

# GENE-8310

## Reliability Prediction Report (MTBF)

Report NO : 05E070008

**03-25-2005**

Issue Date

**Wenyuan Yang**

Manager

**Jessica Chou**

Test Engineer

## Reliability Prediction (MTBF)

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**I . Model Name:** GENE-8310 (3.5" Board.LV C-M 600.LCD-DVI-TV.DDR.10/100.Audio.2COM.USB2.0.CF.M-PCI.Rev.A0.3)

**II . Prediction Date:** Mar. 25, 2005

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

**IV . Predicted by :** Jessica Chou

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

### **VI. Simulation Environment:**

- Temperature: 25.1 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.

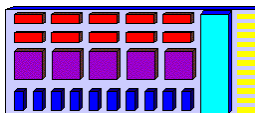
### **VIII. Prediction Result:**

- Failure Rate: 13.004864 ppm
- MTBF: 76,894 Hours

### **IX. Prediction Table**

**Standard Reliability Prediction Report**

**Part Number** 9697831006  
**Reference Des**  
**Date** 三月 25, 2005  
**Environment** GF, GU - Ground Fixed,  
**Temperature** 25.10

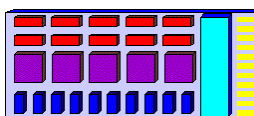


**Description** Top-level assembly  
**File Name** 9697831006.RPJ  
**Time** 10:34 上午  
**Failure Rate** 13.004864  
**MTBF** 76,894

| Assembly Name | Part Number | Ref Des | Qty  | Failure Rate | MTBF   |
|---------------|-------------|---------|------|--------------|--------|
| GENE-8310     | 9697831006  |         | 1.00 | 13.004864    | 76,894 |

### Standard Reliability Prediction Report

**Part Number** 9697831006  
**Reference Des**  
**Date** 三月 25, 2005  
**Environment** GF, GU - Ground Fixed,  
**Temperature** 25.10

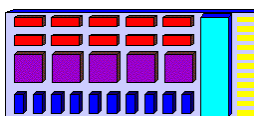


**Description** Top-level assembly  
**File Name** 9697831006.RPJ  
**Time** 10:34 上午  
**Failure Rate** 13.004864  
**MTBF** 76,894

| Part Number | Category           | Ref Des  | Failure Rate, Unit | Quantity | Failure Rate |
|-------------|--------------------|--|--------------------|----------|--------------|
| 1656304022  | Connection         | CN9  | 0.002288           | 1.00     | 0.002288     |
| 1169615210  | Capacitor          | EC1  | 0.005469           | 1.00     | 0.005469     |
| 1111610194  | Capacitor          | EC3,EC4  | 0.027385           | 2.00     | 0.054769     |
| 1653003101  | Connection         | JP2  | 0.001716           | 1.00     | 0.001716     |
| 1653003101  | Connection         | JP1  | 0.001716           | 1.00     | 0.001716     |
| 1653003201  | Connection         | JP4,JP5  | 0.003432           | 2.00     | 0.006863     |
| 1750119014  | Miscellaneous      | BAT1   | 0.900000           | 1.00     | 0.900000     |
| 1653022201  | Connection         | CN3  | 0.025166           | 1.00     | 0.025166     |
| 1653013203  | Connection         | CN7  | 0.014871           | 1.00     | 0.014871     |
| 1653007201  | Connection         | CN12   | 0.008007           | 1.00     | 0.008007     |
| 1653006101  | Connection         | CN15   | 0.003432           | 1.00     | 0.003432     |
| 1654606306  | Connection         | CN17   | 0.003432           | 1.00     | 0.003432     |
| 1654409103  | Connection         | CN18   | 0.005148           | 1.00     | 0.005148     |
| 1653004302  | Connection         | JP3  | 0.006863           | 1.00     | 0.006863     |
| 1653900034  | Connection         | CFD1   | 0.001144           | 1.00     | 0.001144     |
| 1655003023  | Connection         | CN16   | 0.001716           | 1.00     | 0.001716     |
| 1654415305  | Connection         | CN19   | 0.008579           | 1.00     | 0.008579     |
| 1655306020  | Connection         | CN14   | 0.003432           | 1.00     | 0.003432     |
| 1652512206  | Connection         | CN13   | 0.006863           | 1.00     | 0.006863     |
| 1213112008  | Inductor           | LP3  | 0.002272           | 1.00     | 0.002272     |
| 1301005442  | Semiconductor      | D14  | 0.023950           | 1.00     | 0.023950     |
| 1212306030  | Inductor           | FB19,FB2,FB23--<br>FB27,FB29,FB3,-<br>FB30-FB32,FB34,-<br>FB36,FB39,FB4,-<br>FB40,FB43,FB5 | 0.002272           | 19.00    | 0.043171     |
| 1212306030  | Inductor           | FB6,FB7,FB9  | 0.002272           | 3.00     | 0.006816     |
| 1212306035  | Inductor           | FB10-FB12,FB35,-<br>FB37,FB38,FB44,-<br>FB8  | 0.002272           | 8.00     | 0.018177     |
| 121230603L  | Inductor           | FB28,FB45  | 0.002272           | 2.00     | 0.004544     |
| 1213160008  | Inductor           | LP1,LP2,LP4,LP5  | 0.002272           | 4.00     | 0.009089     |
| 14S4621800  | Integrated Circuit | U47  | 0.059802           | 1.00     | 0.059802     |
| 1211100102  | Inductor           | L7   | 0.086342           | 1.00     | 0.086342     |
| 1211100160  | Inductor           | L8,L9  | 0.086342           | 2.00     | 0.172684     |
| 1654262300  | Connection         | MPC11  | 0.070922           | 1.00     | 0.070922     |
| 14S4048500  | Integrated Circuit | U14,U15  | 0.059802           | 2.00     | 0.119604     |
| 1653005202  | Connection         | CN1,CN2,CN4-C-<br>N6   | 0.005720           | 5.00     | 0.028598     |
| 1653004202  | Connection         | CN10   | 0.004576           | 1.00     | 0.004576     |
| 1653010203  | Connection         | CN11   | 0.011439           | 1.00     | 0.011439     |
| 14S5900600  | Integrated Circuit | U33  | 0.070734           | 1.00     | 0.070734     |
| 14S4871201  | Integrated Circuit | U35  | 0.039527           | 1.00     | 0.039527     |
| 14S2705700  | Integrated Circuit | U38  | 0.167643           | 1.00     | 0.167643     |
| 1315441012  | Semiconductor      | U39,U42  | 0.079832           | 2.00     | 0.159665     |
| 14S4700900  | Integrated Circuit | U43  | 0.039527           | 1.00     | 0.039527     |
| 1231332721  | Miscellaneous      | Y1   | 0.150000           | 1.00     | 0.150000     |
| 1231314350  | Miscellaneous      | Y2   | 0.150000           | 1.00     | 0.150000     |
| 1231324551  | Miscellaneous      | Y4   | 0.150000           | 1.00     | 0.150000     |

**Standard Reliability Prediction Report**

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**Date** 三月 25, 2005  
**Environment** GF, GU - Ground Fixed,  
**Temperature** 25.10

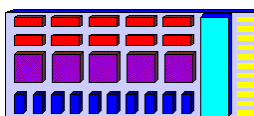


**Description** Top-level assembly  
**File Name** 9697831006.RPJ  
**Time** 10:34 上午  
**Failure Rate** 13.004864  
**MTBF** 76,894

| Part Number | Category  | Ref Des   | Failure Rate, Unit | Quantity | Failure Rate |
|-------------|-----------|---|--------------------|----------|--------------|
| 105A705609  | Resistor  | R110,R112,R114-,R116,R121,R123-,R125,R127,R131-,R133,R18,R20,R-23,R249,R26  | 0.002272           | 15.00    | 0.034082     |
| 105A705609  | Resistor  | R253,R269,R272-,R43,R45,R64,R6-5,R68,R70                                    | 0.002272           | 9.00     | 0.020449     |
| 105A700003  | Resistor  | FB1,FB13,FB20--FB22,R135,R157-,R195,R203,R21,-R254,R265,R28,-R284,R407,R474 | 0.002272           | 16.00    | 0.036354     |
| 105A500233  | Resistor  | R155,R229,R29   | 0.002272           | 3.00     | 0.006816     |
| 105A503309  | Resistor  | R100-R104,R32--R34,R36-R41,R96-R99  | 0.002272           | 18.00    | 0.040899     |
| 105A513003  | Resistor  | R48   | 0.002272           | 1.00     | 0.002272     |
| 105A704729  | Resistor  | R117,R128,R129-,R162,R174,R220-,R264,R294,R307-,R325,R332,R427-,R137,R51    | 0.002272           | 14.00    | 0.031810     |
| 105A704729  | Resistor  | R53,R56-R57,R72   | 0.002272           | 5.00     | 0.011361     |
| 105A703309  | Resistor  | R145-R147,R149-,R153,R154,R169-,R205,R206,R221-,R226,R349,R350-,R436,R55    | 0.002272           | 15.00    | 0.034082     |
| 105A703309  | Resistor  | R71,R88   | 0.002272           | 2.00     | 0.004544     |
| 105A568163  | Resistor  | R61   | 0.002272           | 1.00     | 0.002272     |
| 105A506823  | Resistor  | R463,R75,R77  | 0.002272           | 3.00     | 0.006816     |
| 105A701003  | Resistor  | R180,R212,R292-,R360,R452   | 0.002272           | 5.00     | 0.011361     |
| 105A705133  | Resistor  | R434,R87  | 0.002272           | 2.00     | 0.004544     |
| 105A502423  | Resistor  | R134,R290   | 0.002272           | 2.00     | 0.004544     |
| 105A702229  | Resistor  | R136,R183,R184-,R370,R375,R376-,R387-R390,R401-,R408,R411,R425-,R426,R440   | 0.002272           | 16.00    | 0.036354     |
| 1121701080  | Capacitor | C111-C116,C122-,C138,C139,C150-,C151,C154,C183-,C193,C216,C256-,C272,C294   | 0.002541           | 18.00    | 0.045732     |
| 1121701080  | Capacitor | C385,C407,C416-,C429,C450,C451-,C456,C467                                   | 0.002541           | 8.00     | 0.020325     |
| 1129422060  | Capacitor | C101,C117,C6,C-91   | 0.002724           | 4.00     | 0.010896     |

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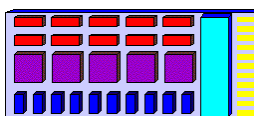


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**File Name** 9697831006.RPJ  
**Time** 10:34 上午  
**Failure Rate** 13.004864  
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| Part Number | Category  | Ref Des   | Failure Rate, Unit | Quantity | Failure Rate |
|-------------|-----------|---|--------------------|----------|--------------|
| 1129610051  | Capacitor | C10,C102,C119,-<br>C123,C129-C137-<br>,C140,C141,C144-<br>,C159,C161-C164-<br>,C166,C174  | 0.002724           | 23.00    | 0.062654     |
| 1129610051  | Capacitor | C185,C192,C195-<br>,C208-C212,C229-<br>,C237,C246,C254-<br>,C303,C306,C310-<br>,C314-C317 | 0.002724           | 19.00    | 0.051758     |
| 1129610051  | Capacitor | C324,C325,C333-<br>,C334,C340,C341-<br>,C344,C349,C350-<br>,C362,C363,C377-<br>,C394,C414 | 0.002724           | 14.00    | 0.038137     |
| 1129610051  | Capacitor | C442,C447,C448-<br>,C460,C79,C83  | 0.002724           | 6.00     | 0.016344     |
| 1121701790  | Capacitor | C153,C169,C17,-<br>C176,C191,C204-<br>,C205,C214,C228-<br>,C238,C31,C339,-<br>C347,C390   | 0.002541           | 14.00    | 0.035570     |
| 1121701790  | Capacitor | C391,C412,C457  | 0.002541           | 3.00     | 0.007622     |
| 105A500333  | Resistor  | R456  | 0.002272           | 1.00     | 0.002272     |
| 1129710390  | Capacitor | C147,C149,C178-<br>,C181,C422,C430-<br>,C445,C446   | 0.001061           | 8.00     | 0.008487     |
| 105A545323  | Resistor  | R466  | 0.002272           | 1.00     | 0.002272     |
| 1124433190  | Capacitor | C267,C386,C417-<br>,C418  | 0.001061           | 4.00     | 0.004244     |
| 1124556180  | Capacitor | C464  | 0.001061           | 1.00     | 0.001061     |
| 1129710090  | Capacitor | C127,C152,C168-<br>,C275,C405,C415-<br>,C64   | 0.001061           | 7.00     | 0.007426     |
| 1124427090  | Capacitor | C106,C239,C247-<br>,C374,C403,C404-<br>,C409-C411,C413-<br>,C421,C435,C436                | 0.001061           | 13.00    | 0.013792     |
| 1124410190  | Capacitor | C108,C110,C121-<br>,C126,C360,C398-<br>,C399,C423   | 0.001061           | 8.00     | 0.008487     |
| 1122747880  | Capacitor | C160  | 0.001599           | 1.00     | 0.001599     |
| 1124518280  | Capacitor | C461  | 0.001061           | 1.00     | 0.001061     |
| 105A510033  | Resistor  | R454  | 0.002272           | 1.00     | 0.002272     |
| 1129747650  | Capacitor | C352  | 0.002724           | 1.00     | 0.002724     |
| 1129722091  | Capacitor | C357,C358,C439-<br>,C441,C444   | 0.001061           | 5.00     | 0.005305     |
| 1124568280  | Capacitor | C383  | 0.001061           | 1.00     | 0.001061     |
| 1124522880  | Capacitor | C384  | 0.001061           | 1.00     | 0.001061     |
| 105A501223  | Resistor  | R455  | 0.002272           | 1.00     | 0.002272     |
| 1129747090  | Capacitor | C425-C427,C432-<br>-C434,C437,C438  | 0.001061           | 8.00     | 0.008487     |
| 1211106870  | Inductor  | L10   | 0.002272           | 1.00     | 0.002272     |
| 1124522280  | Capacitor | C462  | 0.001061           | 1.00     | 0.001061     |

**Standard Reliability Prediction Report**

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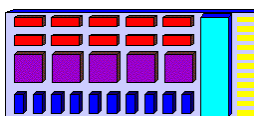


**Description** Top-level assembly  
**File Name** 9697831006.RPJ  
**Time** 10:34 上午  
**Failure Rate** 13.004864  
**MTBF** 76,894

| Part Number | Category           | Ref Des   | Failure Rate, Unit | Quantity | Failure Rate |
|-------------|--------------------|---|--------------------|----------|--------------|
| 1315030110  | Semiconductor      | Q10,Q11,Q22,Q24-<br>,Q3,Q4,Q6,Q7  | 0.079832           | 8.00     | 0.638658     |
| 1310390411  | Semiconductor      | Q12,Q13,Q20,Q25   | 0.023950           | 4.00     | 0.095799     |
| 1540782282  | Resistor           | RP45-RP53,RP56-<br>-RP60  | 0.006275           | 14.00    | 0.087844     |
| 105A700009  | Resistor           | R186,R216,R311-<br>,R327,R328,R393-<br>,R395,R419,R438-<br>,R451,R464,R465-<br>,R471,R475 | 0.002272           | 14.00    | 0.031810     |
| 105A700009  | Resistor           | R5,R50,R6,R7,R74  | 0.002272           | 5.00     | 0.011361     |
| 105A540263  | Resistor           | R245,R410   | 0.002272           | 2.00     | 0.004544     |
| 1121722650  | Capacitor          | C1  | 0.002541           | 1.00     | 0.002541     |
| 105A571533  | Resistor           | R179  | 0.002272           | 1.00     | 0.002272     |
| 105A747033  | Resistor           | R188,R225   | 0.002272           | 2.00     | 0.004544     |
| 105A547523  | Resistor           | R201  | 0.002272           | 1.00     | 0.002272     |
| 105A510513  | Resistor           | R470  | 0.002272           | 1.00     | 0.002272     |
| 105A501133  | Resistor           | R213  | 0.002272           | 1.00     | 0.002272     |
| 105A548703  | Resistor           | R231  | 0.002272           | 1.00     | 0.002272     |
| 105A706203  | Resistor           | R237  | 0.002272           | 1.00     | 0.002272     |
| 105A578703  | Resistor           | R268  | 0.002272           | 1.00     | 0.002272     |
| 105A547503  | Resistor           | R285  | 0.002272           | 1.00     | 0.002272     |
| 105A549969  | Resistor           | R295,R301-R306-<br>,R321,R342   | 0.002272           | 9.00     | 0.020449     |
| 105A560403  | Resistor           | R330,R340   | 0.002272           | 2.00     | 0.004544     |
| 105A517423  | Resistor           | R345  | 0.002272           | 1.00     | 0.002272     |
| 105A516513  | Resistor           | R361  | 0.002272           | 1.00     | 0.002272     |
| 105A501523  | Resistor           | R366  | 0.002272           | 1.00     | 0.002272     |
| 105A554903  | Resistor           | R386  | 0.002272           | 1.00     | 0.002272     |
| 1759100006  | Miscellaneous      | SP1   | 0.150000           | 1.00     | 0.150000     |
| 1189922180  | Capacitor          | TC10-TC11,TC13-<br>,TC15  | 0.004544           | 4.00     | 0.018177     |
| 1189922180  | Capacitor          | TC8   | 0.006661           | 1.00     | 0.006661     |
| 1189922180  | Capacitor          | TC12  | 0.006458           | 1.00     | 0.006458     |
| 14S3065500  | Integrated Circuit | U16   | 0.173289           | 1.00     | 0.173289     |
| 14S5A01400  | Integrated Circuit | U17,U18   | 0.059802           | 2.00     | 0.119604     |
| 1315776010  | Semiconductor      | U19   | 0.142718           | 1.00     | 0.142718     |
| 1315776010  | Semiconductor      | U23   | 0.079832           | 1.00     | 0.079832     |
| 1315776010  | Semiconductor      | U20   | 0.125081           | 1.00     | 0.125081     |
| 1315776010  | Semiconductor      | U29   | 0.124116           | 1.00     | 0.124116     |
| 14S4148500  | Integrated Circuit | U21   | 0.188782           | 1.00     | 0.188782     |
| 14S6334610  | Integrated Circuit | U24   | 0.030823           | 1.00     | 0.030823     |
| 1315668011  | Semiconductor      | U25   | 0.156740           | 1.00     | 0.156740     |
| 1315668011  | Semiconductor      | U26   | 0.160984           | 1.00     | 0.160984     |
| 1301053040  | Semiconductor      | D10,D16,D17,D2,-<br>D24,D4,D9   | 0.023950           | 7.00     | 0.167648     |
| 1315700212  | Semiconductor      | Q16-Q19,Q2,Q26-<br>-Q28,Q8,Q9   | 0.079832           | 10.00    | 0.798323     |
| 1311390610  | Semiconductor      | Q5  | 0.023950           | 1.00     | 0.023950     |

**Standard Reliability Prediction Report**

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**Reference Des**  
**Date** 三月 25, 2005  
**Environment** GF, GU - Ground Fixed,  
**Temperature** 25.10



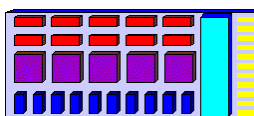
**Description** Top-level assembly  
**File Name** 9697831006.RPJ  
**Time** 10:34 上午  
**Failure Rate** 13.004864  
**MTBF** 76,894

| Part Number | Category   | Ref Des  | Failure Rate, Unit | Quantity | Failure Rate |
|-------------|------------|--|--------------------|----------|--------------|
| 1540710084  | Resistor   | RP1,RP11,RP13,-<br>RP15,RP17,RP19-<br>,RP20,RP23,RP26-<br>,RP29,RP3,RP31-<br>,RP33,RP35    | 0.006275           | 14.00    | 0.087844     |
| 1540710084  | Resistor   | RP37,RP39,RP41-<br>,RP43,RP5,RP7,-<br>RP9  | 0.006275           | 7.00     | 0.043922     |
| 1540756081  | Resistor   | RP10,RP12,RP14-<br>,RP16,RP18,RP2-<br>,RP21,RP22,RP24-<br>,RP25,RP27,RP28-<br>,RP30,RP32   | 0.006275           | 14.00    | 0.087844     |
| 1540756081  | Resistor   | RP34,RP36,RP38-<br>,RP4,RP40,RP42-<br>,RP44,RP6,RP8  | 0.006275           | 9.00     | 0.056471     |
| 1540722085  | Resistor   | RP54,RP55  | 0.006275           | 2.00     | 0.012549     |
| 105A510009  | Resistor   | R10,R11,R118,R-<br>12,R139,R141,R2-<br>82,R296,R3,R322-<br>,R341,R384,R394-<br>,R4         | 0.002272           | 14.00    | 0.031810     |
| 105A710039  | Resistor   | R148,R159,R200-<br>,R348,R351,R373-<br>,R398-R400,R404-<br>,R409,R412-R414-<br>,R442       | 0.002272           | 15.00    | 0.034082     |
| 105A708229  | Resistor   | R15,R163,R164,-<br>R167,R172,R173-<br>,R176,R182,R187-<br>,R192,R309,R310-<br>,R378        | 0.002272           | 13.00    | 0.029538     |
| 105A708229  | Resistor   | R46  | 0.003000           | 1.00     | 0.003000     |
| 105A708229  | Resistor   | R47,R52,R9   | 0.002272           | 3.00     | 0.006816     |
| 105A701009  | Resistor   | R109,R111,R113-<br>,R115,R120,R122-<br>,R124,R126,R130-<br>,R132,R17,R19,R-<br>22,R25,R358 | 0.002272           | 15.00    | 0.034082     |
| 105A701009  | Resistor   | R42,R44,R63,R67-<br>,R80,R81   | 0.002272           | 6.00     | 0.013633     |
| 1653925216  | Connection | CFD1   | 0.028598           | 1.00     | 0.028598     |
| 1214309000  | Inductor   | CH1-CH4  | 0.002272           | 4.00     | 0.009089     |
| 1654030000  | Connection | CN8  | 0.017159           | 1.00     | 0.017159     |
| 1174522180  | Capacitor  | CP1-CP5  | 0.001061           | 5.00     | 0.005305     |
| 1129701690  | Capacitor  | C100,C103-C105-<br>,C107,C109,C11,-<br>C12,C120,C124,-<br>C125,C128,C13,-<br>C14,C142,C145 | 0.002541           | 16.00    | 0.040651     |
| 1129701690  | Capacitor  | C146,C148,C15,-<br>C156,C157,C16,-<br>C165,C167,C170-<br>,C171,C173,C175-<br>,C177,C179    | 0.002541           | 14.00    | 0.035570     |



**Standard Reliability Prediction Report**

**Part Number** 9697831006  
**Reference Des**  
**Date** 三月 25, 2005  
**Environment** GF, GU - Ground Fixed,  
**Temperature** 25.10

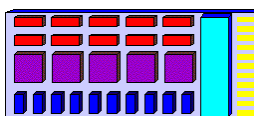


**Description** Top-level assembly  
**File Name** 9697831006.RPJ  
**Time** 10:34 上午  
**Failure Rate** 13.004864  
**MTBF** 76,894

| Part Number | Category      | Ref Des  | Failure Rate, Unit | Quantity | Failure Rate |
|-------------|---------------|--|--------------------|----------|--------------|
| 1129701690  | Capacitor     | C18,C180,C184,-<br>C186-C189,C19,-<br>C190,C194,C196-<br>,C199,C2,C200-C-<br>203,C206,C207 | 0.002541           | 19.00    | 0.048273     |
| 1129701690  | Capacitor     | C21,C213,C215,-<br>C217,C219,C220-<br>,C222,C223,C225-<br>-C227,C240-C244-<br>,C248,C249   | 0.002541           | 18.00    | 0.045732     |
| 1129701690  | Capacitor     | C25,C250-C253,-<br>C255,C257-C259-<br>,C26,C260-C262,-<br>C266,C268,C269-<br>,C27,C270     | 0.002541           | 18.00    | 0.045732     |
| 1129701690  | Capacitor     | C271,C273,C274-<br>,C276,C277-C279-<br>,C28,C280,C282--<br>C293,C29,C295--<br>C299,C3,C30  | 0.002541           | 29.00    | 0.073680     |
| 1129701690  | Capacitor     | C300-C302,C304-<br>,C305,C307,C309-<br>,C311-C313,C318-<br>,C319,C32,C320,-<br>C323,C327   | 0.002541           | 16.00    | 0.040651     |
| 1129701690  | Capacitor     | C328,C329,C33,-<br>C330-C332,C335-<br>,C337,C338,C34,-<br>C342,C343,C345-<br>,C346,C348    | 0.002541           | 15.00    | 0.038110     |
| 1129701690  | Capacitor     | C351,C353-C356-<br>,C359,C36,C361,-<br>C364-C367,C369-<br>-C373,C376,C378-<br>,C380-C382   | 0.002541           | 22.00    | 0.055895     |
| 1129701690  | Capacitor     | C387-C389,C39,-<br>C392,C393,C395-<br>,C397,C4,C400-C-<br>402,C408,C419,C-<br>42,C420,C424 | 0.002541           | 17.00    | 0.043192     |
| 1129701690  | Capacitor     | C428,C43,C431,-<br>C44,C449,C45,C-<br>452,C453,C455,C-<br>458,C459,C5,C52-<br>-C58,C61-C63 | 0.002541           | 22.00    | 0.055895     |
| 1129701690  | Capacitor     | C65,C66,C69,C7,-<br>C70-C73,C75-C78-<br>,C8,C80-C82,C84-<br>-C89,C9,C90,C92-<br>-C99       | 0.002541           | 32.00    | 0.081302     |
| 1301003440  | Semiconductor | D1   | 0.023950           | 1.00     | 0.023950     |
| 1301005443  | Semiconductor | D11,D15,D19,D20-<br>,D5,D6,D8  | 0.023950           | 7.00     | 0.167648     |
| 1301005441  | Semiconductor | D18,D21,D22,D23  | 0.023950           | 4.00     | 0.095799     |
| 121230603D  | Inductor      | FB14-FB18,FB33,-<br>FB41,FB42  | 0.002272           | 8.00     | 0.018177     |

**Standard Reliability Prediction Report**

**Part Number** 9697831006  
**Reference Des**  
**Date** 三月 25, 2005  
**Environment** GF, GU - Ground Fixed,  
**Temperature** 25.10

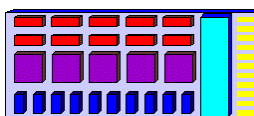


**Description** Top-level assembly  
**File Name** 9697831006.RPJ  
**Time** 10:34 上午  
**Failure Rate** 13.004864  
**MTBF** 76,894

| Part Number | Category           | Ref Des   | Failure Rate, Unit | Quantity | Failure Rate |
|-------------|--------------------|---|--------------------|----------|--------------|
| 1651203291  | Connection         | FWH1  | 0.018302           | 1.00     | 0.018302     |
| 1211103360  | Inductor           | L1  | 0.086342           | 1.00     | 0.086342     |
| 1211103360  | Inductor           | L3  | 0.110392           | 1.00     | 0.110392     |
| 1211103366  | Inductor           | L4  | 0.115219           | 1.00     | 0.115219     |
| 1211103366  | Inductor           | L5-L6   | 0.086342           | 2.00     | 0.172684     |
| 14S4021310  | Integrated Circuit | U36,U37   | 0.059802           | 2.00     | 0.119604     |
| 14S2303700  | Integrated Circuit | U40   | 0.059802           | 1.00     | 0.059802     |
| 14S3020100  | Integrated Circuit | U45   | 0.059802           | 1.00     | 0.059802     |
| 1231325050  | Miscellaneous      | Y3  | 0.150000           | 1.00     | 0.150000     |
| 14S4070610  | Integrated Circuit | U34   | 0.059802           | 1.00     | 0.059802     |
| 105A700139  | Resistor           | R105,R106,R160-<br>,R161,R199,R204-<br>,R234,R239,R242-<br>,R243,R246,R251-<br>,R274,R278 | 0.002272           | 14.00    | 0.031810     |
| 105A700139  | Resistor           | R280,R281,R286-<br>,R299,R30,R300,-<br>,R308,R320,R323-<br>,R324,R35,R369,-<br>,R371,R379 | 0.002272           | 14.00    | 0.031810     |
| 105A700139  | Resistor           | R391,R422,R428-<br>,R432,R439,R473-<br>,R69   | 0.002272           | 7.00     | 0.015905     |
| 105A702263  | Resistor           | R165,R168,R210-<br>,R31,R335,R336,-<br>,R359,R405,R458-<br>,R459                          | 0.002272           | 10.00    | 0.022722     |
| 105A515009  | Resistor           | R232,R270,R271-<br>,R297,R337,R49   | 0.002272           | 6.00     | 0.013633     |
| 105A701039  | Resistor           | R175,R177,R189-<br>,R198,R214,R215-<br>,R219,R223,R224-<br>,R230,R233,R238-<br>,R275,R276 | 0.002272           | 14.00    | 0.031810     |
| 105A701039  | Resistor           | R315,R318,R319-<br>,R382,R406,R420-<br>,R448,R453,R472-<br>,R54,R62                       | 0.002272           | 11.00    | 0.024994     |
| 105A522663  | Resistor           | R59   | 0.002272           | 1.00     | 0.002272     |
| 105A503033  | Resistor           | R158,R76  | 0.002272           | 1.00     | 0.002272     |
| 105A561903  | Resistor           | R385  | 0.002272           | 1.00     | 0.002272     |
| 105A501039  | Resistor           | R13,R14,R197,R-<br>227,R256,R356,R-<br>392,R415,R416,R-<br>460,R89-R94                    | 0.002272           | 16.00    | 0.036354     |
| 105A500133  | Resistor           | R137,R138,R156-<br>,R166,R362,R8  | 0.002272           | 6.00     | 0.013633     |
| 14S3033800  | Integrated Circuit | U28   | 0.059802           | 1.00     | 0.059802     |
| 14S5A00700  | Integrated Circuit | U32   | 0.038112           | 1.00     | 0.038112     |
| 1315970110  | Semiconductor      | U2,U44,U46,U5   | 0.159665           | 4.00     | 0.638658     |
| 14S3260100  | Integrated Circuit | U6  | 0.160018           | 1.00     | 0.160018     |
| 105A560463  | Resistor           | R143,R144   | 0.002272           | 2.00     | 0.004544     |
| 105A507509  | Resistor           | R150-R152,R364-<br>,R381,R430,R431  | 0.002272           | 7.00     | 0.015905     |

### Standard Reliability Prediction Report

**Part Number** 9697831006  
**Reference Des**  
**Date** 三月 25, 2005  
**Environment** GF, GU - Ground Fixed,  
**Temperature** 25.10

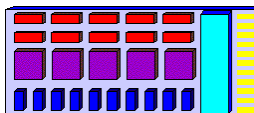


**Description** Top-level assembly  
**File Name** 9697831006.RPJ  
**Time** 10:34 上午  
**Failure Rate** 13.004864  
**MTBF** 76,894

| Part Number | Category           | Ref Des  | Failure Rate, Unit | Quantity | Failure Rate |
|-------------|--------------------|--|--------------------|----------|--------------|
| 105A554963  | Resistor           | R178,R207,R266   | 0.002272           | 3.00     | 0.006816     |
| 105A756033  | Resistor           | R181,R217  | 0.002272           | 2.00     | 0.004544     |
| 105A527463  | Resistor           | R191,R222,R298-<br>,R329,R396,R447                                       | 0.002272           | 6.00     | 0.013633     |
| 105A710053  | Resistor           | R193,R194,R273   | 0.013633           | 3.00     | 0.040899     |
| 105A518223  | Resistor           | R202   | 0.002272           | 1.00     | 0.002272     |
| 105A507523  | Resistor           | R209   | 0.002272           | 1.00     | 0.002272     |
| 105A701053  | Resistor           | R211   | 0.002272           | 1.00     | 0.002272     |
| 106B501031  | Resistor           | R218,R352  | 0.011439           | 2.00     | 0.022878     |
| 105A502033  | Resistor           | R208,R236  | 0.002272           | 2.00     | 0.004544     |
| 105A530003  | Resistor           | R241   | 0.002272           | 1.00     | 0.002272     |
| 105A524303  | Resistor           | R142   | 0.002272           | 1.00     | 0.002272     |
| 105A549963  | Resistor           | R140   | 0.002272           | 1.00     | 0.002272     |
| 105A700103  | Resistor           | R338,R353,R354-<br>,R355,R365,R367-<br>,R368,R372                        | 0.002272           | 8.00     | 0.018177     |
| 105A747003  | Resistor           | R263   | 0.002272           | 1.00     | 0.002272     |
| 105A705139  | Resistor           | R277   | 0.002272           | 1.00     | 0.002272     |
| 11E9610190  | Capacitor          | C326,C375,C454-<br>,C68,TC2,TC3  | 0.045440           | 6.00     | 0.272638     |
| 11E9610190  | Capacitor          | C155   | 0.116550           | 1.00     | 0.116550     |
| 11E9610190  | Capacitor          | C198   | 0.104257           | 1.00     | 0.104257     |
| 105A551113  | Resistor           | R291   | 0.002272           | 1.00     | 0.002272     |
| 105A530103  | Resistor           | R313,R334  | 0.002272           | 2.00     | 0.004544     |
| 105A515003  | Resistor           | R331,R339  | 0.002272           | 2.00     | 0.004544     |
| 150A568123  | Resistor           | R344,R346  | 0.002272           | 2.00     | 0.004544     |
| 105A512033  | Resistor           | R347   | 0.002272           | 1.00     | 0.002272     |
| 105A514003  | Resistor           | R363   | 0.002272           | 1.00     | 0.002272     |
| 105A512703  | Resistor           | R374   | 0.002272           | 1.00     | 0.002272     |
| 105A512103  | Resistor           | R383   | 0.002272           | 1.00     | 0.002272     |
| 1315030210  | Semiconductor      | Q21,Q29,Q30  | 0.000000           | 3.00     | 0.000000     |
| 1189615190  | Capacitor          | TC1,TC14,TC16,-<br>TC5,TC6,TC9   | 0.004943           | 6.00     | 0.029655     |
| 1189633181  | Capacitor          | TC17,TC4   | 0.004943           | 2.00     | 0.009885     |
| 1315992601  | Semiconductor      | U1   | 0.221201           | 1.00     | 0.221201     |
| 1315992601  | Semiconductor      | U30  | 0.281892           | 1.00     | 0.281892     |
| 1315992601  | Semiconductor      | U41  | 0.159665           | 1.00     | 0.159665     |
| 14S4280106  | Integrated Circuit | U3   | 0.077420           | 1.00     | 0.077420     |
| 105A733009  | Resistor           | R1,R228,R240,R-<br>283,R293,R357,R-<br>380,R418,R424,R-<br>433,R441,R443 | 0.002272           | 12.00    | 0.027266     |
| 14S5A00820  | Integrated Circuit | U7   | 0.059802           | 1.00     | 0.059802     |
| 14S3128420  | Integrated Circuit | U9   | 0.120485           | 1.00     | 0.120485     |
| 14S3156500  | Integrated Circuit | U10  | 0.121313           | 1.00     | 0.121313     |
| 14S3156500  | Integrated Circuit | U11  | 0.059802           | 1.00     | 0.059802     |
| 14S4256200  | Inductor           | U13  | 0.176505           | 1.00     | 0.176505     |
| 1304101340  | Semiconductor      | D7   | 0.004921           | 1.00     | 0.004921     |
| 14S2533100  | Integrated Circuit | U22  | 0.225022           | 1.00     | 0.225022     |
| 105A554923  | Resistor           | R461   | 0.002272           | 1.00     | 0.002272     |
| 105A507533  | Resistor           | R467   | 0.002272           | 1.00     | 0.002272     |
| 105A520033  | Resistor           | R457   | 0.002272           | 1.00     | 0.002272     |

### Standard Reliability Prediction Report

**Part Number** 9697831006  
**Reference Des**  
**Date** 三月 25, 2005  
**Environment** GF, GU - Ground Fixed,  
**Temperature** 25.10



**Description** Top-level assembly  
**File Name** 9697831006.RPJ  
**Time** 10:34 上午  
**Failure Rate** 13.004864  
**MTBF** 76,894

| Part Number | Category           | Ref Des | Failure Rate, Unit | Quantity | Failure Rate |
|-------------|--------------------|---------|--------------------|----------|--------------|
| 105A535713  | Resistor           | R468    | 0.002272           | 1.00     | 0.002272     |
| 11C4515380  | Inductor           | C466    | 0.002272           | 1.00     | 0.002272     |
| 14S4285201  | Integrated Circuit | U8      | 0.039527           | 1.00     | 0.039527     |
| 16515A0995  | Connection         | DIMM1   | 0.114390           | 1.00     | 0.114390     |
| 1211100860  | Inductor           | L2      | 0.003263           | 1.00     | 0.003263     |
| 105A502833  | Resistor           | R196    | 0.002272           | 1.00     | 0.002272     |
| 1315993311  | Semiconductor      | U12     | 0.230759           | 1.00     | 0.230759     |
| 14S6283100  | Integrated Circuit | FWH1    | 0.161957           | 1.00     | 0.161957     |