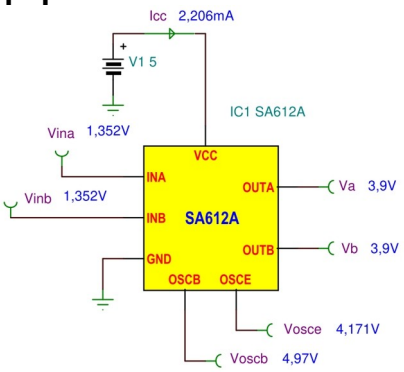
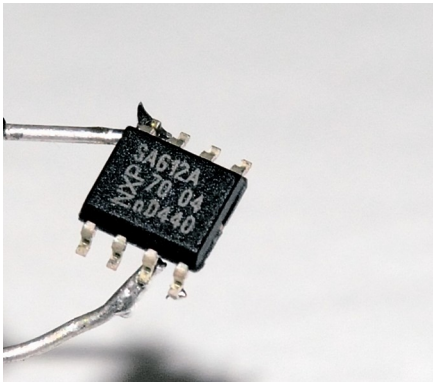
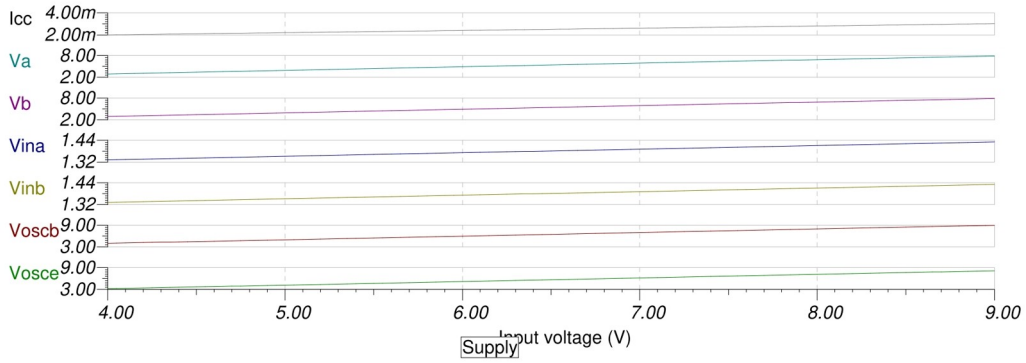
SA612A Double-balanced mixer and oscillator Macro Model

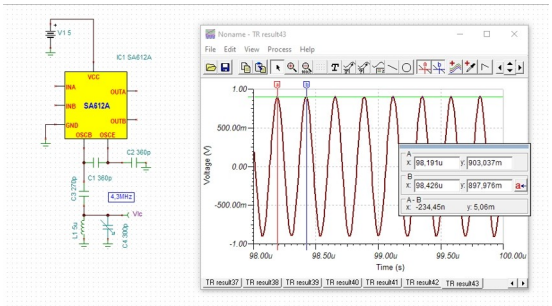
The low power consumption makes the SA612A excellent for battery-operated equipment.

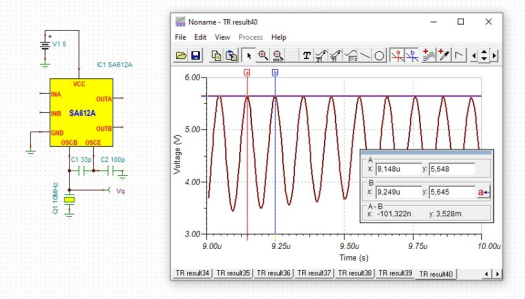


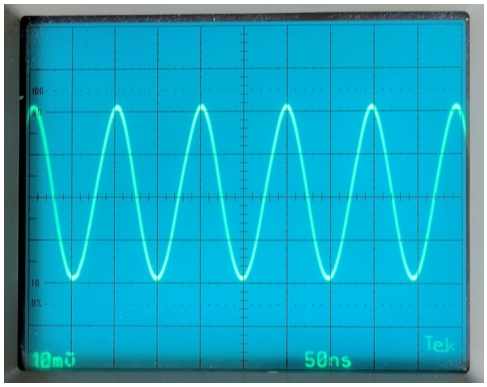




Oscillator circuits







The oscillator can sustain oscillation beyond 200 MHz in crystal or tuned tank configurations.

Basic Colpitts 10MHz crystal oscillator. The feedback network consists of a capacitor voltage divider (C1/C2).

The values of those capacitors should be approximately:

$$C1 = \frac{100}{\sqrt{f\,(MHz)}} \qquad C2 = \frac{1000}{f\,(MHz)} \qquad [pF]$$

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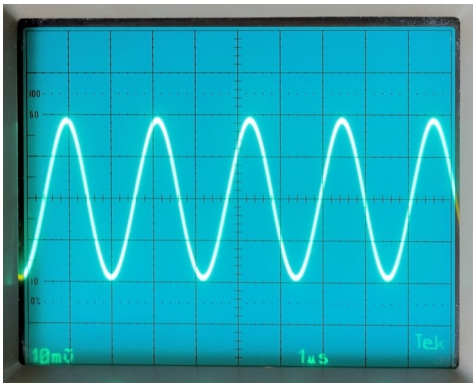
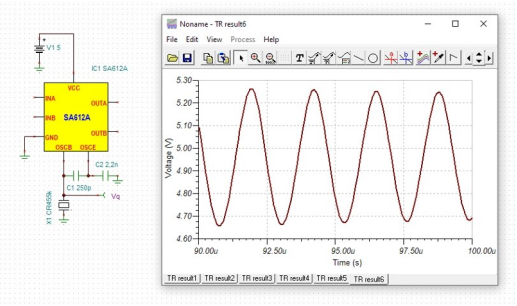
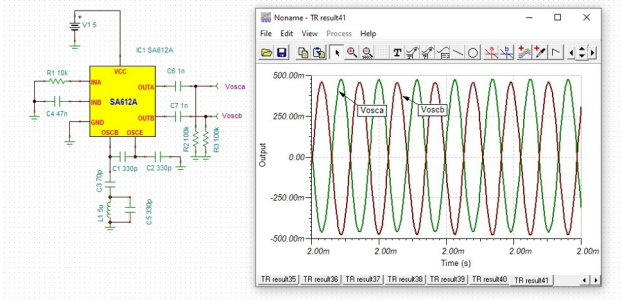
Ceramic resonator oscillator (455kHz):



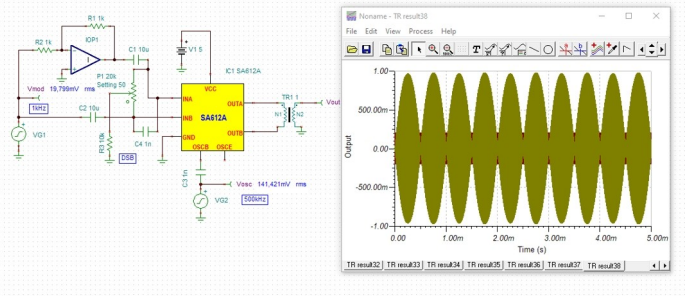


Using the SA612A as a Signal Generator:

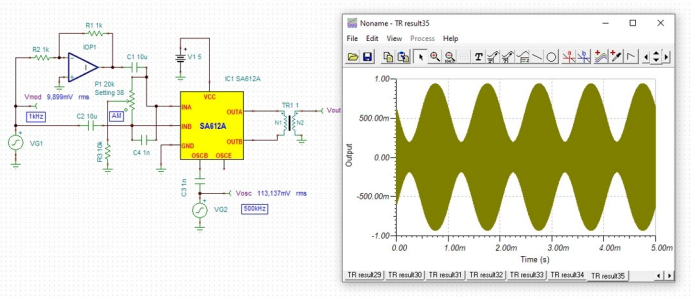


Place a 10kohm resistor between pin 1 and ground, while bypassing pin 2 to ground. The output signal is taken from either pin 4 or 5 through another capacitor.

Double-sideband suppressed-carrier transmission (DSB-SC) :



Amplitude modulation (AM):



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