

Report NO : 17D070009

AIOT-VSSP01

Reliability Prediction Report

(MTBF)

Summary	Failure Rate: 10080.898071 MTBF: 99,198 Hours
---------	--

Issue date**QE Manager****Test Engineer**

2017-12-25

KJ Wang

Aslen Hsieh

Reliability Prediction (MTBF)

I . Model Name: AIOT-VSSP01

II . Prediction Date: Dec. 25, 2017

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

IV . Predicted by: Aslen Hsieh

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:

AIOT-VSSP01 (M/B: 9697SSP103-D / 9697SSP203-D)

- Failure Rate: 10080.898071

- MTBF: 99,198 Hours

**AAEON Reliability Prediction
Summary**

File Name: AIOT-VSSP01.rfp
Duty Cycle: 100
Calculation Model: Telcordia Issue 2
Method: Method I Case 3

Failure Rate: 10080.898071
MTBF (hrs): 99,198
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Assembly Name	Part Number	Ref Des	Quantity	Failure Rate	MTBF
AIOT-VSSP01	System		1	10080.898071	99,198
9697SSP103-D			1	2075.865582	481,727
9697SSP203-D			1	8159.339367	122,559

File Name: AIOT-VSSP01.rfp
Assembly:
Ref Des:
Description:

Failure Rate: 2075.865582
MTBF (hrs): 481,727
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1050501054	Resistor	R108		2.547039	1	282340674.079668
1050501234	Resistor	R104		2.547039	1	282340674.079668
1050501834	Resistor	R78		2.547039	1	282340674.079668
1050502204	Resistor	R56,R59		2.547039	2	154078778.388085
1050502224	Resistor	R8		2.547039	1	282340674.079668
1050510004	Resistor	R7,R89		2.547039	2	154078778.388085
1050511034	Resistor	R87		2.547039	1	282340674.079668
1050522004	Resistor	R22		2.547039	1	282340674.079668
1050547034	Resistor	R98		2.547039	1	282340674.079668
1050561934	Resistor	R88		2.547039	1	282340674.079668
1050580624	Resistor	R79		2.547039	1	282340674.079668
1050582034	Resistor	R137		2.547039	1	282340674.079668
1050591034	Resistor	R83		2.547039	1	282340674.079668
1050703334	Resistor	R143		2.547039	1	282340674.079668
1059700001	Resistor	R105,R76		2.547039	2	154078778.388085
105A500103	Resistor	R109		2.547039	1	282340674.079668
105A501039	Resistor	R113,R114,R115,R13,R131,R144,R39,R45,R47,R50,R66		2.547039	11	32049696.385471
105A501043	Resistor	R95		2.547039	1	282340674.079668
105A502039	Resistor	R82		2.547039	1	282340674.079668
105A506834	Resistor	R86		2.547039	1	282340674.079668
105A507503	Resistor	R142		2.547039	1	282340674.079668
105A507533	Resistor	R77		2.547039	1	282340674.079668
105A510223	Resistor	R84		2.547039	1	282340674.079668
105A549933	Resistor	R81		2.547039	1	282340674.079668
105A700003	Resistor	R100		2.547039	1	282340674.079668

File Name: AIOT-VSSP01.rfp
 Assembly:
 Ref Des:
 Description:

Failure Rate: 2075.865582
 MTBF (hrs): 481,727
 Temperature: 30
 Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
105A700009	Resistor	R1,R10,R103 ,R110, R117,R118,R 145,R2, R25,R26,R27 ,R28, R30,R31,R32 ,R33, R34,R38,R41 ,R42, R44,R46,R49 ,R51, R52,R53,R54 ,R55, R57,R58,R60 ,R61, R62,R63,R64 ,R67, R68,R69,R70 ,R71, R72,R73,R74 ,R85,R9, R91,R96,R97		2.547039	48	7757394.358017
105A700139	Resistor	R11,R12,R13 8,R146, R5,R6		2.547039	6	56573956.677649
105A701039	Resistor	R106,R107,R 111, R112,R119,R 120, R121,R122,R 126,R3, R93		2.547039	11	32049696.385471
105A701059	Resistor	R136,R139,R 140,R48		2.547039	4	82309758.689546
105A701069	Resistor	R135		2.547039	1	282340674.079668
105A702209	Resistor	R35,R37,R40 ,R43, R75		2.547039	5	67008142.102588
105A702229	Resistor	R132,R133,R 134,R14, R18		2.547039	5	67008142.102588
105A704729	Resistor	R17,R21,R23		2.547039	3	107020754.986850
105A704763	Resistor	R99		2.547039	1	282340674.079668
105A710039	Resistor	R102,R124,R 125, R127,R129,R 130, R141,R90,R9 2		2.547039	9	38754445.632391
1113610191	Capacitor	EC1		1.128806	1	704977644.692287

File Name: AIOT-VSSP01.rfp
 Assembly:
 Ref Des:
 Description:

Failure Rate: 2075.865582
 MTBF (hrs): 481,727
 Temperature: 30
 Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1121501691	Capacitor	C12,C13,C16 ,C18, C21,C25,C26 ,C27, C28,C32,C33 ,C37, C44,C46,C48 ,C51, C52,C53,C57 ,C6,C62, C67,C68,C70 ,C71, C72,C75,C8, C81,C82, C83,C87,C88 ,C89, C93,C96		1.128806	36	23624151.295955
1121622780	Capacitor	C40		1.128806	1	704977644.692287
1124418090	Capacitor	C59,C63		1.128806	2	375289731.076049
1124420090	Capacitor	C15,C17		1.128806	2	375289731.076049
1124427090	Capacitor	C11,C9		1.128806	2	375289731.076049
1129701791	Capacitor	C94		1.128806	1	704977644.692287
1129710391	Capacitor	C38		1.128806	1	704977644.692287
11A4410194	Capacitor	C39		1.128806	1	704977644.692287
11A4447130	Capacitor	C19,C22		1.128806	2	375289731.076049
11C4522290	Capacitor	C66		1.128806	1	704977644.692287
11C9510050	Capacitor	C20,C4,C55		1.128806	3	257514172.353070
11E2501690	Capacitor	C14,C3,C42, C43,C45, C5,C58,C64, C65,C69, C73,C77,C78 ,C79, C80		1.128806	15	55479656.844874
11E4510022	Capacitor	C56,C60,C61 ,C74		1.128806	4	196873384.410843
11E4547610	Capacitor	C41		1.128806	1	704977644.692287
11E5510610	Capacitor	C49,C76		1.128806	2	375289731.076049
11EB522011	Capacitor	C34,C35,C47 ,C50, C84,C85,C86 ,C90, C91,C92		1.128806	10	82101057.548118
11EB522640	Capacitor	C36		1.128806	1	704977644.692287
11EB610040	Capacitor	C1,C10,C2,C 23,C24, C29,C30,C31 ,C54,C7		1.128806	10	82101057.548118
121110156U	Inductor	L1		4.944252	1	154760964.143460
1211110079	Inductor	L2		4.944252	1	154760964.143460
1212306030	Inductor	FB5,FB6		4.944252	2	83201062.149749

File Name: AIOT-VSSP01.rfp
Assembly:
Ref Des:
Description:

Failure Rate: 2075.865582
MTBF (hrs): 481,727
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
121230805D	Inductor	FB1,FB2,FB3,FB4		4.944252	4	43912872.424775
1214109000	Inductor	CH1,CH2,CH3,CH4, CH5		4.944252	5	35631881.582999
12310008A0	Miscellaneous	Y2		19.200000	1	23844262.770939
1231324056	Miscellaneous	Y3		19.200000	1	23844262.770939
1231332726	Miscellaneous	Y1		19.200000	1	23844262.770939
1305040241	Semiconductor	D1,D12,D6,D9		7.793411	4	26989084.126235
1305Z51230	Semiconductor	ESD1,ESD2,ESD4,ESD5,ESD6,ESD7		7.793411	6	18540453.699406
1305Z85650	Semiconductor	D10,D11,D13,D14,D15,D16,D2,D3,D4,D5,D7,D8		7.793411	12	9662455.000384
1315700216	Semiconductor	Q3		22.463360	1	31642600.748419
13157333P0	Semiconductor	Q2		22.463360	1	31642600.748419
1315762010	Semiconductor	Q1		22.463360	1	31642600.748419
1410017020	Integrated Circuit	U16		43.803003	1	11739202.588727
142CA64240	Integrated Circuit	U5		43.803003	1	11739202.588727
1430087620	Integrated Circuit	U6		43.803003	1	11739202.588727
1430097420	Integrated Circuit	U10,U11,U12		43.803003	3	4923240.069161
14303221E0	Integrated Circuit	U9		43.803003	1	11739202.588727
1430532190	Integrated Circuit	U7		43.803003	1	11739202.588727
143P82B960	Integrated Circuit	U2		43.803003	1	11739202.588727
144MX795F0	Integrated Circuit	U4		43.803003	1	11739202.588727
14S3104500	Integrated Circuit	U13,U14,U15		43.803003	3	4923240.069161
14S4081110	Integrated Circuit	U1		43.803003	1	11739202.588727
14S4251700	Integrated Circuit	U8		43.803003	1	11739202.588727
14S6324640	Integrated Circuit	U3		43.803003	1	11739202.588727
1601123000	Connection	SW1		16.184835	1	35685591.360212
1653002101	Connection	CN5		16.184835	1	35685591.360212
1653003101	Connection	JP1,JP2		16.184835	2	20390152.380746
1653005100	Connection	CN1		16.184835	1	35685591.360212
165302020L	Connection	CN4,CN6		16.184835	2	20390152.380746
1653300108	Connection	JP1(1-2),JP2(1-2)		16.184835	2	20390152.380746
1654409300	Connection	CN8		16.184835	1	35685591.360212
1654800935	Connection	CN12,CN13,CN14,CN15,CN16		16.184835	5	9343344.843761
1654804309	Connection	CN11		16.184835	1	35685591.360212
1655004020	Connection	CN3		16.184835	1	35685591.360212
1655102110	Connection	CN10		16.184835	1	35685591.360212
1655306020	Connection	CN7		16.184835	1	35685591.360212

**Reliability Prediction
Summary**

File Name: AIOT-VSSP01.rfp
Assembly:
Ref Des:
Description:

Failure Rate: 2075.865582
MTBF (hrs): 481,727
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1655306026	Connection	CN2		16.184835	1	35685591.360212
1655905038	Connection	CN9		16.184835	1	35685591.360212

File Name: AIOT-VSSP01.rfp
 Assembly:
 Ref Des:
 Description:

Failure Rate: 8159.339367
 MTBF (hrs): 122,559
 Temperature: 30
 Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1050504734	Resistor	R421		2.547039	1	282340674.079668
1050505124	Resistor	R60		2.547039	1	282340674.079668
1050508224	Resistor	R208		2.547039	1	282340674.079668
1050510004	Resistor	R178,R210,R 271, R273,R275,R 277, R307,R309,R 349, R351,R353,R 355, R447,R448,R 449, R450,R453,R 454, R471,R472,R 473, R474		2.547039	22	16518584.576317
1050510034	Resistor	R107,R134,R 135, R186		2.547039	4	82309758.689546
1050520014	Resistor	R64		2.547039	1	282340674.079668
1050520034	Resistor	R121,R123		2.547039	2	154078778.388085
1050528734	Resistor	R119		2.547039	1	282340674.079668
1050533004	Resistor	R108,R122,R 40		2.547039	3	107020754.986850
1050547004	Resistor	R246,R248,R 250, R252,R254,R 256, R258,R260,R 324, R326,R328,R 330, R332,R334,R 336, R338,R70		2.547039	17	21160422.299251
1050549934	Resistor	R42,R63		2.547039	2	154078778.388085
1050582004	Resistor	R46,R59		2.547039	2	154078778.388085
1050586624	Resistor	R43		2.547039	1	282340674.079668
1050727009	Resistor	R20		2.547039	1	282340674.079668
1053500279	Resistor	R25		2.547039	1	282340674.079668
1053500782	Resistor	R34		2.547039	1	282340674.079668
1053502579	Resistor	R13		2.547039	1	282340674.079668
1053502769	Resistor	R399,R400		2.547039	2	154078778.388085
1059501261	Resistor	R371,R375,R 376		2.547039	3	107020754.986850
1059510001	Resistor	R420		2.547039	1	282340674.079668
1059700001	Resistor	R727,R736		2.547039	2	154078778.388085

File Name: AIOT-VSSP01.rfp
Assembly:
Ref Des:
Description:

Failure Rate: 8159.339367
MTBF (hrs): 122,559
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
105A500139	Resistor	R101,R103,R132, R161,R163,R165, R167,R170,R171, R173,R175,R196, R221,R222,R223, R224,R225,R226, R227,R228,R229, R230,R231,R232, R233,R234,R235, R236,R237,R238, R239,R240,R241, R242,R243,R244, R263,R264,R265, R266,R267,R268, R269,R270,R287, R288,R289,R290, R44		2.547039	101	3746731.837411
105A501003	Resistor	R44		2.547039	1	282340674.079668

File Name: AIOT-VSSP01.rfp
 Assembly:
 Ref Des:
 Description:

Failure Rate: 8159.339367
 MTBF (hrs): 122,559
 Temperature: 30
 Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
105A501039	Resistor	R110,R127,R133, R150,R185,R188, R189,R191,R193, R194,R195,R198, R199,R200,R201, R202,R203,R204, R205,R206,R207, R211,R212,R245, R247,R249,R251, R253,R255,R257, R259,R261,R262, R272,R274,R276, R278,R308,R310, R319,R320,R321, R322,R323,R325, R327,R329,R331,		2.547039	91	4150431.630548
105A501523	Resistor	R362		2.547039	1	282340674.079668
105A501529	Resistor	R209		2.547039	1	282340674.079668
105A501829	Resistor	R381,R382,R383, R384		2.547039	4	82309758.689546
105A502039	Resistor	R111,R137,R151, R439,R440,R441, R442,R451,R452, R467,R468,R469, R470		2.547039	13	27342571.921361
105A503309	Resistor	R391,R392,R393, R394,R409,R410, R411,R412		2.547039	8	43225424.698300
105A505109	Resistor	R39		2.547039	1	282340674.079668
105A505933	Resistor	R57		2.547039	1	282340674.079668
105A506829	Resistor	R187,R192		2.547039	2	154078778.388085

File Name: AIOT-VSSP01.rfp
 Assembly:
 Ref Des:
 Description:

Failure Rate: 8159.339367
 MTBF (hrs): 122,559
 Temperature: 30
 Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
105A506863	Resistor	R24		2.547039	1	282340674.079668
105A510033	Resistor	R19,R370,R41,R55		2.547039	4	82309758.689546
105A510223	Resistor	R367		2.547039	1	282340674.079668
105A511323	Resistor	R85,R86,R87,R88		2.547039	4	82309758.689546
105A512004	Resistor	R48,R56		2.547039	2	154078778.388085
105A515033	Resistor	R18		2.547039	1	282340674.079668
105A532429	Resistor	R62		2.547039	1	282340674.079668
105A538313	Resistor	R67		2.547039	1	282340674.079668
105A549923	Resistor	R1,R2,R3,R369,R4		2.547039	5	67008142.102588
105A571503	Resistor	R155,R368		2.547039	2	154078778.388085
105A573223	Resistor	R66		2.547039	1	282340674.079668
105A575009	Resistor	R65		2.547039	1	282340674.079668
105A593123	Resistor	R364		2.547039	1	282340674.079668
105A700003	Resistor	R363,R366,R373		2.547039	3	107020754.986850
105A700009	Resistor	R106,R109,R116,R117,R118,R120,R124,R125,R126,R128,R129,R130,R131,R139,R140,R145,R15,R158,R159,R16,R179,R181,R184,R27,R29,R30,R31,R361,R378,R379,R401,R402,R403,R418,R419,R47,R49,R5,R50,R51,R68,R69,R76,R77,R79		2.547039	45	8260575.675294
105A700139	Resistor	R190,R32,R35,R37,R38,R422,R45		2.547039	7	48991237.965885
105A700203	Resistor	R365		2.547039	1	282340674.079668

File Name: AIOT-VSSP01.rfp
 Assembly:
 Ref Des:
 Description:

Failure Rate: 8159.339367
 MTBF (hrs): 122,559
 Temperature: 30
 Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
105A701039	Resistor	R100,R102,R104,R11,R136,R138,R141,R143,R146,R147,R148,R149,R152,R154,R156,R157,R160,R162,R164,R166,R168,R169,R172,R174,R176,R177,R180,R182,R183,R22,R33,R380,R385,R386,R387,R388,R389,R390,R404,R405,R406,R407,R408,R413,R81,R89,R92,R94,R96,R98		2.547039	50	7454870.155519
105A702263	Resistor	R10		2.547039	1	282340674.079668
105A703309	Resistor	R12		2.547039	1	282340674.079668
105A704729	Resistor	R112,R113,R114,R115,R213,R214,R215,R216,R217,R218,R219,R220,R26,R279,R280,R281,R282,R283,R284,R285,R286,R75,R78		2.547039	23	15826261.230290
105A704739	Resistor	R17,R61		2.547039	2	154078778.388085
105A706809	Resistor	R14		2.547039	1	282340674.079668
105A710009	Resistor	R23,R28,R36		2.547039	3	107020754.986850
105A720033	Resistor	R374		2.547039	1	282340674.079668
105A733009	Resistor	R424		2.547039	1	282340674.079668
105A747009	Resistor	R21		2.547039	1	282340674.079668

File Name: AIOT-VSSP01.rfp
 Assembly:
 Ref Des:
 Description:

Failure Rate: 8159.339367
 MTBF (hrs): 122,559
 Temperature: 30
 Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1113610191	Capacitor	EC1,EC5		1.128806	2	375289731.076049
1114622110	Capacitor	EC3		1.128806	1	704977644.692287
1114647291	Capacitor	EC4		1.128806	1	704977644.692287
1121501691	Capacitor	C11,C164,C165,C172,C177,C178,C181,C191,C22,C31,C32,C37,C38,C40,C43,C5,C75,C78,C79,C80,C82,C83,C84,C85		1.128806	24	35120617.936543
1122501880	Capacitor	C107		1.128806	1	704977644.692287
1122522890	Capacitor	C46		1.128806	1	704977644.692287
1123510060	Capacitor	C12,C13		1.128806	2	375289731.076049
1124415080	Capacitor	C155		1.128806	1	704977644.692287
1124427190	Capacitor	C87		1.128806	1	704977644.692287
1124510280	Capacitor	C158,C33,C8		1.128806	3	257514172.353070
1129710091	Capacitor	C71,C72,C81		1.128806	3	257514172.353070
11C1533890	Capacitor	C39,C45		1.128806	2	375289731.076049
11C2501790	Capacitor	C190,C192,C35		1.128806	3	257514172.353070
11C4501050	Capacitor	C148,C152,C16,C163,C17,C23		1.128806	6	133979725.056342
11C4510240	Capacitor	C56		1.128806	1	704977644.692287
11C4510480	Capacitor	C154		1.128806	1	704977644.692287
11C4547290	Capacitor	C36,C86		1.128806	2	375289731.076049
11C4547380	Capacitor	C188		1.128806	1	704977644.692287
11C4547730	Capacitor	C159		1.128806	1	704977644.692287
11C5501650	Capacitor	C151,C156,C160,C24,C6		1.128806	5	159367490.199266
11C5510230	Capacitor	C126,C127,C128,C129,C133,C134,C141,C142,C143,C144		1.128806	10	82101057.548118
11C5547420	Capacitor	C167		1.128806	1	704977644.692287
11C5547660	Capacitor	C25,C26		1.128806	2	375289731.076049
11C9510050	Capacitor	C168,C171,C175,C181,C184,C186,C53,C67,C76		1.128806	9	90863428.080946

File Name: AIOT-VSSP01.rfp
 Assembly:
 Ref Des:
 Description:

Failure Rate: 8159.339367
 MTBF (hrs): 122,559
 Temperature: 30
 Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
11E1501040	Capacitor	C108,C109,C110, C111,C112,C173, C193,C199,C200, C201,C202,C203,C59, C66,C68,C69,C88, C90,C92,C94,C96, C98		1.128806	22	38230892.707156
11E2501690	Capacitor	C1,C100,C101,C102, C103,C104,C105, C106,C113,C114, C115,C116,C117, C118,C119,C120, C121,C122,C123, C124,C125,C161, C162,C166,C170, C174,C176,C182, C183,C185,C187, C189,C194,C195, C196,C197,C198,C27, C28,C48,C49,C51, C52,C54,C55,C58, C60,C61,C70,C74, C77,C		1.128806	57	15044000.029504
11E2510060	Capacitor	C2,C3		1.128806	2	375289731.076049
11E2547630	Capacitor	C15,C157,C34		1.128806	3	257514172.353070
11E2610032	Capacitor	C19,C29,C30,C41, C42,C44		1.128806	6	133979725.056342
11E4501030	Capacitor	C7		1.128806	1	704977644.692287
11E4510021	Capacitor	C14,C149,C150,C153, C20,C21,C9		1.128806	7	115633865.771428

File Name: AIOT-VSSP01.rfp
 Assembly:
 Ref Des:
 Description:

Failure Rate: 8159.339367
 MTBF (hrs): 122,559
 Temperature: 30
 Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
11E9547630	Capacitor	C63,C73		1.128806	2	375289731.076049
11EB610040	Capacitor	C10,C179,C180,C4, C50		1.128806	5	159367490.199266
1211101504	Inductor	L2		4.944252	1	154760964.143460
1211110062	Inductor	L1		4.944252	1	154760964.143460
1212306030	Inductor	FB1,FB12,FB13		4.944252	3	57363284.375370
121230603N	Inductor	FB14		4.944252	1	154760964.143460
121230805D	Inductor	FB10,FB11,FB15,FB16,FB17,FB2,FB5,FB6,FB7,FB8,FB9		4.944252	11	16872203.304846
12123A000B	Inductor	FB3,FB4		4.944252	2	83201062.149749
1214612080	Inductor	L3		4.944252	1	154760964.143460
1233184330	Miscellaneous	Y1		19.200000	1	23844262.770939
1300043200	Semiconductor	D8		7.793411	1	92807310.010983
1300414848	Semiconductor	D1,D11,D12,D18,D19,D2,D20,D21,D22,D23,D29,D3,D4,D42,D70		7.793411	15	7809407.629947
1301000340	Semiconductor	D16,D24		7.793411	2	50578095.223398
1301000560	Semiconductor	D10,D51,D52,D53,D54,D55,D56,D57,D58,D71,D72,D73,D74,D75,D76,D77,D78,D79,D80,D81,D82,D83,D84,D85,D86,D87,D88,D89,D90,D91,D92,D93,D94,D95,D96,D97, D98		7.793411	37	3269392.510778
1301003640	Semiconductor	D6		7.793411	1	92807310.010983
1301005444	Semiconductor	D7		7.793411	1	92807310.010983
1301110040	Semiconductor	D9		7.793411	1	92807310.010983
1302008240	Semiconductor	D13		7.793411	1	92807310.010983
1305040241	Semiconductor	ESD1,ESD2,ESD4,ESD5,ESD7,ESD8, ESD9		7.793411	7	16052497.121446

File Name: AIOT-VSSP01.rfp
 Assembly:
 Ref Des:
 Description:

Failure Rate: 8159.339367
 MTBF (hrs): 122,559
 Temperature: 30
 Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1305120640	Semiconductor	ESD3		7.793411	1	92807310.010983
1305DFN100	Semiconductor	ESD6		7.793411	1	92807310.010983
1305Z30050	Semiconductor	D14,D15,D30 ,D31, D32,D33,D34 ,D35, D36,D37,D43 ,D44, D45,D46,D47 ,D48, D49,D50,D59 ,D60, D61,D62,D63 ,D64, D65,D66,D67 ,D68, D69		7.793411	29	4140586.240597
1305Z40240	Semiconductor	D25,D26,D27 ,D28, D38,D39,D40 ,D41,D5		7.793411	9	12694047.317505
1310039040	Semiconductor	IQ1,IQ2,IQ3, IQ4, IQ5,Q100,Q1 01,Q102, Q103,Q104, Q105, Q120,Q121, Q122, Q123,Q124, Q125, Q126,Q127, Q29,Q42, Q43,Q44,Q4 5,Q46, Q47,Q62,Q6 3,Q64, Q65,Q70,Q7 1,Q72, Q73,Q74,Q7 5,Q76, Q77,Q86,Q8 7,Q88, Q89,Q90,Q9 1,Q92, Q93,Q94,Q9 5,Q96, Q97,Q98,Q9 9		22.463360	52	811923.216110
1310390410	Semiconductor	Q16,Q17		22.463360	2	17315095.066101
1311009210	Semiconductor	Q11,Q12,Q1 8,Q19		22.463360	4	9270607.712006

File Name: AIOT-VSSP01.rfp
 Assembly:
 Ref Des:
 Description:

Failure Rate: 8159.339367
 MTBF (hrs): 122,559
 Temperature: 30
 Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1311054010	Semiconductor	Q110,Q111, Q112, Q113,Q114, Q115, Q116,Q117, Q78,Q79, Q80,Q81,Q8 2,Q83, Q84,Q85		22.463360	16	2533798.883137
1315044910	Semiconductor	Q48,Q49,Q5 0,Q51, Q52,Q53,Q6 6,Q67, Q68,Q69		22.463360	10	3960370.776745
1315076920	Semiconductor	Q106,Q107, Q108, Q109,Q118, Q119, Q128,Q129, Q130, Q131,Q34,Q 35,Q36, Q37,Q38,Q3 9,Q40, Q41,Q54,Q5 5,Q56, Q57,Q58,Q5 9,Q60, Q61		22.463360	26	1589867.643171
1315085370	Semiconductor	Q10,Q14,Q1 5,Q5,Q6, Q9		22.463360	6	6378891.324740
1315230410	Semiconductor	Q1,Q2,Q20,Q 21,Q22, Q23,Q25,Q2 6,Q27, Q28,Q3,Q4		22.463360	12	3332353.664911
1315700216	Semiconductor	Q24,Q30,Q3 1,Q32, Q33,Q8		22.463360	6	6378891.324740
1315762010	Semiconductor	Q13,Q7		22.463360	2	17315095.066101
141LMV3410	Integrated Circuit	U17,U19		43.803003	2	6834791.244197
142ADC1240	Integrated Circuit	U20		43.803003	1	11739202.588727
142CA64160	Integrated Circuit	U37,U38		43.803003	2	6834791.244197
142CA64240	Integrated Circuit	U22		43.803003	1	11739202.588727
142CA95540	Integrated Circuit	U10		43.803003	1	11739202.588727
142DS24820	Integrated Circuit	U39		43.803003	1	11739202.588727
142LV32570	Integrated Circuit	U2		43.803003	1	11739202.588727
1430021020	Integrated Circuit	U36		43.803003	1	11739202.588727
1430037900	Integrated Circuit	U7		43.803003	1	11739202.588727
14303221E0	Integrated Circuit	U23,U3		43.803003	2	6834791.244197
143LM317K0	Integrated Circuit	U6		43.803003	1	11739202.588727
1440007400	Integrated Circuit	U18		43.803003	1	11739202.588727

File Name: AIOT-VSSP01.rfp
 Assembly:
 Ref Des:
 Description:

Failure Rate: 8159.339367
 MTBF (hrs): 122,559
 Temperature: 30
 Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1459C1G000	Integrated Circuit	U31,U32,U33 U34, U35,U40,U41 U42, U43,U44		43.803003	10	1762784.467435
145A112440	Integrated Circuit	U24		43.803003	1	11739202.588727
14S1033901	Integrated Circuit	U21,U25		43.803003	2	6834791.244197
14S5A01400	Integrated Circuit	U8		43.803003	1	11739202.588727
14S5A86500	Integrated Circuit	U26,U27,U28 U29, U30		43.803003	5	3214211.402100
14S7035701	Integrated Circuit	U11,U12,U13 U14, U15,U16		43.803003	6	2750969.191556
14S9055500	Integrated Circuit	U9		43.803003	1	11739202.588727
14S9424500	Integrated Circuit	U1,U4,U5		43.803003	3	4923240.069161
1653003100	Connection	JP1,JP3,JP4,J P5, JP6		16.184835	5	9343344.843761
1653003101	Connection	JP2		16.184835	1	35685591.360212
165312022F	Connection	CN21,CN22		16.184835	2	20390152.380746
1653300102	Connection	JP2(1-2)		16.184835	1	35685591.360212
1653300104	Connection	JP1(1-2),JP3 (1-2), JP4(1- 2),JP5(2-3), JP6(2-3)		16.184835	5	9343344.843761
1654020004	Connection	CN18		16.184835	1	35685591.360212
1654409300	Connection	CN5		16.184835	1	35685591.360212
1655002020	Connection	CN9		16.184835	1	35685591.360212
1655004011	Connection	CN13,CN15,C N6		16.184835	3	14515880.849373
1655008020	Connection	CN1,CN2		16.184835	2	20390152.380746
1655102010	Connection	CN3,CN7		16.184835	2	20390152.380746
1655106110	Connection	CN4		16.184835	1	35685591.360212
1655306026	Connection	CN12		16.184835	1	35685591.360212
1655316025	Connection	CN11		16.184835	1	35685591.360212
1655320024	Connection	CN10,CN16		16.184835	2	20390152.380746
1655420020	Connection	CN20		16.184835	1	35685591.360212
1655424020	Connection	CN19		16.184835	1	35685591.360212
1655810030	Connection	CN14		16.184835	1	35685591.360212
1655906033	Connection	CN8		16.184835	1	35685591.360212
17512HF3F0	Relay	RELAY1		9.488968	1	45768358.189263