Clock Programmable Mixer for Fuze IF with Filter

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Mixed Signal Integration

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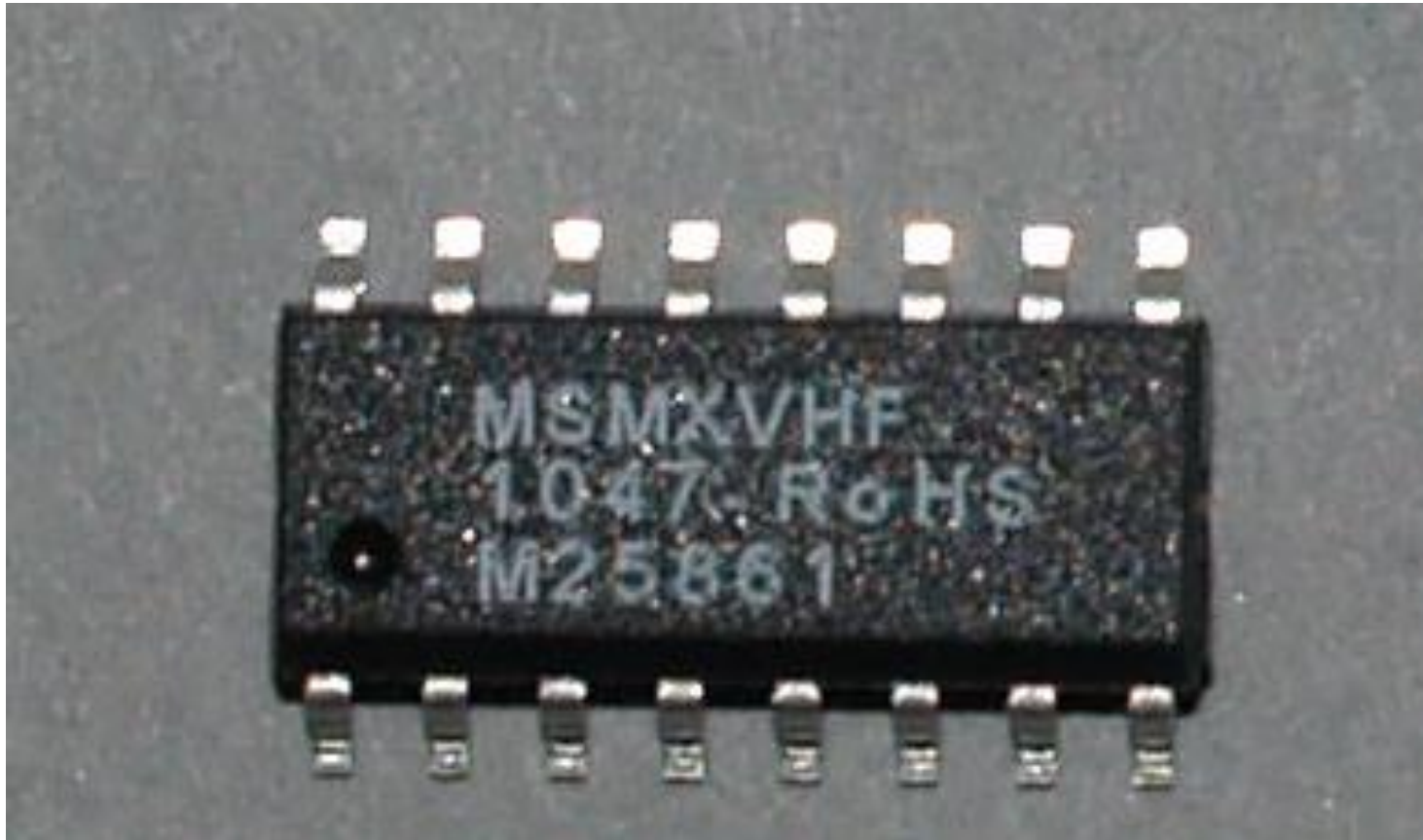San Jose, CA 95131

+1 408-434-6305

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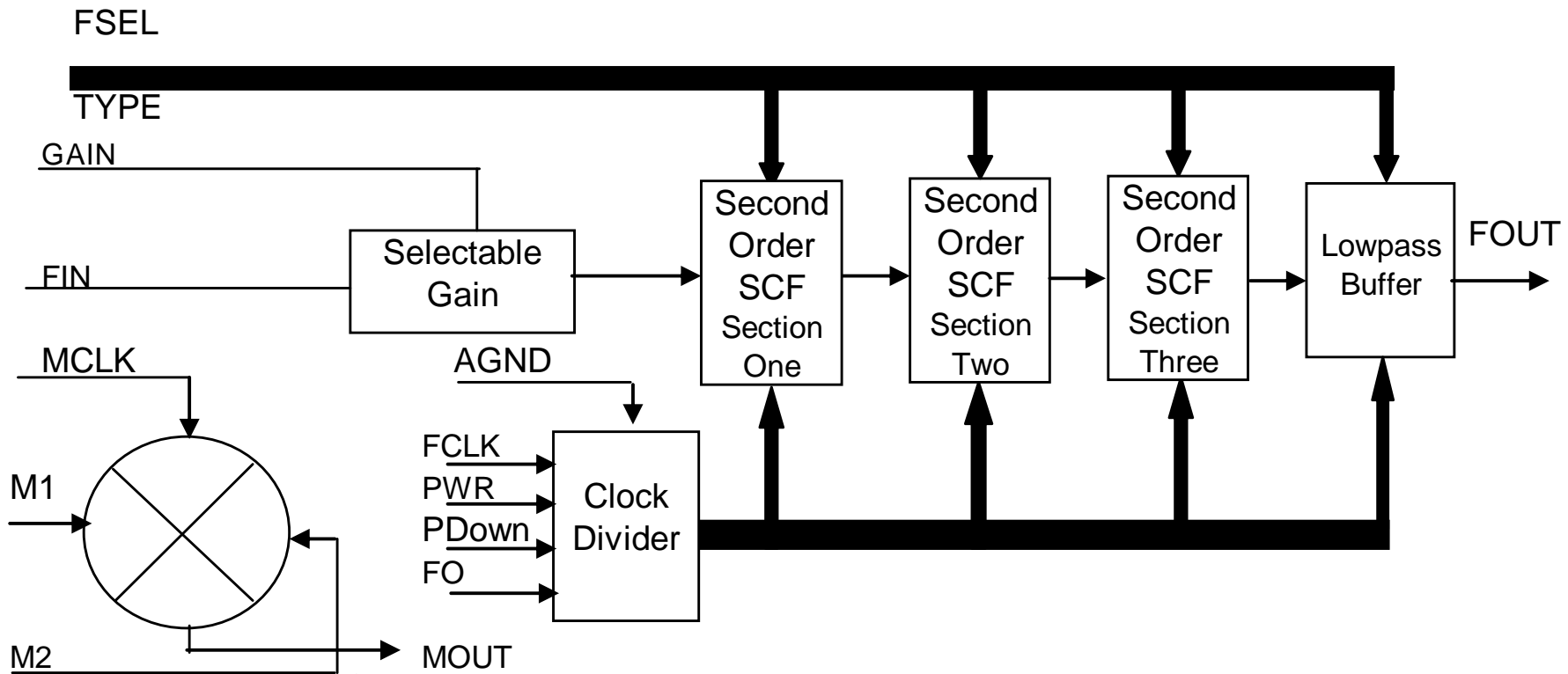**MSi Mixed Signal Integration**

MSMXVHF

- 600 MHz Differential Switching Mixer
  - Simple CMOS Design
  - ~6 dB loss
  - Differential analog input for common mode rejection
- Switched-Capacitor Lowpass/Bandpass Filter
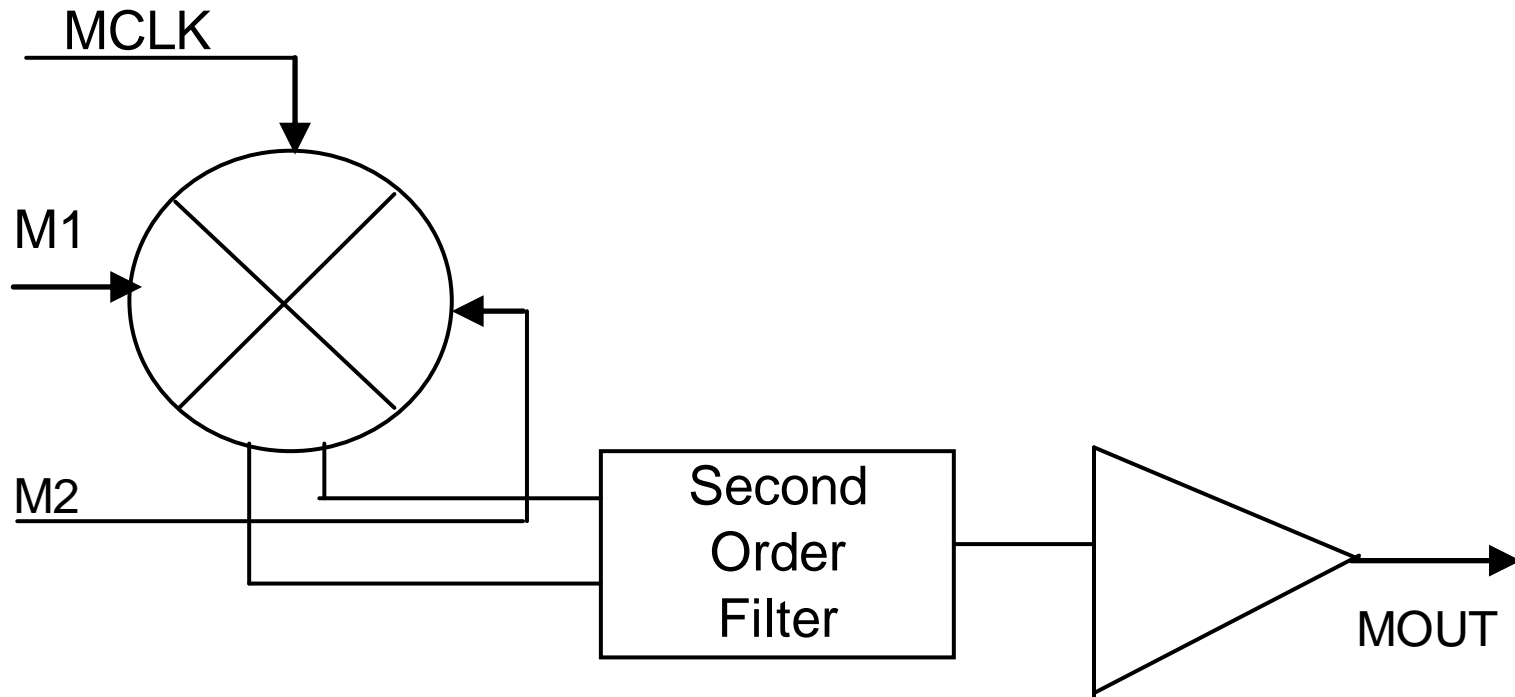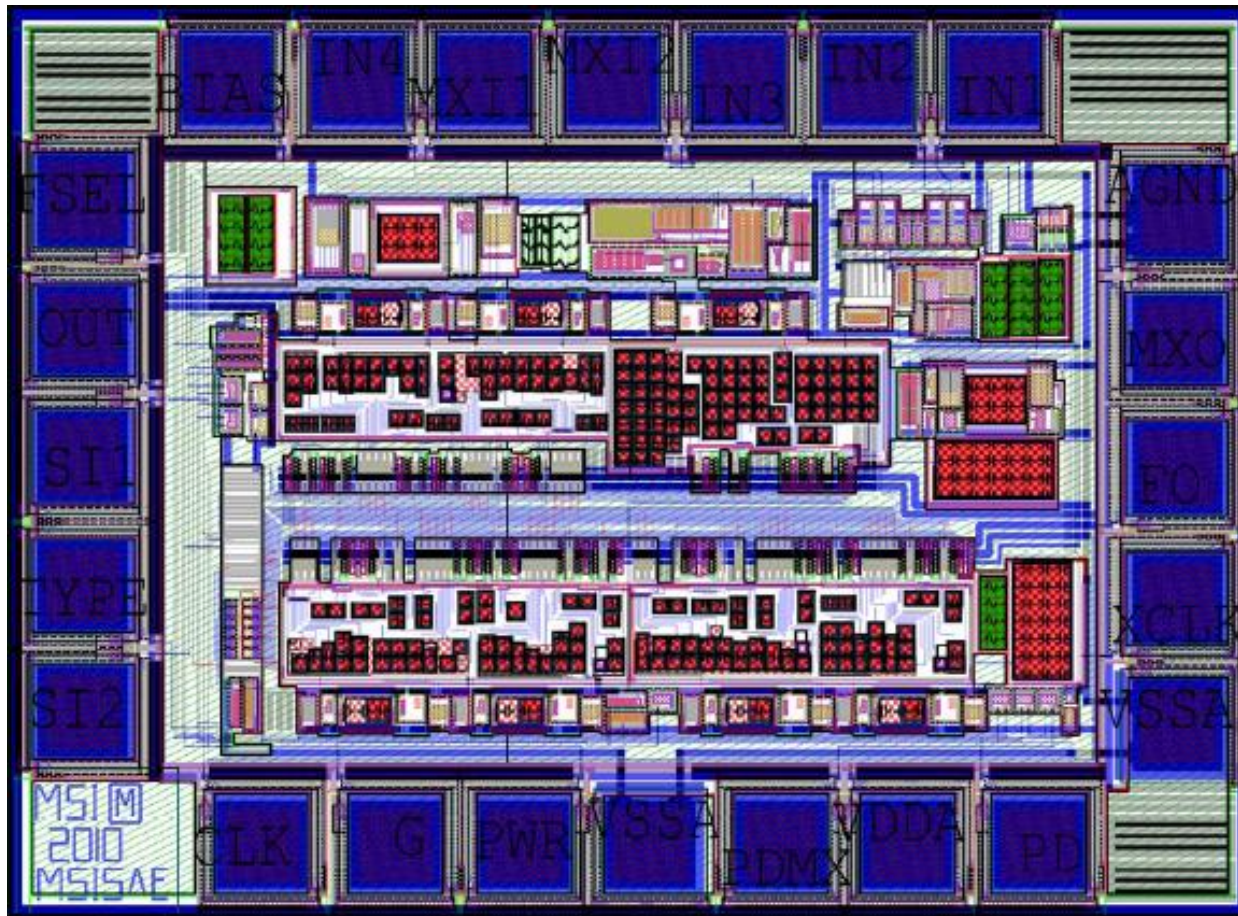 - Clock programmable
  - Selectable Gain
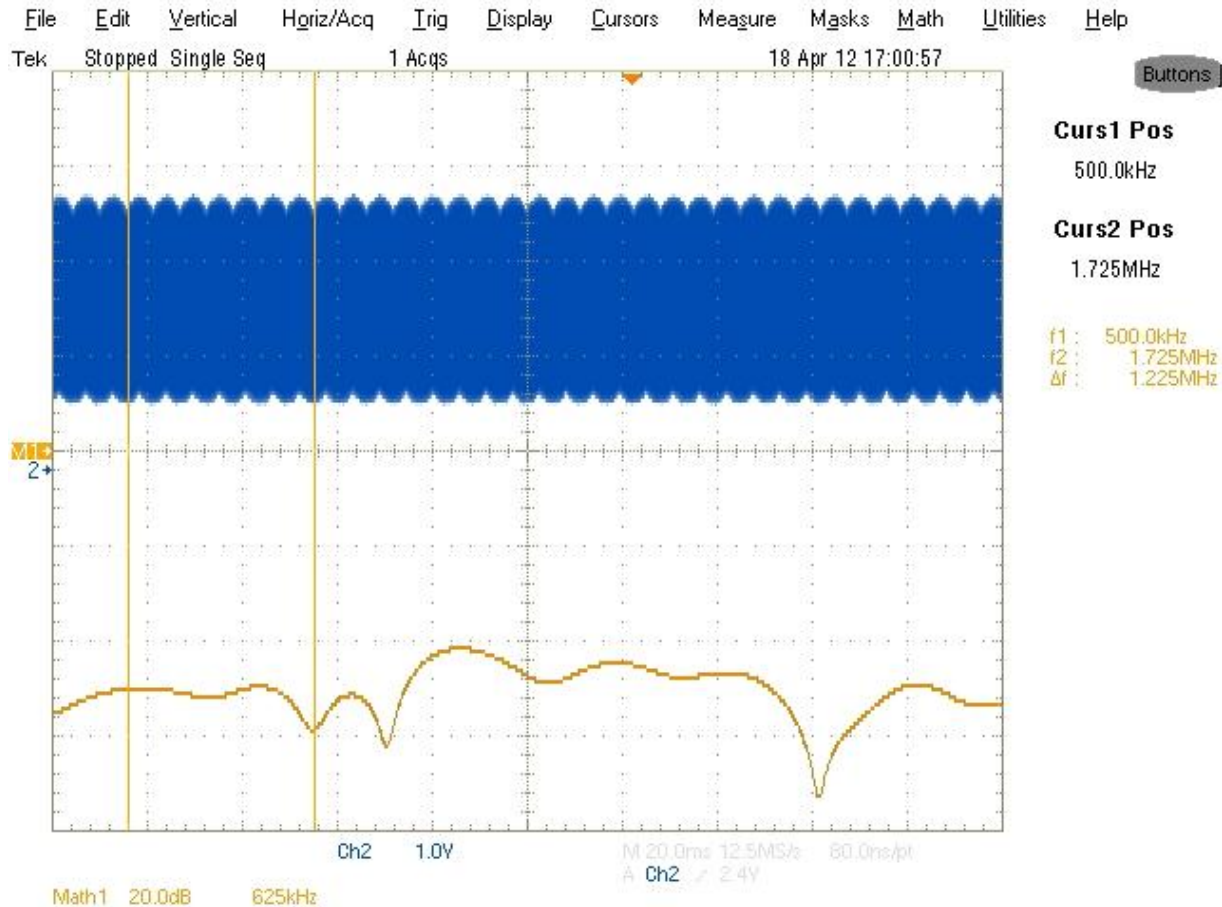
MSMXVHF

MSMXVHF Block Diagram

MSMXVHF Mixer Detail

MCLK

M1

M2

Second
Order
Filter

MOUT

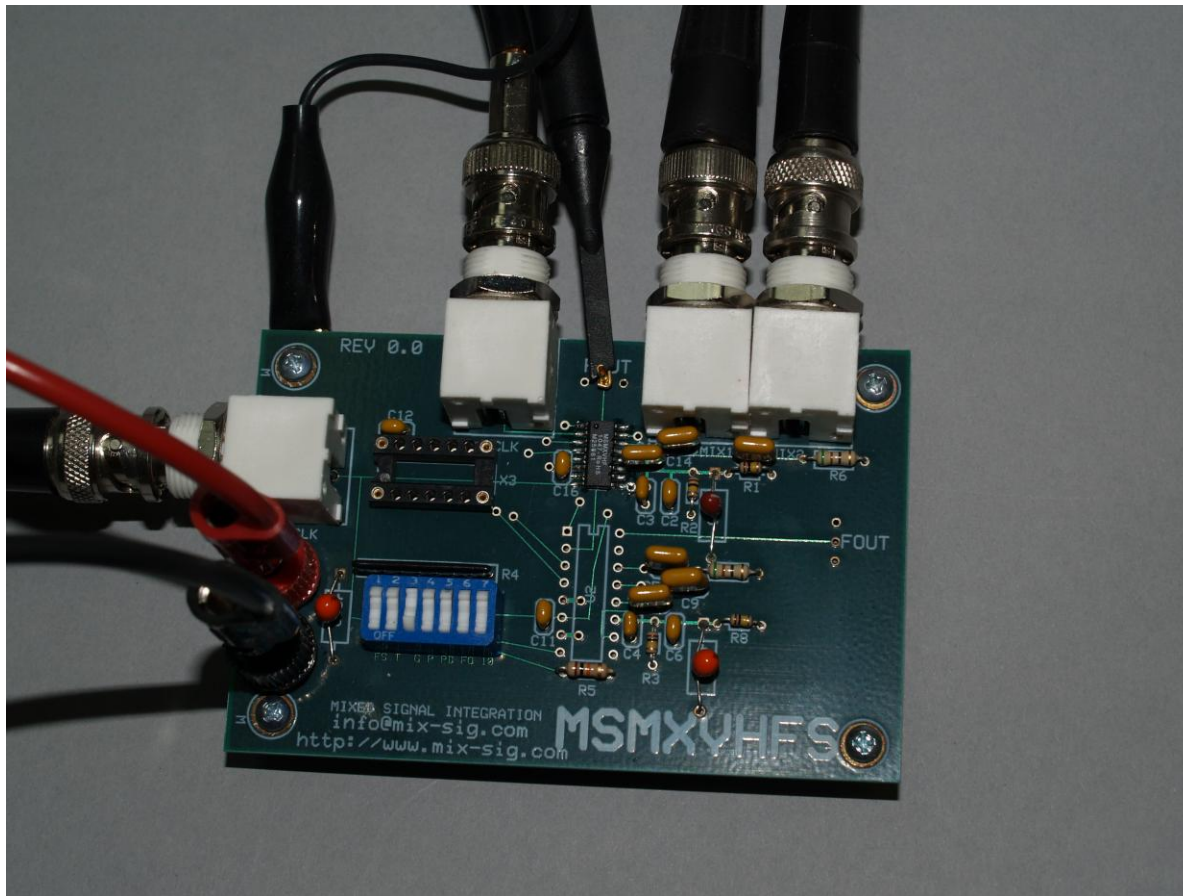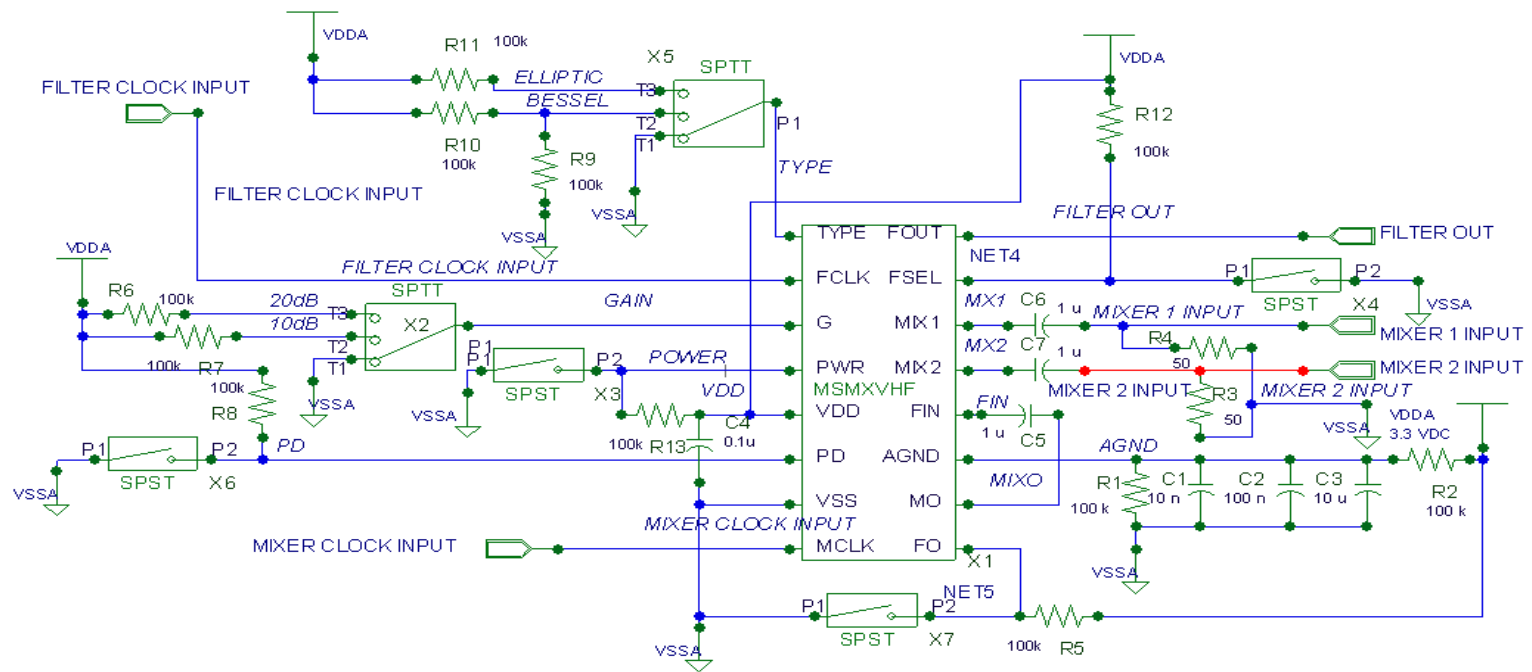# MSMXVHF Die Detail

Mixer Noise Data

MSMXVHF Evaluation Board

System Issues

- Clocks must be synchronized.
- Frequency output of mixer < 1MHz.
- Subsequent stages must be in sync.

Simplified Application Schematic

Technical Issues

- Maximum mixer input 500 MHz
- Filter limit is 1 MHz lowpass or bandpass
- Mixer output is limited to < 1MHz
- Device maximum VDD is 3.3VDC

Summary

The MSMXVHF integrated circuit:

- Mixing up to 500 MHz.

- Filtering to 1 MHz

- Operation at up to 3.3V