

Technical Issues faced in TI Motor Control

I am running the DMC_LEVEL_2 (V/F Method)

The motor parameters are as follows:

The maximum current rating is 2A

Power Rating is 280W

Max RPM 115

Pole pairs 14

Voltage rating 120V

```
#define USER_MOTOR1_FREQ_LOW_Hz      (2.0f)           // Hz
#define USER_MOTOR1_FREQ_HIGH_Hz     (22.0f)          // Hz
#define USER_MOTOR1_VOLT_MIN_V       (25.0f)          // Volt
#define USER_MOTOR1_VOLT_MAX_V       (205.0f)         // Volt
```

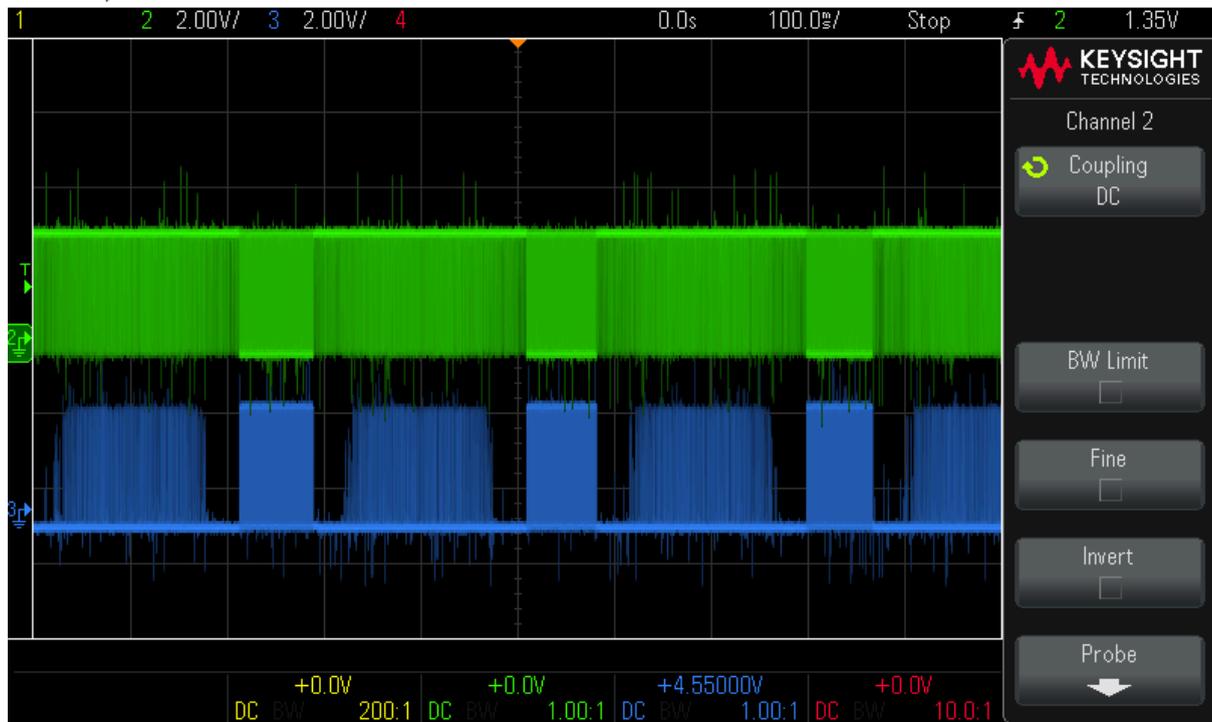
```
motorVars_M1.powerRef_W = 250.0f; // W
motorVars_M1.speedRef_Hz = 15.0f;  // Hz
motorVars_M1.speedSet_Hz = 15.0f;  // Hz
```

1.Initial PWM from the MCU [load is not connected]

Channel 2 :Low side PWM

Channel 3: High side PWM

DSOX1204G, CN59047383, Fri Mar 06 15:19:00 2026

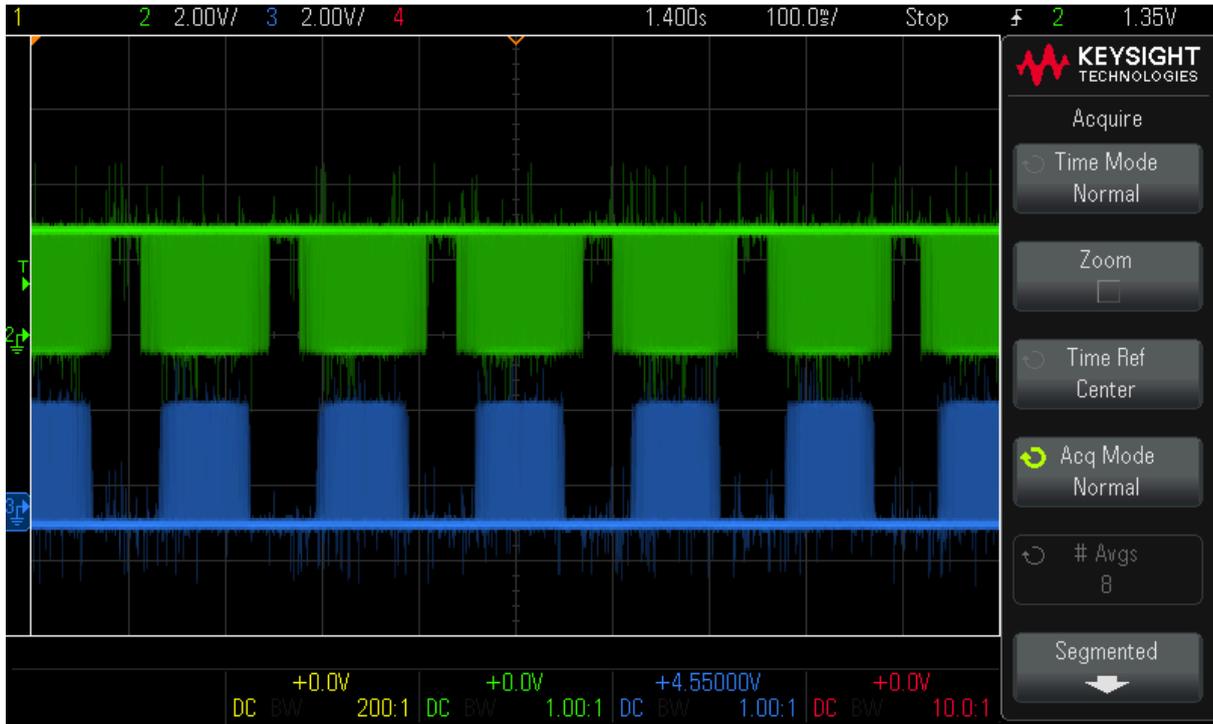


2. PWM from the MCU once reaching the commented frequency [load is not connected]

Channel 2 :Low side PWM

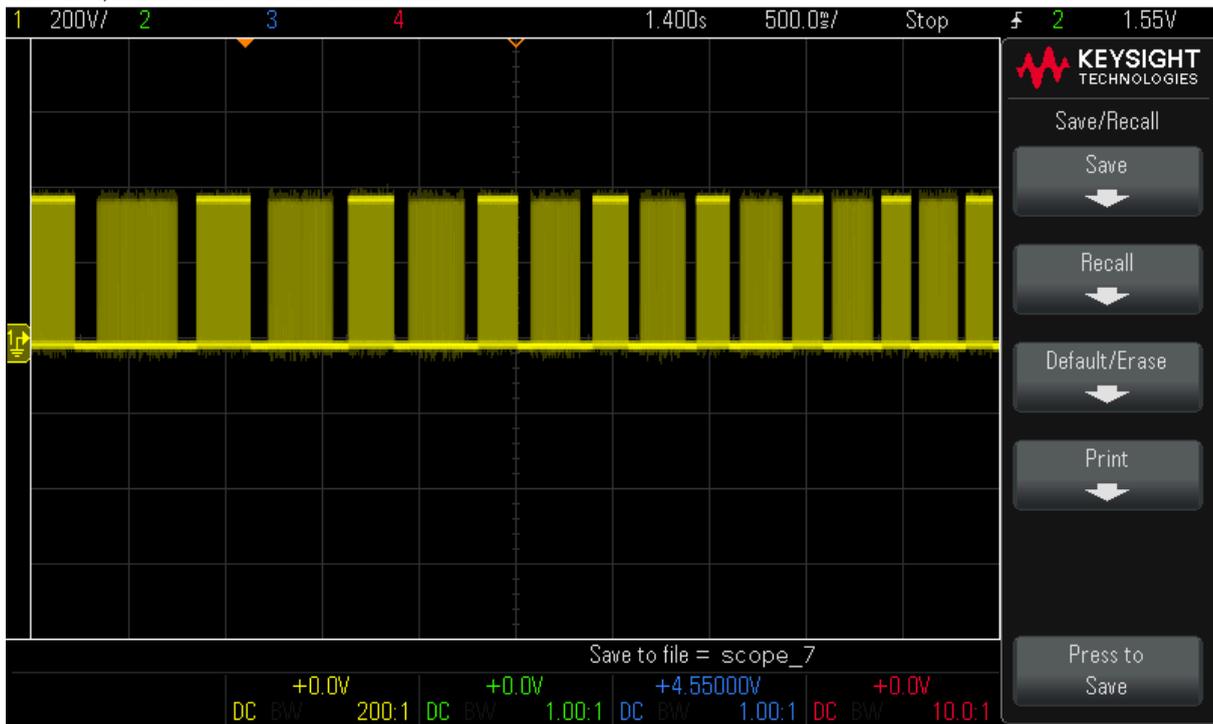
Channel 3: High side PWM

DSOX1204G, CN59047383: Fri Mar 06 15:17:54 2026



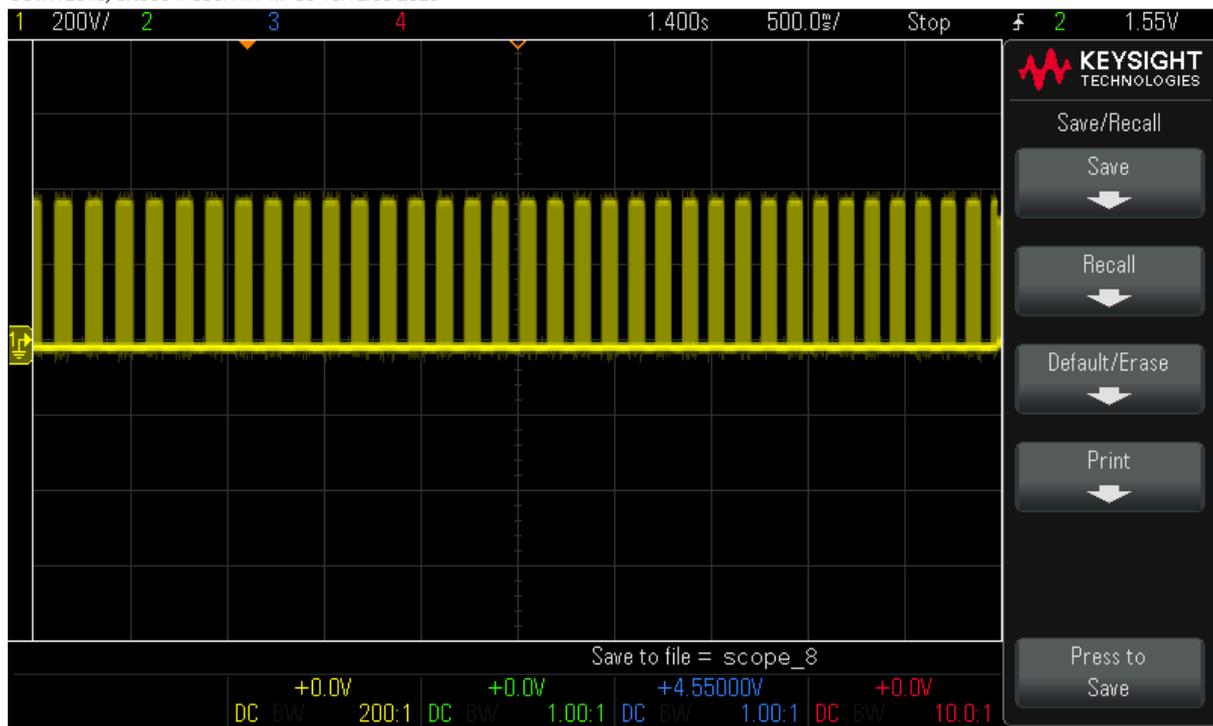
3. Phase to ground PWM initially [load is not connected]

DSOX1204G, CN59047383: Fri Mar 06 15:12:37 2026



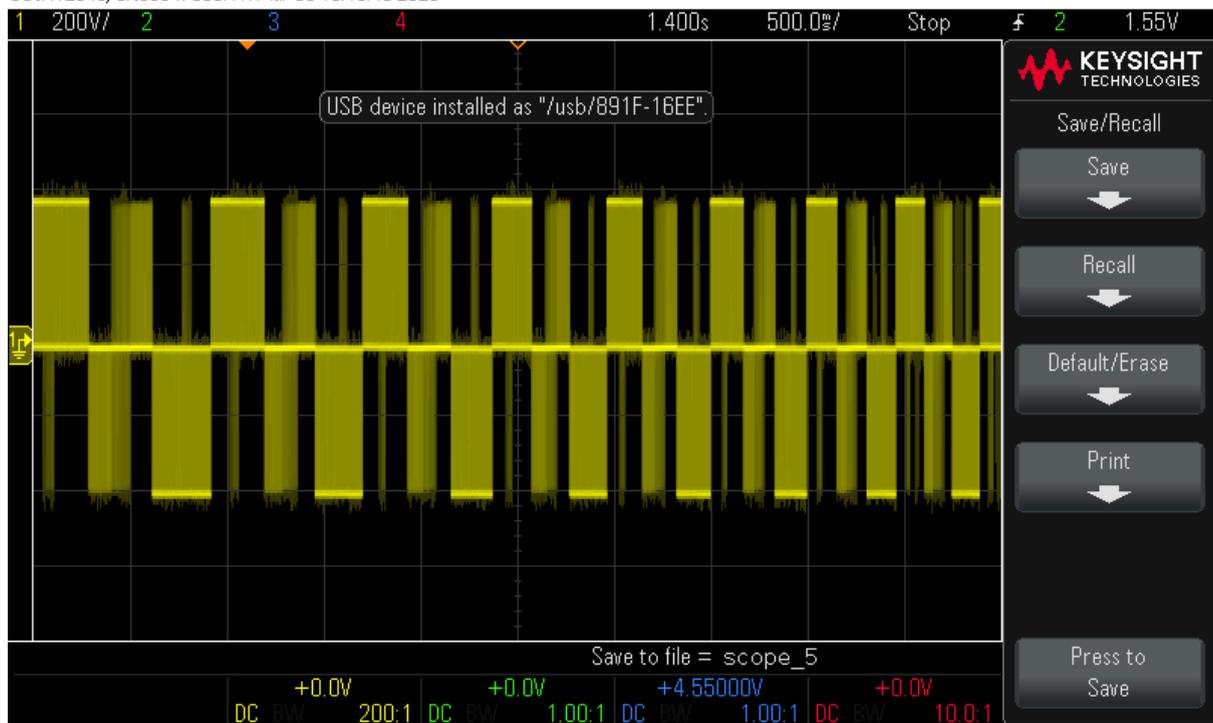
4. Phase to ground PWM when commented Frequency is reached [load is not connected]

DSOX1204G, CN59047383: Fri Mar 06 15:12:59 2026



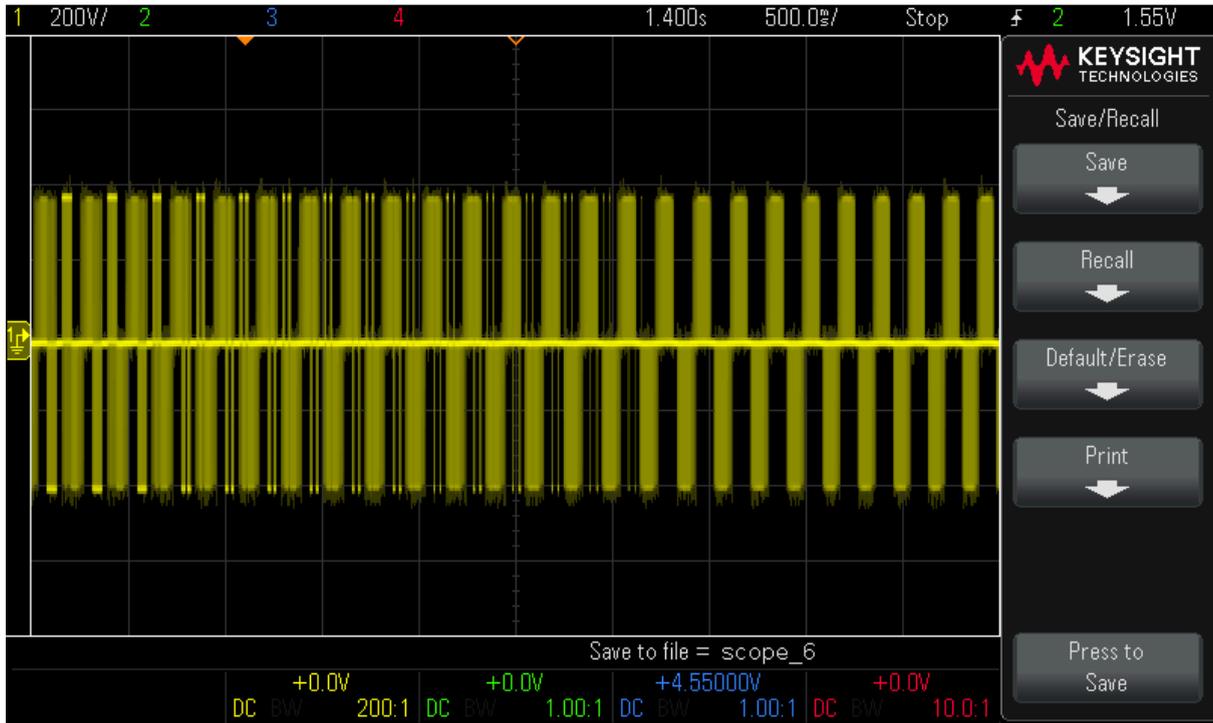
5. Phase to phase PWM initially [load is not connected]

DSOX1204G, CN59047383: Fri Mar 06 15:10:48 2026



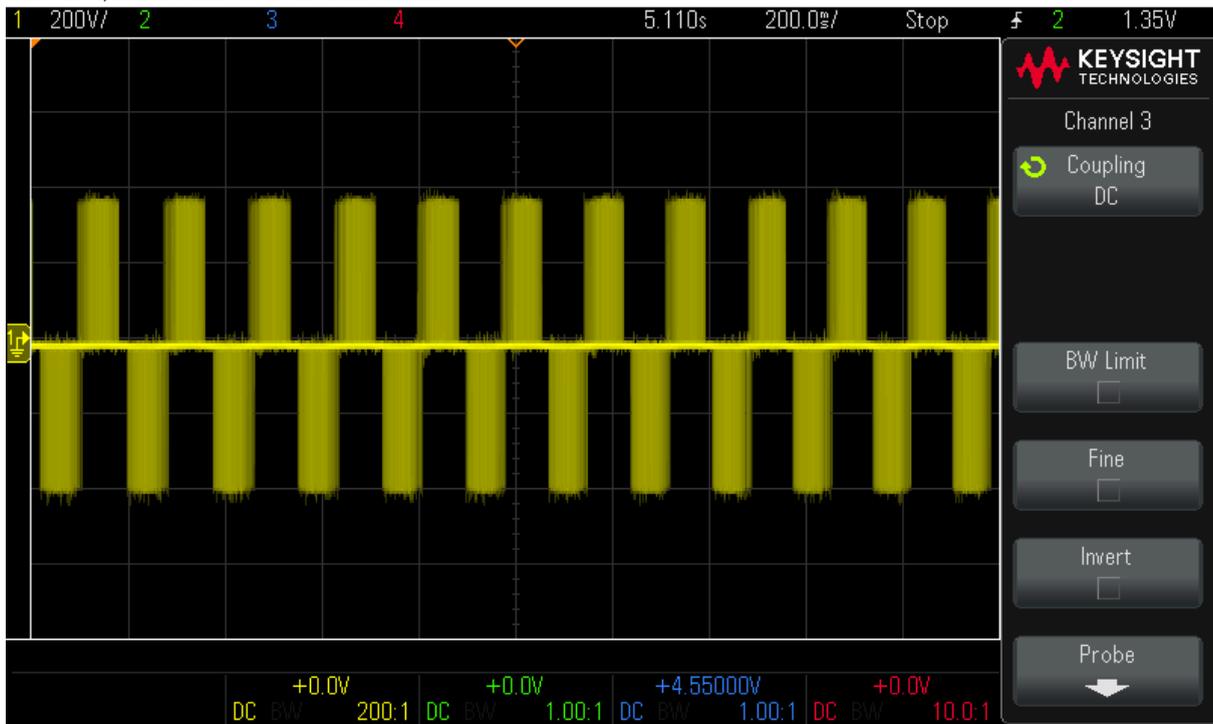
6. Phase to phase voltage when about to reach the commented frequency [load is not connected]

DSOX1204G, CN59047383: Fri Mar 06 15:11:31 2026



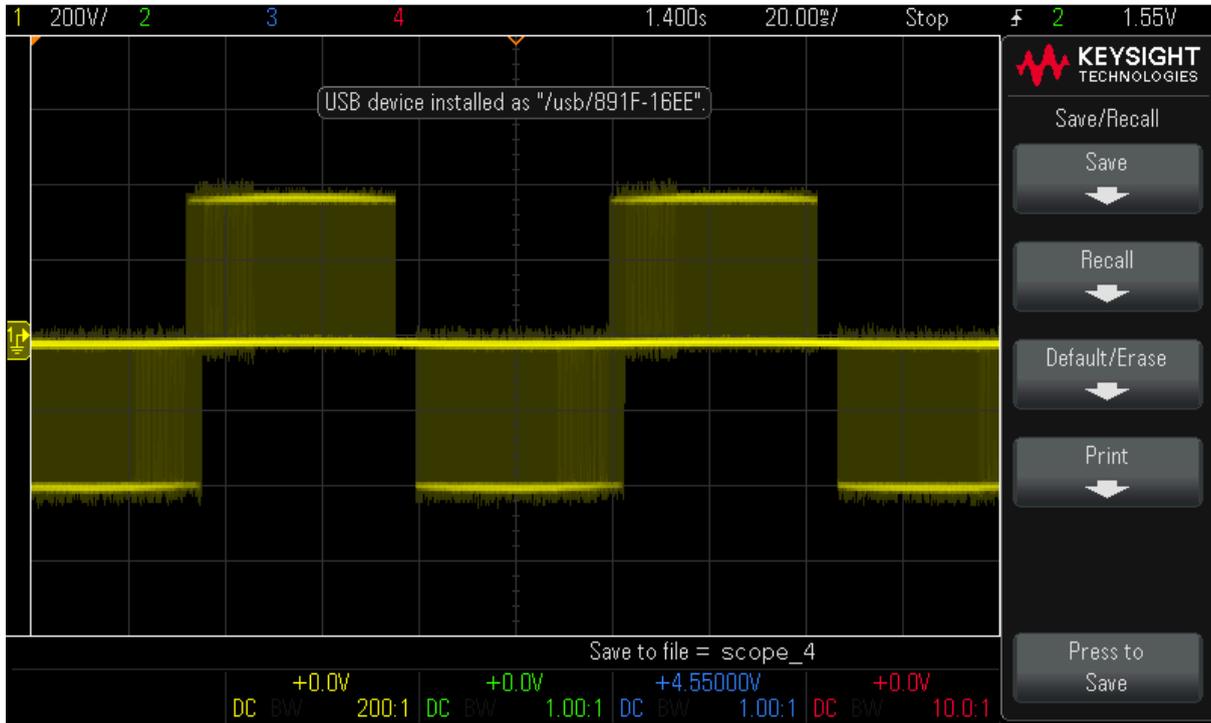
7. Phase to phase voltage when reached the commented frequency [load is not connected]

DSOX1204G, CN59047383: Fri Mar 06 16:03:13 2026



8. Zoomed image of the above [load is not connected]

DSOX1204G, CN59047383: Fri Mar 06 15:09:57 2026



9. Current waveform when load is connected and it always trip the as the overcurrent flag initially itself [OverCurrent protection is kept at 3A]

DSOX1204G, CN59047383: Fri Mar 06 16:08:09 2026



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Channel 1: Phase voltage initially when load is connected .

Channel 4:Current waveform before hitting the Over Current [Kept at 2.3A]

DSOX1204G, CN59047383: Fri Mar 06 16:06:59 2026

