



AAEON Technology INC.
ISO-9001/ISO-14001 Certified
Industrial Automation PCs

SBC-357

Reliability Prediction Report

(MTBF)

Release Date: Mar. 07, 2000

Issue Stamp

QA Manager

QE Manager

Test Engineer

Reliability Prediction (MTBF)

I . Model Name: SBC-357

II . Description: 386 Half-size CPU Card with LCD, SSD, & 4 COMs

III. Prediction Date: Mar. 07, 2000

IV. Prediction Site: AAEON QE Dept.

V. Predicted by : Chasel Wang

VI. Equipment: Relx Ver.7.0 Visual Reliability Software

VII. Simulation Environment:

- **Temperature: 25 degrees C**
- **Standard: Telcordia (Bellcore) Standard**

VIII. Prediction Result:

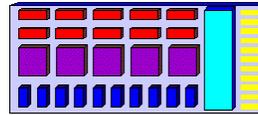
- **Failure Rate: 4.835909 ppm**
- **MTBF: 206,786. hours**

IX. Term and Definition:

- **Unit** **An assembly of device.**
- **Duty Cycle** **Used to specify the percentage of time that the element is in an on state, and it is equal to the percentage of total time the item is in the active environment.**
- **Quantity** **The quantity of the selected item.**
- **Failure Rate** **Used to specify that the failure rate is to be calculated based the selected calculation models. The multiplier is 1,000,000.**
- **MTBF** **MTBF is always specified in hours.**

AAEON Reliability Prediction Report

Part Number 9697357004-5
Reference Des
Date 03. 7, 2000
Environment GF, GU - Ground Fixed, Uncontrolled
Temperature 25.00

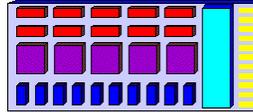


Description Top-level assembly
File Name 357a21.rpj
Time 1:19 PM
Failure Rate 4.835909
MTBF 206,786

Assembly Name	Part Number	Model	Method	Environment	Duty Cycle	Qty	Failure Rate	MTBF
SBC-357	9697357004-5	Bellcore	Method I Case 3	GF, GU - Ground Fixed,	100.00	1.00	4.835909	206,786

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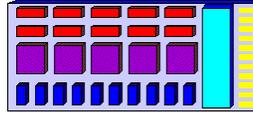


Description Top-level assembly
File Name 357a21.rpj
Time 1:19 PM
Failure Rate 4.835909
MTBF 206,786

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
1231143180	Miscellaneous	X1	Bellcore Issue 6	Level I		0.150000	1.00	3.1018	0.150000	6666666.67
1231327680	Miscellaneous	Y1	Bellcore Issue 6	Level I		0.150000	1.00	3.1018	0.150000	6666666.67
1304023000	Semiconductor	LED1	Bellcore Issue 6	Level I		0.004877	1.00	.1008	0.004877	205063180.81
1310239040	Semiconductor	Q1	Bellcore Issue 6	Level I		0.023881	1.00	.4938	0.023881	41874327.58
14D1605200	Semiconductor	U12	Bellcore Issue 6	Level I		0.039802	1.00	.8230	0.039802	25124596.55
14D3303100	Integrated Circuit	U30	Bellcore Issue 6	Level I	3.10	0.074304	1.00	1.5365	0.074304	13458158.75
14S6201010	Integrated Circuit	U18	Bellcore Issue 6	Level I		0.115547	1.00	2.3894	0.115547	8654461.11
1500710309	Resistor	RP1-2	Bellcore Issue 6	Level I		0.012492	2.00	.5166	0.024984	80051386.00
1651003222	Connection	U15	Bellcore Issue 6	Level I		0.018207	1.00	.3765	0.018207	54923766.92
1651572000	Connection	SIM1-2	Bellcore Issue 6	Level I		0.040966	2.00	1.6942	0.081932	24410563.08
1653002100	Connection	JP1,JP5-6,JP12	Bellcore Issue 6	Level I		0.001138	4.00	.0941	0.004552	878780270.71
1653003100	Connection	JP4,JP9-11	Bellcore Issue 6	Level I		0.001707	4.00	.1412	0.006828	585853513.81
1653003200	Connection	JP2,JP8	Bellcore Issue 6	Level I		0.003414	2.00	.1412	0.006828	292926756.90
1653005100	Connection	CN5,JP3	Bellcore Issue 6	Level I		0.002845	2.00	.1177	0.005690	351512108.28
1653120225	Connection	J2	Bellcore Issue 6	Level I		0.022759	1.00	.4706	0.022759	43939013.54
1653132220	Connection	J1	Bellcore Issue 6	Level I		0.036414	1.00	.7530	0.036414	27461883.46
1653205200	Connection	CN9,CN11	Bellcore Issue 6	Level I		0.005690	2.00	.2353	0.011379	175756054.14
1653207200	Connection	CN7	Bellcore Issue 6	Level I		0.007966	1.00	.1647	0.007966	125540038.67
1653213201	Connection	CN3	Bellcore Issue 6	Level I		0.014793	1.00	.3059	0.014793	67598482.36
1653217202	Connection	CN2	Bellcore Issue 6	Level I		0.019345	1.00	.4000	0.019345	51692957.10
1653220203	Connection	CN1	Bellcore Issue 6	Level I		0.022759	1.00	.4706	0.022759	43939013.54
1653222200	Connection	CN4	Bellcore Issue 6	Level I		0.025035	1.00	.5177	0.025035	39944557.76
1654409103	Connection	CN8	Bellcore Issue 6	Level I		0.005121	1.00	.1059	0.005121	195284504.60
1654515302	Connection	CN10	Bellcore Issue 6	Level I		0.008535	1.00	.1765	0.008535	117170702.76
1654606200	Connection	CN14	Bellcore Issue 6	Level I		0.003414	1.00	.0706	0.003414	292926756.90
1655204030	Connection	CN6	Bellcore Issue 6	Level I		0.002276	1.00	.0471	0.002276	439390135.35
1659254005	Connection	CN12	Bellcore Issue 6	Level I		0.002845	1.00	.0588	0.002845	351512108.28
1750119011	Miscellaneous	BT1	Bellcore Issue 6	Level I		0.900000	1.00	18.6108	0.900000	1111111.11
1750220320	Connection	BT1	Bellcore Issue 6	Level I		0.001138	1.00	.0235	0.001138	878780270.71
1759400002	Miscellaneous	BZ1	Bellcore Issue 6	Level I		0.150000	1.00	3.1018	0.150000	6666666.67
101A500239	Resistor	R120	Bellcore Issue 6	Level I		0.002268	1.00	.0469	0.002268	440974090.03

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Time 1:19 PM
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MTBF 206,786

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
101A512119	Resistor	R121	Bellcore Issue 6	Level I		0.002268	1.00	.0469	0.002268	440974090.03
101A700009	Resistor	R44,R62,R84-85,R99,R111-112,R1-19,R125-127	Bellcore Issue 6	Level I		0.002268	11.00	.5158	0.024945	440974090.03
101A701009	Resistor	R3	Bellcore Issue 6	Level I		0.002268	1.00	.0469	0.002268	440974090.03
101A702209	Resistor	R6,R26-27,R31-36,R41	Bellcore Issue 6	Level I		0.002268	10.00	.4689	0.022677	440974090.03
101A702229	Resistor	R20,R22,R45,R110	Bellcore Issue 6	Level I		0.002268	4.00	.1876	0.009071	440974090.03
101A703309	Resistor	R7,R42-43,R51,R90,R98	Bellcore Issue 6	Level I		0.002268	6.00	.2814	0.013606	440974090.03
101A704729	Resistor	R8,R10-11,R108	Bellcore Issue 6	Level I		0.002268	4.00	.1876	0.009071	440974090.03
101A710019	Resistor	R2,R24,R76,R78,R81-82,R107	Bellcore Issue 6	Level I		0.002268	7.00	.3283	0.015874	440974090.03
101A710029	Resistor	R12-14,R16-17,R23,R67,R77,R80,-R87,R28,R124	Bellcore Issue 6	Level I		0.002268	12.00	.5627	0.027212	440974090.03
101A715009	Resistor	R70,R74-75	Bellcore Issue 6	Level I		0.002268	3.00	.1407	0.006803	440974090.03
101A733009	Resistor	R4-5,R9,R30,R73,R83,R106,R109	Bellcore Issue 6	Level I		0.002268	8.00	.3751	0.018142	440974090.03
101A747009	Resistor	R1,R128	Bellcore Issue 6	Level I		0.002268	2.00	.0938	0.004535	440974090.03
1059700001	Resistor	FB1	Bellcore Issue 6	Level I		0.002268	1.00	.0469	0.002268	440974090.03
105A528713	Resistor	R104	Bellcore Issue 6	Level I		0.002268	1.00	.0469	0.002268	440974090.03
105A571533	Resistor	R103	Bellcore Issue 6	Level I		0.002268	1.00	.0469	0.002268	440974090.03
105A720053	Resistor	R49-50	Bellcore Issue 6	Level I		0.013606	2.00	.5627	0.027212	73495681.67
1121747660	Capacitor	C29-32,C44-47,C70-73,C92-95	Bellcore Issue 6	Level I		0.002539	16.00	.8401	0.040624	393852661.82
1122701680	Capacitor	BC1-2,BC4-10,BC13,BC15,BC17-1-8,BC20-21,BC23-37,BC43,C27-28,-C35-36,C38-39,C67,C69,C99,C103-C127-129	Bellcore Issue 6	Level I		0.001598	44.00	1.4536	0.070293	625953979.55
1124510080	Capacitor	C101-102	Bellcore Issue 6	Level I		0.001060	2.00	.0438	0.002120	943198589.05
1124510280	Capacitor	C118-119	Bellcore Issue 6	Level I		0.001060	2.00	.0438	0.002120	943198589.05
1124515080	Capacitor	C88	Bellcore Issue 6	Level I		0.001060	1.00	.0219	0.001060	943198589.05
1124518180	Capacitor	C4-20,C22-25,C40-42,C48-49,C54--56,C74-79,C84-87,C96-97,C106-1-13,C121-124	Bellcore Issue 6	Level I		0.001060	53.00	1.1620	0.056192	943198589.05
1124522080	Capacitor	C91,C105	Bellcore Issue 6	Level I		0.001060	2.00	.0438	0.002120	943198589.05
1124522180	Capacitor	C43,C114-116,C130	Bellcore Issue 6	Level I		0.001060	5.00	.1096	0.005301	943198589.05
1124547280	Capacitor	C117	Bellcore Issue 6	Level I		0.001060	1.00	.0219	0.001060	943198589.05
1141601090	Capacitor	C126	Bellcore Issue 6	Level I		0.002357	1.00	.0487	0.002357	424256814.77

