Cassini Instrument Profile

# **Applications**

Roos

- Transceivers
- Mixed-Mode ICs

• PLLs

VCOs

#### **Overview**

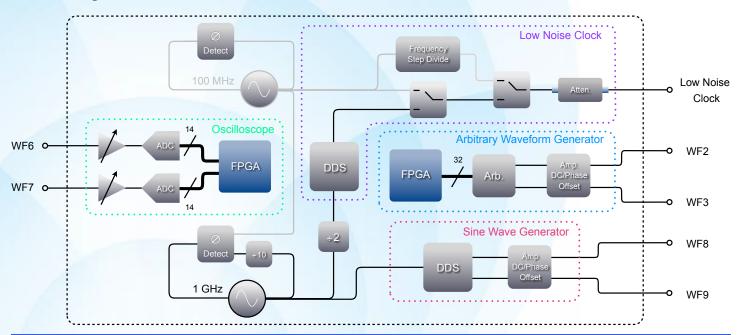
The RI8594 delivers enhanced waveform and oscilloscope performance over the RI8572 Waveform/Measure instrument and includes an additional, low-noise clock source. The state-ofthe-art PLL supplies an optimal local oscillator reference signal for devices requiring high-fidelity phase noise qualification. The instrument also provides complex sine and arbitrary baseband waveform generation for modulated signal applications as well as a dual-channel digitizer with an embedded FPGA for real-time oscilloscope measurements.



### **Key Features**

- M-ary QAM, M-PSK, & Custom Baseband Generation
- Continuous & Reciprocal Frequency Counter
- Measure S/N, SINAD, Rise/Fall Times
- Ultra Low-Noise Reference LO

# **Block Diagram**



## RI8594 - High Performance Waveform/Measure

Cassini Instrument Profile

#### **Performance**

Low-Noise C	loc	k
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 Frequency Options
 100 MHz ÷ 2,4,8,16 | 100 MHz | 200 Hz - 400 MHz

 Phase Noise ¹
 170 dBc/Hz | 148 dBc/Hz | 120 dBc/Hz

Sine & Arbitrary Wave Generator

Frequency Range 1kHz to 90 MHz (Sine) | 1Hz to 100 MHz (Arb.)
Clock Rate 640 MHz (Max)
Bit Resolution 16 Bits/Channel

Digitizer

Analog Bandwidth

Sample Rate

80 Msps

Voltage/Bit Resolution

100 MHz

80 Msps

±0.4V / 14 Bits

#### Inputs/Outputs

WF7 Digitizer 2

WF3
Arb. Waveform 2

WF9 Sine Gen. 2



WF6 Digitizer 1

WF2 Arb. Waveform 1

**Low-Noise Clock** 

WF8 Sine Gen. 1

# **Cassini Test Systems**

A versatile, high-speed, automated test solution for analog, mixed-signal, RF, and millimeter-wave devices.

Cassini provides a modular base architecture that is fully configurable via Test Instrument Modules (TIMs) to meet the needs of any IC, wafer, or module test requirement.

Each TIM contains internally-cooled, RF-shielded measurement instrumentation, signal distribution, and blind mate interfacing to provide targeted test resources and integrate to build up a complete production test platform.

Combined with Roos Instruments' integrated test software, Cassini can be configured to any application for maximum performance, true low cost of test, and the industry's fastest test times.

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<sup>&</sup>lt;sup>1</sup> Typical performance at 20kHz offset