



iQG Series Application Note Droop Mode Current Sharing



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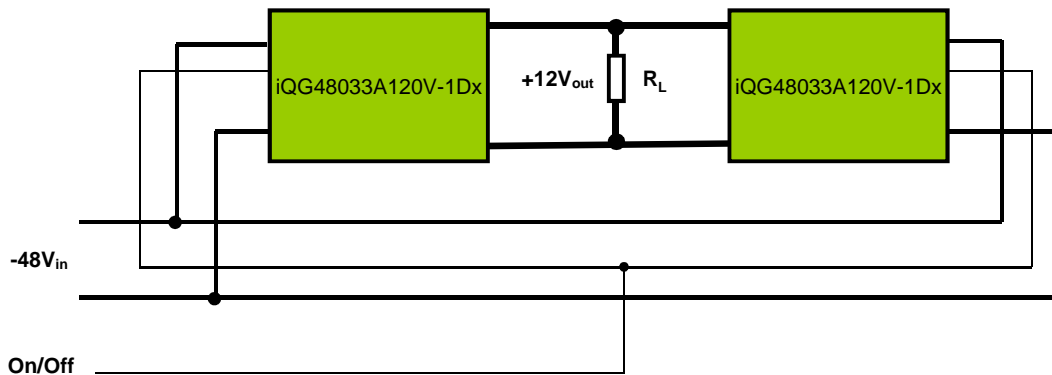
Droop Mode Current Sharing

iQG48033A120V-1Dx

(Linear voltage droop for load share)

➤ Parallel Connection setup

➤ Without ORing Diodes and without any external Current sharing circuitry !



- TDK-Lambda Americas conducted tests for both static and dynamic load sharing from no-load to 66A load by using both the remote on/off feature and switching the input voltage on / off. See following pages
- **The load share accuracy is greatly improved by using tight tolerance resistors for internal voltage setting and feedback circuit so that the initial voltage setting is very close**
- **Droop Mode Characteristics**
 - Voltage droop rate: 20mV/A
 - Load share accuracy: ±10%

Notes:

Symmetric layout design combined with low resistance PCB copper traces for the output side will have a significant impact on the droop share accuracy. An identical resistance on both output side will improve current share accuracy; Conversely different external resistance on each output could make current share accuracy worse.

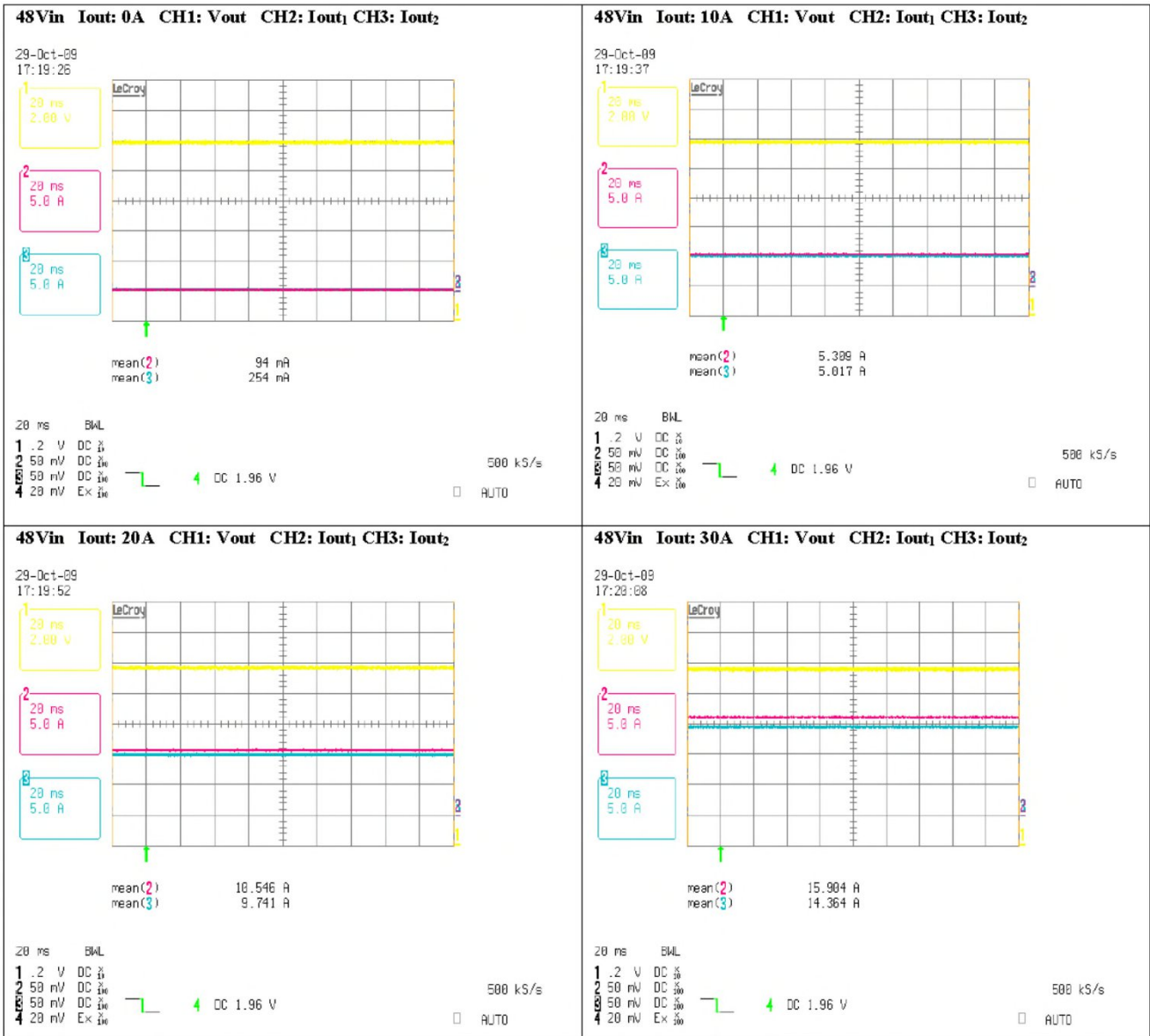
To guarantee a start-up, the initial load current should be not more than one module's maximum current (33A) before output voltage reaches output voltage range.

Droop Mode

iQG48033A120V-1Dx

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Paralleling at different Loads (Static load share)

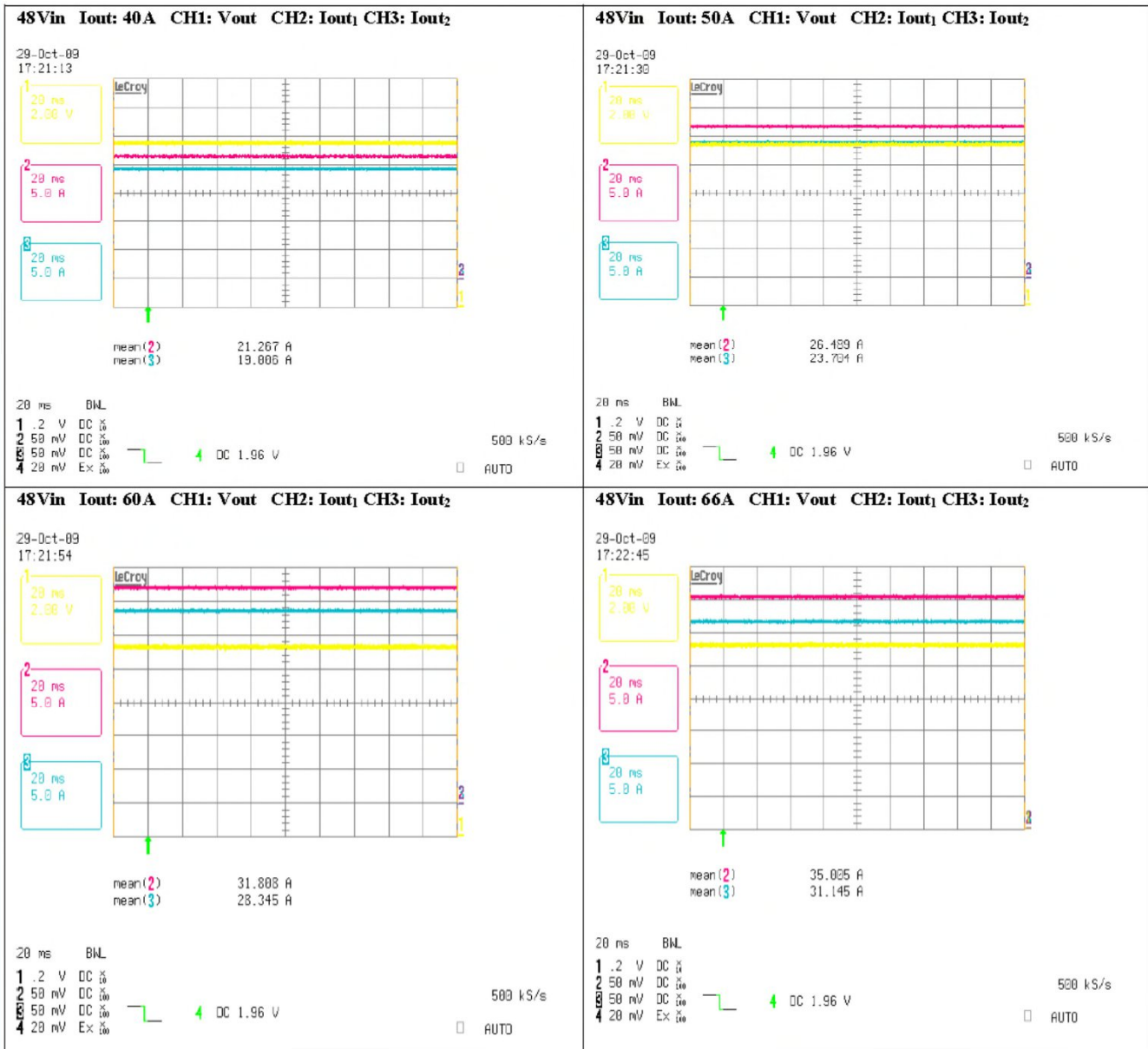


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Paralleling at different Loads (Static load share)

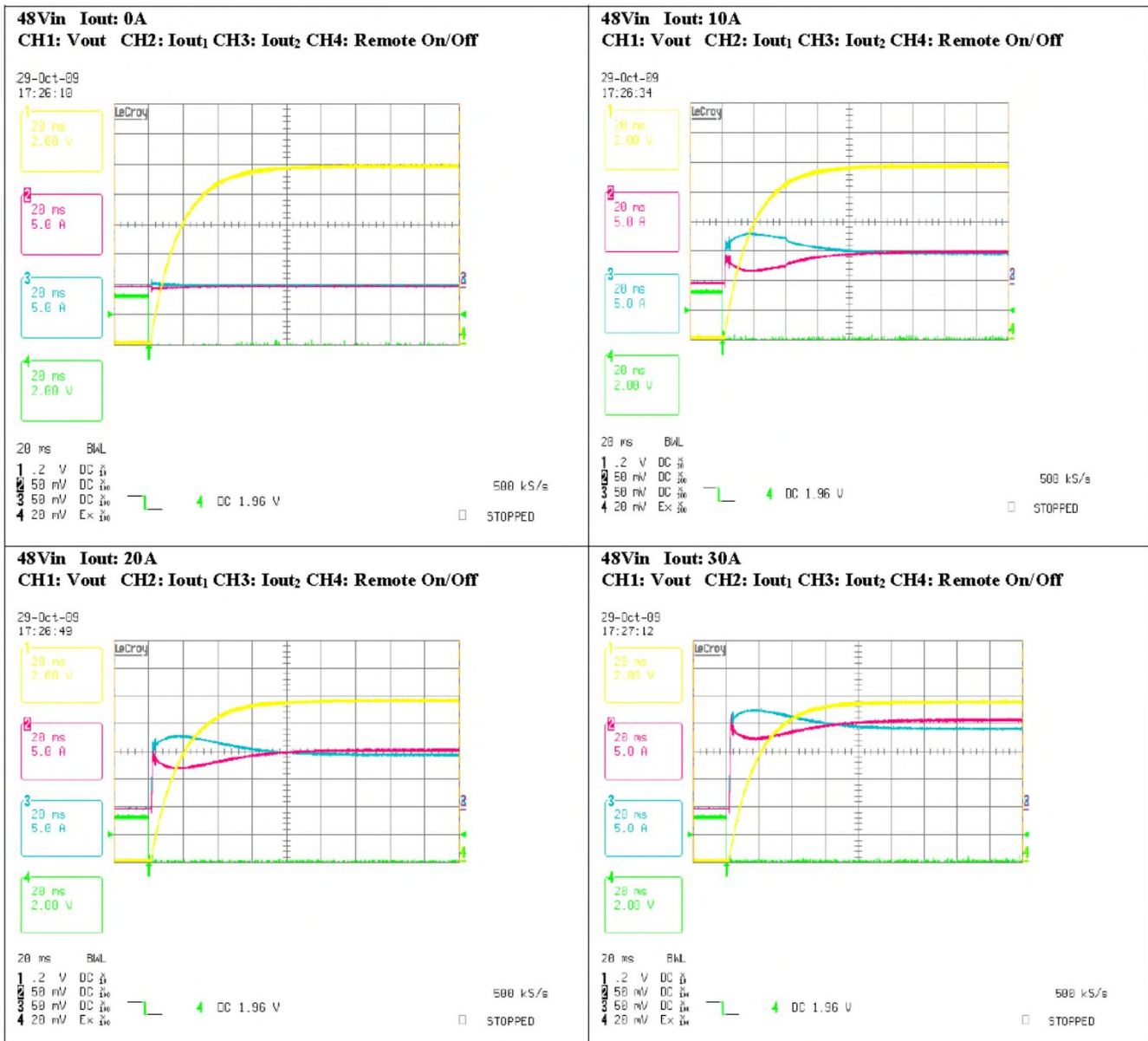


Droop Mode

iQG48033A120V-1Dx

(Linear voltage droop for load share)

Start-up at different loads (Remote On/Off) (Dynamic load share)

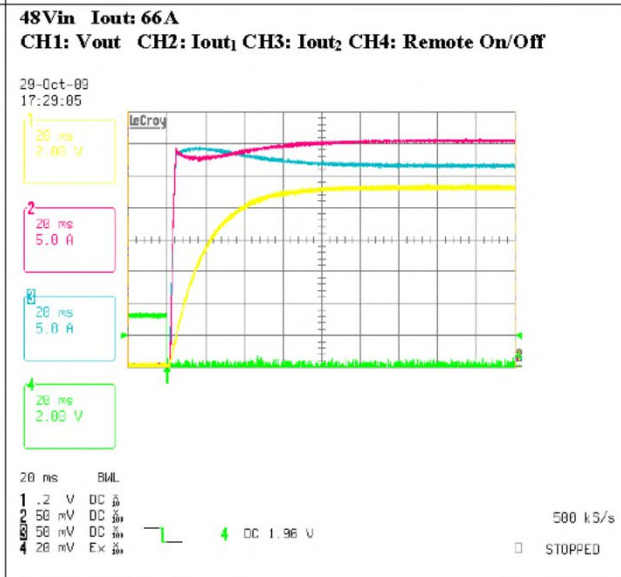
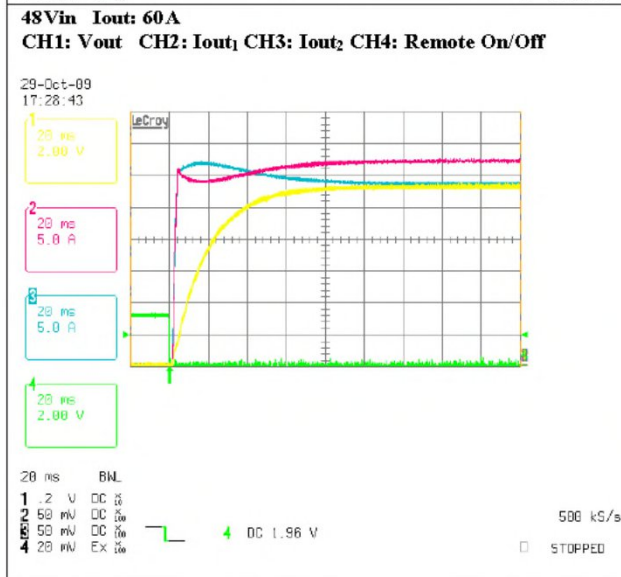
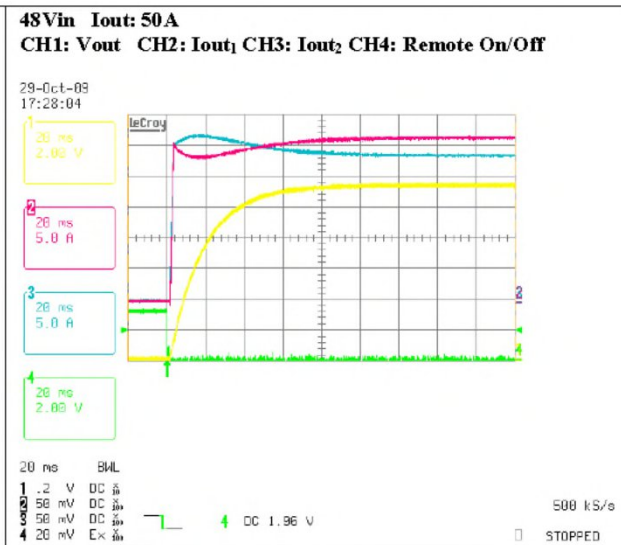
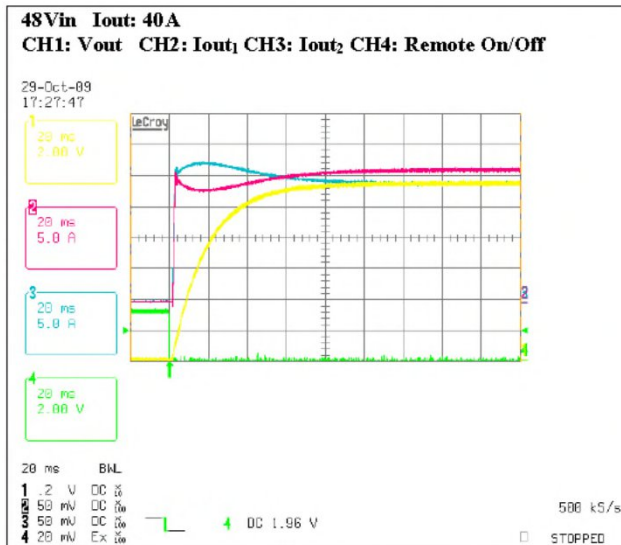


Droop Mode

iQG48033A120V-1Dx

(Linear voltage droop for load share)

Start-up at different loads (Remote On/Off) (Dynamic load share)

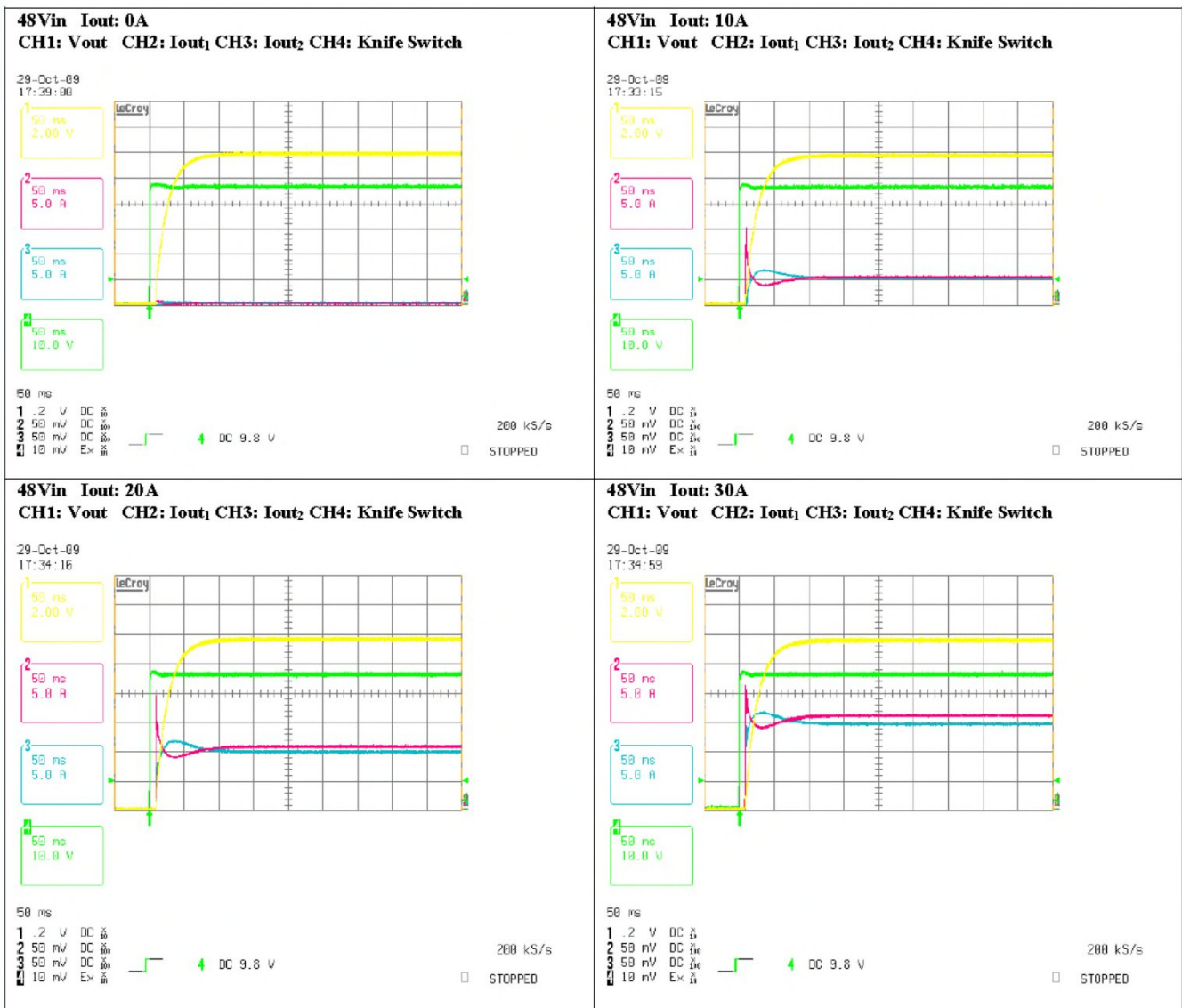


Droop Mode

iQG48033A120V-1Dx

(Linear voltage droop for load share)

Startup at different loads (Input Switch) (Dynamic load share)

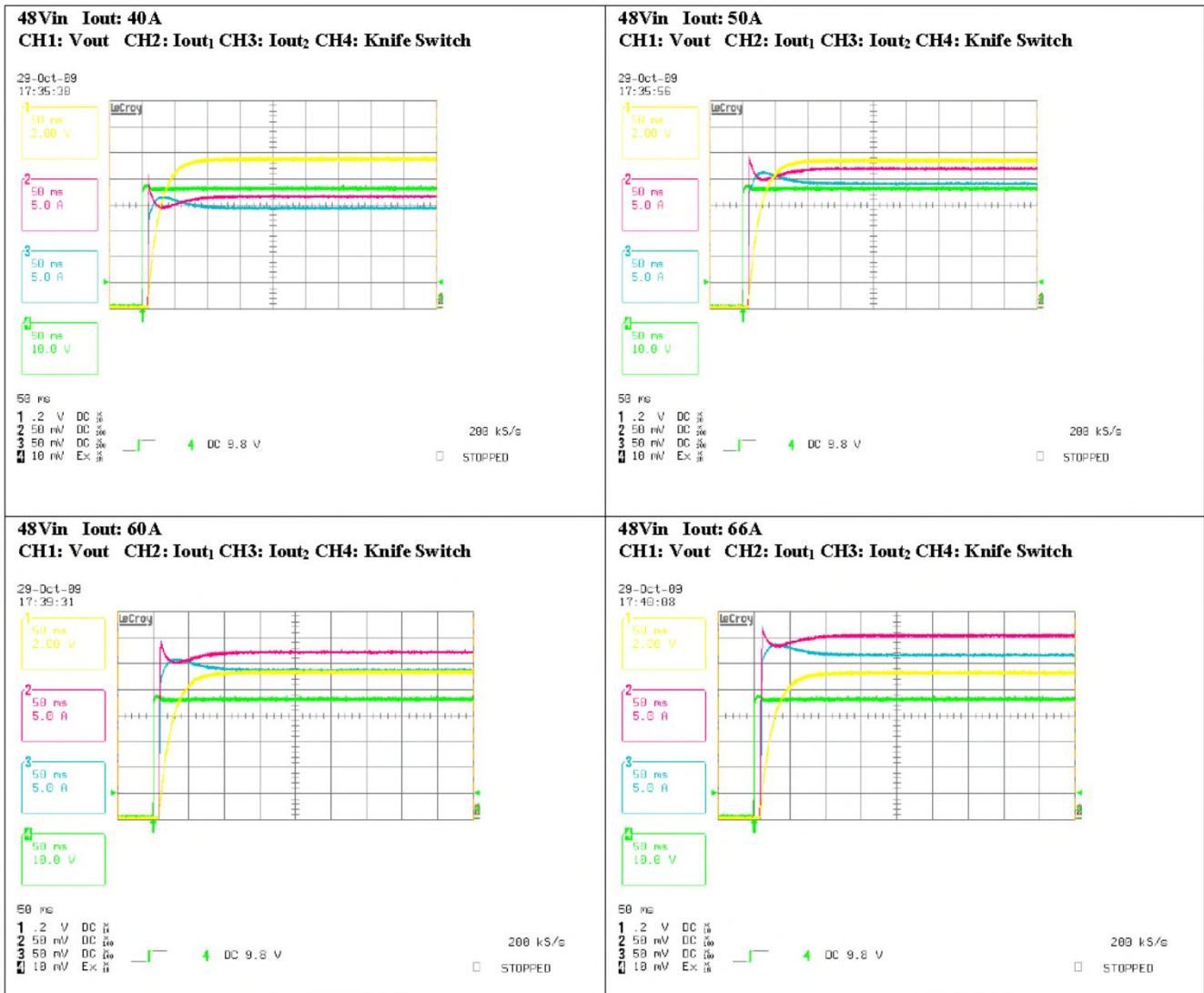


Droop Mode

iQG48033A120V-1Dx

(Linear voltage droop for load share)

Startup at different loads (Input Switch) (Dynamic load share)

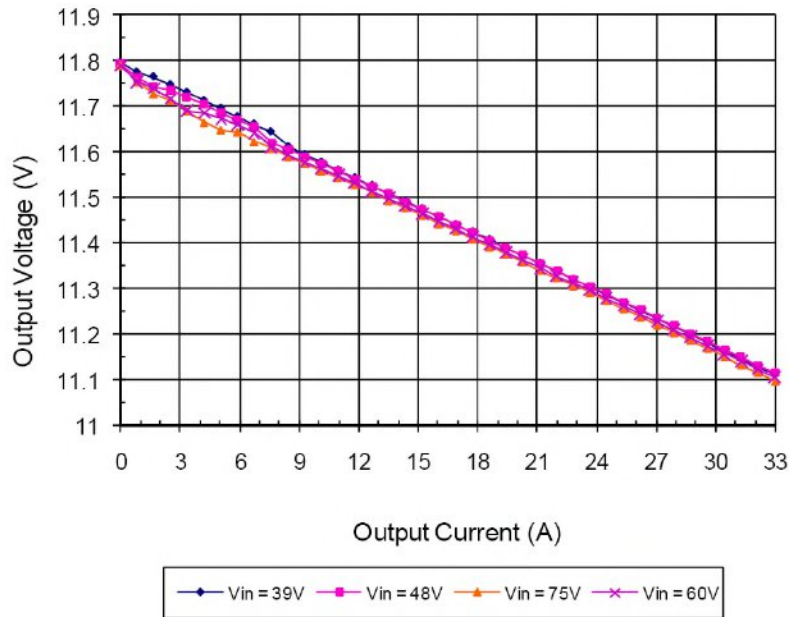


Droop Mode

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Load regulation



Current limit

