

# HSB-CV1P

## Reliability Prediction Report

### (MTBF)

Summary	Failure Rate: 11.309417 ppm MTBF: 88,422 Hours
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Issue date	Approval	Test Engineer
2012/07/16	Tom Lin	Jessica Chou

# Reliability Prediction (MTBF)

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**I . Model Name:** HSB-CV1P (9697CV1P02-D)

**II . Prediction Date:** Jul. 16, 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:

HSB-CV1P (Not include FAN):

- Failure Rate: 11.309417ppm
- MTBF: 88,422 (hour)

Below component value was provided by the supplier:

- (TF)Fan+HeatSink.60\*60\*22mm.12V.for EMB-LN8T.C&C.CEFF0760602209-00  
LIFE EXPECTANCE: 70,000 hours continuous operation at 40°C w/ 15~65%RH  
LIFE: Temperature: Max, operating temperature  
Power: Operating  
Duration: 1,000 hours Min.

**AAEON Reliability Prediction Report**

**Part Number** 9697CV1P02-D  
**Reference Des**  
**Date** 07. 16, 2012  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temp. (°C)** 25.00

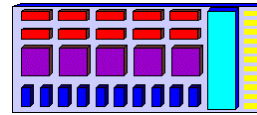


**Description** Top-level assembly  
**File Name** HSB-CV1P.RPJ  
**Time** 11:01  
**Failure Rate** 11.309417  
**MTBF** 88,422

Assembly Name	Part Number	Model	Method	Environment	Duty Cycle	Qty	Failure Rate	MTBF
HSB-CV1P	9697CV1P02-D	Telcordia Issue 1	Method I Case 3	GF, GU - Ground Fixed, Uncontrolled	100.00	1.00	11.31	88421.89

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**Time** 11:01  
**Failure Rate** 11.309417  
**MTBF** 88,422

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Quantity	Failure Rate, Unit	Failure Rate, %	MTBF, Unit
1121501691	Capacitor	BC1,BC10,BC101, BC102,BC103,BC104, BC105,BC106,BC107, BC108,BC109,BC11, BC110,BC111,BC112, BC113,BC114,BC115, BC116,BC117,BC118, BC119,BC12,BC120, BC121,BC122,BC123, BC124,BC125,BC126, BC127,BC129,BC13, BC130,BC131,BC132, BC133,BC134,BC1	Telcordia Issue 1	Level I		127.00	0.004535	5.0931	220487045.01
11C2510480	Capacitor	BC143,BC144,BC149, BC150,BC87,BC88, BC89,BC90,BC91, BC92	Telcordia Issue 1	Level I		10.00	0.004535	.4010	220487045.01
1214309006	Inductor	CH1,CH2,CH3,CH4, CH5,CH6,CH7,CH8	Telcordia Issue 1	Level I		8.00	0.002268	.1604	440974090.03
1654030003	Connection	CN2	Telcordia Issue 1	Level I		1.00	0.017069	.1509	58585351.38
1174522180	Capacitor	CP1,CP2,CP3,CP4, CP5,CP6,CP7,CP8, CP9	Telcordia Issue 1	Level I		9.00	0.005466	.4350	182961702.19
1174518180	Capacitor	CP10,CP11,CP12, CP13	Telcordia Issue 1	Level I		4.00	0.005466	.1933	182961702.19
11E9501091	Capacitor	C1,C10,C11,C12,C14, C144,C145,C149,C15, C150,C152,C21,C22, C23,C24,C25,C28, C32,C33,C35,C36, C37,C39,C4,C41,C42, C43,C44,C45,C49, C50,C51,C52,C53, C54,C55,C56,C57, C58,C59,C6,C60,C63, C64,C65,C66,C67, C68,C7,C9,C93	Telcordia Issue 1	Level I		51.00	0.004535	2.0453	220487045.01
1124418090	Capacitor	C2,C3	Telcordia Issue 1	Level I		2.00	0.004535	.0802	220487045.01
11E9622050	Capacitor	C119,C122,C13,C131, C148,C19,C20,C26, C30,C8,C94	Telcordia Issue 1	Level I		11.00	0.004535	.4411	220487045.01
1129622690	Capacitor	C16,C17,C18,C27, C34,C38,C40,C69, C70	Telcordia Issue 1	Level I		9.00	0.004535	.3609	220487045.01
11E9647680	Capacitor	C121,C130,C153,C29, C31,C46	Telcordia Issue 1	Level I		6.00	0.004535	.2406	220487045.01
1129710091	Capacitor	C138,C47,C48,C88, C89,C90	Telcordia Issue 1	Level I		6.00	0.004535	.2406	220487045.01

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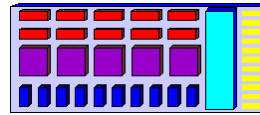


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Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Quantity	Failure Rate, Unit	Failure Rate, %	MTBF, Unit
1129701791	Capacitor	C109,C110,C111, C112,C113,C114, C115,C116,C126, C127,C135,C136, C147,C154,C155, C158,C159,C62	Telcordia Issue 1	Level I		18.00	0.004535	.7219	220487045.01
1124427091	Capacitor	C118,C120,C128, C129,C143,C76,C77, C81,C82,C91,C92	Telcordia Issue 1	Level I		11.00	0.004535	.4411	220487045.01
1129710391	Capacitor	C151,C78,C95	Telcordia Issue 1	Level I		3.00	0.004535	.1203	220487045.01
1122522890	Capacitor	C140,C141,C80,C83, C84	Telcordia Issue 1	Level I		5.00	0.004535	.2005	220487045.01
11E9722090	Capacitor	C85,C86,C87	Telcordia Issue 1	Level I		3.00	0.004535	.1203	220487045.01
1124418190	Capacitor	C96	Telcordia Issue 1	Level I		1.00	0.004535	.0401	220487045.01
1124410191	Capacitor	C100,C97,C98,C99	Telcordia Issue 1	Level I		4.00	0.004535	.1604	220487045.01
1189615151	Capacitor	C101	Telcordia Issue 1	Level I		1.00	0.004535	.0401	220487045.01
11E1622060	Capacitor	C102,C103,C104	Telcordia Issue 1	Level I		3.00	0.004535	.1203	220487045.01
1124547190	Capacitor	C105,C106,C107, C108,C123,C124, C125,C132,C133, C134	Telcordia Issue 1	Level I		10.00	0.004535	.4010	220487045.01
11C9501050	Capacitor	C137	Telcordia Issue 1	Level I		1.00	0.004535	.0401	220487045.01
11E2501080	Capacitor	C139,C142,C160	Telcordia Issue 1	Level I		3.00	0.004535	.1203	220487045.01
11C4547290	Capacitor	C156,C157	Telcordia Issue 1	Level I		2.00	0.004535	.0802	220487045.01
11E2522060	Capacitor	C161,C162	Telcordia Issue 1	Level I		2.00	0.004535	.0802	220487045.01
1124510280	Capacitor	C163,C164	Telcordia Issue 1	Level I		2.00	0.004535	.0802	220487045.01
11C4522190	Capacitor	C165,C168	Telcordia Issue 1	Level I		2.00	0.004535	.0802	220487045.01
1124468090	Capacitor	C166,C167	Telcordia Issue 1	Level I		2.00	0.004535	.0802	220487045.01
11E1522680	Capacitor	C169,C170	Telcordia Issue 1	Level I		2.00	0.004535	.0802	220487045.01
16515A2995	Connection	DIMM1	Telcordia Issue 1	Level I		1.00	0.001138	.0101	878780270.71
1301005444	Semiconductor	D1,D10,D11,D2,D3, D6	Telcordia Issue 1	Level I		6.00	0.023881	1.2670	41874327.58
1301053040	Semiconductor	D4,D8	Telcordia Issue 1	Level I		2.00	0.023881	.4223	41874327.58
1305080040	Semiconductor	D12,D13,D14,D15, D16,D17,D18,D19, D20,D21,D22,D23, D24,D25,D28,D29, D30,D31,D32,D33, D34,D35,D43,D44,D5	Telcordia Issue 1	Level I		25.00	0.023881	5.2790	41874327.58
1301005443	Semiconductor	D37,D7	Telcordia Issue 1	Level I		2.00	0.027212	.4812	36747840.84
1300414843	Semiconductor	D9	Telcordia Issue 1	Level I		1.00	0.023881	.2112	41874327.58
1304300140	Semiconductor	D26	Telcordia Issue 1	Level I		1.00	0.004877	.0431	205063180.81
1301005442	Semiconductor	D27,D36,D38	Telcordia Issue 1	Level I		3.00	0.023881	.6335	41874327.58

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**Temp. (°C)** 25.00



**Description** Top-level assembly  
**File Name** HSB-CV1P.RPJ  
**Time** 11:01  
**Failure Rate** 11.309417  
**MTBF** 88,422

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Quantity	Failure Rate, Unit	Failure Rate,%	MTBF, Unit
1305099140	Semiconductor	D39,D40	Telcordia Issue 1	Level I		2.00	0.079603	1.4077	12562298.27
1304101340	Semiconductor	D41	Telcordia Issue 1	Level I		1.00	0.004877	.0431	205063180.81
1304001340	Semiconductor	D42	Telcordia Issue 1	Level I		1.00	0.004877	.0431	205063180.81
1181610180	Capacitor	EC8	Telcordia Issue 1	Level I		1.00	0.004535	.0401	220487045.01
1212306030	Resistor	FB1,FB11,FB12,FB13, FB14,FB15,FB16, FB18,FB19,FB20, FB21,FB22,FB3,FB4, FB5,FB9	Telcordia Issue 1	Level I		16.00	0.011379	1.6099	87878027.07
1212306031	Inductor	FB2	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
1212306035	Inductor	FB6,FB7,FB8	Telcordia Issue 1	Level I		3.00	0.002268	.0602	440974090.03
1212308054	Resistor	FB17,FB23,FB24	Telcordia Issue 1	Level I		3.00	0.011379	.3019	87878027.07
1752001601	Miscellaneous	F1,F2,F3,F4,FS1, FS3	Telcordia Issue 1	Level I		6.00	0.003000	.1592	333333333.33
1752000501	Miscellaneous	FS2	Telcordia Issue 1	Level I		1.00	0.003000	.0265	333333333.33
1211100114	Inductor	L4,L5,L6	Telcordia Issue 1	Level I		3.00	0.002268	.0602	440974090.03
1211100160	Inductor	L7	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
121110226U	Inductor	L8,L9	Telcordia Issue 1	Level I		2.00	0.002268	.0401	440974090.03
121110226C	Inductor	L10	Telcordia Issue 1	Level I		1.00	0.086173	.7620	11604581.32
121110156A	Inductor	L11,L12,L13	Telcordia Issue 1	Level I		3.00	0.086173	2.2859	11604581.32
121110106Q	Inductor	L14	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
1310390413	Semiconductor	Q1,Q2,Q21,Q25,Q32, Q5,Q6	Telcordia Issue 1	Level I		7.00	0.023881	1.4781	41874327.58
1315030110	Semiconductor	Q3,Q4	Telcordia Issue 1	Level I		2.00	0.000000	.0000	.00
1315230511	Semiconductor	Q12	Telcordia Issue 1	Level I		1.00	0.079603	.7039	12562298.27
1315700216	Semiconductor	Q10,Q11,Q13,Q14, Q19,Q20,Q23,Q24, Q26,Q27,Q28,Q29, Q36,Q37,Q39,Q40,Q7, Q8,Q9	Telcordia Issue 1	Level I		19.00	0.079603	13.3735	12562298.27
1315700212	Semiconductor	Q15,Q16,Q17	Telcordia Issue 1	Level I		3.00	0.079603	2.1116	12562298.27
1311390612	Semiconductor	Q18,Q22,Q33	Telcordia Issue 1	Level I		3.00	0.023881	.6335	41874327.58
1315668012	Semiconductor	Q34,Q38	Telcordia Issue 1	Level I		2.00	0.023881	.4223	41874327.58
1315230410	Semiconductor	Q35	Telcordia Issue 1	Level I		1.00	0.159207	1.4077	6281149.14
1315762010	Semiconductor	Q41,Q42	Telcordia Issue 1	Level I		2.00	0.000000	.0000	.00
1315700211	Semiconductor	Q70	Telcordia Issue 1	Level I		1.00	0.079603	.7039	12562298.27
1540782282	Resistor	RN1,RN2,RN3,RN4, RN5,RN6,RP3	Telcordia Issue 1	Level I		7.00	0.012492	.7732	80051386.00
1540733085	Resistor	RP1,RP12,RP13,RP2, RP4,RP5,RP6,RP7, RP8,RP9	Telcordia Issue 1	Level I		10.00	0.006246	.5523	160102772.00
1540727284	Resistor	RP10,RP11,RP14, RP15	Telcordia Issue 1	Level I		4.00	0.006246	.2209	160102772.00
1540710280	Resistor	RP16,RP17	Telcordia Issue 1	Level I		2.00	0.006246	.1105	160102772.00

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**Temp. (°C)** 25.00



**Description** Top-level assembly  
**File Name** HSB-CV1P.RPJ  
**Time** 11:01  
**Failure Rate** 11.309417  
**MTBF** 88,422

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Quantity	Failure Rate, Unit	Failure Rate, %	MTBF, Unit
106B501032	Resistor	RT1,RT2,RT3,RT4	Telcordia Issue 1	Level I		4.00	0.011379	.4025	87878027.07
105A702229	Resistor	R1,R180,R181,R182, R2,R207,R220,R221, R3,R35,R37,R4,R441, R6,R7,R85,R86,R87, R89	Telcordia Issue 1	Level I		19.00	0.002268	.3810	440974090.03
105A700009	Resistor	R100,R145,R149, R150,R170,R172,R18, R189,R19,R192,R206, R225,R237,R238, R241,R273,R274, R295,R354,R40,R403, R417,R429,R430, R433,R465,R466, R468,R469,R472, R474,R477,R48,R49, R496,R498,R5,R526, R546,R548,R55,R56, R57,R58,R59,R62	Telcordia Issue 1	Level I		56.00	0.002268	1.1229	440974090.03
1050507524	Resistor	R8	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
105A501039	Resistor	R105,R108,R110, R122,R123,R127, R133,R135,R136, R137,R138,R141, R142,R143,R146, R147,R148,R158, R159,R160,R184, R185,R186,R187, R188,R202,R203, R204,R216,R230, R232,R24,R243,R245, R247,R248,R249, R251,R252,R253,	Telcordia Issue 1	Level I		84.00	0.002268	1.6843	440974090.03
1050510034	Resistor	R10,R11,R125,R209, R212,R264,R421, R428,R453,R454, R464	Telcordia Issue 1	Level I		11.00	0.002268	.2206	440974090.03
105A515009	Resistor	R12,R13,R14,R217, R218,R219	Telcordia Issue 1	Level I		6.00	0.002268	.1203	440974090.03
105A568103	Resistor	R15	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
105A523713	Resistor	R20	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
105A701059	Resistor	R151,R177,R208,R21, R236,R509	Telcordia Issue 1	Level I		6.00	0.002268	.1203	440974090.03
105A533269	Resistor	R171,R174,R175, R176,R183,R22,R32, R424,R95,R96,R97, R98	Telcordia Issue 1	Level I		12.00	0.002268	.2406	440974090.03



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105A700139	Resistor	R107,R109,R112, R128,R154,R191, R194,R23,R25,R282, R288,R389,R393, R394,R404,R408, R409,R414,R423, R482,R483,R50	Telcordia Issue 1	Level I		22.00	0.002268	.4411	440974090.03
105A500139	Resistor	R163,R164,R165, R166,R246,R26,R27, R303,R304,R422, R502,R77,R84	Telcordia Issue 1	Level I		13.00	0.002268	.2607	440974090.03
1050512104	Resistor	R28	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
105A510009	Resistor	R155,R157,R29,R315, R317,R38,R436,R503, R504,R507,R508, R523,R525	Telcordia Issue 1	Level I		13.00	0.002268	.2607	440974090.03
105A522669	Resistor	R30,R73	Telcordia Issue 1	Level I		2.00	0.002268	.0401	440974090.03
105A527403	Resistor	R31	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
105A549969	Resistor	R36,R39	Telcordia Issue 1	Level I		2.00	0.002268	.0401	440974090.03
105A505109	Resistor	R41,R42,R43,R44, R45,R52	Telcordia Issue 1	Level I		6.00	0.002268	.1203	440974090.03
105A507509	Resistor	R213,R214,R215,R53, R533	Telcordia Issue 1	Level I		5.00	0.002268	.1003	440974090.03
1050511009	Resistor	R54	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
1059700001	Resistor	R390,R406,R446,R60	Telcordia Issue 1	Level I		4.00	0.002268	.0802	440974090.03
105A700003	Resistor	FB10,R395,R410, R444,R450,R451, R486,R515,R516, R560,R61	Telcordia Issue 1	Level I		11.00	0.002268	.2206	440974090.03
1050524904	Resistor	R74,R94	Telcordia Issue 1	Level I		2.00	0.002268	.0401	440974090.03
105A708229	Resistor	R114,R116,R130, R131,R132,R134, R139,R271,R275, R276,R475,R75,R90, R91,R92	Telcordia Issue 1	Level I		15.00	0.002268	.3008	440974090.03
105A502039	Resistor	R152,R305,R306,R88	Telcordia Issue 1	Level I		4.00	0.002268	.0802	440974090.03
1050590964	Resistor	R102,R103,R104,R99	Telcordia Issue 1	Level I		4.00	0.002268	.0802	440974090.03
1050504724	Resistor	R106,R140,R231, R233,R234,R235, R240,R242,R244, R277,R281,R286, R287,R307,R312, R314,R434,R435, R564	Telcordia Issue 1	Level I		19.00	0.002268	.3810	440974090.03
105A701069	Resistor	R120	Telcordia Issue 1	Level I		1.00	0.013606	.1203	73495681.67
105A560469	Resistor	R121,R144	Telcordia Issue 1	Level I		2.00	0.002268	.0401	440974090.03
1050505124	Resistor	R129	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
105A739039	Resistor	R153	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03

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1050501004	Resistor	R156,R239,R425, R427,R456	Telcordia Issue 1	Level I		5.00	0.002268	.1003	440974090.03
1050502204	Resistor	R178,R179	Telcordia Issue 1	Level I		2.00	0.002268	.0401	440974090.03
105A703909	Resistor	R222,R223	Telcordia Issue 1	Level I		2.00	0.002268	.0401	440974090.03
1050551004	Resistor	R261,R262,R263, R270	Telcordia Issue 1	Level I		4.00	0.002268	.0802	440974090.03
1050702734	Resistor	R278,R316,R318	Telcordia Issue 1	Level I		3.00	0.002268	.0602	440974090.03
1050547004	Resistor	R279,R284,R289, R290	Telcordia Issue 1	Level I		4.00	0.002268	.0802	440974090.03
105A539003	Resistor	R280	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
105A705139	Resistor	R293,R294,R296, R297,R298,R299, R300,R301,R505, R521,R556	Telcordia Issue 1	Level I		11.00	0.002268	.2206	440974090.03
105A702729	Resistor	R302	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
105A500239	Resistor	R308,R530	Telcordia Issue 1	Level I		2.00	0.002268	.0401	440974090.03
105A501033	Resistor	R321,R323,R324	Telcordia Issue 1	Level I		3.00	0.002268	.0602	440974090.03
105A503300	Resistor	R325,R326,R327, R328	Telcordia Issue 1	Level I		4.00	0.002268	.0802	440974090.03
105A501539	Resistor	R333,R334,R344, R347,R391,R405, R458	Telcordia Issue 1	Level I		7.00	0.002268	.1404	440974090.03
105A733009	Resistor	R353,R437,R438, R439,R440	Telcordia Issue 1	Level I		5.00	0.002268	.1003	440974090.03
105A524919	Resistor	R392,R407	Telcordia Issue 1	Level I		2.00	0.002268	.0401	440974090.03
105A722009	Resistor	R401,R402,R416, R418	Telcordia Issue 1	Level I		4.00	0.002268	.0802	440974090.03
105A501413	Resistor	R419	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
1059500131	Resistor	R442	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
105A515003	Resistor	R443	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
105A500133	Resistor	R445	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
105A524903	Resistor	R447	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
1059710003	Resistor	R459,R460	Telcordia Issue 1	Level I		2.00	0.002268	.0401	440974090.03
105A501233	Resistor	R461	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
105A702263	Resistor	R470,R500,R519	Telcordia Issue 1	Level I		3.00	0.002268	.0602	440974090.03
105A540213	Resistor	R473	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
105A505163	Resistor	R476	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
105A703363	Resistor	R481	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
105A706829	Resistor	R484,R485	Telcordia Issue 1	Level I		2.00	0.002268	.0401	440974090.03
105A573223	Resistor	R487	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
1050507530	Resistor	R488,R490	Telcordia Issue 1	Level I		2.00	0.002268	.0401	440974090.03
105A528723	Resistor	R489	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
1050504764	Resistor	R494,R514	Telcordia Issue 1	Level I		2.00	0.002268	.0401	440974090.03
1050513034	Resistor	R495,R513,R558	Telcordia Issue 1	Level I		3.00	0.002268	.0602	440974090.03
105A505629	Resistor	R497,R518,R536	Telcordia Issue 1	Level I		3.00	0.002268	.0602	440974090.03

**AAEON Reliability Prediction Report**

**Part Number** 9697CV1P02-D  
**Reference Des**  
**Date** 07. 16, 2012  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temp. (°C)** 25.00

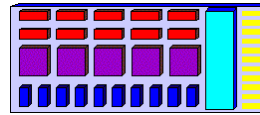


**Description** Top-level assembly  
**File Name** HSB-CV1P.RPJ  
**Time** 11:01  
**Failure Rate** 11.309417  
**MTBF** 88,422

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Quantity	Failure Rate, Unit	Failure Rate,%	MTBF, Unit
105A501529	Resistor	R499	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
105A561909	Resistor	R501	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
1050560434	Resistor	R510	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
1050561934	Resistor	R511	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
105A561924	Resistor	R512	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
105A554969	Resistor	R528	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
105A703329	Resistor	R529	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
1050501834	Resistor	R534	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
1050505633	Resistor	R545	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
105A704763	Resistor	R549,R553	Telcordia Issue 1	Level I		2.00	0.002268	.0401	440974090.03
1050703334	Resistor	R555	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
1050522114	Resistor	R557	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
1050515034	Resistor	R559	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
105A551119	Resistor	R561	Telcordia Issue 1	Level I		1.00	0.002268	.0201	440974090.03
165300420L	Connection	SP11	Telcordia Issue 1	Level I		1.00	0.004552	.0402	219695067.68
11E9610080	Capacitor	TC10,TC11,TC12,TC13,TC14,TC16,TC17,TC18,TC19,TC20,TC21,TC31,TC32,TC4,TC48,TC5,TC51,TC55,TC57,TC6,TC7,TC8,TC9	Telcordia Issue 1	Level I		23.00	0.004535	.9224	220487045.01
1189633184	Capacitor	TC15,TC56,TC62, TC63	Telcordia Issue 1	Level I		4.00	0.004535	.1604	220487045.01
11E1510050	Capacitor	TC33,TC34,TC35,TC36,TC37,TC38,TC44,TC45,TC46,TC47,TC49,TC50,TC53,TC54,TC58,TC59,TC60,TC61	Telcordia Issue 1	Level I		18.00	0.004535	.7219	220487045.01
1189627150	Capacitor	TC52,TC65,TC66, TC67	Telcordia Issue 1	Level I		4.00	0.004535	.1604	220487045.01
11C2510190	Capacitor	TC64	Telcordia Issue 1	Level I		1.00	0.004535	.0401	220487045.01
14S4186005	Integrated Circuit	U1	Telcordia Issue 1	Level I		1.00	0.026183	.2315	38193355.79
14S4001000	Integrated Circuit	U2	Telcordia Issue 1	Level I		1.00	0.026183	.2315	38193355.79
14S5A00821	Integrated Circuit	U3,U33,U8	Telcordia Issue 1	Level I		3.00	0.026183	.6945	38193355.79
14S3050100	Integrated Circuit	U4	Telcordia Issue 1	Level I	12.90	1.00	0.146683	1.2970	6817422.03
14S3524700	Integrated Circuit	U7	Telcordia Issue 1	Level I		1.00	0.059366	.5249	16844654.92
14S2200900	Integrated Circuit	U9	Telcordia Issue 1	Level I		1.00	0.059366	.5249	16844654.92
14S4186600	Integrated Circuit	U10	Telcordia Issue 1	Level I		1.00	0.026183	.2315	38193355.79

### AAEON Reliability Prediction Report

**Part Number** 9697CV1P02-D  
**Reference Des**  
**Date** 07. 16, 2012  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temp. (°C)** 25.00



**Description** Top-level assembly  
**File Name** HSB-CV1P.RPJ  
**Time** 11:01  
**Failure Rate** 11.309417  
**MTBF** 88,422

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Quantity	Failure Rate, Unit	Failure Rate,%	MTBF, Unit
14S4048502	Integrated Circuit	U11,U13	Telcordia Issue 1	Level I		2.00	0.059366	1.0499	16844654.92
14S5A23200	Integrated Circuit	U18	Telcordia Issue 1	Level I	13.10	1.00	0.054749	.4841	18265148.65
14S5A23200	Integrated Circuit	U19	Telcordia Issue 1	Level I		1.00	0.026183	.2315	38193355.79
14S5A23200	Integrated Circuit	U12	Telcordia Issue 1	Level I	11.60	1.00	0.050474	.4463	19812156.92
14S5A12506	Integrated Circuit	U14	Telcordia Issue 1	Level I		1.00	0.026183	.2315	38193355.79
14S5812502	Integrated Circuit	U15	Telcordia Issue 1	Level I		1.00	0.026183	.2315	38193355.79
14S4021301	Integrated Circuit	U16	Telcordia Issue 1	Level I		1.00	0.059366	.5249	16844654.92
14S5A01400	Integrated Circuit	U17	Telcordia Issue 1	Level I		1.00	0.059366	.5249	16844654.92
14S9820800	Integrated Circuit	U20	Telcordia Issue 1	Level I		1.00	0.026183	.2315	38193355.79
14S4911216	Integrated Circuit	U21	Telcordia Issue 1	Level I		1.00	0.059366	.5249	16844654.92
14S4811102	Integrated Circuit	U23,U26	Telcordia Issue 1	Level I		2.00	0.026183	.4630	38193355.79
14S6334607	Integrated Circuit	U24,U27	Telcordia Issue 1	Level I		2.00	0.022943	.4057	43586356.53
14S5A01402	Integrated Circuit	U25,U28	Telcordia Issue 1	Level I		2.00	0.026183	.4630	38193355.79
14S4195710	Integrated Circuit	U29	Telcordia Issue 1	Level I		1.00	0.059366	.5249	16844654.92
14S5A73200	Integrated Circuit	U30	Telcordia Issue 1	Level I		1.00	0.026183	.2315	38193355.79
14S4081110	Integrated Circuit	U32	Telcordia Issue 1	Level I		1.00	0.059366	.5249	16844654.92
1314108412	Integrated Circuit	U34	Telcordia Issue 1	Level I		1.00	0.059366	.5249	16844654.92
14S2750100	Integrated Circuit	U35	Telcordia Issue 1	Level I		1.00	0.059366	.5249	16844654.92
1315344311	Integrated Circuit	U36,U37	Telcordia Issue 1	Level I		2.00	0.059366	1.0499	16844654.92
14S2591200	Integrated Circuit	U38	Telcordia Issue 1	Level I		1.00	0.059366	.5249	16844654.92
1315482110	Semiconductor	U39	Telcordia Issue 1	Level I		1.00	0.079603	.7039	12562298.27
14S3111600	Integrated Circuit	U40	Telcordia Issue 1	Level I		1.00	0.032000	.2829	31250122.20
1315482410	Semiconductor	U41	Telcordia Issue 1	Level I		1.00	0.079603	.7039	12562298.27
1315422410	Semiconductor	U42,U43	Telcordia Issue 1	Level I		2.00	0.079603	1.4077	12562298.27
14S3112400	Integrated Circuit	U44	Telcordia Issue 1	Level I		1.00	0.059366	.5249	16844654.92
14S3816700	Integrated Circuit	U45	Telcordia Issue 1	Level I		1.00	0.026183	.2315	38193355.79
1231327053	Miscellaneous	Y1	Telcordia Issue 1	Level I		1.00	0.150000	1.3263	6666666.67
1231332721	Miscellaneous	Y2	Telcordia Issue 1	Level I		1.00	0.150000	1.3263	6666666.67
123131435J	Miscellaneous	Y3	Telcordia Issue 1	Level I		1.00	0.150000	1.3263	6666666.67
123132505D	Miscellaneous	Y4,Y5	Telcordia Issue 1	Level I		2.00	0.150000	2.6527	6666666.67
1655404020	Connection	ATX1	Telcordia Issue 1	Level I		1.00	0.002276	.0201	439390135.35
1655902030	Connection	BAT1A1	Telcordia Issue 1	Level I		1.00	0.001138	.0101	878780270.71
175011901M	Miscellaneous	BAT1B1	Telcordia Issue 1	Level I		1.00	0.900000	7.9580	1111111.11
1655305020	Connection	CN1	Telcordia Issue 1	Level I		1.00	0.002845	.0252	351512108.28
1655005021	Connection	CN3	Telcordia Issue 1	Level I		1.00	0.002845	.0252	351512108.28
1654606100	Connection	CN4	Telcordia Issue 1	Level I		1.00	0.003414	.0302	292926756.90

### AAEON Reliability Prediction Report

**Part Number** 9697CV1P02-D  
**Reference Des**  
**Date** 07. 16, 2012  
**Environment** GF, GU - Ground Fixed, Uncontrolled  
**Temp. (°C)** 25.00



**Description** Top-level assembly  
**File Name** HSB-CV1P.RPJ  
**Time** 11:01  
**Failure Rate** 11.309417  
**MTBF** 88,422

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Quantity	Failure Rate, Unit	Failure Rate, %	MTBF, Unit
1653005201	Connection	CN5,USB1,USB2,USB3	Telcordia Issue 1	Level I		4.00	0.005690	.2012	175756054.14
165251420B	Connection	CN6,CN7	Telcordia Issue 1	Level I		2.00	0.001138	.0201	878780270.71
1655003022	Connection	CN8	Telcordia Issue 1	Level I		1.00	0.001707	.0151	585853513.81
1653005205	Connection	CN9	Telcordia Issue 1	Level I		1.00	0.005690	.0503	175756054.14
1653205203	Connection	COM1,COM2,COM3, COM4	Telcordia Issue 1	Level I		4.00	0.005690	.2012	175756054.14
1113647091	Capacitor	EC1,EC2	Telcordia Issue 1	Level I		2.00	0.042673	.7546	23434140.55
1119622196	Capacitor	EC3,EC4,EC5,EC6	Telcordia Issue 1	Level I		4.00	0.071121	2.5155	14060484.33
1189656199	Capacitor	EC10,EC7	Telcordia Issue 1	Level I		2.00	0.004535	.0802	220487045.01
1181627193	Capacitor	EC9	Telcordia Issue 1	Level I		1.00	0.004535	.0401	220487045.01
1655004014	Connection	FAN1,FAN2	Telcordia Issue 1	Level I		2.00	0.001138	.0201	878780270.71
1653004200	Connection	FP1,FP2	Telcordia Issue 1	Level I		2.00	0.004552	.0805	219695067.68
1653006101	Connection	IR1	Telcordia Issue 1	Level I		1.00	0.003414	.0302	292926756.90
1653003101	Connection	JP1,JP2,JP3,JP4, JP5	Telcordia Issue 1	Level I		5.00	0.001707	.0755	585853513.81
1653003201	Connection	JP6	Telcordia Issue 1	Level I		1.00	0.001138	.0101	878780270.71
1653300108	Connection	JP1(1-2)	Telcordia Issue 1	Level I		1.00	0.001138	.0101	878780270.71
1653300102	Connection	JP4(1-2)	Telcordia Issue 1	Level I		1.00	0.001138	.0101	878780270.71
1653300107	Connection	JP2(2-3),JP3(1-2), JP5(1-2),JP6(3-4)	Telcordia Issue 1	Level I		4.00	0.001138	.0402	878780270.71
1653300100	Connection	FP2(5-7)	Telcordia Issue 1	Level I		1.00	0.001138	.0101	878780270.71
1653213203	Connection	LPT1	Telcordia Issue 1	Level I		1.00	0.014793	.1308	67598482.36
12G15705007X	Connection	SATA1,SATA2	Telcordia Issue 1	Level I		2.00	0.028449	.5031	35151210.83
175910000B	Miscellaneous	SP1	Telcordia Issue 1	Level I		1.00	0.150000	1.3263	6666666.67
1654804100	Connection	USB4	Telcordia Issue 1	Level I		1.00	0.002276	.0201	439390135.35
1654804203	Connection	USB5	Telcordia Issue 1	Level I		1.00	0.001138	.0101	878780270.71
1654515308	Connection	VGA1	Telcordia Issue 1	Level I		1.00	0.008535	.0755	117170702.76