

EMB-6908T Reliability Prediction Report (MTBF)

Report NO : 09E070005

03-16-2009

Issue Date

Wenyuan Yang

Manager

Jessica Chou

Test Engineer

Reliability Prediction (MTBF)

I . **Model Name:** EMB-6908T

II . **Prediction Date:** Mar. 16, 2009

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: 25 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:**

- EMB-6908T:
Failure Rate: 18.330475 ppm
MTBF: 54,554 Hours

AAEON Reliability Prediction Report

Part Number 96976908T7-DIP
Reference Des
Date 03. 16, 2009
Environment GF, GU - Ground Fixed, Uncontrolled
Temp. (°C) 25.00

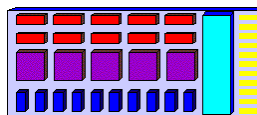


Description Top-level assembly
File Name EMB-6908T.RPJ
Time 2:14 下午
Failure Rate 18.330475
MTBF 54,554

Assembly Name	Part Number	Model	Method	Environment	Duty Cycle	Qty	Failure Rate	MTBF
EMB-6908T-A11	96976908T7-DIP	Telcordia	Method I Case 3	GF, GU - Ground Fixed,	100.00	1.00	18.330475	54,554

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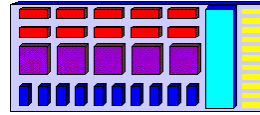


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File Name EMB-6908T.RPJ
Time 2:14 下午
Failure Rate 18.330475
MTBF 54,554

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
1129710050	Capacitor	C113,C13,C132,C133, C14,C197,C200,C343, C344,C353,C354, C355,C369,C376, C388,C395,C405, C410,C418,C431, C435,C442,C454, C455,C474,C492, C494,C504,C507, C520,C522,C557, C590,C591,C631, C647,C648,C666, C682,C71,C736,C	Telcordia Issue 1	Level I		0.005466	48.00	1.4312	0.262350	182961702.19
1129710390	Capacitor	C15,C16,C18,C19, C20,C346,C351,C436, C441,C461,C462, C471,C473,C487, C488,C771,C781, C794,C832,C834, C837	Telcordia Issue 1	Level I		0.004535	21.00	.5196	0.095244	220487045.01
1129701690	Capacitor	C100,C101,C102, C103,C104,C105, C106,C108,C110, C115,C116,C125, C135,C138,C141, C143,C145,C146, C148,C149,C152, C153,C154,C155, C156,C167,C168,C17, C170,C172,C175, C176,C177,C178, C180,C182,C184, C185,C186,C187,	Telcordia Issue 1	Level I		0.004535	286.00	7.0763	1.297128	220487045.01
1129647650	Capacitor	C195,C196,C21,C411, C511,C518,C53,C573, C604,C615,C642, C657,C671,C690, C729,C735,C780	Telcordia Issue 1	Level I		0.004535	17.00	.4206	0.077102	220487045.01
1124501890	Capacitor	C128,C73	Telcordia Issue 1	Level I		0.004535	2.00	.0495	0.009071	220487045.01
1121610060	Capacitor	C209,C251,C321, C365,C74,C786,C789, C790,C827	Telcordia Issue 1	Level I		0.004535	9.00	.2227	0.040819	220487045.01
1181647080	Capacitor	C236,C237,C77,C94	Telcordia Issue 1	Level I		0.004535	4.00	.0990	0.018142	220487045.01

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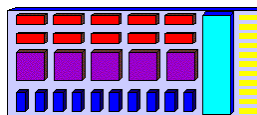


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1121747890	Capacitor	C697,C857	Telcordia Issue 1	Level I		0.004535	2.00	.0495	0.009071	220487045.01
1124701650	Capacitor	C908	Telcordia Issue 1	Level I		0.004535	1.00	.0247	0.004535	220487045.01
1129522650	Capacitor	C912	Telcordia Issue 1	Level I		0.004535	1.00	.0247	0.004535	220487045.01
1124533190	Capacitor	C925	Telcordia Issue 1	Level I		0.005466	1.00	.0298	0.005466	182961702.19
1301005441	Semiconductor	D1,D2,D3,D32	Telcordia Issue 1	Level I		0.027212	4.00	.5938	0.108850	36747840.84
1301053040	Semiconductor	D10,D33,D46,D49,D8	Telcordia Issue 1	Level I		0.023881	5.00	.6514	0.119405	41874327.58
1301005440	Semiconductor	D11,D30,D31,D43, D44,D56,D68,D69	Telcordia Issue 1	Level I		0.023881	8.00	1.0422	0.191048	41874327.58
1301005442	Semiconductor	D12,D13,D14,D47, D57	Telcordia Issue 1	Level I		0.023881	5.00	.6514	0.119405	41874327.58
1300003240	Semiconductor	D15,D16,D29	Telcordia Issue 1	Level I		0.023881	3.00	.3908	0.071643	41874327.58
1305100541	Semiconductor	D17,D18,D19,D20, D21,D22,D23,D24, D25,D26,D27,D28, D34,D35,D36,D37, D38,D39,D40,D41	Telcordia Issue 1	Level I		0.023881	20.00	2.6056	0.477620	41874327.58
1300001440	Semiconductor	D71,D72	Telcordia Issue 1	Level I		0.023881	2.00	.2606	0.047762	41874327.58
105A700003	Resistor	FB1,FB12,FB13,FB14, FB2,FB3,FB4,FB5, FB6,FB7,FB8,FB9, L10,L11,L15,L16, L20,L21,L23,L24, L25,L26,L27,L28, L32,L33,L38,R1000, R1001,R1002,R1003, R1016,R109,R111, R112,R149,R156, R247,R248,R259, R268,R293,R41,R430, R431,R442,R445,	Telcordia Issue 1	Level I		0.002268	64.00	.7918	0.145133	440974090.03
1059700001	Resistor	FB10,FB11,L22,L29, L30,L31,R501,R563, R577,R610,R720, R762,R766,R773, R774,R787,R791, R817,R958	Telcordia Issue 1	Level I		0.002268	19.00	.2351	0.043086	440974090.03
1752001601	Miscellaneous	F1,F2	Telcordia Issue 1	Level I		0.003000	2.00	.0327	0.006000	333333333.33
1315970211	Semiconductor	F3,F4,F5,F6,F7	Telcordia Issue 1	Level I		0.079603	5.00	2.1713	0.398016	12562298.27
1304002640	Semiconductor	IDE_LED1,SATA_LED1	Telcordia Issue 1	Level I		0.004877	2.00	.0532	0.009753	205063180.81

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1050547004	Resistor	R1005,R1006,R1033, R1034,R500,R889, R908	Telcordia Issue 1	Level I		0.002268	7.00	.0866	0.015874	440974090.03
1050703634	Resistor	R534,R899	Telcordia Issue 1	Level I		0.002268	2.00	.0247	0.004535	440974090.03
105A540269	Resistor	R564,R580	Telcordia Issue 1	Level I		0.002268	2.00	.0247	0.004535	440974090.03
105A544263	Resistor	R571,R748,R763	Telcordia Issue 1	Level I		0.002268	3.00	.0371	0.006803	440974090.03
105A706809	Resistor	R576	Telcordia Issue 1	Level I		0.002268	1.00	.0124	0.002268	440974090.03
105A705139	Resistor	R615,R616,R619, R620,R637,R638	Telcordia Issue 1	Level I		0.002268	6.00	.0742	0.013606	440974090.03
105A701059	Resistor	R639,R649	Telcordia Issue 1	Level I		0.002268	2.00	.0247	0.004535	440974090.03
105A501139	Resistor	R640,R647	Telcordia Issue 1	Level I		0.002268	2.00	.0247	0.004535	440974090.03
105A704739	Resistor	R1035,R659	Telcordia Issue 1	Level I		0.002268	2.00	.0247	0.004535	440974090.03
1050551004	Resistor	R663,R664	Telcordia Issue 1	Level I		0.002268	2.00	.0247	0.004535	440974090.03
105A516903	Resistor	R665	Telcordia Issue 1	Level I		0.002268	1.00	.0124	0.002268	440974090.03
105A526100	Resistor	R671	Telcordia Issue 1	Level I		0.002268	1.00	.0124	0.002268	440974090.03
1050580664	Resistor	R693	Telcordia Issue 1	Level I		0.002268	1.00	.0124	0.002268	440974090.03
105A556229	Resistor	R706,R717	Telcordia Issue 1	Level I		0.002268	2.00	.0247	0.004535	440974090.03
105A523239	Resistor	R714,R957	Telcordia Issue 1	Level I		0.002268	2.00	.0247	0.004535	440974090.03
105A503039	Resistor	R716	Telcordia Issue 1	Level I		0.002268	1.00	.0124	0.002268	440974090.03
105A519103	Resistor	R722	Telcordia Issue 1	Level I		0.002268	1.00	.0124	0.002268	440974090.03
105A511503	Resistor	R723	Telcordia Issue 1	Level I		0.002268	1.00	.0124	0.002268	440974090.03
105A720053	Resistor	R767,R769	Telcordia Issue 1	Level I		0.013606	2.00	.1485	0.027212	73495681.67
105A553629	Resistor	R799	Telcordia Issue 1	Level I		0.002268	1.00	.0124	0.002268	440974090.03
105A539263	Resistor	R800,R801	Telcordia Issue 1	Level I		0.002268	2.00	.0247	0.004535	440974090.03
105A501539	Resistor	R812	Telcordia Issue 1	Level I		0.002268	1.00	.0124	0.002268	440974090.03
105A530123	Resistor	R820,R824	Telcordia Issue 1	Level I		0.002268	2.00	.0247	0.004535	440974090.03
105A702263	Resistor	R825,R831,R859	Telcordia Issue 1	Level I		0.002268	3.00	.0371	0.006803	440974090.03
105A549919	Resistor	R942,R943	Telcordia Issue 1	Level I		0.002268	2.00	.0247	0.004535	440974090.03
105A563419	Resistor	R966	Telcordia Issue 1	Level I		0.002268	1.00	.0124	0.002268	440974090.03
14S4021310	Integrated Circuit	U1,U6	Telcordia Issue 1	Level I		0.059366	2.00	.6477	0.118732	16844654.92
14S4021310	Integrated Circuit	U44	Telcordia Issue 1	Level I	6.40	0.093885	1.00	.5122	0.093885	10651286.54
14S4021310	Integrated Circuit	U43	Telcordia Issue 1	Level I	7.20	0.099287	1.00	.5417	0.099287	10071786.97
14S4021310	Integrated Circuit	U42	Telcordia Issue 1	Level I	10.90	0.128122	1.00	.6990	0.128122	7805069.04

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File Name EMB-6908T.RPJ
Time 2:14 下午
Failure Rate 18.330475
MTBF 54,554

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14S4021310	Integrated Circuit	U41	Telcordia Issue 1	Level I	10.70	0.126388	1.00	.6895	0.126388	7912146.18
14S3170800	Integrated Circuit	U2	Telcordia Issue 1	Level I	16.30	0.183886	1.00	1.0032	0.183886	5438138.00
14S3524700	Integrated Circuit	U3	Telcordia Issue 1	Level I		0.059366	1.00	.3239	0.059366	16844654.92
14S4825730	Integrated Circuit	U4	Telcordia Issue 1	Level I	9.90	0.045987	1.00	.2509	0.045987	21745226.21
14S4825730	Integrated Circuit	U5	Telcordia Issue 1	Level I	10.60	0.047790	1.00	.2607	0.047790	20924808.07
14S4690E00	Integrated Circuit	U7	Telcordia Issue 1	Level I	18.60	0.073279	1.00	.3998	0.073279	13646490.84
14S6863100	Integrated Circuit	U8	Telcordia Issue 1	Level I		0.178568	1.00	.9742	0.178568	5600115.14
14S2048600	Integrated Circuit	U12	Telcordia Issue 1	Level I		0.059366	1.00	.3239	0.059366	16844654.92
1651203291	Connection	U13	Telcordia Issue 1	Level I		0.018207	1.00	.0993	0.018207	54923766.92
14S3146200	Integrated Circuit	U14	Telcordia Issue 1	Level I	22.20	0.269126	1.00	1.4682	0.269126	3715729.90
14S4963500	Integrated Circuit	U15	Telcordia Issue 1	Level I		0.059366	1.00	.3239	0.059366	16844654.92
14S4SB6000	Integrated Circuit	U17	Telcordia Issue 1	Level I	16.60	0.065986	1.00	.3600	0.065986	15154652.61
14S4195710	Integrated Circuit	U18	Telcordia Issue 1	Level I		0.059366	1.00	.3239	0.059366	16844654.92
14S3631200	Integrated Circuit	U21	Telcordia Issue 1	Level I		0.059366	1.00	.3239	0.059366	16844654.92
14S2200900	Integrated Circuit	U22	Telcordia Issue 1	Level I		0.059366	1.00	.3239	0.059366	16844654.92
14S5812502	Integrated Circuit	U23	Telcordia Issue 1	Level I		0.026183	1.00	.1428	0.026183	38193355.79
14S5A01400	Integrated Circuit	U24	Telcordia Issue 1	Level I		0.059366	1.00	.3239	0.059366	16844654.92
14S1230400	Integrated Circuit	U25	Telcordia Issue 1	Level I		0.059366	1.00	.3239	0.059366	16844654.92
14S5A12505	Integrated Circuit	U26	Telcordia Issue 1	Level I		0.059366	1.00	.3239	0.059366	16844654.92
14S4048502	Integrated Circuit	U27,U28	Telcordia Issue 1	Level I		0.059366	2.00	.6477	0.118732	16844654.92
14S6308000	Integrated Circuit	U29,U31	Telcordia Issue 1	Level I		0.141816	2.00	1.5473	0.283633	7051373.53
14S5A03200	Integrated Circuit	U32	Telcordia Issue 1	Level I		0.059366	1.00	.3239	0.059366	16844654.92
14S3917900	Integrated Circuit	U33,U50	Telcordia Issue 1	Level I		0.059366	2.00	.6477	0.118732	16844654.92
14S4871203	Integrated Circuit	U34	Telcordia Issue 1	Level I	12.30	0.052431	1.00	.2860	0.052431	19072689.46
1314108413	Integrated Circuit	U35	Telcordia Issue 1	Level I	10.50	0.124675	1.00	.6802	0.124675	8020834.01
1314512510	Integrated Circuit	U36	Telcordia Issue 1	Level I		0.059366	1.00	.3239	0.059366	16844654.92
14S4121601	Integrated Circuit	U39	Telcordia Issue 1	Level I		0.026183	1.00	.1428	0.026183	38193355.79
14S3128421	Integrated Circuit	U40	Telcordia Issue 1	Level I	10.70	0.126388	1.00	.6895	0.126388	7912146.18
14S1035801	Integrated Circuit	U46	Telcordia Issue 1	Level I		0.059366	1.00	.3239	0.059366	16844654.92
14S2712000	Semiconductor	U48	Telcordia Issue 1	Level I		0.047762	1.00	.2606	0.047762	20937163.79
14S2632100	Integrated Circuit	U49	Telcordia Issue 1	Level I		0.059366	1.00	.3239	0.059366	16844654.92

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131411171C	Integrated Circuit	U51	Telcordia Issue 1	Level I		0.059366	1.00	.3239	0.059366	16844654.92
14S4081110	Integrated Circuit	U52	Telcordia Issue 1	Level I		0.059366	1.00	.3239	0.059366	16844654.92
123131435B	Miscellaneous	Y1	Telcordia Issue 1	Level I		0.150000	1.00	.8183	0.150000	6666666.67
1231325058	Miscellaneous	Y3,Y4,Y5	Telcordia Issue 1	Level I		0.150000	3.00	2.4549	0.450000	6666666.67
1651614921	Connection	U16	Telcordia Issue 1	Level I		0.001138	1.00	.0062	0.001138	878780270.71
1750220323	Connection	BAT1	Telcordia Issue 1	Level I		0.001138	1.00	.0062	0.001138	878780270.71
175910000B	Miscellaneous	BUZZ1	Telcordia Issue 1	Level I		0.150000	1.00	.8183	0.150000	6666666.67
1654445300	Connection	CN1	Telcordia Issue 1	Level I		0.025604	1.00	.1397	0.025604	39056900.92
1653900034	Connection	CF	Telcordia Issue 1	Level I		0.013655	1.00	.0745	0.013655	73231689.23
1654418100	Connection	CN2	Telcordia Issue 1	Level I		0.005121	1.00	.0279	0.005121	195284504.60
1652517203	Connection	CN3	Telcordia Issue 1	Level I		0.001138	1.00	.0062	0.001138	878780270.71
1654612305	Connection	CN4	Telcordia Issue 1	Level I		0.003414	1.00	.0186	0.003414	292926756.90
1653207204	Connection	CN5	Telcordia Issue 1	Level I		0.007966	1.00	.0435	0.007966	125540038.67
1652522202	Connection	CN6,CN7	Telcordia Issue 1	Level I		0.012517	2.00	.1366	0.025035	79889115.52
1655004016	Connection	CN9	Telcordia Issue 1	Level I		0.002276	1.00	.0124	0.002276	439390135.35
1655005021	Connection	CN10	Telcordia Issue 1	Level I		0.002845	1.00	.0155	0.002845	351512108.28
1655004022	Connection	CN11	Telcordia Issue 1	Level I		0.002276	1.00	.0124	0.002276	439390135.35
1655305020	Connection	CN13	Telcordia Issue 1	Level I		0.002845	1.00	.0155	0.002845	351512108.28
1655304020	Connection	CN14	Telcordia Issue 1	Level I		0.002276	1.00	.0124	0.002276	439390135.35
1653005207	Connection	CN15	Telcordia Issue 1	Level I		0.005690	1.00	.0310	0.005690	175756054.14
1655004014	Connection	CN16,CN35	Telcordia Issue 1	Level I		0.001138	2.00	.0124	0.002276	878780270.71
1654907002	Connection	CN17,CN20,CN21, CN25	Telcordia Issue 1	Level I		0.003983	4.00	.0869	0.015931	251080077.35
1655902030	Connection	CN22	Telcordia Issue 1	Level I		0.001138	1.00	.0062	0.001138	878780270.71
1655417020	Connection	CN23	Telcordia Issue 1	Level I		0.011379	1.00	.0621	0.011379	87878027.07
1654232200	Connection	CN26	Telcordia Issue 1	Level I		0.036414	1.00	.1987	0.036414	27461883.46
1653006101	Connection	CN34	Telcordia Issue 1	Level I		0.003414	1.00	.0186	0.003414	292926756.90
1119622195	Capacitor	C22,C24	Telcordia Issue 1	Level I		0.042673	2.00	.4656	0.085346	23434140.55
1119647191	Capacitor	C83,C99	Telcordia Issue 1	Level I		0.071121	2.00	.7760	0.142243	14060484.33
1111610212	Capacitor	C159,C221,C222, C240,C241,C98	Telcordia Issue 1	Level I		0.071121	6.00	2.3280	0.426728	14060484.33
1169656130	Capacitor	C158,C171,C181, C189	Telcordia Issue 1	Level I		0.005466	4.00	.1193	0.021862	182961702.19
111961029F	Capacitor	C173,C174	Telcordia Issue 1	Level I		0.071121	2.00	.7760	0.142243	14060484.33

