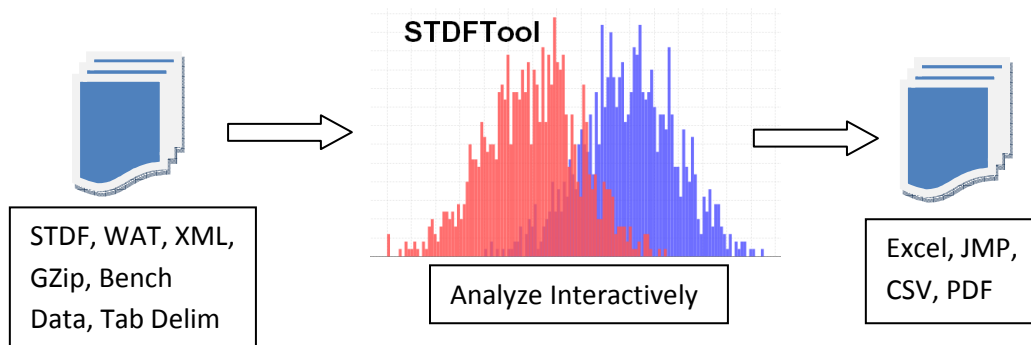


STDFTool

STDFTool is a full featured Data Visualization and Statistical Analysis Tool which analyzes STDF, WAT, Bench data, or any data in proper tab delimited format. Graphs include multiple data series histogram, parametric trend, box plot, normal probability plot, correlation plot, bin trend, cumulative fail rate, functional test stacked pareto, wafermaps, and characterization charts. Statistics include Mean, Median, StdDev, Cp, Cpk, and Robust Sigma. Drill down to individual measurements for all tests and all parts. Raw test data can be exported to CSV, Excel or JMP. Charts can be exported to PDF. Allows analyzing data files separately or merged in any dataset grouping desired. All graphs include zoom, outlier removal, series on/off, color selection, and much more.



- Fully interactive
- Analyze multiple files against each other
- Merge several files into one dataset
- Repeatability and Reproducibility
- Correlation against any criteria (test to test, site to site, load board to load board, tester to tester, rev to rev, etc)
- Wafermaps: HardBin, SoftBin, Parametric Tests. All with stacking capability.
- Characterization: voltage conditions, temperatures, fab process skews
- Functional data: Stacked bar graph of most common fail vector, halt cycle and pin
- Access to individual measurements for every test for every part
- Cumulative Bin Rate, Cumulative Fail Rate, Bin Trend
- Outlier removal
- Virtual retest with 'What If' test limits; Recalculates fail rate, fallout, Cpk
- Generate full color reports
- Sort data by any column (Cpk, Cp, Fail Rate, Test Number, Tester Alarms, etc)
- Utilities: STDF→XML, STDF→CSV
- Data Filtering: Load by test #; Hide data by table sort and selection or test group
- Graph customizations: Show/Hide by data series, Color Selection, Drag Zoom

Data Load Screen:

STDF Tool [Minimize] [Maximize] [Close]

File Configuration Database Help

Files Loaded

Lot #	Finish Time	Total Time (sec)	Sec/Part	Tester	Prog	LB #	Total Tested	% Pass	HB #1	HB #2	HB #3	HB #4
M0M642.13	Tue Mar 10 17:33:31 ...	43431	5.4	cat6t	MLT5105R1V4.1.025	0000029	8084	92.4	7470	252	97	225
M0G747.13	Tue Mar 10 15:55:45 ...	34944	5.1	CAT-67T	MLT5105r1v4.1.025	0000015	6918	84.7	5860	260	291	465

Bin Summary

Bin	Title	P/F	Scat6t_TLG...	%	UCAT_67T...	%
Hard Bin #1	GRADE_1	PASS	7470	92.4	5860	84.7
Hard Bin #2	FAIL_BIN	FAIL	252	3.1	260	3.8
Hard Bin #3			97	1.2	291	4.2
Hard Bin #4			225	2.8	465	6.7
Hard Bin #5			40	0.5	42	0.6
Soft Bin #1	GRADE_1	PASS	7470	92.4	5860	84.7
Soft Bin #2	digital	FAIL	169	2.1	161	2.3
Soft Bin #5	continuity	FAIL	97	1.2	291	4.2
Soft Bin #6	jtagMBIST	FAIL	83	1.0	99	1.4
Soft Bin #10	ZEUS_dc	FAIL	44	0.5	107	1.5

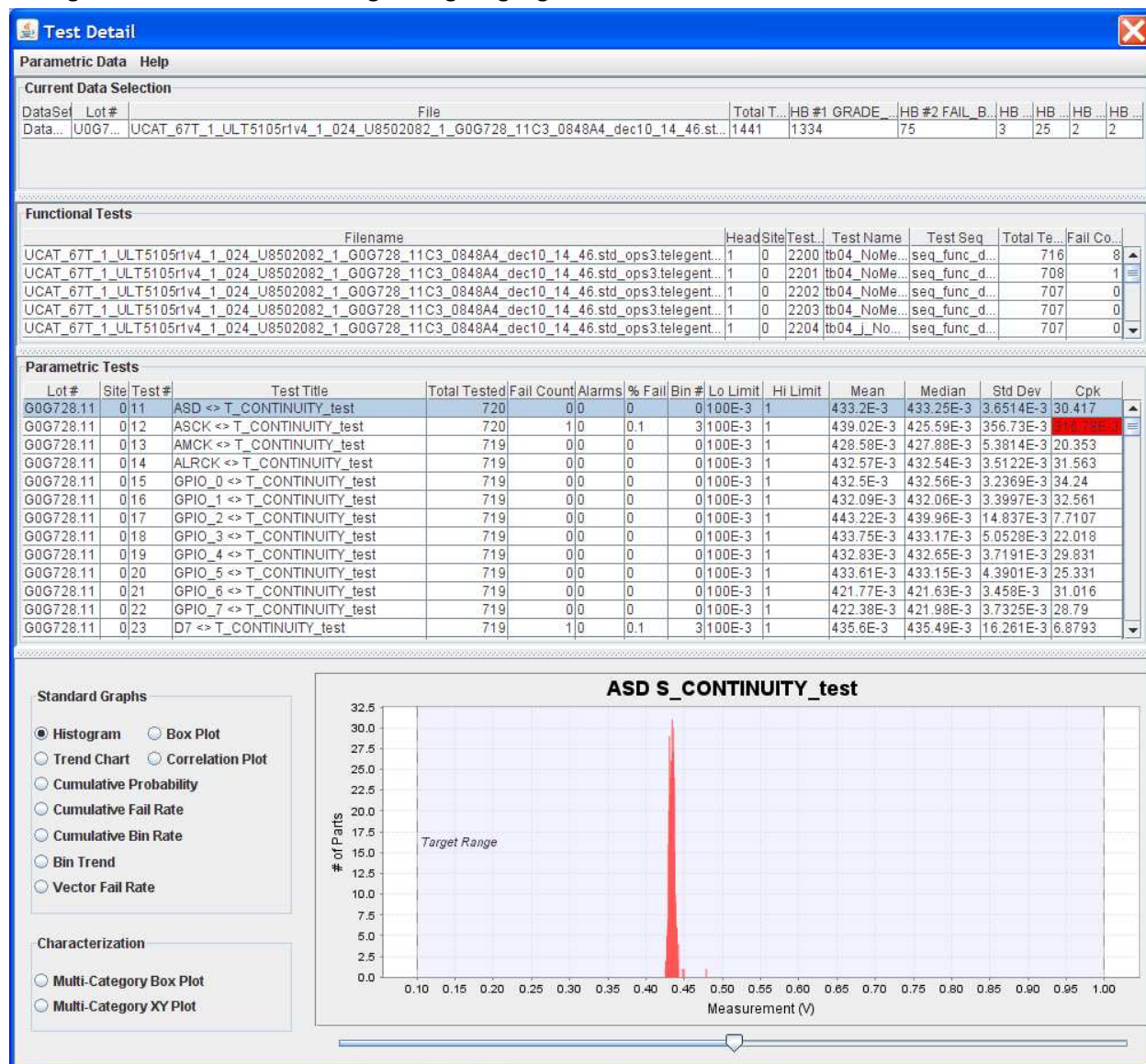
[View Detail](#)

Detail Screen:

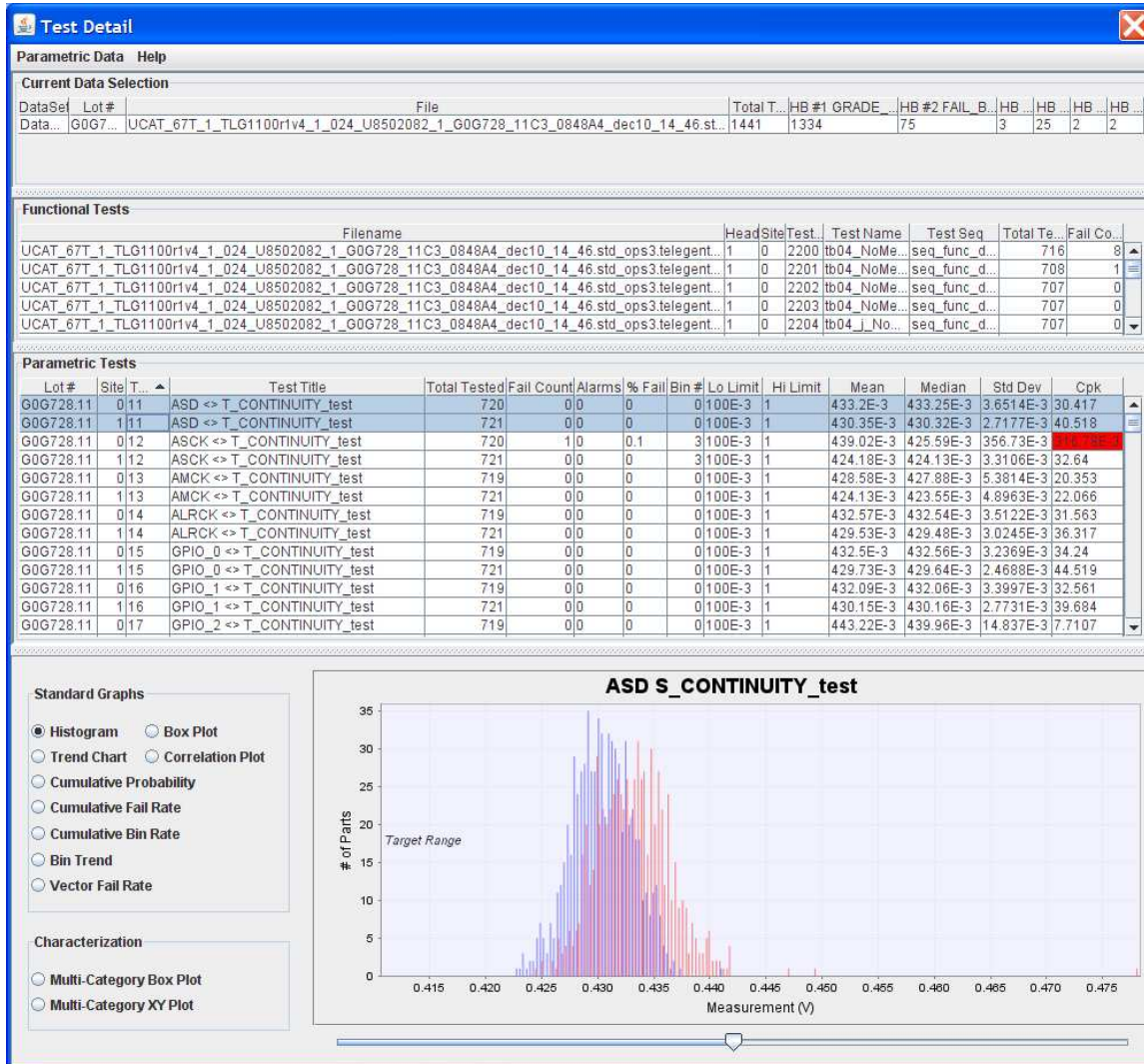
Breaks out Functional and Parametric Tests with associated statistics.

Table can be sorted by columns. Other columns can be added such as Cp, Robust Sigma, etc.

Histogram shown below with target range highlighted based on test limits.

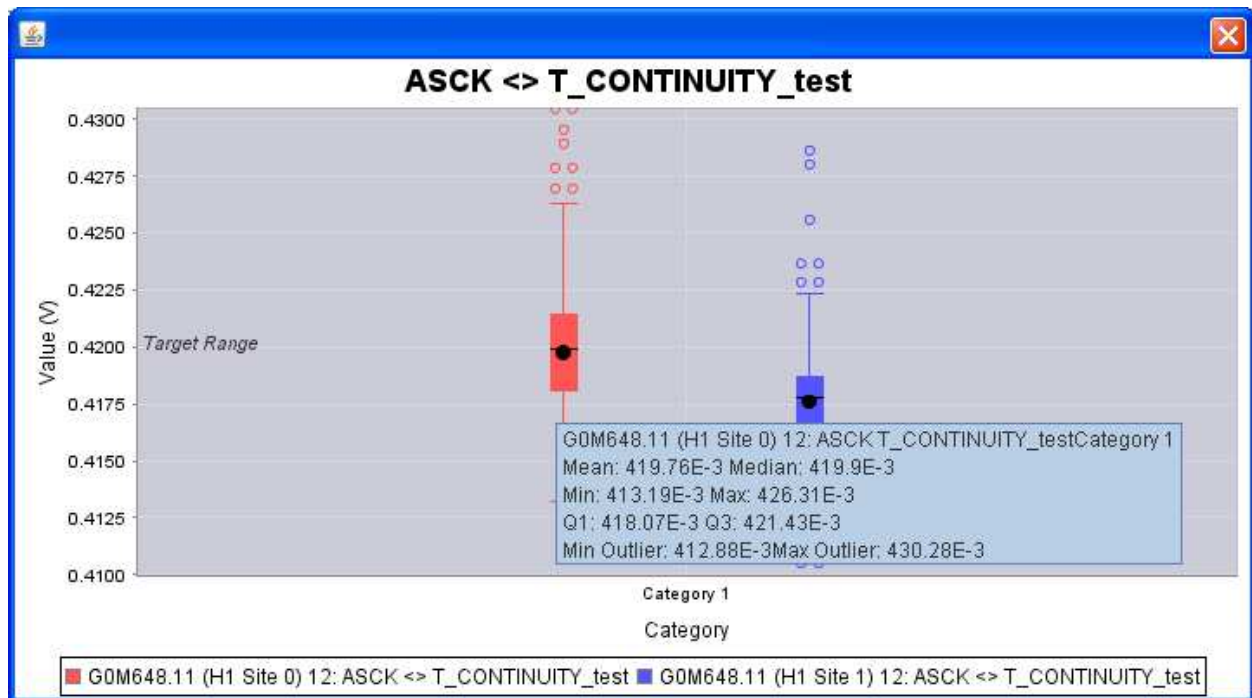


Zoom in on histogram, highlighted 2 data series (test #11 - test site 0 and test site 1).

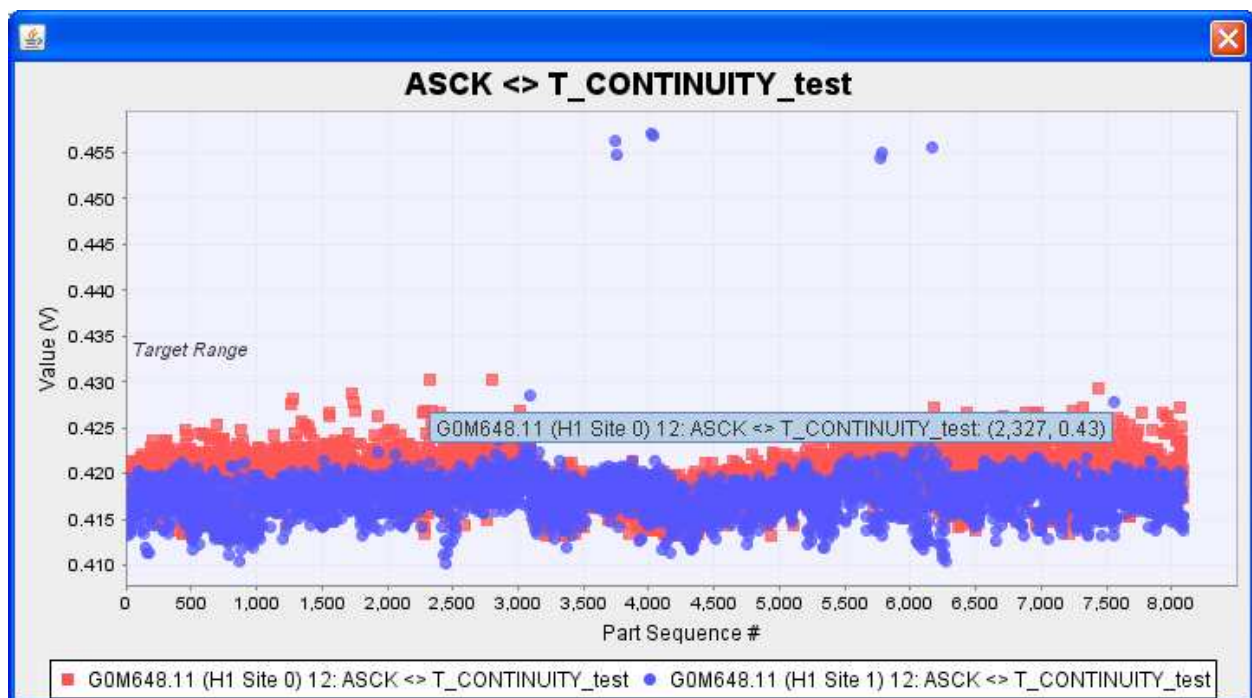


Simply use mouse wheel or arrow keys to graph test #12 for site 0 and site 1. Continue to quickly roll through all tests to look for anything abnormal.

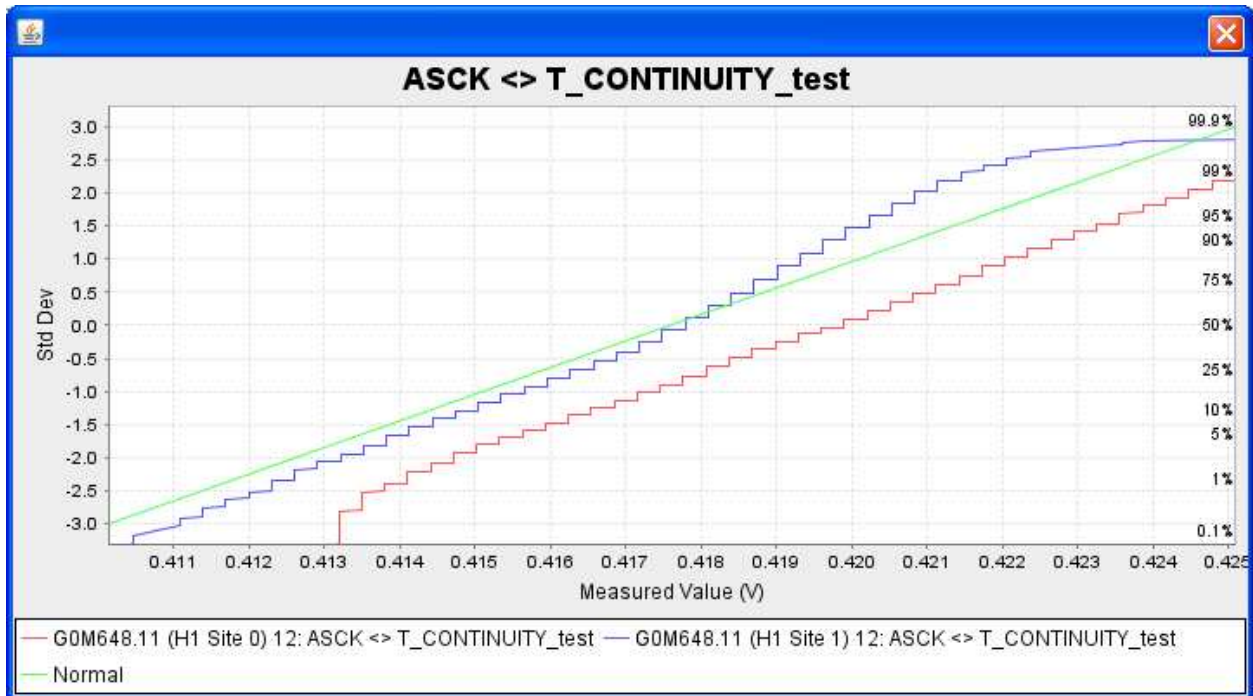
Switch to **Box Plot** using radio button on right. Hover over to show key boxplot statistics (IQR, etc).



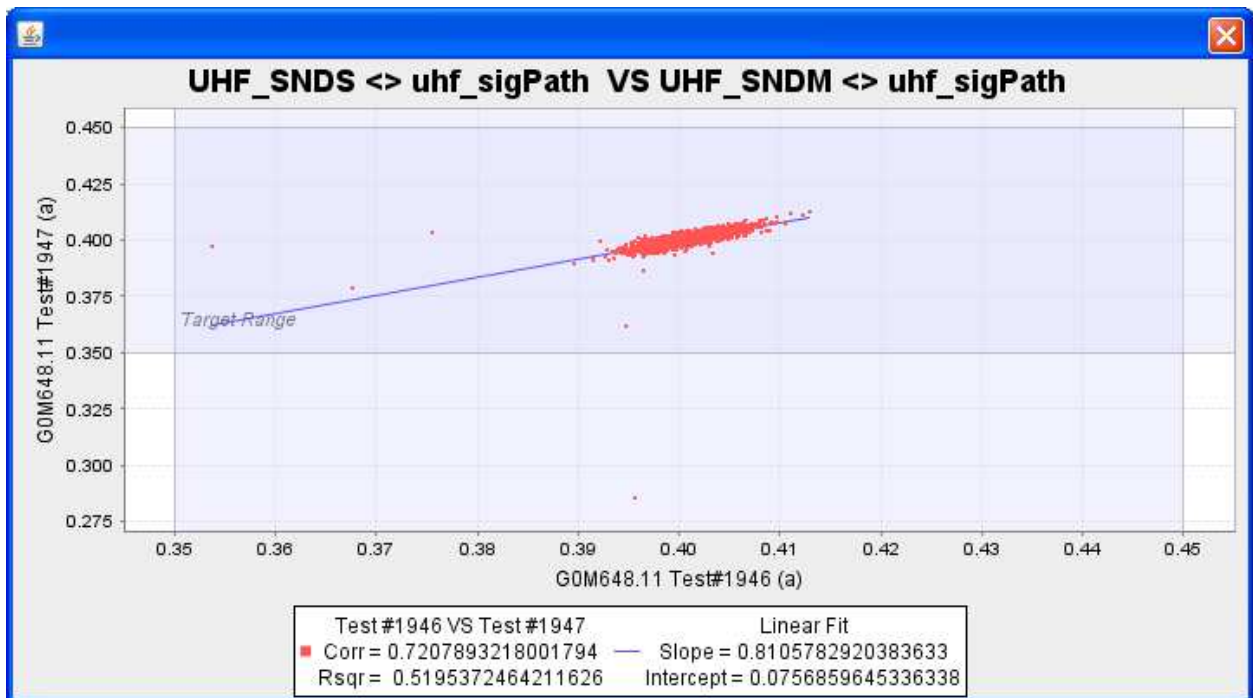
Trend chart shown with hover over detail pop-up.



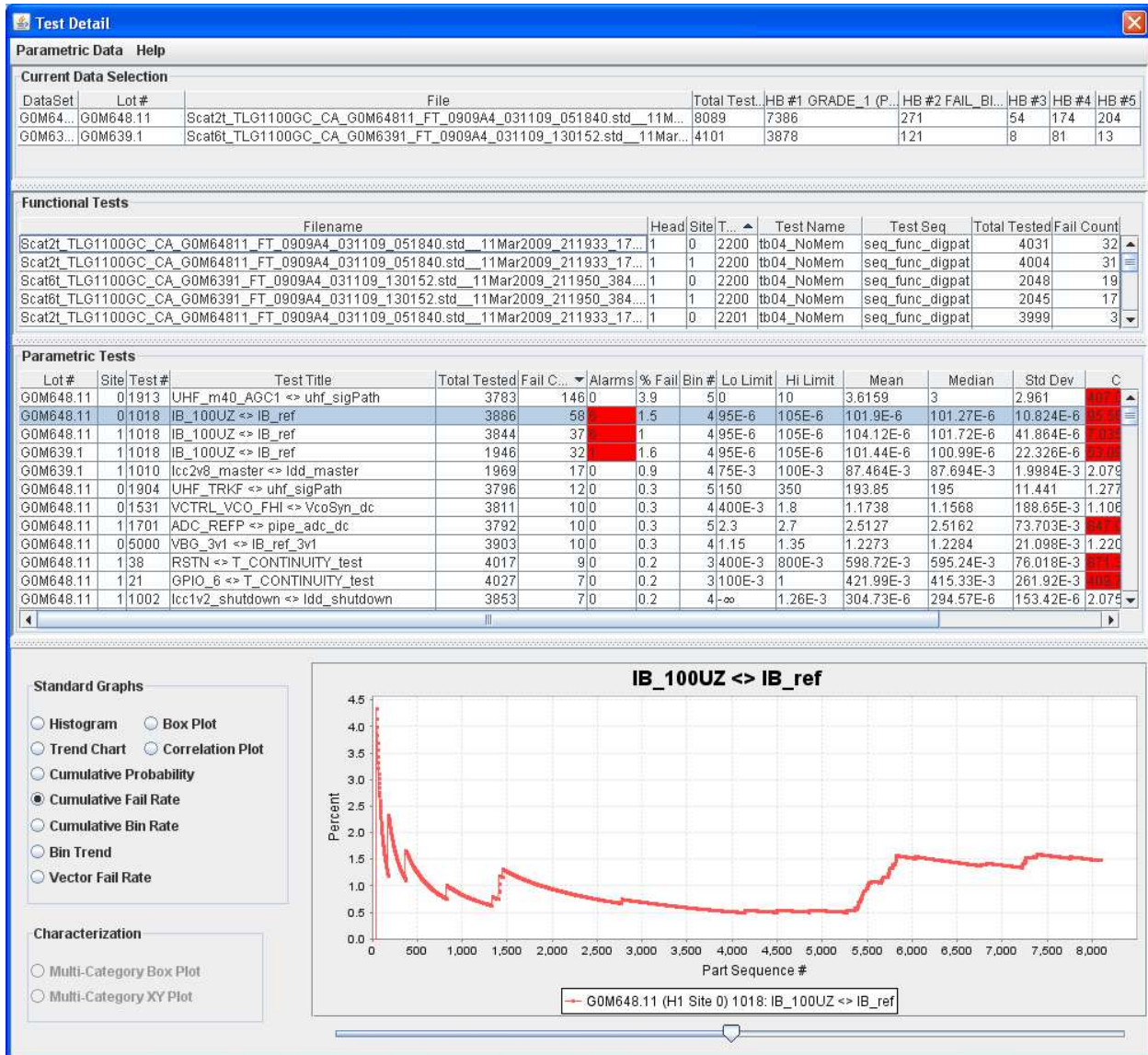
Cumulative Probability plot (Normal Quantile plot) shows how well data fits a normal distribution.



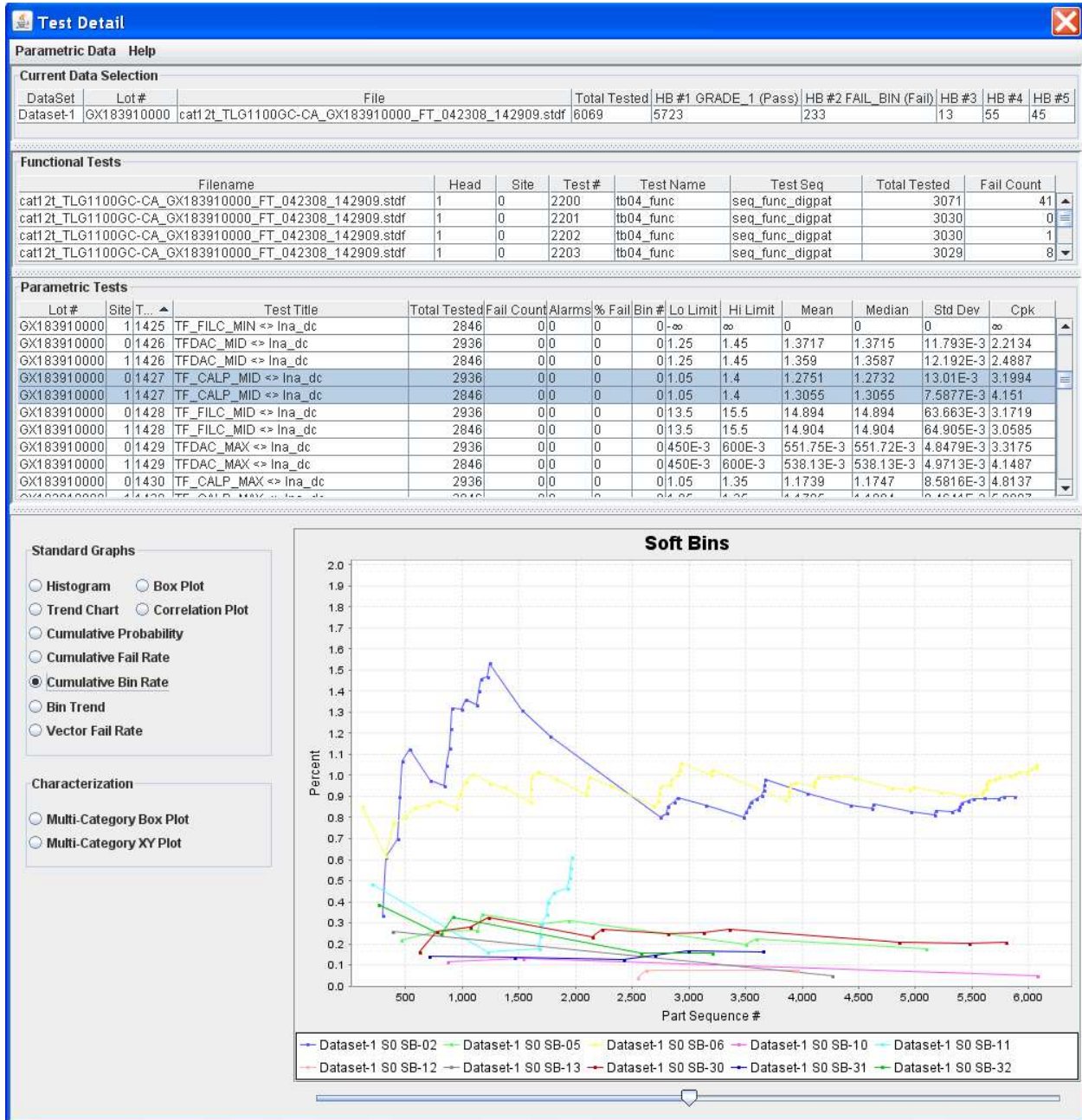
Correlation: Used for Test to Test correlation or dataset to dataset repeatability. Gives Correlation Coefficient and R-square value. Performs a linear fit with slope and intercept.



Cumulative Fail Rate: To check for tester setup or test program issues



Cumulative SoftBin Trend: To check for tester setup or test program issues



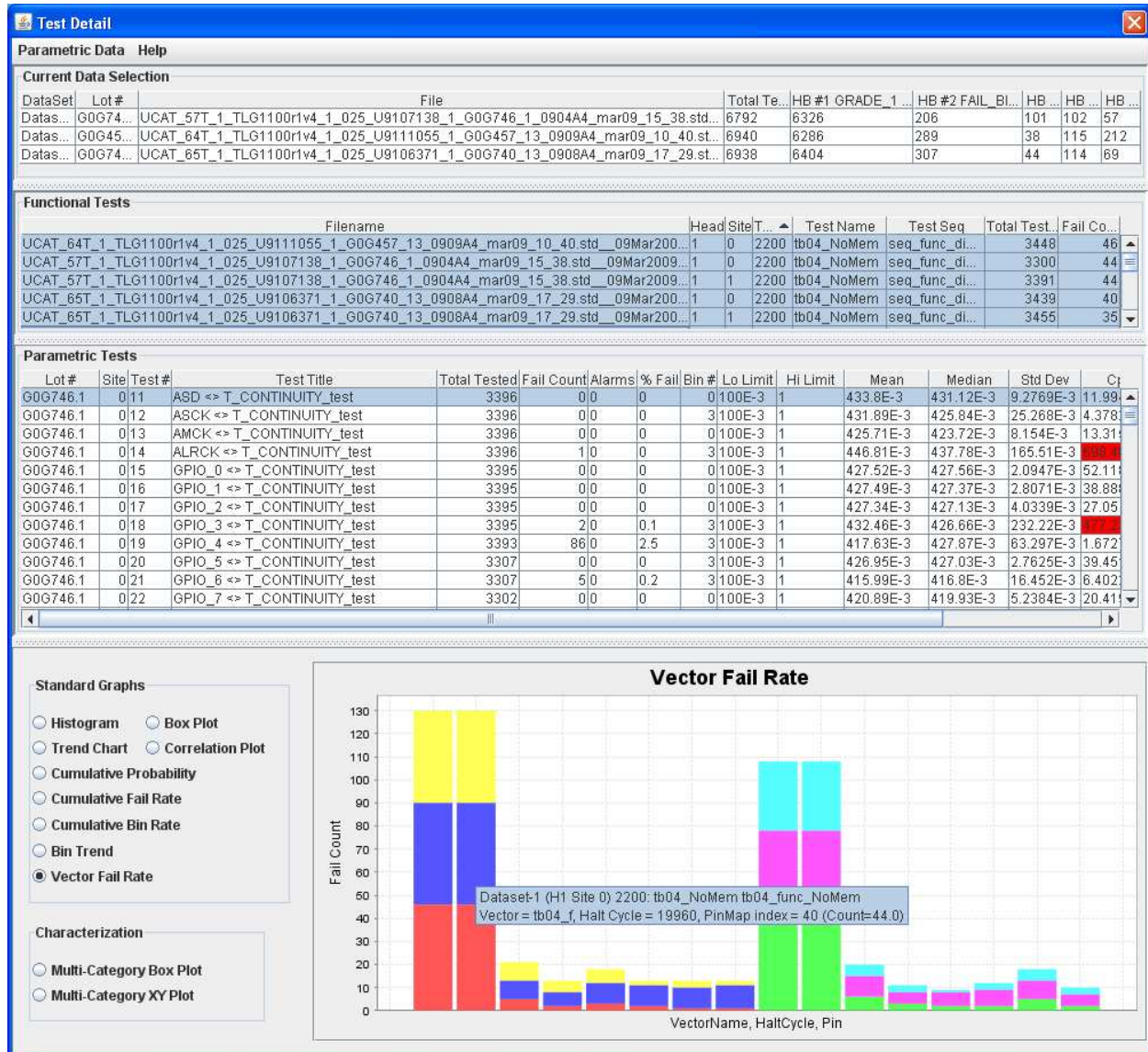
Hard Bin Trend: Shows what parts go to which bin. Allows zoom in to individual parts and hover over details (as all graphs do).

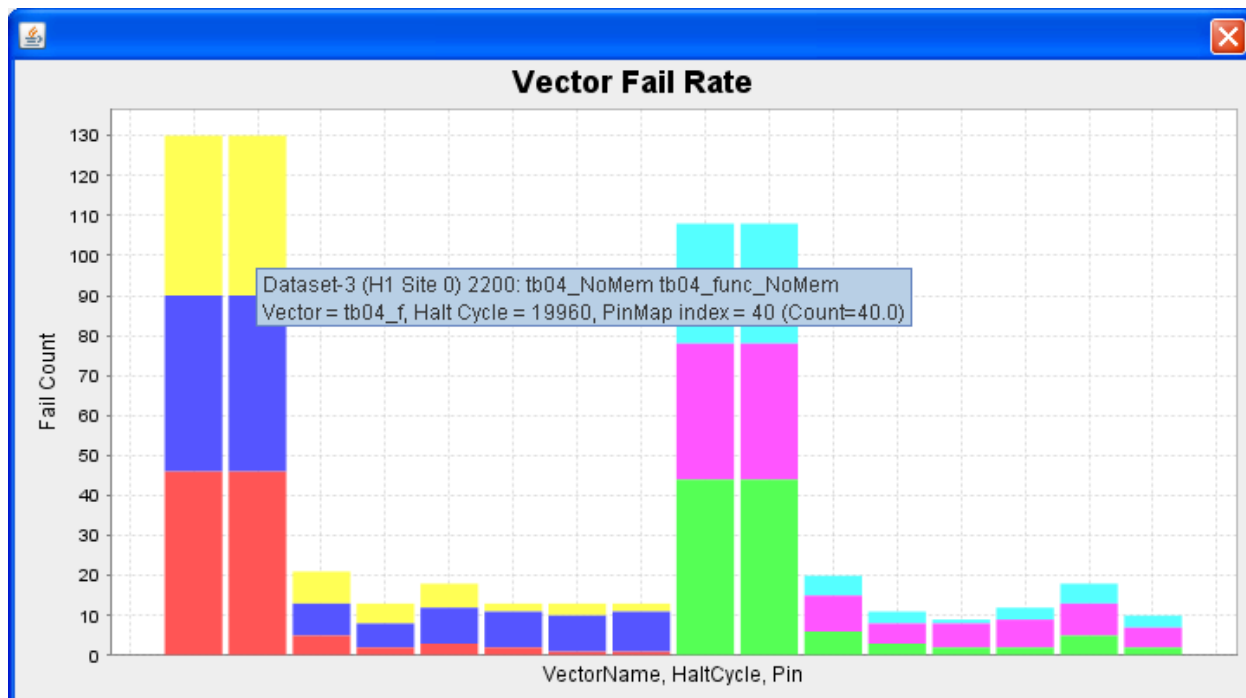


Functional Vector Fail Pareto:

Hover over shows which bin, vector and cycle fail.

Shows as stacked if the same vector, halt cycle and pin are failing on multiple datasets.





Detail of every measurement for each part for a parametric test.

Ability to exclude outliers from graph and statistics.

Also allows 'What If' test limits which will recalculate and give a new Cpk and fail count.

Parametric Data																	
Filename...	LotID	Sub...	Seq #	Part ID	Head	Site	Test #	Test Title	Lo Limit	LL	Value	HL	Hi Limit	Alarm	Hard Bin	Soft Bin	Exclude?
UCAT... G0G7...			1	1	1	01018	IB_10...	95E-6	<=	101.63E-6	<	105E-6			1	1	
UCAT... G0G7...			2	2	1	11018	Not Te...		<=						2	2	
UCAT... G0G7...			3	3	1	01018	IB_10...	95E-6	<=	101.75E-6	<	105E-6			1	1	
UCAT... G0G7...			4	4	1	11018	IB_10...	95E-6	<=	101.5E-6	<	105E-6			1	1	
UCAT... G0G7...			5	5	1	01018	Not Te...		<=						4	10	
UCAT... G0G7...			6	6	1	11018	IB_10...	95E-6	<=	101.62E-6	<	105E-6			1	1	
UCAT... G0G7...			7	7	1	01018	IB_10...	95E-6	<=	101.88E-6	<	105E-6			1	1	
UCAT... G0G7...			8	8	1	11018	IB_10...	95E-6	<=	102.1E-6	<	105E-6			1	1	
UCAT... G0G7...			9	9	1	01018	IB_10...	95E-6	<=	101.38E-6	<	105E-6			1	1	
UCAT... G0G7...			10	10	1	11018	IB_10...	95E-6	<=	101.99E-6	<	105E-6			1	1	
UCAT... G0G7...			11	11	1	01018	IB_10...	95E-6	<=	101.42E-6	<	105E-6			1	1	
UCAT... G0G7...			12	12	1	11018	IB_10...	95E-6	<=	101.42E-6	<	105E-6			5	30	
UCAT... G0G7...			13	13	1	01018	IB_10...	95E-6	<=	102.75E-6	<	105E-6			1	1	
UCAT... G0G7...			14	14	1	11018	IB_10...	95E-6	<=	102.28E-6	<	105E-6			1	1	
UCAT... G0G7...			15	15	1	01018	IB_10...	95E-6	<=	101.75E-6	<	105E-6			1	1	
UCAT... G0G7...			16	16	1	11018	IB_10...	95E-6	<=	101.35E-6	<	105E-6			1	1	
UCAT... G0G7...			17	17	1	01018	IB_10...	95E-6	<=	102E-6	<	105E-6			1	1	
UCAT... G0G7...			18	18	1	11018	Not Te...		<=						2	2	
UCAT... G0G7...			19	19	1	01018	IB_10...	95E-6	<=	102.63E-6	<	105E-6			1	1	
UCAT... G0G7...			20	20	1	11018	IB_10...	95E-6	<=	102.27E-6	<	105E-6			1	1	
UCAT... G0G7...			21	21	1	01018	IB_10...	95E-6	<=	102.34E-6	<	105E-6			1	1	
UCAT... G0G7...			22	22	1	11018	IB_10...	95E-6	<=	101.48E-6	<	105E-6			1	1	
UCAT... G0G7...			23	23	1	01018	IB_10...	95E-6	<=	102.5E-6	<	105E-6			1	1	
UCAT... G0G7...			24	24	1	11018	IB_10...	95E-6	<=	101.85E-6	<	105E-6			1	1	
UCAT... G0G7...			25	25	1	01018	IB_10...	95E-6	<=	101E-6	<	105E-6			1	1	
UCAT... G0G7...			26	26	1	11018	IB_10...	95E-6	<=	102.09E-6	<	105E-6			1	1	
UCAT... G0G7...			27	27	1	01018	IB_10...	95E-6	<=	101.13E-6	<	105E-6			1	1	
UCAT... G0G7...			28	28	1	11018	IB_10...	95E-6	<=	101.6E-6	<	105E-6			1	1	
UCAT... G0G7...			29	29	1	01018	IB_10...	95E-6	<=	102.38E-6	<	105E-6			1	1	
UCAT... G0G7...			30	30	1	11018	IB_10...	95E-6	<=	101.48E-6	<	105E-6			1	1	
UCAT... G0G7...			31	31	1	01018	IB_10...	95E-6	<=	101.58E-6	<	105E-6			1	1	
Filename	Test #		Mean		Median		StdDev		Cpk		Cp		Robust Sigma				
UCAT_67T_1_TL...	101800		1.0166346022602...		1.0176072828471...		1.8434520501692...		0.6033135750464...		0.9041005531336...		4.3887781517034...				

First Fail Data:

Part Data - First Failure												
FileNa...	SubGro...	Seq #	Part ID	Head	Site	Test #	Test Title	Lo Limit	Hi Limit	Value	Har...	Sof...
UCAT_...		1	1	1	0						1	1
UCAT_...		2	2	1	1						2	2
UCAT_...		3	3	1	0						1	1
UCAT_...		4	4	1	1						1	1
UCAT_...		5	5	1	0	1002	lcc1v2_shutdow...	-∞	1.26E-3	3.529...	4	10
UCAT_...		6	6	1	1						1	1
UCAT_...		7	7	1	0						1	1
UCAT_...		8	8	1	1						1	1
UCAT_...		9	9	1	0						1	1
UCAT_...		10	10	1	1						1	1
UCAT_...		11	11	1	0						1	1
UCAT_...		12	12	1	1	1944	UHF_m40adj_A...	0	25	31	5	30
UCAT_...		13	13	1	0						1	1
UCAT_...		14	14	1	1						1	1
UCAT_...		15	15	1	0						1	1
UCAT_...		16	16	1	1						1	1
UCAT_...		17	17	1	0						1	1
UCAT_...		18	18	1	1						2	2
UCAT_...		19	19	1	0						1	1
UCAT_...		20	20	1	1						1	1
UCAT_...		21	21	1	0						1	1
UCAT_...		22	22	1	1						1	1
UCAT_...		23	23	1	0						1	1
UCAT_...		24	24	1	1						1	1
UCAT_...		25	25	1	0						1	1
UCAT_...		26	26	1	1						1	1
UCAT_...		27	27	1	0						1	1
UCAT_...		28	28	1	1						1	1
UCAT_...		29	29	1	0						1	1
UCAT_...		30	30	1	1						1	1
UCAT_...		31	31	1	0						1	1
UCAT_...		32	32	1	1						1	1
UCAT_...		33	33	1	0						1	1
UCAT_...		34	34	1	1						1	1
UCAT_...		35	35	1	0						1	1

Test Detail

Parametric Data Help

Current Data Selection

DataSet	Lot #	File	Total T...	HB #1 GRADE...	HB #2 FAIL B...	HB...	HB...	HB...	HB...
Data...	G0G7...	UCAT_6T7_1_TLG1100r1v4_1_024_U8502082_1_G0G728_11C3_0848A4_dec10_14_46.st...	1441	1334	75	3	25	2	2

Functional Tests

Filename	HeadSite	Test...	Test Name	Test Seq	Total Te...	Fail ...
UCAT_6T7_1_TLG1100r1v4_1_024_U8502082_1_G0G728_11C3_0848A4_dec10_14_46.std_ops3.telegent...	1	0	2200 tb04_NoMe...	seq_func_d...	716	8
UCAT_6T7_1_TLG1100r1v4_1_024_U8502082_1_G0G728_11C3_0848A4_dec10_14_46.std_ops3.telegent...	1	1	2206 misc_func	seq_func_d...	706	6
UCAT_6T7_1_TLG1100r1v4_1_024_U8502082_1_G0G728_11C3_0848A4_dec10_14_46.std_ops3.telegent...	1	0	2206 misc_func	seq_func_d...	706	2
UCAT_6T7_1_TLG1100r1v4_1_024_U8502082_1_G0G728_11C3_0848A4_dec10_14_46.std_ops3.telegent...	1	1	2203 tb04_NoMe...	seq_func_d...	708	2
UCAT_6T7_1_TLG1100r1v4_1_024_U8502082_1_G0G728_11C3_0848A4_dec10_14_46.std_ops3.telegent...	1	0	2201 tb04_NoMe...	seq_func_d...	708	1

Parametric Tests

Lot #	Site	Test #	Test Title	Total Tested	Fail C...	Alarms	% Fail	Bin #	Lo Limit	Hi Limit	Mean	Median	Std Dev	Cpk
G0G728.11	01018	IB_100UZ <=> IB_ref		680		6	0.9	4	4.95E-6	105E-6	101.66E-6	101.88E-6	2.5587E-6	1.5527
G0G728.11	11002	lcc1v2_shutdown <=> ldd_shutdown	☐ Show filename ☐ Show Test Head ☐ Show Cp column ☒ Show Cpk column ☒ Robust Sigma ☐ Test Block Customize... Export... Search	673	40	0	0.6	4	-∞	1.26E-3	253.19E-6	232.51E-6	216.14E-6	1.5527
G0G728.11	01002	lcc1v2_shutdown <=> ldd...		84	30	0	0.4	4	-∞	1.26E-3	247.34E-6	230.18E-6	207.18E-6	1.6293
G0G728.11	01001	lcc2v8_shutdown <=> ldd...		86	20	0	0.3	4	-∞	100E-6	3.6581E-6	2.3873E-6	21.358E-6	1.5036
G0G728.11	01416	V_VHF1P <=> Ina_dc		73	20	0	0.3	4	4500E-3	800E-3	684.18E-3	684.84E-3	20.811E-3	1.8551
G0G728.11	012	ASCK <=> T_CONTINUITY...		20	10	0	0.1	3	100E-3	1	439.02E-3	425.59E-3	356.73E-3	1.6755
G0G728.11	023	D7 <=> T_CONTINUITY_te...		19	10	0	0.1	3	100E-3	1	435.6E-3	435.49E-3	16.261E-3	6.8793
G0G728.11	027	D3 <=> T_CONTINUITY_te...		18	10	0	0.1	3	100E-3	1	441.37E-3	436.57E-3	28.441E-3	4.0009
G0G728.11	01010	lcc2v8_master <=> ldd_m...		81	10	0	0.1	4	475E-3	100E-3	89.35E-3	89.413E-3	1.0808E-3	3.2843
G0G728.11	11010	lcc2v8_master <=> ldd_m...		69	10	0	0.1	4	475E-3	100E-3	89.722E-3	89.834E-3	2.6959E-3	1.2708
G0G728.11	11016	ldd_bg <=> ldd_bg		68	10	0	0.1	4	4500E-6	1.5E-3	1.4374E-3	1.4363E-3	13.343E-6	1.5639
G0G728.11	01404	V_UHFP <=> Ina_dc		74	10	0	0.1	4	500E-3	800E-3	693.34E-3	693.51E-3	11.765E-3	3.0221
G0G728.11	11418	V_VHF1OFFS <=> Ina_dc		67	10	0	0.1	4	-15E-3	15E-3	1.4105E-3	1.3861E-3	2.6353E-3	1.7189

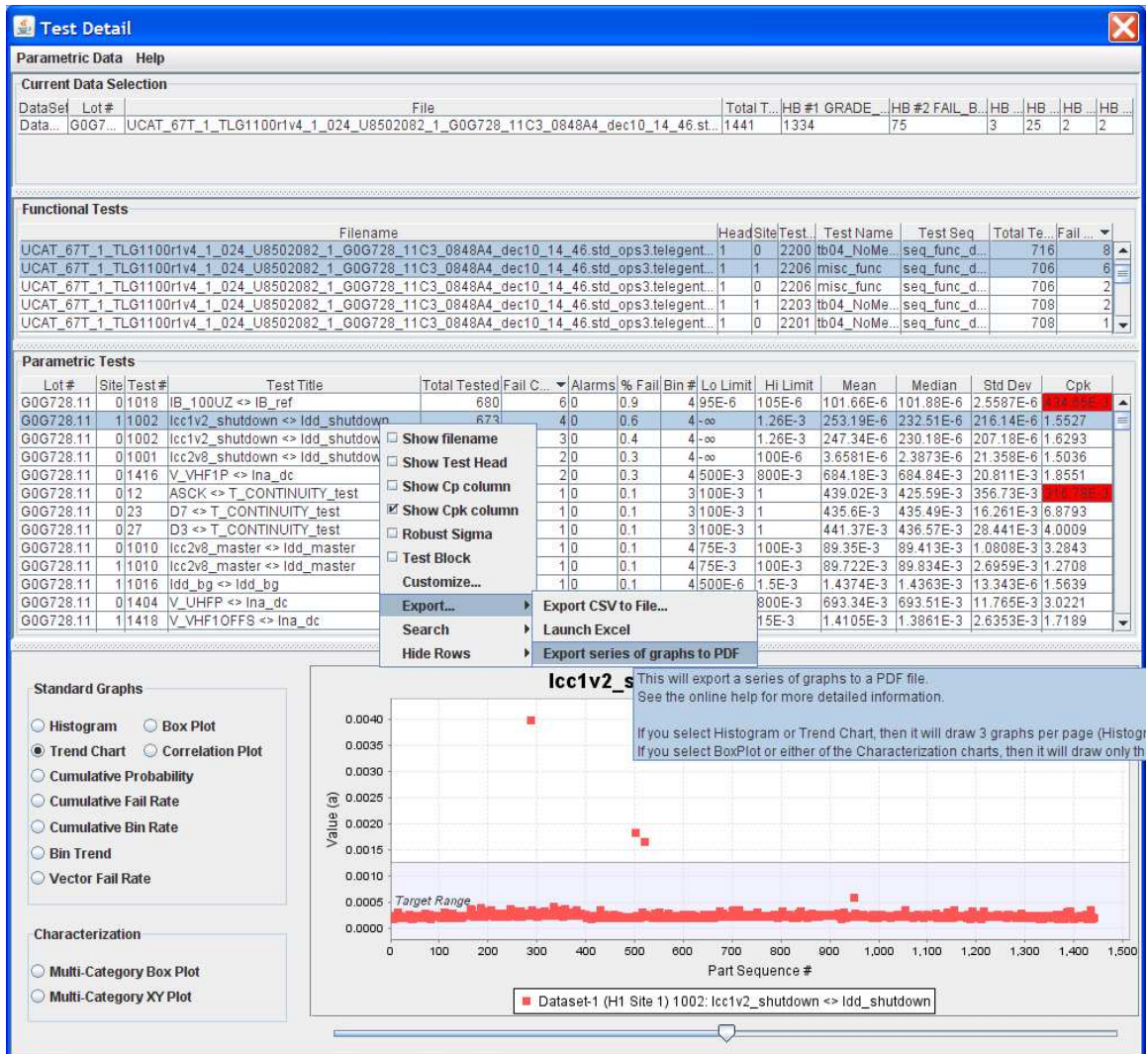
Standard Graphs

- ☐ Histogram
- ☐ Box Plot
- ☒ Trend Chart
- ☐ Correlation Plot
- ☐ Cumulative Probability
- ☐ Cumulative Failure Rate
- ☐ Cumulative Bin Rate
- ☐ Bin Trend
- ☐ Vector Failure Rate

S_CONTINUITY_test
 seq_BBF_dc
 seq_LNA_DC
 seq_MIXER_DC
 seq_VCOSync_dc
 seq_bus_timing
 seq_check_reg_18e
 seq_pipe_adc
 seq_sar_adc
 seq_uhf_func
 seq_vhf1_func
 seq_vhf2_func
 seq_zeus_dcfunc

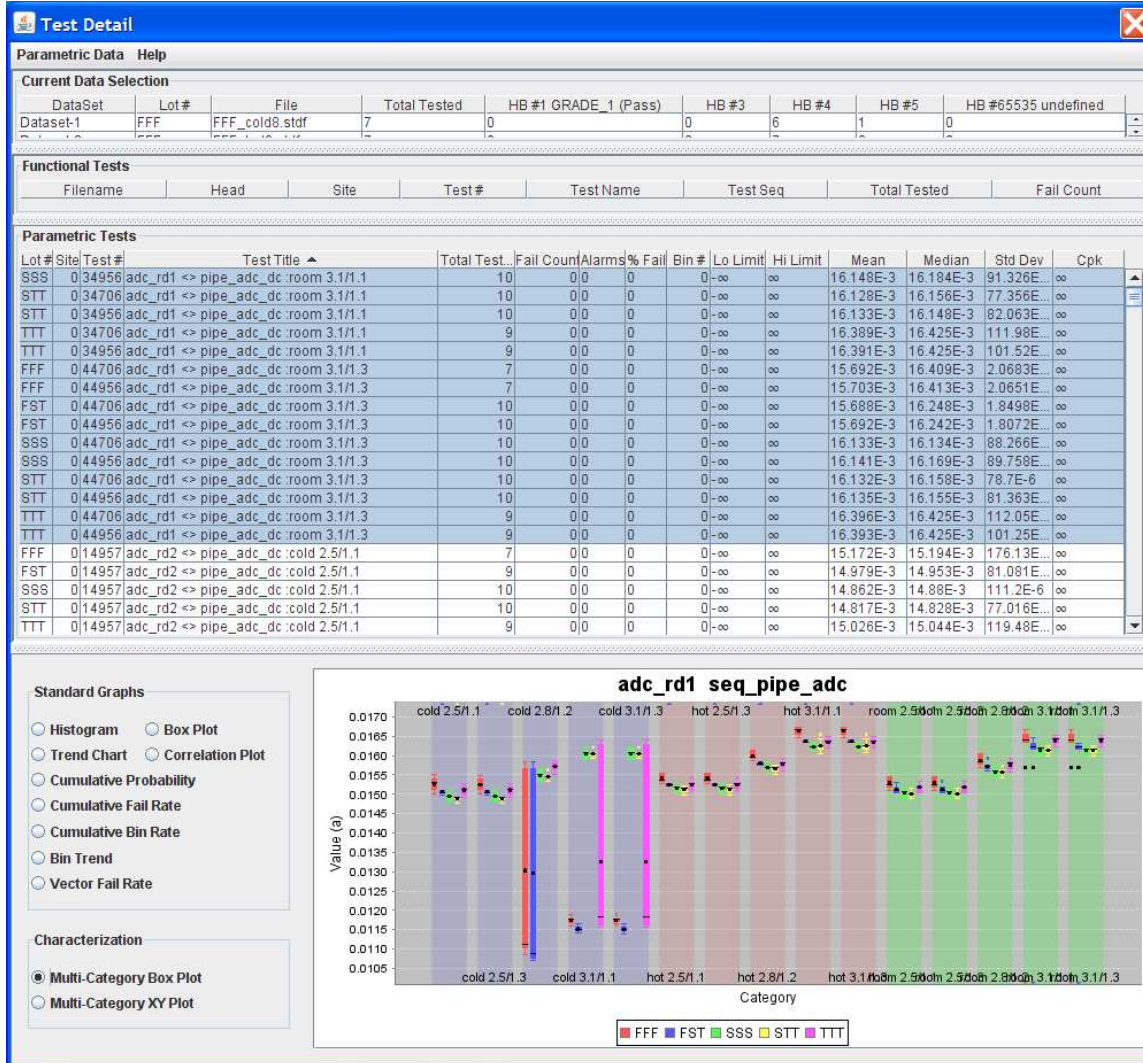
Allows launch of Excel or export to CSV.

Allows creation of PDF report with all graphs.

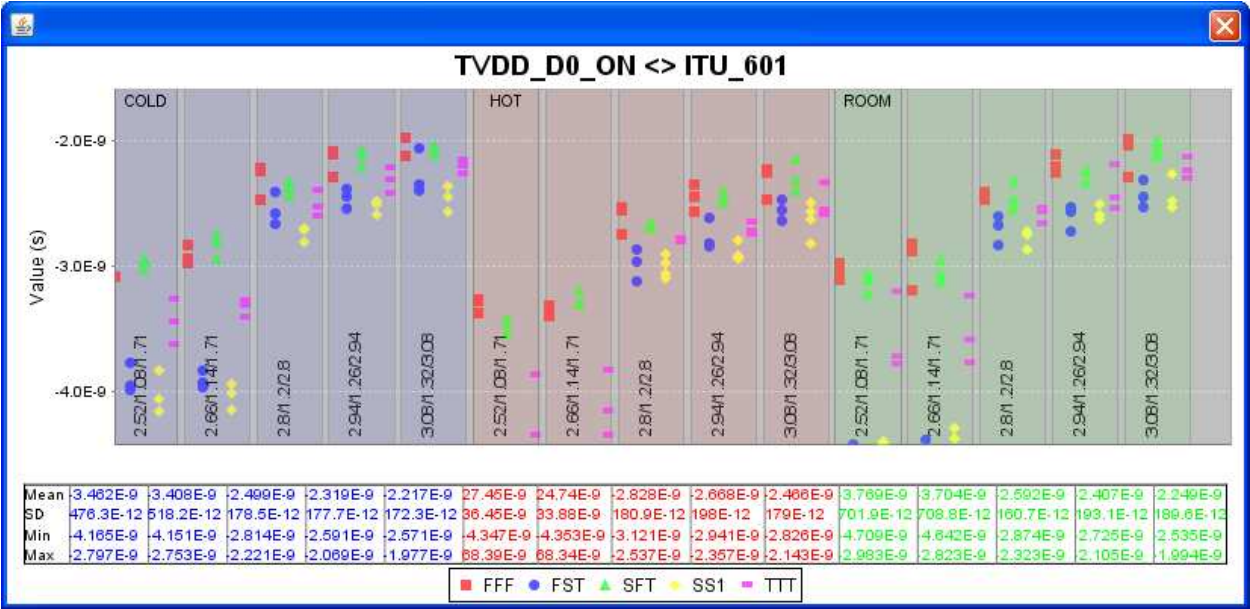
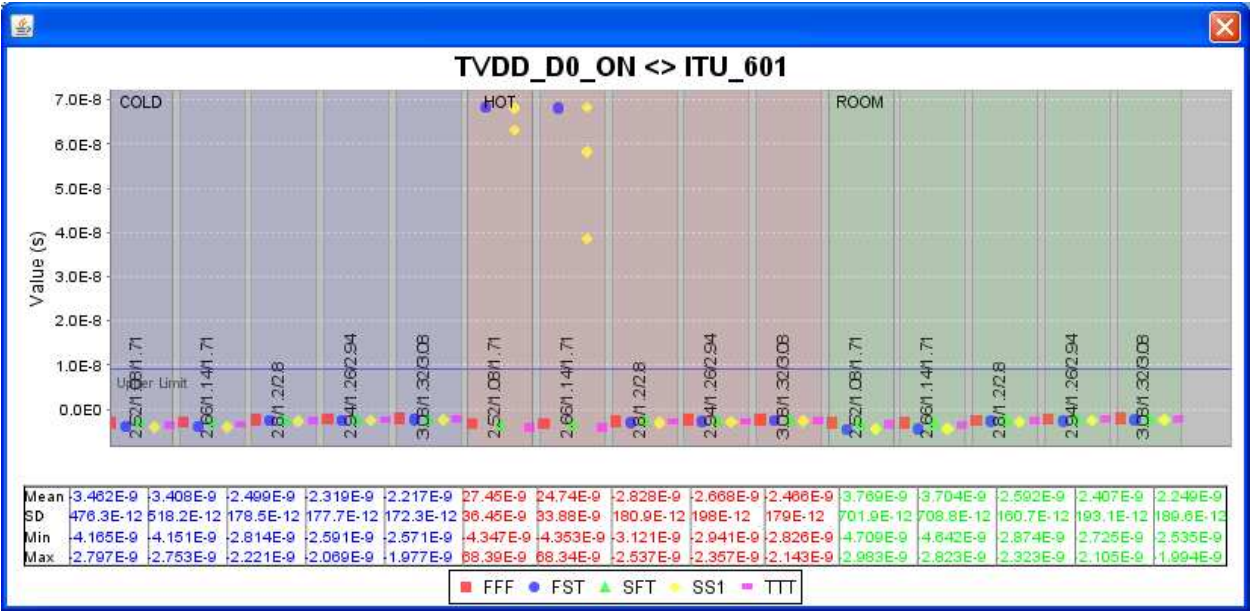


Characterization Graphs:

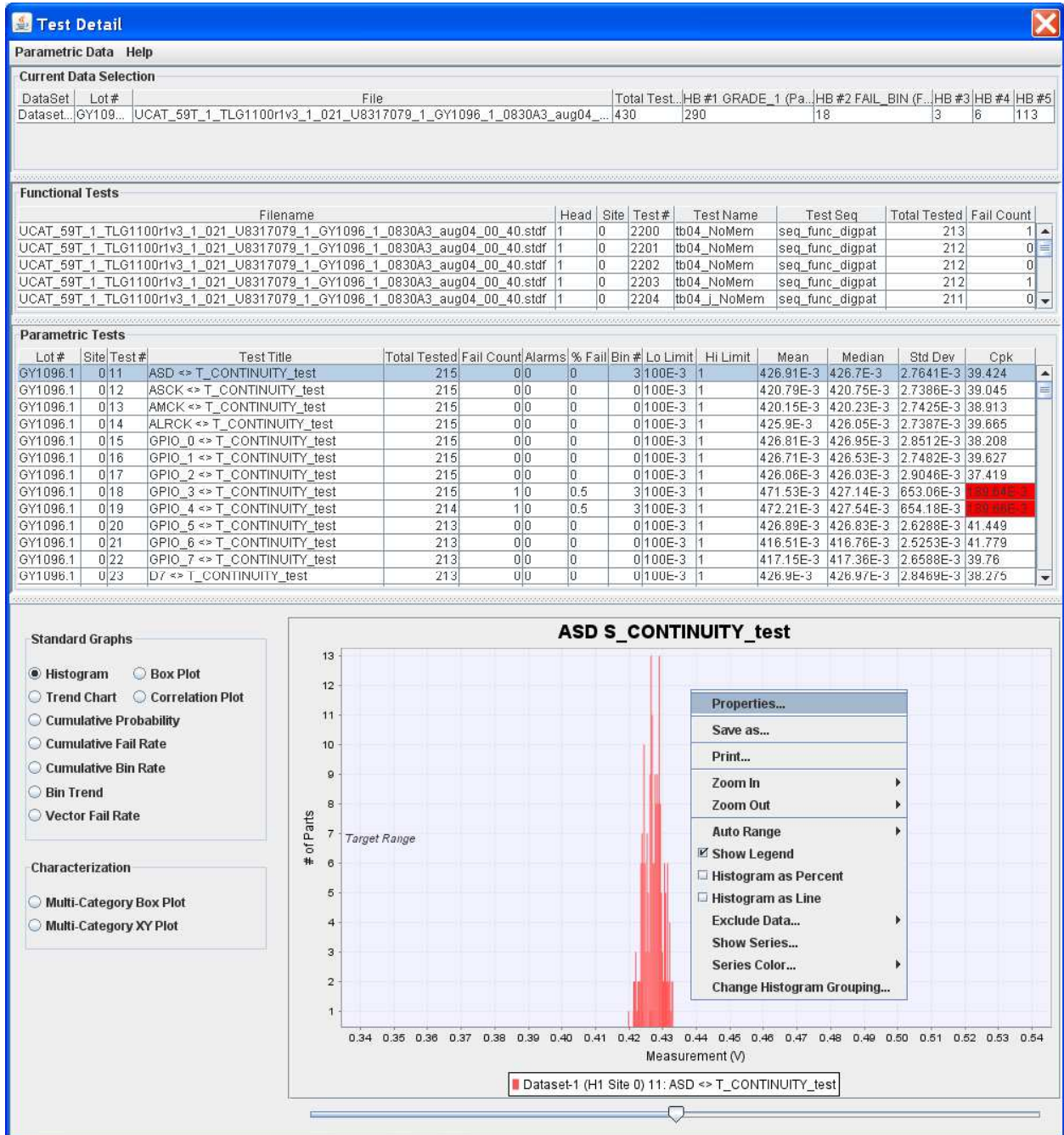
Fast, Slow, Typical fab process corners at Cold, Room, Hot temps at varying voltage conditions.



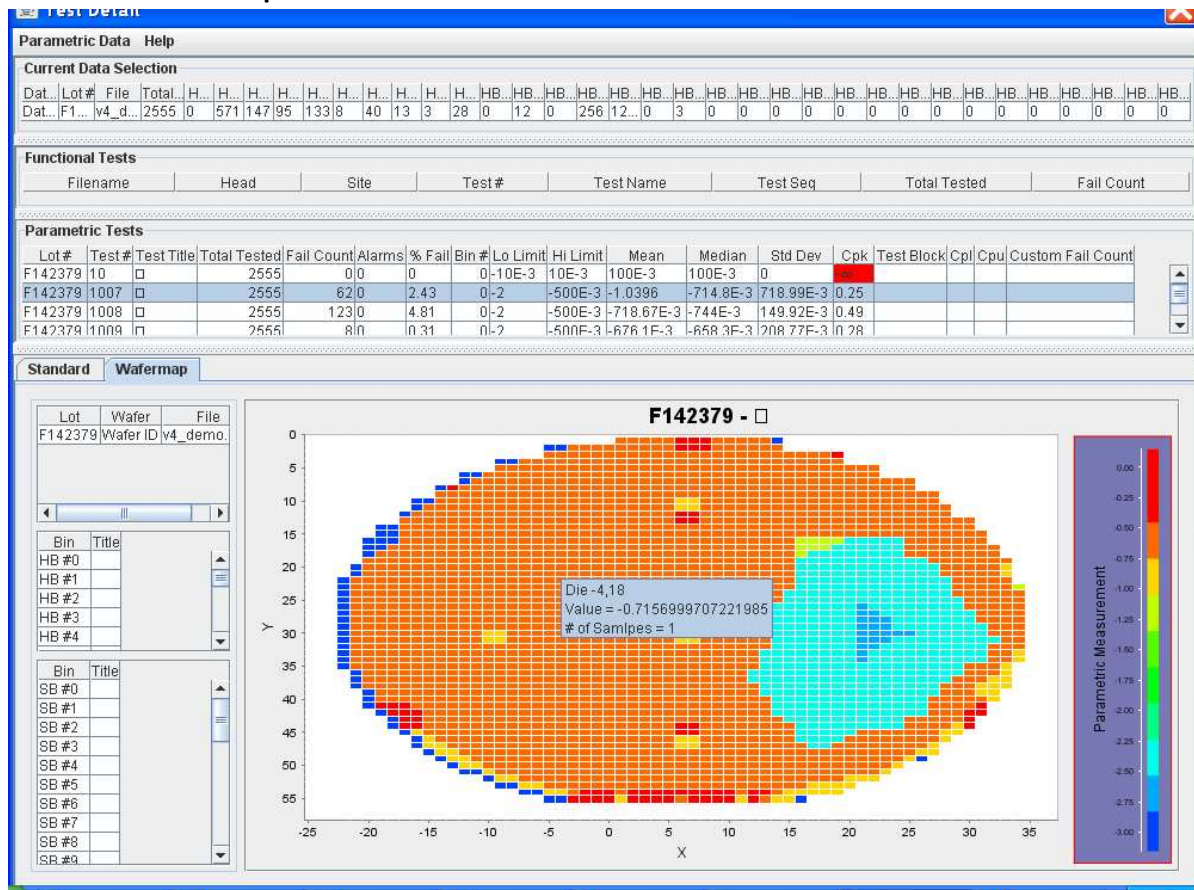
Data table at bottom summarizes by colored band.



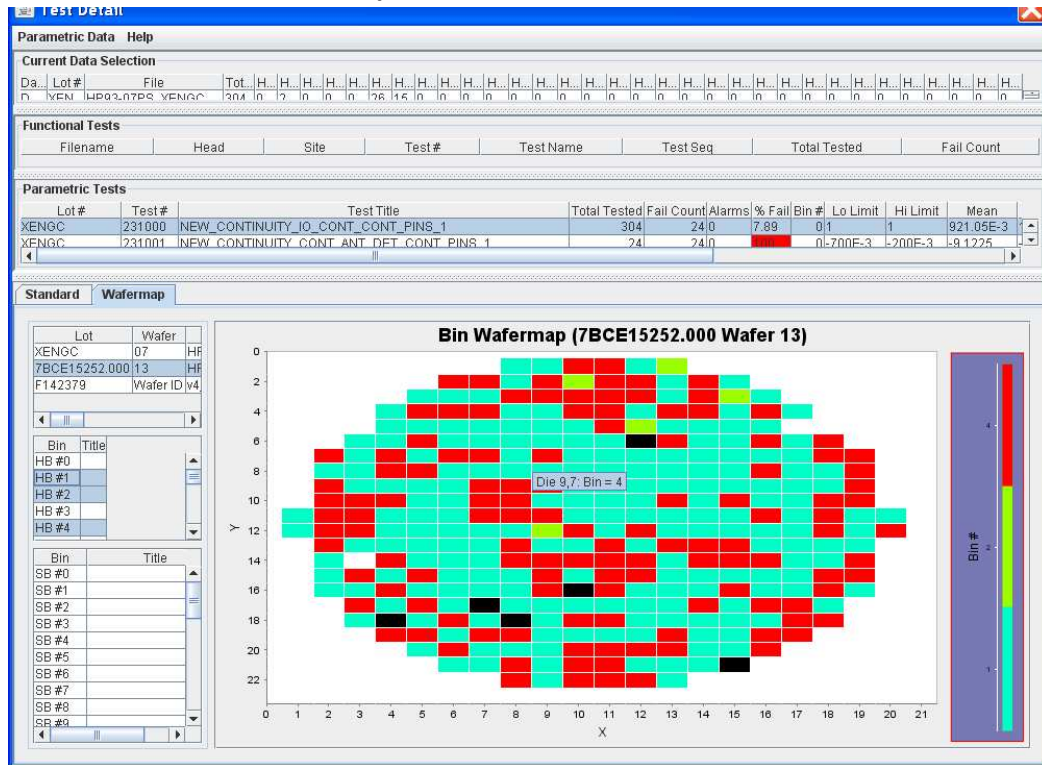
Graph customizations from right-click menu:



Parametric Wafermaps:



HardBin and SoftBin Wafermaps:



System Requirements:

- Platform: Java based application will run on Windows, Solaris, Linux
- RAM: 2GB
- Disk: 1GB
- Processor: 2GHz
- Hardware: Ethernet card only required for Floating license option