GD3160 Gate Drive Board | Supply Rail Measurements

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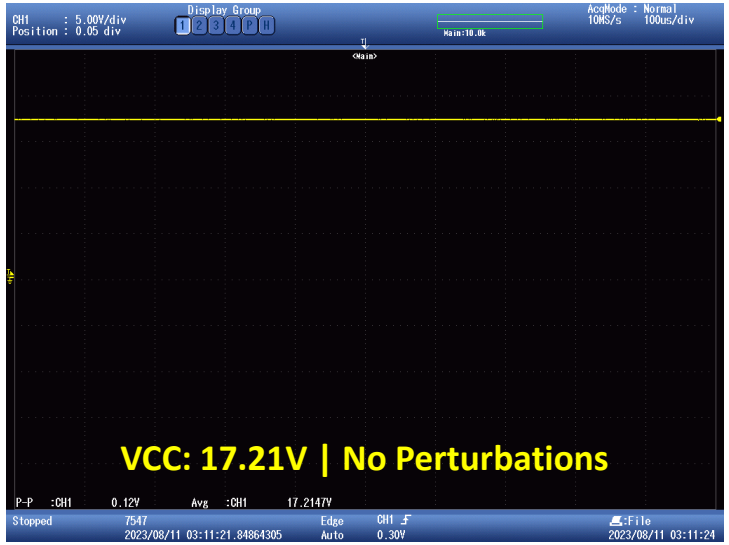
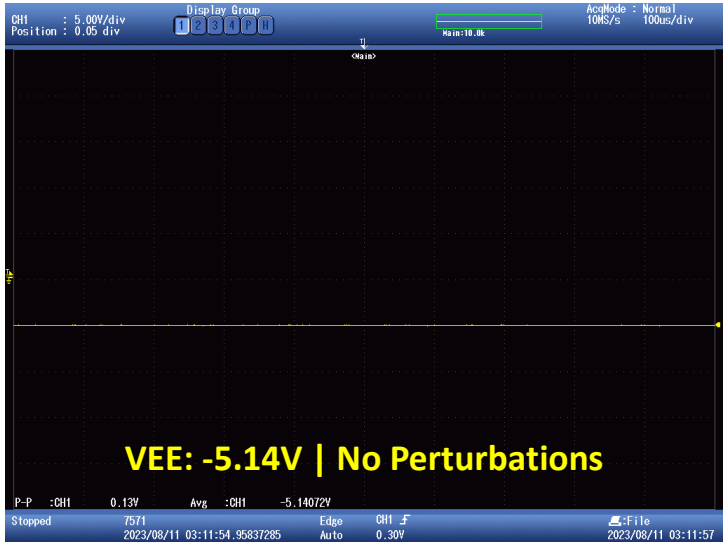
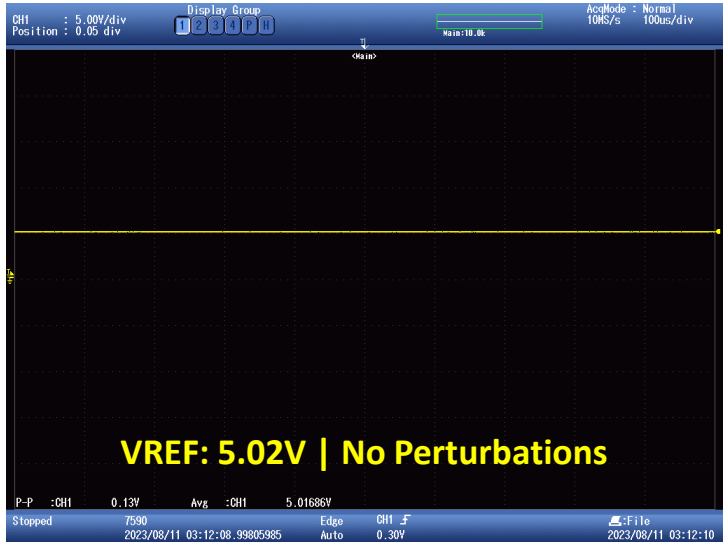
High Side | Phase A Supply Rail Measurements

High Side Phase A | Static Load (VCC, VCCREG, VEE, VREF, VDD)

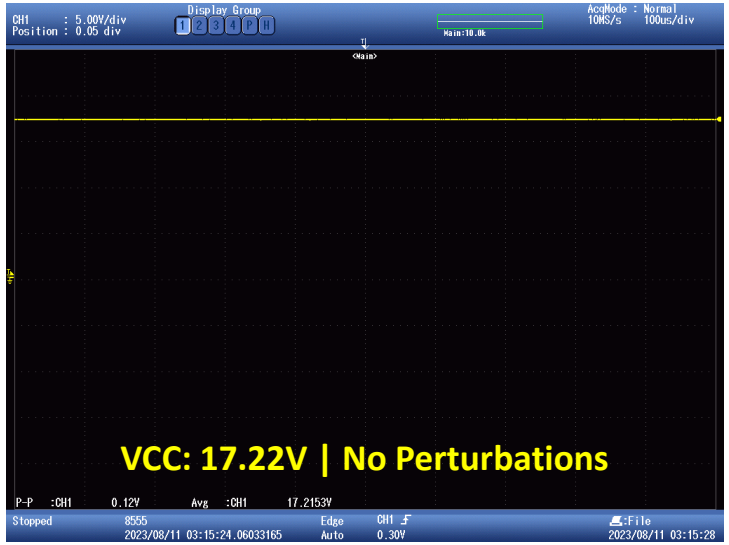


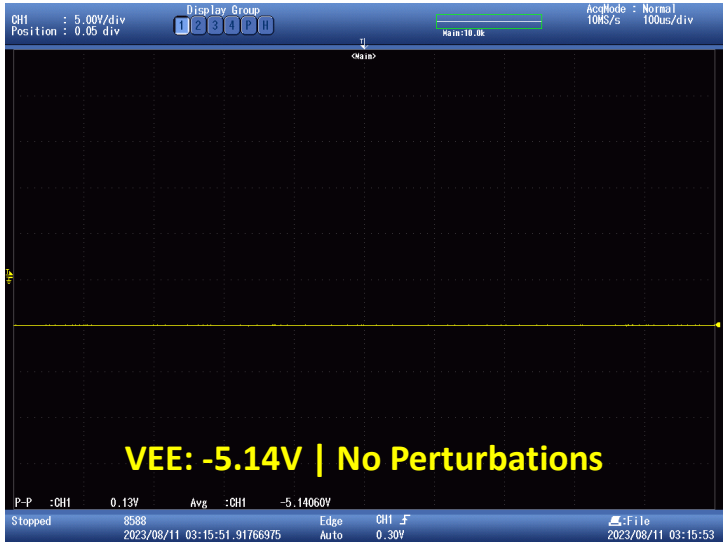


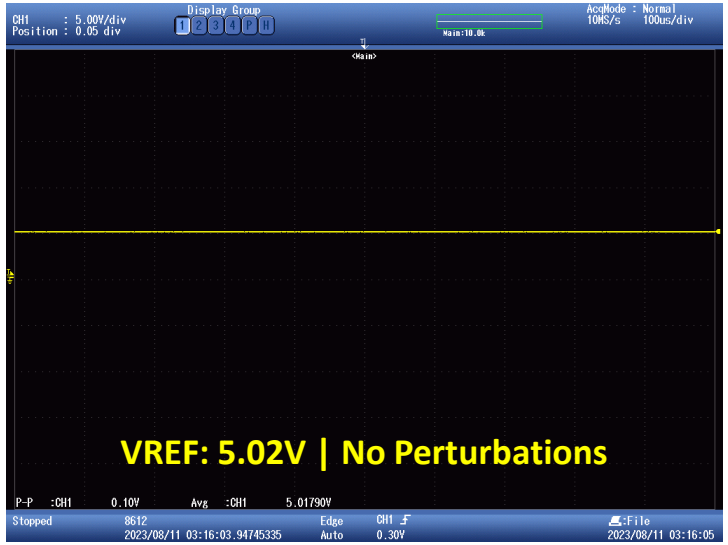


10MS/s
100µs per horizontal division

High Side Phase A | SPI Polling (VCC, VCCREG, VEE, VREF, VDD)



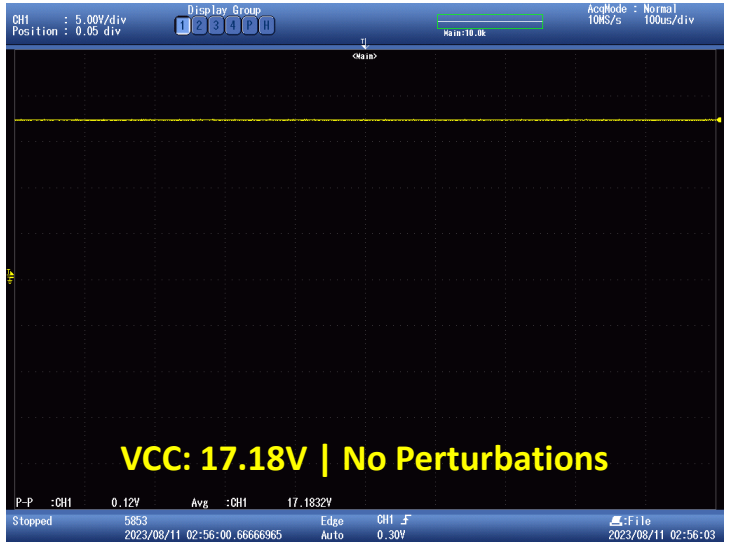


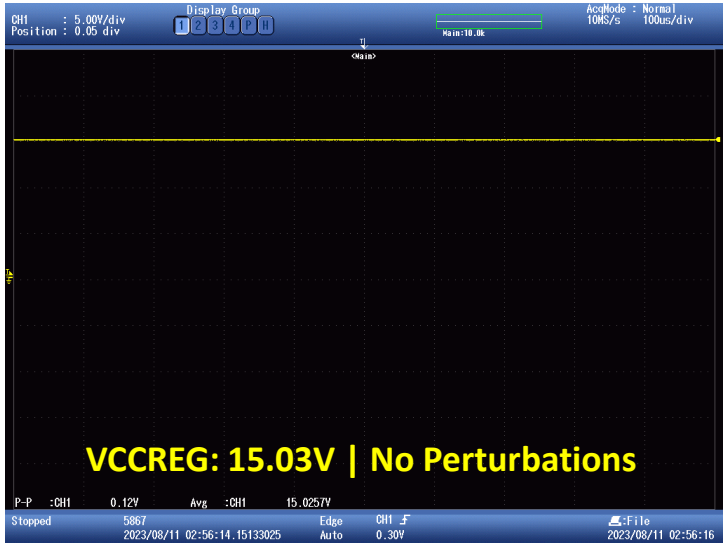


10MS/s
100µs per horizontal division

High Side | Phase B Supply Rail Measurements

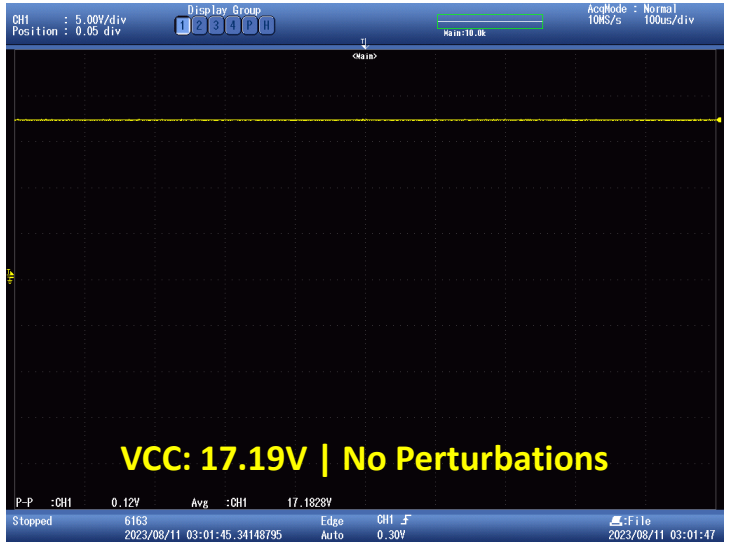
High Side Phase B | Static Load (VCC, VCCREG, VEE, VREF, VDD)

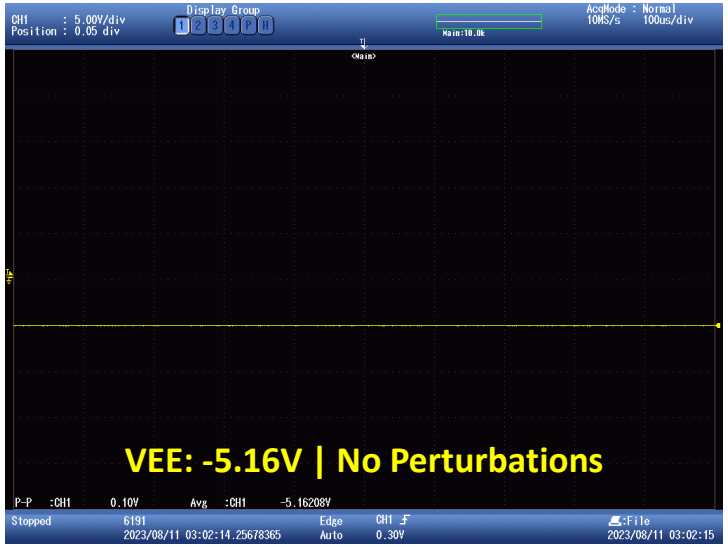




10MS/s
100µs per horizontal division

High Side Phase B | SPI Polling (VCC, VCCREG, VEE, VREF, VDD)

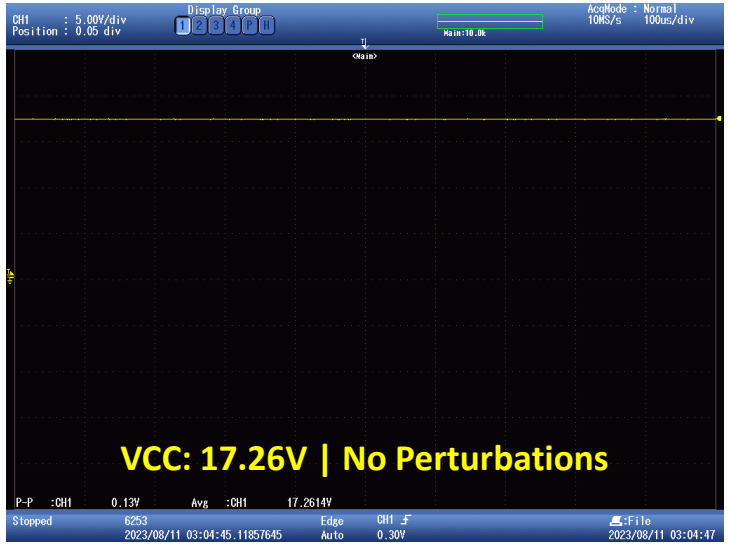


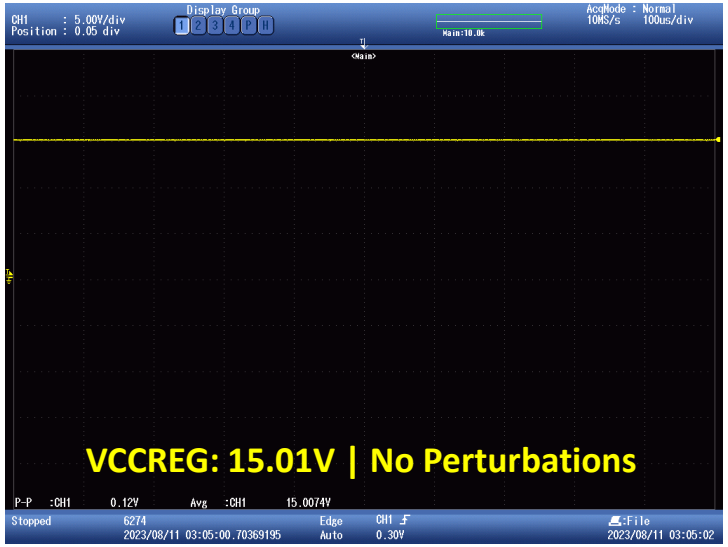


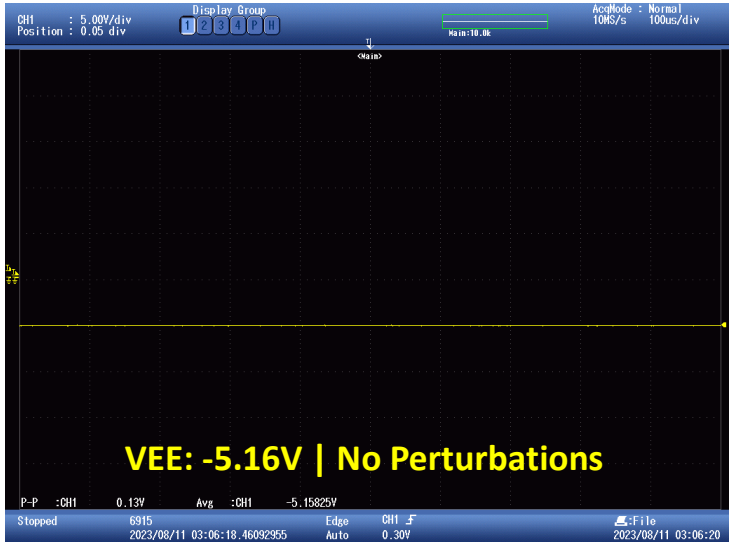
10MS/s
100µs per horizontal division

High Side | Phase C Supply Rail Measurements

High Side Phase C | Static Load (VCC, VCCREG, VEE, VREF, VDD)

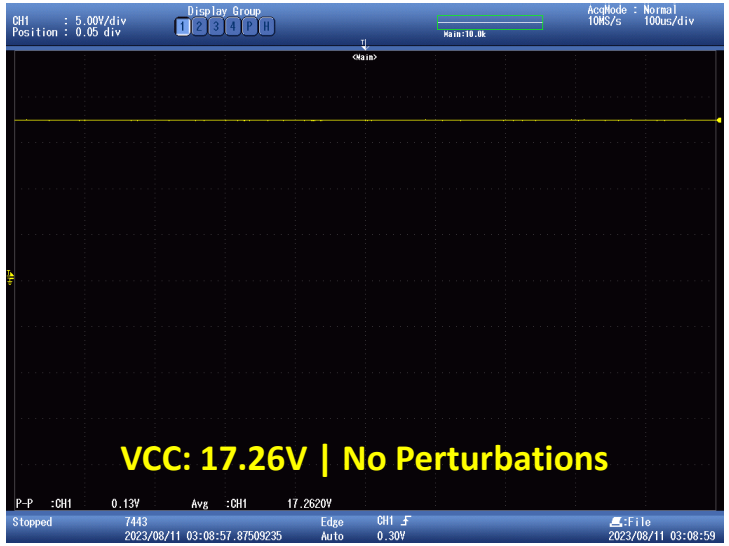


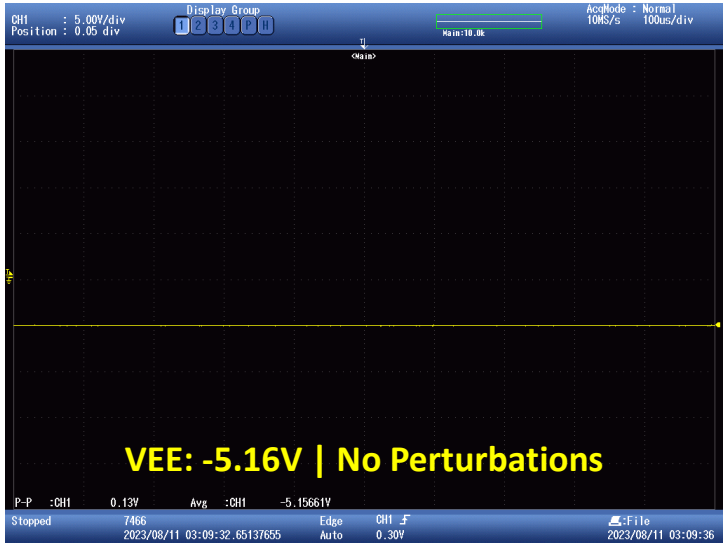




10MS/s
100µs per horizontal division

High Side Phase C | SPI Polling (VCC, VCCREG, VEE, VREF, VDD)

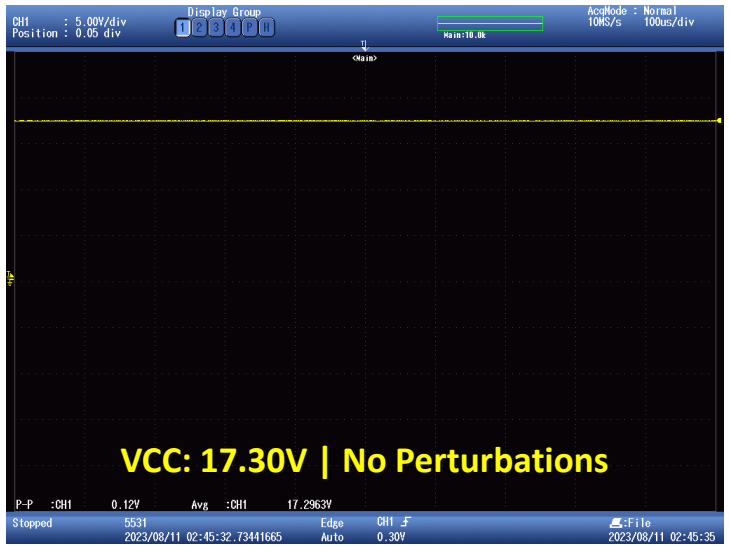


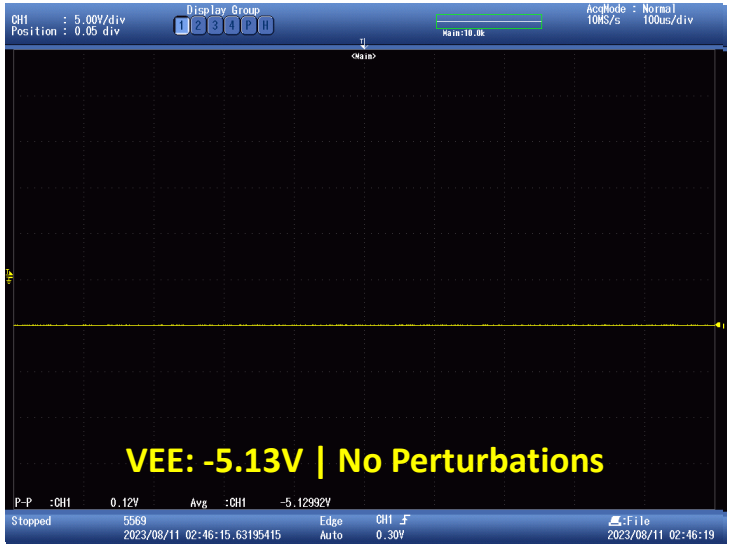


10MS/s
100µs per horizontal division

Low Side | Phase A Supply Rail Measurements

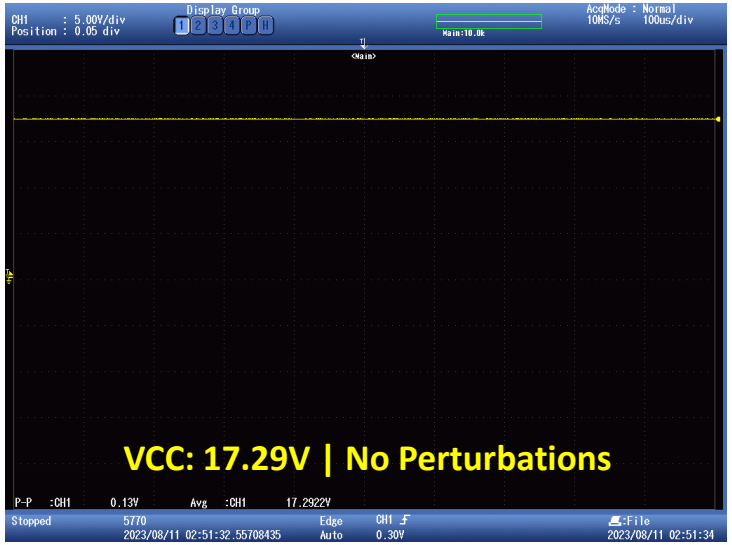
Low Side Phase A | Static Load (VCC, VCCREG, VEE, VREF, VDD)

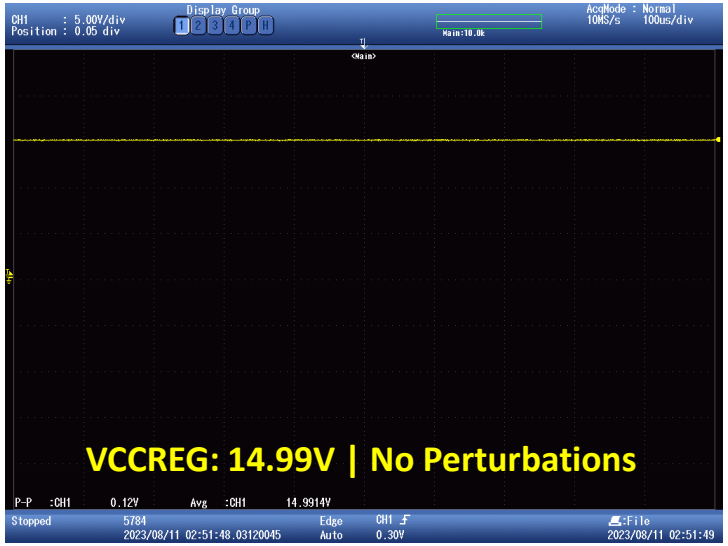


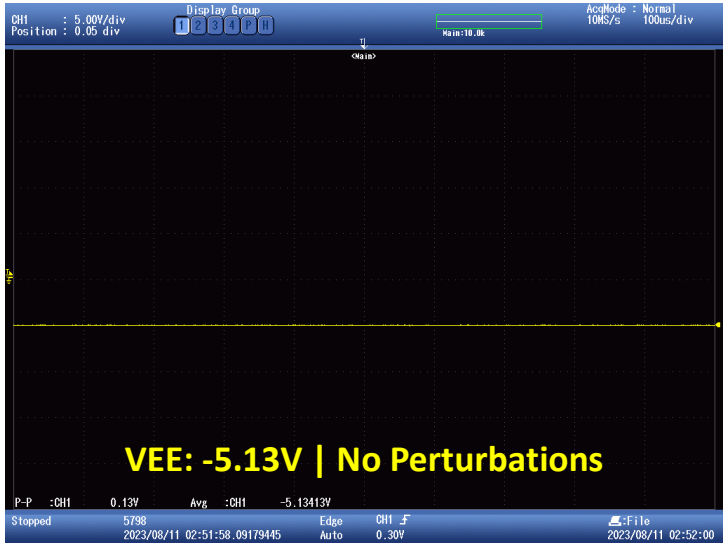


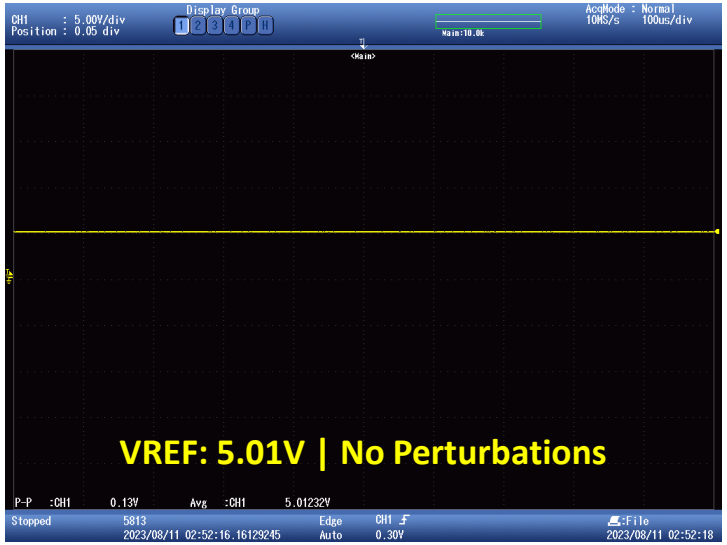
10MS/s
100µs per horizontal division

Low Side Phase A | SPI Polling (VCC, VCCREG, VEE, VREF, VDD)





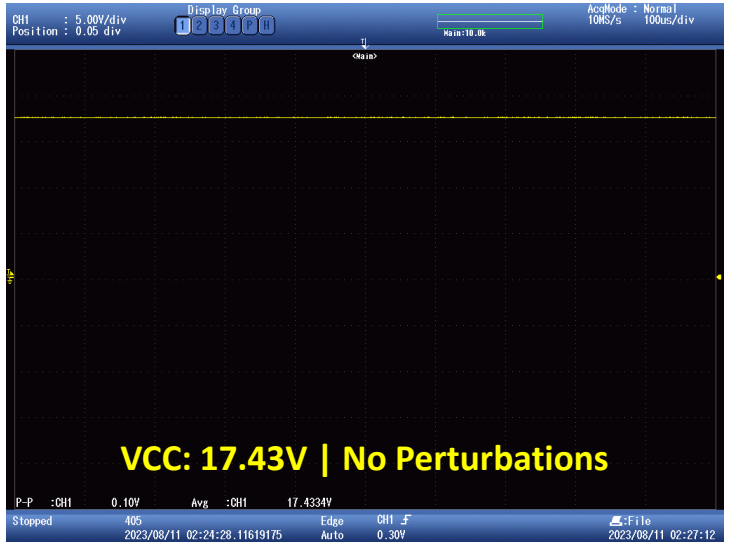


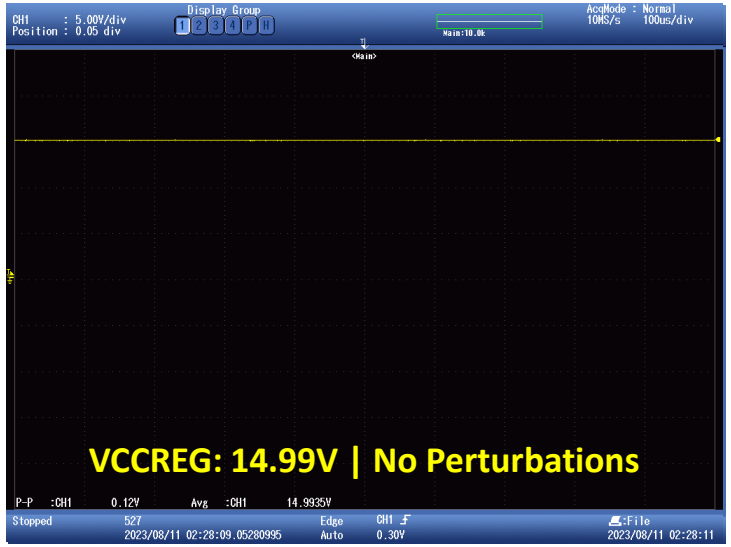


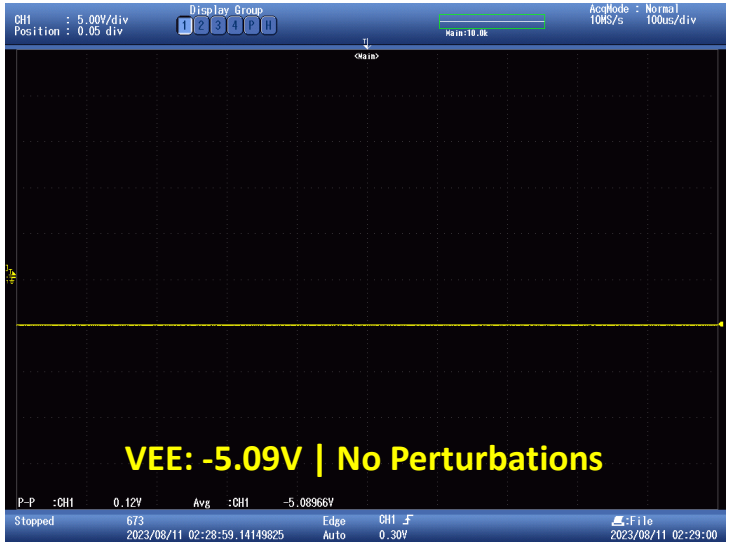
10MS/s
100µs per horizontal division

Low Side | Phase B Supply Rail Measurements

Low Side Phase B | Static Load (VCC, VCCREG, VEE, VREF, VDD)

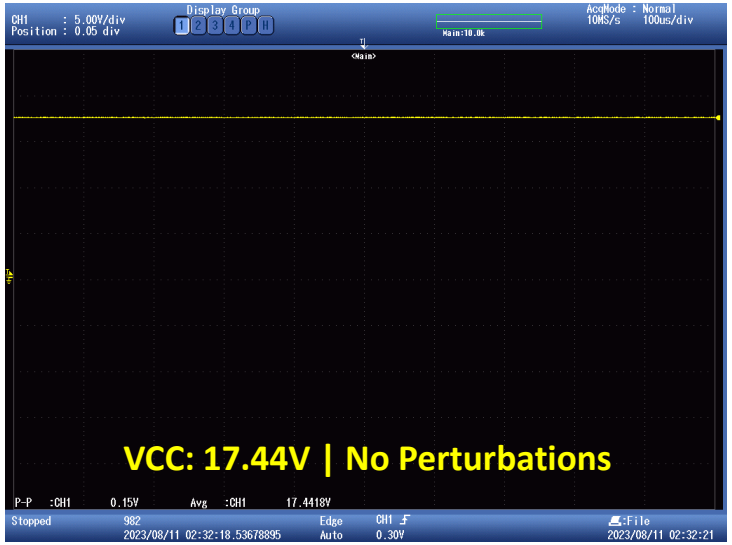


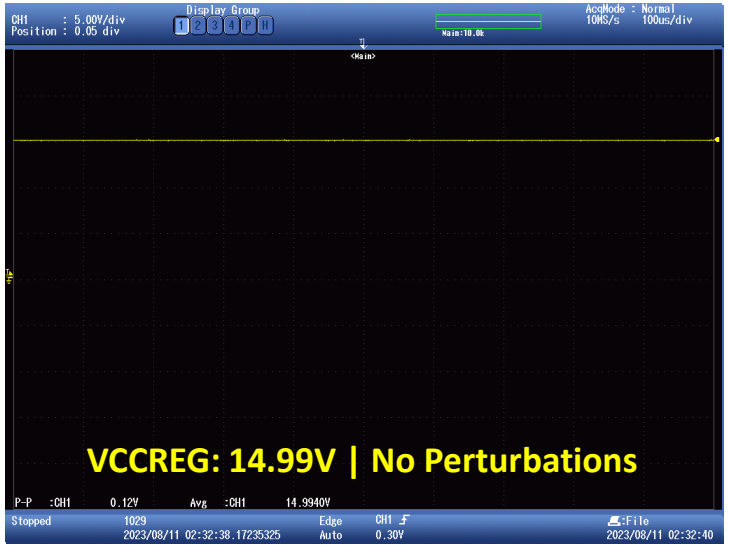


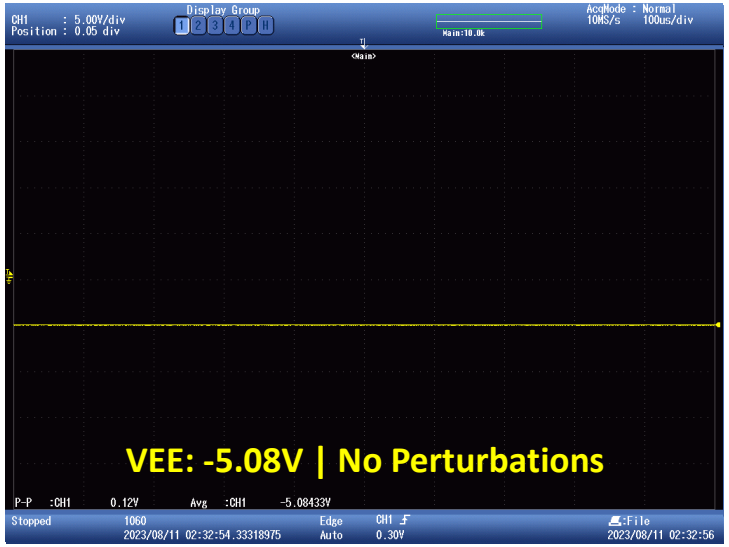


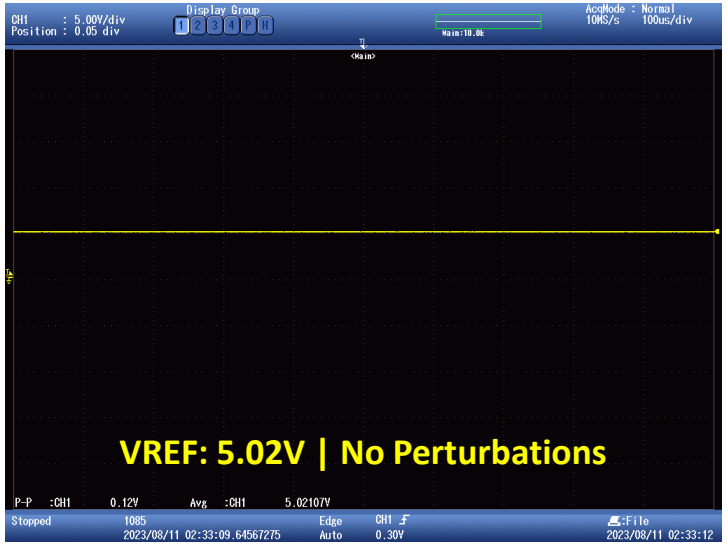
10MS/s
100µs per horizontal division

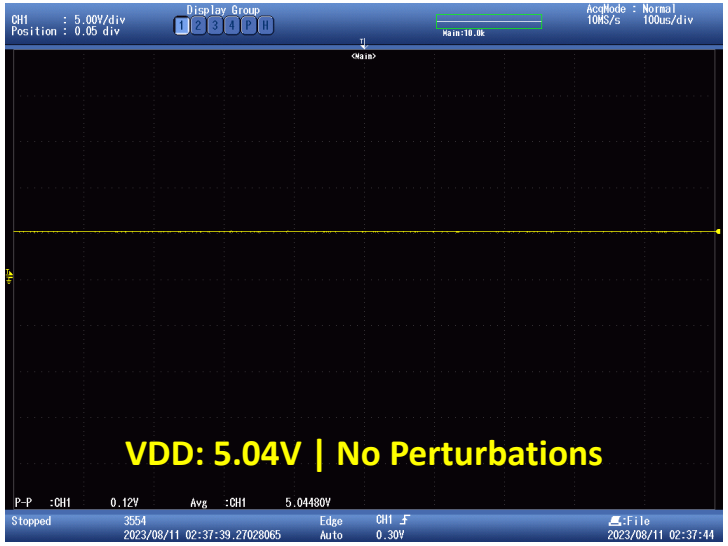
Low Side Phase B | SPI Polling (VCC, VCCREG, VEE, VREF, VDD)







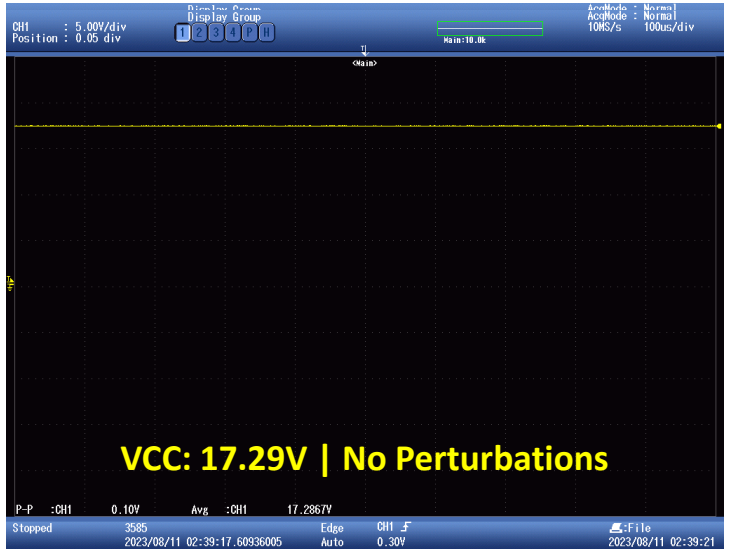


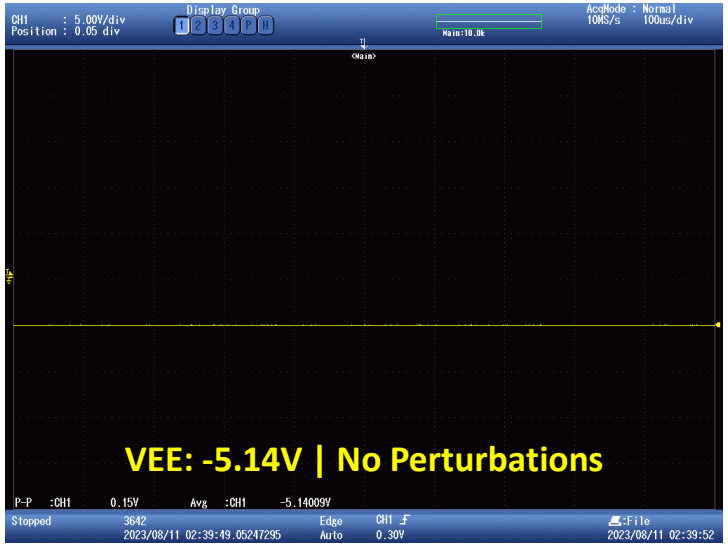


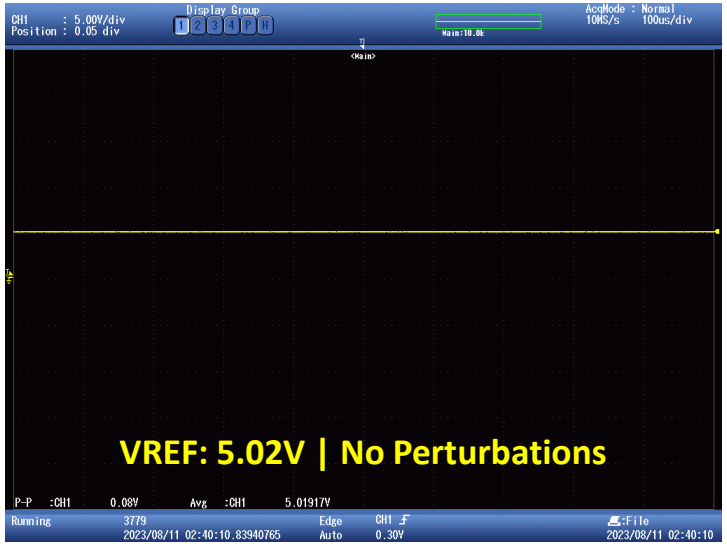
10MS/s
100µs per horizontal division

Low Side | Phase C Supply Rail Measurements

Low Side Phase C | Static Load (VCC, VCCREG, VEE, VREF, VDD)

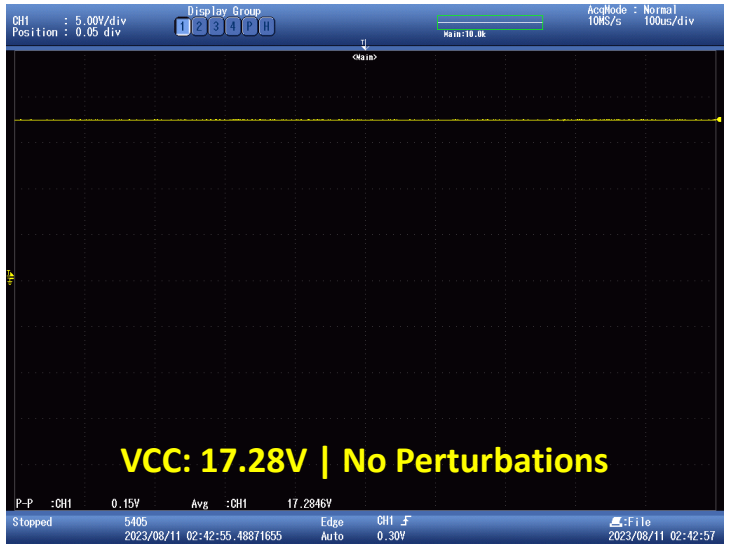


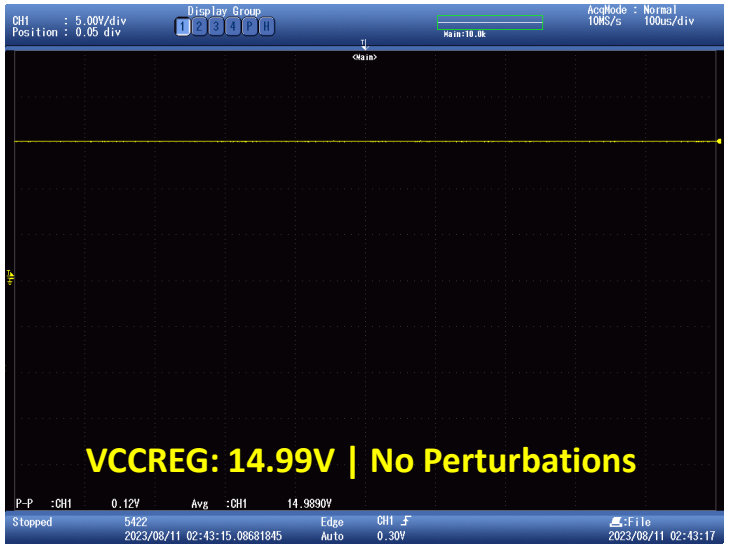


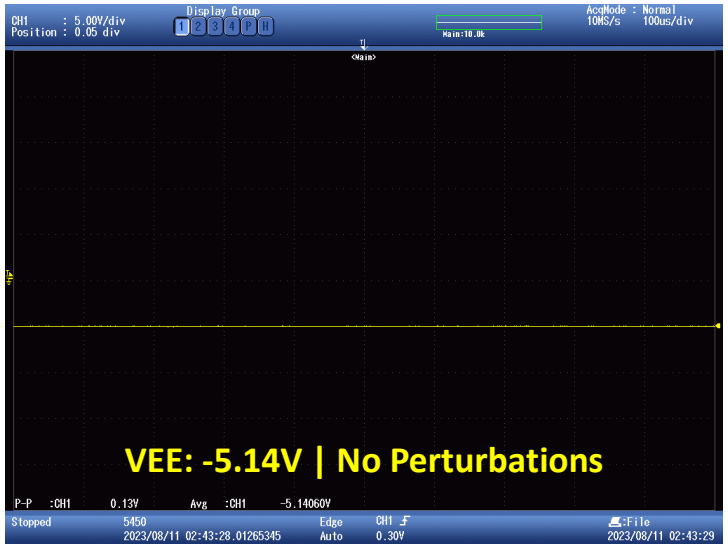


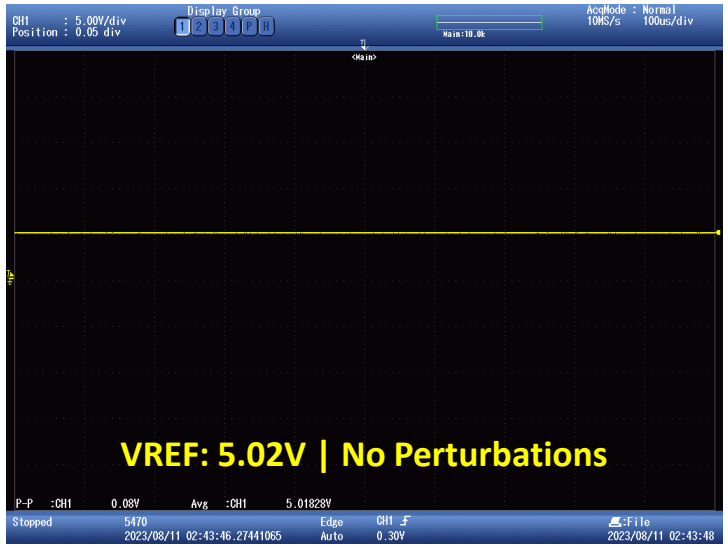
10MS/s
100µs per horizontal division

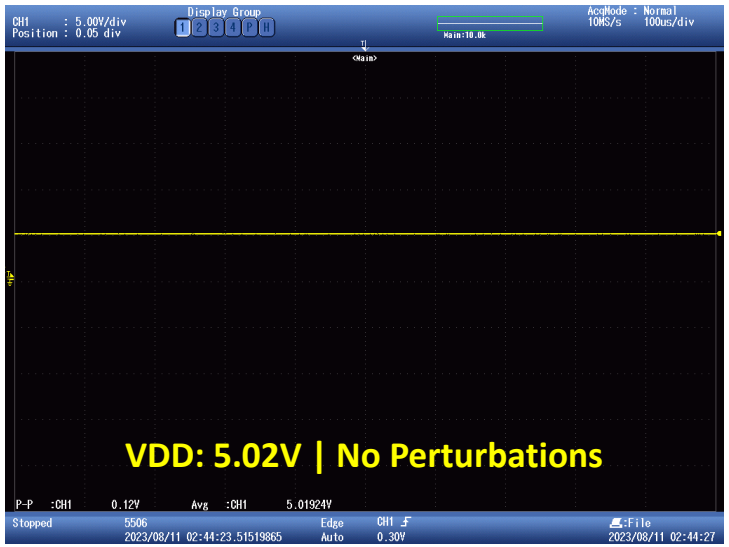
Low Side Phase C | SPI Polling (VCC, VCCREG, VEE, VREF, VDD)











10MS/s
100µs per horizontal division

Supply Rail Measurement Summary

Supply Rail Measurement Summary

Static Conditions

Supply Rail	High Side Drivers			Low Side Drivers		
	Phase A	Phase B	Phase C	Phase A	Phase B	Phase C
VCC	17.21	17.18	17.26	17.30	17.43	17.29
VCCREG	15.04	15.03	15.01	14.99	14.99	14.99
VEE	-5.14	-5.16	-5.16	-5.13	-5.09	-5.14
VREF	5.02	5.02	5.02	5.01	5.02	5.02
VDD	5.05	5.06	5.02	5.05	5.04	5.02

Continuous SPI Bus Polling

Supply Rail	High Side Drivers			Low Side Drivers		
	Phase A	Phase B	Phase C	Phase A	Phase B	Phase C
VCC	17.22	17.19	17.26	17.29	17.44	17.28
VCCREG	15.04	15.03	15.01	14.99	14.99	14.99
VEE	-5.14	-5.16	-5.16	-5.13	-5.08	-5.14
VREF	5.02	5.02	5.02	5.01	5.02	5.02
VDD	5.05	5.08	5.03	5.05	5.04	5.02

Supply Rail Voltages Measured by GD3160 | SPI Readouts

GD3160 | High Side Measurements

Phase A **Phase B** **Phase C**

ADC overview

DEVICE 4 Values (VREF = 5.0V)				DEVICE 5 Values (VREF = 5.0V)				DEVICE 6 Values (VREF = 5.0V)			
Signal name:	User value:	Raw ADC value:		Signal name:	User value:	Raw ADC value:		Signal name:	User value:	Raw ADC value:	
ADC_IGBT_TEMP	3.96 V	812	OK	ADC_IGBT_TEMP	3.97 V	813	OK	ADC_IGBT_TEMP	3.97 V	814	OK
ADC_AMUX	0.0 V	0		ADC_AMUX	0.0 V	0		ADC_AMUX	0.0 V	0	
ADC_VCC	17.0 V	580	OK	ADC_VCC	17.0 V	579	OK	ADC_VCC	17.1 V	582	OK
ADC_VCCREG	14.9 V	507	OK	ADC_VCCREG	14.8 V	506	OK	ADC_VCCREG	14.8 V	504	OK
ADC_VEE	-5.18 V	670	OK	ADC_VEE	-5.19 V	669	OK	ADC_VEE	-5.19 V	669	OK
ADC_DIE_TEMP	36.0 degC	666		ADC_DIE_TEMP	37.01 degC	664		ADC_DIE_TEMP	35.5 degC	667	

GD3160 | Low Side Measurements

Phase A **Phase B** **Phase C**

ADC overview

DEVICE 1 Values (VREF = 5.0V)				DEVICE 2 Values (VREF = 5.0V)				DEVICE 3 Values (VREF = 5.0V)			
Signal name:	User value:	Raw ADC value:		Signal name:	User value:	Raw ADC value:		Signal name:	User value:	Raw ADC value:	
ADC_IGBT_TEMP	0.13 V	26	OK	ADC_IGBT_TEMP	2.96 V	607	OK	ADC_IGBT_TEMP	3.0 V	615	OK
ADC_AMUX	0.0 V	0		ADC_AMUX	0.0 V	0		ADC_AMUX	0.0 V	0	
ADC_VCC	17.1 V	585	OK	ADC_VCC	17.2 V	586	OK	ADC_VCC	17.0 V	581	OK
ADC_VCCREG	14.8 V	505	OK	ADC_VCCREG	14.7 V	503	OK	ADC_VCCREG	14.8 V	504	OK
ADC_VEE	-5.18 V	670	OK	ADC_VEE	-5.12 V	674	OK	ADC_VEE	-5.18 V	670	OK
ADC_DIE_TEMP	26.92 degC	684		ADC_DIE_TEMP	27.93 degC	682		ADC_DIE_TEMP	26.92 degC	684	

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