

# IMBA-Q77

## Reliability Prediction Report

### (MTBF)

Summary	Failure Rate: 17.684207 ppm MTBF: 56,548 Hours
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Issue date	Approval	Test Engineer
2012/05/10	Vincent Chen	Jessica Chou

# Reliability Prediction (MTBF)

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**I . Model Name:** IMBA-Q77 (9697AQ7701-D)

**II . Prediction Date:** May 10, 2012

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

**IV . Predicted by:** Jessica Chou

**V . Equipment:** Relex Ver.7.3 Visual Reliability Software

## VI. Simulation Environment:

- Temperature: 25 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 multiplier is 1,000,000.
- MTBF : MTBF is always specified in hours.

**VIII. Prediction Result:**

IMBA-Q77 (9697AQ7701-D):

- Failure Rate: 17.684207ppm

- MTBF: 56,548 (hour)

### AAEON Reliability Prediction Report

**Part Number** 9697QA7701-D  
**Reference Des**  
**Date** 05. 10, 2012  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temp. (°C)** 25.00



**Description** Top-level assembly  
**File Name** IMBA-Q77.RPJ  
**Time** 16:03  
**Failure Rate** 17.684207  
**MTBF** 56,548

Assembly Name	Part Number	Model	Method	Environment	Duty Cycle	Qty	Failure Rate	MTBF
IMBA-Q77	9697QA7701-D	Telcordia Issue 1	Method I Case 3	GF, GU - Ground Fixed, Uncontrolled	100.00	1.00	17.68	56547.63

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**File Name** IMBA-Q77.RPJ  
**Time** 16:03  
**Failure Rate** 17.684207  
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Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Quantity	Failure Rate, Unit	Failure Rate, %	MTBF, Unit
14S42Q7701	Integrated Circuit	U42	Telcordia Issue 1	Level I	14.70	1.00	0.059658	.3373	16762318.14
1121501691	Capacitor	BC1,BC10,BC100, BC101,BC102,BC103, BC104,BC105,BC106, BC107,BC108,BC109, BC11,BC110,BC111, BC112,BC113,BC114, BC116,BC117,BC12, BC120,BC121,BC122, BC123,BC124,BC126, BC127,BC128,BC13, BC132,BC135,BC136, BC137,BC138,BC139, BC14,BC140,BC14	Telcordia Issue 1	Level I		374.00	0.004535	9.5919	220487045.01
11C2510480	Capacitor	BC129,BC130,BC131, BC145,BC146,BC171, BC211,BC305,BC332	Telcordia Issue 1	Level I		9.00	0.004535	.2308	220487045.01
165300420L	Connection	CN7	Telcordia Issue 1	Level I		1.00	0.004552	.0257	219695067.68
1174518180	Capacitor	CP1,CP10,CP11,CP12, CP13,CP14,CP15, CP16,CP17,CP2,CP3, CP4,CP5,CP6,CP7, CP8,CP9	Telcordia Issue 1	Level I		17.00	0.005466	.5254	182961702.19
1121610180	Capacitor	C105,C12,C18,C21, C23,C24,C3,C303,C6, C65	Telcordia Issue 1	Level I		10.00	0.004535	.2565	220487045.01
11E1622060	Capacitor	C10,C11,C15,C4,C5, C9	Telcordia Issue 1	Level I		6.00	0.004535	.1539	220487045.01
1121501050	Capacitor	C13,C14	Telcordia Issue 1	Level I		2.00	0.004535	.0513	220487045.01
1129710091	Capacitor	C22,C28,C31,C34, C35,C38	Telcordia Issue 1	Level I		6.00	0.004535	.1539	220487045.01
1129722091	Capacitor	C25,C27,C32,C37	Telcordia Issue 1	Level I		4.00	0.004535	.1026	220487045.01
11E9501091	Capacitor	C103,C129,C146, C178,C179,C186, C194,C195,C197, C198,C200,C206, C217,C219,C220, C221,C222,C223, C224,C225,C226, C227,C228,C230, C234,C238,C243, C245,C246,C247, C248,C249,C251, C252,C253,C256, C257,C26,C260,C	Telcordia Issue 1	Level I		70.00	0.004535	1.7953	220487045.01

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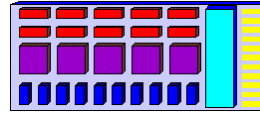


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**File Name** IMBA-Q77.RPJ  
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Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Quantity	Failure Rate, Unit	Failure Rate, %	MTBF, Unit
1124547190	Capacitor	C30,C41,C42,C43, C44,C46,C47,C48, C66,C67	Telcordia Issue 1	Level I		10.00	0.004535	.2565	220487045.01
1129701791	Capacitor	C202,C208,C236, C254,C285,C286, C287,C288,C290, C291,C292,C293, C294,C295,C296, C297,C304,C311, C312,C313,C314, C315,C316,C317, C318,C319,C320, C321,C322,C333, C359,C363,C364, C365,C366,C369, C370	Telcordia Issue 1	Level I		37.00	0.004535	.9489	220487045.01
1124427091	Capacitor	C201,C205,C269, C274,C54,C56	Telcordia Issue 1	Level I		6.00	0.004535	.1539	220487045.01
1124433090	Capacitor	C55,C62	Telcordia Issue 1	Level I		2.00	0.004535	.0513	220487045.01
11E1522680	Capacitor	C147,C327,C57,C58	Telcordia Issue 1	Level I		4.00	0.004535	.1026	220487045.01
11E2647650	Capacitor	C133,C68,C69,C71, C72,C73,C74,C83, C88	Telcordia Issue 1	Level I		9.00	0.004535	.2308	220487045.01
1129522790	Capacitor	C100,C104,C107, C110,C111,C116, C118,C122,C125, C130,C132,C134, C136,C137,C138, C140,C143,C144, C145,C149,C151, C163,C164,C180, C187,C70,C75,C76, C78,C81,C86,C92	Telcordia Issue 1	Level I		32.00	0.004535	.8207	220487045.01
11C4401880	Capacitor	C114,C139,C276,C79, C82,C84	Telcordia Issue 1	Level I		6.00	0.004535	.1539	220487045.01
1124410191	Capacitor	C85	Telcordia Issue 1	Level I		1.00	0.004535	.0256	220487045.01
11C1547890	Capacitor	C90	Telcordia Issue 1	Level I		1.00	0.004535	.0256	220487045.01
1124556280	Capacitor	C91	Telcordia Issue 1	Level I		1.00	0.004535	.0256	220487045.01
11E2501080	Capacitor	C101,C102,C141, C142,C301,C94,C95, C96,C97	Telcordia Issue 1	Level I		9.00	0.004535	.2308	220487045.01
11C4582190	Capacitor	C119,C99	Telcordia Issue 1	Level I		2.00	0.004535	.0513	220487045.01
1124522290	Capacitor	C106	Telcordia Issue 1	Level I		1.00	0.004535	.0256	220487045.01
1121647780	Capacitor	C108	Telcordia Issue 1	Level I		1.00	0.004535	.0256	220487045.01
11C1533890	Capacitor	C109,C121	Telcordia Issue 1	Level I		2.00	0.004535	.0513	220487045.01
11C4512290	Capacitor	C112	Telcordia Issue 1	Level I		1.00	0.004535	.0256	220487045.01

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1124433190	Capacitor	C113,C204	Telcordia Issue 1	Level I		2.00	0.004535	.0513	220487045.01
1124468090	Capacitor	C115	Telcordia Issue 1	Level I		1.00	0.004535	.0256	220487045.01
1129747091	Capacitor	C117,C289	Telcordia Issue 1	Level I		2.00	0.004535	.0513	220487045.01
1124533280	Capacitor	C120	Telcordia Issue 1	Level I		1.00	0.004535	.0256	220487045.01
11C1522480	Capacitor	C123	Telcordia Issue 1	Level I		1.00	0.004535	.0256	220487045.01
11E9647680	Capacitor	C150,C190,C203, C218,C239,C240, C241,C244,C261, C262,C270,C298, C302	Telcordia Issue 1	Level I		13.00	0.004535	.3334	220487045.01
1124522280	Capacitor	C196	Telcordia Issue 1	Level I		1.00	0.004535	.0256	220487045.01
11A4410280	Capacitor	C207	Telcordia Issue 1	Level I		1.00	0.004535	.0256	220487045.01
1124418090	Capacitor	C233,C237	Telcordia Issue 1	Level I		2.00	0.004535	.0513	220487045.01
1124522880	Capacitor	C280,C300	Telcordia Issue 1	Level I		2.00	0.004535	.0513	220487045.01
1122522890	Capacitor	C305	Telcordia Issue 1	Level I		1.00	0.004535	.0256	220487045.01
1654920305	Connection	DP2	Telcordia Issue 1	Level I		1.00	0.001138	.0064	878780270.71
1300054040	Semiconductor	D1,D13,D17	Telcordia Issue 1	Level I		3.00	0.023881	.4051	41874327.58
1305099140	Semiconductor	D2,D30,D31,D4,D5, D6,D8	Telcordia Issue 1	Level I		7.00	0.079603	3.1510	12562298.27
1300414843	Semiconductor	D3,D32,D33,D34,D63, D64,D65,D66,D67, D68,D69	Telcordia Issue 1	Level I		11.00	0.023881	1.4855	41874327.58
1305100541	Semiconductor	D10,D11,D12,D18, D19,D20,D21,D38, D39,D40,D41,D42, D43,D44,D45,D46, D47,D48,D49,D50, D51,D52,D53,D9	Telcordia Issue 1	Level I		24.00	0.023881	3.2410	41874327.58
1300581940	Semiconductor	D16,D29,D54,D70	Telcordia Issue 1	Level I		4.00	0.079603	1.8006	12562298.27
1301053040	Semiconductor	D35,D36	Telcordia Issue 1	Level I		2.00	0.023881	.2701	41874327.58
121230603Z	Inductor	FB1,FB10,FB11,FB2, FB3,FB4,FB6,FB7, FB8	Telcordia Issue 1	Level I		9.00	0.002268	.1154	440974090.03
1212308054	Resistor	FB5	Telcordia Issue 1	Level I		1.00	0.011379	.0643	87878027.07
12123C0010	Inductor	FB16,FB21,FB22, FB23,FB29,FB31, FB33,FB9	Telcordia Issue 1	Level I		8.00	0.002268	.1026	440974090.03
12123C0005	Resistor	FB12,FB13,FB14, FB15,FB17,FB18	Telcordia Issue 1	Level I		6.00	0.011379	.3861	87878027.07
1212306030	Resistor	FB20,FB24,FB26, FB28,FB30,FB32	Telcordia Issue 1	Level I		6.00	0.011379	.3861	87878027.07
121230805B	Inductor	FB27	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
1752300000	Miscellaneous	F1,F9	Telcordia Issue 1	Level I		2.00	0.003000	.0339	33333333.33







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**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temp. (°C)** 25.00



**Description** Top-level assembly  
**File Name** IMBA-Q77.RPJ  
**Time** 16:03  
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**MTBF** 56,548

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Quantity	Failure Rate, Unit	Failure Rate, %	MTBF, Unit
105A501039	Resistor	R106,R123,R138, R159,R172,R173, R174,R197,R214, R231,R241,R264, R280,R297,R312, R361,R377,R390, R392,R402,R411, R413,R416,R420, R427,R430,R432, R433,R434,R444, R445,R446,R45,R496, R503,R508,R510, R512,R514,R515,	Telcordia Issue 1	Level I		123.00	0.002268	1.5773	440974090.03
105A501539	Resistor	R103,R431,R46,R494, R594,R704,R714, R762	Telcordia Issue 1	Level I		8.00	0.002268	.1026	440974090.03
1059700001	Resistor	R247,R53	Telcordia Issue 1	Level I		2.00	0.002268	.0256	440974090.03
105A700003	Resistor	R151,R223,R236, R237,R238,R317, R352,R57,R60,R65	Telcordia Issue 1	Level I		10.00	0.002268	.1282	440974090.03
105A530113	Resistor	R58	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
105A501529	Resistor	R66,R70	Telcordia Issue 1	Level I		2.00	0.002268	.0256	440974090.03
1050502224	Resistor	R104,R109,R127, R135,R331,R362, R405,R406,R412, R414,R455,R490, R491,R641,R642, R846	Telcordia Issue 1	Level I		16.00	0.002268	.2052	440974090.03
105A702039	Resistor	R501,R782,R85	Telcordia Issue 1	Level I		3.00	0.002268	.0385	440974090.03
105A549919	Resistor	R105,R133,R220,R89	Telcordia Issue 1	Level I		4.00	0.002268	.0513	440974090.03
105A500139	Resistor	R115,R129,R130, R148,R153,R165, R175,R180,R182, R270,R273,R341, R418,R419,R421, R425,R429,R439, R449,R452,R469, R487,R492,R495, R498,R540,R581, R597,R609,R629, R632,R634,R640, R644,R701,R708, R716,R722,R726,	Telcordia Issue 1	Level I		54.00	0.002268	.6925	440974090.03
1050547004	Resistor	R134,R167	Telcordia Issue 1	Level I		2.00	0.002268	.0256	440974090.03

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**Temp. (°C)** 25.00



**Description** Top-level assembly  
**File Name** IMBA-Q77.RPJ  
**Time** 16:03  
**Failure Rate** 17.684207  
**MTBF** 56,548

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Quantity	Failure Rate, Unit	Failure Rate, %	MTBF, Unit
1050703334	Resistor	R147,R155,R743, R746	Telcordia Issue 1	Level I		4.00	0.002268	.0513	440974090.03
1050539004	Resistor	R157	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
1050502734	Resistor	R160,R533,R799, R842	Telcordia Issue 1	Level I		4.00	0.002268	.0513	440974090.03
1050508224	Resistor	R166,R181,R195, R198,R199,R200, R204,R205,R285, R290,R299,R302, R319,R322,R324, R338,R391,R393, R394,R395,R458, R475,R483,R484, R485,R493,R545, R565,R648,R652, R681,R686,R692, R749,R780	Telcordia Issue 1	Level I		35.00	0.002268	.4488	440974090.03
105A704709	Resistor	R170,R188,R189	Telcordia Issue 1	Level I		3.00	0.002268	.0385	440974090.03
105A702263	Resistor	R208,R209,R212, R358,R737	Telcordia Issue 1	Level I		5.00	0.002268	.0641	440974090.03
105A532433	Resistor	R210	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
105A702269	Resistor	R211,R249,R253, R254,R261,R262, R263,R267,R318, R372,R384,R479, R631,R633,R715, R718,R754	Telcordia Issue 1	Level I		17.00	0.002268	.2180	440974090.03
105A516933	Resistor	R215	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
1050533004	Resistor	R219,R784,R794, R795	Telcordia Issue 1	Level I		4.00	0.002268	.0513	440974090.03
105A510009	Resistor	R227,R235,R242, R246,R252,R277, R279,R295,R307, R400,R407,R408, R415,R532,R536, R787,R798,R840, R845	Telcordia Issue 1	Level I		19.00	0.002268	.2436	440974090.03
1050549934	Resistor	R228,R229,R308	Telcordia Issue 1	Level I		3.00	0.002268	.0385	440974090.03
1050551034	Resistor	R230	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
1050517804	Resistor	R232	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
105A514734	Resistor	R233	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
1050513724	Resistor	R239	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
1050501004	Resistor	R245,R313,R460, R497,R511,R546, R573	Telcordia Issue 1	Level I		7.00	0.002268	.0898	440974090.03
1050578714	Resistor	R248,R268,R278	Telcordia Issue 1	Level I		3.00	0.002268	.0385	440974090.03
105A514033	Resistor	R250	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
105A571513	Resistor	R251	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03

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1050518714	Resistor	R256,R258	Telcordia Issue 1	Level I		2.00	0.002268	.0256	440974090.03
1050727009	Resistor	R259,R271,R283	Telcordia Issue 1	Level I		3.00	0.002268	.0385	440974090.03
105A514733	Resistor	R260	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
1050524909	Resistor	R265,R321	Telcordia Issue 1	Level I		2.00	0.002268	.0256	440974090.03
105A514023	Resistor	R266	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
1050513714	Resistor	R272	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
105A573213	Resistor	R275,R289	Telcordia Issue 1	Level I		2.00	0.002268	.0256	440974090.03
105A527413	Resistor	R281	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
105A768009	Resistor	R286,R311	Telcordia Issue 1	Level I		2.00	0.002268	.0256	440974090.03
105A566519	Resistor	R288	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
1050505604	Resistor	R293	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
105A502123	Resistor	R296,R320	Telcordia Issue 1	Level I		2.00	0.002268	.0256	440974090.03
1050511009	Resistor	R298,R343	Telcordia Issue 1	Level I		2.00	0.002268	.0256	440974090.03
105A575009	Resistor	R301,R567,R646	Telcordia Issue 1	Level I		3.00	0.002268	.0385	440974090.03
105A702429	Resistor	R306	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
105A502039	Resistor	R323,R576,R577	Telcordia Issue 1	Level I		3.00	0.002268	.0385	440974090.03
105A505109	Resistor	R332,R333,R345, R350,R351,R356, R389	Telcordia Issue 1	Level I		7.00	0.002268	.0898	440974090.03
1050524904	Resistor	R334,R472	Telcordia Issue 1	Level I		2.00	0.002268	.0256	440974090.03
1050544264	Resistor	R336	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
1050548714	Resistor	R403	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
105A536529	Resistor	R404	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
1050582514	Resistor	R409	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
105A524903	Resistor	R417	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
105A501003	Resistor	R422,R513	Telcordia Issue 1	Level I		2.00	0.002268	.0256	440974090.03
105A515034	Resistor	R426	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
105A515003	Resistor	R428	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
105A702053	Resistor	R438	Telcordia Issue 1	Level I		1.00	0.013606	.0769	73495681.67
105A518233	Resistor	R456	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
105A702209	Resistor	R463	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
105A501053	Resistor	R468	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
1050590964	Resistor	R486	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
1050504760	Resistor	R489	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
1050538314	Resistor	R507	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
105A511313	Resistor	R522	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
105A515419	Resistor	R525	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03

**AAEON Reliability Prediction Report**

**Part Number** 9697QA7701-D  
**Reference Des**  
**Date** 05. 10, 2012  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temp. (°C)** 25.00



**Description** Top-level assembly  
**File Name** IMBA-Q77.RPJ  
**Time** 16:03  
**Failure Rate** 17.684207  
**MTBF** 56,548

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Quantity	Failure Rate, Unit	Failure Rate, %	MTBF, Unit
105A703329	Resistor	R528	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
105A512009	Resistor	R562	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
1050520004	Resistor	R563	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
105A502003	Resistor	R564	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
105A549969	Resistor	R566,R649	Telcordia Issue 1	Level I		2.00	0.002268	.0256	440974090.03
105A701059	Resistor	R579	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
105A701069	Resistor	R580	Telcordia Issue 1	Level I		1.00	0.013606	.0769	73495681.67
105A739039	Resistor	R582,R583	Telcordia Issue 1	Level I		2.00	0.002268	.0256	440974090.03
105A702729	Resistor	R595,R669	Telcordia Issue 1	Level I		2.00	0.002268	.0256	440974090.03
1050512124	Resistor	R610,R619,R620, R628,R637,R647	Telcordia Issue 1	Level I		6.00	0.002268	.0769	440974090.03
105A537463	Resistor	R614	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
1050701504	Resistor	R638,R639,R665, R667	Telcordia Issue 1	Level I		4.00	0.002268	.0513	440974090.03
1050504734	Resistor	R651,R675,R727, R728	Telcordia Issue 1	Level I		4.00	0.002268	.0513	440974090.03
105A501129	Resistor	R721,R736	Telcordia Issue 1	Level I		2.00	0.002268	.0256	440974090.03
1050522004	Resistor	R732	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
105A506823	Resistor	R751	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
105A707529	Resistor	R752,R767,R768	Telcordia Issue 1	Level I		3.00	0.002268	.0385	440974090.03
105A501503	Resistor	R764	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
1050700334	Resistor	R107,R766	Telcordia Issue 1	Level I		2.00	0.002268	.0256	440974090.03
1050551004	Resistor	R779	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
105A500239	Resistor	R786,R803	Telcordia Issue 1	Level I		2.00	0.002268	.0256	440974090.03
1050503924	Resistor	R793	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
105A710039	Resistor	R804,R808,R809	Telcordia Issue 1	Level I		3.00	0.002268	.0385	440974090.03
11E9610080	Capacitor	TC10,TC3,TC4,TC5, TC6,TC7,TC8,TC9	Telcordia Issue 1	Level I		8.00	0.004535	.2052	220487045.01
14S3066200	Integrated Circuit	U1	Telcordia Issue 1	Level I	18.50	1.00	0.212299	1.2005	4710340.99
14S4048502	Integrated Circuit	U16,U8	Telcordia Issue 1	Level I		2.00	0.059366	.6714	16844654.92
14S4021301	Integrated Circuit	U11	Telcordia Issue 1	Level I		1.00	0.059366	.3357	16844654.92
14S5A12506	Integrated Circuit	U12	Telcordia Issue 1	Level I		1.00	0.026183	.1481	38193355.79
14S9144200	Integrated Circuit	U13	Telcordia Issue 1	Level I		1.00	0.026183	.1481	38193355.79
14S4258300	Integrated Circuit	U14	Telcordia Issue 1	Level I	21.10	1.00	0.083384	.4715	11992707.52
14S4257900	Integrated Circuit	U17	Telcordia Issue 1	Level I	15.40	1.00	0.061924	.3502	16148783.64
14S5A01400	Integrated Circuit	U18	Telcordia Issue 1	Level I		1.00	0.059366	.3357	16844654.92
14S6308002	Integrated Circuit	U19	Telcordia Issue 1	Level I		1.00	0.035882	.2029	27868824.73
14S5812502	Integrated Circuit	U20	Telcordia Issue 1	Level I		1.00	0.026183	.1481	38193355.79
14S5A23200	Integrated Circuit	U25,U29,U43, U47	Telcordia Issue 1	Level I		4.00	0.026183	.5922	38193355.79

**AAEON Reliability Prediction Report**

**Part Number** 9697QA7701-D  
**Reference Des**  
**Date** 05. 10, 2012  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temp. (°C)** 25.00



**Description** Top-level assembly  
**File Name** IMBA-Q77.RPJ  
**Time** 16:03  
**Failure Rate** 17.684207  
**MTBF** 56,548

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Quantity	Failure Rate, Unit	Failure Rate,%	MTBF, Unit
14S5A23200	Integrated Circuit	U21	Telcordia Issue 1	Level I	22.20	1.00	0.088205	.4988	11337285.51
14S9661200	Integrated Circuit	U22,U23,U24,U30	Telcordia Issue 1	Level I		4.00	0.059366	1.3428	16844654.92
14S5A01430	Integrated Circuit	U26	Telcordia Issue 1	Level I		1.00	0.026183	.1481	38193355.79
14S3636400	Integrated Circuit	U27	Telcordia Issue 1	Level I		1.00	0.026183	.1481	38193355.79
14S3587000	Integrated Circuit	U28	Telcordia Issue 1	Level I		1.00	0.059366	.3357	16844654.92
14S4121602	Integrated Circuit	U31	Telcordia Issue 1	Level I		1.00	0.059366	.3357	16844654.92
14S1035801	Integrated Circuit	U33,U38,U59	Telcordia Issue 1	Level I		3.00	0.059366	1.0071	16844654.92
1314108412	Integrated Circuit	U35	Telcordia Issue 1	Level I		1.00	0.059366	.3357	16844654.92
14S3801400	Integrated Circuit	U36	Telcordia Issue 1	Level I	10.70	1.00	0.126388	.7147	7912146.18
14S4963500	Integrated Circuit	U41	Telcordia Issue 1	Level I		1.00	0.059366	.3357	16844654.92
14S2634100	Integrated Circuit	U52	Telcordia Issue 1	Level I		1.00	0.026183	.1481	38193355.79
1314917314	Integrated Circuit	U53	Telcordia Issue 1	Level I		1.00	0.059366	.3357	16844654.92
14S2750100	Integrated Circuit	U54	Telcordia Issue 1	Level I		1.00	0.059366	.3357	16844654.92
14S4081102	Integrated Circuit	U58	Telcordia Issue 1	Level I		1.00	0.026183	.1481	38193355.79
14S5912300	Integrated Circuit	U60	Telcordia Issue 1	Level I		1.00	0.026183	.1481	38193355.79
1314043113	Integrated Circuit	VR1,VR2	Telcordia Issue 1	Level I		2.00	0.059366	.6714	16844654.92
123132505D	Miscellaneous	X1,X2,Y1	Telcordia Issue 1	Level I		3.00	0.150000	2.5446	6666666.67
1231332721	Miscellaneous	X3	Telcordia Issue 1	Level I		1.00	0.150000	.8482	6666666.67
11G235210611390	Capacitor	C16,C210,TC1,TC16,TC17,TC18,TC19,TC2,TC21,TC22,TC23,TC24,TC25,TC27,TC28,TC32,TC33,TC34,TC35,TC36,TC37,TC38,TC39,TC40,TC41,TC42,TC43,TC44,TC45	Telcordia Issue 1	Level I		29.00	0.004535	.7438	220487045.01
11G235222625320	Capacitor	C124,C126,C127,C128,C152,C153,C154,C155,C156,C157,C158,C159,C160,C165,C166,C167,C168,C169,C170,C171,C172,C173,C174,C175,C176,C177,C181,C182,C183,C184,C185,C189,C192,C212,C213,C231,C235,C33,C335,C	Telcordia Issue 1	Level I		47.00	0.004535	1.2054	220487045.01

### AAEON Reliability Prediction Report

**Part Number** 9697QA7701-D  
**Reference Des**  
**Date** 05. 10, 2012  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temp. (°C)** 25.00



**Description** Top-level assembly  
**File Name** IMBA-Q77.RPJ  
**Time** 16:03  
**Failure Rate** 17.684207  
**MTBF** 56,548

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Quantity	Failure Rate, Unit	Failure Rate, %	MTBF, Unit
1752002700	Miscellaneous	F2,F4,F5,F6,F7,F8, FS1,FS2,FS3	Telcordia Issue 1	Level I		9.00	0.003000	.1527	333333333.33
1305040241	Semiconductor	D14,D15,D22,D23, D24,D25,D26,D27, D55,D56,D57,D58, D59,D60,D61,D62	Telcordia Issue 1	Level I		16.00	0.023881	2.1607	41874327.58
14S4362707	Integrated Circuit	U37	Telcordia Issue 1	Level I		1.00	0.026183	.1481	38193355.79
1059700101	Resistor	R309	Telcordia Issue 1	Level I		1.00	0.002268	.0128	440974090.03
1651611550	Connection	U32	Telcordia Issue 1	Level I	11.60	1.00	0.002039	.0115	490339787.01
121110476V	Inductor	L9	Telcordia Issue 1	Level I		1.00	0.086173	.4873	11604581.32
14S6201280	Integrated Circuit	U48	Telcordia Issue 1	Level I		1.00	0.026183	.1481	38193355.79
1124418190	Capacitor	C371	Telcordia Issue 1	Level I		1.00	0.004535	.0256	220487045.01
1540722280	Resistor	RN3,RN4,RN5,RN6	Telcordia Issue 1	Level I		4.00	0.006246	.1413	160102772.00
1540722080	Resistor	RN7,RN8,RN9	Telcordia Issue 1	Level I		3.00	0.006246	.1060	160102772.00
11E2510060	Capacitor	TC11,TC12,TC13, TC14,TC15	Telcordia Issue 1	Level I		5.00	0.004535	.1282	220487045.01
12G08000504V	Connection	CHASSIS_FAN1, CPU_FAN1,SYS_FAN1	Telcordia Issue 1	Level I		3.00	0.001138	.0193	878780270.71
1655404020	Connection	ATX1	Telcordia Issue 1	Level I		1.00	0.002276	.0129	439390135.35
1655424020	Connection	ATX2	Telcordia Issue 1	Level I		1.00	0.013655	.0772	73231689.23
1759100002	Miscellaneous	BZ1	Telcordia Issue 1	Level I		1.00	0.150000	.8482	6666666.67
165320820B	Connection	CN5	Telcordia Issue 1	Level I		1.00	0.009104	.0515	109847533.84
1653002100	Connection	CN6	Telcordia Issue 1	Level I		1.00	0.001138	.0064	878780270.71
1653205203	Connection	COM2,COM3,COM4, COM5,COM6,DIO1	Telcordia Issue 1	Level I		6.00	0.005690	.1930	175756054.14
16515C0499	Connection	DIMM1,DIMM3	Telcordia Issue 1	Level I		2.00	0.001138	.0129	878780270.71
16515C0498	Connection	DIMM2,DIMM4	Telcordia Issue 1	Level I		2.00	0.001138	.0129	878780270.71
1654910305	Connection	DP1	Telcordia Issue 1	Level I		1.00	0.022759	.1287	43939013.54
1119647191	Capacitor	EC1,EC10,EC11,EC12, EC14,EC15,EC2,EC27, EC28,EC43,EC49, EC50,EC54,EC58, EC64,EC67,EC8,EC9	Telcordia Issue 1	Level I		18.00	0.071121	7.2391	14060484.33
1112633190	Capacitor	EC3,EC4	Telcordia Issue 1	Level I		2.00	0.042673	.4826	23434140.55
1181647112	Capacitor	EC13,EC21,EC5,EC7	Telcordia Issue 1	Level I		4.00	0.004535	.1026	220487045.01
1169682192	Capacitor	EC16,EC17,EC18, EC19,EC20,EC22, EC25,EC26,EC29, EC30,EC33,EC36, EC37,EC39,EC41, EC42,EC51,EC55, EC57	Telcordia Issue 1	Level I		19.00	0.005466	.5872	182961702.19



### AAEON Reliability Prediction Report

**Part Number** 9697QA7701-D  
**Reference Des**  
**Date** 05. 10, 2012  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temp. (°C)** 25.00



**Description** Top-level assembly  
**File Name** IMBA-Q77.RPJ  
**Time** 16:03  
**Failure Rate** 17.684207  
**MTBF** 56,548

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Quantity	Failure Rate, Unit	Failure Rate, %	MTBF, Unit
111961029D	Capacitor	EC31,EC35,EC38, EC52,EC62,EC66	Telcordia Issue 1	Level I		6.00	0.071121	2.4130	14060484.33
1111622102	Capacitor	EC32,EC34,EC65	Telcordia Issue 1	Level I		3.00	0.042673	.7239	23434140.55
1169656132	Capacitor	EC53,EC59,EC60	Telcordia Issue 1	Level I		3.00	0.005466	.0927	182961702.19
1111610194	Capacitor	EC63	Telcordia Issue 1	Level I		1.00	0.042673	.2413	23434140.55
1653004200	Connection	FP1,FP2	Telcordia Issue 1	Level I		2.00	0.004552	.0515	219695067.68
1653300100	Connection	FP2(5-7)	Telcordia Issue 1	Level I		1.00	0.001138	.0064	878780270.71
1653006101	Connection	IR1	Telcordia Issue 1	Level I		1.00	0.003414	.0193	292926756.90
1653003100	Connection	JP1	Telcordia Issue 1	Level I		1.00	0.001138	.0064	878780270.71
1653003101	Connection	JP3	Telcordia Issue 1	Level I		1.00	0.001707	.0097	585853513.81
1653300101	Connection	JP1(1-2)	Telcordia Issue 1	Level I		1.00	0.001138	.0064	878780270.71
1653300102	Connection	JP3(1-2)	Telcordia Issue 1	Level I		1.00	0.001138	.0064	878780270.71
1654612307	Connection	KBMS1	Telcordia Issue 1	Level I		1.00	0.001138	.0064	878780270.71
1653213203	Connection	LPT1	Telcordia Issue 1	Level I		1.00	0.014793	.0837	67598482.36
1211105674	Inductor	L10,L15	Telcordia Issue 1	Level I		2.00	0.086173	.9746	11604581.32
1211105674	Inductor	L18	Telcordia Issue 1	Level I	10.80	1.00	0.105698	.5977	9460947.04
1211103372	Inductor	L11,L12	Telcordia Issue 1	Level I		2.00	0.002268	.0256	440974090.03
1211103372	Inductor	L13	Telcordia Issue 1	Level I	11.10	1.00	0.002797	.0158	357555071.76
1652522207	Connection	USB LAN1	Telcordia Issue 1	Level I		1.00	0.022759	.1287	43939013.54
1652532205	Connection	USB LAN2	Telcordia Issue 1	Level I		1.00	0.022759	.1287	43939013.54
1653005200	Connection	USB1,USB2,USB3	Telcordia Issue 1	Level I		3.00	0.022759	.3861	43939013.54
165321020D	Connection	USB4	Telcordia Issue 1	Level I		1.00	0.022759	.1287	43939013.54
12G14003613H	Connection	AUDIO1	Telcordia Issue 1	Level I		1.00	0.001138	.0064	878780270.71
12G20010020F	Connection	BT1	Telcordia Issue 1	Level I		1.00	0.001138	.0064	878780270.71
1654282208	Connection	PCIE_1	Telcordia Issue 1	Level I		1.00	0.001138	.0064	878780270.71
1654232202	Connection	PCIE_2	Telcordia Issue 1	Level I		1.00	0.001138	.0064	878780270.71
1654218207	Connection	PCIE_3,PCIE_4	Telcordia Issue 1	Level I		2.00	0.001138	.0129	878780270.71
1654260211	Connection	PCI1,PCI2,PCI3	Telcordia Issue 1	Level I		3.00	0.001138	.0193	878780270.71
1654439502	Connection	DVI/COM1	Telcordia Issue 1	Level I		1.00	0.001138	.0064	878780270.71
1654907003	Connection	SATA1,SATA2	Telcordia Issue 1	Level I		2.00	0.022759	.2574	43939013.54
12G15705007X	Connection	SATA3,SATA4,SATA5, SATA6	Telcordia Issue 1	Level I		4.00	0.001138	.0257	878780270.71