Arbitrary waveform generator based on AD9106.

Block diagram of our devices is presented bellow:

Gecko microcontroler

Wonder Gecko

EFM32WG980

Voltage to current converter

AD9106

SPI

SPI

LCD

The signal generator consists of:

1. Gecko microcontroler ARM-M4 – this ic is used to control the AD9106 ic using SPI interface. All other devices are control using I2C interface. Additionaly the LCD screen is control by a second SPI interface.
2. AD9106 – Analog Devices DAC with a waveform generation capability. This ic allow the user to upload custom waveforms. Additionaly a Sin, Ramp and Noise signals are stored internally. Maximum output rate of the ic is 180Msps. The AD9106 provices four differential current outputs.
3. Current to voltage converter – This module converts the output signal of the AD9106 to a voltage level.
4. LCD – 3.5 inch display with 320x240 pixels with a touch screen.