Radiation Report

TPS7H2221-SEP Total Ionizing Dose (TID)

ABSTRACT

This report discusses the results of the total-ionizing dose (TID) testing for the Texas Instruments TPS7H2221-SEP, Radiation Tolerant 5.5-V, 1.25-A Load Switch.

The study was done to determine TID effects under low dose rate (LDR) up to 50krad(Si) and high dose rate (HDR) up to 30krad(Si). The results show that all samples passed within the specified limits up to 50krad(Si) LDR and up to 20krad(Si) HDR with V_{IN} Shutdown Current marginally exceeding the datasheet limt at 30krad(Si) HDR. The TPS7H2221-SEP adheres to a radiation lot acceptence testing (RLAT) level of 20krad(Si) LDR.

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Trademarks

1 Device Information

1.1 Product Description

The TPS7H2221-SEP device is a small, single channel load switch with controlled slew rate. The device contains an N-channel MOSFET that can operate over an input voltage range of 1.6 V to 5.5 V and can support a maximum continuous current of 1.25 A.

The switch ON state is controlled by a digital input that is capable of interfacing directly with low-voltage control signals. When power is first applied, a Smart Pull Down is used to keep the ON pin from floating until system sequencing is complete. Once the pin is deliberately driven High (>VIH), the Smart Pull Down will be disconnected to prevent unnecessary power loss.

The TPS7H2221-SEP load switch is also selfprotected, meaning that it protects against short circuit events on the output of the device.

1.2 Device Details

Table 1-1 lists the device information and test conditions used in the TID HDR and LDR characterization.

Table 1-1. Device and Exposure Details

TID HDR and LDR Details	
TI Device	TPS7H2221-SEP
TI Part Name	PTPS7H2221MDCKTSEP
Device Function	Load Switch
Package	6-pin SOT (DCK)
Technology	LBC9 (Linear BiCmos 9)
Assembly Lot Number / Date Code	2504471HNA /25Z705H
Quantity Tested	HDR: • 22 units biased and 5 units unbiased at 20krad(Si) • 5 units biased and 5 units unbiased at 30krad(Si) LDR: • 22 units biased and 5 units unbiased at 20krad(Si) • 5 units biased and 5 units unbiased at 30krad(Si) • 5 units biased and 5 units unbiased at 50krad(Si)
HDR Dose rate	230-rad(Si)/s ioinizing radiation with increments
LDR Dose Rate	10-mrad(Si)/s ionizing radiation with increments
HDR Radiation Facility	Texas Instruments Dallas, Texas
LDR Radiation Facility	White Sands Missile Range, New Mexico
Irradiation and TestTemperature	Ambient, room temperature controlled to 25°C ±6°C per MIL-STD-883 and MIL-STD-750.

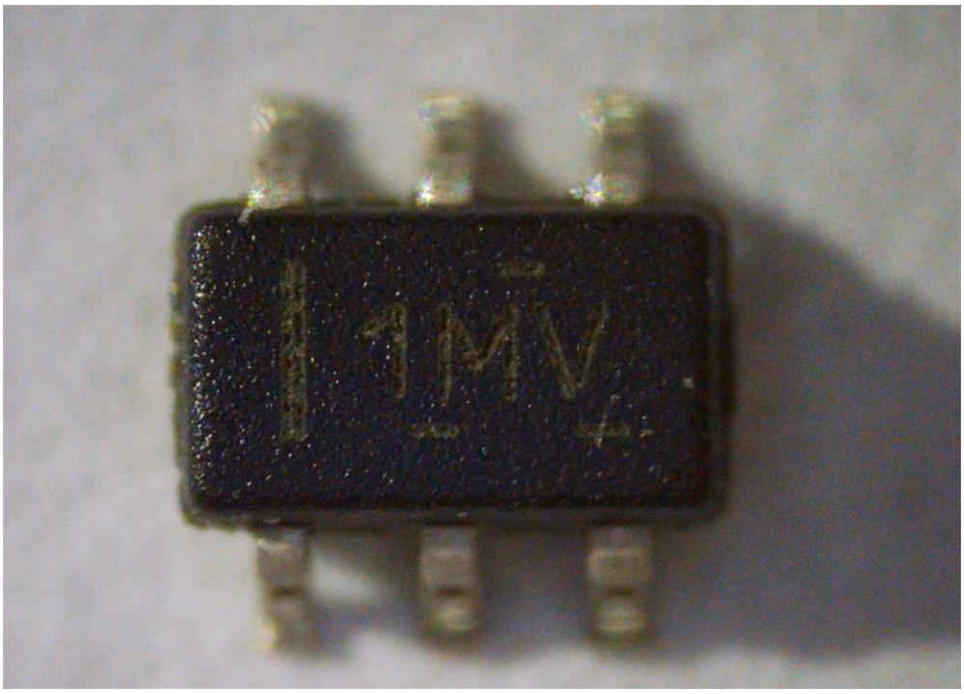


Figure 1-1. TPS7H2221-SEP Device (Front)

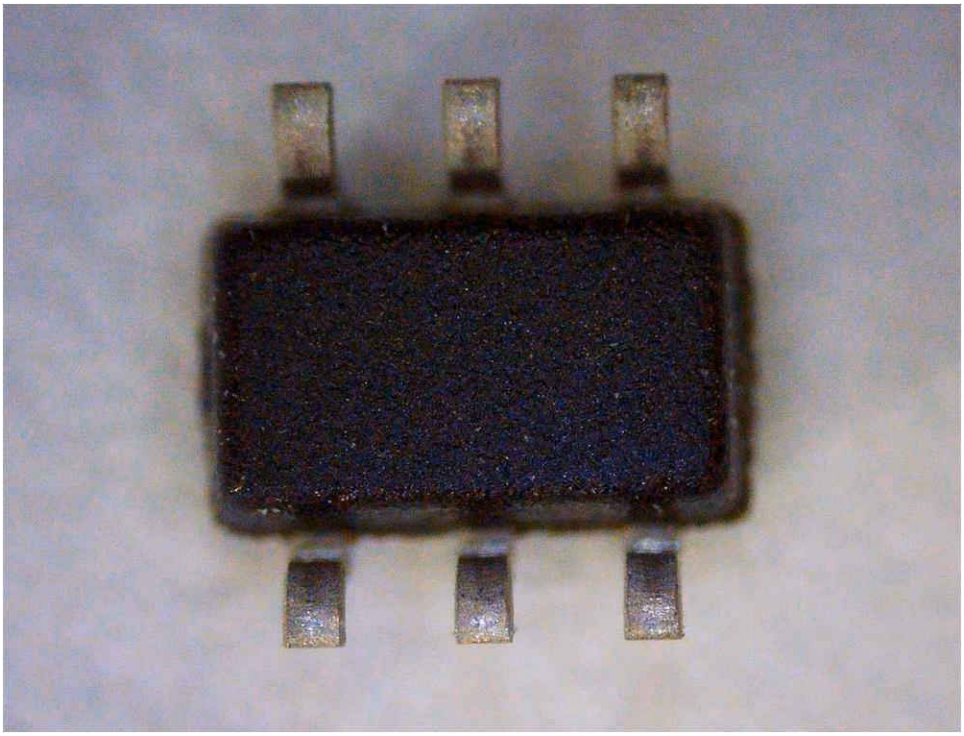


Figure 1-2. TPS7H2221-SEP Device (Back)

2 Total Dose Test Setup

2.1 Test Overview

The TPS7H2221-SEP was tested according to MIL-STD-883, Test Method 1019.9. For this testing, Conditions A and D were used. For this test, the product was irradiated up to the target radiation level, and then put through full electrical parametric testing on the production Automated Test Equipment (ATE).

2.2 Test Facility

The TPS7H2221-SEP HDR exposure was performed on biased and unbiased at Texas Instruments Dallas, Texas. The dose rate for exposure was between 200-250 rad(Si)/s. After exposure, devices were electrically tested at Texas Instruments in Dallas, Texas.

The TPS7H2221-SEP LDR exposure was performed on biased and unbiased devices in White Sands Missile Range in New Mexico. The dose rate for exposure was 10 mrad(Si)/s. After exposure, devices were electrically tested at Texas Instruments in Dallas, Texas.

2.3 Test Setup Details

The devices under HDR and LDR exposure were tested in two conditions, biased and unbiased, as described in the following sections.

Unbiased

For the unbiased HDR and LDR conditions, the exposure was performed with all pins grounded.

Biased

Figure 2-1 shows the bias conditions used for HDR and LDR exposure.

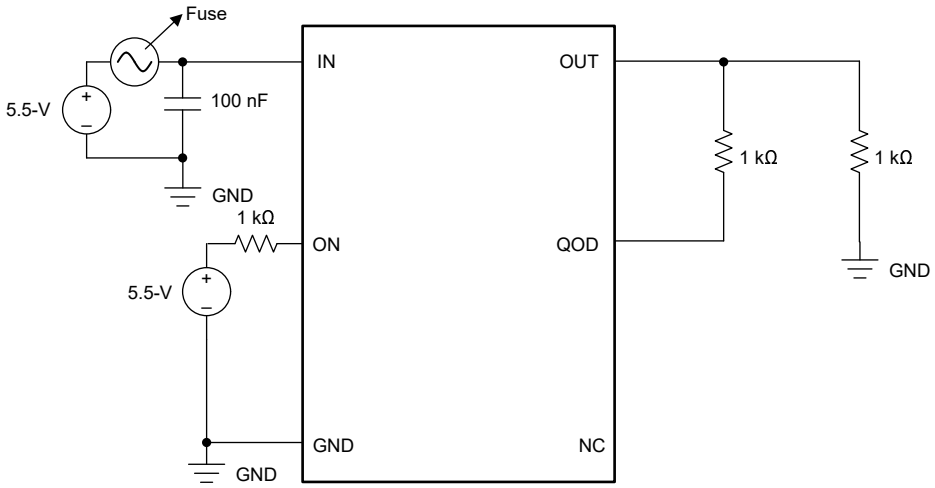


Figure 2-1. Bias Diagram Used in TID exposure

2.4 Test Configuration and Condition

HDR devices were stressed at 20 krad(Si), and 30 krad(Si) for biased and unbiased conditions. LDR devices were stressed at 20 krad(Si), 30krad(Si), and 50krad(Si) for biased and unbiased conditions.

Table 2-1. HDR ≥ 50–300 rad(Si)/s Biased Device Information (HDR)

Total Samples: 27	
Exposure Levels:	
20 krad(Si) (22 samples)	30 krad(Si) (5 samples)
1-22	31-35

Table 2-2. HDR ≥ 50–300 rad(Si)/s Unbiased Device Information (HDR)

Total Samples: 10	
Exposure Levels:	
20 krad(Si) (5 samples)	30 krad(Si) (5 samples)
25-29	36-40

Table 2-3. LDR ≤ 10 mrad(Si)/s Biased Device Information (LDR)

Total Samples: 22		
Exposure Levels:		
20 krad(Si) (22 samples)	30 krad(Si) (5 samples)	50 krad(Si) (5 samples)
1-22	23-27	28-32

Table 2-4. LDR ≤ 10 mrad(Si)/s Unbiased Device Information (LDR)

Total Samples: 5		
Exposure Levels:		
20 krad(Si) (5 samples)	30 krad(Si) (5 samples)	50 krad(Si) (5 samples)
51-55	56-60	61-65

3 TID Characterization Test Results

3.1 TID Characterization Summary Results

The results show that all devices were fully functional and within specification limits up to 50krad (Si) LDR and 20krad (Si) HDR TID. At 30krad(Si) HDR, all parameters except for test number 1000.1 and 1000.3 (V_{IN} Shutdown Current) were within datasheet limits.

Overall, the TPS7H2221-SEP showed a strong degree of hardness to irradiation for both biased and unbiased exposure conditions. The measurements taken post-irradiation for each sample set showed a marginal shift for most parameters at each dose level for both biased and unbiased. The parameters that did show a greater degree of change between pre and post-irradiation were still within the data sheet electrical specifications at 50krad(Si) LDR and 20krad(Si) HDR (see Section 3.2 for the electrical parameters).

3.2 Data Sheet Electrical Parameters and Associated Tests

Table 3-1. TPS7H2221-SEP Electrical Parameters Table

PARAMETER		TEST CONDITION	TPS7H2221-SEP DATA SHEET				TEST #
			MIN	TYP	MAX	UNIT	
Input Supply (VIN)							
$I_{Q, VIN}$	VIN Quiescent Current	V_{OUT} = Open,		8.2	15	µA	1000.5, 10.1
$I_{SD, VIN}$	VIN Shutdown Current	$V_{ON} \le V_{IL}$, V_{OUT} = GND		2	20	nA	1000.1, 1000.3
ON-Resistance (RON)							
R_{ON}	ON-State Resistance	I_{OUT} = -200 mA, V_{IN} = 5 V		116	150	mΩ	5700.2
		I_{OUT} = -200 mA, V_{IN} = 3.3 V		115	150	mΩ	Corner cases tested with 5700.2 and 5700.1
		I_{OUT} = -200 mA, V_{IN} = 1.8 V		133	300	mΩ	5700.1
Output Short Protection (ISC)							
I_{SC}	Short Circuit Current Limit	$V_{OUT} \le V_{IN}$ - 1.5 V		3		A	5700.3
		$V_{OUT} \le V_{SC}$	30	512	900	mA	5700.4
V_{SC}	Output Short Detection Threshold	$V_{OUT} \le V_{SC}$	0.22	0.36	0.57	V	5700.5
Enable Pin (ON)							
I_{ON}	ON Pin Leakage	$V_{ON} \ge V_{IH}$			100	nA	1000.6
$R_{PD, ON}$	Smart Pull Down Resistance	$V_{ON} \le V_{IL}$		491		kΩ	1000.4
$V_{IH,ON}$	ON Pin Input High (V_{IH} Rising)		1			V	Tested as go-no-go through test 20000.1
$V_{IL,ON}$	ON Pin Threshold (V_{IL} Falling)				0.35	V	Tested as go-no-go through test 20000.2
Quick-output Discharge (QOD)							
$R_{PD, QOD}$	QOD Pin Internal Discharge Resistance	$V_{ON} \le V_{IL}$		6		Ω	1000.2
Switching Characteristics							
t_{ON}	Turn ON Time	V_{IN} = 3.3 V		1500		µs	20000.1
t_{OFF}	Turn OFF Time	V_{IN} = 1.8 V to 5.0V, R_L = 100Ω, C_L = 0.1uF		5.22		µs	20000.2

4 Applicable and Reference Documents

4.1 Applicable Documents

- TPS7H2221-SEP Radiation Tolerant 5.5-V, 1.25-A, 115-mΩ Load Switch Data Sheet
- TPS7H2221-SEP EVM User's Guide

4.2 Reference Documents

Texas Instruments total ionizing dose radiation (total dose) test procedure follows the standards put forth in MIL-STD-883 TM 1019. The document can be found at the DLA website.

5 Revision History

NOTE: Page numbers for previous revisions may differ from page numbers in the current version.

Changes from Revision * (August 2022) to Revision A (October 2022)	Page
• Updated LDR data throughout	9

A Appendix: HDR TID Report Data

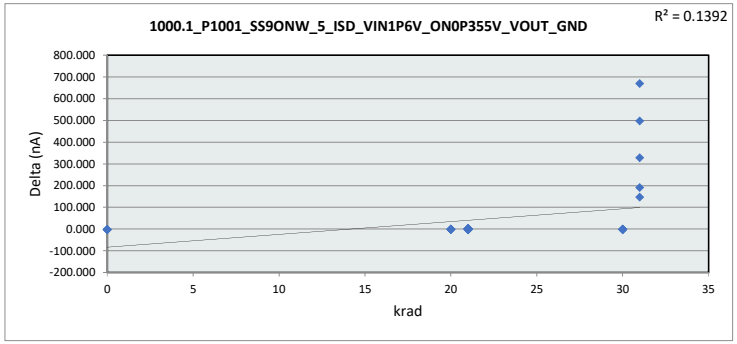
This appendix contains the HDR TID report data.

Identifier	Description
21	20 krad biased
20	20 krad unbiased
31	30 krad biased
30	30 krad unbiased
0	Correlation units

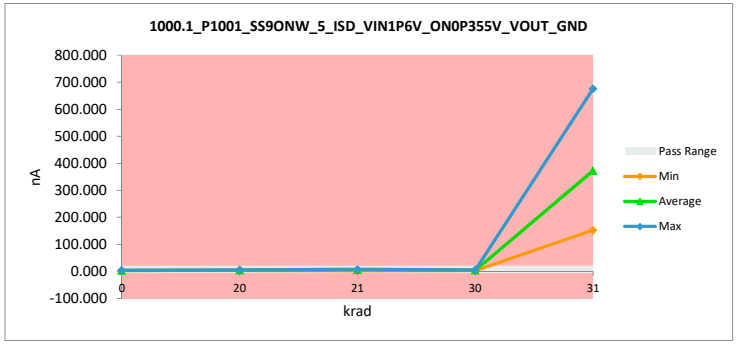
HDR Report
TPS7H2221-SEP

	1000.1_P1001_SS9ONW_5_ISD_VIN1P6V_ON0P355V_VOUT_GND	
Test Site	Dallas	Dallas
Tester	FETS8801	FETS8801
Test Number	EB671802	EB671802
Unit	nA	nA
Max Limit	20	20
Min Limit	-7	-7

krad	Serial #	Pre	Post	Delta
21	1	5.413	5.637	0.224
21	2	5.501	5.386	-0.115
21	3	5.372	5.340	-0.032
21	4	5.159	6.229	1.070
21	5	6.180	5.822	-0.358
21	6	5.011	5.570	0.559
21	7	6.311	6.087	-0.224
21	8	5.996	3.212	-2.784
21	9	6.092	2.680	-3.412
21	10	5.094	4.643	-0.451
21	11	5.454	5.885	0.431
21	12	4.759	7.590	2.831
21	13	6.235	6.005	-0.230
21	14	5.575	4.326	-1.249
21	15	5.126	4.315	-0.811
21	16	5.487	5.769	0.282
21	17	4.943	6.640	1.697
21	18	4.852	7.456	2.604
21	19	5.596	6.572	0.976
21	20	5.805	5.440	-0.365
21	21	5.582	6.149	0.567
21	22	5.558	5.908	0.350
21	23	5.112	6.101	0.989
21	24	5.717	5.356	-0.361
20	25	6.374	5.133	-1.241
20	26	5.910	5.468	-0.442
20	27	5.196	3.099	-2.097
20	28	5.178	2.905	-2.273
20	29	5.494	4.992	-0.502
20	30	5.404	4.743	-0.661
31	31	5.632	197.577	191.945
31	32	5.891	153.082	147.191
31	33	5.596	334.334	328.738
31	34	5.457	502.923	497.466
31	35	6.261	676.099	669.838
30	36	5.352	4.584	-0.768
30	37	5.550	3.036	-2.514
30	38	6.045	4.405	-1.640
30	39	6.031	4.838	-1.193
30	40	6.028	3.981	-2.047
30	41	5.423	5.610	0.187
0	82	5.383	2.828	-2.555
0	83	5.434	4.554	-0.880
0	84	6.358	4.509	-1.849
0	85	5.564	3.923	-1.641
0	86	5.635	3.148	-2.487
	Max	6.374	676.099	669.838
	Average	5.590	44.998	39.408
	Min	4.759	2.680	-3.412
	Std Dev	0.414	132.686	132.614



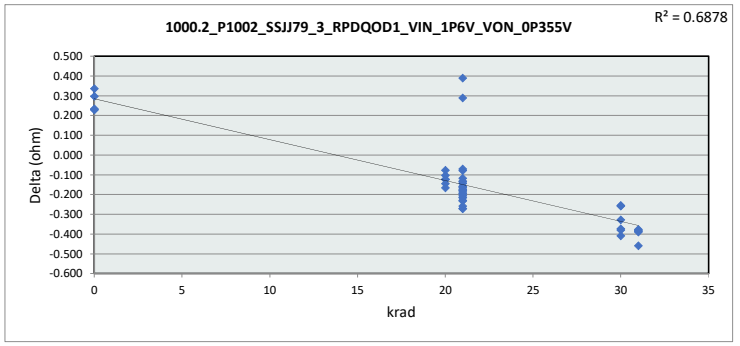
	1000.1_P1001_SS9ONW				
Test Site	Dallas				
Tester	FETS8801				
Test Number	EB671802				
Max Limit	20	nA			
Min Limit	-7	nA			
krad	0	20	21	30	31
LL	-7.000	-7.000	-7.000	-7.000	-7.000
Min	2.828	2.905	2.680	3.036	153.082
Average	3.792	4.390	5.588	4.409	372.803
Max	4.554	5.468	7.590	5.610	676.099
UL	20.000	20.000	20.000	20.000	20.000



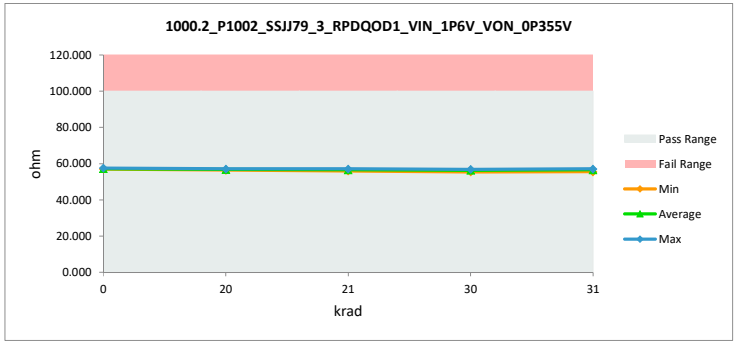
HDR Report
TPS7H2221-SEP

	1000.2_P1002_SSJJ79_3_RPDQOD1_VIN_1P6V_VON_0P355V	
Test Site	Dallas	Dallas
Tester	FETS8801	FETS8801
Test Number	EB671802	EB671802
Unit	ohm	ohm
Max Limit	100	100
Min Limit	0	0

krad	Serial #	Pre	Post	Delta
21	1	56.783	56.569	-0.214
21	2	57.241	57.105	-0.136
21	3	56.127	56.056	-0.071
21	4	56.139	55.909	-0.230
21	5	56.878	56.645	-0.233
21	6	56.234	56.017	-0.217
21	7	56.359	56.227	-0.132
21	8	56.600	56.888	0.288
21	9	56.450	56.839	0.389
21	10	56.446	56.272	-0.174
21	11	57.296	57.037	-0.259
21	12	57.059	56.879	-0.180
21	13	56.659	56.501	-0.158
21	14	56.754	56.675	-0.079
21	15	56.713	56.517	-0.196
21	16	56.980	56.708	-0.272
21	17	56.835	56.668	-0.167
21	18	57.059	56.855	-0.204
21	19	56.731	56.459	-0.272
21	20	56.138	55.977	-0.161
21	21	56.969	56.786	-0.183
21	22	57.170	57.027	-0.143
21	23	56.774	56.582	-0.192
21	24	56.392	56.274	-0.118
20	25	57.118	57.015	-0.103
20	26	56.578	56.411	-0.167
20	27	57.014	56.891	-0.123
20	28	57.179	57.102	-0.077
20	29	56.490	56.344	-0.146
20	30	56.700	56.575	-0.125
31	31	56.781	56.395	-0.386
31	32	55.823	55.442	-0.381
31	33	57.473	57.096	-0.377
31	34	57.404	56.945	-0.459
31	35	57.027	56.637	-0.390
30	36	57.236	56.908	-0.328
30	37	56.552	56.296	-0.256
30	38	55.660	55.401	-0.259
30	39	56.728	56.355	-0.373
30	40	56.968	56.558	-0.410
30	41	57.165	56.785	-0.380
0	82	56.871	57.168	0.297
0	83	57.244	57.473	0.229
0	84	57.054	57.283	0.229
0	85	56.848	57.081	0.233
0	86	57.036	57.372	0.336
	Max	57.473	57.473	0.389
	Average	56.777	56.631	-0.146
	Min	55.660	55.401	-0.459
	Std Dev	0.406	0.454	0.210



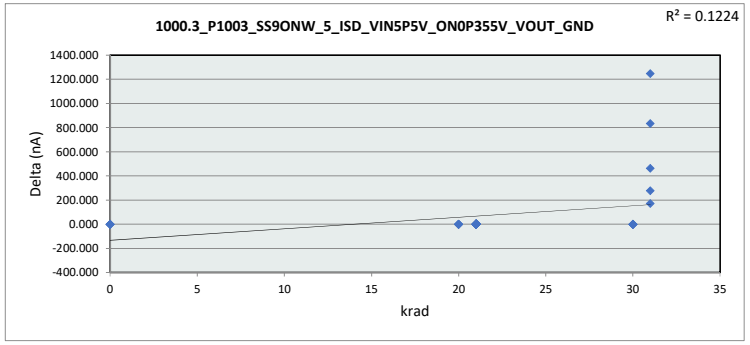
	1000.2_P1002_SSJJ79_3				
Test Site	Dallas				
Tester	FETS8801				
Test Number	EB671802				
Max Limit	100	ohm			
Min Limit	0	ohm			
krad	0	20	21	30	31
LL	0.000	0.000	0.000	0.000	0.000
Min	57.081	56.344	55.909	55.401	55.442
Average	57.275	56.723	56.561	56.384	56.503
Max	57.473	57.102	57.105	56.908	57.096
UL	100.000	100.000	100.000	100.000	100.000



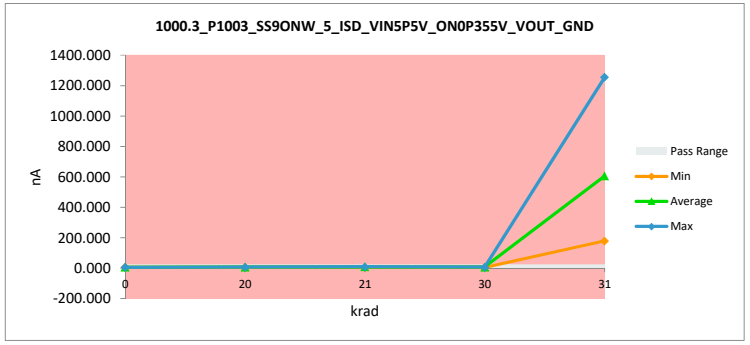
HDR Report
TPS7H2221-SEP

	1000.3_P1003_SS9ONW_5_ISD_VIN5P5V_ON0P355V_VOUT_GND	
Test Site	Dallas	Dallas
Tester	FETS8801	FETS8801
Test Number	EB671802	EB671802
Unit	nA	nA
Max Limit	20	20
Min Limit	-7	-7

krad	Serial #	Pre	Post	Delta
21	1	5.337	6.611	1.274
21	2	5.818	6.543	0.725
21	3	5.664	7.847	2.183
21	4	5.790	6.557	0.767
21	5	5.294	6.276	0.982
21	6	5.143	5.790	0.647
21	7	5.487	8.227	2.740
21	8	5.413	5.333	-0.080
21	9	5.332	4.803	-0.529
21	10	5.777	7.378	1.601
21	11	5.573	6.044	0.471
21	12	5.932	8.116	2.184
21	13	5.372	7.223	1.851
21	14	5.235	6.042	0.807
21	15	5.743	7.873	2.130
21	16	5.848	6.443	0.595
21	17	5.587	8.158	2.571
21	18	5.364	7.833	2.469
21	19	6.072	6.104	0.032
21	20	5.174	5.884	0.710
21	21	5.320	8.086	2.766
21	22	5.890	6.059	0.169
21	23	5.799	6.531	0.732
21	24	5.712	6.362	0.650
20	25	5.517	5.222	-0.295
20	26	5.328	5.146	-0.182
20	27	5.984	5.726	-0.258
20	28	5.938	5.242	-0.696
20	29	5.758	4.970	-0.788
20	30	6.004	5.816	-0.188
31	31	5.252	283.773	278.521
31	32	5.288	178.388	173.100
31	33	5.201	469.576	464.375
31	34	5.857	839.050	833.193
31	35	5.425	1254.000	1248.575
30	36	5.588	5.587	-0.001
30	37	5.362	5.302	-0.060
30	38	5.482	5.882	0.400
30	39	5.325	4.987	-0.338
30	40	5.677	5.596	-0.081
30	41	5.728	5.137	-0.591
0	82	6.018	4.259	-1.759
0	83	5.677	5.180	-0.497
0	84	5.583	5.424	-0.159
0	85	5.718	5.746	0.028
0	86	5.339	4.695	-0.644
Max		6.072	1254.000	1248.575
Average		5.581	71.235	65.654
Min		5.143	4.259	-1.759
Std Dev		0.262	229.857	229.884

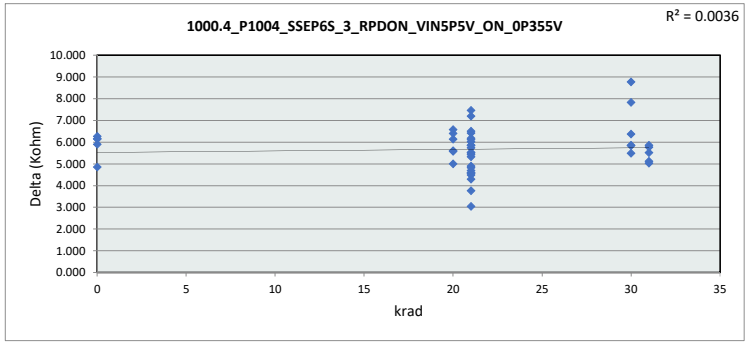


	1000.3_P1003_SS9ONW				
Test Site	Dallas				
Tester	FETS8801				
Test Number	EB671802				
Max Limit	20	nA			
Min Limit	-7	nA			
krad	0	20	21	30	31
LL	-7.000	-7.000	-7.000	-7.000	-7.000
Min	4.259	4.970	4.803	4.987	178.388
Average	5.061	5.354	6.755	5.415	604.957
Max	5.746	5.816	8.227	5.882	1254.000
UL	20.000	20.000	20.000	20.000	20.000

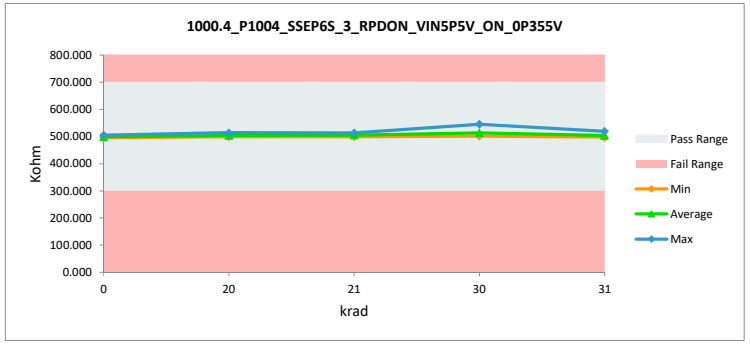


HDR Report
TPS7H2221-SEP

	1000.4_P1004_SSEP6S_3_RPDON_VIN5P5V_ON_0P355V		
Test Site	Dallas	Dallas	
Tester	FETS8801	FETS8801	
Test Number	EB671802	EB671802	
Unit	Kohm	Kohm	
Max Limit	700	700	
Min Limit	300	300	
krad	Serial #	Pre	Post	Delta
21	1	501.230	505.801	4.571
21	2	494.428	499.024	4.596
21	3	504.749	512.206	7.457
21	4	504.637	510.656	6.019
21	5	495.317	501.176	5.859
21	6	501.655	508.076	6.421
21	7	493.824	499.356	5.532
21	8	494.428	500.932	6.504
21	9	505.566	512.768	7.202
21	10	501.853	507.286	5.433
21	11	496.253	500.821	4.568
21	12	499.546	503.838	4.292
21	13	503.578	508.062	4.484
21	14	494.559	500.418	5.859
21	15	504.028	508.932	4.904
21	16	495.600	498.651	3.051
21	17	501.790	507.964	6.174
21	18	498.268	503.592	5.324
21	19	505.044	509.875	4.831
21	20	499.635	505.754	6.119
21	21	495.730	500.419	4.689
21	22	496.668	502.178	5.510
21	23	499.747	505.489	5.742
21	24	498.707	502.471	3.764
20	25	493.004	499.400	6.396
20	26	497.851	503.458	5.607
20	27	493.176	499.311	6.135
20	28	493.930	498.938	5.008
20	29	500.056	505.625	5.569
20	30	506.723	513.306	6.583
31	31	497.412	502.538	5.126
31	32	513.344	519.114	5.770
31	33	490.988	496.849	5.861
31	34	495.817	500.843	5.026
31	35	492.315	497.836	5.521
30	36	495.448	501.310	5.862
30	37	506.152	512.516	6.364
30	38	535.857	544.631	8.774
30	39	504.234	510.082	5.848
30	40	502.459	510.285	7.826
30	41	497.259	502.743	5.484
0	82	490.351	495.213	4.862
0	83	495.774	501.667	5.893
0	84	491.223	497.375	6.152
0	85	498.884	505.148	6.264
0	86	491.076	497.222	6.146
Max		535.857	544.631	8.774
Average		499.352	505.025	5.674
Min		490.351	495.213	3.051
Std Dev		7.468	7.988	1.016

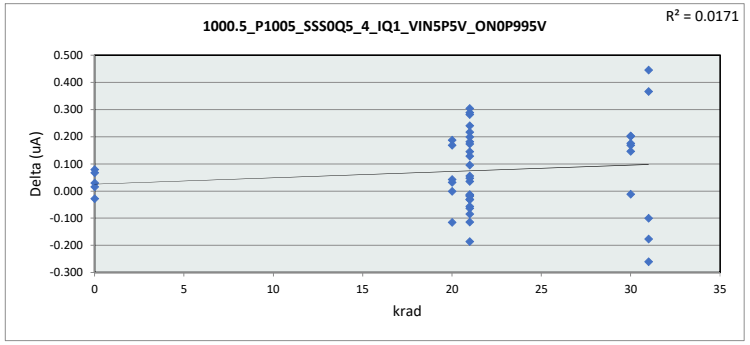


	1000.4_P1004_SSEP6S_3				
Test Site	Dallas				
Tester	FETS8801				
Test Number	EB671802				
Max Limit	700	Kohm			
Min Limit	300	Kohm			
krad	0	20	21	30	31
LL	300.000	300.000	300.000	300.000	300.000
Min	495.213	498.938	498.651	501.310	496.849
Average	499.325	503.340	504.823	513.595	503.436
Max	505.148	513.306	512.768	544.631	519.114
UL	700.000	700.000	700.000	700.000	700.000

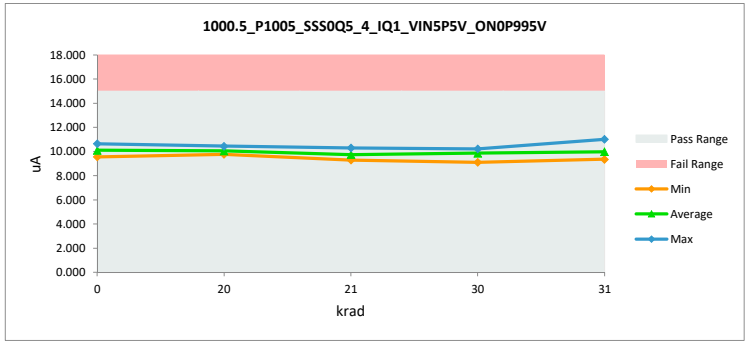


HDR Report
TPS7H2221-SEP

	1000.5_P1005_SSS0Q5_4_IQ1_VIN5P5V_ON0P995V		
Test Site	Dallas	Dallas	
Tester	FETS8801	FETS8801	
Test Number	EB671802	EB671802	
Unit	uA	uA	
Max Limit	15	15	
Min Limit	0	0	
krad	Serial #	Pre	Post	Delta
21	1	9.455	9.695	0.240
21	2	9.709	9.624	-0.085
21	3	9.457	9.674	0.217
21	4	9.545	9.481	-0.064
21	5	9.405	9.550	0.145
21	6	9.461	9.765	0.304
21	7	9.632	9.613	-0.019
21	8	9.931	9.918	-0.013
21	9	9.670	9.654	-0.016
21	10	9.914	9.882	-0.032
21	11	9.374	9.573	0.199
21	12	9.566	9.601	0.035
21	13	9.582	9.710	0.128
21	14	9.890	9.986	0.096
21	15	9.113	9.294	0.181
21	16	9.697	9.979	0.282
21	17	9.887	9.943	0.056
21	18	9.259	9.306	0.047
21	19	10.087	10.030	-0.057
21	20	10.012	10.301	0.289
21	21	9.794	9.967	0.173
21	22	9.879	9.849	-0.030
21	23	10.314	10.128	-0.186
21	24	9.784	9.670	-0.114
20	25	9.733	9.765	0.032
20	26	10.443	10.442	-0.001
20	27	10.199	10.386	0.187
20	28	9.819	9.861	0.042
20	29	9.600	9.768	0.168
20	30	10.131	10.016	-0.115
31	31	9.530	9.353	-0.177
31	32	9.123	9.489	0.366
31	33	10.194	9.934	-0.260
31	34	10.211	10.111	-0.100
31	35	10.580	11.025	0.445
30	36	10.043	10.031	-0.012
30	37	9.907	10.075	0.168
30	38	9.445	9.591	0.146
30	39	8.902	9.103	0.201
30	40	10.048	10.223	0.175
30	41	9.947	10.150	0.203
0	82	9.520	9.549	0.029
0	83	9.807	9.822	0.015
0	84	10.563	10.642	0.079
0	85	9.881	9.948	0.067
0	86	10.582	10.554	-0.028
Max		10.582	11.025	0.445
Average		9.796	9.870	0.074
Min		8.902	9.103	-0.260
Std Dev		0.385	0.373	0.151



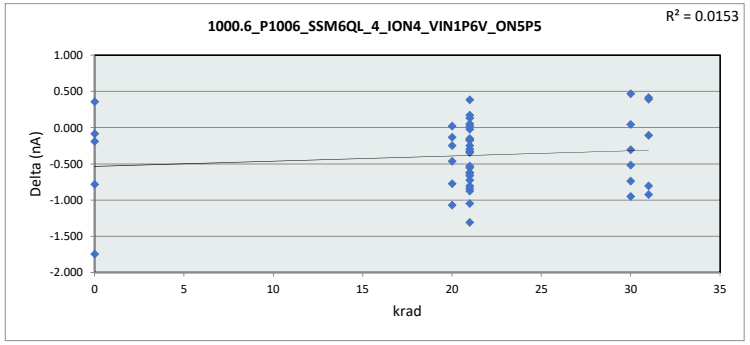
	1000.5_P1005_SSS0Q5_				
Test Site	Dallas				
Tester	FETS8801				
Test Number	EB671802				
Max Limit	15	uA			
Min Limit	0	uA			
krad	0	20	21	30	31
LL	0.000	0.000	0.000	0.000	0.000
Min	9.549	9.765	9.294	9.103	9.353
Average	10.103	10.040	9.758	9.862	9.982
Max	10.642	10.442	10.301	10.223	11.025
UL	15.000	15.000	15.000	15.000	15.000



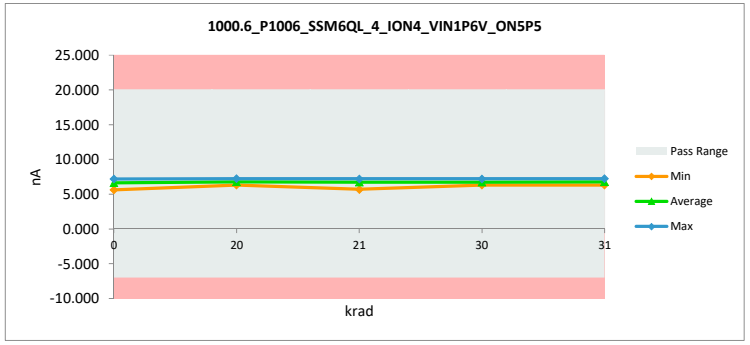
HDR Report
TPS7H2221-SEP

	1000.6_P1006_SSM6QL_4_ION4_VIN1P6V_ON5P5	
Test Site	Dallas	Dallas
Tester	FETS8801	FETS8801
Test Number	EB671802	EB671802
Unit	nA	nA
Max Limit	20	20
Min Limit	-7	-7

krad	Serial #	Pre	Post	Delta
21	1	7.228	7.063	-0.165
21	2	7.383	6.578	-0.805
21	3	7.101	6.775	-0.326
21	4	7.333	6.802	-0.531
21	5	6.774	6.826	0.052
21	6	6.841	6.817	-0.024
21	7	6.863	6.996	0.133
21	8	6.830	6.679	-0.151
21	9	6.830	6.106	-0.724
21	10	7.082	5.775	-1.307
21	11	7.321	6.695	-0.626
21	12	7.374	7.076	-0.298
21	13	6.771	7.153	0.382
21	14	6.727	5.682	-1.045
21	15	7.113	6.768	-0.345
21	16	7.515	6.852	-0.663
21	17	7.254	6.634	-0.620
21	18	7.149	6.598	-0.551
21	19	7.431	6.556	-0.875
21	20	6.970	6.724	-0.246
21	21	7.180	7.204	0.024
21	22	7.393	6.553	-0.840
21	23	7.241	7.066	-0.175
21	24	7.014	7.188	0.174
20	25	6.805	6.826	0.021
20	26	6.993	6.528	-0.465
20	27	7.267	7.136	-0.131
20	28	7.397	6.327	-1.070
20	29	7.364	6.591	-0.773
20	30	7.478	7.232	-0.246
31	31	7.101	6.296	-0.805
31	32	6.734	7.125	0.391
31	33	6.815	7.232	0.417
31	34	7.453	6.528	-0.925
31	35	6.738	6.631	-0.107
30	36	7.301	6.782	-0.519
30	37	7.045	6.309	-0.736
30	38	6.727	7.197	0.470
30	39	6.817	6.513	-0.304
30	40	7.017	7.060	0.043
30	41	7.369	6.418	-0.951
0	82	7.385	5.639	-1.746
0	83	7.362	7.173	-0.189
0	84	6.800	7.156	0.356
0	85	7.059	6.977	-0.082
0	86	7.045	6.262	-0.783
Max		7.515	7.232	0.470
Average		7.104	6.720	-0.384
Min		6.727	5.639	-1.746
Std Dev		0.251	0.405	0.491

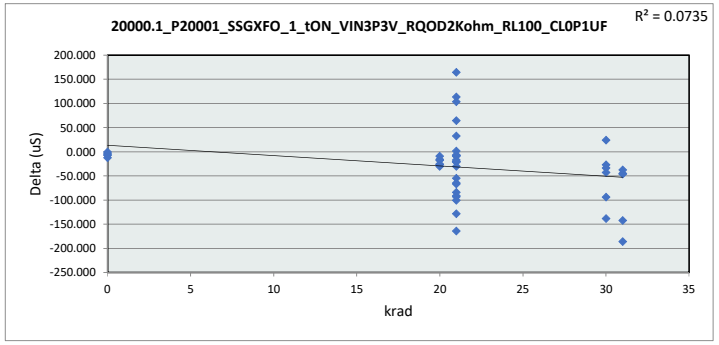


	1000.6_P1006_SSM6QL				
Test Site	Dallas				
Tester	FETS8801				
Test Number	EB671802				
Max Limit	20	nA			
Min Limit	-7	nA			
krad	0	20	21	30	31
LL	-7.000	-7.000	-7.000	-7.000	-7.000
Min	5.639	6.327	5.682	6.309	6.296
Average	6.641	6.773	6.715	6.713	6.762
Max	7.173	7.232	7.204	7.197	7.232
UL	20.000	20.000	20.000	20.000	20.000

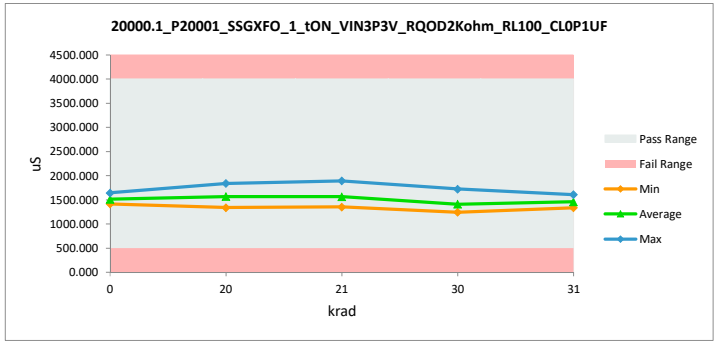


HDR Report
TPS7H2221-SEP

	20000.1_P20001_SSGXFO_1_tON_VIN3P3V_RQOD2Kohm_RL100_CL0P1UF		
Test Site	Dallas	Dallas	
Tester	FETS8801	FETS8801	
Test Number	EB671802	EB671802	
Unit	uS	uS	
Max Limit	4000	4000	
Min Limit	500	500	
krad	Serial #	Pre	Post	Delta
21	1	1635.442	1580.742	-54.700
21	2	1468.206	1451.495	-16.711
21	3	1595.933	1512.238	-83.695
21	4	1952.963	1789.128	-163.835
21	5	1515.925	1494.929	-20.996
21	6	1565.162	1471.881	-93.281
21	7	1505.668	1669.976	164.308
21	8	1731.304	1722.964	-8.340
21	9	1826.200	1806.074	-20.126
21	10	1552.345	1584.890	32.545
21	11	1566.493	1475.444	-91.049
21	12	1557.446	1536.527	-20.919
21	13	1398.719	1368.788	-29.931
21	14	1360.733	1351.733	-9.000
21	15	1508.124	1572.903	64.779
21	16	1660.973	1774.402	113.429
21	17	1586.776	1580.036	-6.740
21	18	1585.238	1520.745	-64.493
21	19	1387.665	1380.958	-6.707
21	20	1790.164	1893.504	103.340
21	21	1767.622	1700.652	-66.970
21	22	1612.623	1484.488	-128.135
21	23	1373.877	1375.344	1.467
21	24	1550.125	1449.983	-100.142
20	25	1866.203	1840.040	-26.163
20	26	1357.257	1339.591	-17.666
20	27	1586.812	1556.369	-30.443
20	28	1459.753	1450.916	-8.837
20	29	1646.407	1630.764	-15.643
20	30	1624.485	1598.824	-25.661
31	31	1400.576	1363.048	-37.528
31	32	1553.199	1508.525	-44.674
31	33	1749.250	1607.240	-142.010
31	34	1382.542	1336.620	-45.922
31	35	1653.170	1467.261	-185.909
30	36	1496.291	1402.678	-93.613
30	37	1368.354	1341.745	-26.609
30	38	1698.653	1722.702	24.049
30	39	1429.214	1395.502	-33.712
30	40	1289.396	1246.475	-42.921
30	41	1489.723	1351.735	-137.988
0	82	1540.118	1527.725	-12.393
0	83	1648.953	1642.582	-6.371
0	84	1421.245	1417.941	-3.304
0	85	1533.544	1533.040	-0.504
0	86	1439.955	1432.989	-6.966
Max		1952.963	1893.504	164.308
Average		1558.496	1527.481	-31.015
Min		1289.396	1246.475	-185.909
Std Dev		147.186	152.092	66.440



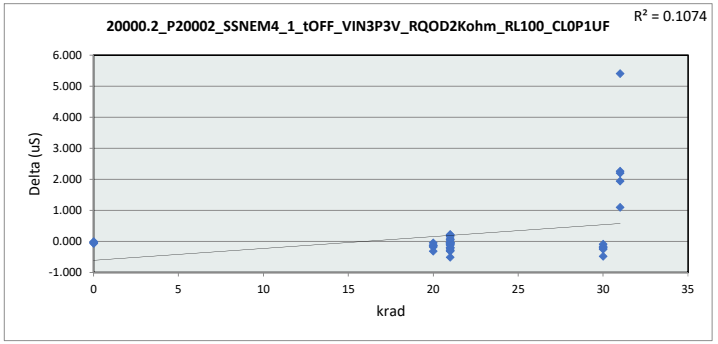
	20000.1_P20001_SSGXF				
Test Site	Dallas				
Tester	FETS8801				
Test Number	EB671802				
Max Limit	4000	uS			
Min Limit	500	uS			
krad	0	20	21	30	31
LL	500.000	500.000	500.000	500.000	500.000
Min	1417.941	1339.591	1351.733	1246.475	1336.620
Average	1510.855	1569.417	1564.576	1410.140	1456.539
Max	1642.582	1840.040	1893.504	1722.702	1607.240
UL	4000.000	4000.000	4000.000	4000.000	4000.000



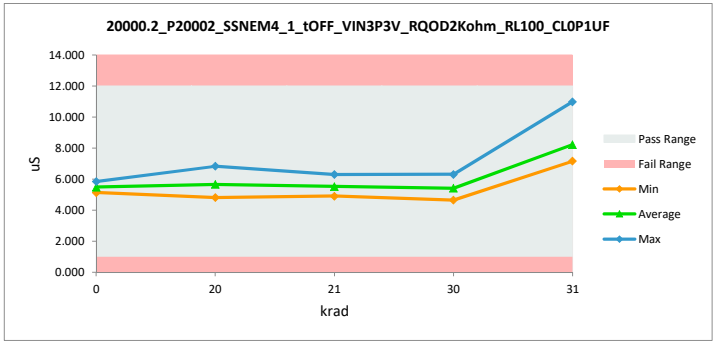
HDR Report
TPS7H2221-SEP

	20000.2_P20002_SSNEM4_1_tOFF_VIN3P3V_RQOD2Kohm_RL100_CL0P1UF	
Test Site	Dallas	Dallas
Tester	FETS8801	FETS8801
Test Number	EB671802	EB671802
Unit	uS	uS
Max Limit	12	12
Min Limit	1	1

krad	Serial #	Pre	Post	Delta
21	1	6.227	5.724	-0.503
21	2	4.883	5.038	0.155
21	3	5.774	5.755	-0.019
21	4	6.013	5.971	-0.042
21	5	5.342	5.284	-0.058
21	6	6.330	6.054	-0.276
21	7	4.703	4.906	0.203
21	8	5.435	5.390	-0.045
21	9	5.968	5.902	-0.066
21	10	4.838	5.058	0.220
21	11	5.402	5.367	-0.035
21	12	5.636	5.526	-0.110
21	13	5.168	5.234	0.066
21	14	5.408	5.361	-0.047
21	15	5.150	4.944	-0.206
21	16	5.716	5.764	0.048
21	17	5.850	5.540	-0.310
21	18	5.303	5.514	0.211
21	19	5.262	5.164	-0.098
21	20	6.158	5.872	-0.286
21	21	6.510	6.302	-0.208
21	22	6.131	6.020	-0.111
21	23	5.270	5.349	0.079
21	24	5.851	5.661	-0.190
20	25	7.137	6.828	-0.309
20	26	4.931	4.813	-0.118
20	27	5.455	5.325	-0.130
20	28	5.868	5.723	-0.145
20	29	6.539	6.360	-0.179
20	30	4.975	4.926	-0.049
31	31	5.362	7.307	1.945
31	32	6.691	7.794	1.103
31	33	5.636	7.900	2.264
31	34	4.951	7.158	2.207
31	35	5.579	10.987	5.408
30	36	5.394	5.147	-0.247
30	37	5.398	5.313	-0.085
30	38	6.307	6.109	-0.198
30	39	6.468	6.309	-0.159
30	40	5.162	4.953	-0.209
30	41	5.131	4.655	-0.476
0	82	5.523	5.487	-0.036
0	83	5.486	5.479	-0.007
0	84	5.157	5.128	-0.029
0	85	5.909	5.847	-0.062
0	86	5.537	5.495	-0.042
Max		7.137	10.987	5.408
Average		5.629	5.821	0.192
Min		4.703	4.655	-0.503
Std Dev		0.547	1.071	0.989

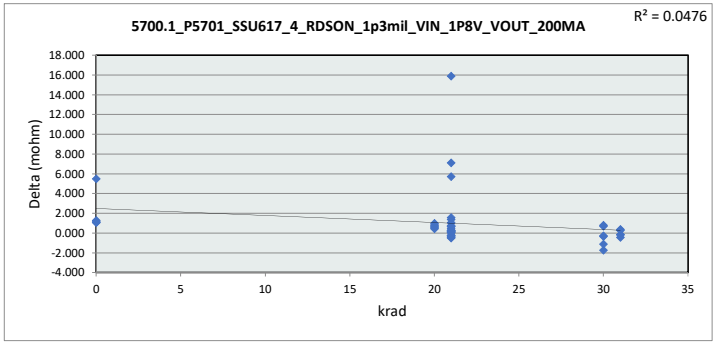


	20000.2_P20002_SSNEM				
Test Site	Dallas				
Tester	FETS8801				
Test Number	EB671802				
Max Limit	12	uS			
Min Limit	1	uS			
krad	0	20	21	30	31
LL	1.000	1.000	1.000	1.000	1.000
Min	5.128	4.813	4.906	4.655	7.158
Average	5.487	5.663	5.529	5.414	8.229
Max	5.847	6.828	6.302	6.309	10.987
UL	12.000	12.000	12.000	12.000	12.000

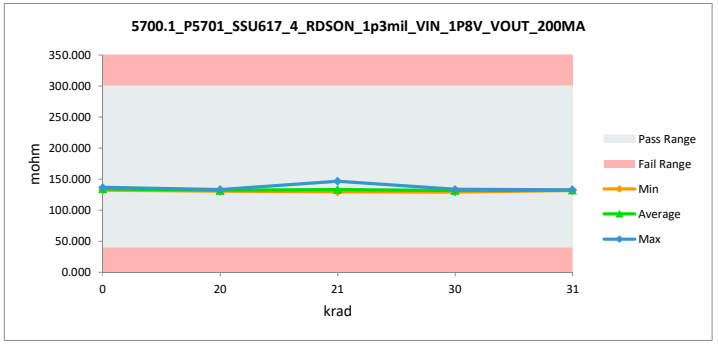


HDR Report
TPS7H2221-SEP

	5700.1_P5701_SSU617_4_RDSON_1p3mil_VIN_1P8V_VOUT_200MA		
Test Site	Dallas	Dallas	
Tester	FETS8801	FETS8801	
Test Number	EB671802	EB671802	
Unit	mohm	mohm	
Max Limit	300	300	
Min Limit	40	40	
krad	Serial #	Pre	Post	Delta
21	1	129.351	129.590	0.239
21	2	132.493	132.648	0.155
21	3	129.963	130.613	0.650
21	4	130.528	131.273	0.745
21	5	132.135	131.917	-0.218
21	6	132.861	133.287	0.426
21	7	131.422	132.458	1.036
21	8	131.085	146.961	15.876
21	9	131.695	133.062	1.367
21	10	133.213	132.789	-0.424
21	11	134.675	134.181	-0.494
21	12	131.133	131.241	0.108
21	13	132.465	132.716	0.251
21	14	131.432	133.006	1.574
21	15	132.804	132.403	-0.401
21	16	132.903	132.635	-0.268
21	17	131.158	130.879	-0.279
21	18	132.814	132.864	0.050
21	19	131.372	132.034	0.662
21	20	130.949	138.062	7.113
21	21	132.166	132.437	0.271
21	22	132.074	132.256	0.182
21	23	131.665	131.703	0.038
21	24	131.686	137.384	5.698
20	25	129.753	130.391	0.638
20	26	132.194	132.900	0.706
20	27	130.276	130.690	0.414
20	28	132.423	133.236	0.813
20	29	131.400	131.924	0.524
20	30	131.661	132.639	0.978
31	31	132.612	132.971	0.359
31	32	131.776	131.626	-0.150
31	33	132.355	131.908	-0.447
31	34	132.230	132.035	-0.195
31	35	132.465	132.727	0.262
30	36	130.806	131.580	0.774
30	37	132.889	132.608	-0.281
30	38	132.068	131.723	-0.345
30	39	130.291	129.177	-1.114
30	40	132.805	131.051	-1.754
30	41	132.653	133.339	0.686
0	82	133.416	134.695	1.279
0	83	131.160	132.192	1.032
0	84	132.397	133.520	1.123
0	85	132.650	133.754	1.104
0	86	131.180	136.673	5.493
Max		134.675	146.961	15.876
Average		131.859	132.864	1.006
Min		129.351	129.177	-1.754
Std Dev		1.042	2.715	2.753

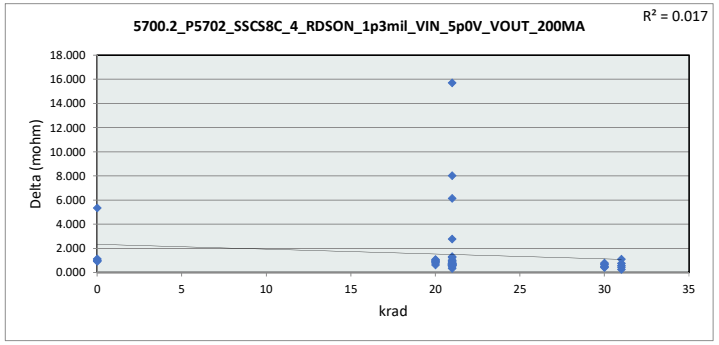


	5700.1_P5701_SSU617_				
Test Site	Dallas				
Tester	FETS8801				
Test Number	EB671802				
Max Limit	300	mohm			
Min Limit	40	mohm			
krad	0	20	21	30	31
LL	40.000	40.000	40.000	40.000	40.000
Min	132.192	130.391	129.590	129.177	131.626
Average	134.167	131.963	133.267	131.580	132.253
Max	136.673	133.236	146.961	133.339	132.971
UL	300.000	300.000	300.000	300.000	300.000

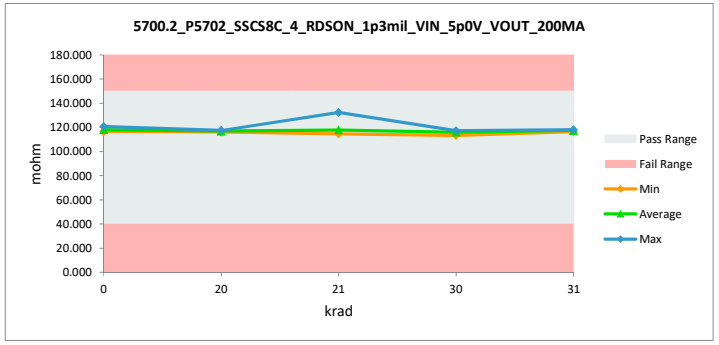


HDR Report
TPS7H2221-SEP

	5700.2_P5702_SSCS8C_4_RDSON_1p3mil_VIN_5p0V_VOUT_200MA		
Test Site	Dallas	Dallas	
Tester	FETS8801	FETS8801	
Test Number	EB671802	EB671802	
Unit	mohm	mohm	
Max Limit	150	150	
Min Limit	40	40	
krad	Serial #	Pre	Post	Delta
21	1	114.121	114.712	0.591
21	2	115.321	115.779	0.458
21	3	113.873	114.614	0.741
21	4	115.956	116.547	0.591
21	5	114.860	115.530	0.670
21	6	116.698	117.397	0.699
21	7	115.410	116.728	1.318
21	8	116.776	132.476	15.700
21	9	116.784	118.028	1.244
21	10	116.684	117.329	0.645
21	11	117.030	117.373	0.343
21	12	114.810	115.717	0.907
21	13	115.986	117.016	1.030
21	14	113.705	116.491	2.786
21	15	116.624	117.389	0.765
21	16	116.743	117.571	0.828
21	17	115.087	115.708	0.621
21	18	116.932	117.697	0.765
21	19	115.688	116.350	0.662
21	20	116.105	124.129	8.024
21	21	117.262	117.856	0.594
21	22	116.152	116.742	0.590
21	23	114.414	115.379	0.965
21	24	116.519	122.649	6.130
20	25	115.558	116.481	0.923
20	26	116.109	117.108	0.999
20	27	115.460	116.077	0.617
20	28	116.476	117.567	1.091
20	29	115.978	116.853	0.875
20	30	116.564	117.365	0.801
31	31	116.619	117.731	1.112
31	32	116.608	116.880	0.272
31	33	117.246	117.681	0.435
31	34	115.853	116.623	0.770
31	35	117.450	118.029	0.579
30	36	115.768	116.437	0.669
30	37	116.230	116.748	0.518
30	38	116.189	116.978	0.789
30	39	112.948	113.372	0.424
30	40	114.445	114.927	0.482
30	41	116.523	117.236	0.713
0	82	116.677	117.806	1.129
0	83	115.675	116.609	0.934
0	84	116.914	117.943	1.029
0	85	116.684	117.689	1.005
0	86	115.337	120.696	5.359
Max		117.450	132.476	15.700
Average		115.932	117.436	1.504
Min		112.948	113.372	0.272
Std Dev		1.021	2.890	2.612

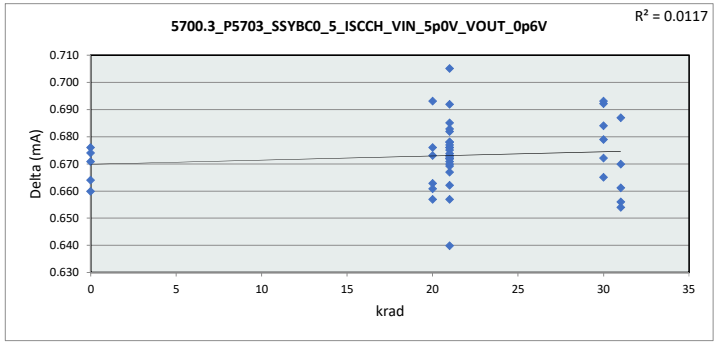


	5700.2_P5702_SSCS8C_4				
Test Site	Dallas				
Tester	FETS8801				
Test Number	EB671802				
Max Limit	150	mohm			
Min Limit	40	mohm			
krad	0	20	21	30	31
LL	40.000	40.000	40.000	40.000	40.000
Min	116.609	116.077	114.614	113.372	116.623
Average	118.149	116.909	117.800	115.950	117.389
Max	120.696	117.567	132.476	117.236	118.029
UL	150.000	150.000	150.000	150.000	150.000

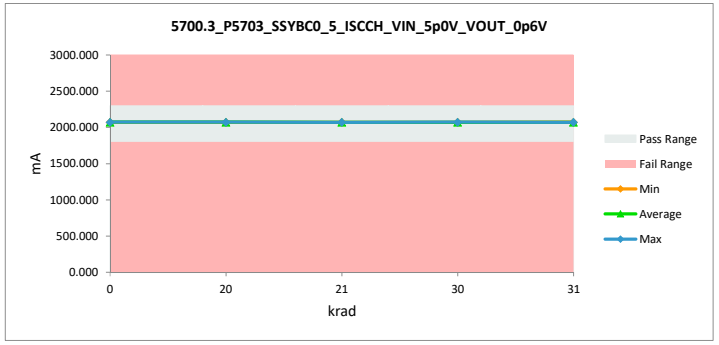


HDR Report
TPS7H2221-SEP

	5700.3_P5703_SSYBC0_5_ISCCH_VIN_5p0V_VOUT_0p6V		
Test Site	Dallas	Dallas	
Tester	FETS8801	FETS8801	
Test Number	EB671802	EB671802	
Unit	mA	mA	
Max Limit	2300	2300	
Min Limit	1800	1800	
krad	Serial #	Pre	Post	Delta
21	1	2071.188	2071.866	0.678
21	2	2071.195	2071.869	0.674
21	3	2071.186	2071.869	0.683
21	4	2071.189	2071.861	0.672
21	5	2071.201	2071.868	0.667
21	6	2071.190	2071.865	0.675
21	7	2071.199	2071.861	0.662
21	8	2071.193	2071.865	0.672
21	9	2071.201	2071.870	0.669
21	10	2071.199	2071.869	0.670
21	11	2071.187	2071.863	0.676
21	12	2071.186	2071.859	0.673
21	13	2071.192	2071.865	0.673
21	14	2071.187	2071.865	0.678
21	15	2071.197	2071.868	0.671
21	16	2071.201	2071.858	0.657
21	17	2071.187	2071.869	0.682
21	18	2071.186	2071.863	0.677
21	19	2071.177	2071.869	0.692
21	20	2071.168	2071.873	0.705
21	21	2071.190	2071.875	0.685
21	22	2071.189	2071.865	0.676
21	23	2071.206	2071.846	0.640
21	24	2071.197	2071.869	0.672
20	25	2071.204	2071.865	0.661
20	26	2071.179	2071.872	0.693
20	27	2071.204	2071.867	0.663
20	28	2071.189	2071.865	0.676
20	29	2071.206	2071.863	0.657
20	30	2071.188	2071.861	0.673
31	31	2071.199	2071.869	0.670
31	32	2071.214	2071.870	0.656
31	33	2071.183	2071.870	0.687
31	34	2071.209	2071.863	0.654
31	35	2071.191	2071.852	0.661
30	36	2071.179	2071.871	0.692
30	37	2071.188	2071.867	0.679
30	38	2071.201	2071.873	0.672
30	39	2071.190	2071.874	0.684
30	40	2071.177	2071.870	0.693
30	41	2071.197	2071.862	0.665
0	82	2071.208	2071.868	0.660
0	83	2071.193	2071.864	0.671
0	84	2071.195	2071.871	0.676
0	85	2071.187	2071.861	0.674
0	86	2071.200	2071.864	0.664
Max		2071.214	2071.875	0.705
Average		2071.193	2071.866	0.673
Min		2071.168	2071.846	0.640
Std Dev		0.009	0.005	0.012

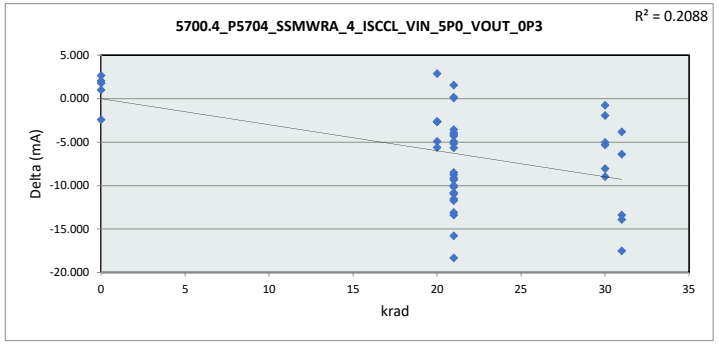


	5700.3_P5703_SSYBC0_				
Test Site	Dallas				
Tester	FETS8801				
Test Number	EB671802				
Max Limit	2300	mA			
Min Limit	1800	mA			
krad	0	20	21	30	31
LL	1800.000	1800.000	1800.000	1800.000	1800.000
Min	2071.861	2071.861	2071.846	2071.862	2071.852
Average	2071.866	2071.866	2071.865	2071.870	2071.865
Max	2071.871	2071.872	2071.875	2071.874	2071.870
UL	2300.000	2300.000	2300.000	2300.000	2300.000

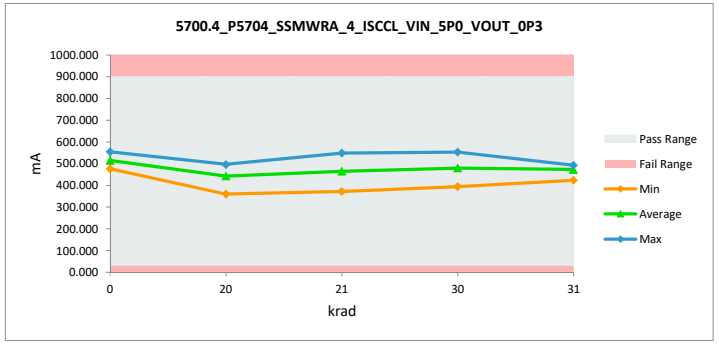


HDR Report
TPS7H2221-SEP

	5700.4_P5704_SSMWRA_4_ISCCL_VIN_5P0_VOUT_0P3		
Test Site	Dallas	Dallas	
Tester	FETS8801	FETS8801	
Test Number	EB671802	EB671802	
Unit	mA	mA	
Max Limit	900	900	
Min Limit	30	30	
krad	Serial #	Pre	Post	Delta
21	1	564.101	548.321	-15.780
21	2	496.521	478.223	-18.298
21	3	459.151	450.413	-8.738
21	4	425.976	426.074	0.098
21	5	485.170	471.782	-13.388
21	6	457.296	451.659	-5.637
21	7	499.510	487.959	-11.551
21	8	513.038	514.583	1.545
21	9	454.403	454.572	0.169
21	10	470.965	459.234	-11.731
21	11	456.359	447.864	-8.495
21	12	505.745	494.792	-10.953
21	13	429.070	425.525	-3.545
21	14	500.664	495.505	-5.159
21	15	382.667	371.860	-10.807
21	16	474.138	464.134	-10.004
21	17	471.219	462.095	-9.124
21	18	487.696	483.757	-3.939
21	19	389.513	385.388	-4.125
21	20	460.062	446.986	-13.076
21	21	514.363	509.427	-4.936
21	22	444.291	434.150	-10.141
21	23	543.622	539.315	-4.307
21	24	448.023	438.694	-9.329
20	25	475.677	470.046	-5.631
20	26	362.332	359.711	-2.621
20	27	439.290	442.169	2.879
20	28	498.682	496.048	-2.634
20	29	452.390	449.712	-2.678
20	30	443.515	438.612	-4.903
31	31	494.588	490.757	-3.831
31	32	436.817	423.444	-13.373
31	33	486.364	479.959	-6.405
31	34	487.896	474.001	-13.895
31	35	510.976	493.483	-17.493
30	36	471.113	466.083	-5.030
30	37	553.815	553.056	-0.759
30	38	467.776	459.721	-8.055
30	39	482.622	480.683	-1.939
30	40	530.581	521.616	-8.965
30	41	399.384	394.071	-5.313
0	82	478.515	476.102	-2.413
0	83	504.242	506.888	2.646
0	84	532.600	534.627	2.027
0	85	554.131	555.141	1.010
0	86	502.897	504.692	1.795
Max		564.101	555.141	2.879
Average		476.082	469.846	-6.235
Min		362.332	359.711	-18.298
Std Dev		44.213	44.560	5.511



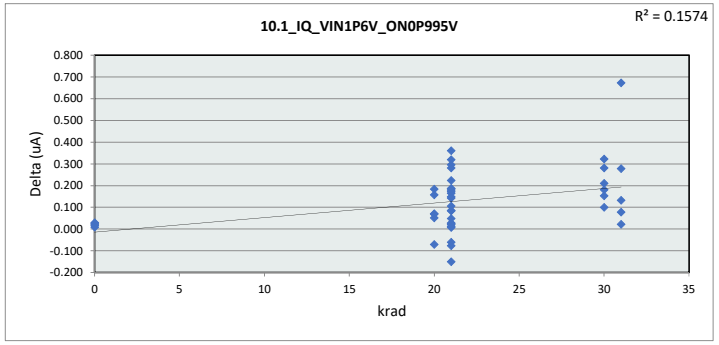
	5700.4_P5704_SSMWRA				
Test Site	Dallas				
Tester	FETS8801				
Test Number	EB671802				
Max Limit	900	mA			
Min Limit	30	mA			
krad	0	20	21	30	31
LL	30.000	30.000	30.000	30.000	30.000
Min	476.102	359.711	371.860	394.071	423.444
Average	515.490	442.716	464.263	479.205	472.329
Max	555.141	496.048	548.321	553.056	493.483
UL	900.000	900.000	900.000	900.000	900.000



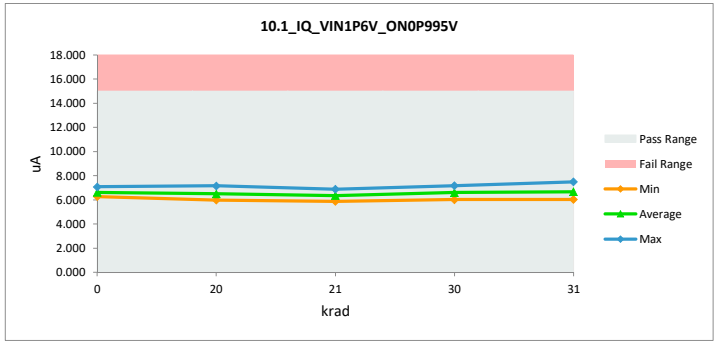
HDR Report
TPS7H2221-SEP

	10.1_IQ_VIN1P6V_ON0P995V	
Test Site	Dallas	Dallas
Tester	FETS8801	FETS8801
Test Number	EB671802	EB671802
Unit	uA	uA
Max Limit	15	15
Min Limit	0	0

krad	Serial #	Pre	Post	Delta
21	1	6.062	6.285	0.223
21	2	6.355	6.294	-0.061
21	3	6.119	6.438	0.319
21	4	5.707	5.879	0.172
21	5	6.112	6.299	0.187
21	6	6.115	6.475	0.360
21	7	6.259	6.109	-0.150
21	8	6.224	6.244	0.020
21	9	5.884	5.912	0.028
21	10	6.533	6.545	0.012
21	11	6.097	6.378	0.281
21	12	6.215	6.301	0.086
21	13	6.445	6.610	0.165
21	14	6.675	6.855	0.180
21	15	5.916	5.964	0.048
21	16	6.134	6.159	0.025
21	17	6.311	6.395	0.084
21	18	5.963	6.112	0.149
21	19	6.811	6.818	0.007
21	20	6.265	6.407	0.142
21	21	6.057	6.353	0.296
21	22	6.362	6.547	0.185
21	23	6.961	6.885	-0.076
21	24	6.301	6.407	0.106
20	25	5.928	5.979	0.051
20	26	7.092	7.161	0.069
20	27	6.504	6.688	0.184
20	28	6.391	6.462	0.071
20	29	6.051	6.209	0.158
20	30	6.542	6.471	-0.071
31	31	6.334	6.356	0.022
31	32	5.754	6.032	0.278
31	33	6.480	6.558	0.078
31	34	6.805	6.938	0.133
31	35	6.813	7.485	0.672
30	36	6.654	6.754	0.100
30	37	6.618	6.799	0.181
30	38	5.969	6.122	0.153
30	39	5.802	6.013	0.211
30	40	6.885	7.166	0.281
30	41	6.446	6.769	0.323
0	82	6.269	6.298	0.029
0	83	6.251	6.275	0.024
0	84	6.989	6.997	0.008
0	85	6.416	6.432	0.016
0	86	7.056	7.079	0.023
Max		7.092	7.485	0.672
Average		6.346	6.472	0.126
Min		5.707	5.879	-0.150
Std Dev		0.356	0.367	0.142



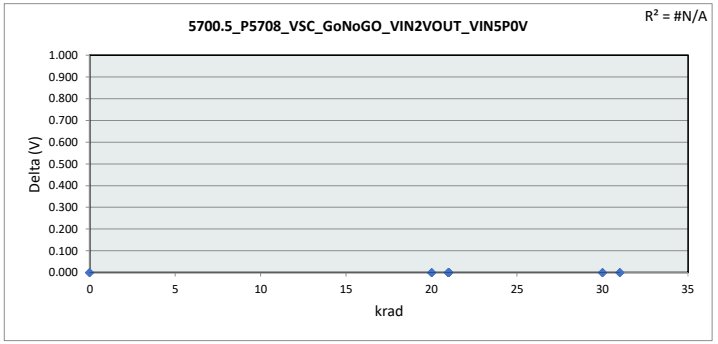
	10.1_IQ_VIN1P6V_ON0P				
Test Site	Dallas				
Tester	FETS8801				
Test Number	EB671802				
Max Limit	15	uA			
Min Limit	0	uA			
krad	0	20	21	30	31
LL	0.000	0.000	0.000	0.000	0.000
Min	6.275	5.979	5.879	6.013	6.032
Average	6.616	6.495	6.361	6.604	6.674
Max	7.079	7.161	6.885	7.166	7.485
UL	15.000	15.000	15.000	15.000	15.000



HDR Report
TPS7H2221-SEP

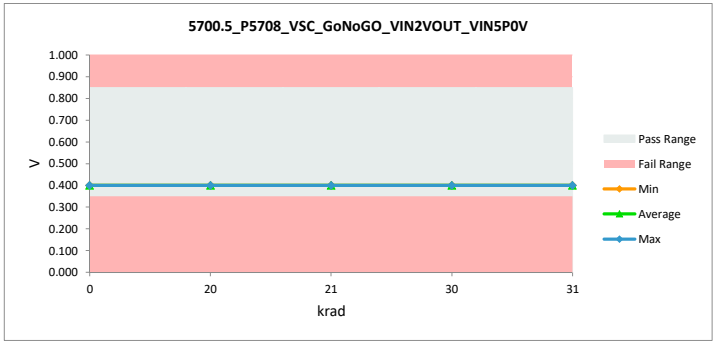
	5700.5_P5708_VSC_GoNoGO_VIN2VOUT_VIN5P0V	
Test Site	Dallas	Dallas
Tester	FETS8801	FETS8801
Test Number	EB671802	EB671802
Unit	V	V
Max Limit	0.5	0.85
Min Limit	0.37	0.35

krad	Serial #	Pre	Post	Delta
21	1	0.400	0.400	0.000
21	2	0.400	0.400	0.000
21	3	0.400	0.400	0.000
21	4	0.400	0.400	0.000
21	5	0.400	0.400	0.000
21	6	0.400	0.400	0.000
21	7	0.400	0.400	0.000
21	8	0.400	0.400	0.000
21	9	0.400	0.400	0.000
21	10	0.400	0.400	0.000
21	11	0.400	0.400	0.000
21	12	0.400	0.400	0.000
21	13	0.400	0.400	0.000
21	14	0.400	0.400	0.000
21	15	0.400	0.400	0.000
21	16	0.400	0.400	0.000
21	17	0.400	0.400	0.000
21	18	0.400	0.400	0.000
21	19	0.400	0.400	0.000
21	20	0.400	0.400	0.000
21	21	0.400	0.400	0.000
21	22	0.400	0.400	0.000
21	23	0.400	0.400	0.000
21	24	0.400	0.400	0.000
20	25	0.400	0.400	0.000
20	26	0.400	0.400	0.000
20	27	0.400	0.400	0.000
20	28	0.400	0.400	0.000
20	29	0.400	0.400	0.000
20	30	0.400	0.400	0.000
31	31	0.400	0.400	0.000
31	32	0.400	0.400	0.000
31	33	0.400	0.400	0.000
31	34	0.400	0.400	0.000
31	35	0.400	0.400	0.000
30	36	0.400	0.400	0.000
30	37	0.400	0.400	0.000
30	38	0.400	0.400	0.000
30	39	0.400	0.400	0.000
30	40	0.400	0.400	0.000
30	41	0.400	0.400	0.000
0	82	0.400	0.400	0.000
0	83	0.400	0.400	0.000
0	84	0.400	0.400	0.000
0	85	0.400	0.400	0.000
0	86	0.400	0.400	0.000
	Max	0.400	0.400	0.000
	Average	0.400	0.400	0.000
	Min	0.400	0.400	0.000
	Std Dev	0.000	0.000	0.000



	5700.5_P5708_VSC_GoN	
Test Site	Dallas	
Tester	FETS8801	
Test Number	EB671802	
Max Limit	0.85	V
Min Limit	0.35	V

krad	0	20	21	30	31
LL	0.350	0.350	0.350	0.350	0.350
Min	0.400	0.400	0.400	0.400	0.400
Average	0.400	0.400	0.400	0.400	0.400
Max	0.400	0.400	0.400	0.400	0.400
UL	0.850	0.850	0.850	0.850	0.850



B Appendix: LDR TID Report Data

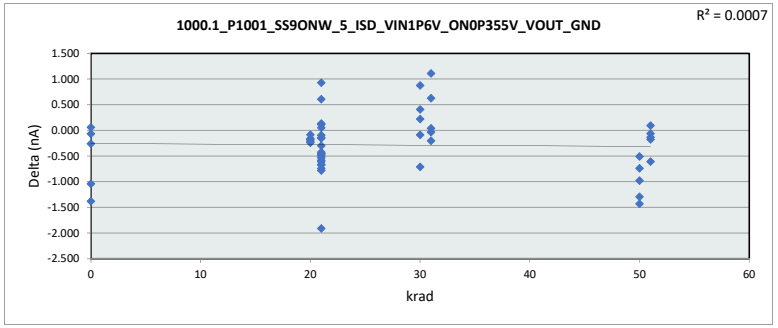
This appendix contains the LDR TID report data.

Identifier	Description
21	20 krad biased
20	20 krad unbiased
31	30 krad biased
30	30 krad unbiased
51	50 krad biased
50	50 krad unbiased
0	Correlation units

LDR Report
TPS7H2221-SEP

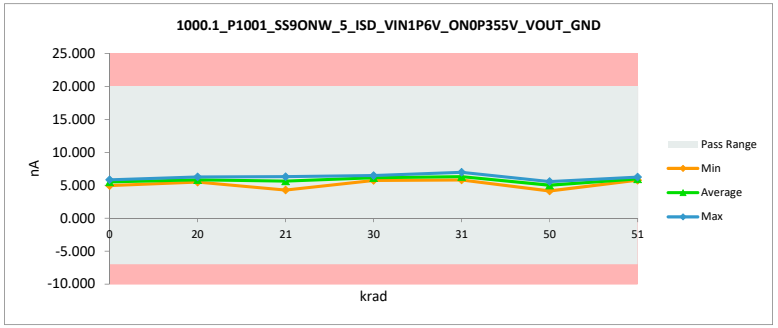
	1000.1_P1001_SS9ONW_5_ISD_VIN1P6V_ON0P355V_VOUT_GND	
Test Site	Dallas	Dallas
Tester	ETS8803	ETS8803
Test Number	EB671802	EB671802
Unit	nA	nA
Max Limit	20	20
Min Limit	-7	-7

krad	Serial #	Pre	Post	Delta
21	1	6.098	5.673	-0.425
21	2	5.885	5.732	-0.153
21	3	6.387	5.721	-0.666
21	4	6.385	5.802	-0.583
21	5	6.022	5.577	-0.445
21	6	5.972	5.229	-0.743
21	7	6.412	6.319	-0.093
21	8	5.379	5.514	0.135
21	9	5.896	5.756	-0.140
21	10	6.412	5.740	-0.672
21	11	5.819	5.869	0.050
21	12	5.028	5.957	0.929
21	13	6.167	5.556	-0.611
21	14	5.552	6.160	0.608
21	15	6.201	4.291	-1.910
21	16	5.833	5.534	-0.299
21	17	6.390	5.607	-0.783
21	18	5.994	5.527	-0.467
21	19	5.945	5.413	-0.532
21	20	5.892	6.004	0.112
21	21	6.192	5.701	-0.491
21	22	5.988	5.538	-0.450
20	51	5.571	5.486	-0.085
20	52	6.068	5.860	-0.208
20	53	5.879	5.640	-0.239
20	54	6.079	5.919	-0.160
20	55	6.459	6.279	-0.180
31	23	5.835	6.462	0.627
31	24	6.134	6.174	0.040
31	25	5.846	5.813	-0.033
31	26	5.868	6.977	1.109
31	27	6.382	6.180	-0.202
30	56	5.571	6.448	0.877
30	57	6.068	6.289	0.221
30	58	5.879	5.791	-0.088
30	59	6.079	6.488	0.409
30	60	6.459	5.748	-0.711
51	28	6.098	6.191	0.093
51	29	5.885	5.824	-0.061
51	30	6.387	5.780	-0.607
51	31	6.385	6.251	-0.134
51	32	6.022	5.849	-0.173
50	61	5.571	4.142	-1.429
50	62	6.068	5.088	-0.980
50	63	5.879	5.140	-0.739
50	64	6.079	5.572	-0.507
50	65	6.459	5.167	-1.292
0	71	6.198	5.156	-1.042
0	72	5.862	5.797	-0.065
0	73	6.340	4.958	-1.382
0	74	6.102	5.842	-0.260
0	75	5.771	5.830	0.059
	Max	6.459	6.977	1.109
	Average	6.022	5.738	-0.284
	Min	5.028	4.142	-1.910
	Std Dev	0.299	0.500	0.582



	1000.1_P1001_SS9ON	
Test Site	Dallas	
Tester	ETS8803	
Test Number	EB671802	
Max Limit	20	nA
Min Limit	-7	nA

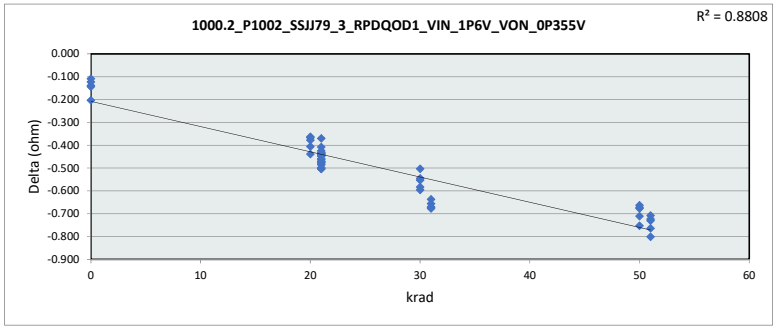
krad	0	20	21	30	31	50	51
LL	-7.000	-7.000	-7.000	-7.000	-7.000	-7.000	-7.000
Min	4.958	5.486	4.291	5.748	5.813	4.142	5.780
Average	5.517	5.837	5.646	6.153	6.321	5.022	5.979
Max	5.842	6.279	6.319	6.488	6.977	5.572	6.251
UL	20.000	20.000	20.000	20.000	20.000	20.000	20.000



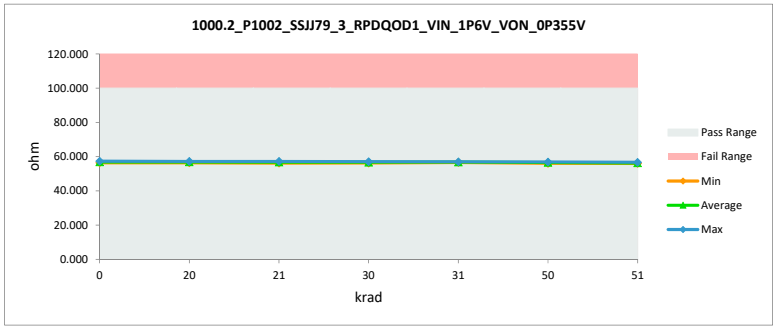
LDR Report
TPS7H2221-SEP

	1000.2_P1002_SSJJ79_3_RPDQOD1_VIN_1P6V_VON_0P355V	
Test Site	Dallas	Dallas
Tester	ETS8803	ETS8803
Test Number	EB671802	EB671802
Unit	ohm	ohm
Max Limit	100	100
Min Limit	0	0

krad	Serial #	Pre	Post	Delta
21	1	56.690	56.242	-0.448
21	2	57.092	56.649	-0.443
21	3	56.883	56.450	-0.433
21	4	57.042	56.605	-0.437
21	5	57.472	56.998	-0.474
21	6	56.913	56.472	-0.441
21	7	57.430	56.927	-0.503
21	8	57.359	56.888	-0.471
21	9	57.146	56.664	-0.482
21	10	57.187	56.683	-0.504
21	11	57.032	56.607	-0.425
21	12	57.432	57.024	-0.408
21	13	57.631	57.133	-0.498
21	14	57.400	56.930	-0.470
21	15	57.285	56.840	-0.445
21	16	57.499	57.014	-0.485
21	17	56.634	56.199	-0.435
21	18	57.173	56.740	-0.433
21	19	56.677	56.307	-0.370
21	20	57.159	56.683	-0.476
21	21	57.666	57.205	-0.461
21	22	57.279	56.819	-0.460
20	51	57.188	56.821	-0.367
20	52	57.657	57.218	-0.439
20	53	57.472	57.094	-0.378
20	54	57.155	56.749	-0.406
20	55	56.741	56.378	-0.363
31	23	57.523	56.852	-0.671
31	24	57.259	56.582	-0.677
31	25	57.360	56.723	-0.637
31	26	57.401	56.745	-0.656
31	27	57.660	56.988	-0.672
30	56	57.188	56.643	-0.545
30	57	57.657	57.061	-0.596
30	58	57.472	56.889	-0.583
30	59	57.155	56.602	-0.553
30	60	56.741	56.238	-0.503
51	28	56.690	55.982	-0.708
51	29	57.092	56.369	-0.723
51	30	56.883	56.153	-0.730
51	31	57.042	56.241	-0.801
51	32	57.472	56.708	-0.764
50	61	57.188	56.525	-0.663
50	62	57.657	56.904	-0.753
50	63	57.472	56.761	-0.711
50	64	57.155	56.478	-0.677
50	65	56.741	56.068	-0.673
0	71	57.318	57.115	-0.203
0	72	56.837	56.728	-0.109
0	73	57.488	57.344	-0.144
0	74	56.952	56.813	-0.139
0	75	56.510	56.387	-0.123
	Max	57.666	57.344	-0.109
	Average	57.196	56.697	-0.499
	Min	56.510	55.982	-0.801
	Std Dev	0.312	0.316	0.167



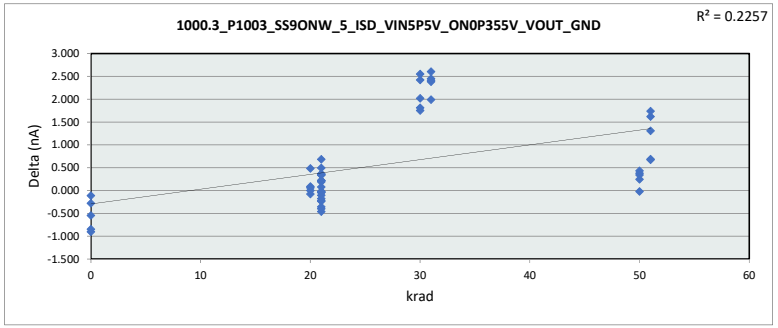
	1000.2_P1002_SSJJ79						
Test Site	Dallas						
Tester	ETS8803						
Test Number	EB671802						
Max Limit	100	ohm					
Min Limit	0	ohm					
krad	0	20	21	30	31	50	51
LL	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Min	56.387	56.378	56.199	56.238	56.582	56.068	55.982
Average	56.877	56.852	56.731	56.687	56.778	56.547	56.291
Max	57.344	57.218	57.205	57.061	56.988	56.904	56.708
UL	100.000	100.000	100.000	100.000	100.000	100.000	100.000



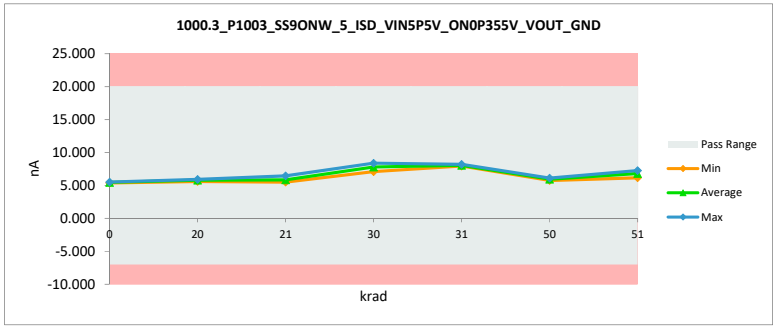
LDR Report
TPS7H2221-SEP

	1000.3_P1003_SS9ONW_5_ISD_VIN5P5V_ON0P355V_VOUT_GND	
Test Site	Dallas	Dallas
Tester	ETS8803	ETS8803
Test Number	EB671802	EB671802
Unit	nA	nA
Max Limit	20	20
Min Limit	-7	-7

krad	Serial #	Pre	Post	Delta
21	1	5.518	5.738	0.220
21	2	5.513	5.881	0.368
21	3	5.748	5.643	-0.105
21	4	5.780	5.738	-0.042
21	5	5.475	5.827	0.352
21	6	5.979	5.801	-0.178
21	7	5.770	5.983	0.213
21	8	6.408	6.390	-0.018
21	9	5.617	6.111	0.494
21	10	5.721	6.061	0.340
21	11	5.901	5.544	-0.357
21	12	5.947	5.723	-0.224
21	13	5.583	5.659	0.076
21	14	6.065	5.602	-0.463
21	15	5.738	5.504	-0.234
21	16	5.943	5.900	-0.043
21	17	5.739	5.954	0.215
21	18	5.914	5.516	-0.398
21	19	5.659	5.849	0.190
21	20	5.775	5.746	-0.029
21	21	5.768	6.452	0.684
21	22	5.808	6.147	0.339
20	51	5.830	5.918	0.088
20	52	5.686	5.610	-0.076
20	53	5.327	5.812	0.485
20	54	5.818	5.879	0.061
20	55	5.746	5.746	0.000
31	23	5.565	7.976	2.411
31	24	5.684	8.135	2.451
31	25	5.339	7.943	2.604
31	26	6.023	8.014	1.991
31	27	5.829	8.212	2.383
30	56	5.830	8.382	2.552
30	57	5.686	7.706	2.020
30	58	5.327	7.081	1.754
30	59	5.818	7.631	1.813
30	60	5.746	8.166	2.420
51	28	5.518	7.257	1.739
51	29	5.513	7.132	1.619
51	30	5.748	7.057	1.309
51	31	5.780	6.453	0.673
51	32	5.475	6.161	0.686
50	61	5.830	5.811	-0.019
50	62	5.686	6.027	0.341
50	63	5.327	5.760	0.433
50	64	5.818	6.063	0.245
50	65	5.746	6.124	0.378
0	71	5.665	5.385	-0.280
0	72	6.356	5.453	-0.903
0	73	5.629	5.517	-0.112
0	74	6.368	5.520	-0.848
0	75	6.004	5.458	-0.546
	Max	6.408	8.382	2.604
	Average	5.752	6.311	0.559
	Min	5.327	5.385	-0.903
	Std Dev	0.236	0.899	0.968



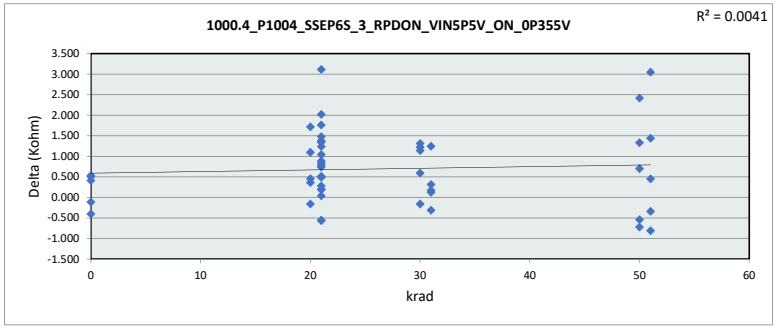
	1000.3_P1003_SS9ON						
Test Site	Dallas						
Tester	ETS8803						
Test Number	EB671802						
Max Limit	20	nA					
Min Limit	-7	nA					
krad	0	20	21	30	31	50	51
LL	-7.000	-7.000	-7.000	-7.000	-7.000	-7.000	-7.000
Min	5.385	5.610	5.504	7.081	7.943	5.760	6.161
Average	5.467	5.793	5.853	7.793	8.056	5.957	6.812
Max	5.520	5.918	6.452	8.382	8.212	6.124	7.257
UL	20.000	20.000	20.000	20.000	20.000	20.000	20.000



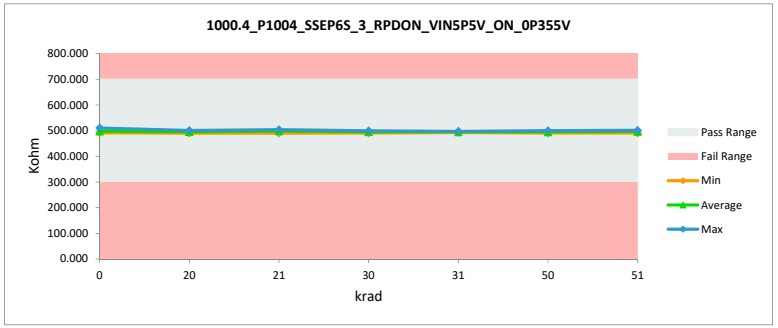
LDR Report
TPS7H2221-SEP

	1000.4_P1004_SSEP6S_3_RPDON_VIN5P5V_ON_0P355V	
Test Site	Dallas	Dallas
Tester	ETS8803	ETS8803
Test Number	EB671802	EB671802
Unit	Kohm	Kohm
Max Limit	700	700
Min Limit	300	300

krad	Serial #	Pre	Post	Delta
21	1	501.973	502.860	0.887
21	2	489.101	489.880	0.779
21	3	494.868	497.983	3.115
21	4	495.562	497.325	1.763
21	5	500.882	501.924	1.042
21	6	502.665	502.862	0.197
21	7	499.088	500.432	1.344
21	8	499.663	501.142	1.479
21	9	503.428	502.864	-0.564
21	10	500.128	501.498	1.370
21	11	496.696	496.887	0.191
21	12	498.229	497.676	-0.553
21	13	494.910	495.405	0.495
21	14	497.440	498.180	0.740
21	15	499.951	501.188	1.237
21	16	494.521	495.035	0.514
21	17	503.291	503.784	0.493
21	18	491.015	491.847	0.832
21	19	500.814	500.854	0.040
21	20	500.217	500.499	0.282
21	21	496.150	497.521	1.371
21	22	494.824	496.843	2.019
20	51	489.231	490.329	1.098
20	52	498.780	500.498	1.718
20	53	495.063	495.426	0.363
20	54	493.267	493.109	-0.158
20	55	497.462	497.917	0.455
31	23	496.521	496.210	-0.311
31	24	492.215	492.532	0.317
31	25	497.308	497.478	0.170
31	26	496.499	496.625	0.126
31	27	492.622	493.866	1.244
30	56	489.231	490.455	1.224
30	57	498.780	499.371	0.591
30	58	495.063	494.905	-0.158
30	59	493.267	494.406	1.139
30	60	497.462	498.774	1.312
51	28	501.973	501.165	-0.808
51	29	489.101	490.541	1.440
51	30	494.868	497.917	3.049
51	31	495.562	496.014	0.452
51	32	500.882	500.542	-0.340
50	61	489.231	490.561	1.330
50	62	498.780	499.480	0.700
50	63	495.063	494.341	-0.722
50	64	493.267	492.724	-0.543
50	65	497.462	499.878	2.416
0	71	491.038	491.543	0.505
0	72	498.978	498.575	-0.403
0	73	493.225	493.758	0.533
0	74	496.521	496.406	-0.115
0	75	510.021	510.433	0.412
Max		510.021	510.433	3.115
Average		496.618	497.313	0.694
Min		489.101	489.880	-0.808
Std Dev		4.297	4.191	0.882

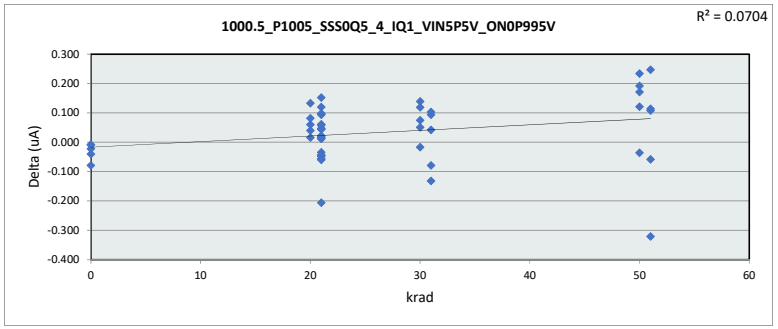


	1000.4_P1004_SSEP6S						
Test Site	Dallas						
Tester	ETS8803						
Test Number	EB671802						
Max Limit	700	Kohm					
Min Limit	300	Kohm					
krad	0	20	21	30	31	50	51
LL	300.000	300.000	300.000	300.000	300.000	300.000	300.000
Min	491.543	490.329	489.880	490.455	492.532	490.561	490.541
Average	498.143	495.456	498.840	495.582	495.342	495.397	497.236
Max	510.433	500.498	503.784	499.371	497.478	499.878	501.165
UL	700.000	700.000	700.000	700.000	700.000	700.000	700.000



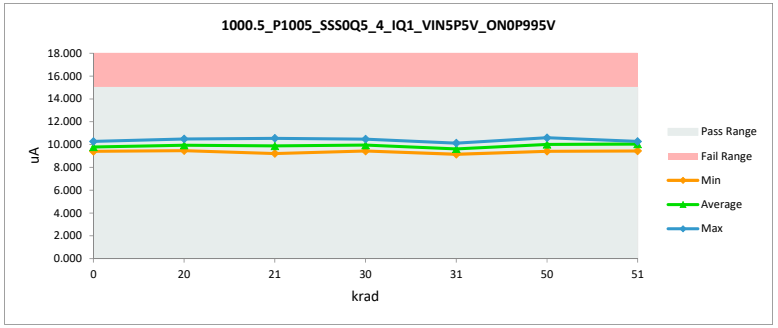
LDR Report
TPS7H2221-SEP

	1000.5_P1005_SSS0Q5_4_IQ1_VIN5P5V_ON0P995V		
Test Site	Dallas	Dallas	
Tester	ETS8803	ETS8803	
Test Number	EB671802	EB671802	
Unit	uA	uA	
Max Limit	15	15	
Min Limit	0	0	
krad	Serial #	Pre	Post	Delta
21	1	10.024	10.085	0.061
21	2	10.148	10.165	0.017
21	3	9.760	9.554	-0.206
21	4	10.075	10.087	0.012
21	5	10.118	10.165	0.047
21	6	9.275	9.287	0.012
21	7	9.931	10.051	0.120
21	8	9.972	10.124	0.152
21	9	9.648	9.670	0.022
21	10	9.410	9.455	0.045
21	11	9.598	9.642	0.044
21	12	9.743	9.839	0.096
21	13	10.183	10.137	-0.046
21	14	9.735	9.833	0.098
21	15	9.655	9.595	-0.060
21	16	9.589	9.555	-0.034
21	17	10.391	10.335	-0.056
21	18	9.265	9.217	-0.048
21	19	10.360	10.317	-0.043
21	20	9.436	9.530	0.094
21	21	10.124	10.145	0.021
21	22	10.491	10.549	0.058
20	51	10.362	10.495	0.133
20	52	9.677	9.737	0.060
20	53	9.449	9.465	0.016
20	54	9.811	9.893	0.082
20	55	10.097	10.137	0.040
31	23	9.279	9.147	-0.132
31	24	9.296	9.338	0.042
31	25	9.912	10.006	0.094
31	26	9.563	9.484	-0.079
31	27	10.019	10.122	0.103
30	56	10.362	10.481	0.119
30	57	9.677	9.728	0.051
30	58	9.449	9.432	-0.017
30	59	9.811	9.886	0.075
30	60	10.097	10.236	0.139
51	28	10.024	10.271	0.247
51	29	10.148	10.090	-0.058
51	30	9.760	9.439	-0.321
51	31	10.075	10.189	0.114
51	32	10.118	10.226	0.108
50	61	10.362	10.596	0.234
50	62	9.677	9.798	0.121
50	63	9.449	9.413	-0.036
50	64	9.811	10.003	0.192
50	65	10.097	10.268	0.171
0	71	10.296	10.274	-0.022
0	72	9.494	9.486	-0.008
0	73	10.320	10.241	-0.079
0	74	9.443	9.403	-0.040
0	75	9.557	9.548	-0.009
	Max	10.491	10.596	0.247
	Average	9.854	9.888	0.034
	Min	9.265	9.147	-0.321
	Std Dev	0.344	0.384	0.102



	1000.5_P1005_SSS0Q5	
Test Site	Dallas	
Tester	ETS8803	
Test Number	EB671802	
Max Limit	15	uA
Min Limit	0	uA

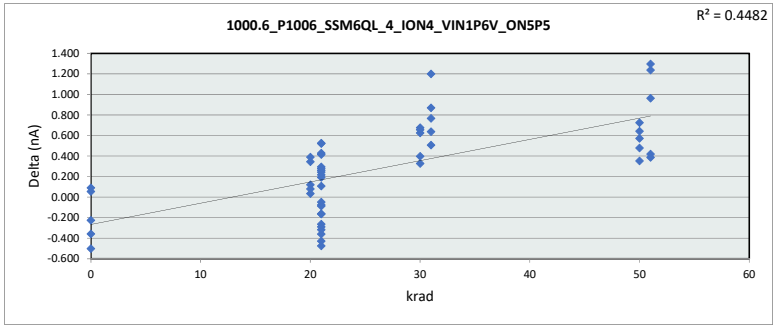
krad	0	20	21	30	31	50	51
LL	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Min	9.403	9.465	9.217	9.432	9.147	9.413	9.439
Average	9.790	9.945	9.879	9.953	9.619	10.016	10.043
Max	10.274	10.495	10.549	10.481	10.122	10.596	10.271
UL	15.000	15.000	15.000	15.000	15.000	15.000	15.000



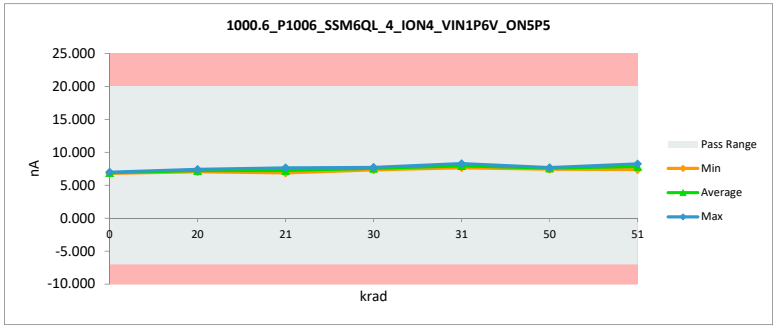
LDR Report
TPS7H2221-SEP

	1000.6_P1006_SSM6QL_4_ION4_VIN1P6V_ON5P5	
Test Site	Dallas	Dallas
Tester	ETS8803	ETS8803
Test Number	EB671802	EB671802
Unit	nA	nA
Max Limit	20	20
Min Limit	-7	-7

krad	Serial #	Pre	Post	Delta
21	1	6.835	7.078	0.243
21	2	7.016	7.208	0.192
21	3	7.047	7.342	0.295
21	4	6.997	7.257	0.260
21	5	7.066	7.343	0.277
21	6	7.247	6.957	-0.290
21	7	7.073	7.025	-0.048
21	8	7.617	7.530	-0.087
21	9	7.419	7.256	-0.163
21	10	7.067	7.496	0.429
21	11	7.501	7.183	-0.318
21	12	7.298	6.870	-0.428
21	13	7.142	7.066	-0.076
21	14	7.397	6.922	-0.475
21	15	7.137	7.662	0.525
21	16	7.483	7.220	-0.263
21	17	7.142	7.359	0.217
21	18	7.288	6.928	-0.360
21	19	7.070	7.177	0.107
21	20	7.388	7.225	-0.163
21	21	6.999	7.521	0.522
21	22	7.068	7.483	0.415
20	51	7.080	7.425	0.345
20	52	7.145	7.180	0.035
20	53	7.010	7.400	0.390
20	54	7.061	7.141	0.080
20	55	6.927	7.047	0.120
31	23	7.156	7.663	0.507
31	24	7.141	7.908	0.767
31	25	7.191	8.060	0.869
31	26	7.203	7.840	0.637
31	27	7.099	8.299	1.200
30	56	7.080	7.705	0.625
30	57	7.145	7.543	0.398
30	58	7.010	7.338	0.328
30	59	7.061	7.738	0.677
30	60	6.927	7.583	0.656
51	28	6.835	8.131	1.296
51	29	7.016	8.253	1.237
51	30	7.047	8.011	0.964
51	31	6.997	7.383	0.386
51	32	7.066	7.486	0.420
50	61	7.080	7.432	0.352
50	62	7.145	7.623	0.478
50	63	7.010	7.582	0.572
50	64	7.061	7.703	0.642
50	65	6.927	7.652	0.725
0	71	6.751	6.806	0.055
0	72	7.363	7.004	-0.359
0	73	6.731	6.822	0.091
0	74	7.446	6.945	-0.501
0	75	7.196	6.970	-0.226
	Max	7.617	8.299	1.296
	Average	7.119	7.400	0.280
	Min	6.731	6.806	-0.501
	Std Dev	0.184	0.371	0.440



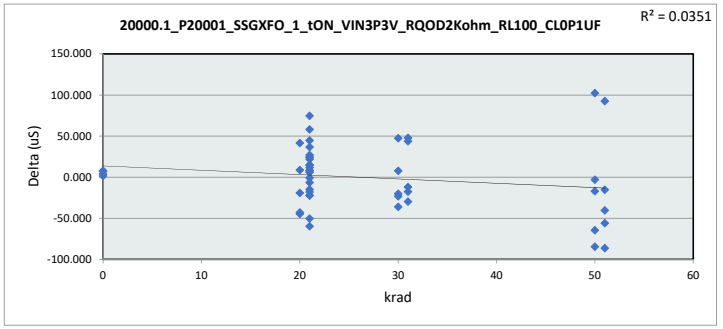
	1000.6_P1006_SSM6Q						
Test Site	Dallas						
Tester	ETS8803						
Test Number	EB671802						
Max Limit	20	nA					
Min Limit	-7	nA					
krad	0	20	21	30	31	50	51
LL	-7.000	-7.000	-7.000	-7.000	-7.000	-7.000	-7.000
Min	6.806	7.047	6.870	7.338	7.663	7.432	7.383
Average	6.909	7.239	7.232	7.581	7.954	7.598	7.853
Max	7.004	7.425	7.662	7.738	8.299	7.703	8.253
UL	20.000	20.000	20.000	20.000	20.000	20.000	20.000



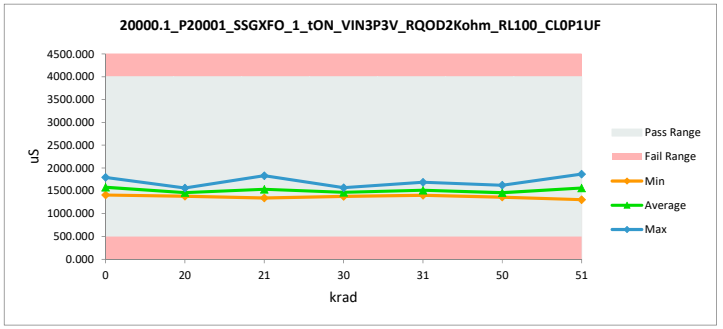
LDR Report
TPS7H2221-SEP

	20000.1_P20001_SSGXFO_1_tON_VIN3P3V_RQOD2Kohm_RL100_CL0P1	
Test Site	Dallas	Dallas
Tester	ETS8803	ETS8803
Test Number	EB671802	EB671802
Unit	uS	uS
Max Limit	4000	4000
Min Limit	500	500

krad	Serial #	Pre	Post	Delta
21	1	1621.570	1606.765	-14.805
21	2	1611.723	1605.164	-6.559
21	3	1362.864	1344.940	-17.924
21	4	1773.874	1831.990	58.116
21	5	1538.707	1550.306	11.599
21	6	1552.617	1560.363	7.746
21	7	1486.185	1501.236	15.051
21	8	1820.112	1769.699	-50.413
21	9	1467.974	1482.176	14.202
21	10	1517.670	1495.470	-22.200
21	11	1560.608	1587.645	27.037
21	12	1488.075	1524.849	36.774
21	13	1424.781	1446.637	21.856
21	14	1311.803	1356.502	44.699
21	15	1510.763	1519.122	8.359
21	16	1358.477	1433.138	74.661
21	17	1504.777	1529.001	24.224
21	18	1404.753	1429.059	24.306
21	19	1386.722	1385.753	-0.969
21	20	1804.744	1745.019	-59.725
21	21	1419.623	1425.506	5.883
21	22	1611.721	1589.623	-22.098
20	51	1535.406	1492.559	-42.847
20	52	1520.423	1561.964	41.541
20	53	1402.905	1383.730	-19.175
20	54	1380.057	1388.800	8.743
20	55	1524.864	1480.272	-44.592
31	23	1425.635	1473.475	47.840
31	24	1439.081	1421.518	-17.563
31	25	1643.221	1686.951	43.730
31	26	1434.162	1404.507	-29.655
31	27	1584.218	1572.173	-12.045
30	56	1535.406	1515.246	-20.160
30	57	1520.423	1567.878	47.455
30	58	1402.905	1379.727	-23.178
30	59	1380.057	1387.752	7.695
30	60	1524.864	1488.832	-36.032
51	28	1621.570	1581.161	-40.409
51	29	1611.723	1525.464	-86.259
51	30	1362.864	1306.825	-56.039
51	31	1773.874	1866.504	92.630
51	32	1538.707	1523.463	-15.244
50	61	1535.406	1450.879	-84.527
50	62	1520.423	1622.781	102.358
50	63	1402.905	1399.846	-3.059
50	64	1380.057	1362.958	-17.099
50	65	1524.864	1460.378	-64.486
0	71	1499.193	1506.913	7.720
0	72	1620.874	1628.343	7.469
0	73	1548.613	1556.176	7.563
0	74	1407.368	1408.879	1.511
0	75	1790.480	1794.372	3.892
	Max	1820.112	1866.504	102.358
	Average	1517.936	1517.698	-0.239
	Min	1311.803	1306.825	-86.259
	Std Dev	122.345	125.953	40.212



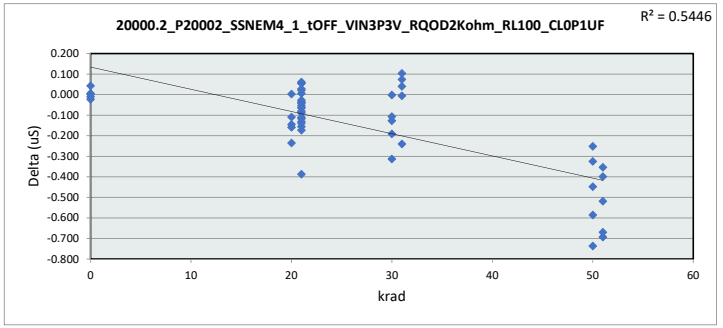
	20000.1_P20001_SSG						
Test Site	Dallas						
Tester	ETS8803						
Test Number	EB671802						
Max Limit	4000	uS					
Min Limit	500	uS					
krad	0	20	21	30	31	50	51
LL	500.000	500.000	500.000	500.000	500.000	500.000	500.000
Min	1408.879	1383.730	1344.940	1379.727	1404.507	1362.958	1306.825
Average	1578.937	1461.465	1532.726	1467.887	1511.725	1459.368	1560.683
Max	1794.372	1561.964	1831.990	1567.878	1686.951	1622.781	1866.504
UL	4000.000	4000.000	4000.000	4000.000	4000.000	4000.000	4000.000



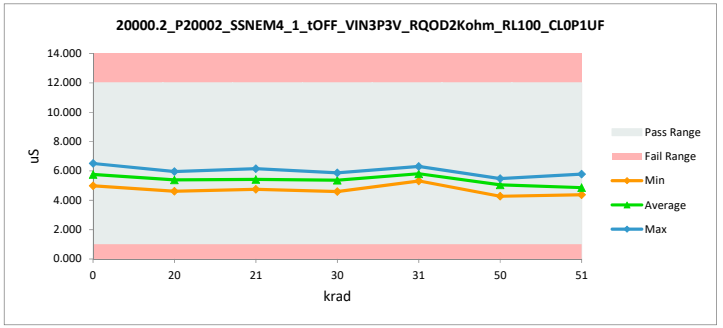
LDR Report
TPS7H2221-SEP

	20000.2_P20002_SSNEM4_1_tOFF_VIN3P3V_RQOD2Kohm_RL100_CL0P1	
Test Site	Dallas	Dallas
Tester	ETS8803	ETS8803
Test Number	EB671802	EB671802
Unit	uS	uS
Max Limit	12	12
Min Limit	1	1

krad	Serial #	Pre	Post	Delta
21	1	5.049	4.985	-0.064
21	2	5.078	4.961	-0.117
21	3	6.134	6.095	-0.039
21	4	5.179	5.240	0.061
21	5	5.522	5.349	-0.173
21	6	5.865	5.754	-0.111
21	7	5.256	5.167	-0.089
21	8	6.122	6.069	-0.053
21	9	5.524	5.368	-0.156
21	10	6.107	6.044	-0.063
21	11	6.007	6.013	0.006
21	12	5.360	5.319	-0.041
21	13	4.840	4.813	-0.027
21	14	5.935	5.796	-0.139
21	15	5.717	5.585	-0.132
21	16	5.743	5.771	0.028
21	17	4.822	4.877	0.055
21	18	5.048	4.968	-0.080
21	19	4.787	4.751	-0.036
21	20	6.543	6.156	-0.387
21	21	4.977	4.999	0.022
21	22	5.150	5.205	0.055
20	51	6.189	5.954	-0.235
20	52	5.804	5.659	-0.145
20	53	5.640	5.643	0.003
20	54	5.242	5.083	-0.159
20	55	4.725	4.616	-0.109
31	23	6.191	6.231	0.040
31	24	6.238	6.312	0.074
31	25	5.269	5.372	0.103
31	26	5.830	5.824	-0.006
31	27	5.556	5.316	-0.240
30	56	6.189	5.876	-0.313
30	57	5.804	5.697	-0.107
30	58	5.640	5.638	-0.002
30	59	5.242	5.051	-0.191
30	60	4.725	4.598	-0.127
51	28	5.049	4.379	-0.670
51	29	5.078	4.559	-0.519
51	30	6.134	5.780	-0.354
51	31	5.179	4.780	-0.399
51	32	5.522	4.829	-0.693
50	61	6.189	5.452	-0.737
50	62	5.804	5.479	-0.325
50	63	5.640	5.388	-0.252
50	64	5.242	4.656	-0.586
50	65	4.725	4.277	-0.448
0	71	5.603	5.609	0.006
0	72	5.014	4.991	-0.023
0	73	5.442	5.443	0.001
0	74	6.521	6.511	-0.010
0	75	6.201	6.244	0.043
	Max	6.543	6.511	0.103
	Average	5.546	5.395	-0.151
	Min	4.725	4.277	-0.737
	Std Dev	0.505	0.546	0.208



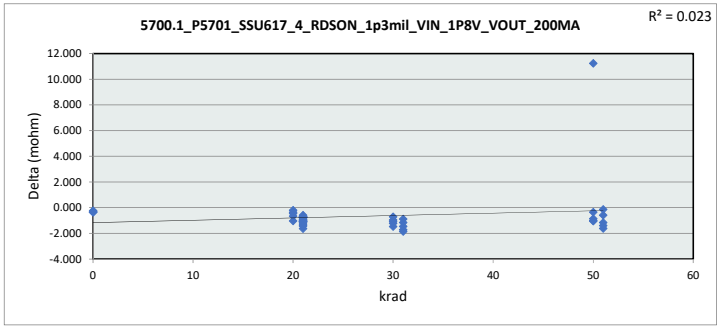
	20000.2_P20002_SSN						
Test Site	Dallas						
Tester	ETS8803						
Test Number	EB671802						
Max Limit	12	uS					
Min Limit	1	uS					
krad	0	20	21	30	31	50	51
LL	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Min	4.991	4.616	4.751	4.598	5.316	4.277	4.379
Average	5.760	5.391	5.422	5.372	5.811	5.050	4.865
Max	6.511	5.954	6.156	5.876	6.312	5.479	5.780
UL	12.000	12.000	12.000	12.000	12.000	12.000	12.000



LDR Report
TPS7H2221-SEP

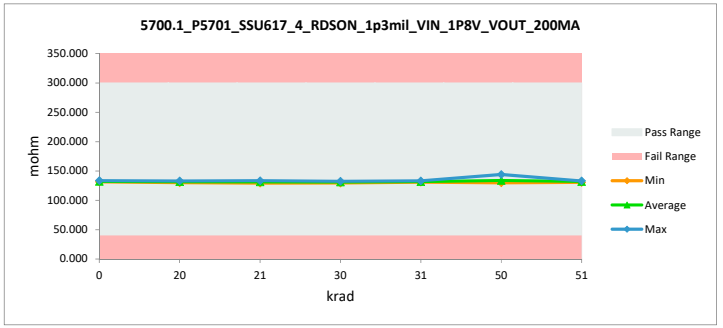
	5700.1_P5701_SSU617_4_RDSON_1p3mil_VIN_1P8V_VOUT_200MA	
Test Site	Dallas	Dallas
Tester	ETS8803	ETS8803
Test Number	EB671802	EB671802
Unit	mohm	mohm
Max Limit	300	300
Min Limit	40	40

krad	Serial #	Pre	Post	Delta
21	1	134.790	133.523	-1.267
21	2	132.673	131.920	-0.753
21	3	134.341	133.262	-1.079
21	4	133.287	132.170	-1.117
21	5	130.607	130.022	-0.585
21	6	133.066	132.298	-0.768
21	7	131.331	129.700	-1.631
21	8	132.174	131.213	-0.961
21	9	133.631	132.523	-1.108
21	10	130.284	129.237	-1.047
21	11	131.717	130.356	-1.361
21	12	132.315	131.323	-0.992
21	13	132.182	131.141	-1.041
21	14	130.405	129.296	-1.109
21	15	132.969	132.207	-0.762
21	16	133.305	131.875	-1.430
21	17	133.190	132.274	-0.916
21	18	132.560	131.893	-0.667
21	19	132.964	132.285	-0.679
21	20	131.232	130.535	-0.697
21	21	132.320	131.516	-0.804
21	22	131.813	131.050	-0.763
20	51	131.802	131.359	-0.443
20	52	130.619	129.965	-0.654
20	53	133.451	133.095	-0.356
20	54	132.848	131.813	-1.035
20	55	132.904	132.701	-0.203
31	23	132.651	130.930	-1.721
31	24	132.975	131.824	-1.151
31	25	133.858	132.008	-1.850
31	26	132.478	131.594	-0.884
31	27	134.670	133.213	-1.457
30	56	131.802	130.718	-1.084
30	57	130.619	129.396	-1.223
30	58	133.451	132.497	-0.954
30	59	132.848	131.376	-1.472
30	60	132.904	132.202	-0.702
51	28	134.790	133.176	-1.614
51	29	132.673	132.089	-0.584
51	30	134.341	133.190	-1.151
51	31	133.287	131.900	-1.387
51	32	130.607	130.478	-0.129
50	61	131.802	130.759	-1.043
50	62	130.619	129.763	-0.856
50	63	133.451	132.440	-1.011
50	64	132.848	144.083	11.235
50	65	132.904	132.555	-0.349
0	71	132.564	132.214	-0.350
0	72	131.710	131.471	-0.239
0	73	132.808	132.459	-0.349
0	74	133.930	133.588	-0.342
0	75	132.344	132.065	-0.279
	Max	134.790	144.083	11.235
	Average	132.571	131.895	-0.676
	Min	130.284	129.237	-1.850
	Std Dev	1.150	2.055	1.735



	5700.1_P5701_SSU61	
Test Site	Dallas	
Tester	ETS8803	
Test Number	EB671802	
Max Limit	300	mohm
Min Limit	40	mohm

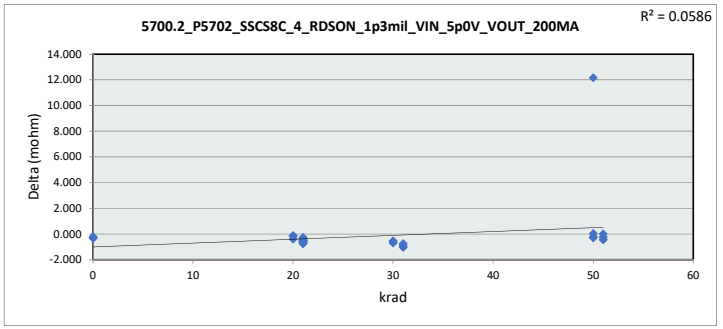
krad	0	20	21	30	31	50	51
LL	40.000	40.000	40.000	40.000	40.000	40.000	40.000
Min	131.471	129.965	129.237	129.396	130.930	129.763	130.478
Average	132.359	131.787	131.437	131.238	131.914	133.920	132.167
Max	133.588	133.095	133.523	132.497	133.213	144.083	133.190
UL	300.000	300.000	300.000	300.000	300.000	300.000	300.000



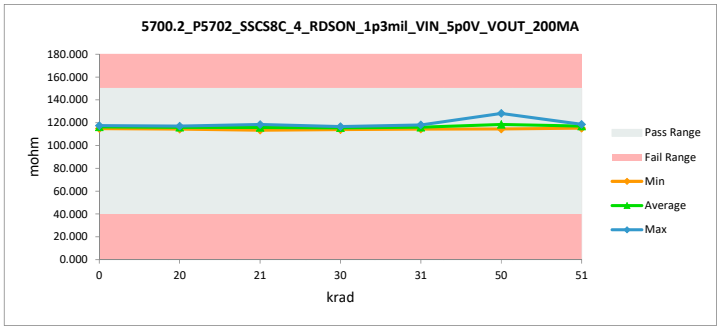
LDR Report
TPS7H2221-SEP

	5700.2_P5702_SSCS8C_4_RDSON_1p3mil_VIN_5p0V_VOUT_200MA	
Test Site	Dallas	Dallas
Tester	ETS8803	ETS8803
Test Number	EB671802	EB671802
Unit	mohm	mohm
Max Limit	150	150
Min Limit	40	40

krad	Serial #	Pre	Post	Delta
21	1	119.024	118.435	-0.589
21	2	116.606	116.163	-0.443
21	3	117.182	116.653	-0.529
21	4	118.338	118.015	-0.323
21	5	115.222	114.752	-0.470
21	6	116.814	116.230	-0.584
21	7	114.155	113.462	-0.693
21	8	117.816	117.063	-0.753
21	9	117.450	116.811	-0.639
21	10	114.873	114.135	-0.738
21	11	115.823	115.161	-0.662
21	12	116.329	115.718	-0.611
21	13	115.073	114.555	-0.518
21	14	114.394	113.869	-0.525
21	15	117.032	116.515	-0.517
21	16	115.503	115.048	-0.455
21	17	117.602	117.051	-0.551
21	18	116.430	116.053	-0.377
21	19	117.169	116.867	-0.302
21	20	115.542	115.091	-0.451
21	21	115.679	115.410	-0.269
21	22	115.911	115.438	-0.473
20	51	116.381	116.202	-0.179
20	52	114.464	114.350	-0.114
20	53	116.958	116.797	-0.161
20	54	116.011	115.608	-0.403
20	55	117.176	117.032	-0.144
31	23	115.328	114.397	-0.931
31	24	116.617	115.837	-0.780
31	25	117.910	116.871	-1.039
31	26	115.910	115.160	-0.750
31	27	119.106	118.088	-1.018
30	56	116.381	115.828	-0.553
30	57	114.464	113.912	-0.552
30	58	116.958	116.295	-0.663
30	59	116.011	115.310	-0.701
30	60	117.176	116.629	-0.547
51	28	119.024	118.586	-0.438
51	29	116.606	116.171	-0.435
51	30	117.182	116.947	-0.235
51	31	118.338	118.100	-0.238
51	32	115.222	115.230	0.008
50	61	116.381	116.078	-0.303
50	62	114.464	114.505	0.041
50	63	116.958	116.745	-0.213
50	64	116.011	128.178	12.167
50	65	117.176	116.944	-0.232
0	71	116.104	115.767	-0.337
0	72	115.140	114.884	-0.256
0	73	116.926	116.725	-0.201
0	74	117.310	117.013	-0.297
0	75	117.687	117.412	-0.275
	Max	119.106	128.178	12.167
	Average	116.487	116.271	-0.216
	Min	114.155	113.462	-1.039
	Std Dev	1.224	2.076	1.767

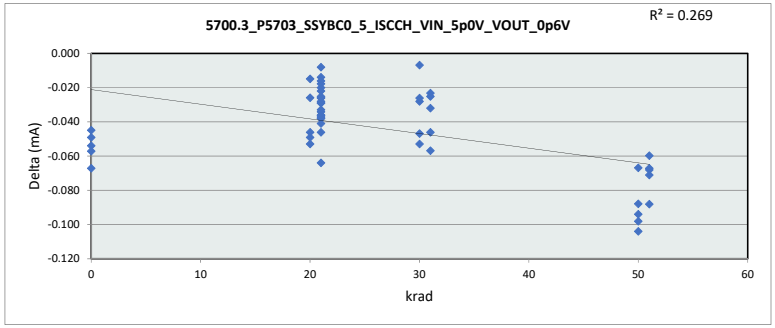


	5700.2_P5702_SSCS8						
Test Site	Dallas						
Tester	ETS8803						
Test Number	EB671802						
Max Limit	150	mohm					
Min Limit	40	mohm					
krad	0	20	21	30	31	50	51
LL	40.000	40.000	40.000	40.000	40.000	40.000	40.000
Min	114.884	114.350	113.462	113.912	114.397	114.505	115.230
Average	116.360	115.998	115.841	115.595	116.071	118.490	117.007
Max	117.412	117.032	118.435	116.629	118.088	128.178	118.586
UL	150.000	150.000	150.000	150.000	150.000	150.000	150.000

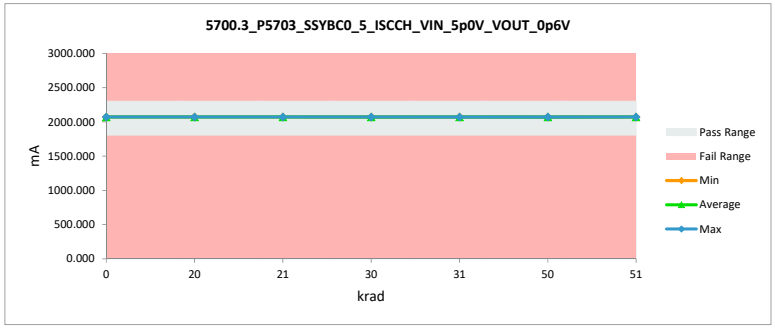


LDR Report
TPS7H2221-SEP

	5700.3_P5703_SSYBC0_5_ISCCH_VIN_5p0V_VOUT_0p6V		
Test Site	Dallas	Dallas	
Tester	ETS8803	ETS8803	
Test Number	EB671802	EB671802	
Unit	mA	mA	
Max Limit	2300	2300	
Min Limit	1800	1800	
krad	Serial #	Pre	Post	Delta
21	1	2071.182	2071.156	-0.026
21	2	2071.185	2071.160	-0.025
21	3	2071.183	2071.147	-0.036
21	4	2071.183	2071.137	-0.046
21	5	2071.194	2071.165	-0.029
21	6	2071.187	2071.158	-0.029
21	7	2071.171	2071.133	-0.038
21	8	2071.196	2071.160	-0.036
21	9	2071.176	2071.162	-0.014
21	10	2071.185	2071.157	-0.028
21	11	2071.176	2071.139	-0.037
21	12	2071.183	2071.149	-0.034
21	13	2071.185	2071.165	-0.020
21	14	2071.177	2071.161	-0.016
21	15	2071.193	2071.167	-0.026
21	16	2071.174	2071.166	-0.008
21	17	2071.180	2071.139	-0.041
21	18	2071.192	2071.128	-0.064
21	19	2071.190	2071.157	-0.033
21	20	2071.187	2071.149	-0.038
21	21	2071.176	2071.154	-0.022
21	22	2071.181	2071.163	-0.018
20	51	2071.195	2071.142	-0.053
20	52	2071.192	2071.166	-0.026
20	53	2071.170	2071.155	-0.015
20	54	2071.198	2071.149	-0.049
20	55	2071.186	2071.140	-0.046
31	23	2071.195	2071.170	-0.025
31	24	2071.174	2071.151	-0.023
31	25	2071.196	2071.164	-0.032
31	26	2071.200	2071.143	-0.057
31	27	2071.185	2071.139	-0.046
30	56	2071.195	2071.167	-0.028
30	57	2071.192	2071.145	-0.047
30	58	2071.170	2071.163	-0.007
30	59	2071.198	2071.145	-0.053
30	60	2071.186	2071.160	-0.026
51	28	2071.182	2071.122	-0.060
51	29	2071.185	2071.114	-0.071
51	30	2071.183	2071.116	-0.067
51	31	2071.183	2071.115	-0.068
51	32	2071.194	2071.106	-0.088
50	61	2071.195	2071.097	-0.098
50	62	2071.192	2071.104	-0.088
50	63	2071.170	2071.103	-0.067
50	64	2071.198	2071.094	-0.104
50	65	2071.186	2071.092	-0.094
0	71	2071.172	2071.105	-0.067
0	72	2071.186	2071.137	-0.049
0	73	2071.187	2071.133	-0.054
0	74	2071.185	2071.128	-0.057
0	75	2071.181	2071.136	-0.045
Max		2071.200	2071.170	-0.007
Average		2071.186	2071.142	-0.044
Min		2071.170	2071.092	-0.104
Std Dev		0.008	0.022	0.023



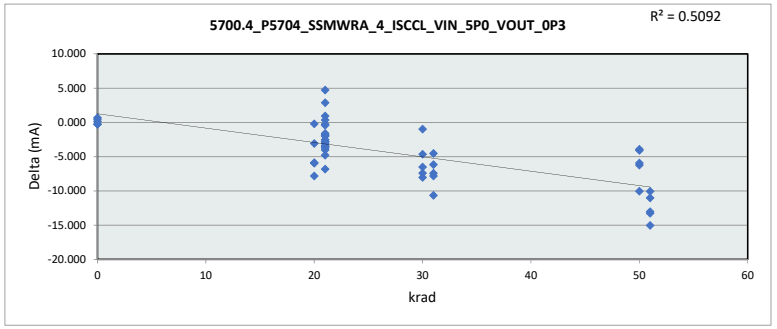
	5700.3_P5703_SSYBC						
Test Site	Dallas						
Tester	ETS8803						
Test Number	EB671802						
Max Limit	2300	mA					
Min Limit	1800	mA					
krad	0	20	21	30	31	50	51
LL	1800.000	1800.000	1800.000	1800.000	1800.000	1800.000	1800.000
Min	2071.105	2071.140	2071.128	2071.145	2071.139	2071.092	2071.106
Average	2071.128	2071.150	2071.153	2071.156	2071.153	2071.098	2071.115
Max	2071.137	2071.166	2071.167	2071.167	2071.170	2071.104	2071.122
UL	2300.000	2300.000	2300.000	2300.000	2300.000	2300.000	2300.000



LDR Report
TPS7H2221-SEP

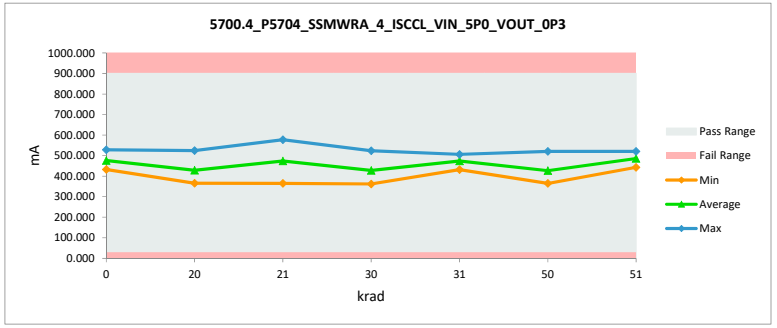
	5700.4_P5704_SSMWRA_4_ISCCL_VIN_5P0_VOUT_0P3	
Test Site	Dallas	Dallas
Tester	ETS8803	ETS8803
Test Number	EB671802	EB671802
Unit	mA	mA
Max Limit	900	900
Min Limit	30	30

krad	Serial #	Pre	Post	Delta
21	1	484.825	482.974	-1.851
21	2	456.060	453.541	-2.519
21	3	506.514	502.792	-3.722
21	4	535.809	532.202	-3.607
21	5	509.990	508.372	-1.618
21	6	486.410	489.274	2.864
21	7	506.416	507.340	0.924
21	8	475.003	473.043	-1.960
21	9	449.250	448.826	-0.424
21	10	470.025	470.370	0.345
21	11	472.064	468.055	-4.009
21	12	463.593	460.775	-2.818
21	13	491.954	491.704	-0.250
21	14	468.009	464.612	-3.397
21	15	432.197	425.368	-6.829
21	16	581.028	577.477	-3.551
21	17	472.688	469.900	-2.788
21	18	450.259	448.270	-1.989
21	19	368.136	365.055	-3.081
21	20	450.730	447.892	-2.838
21	21	476.986	481.711	4.725
21	22	462.669	457.885	-4.784
20	51	439.083	433.187	-5.896
20	52	444.459	436.623	-7.836
20	53	388.506	382.555	-5.951
20	54	368.606	365.528	-3.078
20	55	524.797	524.576	-0.221
31	23	439.214	431.780	-7.434
31	24	471.735	461.078	-10.657
31	25	481.185	476.647	-4.538
31	26	513.877	506.051	-7.826
31	27	498.287	492.122	-6.165
30	56	439.083	434.423	-4.660
30	57	444.459	436.426	-8.033
30	58	388.506	381.095	-7.411
30	59	368.606	362.079	-6.527
30	60	524.797	523.810	-0.987
51	28	484.825	473.806	-11.019
51	29	456.060	442.792	-13.268
51	30	506.514	493.490	-13.024
51	31	535.809	520.769	-15.040
51	32	509.990	499.931	-10.059
50	61	439.083	433.151	-5.932
50	62	444.459	438.221	-6.238
50	63	388.506	378.451	-10.055
50	64	368.606	364.512	-4.094
50	65	524.797	520.880	-3.917
0	71	455.077	454.787	-0.290
0	72	432.861	432.611	-0.250
0	73	527.815	528.493	0.678
0	74	482.665	482.826	0.161
0	75	482.586	483.063	0.477
	Max	581.028	577.477	4.725
	Average	466.259	461.985	-4.274
	Min	368.136	362.079	-15.040
	Std Dev	47.666	48.301	4.175



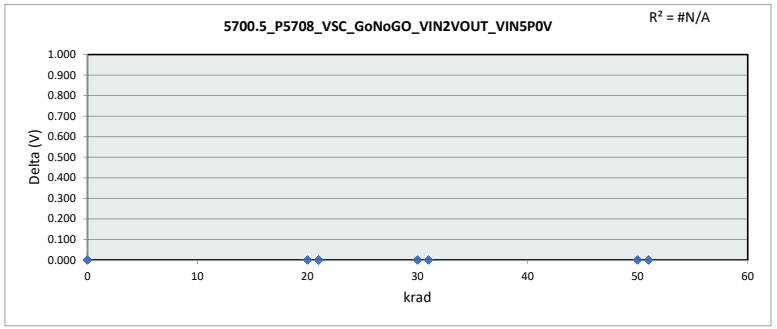
	5700.4_P5704_SSMWR	
Test Site	Dallas	
Tester	ETS8803	
Test Number	EB671802	
Max Limit	900	mA
Min Limit	30	mA

krad	0	20	21	30	31	50	51
LL	30.000	30.000	30.000	30.000	30.000	30.000	30.000
Min	432.611	365.528	365.055	362.079	431.780	364.512	442.792
Average	476.356	428.494	473.974	427.567	473.536	427.043	486.158
Max	528.493	524.576	577.477	523.810	506.051	520.880	520.769
UL	900.000	900.000	900.000	900.000	900.000	900.000	900.000

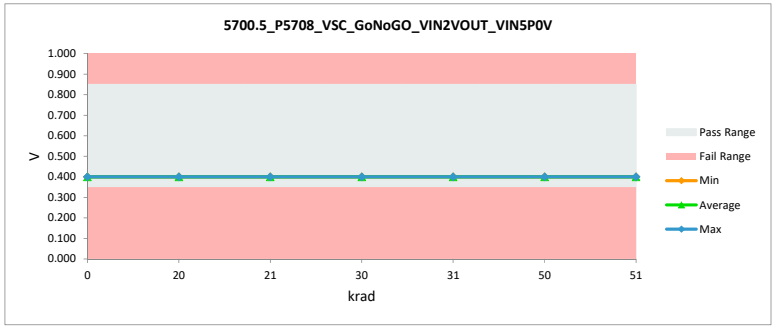


LDR Report
TPS7H2221-SEP

	5700.5_P5708_VSC_GoNoGO_VIN2VOUT_VIN5P0V		
Test Site	Dallas	Dallas	
Tester	ETS8803	ETS8803	
Test Number	EB671802	EB671802	
Unit	V	V	
Max Limit	0.85	0.85	
Min Limit	0.35	0.35	
krad	Serial #	Pre	Post	Delta
21	1	0.400	0.400	0.000
21	2	0.400	0.400	0.000
21	3	0.400	0.400	0.000
21	4	0.400	0.400	0.000
21	5	0.400	0.400	0.000
21	6	0.400	0.400	0.000
21	7	0.400	0.400	0.000
21	8	0.400	0.400	0.000
21	9	0.400	0.400	0.000
21	10	0.400	0.400	0.000
21	11	0.400	0.400	0.000
21	12	0.400	0.400	0.000
21	13	0.400	0.400	0.000
21	14	0.400	0.400	0.000
21	15	0.400	0.400	0.000
21	16	0.400	0.400	0.000
21	17	0.400	0.400	0.000
21	18	0.400	0.400	0.000
21	19	0.400	0.400	0.000
21	20	0.400	0.400	0.000
21	21	0.400	0.400	0.000
21	22	0.400	0.400	0.000
20	51	0.400	0.400	0.000
20	52	0.400	0.400	0.000
20	53	0.400	0.400	0.000
20	54	0.400	0.400	0.000
20	55	0.400	0.400	0.000
31	23	0.400	0.400	0.000
31	24	0.400	0.400	0.000
31	25	0.400	0.400	0.000
31	26	0.400	0.400	0.000
31	27	0.400	0.400	0.000
30	56	0.400	0.400	0.000
30	57	0.400	0.400	0.000
30	58	0.400	0.400	0.000
30	59	0.400	0.400	0.000
30	60	0.400	0.400	0.000
51	28	0.400	0.400	0.000
51	29	0.400	0.400	0.000
51	30	0.400	0.400	0.000
51	31	0.400	0.400	0.000
51	32	0.400	0.400	0.000
50	61	0.400	0.400	0.000
50	62	0.400	0.400	0.000
50	63	0.400	0.400	0.000
50	64	0.400	0.400	0.000
50	65	0.400	0.400	0.000
0	71	0.400	0.400	0.000
0	72	0.400	0.400	0.000
0	73	0.400	0.400	0.000
0	74	0.400	0.400	0.000
0	75	0.400	0.400	0.000
	Max	0.400	0.400	0.000
	Average	0.400	0.400	0.000
	Min	0.400	0.400	0.000
	Std Dev	0.000	0.000	0.000



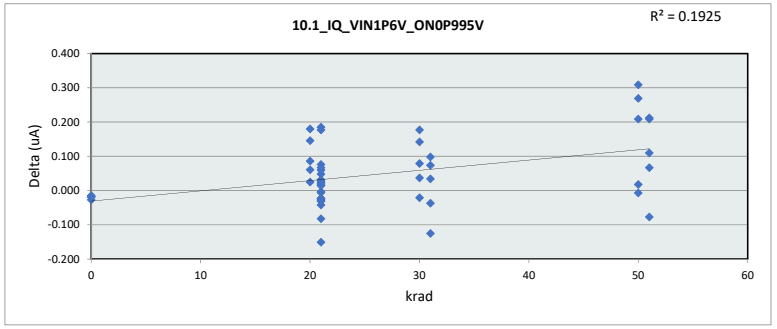
	5700.5_P5708_VSC_G						
Test Site	Dallas						
Tester	ETS8803						
Test Number	EB671802						
Max Limit	0.85	V					
Min Limit	0.35	V					
krad	0	20	21	30	31	50	51
LL	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Min	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Average	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Max	0.400	0.400	0.400	0.400	0.400	0.400	0.400
UL	0.850	0.850	0.850	0.850	0.850	0.850	0.850



LDR Report
TPS7H2221-SEP

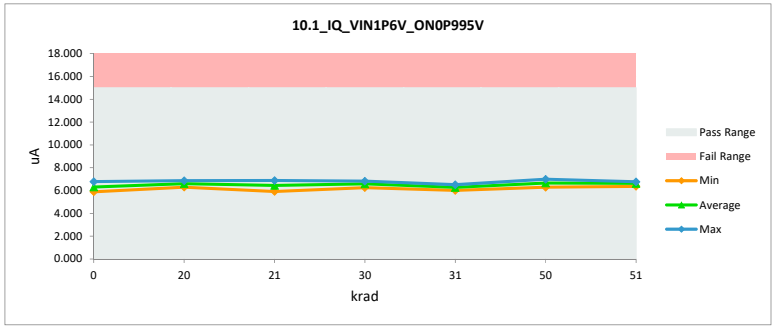
	10.1_IQ_VIN1P6V_ON0P995V	
Test Site	Dallas	Dallas
Tester	ETS8803	ETS8803
Test Number	EB671802	EB671802
Unit	uA	uA
Max Limit	15	15
Min Limit	0	0

krad	Serial #	Pre	Post	Delta
21	1	6.534	6.566	0.032
21	2	6.524	6.539	0.015
21	3	6.702	6.620	-0.082
21	4	6.300	6.271	-0.029
21	5	6.556	6.604	0.048
21	6	5.896	5.919	0.023
21	7	6.592	6.652	0.060
21	8	6.067	6.252	0.185
21	9	6.369	6.346	-0.023
21	10	6.083	6.159	0.076
21	11	6.211	6.238	0.027
21	12	6.515	6.512	-0.003
21	13	6.829	6.798	-0.031
21	14	6.543	6.558	0.015
21	15	6.245	6.222	-0.023
21	16	6.486	6.335	-0.151
21	17	6.822	6.780	-0.042
21	18	6.122	6.116	-0.006
21	19	6.904	6.878	-0.026
21	20	5.829	6.006	0.177
21	21	6.821	6.840	0.019
21	22	6.725	6.792	0.067
20	51	6.682	6.862	0.180
20	52	6.275	6.300	0.025
20	53	6.400	6.461	0.061
20	54	6.579	6.665	0.086
20	55	6.577	6.723	0.146
31	23	6.136	6.011	-0.125
31	24	6.114	6.188	0.074
31	25	6.306	6.269	-0.037
31	26	6.374	6.408	0.034
31	27	6.415	6.513	0.098
30	56	6.682	6.824	0.142
30	57	6.275	6.254	-0.021
30	58	6.400	6.437	0.037
30	59	6.579	6.658	0.079
30	60	6.577	6.754	0.177
51	28	6.534	6.746	0.212
51	29	6.524	6.634	0.110
51	30	6.702	6.625	-0.077
51	31	6.300	6.367	0.067
51	32	6.556	6.765	0.209
50	61	6.682	6.991	0.309
50	62	6.275	6.293	0.018
50	63	6.400	6.393	-0.007
50	64	6.579	6.788	0.209
50	65	6.577	6.846	0.269
0	71	6.807	6.780	-0.027
0	72	5.995	5.979	-0.016
0	73	6.683	6.664	-0.019
0	74	6.251	6.233	-0.018
0	75	5.906	5.891	-0.015
Max		6.904	6.991	0.309
Average		6.439	6.487	0.048
Min		5.829	5.891	-0.151
Std Dev		0.260	0.284	0.097



	10.1_IQ_VIN1P6V_ON	
Test Site	Dallas	
Tester	ETS8803	
Test Number	EB671802	
Max Limit	15	uA
Min Limit	0	uA

krad	0	20	21	30	31	50	51
LL	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Min	5.891	6.300	5.919	6.254	6.011	6.293	6.367
Average	6.309	6.602	6.455	6.585	6.278	6.662	6.627
Max	6.780	6.862	6.878	6.824	6.513	6.991	6.765
UL	15.000	15.000	15.000	15.000	15.000	15.000	15.000



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