

# PCM-9452 Reliability Prediction Report (MTBF)

Report NO : 08E070008

**3-13-2008**

Issue Date

**Wenyuan Yang**

Manager

**Jessica Chou**

Test Engineer

## Reliability Prediction (MTBF)

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I . **Model Name:** PCM-9452

II . **Prediction Date:** Mar. 13,2008

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: 25.9 degree 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:

- PCM-9452
  - Failure Rate: 19.358458 ppm
  - MTBF: 51,657 Hours

### AAEON Reliability Prediction Report

**Part Number** 9697945203-DIP  
**Reference Des**  
**Date** 03. 12, 2008  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temp. (°C)** 25.90



**Description** Top-level assembly  
**File Name** PCM-9452.RPJ  
**Time** 11:29 上午  
**Failure Rate** 19.358458  
**MTBF** 51,657

Assembly Name	Part Number	Model	Method	Environment	Duty Cycle	Qty	Failure Rate	MTBF
PCM-9452	9697945203-DIP	Bellcore	Method I Case 3	GF, GU - Ground Fixed,	100.00	1.00	19.358458	51,657

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**Time** 11:29 上午  
**Failure Rate** 19.358458  
**MTBF** 51,657

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
1652508204	Connection	CN6,CN7	Bellcore Issue 6	Level I		0.004770	2.00	.0493	0.009541	209631972.81
1653002101	Connection	JP3	Bellcore Issue 6	Level I		0.001193	1.00	.0062	0.001193	838527891.23
1653003101	Connection	JP1,JP4,JP6,JP8,JP9	Bellcore Issue 6	Level I		0.001789	5.00	.0462	0.008944	559018594.16
1653003201	Connection	CN16,CN17,JP10,JP5	Bellcore Issue 6	Level I		0.003578	4.00	.0739	0.014311	279509297.08
1653004100	Connection	CN15	Bellcore Issue 6	Level I		0.002385	1.00	.0123	0.002385	419263945.62
1653004201	Connection	CN1	Bellcore Issue 6	Level I		0.004770	1.00	.0246	0.004770	209631972.81
1653005100	Connection	CN30	Bellcore Issue 6	Level I		0.002981	1.00	.0154	0.002981	335411156.49
1653005200	Connection	JP7	Bellcore Issue 6	Level I		0.005963	1.00	.0308	0.005963	167705578.25
1655420020	Connection	CN5	Bellcore Issue 6	Level I		0.298142	1.00	1.5401	0.298142	3354111.56
1655005021	Connection	CN14	Bellcore Issue 6	Level I		0.002981	1.00	.0154	0.002981	335411156.49
1653213203	Connection	CN25	Bellcore Issue 6	Level I		0.015503	1.00	.0801	0.015503	64502145.48
1655003010	Connection	CN29,CN3	Bellcore Issue 6	Level I		0.001789	2.00	.0185	0.003578	559018594.16
1653220208	Connection	CN27	Bellcore Issue 6	Level I		0.023851	1.00	.1232	0.023851	41926394.56
1111610194	Capacitor	EC10,EC5,EC6,EC9	Bellcore Issue 6	Level I		0.044721	4.00	.9241	0.178885	22360743.77
1119647191	Capacitor	EC1	Bellcore Issue 6	Level I		0.074535	1.00	.3850	0.074535	13416446.26
1189682193	Capacitor	EC11,EC7	Bellcore Issue 6	Level I		0.074535	2.00	.7701	0.149071	13416446.26
1655306023	Connection	CN28	Bellcore Issue 6	Level I		0.003578	1.00	.0185	0.003578	279509297.08
1655902030	Connection	BAT1	Bellcore Issue 6	Level I		0.001193	1.00	.0062	0.001193	838527891.23
175011901C	Miscellaneous	BAT1	Bellcore Issue 6	Level I		0.900000	1.00	4.6491	0.900000	1111111.11
1654260207	Connection	CN21	Bellcore Issue 6	Level I		0.071554	1.00	.3696	0.071554	13975464.85
1189647193	Capacitor	EC3,EC4,EC8	Bellcore Issue 6	Level I		0.074535	3.00	1.1551	0.223606	13416446.26
1181647110	Capacitor	EC12,EC2	Bellcore Issue 6	Level I		0.074535	2.00	.7701	0.149071	13416446.26
175910000B	Miscellaneous	SP1	Bellcore Issue 6	Level I		0.150000	1.00	.7749	0.150000	6666666.67
1654282204	Connection	PCIE1	Bellcore Issue 6	Level I		0.097790	1.00	.5052	0.097790	10225949.89
1654068101	Connection	CN31	Bellcore Issue 6	Level I		0.040547	1.00	.2095	0.040547	24662585.04
1654907006	Connection	CN10,CN2	Bellcore Issue 6	Level I		0.004174	2.00	.0431	0.008348	239579397.50
165320520L	Connection	CN12,CN18-CN20,CN22-CN24,CN-26	Bellcore Issue 6	Level I		0.005963	8.00	.2464	0.047703	167705578.25
1653207209	Connection	CN11	Bellcore Issue 6	Level I		0.008348	1.00	.0431	0.008348	119789698.75
105A511823	Resistor	R255	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03
105A512103	Resistor	R40,R41	Bellcore Issue 6	Level I		0.002308	2.00	.0238	0.004616	433288366.03

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**Date** 03. 12, 2008  
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**Temp. (°C)** 25.90



**Description** Top-level assembly  
**File Name** PCM-9452.RPJ  
**Time** 11:29 上午  
**Failure Rate** 19.358458  
**MTBF** 51,657

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
105A700003	Resistor	R1,R22,R229,R253,R290,R314,R6-24,R673,R700,R747,R85,R90	Bellcore Issue 6	Level I		0.002308	12.00	.1431	0.027695	433288366.03
105A701003	Resistor	R276,R415,R44,R520,R719,R757	Bellcore Issue 6	Level I		0.002308	6.00	.0715	0.013848	433288366.03
105A701053	Resistor	R558,R641,R766	Bellcore Issue 6	Level I		0.002308	3.00	.0358	0.006924	433288366.03
105A702203	Resistor	R18,R21	Bellcore Issue 6	Level I		0.002308	2.00	.0238	0.004616	433288366.03
105A702223	Resistor	R16	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03
105A747003	Resistor	R743,R775	Bellcore Issue 6	Level I		0.002308	2.00	.0238	0.004616	433288366.03
1059700001	Resistor	R15,R319,R470,R508,R731,R739,-R91	Bellcore Issue 6	Level I		0.002308	7.00	.0835	0.016156	433288366.03
1059700101	Resistor	R93	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03
105A710053	Resistor	R543,R661	Bellcore Issue 6	Level I		0.013848	2.00	.1431	0.027695	72214727.67
105A500133	Resistor	R135,R275,R304,R305,R45,R713	Bellcore Issue 6	Level I		0.002308	6.00	.0715	0.013848	433288366.03
105A502033	Resistor	R727	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03
105A503033	Resistor	R168	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03
105A505623	Resistor	R274,R746	Bellcore Issue 6	Level I		0.002308	2.00	.0238	0.004616	433288366.03
105A549913	Resistor	R451,R50	Bellcore Issue 6	Level I		0.002308	2.00	.0238	0.004616	433288366.03
105A561903	Resistor	R54	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03
105A701523	Resistor	R355	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03
105A702033	Resistor	R344,R349,R391,R398	Bellcore Issue 6	Level I		0.002308	4.00	.0477	0.009232	433288366.03
105A702233	Resistor	R120	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03
105A703903	Resistor	R19,R20	Bellcore Issue 6	Level I		0.002308	2.00	.0238	0.004616	433288366.03
105A705103	Resistor	R137	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03
105A705133	Resistor	R2,R283,R567,R576	Bellcore Issue 6	Level I		0.002308	4.00	.0477	0.009232	433288366.03
105A564903	Resistor	R422	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03
1212306030	Inductor	FB16,FB19-FB22,FB31,FB4,FB40--FB50,FB5,FB9	Bellcore Issue 6	Level I		0.002308	20.00	.2384	0.046159	433288366.03
1231332721	Miscellaneous	Y3	Bellcore Issue 6	Level I		0.150000	1.00	.7749	0.150000	6666666.67
1122722780	Capacitor	C239,C240,C348	Bellcore Issue 6	Level I		0.004616	3.00	.0715	0.013848	216644183.01
1124518180	Capacitor	C252	Bellcore Issue 6	Level I		0.004616	1.00	.0238	0.004616	216644183.01
1124522280	Capacitor	C180	Bellcore Issue 6	Level I		0.004616	1.00	.0238	0.004616	216644183.01
1124533080	Capacitor	C560,C577	Bellcore Issue 6	Level I		0.004616	2.00	.0477	0.009232	216644183.01
1124539180	Capacitor	C243	Bellcore Issue 6	Level I		0.004616	1.00	.0238	0.004616	216644183.01

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**Temp. (°C)** 25.90



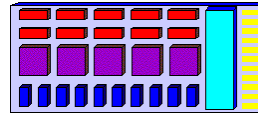
**Description** Top-level assembly  
**File Name** PCM-9452.RPJ  
**Time** 11:29 上午  
**Failure Rate** 19.358458  
**MTBF** 51,657

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
1301005441	Semiconductor	D1,D20,D21	Bellcore Issue 6	Level I		0.024505	3.00	.3798	0.073514	40808282.24
1211100102	Inductor	L11,L9	Bellcore Issue 6	Level I		0.087701	2.00	.9061	0.175403	11402325.42
1310390410	Semiconductor	Q13,Q24,Q3,Q35,Q39	Bellcore Issue 6	Level I		0.024505	5.00	.6329	0.122524	40808282.24
14S4021301	Integrated Circuit	U48,U9	Bellcore Issue 6	Level I		0.063394	2.00	.6549	0.126787	15774449.75
14S4021301	Integrated Circuit	U50	Bellcore Issue 6	Level I	14.80	0.176759	1.00	.9131	0.176759	5657436.29
14S4021301	Integrated Circuit	U14	Bellcore Issue 6	Level I	15.60	0.186320	1.00	.9625	0.186320	5367123.60
1315442010	Semiconductor	U53-U56	Bellcore Issue 6	Level I		0.081683	4.00	1.6878	0.326731	12242484.67
1651203291	Connection	FWH1	Bellcore Issue 6	Level I		0.019081	1.00	.0986	0.019081	52407993.20
14S4911216	Integrated Circuit	U34	Bellcore Issue 6	Level I	17.80	0.215069	1.00	1.1110	0.215069	4649678.11
14S5900600	Integrated Circuit	U47	Bellcore Issue 6	Level I		0.067942	1.00	.3510	0.067942	14718465.72
14S6334610	Integrated Circuit	U16	Bellcore Issue 6	Level I		0.032674	1.00	.1688	0.032674	30605440.50
1301005442	Semiconductor	D18,D33,D34	Bellcore Issue 6	Level I		0.024505	3.00	.3798	0.073514	40808282.24
1212306033	Inductor	FB10-FB15,FB18,FB23-FB30,FB32-FB38,FB6-FB8	Bellcore Issue 6	Level I		0.002308	25.00	.2981	0.057698	433288366.03
1129610260	Capacitor	C257,C258	Bellcore Issue 6	Level I		0.004616	2.00	.0477	0.009232	216644183.01
105A556223	Resistor	R616,R640	Bellcore Issue 6	Level I		0.002308	2.00	.0238	0.004616	433288366.03
14S5A00700	Integrated Circuit	U32	Bellcore Issue 6	Level I		0.039941	1.00	.2063	0.039941	25036779.98
105A520003	Resistor	R490	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03
105A512033	Resistor	R256,R662	Bellcore Issue 6	Level I		0.002308	2.00	.0238	0.004616	433288366.03
105A523233	Resistor	R617	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03
105A733033	Resistor	R557	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03
105A549903	Resistor	R244	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03
105A527463	Resistor	R113,R116,R133,R723	Bellcore Issue 6	Level I		0.002308	4.00	.0477	0.009232	433288366.03
1124447180	Capacitor	C247	Bellcore Issue 6	Level I		0.004616	1.00	.0238	0.004616	216644183.01
1315700212	Semiconductor	Q10,Q12,Q17-Q23,Q27,Q28,Q36,Q-38,Q4	Bellcore Issue 6	Level I		0.049010	14.00	3.5444	0.686135	20404141.12
1540747285	Resistor	RP1,RP2	Bellcore Issue 6	Level I		0.013015	2.00	.1345	0.026030	76833641.77
1540733085	Resistor	RP11	Bellcore Issue 6	Level I		0.013015	1.00	.0672	0.013015	76833641.77
105A511313	Resistor	R704	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03
105A700103	Resistor	R277,R46,R47,R49,R761,R87	Bellcore Issue 6	Level I		0.002308	6.00	.0715	0.013848	433288366.03
105A568123	Resistor	R258	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03
105A501823	Resistor	R271	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03



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**Description** Top-level assembly  
**File Name** PCM-9452.RPJ  
**Time** 11:29 上午  
**Failure Rate** 19.358458  
**MTBF** 51,657

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
105A701039	Resistor	R592,R600,R61,R619,R638,R676,-R698,R709-R711,R724,R791	Bellcore Issue 6	Level I		0.002308	12.00	.1431	0.027695	433288366.03
105A703309	Resistor	R12,R128,R146,R149-R154,R156--R159,R174-R189,R221,R228,R232--R234,R266,R407,R435,R452,R556-R577,R585,R63,R645,R679,R712	Bellcore Issue 6	Level I		0.002308	45.00	.5365	0.103857	433288366.03
105A703309	Resistor	R718,R75,R76	Bellcore Issue 6	Level I		0.002308	3.00	.0358	0.006924	433288366.03
105A701009	Resistor	R207-R209	Bellcore Issue 6	Level I		0.002308	3.00	.0358	0.006924	433288366.03
105A702229	Resistor	R148,R217,R218,R245,R397,R515-R65	Bellcore Issue 6	Level I		0.002308	7.00	.0835	0.016156	433288366.03
105A733009	Resistor	R110,R261,R263,R268,R308,R309	Bellcore Issue 6	Level I		0.002308	6.00	.0715	0.013848	433288366.03
1540782282	Resistor	RP10,RP3-RP9	Bellcore Issue 6	Level I		0.013015	8.00	.5379	0.104121	76833641.77
1129701690	Capacitor	C102-C105,C113,C114,C119-C121-C127-C133,C136,C138-C140,C147-C149,C152-C158,C164,C165,C167-C169,C17,C171-C179,C182	Bellcore Issue 6	Level I		0.004616	45.00	1.0730	0.207714	216644183.01
1129701690	Capacitor	C184,C486-C188,C190-C192,C195-C198,C20,C200-C203,C205,C206,-C208,C209,C211-C214,C216-C218-C22,C222-C224,C226,C227,C230	Bellcore Issue 6	Level I		0.004616	34.00	.8107	0.156939	216644183.01
1129701690	Capacitor	C231,C232,C234-C236,C24,C244--C246,C25,C253,C255,C26,C261,C-282,C285-C287,C294,C298,C3,C3-00,C303,C306,C309,C312,C315	Bellcore Issue 6	Level I		0.004616	27.00	.6438	0.124628	216644183.01
1129701690	Capacitor	C32,C321,C33,C334,C339,C344-C-346,C349,C350,C354,C360-C362,-C364,C366-C368,C370-C373,C377-C378,C380-C382,C386-C391,C393	Bellcore Issue 6	Level I		0.004616	34.00	.8107	0.156939	216644183.01
1129701690	Capacitor	C394,C395,C397-C402,C405,C406-C409-C414,C416-C419,C421,C422-C424,C425,C427,C429,C431,C435-C439,C44,C440,C441,C443	Bellcore Issue 6	Level I		0.004616	36.00	.8584	0.166171	216644183.01
1129701690	Capacitor	C444,C445,C447,C449-C454,C457-C460,C463,C464,C466,C467,C470-C472,C479,C483,C484,C488,C490-C492,C495-C498,C500,C503	Bellcore Issue 6	Level I		0.004616	33.00	.7869	0.152323	216644183.01
1129701690	Capacitor	C504-C506,C508,C511,C513-C515-C517,C519-C524,C526,C528,C533-C540,C544,C545,C547-C550,C552-C554,C556-C558,C56,C564	Bellcore Issue 6	Level I		0.004616	39.00	.9299	0.180019	216644183.01



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**Temp. (°C)** 25.90

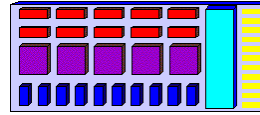


**Description** Top-level assembly  
**File Name** PCM-9452.RPJ  
**Time** 11:29 上午  
**Failure Rate** 19.358458  
**MTBF** 51,657

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
1129701690	Capacitor	C565,C569,C57,C570,C572,C575,-C576,C578,C58,C582,C586,C59,C-597-C599,C6,C600,C601,C604,C6-05,C607,C608,C61,C610,C614	Bellcore Issue 6	Level I		0.004616	25.00	.5961	0.115397	216644183.01
1129701690	Capacitor	C615,C617,C619,C62,C620,C622,-C623,C625,C627,C629,C631,C635-,C636,C641,C643,C648,C66,C72,C-75,C84,C86-C90,C92,C93	Bellcore Issue 6	Level I		0.004616	27.00	.6438	0.124628	216644183.01
1129710090	Capacitor	C15,C250,C266-C268,C34-C36,C3-84,C486,C487	Bellcore Issue 6	Level I		0.004616	11.00	.2623	0.050774	216644183.01
1129722091	Capacitor	C340-C343	Bellcore Issue 6	Level I		0.004616	4.00	.0954	0.018463	216644183.01
1129710390	Capacitor	C237,C289,C293,C305,C308,C311-,C314,C624,C628	Bellcore Issue 6	Level I		0.004616	9.00	.2146	0.041543	216644183.01
1129701790	Capacitor	C194,C2,C251,C304,C307,C310,C-313,C609,C638,C644-C646	Bellcore Issue 6	Level I		0.004616	12.00	.2861	0.055390	216644183.01
1129722680	Capacitor	C107,C108,C116,C117,C122,C123-,C125,C126,C274,C281,C481,C516-,C518,C95,C96	Bellcore Issue 6	Level I		0.004616	15.00	.3577	0.069238	216644183.01
1121733380	Capacitor	C241	Bellcore Issue 6	Level I		0.004616	1.00	.0238	0.004616	216644183.01
1301053040	Semiconductor	D23,D6	Bellcore Issue 6	Level I		0.024505	2.00	.2532	0.049010	40808282.24
105A702263	Resistor	R251,R257,R701,R728,R73+,R735	Bellcore Issue 6	Level I		0.002308	6.00	.0715	0.013848	433288366.03
1315970110	Integrated Circuit	U36	Bellcore Issue 6	Level I		0.063394	1.00	.3275	0.063394	15774449.75
1301005443	Semiconductor	D19,D24-D27,D31,D5	Bellcore Issue 6	Level I		0.024505	7.00	.8861	0.171534	40808282.24
1174522180	Capacitor	CP1,CP11-CP13,CP2-CP6	Bellcore Issue 6	Level I		0.005498	9.00	.2556	0.049480	181892521.70
105A547503	Resistor	R155	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03
105A524963	Resistor	R109,R354,R606,R95	Bellcore Issue 6	Level I		0.002308	4.00	.0477	0.009232	433288366.03
1121610060	Capacitor	C259,C60	Bellcore Issue 6	Level I		0.004616	2.00	.0477	0.009232	216644183.01
105A561923	Resistor	R260	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03
1129610050	Capacitor	C100,C124,C141,C16,C170,C183,-C19,C229,C233,C242,C254,C260,-C27,C283,C290,C291,C295,C330,-C337,C351,C352,C358,C359,C363	Bellcore Issue 6	Level I		0.004616	24.00	.5723	0.110781	216644183.01
1129610050	Capacitor	C376,C403,C43,C468,C469,C473,-C48,C5,C546,C551,C559,C602,C6-18,C63,C634,C64,C655,C77,C85,C-91	Bellcore Issue 6	Level I		0.004616	20.00	.4769	0.092317	216644183.01
14S5A12503	Integrated Circuit	U15	Bellcore Issue 6	Level I		0.063394	1.00	.3275	0.063394	15774449.75

**AAEON Reliability Prediction Report**

**Part Number** 9697945203-DIP  
**Reference Des**  
**Date** 03. 12, 2008  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temp. (°C)** 25.90

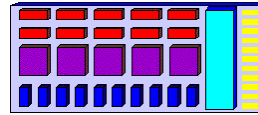


**Description** Top-level assembly  
**File Name** PCM-9452.RPJ  
**Time** 11:29 上午  
**Failure Rate** 19.358458  
**MTBF** 51,657

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
14S2303700	Integrated Circuit	U6	Bellcore Issue 6	Level I	10.60	0.133453	1.00	.6894	0.133453	7493247.70
1311006910	Semiconductor	Q25	Bellcore Issue 6	Level I		0.024505	1.00	.1266	0.024505	40808282.24
1214309000	Inductor	CH1-CH6	Bellcore Issue 6	Level I		0.138476	6.00	4.2920	0.830855	7221472.77
1654262300	Connection	MPC11	Bellcore Issue 6	Level I		0.073939	1.00	.3819	0.073939	13524643.41
1211101005	Inductor	L10,L2	Bellcore Issue 6	Level I		0.087701	2.00	.9061	0.175403	11402325.42
105A522663	Resistor	R142	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03
1304001340	Semiconductor	D2	Bellcore Issue 6	Level I		0.005294	1.00	.0273	0.005294	188909072.26
1304101340	Semiconductor	D17,D3	Bellcore Issue 6	Level I		0.005294	2.00	.0547	0.010587	188909072.26
1305000140	Semiconductor	D10-D16,D28,D29,D7-D9	Bellcore Issue 6	Level I		0.024505	12.00	1.5190	0.294058	40808282.24
105A710039	Resistor	R14,R291,R292,R299,R31,R32,R3-28,R329,R33,R338,R340,R341,R34-8,R35,R36,R386,R388,R389	Bellcore Issue 6	Level I		0.002308	18.00	.2146	0.041543	433288366.03
105A507509	Resistor	R17,R320-R327,R330,R334,R369	Bellcore Issue 6	Level I		0.002308	12.00	.1431	0.027695	433288366.03
105A702209	Resistor	R350,R39,R399,R411,R412,R421,-R562,R563,R570,R67,R741	Bellcore Issue 6	Level I		0.002308	11.00	.1311	0.025387	433288366.03
1124405090	Capacitor	C1,C11-C14,C4	Bellcore Issue 6	Level I		0.004616	6.00	.1431	0.027695	216644183.01
1124427090	Capacitor	C262-C265,C269,C270,C37,C38,C-649	Bellcore Issue 6	Level I		0.004616	9.00	.2146	0.041543	216644183.01
105A549969	Resistor	R199-R206,R210-R213,R357,R358-,R360,R361,R363,R364,R366,R367-,R628-R635	Bellcore Issue 6	Level I		0.002308	28.00	.3338	0.064622	433288366.03
105A501039	Resistor	R166,R167,R289,R419,R549,R650-,R,R655,R656,R672,R753	Bellcore Issue 6	Level I		0.002308	10.00	.1192	0.023079	433288366.03
14S4256201	Integrated Circuit	U12	Bellcore Issue 6	Level I	18.40	0.114054	1.00	.5892	0.114054	8767769.59
1315992601	Semiconductor	U7	Bellcore Issue 6	Level I	8.00	0.102046	1.00	.5271	0.102046	9799525.97
1124410190	Capacitor	C18,C21,C271-C273,C332,C49-C52-,C652,C80	Bellcore Issue 6	Level I		0.004616	12.00	.2861	0.055390	216644183.01
1124547290	Capacitor	C10,C28-C31,C7-C9	Bellcore Issue 6	Level I		0.004616	8.00	.1908	0.036927	216644183.01
105A705609	Resistor	R111,R424,R425,R428,R429,R431-,R436,R440,R441,R445,R447,R454-,R456,R458,R465-R468,R474-R476-,R478,R482-R485,R495,R498	Bellcore Issue 6	Level I		0.002308	29.00	.3457	0.066930	433288366.03
105A705609	Resistor	R499-R502,R504,R505,R511-R514-,R516-R519,R521-R530,R642,R683-,R692-R694,R96	Bellcore Issue 6	Level I		0.002308	30.00	.3577	0.069238	433288366.03

### AAEON Reliability Prediction Report

**Part Number** 9697945203-DIP  
**Reference Des**  
**Date** 03. 12, 2008  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temp. (°C)** 25.90

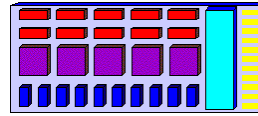


**Description** Top-level assembly  
**File Name** PCM-9452.RPJ  
**Time** 11:29 上午  
**Failure Rate** 19.358458  
**MTBF** 51,657

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
105A515009	Resistor	R331-R333,R4,R430,R444,R446,R-448,R457,R463,R49,R5,R58-R60,R-6,R793	Bellcore Issue 6	Level I		0.002308	17.00	.2027	0.039235	433288366.03
105A703909	Resistor	R124,R393,R400,R561,R568,R569-R574,R575,R580	Bellcore Issue 6	Level I		0.002308	9.00	.1073	0.020771	433288366.03
105A510009	Resistor	R117,R214,R215,R220,R222,R264-R384,R414,R434,R449,R477,R51,-R532,R548,R564,R582,R598,R603-R605,R636,R68	Bellcore Issue 6	Level I		0.002308	21.00	.2504	0.048467	433288366.03
105A703329	Resistor	R406,R416,R469,R494,R69,R82	Bellcore Issue 6	Level I		0.002308	6.00	.0715	0.013848	433288366.03
1315030210	Semiconductor	Q14,Q40,Q41	Bellcore Issue 6	Level I		0.081683	3.00	1.2658	0.245048	12242484.67
14S3156500	Integrated Circuit	U37	Bellcore Issue 6	Level I	25.10	0.341428	1.00	1.7637	0.341428	2928875.13
1124568280	Capacitor	C296	Bellcore Issue 6	Level I		0.004616	1.00	.0238	0.004616	216644183.01
1129722060	Capacitor	C23,C76,C74	Bellcore Issue 6	Level I		0.004616	3.00	.0715	0.013848	216644183.01
105A554963	Resistor	R112,R114,R134,R695,R722	Bellcore Issue 6	Level I		0.002308	5.00	.0596	0.011540	433288366.03
105A510213	Resistor	R687	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03
105A532413	Resistor	R216	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03
14S2221100	Integrated Circuit	U8	Bellcore Issue 6	Level I	9.80	0.126388	1.00	.6529	0.126388	7912146.18
105A501133	Resistor	R755	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03
1050727009	Resistor	R265	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03
105A525503	Resistor	R450	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03
14S2200900	Integrated Circuit	U3	Bellcore Issue 6	Level I	7.50	0.107919	1.00	.5575	0.107919	9266188.60
14S3065500	Integrated Circuit	U41	Bellcore Issue 6	Level I		0.063394	1.00	.3275	0.063394	15774449.75
1314158210	Semiconductor	Q8	Bellcore Issue 6	Level I	8.30	0.061727	1.00	.3189	0.061727	16200441.41
14S4048502	Integrated Circuit	U17	Bellcore Issue 6	Level I	15.30	0.182681	1.00	.9437	0.182681	5474030.45
14S4048502	Integrated Circuit	U18	Bellcore Issue 6	Level I		0.063394	1.00	.3275	0.063394	15774449.75
105A580663	Resistor	R509,R510	Bellcore Issue 6	Level I		0.002308	2.00	.0238	0.004616	433288366.03
14S4081110	Integrated Circuit	U2,U38	Bellcore Issue 6	Level I		0.063394	2.00	.6549	0.126787	15774449.75
14S4653700	Integrated Circuit	U57	Bellcore Issue 6	Level I	22.90	0.297691	1.00	1.5378	0.297691	3359183.52
11C2510190	Capacitor	C566,C606	Bellcore Issue 6	Level I		0.004616	2.00	.0477	0.009232	216644183.01
11E9501090	Capacitor	C166,C225,C275-C280,C284,C288-C297,C328,C355,C374,C45,C46,C-462,C47,C482,C499,C507,C512,C5-25,C527,C555,C581,C585,C613	Bellcore Issue 6	Level I		0.004616	28.00	.6676	0.129244	216644183.01

### AAEON Reliability Prediction Report

**Part Number** 9697945203-DIP  
**Reference Des**  
**Date** 03. 12, 2008  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temp. (°C)** 25.90



**Description** Top-level assembly  
**File Name** PCM-9452.RPJ  
**Time** 11:29 上午  
**Failure Rate** 19.358458  
**MTBF** 51,657

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
11E9501090	Capacitor	C632,C642,C65,C67-C71,C76,C78-C78	Bellcore Issue 6	Level I		0.004616	11.00	.2623	0.050774	216644183.01
11E9647680	Capacitor	C145,C185,C204,C369,C383,C420-C442,C446,C448,C456,C485,C493-C626	Bellcore Issue 6	Level I		0.004616	13.00	.3100	0.060006	216644183.01
121230603S	Inductor	FB1-FB3	Bellcore Issue 6	Level I		0.002308	3.00	.0358	0.006924	433288366.03
121230805X	Inductor	L1	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03
121230805Z	Inductor	FB39	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03
105A522103	Resistor	R115,R538	Bellcore Issue 6	Level I		0.002308	2.00	.0238	0.004616	433288366.03
105A501623	Resistor	R689	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03
14S4650601	Integrated Circuit	U1	Bellcore Issue 6	Level I	7.30	0.106435	1.00	.5498	0.106435	9395408.78
1189622190	Capacitor	TC26	Bellcore Issue 6	Level I	20.20	0.006673	1.00	.0345	0.006673	149862469.55
1189622190	Capacitor	TC19	Bellcore Issue 6	Level I	22.80	0.006973	1.00	.0360	0.006973	143400918.40
1189622190	Capacitor	TC10-TC12,TC14-TC18,TC20-TC22-TC2,TC28,TC5	Bellcore Issue 6	Level I		0.004616	14.00	.3338	0.064622	216644183.01
1189622190	Capacitor	TC27	Bellcore Issue 6	Level I	22.50	0.006938	1.00	.0358	0.006938	144126774.37
1189622190	Capacitor	TC23	Bellcore Issue 6	Level I	15.10	0.006107	1.00	.0315	0.006107	163741708.13
1189622190	Capacitor	TC7	Bellcore Issue 6	Level I	8.80	0.005452	1.00	.0282	0.005452	183415973.74
14S1826100	Integrated Circuit	U40	Bellcore Issue 6	Level I		0.063394	1.00	.3275	0.063394	15774449.75
1129522790	Capacitor	C238,C335,C338,C404,C428,C461-C647	Bellcore Issue 6	Level I		0.004616	7.00	.1669	0.032311	216644183.01
105A514713	Resistor	R287	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03
123131435B	Miscellaneous	Y5	Bellcore Issue 6	Level I		0.150000	1.00	.7749	0.150000	6666666.67
1231325058	Miscellaneous	Y1,Y2	Bellcore Issue 6	Level I		0.150000	2.00	1.5497	0.300000	6666666.67
14S3500700	Inductor	U5	Bellcore Issue 6	Level I		0.138476	1.00	.7153	0.138476	7221472.77
14S4121601	Integrated Circuit	U51	Bellcore Issue 6	Level I	17.10	0.106590	1.00	.5506	0.106590	9381758.86
105A536513	Resistor	R278,R288	Bellcore Issue 6	Level I		0.002308	2.00	.0238	0.004616	433288366.03
1315441014	Semiconductor	U23,U30,U31	Bellcore Issue 6	Level I		0.081683	3.00	1.2658	0.245048	12242484.67
1315441014	Semiconductor	Q9	Bellcore Issue 6	Level I	28.80	0.172995	1.00	.8936	0.172995	5780500.86
1315441014	Semiconductor	U26	Bellcore Issue 6	Level I	22.90	0.149976	1.00	.7747	0.149976	6667751.07
1315600210	Semiconductor	Q2	Bellcore Issue 6	Level I	7.30	0.100124	1.00	.5172	0.100124	9987609.91
1315600210	Semiconductor	Q30-Q32	Bellcore Issue 6	Level I		0.081683	3.00	1.2658	0.245048	12242484.67
1315600210	Semiconductor	Q29	Bellcore Issue 6	Level I	24.90	0.157505	1.00	.8136	0.157505	6348988.07

**AAEON Reliability Prediction Report**

**Part Number** 9697945203-DIP  
**Reference Des**  
**Date** 03. 12, 2008  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temp. (°C)** 25.90



**Description** Top-level assembly  
**File Name** PCM-9452.RPJ  
**Time** 11:29 上午  
**Failure Rate** 19.358458  
**MTBF** 51,657

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
106B501032	Resistor	R420,R654,R762	Bellcore Issue 6	Level I		0.011926	3.00	.1848	0.035777	83852789.12
106B747030	Resistor	R748	Bellcore Issue 6	Level I		0.011926	1.00	.0616	0.011926	83852789.12
1189633184	Capacitor	TC24,TC30-TC31	Bellcore Issue 6	Level I		0.004616	3.00	.0715	0.013848	216644183.01
1189633184	Capacitor	TC29	Bellcore Issue 6	Level I	9.70	0.005543	1.00	.0286	0.005543	180415687.91
1189647180	Capacitor	TC1	Bellcore Issue 6	Level I	7.40	0.005313	1.00	.0274	0.005313	188218836.98
1189647180	Capacitor	TC9	Bellcore Issue 6	Level I	8.50	0.005422	1.00	.0280	0.005422	184431074.04
14S3422600	Integrated Circuit	U25	Bellcore Issue 6	Level I	40.30	0.838528	1.00	4.3316	0.838528	1192566.14
14S3626200	Integrated Circuit	U35	Bellcore Issue 6	Level I	15.00	0.179106	1.00	.9252	0.179106	5583277.24
1129622050	Capacitor	C163,C199,C207,C210,C215,C455- C489,C561,C562,C567,C568,C573- C574,C579,C580,C583,C584,C589- C592,C595,C596	Bellcore Issue 6	Level I		0.004616	23.00	.5484	0.106165	216644183.01
1121647480	Capacitor	C144,C159,C160,C161,C301,C302- C333,C356,C365,C423,C426,C480- C494	Bellcore Issue 6	Level I		0.004616	13.00	.3100	0.060006	216644183.01
1315970211	Integrated Circuit	U27,U29,U33	Bellcore Issue 6	Level I		0.063394	3.00	.9824	0.190181	15774449.75
105A540213	Resistor	R750	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03
105A514733	Resistor	R736	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03
105A526113	Resistor	R756	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03
1129647650	Capacitor	C331,C430,C432,C633,C81	Bellcore Issue 6	Level I		0.004616	5.00	.1192	0.023079	216644183.01
14S4294501	Integrated Circuit	U10	Bellcore Issue 6	Level I	8.40	0.066772	1.00	.3449	0.066772	14976396.03
14S428010D	Integrated Circuit	U20	Bellcore Issue 6	Level I	29.70	0.200828	1.00	1.0374	0.200828	4979375.49
14S9103200	Integrated Circuit	U21	Bellcore Issue 6	Level I		0.063394	1.00	.3275	0.063394	15774449.75
1211101569	Inductor	L4	Bellcore Issue 6	Level I	17.00	0.003157	1.00	.0163	0.003157	316747720.98
1300581940	Semiconductor	D30	Bellcore Issue 6	Level I	21.20	0.043137	1.00	.2228	0.043137	23181994.27
1300581940	Semiconductor	D32	Bellcore Issue 6	Level I		0.024505	1.00	.1266	0.024505	40808282.24
14S3128421	Integrated Circuit	U52	Bellcore Issue 6	Level I	13.70	0.164336	1.00	.8489	0.164336	6085108.42
14S1486303	Integrated Circuit	U42	Bellcore Issue 6	Level I		0.063394	1.00	.3275	0.063394	15774449.75
1124515880	Capacitor	C639	Bellcore Issue 6	Level I		0.004616	1.00	.0238	0.004616	216644183.01
1122522890	Capacitor	C112,C379,C385,C396,C415,C465- C55,C99	Bellcore Issue 6	Level I		0.004616	8.00	.1908	0.036927	216644183.01
105A544213	Resistor	R751	Bellcore Issue 6	Level I		0.002308	1.00	.0119	0.002308	433288366.03
121110156A	Inductor	L7	Bellcore Issue 6	Level I	16.70	0.119343	1.00	.6165	0.119343	8379227.67

### AAEON Reliability Prediction Report

**Part Number** 9697945203-DIP  
**Reference Des**  
**Date** 03. 12, 2008  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temp. (°C)** 25.90



**Description** Top-level assembly  
**File Name** PCM-9452.RPJ  
**Time** 11:29 上午  
**Failure Rate** 19.358458  
**MTBF** 51,657

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
121110156A	Inductor	L8	Bellcore Issue 6	Level I	12.70	0.111188	1.00	.5744	0.111188	8993801.17
14S4871204	Integrated Circuit	U22	Bellcore Issue 6	Level I	13.50	0.088112	1.00	.4552	0.088112	11349140.96
14S5A12506	Integrated Circuit	U19	Bellcore Issue 6	Level I		0.039861	1.00	.2059	0.039861	25086905.17
121110336L	Inductor	L3	Bellcore Issue 6	Level I	7.90	0.101885	1.00	.5263	0.101885	9814958.49
14S4825730	Integrated Circuit	U13	Bellcore Issue 6	Level I	18.70	0.115840	1.00	.5984	0.115840	8632564.30
14S6308001	Integrated Circuit	U43	Bellcore Issue 6	Level I		0.051101	1.00	.2640	0.051101	19568913.88
14S5A00821	Integrated Circuit	U58	Bellcore Issue 6	Level I		0.039861	1.00	.2059	0.039861	25086905.17
11E9501091	Capacitor	C109-C111,C115,C118,C150,C151- C168,C292,C299,C357,C475,C478- C501,C502,C509,C510,C529-C531- C53,C650,C651,C82,C83	Bellcore Issue 6	Level I		0.004616	25.00	.5961	0.115397	216644183.01
1189615150	Capacitor	TC13,TC25,TC3,TC32-TC35,TC4,- TC6,TC8	Bellcore Issue 6	Level I		0.004616	10.00	.2384	0.046159	216644183.01
1121533480	Capacitor	C248,C353	Bellcore Issue 6	Level I		0.004616	2.00	.0477	0.009232	216644183.01
1654068201	Connection	CN31	Bellcore Issue 6	Level I		0.040547	1.00	.2095	0.040547	24662585.04
14S4151000	Integrated Circuit	U11	Bellcore Issue 6	Level I	13.60	0.088585	1.00	.4576	0.088585	11288615.25
1752001601	Miscellaneous	FS1	Bellcore Issue 6	Level I		0.030000	1.00	.1550	0.030000	33333333.33
1211106803	Inductor	L5	Bellcore Issue 6	Level I	15.40	0.116652	1.00	.6026	0.116652	8572518.54
1211106803	Inductor	L6	Bellcore Issue 6	Level I		0.087701	1.00	.4530	0.087701	11402325.42
1651611994	Connection	U28	Bellcore Issue 6	Level I	6.60	0.398604	1.00	2.0591	0.398604	2508755.96
1654030003	Connection	CN4	Bellcore Issue 6	Level I		0.017888	1.00	.0924	0.017888	55901859.42
1315230300	Semiconductor	Q1,Q11	Bellcore Issue 6	Level I		0.081683	2.00	.8439	0.163366	12242484.67
16515A099E	Connection	DIMM1,DIMM2	Bellcore Issue 6	Level I		0.014311	2.00	.1479	0.028622	69877324.27
1315667910	Semiconductor	Q7	Bellcore Issue 6	Level I	7.50	0.100670	1.00	.5200	0.100670	9933418.08
105A554969	Resistor	R369,R370,R379,R373	Bellcore Issue 6	Level I		0.002308	4.00	.0477	0.009232	433288366.03
14S3524700	Integrated Circuit	U39	Bellcore Issue 6	Level I		0.063394	1.00	.3275	0.063394	15774449.75
105A747009	Resistor	R767,R768	Bellcore Issue 6	Level I		0.002308	2.00	.0238	0.004616	433288366.03
1311390610	Semiconductor	Q37	Bellcore Issue 6	Level I		0.024505	1.00	.1266	0.024505	40808282.24
1653925216	Connection	CFD1	Bellcore Issue 6	Level I		0.029814	1.00	.1540	0.029814	33541115.65
1129747090	Capacitor	C640	Bellcore Issue 6	Level I		0.004616	1.00	.0238	0.004616	216644183.01
14S6200800	Integrated Circuit	FWH1	Bellcore Issue 6	Level I		0.205308	1.00	1.0606	0.205308	4870738.50
14S3001700	Inductor	U4	Bellcore Issue 6	Level I		0.138476	1.00	.7153	0.138476	7221472.77

