

Lab:	Software Verification & Validation
Software Description:	Date:

Codes	Assessment	Pass/Fail	Result/Observations (Attach Evidence or Describe)
A. Software Inspection	Spreadsheet is clear and makes sense		
	There are instructions for use		
	Instructions and data input appear on the visible portion of the first worksheet		
	Data-entry fields are labeled and color coded (it is recommended to avoid red and green)		
	The type/name of procedure used is clearly specified		
	The number of digits to be rounded to is specified		
	The user is warned/notified whenever data-entry fields are left blank		
	Data-entry fields are "blank" when opened, preventing loss of old data and ensuring that old data is not used with the current calculations		
	The software opens at the right location within the file		
	Unused fields/cells are locked		
	Rows/columns that the operator need not see are hidden		
	Unused worksheets are removed		
	Worksheets are named appropriately		
	Pass/Fail criteria are specified in instructions		
	Pass/Fail cells are automated (Not data-entry)		
	Calculation fields are properly labeled		
	Units are expressed properly and correctly		
B. Mathematical Specification	The appropriate procedure is used		
	The formulae and methods chosen from that procedure are specified		
	Sources and references for formulae are specified		
	The chosen procedure, its methods, and its formulae, are appropriate to the level of precision/uncertainty		
C. Code Review	The formulae in the fields exactly match the procedure		
	Repeated calculations appropriately reference the correct cells		
	Calculations, when tested using standard data or reference test data, show appropriate accuracy		
	Rounding is done at the appropriate locations in the file		
D. Numerical Stability	Calculations are stable as determined by an evaluation that uses large numbers and small differences.		
	Fields, therefore their content, are categorized as "Number" and not "General" when appropriate, and vice versa		
	"Number" cells are locked to a limited number of decimal places; this limit is appropriate to the values being used		

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E. Component Testing	Conditional logic cells handle negative values properly		
	Conditional logic cells withstand a Boundary Value test		
	Each macro used is functional		
	Each command/button is functional		
	Combinations of interdependent macros are functional		
	Plotted graphs are accurate		
	Plotted graphs and its axes are properly labeled		
	Worksheets/reports print properly, if needed to		
	Conditional (color and non-color) formatting is functional		
F. Numerical Reference Results	Look-up tables and lists match the latest calibration report.		
	Uncertainties match the latest Scope		
	Values that reference another workbook or spreadsheet are dated		
	When a master list's date is updated, the file references (A) an old value, (B) a default value, (C) displays zero or (D) an error message, as desired by the user		
G. Embedded Data Evaluation	Embedded data (conversion factors, reference values, etc) is correct		
	The evaluation of the embedded data is dated and documented		
	The instructions worksheet includes a list of all additional files and plug-ins needed for it to run properly		
H. Back-to-Back Testing	Newer spreadsheets and older spreadsheets agree down to the level of intermediate calculations; this evaluation is dated and documented		
I. Analysis With Out Computer Assistance	Hand calculations agree with those generated by the spreadsheet, or if they disagree, the differences are significantly smaller than the reported uncertainty		
	Conclusions and results are apparent (if appropriate)		
J. Security	Equation and calculation cells are protected against inadvertent editing		
	Cells are locked in place; they cannot be moved/dragged		
	Confidentiality of passwords is appropriate		
	Files are backed up automatically		
	Additional back-up is available at alternate facilities		
	Files on network drives cannot be accidentally deleted		