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ADVANTECH CO., LTD.

QA Test Report

PCA-6751Z2-F1B2

(Reliability Prediction)

Report No :03R024A0

Report Date : March, 18, 2003

Issue Stamp

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Reliability Prediction

I. Date: 2003/3/18

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:25°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 : 11,151.0733 FITs.
B. MTBF : 89,677 hours.

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

Short List Report

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

Company: Your Company Name Here

DOC: PCA-6751Z2-F1B2.CIR RECORDS: 147

DESCRIPTION: PCA-6751Z2-F1B2

ENV: GF TEMP: 25.00 C CF: 1.00000 MODEL: Serial

FR= 11151.0733 FITs MTBF= 89677.4659 hrs. Parts= 753

BELLCORE CALCULATION METHOD: LimitedStress - Method I, Case 3 PIFY=4.8

PartNumber	PartType	Qty	RefDes	TotalFR	%FR
1428274125	IC,Logic	1	IC 74LS125	71.9986	0.65
14S4021300	IC,Logic	2	IC SMT 213	113.6127	1.02
14S4382300	IC,Logic	1	IC TPS3823-33	44.9352	0.40
14S4397731	IC,Logic	1	IC W83977EF	100.7595	0.90
14S4813940	IC,Logic	1	IC RTL8139C-B	75.9795	0.68
14S4914820	IC,Logic	1	IC 9148BF-04	51.6851	0.46
14S5307400	IC,Logic	1	IC 74ALS74	56.8064	0.51
14S5801400	IC,Logic	1	IC 74HCT14	50.5893	0.45
14S5A00800	IC,Logic	2	IC 74V1G08	119.1909	1.07
14S5A01400	IC,Logic	1	IC 744VIG14	53.2683	0.48
14S5A13210	IC,Logic	1	IC 74AHCT1G32	56.3535	0.51
14S5A24560	IC,Logic	1	IC 74VHC2445FT	42.6664	0.38
14S9007500	IC,Logic	1	IC LM75 TEMPER.SENSOR	113.7990	1.02
14S8253600	IC,GateArray/PAL	1	IC CPLD XC9536	85.5494	0.77
14S8953600	IC,GateArray/PAL	1	IC XC9536	72.4125	0.65
14S4000080	IC,Micro	1	IC 69000 BGA	385.4382	3.46
14S4026600	IC,Micro	1	PENTIUM 266	769.5688	6.90
14S4237140	IC,Micro	1	INTEL 82371EB	167.4720	1.50
14S4243910	IC,Micro	1	INTEL FW82439TX	167.4720	1.50
14S6032810	IC,RAM	1	IC SOJ 32K*8	299.6312	2.69
14S6164500	IC,RAM	1	IC LP61G6464BF	600.4868	5.39
14S62020C0	IC,ROM/PROM	1	IC PLASH	213.4933	1.91
14S6334600	IC,ROM/PROM	1	IC AT93C46-10SC	86.9804	0.78
14S3110100	IC,Linear	1	IC SC1101	17.8981	0.16
14S4000600	IC,Linear	1	IC PCDN006	45.4010	0.41
14S4048500	IC,Linear	2	IC LTC485	41.2770	0.37
2233018111	IC,Linear	1	RC PAC1284	54.2682	0.49
1310390410	Transistor	5	NPN 2N3904 3P	130.0450	1.17
1312441010	Transistor	1	MOSFET SI4410	91.6872	0.82
1312993410	Transistor	1	MOSFET SI9934DY	86.6966	0.78
1314101010	Transistor	2	REG US1010	318.4131	2.86
1314108410	Transistor	1	REG EZ1084CM	272.8294	2.45
1300005440	Diode	5	DIODE BAT54C	149.8258	1.34
1300103541	Diode	1	DIODE MBRD1035CTL	29.9652	0.27
1300283540	Diode	1	DIODE MMBD2835LT1	27.5062	0.25
1300414800	Diode	2	DIODE 1N4148	55.0123	0.49
1301003440	Diode	1	DIODE SK34B	21.8784	0.20
1304100040	Optoelectronic	1	LED GREEN	4.87655	0.04
1019556107	Resistor	1	560 1/10W 1% 0805 CR	2.26771	0.02
1059700301	Resistor	1	3 1/10W 5% 0805 CR	2.26771	0.02
105A507503	Resistor	3	75 1/16W 1% 0603 CR	6.80312	0.06
105A511513	Resistor	1	1.15K 1/16W 1% 0603 CR	3.12299	0.03
105A512103	Resistor	1	121 1/16W 1% 0603 CR	2.26771	0.02
105A515003	Resistor	1	150 1/16W 1% 0603 CR	2.26771	0.02
105A515403	Resistor	3	154 1/16W 1% 0603 CR	6.80312	0.06

Short List Report

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

Company: Your Company Name Here

DOC: PCA-6751Z2-F1B2.CIR RECORDS: 147

DESCRIPTION: PCA-6751Z2-F1B2

ENV: GF TEMP: 25.00 C CF: 1.00000 MODEL: Serial

FR= 11151.0733 FITs MTBF= 89677.4659 hrs. Parts= 753

BELLCORE CALCULATION METHOD: LimitedStress - Method I, Case 3 PIFY=4.8

PartNumber	PartType	Qty	RefDes	TotalFR	%FR
105A516913	Resistor	1	1.69K 1/16W 1% 0603 CR	2.26771	0.02
105A524903	Resistor	1	249 1/16W 1% 0603 CR	2.26771	0.02
105A527003	Resistor	3	270 1/16W 1% 0603 CR	6.80312	0.06
105A527403	Resistor	1	274 1/16W 1% 0603 CR	2.26771	0.02
105A549969	Resistor	4	49.9 1/16W 1% 0603 CR	9.07083	0.08
105A551013	Resistor	2	5.1K 1/16W 1% 0603 CR	4.53541	0.04
105A700009	Resistor	18	0 1/16W 0603 CR	40.8187	0.37
105A701009	Resistor	2	10 1/16W 5% 0603 CR	4.53541	0.04
105A702209	Resistor	1	22 1/16W 5% 0603 CR	2.26771	0.02
105A702703	Resistor	4	27 1/16W 5% 0603 CR	9.07083	0.08
105A703309	Resistor	21	33 1/16W 5% 0603 CR	47.6218	0.43
105A704709	Resistor	2	47 1/16W 5% 0603 CR	4.53541	0.04
105A707509	Resistor	4	75 1/16W 5% 0603 CR	9.07083	0.08
105A710019	Resistor	20	1K 1/16W 5% 0603 CR	45.3541	0.41
105A710029	Resistor	33	10K 1/16W 0603 CR	74.8343	0.67
105A710039	Resistor	1	100K 1/16W 5% 0603 CR	2.26771	0.02
105A715029	Resistor	4	15K 1/16W 5% 0603 CR	9.07083	0.08
105A720049	Resistor	1	2M 1/16W 5% 0603 CR	13.6062	0.12
105A722009	Resistor	5	220 1/16W 5% 0603 CR	11.3385	0.10
105A722019	Resistor	1	2.2K 1/16W 5% 0603 CR	2.26771	0.02
105A722029	Resistor	1	22K 1/16W 5% 0603 CR	2.26771	0.02
105A727009	Resistor	1	270 1/16W 5% 0603 CR	2.26771	0.02
105A727019	Resistor	1	2.7K 1/16W 5% 0603 CR	2.26771	0.02
105A730009	Resistor	4	300 1/16W 5% 0603 CR	9.07083	0.08
105A733009	Resistor	1	330 1/16W 5% 0603 CR	2.26771	0.02
105A733019	Resistor	1	3.3K 1/16W 5% 0603 CR	2.26771	0.02
105A747009	Resistor	3	470 1/16W 5% 0603 CR	6.80312	0.06
105A747019	Resistor	33	4.7K 1/16W 5% 0603 CR	74.8343	0.67
105A747029	Resistor	1	47K 1/16W 5% 0603 CR	2.26771	0.02
105A747039	Resistor	2	470K 1/16W 5% 0603 CR	4.53541	0.04
105A756019	Resistor	3	5.6K 1/16W 5% 0603 CR	6.80312	0.06
105A756039	Resistor	2	560K 1/16W 5% 0603 CR	4.53541	0.04
105A782019	Resistor	2	8.2K 1/16W 5% 0603 CR	4.53541	0.04
1540710008	Resistor	9	NETR 10 1/16W 8P4R	64.3904	0.58
1540710208	Resistor	1	NETR 1K 8P4R	6.24599	0.06
1540710308	Resistor	7	NETR 10K 1/16W 8P4R	43.7219	0.39
1540727208	Resistor	3	NETR 2.7K 8P4R	18.7380	0.17
1540756208	Resistor	2	NETR 5.6K 8P4R	12.4920	0.11
1540782208	Resistor	17	NETR 8.2K 8P4R	106.1818	0.95
1541700008	Resistor	14	NETR 33 8P4R	87.4438	0.78
1541700208	Resistor	4	NETR 4.7K 8P4R	24.9840	0.22
1809A50290	Resistor	2	VR 0.1W 25% 12T	6.24599	0.06
1111610050	Capacitor	6	10UF 16V 20% EC	256.0367	2.30
1111622091	Capacitor	3	22UF 16V 20% EC	128.0183	1.15
1119647082	Capacitor	5	47UF 10V 20% EC	213.3639	1.91

Short List Report

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SortBy: PartType/PN/RefDes

Date: 3/18/2003 11:56 AM

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

Company: Your Company Name Here

DOC: PCA-6751Z2-F1B2.CIR RECORDS: 147

DESCRIPTION: PCA-6751Z2-F1B2

ENV: GF TEMP: 25.00 C CF: 1.00000 MODEL: Serial

FR= 11151.0733 FITs MTBF= 89677.4659 hrs. Parts= 753

BELLCORE CALCULATION METHOD: LimitedStress - Method I, Case 3 PIFY=4.8

PartNumber	PartType	Qty	RefDes	TotalFR	%FR
1119647180	Capacitor	5	470UF 6.3V 20% EC	589.5739	5.29
1122701050	Capacitor	4	1UF 25V 0805 MCC	21.8625	0.20
1122710490	Capacitor	215	0.1UF 25V 0603 MCC	1175.1093	10.54
1124410090	Capacitor	16	10PF 50V 5% 0603 MCC	87.4500	0.78
1124420080	Capacitor	7	20PF 50V 5% 0603 MCC	38.2594	0.34
1124422090	Capacitor	2	22PF 50V 5% 0603 MCC	10.9312	0.10
1124422190	Capacitor	2	220PF 50V 5% 0603 MCC	10.9312	0.10
1124433090	Capacitor	2	33PF 50V 5% 0603 MCC	10.9312	0.10
1124447090	Capacitor	8	47PF 50V 5% 0603 MCC	43.7250	0.39
1124510190	Capacitor	2	100PF 50V 0603 MCC	11.6444	0.10
1124510290	Capacitor	2	1000PF 50V 0603 MCC	10.9312	0.10
1124510390	Capacitor	13	0.01UF 50V 0603 MCC	71.0531	0.64
1124518190	Capacitor	20	180PF 50V 0603 MCC	109.3125	0.98
1124547180	Capacitor	2	470PF 50V 0603 MCC	10.9312	0.10
1129510390	Capacitor	1	0.01UF 1KV 10%1808 MCC	5.46562	0.05
1129701090	Capacitor	3	1UF 10V 0603 MCC	16.6110	0.15
1129710060	Capacitor	7	10UF 10V 1206 MCC	38.2594	0.34
1129747550	Capacitor	1	4.7UF 10V 0805 MCC	5.53701	0.05
1169622190	Capacitor	1	220UF 4V 4TPB220M	108.5143	0.97
1211115072	Inductive	1	1.5UH 10A	2.35773	0.02
1211127071	Inductive	1	2.7UH	2.40360	0.02
1212301000	Inductive	13	BEAD BLM11B102S	30.6505	0.27
1212301020	Inductive	36	BEAD BLM11B141S	86.5297	0.78
1212301040	Inductive	4	BEAD BLM11P300S	9.43091	0.08
1212301050	Inductive	5	BEAD BLM11P600S	12.0180	0.11
1212302000	Inductive	16	BEAD BLM21P300S	38.4577	0.34
1252900160	Inductive	1	XFMR LF8505	91.3369	0.82
1651203291	Connector	1	IC SKT PLCC 32P	18.2071	0.16
1651500001	Connector	2	S.O.DIMM SKT 144P	163.8635	1.47
1652508207	Connector	1	TERMINAL PHONEJACK	4.55176	0.04
1653002100	Connector	4	PIN 2*1P	4.55176	0.04
1653003100	Connector	3	PIN 3*1P	5.12073	0.05
1653003200	Connector	1	PIN 3*2P	3.41382	0.03
1653004100	Connector	1	PIN 4*1P	2.27588	0.02
1653004200	Connector	1	PIN 4*2P	4.55176	0.04
1653005100	Connector	2	PIN 5*1P	5.68970	0.05
1653005202	Connector	1	PIN 5*2P	5.68970	0.05
1653006100	Connector	1	PIN 6*1P	3.41382	0.03
1653025211	Connector	1	HEADER 50P	28.4485	0.26
165312022A	Connector	2	PCB SKT 20*2P	45.5176	0.41
165313222A	Connector	1	PCB SKT 32*2P	36.4141	0.33
1653205200	Connector	2	BOX HEADER 5*2	11.3794	0.10
1653220203	Connector	1	BOX HEADER 20*2	22.7588	0.20
1653413200	Connector	1	BOX HEADER 13*2	14.7932	0.13
1653417200	Connector	1	BOX HEADER 17*2	19.3450	0.17

Short List Report

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SortBy: PartType/PN/RefDes

Date: 3/18/2003 11:56 AM

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

Company: Your Company Name Here

DOC: PCA-6751Z2-F1B2.CIR RECORDS: 147

DESCRIPTION: PCA-6751Z2-F1B2

ENV: GF TEMP: 25.00 C CF: 1.00000 MODEL: Serial

FR= 11151.0733 FITs MTBF= 89677.4659 hrs. Parts= 753

BELLCORE CALCULATION METHOD: LimitedStress - Method I, Case 3 PIFY=4.8

PartNumber	PartType	Qty	RefDes	TotalFR	%FR
1653910261	Connector	1	CONN. 10*2P	11.3794	0.10
1653920200	Connector	1	CONN.DF13-40DP	22.7588	0.20
1654409108	Connector	1	D-SUB CONN 9P	5.12073	0.05
1654515304	Connector	1	D-SUB CONN 15P	8.53456	0.08
1654606301	Connector	1	MINI DIN 6P	3.41382	0.03
1655003010	Connector	1	WAFER 3P	1.70691	0.02
1655204030	Connector	1	HOUSING 4P	2.27588	0.02
1655305020	Connector	1	WAFER 5P	2.84485	0.03
1659254005	Connector	1	WAFER BOX 5P	2.84485	0.03
1231*****	QuartzCrystal	3	X'TAL	450.0000	4.04
1305000040	Fuse	4	POLYSWITCH 1.1A	120.0000	1.08
1750199011	Battery	1	BATTERY	900.0000	8.07