**Analog-to-Digital Converter (ADC) Performance Specifications**

- **Total Jitter**: $t_j (RMS) - 20 \mu s / 39.1$ Fs
- **Nonlinear inputs**: 14 bits
- **DAC Clock Feedthrough**: Less than 0.5 bits
- **Differential Nonlinearities**: 0.05
- **Zero-Code Error**: Typically expressed in LSBs
- **SDR (dBc)**: -72 dBc
- **2nd and 3rd Image Harmonics**
- **Corner Frequency**: $f_a$ MHz
- **Input Signal Level (Carrier)**: 1 V p-p
- **Full-Scale Analog Input Frequency**: 1 kHz
- **Unipolar Single-Ended**: 0 V to 1 V
- **Unipolar Differential**: 0 V to 1 V

**Real-world signal processing** allows for efficient and cost-effective solutions in various applications such as direct IF-to-digital conversion.

A signal with a maximum frequency $f_a$ must be sampled at a rate $F_s > 2f_a$ or information about the signal will be lost because of aliasing.

**Deadband Errors**: DACs with integrated output amplifiers may have deadband errors.

- **Slew Rate**: 600 mV/μs
- **Rejection**: Out-of-Band (-20 dB)
- **Input Impedance**: 50 Ω
- **Output Impedance**: 50 Ω
- **Data Rates**: 1 Msample/s

**Input Offset Error**: $0.1 \mu V$ at $25°C$

**Signal to Noise Ratio (SNR)**: 96 dB

**Effective Number of Bits (ENOB)**: 6.25

**Input Referred Jitter**: 0.25 ps

**ADC clock jitter**: 0.1 ps

**Switching Power Consumption**: 700 mW

**Input Reference Level**: 1.25 V

**Output Swing**: ±1 V

**Power Supply**: 5 V

**Differential Nonlinearities**: 0.05

**Zero-Code Error**: Typically expressed in LSBs

**Full-Scale Error**: A measure of the output error when full-scale code is applied.

- **Zero-Code Error**: Typically expressed in LSBs
- **Gain Error**: Typically expressed in LSBs

**Non-ideal Code**: Often measured for midscale LSB transition (011...111 to 100...000)

**Integral Nonlinearity (INL)**: ± 1 LSB

**Total Harmonic Distortion (THD)**: 74 dB

**Image Frequency**: 20 Hz

**Impulse Response**: Less than 0.5 bits

**Signal Bandwidth**: 1 MHz

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**Nyquist Zone**:
- Zone 1
- Zone 2
- Zone 3
- Zone 4

**Slewing**: The size of a least significant bit (LSB) is a measure of the output error when full-scale code is applied.

**SNR**: 20 log 10 (signal/noise)

**ENOB**: 2.5 log 10 (signal/noise)