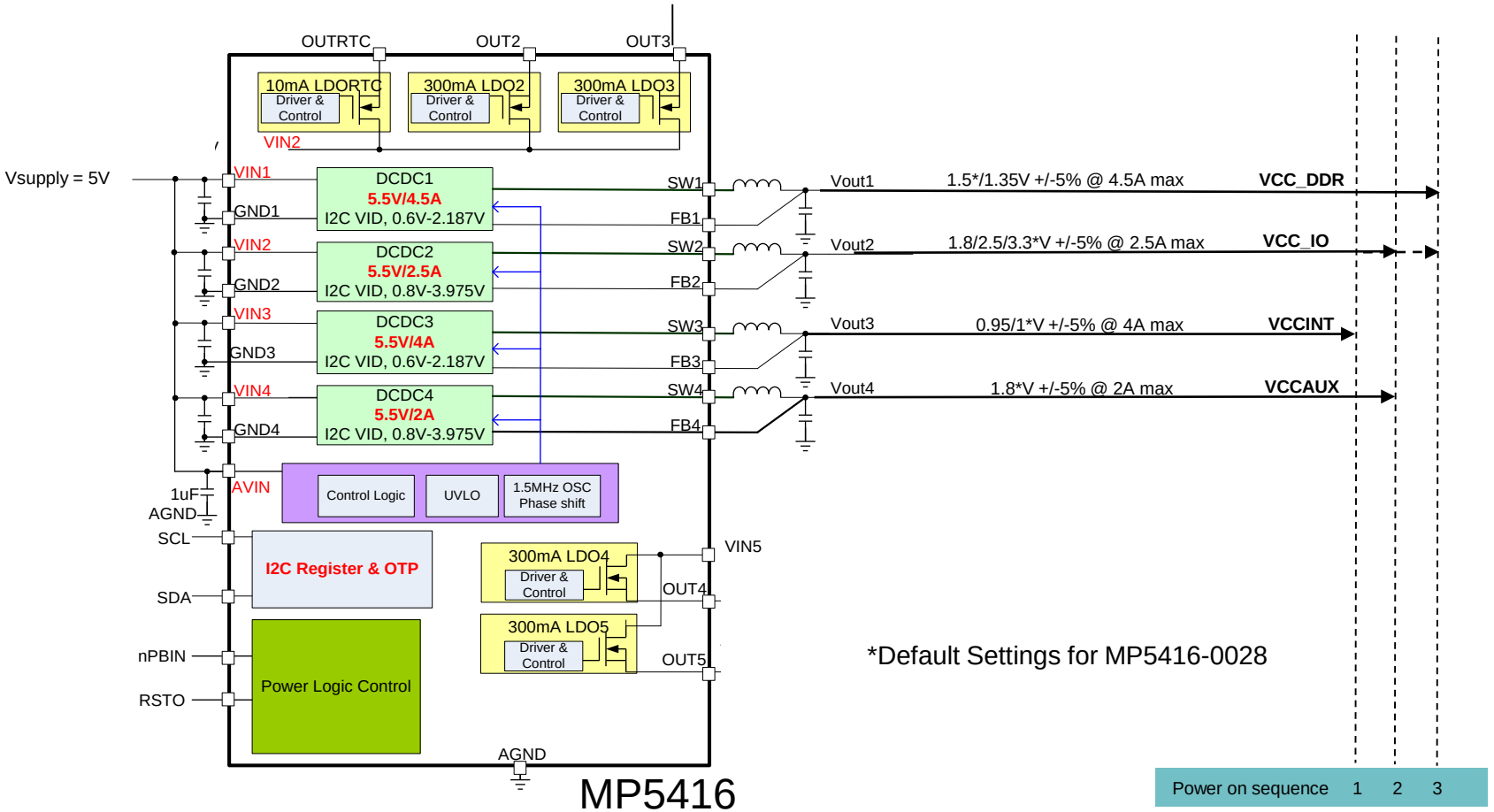
Monolithic Power Systems

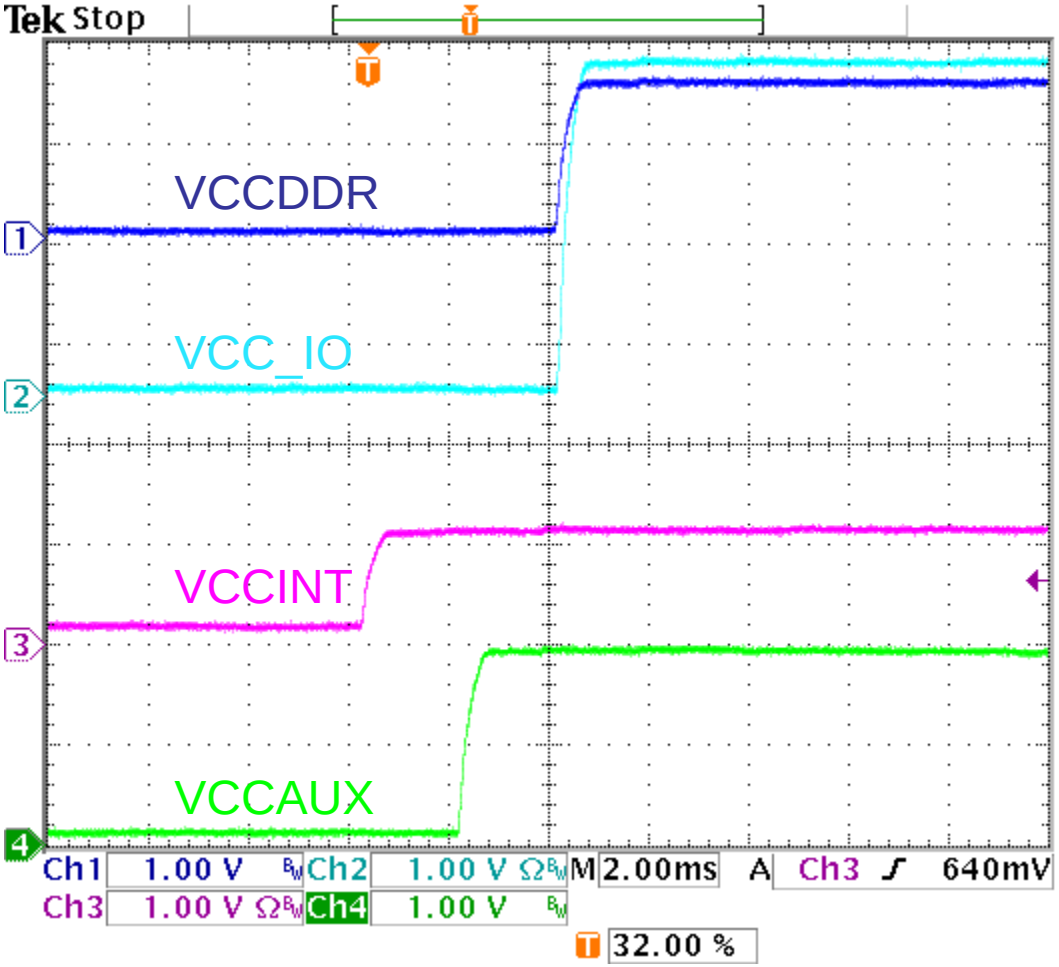
Xilinx Spartan-7 Reference Design

Sep 13, 2018

Block Diagram– Spartan-7

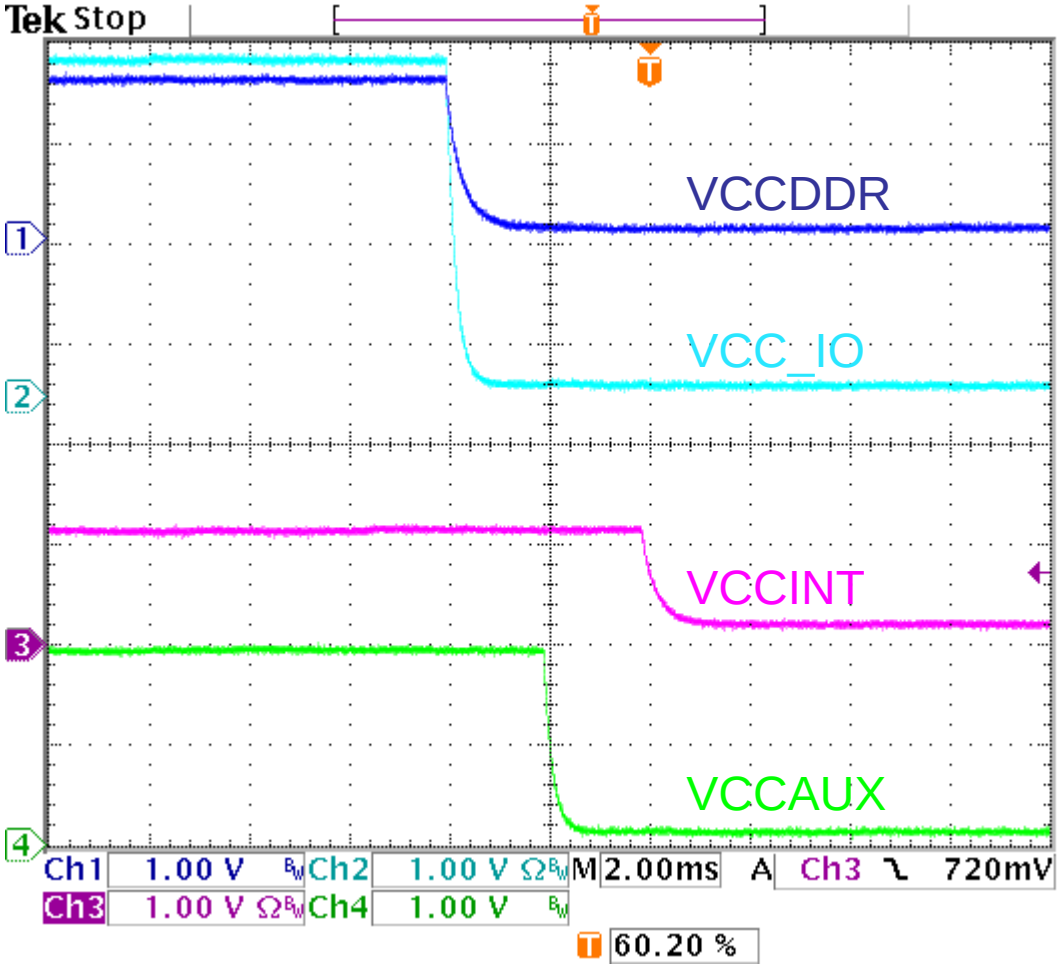


Vin = 5V



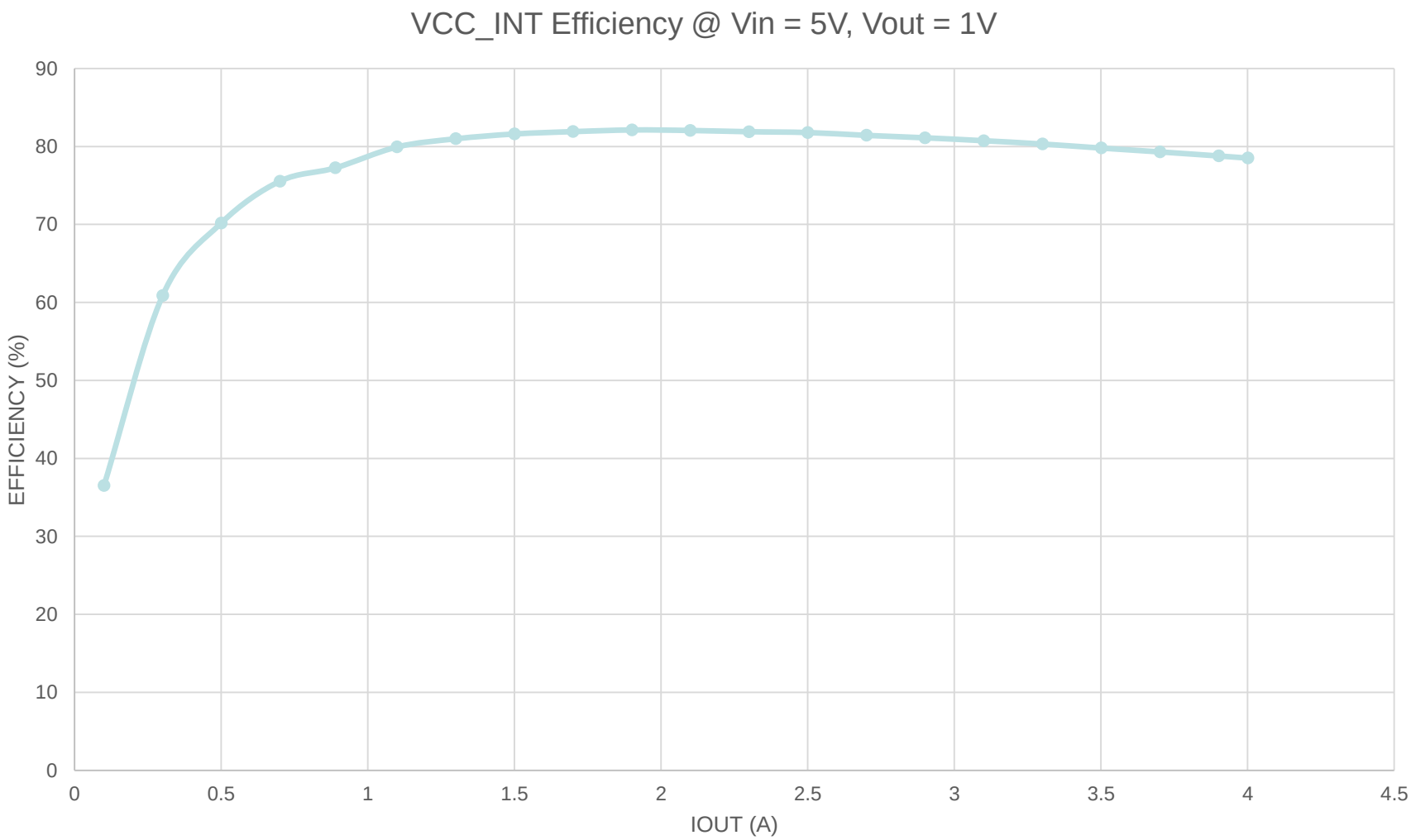
NOTE: Sequencing can be customized to any design requirements via OTP

Vin = 5V

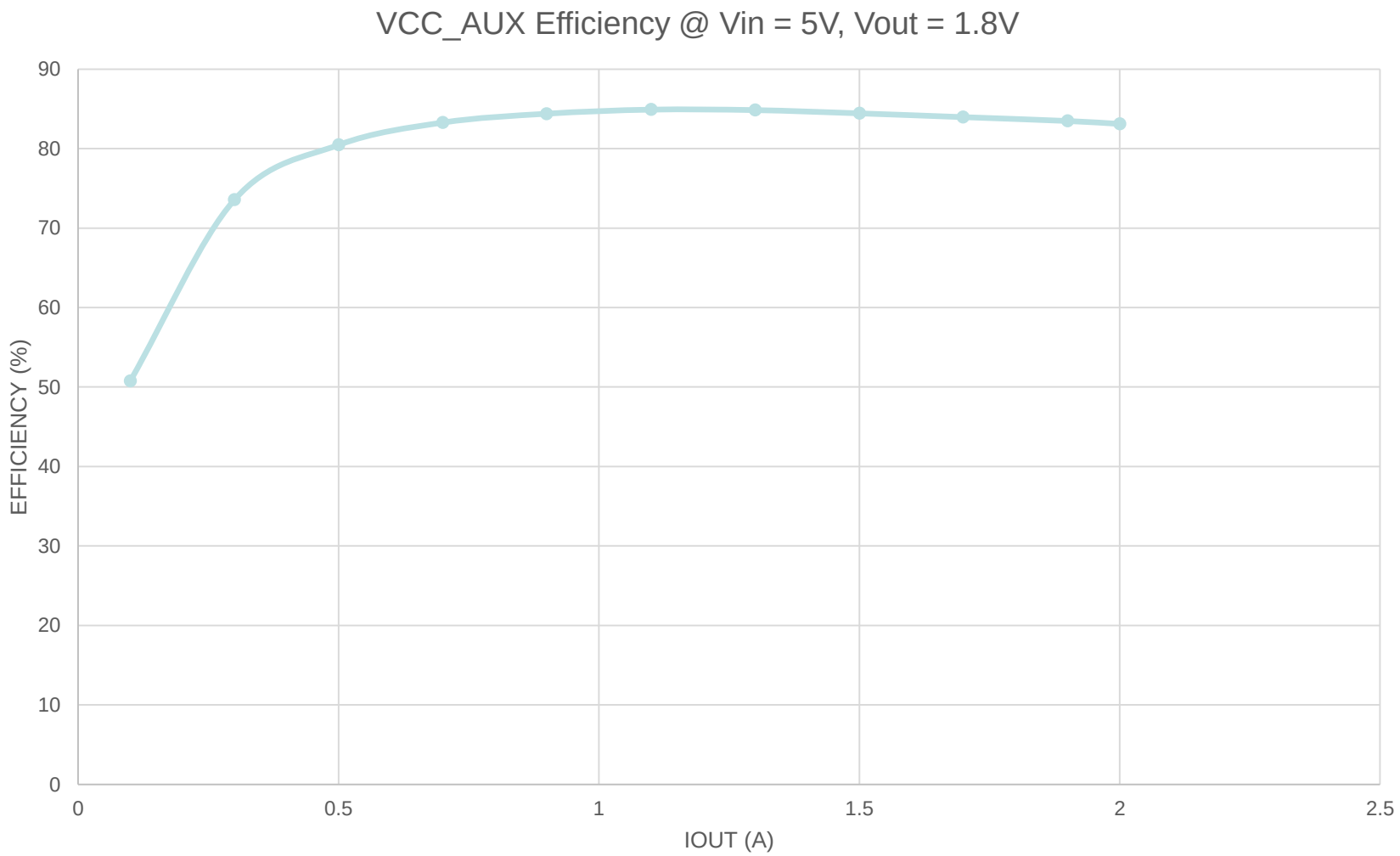


NOTE: Sequencing can be customized to any design requirements via OTP

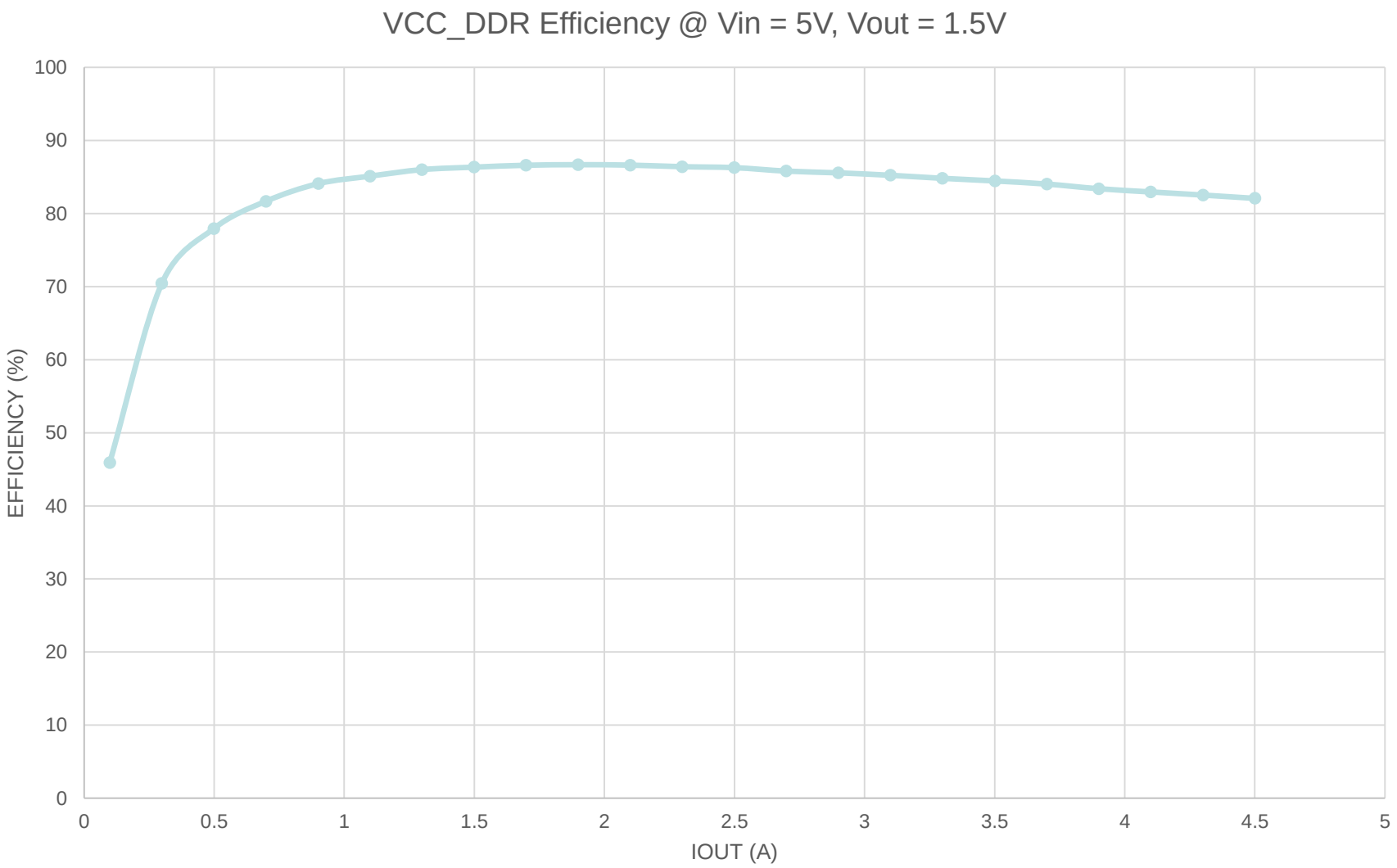
VCCINT (1V) Efficiency



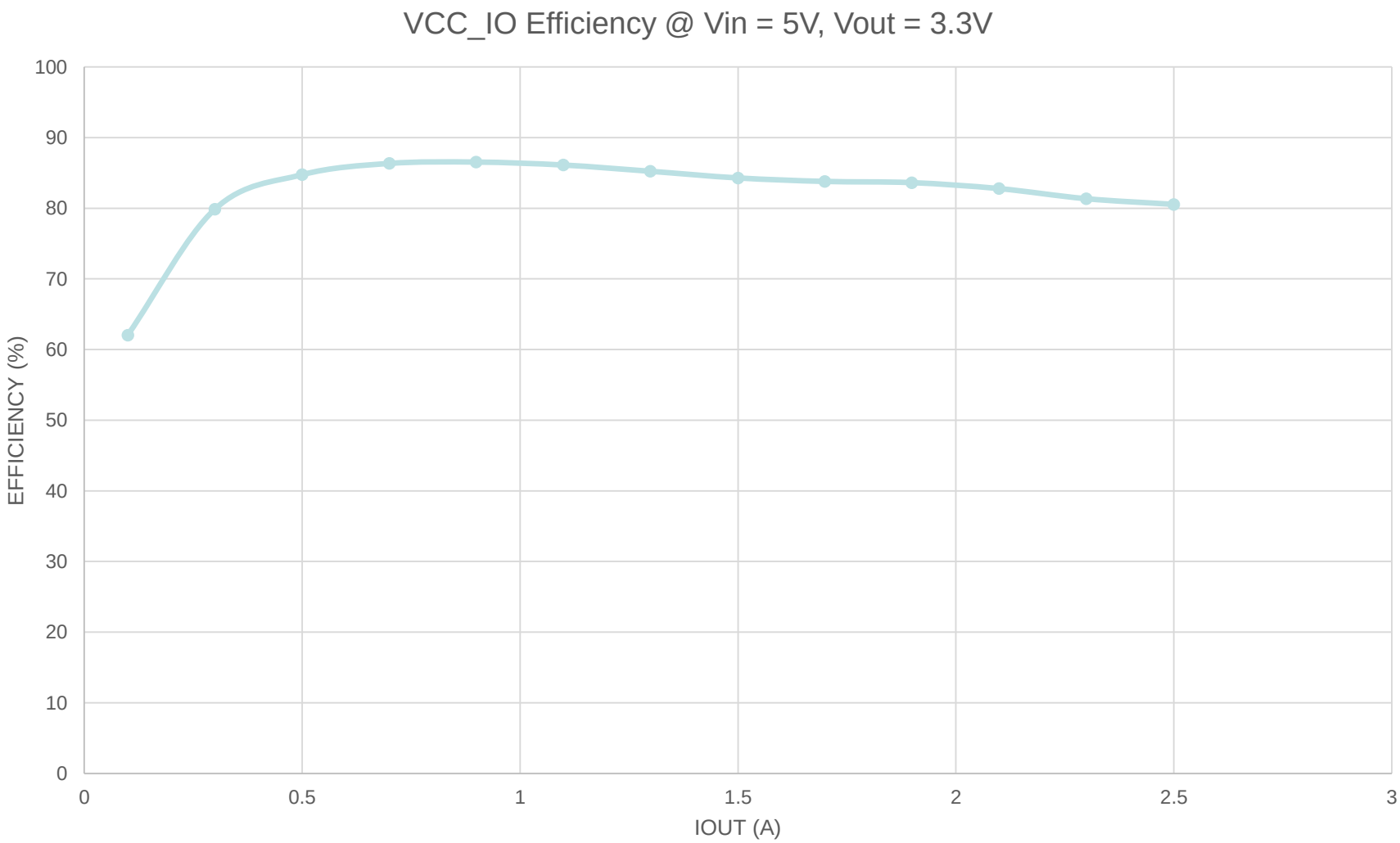
VCCAUX (1.8V) Efficiency



VCCDDR (1.5V) Efficiency

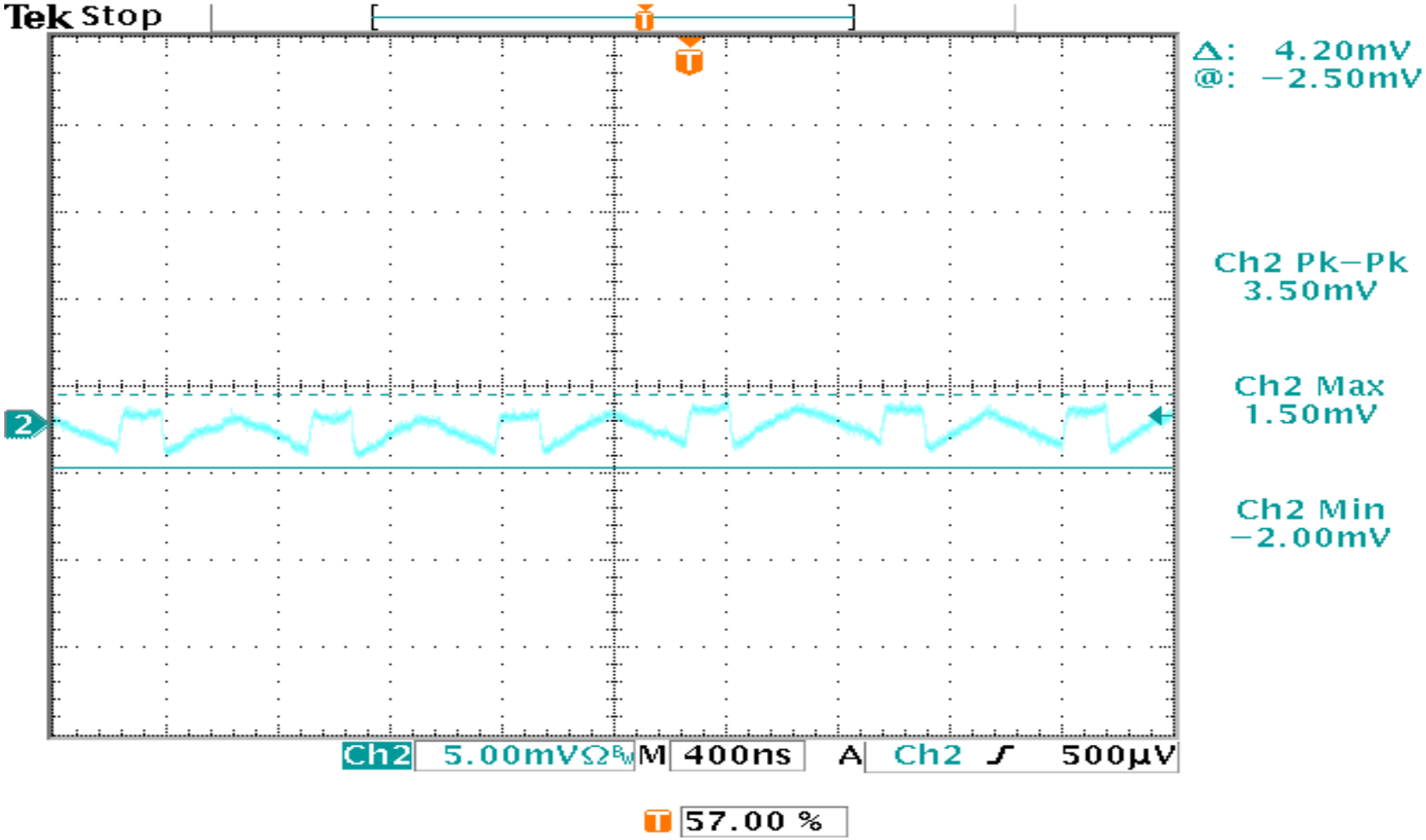


VCC_IO (3.3V) Efficiency



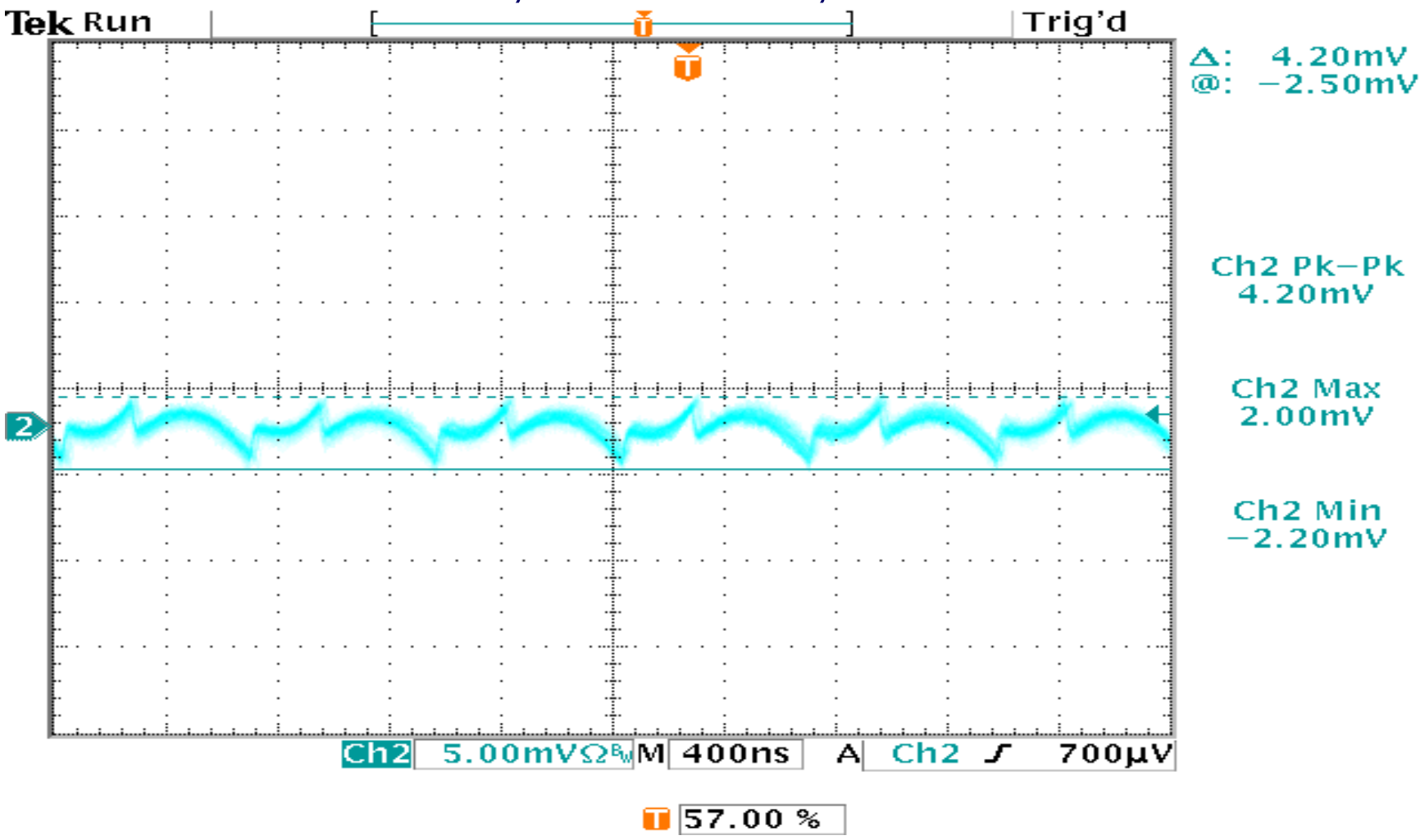
VCCINT (1V) Output Ripple

Vin = 5V, Vout = 1V, Iout = 2.5A



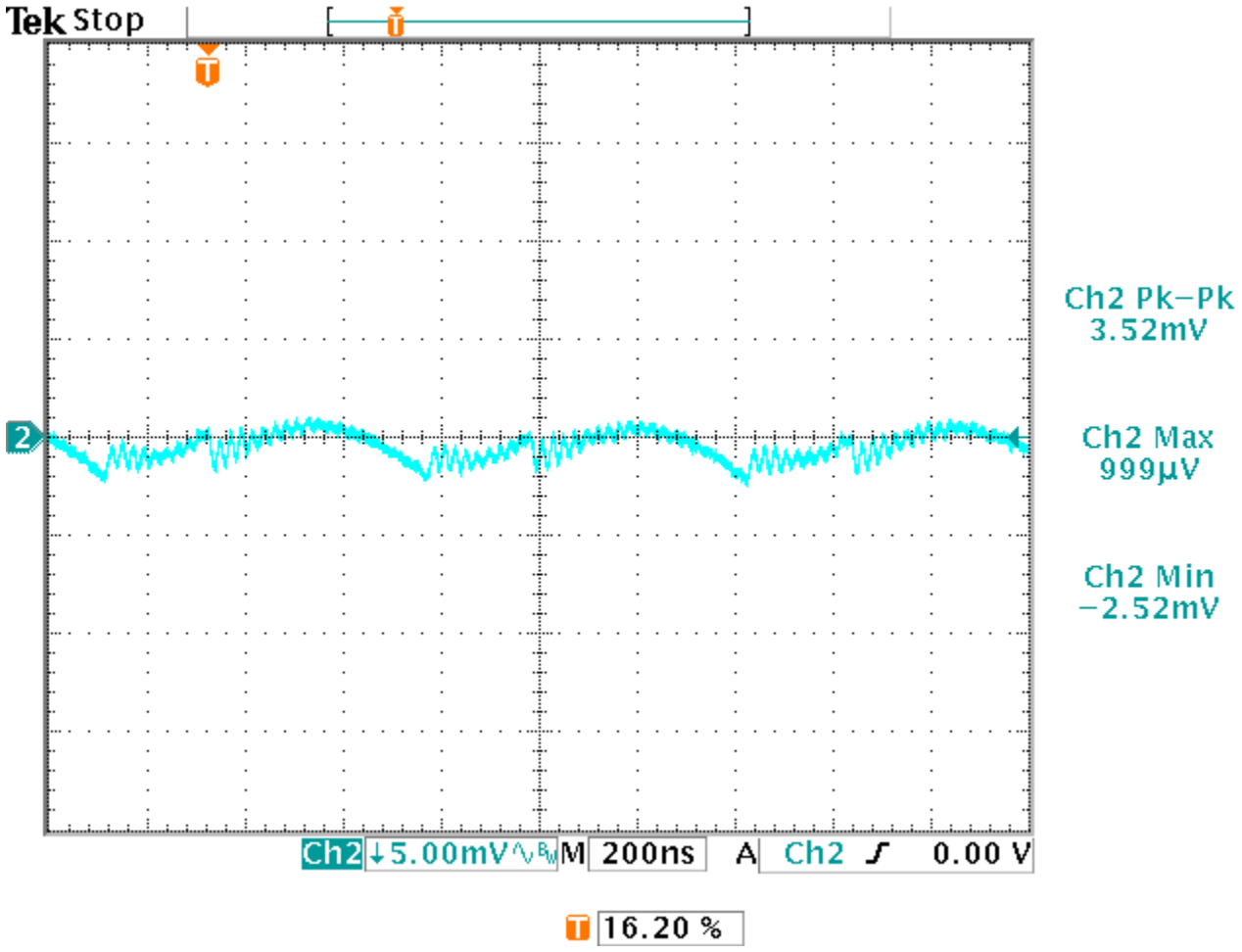
VCCAUX (1.8V) Output Ripple

Vin = 5V, Vout = 1.8V, Iout = 0.35A



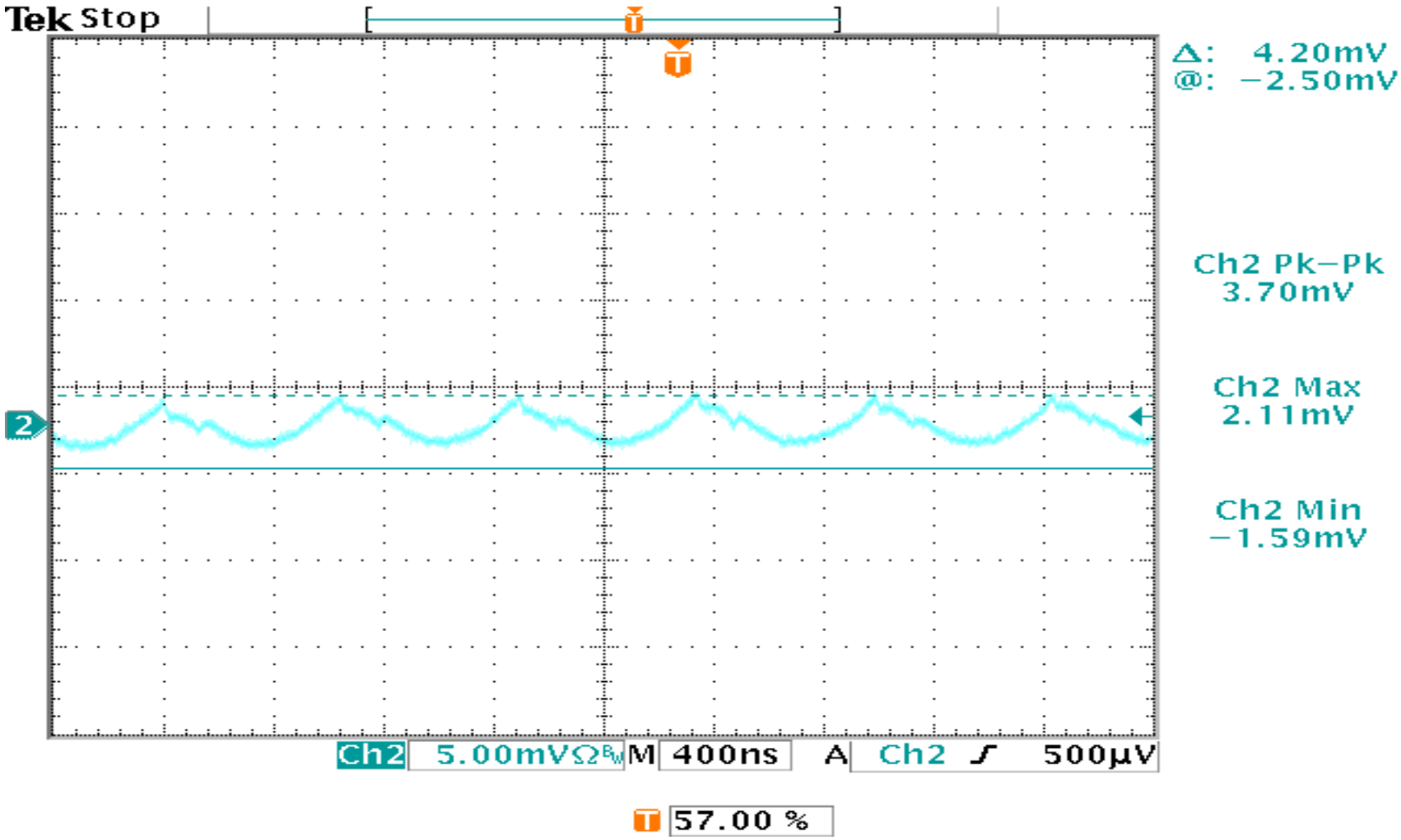
VCCDDR (1.5V) Output Ripple

Vin = 5V, Vout = 1.5V, Iout = 2A



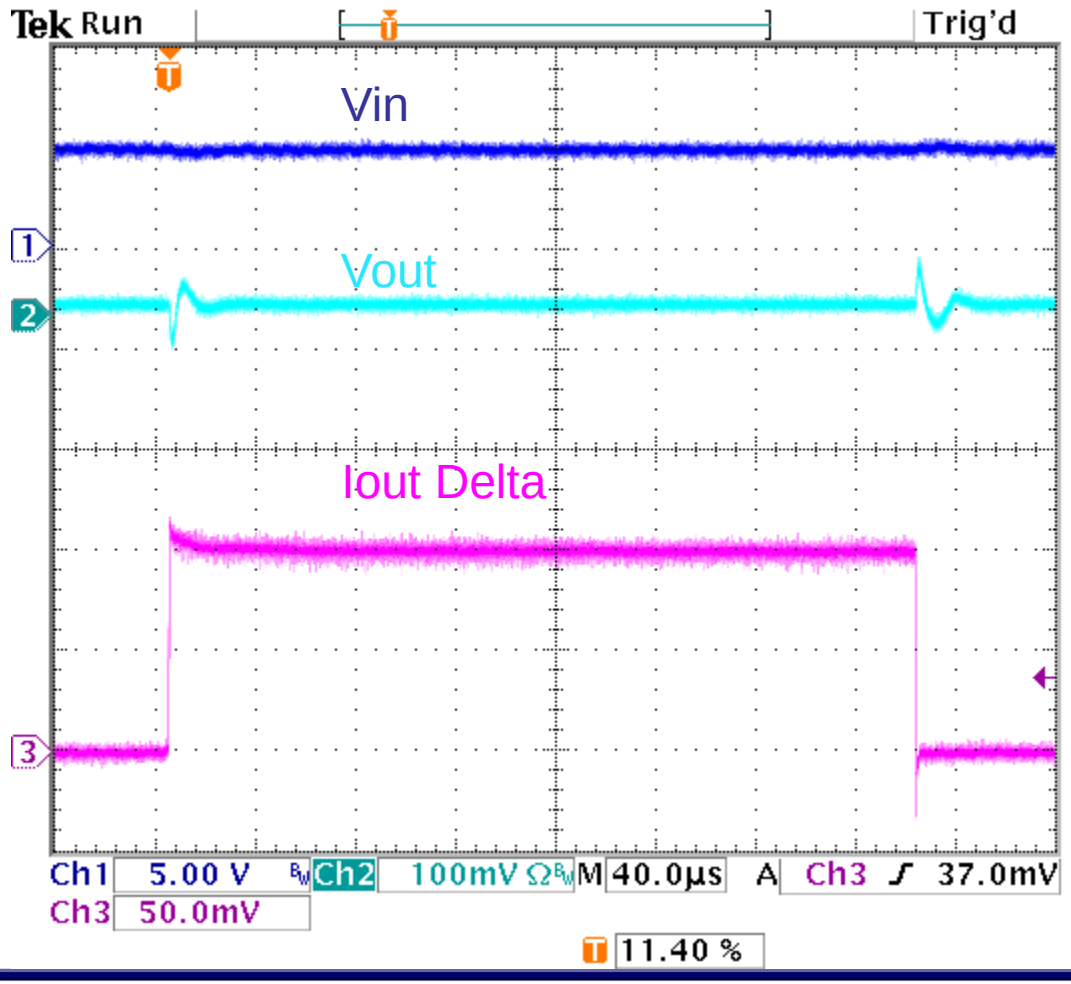
VCC_IO (3.3V) Output Ripple

Vin = 5V, Vout = 3.3V, Iout = 2.5A



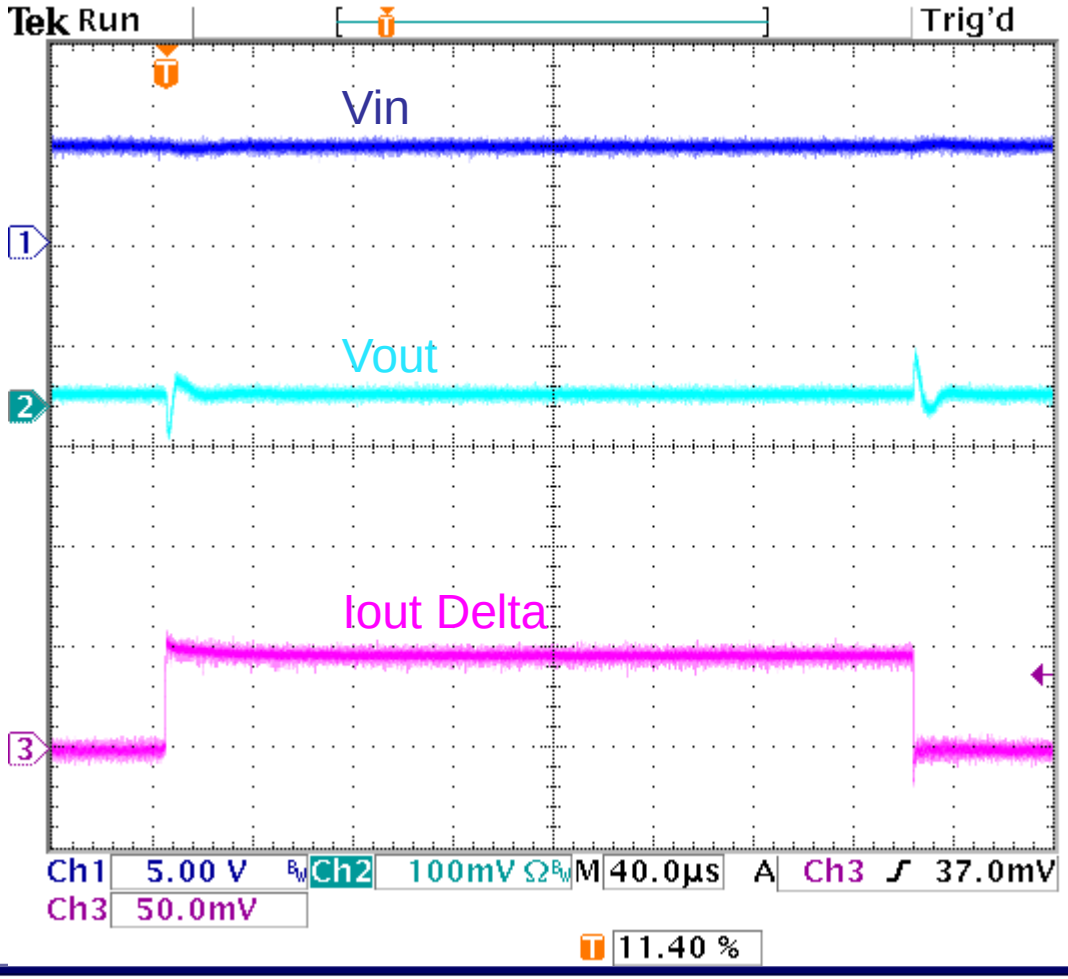
VCCINT (1V) Transient Response

Vin = 5V, Vout = 1V, Iout = 1A to 3A @ 10A/µs



VCCAUX (1.8V) Transient Response

Vin = 5V, Vout = 1.8V, Iout = 0.5A to 1.5A @ 10A/µs



Ch2 Max
50.0mV

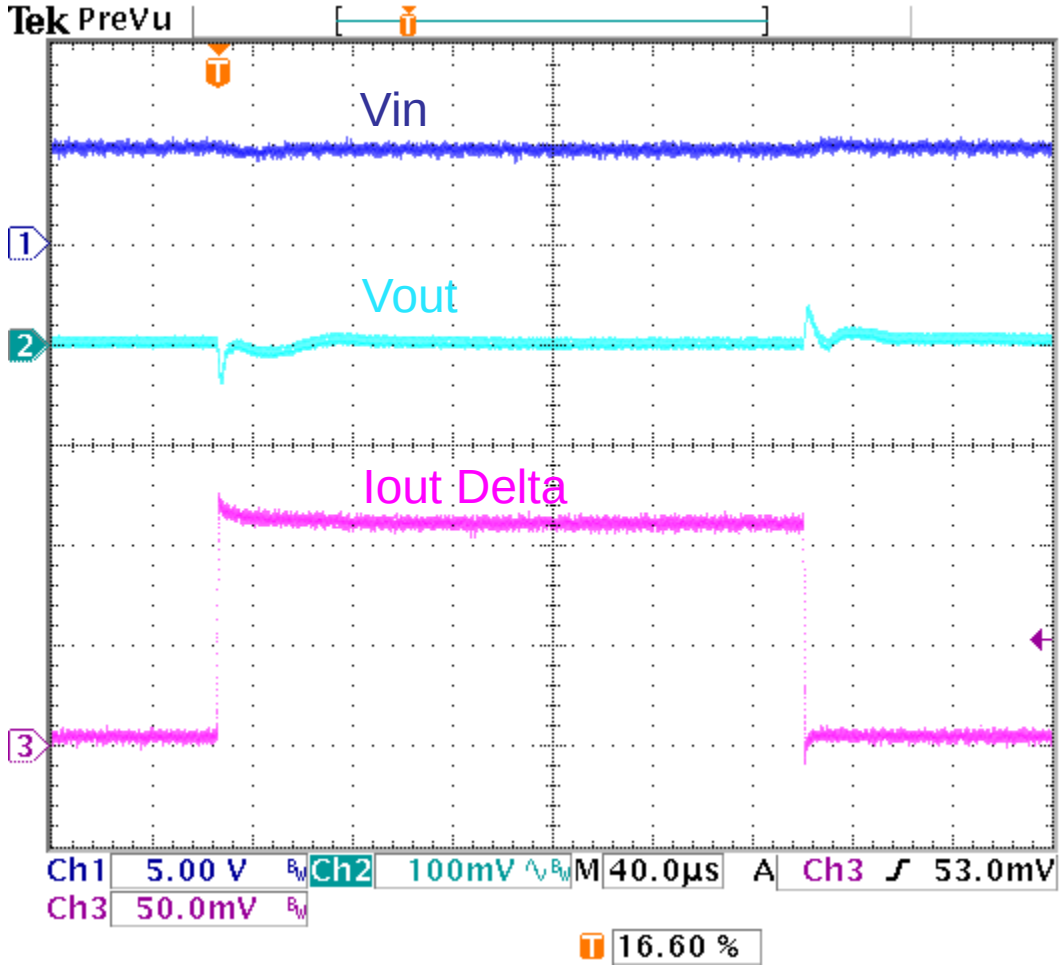
Ch2 Min
−36.0mV

Ch3 High
47.0mV

50mV = 1A Output Current Change

VCCDDR (1.5V) Transient Response

Vin = 5V, Vout = 1.5V, Iout = 1.125A to 3.375A @ 10A/µs



Ch2 Max
39.8mV

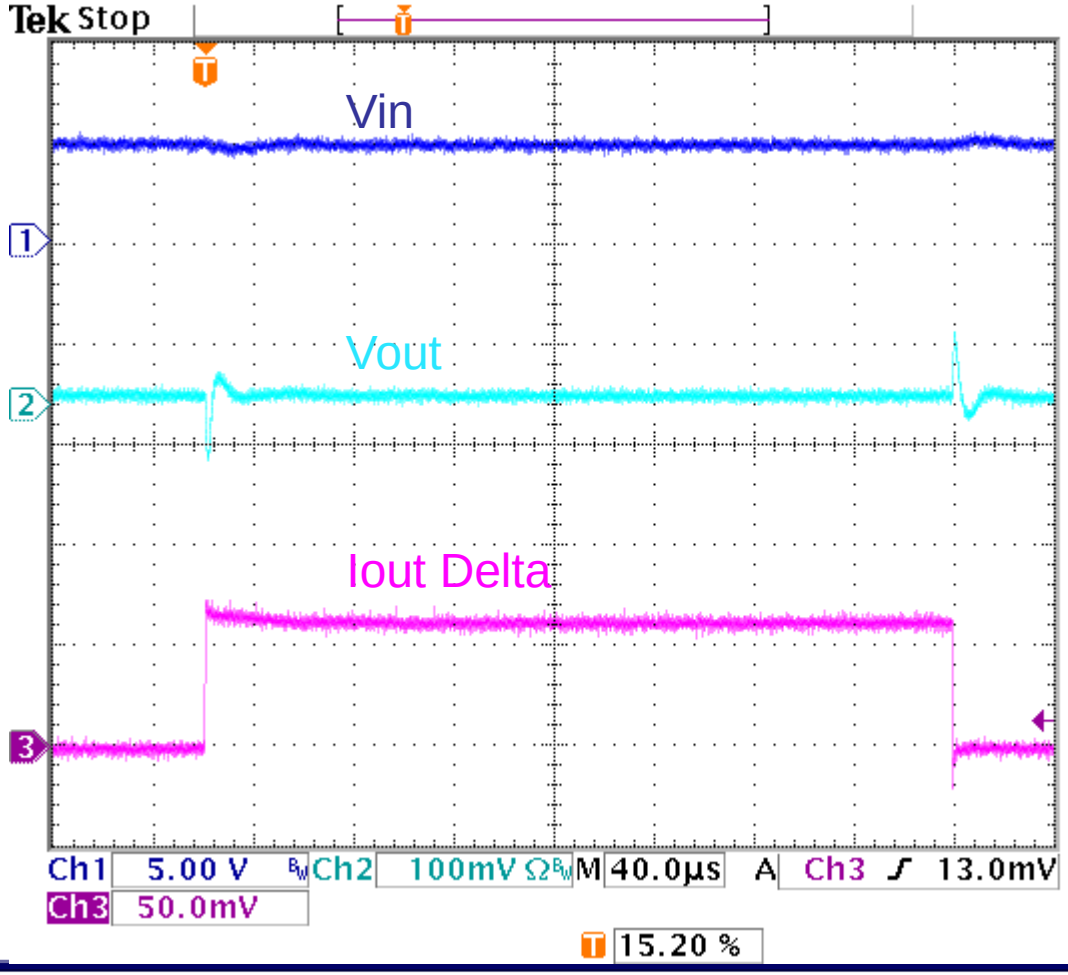
Ch2 Min
−39.0mV

Ch3 High
112mV

112.5mV = 2.25A Output Current Change

VCC_IO (3.3V) Transient Response

Vin = 5V, Vout = 3.3V, Iout = 0.625A to 1.875A @ 10A/µs



Ch2 Max
72.0mV

Ch2 Min
−56.0mV

Ch3 High
62.0mV

62.5mV = 1.25A Output Current Change