

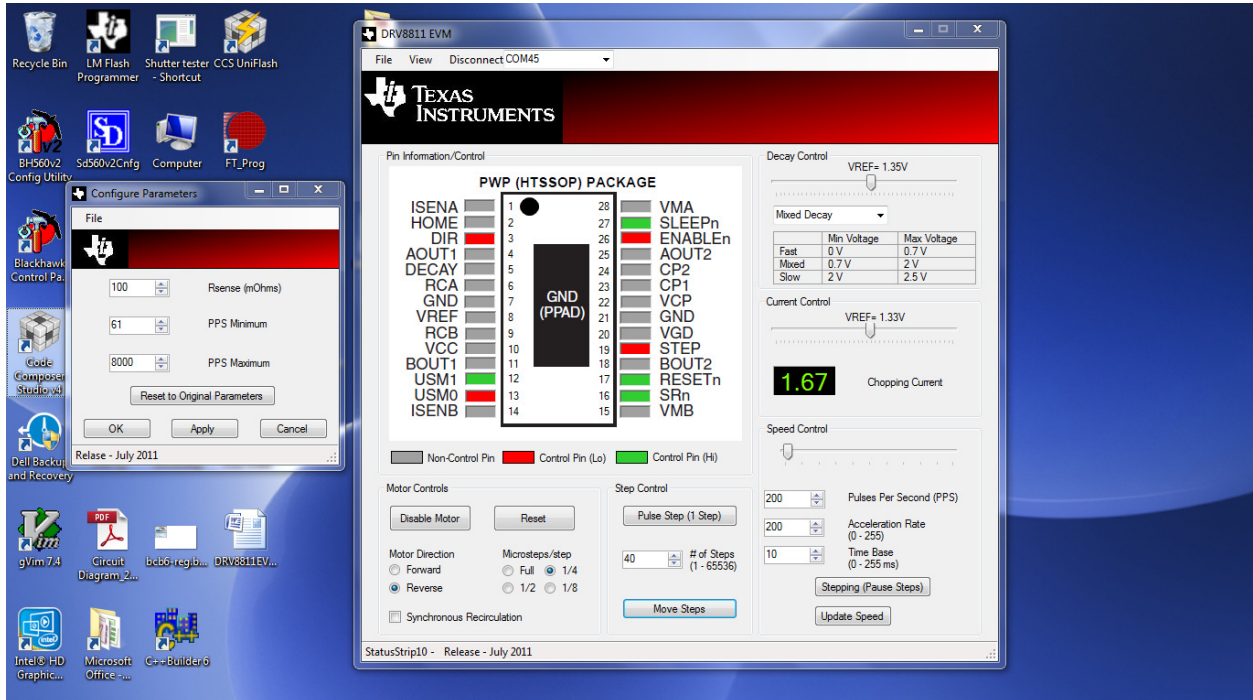
On 10/17/2017

First experiment with DRV8811EVM board:

Skip steps was observed in signal step mode, it responded to 2 clicks and went 2 steps and then did not respond next 2 clicks and skipped 2 steps, and then respond to the next 2 step to go 2 steps and then didn't respond... It went on and on very repetitively.

On 10/18/2017

The first time turn on stepper motor responded to every click and went 1 step per click. Uneven step size was observed. As observer, 2 clicks produced 2 smaller steps and next 2 clicks generated 2 larger one and it went on alternately. It seemed to repeat every 4 steps as a cycle.



A while later the symptom changed back to what was seen on 10/17/2017 after we played with the parameters. This symptom persisted even we changed the parameters back to what we had on 10/17/2017.

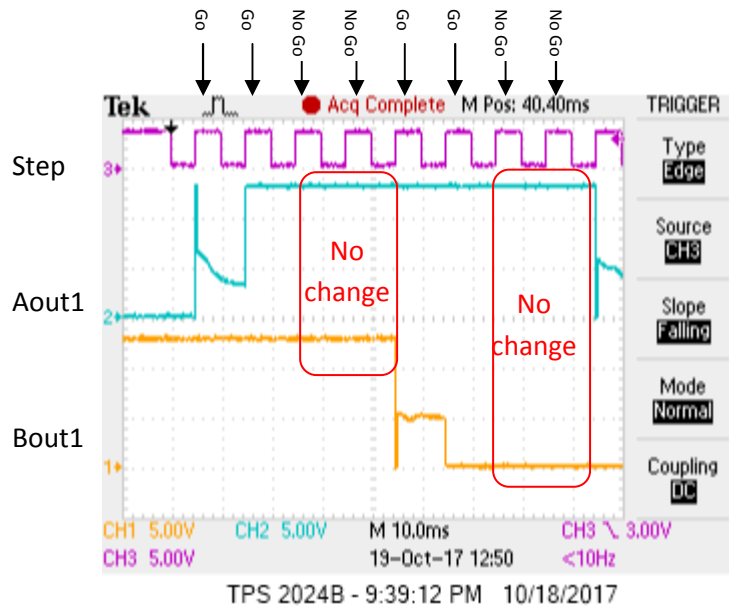
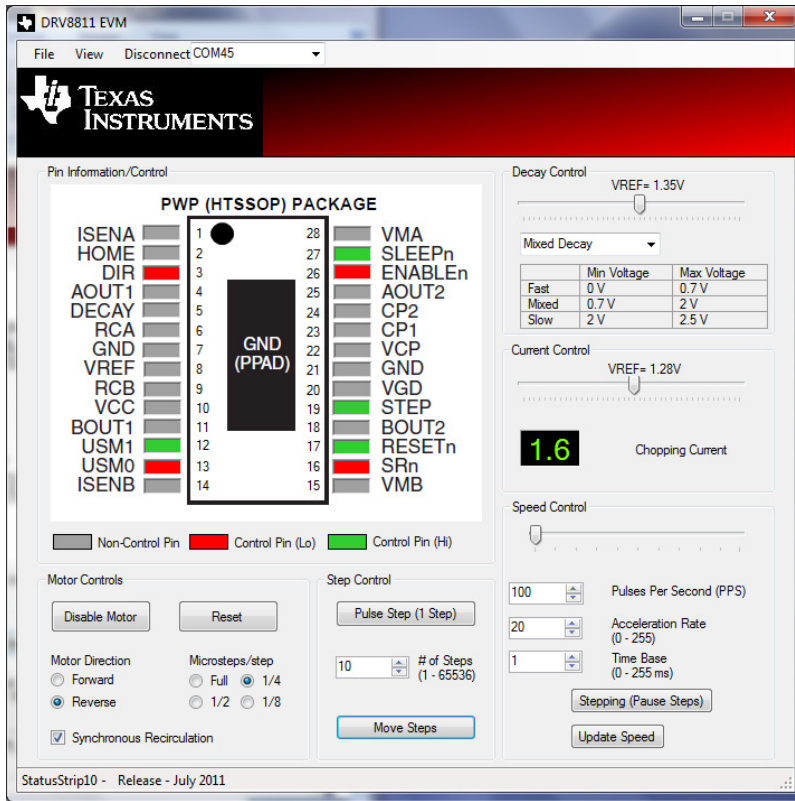
It seems to us that this may be a parameter setting issue. Some parameters/configuration might have been set too marginally and therefore proper performance cannot be obtained.

We have also tested the motor in different modes. It seemed to work fine without skipping step in full step mode and half step mode but not in quarter step mode and 1/8 step mode. In 1/8 step mode it went 2 steps and skipped 6 steps.

One more experiment was done to measure the Aout1 and Bout1 signals with respect to the step signal (CPU output to trigger the stepper driver).

One the next page, the first GUI screen shot shows the parameter setting used in the experiment. The 2nd one was oscilloscope screen shot showing the waveform. It explained why it went 2 steps and skipped 2 steps in quarter mode but doesn't tell the root cause.

Test report_DRV8811EVM Eval board with AM1020 stepper motor



Powered off the Eval board and exited out the program to end the test.

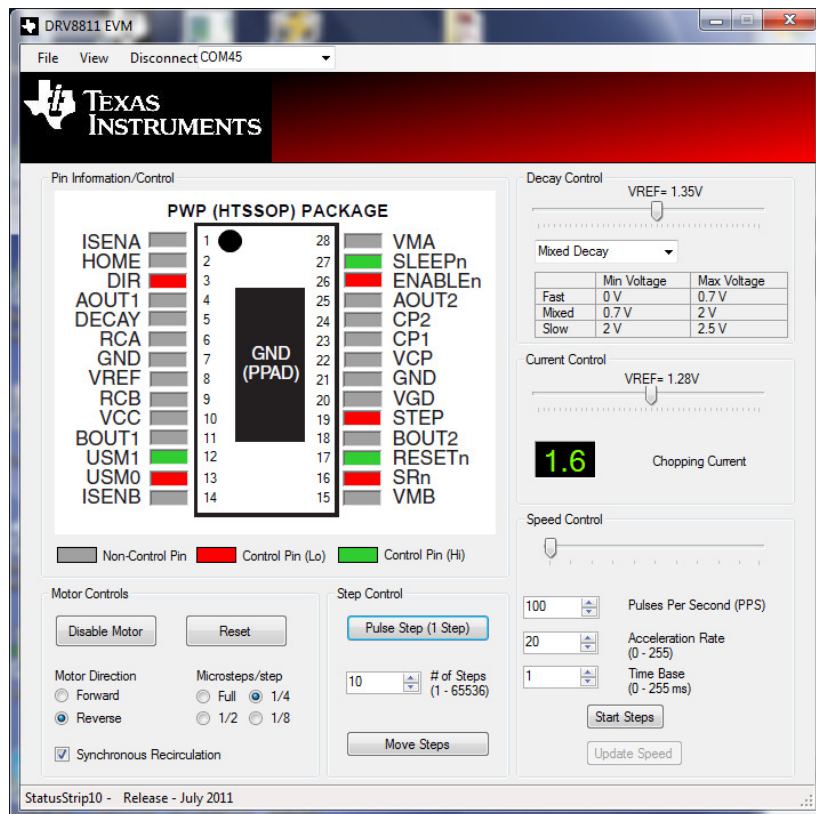
On 10/19/2017

According to the test performed on 10/18, stepper motor responded to the 2 click of pulse step and skipped next 2 clicks.

On 10/19, we used the same setup (that resulted in 2 moves and 2 skips on 10/18) as shown below to test stepper motor again.

Powered on the Eval board and launched the program.

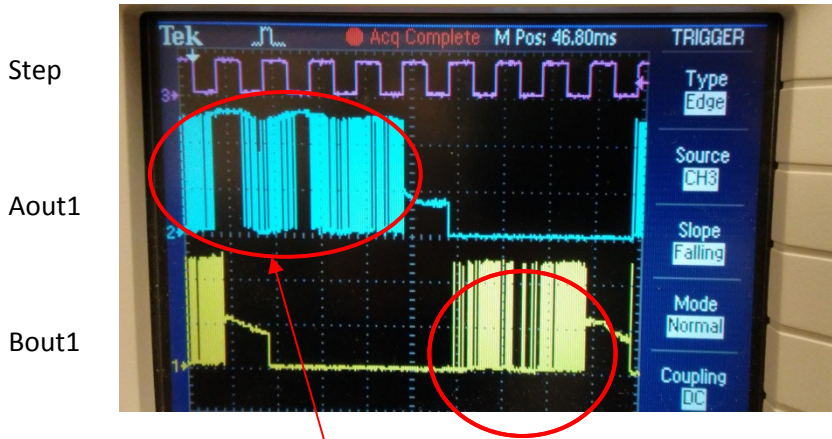
Stepper motor was able to respond to every single click and advanced the motor (2 smaller moves, 2 larger moves).



The waveform of step, Aout1, and Bout1 was quite different from the ones took yesterday as shown on page 5

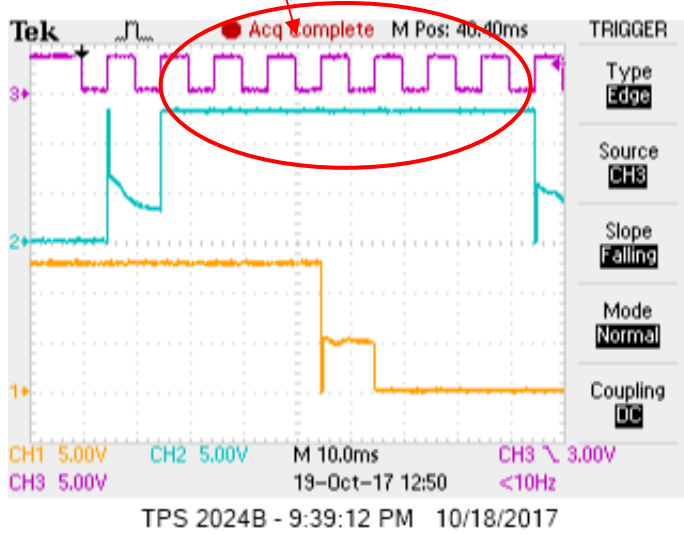
In continuous mode:

10 steps of movement



Oscillation shown on Aout1 and Bout1 waveforms

Compared with the one taken on 10/18



Aout1 and Bout1 stayed stable at high or low ??

Test report_DRV8811EVM Eval board with AM1020 stepper motor

In pulse step mode

Aout1 and Bout1 waveforms were taken after each click of pulse step. Apparently, the driver was in oscillation but was able to respond to each click and advance the motor step by step.

