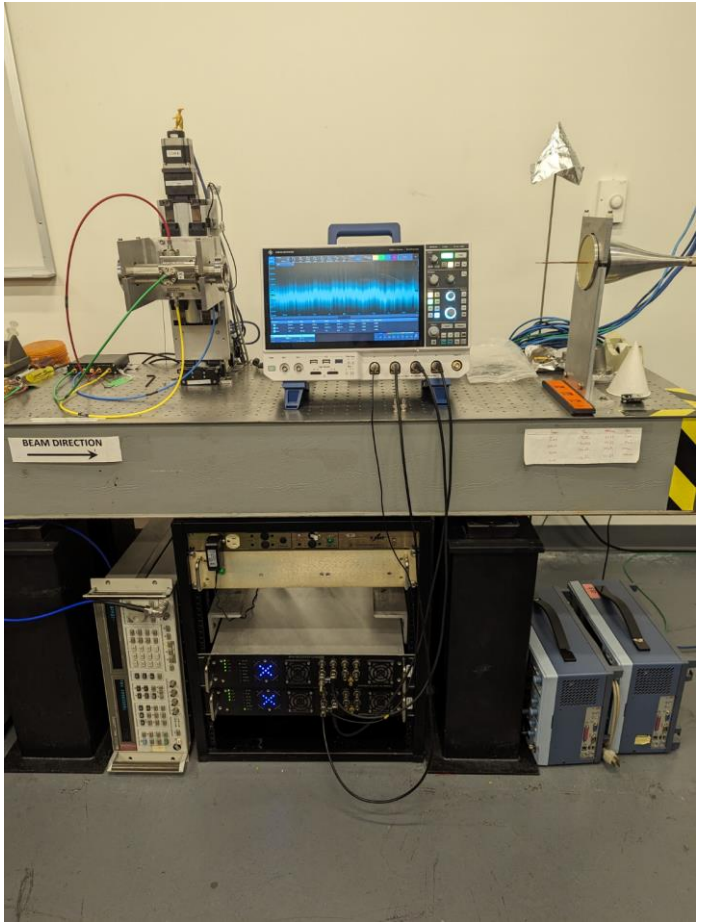
Input signals band-limited to 20 MHz



5 Second Time Span (500 ms/div)

$$\frac{Rx_A - Rx_B}{Rx_A + Rx_B}$$

$$\frac{Rx_A - Rx_B}{Rx_A + Rx_B}$$ ...with spectrum to 1 MHz

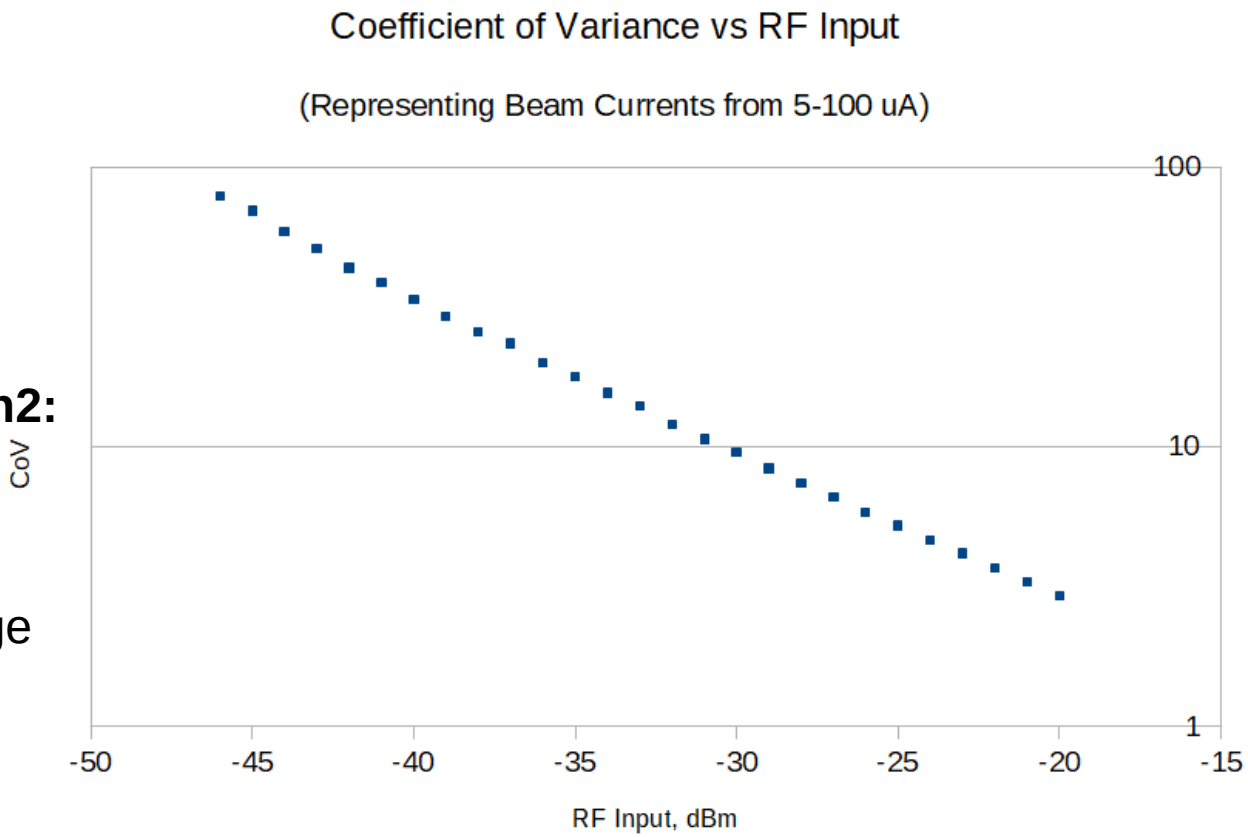
50 Ohm Test Load on Ch1 and Ch2:

CoV = 261.16

RMS = 324.72

C.F. = 128

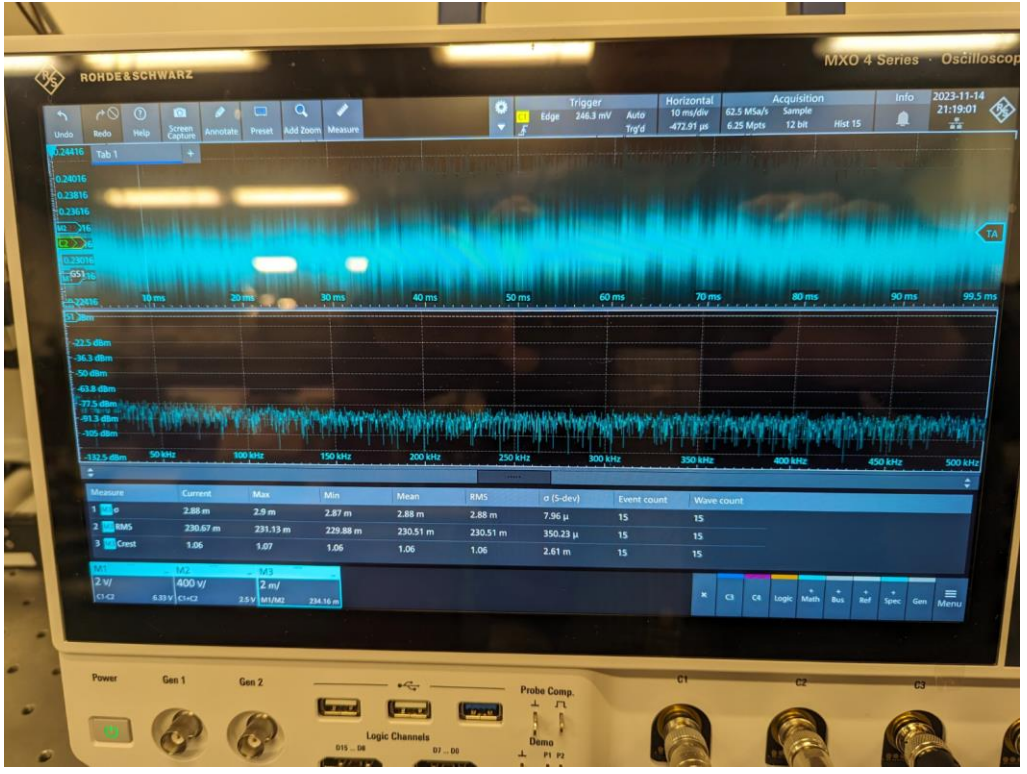
...well within the measurement range



100 m-Second Time Span (10 ms/div)

$$\frac{Rx_A - Rx_B}{Rx_A + Rx_B}$$

$$\frac{Rx_A - Rx_B}{Rx_A + Rx_B}$$ ...with spectrum to 1 MHz

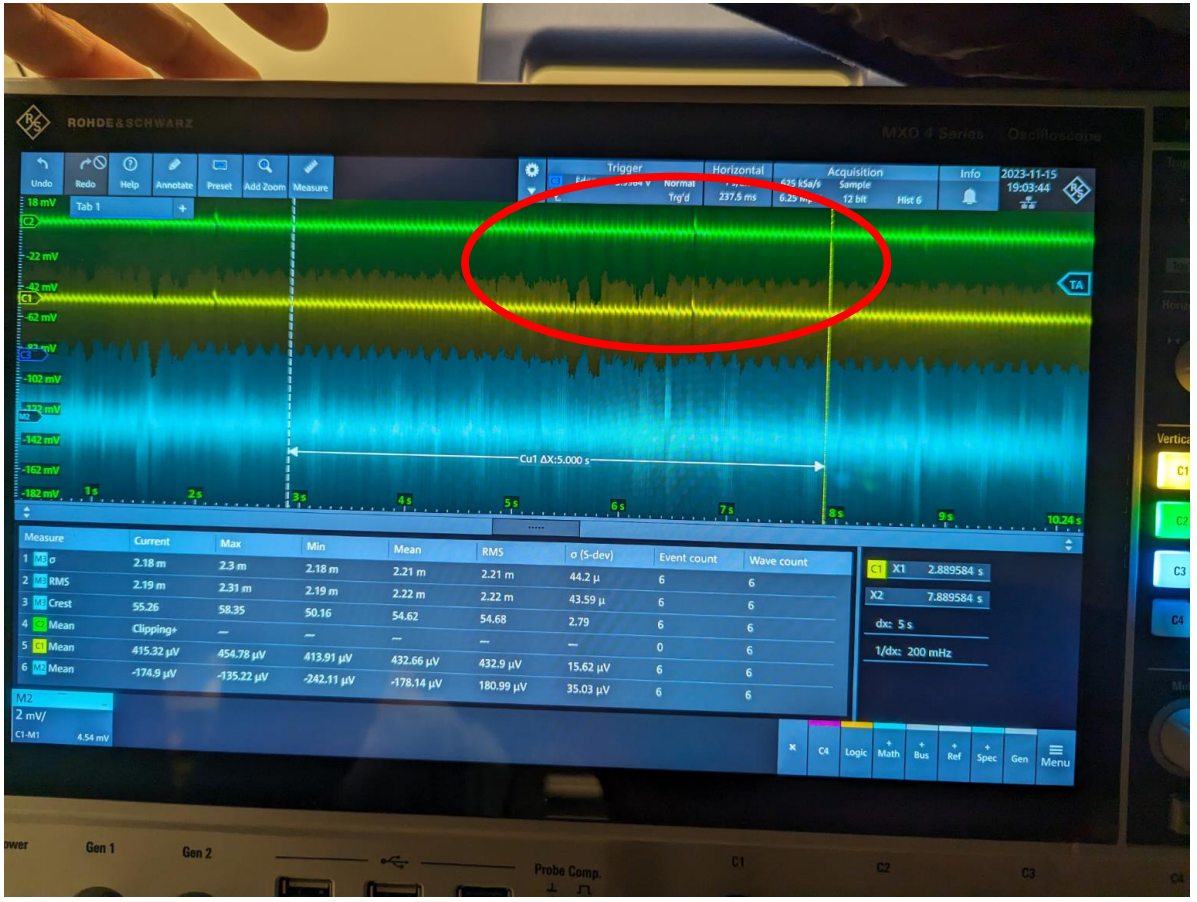


10 m-Second Time Span (1 ms/div)

$$\frac{Rx_A - Rx_B}{Rx_A + Rx_B}$$ ...with spectrum to 1 MHz

$$\frac{Rx_A - Rx_B}{Rx_A + Rx_B}$$ ...with spectrum to 15 kHz

Measurements with Devi



RF ramp:
-22.2 dBm to -20.2 dBm
0.01 dB steps

Ch B (a/c coupled, 5mV/)

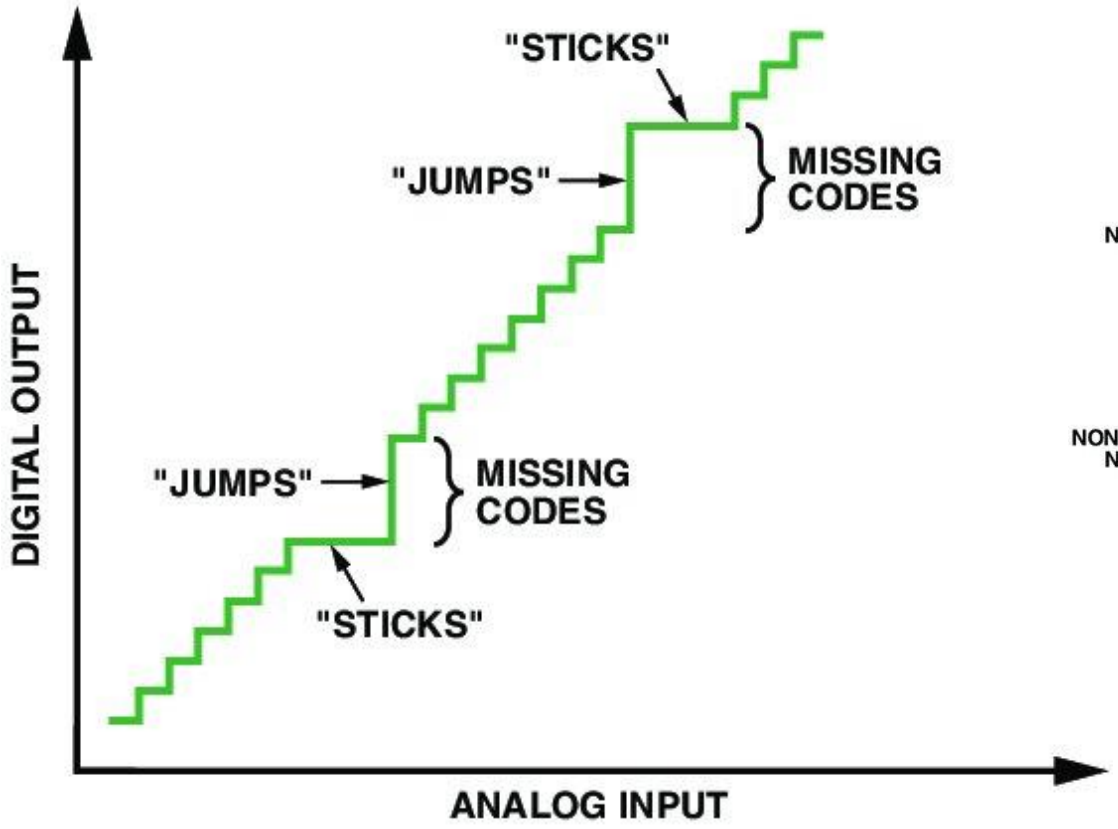
Ch A (a/c coupled, 5mV/)

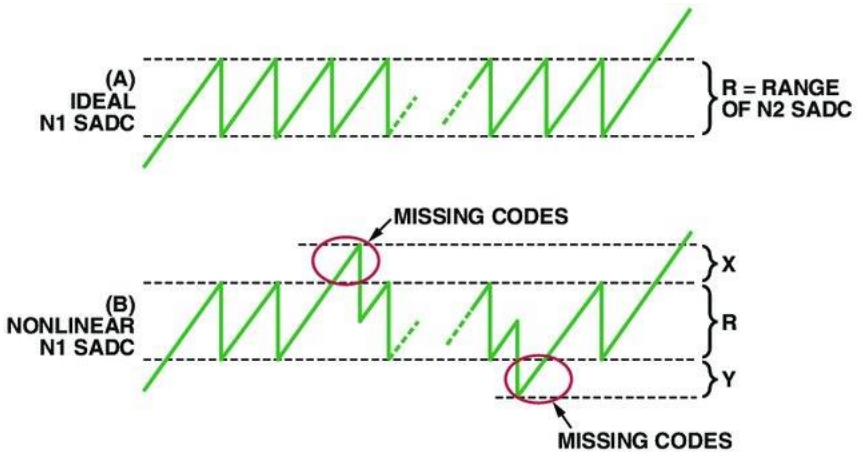
Ch A – Ch B (2 mV/)

“Blip” occurs in same locatio

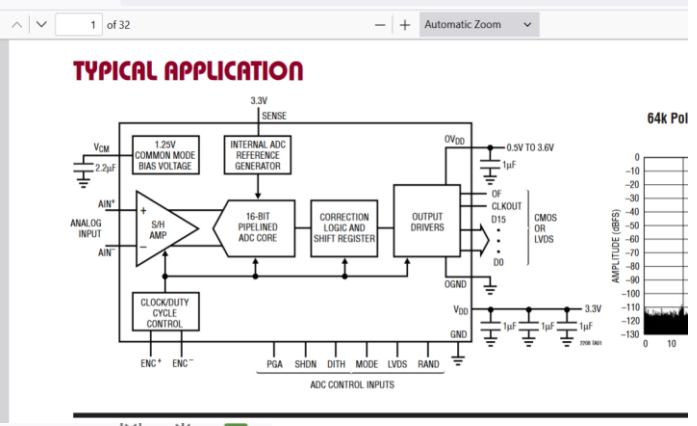
We are using the Unser firm

Possible (likely?) Issue: INL, DNL





LTC2208:



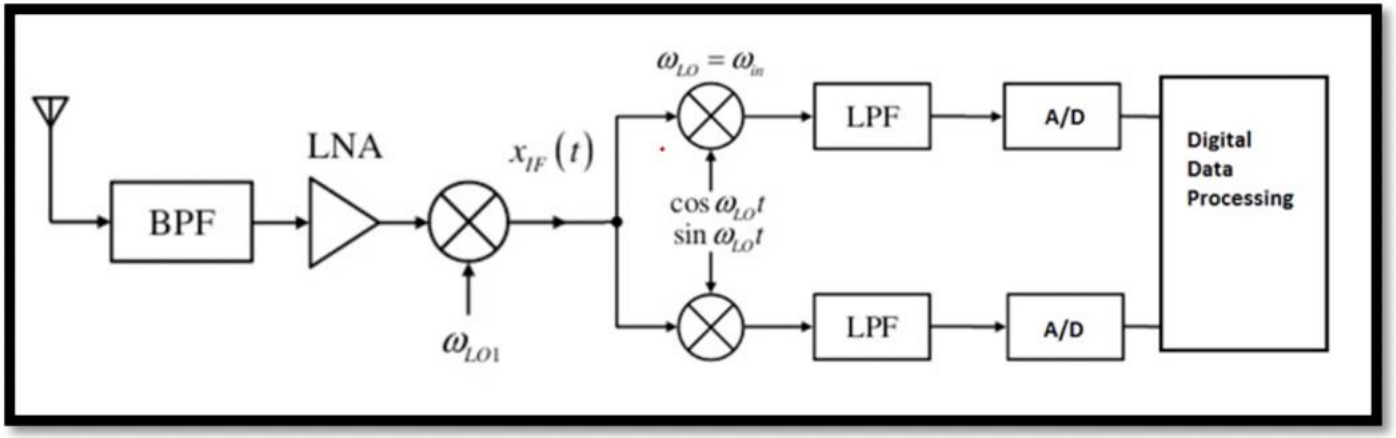
**T_{JMAX} = 150°C, option available, consult factory.

CONVERTER CHARACTERISTICS

The ● denotes the specifications which apply over the full operating temperature range, otherwise specifications are at T_A = 25°C. (Note 4)

PARAMETER	CONDITIONS		MIN	TYP	MAX	UNITS
Integral Linearity Error	Differential Analog Input (Note 5) T_A = 25°C			±1.2	±4.0	LSB
Integral Linearity Error	Differential Analog Input (Note 5)	●		±1.5	±4.5	LSB
Differential Linearity Error	Differential Analog Input	●		±0.3	±1	LSB
Offset Error	(Note 6)	●		±2	±8.5	mV
Offset Drift				±10		µV/°C
Gain Error	External Reference	●		±0.2	±1.5	%FS
Full-Scale Drift	Internal Reference External Reference			±30 ±15		ppm/°C ppm/°C
Transition Noise	External Reference			2.9		LSB_{RMS}

If True….At Least for ADC…..



Consider a non-zero IF architecture….

Input RF rolls through all ADC codes...homogenizing the output I/Q values

...avoids “hammering” same spot on the ADC.

Perhaps consider Max’s dithering for ADC and DAC?