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RAiO

RA8870

TFT LCD Controller

Latch Up Test Report

受委託之檢測單位　：宜特科技股份有限公司

Integrated Service Technology Inc.

檢測完成日期　　：JUL 29, 2010

Report No.：HS1006290102A
RA No .：9902435-E
Version：A

LATCH UP TEST REPORT

Company ：RAIO TECHNOLOGY INC.

Model Name ：RA8870

Date Received ：JUN 29, 2010

Date Tested ：JUL 29, 2010

TESTING LABORATORY IS ACCREDITED BY:

IEC/IECQ 17025 certificate of independent test laboratory approval

Certificate No.：T1091

ISO 9001 certificate is approved by TUV CERT certification body of TUV NORD Cert GmbH

WE HEREBY CERTIFY THAT:

The test(s) shown in the attachment were conducted according to the indicating procedures. We assume full responsibility for the accuracy and completeness of these tests and vouch for the qualifications of all personnel performing them.

	Name	Signature	Date
Test Engineer	Wallace Lee	Wallace Lee	Jul 29, 2010
Manager	Even Lin		Jul 29, 2010

Note：

1. This report will be invalid if reproduced in whole or in part.
2. This report refers only to the specimen(s) submitted to test, and is invalid if used separately.
3. This report is ONLY valid with the examination seal and signature of this institute.
4. The tested specimen(s) will only be preserved for thirty days from the date issued, if not collected by the applicant.

宜特科技股份有限公司 報告專用章 iST INTEGRATED SERVICE TECHNOLOGY

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1. GENERAL INFORMATION

1.1 DESCRIPTION OF UNIT

MANUFACTURER	: RAIO TECHNOLOGY INC.S
DEVICE NAME	: RA8870
PACKAGED / PIN COUNT	: LQFP-128
REFERENCE DOCUMENT	: JEDEC STANDARD NO.78 MARCH 1997
TRIGGER CURRENT	: 50mA ~200mA (±), Step: 50mA (±)
V SUPPLY OVER VOLTAGE TEST	: VCC1.8V: 1.8V~3V(+) , Step: 0.1V(+) VCC3.3V: 3.3V~5.5V(+) , Step: 0.1V(+)
MAXIMA RATED TEMPERATURE	: ROOM TEMPERATURE
SAMPLE QUANTITY	: 9 ea
FAILURE CRITERIA	: < 25mA 10mA + I normal > 25mA 1.4 x I normal
I normal	: VCC3.3V :7.5 mA VCC1.8V :<1 mA

2. LATCH UP TEST

2.1 TEST EQUIPMENT

Test Equipment	Equipment Number	Tester
KEYTEK ZAPMASTER	#Mk2/2	04022

2.2 LABORATORY AMBIENCE CONDITION

Temperature：25°C±5°C
Relative humidity：55%±10% (RH)

2.3 REFERENCE DOCUMENT

The test is based on JEDEC STANDARD NO.78 MARCH 1997

2.4 TEST CONDITION

POSITIVE I
NEGATIVE I
Vsupply OVER VOLTAGE TEST

2.5 BAIS DESCRIPTION

VCC3.3V = 3.63 V(MAX)
VCC1.8V = 1.38 V(MAX)
VSS = 0V

2.6 SUMMARY OF TEST

Trigger Mode	Test Pin	Sample Quantity	Tested Result	I Trigger : Class I
I Trigger (+)	I/O	3	PASS	Class I Latch-up testing performed at room temperature.
	I/P		PASS	Class II Latch-up testing performed at maximum rated temperature.
	O/P		PASS	
I Trigger (−)	I/O	3	PASS	
	I/P		PASS	
	O/P		PASS	
Over Volt Test V_{supply}	VCC1.8V	3	PASS	
	VCC3.3V		PASS	

VSS:5,9,44,70-71,94,97,111,128
VCC1.8V:43,112
VCC3.3V:1,6,45,66,72,95-96,113
I/O:16-31,58-63,109-110,114-127
I/P:12-15,104-108
I/O:7-8,10-11,32-42,46-57,64-65,67-69,74-93,98

2.7 CONTENTS OF TEST

POSITIVE I (UNIT::mA)							
Test Pin TRIGGER CURRENT	#1	#2	#3	Test Pin TRIGGER CURRENT	#1	#2	#3
7	PASS	PASS	PASS	61	PASS	PASS	PASS
8	PASS	PASS	PASS	62	PASS	PASS	PASS
10	PASS	PASS	PASS	63	PASS	PASS	PASS
11	PASS	PASS	PASS	64	PASS	PASS	PASS
12	PASS	PASS	PASS	65	PASS	PASS	PASS
13	PASS	PASS	PASS	67	PASS	PASS	PASS
14	PASS	PASS	PASS	68	PASS	PASS	PASS
15	PASS	PASS	PASS	69	PASS	PASS	PASS
16	PASS	PASS	PASS	74	PASS	PASS	PASS
17	PASS	PASS	PASS	75	PASS	PASS	PASS
18	PASS	PASS	PASS	76	PASS	PASS	PASS
19	PASS	PASS	PASS	77	PASS	PASS	PASS
20	PASS	PASS	PASS	78	PASS	PASS	PASS
21	PASS	PASS	PASS	79	PASS	PASS	PASS
22	PASS	PASS	PASS	80	PASS	PASS	PASS
23	PASS	PASS	PASS	81	PASS	PASS	PASS
24	PASS	PASS	PASS	82	PASS	PASS	PASS
25	PASS	PASS	PASS	83	PASS	PASS	PASS
26	PASS	PASS	PASS	84	PASS	PASS	PASS
27	PASS	PASS	PASS	85	PASS	PASS	PASS
28	PASS	PASS	PASS	86	PASS	PASS	PASS
29	PASS	PASS	PASS	87	PASS	PASS	PASS
30	PASS	PASS	PASS	88	PASS	PASS	PASS
31	PASS	PASS	PASS	89	PASS	PASS	PASS
32	PASS	PASS	PASS	90	PASS	PASS	PASS
33	PASS	PASS	PASS	91	PASS	PASS	PASS
34	PASS	PASS	PASS	92	PASS	PASS	PASS
35	PASS	PASS	PASS	93	PASS	PASS	PASS
36	PASS	PASS	PASS	98	PASS	PASS	PASS
37	PASS	PASS	PASS	104	PASS	PASS	PASS
38	PASS	PASS	PASS	105	PASS	PASS	PASS
39	PASS	PASS	PASS	106	PASS	PASS	PASS
40	PASS	PASS	PASS	107	PASS	PASS	PASS
41	PASS	PASS	PASS	108	PASS	PASS	PASS
42	PASS	PASS	PASS	109	PASS	PASS	PASS
46	PASS	PASS	PASS	110	PASS	PASS	PASS
47	PASS	PASS	PASS	114	PASS	PASS	PASS
48	PASS	PASS	PASS	115	PASS	PASS	PASS
49	PASS	PASS	PASS	116	PASS	PASS	PASS
50	PASS	PASS	PASS	117	PASS	PASS	PASS
51	PASS	PASS	PASS	118	PASS	PASS	PASS
52	PASS	PASS	PASS	119	PASS	PASS	PASS
53	PASS	PASS	PASS	120	PASS	PASS	PASS
54	PASS	PASS	PASS	121	PASS	PASS	PASS
55	PASS	PASS	PASS	122	PASS	PASS	PASS
56	PASS	PASS	PASS	123	PASS	PASS	PASS
57	PASS	PASS	PASS	124	PASS	PASS	PASS
58	PASS	PASS	PASS	125	PASS	PASS	PASS
59	PASS	PASS	PASS	126	PASS	PASS	PASS
60	PASS	PASS	PASS	127	PASS	PASS	PASS

NEGATIVE I (UNIT::mA)

Test Pin	TRIGGER CURRENT	#1	#2	#3	Test Pin	TRIGGER CURRENT	#1	#2	#3
7		PASS	PASS	PASS	61		PASS	PASS	PASS
8		PASS	PASS	PASS	62		PASS	PASS	PASS
10		PASS	PASS	PASS	63		PASS	PASS	PASS
11		PASS	PASS	PASS	64		PASS	PASS	PASS
12		PASS	PASS	PASS	65		PASS	PASS	PASS
13		PASS	PASS	PASS	67		PASS	PASS	PASS
14		PASS	PASS	PASS	68		PASS	PASS	PASS
15		PASS	PASS	PASS	69		PASS	PASS	PASS
16		PASS	PASS	PASS	74		PASS	PASS	PASS
17		PASS	PASS	PASS	75		PASS	PASS	PASS
18		PASS	PASS	PASS	76		PASS	PASS	PASS
19		PASS	PASS	PASS	77		PASS	PASS	PASS
20		PASS	PASS	PASS	78		PASS	PASS	PASS
21		PASS	PASS	PASS	79		PASS	PASS	PASS
22		PASS	PASS	PASS	80		PASS	PASS	PASS
23		PASS	PASS	PASS	81		PASS	PASS	PASS
24		PASS	PASS	PASS	82		PASS	PASS	PASS
25		PASS	PASS	PASS	83		PASS	PASS	PASS
26		PASS	PASS	PASS	84		PASS	PASS	PASS
27		PASS	PASS	PASS	85		PASS	PASS	PASS
28		PASS	PASS	PASS	86		PASS	PASS	PASS
29		PASS	PASS	PASS	87		PASS	PASS	PASS
30		PASS	PASS	PASS	88		PASS	PASS	PASS
31		PASS	PASS	PASS	89		PASS	PASS	PASS
32		PASS	PASS	PASS	90		PASS	PASS	PASS
33		PASS	PASS	PASS	91		PASS	PASS	PASS
34		PASS	PASS	PASS	92		PASS	PASS	PASS
35		PASS	PASS	PASS	93		PASS	PASS	PASS
36		PASS	PASS	PASS	98		PASS	PASS	PASS
37		PASS	PASS	PASS	104		PASS	PASS	PASS
38		PASS	PASS	PASS	105		PASS	PASS	PASS
39		PASS	PASS	PASS	106		PASS	PASS	PASS
40		PASS	PASS	PASS	107		PASS	PASS	PASS
41		PASS	PASS	PASS	108		PASS	PASS	PASS
42		PASS	PASS	PASS	109		PASS	PASS	PASS
46		PASS	PASS	PASS	110		PASS	PASS	PASS
47		PASS	PASS	PASS	114		PASS	PASS	PASS
48		PASS	PASS	PASS	115		PASS	PASS	PASS
49		PASS	PASS	PASS	116		PASS	PASS	PASS
50		PASS	PASS	PASS	117		PASS	PASS	PASS
51		PASS	PASS	PASS	118		PASS	PASS	PASS
52		PASS	PASS	PASS	119		PASS	PASS	PASS
53		PASS	PASS	PASS	120		PASS	PASS	PASS
54		PASS	PASS	PASS	121		PASS	PASS	PASS
55		PASS	PASS	PASS	122		PASS	PASS	PASS
56		PASS	PASS	PASS	123		PASS	PASS	PASS
57		PASS	PASS	PASS	124		PASS	PASS	PASS
58		PASS	PASS	PASS	125		PASS	PASS	PASS
59		PASS	PASS	PASS	126		PASS	PASS	PASS
60		PASS	PASS	PASS	127		PASS	PASS	PASS

V_{supply} OVERVOLTAGE TEST (UNIT: V)							
Test Pin TRIGGER VOLTAGE	#1	#2	#3	Test Pin TRIGGER VOLTAGE	#1	#2	#3
1	PASS	PASS	PASS	72	PASS	PASS	PASS
6	PASS	PASS	PASS	95	PASS	PASS	PASS
43	PASS	PASS	PASS	96	PASS	PASS	PASS
45	PASS	PASS	PASS	112	PASS	PASS	PASS
66	PASS	PASS	PASS	113	PASS	PASS	PASS