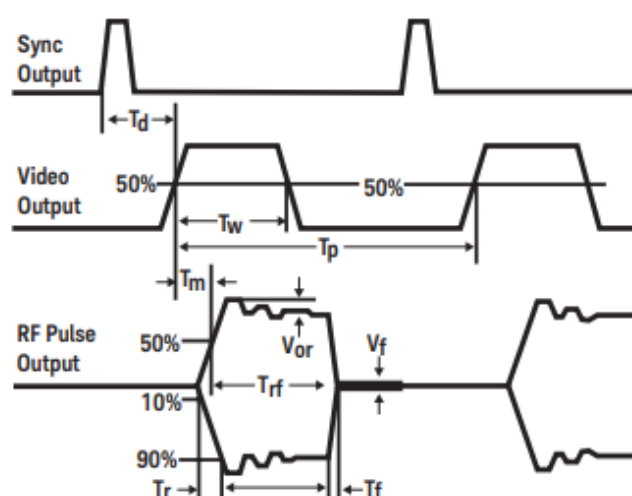
$T_{rf}$  RF pulse width

$T_f$  RF pulse fall time

$T_r$  RF pulse rise time

$V_{or}$  pulse overshoot

$V_f$  video feedthrough





## Vector Modulation Specification

| IQ modulation external inputs                    |                                                               |                                  |
|--------------------------------------------------|---------------------------------------------------------------|----------------------------------|
| Modulation Source                                |                                                               |                                  |
| RF Modulation Bandwidth                          | External Baseband Source                                      |                                  |
|                                                  | 10 MHz < f < 2 GHz                                            | ±25% of carrier frequency        |
|                                                  | 2 GHz ≤ f ≤ 7.5 GHz                                           | 1000 MHz                         |
|                                                  | Internal Baseband Source                                      |                                  |
|                                                  | 10 MHz < f < 2 GHz                                            | ±25% of carrier frequency        |
|                                                  | 2 GHz ≤ f ≤ 7.5 GHz                                           | 1000 MHz                         |
| Specification RF Modulation Bandwidth Flatness   |                                                               |                                  |
| External Baseband Source                         | < 9 dB                                                        |                                  |
| Internal Baseband Source                         | < 1.3 dB (0.8 nominal)                                        |                                  |
| Carrier Leakage                                  | < -45 dBc                                                     |                                  |
| Image Rejection                                  | < -40 dBc                                                     |                                  |
| Internal I/Q baseband generator adjustment       |                                                               |                                  |
| I/Q offset                                       | ±100 %                                                        |                                  |
| I/Q gain                                         | ±4 dB                                                         |                                  |
| Quadrature angle adjustment                      | ±20°                                                          |                                  |
| Analog Baseband Input                            |                                                               |                                  |
| Input Mode                                       | Single-ended                                                  |                                  |
| Full-Scale Input Voltage                         | $\sqrt{V_I^2 + V_Q^2} = 0.5V_{rms}$                           |                                  |
| I/Q output                                       |                                                               |                                  |
| Impedance                                        | 50 Ω nominal per output                                       |                                  |
|                                                  | 100 Ω difference output                                       |                                  |
| Maximum voltage per output with sine wave Output | f ≤ 250MHz                                                    | Single-ended, 1 V peak-to-peak   |
|                                                  |                                                               | Differential, 2 V peak-to-peak   |
|                                                  | 250MHz < f ≤ 500MHz                                           | Single-ended, 0.5 V peak-to-peak |
|                                                  |                                                               | Differential, 1 V peak-to-peak   |
| Amplitude flatness(50 Ω load)                    | <1.5 dB, with calibration on                                  |                                  |
| Differential mode I or Q offset                  | ±0.5 V into 50 Ω load, accuracy 1% + 0.1% bias voltage + 1 mV |                                  |
| Common mode I/Q offset                           | ±2.5 V into 50 Ω load, accuracy 1% ± 4 mV                     |                                  |
| Broadband Noise                                  | 10 MHz Sine Wave Output, offset 1 MHz: < -150 dBc/Hz          |                                  |
| Internal Baseband generator                      |                                                               |                                  |
| Sample rate                                      | 400Hz to 625 MHz                                              |                                  |

|                                      |                                                                       |                                                                      |                                                    |  |
|--------------------------------------|-----------------------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------|--|
|                                      | 400 Hz to 1250 MHz (option SSG6080AV-B1000)                           |                                                                      |                                                    |  |
| RF bandwidth (I+Q)                   | 500 MHz nominal<br>1000 MHz (option SSG6080AV-B1000)                  |                                                                      |                                                    |  |
| Frequency offset range               | 250 MHz                                                               |                                                                      |                                                    |  |
|                                      | 500 MHz (option SSG6080AV-B1000)                                      |                                                                      |                                                    |  |
| Arbitrary waveform memory            | Max playback capacity                                                 | 2048 MSa                                                             |                                                    |  |
|                                      | Max storage capacity include markers                                  | 64 GBytes                                                            |                                                    |  |
| Waveform segments                    | Segment length                                                        | 200 Sa - 2 GSa                                                       |                                                    |  |
| Waveform sequences                   | Max. number of segments / sequences                                   | 1024                                                                 |                                                    |  |
|                                      | Max. number of repetitions                                            | 65535                                                                |                                                    |  |
| Triggers                             | Types                                                                 | Continuous, single, gated, segment advance                           |                                                    |  |
|                                      | Source                                                                | Trigger key, external, bus (GPIO, LAN, USB)                          |                                                    |  |
|                                      | Modes                                                                 | Continuous                                                           | Free run, trigger and run, reset and run           |  |
|                                      |                                                                       | Single                                                               | NO retrigger, buffered trigger, restart on trigger |  |
|                                      |                                                                       | Gated                                                                | Negative polarity or positive polarity             |  |
|                                      |                                                                       | Segment advanced                                                     | Single or continuous                               |  |
| Trigger latency                      | 534 ns + 8 sample clock period, nominal                               |                                                                      |                                                    |  |
|                                      | 534 ns + 0.8 us + 8 sample clock period, nominal                      |                                                                      |                                                    |  |
| Trigger Delay Setting                | 3.2 ns ~ 42 s                                                         |                                                                      |                                                    |  |
| Trigger accuracy                     | 3.2 ns                                                                |                                                                      |                                                    |  |
| Markers                              | Marker polarity                                                       | Negative, positive                                                   |                                                    |  |
|                                      | Number of Marker                                                      | 4                                                                    |                                                    |  |
|                                      | RF blanking/ Burst On/ Off ratio                                      | > 70 dBc (typ.)                                                      |                                                    |  |
| AWGN (Additive White Gaussian Noise) |                                                                       |                                                                      |                                                    |  |
| Type                                 | Real time                                                             |                                                                      |                                                    |  |
| Modes of operation                   | Standalone, or digitally added to signal played by arbitrary waveform |                                                                      |                                                    |  |
| Bandwidth                            | ± 250 MHz                                                             |                                                                      |                                                    |  |
|                                      | ±500 MHz (option SSG6080AV-B1000)                                     |                                                                      |                                                    |  |
| Carrier to noise ratio               | ±100 dB                                                               |                                                                      |                                                    |  |
| Carrier-to-noise formats             | C/N, Eb/N0                                                            |                                                                      |                                                    |  |
| Custom digital modulation mode       |                                                                       |                                                                      |                                                    |  |
| Symbol Rate                          | 200 Hz - 312.5 MHz<br>200 Hz - 625 MHz (option SSG6080AV-B1000)       |                                                                      |                                                    |  |
| Modulation type                      | PSK                                                                   | BPSK, QPSK, 8PSK, DBPSK, DQPSK, D8PSK, OQPSK, PI/4-DQPSK, PI/8-D8PSK |                                                    |  |

|      |      |                                                      |
|------|------|------------------------------------------------------|
|      | QAM  | 16QAM, 32QAM, 64QAM, 128QAM, 256QAM, 512QAM, 1024QAM |
|      | MFSK | 2FSK, 4FSK, 8FSK, 16FSK, MSK                         |
|      | ASK  | 2ASK, 4ASK, 8ASK, 16ASK                              |
| User |      |                                                      |

### Multi-tone

|                   |                                                                   |
|-------------------|-------------------------------------------------------------------|
| Number of tones   | 1 to 65536, with selectable on/off state per tone                 |
| Frequency spacing | ±10 Hz to ±250 MHz<br>±10 Hz to ±500 MHz (option SSG6080AV-B1000) |
| Phase (per tone)  | Fixe or random                                                    |

### 3GPP WCDMA distortion performance

Power level ≤ 4 dBm

| Offset            | Configuration                       | Frequency        | Level ≤ 4 dBm |
|-------------------|-------------------------------------|------------------|---------------|
| Adjacent (5 MHz)  | 1DPCH, 1 carrier                    | 1800 to 2200 MHz | 72dBc (typ)   |
| Adjacent (10 MHz) |                                     |                  | 74dBc (typ)   |
| Adjacent (5 MHz)  | Test mode 1 with 64 DPCH, 1 carrier | 1800 to 2200 MHz | 69 dBc (typ)  |
| Adjacent (10 MHz) |                                     |                  | 69 dBc (typ)  |

### 3GPP LTE-FDD distortion performance

| Offset            | Configuration | Frequency        | Level ≤ 4 dBm |
|-------------------|---------------|------------------|---------------|
| Adjacent (10 MHz) | 10 MHz        | 1800 to 2200 MHz | 65 dBc (typ)  |
| Adjacent (20 MHz) | E-TM1.1 QPSK  |                  | 65 dBc (typ)  |

### GSM/EDGE output RF spectrum

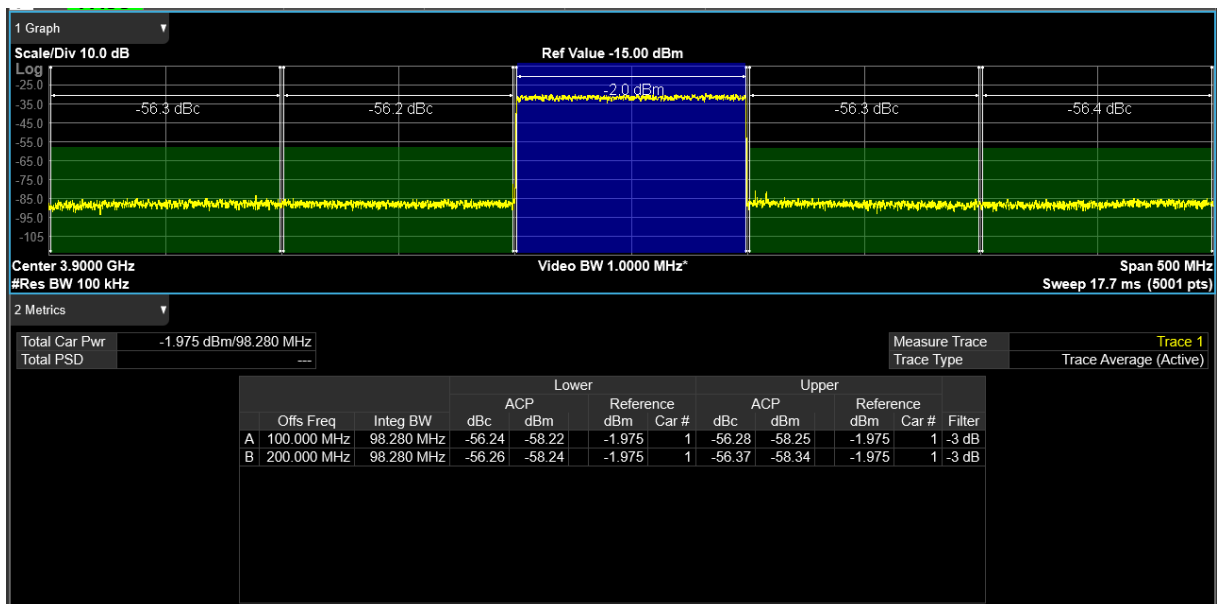
|          |                         |                                    | GSM                 | EDGE          |
|----------|-------------------------|------------------------------------|---------------------|---------------|
| Offset   | Configuration           | Frequency                          | Power level ≤ 4 dBm |               |
| 200 kHz  | 1 normal timeslot burst | 800 to 900 MHz<br>1800 to 1900 MHz | -36 dBc (typ)       | -38 dBc (typ) |
| 400 kHz  |                         |                                    | -41 dBc (typ)       | -42 dBc (typ) |
| 600 kHz  |                         |                                    | -71 dBc (typ)       | -72 dBc (typ) |
| 800 kHz  |                         |                                    | -82 dBc (typ)       | -82 dBc (typ) |
| 1200 kHz |                         |                                    | -84 dBc (typ)       | -84 dBc (typ) |

### EVM performance

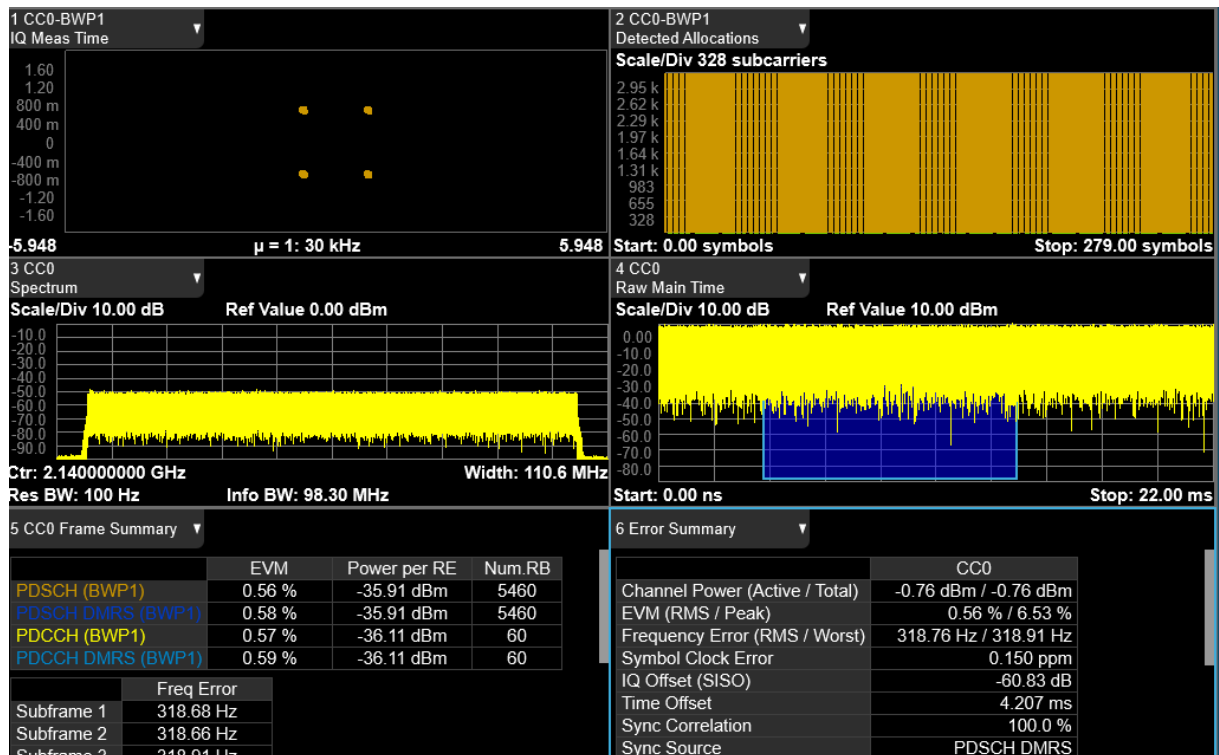
| Format          | W-CDMA    | LTE FDD   | GSM          | EDGE               | CDM2000     |
|-----------------|-----------|-----------|--------------|--------------------|-------------|
| Modulation type | QPSK      | 64 QAM    | GMSK (burst) | 3 pi/ 8PSK (burst) | QPSK        |
| Modulation rate | 3.84 Mcps | 10 MHz BW | 270.833 Ksps | 70.833 Ksps        | 1.2288 Mcps |

|                       |                             |                              |                                    |                                    |                                    |
|-----------------------|-----------------------------|------------------------------|------------------------------------|------------------------------------|------------------------------------|
| Channel configuration | 1 DPCH                      | E-TM 3.1                     | 1 timeslot                         | 1 timeslot                         | Pilot channel                      |
| Frequency             | 1800 to 2200 MHz            | 1800 to 2200 MHz             | 800 to 900 MHz<br>1800 to 1900 MHz | 800 to 900 MHz<br>1800 to 1900 MHz | 800 to 900 MHz<br>1800 to 1900 MHz |
| EVM power level       | < 4 dBm                     |                              |                                    |                                    |                                    |
| EVM                   | < 0.4 %<br>(measured value) | < 0.45 %<br>(measured value) | < 0.4 %<br>(measured value)        | < 0.8 %<br>(measured value)        | < 1.1 %<br>(measured value)        |

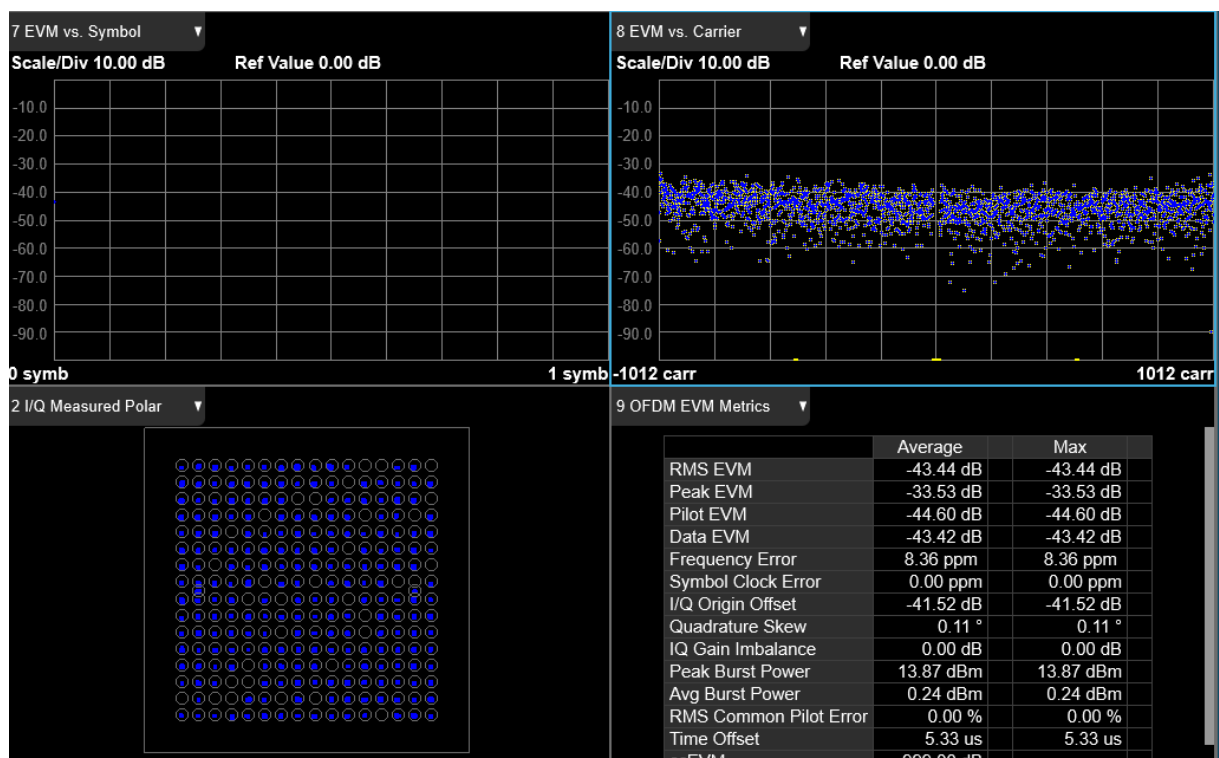
| EVM performance |                                             |              |
|-----------------|---------------------------------------------|--------------|
| Format          | QPSK                                        | 16 QAM       |
| Modulation type | QPSK                                        | 16 QAM       |
| Modulation rate | 5 Msps (root-Nyquist filter $\alpha=0.25$ ) |              |
| Frequency       | $\leq 8$ GHz                                | $\leq 6$ GHz |
| power level     | $\leq 4$ dBm                                |              |
| EVM             | < 1 %                                       | < 1 %        |



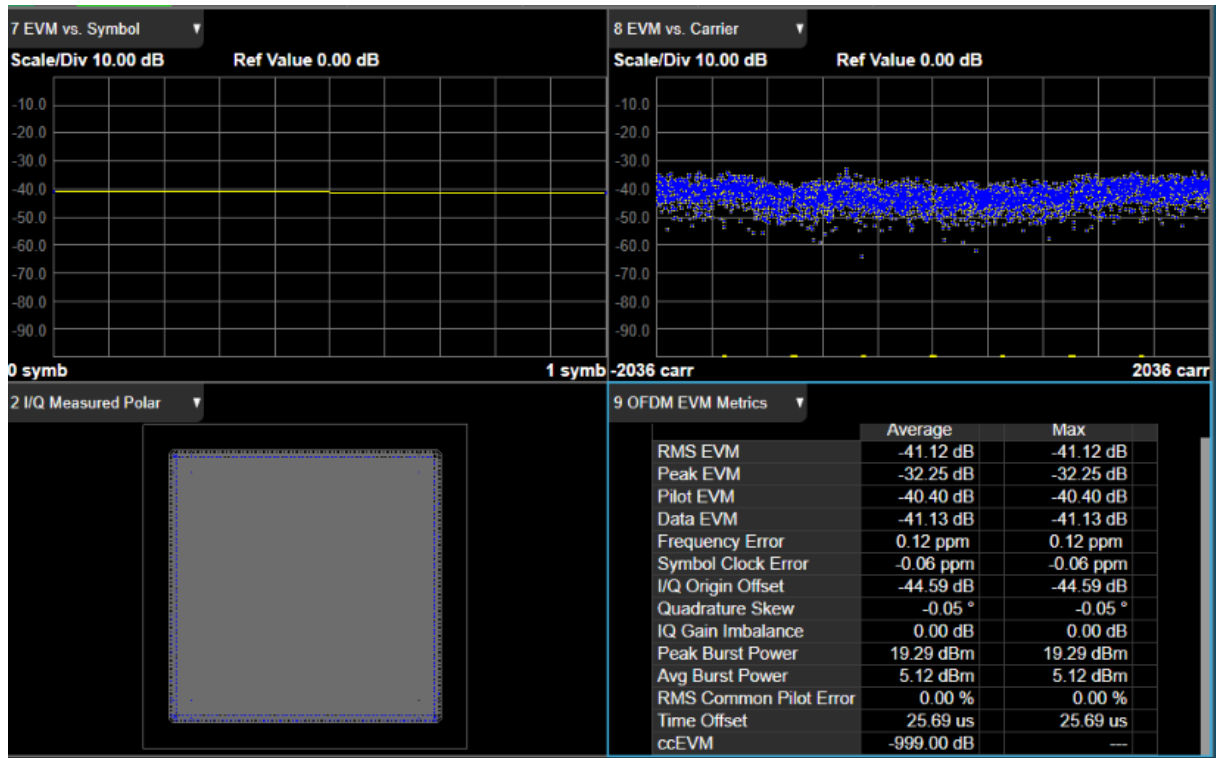
5G NR Test Mode TM1.1 100M Bandwidth 3.9G Carrier, ACPR Test Value



5G NR Test Mode TM1.1 100M Bandwidth 3.9G Carrier, EVM Test Value



IEEE 802.11ax 160M Bandwidth, Carrier Frequency 6GHz, EVM Test Value



IEEE 802.11be 320M Bandwidth, Carrier Frequency 7GHz, EVM Test Value

## Connectors

| Front panel connectors           |                        |                                              |
|----------------------------------|------------------------|----------------------------------------------|
| RF output                        | Impedance              | 50 $\Omega$                                  |
|                                  | Connector              | N female                                     |
| Modulation generator output (LF) | Impedance              | 50 $\Omega$                                  |
|                                  | Connector              | BNC阴头                                        |
| USB-host2                        | USB-A 2.0              |                                              |
| USB-host3                        | USB-A 2.0              |                                              |
| Rear panel connectors            |                        |                                              |
| TRIG IN/ OUT                     | Impedance              | 100 k $\Omega$                               |
|                                  | Connector              | BNC female                                   |
|                                  | Active trigger voltage | 5 VTTL                                       |
| EXT MOD INPUT                    | Impedance              | High impedance                               |
|                                  | Connector              | BNC female                                   |
| PULSE IN/ OUT                    | Impedance              | Input: High impedance<br>Output: 50 $\Omega$ |
|                                  | Connector              | BNC                                          |
|                                  | Input / output voltage | CMOS 3.3 V                                   |
| 10 MHz IN                        | Impedance              | 50 $\Omega$                                  |
|                                  | Connector              | BNC female                                   |
|                                  | Input power range      | -5 dBm ~ 10 dBm                              |
| 10 MHz OUT                       | Impedance              | 50 $\Omega$                                  |
|                                  | Connector              | BNC female                                   |
|                                  | Input power range      | > 0 dBm                                      |
| LO Input                         | Impedance              | 50 $\Omega$                                  |
|                                  | Connector              | BNC female                                   |
|                                  | Input power range      | -5 dBm ~ 5 dBm                               |
| LO Output                        | Impedance              | 50 $\Omega$                                  |
|                                  | Connector              | SMA female                                   |
|                                  | Input power range      | > 5dBm                                       |
| SIGNAL VALID                     | Impedance              | 50 $\Omega$                                  |
|                                  | Connector              | BNC female                                   |
|                                  | Output voltage         | CMOS 3.3 V                                   |

|                         |                                     |                |
|-------------------------|-------------------------------------|----------------|
|                         | range                               |                |
| I Input                 | Impedance                           | 50 $\Omega$    |
|                         | Connector                           | BNC female     |
| Q Input                 | Impedance                           | 50 $\Omega$    |
|                         | Connector                           | BNC female     |
| I+ output               | Impedance                           | 50 $\Omega$    |
|                         | Connector                           | BNC female     |
| I- output               | Impedance                           | 50 $\Omega$    |
|                         | Connector                           | BNC female     |
| Q+ output               | Impedance                           | 50 $\Omega$    |
|                         | Connector                           | BNC female     |
| Q- output               | Impedance                           | 50 $\Omega$    |
|                         | Connector                           | BNC female     |
| PATTERN_TRIG            | Impedance                           | High impedance |
|                         | Connector                           | BNC female     |
|                         | Input voltage range                 | CMOS 3.3 V     |
| IQ_EVENT                | Impedance                           | 50 $\Omega$    |
|                         | Connector                           | BNC female     |
|                         | Output voltage range                | CMOS 3.3 V     |
| User                    | Impedance                           | 50 $\Omega$    |
|                         | Connector                           | BNC female     |
|                         | Output voltage range                | CMOS 3.3 V     |
| Communication Interface |                                     |                |
| USB-HOST                | USB-A 3.0                           |                |
| USB-DEVICE1             | USB-B 3.0                           |                |
| LAN                     | LAN (VXI11, 10/100/1000Base, RJ-45) |                |

| General Specification   |                                                                                                                   |
|-------------------------|-------------------------------------------------------------------------------------------------------------------|
| Display                 | TFT LCD, 800(RGB*480, 5inch capacitive touch screen                                                               |
| Storage                 | Internal (Flash) 64 G Byte, external (USB storage device)                                                         |
| Input Voltage Range, AC | 100 V - 240 V ( $\pm 10\%$ ), 50/60 Hz                                                                            |
| Power Consumption       | 135 W (with all options operating )                                                                               |
| Temperature             | Working temperature 0 $^{\circ}\text{C}$ to 50 $^{\circ}\text{C}$ , Storage temperature -20 $^{\circ}\text{C}$ to |

|                                                         |                                                                                       |
|---------------------------------------------------------|---------------------------------------------------------------------------------------|
|                                                         | 70 °C                                                                                 |
| Humidity                                                | 0 °C to 30 °C, ≤ 95 % relative humidity;<br>30 °C to 50 °C, ≤ 75 % relative humidity  |
| Dimensions                                              | W×H×D=482×104×540 mm                                                                  |
| Weight without package                                  | 10.66 kg                                                                              |
| <b>Electromagnetic Compatibility and Safety</b>         |                                                                                       |
| EN IEC 61326-1: 2021 /<br>EN IEC 61000-3-2: 2019A1:2021 | Class A                                                                               |
| EN 61000-3-3: 2013+A2:2021                              | Plt: 0.65 Pst: 1.00;<br>Dmax: 4.00 % dc: 3.00 %;                                      |
| IEC 61000-4-2: 2008                                     | AD ±8.0 kV, CD ±4.0 kV                                                                |
| IEC 61000-4-3: 2020                                     | 80 MHz to 1000 MHz: 10 V/m; 1.4 GHz to 2.0 GHz: 3 V/m;<br>2.0 GHz to 2.7 GHz: 1 V/m   |
| IEC 61000-4-4: 2012+ A1: 2010                           | AC Line: +/- 1.00 kV                                                                  |
| IEC 61000-4-5: 2014+A1:2017                             | Line to Line: 1.0 kV, Line to Earth: 2.0 kV                                           |
| IEC 61000-4-6: 2008                                     | 0.15 - 80 MHz: 3V 1 kHz 80 % AM                                                       |
| IEC 61000-4-8: 2009                                     | 30 A/m, 50/60 Hz                                                                      |
| IEC 61000-4-11: 2004                                    | Voltage Dips: 0%/0.5P; 40%/10P; 70%/25P;<br>Short Interruptions Test Level%UT:0%/250P |
| <b>Safety</b>                                           |                                                                                       |
| IEC 61010-1:2010/ EN 61010-1:2010                       |                                                                                       |
| Canada: CAN/ CSA-C22.2 No.61010-1:2012                  |                                                                                       |
| <b>RoHS</b>                                             |                                                                                       |
| 2011/65/EU                                              |                                                                                       |

## Ordering information

| Product Description     | SSG6080A-V Series Signal Generator                             | Order Number                    |
|-------------------------|----------------------------------------------------------------|---------------------------------|
| Product code            | SSG6082A-V                                                     | SSG6082A-V                      |
| Standard configurations | Quick start, an USB cable, calibration certificate, power cord |                                 |
| Option                  | Pulse modulation                                               | SSG6080AV-PU                    |
|                         | Pulse train generator                                          | SSG6080AV-PT                    |
|                         | 1G RF bandwidth                                                | SSG6080AV-B1000                 |
|                         | Bluetooth Signal Playback                                      | SigIQPro-BT                     |
|                         | IOT Signal Playback                                            | SigIQPro-IOT                    |
|                         | General OFDM Signal Playback                                   | SigIQPro-OFDM                   |
|                         | 5G NR Wireless Communication Protocol Signal Playback          | SigIQPro-5G NR                  |
|                         | LTE FDD Wireless Communication Protocol Signal Playback        | SigIQPro-LTE FDD                |
|                         | LTE TDD Wireless Communication Protocol Signal Playback        | SigIQPro-LTE TDD                |
|                         | IEEE.802.11.ax Protocol Signal Playback                        | SigIQPro-IEEE.802.11.ax         |
|                         | IEEE.802.11.be Protocol Signal Playback                        | SigIQPro-IEEE.802.11.be         |
|                         | IEEE.802.11 b/g/a/n/ac Signal Playback                         | SigIQPro-IEEE.802.11 b/g/a/n/ac |
|                         | GSM/EDGE Signal Playback                                       | SigIQPro-GSM/EDGE               |
|                         | WCDMA FDD HSPA/ /HSPA+.                                        | SigIQPro-WCDMA/HSPA+            |
|                         | Rack Mount Kit                                                 | SSG6000A-RMK                    |
|                         | USB-GPIB Conversion Adapter                                    | USB-GPIB                        |



## About SIGLENT

SIGLENT is an international high-tech company, concentrating on R&D, sales, production and services of electronic test & measurement instruments.

SIGLENT first began developing digital oscilloscopes independently in 2002. After more than a decade of continuous development, SIGLENT has extended its product line to include digital oscilloscopes, isolated handheld oscilloscopes, function/arbitrary waveform generators, RF/MW signal generators, spectrum analyzers, vector network analyzers, digital multimeters, DC power supplies, electronic loads and other general purpose test instrumentation. Since its first oscilloscope was launched in 2005, SIGLENT has become the fastest growing manufacturer of digital oscilloscopes. We firmly believe that today SIGLENT is the best value in electronic test & measurement.

### Headquarters:

SIGLENT Technologies Co., Ltd  
Add: Bldg No.4 & No.5, Antongda Industrial  
Zone, 3rd Liuxian Road, Bao'an District,  
Shenzhen, 518101, China  
Tel: + 86 755 3688 7876  
Fax: + 86 755 3359 1582  
Email: [sales@siglent.com](mailto:sales@siglent.com)  
Website: [int.siglent.com](http://int.siglent.com)

### North America:

SIGLENT Technologies America, Inc  
6557 Cochran Rd Solon, Ohio 44139  
Tel: 440-398-5800  
Toll Free: 877-515-5551  
Fax: 440-399-1211  
Email: [info@siglentna.com](mailto:info@siglentna.com)  
Website: [www.siglentna.com](http://www.siglentna.com)

### Europe:

SIGLENT Technologies Germany GmbH  
Add: Staetzlinger Str. 70  
86165 Augsburg, Germany  
Tel: +49(0)-821-666 0 111 0  
Fax: +49(0)-821-666 0 111 22  
Email: [info-eu@siglent.com](mailto:info-eu@siglent.com)  
Website: [www.siglenteu.com](http://www.siglenteu.com)

Follow us on  
Facebook: [SiglentTech](https://www.facebook.com/SiglentTech)

