

# PCM-8120 Reliability Prediction Report (MTBF)

Report NO : 07E070008

**03-08-2007**

Issue Date

**Wenyuan Yang**

Manager

**Jessica Chou**

Test Engineer

## Reliability Prediction (MTBF)

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I . **Model Name:** PCM-8120 (969781200E)

II . **Prediction Date:** Mar. 8, 2007

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: 25.1 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: 19.028110 ppm
- MTBF: 52,554 Hours

### AAEON Reliability Prediction Report

**Part Number** 969781200E  
**Reference Des**  
**Date** 03. 8, 2007  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temp. (°C)** 25.10



**Description** Top-level assembly  
**File Name** PCM-8120.RPJ  
**Time** 3:25 下午  
**Failure Rate** 19.028110  
**MTBF** 52,554

Assembly Name	Part Number	Model	Method	Environment	Duty Cycle	Qty	Failure Rate	MTBF
PCM-8120	969781200E	Bellcore	Method I Case 3	GF, GU - Ground Fixed,	100.00	1.00	19.028110	52,554

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**Description** Top-level assembly  
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**Time** 3:25 下午  
**Failure Rate** 19.028110  
**MTBF** 52,554

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
1119610291	Capacitor	C105,C42,C43,C46,C50,C84	Bellcore Issue 6	Level I		0.071494	6.00	2.2544	0.428963	13987228.43
1652508204	Connection	LAN1,LAN2	Bellcore Issue 6	Level I		0.004576	2.00	.0481	0.009151	218550444.24
1653002101	Connection	JP10,JP12	Bellcore Issue 6	Level I		0.001144	2.00	.0120	0.002288	874201776.95
1653003101	Connection	JP3,JP4,JP9	Bellcore Issue 6	Level I		0.001716	3.00	.0271	0.005148	582801184.63
1653003200	Connection	CN8,CN9	Bellcore Issue 6	Level I		0.003432	2.00	.0361	0.006863	291400592.32
1653003201	Connection	JP1,JP2	Bellcore Issue 6	Level I		0.003432	2.00	.0361	0.006863	291400592.32
1653005100	Connection	CN14	Bellcore Issue 6	Level I		0.002860	1.00	.0150	0.002860	349680710.78
1653120225	Connection	PC104-2	Bellcore Issue 6	Level I		0.022878	1.00	.1202	0.022878	43710088.85
1653132220	Connection	PC104-1	Bellcore Issue 6	Level I		0.036605	1.00	.1924	0.036605	27318805.53
1653213201	Connection	LPT1	Bellcore Issue 6	Level I		0.014871	1.00	.0782	0.014871	67246290.53
1653217202	Connection	FDD-1	Bellcore Issue 6	Level I		0.019446	1.00	.1022	0.019446	51423633.94
1653220203	Connection	CN11	Bellcore Issue 6	Level I		0.022878	1.00	.1202	0.022878	43710088.85
1653300102	Connection	JP1*2,JP9	Bellcore Issue 6	Level I		0.022878	3.00	.3607	0.068634	43710088.85
1655306020	Connection	CN3	Bellcore Issue 6	Level I		0.003432	1.00	.0180	0.003432	291400592.32
1655003010	Connection	CN15,CN6	Bellcore Issue 6	Level I		0.001716	2.00	.0180	0.003432	582801184.63
1653900034	Connection	CFD1	Bellcore Issue 6	Level I		0.001144	1.00	.0060	0.001144	874201776.95
16540F0201	Connection	PCMCIA1	Bellcore Issue 6	Level I		0.085793	1.00	.4509	0.085793	11656023.69
1655417020	Connection	CN5	Bellcore Issue 6	Level I		0.011439	1.00	.0601	0.011439	87420177.69
1653004302	Connection	JP5-JP8	Bellcore Issue 6	Level I		0.006863	4.00	.1443	0.027454	145700296.16
1750220323	Connection	BAT1	Bellcore Issue 6	Level I		0.001144	1.00	.0060	0.001144	874201776.95
1653005207	Connection	CN17	Bellcore Issue 6	Level I		0.005720	1.00	.0301	0.005720	174840355.39
165300420G	Connection	CN16	Bellcore Issue 6	Level I		0.004576	1.00	.0240	0.004576	218550444.24
165322020D	Connection	IDE1	Bellcore Issue 6	Level I		0.022878	1.00	.1202	0.022878	43710088.85
1119622195	Capacitor	C14,C215,C31	Bellcore Issue 6	Level I		0.042896	3.00	.6763	0.128689	23312047.39
1111647191	Capacitor	C213,C216	Bellcore Issue 6	Level I		0.071494	2.00	.7515	0.142988	13987228.43
1653204205	Connection	CN1	Bellcore Issue 6	Level I		0.004576	1.00	.0240	0.004576	218550444.24
1111622102	Capacitor	C1,C5,C802-C803	Bellcore Issue 6	Level I		0.042896	5.00	1.1272	0.214481	23312047.39
165320820C	Connection	CN4	Bellcore Issue 6	Level I		0.009151	1.00	.0481	0.009151	109275222.12
16515C0493	Connection	DIMM1	Bellcore Issue 6	Level I		0.137268	1.00	.7214	0.137268	7285014.81
1654907002	Connection	CN19,CN20	Bellcore Issue 6	Level I		0.004004	2.00	.0421	0.008007	249771936.27
1211105671	Inductor	L10	Bellcore Issue 6	Level I		0.078634	1.00	.4133	0.078634	12717149.87

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**Part Number** 969781200E  
**Reference Des**  
**Date** 03. 8, 2007  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temp. (°C)** 25.10



**Description** Top-level assembly  
**File Name** PCM-8120.RPJ  
**Time** 3:25 下午  
**Failure Rate** 19.028110  
**MTBF** 52,554

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
1211105671	Inductor	L11	Bellcore Issue 6	Level I		0.078952	1.00	.4149	0.078952	12665874.09
1654260207	Connection	PC11	Bellcore Issue 6	Level I		0.068634	1.00	.3607	0.068634	14570029.62
1111615214	Capacitor	C12,C13,C18,C20	Bellcore Issue 6	Level I		0.071494	4.00	1.5029	0.285975	13987228.43
1653300107	Connection	J8,JP2*2,JP5,JP6,JP7	Bellcore Issue 6	Level I		0.001144	6.00	.0361	0.006863	874201776.95
1653300108	Connection	JP3,JP4	Bellcore Issue 6	Level I		0.001144	2.00	.0120	0.002288	874201776.95
175011901H	Miscellaneous	BAT2	Bellcore Issue 6	Level I		0.900000	1.00	4.7298	0.900000	1111111.11
105A501033	Resistor	R837,R838	Bellcore Issue 6	Level I		0.002272	2.00	.0239	0.004544	440111121.05
105A700003	Resistor	L18-L24,L26,L3,L39-L43,L46-L48,L7-L9,R14,R363,R461,R479,R527,R5-34	Bellcore Issue 6	Level I		0.002272	25.00	.2985	0.056804	440111121.05
105A701053	Resistor	R846,R849	Bellcore Issue 6	Level I		0.002272	2.00	.0239	0.004544	440111121.05
1059700001	Resistor	L31,L34,L35,L37,L38,L5,R160,R64-R763,R825-R828	Bellcore Issue 6	Level I		0.002272	13.00	.1552	0.029538	440111121.05
1059700101	Resistor	R168,R175,R42,R62,R734,R735,R-811-R816,R839-R844	Bellcore Issue 6	Level I		0.002272	18.00	.2149	0.040899	440111121.05
105A502033	Resistor	R848	Bellcore Issue 6	Level I		0.002272	1.00	.0119	0.002272	440111121.05
105A502423	Resistor	R48	Bellcore Issue 6	Level I		0.002272	1.00	.0119	0.002272	440111121.05
105A503033	Resistor	R778	Bellcore Issue 6	Level I		0.002272	1.00	.0119	0.002272	440111121.05
105A505623	Resistor	R521,R523	Bellcore Issue 6	Level I		0.002272	2.00	.0239	0.004544	440111121.05
105A507503	Resistor	L15-L17	Bellcore Issue 6	Level I		0.002272	3.00	.0358	0.006816	440111121.05
105A521033	Resistor	R323	Bellcore Issue 6	Level I		0.002272	1.00	.0119	0.002272	440111121.05
105A561903	Resistor	R774	Bellcore Issue 6	Level I		0.002272	1.00	.0119	0.002272	440111121.05
106B701031	Resistor	RT1,RT2	Bellcore Issue 6	Level I		0.011439	2.00	.1202	0.022878	87420177.69
1231332721	Miscellaneous	X1	Bellcore Issue 6	Level I		0.150000	1.00	.7883	0.150000	6666666.67
1121722650	Capacitor	C195,C209	Bellcore Issue 6	Level I		0.004544	2.00	.0478	0.009089	220055560.52
1121733780	Capacitor	C26,C32,C716,C717	Bellcore Issue 6	Level I		0.004544	4.00	.0955	0.018177	220055560.52
1124522080	Capacitor	C186,C405,C410,C444,C447	Bellcore Issue 6	Level I		0.004544	5.00	.1194	0.022722	220055560.52
1124547280	Capacitor	C748	Bellcore Issue 6	Level I		0.004544	1.00	.0239	0.004544	220055560.52
1129747650	Capacitor	C15,C154,C170,C241,C314,C379,-C401,C403,C433,C454-C457,C462-C472,C474	Bellcore Issue 6	Level I		0.004544	16.00	.3821	0.072709	220055560.52
1129747650	Capacitor	C494,C502,C512,C521,C539-C541-C543,C583,C61,C65,C671,C69,C7-09,C737	Bellcore Issue 6	Level I		0.004544	15.00	.3582	0.068165	220055560.52

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**Date** 03. 8, 2007  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temp. (°C)** 25.10



**Description** Top-level assembly  
**File Name** PCM-8120.RPJ  
**Time** 3:25 下午  
**Failure Rate** 19.028110  
**MTBF** 52,554

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
1301005440	Semiconductor	D1,D13-D17,D25,D26,D5	Bellcore Issue 6	Level I		0.023950	9.00	1.1328	0.215547	41754194.40
1301005441	Semiconductor	D10-D12,D24	Bellcore Issue 6	Level I		0.023950	4.00	.5035	0.095799	41754194.40
1304100540	Semiconductor	PWR1	Bellcore Issue 6	Level I		0.004921	1.00	.0259	0.004921	203197151.95
1310390410	Semiconductor	Q28	Bellcore Issue 6	Level I		0.023950	1.00	.1259	0.023950	41754194.40
14S1488000	Integrated Circuit	U31	Bellcore Issue 6	Level I		0.059802	1.00	.3143	0.059802	16721916.86
14S3000300	Inductor	U2,U3	Bellcore Issue 6	Level I		0.136329	2.00	1.4329	0.272658	7335185.35
14S4070610	Integrated Circuit	U43	Bellcore Issue 6	Level I	11.40	0.133453	1.00	.7013	0.133453	7493247.70
1651203291	Connection	U25	Bellcore Issue 6	Level I		0.018302	1.00	.0962	0.018302	54637611.06
1653005202	Connection	CN24,CN25	Bellcore Issue 6	Level I		0.005720	2.00	.0601	0.011439	174840355.39
14S6334610	Integrated Circuit	U36,U37	Bellcore Issue 6	Level I		0.030823	2.00	.3240	0.061645	32443707.38
1301005442	Semiconductor	D4,D6-D9	Bellcore Issue 6	Level I		0.023950	5.00	.6293	0.119748	41754194.40
14S4021310	Integrated Circuit	U38,U39,U41,U42	Bellcore Issue 6	Level I		0.059802	4.00	1.2571	0.239207	16721916.86
105A528723	Resistor	R318,R429,R438	Bellcore Issue 6	Level I		0.002272	3.00	.0358	0.006816	440111121.05
1129610260	Capacitor	C298,C300	Bellcore Issue 6	Level I		0.004544	2.00	.0478	0.009089	220055560.52
1315700211	Semiconductor	Q11,Q15,Q16,Q18,Q2,Q23,Q24,Q3- 2-Q34,Q37,Q38,Q41-Q44,Q46,Q47- Q50,Q51	Bellcore Issue 6	Level I		0.079832	20.00	8.3910	1.596646	12526258.32
1315700211	Semiconductor	Q58,Q59,Q6,Q60,Q61,Q63,Q64,Q7- Q8	Bellcore Issue 6	Level I		0.079832	9.00	3.7759	0.718491	12526258.32
14S5A01400	Integrated Circuit	U1	Bellcore Issue 6	Level I		0.059802	1.00	.3143	0.059802	16721916.86
14S5A00700	Integrated Circuit	U44	Bellcore Issue 6	Level I		0.038112	1.00	.2003	0.038112	26238222.86
14S5A00600	Integrated Circuit	U30	Bellcore Issue 6	Level I	10.10	0.067656	1.00	.3556	0.067656	14780707.51
1211104760	Inductor	L44,L45	Bellcore Issue 6	Level I		0.086342	2.00	.9075	0.172684	11581871.61
14S5A00400	Integrated Circuit	U20,U21	Bellcore Issue 6	Level I		0.039527	2.00	.4155	0.079055	25298918.16
105A533203	Resistor	R773,R776,R781	Bellcore Issue 6	Level I		0.002272	3.00	.0358	0.006816	440111121.05
105A512403	Resistor	R174	Bellcore Issue 6	Level I		0.002272	1.00	.0119	0.002272	440111121.05
1121710090	Capacitor	C350	Bellcore Issue 6	Level I		0.004544	1.00	.0239	0.004544	220055560.52
105A503300	Resistor	R592,R596,R598,R602,R604,R608- ,R621,R623,R629,R632,R635,R638- -R641,R643	Bellcore Issue 6	Level I		0.002272	16.00	.1911	0.036354	440111121.05
105A503300	Resistor	R652,R661-R664,R674,R676,R678- ,R684,R687,R691,R699,R703,R705- ,R707,R711	Bellcore Issue 6	Level I		0.002272	16.00	.1911	0.036354	440111121.05

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**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temp. (°C)** 25.10



**Description** Top-level assembly  
**File Name** PCM-8120.RPJ  
**Time** 3:25 下午  
**Failure Rate** 19.028110  
**MTBF** 52,554

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
105A503300	Resistor	R713,R715,R722,R723,R728,R731-,R732,R736,R738,R741,R743,R764-,R765,R767	Bellcore Issue 6	Level I		0.002272	14.00	.1672	0.031810	440111121.05
105A503300	Resistor	R768,R770,R771	Bellcore Issue 6	Level I		0.002272	3.00	.0358	0.006816	440111121.05
14S4638430	Integrated Circuit	U4	Bellcore Issue 6	Level I		0.059802	1.00	.3143	0.059802	16721916.86
1540710084	Resistor	RN15-RN20	Bellcore Issue 6	Level I		0.006275	6.00	.1979	0.037648	159372657.61
1540710382	Resistor	RN10-RN14,RN23-RN26,RN3-RN9	Bellcore Issue 6	Level I		0.007843	16.00	.6595	0.125492	127498126.09
1540747285	Resistor	RN21,RN22,RN27-RN30	Bellcore Issue 6	Level I		0.006275	6.00	.1979	0.037648	159372657.61
105A507523	Resistor	R44	Bellcore Issue 6	Level I		0.002272	1.00	.0119	0.002272	440111121.05
105A708229	Resistor	R140,R142,R167,R200,R499,R63,-R630,R642,R67,R878,R879,R891	Bellcore Issue 6	Level I		0.002272	12.00	.1433	0.027266	440111121.05
105A700139	Resistor	R117,R12,R121,R125,R136,R17,R19,R23,R241,R256,R282,R287,R32-5,R335,R337	Bellcore Issue 6	Level I		0.002272	15.00	.1791	0.034082	440111121.05
105A700139	Resistor	R347,R349,R366,R376,R394,R395-,R40,R465,R480,R494,R537,R59,R60,R66,R68	Bellcore Issue 6	Level I		0.002272	15.00	.1791	0.034082	440111121.05
105A700139	Resistor	R73,R753,R756,R76,R761,R783,R784,R79,R8,R84,R845,R887,R888,-R894-R897	Bellcore Issue 6	Level I		0.002272	16.00	.1911	0.036354	440111121.05
105A700139	Resistor	R899,R99	Bellcore Issue 6	Level I		0.002272	2.00	.0239	0.004544	440111121.05
105A704729	Resistor	R123,R126,R15,R151,R156,R18,R181,R194,R197,R198,R20,R21,R22-2,R230,R303	Bellcore Issue 6	Level I		0.002272	15.00	.1791	0.034082	440111121.05
105A704729	Resistor	R311,R316,R331,R332,R336,R338-,R346,R353,R360-R362,R365,R367-,R375,R383	Bellcore Issue 6	Level I		0.002272	22.00	.2627	0.049987	440111121.05
105A704729	Resistor	R401,R404,R405,R415,R420,R421-,R426,R436,R439,R492,R512-R515-,R53,R535	Bellcore Issue 6	Level I		0.002272	16.00	.1911	0.036354	440111121.05
105A704729	Resistor	R538,R542,R548,R549,R558,R561-,R564,R567,R568,R571,R572,R574-,R578,R581	Bellcore Issue 6	Level I		0.002272	16.00	.1911	0.036354	440111121.05
105A704729	Resistor	R590,R611,R625,R679,R69,R70,R717,R718,R721,R729,R74,R75,R78-7,R788,R789	Bellcore Issue 6	Level I		0.002272	15.00	.1791	0.034082	440111121.05
105A704729	Resistor	R790-R795,R801,R804,R806,R81,-R810,R817,R82,R85,R863-R866,R872-R875	Bellcore Issue 6	Level I		0.002272	22.00	.2627	0.049987	440111121.05







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**Reference Des**  
**Date** 03. 8, 2007  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temp. (°C)** 25.10

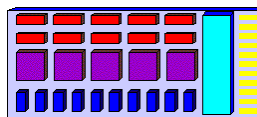


**Description** Top-level assembly  
**File Name** PCM-8120.RPJ  
**Time** 3:25 下午  
**Failure Rate** 19.028110  
**MTBF** 52,554

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
1129710390	Capacitor	C10,C106,C11,C167,C173,C175,C-191,C203,C236,C243,C257,C438,C-466,C487	Bellcore Issue 6	Level I		0.004544	14.00	.3343	0.063620	220055560.52
1129710390	Capacitor	C496,C516,C519,C525,C529,C531-C536,C547,C578,C582,C662,C74-C749,C793	Bellcore Issue 6	Level I		0.004544	14.00	.3343	0.063620	220055560.52
1129710390	Capacitor	C794	Bellcore Issue 6	Level I		0.004544	1.00	.0239	0.004544	220055560.52
1129747090	Capacitor	C252,C258,C260-C263,C330-C333-C355,C784-C786,C789	Bellcore Issue 6	Level I		0.004544	15.00	.3582	0.068165	220055560.52
1315030110	Semiconductor	Q62,Q65	Bellcore Issue 6	Level I		0.000000	2.00	.0000	0.000000	.00
1301053040	Semiconductor	D19-D23,D2,D3	Bellcore Issue 6	Level I		0.023950	7.00	.8811	0.167648	41754194.40
1301053040	Semiconductor	D18	Bellcore Issue 6	Level I	19.50	0.040513	1.00	.2129	0.040513	24683543.89
1059702261	Resistor	R485	Bellcore Issue 6	Level I		0.002272	1.00	.0119	0.002272	440111121.05
105A547503	Resistor	R796	Bellcore Issue 6	Level I		0.002272	1.00	.0119	0.002272	440111121.05
1129710050	Capacitor	C104,C116,C128,C131,C148,C17-C21,C210,C211,C253,C254,C266-C267,C307	Bellcore Issue 6	Level I		0.004544	14.00	.3343	0.063620	220055560.52
1129710050	Capacitor	C349,C35,C359,C366,C372,C375-C377,C380,C382-C384,C387,C398-C412,C414	Bellcore Issue 6	Level I		0.004544	15.00	.3582	0.068165	220055560.52
1129710050	Capacitor	C419,C439,C445,C451,C505,C511-C514,C522,C528,C530,C533,C550-C584,C597	Bellcore Issue 6	Level I		0.004544	14.00	.3343	0.063620	220055560.52
1129710050	Capacitor	C603,C605,C606,C612,C617,C619-C635,C642,C719,C720,C728,C729-C750,C783	Bellcore Issue 6	Level I		0.004544	14.00	.3343	0.063620	220055560.52
1129710050	Capacitor	C99	Bellcore Issue 6	Level I		0.004544	1.00	.0239	0.004544	220055560.52
14S4813905	Integrated Circuit	U8	Bellcore Issue 6	Level I	11.10	0.074119	1.00	.3895	0.074119	13491849.78
14S4813905	Integrated Circuit	U9	Bellcore Issue 6	Level I	11.80	0.077000	1.00	.4047	0.077000	12987003.40
1311119710	Semiconductor	Q35,Q36	Bellcore Issue 6	Level I		0.023950	2.00	.2517	0.047899	41754194.40
14S4820900	Integrated Circuit	U24	Bellcore Issue 6	Level I	15.70	0.094933	1.00	.4989	0.094933	10533792.86
1654262300	Connection	MPC11	Bellcore Issue 6	Level I		0.070922	1.00	.3727	0.070922	14100028.66
105A710039	Resistor	R124,R529,R543,R599	Bellcore Issue 6	Level I		0.002272	4.00	.0478	0.009089	440111121.05
105A505109	Resistor	R189,R253,R280,R283,R284,R289-R292,R299,R650	Bellcore Issue 6	Level I		0.002272	9.00	.1075	0.020449	440111121.05
105A501539	Resistor	R500,R501	Bellcore Issue 6	Level I		0.002272	2.00	.0239	0.004544	440111121.05

### AAEON Reliability Prediction Report

**Part Number** 969781200E  
**Reference Des**  
**Date** 03. 8, 2007  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temp. (°C)** 25.10

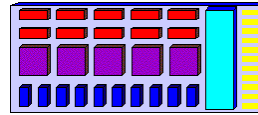


**Description** Top-level assembly  
**File Name** PCM-8120.RPJ  
**Time** 3:25 下午  
**Failure Rate** 19.028110  
**MTBF** 52,554

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
1124405090	Capacitor	C274,C308,C317	Bellcore Issue 6	Level I		0.004544	3.00	.0716	0.013633	220055560.52
1124427090	Capacitor	C303,C523,C71,C75	Bellcore Issue 6	Level I		0.004544	4.00	.0955	0.018177	220055560.52
1124547190	Capacitor	C272,C278,C309,C315,C329,C335-C340,C343,C344,C352,C354,C356-C367,C378	Bellcore Issue 6	Level I		0.004544	14.00	.3343	0.063620	220055560.52
1124547190	Capacitor	C408,C40	Bellcore Issue 6	Level I		0.004544	2.00	.0478	0.009089	220055560.52
105A549969	Resistor	R24-R27,R32-R35,R446,R449,R45-4-R459,R467,R468,R615	Bellcore Issue 6	Level I		0.002272	19.00	.2269	0.043171	440111121.05
105A501039	Resistor	R104,R116,R204,R214,R250,R264-R266,R268,R277,R294,R297,R305-R314,R350	Bellcore Issue 6	Level I		0.002272	15.00	.1791	0.034082	440111121.05
105A501039	Resistor	R354,R392,R403,R444,R477,R489-R49,R490,R50,R507,R51,R52,R54-0,R648,R656	Bellcore Issue 6	Level I		0.002272	15.00	.1791	0.034082	440111121.05
105A501039	Resistor	R675,R686,R689,R692,R693,R697-R7,R701,R708,R709,R712,R714,R-744,R745	Bellcore Issue 6	Level I		0.002272	14.00	.1672	0.031810	440111121.05
105A501039	Resistor	R750,R757,R759,R760,R775,R782-R808,R831-R834,R856-R858,R869-R885,R886	Bellcore Issue 6	Level I		0.002272	17.00	.2030	0.038627	440111121.05
105A501039	Resistor	R893,R913,R914,R915	Bellcore Issue 6	Level I		0.002272	4.00	.0478	0.009089	440111121.05
1653925216	Connection	CFD1	Bellcore Issue 6	Level I		0.028598	1.00	.1503	0.028598	34968071.08
16540F0200	Connection	PCMCIA1	Bellcore Issue 6	Level I		0.085793	1.00	.4509	0.085793	11656023.69
1315992601	Semiconductor	Q56,Q57	Bellcore Issue 6	Level I		0.159665	2.00	1.6782	0.319329	6263129.16
1121701080	Capacitor	C102,C121-C123,C132,C133,C144-C151,C199,C202,C235,C273,C279-C29,C310	Bellcore Issue 6	Level I		0.004544	15.00	.3582	0.068165	220055560.52
1121701080	Capacitor	C316,C318,C321,C323,C337,C339-C341,C368,C371,C373,C374,C396-C400,C402	Bellcore Issue 6	Level I		0.004544	14.00	.3343	0.063620	220055560.52
1121701080	Capacitor	C417,C418,C425,C426,C452,C453-C460,C470,C471,C473,C475,C484-C491-C493	Bellcore Issue 6	Level I		0.004544	15.00	.3582	0.068165	220055560.52
1121701080	Capacitor	C503,C53,C538,C54,C542,C577,C-58,C596,C601,C649,C772,C773,C7-80,C787,C788	Bellcore Issue 6	Level I		0.004544	15.00	.3582	0.068165	220055560.52
1121701080	Capacitor	C795-C798,C92	Bellcore Issue 6	Level I		0.004544	5.00	.1194	0.022722	220055560.52

### AAEON Reliability Prediction Report

**Part Number** 969781200E  
**Reference Des**  
**Date** 03. 8, 2007  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temp. (°C)** 25.10



**Description** Top-level assembly  
**File Name** PCM-8120.RPJ  
**Time** 3:25 下午  
**Failure Rate** 19.028110  
**MTBF** 52,554

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
1124410190	Capacitor	C198,C200,C497,C513,C526,C534-,C544,C552,C562,C568,C576,C585-,C587,C59	Bellcore Issue 6	Level I		0.004544	14.00	.3343	0.063620	220055560.52
1124410190	Capacitor	C591,C592,C600,C602,C608,C614-,C625-C627,C629,C632,C636,C641-,C650,C654	Bellcore Issue 6	Level I		0.004544	15.00	.3582	0.068165	220055560.52
1124410190	Capacitor	C661,C663,C669,C672,C679,C681-,C690,C700,C708,C714,C727,C731-,C736,C740	Bellcore Issue 6	Level I		0.004544	14.00	.3343	0.063620	220055560.52
1124410190	Capacitor	C742,C745,C746,C766,C769,C770-,C774,C775,C778	Bellcore Issue 6	Level I		0.004544	9.00	.2149	0.040899	220055560.52
1124418190	Capacitor	C264,C305,C312,C319,C334,C336-,C345,C357,C360,C395,C399,C409	Bellcore Issue 6	Level I		0.004544	12.00	.2866	0.054532	220055560.52
105A768009	Resistor	R237	Bellcore Issue 6	Level I		0.002272	1.00	.0119	0.002272	440111121.05
105A547509	Resistor	R309	Bellcore Issue 6	Level I		0.002272	1.00	.0119	0.002272	440111121.05
105A530109	Resistor	R182	Bellcore Issue 6	Level I		0.002272	1.00	.0119	0.002272	440111121.05
105A515009	Resistor	R183-R188,R190,R232,R240,R248-,R591,R626,R649,R651	Bellcore Issue 6	Level I		0.002272	14.00	.1672	0.031810	440111121.05
105A700239	Resistor	R103,R137,RR138,R471-R473,R47-5,R476,R504,R524,R525,R533,R56-5,R614,R618	Bellcore Issue 6	Level I		0.002272	15.00	.1791	0.034082	440111121.05
105A700239	Resistor	R619,R665-R672,R805,R855	Bellcore Issue 6	Level I		0.002272	11.00	.1314	0.024994	440111121.05
105A701059	Resistor	R526,R653	Bellcore Issue 6	Level I		0.002272	2.00	.0239	0.004544	440111121.05
1054600289	Resistor	SR1,SR2	Bellcore Issue 6	Level I		0.002272	2.00	.0239	0.004544	440111121.05
105A705139	Resistor	R11,R377,R569,R575,R659,R660-,R730,R733,R739,R742,R772	Bellcore Issue 6	Level I		0.002272	11.00	.1314	0.024994	440111121.05
105A556229	Resistor	R680,R683	Bellcore Issue 6	Level I		0.002272	2.00	.0239	0.004544	440111121.05
105A512039	Resistor	R681	Bellcore Issue 6	Level I		0.002272	1.00	.0119	0.002272	440111121.05
105A523239	Resistor	R685	Bellcore Issue 6	Level I		0.002272	1.00	.0119	0.002272	440111121.05
1189922180	Capacitor	C638	Bellcore Issue 6	Level I	13.00	0.005800	1.00	.0305	0.005800	172422871.91
1189922180	Capacitor	C771	Bellcore Issue 6	Level I	20.10	0.006571	1.00	.0345	0.006571	152191873.99
1189922180	Capacitor	C768	Bellcore Issue 6	Level I	19.70	0.006526	1.00	.0343	0.006526	153243047.50
1189922180	Capacitor	C777	Bellcore Issue 6	Level I	20.00	0.006559	1.00	.0345	0.006559	152453749.53
1189922180	Capacitor	C767	Bellcore Issue 6	Level I	19.20	0.006470	1.00	.0340	0.006470	154571009.91
1189922180	Capacitor	C776	Bellcore Issue 6	Level I	19.50	0.006503	1.00	.0342	0.006503	153772368.71
1189922180	Capacitor	C485	Bellcore Issue 6	Level I	12.80	0.005779	1.00	.0304	0.005779	1730444403.31

### AAEON Reliability Prediction Report

**Part Number** 969781200E  
**Reference Des**  
**Date** 03. 8, 2007  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temp. (°C)** 25.10



**Description** Top-level assembly  
**File Name** PCM-8120.RPJ  
**Time** 3:25 下午  
**Failure Rate** 19.028110  
**MTBF** 52,554

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
1189922180	Capacitor	C45	Bellcore Issue 6	Level I		0.004544	1.00	.0239	0.004544	220055560.52
105A503039	Resistor	R688	Bellcore Issue 6	Level I		0.002272	1.00	.0119	0.002272	440111121.05
105A510009	Resistor	R101,R171,R193,R243,RR308,R32-1,R371,R616,R725,R726	Bellcore Issue 6	Level I		0.002272	10.00	.1194	0.022722	440111121.05
105A506829	Resistor	R677,R696	Bellcore Issue 6	Level I		0.002272	2.00	.0239	0.004544	440111121.05
105A527469	Resistor	R320,R700	Bellcore Issue 6	Level I		0.002272	2.00	.0239	0.004544	440111121.05
105A705129	Resistor	R498,R539	Bellcore Issue 6	Level I		0.002272	2.00	.0239	0.004544	440111121.05
105A553669	Resistor	R307	Bellcore Issue 6	Level I		0.002272	1.00	.0119	0.002272	440111121.05
105A514009	Resistor	R594	Bellcore Issue 6	Level I		0.002272	1.00	.0119	0.002272	440111121.05
105A704709	Resistor	R233,R245,R576,R80	Bellcore Issue 6	Level I		0.002272	4.00	.0478	0.009089	440111121.05
14S4147600	Integrated Circuit	U46	Bellcore Issue 6	Level I	20.00	0.235389	1.00	1.2371	0.235389	4248290.85
14S4148500	Integrated Circuit	U47	Bellcore Issue 6	Level I	11.70	0.136194	1.00	.7158	0.136194	7342475.04
14S3156500	Integrated Circuit	U18	Bellcore Issue 6	Level I	15.60	0.176759	1.00	.9289	0.176759	5657436.29
1124412090	Capacitor	C306,C328	Bellcore Issue 6	Level I		0.004544	2.00	.0478	0.009089	220055560.52
105A554969	Resistor	R727	Bellcore Issue 6	Level I		0.002272	1.00	.0119	0.002272	440111121.05
105A512009	Resistor	R424,R428,R441,R445,R453,R460-R462,R469,R481,R502,R530,R531	Bellcore Issue 6	Level I		0.002272	12.00	.1433	0.027266	440111121.05
105A707509	Resistor	R10,R206,R389,R406,R411-R414,-R425,R431,R433,R434,R442,R443-R448	Bellcore Issue 6	Level I		0.002272	15.00	.1791	0.034082	440111121.05
1124533190	Capacitor	C197,C201,C411,C424,C535,C589-C779,C782,C811	Bellcore Issue 6	Level I		0.004544	9.00	.2149	0.040899	220055560.52
1124468090	Capacitor	C181,C182,C184,C187,C207	Bellcore Issue 6	Level I		0.004544	5.00	.1194	0.022722	220055560.52
105A518223	Resistor	R740	Bellcore Issue 6	Level I		0.002272	1.00	.0119	0.002272	440111121.05
1315441012	Semiconductor	Q12,Q13	Bellcore Issue 6	Level I		0.079832	2.00	.8391	0.159665	12526258.32
1314880510	Integrated Circuit	U5	Bellcore Issue 6	Level I		0.059802	1.00	.3143	0.059802	16721916.86
105A578703	Resistor	R348,R777,R780	Bellcore Issue 6	Level I		0.002272	3.00	.0358	0.006816	440111121.05
105A519623	Resistor	R322	Bellcore Issue 6	Level I		0.002272	1.00	.0119	0.002272	440111121.05
105A501133	Resistor	R847	Bellcore Issue 6	Level I		0.002272	1.00	.0119	0.002272	440111121.05
1315700310	Semiconductor	Q20	Bellcore Issue 6	Level I		0.079832	1.00	.4195	0.079832	12526258.32
1315700310	Semiconductor	Q21	Bellcore Issue 6	Level I	18.80	0.132667	1.00	.6972	0.132667	7537679.72
1315600311	Semiconductor	Q19	Bellcore Issue 6	Level I		0.079832	1.00	.4195	0.079832	12526258.32
1315600311	Semiconductor	Q22	Bellcore Issue 6	Level I	15.90	0.123157	1.00	.6472	0.123157	8119717.49

### AAEON Reliability Prediction Report

**Part Number** 969781200E  
**Reference Des**  
**Date** 03. 8, 2007  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temp. (°C)** 25.10



**Description** Top-level assembly  
**File Name** PCM-8120.RPJ  
**Time** 3:25 下午  
**Failure Rate** 19.028110  
**MTBF** 52,554

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
1121701790	Capacitor	C110,C111,C162,C166,C171,C172-,C174,C2,C214,C234,C237,C301,C-388,C39,C427	Bellcore Issue 6	Level I		0.004544	15.00	.3582	0.068165	220055560.52
1121701790	Capacitor	C476,C481,C504,C579,C581,C586-,C615,C62,C63,C630,C655-C659,C-665-C668	Bellcore Issue 6	Level I		0.004544	19.00	.4538	0.086342	220055560.52
1121701790	Capacitor	C673-C677,C680,C691,C692,C698-,C699,C7,C705,C707,C711,C713,C-718,C721	Bellcore Issue 6	Level I		0.004544	17.00	.4060	0.077253	220055560.52
1121701790	Capacitor	C724-C726,C732,C733,C738,C744-,C751,C752,C9,C90,C94,C95	Bellcore Issue 6	Level I		0.004544	13.00	.3105	0.059076	220055560.52
1124412190	Capacitor	C229,C232,C233,C240,C255,C256-,C3,C4,C8	Bellcore Issue 6	Level I		0.004544	9.00	.2149	0.040899	220055560.52
105A524903	Resistor	R553	Bellcore Issue 6	Level I		0.002272	1.00	.0119	0.002272	440111121.05
105A511303	Resistor	R238	Bellcore Issue 6	Level I		0.002272	1.00	.0119	0.002272	440111121.05
14S2200900	Integrated Circuit	U33	Bellcore Issue 6	Level I		0.059802	1.00	.3143	0.059802	16721916.86
14S5A12505	Integrated Circuit	U17	Bellcore Issue 6	Level I		0.039527	1.00	.2077	0.039527	25298918.16
14S2705700	Integrated Circuit	U16	Bellcore Issue 6	Level I	13.40	0.152707	1.00	.8025	0.152707	6548478.11
14S2705700	Integrated Circuit	U6	Bellcore Issue 6	Level I		0.059802	1.00	.3143	0.059802	16721916.86
14S5812502	Integrated Circuit	U13,U40	Bellcore Issue 6	Level I		0.039527	2.00	.4155	0.079055	25298918.16
14S4048502	Integrated Circuit	U19,U22	Bellcore Issue 6	Level I		0.059802	2.00	.6286	0.119604	16721916.86
1315230111	Semiconductor	Q1,Q17,Q27,Q29,Q30	Bellcore Issue 6	Level I		0.079832	5.00	2.0977	0.399161	12526258.32
14S2533100	Integrated Circuit	Q4	Bellcore Issue 6	Level I	12.00	0.138985	1.00	.7304	0.138985	7195019.05
11A4416080	Capacitor	C44,C56,C805	Bellcore Issue 6	Level I		0.004544	3.00	.0716	0.013633	220055560.52
1050502204	Resistor	R147,R203,R212,R218,R234-R236-,R239,R244,R246,R249,R255,R259-,R263,R271	Bellcore Issue 6	Level I		0.002272	15.00	.1791	0.034082	440111121.05
1050502204	Resistor	R279,R281,R290,R291,R302,R310-,R297,R402,R46,R463,R483,R511,-R519,R522	Bellcore Issue 6	Level I		0.002272	14.00	.1672	0.031810	440111121.05
1050502204	Resistor	R54,R55,R557,R56-R58,R583,R584-,R597,R600,R633,R637,R654,R655-,R818,R853	Bellcore Issue 6	Level I		0.002272	16.00	.1911	0.036354	440111121.05
1050502204	Resistor	R854,R859-R862	Bellcore Issue 6	Level I		0.002272	5.00	.0597	0.011361	440111121.05
105A539223	Resistor	R484,R536	Bellcore Issue 6	Level I		0.002272	2.00	.0239	0.004544	440111121.05
14S4871203	Integrated Circuit	U15	Bellcore Issue 6	Level I	9.00	0.066037	1.00	.3471	0.066037	15143008.10



### AAEON Reliability Prediction Report

**Part Number** 969781200E  
**Reference Des**  
**Date** 03. 8, 2007  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temp. (°C)** 25.10



**Description** Top-level assembly  
**File Name** PCM-8120.RPJ  
**Time** 3:25 下午  
**Failure Rate** 19.028110  
**MTBF** 52,554

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
14S4871203	Integrated Circuit	U26	Bellcore Issue 6	Level I	9.60	0.068263	1.00	.3587	0.068263	14649283.25
14S3088000	Integrated Circuit	U7	Bellcore Issue 6	Level I	15.50	0.175595	1.00	.9228	0.175595	5694921.04
1304002640	Semiconductor	IDE_LED1,SATA_LED1	Bellcore Issue 6	Level I		0.004921	2.00	.0517	0.009843	203197151.95
121230603T	Inductor	L1,L13,L14,L49-L52	Bellcore Issue 6	Level I		0.002272	7.00	.0836	0.015905	440111121.05
1315446310	Semiconductor	Q39	Bellcore Issue 6	Level I	11.60	0.110014	1.00	.5782	0.110014	9089758.29
1315446310	Semiconductor	Q40	Bellcore Issue 6	Level I		0.079832	1.00	.4195	0.079832	12526258.32
121230603W	Inductor	FB1,FB10-FB20,FB2-FB9,L25,L27--L30,L32,L33,L36,L4	Bellcore Issue 6	Level I		0.002272	29.00	.3463	0.065892	440111121.05
1189622189	Capacitor	C610	Bellcore Issue 6	Level I	13.10	0.005810	1.00	.0305	0.005810	172113230.55
1189622189	Capacitor	C609	Bellcore Issue 6	Level I		0.004544	1.00	.0239	0.004544	220055560.52
1189622189	Capacitor	C616	Bellcore Issue 6	Level I	11.90	0.005686	1.00	.0299	0.005686	175879290.17
14S4888801	Integrated Circuit	U23	Bellcore Issue 6	Level I	13.20	0.083060	1.00	.4365	0.083060	12039471.34
14S5A25701	Integrated Circuit	U32	Bellcore Issue 6	Level I		0.039527	1.00	.2077	0.039527	25298918.16
123131435B	Miscellaneous	X4	Bellcore Issue 6	Level I		0.150000	1.00	.7883	0.150000	6666666.67
1231325058	Miscellaneous	X2,X5,X6	Bellcore Issue 6	Level I		0.150000	3.00	2.3649	0.450000	6666666.67
105A541203	Resistor	R607	Bellcore Issue 6	Level I		0.002272	1.00	.0119	0.002272	440111121.05
105A556269	Resistor	R192	Bellcore Issue 6	Level I		0.002272	1.00	.0119	0.002272	440111121.05
121110336B	Inductor	L53,L54	Bellcore Issue 6	Level I		0.086342	2.00	.9075	0.172684	11581871.61
14S3917900	Integrated Circuit	Q14,Q45	Bellcore Issue 6	Level I		0.039527	2.00	.4155	0.079055	25298918.16
165320520C	Connection	CN12,CN13,CN23	Bellcore Issue 6	Level I		0.005720	3.00	.0902	0.017159	174840355.39
1315441014	Semiconductor	Q3,Q5	Bellcore Issue 6	Level I		0.079832	2.00	.8391	0.159665	12526258.32
105A510523	Resistor	R552	Bellcore Issue 6	Level I		0.002272	1.00	.0119	0.002272	440111121.05
1231327051	Miscellaneous	X3	Bellcore Issue 6	Level I		0.150000	1.00	.7883	0.150000	6666666.67
121110336E	Inductor	L2	Bellcore Issue 6	Level I		0.086342	1.00	.4538	0.086342	11581871.61
1129622050	Capacitor	C685-C689,C693-C697,C706,C710-C723,C730,C734,C735,C739,C741-C753-C764	Bellcore Issue 6	Level I		0.004544	30.00	.7165	0.136329	220055560.52
1129622050	Capacitor	C812	Bellcore Issue 6	Level I		0.004544	1.00	.0239	0.004544	220055560.52
1315970211	Semiconductor	F1,F3-F6	Bellcore Issue 6	Level I		0.079832	5.00	2.0977	0.399161	12526258.32
1654040001	Connection	CN2	Bellcore Issue 6	Level I		0.022878	1.00	.1202	0.022878	43710088.85
1654030001	Connection	CN7	Bellcore Issue 6	Level I		0.017159	1.00	.0902	0.017159	58280118.46
121110010W	Inductor	L6	Bellcore Issue 6	Level I		0.086342	1.00	.4538	0.086342	11581871.61

### AAEON Reliability Prediction Report

**Part Number** 969781200E  
**Reference Des**  
**Date** 03. 8, 2007  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temp. (°C)** 25.10



**Description** Top-level assembly  
**File Name** PCM-8120.RPJ  
**Time** 3:25 下午  
**Failure Rate** 19.028110  
**MTBF** 52,554

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
14S3128421	Integrated Circuit	U29	Bellcore Issue 6	Level I		0.059802	1.00	.3143	0.059802	16721916.86
14S4195710	Integrated Circuit	U34	Bellcore Issue 6	Level I		0.039527	1.00	.2077	0.039527	25298918.16
14S4152000	Integrated Circuit	U14	Bellcore Issue 6	Level I	10.60	0.072119	1.00	.3790	0.072119	13865893.48
14S2222600	Integrated Circuit	U10	Bellcore Issue 6	Level I	9.40	0.116423	1.00	.6118	0.116423	8589367.01
1050547004	Resistor	R802	Bellcore Issue 6	Level I		0.002272	1.00	.0119	0.002272	440111121.05
121110156A	Inductor	L8	Bellcore Issue 6	Level I		0.067591	1.00	.3552	0.067591	14794903.94
1050520004	Resistor	R191,R258,R262,R270,R272	Bellcore Issue 6	Level I		0.002272	5.00	.0597	0.011361	440111121.05
105A501413	Resistor	R464,R758	Bellcore Issue 6	Level I		0.002272	2.00	.0239	0.004544	440111121.05
105A704334	Resistor	R149,R551,R627,R631,R78	Bellcore Issue 6	Level I		0.002272	5.00	.0597	0.011361	440111121.05
105A556213	Resistor	R45,R807	Bellcore Issue 6	Level I		0.002272	2.00	.0239	0.004544	440111121.05
14S4100014	Integrated Circuit	U27	Bellcore Issue 6	Level I	19.90	0.118260	1.00	.6215	0.118260	8455912.86
14S3090600	Integrated Circuit	U28	Bellcore Issue 6	Level I	29.40	0.190393	1.00	1.0006	0.190393	5252293.33
14S4700002	Integrated Circuit	U11	Bellcore Issue 6	Level I	16.00	0.096453	1.00	.5069	0.096453	10367741.07
1653207207	Connection	CN10	Bellcore Issue 6	Level I		0.008007	1.00	.0421	0.008007	124885968.14
1653207207	Connection	CN22	Bellcore Issue 6	Level I		0.008007	1.00	.0421	0.008007	124885968.14
175910000B	Miscellaneous	BUZZ1	Bellcore Issue 6	Level I		0.150000	1.00	.7883	0.150000	6666666.67
14S6200404	Integrated Circuit	U25	Bellcore Issue 6	Level I		0.161957	1.00	.8511	0.161957	6174482.77