

ONYX-170/190 Reliability Prediction Report (MTBF)

Report NO : 08P070018

10-03-2008

Issue Date

Wenyuan Yang

Manager

Jessica Chou

Test Engineer

Reliability Prediction (MTBF)

I . **Model Name:** TF-ONYX-170/190DTT-A1-1010

II . **Prediction Date:** Oct. 3rd, 2008

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: 26.1 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:

ONYX-170/190 (not include power supply, LCD, Touch screen and Inverter) :

Failure Rate: 16.164592 ppm

MTBF: 61,864 Hours

Below key parts were provided by the suppliers.

ONYX-170 component:

- Power supply (SPS.15-24V.150W.DC.IN ATX.EPD-146-3)

MTBF: 188,380.7 hours

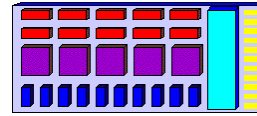
- LCD (TFT LCD.17".CPT.CLAA170EA07.4 LAMP)
Lamp life Time: Min. 40,000 hours (IL at 7.0 mA)
- Touch (TOUCH SCREEN.17".8 Wire.Resistive.AMT.10013)
Touch panel is hit 10 millions times with a silicone rubber of R8 finger, hitting rate is by 250g at 2 times per second.
- Inverter (INVERTER.DC TO AC.FOR HYUNDAI 17" TFT LCD.(4LAMPS).QF132V1.16(S))
MTBF: 92,9375.8033 hours

ONYX-190 component:

- Power supply (same as ONYX-170)
- LCD (TFT LCD.19".AUO.M190EN04.1.400nits)
CCFL life Time: Typ. 50,000 hours
- Touch (TOUCH SCREEN.19".8 Wire.Resistive.AMT.9548)
Touch panel is hit 10 millions times with a silicone rubber of R8 finger, hitting rate is by 250g at 2 times per second.
- Inverter (same as ONYX-170)

AAEON Reliability Prediction Report

Part Number
Reference Des
Date 10. 3, 2008
Environment GF, GU - Ground Fixed, Uncontrolled
Temp. (°C) 26.10



Description Top-level assembly
File Name TF-ONYX-170_190DTT-A1-
Time 5:21 下午
Failure Rate 16.164592
MTBF 61,864

Assembly Name	Part Number	Model	Method	Environment	Duty Cycle	Qty	Failure Rate	MTBF
TF-ONYX-170/190DTT-A10-1010		Bellcore	Method I Case 3	GF, GU - Ground Fixed,	100.00	1.00	16.164592	61,864
ASS'Y KIT	9741170000	Bellcore	Method I Case 3	GF, GU - Ground Fixed,		1.00	16.164592	61,864
ASS'Y 8 in 1 Card Reader T066	9697T06600	Bellcore	Method I Case 3	GF, GU - Ground Fixed,		1.00	0.439101	2,277,379
SMD ASS'Y 8 in 1 Card Reader T066	9697T06601	Bellcore	Method I Case 3	GF, GU - Ground Fixed,		1.00	0.282506	3,539,752
ASS'Y Y011 OSD Board	9697Y01102	Bellcore	Method I Case 3	GF, GU - Ground Fixed,		1.00	0.007230	138,311,350
ASS'Y Y010 I/O Board	9697Y01008	Bellcore	Method I Case 3	GF, GU - Ground Fixed,		1.00	2.402494	416,234
ASS'Y PER-1109 Riser Card	9697110902	Bellcore	Method I Case 3	GF, GU - Ground Fixed,		1.00	0.079981	12,503,007
ASS'Y CD-ROM Transfer Board	9697T02300	Bellcore	Method I Case 3	GF, GU - Ground Fixed,		1.00	0.022151	45,145,701
PCM-8200-A10	969782001P	Bellcore	Method I Case 3	GF, GU - Ground Fixed,		1.00	13.208908	75,706
ASS'Y YC03 USB Board	9697YC0300	Bellcore	Method I Case 3	GF, GU - Ground Fixed,		1.00	0.004727	211,552,662

AAEON Reliability Prediction Report

Part Number 9697Y01008
Reference Des
Date 10. 3, 2008
Environment GF, GU - Ground Fixed, Uncontrolled
Temp. (°C) 26.10

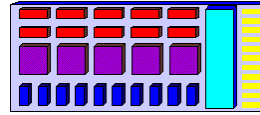


Description
File Name TF-ONYX-170_190DTT-A1-
Time 5:21 下午
Failure Rate 2.402494
MTBF 416,234

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
1653003101	Connection	CN11	Bellcore Issue 6	Level I		0.001205	1.00	.0502	0.001205	829868102.59
1653222200	Connection	CN22	Bellcore Issue 6	Level I		0.030125	1.00	1.2539	0.030125	33194724.10
1655004110	Connection	CN27	Bellcore Issue 6	Level I		0.001205	1.00	.0502	0.001205	829868102.59
1655304020	Connection	CN25	Bellcore Issue 6	Level I		0.001205	1.00	.0502	0.001205	829868102.59
1655305120	Connection	CN29	Bellcore Issue 6	Level I		0.001205	1.00	.0502	0.001205	829868102.59
1654409106	Connection	CN7	Bellcore Issue 6	Level I		0.001205	1.00	.0502	0.001205	829868102.59
1655304121	Connection	CN31	Bellcore Issue 6	Level I		0.001205	1.00	.0502	0.001205	829868102.59
1655308021	Connection	CN17,CN20,CN26	Bellcore Issue 6	Level I		0.001205	3.00	.1505	0.003615	829868102.59
1655302120	Connection	CN23,CN24,CN28	Bellcore Issue 6	Level I		0.001205	3.00	.1505	0.003615	829868102.59
1654543500	Connection	COM-LPT1	Bellcore Issue 6	Level I		0.001205	1.00	.0502	0.001205	829868102.59
1654808304	Connection	CN18	Bellcore Issue 6	Level I		0.001205	1.00	.0502	0.001205	829868102.59
1231316053	Miscellaneous	Y1	Bellcore Issue 6	Level I		0.150000	1.00	6.2435	0.150000	6666666.67
1653005224	Connection	CN1	Bellcore Issue 6	Level I		0.001205	1.00	.0502	0.001205	829868102.59
1653008220	Connection	CN2	Bellcore Issue 6	Level I		0.001205	1.00	.0502	0.001205	829868102.59
1653009222	Connection	CN6	Bellcore Issue 6	Level I		0.001205	1.00	.0502	0.001205	829868102.59
1653020220	Connection	CN13,CN8	Bellcore Issue 6	Level I		0.001205	2.00	.1003	0.002410	829868102.59
1653004222	Connection	CN12	Bellcore Issue 6	Level I		0.001205	1.00	.0502	0.001205	829868102.59
1653004223	Connection	CN4	Bellcore Issue 6	Level I		0.001205	1.00	.0502	0.001205	829868102.59
1654816300	Connection	CN15	Bellcore Issue 6	Level I		0.001205	1.00	.0502	0.001205	829868102.59
12311120A1	Miscellaneous	Y2	Bellcore Issue 6	Level I		0.150000	1.00	6.2435	0.150000	6666666.67
1653003221	Connection	JP1-JP3	Bellcore Issue 6	Level I		0.001205	3.00	.1505	0.003615	829868102.59
1653005228	Connection	CN30,CN9	Bellcore Issue 6	Level I		0.001205	2.00	.1003	0.002410	829868102.59
1653007224	Connection	CN3	Bellcore Issue 6	Level I		0.001205	1.00	.0502	0.001205	829868102.59
1653013225	Connection	CN10	Bellcore Issue 6	Level I		0.001205	1.00	.0502	0.001205	829868102.59
105A701053	Resistor	R27,R63,R67-R69,R72,R73	Bellcore Issue 6	Level I		0.002317	7.00	.6751	0.016219	431604896.39
105A703303	Resistor	R30,R34,R37,R46-R48,R53-R55,R-57	Bellcore Issue 6	Level I		0.002317	10.00	.9644	0.023169	431604896.39
105A703323	Resistor	R26	Bellcore Issue 6	Level I		0.002317	1.00	.0964	0.002317	431604896.39
105A701533	Resistor	R16,R17,R40,R44,R61,R64,R75,R-77,R8,R9	Bellcore Issue 6	Level I		0.002317	10.00	.9644	0.023169	431604896.39
105A710053	Resistor	R20	Bellcore Issue 6	Level I		0.013902	1.00	.5786	0.013902	71934149.40
105A502033	Resistor	R10,R11	Bellcore Issue 6	Level I		0.002317	2.00	.1929	0.004634	431604896.39

AAEON Reliability Prediction Report

Part Number 9697Y01008
Reference Des
Date 10. 3, 2008
Environment GF, GU - Ground Fixed, Uncontrolled
Temp. (°C) 26.10



Description
File Name TF-ONYX-170_190DTT-A1-
Time 5:21 下午
Failure Rate 2.402494
MTBF 416,234

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
105A510003	Resistor	R18	Bellcore Issue 6	Level I		0.002317	1.00	.0964	0.002317	431604896.39
105A510033	Resistor	R4,R65,R66	Bellcore Issue 6	Level I		0.002317	3.00	.2893	0.006951	431604896.39
105A701523	Resistor	R36	Bellcore Issue 6	Level I		0.002317	1.00	.0964	0.002317	431604896.39
105A747033	Resistor	R41	Bellcore Issue 6	Level I		0.002317	1.00	.0964	0.002317	431604896.39
105A751003	Resistor	R59	Bellcore Issue 6	Level I		0.002317	1.00	.0964	0.002317	431604896.39
1121733780	Capacitor	C70,C71	Bellcore Issue 6	Level I		0.004634	2.00	.3858	0.009268	215802448.20
1122701680	Capacitor	C10-C12,C15-C19,C21,C22,C25,C-28,C29,C3,C30,C36,C4,C40-C42,C-44,C45,C49	Bellcore Issue 6	Level I		0.004634	23.00	4.4362	0.106579	215802448.20
1122701680	Capacitor	C51,C55,C56,C58,C6,C60-C63,C66-C69,C74-C76,C8,CB1-CB4	Bellcore Issue 6	Level I		0.004634	21.00	4.0504	0.097311	215802448.20
1124405080	Capacitor	C31,C34	Bellcore Issue 6	Level I		0.004634	2.00	.3858	0.009268	215802448.20
1124410080	Capacitor	C48	Bellcore Issue 6	Level I		0.004634	1.00	.1929	0.004634	215802448.20
1124518180	Capacitor	C72	Bellcore Issue 6	Level I		0.004634	1.00	.1929	0.004634	215802448.20
1124420080	Capacitor	C64,C65	Bellcore Issue 6	Level I		0.004634	2.00	.3858	0.009268	215802448.20
1540700080	Resistor	RN3	Bellcore Issue 6	Level I		0.006567	1.00	.2733	0.006567	152277777.10
1129701080	Capacitor	C43,C47,C54,C57,CM1	Bellcore Issue 6	Level I		0.004634	5.00	.9644	0.023169	215802448.20
1301005441	Semiconductor	D1-D9	Bellcore Issue 6	Level I		0.024645	9.00	9.2323	0.221806	40575947.67
1540775080	Resistor	RN1	Bellcore Issue 6	Level I		0.006567	1.00	.2733	0.006567	152277777.10
14S6334610	Integrated Circuit	U4,U7	Bellcore Issue 6	Level I		0.033152	2.00	2.7598	0.066305	30163853.14
1540747282	Resistor	RN2	Bellcore Issue 6	Level I		0.006567	1.00	.2733	0.006567	152277777.10
1212308056	Inductor	L22	Bellcore Issue 6	Level I		0.002317	1.00	.0964	0.002317	431604896.39
1121647780	Capacitor	C13	Bellcore Issue 6	Level I		0.004634	1.00	.1929	0.004634	215802448.20
1122501780	Capacitor	C26,C35,C38	Bellcore Issue 6	Level I		0.004634	3.00	.5786	0.013902	215802448.20
1121710090	Capacitor	C77	Bellcore Issue 6	Level I		0.004634	1.00	.1929	0.004634	215802448.20
1314111715	Integrated Circuit	U6	Bellcore Issue 6	Level I		0.064322	1.00	2.6773	0.064322	15546849.77
1111610190	Capacitor	C1,C14,C20,C23,C27,C5,C59,C73	Bellcore Issue 6	Level I		0.045188	8.00	15.0470	0.361503	22129816.07
1213103008	Inductor	LN1,LN2	Bellcore Issue 6	Level I		0.002317	2.00	.1929	0.004634	431604896.39
1174518180	Capacitor	RC5-RC8	Bellcore Issue 6	Level I		0.005505	4.00	.9165	0.022020	181656644.94
1174510380	Capacitor	CP3	Bellcore Issue 6	Level I		0.005505	1.00	.2291	0.005505	181656644.94
1121733380	Capacitor	C46	Bellcore Issue 6	Level I		0.004634	1.00	.1929	0.004634	215802448.20
14S4138100	Integrated Circuit	U3	Bellcore Issue 6	Level I		0.064322	1.00	2.6773	0.064322	15546849.77

AAEON Reliability Prediction Report

Part Number 9697Y01008
Reference Des
Date 10. 3, 2008
Environment GF, GU - Ground Fixed, Uncontrolled
Temp. (°C) 26.10



Description
File Name TF-ONYX-170_190DTT-A1-
Time 5:21 下午
Failure Rate 2.402494
MTBF 416,234

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
1214309000	Inductor	CH1-CH4	Bellcore Issue 6	Level I		0.002317	4.00	.3858	0.009268	431604896.39
14S4050100	Integrated Circuit	U5	Bellcore Issue 6	Level I		0.041911	1.00	1.7445	0.041911	23860196.21
14S5705300	Integrated Circuit	U9	Bellcore Issue 6	Level I		0.041911	1.00	1.7445	0.041911	23860196.21
14S4085000	Integrated Circuit	U11	Bellcore Issue 6	Level I	30.00	0.205735	1.00	8.5634	0.205735	4860628.12
14S3522800	Integrated Circuit	U1,U2	Bellcore Issue 6	Level I		0.064322	2.00	5.3546	0.128643	15546849.77
1752340000	Miscellaneous	F1-F5	Bellcore Issue 6	Level I		0.030000	5.00	6.2435	0.150000	33333333.33
1121610180	Capacitor	C79,C80	Bellcore Issue 6	Level I		0.004634	2.00	.3858	0.009268	215802448.20
1121610060	Capacitor	C2,C9,CT1-CT5	Bellcore Issue 6	Level I		0.004634	7.00	1.3501	0.032437	215802448.20
14S1013200	Integrated Circuit	U12	Bellcore Issue 6	Level I		0.064322	1.00	2.6773	0.064322	15546849.77
105A701033	Resistor	R1,R13,R14,R19,R28,R45,R7	Bellcore Issue 6	Level I		0.002317	7.00	.6751	0.016219	431604896.39
105A747003	Resistor	R5,R6	Bellcore Issue 6	Level I		0.002317	2.00	.1929	0.004634	431604896.39
105A700003	Resistor	L1,L10-L30,L2-L9,R31,R32,R39,R4-3,R49-R52,R56,R58,R60,R62,R76,-R79,R83,R85	Bellcore Issue 6	Level I		0.002317	45.00	4.3397	0.104262	431604896.39
1653011200	Connection	JP8	Bellcore Issue 6	Level I		0.001205	1.00	.0502	0.001205	829868102.59
1654612307	Connection	PT1	Bellcore Issue 6	Level I		0.001205	1.00	.0502	0.001205	829868102.59
1654530302	Connection	AUDIO1	Bellcore Issue 6	Level I		0.001205	1.00	.0502	0.001205	829868102.59
1654608307	Connection	CN5	Bellcore Issue 6	Level I		0.001205	1.00	.0502	0.001205	829868102.59

AAEON Reliability Prediction Report

Part Number 9697T02300
Reference Des
Date 10. 3, 2008
Environment GF, GU - Ground Fixed, Uncontrolled
Temp. (°C) 26.10



Description
File Name TF-ONYX-170_190DTT-A1-
Time 5:21 下午
Failure Rate 0.022151
MTBF 45,145,701

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
1122701680	Capacitor	C2, C4	Bellcore Issue 6	Level I		0.004634	2.00	41.8398	0.009268	215802448.20
1121610060	Capacitor	C1, C3	Bellcore Issue 6	Level I		0.004634	2.00	41.8398	0.009268	215802448.20
1654050000	Connection	CN2	Bellcore Issue 6	Level I		0.001205	1.00	5.4401	0.001205	829868102.59
1653002101	Connection	JP1	Bellcore Issue 6	Level I		0.001205	1.00	5.4401	0.001205	829868102.59
1653222200	Connection	CN1	Bellcore Issue 6	Level I		0.001205	1.00	5.4401	0.001205	829868102.59

AAEON Reliability Prediction Report

Part Number 969782001P
Reference Des
Date 10. 3, 2008
Environment GF, GU - Ground Fixed, Uncontrolled
Temp. (°C) 26.10

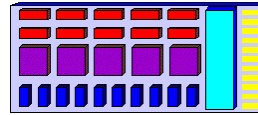


Description
File Name TF-ONYX-170_190DTT-A1-
Time 5:21 下午
Failure Rate 13.208908
MTBF 75,706

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
1655417020	Connection	CN6	Bellcore Issue 6	Level I		0.012050	1.00	.0912	0.012050	82986810.26
1653006100	Connection	CN17	Bellcore Issue 6	Level I		0.090376	1.00	.6842	0.090376	11064908.03
1181633110	Capacitor	EC3	Bellcore Issue 6	Level I		0.000805	1.00	.0061	0.000805	1241857345.87
1653003100	Connection	JP2,JP4	Bellcore Issue 6	Level I		0.001808	2.00	.0274	0.003615	553245401.73
1654260201	Connection	PCI1	Bellcore Issue 6	Level I		0.072301	1.00	.5474	0.072301	13831135.04
1750220323	Connection	BAT1	Bellcore Issue 6	Level I		0.001205	1.00	.0091	0.001205	829868102.59
1653209200	Connection	CN1	Bellcore Issue 6	Level I		0.024100	1.00	.1825	0.024100	41493405.13
1653005200	Connection	CN3	Bellcore Issue 6	Level I		0.024100	1.00	.1825	0.024100	41493405.13
14S6200400	Integrated Circuit	U20	Bellcore Issue 6	Level I		0.177400	1.00	1.3430	0.177400	5636973.73
1750119011	Miscellaneous	BAT1	Bellcore Issue 6	Level I		0.900000	1.00	6.8136	0.900000	1111111.11
1653208200	Connection	CN2	Bellcore Issue 6	Level I		0.024100	1.00	.1825	0.024100	41493405.13
1655003000	Connection	CN16,CN4	Bellcore Issue 6	Level I		0.024100	2.00	.3649	0.048200	41493405.13
1653210203	Connection	CN5	Bellcore Issue 6	Level I		0.012050	1.00	.0912	0.012050	82986810.26
1655305020	Connection	CN8	Bellcore Issue 6	Level I		0.003013	1.00	.0228	0.003013	331947241.04
1654907000	Connection	SATA1,SATA2	Bellcore Issue 6	Level I		0.004218	2.00	.0639	0.008435	237105172.17
1651592490	Connection	DIMM1	Bellcore Issue 6	Level I		0.014460	1.00	.1095	0.014460	69155675.22
1653220208	Connection	IDE1	Bellcore Issue 6	Level I		0.024100	1.00	.1825	0.024100	41493405.13
1652508204	Connection	LAN1	Bellcore Issue 6	Level I		0.024100	1.00	.1825	0.024100	41493405.13
1213160008	Inductor	BP2-BP9	Bellcore Issue 6	Level I		0.002317	8.00	.1403	0.018535	431604896.39
1653925216	Connection	CFD1	Bellcore Issue 6	Level I		0.014460	1.00	.1095	0.014460	69155675.22
1653207201	Connection	CN12,CN9	Bellcore Issue 6	Level I		0.024100	2.00	.3649	0.048200	41493405.13
1653210201	Connection	CN11	Bellcore Issue 6	Level I		0.012050	1.00	.0912	0.012050	82986810.26
165300420B	Connection	CN19	Bellcore Issue 6	Level I		0.024100	1.00	.1825	0.024100	41493405.13
1174510180	Capacitor	CP1,CP10-CP13,CP2-CP4,CP6-CP9	Bellcore Issue 6	Level I		0.000709	12.00	.0644	0.008504	1411090853.19
1129701690	Capacitor	C100,C102,C105-C109,C11,C110,-C112,C114-C118,C120-C126,C133-C137	Bellcore Issue 6	Level I		0.000805	27.00	.1646	0.021742	1241857345.87
1129701690	Capacitor	C148-C152,C15,C154,C158-C160,-C162-C166,C172-C175,C179-C184-C19	Bellcore Issue 6	Level I		0.000805	26.00	.1585	0.020936	1241857345.87
1129701690	Capacitor	C188,C189,C192-C203,C2,C212-C218,C224,C233-C236,C239,C24,C241	Bellcore Issue 6	Level I		0.000805	30.00	.1829	0.024157	1241857345.87

AAEON Reliability Prediction Report

Part Number 969782001P
Reference Des
Date 10. 3, 2008
Environment GF, GU - Ground Fixed, Uncontrolled
Temp. (°C) 26.10



Description
File Name TF-ONYX-170_190DTT-A1-
Time 5:21 下午
Failure Rate 13.208908
MTBF 75,706

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
1129701690	Capacitor	C245,C246,C25,C251,C255,C259,-C26,C264-C265,C269,C27,C28,C2-81,C29	Bellcore Issue 6	Level I		0.000805	14.00	.0853	0.011273	1241857345.87
1129701690	Capacitor	C298-C299,C30,C300,C302-C304,-C306-C308,C310,C317-C319,C322-C605,C608,C612	Bellcore Issue 6	Level I		0.000805	18.00	.1097	0.014494	1241857345.87
1129701690	Capacitor	C324,C325,C328,C330,C332-C334,-C336,C337,C34,C346,C349,C35,C-350	Bellcore Issue 6	Level I		0.000805	14.00	.0853	0.011273	1241857345.87
1129701690	Capacitor	C353,C36,C367,C371-C378,C380--C384,C389-C395,C4,C401,C406,C-407	Bellcore Issue 6	Level I		0.000805	27.00	.1646	0.021742	1241857345.87
1129701690	Capacitor	C408,C409,C41,C413,C414,C417,-C42,C421-C426,C431-C434,C436,-C439	Bellcore Issue 6	Level I		0.000805	19.00	.1158	0.015300	1241857345.87
1129701690	Capacitor	C443,C445,C456,C458,C46,C460,-C463-C466,C468,C469,C47,C470--C472	Bellcore Issue 6	Level I		0.000805	16.00	.0975	0.012884	1241857345.87
1129701690	Capacitor	C474-C476,C48,C480-C484,C486--C488,C49,C492-C493,C497,C498,-C50	Bellcore Issue 6	Level I		0.000805	18.00	.1097	0.014494	1241857345.87
1129701690	Capacitor	C500-C504,C506-C509,C513,C515-,C518-C524,C52,C528,C529,C53,C-530,C531	Bellcore Issue 6	Level I		0.000805	24.00	.1463	0.019326	1241857345.87
1129701690	Capacitor	C54,C547-C549,C55,C550,C551,C-553-C556,C558,C559,C56,C560,C-563,C564	Bellcore Issue 6	Level I		0.000805	17.00	.1036	0.013689	1241857345.87
1129701690	Capacitor	C565-C571,C57,C573-C584,C588--C590,C59,C592,C595,C596,C599,-C61-C64	Bellcore Issue 6	Level I		0.000805	32.00	.1951	0.025768	1241857345.87
1129701690	Capacitor	C68-CC72,C7,C75-C78,C8,C80,C8-2,C88,C9,C90-C96,C98,C99	Bellcore Issue 6	Level I		0.000805	24.00	.1463	0.019326	1241857345.87
1129747650	Capacitor	C113,C23,C279,C280,C316,C32,C-356,C44,C6	Bellcore Issue 6	Level I		0.000805	9.00	.0549	0.007247	1241857345.87
1129701790	Capacitor	C156,C176,C20,C242,C271,C274,-C329,C331,C363,C442,C444	Bellcore Issue 6	Level I		0.000805	11.00	.0671	0.008858	1241857345.87
1129701790	Capacitor	C447,C459,C478,C494,C495,C517-,C525,C526,C562,C81	Bellcore Issue 6	Level I		0.000805	10.00	.0610	0.008052	1241857345.87
1124533190	Capacitor	C177,C186,C278,C341,C343,C397-,C40,C438,C473,C538,C540,C613	Bellcore Issue 6	Level I		0.000805	12.00	.0732	0.009663	1241857345.87
14S47009B0	Integrated Circuit	U5	Bellcore Issue 6	Level I		0.074030	1.00	.5605	0.074030	13508094.28

AAEON Reliability Prediction Report

Part Number 969782001P
Reference Des
Date 10. 3, 2008
Environment GF, GU - Ground Fixed, Uncontrolled
Temp. (°C) 26.10

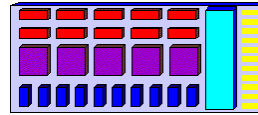


Description
File Name TF-ONYX-170_190DTT-A1-
Time 5:21 下午
Failure Rate 13.208908
MTBF 75,706

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
105A510009	Resistor	R120,R22,R242,R243,R250,R27,R-273,R274,R296,R297,R395,R459,R-461,R484	Bellcore Issue 6	Level I		0.002317	14.00	.2456	0.032437	431604896.39
105A527463	Resistor	R100,R123,R206,R268,R28	Bellcore Issue 6	Level I		0.002317	5.00	.0877	0.011585	431604896.39
1059700001	Resistor	R147,R195,R205,R212,R35,R368,-R478,R526,R541,R599,FB10,R35,-R368,R636	Bellcore Issue 6	Level I		0.002317	12.00	.2105	0.027803	431604896.39
105A701009	Resistor	R111-R113,R118,R135,R157-R160,-R186,R203,R204,R220-R224,R283-R284,R386,R387	Bellcore Issue 6	Level I		0.002317	21.00	.3684	0.048656	431604896.39
105A701009	Resistor	R326,R327,R50,R51,R62,R63,R74-R75,R76,R96-R99	Bellcore Issue 6	Level I		0.002317	13.00	.2280	0.030120	431604896.39
105A507509	Resistor	R357,R381,R388,R389,R392,R442-R443,R475,R68,R382,R401	Bellcore Issue 6	Level I		0.002317	11.00	.1929	0.025486	431604896.39
105A501039	Resistor	R225,R234,R276,R278,R318,R320-R323,R335-R337,R466,R467	Bellcore Issue 6	Level I		0.002317	12.00	.2105	0.027803	431604896.39
105A501633	Resistor	R552	Bellcore Issue 6	Level I		0.002317	1.00	.0175	0.002317	431604896.39
105A502423	Resistor	R345,R472	Bellcore Issue 6	Level I		0.002317	2.00	.0351	0.004634	431604896.39
105A501039	Resistor	R488,R560,R79	Bellcore Issue 6	Level I		0.002317	3.00	.0526	0.006951	431604896.39
105A703303	Resistor	FB1,FB12,FB2-FB4	Bellcore Issue 6	Level I		0.002317	5.00	.0877	0.011585	431604896.39
1315030110	Semiconductor	Q34,Q36,Q41,Q6,Q7	Bellcore Issue 6	Level I		0.082150	5.00	3.1097	0.410752	12172784.30
105A708229	Resistor	R128,R275,R307,R308,R421,R516-R519,R530,R547,R555,R332,R641-R643	Bellcore Issue 6	Level I		0.002317	15.00	.2631	0.034754	431604896.39
105A578703	Resistor	R136,R227,R232,R260,R228	Bellcore Issue 6	Level I		0.002317	5.00	.0877	0.011585	431604896.39
105A701053	Resistor	R148,R529	Bellcore Issue 6	Level I		0.002317	2.00	.0351	0.004634	431604896.39
1129710390	Capacitor	C146,C147,C153,C171,C205,C207-C357,C359,C535,C536	Bellcore Issue 6	Level I		0.000805	10.00	.0610	0.008052	1241857345.87
1121722650	Capacitor	C244,C247,C284,C285	Bellcore Issue 6	Level I		0.000805	4.00	.0244	0.003221	1241857345.87
1121733780	Capacitor	C314,C315	Bellcore Issue 6	Level I		0.000805	2.00	.0122	0.001610	1241857345.87
1124568280	Capacitor	C419	Bellcore Issue 6	Level I		0.000805	1.00	.0061	0.000805	1241857345.87
1301053040	Semiconductor	D11,D12,D3,D5-D9	Bellcore Issue 6	Level I		0.024645	8.00	1.4926	0.197161	40575947.67
1119622180	Capacitor	EC1,EC2	Bellcore Issue 6	Level I		0.013610	2.00	.2061	0.027221	73473576.83
1212306030	Inductor	FB22,FB23,FB33,FB34,FB37,FB38,-FB47,FB5	Bellcore Issue 6	Level I		0.002317	8.00	.1403	0.018535	431604896.39
1212308054	Inductor	FB41,FB42,FB43,FB45,FB6	Bellcore Issue 6	Level I		0.002317	5.00	.0877	0.011585	431604896.39

AAEON Reliability Prediction Report

Part Number 969782001P
Reference Des
Date 10. 3, 2008
Environment GF, GU - Ground Fixed, Uncontrolled
Temp. (°C) 26.10



Description
File Name TF-ONYX-170_190DTT-A1-
Time 5:21 下午
Failure Rate 13.208908
MTBF 75,706

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
121230603H	Inductor	FB11,FB39,FB44,FB46,FB48-FB50- FB7,FB8,FB9	Bellcore Issue 6	Level I		0.002317	10.00	.1754	0.023169	431604896.39
1212306035	Inductor	FB13-FB20,FB26-FB32,FB36,FB40	Bellcore Issue 6	Level I		0.002317	17.00	.2982	0.039388	431604896.39
121230603F	Inductor	FB24,FB25,FB35	Bellcore Issue 6	Level I		0.002317	3.00	.0526	0.006951	431604896.39
1653217209	Connection	FDD1	Bellcore Issue 6	Level I		0.024100	1.00	.1825	0.024100	41493405.13
1129610260	Capacitor	HC1	Bellcore Issue 6	Level I		0.000805	1.00	.0061	0.000805	1241857345.87
1304101340	Semiconductor	LED1	Bellcore Issue 6	Level I		0.005391	1.00	.0408	0.005391	185508171.18
1304001340	Semiconductor	LED2-LED5	Bellcore Issue 6	Level I		0.005391	4.00	.1632	0.021562	185508171.18
1211100160	Inductor	L1,L2	Bellcore Issue 6	Level I		0.002317	2.00	.0351	0.004634	431604896.39
1211103362	Inductor	L3,L6,L9	Bellcore Issue 6	Level I		0.088043	3.00	1.9996	0.264130	11358023.59
1211103360	Inductor	L4,L5	Bellcore Issue 6	Level I		0.088043	2.00	1.3331	0.176087	11358023.59
1211101569	Inductor	L8	Bellcore Issue 6	Level I		0.088043	1.00	.6665	0.088043	11358023.59
1211101569	Inductor	L7	Bellcore Issue 6	Level I	29.00	0.147240	1.00	1.1147	0.147240	6791638.04
1211106870	Inductor	L10	Bellcore Issue 6	Level I		0.002317	1.00	.0175	0.002317	431604896.39
1211100102	Inductor	L11	Bellcore Issue 6	Level I		0.002317	1.00	.0175	0.002317	431604896.39
1654262300	Connection	MPC11	Bellcore Issue 6	Level I		0.014460	1.00	.1095	0.014460	69155675.22
1315030210	Semiconductor	Q1	Bellcore Issue 6	Level I		0.000000	1.00	.0000	0.000000	.00
105A519623	Resistor	R291	Bellcore Issue 6	Level I		0.002317	1.00	.0175	0.002317	431604896.39
105A523233	Resistor	R317	Bellcore Issue 6	Level I		0.002317	1.00	.0175	0.002317	431604896.39
105A528723	Resistor	R289	Bellcore Issue 6	Level I		0.002317	1.00	.0175	0.002317	431604896.39
105A502833	Resistor	R430,R435	Bellcore Issue 6	Level I		0.002317	2.00	.0351	0.004634	431604896.39
105A513703	Resistor	R439	Bellcore Issue 6	Level I		0.002317	1.00	.0175	0.002317	431604896.39
105A560403	Resistor	R454,R482	Bellcore Issue 6	Level I		0.002317	2.00	.0351	0.004634	431604896.39
14S5500400	Integrated Circuit	U20	Bellcore Issue 6	Level I		0.041911	1.00	.3173	0.041911	23860196.21
14S1488000	Integrated Circuit	U25	Bellcore Issue 6	Level I		0.064322	1.00	.4870	0.064322	15546849.77
14S3033800	Integrated Circuit	U27	Bellcore Issue 6	Level I		0.064322	1.00	.4870	0.064322	15546849.77
14S4871200	Integrated Circuit	U30	Bellcore Issue 6	Level I		0.041911	1.00	.3173	0.041911	23860196.21
1231332721	Miscellaneous	Y2	Bellcore Issue 6	Level I		0.150000	1.00	1.1356	0.150000	6666666.67
105A705139	Resistor	R151,R200,R236,R577,R578,R580- R581,R149,R343,R384	Bellcore Issue 6	Level I		0.002317	10.00	.1754	0.023169	431604896.39
105A507523	Resistor	R168	Bellcore Issue 6	Level I		0.002317	1.00	.0175	0.002317	431604896.39
105A503033	Resistor	R193,R319,R568	Bellcore Issue 6	Level I		0.002317	3.00	.0526	0.006951	431604896.39

AAEON Reliability Prediction Report

Part Number 969782001P
Reference Des
Date 10. 3, 2008
Environment GF, GU - Ground Fixed, Uncontrolled
Temp. (°C) 26.10

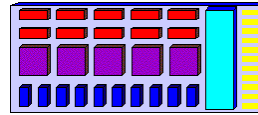


Description
File Name TF-ONYX-170_190DTT-A1-
Time 5:21 下午
Failure Rate 13.208908
MTBF 75,706

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
105A547503	Resistor	R246,R229	Bellcore Issue 6	Level I		0.002317	2.00	.0351	0.004634	431604896.39
105A506823	Resistor	R277,R321	Bellcore Issue 6	Level I		0.002317	2.00	.0351	0.004634	431604896.39
105A578763	Resistor	R563	Bellcore Issue 6	Level I		0.002317	1.00	.0175	0.002317	431604896.39
1054600289	Resistor	SR1,SR2,SR4	Bellcore Issue 6	Level I		0.002317	3.00	.0526	0.006951	431604896.39
1189615187	Capacitor	TC11,TC13,TC15,TC19,TC27,TC28-TC4,TC5,TC7-TC9	Bellcore Issue 6	Level I		0.000805	11.00	.0671	0.008858	1241857345.87
1315970110	Semiconductor	U1,U14,U22,U9	Bellcore Issue 6	Level I		0.164301	4.00	4.9755	0.657204	6086392.15
14S3020100	Integrated Circuit	U3	Bellcore Issue 6	Level I		0.064322	1.00	.4870	0.064322	15546849.77
1315700211	Semiconductor	Q10-Q15,Q17-Q21,Q2,Q27,Q32,Q35,Q42,Q45,Q46,Q50,Q60-Q63,Q65,Q66	Bellcore Issue 6	Level I		0.082150	25.00	15.5483	2.053762	12172784.30
1315731210	Semiconductor	Q40,Q8,Q9	Bellcore Issue 6	Level I		0.082150	3.00	1.8658	0.246451	12172784.30
1315441012	Semiconductor	Q22,Q23,Q49	Bellcore Issue 6	Level I		0.082150	3.00	1.8658	0.246451	12172784.30
1315231310	Semiconductor	Q37-Q39	Bellcore Issue 6	Level I		0.000000	3.00	.0000	0.000000	.00
1315422010	Semiconductor	Q53,Q55,Q57,Q59	Bellcore Issue 6	Level I		0.000000	4.00	.0000	0.000000	.00
1315423010	Semiconductor	Q4,Q5,Q52,Q54,Q56,Q58	Bellcore Issue 6	Level I		0.000000	6.00	.0000	0.000000	.00
1315230111	Semiconductor	Q28,Q51	Bellcore Issue 6	Level I		0.000000	2.00	.0000	0.000000	.00
1315993310	Semiconductor	Q31	Bellcore Issue 6	Level I		0.164301	1.00	1.2439	0.164301	6086392.15
1540710084	Resistor	RP10,RP12,RP14,RP16,RP18,RP2- RP20,RP22,RP25,RP26,RP29,RP30,RP33	Bellcore Issue 6	Level I		0.006567	13.00	.6463	0.085370	152277777.10
1540710084	Resistor	RP34,RP38,RP4,RP51,RP53-RP55- RP7,RP8	Bellcore Issue 6	Level I		0.006567	9.00	.4474	0.059103	152277777.10
1540782282	Resistor	RP72,RP35,RP39-RP50,RP52,RP56-RP59	Bellcore Issue 6	Level I		0.006567	19.00	.9446	0.124772	152277777.10
105A704729	Resistor	R14,R19,R2,R259,R303,R305,R309-R312,R333,R338,R385,R393,R107-R594,R602,R603,R604	Bellcore Issue 6	Level I		0.002317	19.00	.3333	0.044022	431604896.39
105A704729	Resistor	R42,R47,R514,R528,R543,R549,R567,R591,R595,R606,R608,R615,R617	Bellcore Issue 6	Level I		0.002317	13.00	.2280	0.030120	431604896.39
105A703309	Resistor	R13,R215,R26,R4,R429,R450,R451-R584,R587,R59	Bellcore Issue 6	Level I		0.002317	10.00	.1754	0.023169	431604896.39
105A703309	Resistor	R592,R605,R607	Bellcore Issue 6	Level I		0.002317	3.00	.0526	0.006951	431604896.39
105A733009	Resistor	R105,R298,R300,R361,R394,R470-R471,R473,R5,R511,R521,R558,R6	Bellcore Issue 6	Level I		0.002317	13.00	.2280	0.030120	431604896.39

AAEON Reliability Prediction Report

Part Number 969782001P
Reference Des
Date 10. 3, 2008
Environment GF, GU - Ground Fixed, Uncontrolled
Temp. (°C) 26.10



Description
File Name TF-ONYX-170_190DTT-A1-
Time 5:21 下午
Failure Rate 13.208908
MTBF 75,706

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
105A739039	Resistor	R463	Bellcore Issue 6	Level I		0.002317	1.00	.0175	0.002317	431604896.39
105A733009	Resistor	R7,R84-R89,R9	Bellcore Issue 6	Level I		0.002317	8.00	.1403	0.018535	431604896.39
105A700009	Resistor	R10,R197,R251,R258,R30,R31,R3-67,R38,R40,R422,R448	Bellcore Issue 6	Level I		0.002317	12.00	.2105	0.027803	431604896.39
105A700009	Resistor	R465,R479,R491,R496,R548,R554-R589,R600,R609,R610,R69	Bellcore Issue 6	Level I		0.002317	13.00	.2280	0.030120	431604896.39
105A700009	Resistor	R90,R131,R30,R31,R504,R621,R6-25,R629,R631,R635	Bellcore Issue 6	Level I		0.002317	10.00	.1754	0.023169	431604896.39
105A560463	Resistor	R20,R21,R377,R378	Bellcore Issue 6	Level I		0.002317	4.00	.0702	0.009268	431604896.39
105A524303	Resistor	R23	Bellcore Issue 6	Level I		0.002317	1.00	.0175	0.002317	431604896.39
105A549969	Resistor	R119,R178,R25,R460,R485,R512,-R513,R570-R575	Bellcore Issue 6	Level I		0.002317	13.00	.2280	0.030120	431604896.39
1059700101	Resistor	R124,R125,R140,R141,R285,R29,-R294,R347-348,R409,R436,R498,-R499,R52	Bellcore Issue 6	Level I		0.002317	14.00	.2456	0.032437	431604896.39
105A551113	Resistor	R340	Bellcore Issue 6	Level I		0.002317	1.00	.0175	0.002317	431604896.39
105A551123	Resistor	R194	Bellcore Issue 6	Level I		0.002317	1.00	.0175	0.002317	431604896.39
105A554903	Resistor	R354	Bellcore Issue 6	Level I		0.002317	1.00	.0175	0.002317	431604896.39
1059700101	Resistor	R53-R55,R562,R611-R614,R64,R65	Bellcore Issue 6	Level I		0.002317	10.00	.1754	0.023169	431604896.39
105A705609	Resistor	R402,R46,R108-110,R114-R117,-R132-R134,R138,R139,R153-R156,-R184,R185,R356,R375	Bellcore Issue 6	Level I		0.002317	20.00	.3508	0.046339	431604896.39
105A705609	Resistor	R201,R202,R216-R219,R265,R266-R281,R282,R324,R325,R48,R49,-R536,R545	Bellcore Issue 6	Level I		0.002317	16.00	.2807	0.037071	431604896.39
105A705609	Resistor	R559,R60,R61,R70-R73,R92-R95	Bellcore Issue 6	Level I		0.002317	11.00	.1929	0.025486	431604896.39
105A701039	Resistor	R198,R209,R210,R293,R315,R334-R391,R426,R432,R481,R503,R507-R522	Bellcore Issue 6	Level I		0.002317	13.00	.2280	0.030120	431604896.39
105A701039	Resistor	R546,R56,R58,R582,R583,R81,R2-87	Bellcore Issue 6	Level I		0.002317	7.00	.1228	0.016219	431604896.39
105A515009	Resistor	R121,R455,R483,R525,R538,R77	Bellcore Issue 6	Level I		0.002317	6.00	.1052	0.013902	431604896.39
105A530103	Resistor	R122,R78	Bellcore Issue 6	Level I		0.002317	2.00	.0351	0.004634	431604896.39
105A701003	Resistor	R146,R192,R211,R502,R91,R638	Bellcore Issue 6	Level I		0.002317	6.00	.1052	0.013902	431604896.39
105A500133	Resistor	R104,R271,R419,R420,R500	Bellcore Issue 6	Level I		0.002317	5.00	.0877	0.011585	431604896.39
105A710053	Resistor	R127,R531,R544	Bellcore Issue 6	Level I		0.013902	3.00	.3157	0.041705	71934149.40

AAEON Reliability Prediction Report

Part Number 969782001P
Reference Des
Date 10. 3, 2008
Environment GF, GU - Ground Fixed, Uncontrolled
Temp. (°C) 26.10



Description
File Name TF-ONYX-170_190DTT-A1-
Time 5:21 下午
Failure Rate 13.208908
MTBF 75,706

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Failure Rate, Unit	Quantity	Failure Rate, %	Failure Rate	MTBF, Unit
105A524963	Resistor	R129,R565	Bellcore Issue 6	Level I		0.002317	2.00	.0351	0.004634	431604896.39
105A547523	Resistor	R144	Bellcore Issue 6	Level I		0.002317	1.00	.0175	0.002317	431604896.39
105A518223	Resistor	R145,R290	Bellcore Issue 6	Level I		0.002317	2.00	.0351	0.004634	431604896.39
1129610050	Capacitor	C138-C143,C220,C221,C225-C232-,C499,C505,C527,C532	Bellcore Issue 6	Level I		0.000805	20.00	.1219	0.016105	1241857345.87
1124547280	Capacitor	C208	Bellcore Issue 6	Level I		0.000805	1.00	.0061	0.000805	1241857345.87
1121610060	Capacitor	C248,C598	Bellcore Issue 6	Level I		0.000805	2.00	.0122	0.001610	1241857345.87
1124410190	Capacitor	C288-C297,C342,C345,C358,C364-,C366,C368-C370,C398,C405,C534-,C537	Bellcore Issue 6	Level I		0.000805	23.00	.1402	0.018521	1241857345.87
1124410190	Capacitor	C572	Bellcore Issue 6	Level I		0.000805	1.00	.0061	0.000805	1241857345.87
1124522881	Capacitor	C404	Bellcore Issue 6	Level I		0.000805	1.00	.0061	0.000805	1241857345.87
1122747880	Capacitor	C441	Bellcore Issue 6	Level I		0.000805	1.00	.0061	0.000805	1241857345.87
1124405080	Capacitor	C511,C512	Bellcore Issue 6	Level I		0.000805	2.00	.0122	0.001610	1241857345.87
1300001440	Semiconductor	D31,D32	Bellcore Issue 6	Level I		0.024645	2.00	.3732	0.049290	40575947.67
1301005440	Semiconductor	D30,D10,D17,D2,D29,D4	Bellcore Issue 6	Level I		0.024645	6.00	1.1195	0.147871	40575947.67
1301005441	Semiconductor	D13,D16,D18,D19	Bellcore Issue 6	Level I		0.024645	4.00	.7463	0.098581	40575947.67
1301005442	Semiconductor	D14,D15,D24	Bellcore Issue 6	Level I		0.024645	3.00	.5597	0.073935	40575947.67
1213112008	Inductor	BP1	Bellcore Issue 6	Level I		0.002317	1.00	.0175	0.002317	431604896.39
1759100006	Miscellaneous	BUZZ1	Bellcore Issue 6	Level I		0.150000	1.00	1.1356	0.150000	6666666.67
1214309000	Inductor	CH1-CH4	Bellcore Issue 6	Level I		0.002317	4.00	.0702	0.009268	431604896.39
1653003202	Connection	JP3	Bellcore Issue 6	Level I		0.024100	1.00	.1825	0.024100	41493405.13
1653003202	Connection	CN7,JP5-JP8	Bellcore Issue 6	Level I		0.024100	5.00	.9123	0.120501	41493405.13
1653204200	Connection	CN10	Bellcore Issue 6	Level I		0.004820	1.00	.0365	0.004820	207467025.65
1653205201	Connection	CN14,CN18,CN21	Bellcore Issue 6	Level I		0.006025	3.00	.1368	0.018075	165973620.52
1653213207	Connection	CN15	Bellcore Issue 6	Level I		0.015665	1.00	.1186	0.015665	63836007.89
165322020B	Connection	CN20	Bellcore Issue 6	Level I		0.024100	1.00	.1825	0.024100	41493405.13
1174547080	Capacitor	CP5	Bellcore Issue 6	Level I		0.000709	1.00	.0054	0.000709	1411090853.19
1129747090	Capacitor	C16-C18,C256,C260-C263	Bellcore Issue 6	Level I		0.004634	9.00	.3157	0.041705	215802448.20
1124427090	Capacitor	C1,C103,C104,C14,C21,C22,C257-,C258,C340,C344,C347,C399,C400	Bellcore Issue 6	Level I		0.000805	13.00	.0793	0.010468	1241857345.87
1129710090	Capacitor	C127,C128,C13,C130,C210,C238-,C240,C277,C461,C5	Bellcore Issue 6	Level I		0.000805	10.00	.0610	0.008052	1241857345.87

