

FWS-7821

Reliability Prediction Report (MTBF)

Summary	Failure Rate: 10611.076438 MTBF: 94,241 Hours
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Issue date	QE Manager	Test Engineer
2017/01/13	KJ Wang	Louie Lee

Reliability Prediction (MTBF)

I . Model Name: FWS-7821

II . Prediction Date: January. 13th, 2017

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

IV . Predicted by: Louie Lee

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:

FWS-7821 (M/B: 9697782104-D ; NIM Socket 9697R40X02-D):

- Failure Rate: 10611.076438

- MTBF: 94,241 Hours

**AAEON Reliability Prediction
Summary**

File Name: FWS-7821.rfp
Duty Cycle: 100
Calculation Model: Telcordia Issue 2
Method: Method I Case 3

Failure Rate: 10611.076438
MTBF (hrs): 94,241
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Assembly Name	Part Number	Ref Des	Quantity	Failure Rate	MTBF
FWS-7821	System		1	10611.076438	94,241
M/B	9697782104-D USE		1	10528.062486	94,984
NIM Riser	9697R40X02-D		1	99.390683	10,061,305

File Name: FWS-7821.rfp
Assembly: 9697782104-D USE
Ref Des:
Description:

Failure Rate: 10528.062486
MTBF (hrs): 94,984
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1050501004	Resistor	R935		2.547039	1	282340674.079668
1050501054	Resistor	R1132,R334, R345, R36,R365,R5 4,R875, R998		2.547039	8	43225424.698300
1050501224	Resistor	R389		2.547039	1	282340674.079668
1050501234	Resistor	R473		2.547039	1	282340674.079668
1050502004	Resistor	R246,R260		2.547039	2	154078778.388085
1050502204	Resistor	R1061,R1064 ,R317, R348		2.547039	4	82309758.689546
1050502224	Resistor	R1000,R1180 ,R1181, R1197,R287, R291, R37,R50,R84 3,R946, R947,R999		2.547039	12	29507083.749401
1050502224-00	Resistor	R1012,R299, R300, R301		2.547039	4	82309758.689546
1050502234	Resistor	R1035,R325		2.547039	2	154078778.388085
1050502724	Resistor	R116,R311		2.547039	2	154078778.388085
1050502734	Resistor	R1228,R934		2.547039	2	154078778.388085
1050503324	Resistor	R1089,R1190 ,R1191, R1216,R1217 ,R1222, R1223,R1224 ,R1225, R1244,R1245 ,R1280, R1281,R1282 ,R1283, R1288,R1289 ,R1290, R1291,R1292 ,R1294, R1295,R1297 ,R1299, R1300,R1342 ,R1343, R501,R503,R 504, R506,R508,R 509,R52, R539,R541,R 542, R544,R546,R 547, R549,R551,R 552,		2.547039	62	6043178.840887

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Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1050503334	Resistor	R1208,R1209 ,R1236, R1237,R1238 ,R1239, R1258,R1259 ,R1260, R1261,R646, R647, R666,R667		2.547039	14	25477245.255648
1050503404	Resistor	R108		2.547039	1	282340674.079668
1050503924	Resistor	R927,R929		2.547039	2	154078778.388085
1050504724	Resistor	R1076,R1094 ,R1120, R1122,R1123 ,R1124, R1125,R1127 ,R1130, R1133,R1134 ,R1136, R1139,R1141 ,R1144, R1147,R1155 ,R1174, R1182,R1199 ,R1210, R1321,R1327 ,R236, R428,R475,R 480, R488		2.547039	28	13089488.559853
1050504764	Resistor	R332		2.547039	1	282340674.079668
1050505134	Resistor	R377		2.547039	1	282340674.079668
1050505134-00	Resistor	R82		2.547039	1	282340674.079668
1050505164	Resistor	R961		2.547039	1	282340674.079668
1050506224	Resistor	R51,R901,R9 02		2.547039	3	107020754.986850
1050507530	Resistor	R135		2.547039	1	282340674.079668
1050508224	Resistor	R1054,R1092 ,R327, R362,R409,R 438		2.547039	6	56573956.677649
1050510034	Resistor	R1020,R1068 ,R1203, R298,R344,R 672, R694,R852,R 896, R955,R989		2.547039	11	32049696.385471
1050511304	Resistor	R996		2.547039	1	282340674.079668
1050512724	Resistor	R420		2.547039	1	282340674.079668
1050513724	Resistor	R917		2.547039	1	282340674.079668
1050514334	Resistor	R133		2.547039	1	282340674.079668

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1050516004	Resistor	R1368,R1369 ,R644, R645,R648,R 649, R701,R702,R 703, R752,R753,R 763, R764,R774,R 775, R785,R786,R 796, R797,R807,R 808, R815,R816		2.547039	23	15826261.230290
1050518744	Resistor	R963		2.547039	1	282340674.079668
1050522004-00	Resistor	R911,R945		2.547039	2	154078778.388085
1050522124	Resistor	R918		2.547039	1	282340674.079668
1050524004	Resistor	R212,R213,R 214, R217		2.547039	4	82309758.689546
1050524904	Resistor	R222,R223,R 878, R883		2.547039	4	82309758.689546
1050524909	Resistor	R1033,R1036 ,R323, R985		2.547039	4	82309758.689546
1050524924	Resistor	R915		2.547039	1	282340674.079668
1050525514	Resistor	R923		2.547039	1	282340674.079668
1050526124	Resistor	R92,R925		2.547039	2	154078778.388085
1050527424	Resistor	R919		2.547039	1	282340674.079668
1050530124	Resistor	R478,R486		2.547039	2	154078778.388085
1050533004	Resistor	R1367,R1370 ,R743, R754,R765,R 776, R787,R79,R7 98,R818		2.547039	10	35079934.879747
1050533034	Resistor	R32,R399		2.547039	2	154078778.388085
1050533204	Resistor	R912		2.547039	1	282340674.079668
1050535724	Resistor	R99		2.547039	1	282340674.079668
1050535734	Resistor	R851		2.547039	1	282340674.079668
1050540224	Resistor	R1067,R269, R916		2.547039	3	107020754.986850
1050541214	Resistor	R370		2.547039	1	282340674.079668
1050543264	Resistor	R265		2.547039	1	282340674.079668
1050545304	Resistor	R910		2.547039	1	282340674.079668
1050545324	Resistor	R484		2.547039	1	282340674.079668
1050545334	Resistor	R59		2.547039	1	282340674.079668

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1050547004	Resistor	R183,R244,R248, R251,R253,R254, R256,R257,R259, R459,R472		2.547039	11	32049696.385471
1050547034	Resistor	R53		2.547039	1	282340674.079668
1050549904	Resistor	R1070,R1086, R341		2.547039	3	107020754.986850
1050549924	Resistor	R1072,R1083, R413, R414,R415,R416		2.547039	6	56573956.677649
1050549964	Resistor	R221		2.547039	1	282340674.079668
1050556269	Resistor	R944		2.547039	1	282340674.079668
1050557614	Resistor	R926		2.547039	1	282340674.079668
1050560414	Resistor	R285		2.547039	1	282340674.079668
1050573264	Resistor	R932		2.547039	1	282340674.079668
1050580614-00	Resistor	R1052		2.547039	1	282340674.079668
1050582004	Resistor	R924		2.547039	1	282340674.079668
1050584514	Resistor	R170,R57		2.547039	2	154078778.388085
1050584524	Resistor	R933		2.547039	1	282340674.079668
1050588724	Resistor	R127		2.547039	1	282340674.079668
1050700002	Resistor	R1078,R281, R290, R292,R351		2.547039	5	67008142.102588
1050701504	Resistor	R384,R387,R395		2.547039	3	107020754.986850
1050756004	Resistor	R247		2.547039	1	282340674.079668
1054700289	Resistor	R216		2.547039	1	282340674.079668
1059700001	Resistor	R1111,R346, R380, R978		2.547039	4	82309758.689546
1059700101	Resistor	R115,R120,R142, R169,R177,R181, R203		2.547039	7	48991237.965885
105A500103	Resistor	R159,R162,R186, R191,R25,R26		2.547039	6	56573956.677649

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105A500139	Resistor	R1015,R1034, R1093, R1105,R1145, R1176, R1189,R151, R243, R303,R304,R 349, R417,R446,R 460,R62, R656,R660,R 693,R70, R863,R864,R 866, R867,R997		2.547039	25	14603612.751152
105A501039	Resistor	R1013,R1016 ,R1038, R1044,R1049 ,R1050, R1055,R1060 ,R1069, R1071,R1074 ,R1081, R1084,R1085 ,R1090, R1091,R1103 ,R1135, R1152,R1153 ,R1167, R1172,R1178 ,R1179, R1192,R1202 ,R1215, R1220,R1229 ,R123, R1308,R1313 ,R1318, R1337,R1338 ,R1339, R1340,R1344 ,R1349, R1353,R13		2.547039	99	3821035.116675
105A501139	Resistor	R1062,R263		2.547039	2	154078778.388085
105A501323	Resistor	R477		2.547039	1	282340674.079668
105A501529	Resistor	R1046,R490, R995		2.547039	3	107020754.986850
105A501539	Resistor	R34,R448,R8 93,R894		2.547039	4	82309758.689546
105A502039	Resistor	R242,R418		2.547039	2	154078778.388085

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105A502263	Resistor	R160,R161,R187, R188,R47,R48		2.547039	6	56573956.677649
105A502823	Resistor	R288		2.547039	1	282340674.079668
105A503039	Resistor	R1221,R386, R436		2.547039	3	107020754.986850
105A503309	Resistor	R1188,R1193 ,R1198, R371,R809,R829, R834		2.547039	7	48991237.965885
105A505109	Resistor	R220,R226,R230, R240,R294		2.547039	5	67008142.102588
105A506829	Resistor	R68,R75		2.547039	2	154078778.388085
105A507509	Resistor	R821,R832,R840, R845,R846,R856, R949		2.547039	7	48991237.965885
105A508233	Resistor	R841		2.547039	1	282340674.079668
105A510009	Resistor	R1048,R137, R138, R16,R172,R173, R204, R279,R280,R29, R419, R58,R847,R950, R972		2.547039	15	23852782.943395
105A510223	Resistor	R168		2.547039	1	282340674.079668
105A510513	Resistor	R132,R55,R76, R78, R81,R84,R91		2.547039	7	48991237.965885
105A513009	Resistor	R130		2.547039	1	282340674.079668
105A514023	Resistor	R328		2.547039	1	282340674.079668
105A515009	Resistor	R479,R483,R73, R810, R811,R812,R817, R984		2.547039	8	43225424.698300
105A515423	Resistor	R117		2.547039	1	282340674.079668
105A515823	Resistor	R937		2.547039	1	282340674.079668
105A536503	Resistor	R109		2.547039	1	282340674.079668
105A538323	Resistor	R401		2.547039	1	282340674.079668
105A543233	Resistor	R881,R885		2.547039	2	154078778.388085
105A549919	Resistor	R1345,R1347, ,R578, R580,R630,R631, R632,R633		2.547039	8	43225424.698300
105A554969	Resistor	R131		2.547039	1	282340674.079668
105A560409	Resistor	R97		2.547039	1	282340674.079668

**Reliability Prediction
Summary**

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Assembly: 9697782104-D USE
Ref Des:
Description:

Failure Rate: 10528.062486
MTBF (hrs): 94,984
Temperature: 30
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Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
105A562034	Resistor	R956		2.547039	1	282340674.079668
105A563419	Resistor	R167		2.547039	1	282340674.079668
105A595303	Resistor	R125		2.547039	1	282340674.079668
105A700003	Resistor	R1043,R1047 ,R140, R156,R158,R 174, R182,R245,R 337, R355,R359,R 40,R41, R42,R43,R43 0,R431, R44,R45,R46 1,R464, R465,R63,R6 4,R65, R67,R831,R9 53,R954, R964,R967,R 968, R969		2.547039	33	11164784.962504
105A700009	Resistor	C274,C275,C 277, C279,C284,C 288, C290,C291,C 302, C304,C306,C 309, C317,C324,C 337, C340,C431,C 433, C439,C444,C 452, C454,C458,C 462, C481,C482,C 497, C500,C509,C 510, C513,C514,R 1001, R1002,R1003 ,R1004, R1005,R1006 ,R1007, R1008,R1009 ,R1010, R1011,R1017 ,R1018, R1		2.547039	269	1426738.325816

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105A70000A	Resistor	R1037,R1040 ,R1175, R1184,R1185 ,R1194, R1206,R1207 ,R1213, R1214,R1240 ,R1241, R1242,R1243 ,R1254, R1255,R1256 ,R1257, R1262,R1263 ,R1264, R1265,R463, R650, R651,R664,R 665, R668,R669		2.547039	29	12652760.276502
105A700103	Resistor	R1032		2.547039	1	282340674.079668
105A700109	Resistor	R905		2.547039	1	282340674.079668
105A700139	Resistor	R1041,R1079 ,R227, R238,R439,R 481		2.547039	6	56573956.677649
105A701039	Resistor	R1218,R1219 ,R1226, R1227,R1284 ,R1285, R1286,R1287 ,R1309, R1310,R1314 ,R1315, R1319,R1320 ,R1322, R1323,R1328 ,R1329, R1331,R1332 ,R1333, R1334,R1335 ,R1336, R1346,R1348 ,R1366, R15,R163,R3 54,R391, R398,R518,R 519, R522,R523,R 526, R527,R528,R 529, R532,R533,R 536,		2.547039	98	3859308.399810

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105A701053	Resistor	R324		2.547039	1	282340674.079668
105A701069	Resistor	R342,R456		2.547039	2	154078778.388085
105A702209	Resistor	R1099,R1100 ,R1106, R1108,R1110 ,R1119, R1129,R1131 ,R1140, R1142,R1146 ,R1151, R1156,R1157 ,R1158, R1159,R1160 ,R1161, R1162,R1163 ,R1164, R1165,R1166 ,R1168		2.547039	24	15190138.820515
105A702269	Resistor	R1063,R30,R 49,R899, R991		2.547039	5	67008142.102588
105A702433	Resistor	R72		2.547039	1	282340674.079668
105A703003	Resistor	R249,R274,R 275		2.547039	3	107020754.986850
105A703309	Resistor	R1102,R1302 ,R1303, R1306,R1307 ,R1311, R1312,R1316 ,R1317, R511,R512,R 516, R517,R520,R 521, R524,R525,R 562, R563,R564,R 565, R571,R572,R 573, R574,R582,R 583, R584,R585,R 590, R591,R592,R 593		2.547039	33	11164784.962504
105A703329	Resistor	R1293,R1298 ,R500, R502,R507,R 515, R540,R545,R 550, R555		2.547039	10	35079934.879747

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105A704763	Resistor	R411		2.547039	1	282340674.079668
105A705129	Resistor	R22,R33,R82 7,R835, R839,R842		2.547039	6	56573956.677649
105A708209	Resistor	R1113,R1126 ,R1138		2.547039	3	107020754.986850
105A710009	Resistor	R1211		2.547039	1	282340674.079668
105A710039	Resistor	R1042,R20,R 286, R289		2.547039	4	82309758.689546
105A739039	Resistor	R412		2.547039	1	282340674.079668
105A747009	Resistor	R1128,R655, R659		2.547039	3	107020754.986850
105A768009	Resistor	R61,R69,R77 ,R83, R88,R89		2.547039	6	56573956.677649
106B510034	Resistor	RT1,RT4,RT5 ,RT6		7.724580	4	21923287.146155
106BA01033	Resistor	R1114,R224		7.724580	2	38596617.434771
1112610102	Capacitor	C239,C249,C 269,C50, C51,C66,C67		4.744484	7	26949727.707925
1121415090	Capacitor	C829		1.128806	1	704977644.692287

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1121501690	Capacitor	C1031,C1033 ,C119, C140,C141,C 144, C146,C158,C 159, C163,C168,C 169, C170,C177,C 189, C209,C217,C 221, C259,C260,C 282, C283,C285,C 286, C313,C314,C 316, C321,C322,C 323, C326,C328,C 329, C330,C333,C 335, C336,C338,C 339, C344,C345,C 347, C348,C350,C 351, C354,C365,C 36		1.128806	96	8998527.621104
1121501691	Capacitor	C1040,C531, C658, C662,C781,C 792, C793,C808,C 810, C814,C815		1.128806	11	74892583.279796
1121622780	Capacitor	C379		1.128806	1	704977644.692287
1121647480	Capacitor	C641		1.128806	1	704977644.692287
1122722080	Capacitor	C804,C807		1.128806	2	375289731.076049
1124418090	Capacitor	C325,C334		1.128806	2	375289731.076049
1124427090	Capacitor	C1002,C1003 ,C1005, C1006,C460, C461, C474,C475,C 501, C502,C503,C 504, C505,C506,C 507, C508		1.128806	16	52112480.802928

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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
1124433090	Capacitor	C134		1.128806	1	704977644.692287
1124468090	Capacitor	C52,C56		1.128806	2	375289731.076049
1124522190	Capacitor	C640		1.128806	1	704977644.692287
1124522280	Capacitor	C135,C161,C175, C199,C55,C57,C74, C753		1.128806	8	101746760.035398
1124522680	Capacitor	C16,C18		1.128806	2	375289731.076049
1124533280	Capacitor	C44,C585,C9		1.128806	3	257514172.353070
1124539180	Capacitor	C645		1.128806	1	704977644.692287
1129522790	Capacitor	C1004,C1010,C1012, C1034,C992,C994		1.128806	6	133979725.056342
1129601080	Capacitor	C235,C265,C318		1.128806	3	257514172.353070
1129610051	Capacitor	C143,C148,C152, C154,C160,C363, C366,C390,C663, C664,C666,C670, C673		1.128806	13	63728475.410842

File Name: FWS-7821.rfp
Assembly: 9697782104-D USE
Ref Des:
Description:

Failure Rate: 10528.062486
MTBF (hrs): 94,984
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1129610080	Capacitor	C1,C10,C101 4,C1015, C2,C28,C34, C413, C424,C426,C 459, C476,C523,C 524, C525,C526,C 527, C528,C529,C 530, C532,C533,C 542, C543,C544,C 545, C578,C579,C 584, C801,C820,C 823, C824,C833,C 834, C837,C838,C 839, C846,C847,C 848, C849,C885,C 886, C887,C888,C 889, C890,C892,		1.128806	70	12288550.464753
1129610260	Capacitor	C1036,C1037 ,C511, C512,C996,C 997, C998,C999		1.128806	8	101746760.035398
1129701690	Capacitor	C20,C609,C6 27,C8		1.128806	4	196873384.410843
1129701790	Capacitor	C248,C251,C 819, C832		1.128806	4	196873384.410843
1129710091	Capacitor	C575,C581,C 590		1.128806	3	257514172.353070
1129722091	Capacitor	C312,C320,C 38		1.128806	3	257514172.353070
1174518180	Capacitor	CP1,CP2,CP3 ,CP4, CP5,CP6,CP7 ,CP8		4.744484	8	23741959.646199
1189615154	Capacitor	TC1,TC2,TC3 ,TC4		4.744484	4	45505862.704531
1189656196	Capacitor	C240,C268,C 293		4.744484	3	59399119.141203

File Name: FWS-7821.rfp
Assembly: 9697782104-D USE
Ref Des:
Description:

Failure Rate: 10528.062486
MTBF (hrs): 94,984
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1189682199	Capacitor	C156,C166,C172, C186,C208,C215, C292,C297,C299, C305,C87,C88,C89, C90,C91		4.744484	15	13009217.718667
11A2422190	Capacitor	C389,C517,C518, C519,C520		1.128806	5	159367490.199266
11A4416080	Capacitor	C596,C621		1.128806	2	375289731.076049
11A4447030	Capacitor	C657		1.128806	1	704977644.692287
11C1410440	Capacitor	C139,C151,C778		1.128806	3	257514172.353070
11C1501030	Capacitor	C136,C145		1.128806	2	375289731.076049
11C1539840	Capacitor	C1000,C1001, C456, C457,C493,C494, C495,C496		1.128806	8	101746760.035398
11C2510480	Capacitor	C772		1.128806	1	704977644.692287
11C2522480	Capacitor	C310		1.128806	1	704977644.692287
11C2522880	Capacitor	C619,C620		1.128806	2	375289731.076049
11C4501790	Capacitor	C3,C356,C357,C358, C359,C360,C361, C374,C375,C377, C380,C382,C384, C435,C436,C437, C438,C446,C447, C448,C449,C463, C464,C477,C478, C483,C484,C498, C499,C841,C851		1.128806	31	27349602.091781
11C4510480	Capacitor	C593,C598,C599, C660,C661,C678,C690		1.128806	7	115633865.771428
11C4522191	Capacitor	C332		1.128806	1	704977644.692287

File Name: FWS-7821.rfp
Assembly: 9697782104-D USE
Ref Des:
Description:

Failure Rate: 10528.062486
MTBF (hrs): 94,984
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
11C4522290	Capacitor	C138,C155,C164, C201,C26,C30,C364, C77		1.128806	8	101746760.035398
11C4533380	Capacitor	C137		1.128806	1	704977644.692287
11C4556690	Capacitor	C586		1.128806	1	704977644.692287
11C9510050	Capacitor	C267,C806		1.128806	2	375289731.076049
11C9510490	Capacitor	C1009,C1011,C1013, C1016,C1017,C1018, C1019,C1020,C1021, C1022,C1023,C1024, C1025,C1026,C1027, C1028,C1029,C1030, C1032,C1035,C197, C258,C298,C327, C381,C394,C395, C398,C399,C400, C401,C403,C404, C405,C422,C429, C440,C441,C442, C443,C451,C465, C466,C467,C		1.128806	193	4509003.602839
11C9522060	Capacitor	C349,C418,C758, C768,C805		1.128806	5	159367490.199266
11CA501040	Capacitor	C106,C110,C180, C182,C185,C270, C271,C272,C273, C300,C301,C416, C423,C428,C59,C64, C82,C84,C86		1.128806	19	44097696.883526

File Name: FWS-7821.rfp
Assembly: 9697782104-D USE
Ref Des:
Description:

Failure Rate: 10528.062486
MTBF (hrs): 94,984
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
11E1510050	Capacitor	C132,C153,C237, C245,C246,C262, C263,C264		1.128806	8	101746760.035398
11E1522680	Capacitor	C561		1.128806	1	704977644.692287
11E1622060	Capacitor	C352,C353,C755, C761,C766		1.128806	5	159367490.199266
11E2501080	Capacitor	C104,C11,C112,C12, C178,C184,C767, C774		1.128806	8	101746760.035398
11E2501690	Capacitor	C14,C15,C19,C21, C23,C24,C25,C27, C319,C35,C36,C39, C41,C427,C46,C560, C591,C595,C6,C60, C605,C606,C607, C608,C665,C671,C7, C733,C735,C736, C737,C740,C741, C742,C744,C745, C752,C760		1.128806	38	22404668.588477
11E2510010	Capacitor	C603,C604,C622, C623,C630,C631, C654,C655,C656, C667,C668,C669, C674,C675,C676, C705,C706,C707		1.128806	18	46478509.590073
11E2610030	Capacitor	C341,C392,C393, C748,C749,C750		1.128806	6	133979725.056342
11E2610032	Capacitor	C342		1.128806	1	704977644.692287

File Name: FWS-7821.rfp
Assembly: 9697782104-D USE
Ref Des:
Description:

Failure Rate: 10528.062486
MTBF (hrs): 94,984
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
11E4433090	Capacitor	C276,C370,C776, C891		1.128806	4	196873384.410843
11E4510440	Capacitor	C1007,C1008,C1038,C1048,C1049,C108,C220,C226,C343,C346,C562,C563,C564,C63,C734		1.128806	15	55479656.844874
11E9501090	Capacitor	C385,C387,C857		1.128806	3	257514172.353070
11E9547060	Capacitor	C784,C785,C786		1.128806	3	257514172.353070
11E9547490	Capacitor	C22,C29,C37,C40,C47,C54		1.128806	6	133979725.056342
11E9547630	Capacitor	C147,C149,C210,C212,C218,C709		1.128806	6	133979725.056342
11E9610080	Capacitor	C378,C417,C421,C425,C780,C809,C812,C864		1.128806	8	101746760.035398
11E9622050	Capacitor	C825		1.128806	1	704977644.692287
11E9622052	Capacitor	C1042,C1043,C1044,C1045,C1046,C1047, C587		1.128806	7	115633865.771428
11E9622060	Capacitor	C280,C355,C388, C856		1.128806	4	196873384.410843

File Name: FWS-7821.rfp
Assembly: 9697782104-D USE
Ref Des:
Description:

Failure Rate: 10528.062486
MTBF (hrs): 94,984
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
11E9622080	Capacitor	C111,C122,C123, C124,C125,C126, C127,C128,C129, C130,C131,C133, C157,C165,C173, C176,C179,C183, C193,C198,C207, C211,C216,C219, C222,C223,C224, C225,C228,C229, C230,C232,C233, C234,C236,C238, C241,C243,C254, C261,C278,C289, C294,C296,C625, C626,C646,C659,		1.128806	80	10772660.612835
11EA610030	Capacitor	C202		1.128806	1	704977644.692287
11EA622640	Capacitor	C307,C308,C311, C315,C432		1.128806	5	159367490.199266
11EA647010	Capacitor	C120,C121,C190, C191,C192,C204, C205,C206,C213, C214,C515,C516, C682,C683,C684, C685,C694,C695, C696,C697,C816, C817,C869,C874, C875,C876		1.128806	26	32480878.530766

File Name: FWS-7821.rfp
Assembly: 9697782104-D USE
Ref Des:
Description:

Failure Rate: 10528.062486
MTBF (hrs): 94,984
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
11EB501040	Capacitor	C1041,C113, C142, C150,C287,C 747, C762,C763,C 769, C770,C771,C 777, C779,C835		1.128806	14	59316298.011235
11EB522640	Capacitor	C629		1.128806	1	704977644.692287
11EB610050	Capacitor	C1039,C105, C746, C773,C79		1.128806	5	159367490.199266
11EB647020	Capacitor	C255,C256,C 396, C795		1.128806	4	196873384.410843
121110106G	Inductor	L12		4.944252	1	154760964.143460
121110106W	Inductor	L11,L14		4.944252	2	83201062.149749
1211101573	Inductor	L2,L3,L6,L7,L 8,L9		4.944252	6	30055900.223009
121110226X	Inductor	L1,L10		4.944252	2	83201062.149749
1212306030	Inductor	FB20,FB21,F B6,FB7, FB8,FB9		4.944252	6	30055900.223009
121230603I	Inductor	FB4,FB5		4.944252	2	83201062.149749
12123C000A	Inductor	FB10		4.944252	1	154760964.143460
12123C001A	Inductor	FB22,FB3		4.944252	2	83201062.149749
12123D0000	Inductor	FB13,FB17,F B18		4.944252	3	57363284.375370
12123D0002	Inductor	FB1,FB11,FB 14,FB15, FB2		4.944252	5	35631881.582999
1214309000	Inductor	CH1,CH2,CH 7,CH8		4.944252	4	43912872.424775
121430900A	Inductor	CH10,CH11,C H12,CH3, CH4,CH5,CH 6,CH9		4.944252	8	22874049.098230
12310024A0	Miscellaneous	Y2		19.200000	1	23844262.770939
12310025A3	Miscellaneous	Y10,Y11,Y12, Y5,Y6, Y7,Y8,Y9		19.200000	8	2473720.227203
12310027A3	Miscellaneous	Y1		19.200000	1	23844262.770939
123132505M	Miscellaneous	Y4		19.200000	1	23844262.770939
1231332721	Miscellaneous	Y3		19.200000	1	23844262.770939
1252NS8920	Miscellaneous	TF1,TF2,TF3, TF4, TF5,TF6		19.200000	6	3109492.345532
1300581940	Semiconductor	D8		7.793411	1	92807310.010983
1301005440	Semiconductor	D10,D2		7.793411	2	50578095.223398
1301053040	Semiconductor	D1,D3,D9		7.793411	3	35106858.962001
1301400642	Semiconductor	D4		7.793411	1	92807310.010983

File Name: FWS-7821.rfp
Assembly: 9697782104-D USE
Ref Des:
Description:

Failure Rate: 10528.062486
MTBF (hrs): 94,984
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1304200043	Optical Device	LED2,LED3		79.003355	2	3783722.582110
1304500240	Optical Device	LED1,LED4		79.003355	2	3783722.582110
1304L51460	Optical Device	LED5,LED6		79.003355	2	3783722.582110
1305040241	Semiconductor	U10,U11,U12 ,U13, U14,U15,U16 ,U17, U42,U43,U44 ,U45, U50,U51,U52 ,U53		7.793411	16	7341618.295818
1305099140	Semiconductor	D5,D6,D7		7.793411	3	35106858.962001
1305100541	Semiconductor	U4,U46,U47, U48,U49, U6,U8,U9		22.463360	8	4877097.849338
1310222211	Semiconductor	Q64,Q65		22.463360	2	17315095.066101
1310390410	Semiconductor	Q63		22.463360	1	31642600.748419
1310390411	Semiconductor	Q62		22.463360	1	31642600.748419
1310390413	Semiconductor	Q44		22.463360	1	31642600.748419
1314108412	Semiconductor	U64		22.463360	1	31642600.748419
1314111719	Semiconductor	Q28		22.463360	1	31642600.748419
1315009210	Semiconductor	Q12,Q14,Q1 7,Q6,Q7, Q9		22.463360	6	6378891.324740
1315034430	Semiconductor	Q19,Q54		22.463360	2	17315095.066101
1315050311	Semiconductor	Q21		22.463360	1	31642600.748419
1315060301	Semiconductor	Q13,Q15,Q5 7,Q58		22.463360	4	9270607.712006
1315070020	Semiconductor	Q22,Q23,Q2 4,Q29, Q30,Q33,Q3 5,Q36, Q37,Q40,Q4 1,Q42, Q43,Q45,Q4 6,Q66, Q68,Q71,Q7 4,Q75, Q76		22.463360	21	1952685.860459
1315200312	Semiconductor	Q18		22.463360	1	31642600.748419
1315230211	Semiconductor	Q67,Q69,Q7 0,Q72, Q73,Q77		22.463360	6	6378891.324740
1315230511	Semiconductor	Q31,Q32,Q3 4,Q38, Q39,Q47		22.463360	6	6378891.324740
1315700211	Semiconductor	Q3,Q50,Q51, Q59		22.463360	4	9270607.712006
1315700216	Semiconductor	Q1,Q2,Q49,Q 55		22.463360	4	9270607.712006

File Name: FWS-7821.rfp
Assembly: 9697782104-D USE
Ref Des:
Description:

Failure Rate: 10528.062486
MTBF (hrs): 94,984
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1315700217	Semiconductor	Q25,Q27,Q48,Q52,Q53,Q56,Q60		22.463360	7	5525968.936223
1315971500	Semiconductor	U18,U87		22.463360	2	17315095.066101
1315EM6K10	Semiconductor	Q16,Q4,Q5		22.463360	3	12043329.789539
1430006710	Integrated Circuit	U23		43.803003	1	11739202.588727
1430036070	Integrated Circuit	U5		43.803003	1	11739202.588727
1430080650	Integrated Circuit	U1		43.803003	1	11739202.588727
1430082021	Integrated Circuit	U24		43.803003	1	11739202.588727
1430087620	Integrated Circuit	U27		43.803003	1	11739202.588727
14309624F0	Integrated Circuit	U54,U55,U58,U59,U61,U62		43.803003	6	2750969.191556
14400C2360	Integrated Circuit	U25		43.803003	1	11739202.588727
1440210IS0	Integrated Circuit	U32,U33		43.803003	2	6834791.244197
1440211AT0	Integrated Circuit	U34,U35,U36,U37,U83,U84		43.803003	6	2750969.191556
14407517A0	Integrated Circuit	U56		43.803003	1	11739202.588727
14571G14D0	Integrated Circuit	U67		43.803003	1	11739202.588727
1462001280	Integrated Circuit	U31		11.063278	1	58231413.220643
1482640HC1	Integrated Circuit	U70		26.018600	1	25551442.237972
14S2750100	Integrated Circuit	U63		43.803003	1	11739202.588727
14S3820700	Integrated Circuit	U60		43.803003	1	11739202.588727
14S3902500	Integrated Circuit	U21,U26,U68,U78		43.803003	4	3879156.910661
14S4081102	Integrated Circuit	U28,U40		43.803003	2	6834791.244197
14S4872800	Integrated Circuit	U29		43.803003	1	11739202.588727
14S5912300	Integrated Circuit	U41		26.018600	1	25551442.237972
14S5A00821	Integrated Circuit	U73		26.018600	1	25551442.237972
14S5A23200	Integrated Circuit	U85		26.018600	1	25551442.237972
14S6216060	Integrated Circuit	U74,U76		11.063278	2	32567094.099626
1540710280	Resistor	RP10,RP11		9.971436	2	30043399.401299
1540722281	Resistor	RP5		9.971436	1	51606907.671214
1540733085	Resistor	RP4		9.971436	1	51606907.671214
1540747285	Resistor	RP1		9.971436	1	51606907.671214
1540775082	Resistor	RP12,RP13,RP2,RP3,RP6,RP7,RP8,RP9		9.971436	8	9424088.116087
1601006BR0	Connection	SW1		16.184835	1	35685591.360212
1651528812	Connection	DIMM1,DIMM3		16.184835	2	20390152.380746
1651528813	Connection	DIMM2,DIMM4		16.184835	2	20390152.380746
1651611510	Connection	U20		16.184835	1	35685591.360212
165251220H	Connection	CN36		16.184835	1	35685591.360212

File Name: FWS-7821.rfp
Assembly: 9697782104-D USE
Ref Des:
Description:

Failure Rate: 10528.062486
MTBF (hrs): 94,984
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1652824202	Connection	CN39		16.184835	1	35685591.360212
1652848206	Connection	CN35		16.184835	1	35685591.360212
165300210C	Connection	CN18		16.184835	1	35685591.360212
1653003101	Connection	CN21,JP1		16.184835	2	20390152.380746
1653003201	Connection	CN14		16.184835	1	35685591.360212
165300410A	Connection	CN12		16.184835	1	35685591.360212
1653004200	Connection	FP1		16.184835	1	35685591.360212
1653005201	Connection	CN32		16.184835	1	35685591.360212
165320820G	Connection	CN5		16.184835	1	35685591.360212
165321020D	Connection	USB1		16.184835	1	35685591.360212
1653300107	Connection	CN14_1-3,CN14_2-4,JP1_1-2		16.184835	3	14515880.849373
1653916121	Connection	CN23		16.184835	1	35685591.360212
1653924110	Connection	CN25		16.184835	1	35685591.360212
1654801831	Connection	CN34		16.184835	1	35685591.360212
1654902037	Connection	CN29,CN30		16.184835	2	20390152.380746
165490700G	Connection	SATA1,SATA2,SATA3,SATA4,SATA5		16.184835	5	9343344.843761
1655004011	Connection	CN15,CN16,CN17,CN19,CN20		16.184835	5	9343344.843761
1655004018	Connection	CN1,CN2,CN3		16.184835	3	14515880.849373
1655408023	Connection	CN6		16.184835	1	35685591.360212
1655424022	Connection	CN8		16.184835	1	35685591.360212
1655902034	Connection	CN22		16.184835	1	35685591.360212
1655912021	Connection	LPC1		16.184835	1	35685591.360212
1750113019	Miscellaneous	BAT1		306.000000	1	1681683.006787
1751300006	Relay	RELAY1,RELAY10,RELAY11,RELAY12,RELAY13,RELAY14,RELAY15,RELAY16,RELAY2,RELAY3,RELAY4,RELAY5,RELAY6,RELAY7,RELAY8,RELAY9		19.477355	16	2689762.931351
1812850290	Resistor	R270		69.019322	1	7485159.269379

File Name: FWS-7821.rfp
Assembly: 9697R40X02-D
Ref Des:
Description:

Failure Rate: 99.390683
MTBF (hrs): 10,061,305
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1050510014	Resistor	R2		2.547039	1	282340674.079668
1112610102	Capacitor	C26,C35		4.744484	2	86049450.747498
11C2501050	Capacitor	C19,C21,C23 ,C25, C30,C32,C34		1.128806	7	115633865.771428
11C9510490	Capacitor	C1,C18,C20, C22,C24, C27,C28,C29 ,C31, C33,C36		1.128806	11	74892583.279796
11E9522490	Capacitor	C10,C11,C12 ,C13, C14,C15,C16 ,C17,C2, C3,C4,C5,C6, C7,C8, C9		1.128806	16	52112480.802928
1654209830	Connection	CN1,CN2		16.184835	2	20390152.380746