

PXI-GM45

Reliability Prediction Report (MTBF)

Summary	Failure Rate: 11339.230847 ppm MTBF: 88,189 Hours
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Issue date	Approval	Test Engineer
2013/07/24	Tom Lin	Jack Huang

Reliability Prediction (MTBF)

I . Model Name: PXI-GM45

II . Prediction Date: July. 24, 2013

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

IV . Predicted by: Jack Huang

V . Equipment: Windchill Quality Solutions 10.1

VI. Simulation Environment:

- Temperature: 30 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 Failure rate multiplier is 1000000000.
- MTBF : MTBF is always specified in hours.

VIII. Prediction Result:

PXI-GM45 (9697PX4584-D , 9697PXI883-D , 9697PXR084-D):

- Failure Rate: 11339.230847 ppm

- MTBF: 88,189 Hours

**AAEON Reliability Prediction
Summary**

File Name: PXI-GM45.rfp
Duty Cycle: 100
Calculation Model: Telcordia Issue 2
Method: Method I Case 3

Failure Rate: 11339.230847
MTBF (hrs): 88,189
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Assembly Name	Part Number	Ref Des	Quantity	Failure Rate	MTBF
PXI-GM45	System		1	11339.230847	88,189
ASS'Y.PXI-GM45_ATI.Rev.A1.0			1	8036.003705	124,440
ASS'Y.ECB-PXI8.Rev.A1.0			1	1866.750041	535,690
ASS'Y.ECB-PXR.Rev.A1.0			1	1672.156272	598,030

File Name: PXI-GM45.rfp
Assembly:
Ref Des:
Description:

Failure Rate: 8036.003705
MTBF (hrs): 124,440
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1050501234	Resistor	R440,R555		2.547039	2	154078778.388085
1050501634	Resistor	R794		2.547039	1	282340674.079668
1050502204	Resistor	R301,R325,R452		2.547039	3	107020754.986850
1050505164	Resistor	R815		2.547039	1	282340674.079668
1050507530	Resistor	R643,R648,R789		2.547039	3	107020754.986850
1050520004	Resistor	R522		2.547039	1	282340674.079668
1050522114	Resistor	R446,R69		2.547039	2	154078778.388085
1050524904	Resistor	R145,R158,R20		2.547039	3	107020754.986850
1050580614	Resistor	R807		2.547039	1	282340674.079668
1050584514	Resistor	R793		2.547039	1	282340674.079668
1050588724	Resistor	R814		2.547039	1	282340674.079668
1050597623	Resistor	R626		2.547039	1	282340674.079668
1050700002	Resistor	R298,R818		2.547039	2	154078778.388085
1050700304	Resistor	R813		2.547039	1	282340674.079668
1050701504	Resistor	R86		2.547039	1	282340674.079668
1054700289	Resistor	R367,R442,R443, R450		2.547039	4	82309758.689546
1055500570	Resistor	CR1,CR2		2.547039	2	154078778.388085
1059700001	Resistor	R303,R536,R540, R596,R642,R645, R799,R828		2.547039	8	43225424.698300
105A500103	Resistor	R598,R628,R824, R825,R826,R827, R829,R830		2.547039	8	43225424.698300
105A500133	Resistor	R618,R631		2.547039	2	154078778.388085
105A500139	Resistor	R122,R123,R124, R163,R21,R213,R249, R291,R3,R30,R348, R35,R355,R361,R372, R48,R589,R704,R705, R706,R707,R708, R709,R710,R711, R732		2.547039	26	14061076.827148

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105A500239	Resistor	R23,R349,R352,R576,R577,R580,R581,R582,R583,R585,R586,R590,R593,R731,R8		2.547039	15	23852782.943395
105A501039	Resistor	R267,R296,R373,R374,R375,R380,R382,R383,R385,R386,R387,R584,R602,R801		2.547039	14	25477245.255648
105A501123	Resistor	R630		2.547039	1	282340674.079668
105A501133	Resistor	R623		2.547039	1	282340674.079668
105A501539	Resistor	R556		2.547039	1	282340674.079668
105A503033	Resistor	R377		2.547039	1	282340674.079668
105A505603	Resistor	R51		2.547039	1	282340674.079668
105A505629	Resistor	R456		2.547039	1	282340674.079668
105A506823	Resistor	R376,R378		2.547039	2	154078778.388085
105A507509	Resistor	R264,R265,R266,R476,R480,R482		2.547039	6	56573956.677649
105A507533	Resistor	R790		2.547039	1	282340674.079668
105A509123	Resistor	R421		2.547039	1	282340674.079668
105A510009	Resistor	R14,R17,R173,R174,R175,R178,R181,R183,R185,R19,R195,R250,R397,R47,R568		2.547039	15	23852782.943395
105A510213	Resistor	R44		2.547039	1	282340674.079668
105A511523	Resistor	R619		2.547039	1	282340674.079668
105A512103	Resistor	R520		2.547039	1	282340674.079668
105A514014	Resistor	R370		2.547039	1	282340674.079668
105A514733	Resistor	R600		2.547039	1	282340674.079668

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105A515009	Resistor	R259,R260,R261, R319,R322,R323, R341,R344,R345,R36, R37,R38,R39,R40, R41		2.547039	15	23852782.943395
105A519163	Resistor	R156,R164		2.547039	2	154078778.388085
105A522103	Resistor	R18,R543,R544		2.547039	3	107020754.986850
105A522669	Resistor	R102,R105,R441, R754,R99		2.547039	5	67008142.102588
105A523713	Resistor	R28		2.547039	1	282340674.079668
105A525503	Resistor	R620		2.547039	1	282340674.079668
105A526113	Resistor	R624		2.547039	1	282340674.079668
105A527463	Resistor	R4,R6		2.547039	2	154078778.388085
105A528723	Resistor	R788		2.547039	1	282340674.079668
105A530113	Resistor	R33		2.547039	1	282340674.079668
105A532413	Resistor	R204,R205		2.547039	2	154078778.388085
105A536513	Resistor	R597,R625		2.547039	2	154078778.388085
105A540213	Resistor	R604		2.547039	1	282340674.079668
105A545303	Resistor	R209,R210		2.547039	2	154078778.388085
105A547503	Resistor	R103,R104,R615,R98		2.547039	4	82309758.689546
105A549903	Resistor	R34		2.547039	1	282340674.079668
105A549919	Resistor	R284,R304,R305, R308,R324,R327, R330,R472		2.547039	8	43225424.698300
105A549969	Resistor	R29,R502,R508,R509, R511,R514,R517, R519,R524,R526, R533		2.547039	11	32049696.385471
105A551103	Resistor	R49		2.547039	1	282340674.079668
105A554969	Resistor	R10,R11,R12,R13, R150,R5,R7, R9		2.547039	8	43225424.698300
105A568113	Resistor	R629		2.547039	1	282340674.079668
105A573223	Resistor	R787		2.547039	1	282340674.079668
105A580663	Resistor	R31,R32		2.547039	2	154078778.388085

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Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
105A700003	Resistor	FB22,FB23,F B24, FB25,FB26,F B39, FB40,FB41,F B42, FB49,FB52,F B53, R364,R595,R 614, R658,R663,R 798, R808		2.547039	19	19019185.781770
105A700009	Resistor	R146,R147,R 148,R15, R151,R152,R 153,R16, R187,R189,R 198, R202,R22,R2 52,R253, R254,R310,R 318, R332,R340,R 351, R353,R357,R 358, R362,R366,R 369, R371,R379,R 384, R429,R439,R 449, R457,R460,R 492, R497,R503,R 537, R538,R54,R5 5,R5		2.547039	98	3859308.399810
105A700109	Resistor	R601,R605,R 609,R74, R75,R77		2.547039	6	56573956.677649

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105A700139	Resistor	R292,R302,R311, R314,R315,R317, R320,R326,R333, R336,R337,R339, R342,R388,R396, R479,R572,R722, R724,R725,R734, R782		2.547039	22	16518584.576317
105A701009	Resistor	R159,R160,R251, R255,R256,R257, R258,R347,R389, R588,R591,R592, R594,R646,R70		2.547039	15	23852782.943395
105A701039	Resistor	R114,R128,R134, R136,R139,R142, R143,R162,R176, R177,R184,R188, R190,R192,R194, R196,R199,R200, R201,R207,R208, R211,R212,R215, R217,R218,R220, R221,R223,R227, R228,R230,R232, R235,R24,R241,R243, R244,R245,R246,		2.547039	154	2474280.814787
105A701053	Resistor	R125		2.547039	1	282340674.079668
105A701059	Resistor	R438		2.547039	1	282340674.079668
105A702033	Resistor	R135,R137		2.547039	2	154078778.388085

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105A702039	Resistor	R463		2.547039	1	282340674.079668
105A702229	Resistor	R111,R203,R206, R222,R225,R226, R229,R231,R233, R240,R242,R262, R263,R359,R360, R481,R486,R548, R740		2.547039	19	19019185.781770
105A702239	Resistor	R483,R484		2.547039	2	154078778.388085
105A702263	Resistor	R464		2.547039	1	282340674.079668
105A702429	Resistor	R273		2.547039	1	282340674.079668
105A703309	Resistor	R100,R101,R106, R107,R108,R109, R110,R112,R113, R115,R116,R117, R118,R119,R120, R121,R165,R283, R346,R350,R42,R43, R466,R467,R468, R469,R470,R493, R702,R748,R91,R94, R95,R96,R97		2.547039	35	10545622.718268
105A703329	Resistor	R510,R745		2.547039	2	154078778.388085
105A703363	Resistor	R795		2.547039	1	282340674.079668

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105A704729	Resistor	R166,R167,R279, R280,R424,R425, R426,R453,R462, R478,R505,R506, R507,R545,R546, R547,R587,R694, R720,R735,R752, R780,R803,R811, R836		2.547039	25	14603612.751152
105A704739	Resistor	R551,R774,R775		2.547039	3	107020754.986850
105A705129	Resistor	R489,R539		2.547039	2	154078778.388085
105A705139	Resistor	R416,R417,R418, R419,R451		2.547039	5	67008142.102588
105A705609	Resistor	R1,R131,R138,R149		2.547039	4	82309758.689546
105A706809	Resistor	R644		2.547039	1	282340674.079668
105A707529	Resistor	R809		2.547039	1	282340674.079668
105A708223	Resistor	R214,R236		2.547039	2	154078778.388085
105A708229	Resistor	R269,R270		2.547039	2	154078778.388085
105A710039	Resistor	R186,R197,R216,R26, R27,R368,R444,R783		2.547039	8	43225424.698300
105A710053	Resistor	R133,R293,R295, R363,R431,R432, R435,R716,R717, R746		2.547039	10	35079934.879747
105A733009	Resistor	R650,R651,R712, R713,R766,R767, R768,R769		2.547039	8	43225424.698300
105A733033	Resistor	R126,R132		2.547039	2	154078778.388085
105A747003	Resistor	R534,R541		2.547039	2	154078778.388085
105A747039	Resistor	R781		2.547039	1	282340674.079668
105A751003	Resistor	R191		2.547039	1	282340674.079668
106B501032	Resistor	RT1,RT2,RT3,RT5		2.547039	4	82309758.689546
106B747030	Resistor	RT4		2.547039	1	282340674.079668

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Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1121501691	Capacitor	C1,C101,C103,C104,C108,C111,C113,C114,C115,C122,C124,C130,C131,C132,C133,C139,C141,C147,C148,C149,C150,C156,C157,C160,C161,C162,C163,C165,C166,C167,C168,C169,C170,C171,C190,C191,C192,C193,C194,C195,		1.128806	245	3559062.268267
1121533480	Capacitor	C390,C391,C449, C608		1.128806	4	196873384.410843
1122522890	Capacitor	C102,C105,C109		1.128806	3	257514172.353070
1124410190	Capacitor	C164,C482,C483, C684		1.128806	4	196873384.410843
1124412090	Capacitor	C178,C179		1.128806	2	375289731.076049
1124427090	Capacitor	C176,C177,C275,C276,C303,C304,C346,C347,C441, C442		1.128806	10	82101057.548118
1124433090	Capacitor	C249,C250,C252,C253,C590		1.128806	5	159367490.199266
1124433190	Capacitor	C437		1.128806	1	704977644.692287
1124468090	Capacitor	C578		1.128806	1	704977644.692287
1124515880	Capacitor	C601		1.128806	1	704977644.692287
1124518180	Capacitor	C615		1.128806	1	704977644.692287
1124522180	Capacitor	C611		1.128806	1	704977644.692287
1124522190	Capacitor	C687		1.128806	1	704977644.692287
1124522280	Capacitor	C426		1.128806	1	704977644.692287

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1124522290	Capacitor	C554,C555,C558, C559,C560,C561		1.128806	6	133979725.056342
1124547190	Capacitor	C282,C286,C287, C339,C341,C342, C379,C381,C382, C459,C610		1.128806	11	74892583.279796
1129610051	Capacitor	C256,C260,C263, C267,C270,C271, C305,C308,C315, C326,C332,C349, C352,C356,C361, C373,C393,C406, C458,C462,C463, C467,C479,C481, C490,C526,C548, C549,C551,C552, C574,C575,C587, C588,C593,C594, C693,C694,C695		1.128806	39	21841170.168719

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1129610080	Capacitor	C10,C100,C107,C11,C112,C116,C12,C13,C14,C15,C16,C17,C172,C173,C174,C175,C18,C19,C20,C209,C21,C22,C223,C23,C24,C240,C25,C26,C27,C279,C28,C283,C29,C30,C301,C302,C31,C32,C33,C34,C35,C36,C37,C38,C40,C418,C419,C424,C448,C456,		1.128806	68	12644624.424143
1129622690	Capacitor	C676		1.128806	1	704977644.692287
1129710090	Capacitor	C243,C244,C245,C246,C247,C248,C273,C274,C473,C502,C503,C583,C584,C585,C586		1.128806	15	55479656.844874
1129710390	Capacitor	C606,C607,C690,C78,C94		1.128806	5	159367490.199266
1129715090	Capacitor	C666,C667,C668,C669		1.128806	4	196873384.410843
1129722091	Capacitor	C465		1.128806	1	704977644.692287
1174522180	Capacitor	CP1,CP2		1.128806	2	375289731.076049
1189615080	Capacitor	TC34,TC35		4.744484	2	86049450.747498
1189615150	Capacitor	TC21,TC22,TC24,TC26,TC27		4.744484	5	36944177.000623

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1189622153	Capacitor	TC1,TC10,TC11,TC12,TC13,TC14,TC15,TC16,TC17,TC18,TC19,TC2,TC20,TC3,TC31,TC32,TC33,TC38,TC39,TC4,TC5,TC6,TC7,TC8,TC9		4.744484	25	7938242.821958
1189922181	Capacitor	TC28		4.744484	1	159663026.715137
1189933180	Capacitor	TC36		4.744484	1	159663026.715137
11C1501080	Capacitor	C434		1.128806	1	704977644.692287
11C1533890	Capacitor	C630		1.128806	1	704977644.692287
11C2501050	Capacitor	C516		1.128806	1	704977644.692287
11C2501790	Capacitor	C182,C183,C184,C185,C186,C187,C188,C189,C208,C314,C336,C344,C345,C363,C376,C384,C385,C39,C436,C44,C46,C491,C501,C506,C507,C529,C562,C566,C602,C614,C618,C619,C80,C82		1.128806	34	24984844.161172
11C2539290	Capacitor	C685		1.128806	1	704977644.692287
11C4433880	Capacitor	C609		1.128806	1	704977644.692287
11C4501380	Capacitor	C613		1.128806	1	704977644.692287

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11E1522680	Capacitor	C123,C125,C134, C135,C136,C137, C138,C140,C142, C151,C152,C153, C154,C155,C218, C241,C43,C45,C73		1.128806	19	44097696.883526
11E1622060	Capacitor	C519,C520		1.128806	2	375289731.076049
11E2510060	Capacitor	C623,C626,C627		1.128806	3	257514172.353070
11E9501091	Capacitor	C106,C110,C118, C126,C127,C128, C129,C143,C144, C145,C146,C180, C181,C199,C224, C229,C231,C235, C298,C401,C405, C446,C468,C480, C498,C499,C500, C508,C512,C523, C524,C565,C58, C591,C598,C621,C636, C637,C65,C66,C6		1.128806	46	18574133.926778
11E9522790	Capacitor	C251,C254,C295,C51, C52,C599,C600,C604, C605,C612,C62,C63		1.128806	12	68856937.301178
11E9547490	Capacitor	C119,C120,C121,C57, C64,C74		1.128806	6	133979725.056342

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 Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
11E9547680	Capacitor	C158,C159,C215, C234,C242,C278, C280,C297,C300, C311,C334,C360, C374,C425,C603, C680,C72,C81,C88		1.128806	19	44097696.883526
11E9622050	Capacitor	C211,C216,C217, C307,C318,C337, C366,C377,C477, C478,C48,C50,C53, C54,C579,C689,C75, C83,C87,C91,C97		1.128806	21	40003791.624280
121110010F	Inductor	L3,L4,L6,L8		4.944252	4	43912872.424775
121110100P	Inductor	L1,L2,L7		4.944252	3	57363284.375370
121110106F	Inductor	L17	7.9	5.721075	1	133747099.663039
121110106S	Inductor	L18		4.944252	1	154760964.143460
121110156J	Inductor	L13		4.944252	1	154760964.143460
1211105675	Inductor	L15		4.944252	1	154760964.143460
1211105675	Inductor	L16	13.8	6.349624	1	120507468.605162
1211133074	Inductor	L12	9.6	5.897893	1	129737373.433181
1212306030	Inductor	FB10,FB11,FB12, FB13,FB14,FB15, FB16,FB17,FB19, FB20,FB21,FB32, FB36,FB38,FB43, FB47,FB48,FB50,FB9		4.944252	19	9964387.381435
1212306031	Inductor	FB27,FB28,FB29		4.944252	3	57363284.375370
1212306032	Inductor	FB30,FB31		4.944252	2	83201062.149749
1212306035	Inductor	FB2,FB4,FB44,FB45, FB46		4.944252	5	35631881.582999
1212306036	Inductor	FB6		4.944252	1	154760964.143460

File Name: PXI-GM45.rfp
Assembly:
Ref Des:
Description:

Failure Rate: 8036.003705
MTBF (hrs): 124,440
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
121230603S	Inductor	FB8		4.944252	1	154760964.143460
121230603Z	Inductor	FB1,FB3,FB5		4.944252	3	57363284.375370
121230805X	Inductor	FB7		4.944252	1	154760964.143460
121231206B	Inductor	FB33,FB34,F B35, FB51		4.944252	4	43912872.424775
12123C0007	Inductor	FB18		4.944252	1	154760964.143460
1214309006	Inductor	CH1,CH2,CH 3,CH4		4.944252	4	43912872.424775
123131435J	Miscellaneous	Y1		19.200000	1	23844262.770939
123132505D	Miscellaneous	Y3,Y4,Y5,Y9		19.200000	4	4388233.395340
1231332721	Miscellaneous	Y2		19.200000	1	23844262.770939
12333048A0	Miscellaneous	Y6		19.200000	1	23844262.770939
1233320050	Miscellaneous	Y8		19.200000	1	23844262.770939
1301005440	Semiconductor	D1,D25,D31, D32,D7, D8		7.793411	6	18540453.699406
1301005441	Semiconductor	D30,D39,D40 ,D41, D50		7.793411	5	21965031.404253
1301005442	Semiconductor	D14,D23,D24 ,D26		7.793411	4	26989084.126235
1301005444	Semiconductor	D4,D5,D6		7.793411	3	35106858.962001
1301053040	Semiconductor	D46,D48,D49 ,D52, D53,D54,D55 ,D56, D57,D58		7.793411	10	11489279.961809
1301400541	Semiconductor	D12		7.793411	1	92807310.010983
1304001340	Optical Device	LED2		79.003355	1	6497172.749112
1304101340	Optical Device	LED3		79.003355	1	6497172.749112
1304400250	Optical Device	LED1		79.003355	1	6497172.749112
1305080040	Semiconductor	D15,D16,D17 ,D18, D19,D20,D21 ,D22, D47		7.793411	9	12694047.317505
1305099140	Semiconductor	D2,D3		7.793411	2	50578095.223398
1310390410	Semiconductor	Q1		22.463360	1	31642600.748419
1310390411	Semiconductor	Q33		22.463360	1	31642600.748419
1310390413	Semiconductor	Q8,Q9		22.463360	2	17315095.066101
1311006910	Semiconductor	Q14,Q15		22.463360	2	17315095.066101
1311138610	Semiconductor	Q16,Q17,Q1 8,Q19		22.463360	4	9270607.712006
1311390610	Semiconductor	Q4		22.463360	1	31642600.748419
1314108610	Semiconductor	Q43		22.463360	1	31642600.748419
1314515111	Semiconductor	U31		22.463360	1	31642600.748419
1314880011	Semiconductor	U49		22.463360	1	31642600.748419
1315030110	Semiconductor	Q10,Q11,Q3 2,Q34		22.463360	4	9270607.712006
1315443510	Semiconductor	Q36,Q38,Q4 0,Q41		22.463360	4	9270607.712006

File Name: PXI-GM45.rfp
 Assembly:
 Ref Des:
 Description:

Failure Rate: 8036.003705
 MTBF (hrs): 124,440
 Temperature: 30
 Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1315632910	Semiconductor	Q44,Q47		22.463360	2	17315095.066101
1315700211	Semiconductor	Q28,Q29,Q30,Q31,Q45,Q46		22.463360	6	6378891.324740
1315700217	Semiconductor	Q37,Q39,Q42,Q48,Q5,Q50,Q51,Q52,Q6,Q7,Q70,Q71		22.463360	12	3332353.664911
1315806210	Semiconductor	Q60,Q62,Q64,Q73		22.463360	4	9270607.712006
1315806510	Semiconductor	Q59,Q61,Q63,Q72		22.463360	4	9270607.712006
1315870710	Semiconductor	Q53,Q54		22.463360	2	17315095.066101
1315970211	Semiconductor	U28,U29		22.463360	2	17315095.066101
1315997510	Semiconductor	Q49		22.463360	1	31642600.748419
1462PG45A0	Integrated Circuit	U21		11.063278	1	58231413.220643
14S2200900	Integrated Circuit	U13		43.803003	1	11739202.588727
14S2362400	Integrated Circuit	U58		43.803003	1	11739202.588727
14S2591200	Integrated Circuit	U41,U48		43.803003	2	6834791.244197
14S2951600	Integrated Circuit	U10		43.803003	1	11739202.588727
14S3066200	Integrated Circuit	U32		43.803003	1	11739202.588727
14S3111600	Integrated Circuit	U51		43.803003	1	11739202.588727
14S3112400	Integrated Circuit	U39		43.803003	1	11739202.588727
14S3626201	Integrated Circuit	U50		43.803003	1	11739202.588727
14S3880000	Integrated Circuit	U15,U45		43.803003	2	6834791.244197
14S3950500	Integrated Circuit	U7	1.1	47.335389	1	10863168.914323
14S4021301	Integrated Circuit	U25		43.803003	1	11739202.588727
14S4033002	Integrated Circuit	U30		43.803003	1	11739202.588727
14S4081110	Integrated Circuit	U22		43.803003	1	11739202.588727
14S4245000	Integrated Circuit	U2		43.803003	1	11739202.588727
14S4256700	Integrated Circuit	U16		43.803003	1	11739202.588727
14S4258300	Integrated Circuit	U17	13.2	107.206659	1	4796458.868488
14S4258300	Integrated Circuit	U19		43.803003	1	11739202.588727
14S4280119	Integrated Circuit	U3	7.8	75.022527	1	6854105.728380
14S4519500	Integrated Circuit	U23		43.803003	1	11739202.588727
14S4730701	Integrated Circuit	U14		43.803003	1	11739202.588727
14S4878300	Integrated Circuit	U24		43.803003	1	11739202.588727
14S5212502	Integrated Circuit	U46,U47		26.018600	2	14194252.866846
14S5912300	Integrated Circuit	U78		26.018600	1	25551442.237972
14S5A00401	Integrated Circuit	U9		26.018600	1	25551442.237972
14S5A00700	Integrated Circuit	U76		26.018600	1	25551442.237972
14S5A00821	Integrated Circuit	U40,U42,U52,U53		26.018600	4	7696979.559193
14S5A12509	Integrated Circuit	U61		26.018600	1	25551442.237972
14S62EPC00	Integrated Circuit	U44		43.803003	1	11739202.588727
14S6308002	Integrated Circuit	U18,U20		11.063278	2	32567094.099626

File Name: PXI-GM45.rfp
 Assembly:
 Ref Des:
 Description:

Failure Rate: 8036.003705
 MTBF (hrs): 124,440
 Temperature: 30
 Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
14S89C6220	Integrated Circuit	U43		43.803003	1	11739202.588727
14S9205000	Integrated Circuit	U33	11.3	94.685086	1	5430763.731589
14S9451200	Integrated Circuit	U56		11.063278	1	58231413.220643
14S9811500	Integrated Circuit	U77		26.018600	1	25551442.237972
14S9837860	Integrated Circuit	U27		26.018600	1	25551442.237972
1540710280	Resistor	RP7,RP8		9.971436	2	30043399.401299
1540722085	Resistor	RP15,RP16,R P17, RP18,RP19,R P20, RP21		9.971436	7	10584778.288368
1540733085	Resistor	RP10,RP9		9.971436	2	30043399.401299
1540747285	Resistor	RP13,RP14,R P22, RP23,RP24,R P25, RP26		9.971436	7	10584778.288368
1540782282	Resistor	RP1,RP2,RP3 ,RP4, RP5,RP6		9.971436	6	12090001.526571
1601110201	Switching Device	SW1		23.541578	1	23887758.027611
16515A2993	Connection	DIMM2		16.184835	1	35685591.360212
16515A2995	Connection	DIMM1		16.184835	1	35685591.360212
1651609991	Connection	U1		16.184835	1	35685591.360212
1651900860	Connection	U21		16.184835	1	35685591.360212
165251420B	Connection	CN2,CN3		16.184835	2	20390152.380746
1653002101	Connection	J7		16.184835	1	35685591.360212
1653003101	Connection	JP1,JP2,JP3		16.184835	3	14515880.849373
1653003202	Connection	JP4		16.184835	1	35685591.360212
1653005202	Connection	CN16,CN17		16.184835	2	20390152.380746
1653212100	Connection	CN24		16.184835	1	35685591.360212
1653300102	Connection	JP2_1- 2,JP3_1-2, JP4_1- 3,JP4_2-4		16.184835	4	11344857.509064
1653300108	Connection	JP1_1-2		16.184835	1	35685591.360212
1653900039	Connection	CFD1B1		16.184835	1	35685591.360212
165392521J	Connection	CFD1A1		16.184835	1	35685591.360212
16540B0301	Connection	CN19,CN22		16.184835	2	20390152.380746
16540B0302	Connection	CN20,CN23		16.184835	2	20390152.380746
1654409103	Connection	CN7		16.184835	1	35685591.360212
1654415315	Connection	CONN1		16.184835	1	35685591.360212
1654430301	Connection	CN1		16.184835	1	35685591.360212
1654804100	Connection	CN10,CN11,C N12,CN9		16.184835	4	11344857.509064
1654905101	Connection	J2		16.184835	1	35685591.360212
1654922104	Connection	SATA1		16.184835	1	35685591.360212
175011901H	Miscellaneous	BT1		306.000000	1	1681683.006787
1752001603	Miscellaneous	FS1,FS2		2.400000	2	143944727.196625

File Name: PXI-GM45.rfp
Assembly:
Ref Des:
Description:

Failure Rate: 1866.750041
MTBF (hrs): 535,690
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1050510034	Resistor	R132,R133,R134, R135,R136,R137, R138,R139,R63,R75		2.547039	10	35079934.879747
105A501039	Resistor	R67,R69		2.547039	2	154078778.388085
105A503039	Resistor	R76,R77,R78		2.547039	3	107020754.986850
105A509123	Resistor	R72		2.547039	1	282340674.079668
105A700009	Resistor	R126,R26,R27,R57, R59		2.547039	5	67008142.102588
105A700139	Resistor	R118,R119,R120, R121,R122,R123, R124,R125,R15,R16		2.547039	10	35079934.879747
105A701039	Resistor	R19,R2,R20,R21,R22, R23,R24,R25,R61, R73,R84,R86,R87, R90		2.547039	14	25477245.255648
105A703309	Resistor	R10,R103,R104,R11, R113,R114,R115, R116,R117,R12,R13, R14,R18,R4,R8,R9		2.547039	16	22425139.809646
105A704729	Resistor	R108,R129,R131, R145,R160,R80,R82, R83,R89,R91,R92, R93,R94,R95,R96, R97,R98		2.547039	17	21160422.299251
106B701032	Resistor	R68,R70		2.547039	2	154078778.388085
1122501780	Capacitor	C251,C252,C253, C254,C256,C258, C259,C260		1.128806	8	101746760.035398
1124522280	Capacitor	C257		1.128806	1	704977644.692287
1124533190	Capacitor	C437		1.128806	1	704977644.692287
11C2510190	Capacitor	C168,C169,C170, C171		1.128806	4	196873384.410843

File Name: PXI-GM45.rfp
 Assembly:
 Ref Des:
 Description:

Failure Rate: 1866.750041
 MTBF (hrs): 535,690
 Temperature: 30
 Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
11C2510480	Capacitor	C1,C100,C101,C102,C103,C104,C105,C106,C107,C108,C109,C110,C111,C112,C113,C114,C115,C116,C117,C118,C119,C120,C121,C122,C123,C124,C125,C126,C127,C128,C129,C130,C131,C132,C133,C134,C135,C136,C137,C138,		1.128806	221	3942289.526711
11E1510050	Capacitor	C153,C154,C155,C156,C157,C158,C159,C160,C161,C162,C163,C164,C165,C166,C167		1.128806	15	55479656.844874
11E9647680	Capacitor	C255		1.128806	1	704977644.692287
1212306030	Inductor	FB4		4.944252	1	154760964.143460
12333010A1	Miscellaneous	X1		19.200000	1	23844262.770939
1301005441	Semiconductor	D41,D42,D43,D44,D45,D46,D47,D48		7.793411	8	14161142.003130
1315700216	Semiconductor	Q40,Q41,Q42		22.463360	3	12043329.789539
14S4081110	Integrated Circuit	U32		43.803003	1	11739202.588727
14S9055100	Integrated Circuit	U1		43.803003	1	11739202.588727
14S9837860	Integrated Circuit	U33		26.018600	1	25551442.237972
1653005202	Connection	CN17,CN24		16.184835	2	20390152.380746
1653300107	Connection	CN24_3-4,CN24_5-6		16.184835	2	20390152.380746
1653300108	Connection	CN17_1-2		16.184835	1	35685591.360212

File Name: PXI-GM45.rfp
 Assembly:
 Ref Des:
 Description:

Failure Rate: 1866.750041
 MTBF (hrs): 535,690
 Temperature: 30
 Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
16540F4000	Connection	CN26A,CN42 A,CN43A, CN44A,CN45 A,CN46A, CN47A,CN48 A		16.184835	8	6160226.269180
16540F4001	Connection	CN25A,CN35 A,CN36A, CN37A,CN38 A,CN39A, CN40A,CN41 A		16.184835	8	6160226.269180
16540F4003	Connection	CN26B,CN42 B,CN43B, CN44B,CN45 B,CN46B, CN47B,CN48 B		16.184835	8	6160226.269180
16540F4004	Connection	CN25B,CN35 B,CN36B, CN37B,CN38 B,CN39B, CN40B,CN41 B		16.184835	8	6160226.269180
16540F4005	Connection	CN1,CN11,C N13,CN15, CN3,CN5,CN 7,CN9		16.184835	8	6160226.269180
16540F4006	Connection	CN10,CN12,C N14, CN16,CN2,C N4,CN6, CN8		16.184835	8	6160226.269180
1655420020	Connection	CN19,CN20,C N21, CN23,CN49		16.184835	5	9343344.843761
1655905037	Connection	CN50,CN51		16.184835	2	20390152.380746

File Name: PXI-GM45.rfp
 Assembly:
 Ref Des:
 Description:

Failure Rate: 1672.156272
 MTBF (hrs): 598,030
 Temperature: 30
 Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1050547004	Resistor	R15,R16,R29 ,R30, R76,R77,R87 ,R88		2.547039	8	43225424.698300
105A700003	Resistor	FB10,FB2,FB 24,FB25, FB3,FB4,FB5, FB6		2.547039	8	43225424.698300
105A700009	Resistor	R10,R21,R24 ,R52,R7		2.547039	5	67008142.102588
105A700139	Resistor	R14,R19,R28 ,R33, R73,R79,R85 ,R90		2.547039	8	43225424.698300
105A701039	Resistor	R18,R22,R32 ,R49, R56,R9		2.547039	6	56573956.677649
105A701069	Resistor	R57,R58,R59 ,R60, R61,R63,R65 ,R67		2.547039	8	43225424.698300
105A704729	Resistor	R11,R13,R20 ,R25, R27,R6,R70, R72,R81, R84		2.547039	10	35079934.879747
105A705139	Resistor	R48		2.547039	1	282340674.079668
105A710039	Resistor	R50		2.547039	1	282340674.079668
105A715009	Resistor	R3,R4,R5		2.547039	3	107020754.986850
1124522190	Capacitor	C28,C29,C31 ,C32		1.128806	4	196873384.410843
1124547190	Capacitor	C4,C5,C7,C8		1.128806	4	196873384.410843
1129701791	Capacitor	C6		1.128806	1	704977644.692287
1174510180	Capacitor	CP1,CP2,CP3 ,CP4		1.128806	4	196873384.410843
1174522180	Capacitor	CP5,CP6		1.128806	2	375289731.076049
1189622192	Capacitor	C3,C57,C58, C59		4.744484	4	45505862.704531

File Name: PXI-GM45.rfp
Assembly:
Ref Des:
Description:

Failure Rate: 1672.156272
MTBF (hrs): 598,030
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
11C2510480	Capacitor	C1,C10,C11, C12,C13, C14,C16,C17 ,C18, C19,C2,C20, C21,C22, C23,C25,C26 ,C27, C30,C34,C36 ,C38, C41,C42,C43 ,C44, C45,C46,C47 ,C48, C49,C50,C51 ,C52, C53,C54,C55 ,C56, C60,C9		1.128806	40	21305452.824644
11E1510050	Capacitor	C35,C37,C39		1.128806	3	257514172.353070
1212306030	Inductor	FB13,FB16,F B22, FB23		4.944252	4	43912872.424775
1212306032	Inductor	FB14,FB15,F B17, FB18,FB7,FB 8,FB9		4.944252	7	25970990.056682
121230603S	Inductor	FB1		4.944252	1	154760964.143460
1214309006	Inductor	CH1,CH2		4.944252	2	83201062.149749
1305080040	Semiconductor	D1,D2,D3,D4		7.793411	4	26989084.126235
1311390610	Semiconductor	Q1,Q14,Q18, Q5		22.463360	4	9270607.712006
1315230511	Semiconductor	Q10		22.463360	1	31642600.748419
1315700212	Semiconductor	Q15,Q16,Q1 7,Q19,Q2, Q20,Q21,Q3, Q4,Q6, Q7,Q8,Q9		22.463360	13	3088344.241500
1315970211	Semiconductor	U1		22.463360	1	31642600.748419
14S3524701	Integrated Circuit	U14		43.803003	1	11739202.588727
14S4021301	Integrated Circuit	U16,U3,U9		43.803003	3	4923240.069161
14S4048501	Integrated Circuit	U12,U13,U6, U7		43.803003	4	3879156.910661
14S5A00401	Integrated Circuit	U11,U5		26.018600	2	14194252.866846
14S5A00821	Integrated Circuit	U15		26.018600	1	25551442.237972
14S5A12503	Integrated Circuit	U10,U4		26.018600	2	14194252.866846
14S5A12506	Integrated Circuit	U2	11.8	42.996309	1	15462088.955558
14S5A12506	Integrated Circuit	U8		26.018600	1	25551442.237972
1652505210	Connection	CN3		16.184835	1	35685591.360212
165251420B	Connection	CN8		16.184835	1	35685591.360212
1653003202	Connection	JP1		16.184835	1	35685591.360212

**Reliability Prediction
Summary**

File Name: PXI-GM45.rfp
Assembly:
Ref Des:
Description:

Failure Rate: 1672.156272
MTBF (hrs): 598,030
Temperature: 30
Environment: GF, GU - Ground Fixed, Uncontrolled

Part Number	Category	Ref Des	Tem.Rise	Unit Failure Rate	Quantity	MTBF,Unit
1653300107	Connection	JP1(2-4),JP1(3-5)		16.184835	2	20390152.380746
1654036300	Connection	CN4		16.184835	1	35685591.360212
16540B0300	Connection	CN2		16.184835	1	35685591.360212
16540B0301	Connection	CN1		16.184835	1	35685591.360212
1654409103	Connection	CN10,CN11,CN9		16.184835	3	14515880.849373
1654606100	Connection	CN12		16.184835	1	35685591.360212
1654804100	Connection	CN6,CN7		16.184835	2	20390152.380746
1752015000	Miscellaneous	FS1,FS2		2.400000	2	143944727.196625