# 9 kHz to 6100 MHz Signal Generator APSIN6010RM

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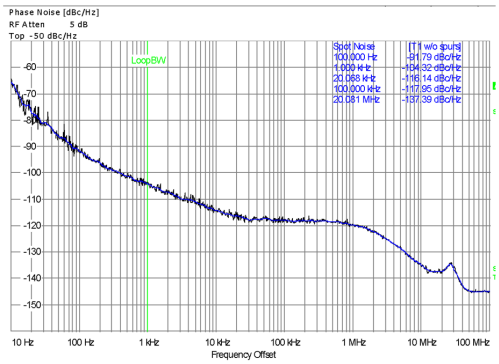
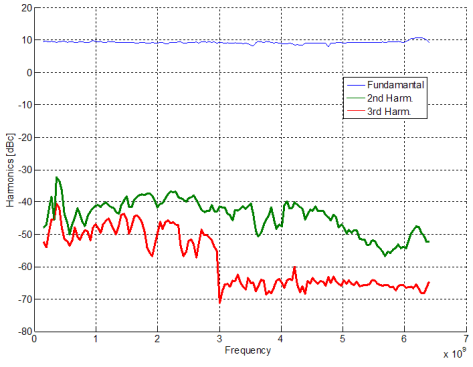
The APSIN6010RM is a 19'' 1U rackmount, very low phase noise, fast-switching RF signal generator with µ-Hz frequency resolution, and precisely leveled power range from -120 to +13+ dBm. It combines excellent signal quality, high-quality analog modulation and fast switching capabilities. Flexible and simultaneous modulation allows complex signal simulation. The internal OCXO guarantees a high stability time base and can be locked to an external reference in the range of 1 to 250 MHz. The modular design simplifies maintenance and minimizes cost of ownership.

SSB phase Noise at 4 GHz




Harmonic Distortion at +10 dBm




## Key Features

- Only 200 µs frequency switching time
- Excellent SSB phase noise
- Comprehensive AM, low-distortion, wideband FM and PM and high speed pulse modulation for testing all types of receivers
- LAN/USB/GPIB (optional) remote control
- Input for USB power sensor
- Powerful trigger and sweeping modes

## Applications

- R&D high-quality lab source
- Education
- Production test & measurement
- Automated test systems (ATE)
- EMC testing

## Options

- PE3: extended power range down to -120 dBm (Step Attenuator added)
- GPIB: IEEE-488.2,1987 programming interface

## Key Specifications

| Parameter | Value | Notes |
|---|---|---|
| **Frequency range** | 9 kHz -- 6100 MHz | |
| resolution | 0.1 mHz | |
| Phase resolution | 0.1 deg | |
| Settling time | 0.2 ms | |
| **SSB Phase noise** | | |
| at 20 kHz from carrier | -120 dBc/Hz | 3 GHz carrier |
| wideband noise | -150 dBc/Hz | |
| **Power level** | | |
| Range | -30 -- +13 dBm<br>-120 -- +13 dBm | Standard<br>Option PE3 |
| Resolution | 0.05 dB | |
| Level uncertainty | < 1 dB | |
| Output impedance<br>VSWR | 50 W<br>1.5 typical | |
| **Spectral purity**<br>output harmonics<br>non-harmonic spurious | <br>< -30 dBc<br>< -60 dBc | |
| **Sweeps & Trigger** | | |
| Dwell time | > 50 µs | |
| Time resolution | 10 µs | |
| List size | 20'000 | |
| Trigger | auto, external, bus, gated | |
| **Frequency Modulation** | | |
| Modulation rate | DC to 800 kHz | |
| Maximum deviation | > 7 % of f | |
| Distortion | 0.1 % | $f_{mod}$ = 1 kHz<br>& $f_{dev}$ = 10 MHz |

| | | |
|---|---|---|
| **Amplitude Modulation** | | |
| Rate | 0.1 Hz – 20 kHz | |
| Depth | 0 to 95 % | |
| Distortion | 1.5 % at 30 %<br>2 % at 80 % | $f_{mod}$ = 1 kHz |
| **Pulse Modulation** | | |
| Rate | DC – 10 MHz | |
| On/OFF Ratio | > 60 dB | |
| Pulse width | > 50 ns | |
| Rise/Fall times | < 10 ns | |
| **Internal reference** | 100 MHz | |
| Temperature stability | ±100 ppb | 0 to 50 °C |