

# EMB-852T Reliability Prediction Report (MTBF)

Report NO : 05E070011

**05-13-2005**

Issue Date

**Wenyuan Yang**

Manager

**Jessica Chou**

Test Engineer

## Reliability Prediction (MTBF)

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**I . Model Name:** EMB-852T (Mini-ITX.UV C-M 600.LCD-DVI-TV.DDR.LAN.Audio.5COM+Touch.USB 2.0.CF.M-PCI.Rev.A0.3)

**II . Prediction Date:** May. 13, 2005

**III . Prediction Site:** AAEON Q.E. Dept.

**IV . Predicted by :** Jessica Chou

**V . Equipment:** Relex Ver.7.3 Visual Reliability Software

### **VI. Simulation Environment:**

- Temperature: 24.2 degrees C
- Standard: Telcordia (Bellcore) Standard

### **VII. Term and Definition:**

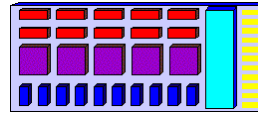
- Unit : An assembly of device.
- Duty Cycle : Used to specify the percentage of time that the element is in an on state, and it is equal to the percentage of total time the item is in the active environment.
- Quantity : The quantity of the selected item.
- Failure Rate : Used to specify that the failure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

### **VIII. Prediction Result:**

- Failure Rate: 14.002739 ppm
- MTBF: 71,415 Hours

**AAEON Reliability Prediction Report**

**Part Number** 9697852T08  
**Reference Des**  
**Date** 05. 13, 2005  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temperature** 24.20

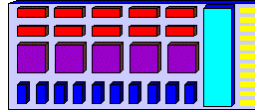


**Description** Top-level assembly  
**File Name** 9697852T08.RPJ  
**Time** 10:41 上午  
**Failure Rate** 14.002739  
**MTBF** 71,415

Assembly Name	Part Number	Model	Method	Environment	Duty Cycle	Qty	Failure Rate	MTBF
EMB-852T	9697852T08	Bellcore	Method I Case 3	GF, GU - Ground Fixed,	100.00	1.00	14.002739	71,415

**AAEON Reliability Prediction Report**

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**Temperature** 24.20

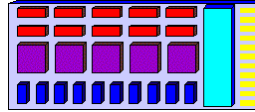


**Description** Top-level assembly  
**File Name** 9697852T08.RPJ  
**Time** 10:41 上午  
**Failure Rate** 14.002739  
**MTBF** 71,415

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
1750220323	Connection	BAT1	Bellcore Issue 6	Level I		0.001091	1.00	.0078	0.001091	916397881.40
1655417020	Connection	CN1	Bellcore Issue 6	Level I		0.010912	1.00	.0779	0.010912	91639788.14
1655305020	Connection	CN3	Bellcore Issue 6	Level I		0.002728	1.00	.0195	0.002728	366559152.56
1654530300	Connection	CN8	Bellcore Issue 6	Level I		0.016368	1.00	.1169	0.016368	61093192.09
1653213220	Connection	CN11	Bellcore Issue 6	Level I		0.014186	1.00	.1013	0.014186	70492144.72
1654543500	Connection	CN14	Bellcore Issue 6	Level I		0.023461	1.00	.1675	0.023461	42623157.27
1654612304	Connection	CN15	Bellcore Issue 6	Level I		0.003274	1.00	.0234	0.003274	305465960.47
1655004022	Connection	CN19	Bellcore Issue 6	Level I		0.002182	1.00	.0156	0.002182	458198940.70
1653005200	Connection	CN23	Bellcore Issue 6	Level I		0.005456	1.00	.0390	0.005456	183279576.28
1653009100	Connection	CN28	Bellcore Issue 6	Level I		0.004911	1.00	.0351	0.004911	203643973.64
1655004020	Connection	CN29	Bellcore Issue 6	Level I		0.002182	1.00	.0156	0.002182	458198940.70
14S6200400	Integrated Circuit	PWH1	Bellcore Issue 6	Level I		0.149133	1.00	1.0650	0.149133	6705439.81
1653004302	Connection	JP3	Bellcore Issue 6	Level I		0.006547	1.00	.0468	0.006547	152732980.23
1653003201	Connection	JP4,JP5	Bellcore Issue 6	Level I		0.003274	2.00	.0468	0.006547	305465960.47
1654260201	Connection	PCI1	Bellcore Issue 6	Level I		0.065474	1.00	.4676	0.065474	15273298.02
1750119011	Miscellaneous	BAT1	Bellcore Issue 6	Level I		0.900000	1.00	6.4273	0.900000	1111111.11
1652522200	Connection	CN2	Bellcore Issue 6	Level I		0.012004	1.00	.0857	0.012004	83308898.31
1653006101	Connection	CN9	Bellcore Issue 6	Level I		0.003274	1.00	.0234	0.003274	305465960.47
1655003010	Connection	CN12,CN13	Bellcore Issue 6	Level I		0.001637	2.00	.0234	0.003274	610931920.93
1653220208	Connection	CN21	Bellcore Issue 6	Level I		0.021825	1.00	.1559	0.021825	45819894.07
1653900034	Connection	CN26	Bellcore Issue 6	Level I		0.001091	1.00	.0078	0.001091	916397881.40
1651592490	Connection	DIMM1	Bellcore Issue 6	Level I		0.100393	1.00	.7170	0.100393	9960846.54
1653003101	Connection	JP1,JP2,JP6	Bellcore Issue 6	Level I		0.001637	3.00	.0351	0.004911	610931920.93
1653002202	Connection	JP7	Bellcore Issue 6	Level I		0.002182	1.00	.0156	0.002182	458198940.70
1653205203	Connection	CN16,CN17	Bellcore Issue 6	Level I		0.005456	2.00	.0779	0.010912	183279576.28
1211103360	Inductor	L3,L4	Bellcore Issue 6	Level I		0.084829	2.00	1.2116	0.169658	11788427.94
1211100860	Inductor	L5	Bellcore Issue 6	Level I	11.80	0.106084	1.00	.7576	0.106084	9426502.32
1211100860	Inductor	L6	Bellcore Issue 6	Level I		0.084829	1.00	.6058	0.084829	11788427.94
1211100160	Inductor	L8,L9	Bellcore Issue 6	Level I		0.084829	2.00	1.2116	0.169658	11788427.94
1211106870	Inductor	L10	Bellcore Issue 6	Level I		0.084829	1.00	.6058	0.084829	11788427.94
1211100102	Inductor	L11	Bellcore Issue 6	Level I		0.084829	1.00	.6058	0.084829	11788427.94

### AAEON Reliability Prediction Report

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**Reference Des**  
**Date** 05. 13, 2005  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temperature** 24.20

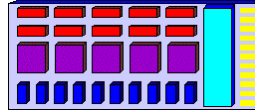


**Description** Top-level assembly  
**File Name** 9697852T08.RPJ  
**Time** 10:41 上午  
**Failure Rate** 14.002739  
**MTBF** 71,415

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
1211101009	Inductor	L12	Bellcore Issue 6	Level I		0.084829	1.00	.6058	0.084829	11788427.94
1654262300	Connection	MPCI1	Bellcore Issue 6	Level I		0.067656	1.00	.4832	0.067656	14780610.99
1315450010	Semiconductor	M1-M3	Bellcore Issue 6	Level I		0.000000	3.00	.0000	0.000000	.00
1213103018	Inductor	NL1	Bellcore Issue 6	Level I		0.002232	1.00	.0159	0.002232	447960261.61
1315700212	Semiconductor	Q11,Q12,Q19,Q36,Q38,Q41,Q42,Q-49,Q5,Q50-Q53,Q6	Bellcore Issue 6	Level I		0.077789	14.00	7.7774	1.089048	12855269.30
1315668011	Semiconductor	Q10,Q15,Q16,Q9	Bellcore Issue 6	Level I		0.023337	4.00	.6666	0.093347	42850897.67
1315776010	Semiconductor	Q13,Q14,Q17,Q18	Bellcore Issue 6	Level I		0.077789	4.00	2.2221	0.311156	12855269.30
1315776010	Semiconductor	U17	Bellcore Issue 6	Level I	12.40	0.109721	1.00	.7836	0.109721	9113986.07
1315776010	Semiconductor	U18	Bellcore Issue 6	Level I	10.90	0.105405	1.00	.7527	0.105405	9487207.49
1315030110	Semiconductor	Q21-Q24,Q30-Q33	Bellcore Issue 6	Level I		0.000000	8.00	.0000	0.000000	.00
1315030210	Semiconductor	Q34,Q47,Q48	Bellcore Issue 6	Level I		0.000000	3.00	.0000	0.000000	.00
1311390610	Semiconductor	Q35,Q37	Bellcore Issue 6	Level I		0.023337	2.00	.3333	0.046673	42850897.67
1310390411	Semiconductor	Q43-Q45	Bellcore Issue 6	Level I		0.023337	3.00	.5000	0.070010	42850897.67
1540710084	Resistor	RP1,RP11,RP12,RP15,RP16,RP19-,RP20,RP23,RP24,RP26,RP28,RP-30,RP32	Bellcore Issue 6	Level I		0.006021	13.00	.5590	0.078274	166083755.80
1540710084	Resistor	RP33,RP35,RP4,RP7,RP70,RP71,-RP9	Bellcore Issue 6	Level I		0.006021	7.00	.3010	0.042147	166083755.80
105A720009	Resistor	R663	Bellcore Issue 6	Level I		0.002232	1.00	.0159	0.002232	447960261.61
1124701680	Capacitor	C642	Bellcore Issue 6	Level I		0.001055	1.00	.0075	0.001055	948153417.43
1122722080	Capacitor	C613	Bellcore Issue 6	Level I		0.001055	1.00	.0075	0.001055	948153417.43
1653205201	Connection	CN27	Bellcore Issue 6	Level I		0.005456	1.00	.0390	0.005456	183279576.28
1231373740	Miscellaneous	Y7	Bellcore Issue 6	Level I		0.150000	1.00	1.0712	0.150000	6666666.67
14S3033800	Integrated Circuit	U20	Bellcore Issue 6	Level I		0.055983	1.00	.3998	0.055983	17862712.49
14S3260100	Integrated Circuit	U22	Bellcore Issue 6	Level I	18.80	0.106590	1.00	.7612	0.106590	9381758.86
14S4285201	Integrated Circuit	U24	Bellcore Issue 6	Level I	19.00	0.107709	1.00	.7692	0.107709	9284236.29
14S4280106	Integrated Circuit	U25	Bellcore Issue 6	Level I	13.70	0.081287	1.00	.5805	0.081287	12302052.67
14S4256201	Inductor	U28	Bellcore Issue 6	Level I	10.60	0.163863	1.00	1.1702	0.163863	6102642.64
14S4700900	Integrated Circuit	U31	Bellcore Issue 6	Level I	11.40	0.112434	1.00	.8029	0.112434	8894111.91
14S3020100	Integrated Circuit	U33	Bellcore Issue 6	Level I		0.055983	1.00	.3998	0.055983	17862712.49
14S4021310	Integrated Circuit	U35,U36,U58	Bellcore Issue 6	Level I		0.055983	3.00	1.1994	0.167948	17862712.49
14S4021310	Integrated Circuit	U44	Bellcore Issue 6	Level I	6.20	0.087508	1.00	.6249	0.087508	11427508.74

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**Date** 05. 13, 2005  
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**Temperature** 24.20

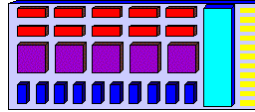


**Description** Top-level assembly  
**File Name** 9697852T08.RPJ  
**Time** 10:41 上午  
**Failure Rate** 14.002739  
**MTBF** 71,415

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
14S4021310	Integrated Circuit	U45	Bellcore Issue 6	Level I	6.30	0.088128	1.00	.6294	0.088128	11347170.86
14S4021310	Integrated Circuit	U57	Bellcore Issue 6	Level I	9.80	0.112485	1.00	.8033	0.112485	8890058.82
14S3128420	Integrated Circuit	U42	Bellcore Issue 6	Level I		0.055983	1.00	.3998	0.055983	17862712.49
14S4121600	Integrated Circuit	U43	Bellcore Issue 6	Level I	4.40	0.048435	1.00	.3459	0.048435	20646282.99
14S4650601	Integrated Circuit	U54	Bellcore Issue 6	Level I	14.70	0.156847	1.00	1.1201	0.156847	6375650.01
14S3610400	Integrated Circuit	U56	Bellcore Issue 6	Level I		0.055983	1.00	.3998	0.055983	17862712.49
1129710390	Capacitor	C49,C51,C558,C560,C73,C74,C80-C81	Bellcore Issue 6	Level I		0.001055	8.00	.0603	0.008437	948153417.43
1124410190	Capacitor	C463,C465,C466,C545,C546,C550-C551,C557,C565,C68,C79	Bellcore Issue 6	Level I		0.001055	11.00	.0829	0.011601	948153417.43
1315700310	Semiconductor	Q46	Bellcore Issue 6	Level I	13.90	0.114170	1.00	.8153	0.114170	8758836.18
1315443510	Semiconductor	U55	Bellcore Issue 6	Level I	12.50	0.110014	1.00	.7857	0.110014	9089758.29
1231332721	Miscellaneous	Y2	Bellcore Issue 6	Level I		0.150000	1.00	1.0712	0.150000	6666666.67
1214309000	Switching Device	CH1-CH5	Bellcore Issue 6			0.009094	5.00	.3247	0.045468	109967745.77
1653007204	Connection	CN20	Bellcore Issue 6	Level I		0.007639	1.00	.0546	0.007639	130913983.06
1653925216	Connection	CN26	Bellcore Issue 6	Level I		0.027281	1.00	.1948	0.027281	36655915.26
1129710050	Capacitor	C1,C121,C123,C125,C127,C129-C148,C14-C16,C188,C189,C194,C1-97,C2	Bellcore Issue 6	Level I		0.002708	33.00	.6382	0.089367	369265656.71
1129710050	Capacitor	C205,C21,C213,C22,C220,C230,C-231,C233,C235,C239,C27,C288,C2-89,C3	Bellcore Issue 6	Level I		0.002708	14.00	.2708	0.037913	369265656.71
1129710050	Capacitor	C30,C31,C336,C341,C350,C357,C-362-C364,C367,C368,C37,C39,C3-99,C4	Bellcore Issue 6	Level I		0.002708	15.00	.2901	0.040621	369265656.71
1129710050	Capacitor	C423,C430,C431,C442,C444,C448-C451,C454,C46,C460,C543,C548,-C56	Bellcore Issue 6	Level I		0.002708	13.00	.2514	0.035205	369265656.71
1129710050	Capacitor	C568,C58,C6,C60,C609-C612,C62-C624,C625,C84-C86,C88,C94,TC9	Bellcore Issue 6	Level I		0.002708	17.00	.3288	0.046037	369265656.71
1129701690	Capacitor	C10,C11,C159-C166,C168,C170-C-172,C174,C176,C177,C179-C187,-C191	Bellcore Issue 6	Level I		0.002526	27.00	.4870	0.068195	395921655.95
1129701690	Capacitor	C192,C193,C195,C196,C198-C204-C206-C212,C214-C219,C221-C223-C225	Bellcore Issue 6	Level I		0.002526	28.00	.5051	0.070721	395921655.95

**AAEON Reliability Prediction Report**

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**Reference Des**  
**Date** 05. 13, 2005  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temperature** 24.20

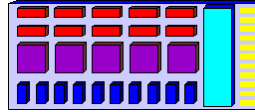


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**File Name** 9697852T08.RPJ  
**Time** 10:41 上午  
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Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
1129701690	Capacitor	C227, C229, C232, C234, C236-C238, C240-C285, C26, C28, C290-C300, C-302	Bellcore Issue 6	Level I		0.002526	67.00	1.2085	0.169225	395921655.95
1129701690	Capacitor	C304, C306, C308, C310, C312, C316, C318, C32, C320, C322, C324, C326, C328	Bellcore Issue 6	Level I		0.002526	13.00	.2345	0.032835	395921655.95
1129701690	Capacitor	C33, C337-C340, C342-C349, C35, C-351, C352, C354, C355, C358, C359, C-36	Bellcore Issue 6	Level I		0.002526	21.00	.3788	0.053041	395921655.95
1129701690	Capacitor	C361, C369-C398, C400, C402, C405, C413, C41, C418, C419, C421, C422, C424	Bellcore Issue 6	Level I		0.002526	48.00	.8658	0.121236	395921655.95
1129701690	Capacitor	C428, C429, C432-C437, C439, C44, C440, C441, C443, C446, C447, C449, C45	Bellcore Issue 6	Level I		0.002526	17.00	.3066	0.042938	395921655.95
1129701690	Capacitor	C450, C452, C453, C459, C469, C47, C470, C477, C48, C482, C483, C488, C494	Bellcore Issue 6	Level I		0.002526	18.00	.3247	0.045464	395921655.95
1129701690	Capacitor	C497-C503, C50, C508-C511, C520, C523, C524, C549, C55, C569, C57, C-585	Bellcore Issue 6	Level I		0.002526	20.00	.3608	0.050515	395921655.95
1129701690	Capacitor	C586, C587, C59, C590, C592-C596, C61, C626-C632, C63, C635, C643, C7, C8	Bellcore Issue 6	Level I		0.002526	22.00	.3968	0.055567	395921655.95
1129701690	Capacitor	C89, C9, C90-C93, C95-C98	Bellcore Issue 6	Level I		0.002526	10.00	.1804	0.025258	395921655.95
105A530103	Resistor	R191, R192	Bellcore Issue 6	Level I		0.002232	2.00	.0319	0.004465	447960261.61
105A501523	Resistor	R199	Bellcore Issue 6	Level I		0.002232	1.00	.0159	0.002232	447960261.61
105A702229	Resistor	R213-R215, R218, R221, R222, R229, R230, R340, R341, R354, R402, R430, R432	Bellcore Issue 6	Level I		0.002232	14.00	.2232	0.031253	447960261.61
105A702229	Resistor	R450, R451, R544	Bellcore Issue 6	Level I		0.002232	3.00	.0478	0.006697	447960261.61
105A701009	Resistor	R240-R251, R254, R257-R261, R268, R269, R276, R277, R284, R286, R302, R303	Bellcore Issue 6	Level I		0.002232	26.00	.4145	0.058041	447960261.61
105A701009	Resistor	R305, R307-R309, R312, R313	Bellcore Issue 6	Level I		0.002232	6.00	.0957	0.013394	447960261.61
105A706203	Resistor	R327	Bellcore Issue 6	Level I		0.002232	1.00	.0159	0.002232	447960261.61
105A513003	Resistor	R334	Bellcore Issue 6	Level 0		0.004465	1.00	.0319	0.004465	223980130.80
105A708223	Resistor	R351	Bellcore Issue 6	Level I		0.002232	1.00	.0159	0.002232	447960261.61

### AAEON Reliability Prediction Report

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**Reference Des**  
**Date** 05. 13, 2005  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temperature** 24.20



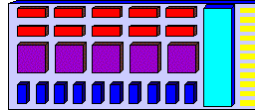
**Description** Top-level assembly  
**File Name** 9697852T08.RPJ  
**Time** 10:41 上午  
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**MTBF** 71,415

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
105A700003	Resistor	FB29,FB30,R365,R479,R490,R608-R654	Bellcore Issue 6	Level I		0.002232	7.00	.1116	0.015626	447960261.61
105A704333	Resistor	R423,R427	Bellcore Issue 6	Level I		0.002232	2.00	.0319	0.004465	447960261.61
105A506823	Resistor	R476,R478	Bellcore Issue 6	Level I		0.002232	2.00	.0319	0.004465	447960261.61
105A747033	Resistor	R579,R580	Bellcore Issue 6	Level I		0.002232	2.00	.0319	0.004465	447960261.61
105A702053	Resistor	R612	Bellcore Issue 6	Level I		0.013394	1.00	.0957	0.013394	74660043.60
1054600289	Resistor	SR1,SR2	Bellcore Issue 6	Level I		0.002232	2.00	.0319	0.004465	447960261.61
1189615187	Capacitor	TC26,TC34,TC6,TC8	Bellcore Issue 6	Level I		0.004856	4.00	.1387	0.019424	205934322.01
1189615187	Capacitor	TC33	Bellcore Issue 6	Level I	6.50	0.005504	1.00	.0393	0.005504	181679127.07
1189615187	Capacitor	FU7	Bellcore Issue 6	Level I	10.50	0.005930	1.00	.0423	0.005930	168638370.11
1189615187	Capacitor	TC27	Bellcore Issue 6	Level I	14.00	0.006319	1.00	.0451	0.006319	158246275.31
1189615190	Capacitor	C589,C591,TC29-TC31	Bellcore Issue 6	Level I		0.004856	5.00	.1734	0.024280	205934322.01
1189615190	Capacitor	TC28	Bellcore Issue 6	Level I	13.80	0.006297	1.00	.0450	0.006297	158816348.02
14S5A00700	Integrated Circuit	U2	Bellcore Issue 6	Level I		0.036144	1.00	.2581	0.036144	27667241.25
14S3156500	Integrated Circuit	U6,U8	Bellcore Issue 6	Level I		0.055983	2.00	.7996	0.111965	17862712.49
1315441012	Semiconductor	U10	Bellcore Issue 6	Level I	15.40	0.118754	1.00	.8481	0.118754	8420737.10
1315441012	Semiconductor	U12	Bellcore Issue 6	Level I	13.40	0.112673	1.00	.8046	0.112673	8875275.93
1315992601	Semiconductor	U16	Bellcore Issue 6	Level I	12.70	0.110601	1.00	.7898	0.110601	9041543.28
1315992601	Semiconductor	U53	Bellcore Issue 6	Level I	10.10	0.103156	1.00	.7367	0.103156	9694020.68
1315992601	Semiconductor	U14	Bellcore Issue 6	Level I	11.30	0.106543	1.00	.7609	0.106543	9385854.07
1231324551	Miscellaneous	Y6	Bellcore Issue 6	Level I		0.150000	1.00	1.0712	0.150000	6666666.67
14S4147600	Integrated Circuit	U21	Bellcore Issue 6	Level I	11.50	0.126388	1.00	.9026	0.126388	7912146.18
14S6334610	Integrated Circuit	U26	Bellcore Issue 6	Level I		0.028854	1.00	.2061	0.028854	34657068.43
1315970110	Semiconductor	U32,U41,U50,U51	Bellcore Issue 6	Level I		0.155578	4.00	4.4442	0.622313	6427634.65
14S4871202	Integrated Circuit	U34	Bellcore Issue 6	Level I	11.60	0.072515	1.00	.5179	0.072515	13790164.79
14S4048500	Integrated Circuit	U37,U39	Bellcore Issue 6	Level I		0.055983	2.00	.7996	0.111965	17862712.49
14S3065500	Integrated Circuit	U49	Bellcore Issue 6	Level I	12.50	0.135275	1.00	.9661	0.135275	7392359.48
1540733082	Resistor	RP51,RP52,RP57-RP60,RP62-RP65,RP73-RP76	Bellcore Issue 6	Level I		0.006021	14.00	.6020	0.084295	166083755.80
106B501031	Resistor	RT1-RT3	Bellcore Issue 6	Level I		0.010912	3.00	.2338	0.032737	91639788.14
105A501039	Resistor	R207,R324,R328,R331,R428,R442-R443,R468,R471,R473-R475,R484-R486	Bellcore Issue 6	Level I		0.002232	15.00	.2391	0.033485	447960261.61



### AAEON Reliability Prediction Report

**Part Number** 9697852T08  
**Reference Des**  
**Date** 05. 13, 2005  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temperature** 24.20

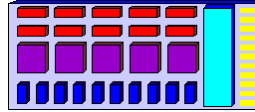


**Description** Top-level assembly  
**File Name** 9697852T08.RPJ  
**Time** 10:41 上午  
**Failure Rate** 14.002739  
**MTBF** 71,415

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
105A501039	Resistor	R5,R51,R537,R540-R542,R545,R5-46,R567,R568,R634,R638,R641,R6-42,R74	Bellcore Issue 6	Level I		0.002232	15.00	.2391	0.033485	447960261.61
105A501039	Resistor	R76,R78,R79,R86,R87,R89,R99	Bellcore Issue 6	Level I		0.002232	7.00	.1116	0.015626	447960261.61
105A700009	Resistor	R211,R364,R366-R368,R378,R39,-R393,R399,R403,R404,R411,R412-R420	Bellcore Issue 6	Level I		0.002232	14.00	.2232	0.031253	447960261.61
105A700009	Resistor	R421,R422,R424-R426,R429,R433-R465,R470,R505,R507,R508,R510-R55	Bellcore Issue 6	Level I		0.002232	14.00	.2232	0.031253	447960261.61
105A700009	Resistor	R59,R616,R617,R623,R625,R627,-R629,R631,R635-R637,R639,R640-R652	Bellcore Issue 6	Level I		0.002232	14.00	.2232	0.031253	447960261.61
105A700009	Resistor	R655,R657,R7,R84	Bellcore Issue 6	Level I		0.002232	4.00	.0638	0.008929	447960261.61
105A501003	Resistor	R17,R35,R44,R46,R83	Bellcore Issue 6	Level I		0.002232	5.00	.0797	0.011162	447960261.61
1059702261	Resistor	R105,R108,R19,R22,R36,R37,R49-R52,R58,R62,R82,R88	Bellcore Issue 6	Level I		0.002232	12.00	.1913	0.026788	447960261.61
105A517423	Resistor	R23	Bellcore Issue 6	Level I		0.002232	1.00	.0159	0.002232	447960261.61
105A551113	Resistor	R38	Bellcore Issue 6	Level I		0.002232	1.00	.0159	0.002232	447960261.61
1059700001	Resistor	R109,R110,R173,R175-R177,R390-R391,R45,R64,R67	Bellcore Issue 6	Level I		0.002232	11.00	.1754	0.024556	447960261.61
105A571533	Resistor	R53,R57	Bellcore Issue 6	Level I		0.002232	2.00	.0319	0.004465	447960261.61
105A502833	Resistor	R63	Bellcore Issue 6	Level I		0.002232	1.00	.0159	0.002232	447960261.61
105A500233	Resistor	R154,R70,R71	Bellcore Issue 6	Level I		0.002232	3.00	.0478	0.006697	447960261.61
105A533203	Resistor	R77,R90,R93,R98	Bellcore Issue 6	Level I		0.002232	4.00	.0638	0.008929	447960261.61
105A578703	Resistor	R172,R92,R97	Bellcore Issue 6	Level I		0.002232	3.00	.0478	0.006697	447960261.61
105A561903	Resistor	R407,R96	Bellcore Issue 6	Level I		0.002232	2.00	.0319	0.004465	447960261.61
105A521033	Resistor	R107	Bellcore Issue 6	Level I		0.002232	1.00	.0159	0.002232	447960261.61
105A503309	Resistor	R117-R120,R122-R125,R127,R129-R131,R133,R135,R137,R139,R140-R142	Bellcore Issue 6	Level I		0.002232	18.00	.2870	0.040182	447960261.61
105A503309	Resistor	R144-R148,R347,R348,R460-R463-R466,R487,R497,R551,R552,R559-R560	Bellcore Issue 6	Level I		0.002232	18.00	.2870	0.040182	447960261.61
105A503309	Resistor	R562,R646	Bellcore Issue 6	Level I		0.002232	2.00	.0319	0.004465	447960261.61
105A547503	Resistor	R149	Bellcore Issue 6	Level I		0.002232	1.00	.0159	0.002232	447960261.61

**AAEON Reliability Prediction Report**

**Part Number** 9697852T08  
**Reference Des**  
**Date** 05. 13, 2005  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temperature** 24.20

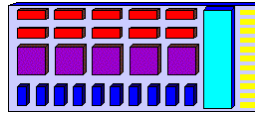


**Description** Top-level assembly  
**File Name** 9697852T08.RPJ  
**Time** 10:41 上午  
**Failure Rate** 14.002739  
**MTBF** 71,415

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
105A733009	Resistor	R156,R440,R441,R467,R469,R565-R566,R576,R577,R578	Bellcore Issue 6	Level I		0.002232	10.00	.1594	0.022323	447960261.61
105A554963	Resistor	R163-R165,R168,R171	Bellcore Issue 6	Level I		0.002232	5.00	.0797	0.011162	447960261.61
1124568280	Capacitor	C13	Bellcore Issue 6	Level I		0.001055	1.00	.0075	0.001055	948153417.43
14S4081100	Integrated Circuit	U59	Bellcore Issue 6	Level I		0.055983	1.00	.3998	0.055983	17862712.49
1231314350	Miscellaneous	Y1	Bellcore Issue 6	Level I		0.150000	1.00	1.0712	0.150000	6666666.67
1231325050	Miscellaneous	Y4	Bellcore Issue 6	Level I		0.150000	1.00	1.0712	0.150000	6666666.67
1759100006	Miscellaneous	BU1	Bellcore Issue 6	Level I		0.150000	1.00	1.0712	0.150000	6666666.67
1653010203	Connection	CN5	Bellcore Issue 6	Level I		0.010912	1.00	.0779	0.010912	91639788.14
1654030000	Connection	CN6	Bellcore Issue 6	Level I		0.016368	1.00	.1169	0.016368	61093192.09
1653004202	Connection	CN7	Bellcore Issue 6	Level I		0.004365	1.00	.0312	0.004365	229099470.35
1653005202	Connection	CN10,CN24	Bellcore Issue 6	Level I		0.005456	2.00	.0779	0.010912	183279576.28
1653022202	Connection	CN22	Bellcore Issue 6	Level I		0.024007	1.00	.1714	0.024007	41654449.15
1174522180	Capacitor	CP1	Bellcore Issue 6	Level I		0.001055	1.00	.0075	0.001055	948153417.43
1129722060	Capacitor	C190,C286,C287,C314,C315,C401-C5,TC32	Bellcore Issue 6	Level I		0.002708	8.00	.1547	0.021665	369265656.71
1124522880	Capacitor	C12	Bellcore Issue 6	Level I		0.001055	1.00	.0075	0.001055	948153417.43
105A549963	Resistor	R182	Bellcore Issue 6	Level I		0.002232	1.00	.0159	0.002232	447960261.61
105A512703	Resistor	R197	Bellcore Issue 6	Level I		0.002232	1.00	.0159	0.002232	447960261.61
105A540263	Resistor	R209,R318,R319	Bellcore Issue 6	Level I		0.002232	3.00	.0478	0.006697	447960261.61
105A560403	Resistor	R217,R227	Bellcore Issue 6	Level I		0.002232	2.00	.0319	0.004465	447960261.61
105A560463	Resistor	R220,R228	Bellcore Issue 6	Level I		0.002232	2.00	.0319	0.004465	447960261.61
105A705609	Resistor	R160,R167,R169,R170,R252,R253-R255,R256,R262-R267,R270-R275-R278	Bellcore Issue 6	Level I		0.002232	21.00	.3348	0.046879	447960261.61
105A705609	Resistor	R279-R283,R285,R287-R293,R296-R298,R300,R304,R306,R310,R311-R314	Bellcore Issue 6	Level I		0.002232	22.00	.3507	0.049111	447960261.61
105A705609	Resistor	R315	Bellcore Issue 6	Level I		0.002232	1.00	.0159	0.002232	447960261.61
105A506803	Resistor	R329	Bellcore Issue 6	Level I		0.002232	1.00	.0159	0.002232	447960261.61
105A548703	Resistor	R332	Bellcore Issue 6	Level I		0.002232	1.00	.0159	0.002232	447960261.61
105A522663	Resistor	R350	Bellcore Issue 6	Level I		0.002232	1.00	.0159	0.002232	447960261.61
105A733003	Resistor	R352	Bellcore Issue 6	Level I		0.002232	1.00	.0159	0.002232	447960261.61
105A510033	Resistor	R355	Bellcore Issue 6	Level I		0.002232	1.00	.0159	0.002232	447960261.61

**AAEON Reliability Prediction Report**

**Part Number** 9697852T08  
**Reference Des**  
**Date** 05. 13, 2005  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temperature** 24.20

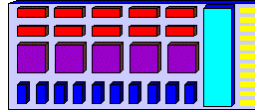


**Description** Top-level assembly  
**File Name** 9697852T08.RPJ  
**Time** 10:41 上午  
**Failure Rate** 14.002739  
**MTBF** 71,415

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
105A554903	Resistor	R406	Bellcore Issue 6	Level I		0.002232	1.00	.0159	0.002232	447960261.61
105A507509	Resistor	R431,R454,R455-R459	Bellcore Issue 6	Level I		0.002232	7.00	.1116	0.015626	447960261.61
105A514003	Resistor	R434	Bellcore Issue 6	Level I		0.002232	1.00	.0159	0.002232	447960261.61
105A702233	Resistor	R547,R548	Bellcore Issue 6	Level I		0.002232	2.00	.0319	0.004465	447960261.61
105A756033	Resistor	R581,R582	Bellcore Issue 6	Level I		0.002232	2.00	.0319	0.004465	447960261.61
105A504723	Resistor	R607,R609,R611	Bellcore Issue 6	Level I		0.002232	3.00	.0478	0.006697	447960261.61
105A523233	Resistor	R613	Bellcore Issue 6	Level I		0.002232	1.00	.0159	0.002232	447960261.61
1189633181	Capacitor	TC5	Bellcore Issue 6	Level I		0.004856	1.00	.0347	0.004856	205934322.01
1189633181	Capacitor	TC7	Bellcore Issue 6	Level I	12.20	0.006117	1.00	.0437	0.006117	163478821.37
11E9610190	Capacitor	TC10	Bellcore Issue 6	Level I		0.005999	1.00	.0428	0.005999	166686742.80
1189922180	Capacitor	TC21	Bellcore Issue 6	Level I	12.80	0.005686	3.00	.1218	0.017057	175879290.17
1189922180	Capacitor	TC20	Bellcore Issue 6	Level I	12.90	0.005696	2.00	.0814	0.011392	175561210.72
1189922180	Capacitor	TC23	Bellcore Issue 6	Level I	11.30	0.005533	1.00	.0395	0.005533	180745751.43
1189922180	Capacitor	TC22	Bellcore Issue 6	Level I	11.60	0.005563	1.00	.0397	0.005563	179757981.31
1189922180	Capacitor	TC24	Bellcore Issue 6	Level I	13.30	0.005737	1.00	.0410	0.005737	174296643.23
1189922180	Capacitor	TC25	Bellcore Issue 6	Level I	14.40	0.005852	1.00	.0418	0.005852	170882222.30
1189922180	Capacitor	TC11	Bellcore Issue 6	Level I	11.60	0.005563	1.00	.0397	0.005563	179757981.31
14S4070610	Integrated Circuit	U1	Bellcore Issue 6	Level I		0.055983	1.00	.3998	0.055983	17862712.49
14S5900600	Integrated Circuit	U3	Bellcore Issue 6	Level I	9.80	0.104983	1.00	.7497	0.104983	9525394.65
14S5A01400	Integrated Circuit	U38,U4,U5	Bellcore Issue 6	Level I		0.055983	3.00	1.1994	0.167948	17862712.49
14S2303700	Integrated Circuit	U7	Bellcore Issue 6	Level I	11.30	0.124675	1.00	.8904	0.124675	8020834.01
14S2705700	Integrated Circuit	U11	Bellcore Issue 6	Level I	16.20	0.173289	1.00	1.2375	0.173289	5770707.32
1314331010	Integrated Circuit	U13	Bellcore Issue 6	Level I	17.70	0.191273	1.00	1.3660	0.191273	5228126.61
14S4148500	Integrated Circuit	U15	Bellcore Issue 6	Level I	13.80	0.147672	1.00	1.0546	0.147672	6771770.53
14S5A00820	Integrated Circuit	U19	Bellcore Issue 6	Level I		0.037486	1.00	.2677	0.037486	26676778.99
1540756081	Resistor	RP10,RP13,RP14,RP17,RP18,RP2-,RP21,RP22,RP25,RP27,RP29,RP3-,RP31	Bellcore Issue 6	Level I		0.006021	13.00	.5590	0.078274	166083755.80
1540756081	Resistor	RP34,RP36,RP5,RP6,RP8	Bellcore Issue 6	Level I		0.006021	5.00	.2150	0.030105	166083755.80
1540782280	Resistor	RP37-RP44,RP46-RP48,RP53-RP5-6,RP61	Bellcore Issue 6	Level I		0.006021	16.00	.6880	0.096337	166083755.80
1540700080	Resistor	RP45,RP72	Bellcore Issue 6	Level I		0.006021	2.00	.0860	0.012042	166083755.80

**AAEON Reliability Prediction Report**

**Part Number** 9697852T08  
**Reference Des**  
**Date** 05. 13, 2005  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temperature** 24.20

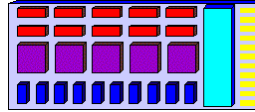


**Description** Top-level assembly  
**File Name** 9697852T08.RPJ  
**Time** 10:41 上午  
**Failure Rate** 14.002739  
**MTBF** 71,415

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
1540715180	Resistor	RP69	Bellcore Issue 6	Level I		0.006021	1.00	.0430	0.006021	166083755.80
105A704729	Resistor	R1,R150,R316,R345,R358-R361,R-452,R453,R646,R481,R483,R492,R-494	Bellcore Issue 6	Level I		0.002232	15.00	.2391	0.033485	447960261.61
105A704729	Resistor	R501,R509,R511-R513,R515-R518-,R520,R554,R555,R557,R558,R569-,R570	Bellcore Issue 6	Level I		0.002232	16.00	.2551	0.035717	447960261.61
105A704729	Resistor	R603-R605,R624,R626,R628,R630-,R645,R651	Bellcore Issue 6	Level I		0.002232	9.00	.1435	0.020091	447960261.61
105A500139	Resistor	R10-R12,R121,R13,R132,R134,R1-41,R143,R151,R155,R2,R203-R205-,R212	Bellcore Issue 6	Level I		0.002232	16.00	.2551	0.035717	447960261.61
105A500139	Resistor	R3,R346,R349,R363,R395,R4,R416-,R447,R472,R482,R489,R493,R500-,R514	Bellcore Issue 6	Level I		0.002232	14.00	.2232	0.031253	447960261.61
105A500139	Resistor	R564,R575,R66,R660,R662,R8	Bellcore Issue 6	Level I		0.002232	6.00	.0957	0.013394	447960261.61
105A710039	Resistor	R14,R200-R202,R223,R400,R419,-R42,R43,R535,R536,R538,R539,R-553	Bellcore Issue 6	Level I		0.002232	14.00	.2232	0.031253	447960261.61
105A710039	Resistor	R556,R6	Bellcore Issue 6	Level I		0.002232	2.00	.0319	0.004465	447960261.61
105A503033	Resistor	R477,R9,R94	Bellcore Issue 6	Level I		0.002232	3.00	.0478	0.006697	447960261.61
105A516513	Resistor	R15	Bellcore Issue 6	Level I		0.002232	1.00	.0159	0.002232	447960261.61
105A512033	Resistor	R18	Bellcore Issue 6	Level I		0.002232	1.00	.0159	0.002232	447960261.61
105A700133	Resistor	R20,R353,R606	Bellcore Issue 6	Level I		0.002232	3.00	.0478	0.006697	447960261.61
105A568123	Resistor	R21,R24	Bellcore Issue 6	Level I		0.002232	2.00	.0319	0.004465	447960261.61
105A708229	Resistor	R206,R320-R323,R325,R326,R33,-R330,R336,R338,R34,R343,R344,-R572	Bellcore Issue 6	Level I		0.002232	15.00	.2391	0.033485	447960261.61
105A708229	Resistor	R600,R658,R659	Bellcore Issue 6	Level I		0.002232	3.00	.0478	0.006697	447960261.61
105A502423	Resistor	R40,R436	Bellcore Issue 6	Level I		0.002232	2.00	.0319	0.004465	447960261.61
105A518223	Resistor	R100,R48	Bellcore Issue 6	Level I		0.002232	2.00	.0319	0.004465	447960261.61
105A547523	Resistor	R50	Bellcore Issue 6	Level I		0.002232	1.00	.0159	0.002232	447960261.61
105A507523	Resistor	R60	Bellcore Issue 6	Level I		0.002232	1.00	.0159	0.002232	447960261.61
105A502033	Resistor	R65,R72	Bellcore Issue 6	Level I		0.002232	2.00	.0319	0.004465	447960261.61
1059701133	Resistor	R69	Bellcore Issue 6	Level I		0.002232	1.00	.0159	0.002232	447960261.61
105A501033	Resistor	R16,R495,R496,R498,R73,R75	Bellcore Issue 6	Level I		0.002232	6.00	.0957	0.013394	447960261.61

**AAEON Reliability Prediction Report**

**Part Number** 9697852T08  
**Reference Des**  
**Date** 05. 13, 2005  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temperature** 24.20



**Description** Top-level assembly  
**File Name** 9697852T08.RPJ  
**Time** 10:41 上午  
**Failure Rate** 14.002739  
**MTBF** 71,415

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
105A705133	Resistor	R488,R499,R80	Bellcore Issue 6	Level I		0.002232	3.00	.0478	0.006697	447960261.61
1059700101	Resistor	R104,R231-R239,R85	Bellcore Issue 6	Level I		0.002232	11.00	.1754	0.024556	447960261.61
105A519103	Resistor	R95	Bellcore Issue 6	Level I		0.002232	1.00	.0159	0.002232	447960261.61
105A519623	Resistor	R102	Bellcore Issue 6	Level I		0.002232	1.00	.0159	0.002232	447960261.61
105A528723	Resistor	R103	Bellcore Issue 6	Level I		0.002232	1.00	.0159	0.002232	447960261.61
105A549969	Resistor	R111-R116,R185,R187,R188,R381-R384	Bellcore Issue 6	Level I		0.002232	13.00	.2072	0.029020	447960261.61
105A510053	Resistor	R126,R356,R357	Bellcore Issue 6	Level I		0.013394	3.00	.2870	0.040182	74660043.60
105A515003	Resistor	R152,R161,R193,R194,R219,R226-R333,R335,R620	Bellcore Issue 6	Level I		0.002232	9.00	.1435	0.020091	447960261.61
105A500133	Resistor	R153,R216,R225	Bellcore Issue 6	Level I		0.002232	3.00	.0478	0.006697	447960261.61
105A527463	Resistor	R162,R166,R184,R195,R196	Bellcore Issue 6	Level I		0.002232	5.00	.0797	0.011162	447960261.61
105A524303	Resistor	R180	Bellcore Issue 6	Level I		0.002232	1.00	.0159	0.002232	447960261.61
105A510009	Resistor	R181,R183,R186,R189,R190,R198-R571,R573,R574,R649,R650,R661	Bellcore Issue 6	Level I		0.002232	12.00	.1913	0.026788	447960261.61
1121701080	Capacitor	C17,C173,C175,C18-C20,C301,C3-03,C305,C307,C309,C311,C313,C3-17	Bellcore Issue 6	Level I		0.002526	14.00	.2525	0.035361	395921655.95
1121701080	Capacitor	C319,C321,C323,C34,C353,C356,-C38,C40,C416,C417,C42,C512-C5-19,C52	Bellcore Issue 6	Level I		0.002526	20.00	.3608	0.050515	395921655.95
1121701080	Capacitor	C521,C522,C525-C532,C54,C552--C556,C559,C561-C563,C567,C573-C574	Bellcore Issue 6	Level I		0.002526	23.00	.4149	0.058092	395921655.95
1121701080	Capacitor	C577,C580,C581,C584,C607,C608-C614,C616,C617-C623,C69-C72,C-76,C78	Bellcore Issue 6	Level I		0.002526	21.00	.3788	0.053041	395921655.95
1121701080	Capacitor	C83,C87	Bellcore Issue 6	Level I		0.002526	2.00	.0361	0.005052	395921655.95
1129701790	Capacitor	C122,C124,C126,C128,C167,C169-C224,C228,C325,C327,C360,C504-C506	Bellcore Issue 6	Level I		0.001589	13.00	.1475	0.020660	629242252.64
1129701790	Capacitor	C636-C639,C64,C640,C641,C65	Bellcore Issue 6	Level I		0.001589	8.00	.0908	0.012714	629242252.64
1124433190	Capacitor	C29,C462,C467,C468,C66,C67,C77-C82	Bellcore Issue 6	Level I		0.001055	8.00	.0603	0.008437	948153417.43
1124547280	Capacitor	C75	Bellcore Issue 6	Level I		0.001055	1.00	.0075	0.001055	948153417.43
1129722680	Capacitor	C149-C158	Bellcore Issue 6	Level I		0.005999	10.00	.4284	0.059993	166686742.80
1129747650	Capacitor	C226,C329,C420,C425	Bellcore Issue 6	Level I		0.002708	4.00	.0774	0.010832	369265656.71

