

# EPIC-KBS9

## Reliability Prediction Report

### (MTBF)

Summary	Failure Rate: 4206.421512 MTBF: 237,732 Hours
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Issue date	QE Manager	Test Engineer
2018-07-19	KJ Wang	Danny Chen

# Reliability Prediction (MTBF)

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**I . Model Name:** EPIC-KBS9

**II . Prediction Date:** July. 19th, 2018

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

**IV . Predicted by:** Danny Chen

**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-KBS9 (M/B: 9697KBS907-D):

- Failure Rate: 4206.421512

- MTBF: 237,732 Hours

**AAEON Reliability Prediction  
Summary**

**File Name:** EPIC-KBS9.rfp  
**Duty Cycle:** 100  
**Calculation Model:** Telcordia Issue 2  
**Method:** Method I Case 3

**Failure Rate:** 4206.421512  
**MTBF (hrs):** 237,732  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Assembly Name	Part Number	Ref Des	Quantity	Failure Rate	MTBF
EPIC-KBS9	9697KBS907-D		1	4206.421512	237,732

**File Name:** EPIC-KBS9.rfp  
**Assembly:** 9697KBS907-D  
**Ref Des:**  
**Description:**

**Failure Rate:** 4206.421512  
**MTBF (hrs):** 237,732  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1050501004	Resistor	FB32,FB33,F B34, FB35,R167,R 173, R190,R2039, R2040, R2050,R2052 ,R2065, R2067,R2073 ,R56		0.849013	15	71558348.830184
1050501054	Resistor	R128,R146,R 303, R311,R314		0.849013	5	201024426.307764
1050502004	Resistor	R633		0.849013	1	847022022.239005
1050502204	Resistor	R114,R497,R 505, R512,R519		0.849013	5	201024426.307764
1050502224	Resistor	R105,R111,R 356, R357,R459,R 460, R462,R464,R 466, R467,R470,R 473, R483,R504,R 786, R787		0.849013	16	67275419.428938
1050502424	Resistor	R2136,R353		0.849013	2	462236335.164256
1050502724	Resistor	R576		0.849013	1	847022022.239005
1050502734	Resistor	R2139,R334		0.849013	2	462236335.164256
1050503434	Resistor	R2023		0.849013	1	847022022.239005
1050503634	Resistor	R442		0.849013	1	847022022.239005
1050504334	Resistor	R434		0.849013	1	847022022.239005
1050504724	Resistor	R2088,R2091 ,R2097, R2137,R2138 ,R331, R336,R759		0.849013	8	129676274.094900
1050504734	Resistor	R191,R2009, R2014, R2020,R2047		0.849013	5	201024426.307764
1050504764	Resistor	R156,R168,R 1901, R2059,R2072 ,R2075, R406		0.849013	7	146973713.897655
1050505124	Resistor	R359		0.849013	1	847022022.239005
1050505164	Resistor	R1914,R407, R414		0.849013	3	321062264.960549
1050506234	Resistor	R2026		0.849013	1	847022022.239005
1050507530	Resistor	R63		0.849013	1	847022022.239005

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1050510004	Resistor	R1900,R2017, R2019, R2033,R2035, R2054, R2144,R244, R347, R526,R635,R 690		0.849013	12	88521251.248203
1050510014	Resistor	R116,R122,R 127, R133,R152,R 2013, R2029,R2051 ,R2096, R234,R360,R 384, R439,R468,R 477, R478,R549,R 573, R686,R742,R 758, R861,R866		0.849013	23	47478783.690871
1050510024	Resistor	R1013,R166, R172, R1902,R2006 ,R2024, R2025,R2031 ,R2058, R2066,R2071 ,R55		0.849013	12	88521251.248203
1050510034	Resistor	R134,R137,R 183, R1898,R1913 ,R2084, R312,R324,R 341, R383,R386,R 404, R413,R424,R 429, R438,R445,R 446, R453,R48,R5 44,R582, R583,R83,R8 8		0.849013	25	43810838.253457
1050510534	Resistor	R2011,R64		0.849013	2	462236335.164256
1050512424	Resistor	R405		0.849013	1	847022022.239005
1050513704	Resistor	R545		0.849013	1	847022022.239005
1050517414	Resistor	R2021,R2036		0.849013	2	462236335.164256

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1050520014	Resistor	R178,R180,R182, R2061,R2074, R760		0.849013	6	169721870.032947
1050522004	Resistor	R689		0.849013	1	847022022.239005
1050524004	Resistor	R150,R862		0.849013	2	462236335.164256
1050524904	Resistor	R513,R514		0.849013	2	462236335.164256
1050524909	Resistor	R66,R67		0.849013	2	462236335.164256
1050528714	Resistor	R516		0.849013	1	847022022.239005
1050528734	Resistor	R37		0.849013	1	847022022.239005
1050530164	Resistor	R596		0.849013	1	847022022.239005
1050532434	Resistor	R421		0.849013	1	847022022.239005
1050533064	Resistor	R153,R155,R285, R373,R532,R536, R550,R551,R666		0.849013	9	116263336.897173
1050536514	Resistor	R2044,R68		0.849013	2	462236335.164256
1050537424	Resistor	R2038		0.849013	1	847022022.239005
1050539224	Resistor	R1011		0.849013	1	847022022.239005
1050540214	Resistor	R2008,R2027		0.849013	2	462236335.164256
1050540234	Resistor	R2048		0.849013	1	847022022.239005
1050543264	Resistor	R765		0.849013	1	847022022.239005
1050545364	Resistor	R2055		0.849013	1	847022022.239005
1050547004	Resistor	R197		0.849013	1	847022022.239005
1050549904	Resistor	R1916,R5		0.849013	2	462236335.164256
1050549964	Resistor	R2053,R524		0.849013	2	462236335.164256
1050551034	Resistor	R1906		0.849013	1	847022022.239005
1050556269	Resistor	R696		0.849013	1	847022022.239005
1050560414	Resistor	R517		0.849013	1	847022022.239005
1050561934	Resistor	R72		0.849013	1	847022022.239005
1050564924	Resistor	R40		0.849013	1	847022022.239005
1050595314	Resistor	R322		0.849013	1	847022022.239005
1050700002	Resistor	R2079		0.849013	1	847022022.239005

**Reliability Prediction  
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1050700004	Resistor	C597,C599,C863,C864,C865,C866,R158,R159,R176,R177,R1909,R1912,R1918,R192,R1922,R1927,R1928,R1931,R1932,R1933,R1934,R1935,R1936,R1968,R1971,R1979,R2005,R201,R2016,R2018,R2032,R2034,R2063,R2064,R2069,R2070,R2077,R2078,R2080,R2105,R2135,R2148, R		0.849013	104	10921695.251339



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1050701034	Resistor	R103,R107,R119,R18,R1943,R1944,R1945,R2085,R2093,R2095,R2100,R2140,R2142,R2151,R2152,R2153,R297,R329,R337,R350,R352,R441,R444,R457,R465,R511,R548,R565,R590,R634,R653,R685,R693,R695,R708,R710,R713,R715,R722,R73,R74,R781,R864,R868,R870,R99		0.849013	46	24257097.757490
1050701504	Resistor	R491,R493,R93		0.849013	3	321062264.960549
1050710014	Resistor	R2147,R351,R82		0.849013	3	321062264.960549
1050718034	Resistor	R450		0.849013	1	847022022.239005
1050756004	Resistor	R595		0.849013	1	847022022.239005
1053500282	Resistor	R1917,R411,R430, R71		0.849013	4	246929276.068637
1054700289	Resistor	R1986		0.849013	1	847022022.239005
1059520001	Resistor	R358,R771		0.849013	2	462236335.164256
1059700001	Resistor	R675		0.849013	1	847022022.239005
1059710001	Resistor	R626		0.849013	1	847022022.239005
105A500103	Resistor	R437		0.849013	1	847022022.239005
105A501139	Resistor	R427		0.849013	1	847022022.239005
105A501529	Resistor	R126		0.849013	1	847022022.239005
105A501539	Resistor	R1,R2049		0.849013	2	462236335.164256
105A501829	Resistor	R349,R354		0.849013	2	462236335.164256
105A502039	Resistor	R124,R131,R1921,R3,R419,R492,R763,R764,R97		0.849013	9	116263336.897173

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105A502263	Resistor	R157,R175,R2062, R2068,R2076, R70		0.849013	6	169721870.032947
105A502839	Resistor	R52		0.849013	1	847022022.239005
105A503039	Resistor	R51		0.849013	1	847022022.239005
105A505109	Resistor	R169,R170,R171, R184,R186,R188, R189,R2060, R527, R534,R604		0.849013	11	96149089.156414
105A505923	Resistor	R2057,R45,R47,R60, R62		0.849013	5	201024426.307764
105A507509	Resistor	R2042,R245, R362, R363,R364		0.849013	5	201024426.307764
105A510223	Resistor	R400		0.849013	1	847022022.239005
105A510723	Resistor	R2045,R69		0.849013	2	462236335.164256
105A513323	Resistor	R1920		0.849013	1	847022022.239005
105A522133	Resistor	R2012		0.849013	1	847022022.239005
105A524963	Resistor	R144,R867		0.849013	2	462236335.164256
105A526723	Resistor	R35		0.849013	1	847022022.239005
105A538323	Resistor	R2041		0.849013	1	847022022.239005
105A544229	Resistor	R125		0.849013	1	847022022.239005
105A547003	Resistor	R412		0.849013	1	847022022.239005
105A547529	Resistor	R1905		0.849013	1	847022022.239005
105A549919	Resistor	R298,R299,R805, R840		0.849013	4	246929276.068637
105A562034	Resistor	R10		0.849013	1	847022022.239005
105A563419	Resistor	R389		0.849013	1	847022022.239005
105A700003	Resistor	FB15,R11,R15,R1904, R1915,R2141, R2146, R24,R250,R264,R323, R425,R43,R447,R767, R768		0.849013	16	67275419.428938
105A700203	Resistor	R132,R860		0.849013	2	462236335.164256
105A701003	Resistor	R1985		0.849013	1	847022022.239005
105A701059	Resistor	R281		0.849013	1	847022022.239005
105A701069	Resistor	R121		0.849013	1	847022022.239005
105A702239	Resistor	R61		0.849013	1	847022022.239005
105A704709	Resistor	R2010,R2028		0.849013	2	462236335.164256
105A705139	Resistor	R305,R306,R308, R327		0.849013	4	246929276.068637

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Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
105A706829	Resistor	R375,R379		0.849013	2	462236335.164256
105A708229	Resistor	R112,R507,R509, R518,R523,R529, R555		0.849013	7	146973713.897655
105A711043	Resistor	R1903		0.849013	1	847022022.239005
105A733009	Resistor	R271,R280,R290, R319,R321,R355, R361,R376,R378, R807,R820,R842, R855		0.849013	13	82027715.764084
105A747009	Resistor	R195,R228,R294, R345,R41,R76		0.849013	6	169721870.032947
105B502035	Resistor	R1012,R1907		0.849013	2	462236335.164256
105B700009	Resistor	R113,R129,R136, R138,R139,R140, R141,R142,R143, R145,R147,R148, R149,R151,R174, R1923,R1924, R1925, R1926,R1946, R1947, R1948,R1949, R2111, R2112,R2117, R2118, R2119,R2120, R2123, R2124,R2129, R2130, R2133,R2134, R243, R247,R248,R287, R301,R309,R31, R346, R49,R53		0.849013	62	18129536.522660
105B700139	Resistor	R542,R698,R700, R822,R857		0.849013	5	201024426.307764

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105B701039	Resistor	R1908,R2165, R242, R249,R252,R 254, R260,R262,R 263, R265,R268,R 269, R275,R276,R 278, R279,R286,R 288, R289,R291,R 295, R310,R316,R 317, R318,R32,R4 72,R474, R481,R485,R 486, R487,R489,R 50,R625, R724,R736,R 738, R741,R744,R 746, R748,R749,R 75,R750, R751,R752,R 769,R7		0.849013	81	13956697.339764
105B702225	Resistor	R1954,R1955 ,R1956, R1957,R1958 ,R1959, R1960,R1961 ,R568, R577,R578,R 584		0.849013	12	88521251.248203
105B703309	Resistor	R110,R572		0.849013	2	462236335.164256
105B704725	Resistor	R300,R567,R 581, R747,R798,R 833		0.849013	6	169721870.032947
105B710039	Resistor	R683,R687,R 694, R707,R721,R 730, R735,R737,R 881, R882,R883,R 884, R885,R886,R 887, R888		0.849013	16	67275419.428938

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105B733019	Resistor	R701,R717,R718, R719,R727,R728, R808,R809,R810, R843,R844,R845		0.849013	12	88521251.248203
106B510034	Resistor	RT2,RT3,RT4, RT5		0.849013	4	246929276.068637
1112622191	Capacitor	EC1		0.376269	1	2114932934.07686 2
1121501690	Capacitor	C1008,C1017, C1036, C1038,C1057, C1058, C1059,C106, C1064, C1066,C1070, C1074, C1081,C1092, C1099, C1113,C1116, C189, C193,C198,C202, C204,C206,C217, C218,C219,C220, C221,C222,C223, C224,C229,C230, C238,C24,C242,C243, C251,C254,C259, C261,C263,C265, C276,C29,C2970		0.376269	72	35856150.687924
1121533480	Capacitor	C970		0.376269	1	2114932934.07686 2
1122522890	Capacitor	C123,C719		0.376269	2	1125869193.22814 8
1124418090	Capacitor	C110,C146,C147,C92		0.376269	4	590620153.232529
1124420090	Capacitor	C232,C240		0.376269	2	1125869193.22814 8

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1124427090	Capacitor	C200,C205,C226, C227,C689,C690, C707,C708		0.376269	8	305240280.106194
1124433090	Capacitor	C1013,C1014 ,C285, C37		0.376269	4	590620153.232529
1124522190	Capacitor	C329,C965		0.376269	2	1125869193.228148
1129522790	Capacitor	C1015,C675		0.376269	2	1125869193.228148
1129610260	Capacitor	C257,C695,C700, C713,C718		0.376269	5	478102470.597799
1129701790	Capacitor	C314,C40,C565,C571, C587,C588,C592, C594,C596,C609, C613,C622,C626		0.376269	13	191185426.232527
1129710090	Capacitor	C1140,C237, C271, C272,C273,C278, C279,C280,C408		0.376269	9	272590284.242838
1129710390	Capacitor	C1044,C1056 ,C1061, C1071,C1076 ,C1083, C1094,C1101 ,C203, C292,C343		0.376269	11	224677749.839387
1129747090	Capacitor	C1042,C1051		0.376269	2	1125869193.228148
1189615154	Capacitor	C21,TC10,TC4,TC7, TC8		0.376269	5	478102470.597799
1189633151	Capacitor	C185,C744		0.376269	2	1125869193.228148
1189933180	Capacitor	C1084,C1085 ,C1086, C1087,C1102 ,C1103, C1104,C1105 ,C1106, C1107		0.376269	10	246303172.644355
118A6221B0	Capacitor	TC3,TC6		0.376269	2	1125869193.228148

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118C639191	Capacitor	TC5		0.376269	1	2114932934.07686 2
11A4368141	Capacitor	C1043		0.376269	1	2114932934.07686 2
11A4410194	Capacitor	C244,C246,C 260,C69, C72,C73,C75 ,C79, C86		0.376269	9	272590284.242838
11A4422190	Capacitor	C3,C991		0.376269	2	1125869193.22814 8
11A4447190	Capacitor	C1041,C1048 ,C1050, C1055,C201, C207, C228,C233,C 234, C235,C250,C 255, C258,C264,C 266, C267,C268,C 269, C270,C275,C 691, C692,C693,C 709, C710,C711		0.376269	26	97442635.592299
11C1539841	Capacitor	C627,C628,C 688, C706		0.376269	4	590620153.232529
11C2522480	Capacitor	C296,C990		0.376269	2	1125869193.22814 8
11C4522240	Capacitor	C1020,C1040 ,C1046, C1049,C1053 ,C348, C349,C614,C 637		0.376269	9	272590284.242838
11C4533380	Capacitor	C5		0.376269	1	2114932934.07686 2
11C4556690	Capacitor	C34,C35		0.376269	2	1125869193.22814 8

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**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
11E1501040	Capacitor	C104,C112,C121, C129,C132,C144,C15, C155,C156,C158, C172,C197,C307, C342,C358,C359, C371,C372,C374, C381,C388,C417, C418,C419,C431, C432,C438,C441,C49, C570,C616,C63, C635,C641,C650,C655, C694,C712,C722, C723,C725,C729, C730,C731,C733, C736,C737,C738, C74		0.376269	55	46746175.226335
11E2501040	Capacitor	C1069,C1073,C1079, C1090,C1097		0.376269	5	478102470.597799
11E2501690	Capacitor	C1075,C1082,C1093, C11,C1100,C1138, C1141,C19,C22,C249, C301,C311,C33,C660, C84,C968,C971		0.376269	17	147399909.221434



**Reliability Prediction  
Summary**

**File Name:** EPIC-KBS9.rfp  
**Assembly:** 9697KBS907-D  
**Ref Des:**  
**Description:**

**Failure Rate:** 4206.421512  
**MTBF (hrs):** 237,732  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
11E2610032	Capacitor	C1018,C1068 ,C1072, C1077,C1078 ,C1088, C1089,C1095 ,C1096, C20,C319,C3 20,C321, C322,C334,C 80,C87, C964,C966,C 967		0.376269	20	125851224.102495
11E2622011	Capacitor	C1006,C16,C 9		0.376269	3	772542517.059210
11E2647650	Capacitor	C360		0.376269	1	2114932934.07686 2
11E9510490	Capacitor	C1000,C1001 ,C1002, C1003,C1004 ,C1005, C1012,C1016 ,C105, C1136,C1137 ,C176, C180,C181,C 182, C186,C187,C 190, C191,C194,C 199, C241,C248,C 25,C288, C327,C353,C 354, C355,C356,C 357, C369,C370,C 373, C384,C389,C 393, C404,C405,C 412, C451,C56,C5 72,C595, C60,C611,C6 12		0.376269	86	30092286.976721

**Reliability Prediction  
Summary**

**File Name:** EPIC-KBS9.rfp  
**Assembly:** 9697KBS907-D  
**Ref Des:**  
**Description:**

**Failure Rate:** 4206.421512  
**MTBF (hrs):** 237,732  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
11E9622080	Capacitor	C113,C120,C128, C133,C137,C142, C148,C154,C17,C183, C192,C225,C26,C30, C318,C32,C33,C336, C337,C338,C339, C340,C368,C377, C378,C379,C39,C403, C409,C416,C46,C479, C512,C522,C553, C554,C555,C556, C557,C558,C559, C560,C579,C59,C962, C972,C973,C986, C987,C98		0.376269	50	51339107.613790

**Reliability Prediction  
Summary**

**File Name:** EPIC-KBS9.rfp  
**Assembly:** 9697KBS907-D  
**Ref Des:**  
**Description:**

**Failure Rate:** 4206.421512  
**MTBF (hrs):** 237,732  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
11EA501050	Capacitor	C376,C394,C429, C435,C439,C440, C443,C445,C446, C447,C448,C45, C452,C454,C455,C456, C458,C459,C461, C462,C463,C464, C465,C467,C468, C469,C470,C472, C474,C475,C476, C477,C478,C480, C481,C483,C485, C486,C487,C488, C489,C491,C492, C493,C495,C496, C497,C499,C		0.376269	67	38491632.650556

**Reliability Prediction  
Summary**

**File Name:** EPIC-KBS9.rfp  
**Assembly:** 9697KBS907-D  
**Ref Des:**  
**Description:**

**Failure Rate:** 4206.421512  
**MTBF (hrs):** 237,732  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
11EA610040	Capacitor	C100,C101,C102, C103,C107,C108, C109,C115,C116, C117,C118,C119, C122,C124,C125, C127,C130,C134, C139,C141,C145, C150,C159,C160, C161,C162,C163, C164,C165,C166, C167,C168,C175,C18, C196,C236,C245,C27, C294,C396,C397, C398,C399,C400, C401,C402,C413, C424,C4		0.376269	113	22979041.991521
11EA647010	Capacitor	C131,C138,C143, C152,C308,C414, C422,C423,C602, C604,C605		0.376269	11	224677749.839387
11EB501040	Capacitor	C1021,C1080,C1091, C1098,C13,C312,C82, C89,C969		0.376269	9	272590284.242838
11EB510450	Capacitor	C1144,C1145,C277, C837,C977		0.376269	5	478102470.597799
11EB522640	Capacitor	C114,C727,C974, C975		0.376269	4	590620153.232529
11EB610041	Capacitor	C407,C829,C834, C835		0.376269	4	590620153.232529

**File Name:** EPIC-KBS9.rfp  
**Assembly:** 9697KBS907-D  
**Ref Des:**  
**Description:**

**Failure Rate:** 4206.421512  
**MTBF (hrs):** 237,732  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
11EB610050	Capacitor	C1019,C1062 ,C111, C12,C126,C1 35,C136, C14,C149,C1 51,C170, C174,C23,C2 74,C281, C286,C287,C 297, C300,C351,C 365,C4, C44,C453,C4 7,C6, C64,C640,C6 54,C721, C726,C728,C 732, C734,C735,C 739, C740,C741,C 742, C745,C8,C97 9,C980, C981		0.376269	44	58208748.181532
11EB622030	Capacitor	C256		0.376269	1	2114932934.07686 2
1211101574	Inductor	L1,L18,L19,L 5,L6		1.648084	5	106895644.748998
1211106879	Inductor	L12,L17		1.648084	2	249603186.449247
121111007L	Inductor	L3		1.648084	1	464282892.430380
121111007M	Inductor	L13,L2		1.648084	2	249603186.449247
1211122076	Inductor	L16		1.648084	1	464282892.430380
121230603S	Inductor	FB18,FB19		1.648084	2	249603186.449247
12123C000A	Inductor	FB12,FB14,F B17,FB2, FB24		1.648084	5	106895644.748998
12123D0008	Inductor	FB10,FB11,F B20, FB21,FB9		1.648084	5	106895644.748998
12123D0009	Inductor	FB3,FB4,FB5, FB6, FB7,FB8		1.648084	6	90167700.669027
12123D6010	Inductor	L10,L8,L9		1.648084	3	172089853.126111
1214109000	Inductor	CH1,CH13,C H14,CH2		1.648084	4	131738617.274324
1214109004	Inductor	CH10,CH11,C H12,CH9		1.648084	4	131738617.274324
12310024A5	Miscellaneous	Y2		6.400000	1	71532788.312819
12310025AA	Miscellaneous	Y3,Y4,Y7,Y8		6.400000	4	13164700.186019
12310027A2	Miscellaneous	Y5		6.400000	1	71532788.312819
1231332726	Miscellaneous	Y1		6.400000	1	71532788.312819

**File Name:** EPIC-KBS9.rfp  
**Assembly:** 9697KBS907-D  
**Ref Des:**  
**Description:**

**Failure Rate:** 4206.421512  
**MTBF (hrs):** 237,732  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
12330024A4	Miscellaneous	Y6		6.400000	1	71532788.312819
1301013041	Semiconductor	D15,D17		2.597804	2	151734285.670195
1301400642	Semiconductor	D16		2.597804	1	278421930.032950
1301793040	Semiconductor	D11,D12,D14 ,D36, D37,D9		2.597804	6	55621361.098219
1304000043	Optical Device	LED1		26.334452	1	19491518.247337
1304300140	Optical Device	LED2		26.334452	1	19491518.247337
1304500240	Optical Device	LED3		26.334452	1	19491518.247337
130505ESD0	Semiconductor	D18,D19,U63 ,U64		2.597804	4	80967252.378705
13055VCSP0	Semiconductor	D3,D4,D5,D6 ,D7,D8		2.597804	6	55621361.098219
1310390412	Semiconductor	Q13,Q48		7.487787	2	51945285.198303
1311390612	Semiconductor	Q50,Q51		7.487787	2	51945285.198303
1315036640	Semiconductor	Q26		7.487787	1	94927802.245258
1315443512	Semiconductor	Q28		7.487787	1	94927802.245258
1315700216	Semiconductor	Q16,Q18,Q4 4,Q49,Q5, Q52,Q53,Q5 5,Q8		7.487787	9	13099416.319595
1315EM6K10	Semiconductor	Q32,Q9		7.487787	2	51945285.198303
1315EMB090	Semiconductor	Q2		7.487787	1	94927802.245258
1430006850	Integrated Circuit	U103,U41		43.803003	2	6834791.244197
1430012821	Integrated Circuit	U4		43.803003	1	11739202.588727
1430053250	Integrated Circuit	U59		43.803003	1	11739202.588727
1430097420	Integrated Circuit	U54,U56		43.803003	2	6834791.244197
1430455200	Integrated Circuit	U12,U21,U39 ,U7		43.803003	4	3879156.910661
1430532190	Integrated Circuit	U11		43.803003	1	11739202.588727
1430812430	Integrated Circuit	U22		43.803003	1	11739202.588727
1430Q86360	Integrated Circuit	U102,U3		43.803003	2	6834791.244197
143117ADJ0	Integrated Circuit	U50		43.803003	1	11739202.588727
1433020450	Integrated Circuit	U10,U104,U1 05,U106, U9		43.803003	5	3214211.402100
143ALC2690	Integrated Circuit	U15		43.803003	1	11739202.588727
143AZC1990	Integrated Circuit	U109,U111		43.803003	2	6834791.244197
1440033650	Integrated Circuit	U37		43.803003	1	11739202.588727
1440211AT0	Integrated Circuit	U25,U26,U67 ,U70		43.803003	4	3879156.910661
14407517A0	Integrated Circuit	U38		43.803003	1	11739202.588727
1440819661	Integrated Circuit	U52		43.803003	1	11739202.588727
14482Q1700	Integrated Circuit	U16		43.803003	1	11739202.588727
14571G14D0	Integrated Circuit	U13		43.803003	1	11739202.588727
1462001282	Integrated Circuit			11.063278	1	58231413.220643
1462EKS9A0	Integrated Circuit	U18		11.063278	1	58231413.220643
1490001082	Integrated Circuit	U112		43.803003	1	11739202.588727

**File Name:** EPIC-KBS9.rfp  
**Assembly:** 9697KBS907-D  
**Ref Des:**  
**Description:**

**Failure Rate:** 4206.421512  
**MTBF (hrs):** 237,732  
**Temperature:** 30  
**Environment:** GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
14S1035803	Integrated Circuit	U107,U58		43.803003	2	6834791.244197
14S3104500	Integrated Circuit	U19,U30,U31 ,U32, U33,U34,U35 ,U36, U65,U66,U68 ,U69		43.803003	12	1499359.883490
14S3820700	Integrated Circuit	U40		43.803003	1	11739202.588727
14S4814380	Integrated Circuit	U53,U72		43.803003	2	6834791.244197
14S5A00821	Integrated Circuit	U20,U43,U44 ,U45, U46,U47,U5		26.018600	7	4626592.240320
1540722281	Resistor	RP3		3.323812	1	154820723.013643
1540782282	Resistor	RP1,RP2		3.323812	2	90130198.203898
1651526005	Connection	DIMM1,DIM M2		5.394945	2	61170457.142237
1651611510	Connection	CPU1		5.394945	1	107056774.080635
1652602105	Connection	CN2		5.394945	1	107056774.080635
1652856201	Connection	CN54		5.394945	1	107056774.080635
165300310G	Connection	JP6,JP7		5.394945	2	61170457.142237
165300520X	Connection	JP9		5.394945	1	107056774.080635
165330010E	Connection	JP7(2-3)		5.394945	1	107056774.080635
165330010G	Connection	JP6(1-2)		5.394945	1	107056774.080635
1653505200	Connection	CN24		5.394945	1	107056774.080635
1654226303	Connection	CN11		5.394945	1	107056774.080635
1654232203	Connection	CN53		5.394945	1	107056774.080635
165440193A	Connection	CN23		5.394945	1	107056774.080635
1654801836	Connection	CN22		5.394945	1	107056774.080635
1654907009	Connection	CN10,CN13		5.394945	2	61170457.142237
1655004018	Connection	CN14,CN56		5.394945	2	61170457.142237
1655302025	Connection	CN7		5.394945	1	107056774.080635
1655805033	Connection	CN8,CN9		5.394945	2	61170457.142237
1655812130	Connection	CN15		5.394945	1	107056774.080635
1655815000	Connection	CN31		5.394945	1	107056774.080635
1655902034	Connection	CN6		5.394945	1	107056774.080635
1655909034	Connection	CN16,CN17		5.394945	2	61170457.142237
1655910032	Connection	CN5		5.394945	1	107056774.080635
175011301K	Miscellaneous	BT1		102.000000	1	5045049.020362
1752001603	Miscellaneous	FS2,FS3,FS6		0.800000	3	305563797.612571