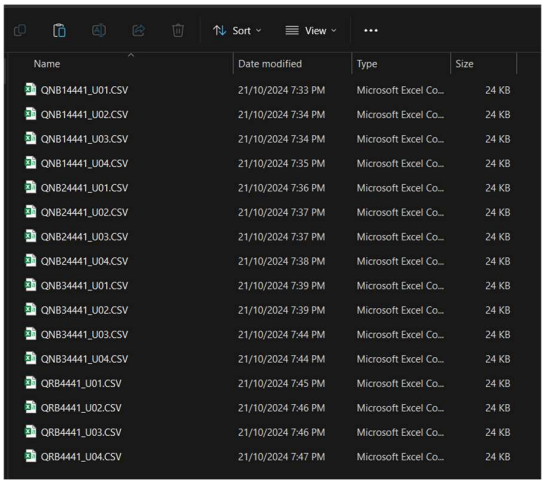
User Manual for Automation Correlation and Cpk Report Generator

By Mohamad Haikal bin Mohamad Nazari

Step 1: Convert DL file format into CSV format

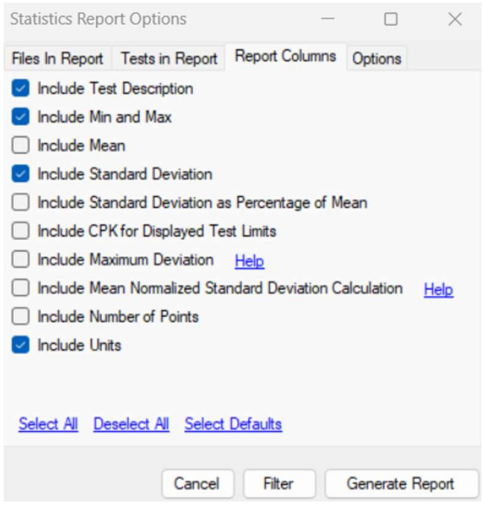
Note: Make sure unit number is included in the CSV file name, if unit #1 then set like “filename_U01.CSV”, this report generator only works with unit#01 to unit#09 for now.

1. Open the Manchester app.
2. Navigate to QA units and drag all DL files (reference board) into Manchester.
3. Go to the Reports section, select Test Value vs Device (Correlation), and choose none after that select one unit.
4. Set the Decimal Places to Display option to 4.
5. Click on Filter, then untick both "include fails" and "include alarms," and click Okay.
6. Generate the report and save it in CSV format.
7. Make sure that create a new folder based on test card name.
8. Repeat steps 3 to 5 for all remaining units.
9. Click on File and select "unload all files."
10. Navigate to QA units again and drag all DL files (new board) into Manchester.
11. Repeat steps 3 to 5 for the new board.
12. Repeat step 6 to generate and save the report for the new board at the same folder that had been created at step 7.



Step 2: Create limit file

1. Open the Manchester app.
2. Navigate to QA units and drag all DL files (reference board) into Manchester.
3. Go to the Reports section and select Test Statistics.
4. Select all units in Files in Report tab.
5. Go to Test in Reports tab and unselect MATH.0, MATH.1, MATH.2.
6. Navigate to the Report Columns tab and select the specified columns as listed below.

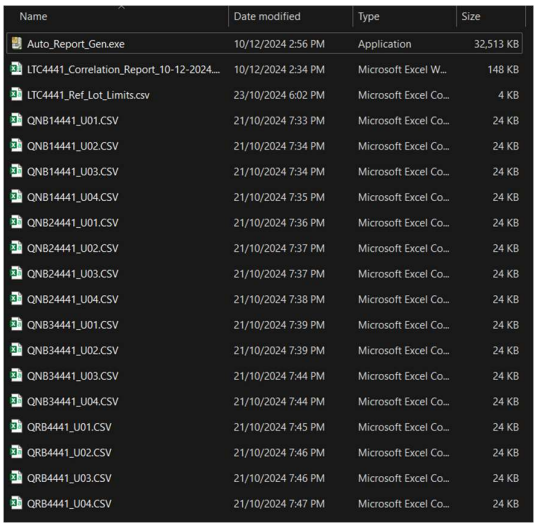


7. Go to the Options menu, select "Add Columns For" and set it to "None," then change the Decimal Places to 4.
8. Click on "Generate Report" to create the report.
9. In the Test Statistic Report section, select "File" then choose "Save to CSV File".
10. Name the file as “LTxxx_Ref_Lot_Limits.csv” and save it in the folder that was created earlier.
11. Open the limit file and change Min and Max columns to Low_limit and High_Limit respectively.
12. Update the Low_limit and High_Limit by taking the limit based on Test Program. **(DO NOT USE THE AUTOGENERATED LIMITS FROM MANCHESTER!).**

Test #	Description	Low_Limit	High_Limit	StdDev	Unit
1.0	VIN CONTINUITY	-1000	-300	4.4914	mV
3.0	BLANK CONTINUITY	-1000	-200	4.8826	mV
3.1	BLANK @20MA CONTINUITY	-1400	-200	20.8291	mV
4.0	RBLANK CONTINUITY	-1000	-300	4.4783	mV
6.0	EN CONTINUITY	-1000	-600	4.1975	mV
7.0	FB CONTINUITY	-1000	-300	5.3423	mV
8.0	DRVCC CONTINUITY	-1000	-300	4.6571	mV
9.0	OUT CONTINUITY	-1000	-300	7.0211	mV
10.0	IVIN; SHUTDOWN @VIN=7.5V	1	11.85	0.0993	uA
15.0	DRVCC VOLTAGE @ VIN=7.5V	3.5	6	0.0329	V
15.1	IVIN; PRE-STRESS @VIN=15V	50	498	7.9314	uA
18.0	IVIN ;ABS MAX @VIN=28V	100	1000	8.7935	uA
80.0	DRVCC VOLTAGE	9.5		0.0005	V
80.1	DRVCC HIGH STRESS @DRVCC=10V	0.01	1	0.0076	mA
80.2	DRVCC LOW STRESS @DRVCC=10V	0.01	1	0.0079	mA
90.0	FB @ 9.3V STRESS	-100	100	0.0842	uA

Step 3: Generate Correlation and Cpk Report

1. Make sure the folder that was created earlier contain the files as below including Auto_Report_Gen.exe.



Name	Date modified	Type	Size
Auto_Report_Gen.exe	10/12/2024 2:56 PM	Application	32,513 KB
LTC4441_Correlation_Report_10-12-2024....	10/12/2024 2:34 PM	Microsoft Excel W...	148 KB
LTC4441_Ref_Lot_Limits.csv	23/10/2024 6:02 PM	Microsoft Excel Co...	4 KB
QNB14441_U01.CSV	21/10/2024 7:33 PM	Microsoft Excel Co...	24 KB
QNB14441_U02.CSV	21/10/2024 7:34 PM	Microsoft Excel Co...	24 KB
QNB14441_U03.CSV	21/10/2024 7:34 PM	Microsoft Excel Co...	24 KB
QNB14441_U04.CSV	21/10/2024 7:35 PM	Microsoft Excel Co...	24 KB
QNB24441_U01.CSV	21/10/2024 7:36 PM	Microsoft Excel Co...	24 KB
QNB24441_U02.CSV	21/10/2024 7:37 PM	Microsoft Excel Co...	24 KB
QNB24441_U03.CSV	21/10/2024 7:37 PM	Microsoft Excel Co...	24 KB
QNB24441_U04.CSV	21/10/2024 7:38 PM	Microsoft Excel Co...	24 KB
QNB34441_U01.CSV	21/10/2024 7:39 PM	Microsoft Excel Co...	24 KB
QNB34441_U02.CSV	21/10/2024 7:39 PM	Microsoft Excel Co...	24 KB
QNB34441_U03.CSV	21/10/2024 7:44 PM	Microsoft Excel Co...	24 KB
QNB34441_U04.CSV	21/10/2024 7:44 PM	Microsoft Excel Co...	24 KB
QRB4441_U01.CSV	21/10/2024 7:45 PM	Microsoft Excel Co...	24 KB
QRB4441_U02.CSV	21/10/2024 7:46 PM	Microsoft Excel Co...	24 KB
QRB4441_U03.CSV	21/10/2024 7:46 PM	Microsoft Excel Co...	24 KB
QRB4441_U04.CSV	21/10/2024 7:47 PM	Microsoft Excel Co...	24 KB

2. Create another file call file_names.txt by typing cmd at the address bar which is beside search bar and press enter. Then type dir /b => file_names.txt and press enter. It will generate file name in text file.
3. Open Auto_Report_Gen.exe then fill in the production information.
4. After filling in the production information, press enter.

5. Then, check if the current information is filled in correctly and type 'yes.' If it is not correct, type ‘no’ and follow the instructions to update the relevant information.
6. Next, fill in the setup information then press enter.

```
Please enter the following setup information:
Enter Tester ID: ADPG Tester EG#61
Enter Reference Board: LTC4441 L0200010
Enter New Board ID: LTC4441 #001, LTC4441 #002, LTC4441 #003
Enter Test Program: EQR4441.02
```

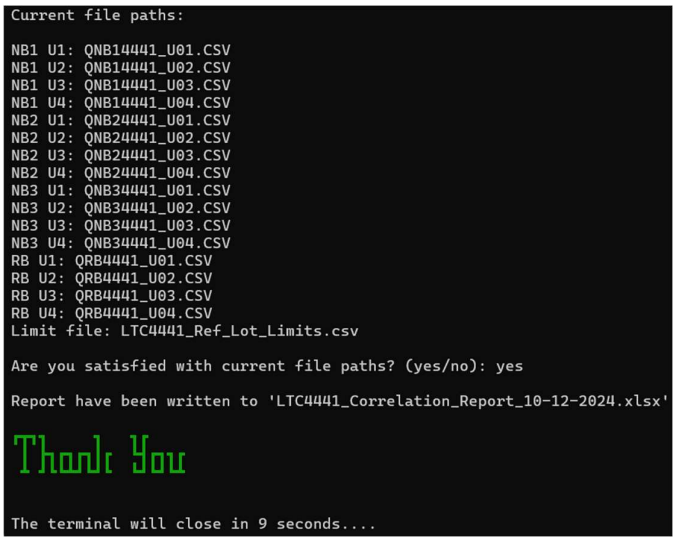
7. Check if the current information is filled in correctly and type 'yes.' If it is not correct, type ‘no’ and follow the instructions to update the relevant information.
8. After that, enter the number of New Boards (NB) and unit tested.

```
Enter the number of New Boards (NB) (between 1 and 9): 3
Enter the number of units tested (between 1 and 9): 4
```

9. Check if the current amount of NB and unit tested is filled in correctly and type 'yes.' If it is not correct, type ‘no’ and follow the instructions to update the information.
10. Open the file_names.txt file and enter the file names for specified NB with specified unit tested, Reference Board (RB) with specified unit tested, and the limit file name that was created earlier.

```
You entered 3 boards and 4 units. Are you sure these amounts are correct? (yes/no): yes

Enter the file path for NB1 U1 (CSV file): QNB14441_U01.CSV
Enter the file path for NB1 U2 (CSV file): QNB14441_U02.CSV
Enter the file path for NB1 U3 (CSV file): QNB14441_U03.CSV
Enter the file path for NB1 U4 (CSV file): QNB14441_U04.CSV

Enter the file path for NB2 U1 (CSV file): QNB24441_U01.CSV
Enter the file path for NB2 U2 (CSV file): QNB24441_U02.CSV
Enter the file path for NB2 U3 (CSV file): QNB24441_U03.CSV
Enter the file path for NB2 U4 (CSV file): QNB24441_U04.CSV

Enter the file path for NB3 U1 (CSV file): QNB34441_U01.CSV
Enter the file path for NB3 U2 (CSV file): QNB34441_U02.CSV
Enter the file path for NB3 U3 (CSV file): QNB34441_U03.CSV
Enter the file path for NB3 U4 (CSV file): QNB34441_U04.CSV


Enter the file path for RB U1 (CSV file): QRB4441_U01.CSV
Enter the file path for RB U2 (CSV file): QRB4441_U02.CSV
Enter the file path for RB U3 (CSV file): QRB4441_U03.CSV
Enter the file path for RB U4 (CSV file): QRB4441_U04.CSV

Enter the file path for the limit file (CSV file): LTC4441_Ref_Lot_Limits.csv
```

11. Check if all the current file name for specified NB with specified unit tested, RB with specified unit tested, and the limit file name are filled in correctly and type 'yes.' If it is not correct, type ‘no’ and follow the instructions to update the certain file name.



12. The report has been generated and is named LTxxx_Correlation_Report_dd-mm-YYYY.xlsx.