

# ACP-1076

## Reliability Prediction Report (MTBF)

Summary	Failure Rate: 7427.287502 ppm MTBF: 134,639 Hours
---------	--

Issue date

Approval

Test Engineer

2016/08/11

KJ Wang

Danny Chen

# Reliability Prediction (MTBF)

---

**I . Model Name:** ACP-1076

**II . Prediction Date:** Aug.11, 2017

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

**IV . Predicted by:** Danny

**V . Equipment:** Windchill Quality Solutions 10.1

## **VI. Simulation Environment:**

- Temperature: 30 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 Failure rate multiplier is 1000000000.
- MTBF : MTBF is always specified in hours.

**VIII. Prediction Result:**

ACP-1076 (9697APL5PF-D):

- Failure Rate: 7427.287502ppm

- MTBF: 134,639 Hours

**AAEON Reliability Prediction  
Summary**

**File Name:** ACP-1076.rfp  
**Duty Cycle:** 100  
**Calculation Model:** Telcordia Issue 2  
**Method:** Method I Case 3

**Failure Rate:** 7427.287502  
**MTBF (hrs):** 134,639  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Assembly Name	Part Number	Ref Des	Quantity	Failure Rate	MTBF
ACP-1076			1	7427.287502	134,639
ACP-1076	9697APL5PF-D		1	6905.344324	144,815
ACP-1076	9697P21D00-D		1	590.518333	1,693,428

**File Name:** ACP-1076.rfp  
**Assembly:** 9697APL5PF-D  
**Ref Des:**  
**Description:**

**Failure Rate:** 6905.344324  
**MTBF (hrs):** 144,815  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1050500334	Resistor	R544		2.547039	1	282340674.079668
1050501054	Resistor	R143,R25,R267,R27,R319,R332,R563, R611		2.547039	8	43225424.698300
1050501234	Resistor	R19		2.547039	1	282340674.079668
1050502004	Resistor	R403,R424,R48,R49,R50,R61,R62,R63		2.547039	8	43225424.698300
1050502234	Resistor	R12,R13		2.547039	2	154078778.388085
1050502734	Resistor	R666		2.547039	1	282340674.079668
1050504724	Resistor	R126,R160,R161,R172,R216,R278,R33,R416,R427,R44,R45,R472,R52,R53,R54,R57,R58,R588,R614,R615,R616,R632,R667,R70		2.547039	24	15190138.820515
1050505124	Resistor	R243,R362		2.547039	2	154078778.388085
1050505134	Resistor	R24,R347,R352,R414,R415,R455,R456,R530,R531,R550, R551		2.547039	11	32049696.385471
1050505633	Resistor	R358		2.547039	1	282340674.079668
1050510504	Resistor	R519,R529		2.547039	2	154078778.388085
1050510524	Resistor	R433		2.547039	1	282340674.079668
1050511304	Resistor	R556		2.547039	1	282340674.079668
1050512104	Resistor	R211		2.547039	1	282340674.079668
1050512424	Resistor	R634		2.547039	1	282340674.079668
1050520004	Resistor	R420,R423,R495		2.547039	3	107020754.986850
1050520034	Resistor	R259,R570,R704		2.547039	3	107020754.986850
1050524909	Resistor	R14		2.547039	1	282340674.079668
1050533034	Resistor	R448		2.547039	1	282340674.079668
1050536514	Resistor	R10,R21,R559,R562,R610		2.547039	5	67008142.102588
1050540204	Resistor	R572,R575,R579		2.547039	3	107020754.986850
1050541224	Resistor	R384		2.547039	1	282340674.079668

**File Name:** ACP-1076.rfp  
**Assembly:** 9697APL5PF-D  
**Ref Des:**  
**Description:**

**Failure Rate:** 6905.344324  
**MTBF (hrs):** 144,815  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1050561934	Resistor	R380		2.547039	1	282340674.079668
1050588724	Resistor	R452		2.547039	1	282340674.079668
1050700002	Resistor	R212		2.547039	1	282340674.079668
1050718034	Resistor	R364		2.547039	1	282340674.079668
1054500589	Resistor	R20		2.547039	1	282340674.079668
1054700289	Resistor	R17		2.547039	1	282340674.079668
1059520001	Resistor	R208		2.547039	1	282340674.079668
1059710001	Resistor	R207		2.547039	1	282340674.079668
105A500103	Resistor	R15		2.547039	1	282340674.079668
105A500139	Resistor	R1,R181,R185,R2,R227,R231,R322,R324,R327,R330,R337,R339,R357,R359,R372,R379,R386,R432,R449,R454,R46,R469,R55,R59,R60,R673,R72, R94		2.547039	28	13089488.559853
105A500173	Resistor	R543,R545,R553,R554,R569,R576		2.547039	6	56573956.677649
105A500239	Resistor	R459		2.547039	1	282340674.079668
105A501003	Resistor	R334,R351		2.547039	2	154078778.388085
105A501039	Resistor	R244,R28,R29,R367,R541,R587		2.547039	6	56573956.677649
105A501139	Resistor	R383		2.547039	1	282340674.079668
105A501829	Resistor	R298,R299		2.547039	2	154078778.388085
105A502039	Resistor	R345,R368,R381,R409,R425,R494		2.547039	6	56573956.677649
105A502263	Resistor	R183,R77		2.547039	2	154078778.388085
105A505109	Resistor	R167,R168,R171, R177		2.547039	4	82309758.689546
105A505629	Resistor	R490		2.547039	1	282340674.079668
105A507509	Resistor	R608,R613,R626		2.547039	3	107020754.986850
105A507533	Resistor	R376		2.547039	1	282340674.079668

**File Name:** ACP-1076.rfp  
**Assembly:** 9697APL5PF-D  
**Ref Des:**  
**Description:**

**Failure Rate:** 6905.344324  
**MTBF (hrs):** 144,815  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
105A510009	Resistor	R101,R170,R176, R180,R292,R499, R500		2.547039	7	48991237.965885
105A510023	Resistor	R370		2.547039	1	282340674.079668
105A511513	Resistor	R40		2.547039	1	282340674.079668
105A515009	Resistor	R528,R537,R573		2.547039	3	107020754.986850
105A516903	Resistor	R184		2.547039	1	282340674.079668
105A524963	Resistor	R214		2.547039	1	282340674.079668
105A528703	Resistor	R187		2.547039	1	282340674.079668
105A532429	Resistor	R354		2.547039	1	282340674.079668
105A534823	Resistor	R546		2.547039	1	282340674.079668
105A538323	Resistor	R42		2.547039	1	282340674.079668
105A540269	Resistor	R787,R788		2.547039	2	154078778.388085
105A547003	Resistor	R205,R210		2.547039	2	154078778.388085
105A549919	Resistor	R307,R312		2.547039	2	154078778.388085
105A560469	Resistor	R179		2.547039	1	282340674.079668
105A584563	Resistor	R200		2.547039	1	282340674.079668
105A590963	Resistor	R348		2.547039	1	282340674.079668
105A700003	Resistor	R115,R116,R120, R134,R162,R175, R186,R189,R22,R338, R344,R36,R37,R523, R527,R557,R597, R638,R639,R658, R664		2.547039	21	17274945.076062

**Reliability Prediction  
Summary**

**File Name:** ACP-1076.rfp  
**Assembly:** 9697APL5PF-D  
**Ref Des:**  
**Description:**

**Failure Rate:** 6905.344324  
**MTBF (hrs):** 144,815  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
105A700009	Resistor	R109,R117,R135, R140,R145,R173, R178,R209,R228, R232,R238,R239, R240,R257,R287, R289,R303,R31,R382, R385,R39,R393,R401, R404,R418,R419, R426,R431,R435, R437,R438,R442, R443,R447,R453, R462,R468,R471, R473,R477,R481, R483,R486,R487, R489,R560,R561, R565,R5		2.547039	77	4888867.088938



**Reliability Prediction  
Summary**

**File Name:** ACP-1076.rfp  
**Assembly:** 9697APL5PF-D  
**Ref Des:**  
**Description:**

**Failure Rate:** 6905.344324  
**MTBF (hrs):** 144,815  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
105A701039	Resistor	R102,R103,R119, R122,R129,R130, R137,R141,R144, R150,R166,R169, R191,R192,R194, R199,R204,R206, R223,R229,R23, R236, R242,R249,R251, R252,R253,R258, R266,R269,R270, R271,R273,R274, R276,R277,R279, R283,R285,R286, R290,R291,R293, R294,R295,R300, R301,R302,R		2.547039	128	2968392.632489
105A701069	Resistor	R73		2.547039	1	282340674.079668
105A702229	Resistor	R110,R111,R113, R114,R260,R261, R317,R318,R363, R369,R406,R407, R643,R644,R75,R777, R78,R783		2.547039	18	20032117.836120
105A703309	Resistor	R16,R18,R201,R326, R353,R366,R373, R549,R621,R635, R640,R662,R669, R670		2.547039	14	25477245.255648

**File Name:** ACP-1076.rfp  
**Assembly:** 9697APL5PF-D  
**Ref Des:**  
**Description:**

**Failure Rate:** 6905.344324  
**MTBF (hrs):** 144,815  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
105A703329	Resistor	R224,R225,R226, R230,R233,R234, R599,R605		2.547039	8	43225424.698300
105A706829	Resistor	R296,R297		2.547039	2	154078778.388085
105A708229	Resistor	R498,R506		2.547039	2	154078778.388085
105A710039	Resistor	R131,R147,R151, R152,R153,R154, R155,R156,R157, R174,R190,R195, R235,R250,R26, R320,R323,R335, R336, R340,R341,R349, R35,R350,R356, R361, R374,R375,R377, R394,R396,R397, R4,R400,R402,R408, R460,R493,R5, R514,R586,R6,R67 1,R672, R695,R703,R83, R84, R85,R87,R88		2.547039	53	7043131.173162
105A733009	Resistor	R280,R281,R282, R609,R617,R653, R655,R674,R675		2.547039	9	38754445.632391
105A747009	Resistor	R284,R465		2.547039	2	154078778.388085
105B701039	Resistor	R100,R440,R441, R444,R450,R463, R630,R82		2.547039	8	43225424.698300
1121415090	Capacitor	C25		1.128806	1	704977644.692287
1121501680	Capacitor	C194,C210,C30, C460		1.128806	4	196873384.410843

**File Name:** ACP-1076.rfp  
**Assembly:** 9697APL5PF-D  
**Ref Des:**  
**Description:**

**Failure Rate:** 6905.344324  
**MTBF (hrs):** 144,815  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1121501691	Capacitor	C103,C112,C117, C118,C119,C120, C121,C122,C125, C126,C128,C129, C130,C131,C133, C134,C137,C139,C14, C140,C141,C142, C143,C144,C145, C146,C147,C148, C150,C151,C152, C154,C155,C156, C158,C159,C160, C161,C162,C163, C164,C167,C168, C169,C170,C173, C177,C178,C		1.128806	196	4440591.074064
1124410191	Capacitor	C17,C219,C220,C221, C24,C244,C261,C268, C37,C468,C472,C476, C491		1.128806	13	63728475.410842
1124418090	Capacitor	C444,C456,C52,C53		1.128806	4	196873384.410843
1124420090	Capacitor	C166,C175		1.128806	2	375289731.076049
1124427091	Capacitor	C195,C196,C198, C199		1.128806	4	196873384.410843
1124547290	Capacitor	C113,C62		1.128806	2	375289731.076049
1129701791	Capacitor	C10,C127,C229, C33,C478,C479,C480, C481,C49,C500,C7, C8,C9		1.128806	14	59316298.011235

**File Name:** ACP-1076.rfp  
**Assembly:** 9697APL5PF-D  
**Ref Des:**  
**Description:**

**Failure Rate:** 6905.344324  
**MTBF (hrs):** 144,815  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1129710091	Capacitor	C262,C546,C560, C561,C562,C565, C566,C567		1.128806	8	101746760.035398
1129710391	Capacitor	C111,C228,C229, C231,C232,C264,C32, C351,C545		1.128806	9	90863428.080946
1183610191	Capacitor	TC14		4.744484	1	159663026.715137
1189615154	Capacitor	TC11,TC12,TC13,TC4, TC7		4.744484	5	36944177.000623
118A6221B0	Capacitor	TC10,TC5,TC6		4.744484	3	59399119.141203
118C6331B0	Capacitor	TC3,TC8,TC9		4.744484	3	59399119.141203
11C1522390	Capacitor	C365		4.744484	1	159663026.715137
11C1539840	Capacitor	C174,C183		4.744484	2	86049450.747498
11C4501380	Capacitor	C256		4.744484	1	159663026.715137
11C4501650	Capacitor	C16,C304		1.128806	2	375289731.076049
11C4510240	Capacitor	C312		1.128806	1	704977644.692287
11C4510480	Capacitor	C239,C243,C392,C70, C71		1.128806	5	159367490.199266
11C4515230	Capacitor	C36		1.128806	1	704977644.692287
11C4522290	Capacitor	C27,C353,C354,C422		1.128806	4	196873384.410843
11C4533380	Capacitor	C278		1.128806	1	704977644.692287
11C4547190	Capacitor	C191,C192,C193, C212,C503,C510, C540,C541,C542, C543,C547,C557, C571,C573,C574, C575		1.128806	16	52112480.802928
11C9582390	Capacitor	C41		1.128806	1	704977644.692287
11E1501030	Capacitor	C255,C265		1.128806	2	375289731.076049
11E1510050	Capacitor	C257,C301,C305, C386,C5,C556		1.128806	6	133979725.056342
11E1522060	Capacitor	C242,C253		1.128806	2	375289731.076049
11E1522680	Capacitor	C19,C457		1.128806	2	375289731.076049
11E2501030	Capacitor	C78		1.128806	1	704977644.692287
11E2501690	Capacitor	C226,C241,C3,C494, C564		1.128806	5	159367490.199266

**File Name:** ACP-1076.rfp  
**Assembly:** 9697APL5PF-D  
**Ref Des:**  
**Description:**

**Failure Rate:** 6905.344324  
**MTBF (hrs):** 144,815  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
11E2510010	Capacitor	C225,C51,C55,C6		1.128806	4	196873384.410843
11E2522060	Capacitor	C35		1.128806	1	704977644.692287
11E3510011	Capacitor	C234,C235,C236,C237,C238,C396,C397,C398,C417,C429		1.128806	10	82101057.548118
11E4433090	Capacitor	C275,C568,C569		1.128806	3	257514172.353070
11E4547610	Capacitor	C271		1.128806	1	704977644.692287
11E9522790	Capacitor	C379,C513,C548,C549		1.128806	4	196873384.410843
11E9547630	Capacitor	C1,C75,C77		1.128806	3	257514172.353070
11E9547790	Capacitor	C47,C533		1.128806	2	375289731.076049
11E9610080	Capacitor	C101,C104,C107,C136,C153,C165,C176,C185,C187,C189,C190,C209,C211,C266,C406,C436,C45,C452,C46,C490,C492,C504,C515,C517,C523,C524,C529,C530,C531,C555,C563,C74,C96,C99		1.128806	34	24984844.161172
11E9622052	Capacitor	C132,C15,C22,C26,C279,C307,C311,C558,C63		1.128806	9	90863428.080946

**Reliability Prediction  
Summary**

**File Name:** ACP-1076.rfp  
**Assembly:** 9697APL5PF-D  
**Ref Des:**  
**Description:**

**Failure Rate:** 6905.344324  
**MTBF (hrs):** 144,815  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
11E9622080	Capacitor	C100,C108,C110,C115,C123,C124,C282,C283,C286,C287,C288,C298,C308,C315,C320,C321,C324,C328,C334,C337,C344,C355,C356,C359,C360,C361,C362,C376,C377,C381,C390,C391,C414,C423,C424,C432,C437,C459,C461,C463,C532,C65,C69,C72,C73,C81,C89,C91		1.128806	49	17456231.890224
11EA610120	Capacitor	C289,C291,C294,C295		1.128806	4	196873384.410843
11EA647010	Capacitor	C367,C387,C409		1.128806	3	257514172.353070
11EA647640	Capacitor	C318,C322		1.128806	2	375289731.076049

**File Name:** ACP-1076.rfp  
**Assembly:** 9697APL5PF-D  
**Ref Des:**  
**Description:**

**Failure Rate:** 6905.344324  
**MTBF (hrs):** 144,815  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
11EB510640	Capacitor	C105,C106,C116, C135,C149,C184, C186,C205,C208, C215,C218,C245, C249,C250,C254, C260,C263,C269, C277,C303,C310, C326,C327,C332, C333,C335,C338, C339,C341,C342, C346,C347,C348, C349,C357,C364, C368,C370,C373, C374,C375,C378, C380,C384,C385,C39, C400,C402,C		1.128806	81	10641455.782446
11EB522640	Capacitor	C314,C95		1.128806	2	375289731.076049
11EB610050	Capacitor	C138,C18,C20,C273, C274,C31,C34,C438, C439,C448,C449, C518,C537,C57,C570, C61,C76,C80,C93		1.128806	19	44097696.883526
121110226X	Inductor	L10		4.944252	1	154760964.143460
1211102272	Inductor	L8		4.944252	1	154760964.143460
1211104779	Inductor	L4,L5,L6,L7,L9		4.944252	5	35631881.582999
121111007L	Inductor	L3		4.944252	1	154760964.143460
1211147078	Inductor	L2		4.944252	1	154760964.143460
1211202700	Inductor	L11,L12,L13		4.944252	3	57363284.375370

**File Name:** ACP-1076.rfp  
**Assembly:** 9697APL5PF-D  
**Ref Des:**  
**Description:**

**Failure Rate:** 6905.344324  
**MTBF (hrs):** 144,815  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1212306030	Inductor	FB10,FB15,F B17, FB18,FB21,F B26, FB27,FB28,F B4,FB5, FB6		4.944252	11	16872203.304846
1212308054	Inductor	FB24,FB25,F B29		4.944252	3	57363284.375370
12123C0031	Inductor	FB22,FB23,F B7,FB8, FB9		4.944252	5	35631881.582999
12123D0001	Inductor	FB1,FB11,FB 12,FB13, FB14,FB16,F B2,FB3		4.944252	8	22874049.098230
1214109000	Inductor	CH1,CH10,C H2,CH7, CH8,CH9		4.944252	6	30055900.223009
1214109004	Inductor	CH11,CH12,C H13, CH14,CH3,C H4,CH5, CH6		4.944252	8	22874049.098230
12310025A2	Miscellaneous	Y4,Y5		19.200000	2	8854051.752197
12310192A0	Miscellaneous	Y6		19.200000	1	23844262.770939
1231332726	Miscellaneous	Y1		19.200000	1	23844262.770939
12330024A1	Miscellaneous	Y2		19.200000	1	23844262.770939
1301005444	Semiconductor	D24,D25		7.793411	2	50578095.223398
1301020400	Semiconductor	D4		7.793411	1	92807310.010983
1301053040	Semiconductor	D15		7.793411	1	92807310.010983
1301400642	Semiconductor	D7		7.793411	1	92807310.010983
1301793040	Semiconductor	D10,D16,D19 ,D20		7.793411	4	26989084.126235
1304000043	Optical Device	LED3		79.003355	1	6497172.749112
1304300140	Optical Device	LED1		79.003355	1	6497172.749112
1304500240	Optical Device	LED2		79.003355	1	6497172.749112
1305080040	Semiconductor	D11,D12,D13 ,D14, D18,D2,D21, D5,D6, D8,D9		7.793411	11	10495888.688121
1310390413	Semiconductor	Q26,Q55		22.463360	2	17315095.066101
1311390612	Semiconductor	Q16,Q48		22.463360	2	17315095.066101
1315013810	Semiconductor	Q23		22.463360	1	31642600.748419
1315015530	Semiconductor	Q28,Q56,Q5 7		22.463360	3	12043329.789539
1315036600	Semiconductor	Q17,Q5		22.463360	2	17315095.066101
1315044910	Semiconductor	Q13		22.463360	1	31642600.748419
1315076780	Semiconductor	Q37,Q45		22.463360	2	17315095.066101



**File Name:** ACP-1076.rfp  
**Assembly:** 9697APL5PF-D  
**Ref Des:**  
**Description:**

**Failure Rate:** 6905.344324  
**MTBF (hrs):** 144,815  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1315230511	Semiconductor	Q30,Q31,Q34,Q39,Q54,Q9		22.463360	6	6378891.324740
1315443512	Semiconductor	Q35,Q38,Q4		22.463360	3	12043329.789539
1315700216	Semiconductor	Q25,Q42		22.463360	2	17315095.066101
1315720010	Semiconductor	Q14		22.463360	1	31642600.748419
1315762010	Semiconductor	Q15,Q18		22.463360	2	17315095.066101
1315EM6K10	Semiconductor	Q1,Q10,Q11,Q12,Q19,Q2,Q20,Q21,Q22,Q24,Q29,Q32,Q33,Q36,Q40,Q43,Q44,Q46,Q47,Q49,Q50,Q51,Q53,Q58,Q59,Q61, Q63		22.463360	27	1533030.992154
1430034250	Integrated Circuit	U35		43.803003	1	11739202.588727
1430082021	Integrated Circuit	U47		43.803003	1	11739202.588727
1430097420	Integrated Circuit	U50,U54,U56		43.803003	3	4923240.069161
1430532190	Integrated Circuit	U34		43.803003	1	11739202.588727
143117ADJ0	Integrated Circuit	U9		43.803003	1	11739202.588727
1436509420	Integrated Circuit	U43		43.803003	1	11739202.588727
143ALC8920	Integrated Circuit	U2		43.803003	1	11739202.588727
1440002130	Integrated Circuit	U10,U18		43.803003	2	6834791.244197
1440033660	Integrated Circuit	U52		43.803003	1	11739202.588727
1440211AT0	Integrated Circuit	U16,U17		43.803003	2	6834791.244197
1440819660	Integrated Circuit	U6		43.803003	1	11739202.588727
1440N42000	Integrated Circuit	U7		21.706765	1	23689035.791249
1462001280	Integrated Circuit			43.803003	1	11739202.588727
1462GAP5A0	Integrated Circuit	U13		43.803003	1	11739202.588727
1490034600	Integrated Circuit	U38		43.803003	1	11739202.588727
149F759130	Integrated Circuit	U62,U63		43.803003	2	6834791.244197
149TB01040	Integrated Circuit	U53		43.803003	1	11739202.588727
14S1035803	Integrated Circuit	U51		43.803003	1	11739202.588727
14S3104500	Integrated Circuit	U20,U22,U23,U24,U25,U26,U27,U28, U29		43.803003	9	1934274.130806
14S3128422	Integrated Circuit	U46		43.803003	1	11739202.588727
14S3520500	Integrated Circuit	U40		43.803003	1	11739202.588727
14S3524700	Integrated Circuit	U33		43.803003	1	11739202.588727
14S4600004	Integrated Circuit	U30		43.803003	1	11739202.588727
14S4814380	Integrated Circuit	U4,U8		43.803003	2	6834791.244197
14S5A00704	Integrated Circuit	U32		26.018600	1	25551442.237972
14S5A00821	Integrated Circuit	U1,U3,U39,U42		26.018600	4	7696979.559193

**File Name:** ACP-1076.rfp  
**Assembly:** 9697APL5PF-D  
**Ref Des:**  
**Description:**

**Failure Rate:** 6905.344324  
**MTBF (hrs):** 144,815  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
14S5A30601	Integrated Circuit	U15		26.018600	1	25551442.237972
1540722281	Resistor	RP1		9.971436	1	51606907.671214
1540733085	Resistor	RP2		9.971436	1	51606907.671214
16515A2990	Connection	DIMM1		16.184835	1	35685591.360212
165251420B	Connection	CN26,CN27		16.184835	2	20390152.380746
1652602105	Connection	CN5		16.184835	1	35685591.360212
165300310G	Connection	JP10,JP2,JP5,JP9		16.184835	4	11344857.509064
165300320K	Connection	JP1,JP3,JP4		16.184835	3	14515880.849373
165300520X	Connection	JP6		16.184835	1	35685591.360212
165321320Q	Connection	CN10		16.184835	1	35685591.360212
1653300107	Connection	JP1(2-4),JP1(3-5), JP3(3-4),JP4(3-4)		16.184835	4	11344857.509064
165330010E	Connection	JP2(2-3),JP5(1-2), JP9(2-3)		16.184835	3	14515880.849373
165330010G	Connection	JP10(1-2)		16.184835	1	35685591.360212
1654030006	Connection	CN8		16.184835	1	35685591.360212
1654226303	Connection	CN33,CN34		16.184835	2	20390152.380746
1654401935	Connection	CN29		16.184835	1	35685591.360212
1654801833	Connection	CN25		16.184835	1	35685591.360212
1654900800	Connection	CN32		16.184835	1	35685591.360212
1654907009	Connection	CN4		16.184835	1	35685591.360212
1655003016	Connection	CN23		16.184835	1	35685591.360212
1655302025	Connection	CN3		16.184835	1	35685591.360212
1655305025	Connection	CN2		16.184835	1	35685591.360212
1655306026	Connection	CN1		16.184835	1	35685591.360212
1655807030	Connection	CN13		16.184835	1	35685591.360212
1655902034	Connection	CN30		16.184835	1	35685591.360212
1655905038	Connection	CN16,CN17,CN19, CN20		16.184835	4	11344857.509064
1655909034	Connection	CN12,CN14,CN18,CN9		16.184835	4	11344857.509064
1655909035	Connection	CN22		16.184835	1	35685591.360212
1655910032	Connection	CN7		16.184835	1	35685591.360212
1655912032	Connection	CN11		16.184835	1	35685591.360212
1752000501	Miscellaneous	FS2,FS3		2.400000	2	143944727.196625
1752001603	Miscellaneous	FS4,FS5,FS6		2.400000	3	101854599.204190
1752002500	Miscellaneous	FS1,FS7		2.400000	2	143944727.196625
175910000B	Miscellaneous	BZ1		2.400000	1	254626042.602335

**File Name:** ACP-1076.rfp  
**Assembly:** 9697P21D00-D  
**Ref Des:**  
**Description:**

**Failure Rate:** 590.518333  
**MTBF (hrs):** 1,693,428  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1050510034	Resistor	R10,R19,R21 ,R26, R27,R5,R7		2.547039	7	48991237.965885
1053500489	Resistor	R15		2.547039	1	282340674.079668
1059700201	Resistor	R14		2.547039	1	282340674.079668
105A501053	Resistor	R3,R6		2.547039	2	154078778.388085
105A501139	Resistor	R29		2.547039	1	282340674.079668
105A501539	Resistor	R1		2.547039	1	282340674.079668
105A502039	Resistor	R12		2.547039	1	282340674.079668
105A509123	Resistor	R18		2.547039	1	282340674.079668
105A512039	Resistor	R13,R9		2.547039	2	154078778.388085
105A515433	Resistor	R24		2.547039	1	282340674.079668
105A523713	Resistor	R20		2.547039	1	282340674.079668
105A549919	Resistor	R8		2.547039	1	282340674.079668
105A700009	Resistor	R23,R25		2.547039	2	154078778.388085
105A701009	Resistor	R2,R22,R28, R4		2.547039	4	82309758.689546
105B503589	Resistor	R16,R17		2.547039	2	154078778.388085
1114633130	Capacitor	C2		1.128806	1	704977644.692287
1124410190	Capacitor	C25,C27		1.128806	2	375289731.076049
1129701790	Capacitor	C20,C28		1.128806	2	375289731.076049
1129747090	Capacitor	C29		1.128806	1	704977644.692287
1181633112	Capacitor	C1		4.744484	1	159663026.715137
11C1522480	Capacitor	C16,C17		4.744484	2	86049450.747498
11C1547890	Capacitor	C24		4.744484	1	159663026.715137
11C4501650	Capacitor	C10,C11,C14 ,C15, C18,C19,C26 ,C5,C9		1.128806	9	90863428.080946
11C4547690	Capacitor	C21,C22,C3, C4		1.128806	4	196873384.410843
11E1522680	Capacitor	C6		1.128806	1	704977644.692287
11E2510060	Capacitor	C12,C13,C23 ,C7,C8		1.128806	5	159367490.199266
1211100111	Inductor	L1		4.944252	1	154760964.143460
12143E0002	Inductor	L2		4.944252	1	154760964.143460
1300414841	Semiconductor	D1,D2		7.793411	2	50578095.223398
1301003440	Semiconductor	D3,D4,D6,D8		7.793411	4	26989084.126235
1302005641	Semiconductor	D7		7.793411	1	92807310.010983
130533CA40	Semiconductor	D5		7.793411	1	92807310.010983
1310390410	Semiconductor	Q1		22.463360	1	31642600.748419
1315442410	Semiconductor	Q3,Q7		22.463360	2	17315095.066101
1315844710	Semiconductor	Q2,Q4,Q5,Q6		22.463360	4	9270607.712006
14S3378000	Integrated Circuit	U2		43.803003	1	11739202.588727
14S3435600	Integrated Circuit	U1		43.803003	1	11739202.588727
14S3520900	Integrated Circuit	U3		43.803003	1	11739202.588727
1655102010	Connection	CN1		16.184835	1	35685591.360212

**Reliability Prediction  
Summary**

**File Name:** ACP-1076.rfp  
**Assembly:** 9697P21D00-D  
**Ref Des:**  
**Description:**

**Failure Rate:** 590.518333  
**MTBF (hrs):** 1,693,428  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1655103010	Connection	CN2		16.184835	1	35685591.360212
1752001900	Miscellaneous	F1		2.400000	1	254626042.602335