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Quick defect pattern analysis using graph builder applied with the data filter

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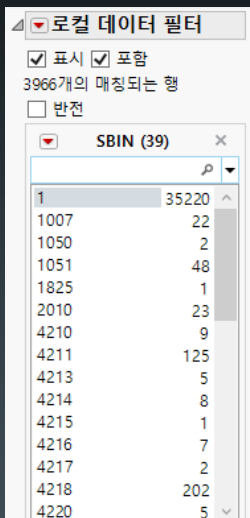
- **Data Preprocessing**
How to sort out each failure modes by the data filter
- **Data Visualization**
How to use the graph builder for efficient data visualization
- **One-page Summary**
Effective one-page analysis with the multi-correlated parametric data
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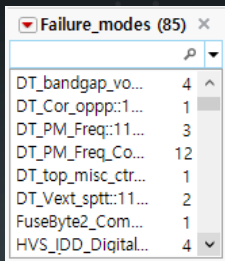


Data Preprocessing

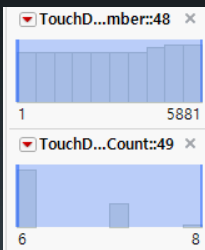
- Defines the concerned failure data by using multiple local filter combinations



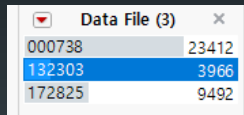
Failure no.



Sub failure modes



Specific time



Specific File

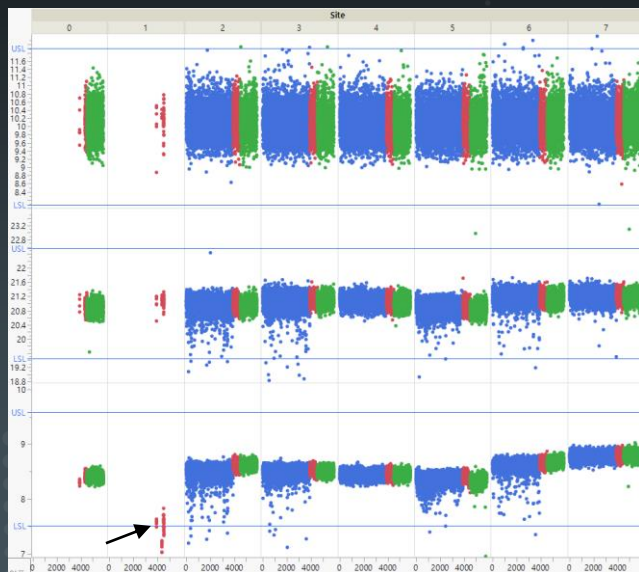


* Sorted data from unwanted condition

1. Not correlated
2. Outliers
3. Duplicate

Data Preprocessing

- ex) site # commonality check with different failure modes, which defines the correlation among each failure modes in unit based



As Is (All data)

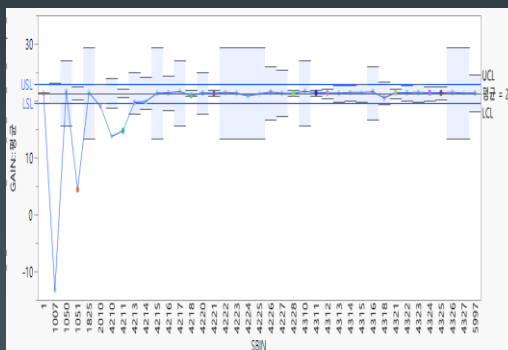
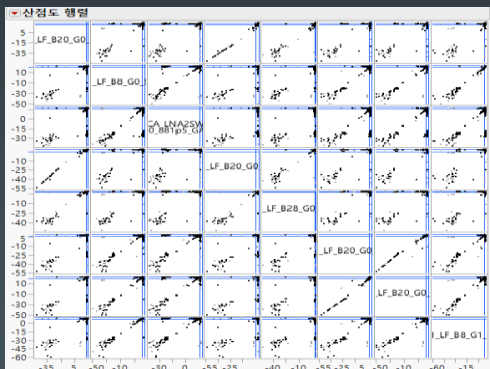
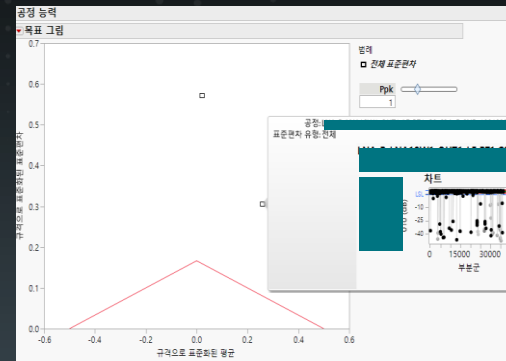
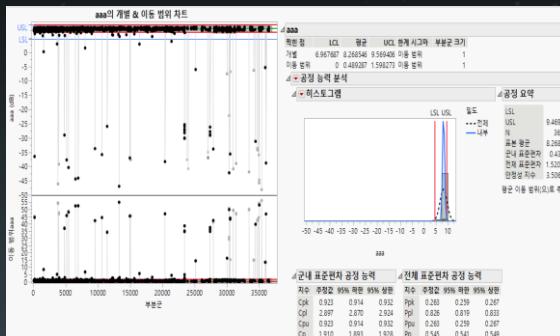
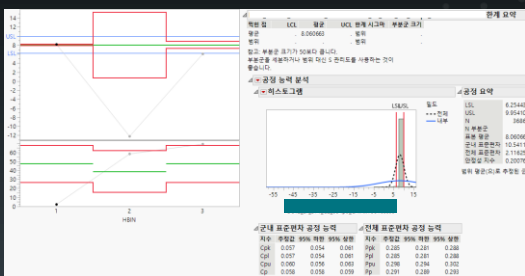


To be (Sorted data)

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Data Preprocessing

- Able to analyze the valuable data for JMP statistical method once well filtered



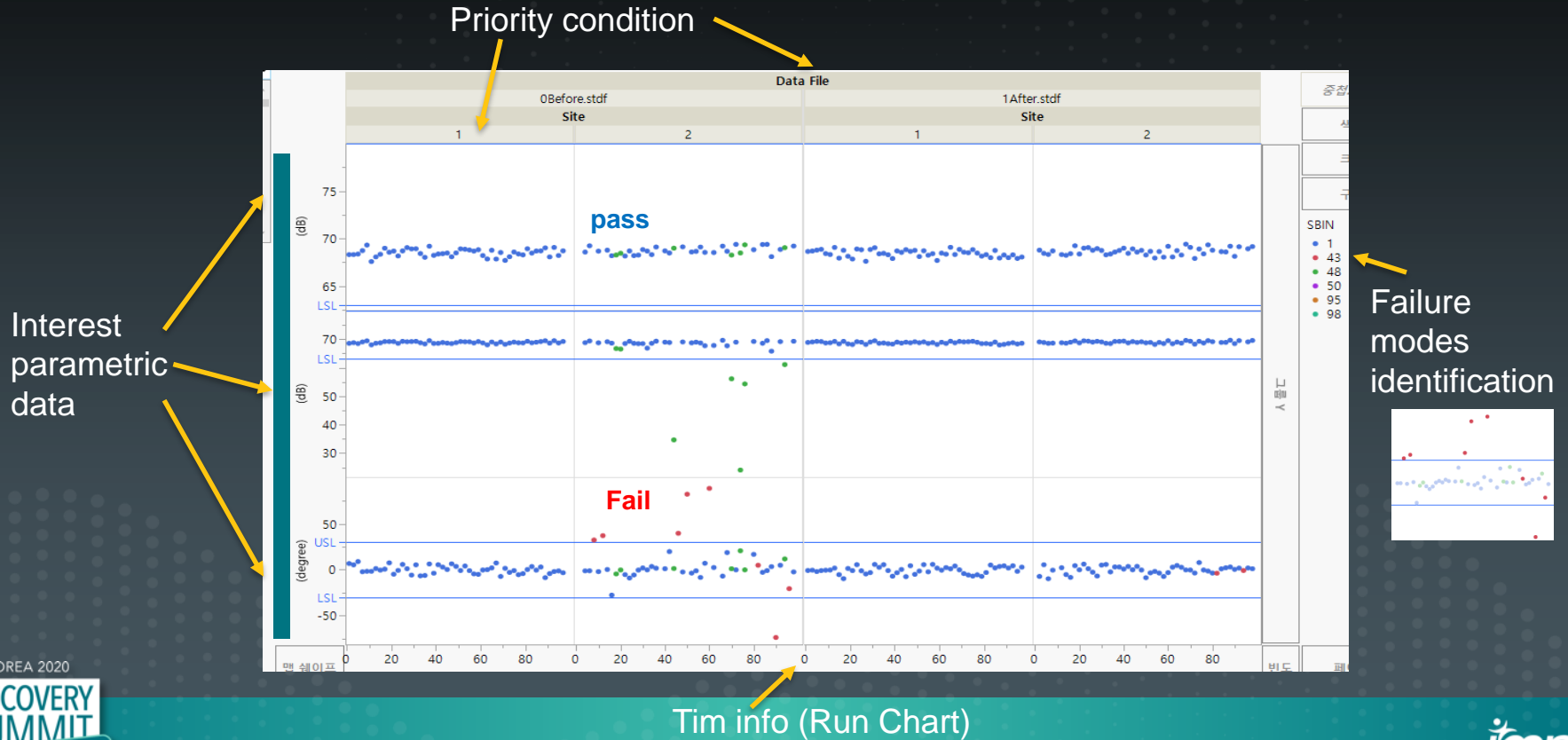
	Huber 중심	Huber 스프레드	Huber 이상치 수
	21.58211	0.2015497	144
	21.403108	0.1859211	233
	21.050036	0.1940339	209
	8.259158	0.2047545	1515
	8.5259199	0.126645	148
	7.5172781	0.2391709	542
	8.9515315	0.2022418	272
	37.320383	0.2826785	232
200091	8.0470913	0.2757064	282
200136	35.968996	0.3177264	199
	21.402674	0.1949632	195
	15.203801	0.2383173	393
	-3.118159	0.1151713	446
200099	14.284898	0.194285	544
2000126	2.550892	0.2199566	408
	21.234496	0.1566968	425

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Data Visualization

- Sets the parameters in layout using by graph builder



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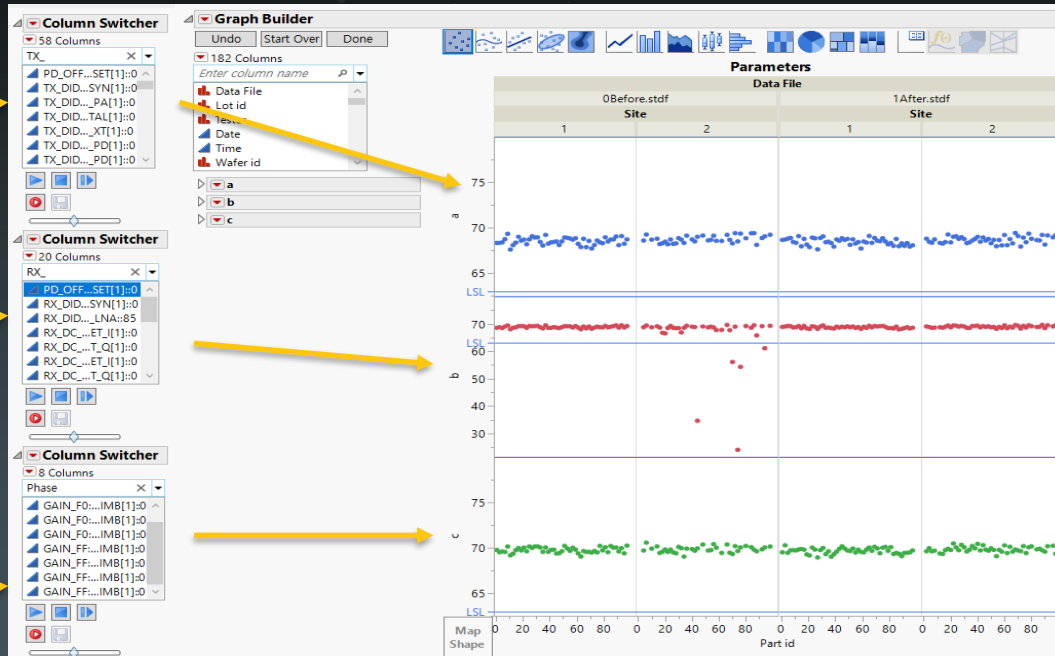
Data Visualization

- Faster and easier defect pattern analysis using with the multiple column switcher → **Macro file**

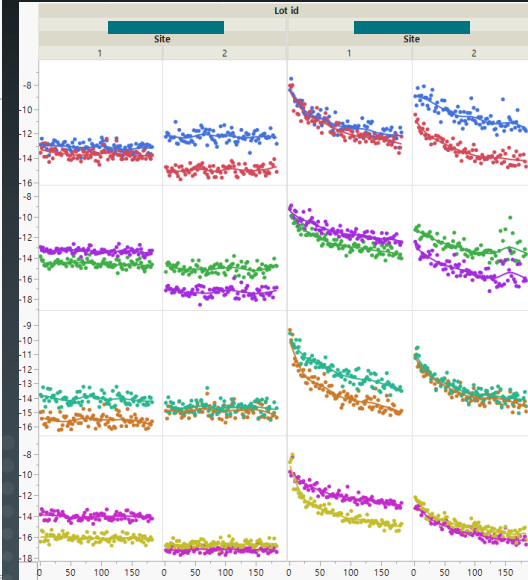
*Columns 1
Filter: TX

*Columns 2
Filter: RX

*Columns 3
Filter: Phase



Example: multi-Columns switchers



Defect pattern

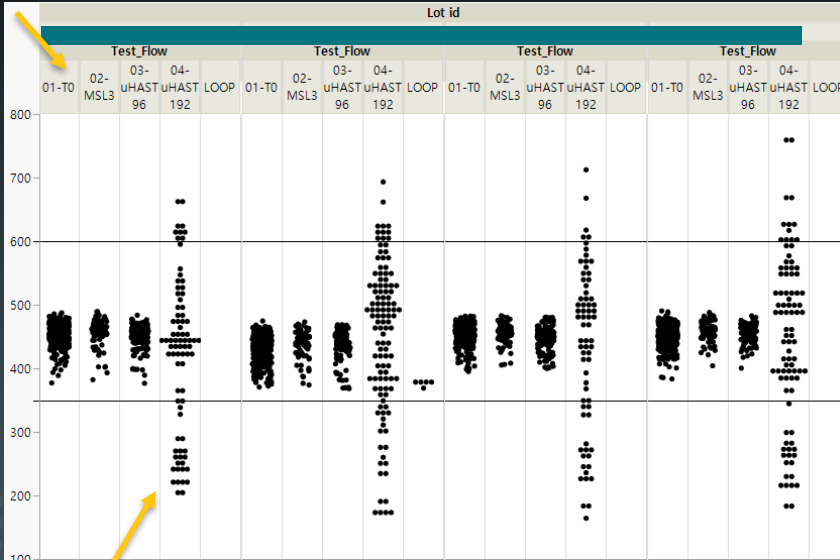
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One-page Summary

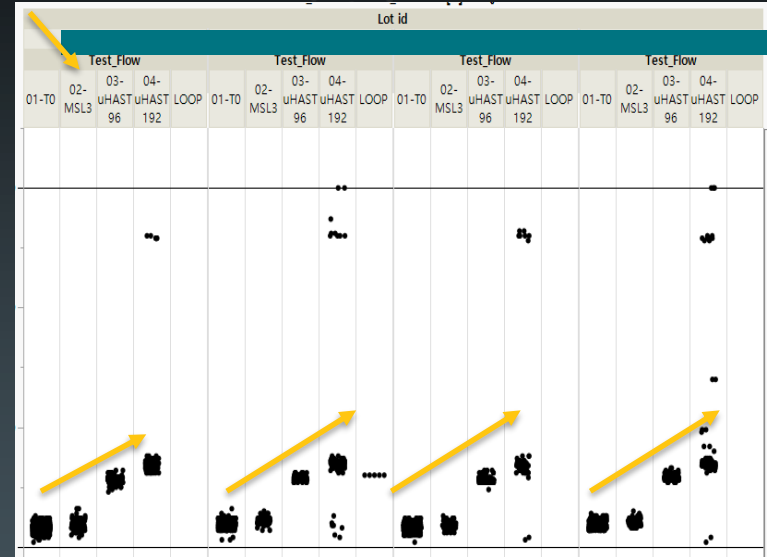
- Able to easily find on performance trend and even each unit can be tracing on REL Test

REL sequence



Fails on uHAST

REL sequence

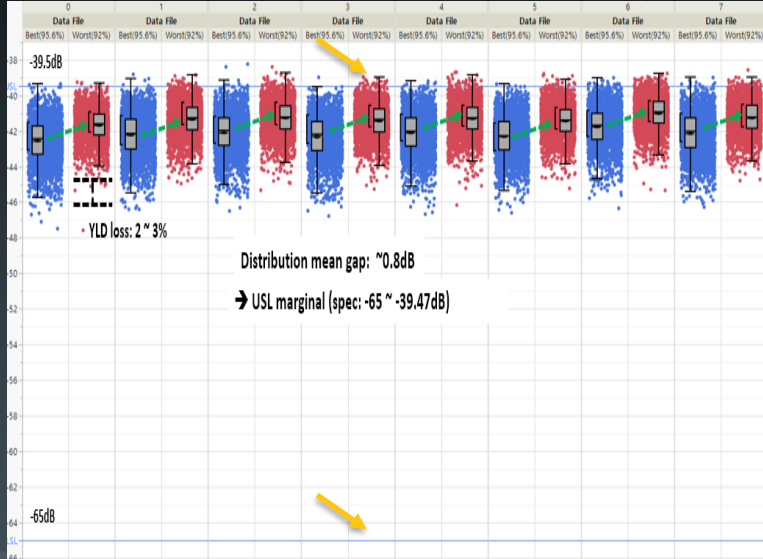


Characteristic degradation versus REL Test sequence

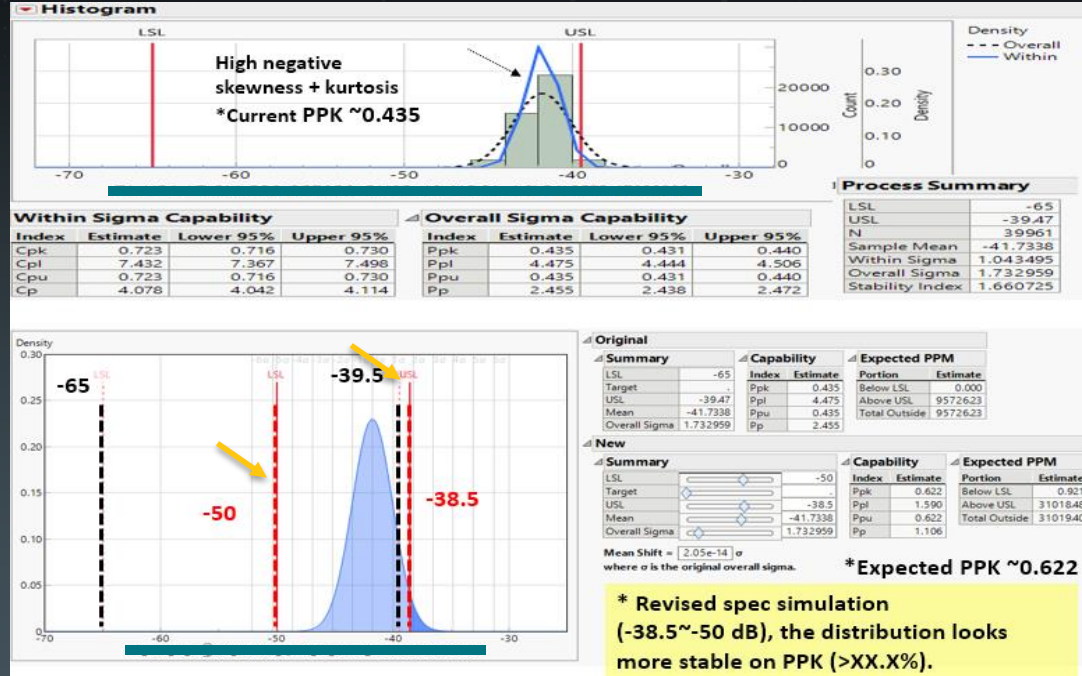
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Interactive Simulation

- Faster and easier comparison is available when the spec would be revised in statistical value



Tight marginal failure case



Yield simulation for interactive spec changing

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Thank you for watching

