

EPIC-KBS8

Reliability Prediction Report (MTBF)

Summary	Failure Rate: 8402.576063 ppm MTBF: 119,011 Hours
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Issue date

QE Manager

Test Engineer

2018/04/24

KJ Wang

Jack Huang

Reliability Prediction (MTBF)

I . Model Name: EPIC-KBS8

II . Prediction Date: April. 24, 2018

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

IV . Predicted by: Jack Huang

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:

EPIC-KBS8(9697KBS803-D):

- Failure Rate:8402.576063ppm
- MTBF: 119.011 Hours

File Name: EPIC-KBS8.rfp
Duty Cycle: 100
Calculation Model: Telcordia Issue 2
Method: Method I Case 3

Failure Rate: 8402.576063
MTBF (hrs): 119,011
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Assembly Name	Part Number	Ref Des	Quantity	Failure Rate	MTBF
EPIC-KBS8	9697KBS803-D		1	8402.576063	119,011

File Name: EPIC-KBS8.rfp
Assembly: 9697KBS803-D
Ref Des:
Description:

Failure Rate: 8402.576063
MTBF (hrs): 119,011
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1050501054	Resistor	R122,R149,R284, R327,R329,R331, R384,R385,R39		2.547039	9	38754445.632391
1050501234	Resistor	R390		2.547039	1	282340674.079668
1050502004	Resistor	R695		2.547039	1	282340674.079668
1050502204	Resistor	R529,R541,R551		2.547039	3	107020754.986850
1050502224	Resistor	R135,R145,R461, R462,R465,R472, R475,R477,R479, R496,R503,R514, R588,R593,R594, R600		2.547039	16	22425139.809646
1050502234	Resistor	R404,R8		2.547039	2	154078778.388085
1050502424	Resistor	R691		2.547039	1	282340674.079668
1050502724	Resistor	R592,R804		2.547039	2	154078778.388085
1050502734	Resistor	R343		2.547039	1	282340674.079668
1050503634	Resistor	R184,R702		2.547039	2	154078778.388085
1050504734	Resistor	R195		2.547039	1	282340674.079668
1050505124	Resistor	R351,R523		2.547039	2	154078778.388085
1050505134	Resistor	R424		2.547039	1	282340674.079668
1050505164	Resistor	R31,R493		2.547039	2	154078778.388085
1050505604	Resistor	R222		2.547039	1	282340674.079668
1050505633	Resistor	R418		2.547039	1	282340674.079668
1050507524	Resistor	R233		2.547039	1	282340674.079668
1050507530	Resistor	R227		2.547039	1	282340674.079668
1050510004	Resistor	R235,R236,R237, R534,R739,R7666, R789,R861,R89,R92		2.547039	10	35079934.879747

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1050510024	Resistor	R102,R108,R11,R133,R194,R245,R246,R248,R250,R251,R253,R254,R256,R258,R260,R269,R279,R28,R280,R281,R282,R334,R344,R346,R398,R403,R431,R436,R44,R447,R463,R468,R474,R476,R483,R485,R486,R50,R502,R51,R521,R526,R567,R582,R608,R632,R663,R670,R709,R		2.547039	73	5151015.450923
1050510714	Resistor	R218		2.547039	1	282340674.079668
1050511009	Resistor	R221		2.547039	1	282340674.079668
1050512104	Resistor	R666,R697		2.547039	2	154078778.388085
1050512734	Resistor	R213		2.547039	1	282340674.079668
1050513034	Resistor	R7669		2.547039	1	282340674.079668
1050514034	Resistor	R504,R505,R90,R93		2.547039	4	82309758.689546
1050516014	Resistor	R201		2.547039	1	282340674.079668
1050516924	Resistor	R694		2.547039	1	282340674.079668
1050517414	Resistor	R692		2.547039	1	282340674.079668
1050517424	Resistor	R426		2.547039	1	282340674.079668
1050518003	Resistor	R226		2.547039	1	282340674.079668
1050518744	Resistor	R205		2.547039	1	282340674.079668
1050520504	Resistor	R216,R682		2.547039	2	154078778.388085
1050522004	Resistor	R738		2.547039	1	282340674.079668
1050522124	Resistor	R232		2.547039	1	282340674.079668
1050524004	Resistor	R175,R685		2.547039	2	154078778.388085
1050524324	Resistor	R215		2.547039	1	282340674.079668
1050524904	Resistor	R552,R553		2.547039	2	154078778.388085
1050524909	Resistor	R23,R64,R65		2.547039	3	107020754.986850

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1050525514	Resistor	R217		2.547039	1	282340674.079668
1050526124	Resistor	R423		2.547039	1	282340674.079668
1050527424	Resistor	R703		2.547039	1	282340674.079668
1050528714	Resistor	R557		2.547039	1	282340674.079668
1050528734	Resistor	R449,R7665		2.547039	2	154078778.388085
1050530164	Resistor	R614		2.547039	1	282340674.079668
1050532434	Resistor	R77		2.547039	1	282340674.079668
1050533034	Resistor	R859		2.547039	1	282340674.079668
1050533204	Resistor	R241		2.547039	1	282340674.079668
1050533234	Resistor	R638		2.547039	1	282340674.079668
1050537464	Resistor	R242		2.547039	1	282340674.079668
1050543264	Resistor	R764		2.547039	1	282340674.079668
1050545364	Resistor	R223		2.547039	1	282340674.079668
1050547004	Resistor	R219		2.547039	1	282340674.079668
1050547034	Resistor	R637		2.547039	1	282340674.079668
1050549904	Resistor	R444		2.547039	1	282340674.079668
1050549924	Resistor	R453,R464		2.547039	2	154078778.388085
1050549964	Resistor	R565		2.547039	1	282340674.079668
1050551004	Resistor	R214		2.547039	1	282340674.079668
1050556269	Resistor	R741		2.547039	1	282340674.079668
1050557614	Resistor	R231		2.547039	1	282340674.079668
1050560414	Resistor	R558		2.547039	1	282340674.079668
1050560424	Resistor	R243		2.547039	1	282340674.079668
1050561934	Resistor	R13		2.547039	1	282340674.079668
1050564924	Resistor	R130		2.547039	1	282340674.079668
1050566524	Resistor	R225		2.547039	1	282340674.079668
1050568004	Resistor	R686		2.547039	1	282340674.079668
1050568034	Resistor	R643		2.547039	1	282340674.079668
1050584514	Resistor	R179,R622		2.547039	2	154078778.388085
1050584524	Resistor	R240		2.547039	1	282340674.079668
1050591034	Resistor	R386		2.547039	1	282340674.079668

**Reliability Prediction
Summary**

File Name: EPIC-KBS8.rfp
Assembly: 9697KBS803-D
Ref Des:
Description:

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MTBF (hrs): 119,011
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1050700004	Resistor	R107,R15,R16,R17,R18,R185,R189,R19,R192,R193,R197,R198,R2,R20,R200,R206,R208,R21,R210,R212,R22,R244,R255,R259,R26,R268,R272,R275,R286,R289,R291,R30,R303,R304,R305,R306,R307,R308,R309,R310,R313,R314,R315,R316,R317,R318,R319,R320,R321,R322,R32		2.547039	137	2776378.967868

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Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1050701044	Resistor	R10,R106,R128,R137,R14,R174,R202,R24,R29,R333,R338,R36,R379,R381,R382,R389,R391,R395,R40,R414,R428,R433,R435,R451,R470,R488,R564,R598,R599,R648,R742,R743,R762,R763,R775,R776,R777,R778,R779,R781,R782,R797,R80,R805,R806,R81,R85,R9		2.547039	48	7757394.358017
1050701504	Resistor	R508,R511,R88		2.547039	3	107020754.986850

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1050710014	Resistor	R126,R144,R148, R154,R162,R171, R173,R176,R177, R190,R191,R257, R262,R264,R266, R270,R276,R277, R283,R294,R296, R299,R301,R364, R421,R448,R469, R478,R481,R489, R490,R568,R590, R601,R646,R653, R655,R672,R725, R746,R747,R760		2.547039	42	8834121.532637
1050718034	Resistor	R411		2.547039	1	282340674.079668
1050747014	Resistor	R285,R292,R342, R348,R584,R597, R604,R611,R618, R624,R630,R640, R645,R650,R765, R768		2.547039	16	22425139.809646
1050756004	Resistor	R613		2.547039	1	282340674.079668
1053500282	Resistor	R408,R454,R852		2.547039	3	107020754.986850
1059520001	Resistor	R562,R579		2.547039	2	154078778.388085
1059700001	Resistor	R273,R705,R708, R783		2.547039	4	82309758.689546
1059700101	Resistor	R515,R575,R635, R689		2.547039	4	82309758.689546
1059710001	Resistor	R658		2.547039	1	282340674.079668
105A500103	Resistor	R105,R187,R413, R576,R681		2.547039	5	67008142.102588
105A500239	Resistor	R761		2.547039	1	282340674.079668

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105A501003	Resistor	R406,R420		2.547039	2	154078778.388085
105A501033	Resistor	R32		2.547039	1	282340674.079668
105A501139	Resistor	R70		2.547039	1	282340674.079668
105A501529	Resistor	R121		2.547039	1	282340674.079668
105A501539	Resistor	R261,R265,R 430		2.547039	3	107020754.986850
105A501829	Resistor	R345,R349		2.547039	2	154078778.388085
105A502039	Resistor	R119,R125,R 293, R443,R457,R 509, R510,R533,R 683, R7688,R771, R96		2.547039	12	29507083.749401
105A502839	Resistor	R680		2.547039	1	282340674.079668
105A503039	Resistor	R129		2.547039	1	282340674.079668
105A504763	Resistor	R7687,R84		2.547039	2	154078778.388085
105A505109	Resistor	R167,R168,R 169, R583,R621,R 625		2.547039	6	56573956.677649
105A505629	Resistor	R425		2.547039	1	282340674.079668
105A507509	Resistor	R238,R365,R 366, R367		2.547039	4	82309758.689546
105A507533	Resistor	R45		2.547039	1	282340674.079668
105A510033	Resistor	R858		2.547039	1	282340674.079668
105A510223	Resistor	R68		2.547039	1	282340674.079668
105A511513	Resistor	R12		2.547039	1	282340674.079668
105A512003	Resistor	R578		2.547039	1	282340674.079668
105A524913	Resistor	R311,R312		2.547039	2	154078778.388085
105A524963	Resistor	R161,R665,R 700		2.547039	3	107020754.986850
105A530109	Resistor	R234		2.547039	1	282340674.079668
105A543233	Resistor	R164,R634		2.547039	2	154078778.388085
105A544229	Resistor	R120		2.547039	1	282340674.079668
105A547003	Resistor	R400		2.547039	1	282340674.079668
105A562034	Resistor	R49		2.547039	1	282340674.079668
105A563419	Resistor	R62		2.547039	1	282340674.079668
105A590963	Resistor	R409		2.547039	1	282340674.079668

File Name: EPIC-KBS8.rfp
Assembly: 9697KBS803-D
Ref Des:
Description:

Failure Rate: 8402.576063
MTBF (hrs): 119,011
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
105A700003	Resistor	FB24,R116,R117, R131,R156,R158, R159,R160,R165, R196,R199,R271,R33, R34,R378,R387,R410, R412,R440,R445, R452,R466,R471, R487,R518,R519, R525,R535,R544, R555,R61,R619,R628, R667,R72,R749,R787, R807,R83,R87,R95		2.547039	41	9043562.562696
105A700109	Resistor	R673		2.547039	1	282340674.079668
105A700203	Resistor	R147		2.547039	1	282340674.079668
105A701009	Resistor	R209		2.547039	1	282340674.079668
105A701069	Resistor	R118		2.547039	1	282340674.079668
105A702229	Resistor	R104,R112,R146,R52, R69,R76		2.547039	6	56573956.677649
105A702239	Resistor	R60		2.547039	1	282340674.079668
105A702269	Resistor	R203,R626,R633		2.547039	3	107020754.986850
105A703309	Resistor	R103,R111,R115, R155,R157,R287, R370,R522,R549, R556,R569,R570, R690,R745,R799, R803		2.547039	16	22425139.809646
105A704763	Resistor	R860		2.547039	1	282340674.079668

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105A705139	Resistor	R710,R711,R712, R713,R714,R715, R732,R733,R734, R735,R736,R737		2.547039	12	29507083.749401
105A706829	Resistor	R369,R375		2.547039	2	154078778.388085
105A708229	Resistor	R113,R517,R520, R524,R528,R542, R572		2.547039	7	48991237.965885
105A730009	Resistor	R224		2.547039	1	282340674.079668
105A733009	Resistor	R298,R325,R330, R336,R350,R368, R371,R373,R785		2.547039	9	38754445.632391
105A739039	Resistor	R853		2.547039	1	282340674.079668
105A747009	Resistor	R127,R230,R35		2.547039	3	107020754.986850
105A768009	Resistor	R181,R182,R186, R188		2.547039	4	82309758.689546
105B500172	Resistor	R405		2.547039	1	282340674.079668
105B700009	Resistor	R114,R123,R136, R138,R139,R140, R141,R142,R143, R146,R150,R151, R152,R153,R180, R183,R27,R42,R47, R550,R560,R566,R57, R573,R585,R586, R589,R605,R612, R744,R752,R753, R755,R756,R786, R792,R796,R837		2.547039	38	9736567.158302

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105B701039	Resistor	R432,R484,R491, R494,R499,R500, R501,R507,R75		2.547039	9	38754445.632391
105B703309	Resistor	R587		2.547039	1	282340674.079668
106B510034	Resistor	RT1,RT2,RT3, RT4		2.547039	4	82309758.689546
1121501690	Capacitor	C120,C121,C13, C156,C157,C171,C194, C195,C196,C200, C202,C204,C205, C206,C207,C208, C209,C210,C211, C212,C214,C216, C217,C218,C219, C223,C224,C225, C226,C227,C23,C231, C232,C233,C236, C237,C238,C239,C24, C240,C241,C242, C243,C244,C245, C246,C249,C250, C25		1.128806	192	4532279.705695
1121647480	Capacitor	C608		1.128806	1	704977644.692287
1122522890	Capacitor	C137,C416,C417, C75, C81		1.128806	5	159367490.199266
1124418090	Capacitor	C101,C105,C144, C145		1.128806	4	196873384.410843
1124420090	Capacitor	C234,C253		1.128806	2	375289731.076049
1124427090	Capacitor	C220,C221,C228, C229		1.128806	4	196873384.410843
1124433090	Capacitor	C108,C51,C741, C746		1.128806	4	196873384.410843
1124468090	Capacitor	C174,C601		1.128806	2	375289731.076049
1124522190	Capacitor	C177,C370,C3702, C767		1.128806	4	196873384.410843

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1124522280	Capacitor	C434,C467,C555, C613		1.128806	4	196873384.410843
1124522290	Capacitor	C323,C661,C683		1.128806	3	257514172.353070
1124522680	Capacitor	C393,C513,C538		1.128806	3	257514172.353070
1124533190	Capacitor	C53		1.128806	1	704977644.692287
1124539180	Capacitor	C583		1.128806	1	704977644.692287
1124547190	Capacitor	C235,C247,C254, C259,C261,C273, C277,C280,C281, C282,C283,C284, C288,C290,C291,C61, C69,C714,C78,C83		1.128806	20	41950408.034165
1124547290	Capacitor	C312		1.128806	1	704977644.692287
1129610080	Capacitor	C125,C140,C151, C152,C166,C168, C188,C190,C215, C248,C263,C322, C325,C348,C364, C365,C369,C401,C63, C707,C715,C725, C728,C729,C730, C731,C74,C748,C79, C84		1.128806	30	28241202.507613
1129701790	Capacitor	C11,C310,C314,C320, C321,C330,C343, C352,C607,C631, C635,C639,C642, C657,C687		1.128806	15	55479656.844874

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1129710091	Capacitor	C265,C285,C286, C287,C293,C294, C295,C89		1.128806	8	101746760.035398
1129710390	Capacitor	C213,C297,C298, C346		1.128806	4	196873384.410843
1181627197	Capacitor	TC1		4.744484	1	159663026.715137
1183610191	Capacitor	EC1		4.744484	1	159663026.715137
1189615154	Capacitor	C713,C718,C743, C745,TC5,TC6		4.744484	6	31179134.677521
1189633151	Capacitor	C197		4.744484	1	159663026.715137
1189656196	Capacitor	C230,TC4		4.744484	2	86049450.747498
118C6331B0	Capacitor	TC3		4.744484	1	159663026.715137
118C639191	Capacitor	C102,C161,C191, C447,C488,C556, C615,C88		4.744484	8	23741959.646199
11A4410194	Capacitor	C100,C103,C60,C68, C733,C77,C82,C85, C87,C92,C97		1.128806	11	74892583.279796
11C4501380	Capacitor	C334		1.128806	1	704977644.692287
11C4501650	Capacitor	C317		1.128806	1	704977644.692287
11C4510480	Capacitor	C135,C315,C398, C449,C50,C551,C600, C76		1.128806	8	101746760.035398
11C4515230	Capacitor	C440,C454,C571, C599		1.128806	4	196873384.410843
11C4533880	Capacitor	C331,C70,C770		1.128806	3	257514172.353070
11C9522060	Capacitor	C306		1.128806	1	704977644.692287
11C9582390	Capacitor	C311		1.128806	1	704977644.692287
11E1501080	Capacitor	C29,C32,C327,C9		1.128806	4	196873384.410843
11E1510050	Capacitor	C316,C57,C649,C659		1.128806	4	196873384.410843
11E2501080	Capacitor	C172,C431,C491, C640,C662,C667		1.128806	6	133979725.056342
11E2501690	Capacitor	C14,C333,C753		1.128806	3	257514172.353070

File Name: EPIC-KBS8.rfp
Assembly: 9697KBS803-D
Ref Des:
Description:

Failure Rate: 8402.576063
MTBF (hrs): 119,011
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
11E2510010	Capacitor	C10,C2,C328 ,C329, C342,C5		1.128806	6	133979725.056342
11E4510022	Capacitor	C326,C341,C 353, C372,C382,C 396, C397,C443,C 444, C445,C470,C 471, C472,C575,C 576, C577,C616,C 617, C618		1.128806	19	44097696.883526
11E9510490	Capacitor	C163,C318,C 350, C384,C385,C 386,C39, C405,C406,C 412, C423,C424,C 426, C430,C436,C 437, C441,C468,C 754,C91, C94,C95,C96		1.128806	23	36609385.175833
11E9522790	Capacitor	C749,C751,C 752		1.128806	3	257514172.353070
11E9547490	Capacitor	C363,C381,C 550, C559,C579,C 611		1.128806	6	133979725.056342
11E9622052	Capacitor	C222,C25,C3 01,C302, C345,C582,C 645		1.128806	7	115633865.771428

**Reliability Prediction
Summary**

File Name: EPIC-KBS8.rfp
Assembly: 9697KBS803-D
Ref Des:
Description:

Failure Rate: 8402.576063
MTBF (hrs): 119,011
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
11E9622080	Capacitor	C106,C126,C133, C142,C149,C153, C159,C165,C170, C356,C357,C358, C359,C360,C3703, C3704,C3705,C400, C402,C418,C419, C420,C432,C446, C465,C466,C474, C490,C54,C56,C560, C569,C619,C62,C620, C621,C622,C623, C624,C625,C626,C67, C72		1.128806	43	19845816.558772
11E9647680	Capacitor	C198,C199,C201, C203		1.128806	4	196873384.410843

**Reliability Prediction
Summary**

File Name: EPIC-KBS8.rfp
Assembly: 9697KBS803-D
Ref Des:
Description:

Failure Rate: 8402.576063
MTBF (hrs): 119,011
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
11EA501050	Capacitor	C38,C415,C456,C481,C483,C486,C487,C489,C492,C494,C495,C496,C497,C500,C501,C502,C503,C505,C506,C507,C508,C509,C510,C511,C514,C515,C516,C517,C518,C520,C521,C522,C523,C524,C525,C526,C528,C529,C530,C531,C532,C534,C535,C536,C537,C539,C540,C542,C		1.128806	67	12830544.216852

File Name: EPIC-KBS8.rfp
Assembly: 9697KBS803-D
Ref Des:
Description:

Failure Rate: 8402.576063
MTBF (hrs): 119,011
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
11EA610040	Capacitor	C109,C111,C112, C113,C114,C115, C116,C117,C118, C119,C122,C123, C124,C128,C129, C130,C131,C132, C136,C138,C139, C141,C146,C150, C155,C158,C164, C167,C178,C179, C180,C181,C182, C183,C184,C185, C186,C187,C376, C457,C458,C459, C460,C461,C462, C463,C469,C480,		1.128806	89	9696972.053957
11EA647010	Capacitor	C154,C160,C319, C349,C473,C478, C479,C652,C654, C655,C755,C756		1.128806	12	68856937.301178

File Name: EPIC-KBS8.rfp
Assembly: 9697KBS803-D
Ref Des:
Description:

Failure Rate: 8402.576063
MTBF (hrs): 119,011
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
11EB501040	Capacitor	C104,C107,C110, C134,C143,C148, C162,C173,C175, C176,C189,C268, C269,C278,C3,C387, C403,C404,C408, C410,C413,C414, C422,C425,C427, C428,C438,C450, C451,C455,C464, C475,C476,C477, C580,C64,C641,C677, C680,C695,C696, C698,C710,C716, C717,C723,C73,C742, C747		1.128806	54	15865848.114680
11EB522640	Capacitor	C127,C193		1.128806	2	375289731.076049
11EB610041	Capacitor	C421,C435,C442, C448		1.128806	4	196873384.410843
11EB610050	Capacitor	C1,C289,C296,C304, C373,C374,C380, C407,C409,C42,C43, C44,C6,C644,C647, C699		1.128806	16	52112480.802928
121110106Z	Inductor	L17		4.944252	1	154760964.143460
121110156P	Inductor	L1		4.944252	1	154760964.143460
1211101573	Inductor	L4,L5,L6,L7		4.944252	4	43912872.424775
121110336Y	Inductor	L13		4.944252	1	154760964.143460
121110476Q	Inductor	L8,L9		4.944252	2	83201062.149749
1211106874	Inductor	L16		4.944252	1	154760964.143460
121111007L	Inductor	L2		4.944252	1	154760964.143460
121111007M	Inductor	L15,L3		4.944252	2	83201062.149749
1211202700	Inductor	L10,L11,L12		4.944252	3	57363284.375370

File Name: EPIC-KBS8.rfp
Assembly: 9697KBS803-D
Ref Des:
Description:

Failure Rate: 8402.576063
MTBF (hrs): 119,011
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1212306030	Inductor	FB15,FB23,F B4		4.944252	3	57363284.375370
121230603S	Inductor	FB29		4.944252	1	154760964.143460
1212308054	Inductor	FB25		4.944252	1	154760964.143460
12123A000B	Inductor	FB1		4.944252	1	154760964.143460
12123C000A	Inductor	FB16,FB17,F B18, FB19,FB20,F B21, FB22		4.944252	7	25970990.056682
12123C0031	Inductor	FB13,FB14,F B26, FB27,FB28		4.944252	5	35631881.582999
12123D0001	Inductor	FB10,FB11,F B12,FB2, FB3,FB5,FB6, FB7, FB8,FB9		4.944252	10	18485101.557872
12310024A2	Miscellaneous	Y2		19.200000	1	23844262.770939
12310025A3	Miscellaneous	Y3,Y4		19.200000	2	8854051.752197
1231327053	Miscellaneous	Y5		19.200000	1	23844262.770939
1231332726	Miscellaneous	Y1		19.200000	1	23844262.770939
12330024A1	Miscellaneous	Y6		19.200000	1	23844262.770939
1301013040	Semiconductor	D1,D15		7.793411	2	50578095.223398
1301053040	Semiconductor	D20		7.793411	1	92807310.010983
1301400642	Semiconductor	D14		7.793411	1	92807310.010983
1301793040	Semiconductor	D10,D13,D22 ,D23,D8		7.793411	5	21965031.404253
1302008240	Semiconductor	D18		7.793411	1	92807310.010983
1304000043	Optical Device	LED1		79.003355	1	6497172.749112
1304300140	Optical Device	LED3		79.003355	1	6497172.749112
1304500240	Optical Device	LED2		79.003355	1	6497172.749112
130505ESD0	Semiconductor	D11,D12,U21 ,U22, U24,U25,U26 ,U27, U28,U29,U30 ,U36, U37,U38		7.793411	14	8341729.680557
1305080040	Semiconductor	D2,D3,D4,D5 ,D6,D7		7.793411	6	18540453.699406
1310222211	Semiconductor	Q17,Q2		22.463360	2	17315095.066101
1310390412	Semiconductor	Q43,Q46,Q4 9		22.463360	3	12043329.789539
1311390612	Semiconductor	Q45,Q51		22.463360	2	17315095.066101
1315000530	Semiconductor	Q11,Q12,Q1 3,Q19		22.463360	4	9270607.712006

File Name: EPIC-KBS8.rfp
Assembly: 9697KBS803-D
Ref Des:
Description:

Failure Rate: 8402.576063
MTBF (hrs): 119,011
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
13150027N0	Semiconductor	Q18,Q21,Q25,Q26,Q28,Q29,Q33,Q34,Q36,Q37		22.463360	10	3960370.776745
13150093N0	Semiconductor	Q24,Q31,Q32,Q38		22.463360	4	9270607.712006
1315076980	Semiconductor	Q3		22.463360	1	31642600.748419
1315443512	Semiconductor	Q1,Q42,Q48,Q6		22.463360	4	9270607.712006
1315700216	Semiconductor	Q14,Q15,Q27,Q35,Q4,Q44,Q50,Q8		22.463360	8	4877097.849338
1315720010	Semiconductor	Q20		22.463360	1	31642600.748419
1315806511	Semiconductor	Q9		22.463360	1	31642600.748419
1315EM6K10	Semiconductor	Q10,Q22,Q23,Q39,Q40,Q41,Q47,Q5,Q52		22.463360	9	4366472.106532
1410023060	Integrated Circuit	U10		43.803003	1	11739202.588727
1430006850	Integrated Circuit	U60		43.803003	1	11739202.588727
1430021850	Integrated Circuit	U2		43.803003	1	11739202.588727
1430036070	Integrated Circuit	U17		43.803003	1	11739202.588727
1430053250	Integrated Circuit	U72		43.803003	1	11739202.588727
1430087620	Integrated Circuit	U1,U55,U59		43.803003	3	4923240.069161
1430097420	Integrated Circuit	U66,U67,U68,U73,U75		43.803003	5	3214211.402100
1430455200	Integrated Circuit	U6		43.803003	1	11739202.588727
1430532190	Integrated Circuit	U5		43.803003	1	11739202.588727
14309624F0	Integrated Circuit	U14,U18,U61,U63		43.803003	4	3879156.910661
143117ADJ0	Integrated Circuit	U62,U64		43.803003	2	6834791.244197
143ALC8920	Integrated Circuit	U11		43.803003	1	11739202.588727
1440002130	Integrated Circuit	U32,U33,U34,U70,U71		43.803003	5	3214211.402100
14407517A1	Integrated Circuit	U35		43.803003	1	11739202.588727
14482Q1700	Integrated Circuit	U12		43.803003	1	11739202.588727
14571G14D0	Integrated Circuit	U7		43.803003	1	11739202.588727
1462001282	Integrated Circuit			11.063278	1	58231413.220643
1462EKS8A1	Integrated Circuit	U15		11.063278	1	58231413.220643
14S1035803	Integrated Circuit	U74		43.803003	1	11739202.588727
14S2200900	Integrated Circuit	U76		43.803003	1	11739202.588727
14S3524700	Integrated Circuit	U52		43.803003	1	11739202.588727
14S3524701	Integrated Circuit	U53		43.803003	1	11739202.588727
14S3820700	Integrated Circuit	U9		43.803003	1	11739202.588727
14S3902500	Integrated Circuit	U13		43.803003	1	11739202.588727
14S4186600	Integrated Circuit	U65		43.803003	1	11739202.588727
14S4811103	Integrated Circuit	U19,U20		43.803003	2	6834791.244197

File Name: EPIC-KBS8.rfp
Assembly: 9697KBS803-D
Ref Des:
Description:

Failure Rate: 8402.576063
MTBF (hrs): 119,011
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
14S4814380	Integrated Circuit	U69		43.803003	1	11739202.588727
14S5A00821	Integrated Circuit	U16,U3,U51, U54,U56, U57,U58,U77		26.018600	8	4090524.362829
14S5A01402	Integrated Circuit	U23,U31		26.018600	2	14194252.866846
14S9346001	Integrated Circuit	U4,U8		43.803003	2	6834791.244197
1540722281	Resistor	RP3		9.971436	1	51606907.671214
1540782282	Resistor	RP1,RP2		9.971436	2	30043399.401299
1651526003	Connection	DIMM1		16.184835	1	35685591.360212
1651611510	Connection	CPU1		16.184835	1	35685591.360212
1652602105	Connection	CN1		16.184835	1	35685591.360212
1652814205	Connection	CN24,CN25		16.184835	2	20390152.380746
165300310G	Connection	JP3,JP4,JP5,J P6		16.184835	4	11344857.509064
165300320K	Connection	JP1,JP2		16.184835	2	20390152.380746
165300520X	Connection	JP7		16.184835	1	35685591.360212
165320520V	Connection	CN14		16.184835	1	35685591.360212
1653300107	Connection	JP1(3-5),JP1 (4-6), JP2(3- 5),JP2(4-6)		16.184835	4	11344857.509064
165330010E	Connection	JP3(2-3),JP4 (2-3), JP6(1- 2)		16.184835	3	14515880.849373
165330010G	Connection	JP5(1-2)		16.184835	1	35685591.360212
1653926211	Connection	CN16		16.184835	1	35685591.360212
1654030006	Connection	CN2,CN3		16.184835	2	20390152.380746
1654226308	Connection	CN15		16.184835	1	35685591.360212
1654415308	Connection	CN39		16.184835	1	35685591.360212
1654801835	Connection	CN27		16.184835	1	35685591.360212
1654900800	Connection	CN17		16.184835	1	35685591.360212
1654907009	Connection	CN7		16.184835	1	35685591.360212
1655003028	Connection	CN4		16.184835	1	35685591.360212
165500401A	Connection	CN23		16.184835	1	35685591.360212
1655302025	Connection	CN8		16.184835	1	35685591.360212
1655305025	Connection	CN5,CN6		16.184835	2	20390152.380746
1655813031	Connection	VGA1		16.184835	1	35685591.360212
1655902034	Connection	BZ1,CN10,CN 11,CN13		16.184835	4	11344857.509064
1655905038	Connection	CN18,CN19,C N20, CN21,CN29,C N30, CN31,CN35,C N36, CN37		16.184835	10	5037852.012953
1655909034	Connection	CN26,CN28,C N32, CN33,CN34,C N38		16.184835	6	7958792.615968

**Reliability Prediction
Summary**

File Name: EPIC-KBS8.rfp
Assembly: 9697KBS803-D
Ref Des:
Description:

Failure Rate: 8402.576063
MTBF (hrs): 119,011
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1655910032	Connection	CN12		16.184835	1	35685591.360212
1655912032	Connection	CN22		16.184835	1	35685591.360212
175011301C	Miscellaneous	M3		306.000000	1	1681683.006787
1752000501	Miscellaneous	FS5,FS6,FS7, FS8		2.400000	4	79281882.025954
1752001603	Miscellaneous	FS2		2.400000	1	254626042.602335
1752002500	Miscellaneous	FS1,FS4		2.400000	2	143944727.196625