5. Download the **Mini Precision GPSDO Clock Configuration Application** and run the application and change the number in the **Settings** box to **36000000** as shown below. (This sets the Reference Output to 36.000 MHz)
6. Press **Set Frequency** and the Mini Precision GPSDO should find the correct PLL settings typically within 10-20 seconds. Once PLL lock has been obtained the Red LED on the unit will be lit continuously.

7. The VNWA is now ready to take measurements using the Mini GPSO as external clock reference Source.

8. Measurements results should be similar compared to the built-in TCXO. The picture below shows a typical commissioning measurement taken with the external Mini Precision GPSDO as clock source compared to the same measurements those taken with the Internal 12 MHz TCXO (Mem1 and Mem2).

Measurements taken with the Mini Precision GPSDO clock should be similar compared to the built-in TCXO with the Pre-multiplier set to x3. The picture below typically shows Commissioning test results taken with the external GPSDO as clock source against those taken with the Internal 12 MHz TCXO.

Trace 1: Blue S21 and Trace 2: Red - S11 measurements taken with Mini Precision GPSDO as External 36 MHz Reference Clock set to level of (8mA)

Trace 4: Pink S11 Mem 1 and Trace 5: Black S21 Mem 2 were taken using the 12 MHz Internal TCXO clock with pre-multiplier set to x3 (=36 MHz). Not shown is that the S21 noise levels are similar within a few dBs.

**Switching from Mini GPSDO External Clocking back to VNWA Internal Clock:**

1. Select the **Instrument Settings** Tab and change the Clock source from **external** to **x3** or to **auto**. Change the Clock field shown in fig from **36 to 12 MHz**.

2. In GPSDO Clock Configuration Menu untick the box **Enable output 1** to avoid the GPSDO Reference Clock interfering with the VNWA internal Clock.

3. Optionally remove the RG223 Cable from the VNWA.

Jan Verduyn SDR-Kits – 30 January 2018