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ISO-14000 Certified
ISO-17025 Certified
ADVANTECH CO., LTD.

QA Test Report

PCA-6751Z2-F1B2

at

85 degree C

(Reliability Prediction)

Report No :03R024A2

Report Date : March, 28, 2003

Chi-Hong Liao

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Approval

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Reliability Prediction

I. Date: 2003/3/28

II. Model Name: PCA-6751Z2-F1B2

III. Revision: N/A

IV. Description: ASS'Y PCA-6751 B202

**V. Equipment: Bellcore Calculation Method:
Limited Stress-Method 1,Case 3.**

VI: Simulated Environment:

.Environment:Ground Fix

.Temperature:85°C

.Quality:Level 1

.Follow Standard:Bellcore Calculation Method:

Limited Stress-Method 1, Case 3.

.Stress:50%

Reliability Prediction

VII. Prediction Result:

A. Failure Rate : 112,418.1373 FITs.
B. MTBF : 8,895 hours.

VIII. Index: A. Failure Rate & Assembly MTBF
B. Part Failure List

Short List Report

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SortBy: PartType/PN/RefDes

Date: 3/28/2003 11:40 AM

RelCalc for Windows, Version 5.0-BELL6 (Release 1999.1)

Company: Your Company Name Here

DOC: PCA-6751Z2-F1B2 AT 85 DEGREE C.CIR RECORDS: 147

DESCRIPTION: PCA-6751Z2-F1B2

ENV: GF TEMP: 85.00 C CF: 1.00000 MODEL: Serial

FR= 112418.1373 FITs MTBF= 8895.3618 hrs. Parts= 753

BELLCORE CALCULATION METHOD: LimitedStress - Method I, Case 3 PIFY=1.4

PartNumber	PartType	Qty	RefDes	TotalFR	%FR
1428274125	IC,Logic	1	IC 74LS125	687.0338	0.61
14S4021300	IC,Logic	2	IC SMT 213	1893.9216	1.68
14S4382300	IC,Logic	1	IC TPS3823-33	802.5641	0.71
14S4397731	IC,Logic	1	IC W83977EF	1571.5514	1.40
14S4813940	IC,Logic	1	IC RTL8139C-B	1310.6115	1.17
14S4914820	IC,Logic	1	IC 9148BF-04	891.5447	0.79
14S5307400	IC,Logic	1	IC 74ALS74	946.9608	0.84
14S5801400	IC,Logic	1	IC 74HCT14	872.6422	0.78
14S5A00800	IC,Logic	2	IC 74V1G08	1953.6975	1.74
14S5A01400	IC,Logic	1	IC 744VIG14	903.2156	0.80
14S5A13210	IC,Logic	1	IC 74AHCT1G32	939.4117	0.84
14S5A24560	IC,Logic	1	IC 74VHC2445FT	775.6055	0.69
14S9007500	IC,Logic	1	IC LM75 TEMPER.SENSOR	1541.0398	1.37
14S8253600	IC,GateArray/PAL	1	IC CPLD XC9536	1356.3936	1.21
14S8953600	IC,GateArray/PAL	1	IC XC9536	1207.1145	1.07
14S4000080	IC,Micro	1	IC 69000 BGA	4220.9072	3.75
14S4026600	IC,Micro	1	PENTIUM 266	8208.4512	7.30
14S4237140	IC,Micro	1	INTEL 82371EB	2449.6711	2.18
14S4243910	IC,Micro	1	INTEL FW82439TX	2449.6711	2.18
14S6032810	IC,RAM	1	IC SOJ 32K*8	4911.3516	4.37
14S6164500	IC,RAM	1	IC LP61G6464BF	10010.1016	8.90
14S62020C0	IC,ROM/PROM	1	IC PLASH	17916.7949	15.94
14S6334600	IC,ROM/PROM	1	IC AT93C46-10SC	2451.3506	2.18
14S3110100	IC,Linear	1	IC SC1101	646.7234	0.58
14S4000600	IC,Linear	1	IC PCDN006	1570.9628	1.40
14S4048500	IC,Linear	2	IC LTC485	1428.2668	1.27
2233018111	IC,Linear	1	RC PAC1284	1877.7858	1.67
1310390410	Transistor	5	NPN 2N3904 3P	532.2675	0.47
1312441010	Transistor	1	MOSFET SI4410	368.9397	0.33
1312993410	Transistor	1	MOSFET SI9934DY	354.8450	0.32
1314101010	Transistor	2	REG US1010	1337.7323	1.19
1314108410	Transistor	1	REG EZ1084CM	975.3369	0.87
1300005440	Diode	5	DIODE BAT54C	387.1201	0.34
1300103541	Diode	1	DIODE MBRD1035CTL	77.4240	0.07
1300283540	Diode	1	DIODE MMBD2835LT1	110.6819	0.10
1300414800	Diode	2	DIODE 1N4148	221.3638	0.20
1301003440	Diode	1	DIODE SK34B	56.5295	0.05
1304100040	Optoelectronic	1	LED GREEN	469.4493	0.42
1019556107	Resistor	1	560 1/10W 1% 0805 CR	6.03417	0.01
1059700301	Resistor	1	3 1/10W 5% 0805 CR	6.03417	0.01
105A507503	Resistor	3	75 1/16W 1% 0603 CR	18.1025	0.02
105A511513	Resistor	1	1.15K 1/16W 1% 0603 CR	30.6415	0.03
105A512103	Resistor	1	121 1/16W 1% 0603 CR	6.03417	0.01
105A515003	Resistor	1	150 1/16W 1% 0603 CR	6.03417	0.01
105A515403	Resistor	3	154 1/16W 1% 0603 CR	18.1025	0.02

Short List Report

RelCalc for Windows, Version 5.0-BELL6 (Release 1999.1)

Company: Your Company Name Here

DOC: PCA-6751Z2-F1B2 AT 85 DEGREE C.CIR RECORDS: 147

DESCRIPTION: PCA-6751Z2-F1B2

ENV: GF TEMP: 85.00 C CF: 1.00000 MODEL: Serial

FR= 112418.1373 FITs MTBF= 8895.3618 hrs. Parts= 753

BELLCORE CALCULATION METHOD: LimitedStress - Method I, Case 3 PIFY=1.4

PartNumber	PartType	Qty	RefDes	TotalFR	%FR
105A516913	Resistor	1	1.69K 1/16W 1% 0603 CR	6.03417	0.01
105A524903	Resistor	1	249 1/16W 1% 0603 CR	6.03417	0.01
105A527003	Resistor	3	270 1/16W 1% 0603 CR	18.1025	0.02
105A527403	Resistor	1	274 1/16W 1% 0603 CR	6.03417	0.01
105A549969	Resistor	4	49.9 1/16W 1% 0603 CR	24.1367	0.02
105A551013	Resistor	2	5.1K 1/16W 1% 0603 CR	12.0683	0.01
105A700009	Resistor	18	0 1/16W 0603 CR	108.6151	0.10
105A701009	Resistor	2	10 1/16W 5% 0603 CR	12.0683	0.01
105A702209	Resistor	1	22 1/16W 5% 0603 CR	6.03417	0.01
105A702703	Resistor	4	27 1/16W 5% 0603 CR	24.1367	0.02
105A703309	Resistor	21	33 1/16W 5% 0603 CR	126.7176	0.11
105A704709	Resistor	2	47 1/16W 5% 0603 CR	12.0683	0.01
105A707509	Resistor	4	75 1/16W 5% 0603 CR	24.1367	0.02
105A710019	Resistor	20	1K 1/16W 5% 0603 CR	120.6834	0.11
105A710029	Resistor	33	10K 1/16W 0603 CR	199.1276	0.18
105A710039	Resistor	1	100K 1/16W 5% 0603 CR	6.03417	0.01
105A715029	Resistor	4	15K 1/16W 5% 0603 CR	24.1367	0.02
105A720049	Resistor	1	2M 1/16W 5% 0603 CR	36.2050	0.03
105A722009	Resistor	5	220 1/16W 5% 0603 CR	30.1709	0.03
105A722019	Resistor	1	2.2K 1/16W 5% 0603 CR	6.03417	0.01
105A722029	Resistor	1	22K 1/16W 5% 0603 CR	6.03417	0.01
105A727009	Resistor	1	270 1/16W 5% 0603 CR	6.03417	0.01
105A727019	Resistor	1	2.7K 1/16W 5% 0603 CR	6.03417	0.01
105A730009	Resistor	4	300 1/16W 5% 0603 CR	24.1367	0.02
105A733009	Resistor	1	330 1/16W 5% 0603 CR	6.03417	0.01
105A733019	Resistor	1	3.3K 1/16W 5% 0603 CR	6.03417	0.01
105A747009	Resistor	3	470 1/16W 5% 0603 CR	18.1025	0.02
105A747019	Resistor	33	4.7K 1/16W 5% 0603 CR	199.1276	0.18
105A747029	Resistor	1	47K 1/16W 5% 0603 CR	6.03417	0.01
105A747039	Resistor	2	470K 1/16W 5% 0603 CR	12.0683	0.01
105A756019	Resistor	3	5.6K 1/16W 5% 0603 CR	18.1025	0.02
105A756039	Resistor	2	560K 1/16W 5% 0603 CR	12.0683	0.01
105A782019	Resistor	2	8.2K 1/16W 5% 0603 CR	12.0683	0.01
1540710008	Resistor	9	NETR 10 1/16W 8P4R	606.0593	0.54
1540710208	Resistor	1	NETR 1K 8P4R	61.2829	0.05
1540710308	Resistor	7	NETR 10K 1/16W 8P4R	428.9803	0.38
1540727208	Resistor	3	NETR 2.7K 8P4R	183.8487	0.16
1540756208	Resistor	2	NETR 5.6K 8P4R	122.5658	0.11
1540782208	Resistor	17	NETR 8.2K 8P4R	1041.8094	0.93
1541700008	Resistor	14	NETR 33 8P4R	857.9607	0.76
1541700208	Resistor	4	NETR 4.7K 8P4R	245.1316	0.22
1809A50290	Resistor	2	VR 0.1W 25% 12T	61.2829	0.05
1111610050	Capacitor	6	10UF 16V 20% EC	3481.1067	3.10
1111622091	Capacitor	3	22UF 16V 20% EC	1740.5533	1.55
1119647082	Capacitor	5	47UF 10V 20% EC	2900.9222	2.58

Short List Report

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SortBy: PartType/PN/RefDes

Date: 3/28/2003 11:40 AM

RelCalc for Windows, Version 5.0-BELL6 (Release 1999.1)

Company: Your Company Name Here

DOC: PCA-6751Z2-F1B2 AT 85 DEGREE C.CIR RECORDS: 147

DESCRIPTION: PCA-6751Z2-F1B2

ENV: GF TEMP: 85.00 C CF: 1.00000 MODEL: Serial

FR= 112418.1373 FITs MTBF= 8895.3618 hrs. Parts= 753

BELLCORE CALCULATION METHOD: LimitedStress - Method I, Case 3 PIFY=1.4

PartNumber	PartType	Qty	RefDes	TotalFR	%FR
1119647180	Capacitor	5	470UF 6.3V 20% EC	6876.3000	6.12
1122701050	Capacitor	4	1UF 25V 0805 MCC	30.2954	0.03
1122710490	Capacitor	215	0.1UF 25V 0603 MCC	1628.3778	1.45
1124410090	Capacitor	16	10PF 50V 5% 0603 MCC	121.1816	0.11
1124420080	Capacitor	7	20PF 50V 5% 0603 MCC	53.0170	0.05
1124422090	Capacitor	2	22PF 50V 5% 0603 MCC	15.1477	0.01
1124422190	Capacitor	2	220PF 50V 5% 0603 MCC	15.1477	0.01
1124433090	Capacitor	2	33PF 50V 5% 0603 MCC	15.1477	0.01
1124447090	Capacitor	8	47PF 50V 5% 0603 MCC	60.5908	0.05
1124510190	Capacitor	2	100PF 50V 0603 MCC	15.8295	0.01
1124510290	Capacitor	2	1000PF 50V 0603 MCC	15.1477	0.01
1124510390	Capacitor	13	0.01UF 50V 0603 MCC	98.4601	0.09
1124518190	Capacitor	20	180PF 50V 0603 MCC	151.4770	0.13
1124547180	Capacitor	2	470PF 50V 0603 MCC	15.1477	0.01
1129510390	Capacitor	1	0.01UF 1KV 10%1808 MCC	7.57385	0.01
1129701090	Capacitor	3	1UF 10V 0603 MCC	22.9270	0.02
1129710060	Capacitor	7	10UF 10V 1206 MCC	53.0170	0.05
1129747550	Capacitor	1	4.7UF 10V 0805 MCC	7.64233	0.01
1169622190	Capacitor	1	220UF 4V 4TPB220M	1114.9890	0.99
1211115072	Inductive	1	1.5UH 10A	6.19934	0.01
1211127071	Inductive	1	2.7UH	6.28290	0.01
1212301000	Inductive	13	BEAD BLM11B102S	80.5914	0.07
1212301020	Inductive	36	BEAD BLM11B141S	226.1845	0.20
1212301040	Inductive	4	BEAD BLM11P300S	24.7973	0.02
1212301050	Inductive	5	BEAD BLM11P600S	31.4145	0.03
1212302000	Inductive	16	BEAD BLM21P300S	100.5265	0.09
1252900160	Inductive	1	XFMR LF8505	238.7503	0.21
1651203291	Connector	1	IC SKT PLCC 32P	247.5454	0.22
1651500001	Connector	2	S.O.DIMM SKT 144P	2227.9082	1.98
1652508207	Connector	1	TERMINAL PHONEJACK	61.8863	0.06
1653002100	Connector	4	PIN 2*1P	61.8863	0.06
1653003100	Connector	3	PIN 3*1P	69.6221	0.06
1653003200	Connector	1	PIN 3*2P	46.4148	0.04
1653004100	Connector	1	PIN 4*1P	30.9432	0.03
1653004200	Connector	1	PIN 4*2P	61.8863	0.06
1653005100	Connector	2	PIN 5*1P	77.3579	0.07
1653005202	Connector	1	PIN 5*2P	77.3579	0.07
1653006100	Connector	1	PIN 6*1P	46.4148	0.04
1653025211	Connector	1	HEADER 50P	386.7896	0.34
165312022A	Connector	2	PCB SKT 20*2P	618.8634	0.55
165313222A	Connector	1	PCB SKT 32*2P	495.0907	0.44
1653205200	Connector	2	BOX HEADER 5*2	154.7159	0.14
1653220203	Connector	1	BOX HEADER 20*2	309.4317	0.28
1653413200	Connector	1	BOX HEADER 13*2	201.1306	0.18
1653417200	Connector	1	BOX HEADER 17*2	263.0169	0.23

Short List Report

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SortBy: PartType/PN/RefDes

Date: 3/28/2003 11:40 AM

RelCalc for Windows, Version 5.0-BELL6 (Release 1999.1)

Company: Your Company Name Here

DOC: PCA-6751Z2-F1B2 AT 85 DEGREE C.CIR RECORDS: 147

DESCRIPTION: PCA-6751Z2-F1B2

ENV: GF TEMP: 85.00 C CF: 1.00000 MODEL: Serial

FR= 112418.1373 FITs MTBF= 8895.3618 hrs. Parts= 753

BELLCORE CALCULATION METHOD: LimitedStress - Method I, Case 3 PIFY=1.4

PartNumber	PartType	Qty	RefDes	TotalFR	%FR
1653910261	Connector	1	CONN. 10*2P	154.7159	0.14
1653920200	Connector	1	CONN.DF13-40DP	309.4317	0.28
1654409108	Connector	1	D-SUB CONN 9P	69.6221	0.06
1654515304	Connector	1	D-SUB CONN 15P	116.0369	0.10
1654606301	Connector	1	MINI DIN 6P	46.4148	0.04
1655003010	Connector	1	WAFER 3P	23.2074	0.02
1655204030	Connector	1	HOUSING 4P	30.9432	0.03
1655305020	Connector	1	WAFER 5P	38.6790	0.03
1659254005	Connector	1	WAFER BOX 5P	38.6790	0.03
1231*****	QuartzCrystal	3	X'TAL	450.0000	0.40
1305000040	Fuse	4	POLYSWITCH 1.1A	120.0000	0.11
1750199011	Battery	1	BATTERY	900.0000	0.80