

# Wuxi CMC electronics Co., Ltd



**Vision:** Become a leader in the domestic IC testing industry

**Mission:** Scientific and technological innovation, integration and development,  
pursuit of excellence

**Values:** Integrity, Quality, Endeavour and Win win

# AEC Q100 CERTIFICATION REPORT

QR-RE-09-02-B

Device Name : FM33HT0XXA

Sample Model : FM33HT0510A

Batch Number : C7B17J0G/C7B19J6G/C7B22J9G

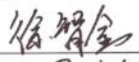
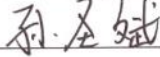
Entrusting party : Shanghai Fudan Microelectronics Group Co.,Ltd

Certification Grade : Grade 1: -40℃~125℃

Humidity Sensitivity Level : MSL=3

## DECLARATION

The test(s) shown in the report were conducted according to the confirmed procedures. We take full responsibility for the accuracy and completeness of these tests, and provide qualification certification of all testing personnel.

Post	Name	Signature	Date
Testing Engineer	Zhijin Xu		2025/01/20
Inspection Engineer	Shengbin Sun		2025/01/20

Wuxi CMC Electronics CO.,Ltd



## NOTES

1. The report is invalid without company seal or report seal.
2. The report is invalid without signatures of testing person、 auditors and approver.
3. The report is invalid with any scrawl.
4. Partial copy of the report is unallowed without approving.
5. If test devices come from customers' samples, our company only be responsible of the samples, the results only could explain the quality of samples.
6. If you have any objection to the test results, please appeal to our company within one month from the date of receipt of the report, and attach the original report, otherwise it will not be accepted.

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## Catalogue

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## 1. Test Report

Entrusting party	Shanghai Fudan Microelectronics Group Co.,Ltd		Device Name	FM33HT0XXA
Sample Model	FM33HT0510A	Sample Batch Number	C7B17J0G/C7B19J6G/C7B22J9G	
Package Type	LQFP100	Quantity	1062/1031/1031	
Sample Source	Customer sample delivery	Test Category	AEC Q100 Reliability Test	
Test Start Date	2024/06/24	Test End Date	2025/01/02	
Inspection Standard	AEC Q100-Rev-J-2023 JEDEC			
Results and Conclusions	The samples have tested and certified according to the requirements of the client and the standard AEC Q100-Rev-J-2023, and the test progress is normal. The certification result is : PASS.			
Comment	/			
Sign	Editor:	Examiner:	Approver:	
	Date:	Date:	Date:	

2. Reliability test summary

2.1 Sample Information

Table 1: Sample Information

Lot#	Batch Number	Wafer Fabrication	Wafer Test facility	Assembly facility	Final Test facility
1	C7B17J0G	SAMSUNG	FMSH	JSCC	CMC
2	C7B19J6G				
3	C7B22J9G				

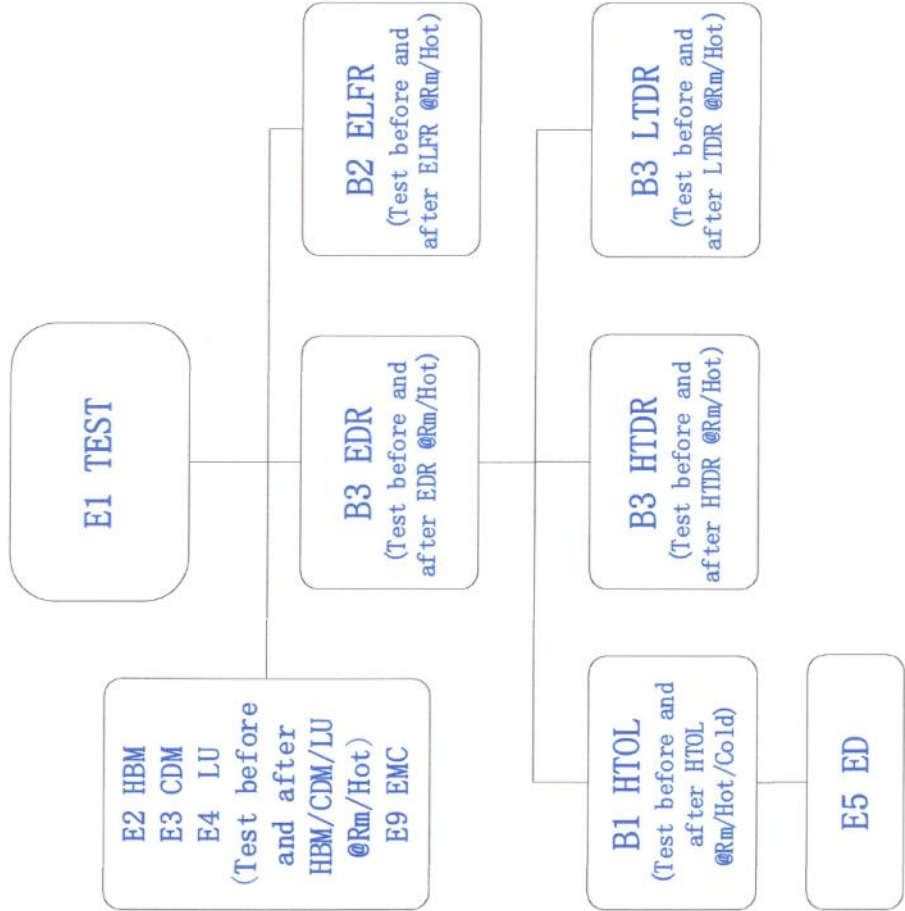
Item	Vendor	Material type
Lead Frame	AAMI	LQFP 100L C9-DEM
Molding Compound	Sumitomo	G700LALA
Wire	Nippon	AuPdCu/0.8mil/EX1F20µm
Epoxy/DAF	Resonac	EN-4900GC-CJ
Wafer process	Samsung	Silicon

2.2 Description of Product

Table 2: Description of Product

Product Model	Package Type	Operating temperature range	Moisture sensitivity Level	Automotive Temperature Grade
FM33HT0510A	LQFP100	-40℃~125℃	MSL=3	Grade 1

2.3 Test Flow



## 2.4 Test Result Summary

Table 3: Test Result Summary

TEST GROUP B ACCELERATED LIFETIME SIMULATION TESTS									
Group	Test Description	ABV	Test Method	Test Condition	#Lots	Total # Units	Result	Conclusion	Remark
B1	High Temperature Operating Life	HTOL	JESD22-A108	Step1:NVCE: Ta=125°C, Vd= 5V, code flash 10w cycles,data flash 50w cycles Step2:HTOL : Ta=125°C, Vd=5.5V, 1000hrs	3	3*77	0/231	Pass	/
B2	Early Life Failure Rate	ELFR	AEC-Q100-008	Ta=125°C, Vd=5.5V, 48hrs	3	3*800	0/2400	Pass	/
B3	NVM Endurance, Data Retention, and Operational Life	EDR	AEC-Q100-005	Step1:NVCE: Ta=125°C, Vd= 5V, code flash 10w cycles,data flash 50w cycles Step2:HTDR: Ta=150°C, 2500hrs	3	3*77	0/231	Pass	/
				Step1:NVCE: Ta=25°C, Vd= 5V, code flash 10w cycles,data flash 50w cycles Step2: LTDR: Ta=25°C, Vd=5V, 1000hrs	3	3*77	0/231	Pass	/



TEST GROUP E ELECTRICAL CHARACTERISTIC VERIFICATION TESTS									
Group	Test Description	ABV	Test Method	Test Condition	#Lots	Total # Units	Result	Conclusion	Remark
E1	Pre and post stress electrical test	Test	Test program to supplier data sheet or user specification	Test to spec	3	All	0/all	Pass	/
E2	Electrostatic Discharge Human Body Model	HBM	AEC Q100-002	$\pm 500V \sim \pm 4000V$ , step $\pm 1000V$	1	12	0/12	Pass	/
E3	Electrostatic Discharge Charged Device Model	CDM	AEC Q100-011	$\pm 250V \sim \pm 1000V$ , step $\pm 250V$	1	12	0/12	Pass	/
E4	Latch-Up	LU	AEC Q100-004	$\pm 100mA$ ; $T_a = 125^\circ C$ 1.5X power source overvoltage	1	6	0/6	Pass	/
E5	Electrical Distributions	ED	AEC-Q100-009 AEC Q003	Test to spec	3	3*30	0/90	/	Cpk <sub>(min)</sub> : 1.68
E9	Electromagnetic Compatibility	EMC	SAE J1752/3	150kHz~30MHz~1GHz Chip 0°/ Chip90°/ Chip180°/Chip270°	1	1	0/1	Conform to	Peak vaule confirms to SAE J1752/3 Class III rating

### 3. Test Equipment

Table 4: Test Equipment Information

No.	Equipment Nr.	Equipment Name	Model Nr.	Effective period of measurement
1	19102597	High temperature test chamber	PH201	2023.09.21 - 2024.09.20
2	19102596	High temperature test chamber	PH201	2024.09.20 - 2025.09.19
3	19102599	High temperature test chamber	PH201	2023.12.20 - 2024.12.19
4	21102343	High temperature test chamber	PH201	2024.09.23 - 2025.09.22
5	0020-003067	High temperature test chamber	PH201	2023.11.29 - 2024.11.28
6	21102336	High temperature test chamber	PH201	2024.11.28 - 2025.11.27
7	21102338	High temperature test chamber	PH201	2024.03.04 - 2025.03.03
8	21101034	High temperature test chamber	GPH-20	2024.05.09 - 2025.05.08
9	1040210024	High temperature test chamber	PH201	2024.03.13 - 2025.03.12
10	1040210030	High temperature test chamber	PH201	2024.02.28 - 2025.02.27
11	TS1807474	Small high and low temperature test chamber	MC-811-2	2024.04.09 - 2025.04.08
12	N23120552	Small high temperature test chamber	STH-120	2024.04.09 - 2025.04.08
13	N23120558	Small high temperature test chamber	STH-120	2023.04.28 - 2024.04.27
14	N23120570	High temperature chamber for testing	TS-TH-125-U	2024.04.26 - 2025.04.25
15	N23120556	DC power supply	N36190-20-100	2024.02.05 - 2025.02.04
16	N23120566	DC power supply	N36190-20-100	2024.01.22 - 2025.01.21

No.	Equipment Nr.	Equipment Name	Model Nr.	Effective period of measurement
17	800543010737110080	DC power supply	IT6952A	2024.06.10 - 2025.06.09
18	2206261	Electrostatic discharge tester	MK2TE-V2 System	2024.01.05 - 2025.01.04
19	1606269	Electrostatic discharge tester	THERMO ORION3	2023.11.15 - 2024.11.14 2024.11.04 - 2025.11.03
20	20220315	Heat flow meter	Vision-JH80s	2023.11.23 - 2024.11.22 2024.11.07 - 2025.11.06
21	IPTCLE01F704-0019	TEM cell	FCC-TEM-JM5	2024.01.31 - 2025.01.30
22	IPTCLE01F703-0002	Receiver	ESR7	2024.01.31 - 2025.01.30
23	IPTCLE01F704-0006	DC power supply	E3631A	2024.01.31 - 2025.01.30
24	IPTCLE01B103-0135-02	50Ω load	LOD-50	2024.01.30 - 2025.01.29
25	IPTCLE01F703-0013	Testing software	EMC32(10.0.0.0)	/



## 4. Appendix: Electrical Distributions Data

E5.Key parameters before and after HTOL test

Sample Batch Number:C7B17J0G												
Test item	Spec Max	Spec Min	Test Max	Test Min	$\sigma$	$3\sigma$	$-3\sigma$	$\mu$	CPK	$\Delta$ Max	$\Delta$ Min	
VLD15	1.60	1.50	1.56	1.55	0.00	0.01	-0.01	1.55	3.30	0.77%	0.00%	
Iil_MIN	500.00	-500.00	5.24	0.00	1.39	4.16	-4.16	0.95	120.05	22109.52%	38.34%	
Iil_MAX	500.00	-500.00	72.80	32.29	11.00	33.00	-33.00	49.90	13.64	150.50%	3.39%	
Iih_MIN	500.00	-500.00	24.23	0.01	7.68	23.04	-23.04	4.92	21.49	16094.55%	3.89%	
Iih_MAX	500.00	-500.00	235.97	176.89	14.35	43.04	-43.04	205.26	6.85	24.85%	1.49%	
Vol_MIN@5V	0.65	0.00	0.15	0.14	0.00	0.01	-0.01	0.15	19.21	4.23%	0.00%	
Vol_MAX@5V	0.65	0.00	0.22	0.19	0.01	0.02	-0.02	0.19	7.86	14.32%	0.46%	
Vol_MIN@3V	0.65	0.00	0.21	0.19	0.00	0.01	-0.01	0.20	16.66	3.98%	0.10%	
Vol_MAX@3V	0.65	0.00	0.28	0.24	0.01	0.02	-0.02	0.26	10.64	10.94%	0.27%	
Voh_MIN@5V	5.00	4.00	4.67	4.45	0.05	0.14	-0.14	4.60	2.92	5.10%	0.44%	
Voh_MAX@5V	5.00	4.00	4.91	4.91	0.00	0.00	0.00	4.91	101.06	0.05%	0.01%	
Voh_MIN@3V	3.30	2.30	2.89	2.73	0.04	0.13	-0.13	2.82	3.75	5.37%	0.18%	
Voh_MAX@3V	3.30	2.30	3.21	3.20	0.00	0.00	0.00	3.20	96.45	0.09%	0.04%	
Rpu_MIN	60.00	40.00	52.10	49.71	0.65	1.95	-1.95	51.19	4.51	2.74%	0.16%	
Rpu_MAX	60.00	40.00	54.18	50.94	0.81	2.42	-2.42	52.62	3.05	2.53%	0.12%	
Rdu_MIN	60.00	40.00	50.94	48.09	0.73	2.20	-2.20	49.94	4.52	3.21%	0.11%	
Rdu_MAX	60.00	40.00	51.98	49.14	0.72	2.16	-2.16	50.82	4.25	2.30%	0.04%	
FRCHF_8M	9.04	6.96	7.99	7.96	0.01	0.02	-0.02	7.97	41.99	0.38%	0.01%	
FRCHF_16M	19.47	13.51	15.97	15.92	0.01	0.04	-0.04	15.94	55.66	0.29%	0.05%	
FRCHF_24M	26.71	22.27	23.94	23.84	0.03	0.08	-0.08	23.90	21.04	0.25%	0.00%	
FXTHF_8M	9.04	6.96	8.00	8.00	0.00	0.00	0.00	8.00	805.68	0.01%	0.00%	
FRCLP	35.00	30.00	32.73	32.21	0.12	0.35	-0.35	32.47	7.10	1.04%	0.05%	

Room



Test item	Spec Max	Spec Min	Test Max	Test Min	$\sigma$	3 $\sigma$	-3 $\sigma$	$\mu$	CPK	$\Delta$ Max	$\Delta$ Min
VLD15	1.60	1.50	1.56	1.55	0.00	0.01	-0.01	1.56	3.27	0.61%	0.01%
Iil_MIN	500.00	-500.00	2.34	0.00	0.64	1.91	-1.91	0.47	261.21	4249.32%	15.24%
Iil_MAX	500.00	-500.00	248.91	44.15	56.97	170.92	-170.92	123.46	2.20	1001.45%	2.43%
Iih_MIN	500.00	-500.00	30.44	0.01	5.86	17.57	-17.57	2.47	28.32	6763.88%	3.72%
Iih_MAX	500.00	-500.00	228.96	172.28	12.42	37.26	-37.26	208.22	7.83	22.00%	0.18%
Vol_MIN@5V	0.65	0.00	0.14	0.13	0.00	0.01	-0.01	0.13	11.69	8.79%	0.15%
Vol_MAX@5V	0.65	0.00	0.22	0.17	0.01	0.04	-0.04	0.19	4.46	37.70%	0.79%
Vol_MIN@3V	0.65	0.00	0.20	0.17	0.01	0.02	-0.02	0.19	11.34	9.55%	0.00%
Vol_MAX@3V	0.65	0.00	0.28	0.23	0.01	0.04	-0.04	0.25	6.81	28.67%	0.04%
Voh_MIN@5V	5.00	4.00	4.72	4.61	0.03	0.08	-0.08	4.69	4.08	2.20%	0.03%
Voh_MAX@5V	5.00	4.00	4.91	4.91	0.00	0.00	0.00	4.91	134.17	0.09%	0.06%
Voh_MIN@3V	3.30	2.30	2.94	2.83	0.03	0.08	-0.08	2.91	5.14	3.53%	0.04%
Voh_MAX@3V	3.30	2.30	3.21	3.21	0.00	0.00	0.00	3.21	182.51	0.14%	0.10%
Rpu_MIN	60.00	40.00	51.93	49.59	0.60	1.80	-1.80	51.18	4.90	4.15%	0.01%
Rpu_MAX	60.00	40.00	53.66	50.68	0.71	2.12	-2.12	52.45	3.56	3.73%	0.08%
Rdu_MIN	60.00	40.00	50.89	48.12	0.68	2.05	-2.05	49.99	4.87	4.22%	0.01%
Rdu_MAX	60.00	40.00	52.06	49.12	0.70	2.09	-2.09	50.90	4.35	3.54%	0.00%
FRCFH_8M	9.04	6.96	8.01	7.93	0.02	0.05	-0.05	7.97	20.82	0.52%	0.03%
FRCFH_16M	19.47	13.51	16.04	15.92	0.03	0.08	-0.08	15.98	29.32	0.79%	0.05%
FRCFH_24M	26.71	22.27	24.11	23.90	0.06	0.18	-0.18	24.01	9.89	0.97%	0.00%
FXTHF_8M	9.04	6.96	8.00	8.00	0.00	0.00	0.00	8.00	770.56	0.01%	0.00%
FRCLP	35.00	30.00	32.85	32.01	0.18	0.54	-0.54	32.45	4.52	1.63%	0.00%
Test item	Spec Max	Spec Min	Test Max	Test Min	$\sigma$	3 $\sigma$	-3 $\sigma$	$\mu$	CPK	$\Delta$ Max	$\Delta$ Min
VLD15	1.60	1.50	1.56	1.54	0.00	0.01	-0.01	1.55	3.50	0.23%	0.00%
Iil_MIN	500.00	-500.00	3.19	0.01	0.60	1.79	-1.79	0.33	279.40	372000.00%	10.34%
Iil_MAX	500.00	-500.00	72.93	32.09	11.79	35.37	-35.37	49.28	12.74	237.85%	8.25%
Iih_MIN	500.00	-500.00	20.34	0.02	4.45	13.34	-13.34	2.36	37.29	6113.29%	6.04%

Cold

Hot

Item	500.00	-500.00	232.74	197.64	6.62	19.87	-19.87	217.47	14.22	8.55%	0.05%
Vol_MIN@5V	0.65	0.00	0.17	0.15	0.00	0.01	-0.01	0.16	12.98	5.76%	0.00%
Vol_MAX@5V	0.65	0.00	0.27	0.21	0.01	0.04	-0.04	0.24	6.32	18.85%	0.54%
Vol_MIN@3V	0.65	0.00	0.23	0.21	0.01	0.02	-0.02	0.22	11.96	5.87%	0.09%
Vol_MAX@3V	0.65	0.00	0.33	0.27	0.01	0.04	-0.04	0.30	7.98	14.26%	0.11%
Voh_MIN@5V	5.00	4.00	4.68	4.58	0.02	0.06	-0.06	4.66	5.52	1.94%	0.01%
Voh_MAX@5V	5.00	4.00	4.91	4.91	0.00	0.00	0.00	4.91	103.15	0.04%	0.00%
Voh_MIN@3V	3.30	2.30	2.89	2.84	0.01	0.04	-0.04	2.87	11.86	1.30%	0.01%
Voh_MAX@3V	3.30	2.30	3.21	3.20	0.00	0.00	0.00	3.21	120.64	0.04%	0.00%
Rpu_MIN	60.00	40.00	52.05	49.46	0.60	1.80	-1.80	51.25	4.86	0.33%	0.04%
Rpu_MAX	60.00	40.00	53.55	50.50	0.68	2.05	-2.05	52.40	3.71	0.37%	0.07%
Rdu_MIN	60.00	40.00	50.85	48.06	0.65	1.94	-1.94	49.98	5.16	0.25%	0.02%
Rdu_MAX	60.00	40.00	51.92	49.11	0.65	1.94	-1.94	50.85	4.72	0.28%	0.07%
FRCHF_8M	9.04	6.96	8.02	7.96	0.01	0.04	-0.04	7.98	22.87	0.33%	0.10%
FRCHF_16M	19.47	13.51	15.98	15.85	0.03	0.09	-0.09	15.90	27.26	0.35%	0.01%
FRCHF_24M	26.71	22.27	23.89	23.70	0.05	0.16	-0.16	23.79	9.71	0.50%	0.00%
FXTHF_8M	9.04	6.96	8.00	8.00	0.00	0.00	0.00	8.00	743.56	0.01%	0.00%
FRCLP	35.00	30.00	33.01	32.45	0.13	0.40	-0.40	32.62	5.94	0.63%	0.06%



Sample Batch Number:C7B19J6G												
Test item	Spec Max	Spec Min	Test Max	Test Min	$\sigma$	3 $\sigma$	-3 $\sigma$	$\mu$	CPK	$\Delta$ Max	$\Delta$ Min	
VLD15	1.60	1.50	1.56	1.55	0.00	0.01	-0.01	1.56	4.13	0.63%	0.01%	
Iil_MIN	500.00	-500.00	2.51	0.01	0.56	1.67	-1.67	0.42	299.44	27960.71%	1.66%	
Iil_MAX	500.00	-500.00	69.02	33.43	8.63	25.88	-25.88	48.05	17.46	75.34%	3.04%	
Iih_MIN	500.00	-500.00	17.09	0.05	3.14	9.41	-9.41	1.33	52.97	3449.54%	0.42%	
Iih_MAX	500.00	-500.00	236.63	188.77	9.42	28.26	-28.26	211.78	10.20	15.48%	0.10%	
Vol_MIN@5V	0.65	0.00	0.15	0.14	0.00	0.01	-0.01	0.14	25.20	4.78%	0.00%	
Vol_MAX@5V	0.65	0.00	0.21	0.18	0.01	0.02	-0.02	0.19	11.71	22.25%	0.75%	
Vol_MIN@3V	0.65	0.00	0.20	0.19	0.00	0.01	-0.01	0.20	21.41	5.95%	0.10%	
Vol_MAX@3V	0.65	0.00	0.27	0.23	0.01	0.02	-0.02	0.25	10.30	16.11%	0.95%	
Voh_MIN@5V	5.00	4.00	4.70	4.59	0.02	0.07	-0.07	4.65	5.00	1.54%	0.07%	
Voh_MAX@5V	5.00	4.00	4.91	4.91	0.00	0.00	0.00	4.91	140.47	0.02%	0.00%	
Voh_MIN@3V	3.30	2.30	2.91	2.86	0.02	0.05	-0.05	2.88	8.93	1.62%	0.06%	
Voh_MAX@3V	3.30	2.30	3.21	3.20	0.00	0.00	0.00	3.20	140.13	0.05%	0.00%	
Rpu_MIN	60.00	40.00	51.89	49.57	0.58	1.73	-1.73	50.72	5.38	2.63%	0.08%	
Rpu_MAX	60.00	40.00	52.94	51.00	0.55	1.65	-1.65	51.83	4.96	3.49%	0.04%	
Rdu_MIN	60.00	40.00	50.74	48.40	0.57	1.71	-1.71	49.56	5.60	2.93%	0.23%	
Rdu_MAX	60.00	40.00	51.41	49.39	0.56	1.69	-1.69	50.34	5.72	2.94%	0.04%	
FRCHF_8M	9.04	6.96	7.98	7.95	0.01	0.03	-0.03	7.97	40.21	0.44%	0.00%	
FRCHF_16M	19.47	13.51	15.96	15.90	0.02	0.05	-0.05	15.93	49.18	0.41%	0.08%	
FRCHF_24M	26.71	22.27	23.95	23.85	0.02	0.07	-0.07	23.90	22.31	0.44%	0.03%	
FXTHF_8M	9.04	6.96	8.00	8.00	0.00	0.00	0.00	8.00	805.68	0.01%	0.00%	
FRCLP	35.00	30.00	32.79	32.17	0.13	0.40	-0.40	32.48	6.16	1.19%	0.00%	
Test item	Spec Max	Spec Min	Test Max	Test Min	$\sigma$	3 $\sigma$	-3 $\sigma$	$\mu$	CPK	$\Delta$ Max	$\Delta$ Min	
VLD15	1.60	1.50	1.56	1.55	0.00	0.01	-0.01	1.56	4.23	0.24%	0.01%	
Iil_MIN	500.00	-500.00	1.91	0.02	0.44	1.33	-1.33	0.26	376.61	36000.00%	6.61%	
Iil_MAX	500.00	-500.00	385.81	32.82	80.41	241.23	-241.23	93.63	1.68	931.83%	0.91%	

Room

Cold



Test item	Hot													
	Spec Max	Spec Min	Test Max	Test Min	$\sigma$	$3\sigma$	$-3\sigma$	$\mu$	CPK	$\Delta$ Max	$\Delta$ Min			
VLD15	1.60	1.50	1.56	1.55	0.00	0.01	-0.01	1.55	4.29	0.43%	0.00%			
Iil_MIN	500.00	-500.00	3.15	0.00	0.70	2.09	-2.09	0.48	239.19	6755.00%	16.73%			
Iil_MAX	500.00	-500.00	73.27	34.06	10.63	31.89	-31.89	47.89	14.18	281.19%	0.40%			
Iih_MIN	500.00	-500.00	21.89	0.02	4.46	13.38	-13.38	2.20	37.20	775.23%	2.01%			
Iih_MAX	500.00	-500.00	244.18	193.93	9.63	28.88	-28.88	217.33	9.79	10.65%	0.37%			
Vol_MIN@5V	0.65	0.00	0.16	0.15	0.00	0.01	-0.01	0.16	13.79	4.79%	0.06%			
Vol_MAX@5V	0.65	0.00	0.27	0.19	0.02	0.06	-0.06	0.22	3.46	21.81%	0.09%			
Vol_MIN@3V	0.65	0.00	0.23	0.21	0.01	0.02	-0.02	0.22	12.93	4.77%	0.09%			



Vol_MAX@3V	0.65	0.00	0.33	0.26	0.02	0.06	-0.06	0.29	4.61	14.98%	0.57%
Voh_MIN@5V	5.00	4.00	4.69	4.64	0.01	0.04	-0.04	4.68	8.19	0.73%	0.00%
Voh_MAX@5V	5.00	4.00	4.91	4.91	0.00	0.00	0.00	4.91	150.82	0.04%	0.01%
Voh_MIN@3V	3.30	2.30	2.90	2.84	0.02	0.05	-0.05	2.88	9.06	1.24%	0.01%
Voh_MAX@3V	3.30	2.30	3.21	3.20	0.00	0.00	0.00	3.21	140.10	0.07%	0.00%
Rpu_MIN	60.00	40.00	51.88	49.51	0.58	1.74	-1.74	50.70	5.34	1.77%	0.02%
Rpu_MAX	60.00	40.00	52.91	50.87	0.60	1.81	-1.81	51.77	4.55	1.66%	0.07%
Rdu_MIN	60.00	40.00	50.66	48.37	0.57	1.71	-1.71	49.50	5.57	1.61%	0.09%
Rdu_MAX	60.00	40.00	51.38	49.31	0.59	1.77	-1.77	50.27	5.49	1.51%	0.11%
FRCHF_8M	9.04	6.96	7.99	7.96	0.01	0.03	-0.03	7.98	37.06	0.47%	0.05%
FRCHF_16M	19.47	13.51	15.94	15.85	0.03	0.08	-0.08	15.89	31.17	0.48%	0.01%
FRCHF_24M	26.71	22.27	23.88	23.69	0.05	0.16	-0.16	23.78	9.66	0.55%	0.00%
FXTHF_8M	9.04	6.96	8.00	8.00	0.00	0.00	0.00	8.00	743.56	0.01%	0.00%
FRCLP	35.00	30.00	32.95	32.28	0.15	0.44	-0.44	32.62	5.41	1.04%	0.06%

Sample Batch Number: C7B22J9G												
Test item	Spec Max	Spec Min	Test Max	Test Min	$\sigma$	3 $\sigma$	-3 $\sigma$	$\mu$	CPK	$\Delta$ Max	$\Delta$ Min	
VLD15	1.60	1.50	1.56	1.55	0.00	0.01	-0.01	1.56	6.00	0.22%	0.00%	
Iil_MIN	500.00	-500.00	4.73	0.00	0.90	2.69	-2.69	0.44	185.64	69085.71%	0.36%	
Iil_MAX	500.00	-500.00	71.48	35.32	10.20	30.59	-30.59	47.57	14.79	138.69%	2.10%	
Iih_MIN	500.00	-500.00	20.17	0.01	4.83	14.50	-14.50	2.30	34.32	605.55%	9.70%	
Iih_MAX	500.00	-500.00	232.67	178.47	12.31	36.94	-36.94	206.10	7.96	21.89%	0.38%	
Vol_MIN@5V	0.65	0.00	0.14	0.14	0.00	0.00	0.00	0.14	29.77	5.92%	1.98%	
Vol_MAX@5V	0.65	0.00	0.23	0.18	0.01	0.04	-0.04	0.20	4.81	16.21%	0.05%	
Vol_MIN@3V	0.65	0.00	0.20	0.19	0.00	0.01	-0.01	0.20	25.31	5.72%	1.06%	
Vol_MAX@3V	0.65	0.00	0.28	0.24	0.01	0.04	-0.04	0.26	6.65	11.91%	0.15%	
Voh_MIN@5V	5.00	4.00	4.70	4.61	0.02	0.07	-0.07	4.67	4.90	1.91%	0.07%	
Voh_MAX@5V	5.00	4.00	4.91	4.91	0.00	0.00	0.00	4.91	93.82	0.09%	0.05%	
Voh_MIN@3V	3.30	2.30	2.92	2.85	0.02	0.05	-0.05	2.89	8.10	2.05%	0.00%	
Voh_MAX@3V	3.30	2.30	3.21	3.21	0.00	0.00	0.00	3.21	128.31	0.14%	0.09%	
Rpu_MIN	60.00	40.00	51.11	49.88	0.33	0.98	-0.98	50.73	9.43	1.32%	0.02%	
Rpu_MAX	60.00	40.00	52.26	51.18	0.28	0.85	-0.85	51.75	9.72	1.73%	0.01%	
Rdu_MIN	60.00	40.00	50.04	48.71	0.32	0.96	-0.96	49.47	9.89	1.43%	0.04%	
Rdu_MAX	60.00	40.00	50.67	49.68	0.28	0.85	-0.85	50.22	11.58	1.41%	0.04%	
FRCHF_8M	9.04	6.96	7.99	7.96	0.01	0.02	-0.02	7.97	41.97	0.47%	0.00%	
FRCHF_16M	19.47	13.51	15.99	15.91	0.02	0.05	-0.05	15.95	46.53	0.36%	0.00%	
FRCHF_24M	26.71	22.27	23.97	23.90	0.02	0.06	-0.06	23.93	26.84	0.31%	0.00%	
FXTHF_8M	9.04	6.96	8.00	8.00	0.00	0.00	0.00	8.00	1002.53	0.01%	0.00%	
FRCLP	35.00	30.00	32.77	32.19	0.14	0.43	-0.43	32.45	5.74	1.59%	0.02%	
Test item	Spec Max	Spec Min	Test Max	Test Min	$\sigma$	3 $\sigma$	-3 $\sigma$	$\mu$	CPK	$\Delta$ Max	$\Delta$ Min	
VLD15	1.60	1.50	1.56	1.55	0.00	0.01	-0.01	1.55	4.70	0.22%	0.00%	
Iil_MIN	500.00	-500.00	3.76	0.00	0.79	2.37	-2.37	0.47	210.66	19103.85%	2.01%	
Iil_MAX	500.00	-500.00	324.87	50.15	70.37	211.10	-211.10	138.28	1.71	983.41%	16.66%	

Room

Cold



Test item	Spec Max	Spec Min	Test Max	Test Min	$\sigma$	3 $\sigma$	-3 $\sigma$	$\mu$	CPK	$\Delta$ Max	$\Delta$ Min
VLD15	1.60	1.50	1.56	1.55	0.00	0.01	-0.01	1.55	4.89	0.47%	0.01%
Iil_MIN	500.00	-500.00	3.11	0.00	0.58	1.74	-1.74	0.28	287.43	33104.00%	9.76%
Iil_MAX	500.00	-500.00	91.11	33.43	17.56	52.67	-52.67	54.29	8.46	312.76%	6.78%
Iih_MIN	500.00	-500.00	12.07	0.01	2.99	8.96	-8.96	2.03	55.61	1307.54%	2.43%
Iih_MAX	500.00	-500.00	239.90	187.40	10.94	32.83	-32.83	210.56	8.82	20.98%	0.27%
Vol_MIN@5V	0.65	0.00	0.16	0.14	0.00	0.01	-0.01	0.16	12.29	10.66%	0.00%
Vol_MAX@5V	0.65	0.00	0.25	0.19	0.02	0.05	-0.05	0.22	4.35	24.89%	0.61%
Vol_MIN@3V	0.65	0.00	0.23	0.20	0.01	0.02	-0.02	0.22	11.73	10.31%	0.18%
Vol_MAX@3V	0.65	0.00	0.33	0.23	0.02	0.07	-0.07	0.27	4.08	25.75%	0.11%
Voh_MIN@5V	5.00	4.00	4.72	4.64	0.02	0.06	-0.06	4.69	5.01	1.50%	0.04%
Voh_MAX@5V	5.00	4.00	4.91	4.91	0.00	0.00	0.00	4.91	168.89	0.08%	0.06%
Voh_MIN@3V	3.30	2.30	2.94	2.86	0.02	0.06	-0.06	2.91	6.10	2.54%	0.06%
Voh_MAX@3V	3.30	2.30	3.21	3.21	0.00	0.00	0.00	3.21	126.05	0.13%	0.08%
Rpu_MIN	60.00	40.00	51.28	44.81	1.31	3.92	-3.92	50.09	2.53	10.93%	0.02%
Rpu_MAX	60.00	40.00	52.28	51.07	0.28	0.85	-0.85	51.69	9.77	0.64%	0.02%
Rdu_MIN	60.00	40.00	49.86	43.98	1.22	3.66	-3.66	48.80	2.40	10.48%	0.00%
Rdu_MAX	60.00	40.00	50.69	49.74	0.28	0.83	-0.83	50.27	11.78	0.37%	0.00%
FRCHF_8M	9.04	6.96	8.01	7.96	0.01	0.03	-0.03	7.98	34.75	0.22%	0.00%
FRCHF_16M	19.47	13.51	16.08	15.95	0.03	0.10	-0.10	16.00	24.44	0.43%	0.00%
FRCHF_24M	26.71	22.27	24.15	23.94	0.06	0.18	-0.18	24.04	9.84	0.66%	0.01%
FXTHF_8M	9.04	6.96	8.00	8.00	0.00	0.00	0.00	8.00	722.80	0.01%	0.00%
FRCLP	35.00	30.00	32.85	31.89	0.18	0.54	-0.54	32.41	4.45	1.14%	0.04%
Hot											

Vol_MAX@3V	0.65	0.00	0.30	0.25	0.02	0.05	-0.05	0.28	5.87	20.72%	0.27%
Voh_MIN@5V	5.00	4.00	4.70	4.64	0.01	0.04	-0.04	4.68	8.55	0.82%	0.01%
Voh_MAX@5V	5.00	4.00	4.91	4.91	0.00	0.00	0.00	4.91	83.97	0.09%	0.04%
Voh_MIN@3V	3.30	2.30	2.91	2.86	0.01	0.03	-0.03	2.89	12.95	1.39%	0.02%
Voh_MAX@3V	3.30	2.30	3.21	3.21	0.00	0.00	0.00	3.21	81.04	0.13%	0.07%
Rpu_MIN	60.00	40.00	51.32	49.84	0.34	1.01	-1.01	50.79	9.11	0.90%	0.00%
Rpu_MAX	60.00	40.00	52.30	51.11	0.29	0.87	-0.87	51.72	9.54	1.24%	0.05%
Rdu_MIN	60.00	40.00	49.94	48.65	0.31	0.94	-0.94	49.48	10.13	1.04%	0.02%
Rdu_MAX	60.00	40.00	50.65	49.65	0.27	0.81	-0.81	50.22	12.03	1.17%	0.11%
FRCHF_8M	9.04	6.96	8.00	7.96	0.01	0.03	-0.03	7.98	35.87	0.29%	0.08%
FRCHF_16M	19.47	13.51	15.95	15.85	0.02	0.07	-0.07	15.90	32.12	0.45%	0.00%
FRCHF_24M	26.71	22.27	23.92	23.68	0.05	0.15	-0.15	23.78	10.10	0.57%	0.04%
FXTHF_8M	9.04	6.96	8.00	8.00	0.00	0.00	0.00	8.00	743.56	0.01%	0.00%
FRCLP	35.00	30.00	33.05	32.39	0.13	0.40	-0.40	32.61	5.94	1.06%	0.05%

END