

PFM-541IWT Reliability Prediction Report (MTBF)

Report NO : 08E070030

10-03-2008

Issue Date

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Manager

Jessica Chou

Test Engineer

Reliability Prediction (MTBF)

I . **Model Name:** PFM-541IWT

II . **Prediction Date:** Oct. 3rd, 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: 23.3 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:

- PFM-541IWT
 - Failure Rate: 10.765097 ppm
 - MTBF: 92,893 Hours

AAEON Reliability Prediction Report

Part Number 9697541100-DIP
Reference Des
Date 10. 3, 2008
Environment GF, GU - Ground Fixed, Uncontrolled
Temp. (°C) 23.30



Description Top-level assembly
File Name PFM-541IWT.RPJ
Time 2:34 下午
Failure Rate 10.765097
MTBF 92,893

Assembly Name	Part Number	Model	Method	Environment	Duty Cycle	Qty	Failure Rate	MTBF
PFM-541IWT	9697541100-DIP	Bellcore	Method I Case 3	GF, GU - Ground Fixed,	100.00	1.00	10.765097	92,893

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Temp. (°C) 23.30



Description Top-level assembly
File Name PFM-541IWT.RPJ
Time 2:34 下午
Failure Rate 10.765097
MTBF 92,893

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
1655004110	Connection	CN12	Bellcore Issue 6	Level I		0.020814	1.00	.1933	0.020814	48045297.21
1653003100	Connection	CN3	Bellcore Issue 6	Level I		0.020814	1.00	.1933	0.020814	48045297.21
1653003101	Connection	JP1	Bellcore Issue 6	Level I		0.020814	1.00	.1933	0.020814	48045297.21
1653003201	Connection	JP2,JP3	Bellcore Issue 6	Level I		0.020814	2.00	.3867	0.041627	48045297.21
1653022100	Connection	CN1	Bellcore Issue 6	Level I		0.020814	1.00	.1933	0.020814	48045297.21
1655306023	Connection	CN2	Bellcore Issue 6	Level I		0.020814	1.00	.1933	0.020814	48045297.21
1655902030	Connection	BAT1	Bellcore Issue 6	Level I		0.001041	1.00	.0097	0.001041	960905944.29
175011901C	Miscellaneous	BAT1	Bellcore Issue 6	Level I		0.900000	1.00	8.3604	0.900000	1111111.11
165312022B	Connection	CN7	Bellcore Issue 6	Level I		0.020814	1.00	.1933	0.020814	48045297.21
165313222A	Connection	CN7	Bellcore Issue 6	Level I		0.020814	1.00	.1933	0.020814	48045297.21
175910000B	Miscellaneous	BUZZ1	Bellcore Issue 6	Level I		0.150000	1.00	1.3934	0.150000	6666666.67
14S6200404	Integrated Circuit	SKT1	Bellcore Issue 6	Level I	19.40	0.739528	1.00	6.8697	0.739528	1352214.02
105A512113	Resistor	R208	Bellcore Issue 6	Level I		0.002193	1.00	.0204	0.002193	455998370.70
105A700003	Resistor	R105,R123,R131,R145,R149,R161,- R178,R199,R237,R257,R26,R261,- R263,R264,R280,R30,R311,R45,R- 66,R70,R78-R80,R88,R93,R99	Bellcore Issue 6	Level I		0.002193	26.00	.5297	0.057018	455998370.70
105A747003	Resistor	R319,R320	Bellcore Issue 6	Level I		0.002193	2.00	.0407	0.004386	455998370.70
1059700001	Resistor	R148,R251,R252,R83	Bellcore Issue 6	Level I		0.002193	4.00	.0815	0.008772	455998370.70
105A503323	Resistor	R56	Bellcore Issue 6	Level I		0.002193	1.00	.0204	0.002193	455998370.70
105A561903	Resistor	R300,R337	Bellcore Issue 6	Level I		0.002193	2.00	.0407	0.004386	455998370.70
105A564903	Resistor	R302,R338	Bellcore Issue 6	Level I		0.002193	2.00	.0407	0.004386	455998370.70
1231332721	Miscellaneous	Y1	Bellcore Issue 6	Level I		0.150000	1.00	1.3934	0.150000	6666666.67
1124522280	Capacitor	C390	Bellcore Issue 6	Level I		0.004386	1.00	.0407	0.004386	227999185.35
1300001440	Semiconductor	D14-D16	Bellcore Issue 6	Level I		0.022736	3.00	.6336	0.068208	43983336.00
1124427080	Capacitor	C286,C287,C403,C404	Bellcore Issue 6	Level I		0.004386	4.00	.1630	0.017544	227999185.35
1301005440	Semiconductor	D12,D2	Bellcore Issue 6	Level I		0.022736	2.00	.4224	0.045472	43983336.00
1301005441	Semiconductor	D5-D7	Bellcore Issue 6	Level I		0.022736	3.00	.6336	0.068208	43983336.00
1310390410	Semiconductor	Q12,Q16	Bellcore Issue 6	Level I		0.022736	2.00	.4224	0.045472	43983336.00
1311390610	Semiconductor	Q13	Bellcore Issue 6	Level I		0.022736	1.00	.2112	0.022736	43983336.00
14S3000300	Inductor	TF1,TF2	Bellcore Issue 6	Level I		0.131579	2.00	2.4446	0.263159	7599972.85
14S4021301	Integrated Circuit	U31	Bellcore Issue 6	Level I	19.40	0.201539	1.00	1.8721	0.201539	4961830.70

AAEON Reliability Prediction Report

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Date 10. 3, 2008
Environment GF, GU - Ground Fixed, Uncontrolled
Temp. (°C) 23.30

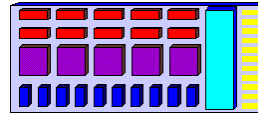


Description Top-level assembly
File Name PFM-541IWT.RPJ
Time 2:34 下午
Failure Rate 10.765097
MTBF 92,893

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
105A701039	Resistor	R107,R109,R126,R140,R156-R158-,R164,R168,R169,R171,R177,R179-,R2,R206,R215,R221,R29,R31,R31-0,R32,R36-R38,R4,R43,R44	Bellcore Issue 6	Level I		0.002193	27.00	.5500	0.059211	455998370.70
105A701039	Resistor	R46-R48,R50-R53	Bellcore Issue 6	Level I		0.002193	7.00	.1426	0.015351	455998370.70
105A703309	Resistor	R111,R112,R139,R147,R152,R154-,R172,R176,R185,R194,R196,R197-,R218,R219,R84,R90,R95	Bellcore Issue 6	Level I		0.002193	17.00	.3463	0.037281	455998370.70
105A733009	Resistor	R191,R214,R253,R27,R297,R33,R-335,R352,R353,R357,R39,R40,R49	Bellcore Issue 6	Level I		0.002193	13.00	.2648	0.028509	455998370.70
1129710390	Capacitor	C104,C112,C115,C124,C126,C176-,C187,C188,C191,C194,C203,C205-,C210,C237,C274,C293,C301,C325-,C63	Bellcore Issue 6	Level I		0.004386	19.00	.7741	0.083334	227999185.35
1129701790	Capacitor	C103,C106,C107,C110,C111,C118-,C134,C142,C143,C178,C182,C190-,C197,C202,C206,C208,C211,C216-,C217,C219,C220-C225,C230	Bellcore Issue 6	Level I		0.004386	27.00	1.1001	0.118421	227999185.35
1129701790	Capacitor	C234,C239,C244,C246,C252,C253-,C255,C257,C261,C265,C269,C271-,C279,C304,C327,C374,C400,C91--C93	Bellcore Issue 6	Level I		0.004386	20.00	.8149	0.087720	227999185.35
1121610060	Capacitor	C100,C351,C64,C67	Bellcore Issue 6	Level I		0.004386	4.00	.1630	0.017544	227999185.35
14S5A12503	Integrated Circuit	U24	Bellcore Issue 6	Level I		0.035538	1.00	.3301	0.035538	28138749.59
14S5A73200	Integrated Circuit	U37,U38	Bellcore Issue 6	Level I		0.035538	2.00	.6602	0.071076	28138749.59
1122539980	Capacitor	C148,C59,C78	Bellcore Issue 6	Level I		0.004386	3.00	.1222	0.013158	227999185.35
1304101340	Semiconductor	D1	Bellcore Issue 6	Level I		0.004171	1.00	.0387	0.004171	239766612.73
105A710039	Resistor	R294,R304,R331,R339	Bellcore Issue 6	Level I		0.002193	4.00	.0815	0.008772	455998370.70
105A507509	Resistor	R113,R133,R150,R255,R256,R272-,R273,R348-R351	Bellcore Issue 6	Level I		0.002193	11.00	.2241	0.024123	455998370.70
105A702209	Resistor	R10,R103,R104,R108,R11,R115,R-12,R122,R13-R15,R17,R18,R198,R-20,R21,R260,R268,R278,R279,R28-7,R328,R35,R5,R6	Bellcore Issue 6	Level I		0.002193	25.00	.5093	0.054825	455998370.70
1124405090	Capacitor	C141,C144,C145,C147,C150,C151-,C158,C160,C161,C164,C166,C167-,C174,C177,C34,C352,C353,C358-,C359,C38,C44,C45,C49	Bellcore Issue 6	Level I		0.004386	23.00	.9371	0.100878	227999185.35
1124418090	Capacitor	C276,C281	Bellcore Issue 6	Level I		0.004386	2.00	.0815	0.008772	227999185.35

AAEON Reliability Prediction Report

Part Number 9697541I00-DIP
Reference Des
Date 10. 3, 2008
Environment GF, GU - Ground Fixed, Uncontrolled
Temp. (°C) 23.30



Description Top-level assembly
File Name PFM-541IWT.RPJ
Time 2:34 下午
Failure Rate 10.765097
MTBF 92,893

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
105A501039	Resistor	R120,R249,R258,R266,R55,R71,R-73,R98	Bellcore Issue 6	Level I		0.002193	8.00	.1630	0.017544	455998370.70
1124410190	Capacitor	C114,C119,C122,C123,C125,C130-,C131,C133,C154,C170,C171,C180-,C183,C185,C186,C189,C192,C198-,C199,C204,C207,C212,C214	Bellcore Issue 6	Level I		0.004386	23.00	.9371	0.100878	227999185.35
1124410190	Capacitor	C218,C226,C227,C243,C248,C256-,C262,C263,C270,C333,C48,C51,C-60,C66,C68,C74	Bellcore Issue 6	Level I		0.004386	16.00	.6519	0.070176	227999185.35
105A701059	Resistor	R207	Bellcore Issue 6	Level I		0.002193	1.00	.0204	0.002193	455998370.70
105A512039	Resistor	R110,R283,R284	Bellcore Issue 6	Level I		0.002193	3.00	.0611	0.006579	455998370.70
1189922180	Capacitor	TC2	Bellcore Issue 6	Level I	19.20	0.006270	1.00	.0582	0.006270	159483795.54
105A703329	Resistor	R295,R333	Bellcore Issue 6	Level I		0.002193	2.00	.0407	0.004386	455998370.70
1124412090	Capacitor	C260,C264	Bellcore Issue 6	Level I		0.004386	2.00	.0815	0.008772	227999185.35
105A554969	Resistor	R240-R243,R344-R347	Bellcore Issue 6	Level I		0.002193	8.00	.1630	0.017544	455998370.70
1124522190	Capacitor	C116,C117,C138,C254,C283,C288-,C290,C294,C295,C297,C302,C305-,C308,C31,C312,C317,C339-C343-,C347,C348,C354-C357,C37	Bellcore Issue 6	Level I		0.004386	29.00	1.1815	0.127193	227999185.35
1124522190	Capacitor	C376,C382-C389,C40,C41,C77,C85	Bellcore Issue 6	Level I		0.004386	13.00	.5297	0.057018	227999185.35
14S4255101	Integrated Circuit	U7	Bellcore Issue 6	Level I	22.50	0.123234	1.00	1.1448	0.123234	8114645.21
14S4255101	Integrated Circuit	U34	Bellcore Issue 6	Level I	22.50	0.123234	1.00	1.1448	0.123234	8114645.21
1189615187	Capacitor	TC1	Bellcore Issue 6	Level I	22.80	0.006673	1.00	.0620	0.006673	149862469.55
1189615187	Capacitor	TC3	Bellcore Issue 6	Level I		0.004386	1.00	.0407	0.004386	227999185.35
1231314354	Miscellaneous	Y2	Bellcore Issue 6	Level I		0.150000	1.00	1.3934	0.150000	6666666.67
1231325054	Miscellaneous	Y3,Y4	Bellcore Issue 6	Level I		0.150000	2.00	2.7868	0.300000	6666666.67
105A501133	Resistor	R74,R75	Bellcore Issue 6	Level I		0.002193	2.00	.0407	0.004386	455998370.70
1129610051	Capacitor	C1,C101,C108,C113,C128,C129,C-132,C136,C137,C149,C156,C169,C-179,C181,C184,C200,C201,C213,C-215,C229,C231,C235,C240	Bellcore Issue 6	Level I		0.004386	23.00	.9371	0.100878	227999185.35
1129610051	Capacitor	C241,C249,C28,C3,C321,C335,C3-46,C349,C361,C362,C370,C395,C4-2,C58,C72,C75,C80,C88,C89	Bellcore Issue 6	Level I		0.004386	19.00	.7741	0.083334	227999185.35
1653213208	Connection	CN8	Bellcore Issue 6	Level I		0.020814	1.00	.1933	0.020814	48045297.21
1653222209	Connection	CN9	Bellcore Issue 6	Level I		0.022895	1.00	.2127	0.022895	43677542.92

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Description Top-level assembly
File Name PFM-541IWT.RPJ
Time 2:34 下午
Failure Rate 10.765097
MTBF 92,893

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
1653220215	Connection	CN16	Bellcore Issue 6	Level I		0.020814	1.00	.1933	0.020814	48045297.21
14S2200900	Integrated Circuit	U19	Bellcore Issue 6	Level I	21.30	0.227941	1.00	2.1174	0.227941	4387101.01
1315230111	Semiconductor	Q11,Q9	Bellcore Issue 6	Level I		0.151573	2.00	2.8160	0.303145	6597500.40
14S5A00830	Integrated Circuit	U32,U35	Bellcore Issue 6	Level I		0.035538	2.00	.6602	0.071076	28138749.59
14S4081110	Integrated Circuit	U29	Bellcore Issue 6	Level I		0.035538	1.00	.3301	0.035538	28138749.59
11C1501080	Capacitor	C163,C238,C306,C4	Bellcore Issue 6	Level I		0.004386	4.00	.1630	0.017544	227999185.35
1214309003	Inductor	CH1-CH4	Bellcore Issue 6	Level I		0.002193	4.00	.0815	0.008772	455998370.70
121230603T	Inductor	FB1-FB3	Bellcore Issue 6	Level I		0.002193	3.00	.0611	0.006579	455998370.70
14S4888801	Integrated Circuit	U3	Bellcore Issue 6	Level I		0.035538	1.00	.3301	0.035538	28138749.59
1121501690	Capacitor	C102,C105,C109,C11,C12,C120,C-127,C13,C135,C15,C153,C155,C15-7,C165,C168,C17,C172,C173,C18,-C195,C196,C2,C209,C233,C26	Bellcore Issue 6	Level I		0.004386	25.00	1.0186	0.109650	227999185.35
1121501690	Capacitor	C272,C29,C298,C30,C300,C307,C-309,C310,C313,C314,C316,C318,C-319,C32,C320,C323,C324,C326,C3-28,C33,C332,C334,C336-C338	Bellcore Issue 6	Level I		0.004386	25.00	1.0186	0.109650	227999185.35
1121501690	Capacitor	C35,C350,C36,C360,C363-C366,C-368,C369,C371-C373,C375,C377--C381,C39,C394,C396-C399,C401,-C406-C408,C43,C46,C47,C5,C50	Bellcore Issue 6	Level I		0.004386	34.00	1.3852	0.149123	227999185.35
1121501690	Capacitor	C52-C57,C6,C61,C65,C69-C71,C73-,C76,C79,C81-C84,C86,C90,C94-C-98	Bellcore Issue 6	Level I		0.004386	26.00	1.0593	0.114035	227999185.35
14S3149103	Integrated Circuit	U10	Bellcore Issue 6	Level I	22.80	0.125146	1.00	1.1625	0.125146	7990676.78
105A551119	Resistor	R117,R54,R72	Bellcore Issue 6	Level I		0.002193	3.00	.0611	0.006579	455998370.70
1315700214	Semiconductor	Q10,Q14,Q15,Q5,Q71	Bellcore Issue 6	Level I		0.075786	5.00	3.5200	0.378931	13195000.80
1315731310	Semiconductor	Q1	Bellcore Issue 6	Level I	17.20	0.121571	1.00	1.1293	0.121571	8225661.68
1315731310	Semiconductor	Q2	Bellcore Issue 6	Level I	16.30	0.118754	1.00	1.1031	0.118754	8420737.10
1315731310	Semiconductor	Q7	Bellcore Issue 6	Level I		0.075786	1.00	.7040	0.075786	13195000.80
165320520C	Connection	CN14,CN17,CN4,CN6	Bellcore Issue 6	Level I		0.020814	4.00	.7734	0.083255	48045297.21
165320820D	Connection	CN5	Bellcore Issue 6	Level I		0.020814	1.00	.1933	0.020814	48045297.21
1315970211	Semiconductor	U15,U18	Bellcore Issue 6	Level I		0.075786	2.00	1.4080	0.151573	13195000.80
14S6200404	Integrated Circuit	U20	Bellcore Issue 6	Level I	22.10	0.120725	1.00	1.1214	0.120725	8283306.60
14S4195710	Integrated Circuit	U16	Bellcore Issue 6	Level I		0.035538	1.00	.3301	0.035538	28138749.59

