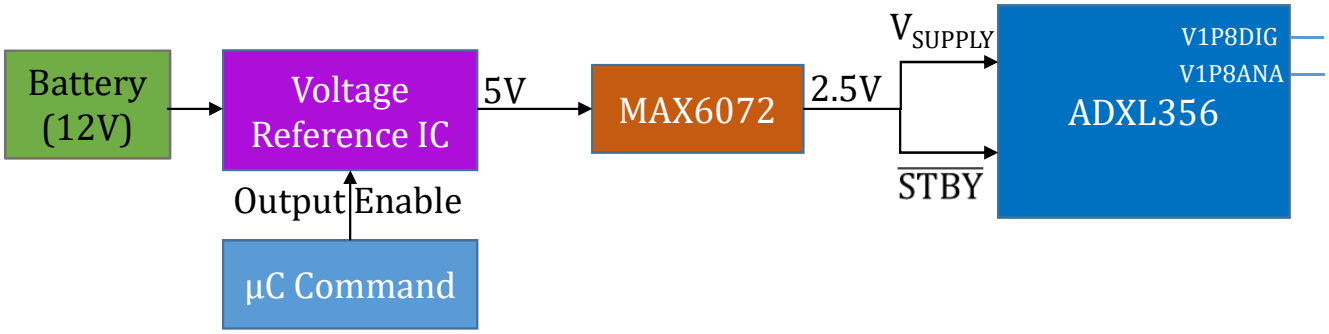
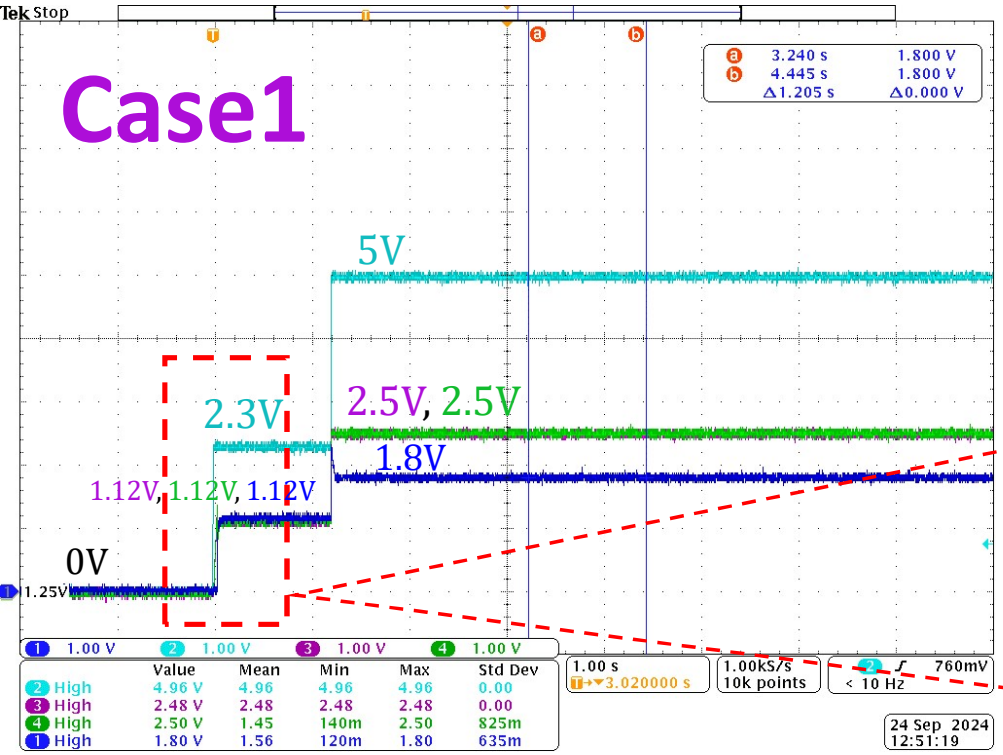
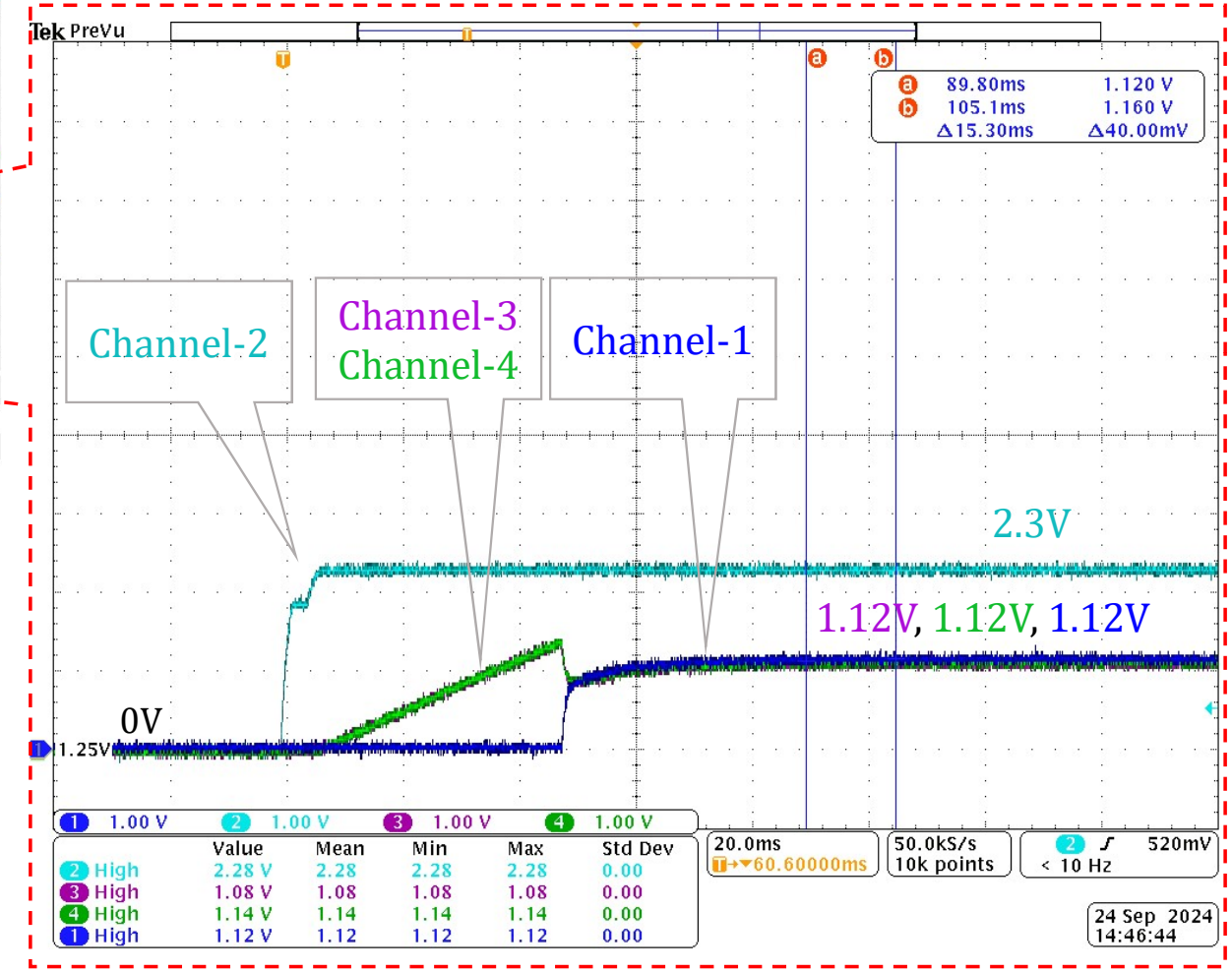
Background



- We are powering the accelerometer (ADXL) from a MAX reference IC (MAX6072).
- A power gating feature is used to power our circuit; the supply will be provided fully to the MAX6072, only if the system is fully operational.
- But, under certain conditions:
  - Case 1: Although the MAX6072 powers up correctly, the ADXL is unable to respond to the acceleration in any axis.
  - Case 2: The ADXL is responding to the acceleration in all axis.
- In both cases, the $\overline{STBY}$ and V1P8DIG/V1P8ANA pins of the ADXL are monitored and are ok.
- Why the ADXL is not functioning correctly in Case 1, even though the $\overline{STBY}$ and V1P8DIG/V1P8ANA pins are attaining their operating voltage levels?



The ADXL356CEZ is powered with MAX6072AAUB25's output voltage 2.5V. The MAX6072AAUB25 is powered with 5V Supply with intermediate value of 2.30V as shown in images



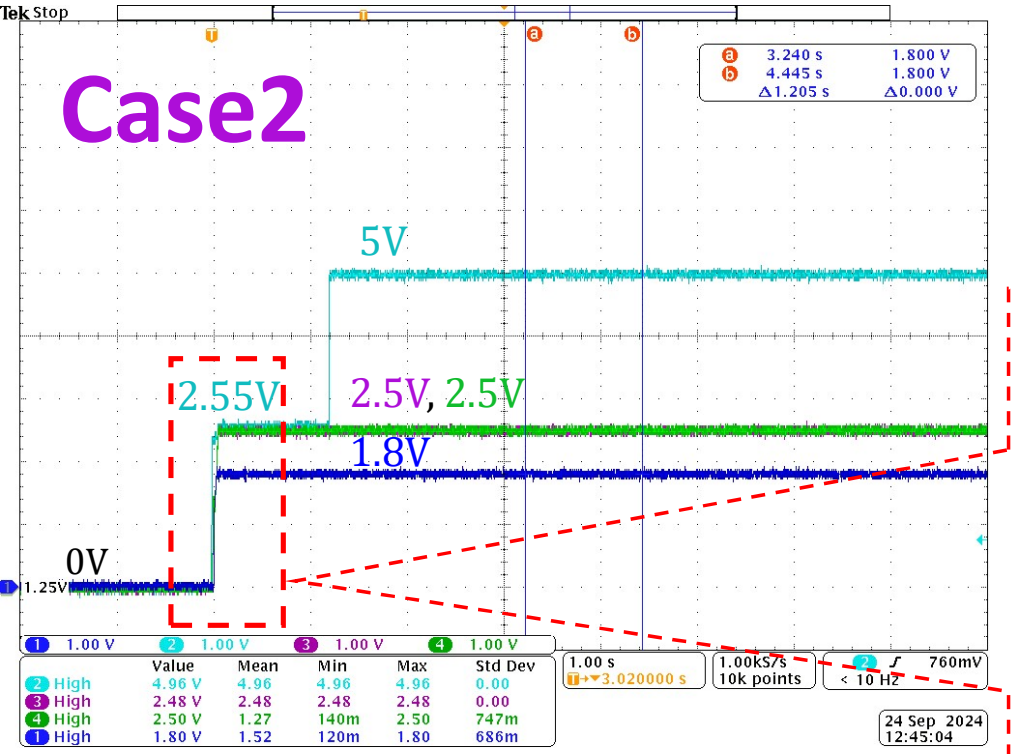
Legend:

Ch-1: ADXL's V1P8DIG/V1P8ANA

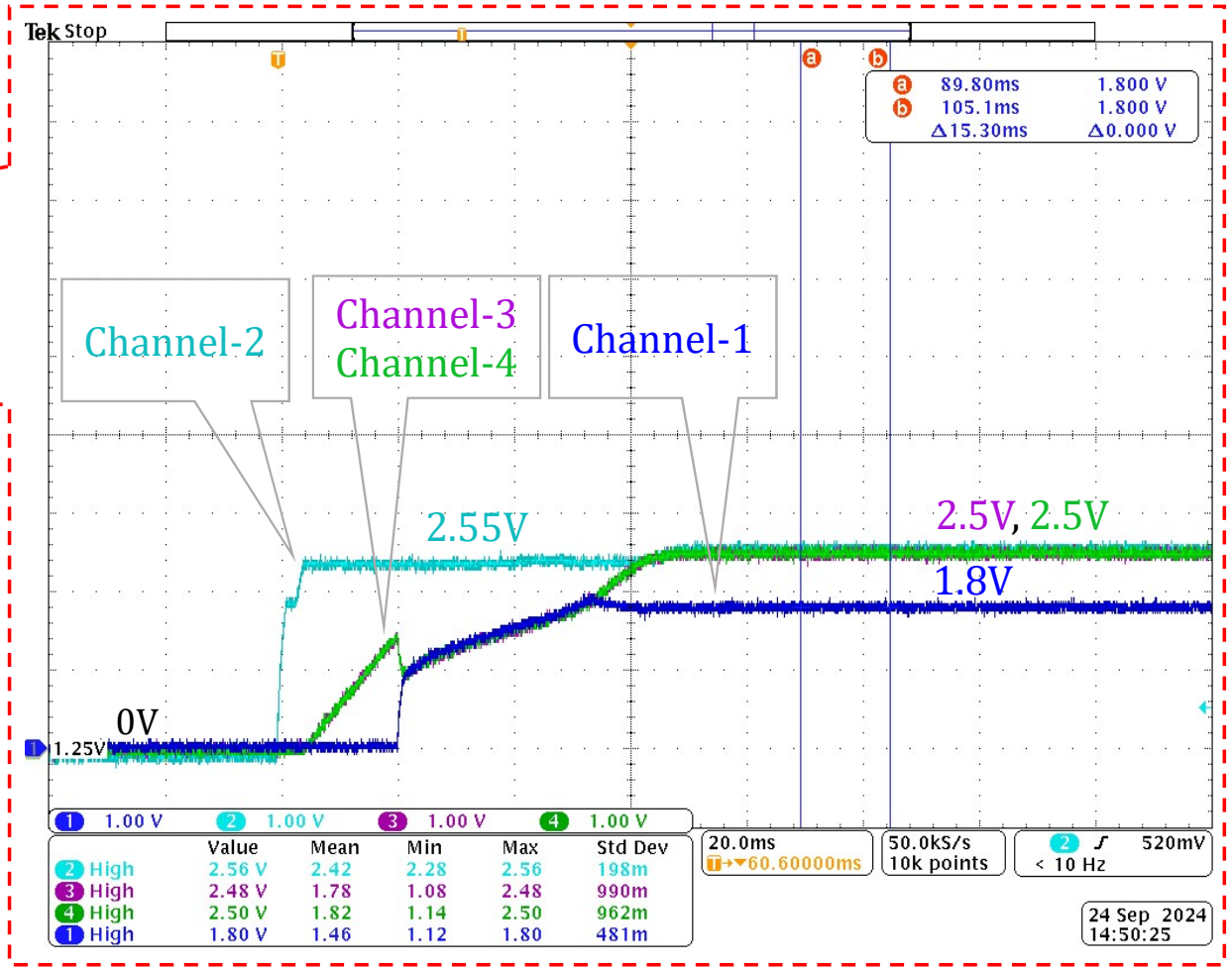
Ch-2: Supply to MAX6072

Ch-3: ADXL's $\overline{\text{STBY}}$

Ch-4: MAX6072's Output (2.5V)



The ADXL356CEZ is powered with MAX6072AAUB25's output voltage 2.5V. The MAX6072AAUB25 is powered with 5V Supply with intermediate value of 2.55V as shown in images



Legend:

Ch-1: ADXL's V1P8DIG/V1P8ANA

Ch-2: Supply to MAX6072

Ch-3: ADXL's $\overline{\text{STBY}}$

Ch-4: MAX6072's Output (2.5V)