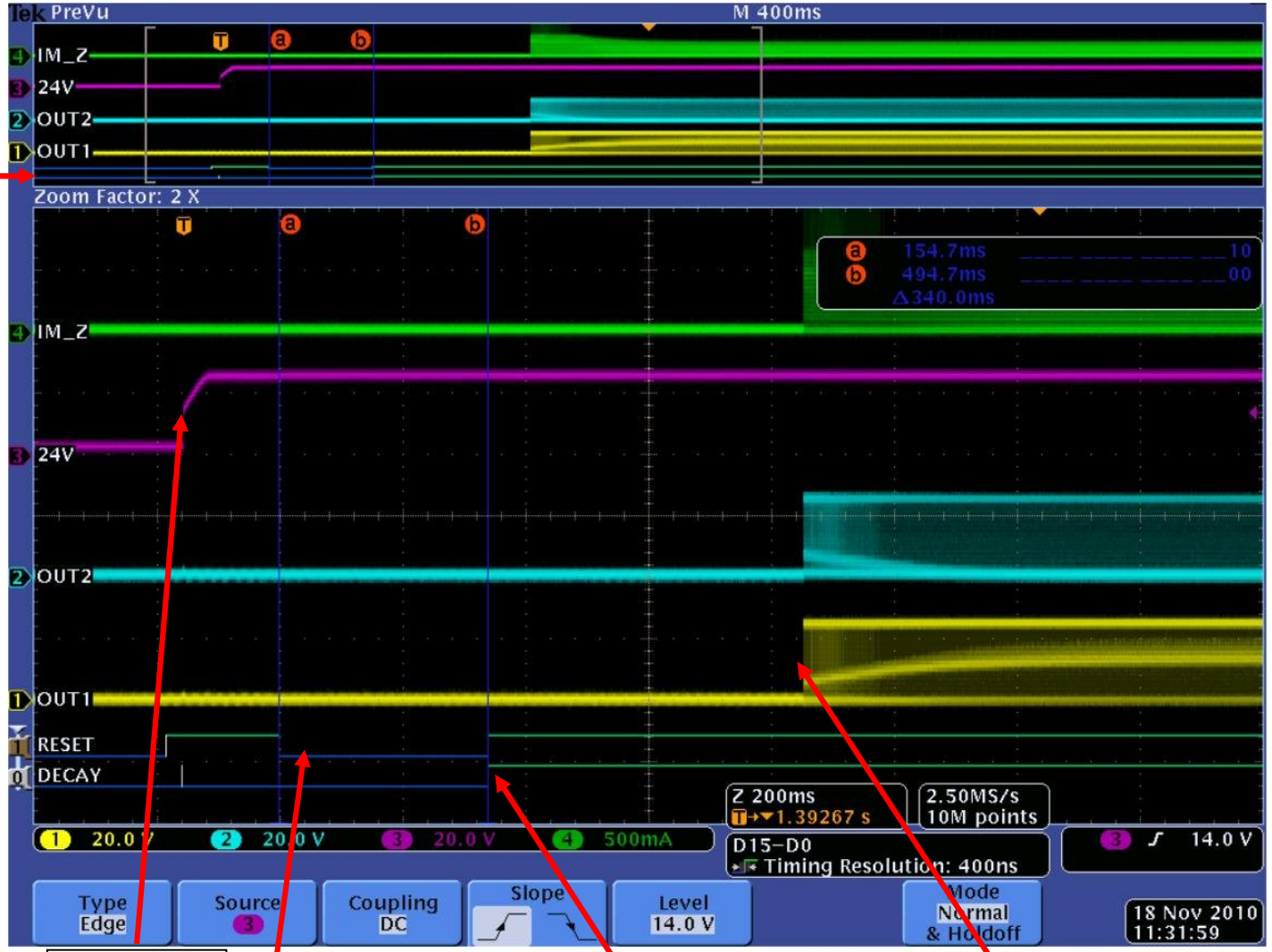
DECAY = FAST; TYPE 1 STARTUP, CHOPPING CURRENT LEVEL REACHED

Startup sequence

DRV8812 DECAY is always HIGH after DRV8812 RESET is cycled



Board power-on

DRV8812 nRESET cycled

MSO4104 - 11.30.19 18/11/2010

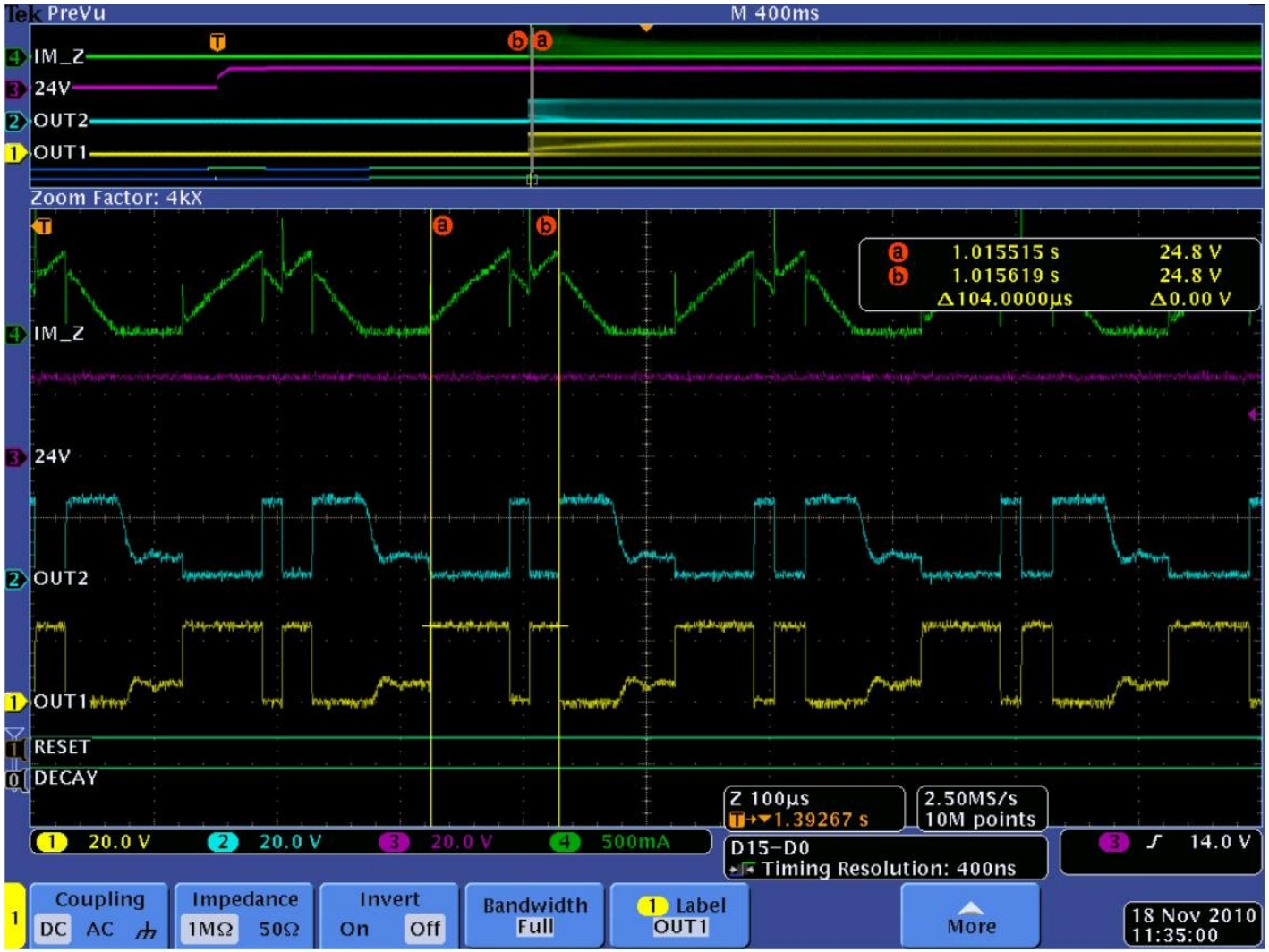
DRV8812 DECAY high

Motor started

Scope signals description

IM_Z	Current through motor windings	Measured with TEK current probe TCP0030
24V	DRV8812 power supply	
OUT1,2	DRV8812 AOUT1, AOUT2 outputs	
RESET	DRV8812 nRESET signal	Threshold of scope digital input probe = 1.4V
DECAY	DRV8812 DECAY signal	Threshold of scope digital input probe = 0.8V

PWM detail at motor start – drive motor current



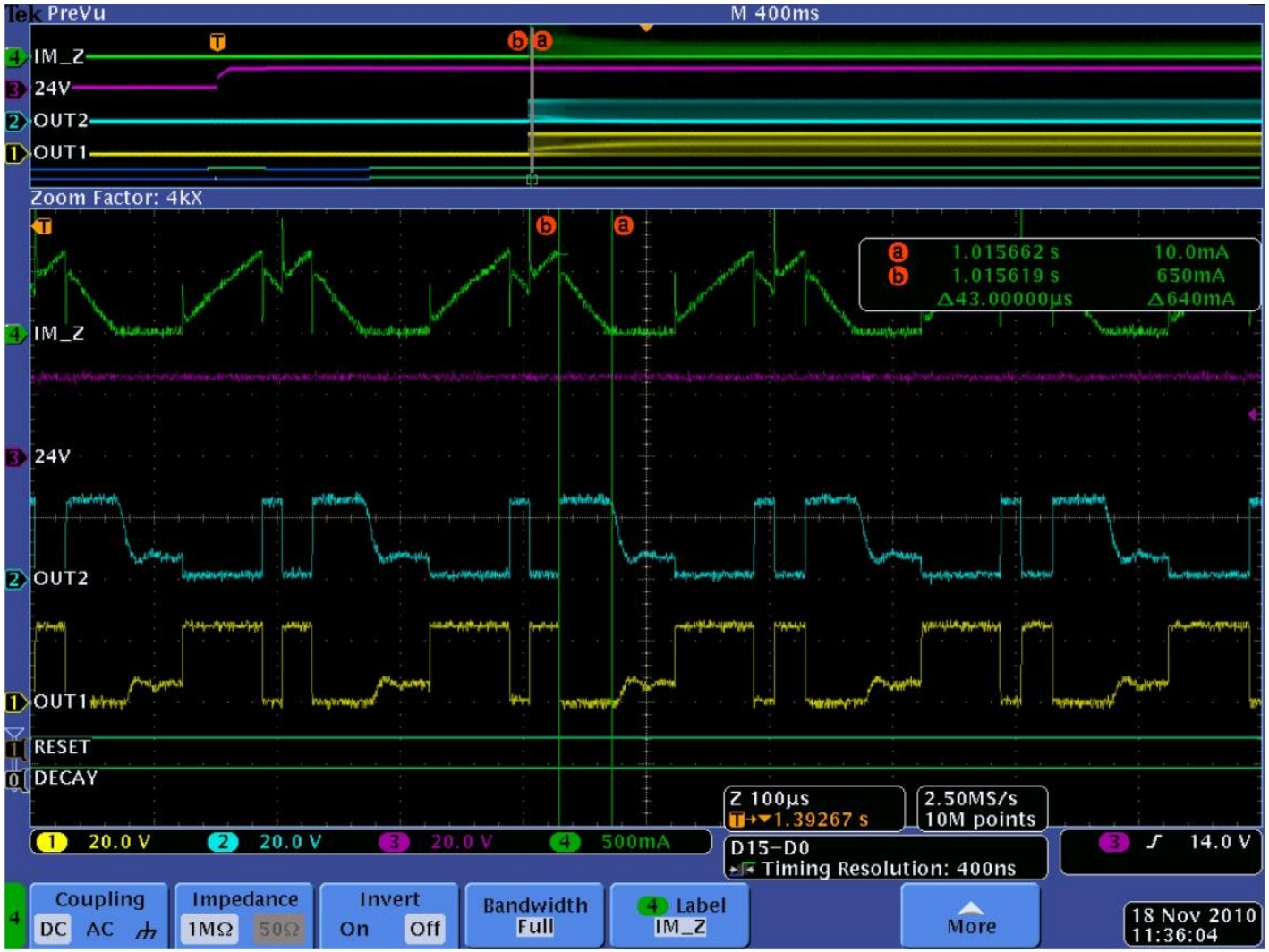
MSO4104 - 11.33.19 18/11/2010

PWM detail at motor start – detail of fast decay inside current chopping

MSO4104 - 11.35.17 18/11/2010

FAST decay function is active during current chopping

PWM detail at motor start – detail of fast decay after PWM signal is off



MSO4104 - 11.34.24 18/11/2010

FAST decay function is active also after PWM signal OFF.

COMPARING DECAY = FAST VS. DECAY = SLOW – CURRENT CHOPPING LEVEL REACHED

DECAY = L ⇒ SLOW decay function

MSO4104 - 12.37.19 18/11/2010

Here DRV8812 always activates FAST decay mode, independently of DECAY signal status

DECAY = H ⇒ FAST decay function

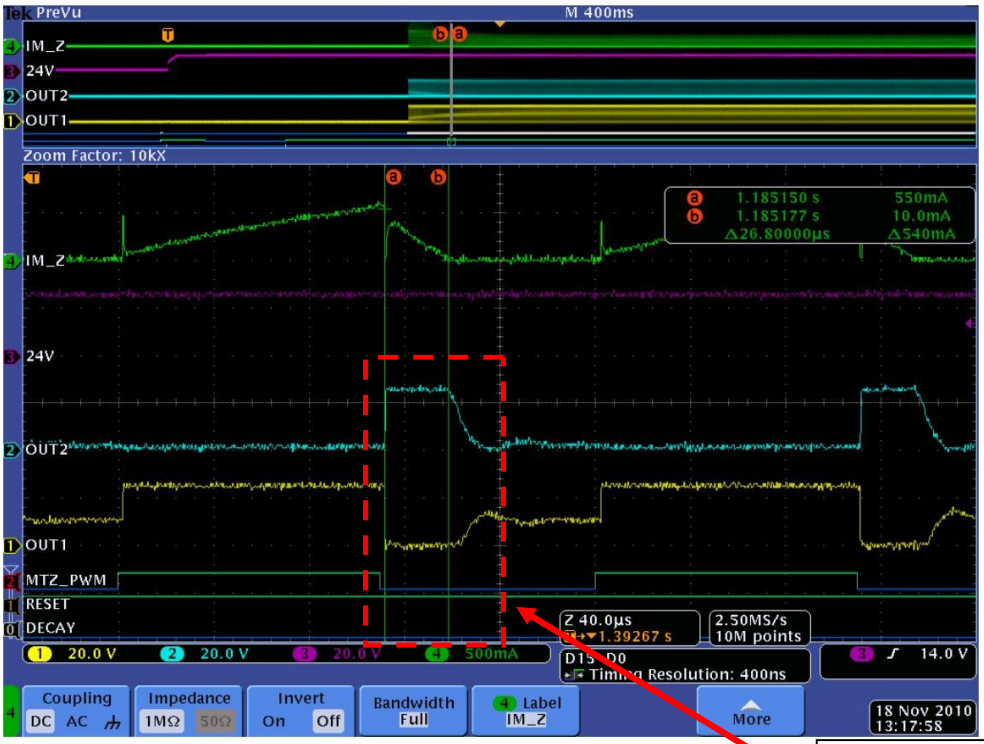
MSO4104 - 12.31.26 18/11/2010

Additional scope signal description

MTZ_PWM	DRV8812 AENBL input = PWM motor drive signal	Threshold of scope digital input probe = 1.4V

COMPARING DECAY = FAST VS. DECAY = SLOW – CURRENT CHOPPING LEVEL NOT REACHED

DECAY = L ⇒ SLOW decay function



MSO4104 - 13.16.18 18/11/2010

Here DRV8812 always activates FAST decay mode, independently of DECAY signal status

DECAY = H ⇒ FAST decay function

MSO4104 - 13.21.14 18/11/2010

Comparing scope traces it becomes clear that DECAY signal differentiates decay function ONLY if current chopping level is overcomed, i.e. only when MTZ_PWM = DRV8812 xENBL pin = H BUT NOT when PWM = xENBL = L, where current decay is ALWAYS FAST.