

NanoCOM-U15

Reliability Prediction Report (MTBF)

Report NO. : 10E070010

03-29-2010

Issue Date

Jansin Lee

Sr. Manager

Jessica Chou

Test Engineer

Reliability Prediction (MTBF)

I . **Model Name:** NanoCOM-U15-A20

II . **Prediction Date:** Mar. 29, 2010

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

IV . **Predicted by:** Jessica Chou

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

VI. Simulation Environment:

- Temperature: 26.6 degrees C
- Standard: Telcordia (Bellcore) Standard

VII. Term and Definition:

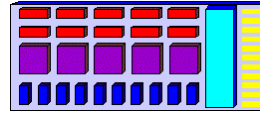
- Unit : An assembly of device.
- Duty Cycle : 100%
- Quantity : The quantity of the selected item.
- Failure Rate : Used to specify that the failure rate is to be calculated based the selected Calculation models. The multiplier is 1,000,000.
- MTBF : MTBF is always specified in hours.

VIII. Prediction Result:

- NanoCOM-U15-A20:
Failure Rate: 10.489822 ppm
MTBF: 95,331 Hours

AAEON Reliability Prediction Report

Part Number 9697NU150E-D
Reference Des
Date 03. 29, 2010
Environment GF, GU - Ground Fixed, Uncontrolled
Temp. (°C) 26.60



Description Top-level assembly
File Name NanoCOM-U15-A20.RPJ
Time 11:23 上午
Failure Rate 10.489822
MTBF 95,331

Assembly Name	Part Number	Model	Method	Environment	Duty Cycle	Qty	Failure Rate	MTBF
TF-NanoCOM-U15-A20	9697NU150E-D	Telcordia Issue 1	Method I Case 3	GF, GU - Ground Fixed, Uncontrolled	100.00	1.00	10.49	95330.50

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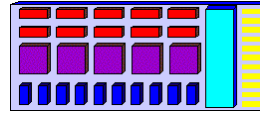


Description Top-level assembly
File Name NanoCOM-U15-A20.RPJ
Time 11:23 上午
Failure Rate 10.489822
MTBF 95,331

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Quantity	Failure Rate, Unit	Failure Rate, %	MTBF, Unit
1655902130	Connection	CN2	Telcordia Issue 1	Level I		1.00	0.001237	.0118	808656994.97
1653930130	Connection	CN3	Telcordia Issue 1	Level I		1.00	0.018549	.1768	53910466.33
16540M0001	Connection	CN4	Telcordia Issue 1	Level I		1.00	0.136028	1.2968	7351427.23
1121501690	Capacitor	C1,C10,C102,C103, C104,C106,C107, C110,C113,C115,C12, C125,C126,C130, C134,C142,C149,C15, C150,C153,C154, C159,C16,C165,C169, C17,C178,C18,C185, C186,C192,C194, C195,C196,C197, C198,C199,C2,C202, C203,C204,C208, C211,C213,C214,	Telcordia Issue 1	Level I		110.00	0.004679	4.9066	213717259.02
11E9501091	Capacitor	C101,C11,C127,C128, C174,C175,C176, C177,C180,C182, C187,C188,C190, C191,C20,C201,C210, C212,C216,C222, C228,C233,C235, C237,C243,C244, C245,C246,C253, C258,C26,C260,C266, C270,C323,C336,C45, C654,C674,C85,C9, C91	Telcordia Issue 1	Level I		42.00	0.004679	1.8734	213717259.02
11E9647680	Capacitor	C13	Telcordia Issue 1	Level I		1.00	0.004679	.0446	213717259.02
1129610080	Capacitor	C114,C117,C121, C122,C124,C129, C132,C14,C143,C167, C168,C172,C173, C181,C189,C19,C200, C206,C209,C221, C226,C227,C23,C24, C248,C249,C296, C297,C299,C301,C32, C50,C52,C55,C61, C64,C71,C75,C84	Telcordia Issue 1	Level I		39.00	0.004679	1.7396	213717259.02
1129710390	Capacitor	C25,C658,C661,C68, C70	Telcordia Issue 1	Level I		5.00	0.004679	.2230	213717259.02
1124433190	Capacitor	C58	Telcordia Issue 1	Level I		1.00	0.004679	.0446	213717259.02

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11C2510480	Capacitor	C285,C286,C287,C59, C67,C69,C76	Telcordia Issue 1	Level I		7.00	0.004679	.3122	213717259.02
1129701790	Capacitor	C120,C229,C236, C267,C298,C302,C62, C664,C79,C80,C81, C82,C97	Telcordia Issue 1	Level I		13.00	0.004679	.5799	213717259.02
1129610051	Capacitor	C112,C116,C273,C72	Telcordia Issue 1	Level I		4.00	0.004679	.1784	213717259.02
11E2647650	Capacitor	C274,C281,C282, C283,C289,C73,C77	Telcordia Issue 1	Level I		7.00	0.004679	.3122	213717259.02
1124405090	Capacitor	C86	Telcordia Issue 1	Level I		1.00	0.004679	.0446	213717259.02
1124433090	Capacitor	C100,C87,C99	Telcordia Issue 1	Level I		3.00	0.004679	.1338	213717259.02
11E2501080	Capacitor	C263,C651,C92	Telcordia Issue 1	Level I		3.00	0.004679	.1338	213717259.02
1129710090	Capacitor	C108,C251,C269, C272,C275	Telcordia Issue 1	Level I		5.00	0.004679	.2230	213717259.02
1124522280	Capacitor	C119	Telcordia Issue 1	Level I		1.00	0.004679	.0446	213717259.02
1124410190	Capacitor	C205	Telcordia Issue 1	Level I		1.00	0.004679	.0446	213717259.02
1121647780	Capacitor	C219	Telcordia Issue 1	Level I		1.00	0.004679	.0446	213717259.02
1124518180	Capacitor	C224	Telcordia Issue 1	Level I		1.00	0.004679	.0446	213717259.02
1121615080	Capacitor	C225	Telcordia Issue 1	Level I		1.00	0.004679	.0446	213717259.02
1124533280	Capacitor	C257	Telcordia Issue 1	Level I		1.00	0.004679	.0446	213717259.02
1129747090	Capacitor	C663	Telcordia Issue 1	Level I		1.00	0.004679	.0446	213717259.02
11C4515190	Capacitor	C672,C673	Telcordia Issue 1	Level I		2.00	0.004679	.0892	213717259.02
1300001440	Semiconductor	D15,D3	Telcordia Issue 1	Level I		2.00	0.024999	.4766	40002218.10
1301005446	Semiconductor	D5,D6	Telcordia Issue 1	Level I		2.00	0.024999	.4766	40002218.10
1309009940	Semiconductor	D10,D7	Telcordia Issue 1	Level I		2.00	0.083329	1.5888	12000665.43
1301053040	Semiconductor	D43,D9	Telcordia Issue 1	Level I		2.00	0.024999	.4766	40002218.10
1301005450	Semiconductor	D12,D13,D17	Telcordia Issue 1	Level I		3.00	0.024999	.7149	40002218.10
1301005442	Semiconductor	D14	Telcordia Issue 1	Level I		1.00	0.024999	.2383	40002218.10
1301005447	Semiconductor	D16	Telcordia Issue 1	Level I		1.00	0.024999	.2383	40002218.10
1300581940	Semiconductor	D44	Telcordia Issue 1	Level I		1.00	0.083329	.7944	12000665.43
121230603I	Inductor	FB1,FB2	Telcordia Issue 1	Level I		2.00	0.002340	.0446	427434518.04
1212306033	Inductor	FB3,FB4,FB5	Telcordia Issue 1	Level I		3.00	0.002340	.0669	427434518.04
165300320D	Connection	JP1	Telcordia Issue 1	Level I		1.00	0.001237	.0118	808656994.97
1211101066	Inductor	L1,L2,L4	Telcordia Issue 1	Level I		3.00	0.088903	2.5425	11248276.79
121110100Y	Inductor	L5	Telcordia Issue 1	Level I	29.40	1.00	0.003931	.0375	254364869.04
121110336P	Inductor	L6	Telcordia Issue 1	Level I		1.00	0.088903	.8475	11248276.79
1315422410	Semiconductor	Q1,Q31,Q5,Q6	Telcordia Issue 1	Level I		4.00	0.083329	3.1775	12000665.43
1315495710	Integrated Circuit	Q2	Telcordia Issue 1	Level I		1.00	0.066696	.6358	14993388.27
1311138610	Semiconductor	Q4,Q9	Telcordia Issue 1	Level I		2.00	0.024999	.4766	40002218.10

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Time 11:23 上午
Failure Rate 10.489822
MTBF 95,331

Part Number	Category	Location	Calculation Model	Quality	Tem. Rise	Quantity	Failure Rate, Unit	Failure Rate, %	MTBF, Unit
105A500139	Resistor	R137,R187,R199, R213,R225,R229,R24, R259,R279,R289, R301,R303,R310, R318,R330,R341, R344,R352,R381, R382,R386,R387, R388,R60,R72,R74	Telcordia Issue 1	Level I		26.00	0.002340	.5799	427434518.04
105A701009	Resistor	R11,R14,R151,R152, R163,R622	Telcordia Issue 1	Level I		6.00	0.002340	.1338	427434518.04
105A575033	Resistor	R23	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
105A700009	Resistor	R117,R121,R133, R159,R164,R200, R239,R25,R250,R317, R333,R336,R351, R355,R357,R360, R364,R366,R369, R370,R371,R374, R376,R378,R385, R393,R395,R640, R641	Telcordia Issue 1	Level I		29.00	0.002340	.6468	427434518.04
105A501039	Resistor	R162,R181,R240,R28, R291,R334,R335	Telcordia Issue 1	Level I		7.00	0.002340	.1561	427434518.04
105A510009	Resistor	R118,R215,R276, R280,R292,R30,R31, R637,R638	Telcordia Issue 1	Level I		9.00	0.002340	.2007	427434518.04
105A705609	Resistor	R204,R205,R211, R216,R222,R223, R230,R32,R51,R53, R55,R58,R77	Telcordia Issue 1	Level I		13.00	0.002340	.2899	427434518.04
105A502039	Resistor	R33	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
105A500133	Resistor	R246,R251,R258, R261,R269,R274, R281,R305,R34	Telcordia Issue 1	Level I		9.00	0.002340	.2007	427434518.04
105A702209	Resistor	R295,R298,R327,R47	Telcordia Issue 1	Level I		4.00	0.002340	.0892	427434518.04
105A524963	Resistor	R49	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
105A560469	Resistor	R227,R231,R232, R243,R50	Telcordia Issue 1	Level I		5.00	0.002340	.1115	427434518.04
105A527469	Resistor	R244,R249,R73	Telcordia Issue 1	Level I		3.00	0.002340	.0669	427434518.04
105A568003	Resistor	R76	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
105A702033	Resistor	R85	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
105A701033	Resistor	R262,R275,R285, R287,R293,R294,R86	Telcordia Issue 1	Level I		7.00	0.002340	.1561	427434518.04
105A529423	Resistor	R91	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
1050540224	Resistor	R100,R102,R103	Telcordia Issue 1	Level I		3.00	0.002340	.0669	427434518.04
105A703309	Resistor	R104,R177,R202, R267	Telcordia Issue 1	Level I		4.00	0.002340	.0892	427434518.04

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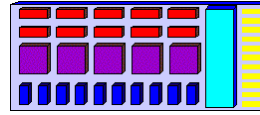


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105A507533	Resistor	R105	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
105A704729	Resistor	R110,R113,R119, R208,R209,R236, R241,R242,R247, R290,R365,R383, R389	Telcordia Issue 1	Level I		13.00	0.002340	.2899	427434518.04
105A704739	Resistor	R264	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
105A708229	Resistor	R116,R346,R348	Telcordia Issue 1	Level I		3.00	0.002340	.0669	427434518.04
105A503333	Resistor	R123	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
105A702229	Resistor	R127,R128,R161, R206	Telcordia Issue 1	Level I		4.00	0.002340	.0892	427434518.04
105B500379	Resistor	R132	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
105A701233	Resistor	R134	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
1050520004	Resistor	R136,R139,R168	Telcordia Issue 1	Level I		3.00	0.002340	.0669	427434518.04
105A701059	Resistor	R138	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
105270000A	Resistor	R140	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
105A512103	Resistor	R167	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
105A700109	Resistor	R185	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
105A700003	Resistor	R191,R212,R224, R238,R272,R283, R337,R394	Telcordia Issue 1	Level I		8.00	0.002340	.1784	427434518.04
105A530163	Resistor	R203	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
1050524904	Resistor	R214,R254,R277	Telcordia Issue 1	Level I		3.00	0.002340	.0669	427434518.04
1050510034	Resistor	R220,R226	Telcordia Issue 1	Level I		2.00	0.002340	.0446	427434518.04
105A554969	Resistor	R234,R237	Telcordia Issue 1	Level I		2.00	0.002340	.0446	427434518.04
105A701003	Resistor	R245	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
105A500239	Resistor	R253,R278	Telcordia Issue 1	Level I		2.00	0.002340	.0446	427434518.04
105A522103	Resistor	R260	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
1059700001	Resistor	R263,R270,R314, R321,R350	Telcordia Issue 1	Level I		5.00	0.002340	.1115	427434518.04
105A522663	Resistor	R288	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
105A703909	Resistor	R297	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
105A704723	Resistor	R307,R315,R320, R328	Telcordia Issue 1	Level I		4.00	0.002340	.0892	427434518.04
105A701053	Resistor	R311	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
105A540213	Resistor	R312	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
105A733009	Resistor	R323,R345	Telcordia Issue 1	Level I		2.00	0.002340	.0446	427434518.04
105A518223	Resistor	R324	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
105A710053	Resistor	R331	Telcordia Issue 1	Level I		1.00	0.014037	.1338	71239086.34
105A549919	Resistor	R342	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
1050536514	Resistor	R343	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
105A501223	Resistor	R361	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04

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105A518703	Resistor	R362	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
105A511503	Resistor	R363	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
105A708209	Resistor	R429	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
105A512033	Resistor	R610	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
105A588703	Resistor	R625	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
105A502833	Resistor	R630	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
1050549904	Resistor	R632	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
105A517423	Resistor	R634	Telcordia Issue 1	Level I		1.00	0.002340	.0223	427434518.04
105A513033	Resistor	R642,R643	Telcordia Issue 1	Level I		2.00	0.002340	.0446	427434518.04
1189633160	Capacitor	TC1	Telcordia Issue 1	Level I		1.00	0.004679	.0446	213717259.02
1189615161	Capacitor	TC2,TC3	Telcordia Issue 1	Level I		2.00	0.046373	.8842	21564186.53
1189622151	Capacitor	TC4	Telcordia Issue 1	Level I		1.00	0.046373	.4421	21564186.53
1189627150	Capacitor	TC5,TC6	Telcordia Issue 1	Level I		2.00	0.004679	.0892	213717259.02
1182633080	Capacitor	TC7	Telcordia Issue 1	Level I		1.00	0.004679	.0446	213717259.02
1189615151	Capacitor	TC8	Telcordia Issue 1	Level I		1.00	0.004679	.0446	213717259.02
14S6818400	Integrated Circuit	U1,U13,U14,U2,U24,U25,U26	Telcordia Issue 1	Level I		7.00	0.035951	2.3991	27815661.28
14S6818400	Integrated Circuit	U23	Telcordia Issue 1	Level I	26.50	1.00	0.209405	1.9963	4775435.79
14S2048600	Integrated Circuit	U4	Telcordia Issue 1	Level I		1.00	0.066696	.6358	14993388.27
14S4005000	Integrated Circuit	U7	Telcordia Issue 1	Level I	34.40	1.00	0.172998	1.6492	5780409.37
14S4821500	Integrated Circuit	U8	Telcordia Issue 1	Level I	29.70	1.00	0.138407	1.3194	7225067.33
14S4033001	Integrated Circuit	U9	Telcordia Issue 1	Level I	39.00	1.00	0.213924	2.0393	4674562.74
14S3511800	Integrated Circuit	U10	Telcordia Issue 1	Level I	39.00	1.00	0.810547	7.7270	1233734.26
14S4751100	Integrated Circuit	U11	Telcordia Issue 1	Level I	33.80	1.00	0.168200	1.6035	5945310.72
1315176100	Integrated Circuit	U15	Telcordia Issue 1	Level I		1.00	0.066696	.6358	14993388.27
14S6340228	Integrated Circuit	U16	Telcordia Issue 1	Level I		1.00	0.029629	.2825	33751156.02
14S4900100	Integrated Circuit	U18	Telcordia Issue 1	Level I	32.60	1.00	0.560077	5.3392	1785469.76
14S6308001	Integrated Circuit	U19	Telcordia Issue 1	Level I		1.00	0.040313	.3843	24805976.25
14S2041500	Integrated Circuit	U20	Telcordia Issue 1	Level I		1.00	0.066696	.6358	14993388.27
14S4825740	Integrated Circuit	U22	Telcordia Issue 1	Level I	35.60	1.00	0.182954	1.7441	5465852.04
14S2045400	Integrated Circuit	U38	Telcordia Issue 1	Level I		1.00	0.066696	.6358	14993388.27
1233310040	Miscellaneous	Y1	Telcordia Issue 1	Level I		1.00	0.360000	3.4319	2777777.78
123132505D	Miscellaneous	Y2,Y3	Telcordia Issue 1	Level I		2.00	0.150000	2.8599	6666666.67
123131435J	Miscellaneous	Y4	Telcordia Issue 1	Level I		1.00	0.150000	1.4300	6666666.67
1231332722	Miscellaneous	Y5	Telcordia Issue 1	Level I		1.00	0.150000	1.4300	6666666.67
14S9781800	Integrated Circuit	U17	Telcordia Issue 1	Level I		1.00	0.066696	.6358	14993388.27
14S62U1508	Integrated Circuit	U21	Telcordia Issue 1	Level I	35.00	1.00	0.249045	2.3742	4015338.77

