



Select Database

\\Tdr2\ci1000\introbotics.mdb

Filter By User

All

Number of Users: 20

Filter By Customer

All

Number of Customers: 34

Filter By Date

05/26/2000 — 11/21/2006

Today
 Test Dates

Report Parameters

Measured Parameters

Impedance
 Maximum
 Mean
 Mean (Differential)
 Minimum
 Propagation
 Delay
 Delay (Differential)
 Velocity
 Effective ER
 Transition Duration
 Transition Duration (Differential)
 Equivalent Bandwidth
 Equivalent Bandwidth (Differential)
 Step Pass / Fail

Filter By ICN / Job Number / Date Code / Test Dates

Order By
 ICN
 Job Number
 Date Code
 Test Date

Job Number	ICN	Date Code	T
MasterMerix3	MerixCoup3		2
Layer 10 Gauge ...	E05666-10	Excel Layer 10 ...	2
Layer 1 Gauge R...	E05666-Layer1	Excel Layer 1 G...	2
Job#: 83-2406-01	83-2406-01		2
Job#: 83-2406-01	83-2406-01		2
Job#: 83-2406-01	83-2406-01		2
Job#: 83-2406-01	83-2406-01		2
Job#: 83-2406-01	83-2406-01		2
Job#: 83-2406-01	83-2406-01		2
Job#: 83-2406-01	83-2406-01		2
Job Number#:Cis...	811-9070-05		2
Job Number#:Cie	811-9070-05		2

Number of Records: 655

Find Job Number

ICN: 83-2406-01

Available Boards

Job Number	Board Serial Number
Job#: 83-2406-01	345
	BRD 05/02/2002 16:46:36-1
	BRD 05/02/2002 16:47:12-1
	BRD 05/02/2002 16:55:00-1
	BRD 05/02/2002 16:56:08-1
	BRD 05/03/2002 10:36:37-1
	BRD 05/03/2002 10:37:13-1
	BRD 05/03/2002 10:37:54-1
	BRD 05/03/2002 10:39:35-1
	BRD 05/03/2002 10:41:22-1

Number of Boards: 51

Select Highlighted Boards

Boards

Reporting Criteria

Final
 In Process
 Both

Fail
 Pass
 Both

Any Step
 No More Than Steps

In Report

Job Number	Board Serial Number
Job#: 83-2406-01	345

Number of Boards: 1

Remove Highlighted Boards

Traces In Report

All Single
 All Diff

Select Traces

Report Data Grouping

Trace Name
 Board Serial Number
 Board Serial Number Large List (Shown In Excel)

Calculated Parameters

Maximum
 Mean Range
 Minimum
 Standard Deviation
 3 Sigma 5 Sigma
 Cp Cpk
 Out Of Center List @ Ω

Show Report

Testing Notes

1) The "measurement zone" which was utilized for this testing was 20% - to - 80% of the length of segment on the layer with the longest routing

2) Values of zero (0) in the data set are test points which did not produce valid data and thus the tester sets the value to zero (0).
Reasons for invalid data being found include: test trace length too short (traces must be greater than 0.5"), mis-probing, soldermask registration problems causing partial covering of test pad, test point registration problems, incorrect probe to test point pitch, tested values being way outside of expected range (20% beyond high/low pass/fail criteria).

3) Data Descriptions

<u>Serial Number:</u>	(Alpha-numeric) Unique mark (within a lot) of the panel/board/coupon being tested. The value was etched, scribed, or inked onto the DUT.
<u>Trace Name</u>	(Alpha-numeric) Designation of where the probe contacted the DUT during testing. (Typically, the "node name" for example U16-52, J52-124, etc is used).
<u>Min:</u>	(Ohms) The smallest impedance value sampled within the measurement zone.
<u>Mean:</u>	(Ohms) The average impedance value sampled within the measurement zone.
<u>Max:</u>	(Ohms) The largest impedance value sampled within the measurement zone.
<i>Note: For differential signals the above listed impedances are the true "Differential Impedance" values (i.e., 100 ohms).</i>	
<u>Prop Delay:</u>	(pseconds) The one-way flight time of the TDR pulse through the DUT. For differential signals this value is for "Channel 1" of the pair.
<u>Prop Velocity:</u>	(pseconds/inch) The velocity of the TDR signal through the DUT.
<u>Er:</u>	The effective dielectric constant (ratio of the signal velocity to the speed of light).
<u>Equivalent Bandwidth:</u>	(GHz) A calculation of interconnect bandwidth based on loss of risetime thru the DUT on 1st half of differential pair (or for single-ended traces).
<u>Mean Diff:</u>	(Ohms) The true ODD MODE measured impedance of the 2nd half of the differential pair. (Please note that the plain "Mean" column is the true DIFFERENTIAL IMPEDANCE-the addition of both odd mode impedances)
<u>Prop Delay Diff:</u>	(pseconds) The round trip propagation time divided by 2 of the 2nd half of the differential pair. (Please note that the plain "Prop Delay" column is the same delay value except for the 1st half of the pair).
<i>Note: Differential signal pair SKEW can be derived by the subtraction of "Prop Delay" and "Prop Delay Diff"</i>	
<u>Waveform File Name</u>	Name of the file which contains the saved TDR waveform
<u>Waveform Step #</u>	Name of the step # within the Waveform File related to the test point

Serial Number	Net Name	Trace Name	Trace			Min	Mean	Max	Prop Delay	Prop Velocity	ER	Equivalent Bandwidth	Mean Diff.	Prop Delay Diff.	Waveform File Name	Waveform Step #
			Length	Layer	# of Vias											
1	Net00001	Node01	9.1	5	1	99.24	104.65	110.96	1739.00	186.48	4.84	2.66	52.66	1739.00	1120_340-5621-00_100Diff_1	33
1	Net00002	Node02	7.5	5	1	98.24	102.15	107.24	1454.50	188.33	4.94	2.66	51.46	1451.50	1120_340-5621-00_100Diff_1	34
1	Net00003	Node03	9.8	5	1	100.18	105.34	109.80	1858.00	185.31	4.78	2.32	53.05	1830.50	1120_340-5621-00_100Diff_1	35
1	Net00004	Node04	10.6	5	1	98.37	104.46	110.88	1992.50	184.01	4.72	2.19	52.36	2004.50	1120_340-5621-00_100Diff_1	36
1	Net00005	Node05	12.3	5	1	100.25	106.52	111.48	2283.00	182.20	4.62	1.57	53.50	2272.50	1120_340-5621-00_100Diff_1	37
1	Net00006	Node06	10.7	5	1	98.27	104.25	111.50	2022.50	185.09	4.77	2.23	52.65	2008.50	1120_340-5621-00_100Diff_1	38
1	Net00007	Node07	8.3	5	1	98.01	104.36	111.48	1574.00	184.58	4.75	2.00	52.58	1594.00	1120_340-5621-00_100Diff_1	39
1	Net00008	Node08	6.9	5	1	96.47	100.90	106.56	1333.50	187.17	4.88	3.11	50.99	1345.00	1120_340-5621-00_100Diff_1	40
1	Net00009	Node09	9	5	1	99.22	106.68	113.10	1732.00	187.78	4.91	2.13	53.58	1724.00	1120_340-5621-00_100Diff_1	41
1	Net00010	Node10	7.6	5	1	96.93	103.62	108.38	1438.50	183.75	4.70	3.30	52.38	1451.00	1120_340-5621-00_100Diff_1	42
1	Net00011	Node11	9.7	5	1	100.75	107.37	116.37	1836.00	184.95	4.77	3.35	53.99	1847.00	1120_340-5621-00_100Diff_1	43
1	Net00012	Node12	10.8	5	1	98.04	105.58	116.97	2036.50	184.68	4.75	2.29	53.25	2038.00	1120_340-5621-00_100Diff_1	44
1	Net00013	Node13	12.2	5	1	101.13	105.71	110.90	2246.50	180.70	4.55	3.08	53.48	2285.50	1120_340-5621-00_100Diff_1	45
1	Net00014	Node14	10.7	5	1	101.54	107.36	112.84	2013.00	184.21	4.73	1.90	53.92	2011.00	1120_340-5621-00_100Diff_1	46
1	Net00015	Node15	8.3	5	1	100.06	103.63	109.50	1596.00	187.23	4.88	2.27	52.02	1585.00	1120_340-5621-00_100Diff_1	47
1	Net00016	Node16	7	5	1	100.45	104.60	107.43	1357.00	187.86	4.92	2.31	52.60	1351.50	1120_340-5621-00_100Diff_1	48
1	Net00017	Node17	6.7	5	1	97.31	103.32	112.26	1275.00	184.03	4.72	2.00	52.07	1285.50	1120_340-5621-00_100Diff_2	8
1	Net00018	Node18	6.7	5	1	98.84	103.97	110.29	1277.50	184.40	4.74	2.95	52.39	1273.50	1120_340-5621-00_100Diff_2	9
1	Net00019	Node19	10.2	5	1	102.61	108.37	113.66	1887.00	180.88	4.56	2.62	54.50	1909.00	1120_340-5621-00_78Diff_2	1
1	Net00020	Node20	10.2	5	1	102.90	106.98	110.02	1910.00	183.14	4.67	2.24	53.78	1894.00	1120_340-5621-00_78Diff_2	7
1	Net00021	Node21	10.2	5	1	102.84	106.87	110.56	1914.50	183.58	4.69	2.15	53.94	1914.00	1120_340-5621-00_78Diff_2	2
1	Net00022	Node22	10.1	5	1	102.50	106.00	110.67	1895.50	183.51	4.69	2.29	52.88	1903.00	1120_340-5621-00_78Diff_2	8
1	Net00023	Node23	10.2	5	1	102.18	106.69	109.75	1909.50	183.09	4.67	2.08	53.38	1909.50	1120_340-5621-00_78Diff_2	3
1	Net00024	Node24	10.1	5	1	102.05	108.82	111.86	1909.50	184.90	4.76	2.06	55.07	1902.50	1120_340-5621-00_78Diff_2	4
1	Net00025	Node25	10.2	5	1	104.90	108.82	112.23	1927.50	184.85	4.76	2.41	54.57	1910.00	1120_340-5621-00_78Diff_2	5
1	Net00026	Node26	10.2	5	1	102.19	108.73	114.60	1897.50	181.91	4.61	2.69	54.71	1910.00	1120_340-5621-00_78Diff_2	6
1	Net00027	Node27	6.5	5	1	96.92	103.47	110.06	1240.00	184.31	4.73	2.16	52.03	1250.50	1120_340-5621-00_100Diff_2	4
1	Net00028	Node28	6.5	5	1	100.09	105.02	110.25	1246.50	185.31	4.78	2.72	52.83	1246.00	1120_340-5621-00_100Diff_2	1
1	Net00029	Node29	6.5	5	1	96.25	103.79	109.11	1249.50	185.77	4.81	3.09	52.49	1231.50	1120_340-5621-00_100Diff_2	5
1	Net00030	Node30	6.5	5	1	99.04	103.46	111.57	1239.50	184.23	4.73	2.86	52.19	1245.50	1120_340-5621-00_100Diff_2	2
1	Net00031	Node31	6.5	5	1	100.59	104.93	109.03	1242.50	184.69	4.75	2.51	52.88	1243.00	1120_340-5621-00_100Diff_2	6
1	Net00032	Node32	6.5	5	1	95.86	102.97	109.65	1255.50	186.69	4.86	2.51	51.96	1243.50	1120_340-5621-00_100Diff_2	3
1	Net00033	Node33	6.5	5	1	98.17	102.71	108.62	1242.50	184.69	4.75	2.99	51.96	1247.50	1120_340-5621-00_100Diff_2	7
1	Net00034	Node34	7.3	28	1	98.60	102.80	107.21	1390.50	184.73	4.75	3.13	51.85	1393.00	1120_340-5621-00_100Diff_2	15
1	Net00035	Node35	4	3	1	53.39	54.85	56.58	843.50	200.38	5.59	3.64		1114_340-5621-00_040_1	288	
1	Net00036	Node36	3.7	3	1	54.47	55.14	57.06	789.50	202.03	5.69	2.99		1114_340-5621-00_040_1	276	
1	Net00037	Node37	4	3	1	53.09	55.29	56.63	840.50	199.63	5.55	3.19		1114_340-5621-00_040_1	86	
1	Net00038	Node38	3.9	3	1	54.54	55.38	56.42	825.00	200.77	5.62	3.26		1114_340-5621-00_040_1	215	
1	Net00039	Node39	3.6	3	1	54.76	55.56	56.22	769.00	201.94	5.68	3.53		1114_340-5621-00_040_1	19	
1	Net00040	Node40	4	3	1	54.19	55.59	57.99	851.00	202.25	5.70	3.15		1114_340-5621-00_040_1	16	
1	Net00041	Node41	4.1	3	1	54.42	55.62	57.65	863.50	200.37	5.59	3.05		1114_340-5621-00_040_1	42	
1	Net00042	Node42	3.9	3	1	53.96	55.64	58.63	830.50	202.18	5.69	3.49		1114_340-5621-00_040_1	112	
1	Net00043	Node43	4	3	1	54.73	55.72	57.72	852.00	202.50	5.71	3.27		1114_340-5621-00_075_1	46	
1	Net00044	Node44	4	3	1	52.50	55.75	56.98	837.50	198.88	5.51	3.37		1114_340-5621-00_040_1	18	
1	Net00045	Node45	3.8	3	1	55.03	55.80	57.05	805.50	200.92	5.62	3.24		1114_340-5621-00_040_1	118	
1	Net00046	Node46	4.1	3	1	53.92	55.89	57.79	851.50	197.44	5.43	3.19		1114_340-5621-00_040_1	210	
1	Net00047	Node47	4.1	3	1	53.09	55.90	57.74	853.50	197.93	5.46	3.51		1114_340-5621-00_040_1	5	
1	Net00048	Node48	3.9	3	1	53.88	55.94	57.22	830.50	202.18	5.69	3.56		1114_340-5621-00_040_1	331	
1	Net00049	Node49	4.2	3	1	54.58	55.95	57.96	887.00	201.19	5.64	2.96		1114_340-5621-00_040_1	146	
1	Net00050	Node50	4	3	1	52.81	56.01	57.50	837.50	198.88	5.51	3.66		1114_340-5621-00_040_1	295	
1	Net00051	Node51	4.2	3	1	53.92	56.08	58.32	878.00	199.05	5.52	3.34		1114_340-5621-00_040_1	213	
1	Net00052	Node52	3.7	3	1	55.39	56.08	56.65	787.50	201.49	5.66	2.96		1114_340-5621-00_040_1	196	
1	Net00053	Node53	3.9	3	1	53.01	56.12	57.38	830.00	202.05	5.69	3.57		1114_340-5621-00_040_1	167	
1	Net00054	Node54	3.9	3	1	55.09	56.14	56.81	816.50	198.59	5.49	3.55		1114_340-5621-00_040_1	339	
1	Net00055	Node55	4.2	3	1	52.22	56.15	57.62	880.00	199.52	5.55	4.09		1114_340-5621-00_040_1	244	

<u>Serial</u> <u>Number</u>	<u>Net Name</u>	<u>Trace Name</u>	<u>Trace Length</u>	<u>Layer</u>	<u># of Vias</u>	<u>Min</u>	<u>Mean</u>	<u>Max</u>	<u>Prop Delay</u>	<u>Prop Velocity</u>	<u>ER</u>	<u>Equivalent Bandwidth</u>	<u>Mean Diff.</u>	<u>Prop Delay Diff.</u>	<u>Waveform File Name</u>	<u>Waveform Step #</u>
1	Net00056	Node56	4.1	3	1	54.76	56.17	57.99	865.50	200.85	5.62	3.15			1114_340-5621-00_040_1	148
1	Net00057	Node57	4	3	1	53.76	56.24	57.92	852.50	202.63	5.72	3.29			1114_340-5621-00_040_1	186
1	Net00058	Node58	7.2	3	3	53.02	56.31	57.87	1444.00	194.72	5.28	2.95			1114_340-5621-00_065_1	67
1	Net00059	Node59	3.8	3	1	54.98	56.31	58.50	816.50	203.82	5.79	2.57			1114_340-5621-00_040_1	92
1	Net00060	Node60	7.1	3	2	53.01	56.32	58.14	1423.00	194.51	5.27	2.68			1114_340-5621-00_065_1	65
1	Net00061	Node61	7.3	3	3	54.92	56.38	57.46	1477.00	196.58	5.38	2.47			1114_340-5621-00_065_1	3
1	Net00062	Node62	3.9	3	1	54.93	56.41	58.27	818.50	199.10	5.52	3.04			1114_340-5621-00_040_1	296
1	Net00063	Node63	4	3	1	53.07	56.43	58.10	849.00	201.75	5.67	3.40			1114_340-5621-00_040_1	45
1	Net00064	Node64	4.1	3	1	52.36	56.50	58.01	852.50	197.68	5.44	2.85			1114_340-5621-00_040_1	40
1	Net00065	Node65	1	3	2	53.01	56.53	59.23	272.50	230.50	7.40	6.30			1114_340-5621-00_055_1	11
1	Net00066	Node66	3.5	3	1	55.72	56.54	57.14	759.50	205.00	5.85	3.28			1114_340-5621-00_040_1	168
1	Net00067	Node67	7.1	3	2	54.88	56.64	58.13	1409.00	192.54	5.16	2.86			1114_340-5621-00_065_1	902
1	Net00068	Node68	3.9	3	1	56.34	56.71	57.35	829.50	201.92	5.68	2.59			1114_340-5621-00_040_1	286

Test Process

Customer: OEM
Part#: _____
Rev: _____
Date Code: _____

Date: _____
Test Operator: Bryan P
Job#: _____
ICN: _____

Manufacturer OEM

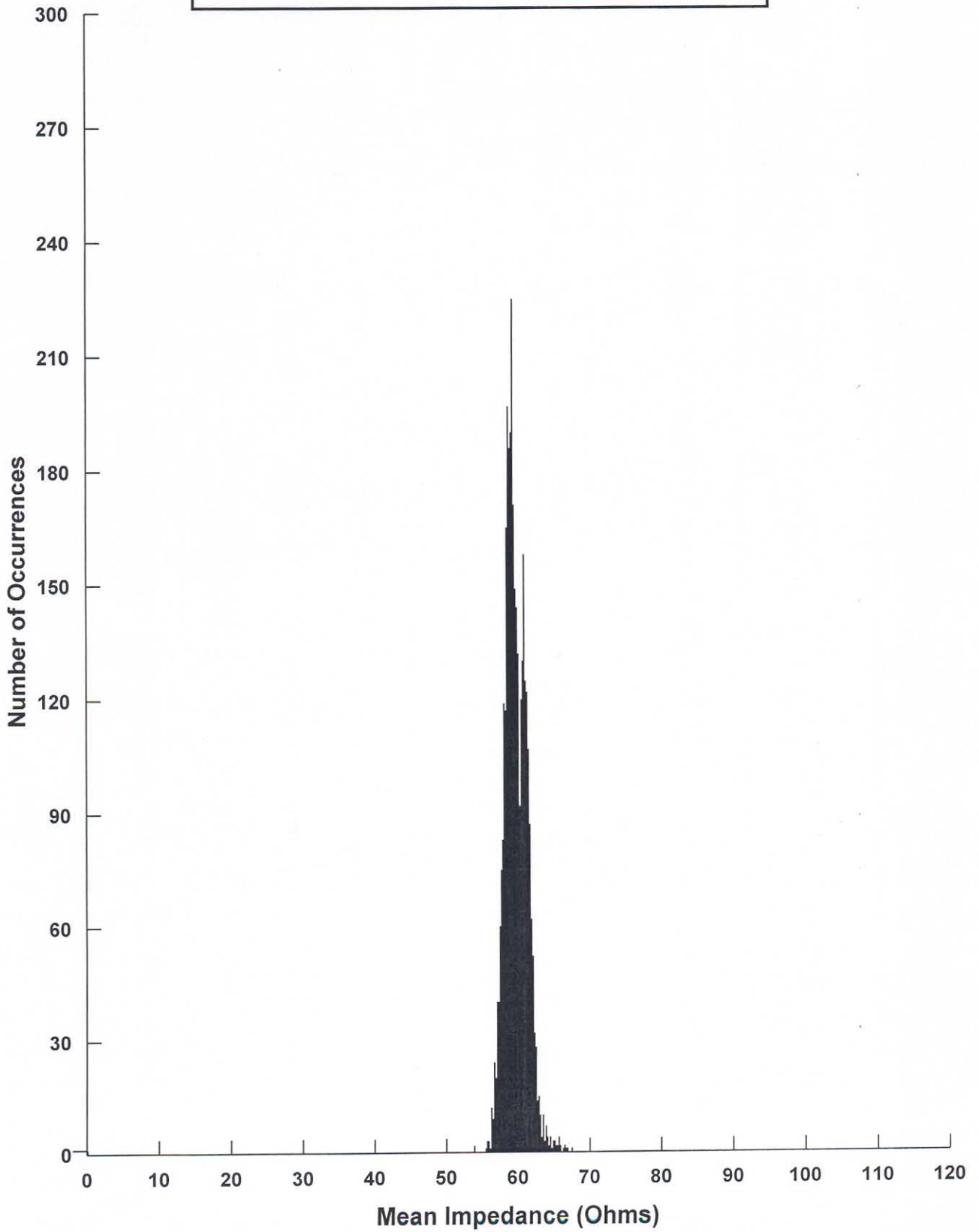
Test Equipment: Introbotics CI1000 Automated Controlled Impedance Tester
Tektronix TDS8000 Digital Sampling Scope (SN# B010530)
80E04 TDR/Sampling Head (SN# B011206)
80E04 Calibration Record: June 9, 2005, - 15.7 psec Risetime
TDR Probes
Probe Calibration Record: March 18, 2006 Risetime (10%-90%): 20-50 psec
50 ohm Calibration Standard (Muary Microwave airline)

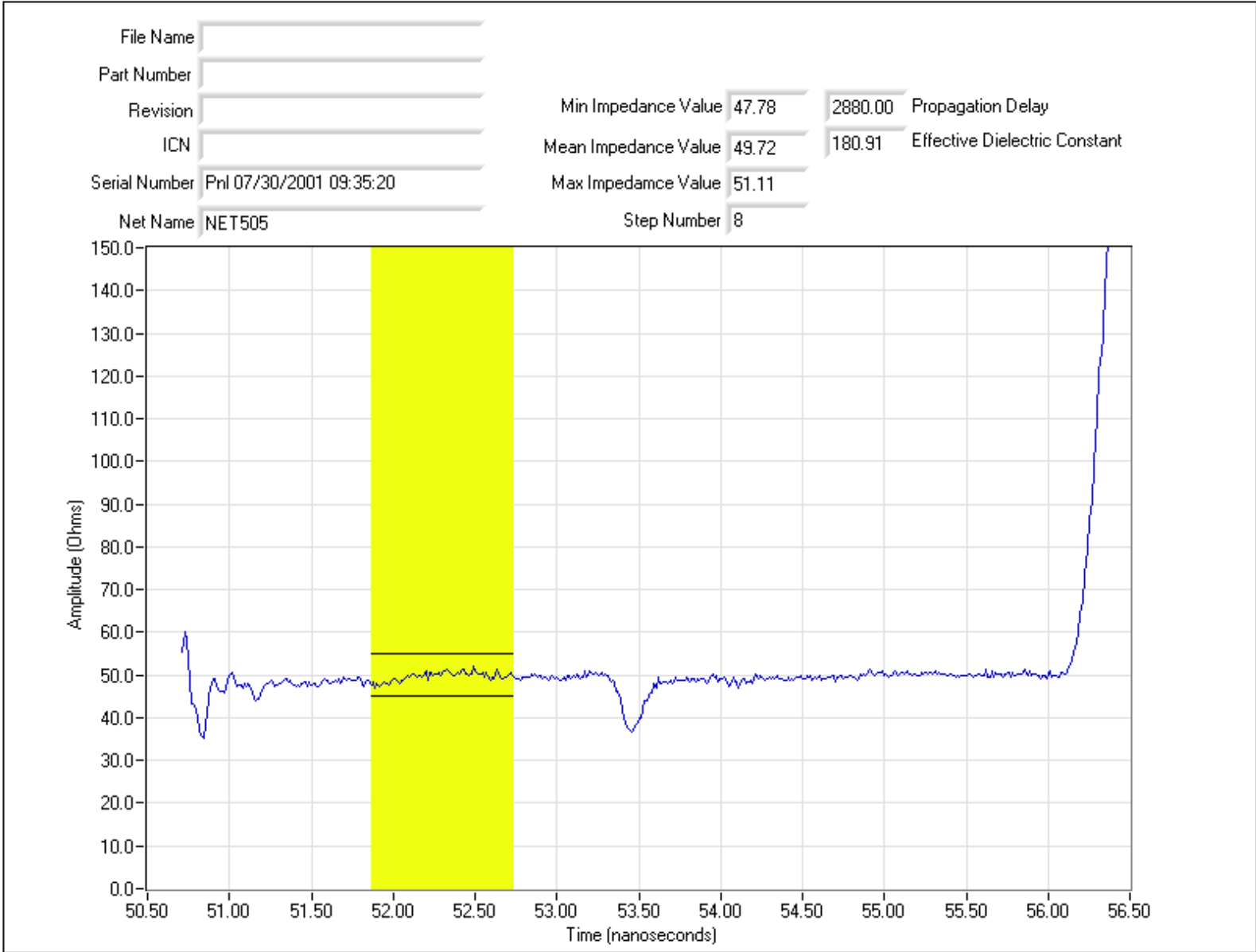
Process: Test traces on each board were tested with the Automated Tester
Four (4) measurements were taken per test trace
Mean/Min/Max values were recorded
Compliant with IPC TM-650 2.5.5.7

Introbotics Corporation utilizes state of the art equipment and procedures in every facet of our operation. However the magnitude of potential value-added implications causes it to be necessary for us to limit our liability for possibly discrepant tests or other products and services to the actual amount invoiced. This policy includes, but is not limited to, PCBs which might be represented as "passed" but, in fact contain a flaw.

US Patent# 6,798,229; and 6,759,853

Job Number:
Board SN: 1
Total Number of Occurrences: 3380





Introbotics WaveformViewer Output