



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

SBC-800  
Reliability Prediction Report  
(MTBF)

Release Date: JUN. 07, 2002

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Issue Stamp

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QA Manager

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QE Manager

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Test Engineer

# Reliability Prediction (MTBF)

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**I . Model Name:** SBC-800

**II .Description:** AIO Full-size CPU Card. P4 Socket 478. W/LVDs,TV-out, Dual Lan, Audio. CF2 & 4USB Ports.

Rev.A1.1

**III . Prediction Date:** JUN. 07. 2002

**IV . Prediction Site:** AAEON QE Dept.

**V . Predicted by :** Art Liao

**VI . Equipment:** Relex Ver.7.2 Visual Reliability Software

**VII . Simulation Environment:**

- Temperature: -20 degrees C(No temperature rise condition )
- Standard: Telcordia (Bellcore) Standard

**VIII . 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.

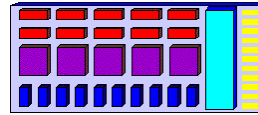
**IX . Prediction Result:**

- Failure Rate: 8.275632ppm
- MTBF: 120,837Hours( about 13.79 years)

**X . Prediction Table:**

**AAEON Reliability Prediction Report**

**Part Number** 9697800002  
**Reference Des**  
**Date** 06. 7, 2002  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temperature** -20.00



**Description** Top-level assembly  
**File Name** Sbc-800-(-20)DC.RPJ  
**Time** 5:44 PM  
**Failure Rate** 8.275632  
**MTBF** 120,837

Assembly Name	Part Number	Model	Method	Environment	Duty Cycle	Qty	Failure Rate	MTBF
SBC-800-A10	9697800002	Bellcore	Method I Case 3	GF, GU - Ground Fixed,	100.00	1.00	8.275632	120,837

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**Temperature** -20.00



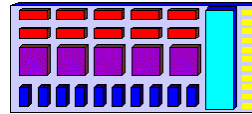
**Description** Top-level assembly  
**File Name** Sbc-800-(-20)DC.RPJ  
**Time** 5:44 PM  
**Failure Rate** 8.275632  
**MTBF** 120,837

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
1059549971	Resistor	R508-509	Bellcore Issue 6	Level I		0.000803	2.00	.0194	0.001605	1245899941.52
1059501001	Resistor	R143	Bellcore Issue 6	Level I		0.000803	1.00	.0097	0.000803	1245899941.52
1059700001	Resistor	FB4,FB7,R243,R307,R364-365,R4-36-437,R510	Bellcore Issue 6	Level I		0.000803	9.00	.0873	0.007224	1245899941.52
105A563463	Resistor	R527	Bellcore Issue 6	Level I		0.000803	1.00	.0097	0.000803	1245899941.52
105A511503	Resistor	R482	Bellcore Issue 6	Level I		0.000803	1.00	.0097	0.000803	1245899941.52
105A556003	Resistor	R481	Bellcore Issue 6	Level I		0.000803	1.00	.0097	0.000803	1245899941.52
105A500133	Resistor	R417-418,R420-421	Bellcore Issue 6	Level I		0.000803	4.00	.0388	0.003211	1245899941.52
105A547503	Resistor	R45	Bellcore Issue 6	Level I		0.000803	1.00	.0097	0.000803	1245899941.52
105A549963	Resistor	R42-43,R48,R50,R61,R63,R125,R-155,R381-382,R416	Bellcore Issue 6	Level I		0.000803	11.00	.1067	0.008829	1245899941.52
105A503300	Resistor	R21-22,R26-30,R46-47,R49,R51-57-,R62,R64,R70-72,R90,R308	Bellcore Issue 6	Level I		0.000803	24.00	.2328	0.019263	1245899941.52
105A524963	Resistor	R411,R415	Bellcore Issue 6	Level I		0.000803	2.00	.0194	0.001605	1245899941.52
105A530103	Resistor	R412	Bellcore Issue 6	Level I		0.000803	7.00	.0679	0.005618	1245899941.52
105A510003	Resistor	R126,R156,R414,R426-427,R498--499	Bellcore Issue 6	Level I		0.000803	7.00	.0679	0.005618	1245899941.52
105A515003	Resistor	R113,R118,R214,R374,R398-399,-R413	Bellcore Issue 6	Level I		0.000803	7.00	.0679	0.005618	1245899941.52
105A520003	Resistor	R134,R148,R257,R273	Bellcore Issue 6	Level I		0.000803	4.00	.0388	0.003211	1245899941.52
105A512103	Resistor	R74,R93,R132,R149,R274,R512,R-526,R528	Bellcore Issue 6	Level I		0.000803	8.00	.0776	0.006421	1245899941.52
105A561903	Resistor	R152,R503	Bellcore Issue 6	Level I		0.000803	2.00	.0194	0.001605	1245899941.52
105A549903	Resistor	R157	Bellcore Issue 6	Level I		0.000803	1.00	.0097	0.000803	1245899941.52
105A584503	Resistor	R158	Bellcore Issue 6	Level I		0.000803	1.00	.0097	0.000803	1245899941.52
105A512033	Resistor	R202,R256	Bellcore Issue 6	Level I		0.000803	2.00	.0194	0.001605	1245899941.52
105A523233	Resistor	R204	Bellcore Issue 6	Level I		0.000803	1.00	.0097	0.000803	1245899941.52
105A530003	Resistor	R218	Bellcore Issue 6	Level I		0.000803	1.00	.0097	0.000803	1245899941.52
105A556223	Resistor	R244	Bellcore Issue 6	Level I		0.000803	1.00	.0097	0.000803	1245899941.52
105A561963	Resistor	R379	Bellcore Issue 6	Level I		0.000803	1.00	.0097	0.000803	1245899941.52
105A502003	Resistor	R384	Bellcore Issue 6	Level I		0.000803	1.00	.0097	0.000803	1245899941.52
105A540263	Resistor	R119,R397,R439	Bellcore Issue 6	Level I		0.000803	3.00	.0291	0.002408	1245899941.52
105A506823	Resistor	R169,R208	Bellcore Issue 6	Level I		0.000803	2.00	.0194	0.001605	1245899941.52
105A505633	Resistor	R203,R206	Bellcore Issue 6	Level I		0.000803	2.00	.0194	0.001605	1245899941.52



### AAEON Reliability Prediction Report

**Part Number** 9697800002  
**Reference Des**  
**Date** 06. 7, 2002  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temperature** -20.00



**Description** Top-level assembly  
**File Name** Sbc-800-(-20)DC.RPJ  
**Time** 5:44 PM  
**Failure Rate** 8.275632  
**MTBF** 120,837

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
105A704723	Resistor	R2,R7,R10,R24,R35,R80,R83-84,R-97-98,R151,R165-166,R197,R231,-R245,R275,R281-282,R289,R291,-R302,R304,R325-328,R343-344,R-355,R357,R361,R386,R390,R396,-R422,424-425,R430,R451,R491-49-2,R501,R525,R542-543	Bellcore Issue 6	Level I		0.000803	46.00	.4461	0.036921	1245899941.52
105A700133	Resistor	R4,R6,R23,R31,R65,R67-68,R154,-R183-186,R194,R213,R215,R217,-R246-247,R266,R268,R366-369,R-380,R445,R447,R449-450,R259,R-468,R483,R493-495,R541	Bellcore Issue 6	Level I		0.000803	36.00	.3492	0.028895	1245899941.52
105A710003	Resistor	R17,R265	Bellcore Issue 6	Level I		0.000803	2.00	.0194	0.001605	1245899941.52
105A756033	Resistor	R36,R38	Bellcore Issue 6	Level I		0.000803	2.00	.0194	0.001605	1245899941.52
105A704703	Resistor	R59,R106	Bellcore Issue 6	Level I		0.000803	2.00	.0194	0.001605	1245899941.52
105A701003	Resistor	R89	Bellcore Issue 6	Level I		0.000803	1.00	.0097	0.000803	1245899941.52
105A701523	Resistor	R223,R402,R490	Bellcore Issue 6	Level I		0.000803	3.00	.0291	0.002408	1245899941.52
105A701533	Resistor	R288,R301,R446	Bellcore Issue 6	Level I		0.000803	3.00	.0291	0.002408	1245899941.52
105A710033	Resistor	R313,R387,R405,R429,R474,R500	Bellcore Issue 6	Level I		0.000803	6.00	.0582	0.004816	1245899941.52
105A718003	Resistor	R336	Bellcore Issue 6	Level I		0.000803	1.00	.0097	0.000803	1245899941.52
105A702703	Resistor	R373	Bellcore Issue 6	Level I		0.000803	1.00	.0097	0.000803	1245899941.52
105A706233	Resistor	R406,R475	Bellcore Issue 6	Level I		0.000803	2.00	.0194	0.001605	1245899941.52
105A708223	Resistor	R32,R75,R91,R99,R108,R195,R19-9,R225-226,R239,R249-250,R252,-R306	Bellcore Issue 6	Level I		0.000803	14.00	.1358	0.011237	1245899941.52
105A703303	Resistor	R101,R167,R180,R189-190,R192--193,R292,R305,R316-319,R358,R-360,R362-363,R423	Bellcore Issue 6	Level I		0.000803	18.00	.1746	0.014447	1245899941.52
105A700003	Resistor	FB10,FB12-13,FB15,FB17,FB40-41-,FB48,R19-20,R78,R92,R100,R104-105,R110,R114,R120-121,R124,R-127,R133,R137,R140,R142,R145,-R163,R168,R171,R174,R177,R181-,R187-188,R196,R200-201,R205,R-207,R210,R228-229,R293,R295-29-6,R310,R320-322,R330,R333,R338-341,R349-350,R35	Bellcore Issue 6	Level I		0.000803	73.00	.7080	0.058592	1245899941.52
105A705133	Resistor	R392-393	Bellcore Issue 6	Level I		0.000803	2.00	.0194	0.001605	1245899941.52

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**Reference Des**  
**Date** 06. 7, 2002  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temperature** -20.00



**Description** Top-level assembly  
**File Name** Sbc-800-(-20)DC.RPJ  
**Time** 5:44 PM  
**Failure Rate** 8.275632  
**MTBF** 120,837

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
106B501030	Resistor	RT1-2	Bellcore Issue 6	Level I		0.000713	2.00	.0172	0.001427	1401954370.10
1121547661	Capacitor	C173	Bellcore Issue 6	Level I		0.001796	1.00	.0217	0.001796	556788789.52
1121501680	Capacitor	C4-8,C12-13,C15,C18-21,C27,C32-36,C43,C53,C55,C62,C64,C66,C6-8,C70,C76,C78-81,C85,C90,C93-94-,C106-110,C113,C116,C118-119,C-121-122,C124,C126-127,C129-130-,C132,C135-140,C142-145,C152-1-53,C156-158,C161-164,C167,C170-171,C175-176,C180,C182,C188-1-90,C193-196,C1	Bellcore Issue 6	Level I		0.001796	211.00	4.5792	0.378959	556788789.52
1121710090	Capacitor	C96,C481	Bellcore Issue 6	Level I		0.001796	2.00	.0434	0.003592	556788789.52
1121733780	Capacitor	C232-234,C280,C283,C335	Bellcore Issue 6	Level I		0.001796	6.00	.1302	0.010776	556788789.52
1121722650	Capacitor	C174	Bellcore Issue 6	Level I		0.001796	1.00	.0217	0.001796	556788789.52
1122722780	Capacitor	C49,C243	Bellcore Issue 6	Level I		0.001130	2.00	.0273	0.002260	884909998.98
1122747880	Capacitor	C75,C430	Bellcore Issue 6	Level I		0.001130	2.00	.0273	0.002260	884909998.98
1124456080	Capacitor	C151	Bellcore Issue 6	Level I		0.000750	1.00	.0091	0.000750	1333398124.69
1124482080	Capacitor	C391,C423-427	Bellcore Issue 6	Level I		0.000750	6.00	.0544	0.004500	1333398124.69
1124422080	Capacitor	C45-46,C83,C87,C91,C97,C123,C-128,C251-254,C257-258,C298-299-,C307-308,C315-318	Bellcore Issue 6	Level I		0.000750	22.00	.1994	0.016499	1333398124.69
1124433080	Capacitor	C230-231,C244	Bellcore Issue 6	Level I		0.000750	3.00	.0272	0.002250	1333398124.69
1124410080	Capacitor	C2,C51-52,C183-184,C228-229,C2-42,C300-301	Bellcore Issue 6	Level I		0.000750	10.00	.0906	0.007500	1333398124.69
1124412080	Capacitor	C29-30	Bellcore Issue 6	Level I		0.000750	2.00	.0181	0.001500	1333398124.69
1124447080	Capacitor	C44,C197,C211	Bellcore Issue 6	Level I		0.000750	3.00	.0272	0.002250	1333398124.69
1124501780	Capacitor	C1,C3,C84,C147,C150,C185,C263-,C274,C311,C329-330,C378-381,C-383,C388,C408-409,C411,C415,C-417,C446-447,C449,C454,C477,C-480,C511-512	Bellcore Issue 6	Level I		0.000750	30.00	.2719	0.022499	1333398124.69
1124527180	Capacitor	C71-72,C154-155,C159-160,C186--187,C191-192,C200-201,C205-206	Bellcore Issue 6	Level I		0.000750	14.00	.1269	0.010499	1333398124.69
1124533180	Capacitor	C148	Bellcore Issue 6	Level I		0.000750	1.00	.0091	0.000750	1333398124.69
1124547180	Capacitor	C169,C179,C217-220,C235,C282,-C284,C336,C422	Bellcore Issue 6	Level I		0.000750	11.00	.0997	0.008250	1333398124.69
1124510280	Capacitor	C60-61,C149,C510	Bellcore Issue 6	Level I		0.000750	4.00	.0362	0.003000	1333398124.69

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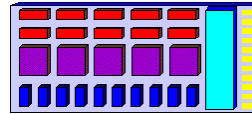
**Description** Top-level assembly  
**File Name** Sbc-800-(-20)DC.RPJ  
**Time** 5:44 PM  
**Failure Rate** 8.275632  
**MTBF** 120,837

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
1124522180	Capacitor	C88,C90,C101,C103,C333	Bellcore Issue 6	Level I		0.000750	5.00	.0453	0.003750	1333398124.69
1124515281	Capacitor	C146	Bellcore Issue 6	Level I		0.000750	1.00	.0091	0.000750	1333398124.69
1129610260	Capacitor	C364,C437	Bellcore Issue 6	Level I		0.000504	2.00	.0122	0.001008	1984626422.29
1129701080	Capacitor	C28,C31,C63,C73-74,C89,C102,C-105,C120,C215,C236,C238,C285,-C287,C290-295,C435,C491-494	Bellcore Issue 6	Level I		0.003866	25.00	1.1679	0.096655	258652624.62
1129722680	Capacitor	C177-178,C181,C325,C428	Bellcore Issue 6	Level I		0.004266	5.00	.2577	0.021330	234413319.81
1129722090	Capacitor	C503	Bellcore Issue 6	Level I		0.003866	1.00	.0467	0.003866	258652624.62
1129747650	Capacitor	C9-10,C54,C133-134,C225,C338,C-360-362,C436,C458-460,C507,C50-9,C514-515	Bellcore Issue 6	Level I		0.003866	18.00	.8409	0.069591	258652624.62
1139710060	Capacitor	C48,C56,C59,C86,C92,C125,C165-166,C168,C172,C199,C212,C255,-C260,C269,C289,C313,C322,C331-C337,C357,C389,C392-393,C400,-C406,C416,C421,C443,C453,C455-C476,C498,C500	Bellcore Issue 6	Level I		0.003866	34.00	1.5884	0.131450	258652624.62
1139610060	Capacitor	C246-250,C302-305,C340-345,C3-67-370,C373-377,C395-399,C439--442,C464,C467-470	Bellcore Issue 6	Level I		0.004266	38.00	1.9588	0.162107	234413319.81
1139610060	Capacitor	C465	Bellcore Issue 6	Level I	8.50	0.004596	1.00	.0555	0.004596	217579223.93
1174547080	Capacitor	CP3-6(*4)	Bellcore Issue 6	Level I		0.000750	16.00	.1450	0.011999	1333398124.69
1174510180	Capacitor	CP1,CP7(*4)	Bellcore Issue 6	Level I		0.000750	8.00	.0725	0.006000	1333398124.69
1174533080	Capacitor	CP2(*4)	Bellcore Issue 6	Level I		0.000750	4.00	.0362	0.003000	1333398124.69
1174510080	Capacitor	CP8(*4)	Bellcore Issue 6	Level I		0.000750	4.00	.0362	0.003000	1333398124.69
1111615210	Capacitor	TC6,TC8,TC10	Bellcore Issue 6	Level I		0.002846	3.00	.1032	0.008538	351370448.36
1119622210	Capacitor	TC1-5,TC11-15	Bellcore Issue 6	Level I		0.004722	10.00	.5706	0.047224	211757345.07
1189610181	Capacitor	TC9	Bellcore Issue 6	Level I	6.20	0.002058	1.00	.0249	0.002058	485872191.53
1189610181	Capacitor	C475,TC7,TC16,TC18-21,TC23,TC-25-26,	Bellcore Issue 6	Level I		0.001746	10.00	.2110	0.017459	572759643.51
1189610181	Capacitor	TC36	Bellcore Issue 6	Level I	7.10	0.002107	1.00	.0255	0.002107	474715411.23
1189610181	Capacitor	TC29	Bellcore Issue 6	Level I	8.60	0.002189	1.00	.0265	0.002189	456849424.98
1189610181	Capacitor	TC28	Bellcore Issue 6	Level I	7.20	0.002112	1.00	.0255	0.002112	473496396.40
1189610181	Capacitor	TC24	Bellcore Issue 6	Level I	8.30	0.002172	1.00	.0262	0.002172	460351785.80
1189610181	Capacitor	TC17	Bellcore Issue 6	Level I	7.00	0.002101	1.00	.0254	0.002101	475938517.41



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**Reference Des**  
**Date** 06. 7, 2002  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temperature** -20.00

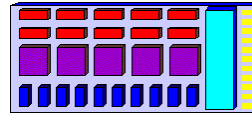


**Description** Top-level assembly  
**File Name** Sbc-800-(-20)DC.RPJ  
**Time** 5:44 PM  
**Failure Rate** 8.275632  
**MTBF** 120,837

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
1181647080	Capacitor	TC27	Bellcore Issue 6	Level I	51.50	0.002427	1.00	.0293	0.002427	412028803.21
1181647080	Capacitor	TC30	Bellcore Issue 6	Level I	54.90	0.002591	1.00	.0313	0.002591	386014666.52
1181647080	Capacitor	TC35	Bellcore Issue 6	Level I	53.70	0.002532	1.00	.0306	0.002532	394936730.96
1189633180	Capacitor	TC32	Bellcore Issue 6	Level I	55.60	0.005494	1.00	.0664	0.005494	182022332.39
1189633180	Capacitor	TC33	Bellcore Issue 6	Level I		0.001746	1.00	.0211	0.001746	572759643.51
1189622181	Capacitor	TC31,TC34	Bellcore Issue 6	Level I		0.001605	2.00	.0388	0.003211	622949970.76
1189633080	Capacitor	C216,C279,C350,C456	Bellcore Issue 6	Level I		0.001746	4.00	.0844	0.006984	572759643.51
1189633080	Capacitor	C352	Bellcore Issue 6	Level I	51.10	0.005040	1.00	.0609	0.005040	198415505.42
1189633080	Capacitor	C466	Bellcore Issue 6	Level I	7.50	0.002128	1.00	.0257	0.002128	469863643.67
1211100107	Inductor	L1,L3-4	Bellcore Issue 6	Level I		0.030500	3.00	1.1057	0.091500	32786840.57
1211100660	Inductor	L2	Bellcore Issue 6	Level I	2.70	0.032798	1.00	.3963	0.032798	30490052.39
1211104760	Inductor	L5-8	Bellcore Issue 6	Level I		0.000803	4.00	.0388	0.003211	1245899941.52
1212308054	Inductor	FB1,FB8-9,FB26,FB30-31,FB37-39,FB46-47,FB49,FB51	Bellcore Issue 6	Level I		0.000803	13.00	.1261	0.010434	1245899941.52
1212308052	Inductor	FB5,FB14,FB16,FB18,FB23	Bellcore Issue 6	Level I		0.000803	5.00	.0485	0.004013	1245899941.52
121230805E	Inductor	FB25,FB34	Bellcore Issue 6	Level I		0.000803	2.00	.0194	0.001605	1245899941.52
1212308050	Inductor	FB24,FB32-33	Bellcore Issue 6	Level I		0.000803	3.00	.0291	0.002408	1245899941.52
1212306032	Inductor	FB2-3,FB6	Bellcore Issue 6	Level I		0.000803	3.00	.0291	0.002408	1245899941.52
1212306035	Inductor	FB19-22,FB27-29,FB35,FB42-44	Bellcore Issue 6	Level I		0.000803	11.00	.1067	0.008829	1245899941.52
1213130008	Inductor	BP2-3	Bellcore Issue 6	Level I		0.000803	2.00	.0194	0.001605	1245899941.52
1213160008	Inductor	RP37-38,RP41-42	Bellcore Issue 6	Level I		0.000803	4.00	.0388	0.003211	1245899941.52
1213112008	Inductor	BP1	Bellcore Issue 6	Level I		0.000803	1.00	.0097	0.000803	1245899941.52
14S3000201	Inductor	TF1-2	Bellcore Issue 6	Level I		0.048158	2.00	1.1638	0.096316	20764999.03
1231332721	Miscellaneous	Y1	Bellcore Issue 6	Level I		0.150000	1.00	1.8126	0.150000	6666666.67
1231314350	Miscellaneous	Y3	Bellcore Issue 6	Level I		0.150000	1.00	1.8126	0.150000	6666666.67
1231327050	Miscellaneous	Y4	Bellcore Issue 6	Level I		0.150000	1.00	1.8126	0.150000	6666666.67
1231324551	Miscellaneous	Y2	Bellcore Issue 6	Level I		0.150000	1.00	1.8126	0.150000	6666666.67
1231325050	Miscellaneous	Y5-6	Bellcore Issue 6	Level I		0.150000	1.00	1.8126	0.150000	6666666.67
1233314351	Miscellaneous	OSC1	Bellcore Issue 6	Level I		0.360000	1.00	4.3501	0.360000	2777777.78
1314780501	Integrated Circuit	Q14	Bellcore Issue 6	Level I	8.30	0.002778	1.00	.0336	0.002778	359938945.89
1314108312	Integrated Circuit	Q33	Bellcore Issue 6	Level I	13.20	0.004391	1.00	.0531	0.004391	227759162.09

**AAEON Reliability Prediction Report**

**Part Number** 9697800002  
**Reference Des**  
**Date** 06. 7, 2002  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temperature** -20.00

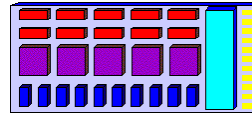


**Description** Top-level assembly  
**File Name** Sbc-800-(-20)DC.RPJ  
**Time** 5:44 PM  
**Failure Rate** 8.275632  
**MTBF** 120,837

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
1314108412	Integrated Circuit	Q13	Bellcore Issue 6	Level I	.90	0.001346	1.00	.0163	0.001346	742894890.52
1314108412	Integrated Circuit	Q32	Bellcore Issue 6	Level I	13.60	0.004554	1.00	.0550	0.004554	219570325.78
1314012510	Integrated Circuit	Q11	Bellcore Issue 6	Level I		0.001229	1.00	.0149	0.001229	813686538.71
1314043210	Integrated Circuit	Q17,Q31,Q34	Bellcore Issue 6	Level I		0.001229	3.00	.0446	0.003687	813686538.71
1314108411	Integrated Circuit	Q23	Bellcore Issue 6	Level I	12.60	0.004155	1.00	.0502	0.004155	240668318.54
1314108411	Integrated Circuit	Q25	Bellcore Issue 6	Level I	8.70	0.002886	1.00	.0349	0.002886	346517468.50
1314108411	Integrated Circuit	Q36	Bellcore Issue 6	Level I	6.90	0.002430	1.00	.0294	0.002430	411520947.93
1314108411	Integrated Circuit	Q37	Bellcore Issue 6	Level I	6.70	0.002384	1.00	.0288	0.002384	419519490.58
1314101010	Integrated Circuit	Q28	Bellcore Issue 6	Level I		0.001229	1.00	.0149	0.001229	813686538.71
1301005442	Semiconductor	D4,D6	Bellcore Issue 6	Level I		0.005206	2.00	.1258	0.010411	192095554.94
1189610181	Capacitor	C475,TC7,TC16-21,TC23-26,TC28-29,TC36	Bellcore Issue 6	Level I	9.90	0.002262	15.00	.4100	0.033932	442066891.24
1301005440	Semiconductor	D1	Bellcore Issue 6	Level I	42.70	0.019260	1.00	.2327	0.019260	51921943.01
1301005440	Semiconductor	D5,D8	Bellcore Issue 6	Level I		0.005206	2.00	.1258	0.010411	192095554.94
1301005440	Semiconductor	D15	Bellcore Issue 6	Level I	10.30	0.007724	1.00	.0933	0.007724	129459870.65
1304005441	Semiconductor	D2-3,D9-11,D13	Bellcore Issue 6	Level I		0.005206	6.00	.3774	0.031234	192095554.94
1304005441	Semiconductor	D14	Bellcore Issue 6	Level I	11.40	0.008042	1.00	.0972	0.008042	124343013.75
1300103540	Semiconductor	D7	Bellcore Issue 6	Level I		0.005206	1.00	.0629	0.005206	192095554.94
1315700211	Semiconductor	Q1,Q20,Q22,Q26-27,Q29-30	Bellcore Issue 6	Level I		0.017352	7.00	1.4678	0.121467	57628666.48
1315002010	Semiconductor	Q7-9	Bellcore Issue 6	Level I		0.017352	3.00	.6290	0.052057	57628666.48
1315100310	Semiconductor	Q12	Bellcore Issue 6	Level I	8.10	0.047457	1.00	.5735	0.047457	21071560.99
1315100310	Semiconductor	Q6	Bellcore Issue 6	Level I	5.90	0.043675	1.00	.5278	0.043675	22896538.13
1315100310	Semiconductor	Q16	Bellcore Issue 6	Level I	8.20	0.047635	1.00	.5756	0.047635	20992853.29
1315995310	Semiconductor	Q35	Bellcore Issue 6	Level I		0.034705	1.00	.4194	0.034705	28814333.24
1315050310	Semiconductor	Q4	Bellcore Issue 6	Level I	5.40	0.042850	1.00	.5178	0.042850	23337477.95
1315050310	Semiconductor	Q10	Bellcore Issue 6	Level I	8.40	0.047993	1.00	.5799	0.047993	20836497.00
1315050310	Semiconductor	Q15	Bellcore Issue 6	Level I	8.80	0.048714	1.00	.5886	0.048714	20527972.11
1315970100	Semiconductor	U1,U21,U24	Bellcore Issue 6	Level I		0.034705	3.00	1.2581	0.104115	28814333.24
1310222210	Semiconductor	Q18	Bellcore Issue 6	Level I		0.005206	1.00	.0629	0.005206	192095554.94
1311290710	Semiconductor	Q2,Q19,Q21	Bellcore Issue 6	Level I		0.005206	3.00	.1887	0.015617	192095554.94
1310390412	Semiconductor	Q5,Q38	Bellcore Issue 6	Level I		0.005206	2.00	.1258	0.010411	192095554.94

### AAEON Reliability Prediction Report

**Part Number** 9697800002  
**Reference Des**  
**Date** 06. 7, 2002  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temperature** -20.00



**Description** Top-level assembly  
**File Name** Sbc-800-(-20)DC.RPJ  
**Time** 5:44 PM  
**Failure Rate** 8.275632  
**MTBF** 120,837

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
1304100540	Semiconductor	LED1	Bellcore Issue 6	Level I		0.000038	1.00	.0005	0.000038	26114484402.68
14S6334610	Integrated Circuit	U8,U14	Bellcore Issue 6	Level I		0.000633	2.00	.0153	0.001267	1578707044.87
14S6200200	Integrated Circuit	U16	Bellcore Issue 6	Level I		0.001069	1.00	.0129	0.001069	935195158.59
14S3020101	Integrated Circuit	U4	Bellcore Issue 6	Level I	19.00	0.007388	1.00	.0893	0.007388	135354237.46
14S4382300	Integrated Circuit	U30	Bellcore Issue 6	Level I		0.001229	1.00	.0149	0.001229	813686538.71
14S3128420	Integrated Circuit	U22	Bellcore Issue 6	Level I		0.001229	1.00	.0149	0.001229	813686538.71
14S3020100	Integrated Circuit	U23	Bellcore Issue 6	Level I		0.001229	1.00	.0149	0.001229	813686538.71
14S4070600	Integrated Circuit	U31	Bellcore Issue 6	Level I		0.001229	1.00	.0149	0.001229	813686538.71
14S3020010	Integrated Circuit	U6	Bellcore Issue 6	Level I	9.80	0.003202	1.00	.0387	0.003202	312319374.83
14S4021300	Integrated Circuit	U26	Bellcore Issue 6	Level I	7.80	0.002649	1.00	.0320	0.002649	377511065.21
14S4021300	Integrated Circuit	U25	Bellcore Issue 6	Level I	9.00	0.002969	1.00	.0359	0.002969	336806452.56
14S5A01400	Integrated Circuit	U2-3,U18,U29,U33	Bellcore Issue 6	Level I		0.001229	5.00	.0743	0.006145	813686538.71
14S1486300	Integrated Circuit	U7	Bellcore Issue 6	Level I		0.001229	1.00	.0149	0.001229	813686538.71
14S4048501	Integrated Circuit	U27-28	Bellcore Issue 6	Level I		0.001229	2.00	.0297	0.002458	813686538.71
14S4530100	Integrated Circuit	U20	Bellcore Issue 6	Level I	23.70	0.011085	1.00	.1339	0.011085	90215334.38
14S5A00700	Integrated Circuit	U34	Bellcore Issue 6	Level I		0.001680	1.00	.0203	0.001680	595246546.77
14S5A24500	Integrated Circuit	U38	Bellcore Issue 6	Level I	9.00	0.010597	1.00	.1280	0.010597	94370097.43
14S5A24500	Integrated Circuit	U37	Bellcore Issue 6	Level I	7.20	0.009519	1.00	.1150	0.009519	105049498.59
14S5A24500	Integrated Circuit	U36	Bellcore Issue 6	Level I	10.70	0.011710	1.00	.1415	0.011710	85397491.48
14S5A24500	Integrated Circuit	U35	Bellcore Issue 6	Level I	10.60	0.011642	1.00	.1407	0.011642	85897775.80
14S5A00600	Integrated Circuit	U39	Bellcore Issue 6	Level I	9.60	0.003572	1.00	.0432	0.003572	279959766.54
14S4280102	Integrated Circuit	U5	Bellcore Issue 6	Level I	14.40	0.014808	1.00	.1789	0.014808	67532464.65
14S4000600	Integrated Circuit	U13	Bellcore Issue 6	Level I	9.90	0.003790	1.00	.0458	0.003790	263882844.19
14S4255900	Integrated Circuit	U10	Bellcore Issue 6	Level I	12.10	0.004468	1.00	.0540	0.004468	223791855.75
14S4255900	Integrated Circuit	U15	Bellcore Issue 6	Level I	7.90	0.003254	1.00	.0393	0.003254	307269383.59
14S4871200	Integrated Circuit	U12	Bellcore Issue 6	Level I	5.60	0.002724	1.00	.0329	0.002724	367119749.85
14S4888800	Integrated Circuit	U32	Bellcore Issue 6	Level I	19.10	0.007416	1.00	.0896	0.007416	134843736.51
14S4205000	Integrated Circuit	U17	Bellcore Issue 6	Level I	52.10	0.044421	1.00	.5368	0.044421	22512075.38
14S8416803	Integrated Circuit	U19	Bellcore Issue 6	Level I	11.50	0.004273	1.00	.0516	0.004273	234015408.54
14S4284500	Integrated Circuit	U9	Bellcore Issue 6	Level I	56.20	0.056158	1.00	.6786	0.056158	17807050.11
1540715080	Resistor	RP2,RP5	Bellcore Issue 6	Level I		0.000553	2.00	.0134	0.001107	1806740310.71

**AAEON Reliability Prediction Report**

**Part Number** 9697800002  
**Reference Des**  
**Date** 06. 7, 2002  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temperature** -20.00



**Description** Top-level assembly  
**File Name** Sbc-800-(-20)DC.RPJ  
**Time** 5:44 PM  
**Failure Rate** 8.275632  
**MTBF** 120,837

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
1540747282	Resistor	RP6,RP35,RP54,RP63	Bellcore Issue 6	Level I		0.000553	4.00	.0268	0.002214	1806740310.71
1540710380	Resistor	RP13-15,RP17-18,RP23-25	Bellcore Issue 6	Level I		0.000553	8.00	.0535	0.004428	1806740310.71
1540715380	Resistor	RP36,RP39	Bellcore Issue 6	Level I		0.000553	2.00	.0134	0.001107	1806740310.71
1540775080	Resistor	RP3	Bellcore Issue 6	Level I		0.000553	1.00	.0067	0.000553	1806740310.71
1540782280	Resistor	RP4,RP10,RP40,RP43-44	Bellcore Issue 6	Level I		0.000553	5.00	.0334	0.002767	1806740310.71
1540727280	Resistor	RP12,RP45,RP51-52	Bellcore Issue 6	Level I		0.000553	4.00	.0268	0.002214	1806740310.71
15407103A0	Resistor	RP26-32,RP46-47,RP49,RP55-61	Bellcore Issue 6	Level I		0.000553	17.00	.1137	0.009409	1806740310.71
1540701380	Resistor	RP33-34	Bellcore Issue 6	Level I		0.000553	2.00	.0134	0.001107	1806740310.71
1540733082	Resistor	RP62	Bellcore Issue 6	Level I		0.000553	1.00	.0067	0.000553	1806740310.71
1655306020	Connection	CN6	Bellcore Issue 6	Level I		0.000214	1.00	.0026	0.000214	4673181233.68
1655003000	Connection	CN8-9	Bellcore Issue 6	Level I		0.000107	2.00	.0026	0.000214	9346362467.36
1655305020	Connection	CN7	Bellcore Issue 6	Level I		0.000178	1.00	.0022	0.000178	5607817480.42
1655404020	Connection	CN12	Bellcore Issue 6	Level I		0.000143	1.00	.0017	0.000143	7009771850.52
1653003100	Connection	JP1,JP6,JP8	Bellcore Issue 6	Level I		0.000107	3.00	.0039	0.000321	9346362467.36
1653002101	Connection	JP9	Bellcore Issue 6	Level I		0.000071	1.00	.0009	0.000071	14019543701.04
1653220208	Connection	CN3,CN13	Bellcore Issue 6	Level I		0.001427	2.00	.0345	0.002853	700977185.05
1653006100	Connection	CN10	Bellcore Issue 6	Level I		0.000214	1.00	.0026	0.000214	4673181233.68
1655304020	Connection	CN30	Bellcore Issue 6	Level I		0.000143	1.00	.0017	0.000143	7009771850.52
1655005021	Connection	CN31	Bellcore Issue 6	Level I		0.000178	1.00	.0022	0.000178	5607817480.42
1653003201	Connection	JP5*2	Bellcore Issue 6	Level I		0.000214	2.00	.0052	0.000428	4673181233.68
1653130424	Connection	PCI1	Bellcore Issue 6	Level I		0.004280	1.00	.0517	0.004280	233659061.68
1653005202	Connection	CN11,CN17,CN20-22	Bellcore Issue 6	Level I		0.000357	5.00	.0215	0.001783	2803908740.21
1653013202	Connection	CN16	Bellcore Issue 6	Level I		0.000927	1.00	.0112	0.000927	1078426438.54
1653009201	Connection	CN26	Bellcore Issue 6	Level I		0.000642	1.00	.0078	0.000642	1557727077.89
1653925212	Connection	CN33	Bellcore Issue 6	Level I		0.001783	1.00	.0215	0.001783	560781748.04
1653007204	Connection	CN15	Bellcore Issue 6	Level I		0.000499	1.00	.0060	0.000499	2002791957.29
1653004202	Connection	CN24,CN28	Bellcore Issue 6	Level I		0.000285	2.00	.0069	0.000571	3504885925.26
1653010203	Connection	CN25	Bellcore Issue 6	Level I		0.000713	1.00	.0086	0.000713	1401954370.10
1653003202	Connection	JP2-4	Bellcore Issue 6	Level I		0.000214	3.00	.0078	0.000642	4673181233.68
1651584490	Connection	DIMM1-3	Bellcore Issue 6	Level I		0.005992	3.00	.2172	0.017975	166899329.77
1651203291	Connection	U16	Bellcore Issue 6	Level I		0.001141	1.00	.0138	0.001141	876221481.32

