

BOXER-6614

Reliability Prediction Report (MTBF)

Summary	Failure Rate: 15589.888605 ppm MTBF: 64,144 Hours
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Issue date	Approval	Test Engineer
2014/12/30	Vincent Chen	Max Chang

Reliability Prediction (MTBF)

I . Model Name: BOXER-6614

II . Prediction Date: December, 30, 2014

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

IV . Predicted by: Max Chang

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:

BOXER-6614 (9697BT050W-D & 9697P21D00-D):

- Failure Rate: 15589.888605 ppm
- MTBF: 64,144 Hours

**AAEON Reliability Prediction
Summary**

File Name: BOXER-6614.rfp
Duty Cycle: 100
Calculation Model: Telcordia Issue 2
Method: Method I Case 3

Failure Rate: 15589.888605
MTBF (hrs): 64,144
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Assembly Name	Part Number	Ref Des	Quantity	Failure Rate	MTBF
BOXER-6614	SYSTEM		1	15589.888605	64,144
GENE-BT05	9697BT050W-D		1	15333.224183	65,218
PER-P21D	9697P21D00-D		1	327.818890	3,050,465

File Name: BOXER-6614.rfp
Assembly: 9697BT050W-D
Ref Des:
Description:

Failure Rate: 15333.224183
MTBF (hrs): 65,218
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1050501234	Resistor	R79		2.547039	1	282340674.079668
1050501834	Resistor	R261		2.547039	1	282340674.079668
1050502004	Resistor	R65,R73		2.547039	2	154078778.388085
1050502734	Resistor	R128,R769		2.547039	2	154078778.388085
1050503334	Resistor	R411		2.547039	1	282340674.079668
1050503634	Resistor	R244		2.547039	1	282340674.079668
1050503934	Resistor	R367,R665,R763		2.547039	3	107020754.986850
1050504324	Resistor	R346		2.547039	1	282340674.079668
1050504724	Resistor	R179,R218,R228,R27,R50,R562,R629		2.547039	7	48991237.965885
1050504734	Resistor	R265,R463		2.547039	2	154078778.388085
1050505124	Resistor	R437,R600		2.547039	2	154078778.388085
1050505134	Resistor	R280,R297,R342		2.547039	3	107020754.986850
1050505633	Resistor	R373,R405		2.547039	2	154078778.388085
1050507524	Resistor	R605		2.547039	1	282340674.079668
1050510034	Resistor	R406,R407,R578, R586		2.547039	4	82309758.689546
1050510524	Resistor	R679		2.547039	1	282340674.079668
1050512104	Resistor	R82		2.547039	1	282340674.079668
1050512414	Resistor	R504		2.547039	1	282340674.079668
1050513724	Resistor	R256,R687		2.547039	2	154078778.388085
1050515034	Resistor	R345,R370		2.547039	2	154078778.388085
1050516034	Resistor	R254		2.547039	1	282340674.079668
1050516204	Resistor	R579		2.547039	1	282340674.079668
1050516934	Resistor	R752		2.547039	1	282340674.079668
1050516964	Resistor	R60		2.547039	1	282340674.079668
1050520034	Resistor	R35,R36,R735		2.547039	3	107020754.986850
1050521024	Resistor	R266		2.547039	1	282340674.079668
1050523264	Resistor	R571		2.547039	1	282340674.079668
1050524934	Resistor	R666		2.547039	1	282340674.079668
1050527424	Resistor	R109,R317		2.547039	2	154078778.388085
1050529464	Resistor	R588		2.547039	1	282340674.079668
1050530124	Resistor	R129		2.547039	1	282340674.079668
1050536514	Resistor	R787		2.547039	1	282340674.079668
1050540204	Resistor	R613,R615,R624		2.547039	3	107020754.986850
1050540214	Resistor	R556		2.547039	1	282340674.079668
1050540224	Resistor	R324		2.547039	1	282340674.079668
1050545364	Resistor	R122,R520		2.547039	2	154078778.388085
1050547564	Resistor	R612		2.547039	1	282340674.079668
1050561934	Resistor	R461		2.547039	1	282340674.079668
1050568124	Resistor	R239		2.547039	1	282340674.079668

File Name: BOXER-6614.rfp
Assembly: 9697BT050W-D
Ref Des:
Description:

Failure Rate: 15333.224183
MTBF (hrs): 65,218
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1050573264	Resistor	R741,R746,R750		2.547039	3	107020754.986850
1050584524	Resistor	R251		2.547039	1	282340674.079668
1050700002	Resistor	R38,R462		2.547039	2	154078778.388085
1050718034	Resistor	R404		2.547039	1	282340674.079668
1059520001	Resistor	R76		2.547039	1	282340674.079668
1059700001	Resistor	R712,R772		2.547039	2	154078778.388085
1059710001	Resistor	R85		2.547039	1	282340674.079668
105A500103	Resistor	R329,R419,R755		2.547039	3	107020754.986850
105A500139	Resistor	R388,R409,R44,R470,R499,R537,R54		2.547039	7	48991237.965885
105A500173	Resistor	R148,R208,R233,R262,R505,R512,R516,R518,R525,R548,R55,R557,R561,R563,R572,R580,R582,R585,R597,R607,R617,R618,R621,R631,R660,R80,R89		2.547039	27	13557741.157915
105A500239	Resistor	R153		2.547039	1	282340674.079668
105A501003	Resistor	R26,R690		2.547039	2	154078778.388085
105A501039	Resistor	R384,R386		2.547039	2	154078778.388085
105A501539	Resistor	R96		2.547039	1	282340674.079668
105A502039	Resistor	R25,R444,R450,R485,R502		2.547039	5	67008142.102588
105A503039	Resistor	R325,R387,R535		2.547039	3	107020754.986850
105A505109	Resistor	R514,R523,R524,R539,R540		2.547039	5	67008142.102588
105A507509	Resistor	R809,R810,R811		2.547039	3	107020754.986850
105A507533	Resistor	R447		2.547039	1	282340674.079668
105A510009	Resistor	R488,R559,R678		2.547039	3	107020754.986850
105A510223	Resistor	R455		2.547039	1	282340674.079668
105A510723	Resistor	R619		2.547039	1	282340674.079668

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105A515009	Resistor	R219,R227,R237, R350,R378,R379, R380,R826		2.547039	8	43225424.698300
105A515034	Resistor	R751		2.547039	1	282340674.079668
105A518723	Resistor	R276,R333		2.547039	2	154078778.388085
105A529429	Resistor	R328		2.547039	1	282340674.079668
105A531623	Resistor	R587,R614		2.547039	2	154078778.388085
105A533269	Resistor	R357		2.547039	1	282340674.079668
105A535703	Resistor	R200		2.547039	1	282340674.079668
105A536503	Resistor	R78		2.547039	1	282340674.079668
105A540233	Resistor	R728		2.547039	1	282340674.079668
105A543033	Resistor	R768		2.547039	1	282340674.079668
105A544223	Resistor	R574		2.547039	1	282340674.079668
105A547003	Resistor	R115,R83		2.547039	2	154078778.388085
105A547529	Resistor	R331		2.547039	1	282340674.079668
105A549919	Resistor	R253,R306		2.547039	2	154078778.388085
105A549969	Resistor	R311,R549,R590, R663,R673		2.547039	5	67008142.102588
105A561909	Resistor	R691,R692,R693, R694,R695,R696, R697,R698		2.547039	8	43225424.698300
105A564933	Resistor	R334		2.547039	1	282340674.079668
105A578713	Resistor	R771		2.547039	1	282340674.079668
105A578733	Resistor	R724		2.547039	1	282340674.079668
105A700003	Resistor	R14,R151,R161,R247, R271,R277,R314,R33, R332,R354,R355, R360,R382,R452,R46, R570,R599,R608, R644,R677,R706, R707,R732,R761, R764,R842		2.547039	26	14061076.827148

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105A700009	Resistor	R100,R123,R124,R13,R154,R156,R158,R164,R166,R167,R17,R171,R175,R178,R185,R188,R189,R191,R194,R195,R214,R222,R224,R225,R226,R232,R235,R236,R246,R260,R275,R278,R316,R32,R336,R338,R347,R348,R349,R362,R365,R371,R372,R381,R39,R392,R40,R41,R410,R4		2.547039	112	3384913.455750
105A700139	Resistor	R155,R157,R249,R31,R368,R385,R441,R442,R489,R492,R510,R656,R773,R779,R803		2.547039	15	23852782.943395

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105A701039	Resistor	R102,R103,R105,R12,R137,R149,R152,R159,R172,R174,R187,R190,R192,R199,R203,R209,R212,R217,R22,R230,R245,R268,R273,R283,R284,R285,R286,R289,R290,R291,R292,R301,R302,R303,R304,R318,R319,R321,R322,R326,R337,R339,R341,R377,R383,R43,R449,R47,R503		2.547039	132	2879859.008415
105A701059	Resistor	R120,R181,R221,R369,R426,R551		2.547039	6	56573956.677649
105A701069	Resistor	R88		2.547039	1	282340674.079668
105A702039	Resistor	R464,R801,R804		2.547039	3	107020754.986850
105A702229	Resistor	R241,R252,R28,R29,R30,R305,R363,R4,R433,R438,R456,R459,R460,R63,R66,R67,R69,R70,R71,R793,R794,R795		2.547039	22	16518584.576317
105A702263	Resistor	R330		2.547039	1	282340674.079668

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105A703309	Resistor	R15,R16,R24 8,R413, R454,R457,R 630, R670,R671,R 705, R711,R781,R 789		2.547039	13	27342571.921361
105A703329	Resistor	R196,R197,R 201, R202,R204,R 207, R704,R734,R 774, R775		2.547039	10	35079934.879747
105A703363	Resistor	R145		2.547039	1	282340674.079668
105A704729	Resistor	R231,R238,R 243, R272,R279,R 323, R375,R376,R 421, R445,R484,R 56,R633, R637,R646,R 649, R651,R655,R 659, R661,R667,R 726, R767,R822		2.547039	24	15190138.820515
105A705139	Resistor	R168,R169,R 215, R257,R258,R 294, R295,R296		2.547039	8	43225424.698300
105A708229	Resistor	R57,R58		2.547039	2	154078778.388085
105A710009	Resistor	R440		2.547039	1	282340674.079668

**Reliability Prediction
Summary**

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Assembly: 9697BT050W-D
Ref Des:
Description:

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MTBF (hrs): 65,218
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Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
105A710039	Resistor	R1,R101,R112,R117,R125,R126,R131,R132,R133,R136,R139,R142,R143,R144,R165,R173,R18,R182,R186,R205,R211,R213,R220,R24,R255,R259,R263,R267,R269,R312,R327,R344,R356,R37,R402,R412,R427,R429,R435,R448,R469,R471,R476,R490,R491,R498,R511,R513,R522,		2.547039	60	6239906.126519
105A720009	Resistor	R113		2.547039	1	282340674.079668
105A730009	Resistor	R688		2.547039	1	282340674.079668
105A733009	Resistor	R282,R287,R288,R293,R335,R340,R343,R359,R366		2.547039	9	38754445.632391
105A747009	Resistor	R116,R361,R428,R477,R560,R596,R641,R81,R815		2.547039	9	38754445.632391
106B510030	Resistor	RT1,RT2,RT3,RT4		2.547039	4	82309758.689546
1121501680	Capacitor	C173,C21,C240,C244		1.128806	4	196873384.410843

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1121501691	Capacitor	C1,C10,C101,C103,C104,C105,C106,C107,C108,C11,C111,C115,C117,C118,C119,C120,C121,C123,C124,C128,C130,C131,C132,C139,C141,C142,C143,C145,C146,C148,C149,C150,C151,C152,C153,C154,C155,C156,C158,C163,C164,C166,C167,C17,C170,C171,C172,C175,C176,		1.128806	215	4051378.751640
1124410191	Capacitor	C20,C25,C320,C333,C350,C37,C534,C547,C549,C557,C561,C581,C582		1.128806	13	63728475.410842
1124418090	Capacitor	C73,C79,C94,C98		1.128806	4	196873384.410843
1124427091	Capacitor	C161,C180,C184,C193,C197,C296,C299,C300,C99		1.128806	9	90863428.080946
1124533282	Capacitor	C251		1.128806	1	704977644.692287
1129622690	Capacitor	C372,C384,C396,C401,C409,C480		1.128806	6	133979725.056342

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1129701791	Capacitor	C137,C16,C18,C233,C264,C311,C345,C377,C391,C392,C393,C394,C418,C55,C594,C7,C8		1.128806	17	49133303.073811
1129710091	Capacitor	C282,C295,C297,C298,C312		1.128806	5	159367490.199266
1129710391	Capacitor	C221,C351,C490,C553,C554,C580,C585,C75		1.128806	8	101746760.035398
1181610196	Capacitor	EC1		1.128806	1	704977644.692287
1189615154	Capacitor	TC10,TC11,TC12,TC13,TC14,TC20,TC21,TC8,TC9		1.128806	9	90863428.080946
1189622154	Capacitor	TC3,TC5		1.128806	2	375289731.076049
1189633151	Capacitor	TC1,TC2,TC4,TC6,TC7		1.128806	5	159367490.199266
1189933180	Capacitor	TC15,TC16,TC17,TC18,TC19		1.128806	5	159367490.199266
11C1501080	Capacitor	C182,C432,C505,C539		1.128806	4	196873384.410843
11C1539840	Capacitor	C162,C168		1.128806	2	375289731.076049
11C4515290	Capacitor	C559		1.128806	1	704977644.692287
11C4522290	Capacitor	C174,C239,C328,C457,C558		1.128806	5	159367490.199266

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11C4547190	Capacitor	C136,C144,C209, C230,C231,C232, C247,C256,C258, C261,C265,C267, C270,C281,C498, C503,C507,C512, C516,C519,C522, C524,C563,C565		1.128806	24	35120617.936543
11C4547290	Capacitor	C595		1.128806	1	704977644.692287
11E1510050	Capacitor	C212,C224,C225, C301,C302,C303, C346,C532,C538, C543,C572,C573,C58, C65		1.128806	14	59316298.011235
11E1522680	Capacitor	C181,C29,C511		1.128806	3	257514172.353070
11E1533780	Capacitor	C523		1.128806	1	704977644.692287
11E1547650	Capacitor	C386		1.128806	1	704977644.692287
11E4433090	Capacitor	C260,C268,C284, C285,C294,C76,C97		1.128806	7	115633865.771428

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Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
11E9501091	Capacitor	C102,C112,C12,C125,C140,C160,C199,C200,C201,C206,C207,C218,C235,C238,C242,C243,C245,C246,C288,C289,C290,C291,C306,C307,C308,C310,C325,C337,C347,C362,C366,C369,C371,C374,C375,C376,C378,C382,C385,C387,C397,C398,C399,C403,C404,C405,C408,C411,C		1.128806	88	9805731.212933
11E9510050	Capacitor	C15,C157,C20,C283,C348,C4,C456,C473,C477,C478,C491,C521,C560,C587,C588		1.128806	15	55479656.844874
11E9522790	Capacitor	C269,C321,C402,C510,C552		1.128806	5	159367490.199266
11E9547630	Capacitor	C147,C2,C407,C438,C576		1.128806	5	159367490.199266
11E9547790	Capacitor	C439,C69		1.128806	2	375289731.076049

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Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
11E9610080	Capacitor	C100,C109,C110,C113,C114,C116,C122,C129,C13,C133,C134,C135,C138,C159,C165,C169,C179,C186,C188,C192,C194,C22,C263,C286,C287,C317,C318,C334,C335,C349,C359,C36,C363,C373,C38,C42,C437,C5,C555,C56,C570,C571,C579,C82,C88		1.128806	45	18979439.555593
11E9622050	Capacitor	C215,C27,C28,C30,C379,C389,C406,C416,C419,C422,C424,C431,C440,C441,C442,C444,C486,C493,C514,C550,C551,C96		1.128806	22	38230892.707156
11E9622052	Capacitor	C14,C304,C309,C54		1.128806	4	196873384.410843
11E9647690	Capacitor	C597		1.128806	1	704977644.692287
11E9722090	Capacitor	C531		1.128806	1	704977644.692287
121110156M	Inductor	L1		4.944252	1	154760964.143460
121110156W	Inductor	L8		4.944252	1	154760964.143460
121110156Z	Inductor	L2		4.944252	1	154760964.143460
121110226V	Inductor	L5		4.944252	1	154760964.143460
1211104270	Inductor	L6		4.944252	1	154760964.143460
1211104270	Inductor	L7	54.3	11.834423	1	64656907.378115
1211122070	Inductor	L4		4.944252	1	154760964.143460
121113307A	Inductor	L3	54.2	11.818298	1	64745124.027389

File Name: BOXER-6614.rfp
Assembly: 9697BT050W-D
Ref Des:
Description:

Failure Rate: 15333.224183
MTBF (hrs): 65,218
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1212306030	Inductor	FB18,FB19,F B20, FB26,FB28,F B3,FB5, FB6,FB7,FB8		4.944252	10	18485101.557872
1212308054	Inductor	FB21,FB25		4.944252	2	83201062.149749
12123D0001	Inductor	FB1,FB10,FB 11,FB12, FB13,FB14,F B15, FB16,FB17,F B2,FB22, FB24,FB30,F B4,FB9		4.944252	15	12521115.446963
1214109000	Inductor	CH11,CH16,C H18, CH20		4.944252	4	43912872.424775
1214309009	Inductor	CH1,CH2,CH 3,CH4, CH5,CH6		4.944252	6	30055900.223009
1231324056	Miscellaneous	Y2		19.200000	1	23844262.770939
123132505D	Miscellaneous	Y4,Y5,Y6		19.200000	3	5742504.738137
1231332726	Miscellaneous	Y1		19.200000	1	23844262.770939
12330024A1	Miscellaneous	Y3		19.200000	1	23844262.770939
1301005444	Semiconductor	D23,D24		7.793411	2	50578095.223398
1301013040	Semiconductor	D7		7.793411	1	92807310.010983
1301053040	Semiconductor	D12		7.793411	1	92807310.010983
1301400642	Semiconductor	D11		7.793411	1	92807310.010983
1301793040	Semiconductor	D13,D19,D6		7.793411	3	35106858.962001
1304000043	Optical Device	LED2		79.003355	1	6497172.749112
1304300140	Optical Device	LED3,LED4		79.003355	2	3783722.582110
1304500240	Optical Device	LED1		79.003355	1	6497172.749112
1305080040	Semiconductor	D1,D10,D14, D15,D16, D2,D20,D21, D22,D3, D8,D9		7.793411	12	9662455.000384
1310390413	Semiconductor	Q48,Q53		22.463360	2	17315095.066101
1311390612	Semiconductor	Q38,Q9		22.463360	2	17315095.066101
1314111720	Semiconductor	U12		22.463360	1	31642600.748419
1315015530	Semiconductor	Q18,Q21,Q2 2		22.463360	3	12043329.789539
1315230211	Semiconductor	Q45		22.463360	1	31642600.748419
1315230511	Semiconductor	Q20,Q25,Q2 8,Q29, Q30,Q33,Q3 9		22.463360	7	5525968.936223
1315443512	Semiconductor	Q35		22.463360	1	31642600.748419
1315490110	Semiconductor	Q5		22.463360	1	31642600.748419
1315490110	Semiconductor	Q15	51	75.594635	1	9402772.207180

File Name: BOXER-6614.rfp
Assembly: 9697BT050W-D
Ref Des:
Description:

Failure Rate: 15333.224183
MTBF (hrs): 65,218
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1315700216	Semiconductor	Q34,Q46,Q52,Q54,Q55,Q56		22.463360	6	6378891.324740
1315720010	Semiconductor	Q10,Q11,Q14		22.463360	3	12043329.789539
1315762010	Semiconductor	Q6		22.463360	1	31642600.748419
1315971500	Semiconductor	U67,U69		22.463360	2	17315095.066101
1315EM6K10	Semiconductor	Q1,Q12,Q13,Q16,Q17,Q19,Q2,Q23,Q24,Q31,Q32,Q36,Q37,Q4,Q40,Q41,Q42,Q43,Q44,Q47,Q49,Q57,Q59,Q60,Q61,Q62,Q64,Q65,Q66,Q7,Q8		22.463360	31	1341506.047544
1430455200	Integrated Circuit	U13,U43,U50,U53,U55,U57,U70		43.803003	7	2408529.736257
1430532190	Integrated Circuit	U41		43.803003	1	11739202.588727
1430973740	Integrated Circuit	U28		43.803003	1	11739202.588727
143ALC8920	Integrated Circuit	U5	52	1012.629788	1	507798.936581
143S596410	Integrated Circuit	U29		43.803003	1	11739202.588727
1440032040	Integrated Circuit	U40		43.803003	1	11739202.588727
1440211AT0	Integrated Circuit	U20		43.803003	1	11739202.588727
1440211AT0	Integrated Circuit	U21	53.8	1110.568010	1	463017.415123
1440N29300	Integrated Circuit	U16	51.4	151.583621	1	3392268.401138
1462B614A0	Integrated Circuit	U25		11.063278	1	58231413.220643
1489GBT051	Integrated Circuit	U71		26.018600	1	25551442.237972
149TB01040	Integrated Circuit	U42,U61,U7		43.803003	3	4923240.069161
14S1035803	Integrated Circuit	U68		43.803003	1	11739202.588727
14S2200900	Integrated Circuit	U30		43.803003	1	11739202.588727
14S2432600	Integrated Circuit	U22		43.803003	1	11739202.588727
14S3010700	Integrated Circuit	U26	61.2	1607.733747	1	319836.745613
14S3010700	Integrated Circuit	U32		43.803003	1	11739202.588727
14S3104500	Integrated Circuit	U27,U31,U33,U34,U35,U36,U62,U63		43.803003	8	2144463.783749
14S3111701	Integrated Circuit	U60		43.803003	1	11739202.588727
14S3112400	Integrated Circuit	U56		43.803003	1	11739202.588727
14S3121600	Integrated Circuit	U39		43.803003	1	11739202.588727
14S3128422	Integrated Circuit	U54		43.803003	1	11739202.588727
14S3524700	Integrated Circuit	U38		43.803003	1	11739202.588727

File Name: BOXER-6614.rfp
Assembly: 9697BT050W-D
Ref Des:
Description:

Failure Rate: 15333.224183
MTBF (hrs): 65,218
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
14S3902500	Integrated Circuit	U17,U9		43.803003	2	6834791.244197
14S4021301	Integrated Circuit	U23		43.803003	1	11739202.588727
14S4021301	Integrated Circuit	U24	54.4	1145.038878	1	449078.489060
14S4186600	Integrated Circuit	U18		43.803003	1	11739202.588727
14S4251402	Integrated Circuit	U14		43.803003	1	11739202.588727
14S4600004	Integrated Circuit	U37		43.803003	1	11739202.588727
14S4751100	Integrated Circuit	U58		43.803003	1	11739202.588727
14S4814380	Integrated Circuit	U15,U19		43.803003	2	6834791.244197
14S5A00704	Integrated Circuit	U1		43.803003	1	11739202.588727
14S5A00802	Integrated Circuit	U45,U49		26.018600	2	14194252.866846
14S5A00821	Integrated Circuit	U46,U51,U52		26.018600	3	9949526.289768
14S5A30601	Integrated Circuit	U2,U3,U66		26.018600	3	9949526.289768
14S5A73200	Integrated Circuit	U44,U48,U72		26.018600	3	9949526.289768
14S9108500	Integrated Circuit	U11,U47		26.018600	2	14194252.866846
14S9346000	Integrated Circuit	U6		26.018600	1	25551442.237972
1540722281	Resistor	RP1		9.971436	1	51606907.671214
1540733085	Resistor	RP2		9.971436	1	51606907.671214
16515A2990	Connection	CN34		16.184835	1	35685591.360212
165251420B	Connection	CN26,CN27		16.184835	2	20390152.380746
165260210A	Connection	CN7		16.184835	1	35685591.360212
1652602208	Connection	CN7		16.184835	1	35685591.360212
165300210C	Connection	JP2		16.184835	1	35685591.360212
165300310G	Connection	JP1,JP17,JP20,JP21,JP3,JP4		16.184835	6	7958792.615968
165300320K	Connection	JP8,JP9		16.184835	2	20390152.380746
165300420Q	Connection	CN19		16.184835	1	35685591.360212
165300520X	Connection	JP19		16.184835	1	35685591.360212
165320520V	Connection	CN16		16.184835	1	35685591.360212
165321320Q	Connection	CN13		16.184835	1	35685591.360212
1653300107	Connection	JP1(2-3),JP4(2-3),JP8(3-4),JP9(3-4)		16.184835	4	11344857.509064
1653300108	Connection	JP21(1-2)		16.184835	1	35685591.360212
165330010E	Connection	JP17(1-2),ATX,JP20(1-2),JP3(1-2)		16.184835	3	14515880.849373
165390003B	Connection	CN33		16.184835	1	35685591.360212
1653924110	Connection	CN33		16.184835	1	35685591.360212
1654030003	Connection	CN8		16.184835	1	35685591.360212
1654226303	Connection	CN10,CN37		16.184835	2	20390152.380746
1654401935	Connection	CN29		16.184835	1	35685591.360212
165440910N	Connection	CN28		16.184835	1	35685591.360212
1654415308	Connection	CN30		16.184835	1	35685591.360212
1654818301	Connection	CN25		16.184835	1	35685591.360212
1654903901	Connection	CN35		16.184835	1	35685591.360212
1654907009	Connection	CN6		16.184835	1	35685591.360212

**Reliability Prediction
Summary**

File Name: BOXER-6614.rfp
Assembly: 9697BT050W-D
Ref Des:
Description:

Failure Rate: 15333.224183
MTBF (hrs): 65,218
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1654926900	Connection	CN36		16.184835	1	35685591.360212
1655003016	Connection	CN24		16.184835	1	35685591.360212
1655302025	Connection	CN4		16.184835	1	35685591.360212
1655305025	Connection	CN3		16.184835	1	35685591.360212
1655306025	Connection	CN22		16.184835	1	35685591.360212
1655306026	Connection	CN1		16.184835	1	35685591.360212
1655902034	Connection	CN31		16.184835	1	35685591.360212
1655905038	Connection	CN17,CN18		16.184835	2	20390152.380746
1655909034	Connection	CN12,CN14,CN15		16.184835	3	14515880.849373
1655909035	Connection	CN23		16.184835	1	35685591.360212
1655910032	Connection	CN9		16.184835	1	35685591.360212
1655912032	Connection	CN11		16.184835	1	35685591.360212
175011901M	Miscellaneous	CN31		306.000000	1	1681683.006787
1752000501	Miscellaneous	FS1,FS5		2.400000	2	143944727.196625
1752001603	Miscellaneous	FS2,FS3,FS4,FS6		2.400000	4	79281882.025954

File Name: BOXER-6614.rfp
Assembly: 9697P21D00-D
Ref Des:
Description:

Failure Rate: 327.818890
MTBF (hrs): 3,050,465
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		0.849013	7	146973713.897655
1053500489	Resistor	R15		0.849013	1	847022022.239005
1059700201	Resistor	R14		0.849013	1	847022022.239005
105A501053	Resistor	R3,R6		0.849013	2	462236335.164256
105A501139	Resistor	R29		0.849013	1	847022022.239005
105A501539	Resistor	R1		0.849013	1	847022022.239005
105A502039	Resistor	R12		0.849013	1	847022022.239005
105A509123	Resistor	R18		0.849013	1	847022022.239005
105A512039	Resistor	R13,R9		0.849013	2	462236335.164256
105A515433	Resistor	R24		0.849013	1	847022022.239005
105A523713	Resistor	R20		0.849013	1	847022022.239005
105A549919	Resistor	R8		0.849013	1	847022022.239005
105A700009	Resistor	R23,R25		0.849013	2	462236335.164256
105A701009	Resistor	R2,R22,R28, R4		0.849013	4	246929276.068637
105B503589	Resistor	R16,R17		0.849013	2	462236335.164256
1114633130	Capacitor	C2		0.376269	1	2114932934.07686 2
1124410190	Capacitor	C25,C27		0.376269	2	1125869193.22814 8
1129701790	Capacitor	C20,C28		0.376269	2	1125869193.22814 8
1129747090	Capacitor	C29		0.376269	1	2114932934.07686 2
1181633112	Capacitor	C1		0.376269	1	2114932934.07686 2
11C1522480	Capacitor	C16,C17		0.376269	2	1125869193.22814 8
11C1547890	Capacitor	C24		0.376269	1	2114932934.07686 2
11C4501650	Capacitor	C10,C11,C14 ,C15, C18,C19,C26 ,C5,C9		0.376269	9	272590284.242838
11C4547690	Capacitor	C21,C22,C3, C4		0.376269	4	590620153.232529
11E1522680	Capacitor	C6		0.376269	1	2114932934.07686 2
11E2510060	Capacitor	C12,C13,C23 ,C7,C8		0.376269	5	478102470.597799
1211100111	Inductor	L1	52.1	3.827557	1	199912654.365687
12143E0002	Inductor	L2		1.648084	1	464282892.430380
1300414841	Semiconductor	D1,D2		2.597804	2	151734285.670195
1301003440	Semiconductor	D3,D4,D6,D8		2.597804	4	80967252.378705
1302005641	Semiconductor	D7		2.597804	1	278421930.032950
130533CA40	Semiconductor	D5		2.597804	1	278421930.032950

**Reliability Prediction
Summary**

File Name: BOXER-6614.rfp
Assembly: 9697P21D00-D
Ref Des:
Description:

Failure Rate: 327.818890
MTBF (hrs): 3,050,465
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1310390410	Semiconductor	Q1		7.487787	1	94927802.245258
1315442410	Semiconductor	Q3,Q7		7.487787	2	51945285.198303
1315844710	Semiconductor	Q2,Q4,Q5,Q6		7.487787	4	27811823.136019
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		5.394945	1	107056774.080635
1655103010	Connection	CN2		5.394945	1	107056774.080635
1752001900	Miscellaneous	F1		0.800000	1	763878127.807005