QM – GCN

Decision Rule of Compliance with specification (Last revision date: 01-Dec-2020)
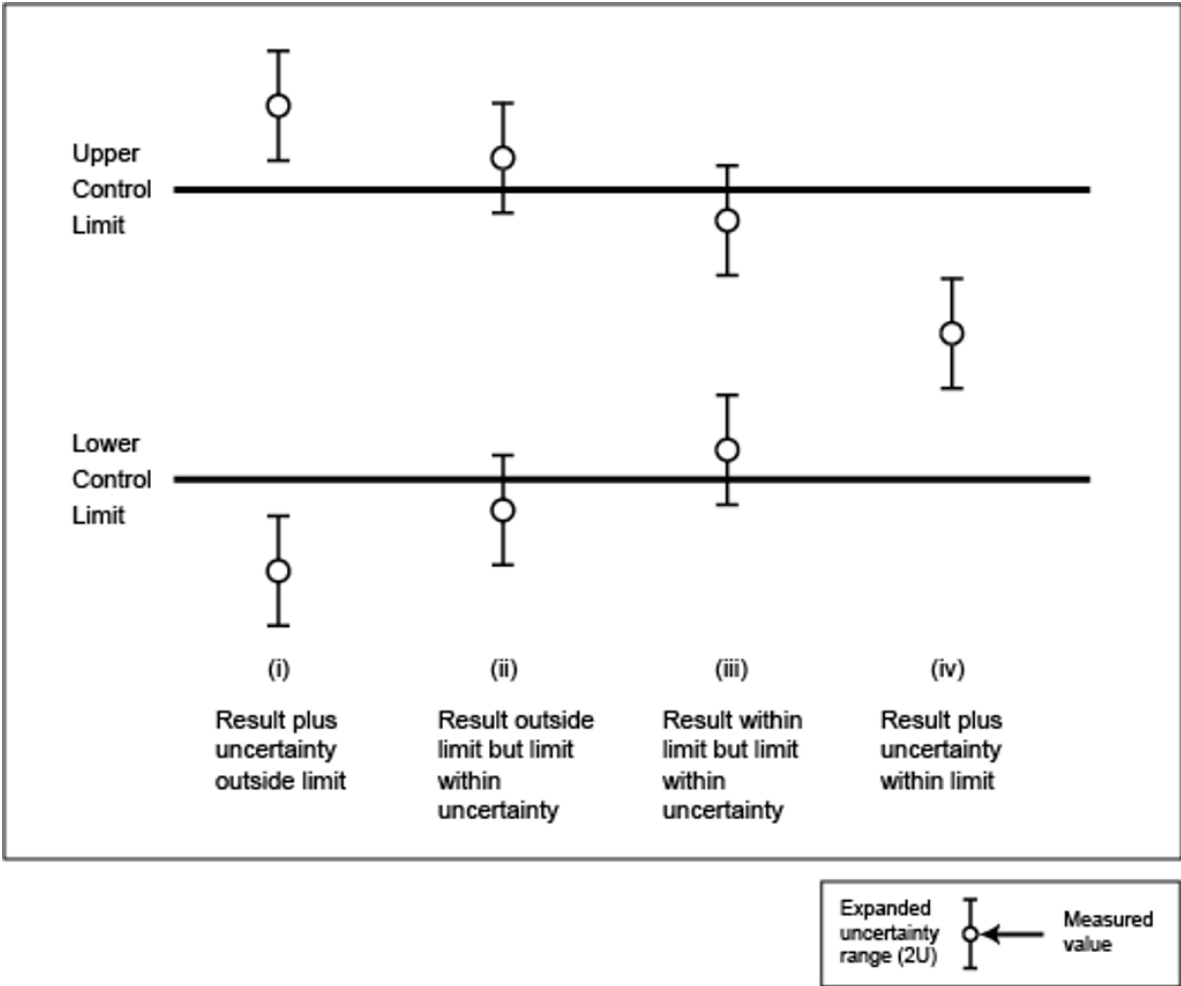
Rules of compliance

Unless otherwise specified in the order confirmation or no statement of conformity is required, the decision rule specified in this page is applicable to all confirmed orders in the same date or the date after of this revision.

For non-numerical results (e.g. observation, grading, rating):

A statement of conformity will be reported directly according to test result and specification or standard requirement.

For numerical results:

A statement of conformity shall be reported based on the expanded uncertainty with a 95% confidence interval. Assuming that limits were set with no allowance for uncertainty, four situations in the figures below are apparent for the case of compliance with upper and lower limits:

Four situations are apparent for the case of compliance with an upper limit

Case (I):

- When reported measurement result plus the expanded uncertainty exceeds the limiting value set in the specification or standard, a statement of not meeting the requirements of the specification or standard is declared, reported as "Non-compliance" or "Fail".

Case (II):

- When reported measurement result exceeds the limiting value set in the specification or standard, but the limit is within the expanded uncertainty range, a statement of not meeting the requirements of the specification or standard is declared, reported as "Non-compliance" or "Fail".

Case (III), the result is below the limiting value by less than the expanded uncertainty.

- in some testing lab, the test is required to be repeated when possible, employing a system with a better uncertainty. If, after all reasonable attempts to reduce the total uncertainty have been made, the re-measurement again results in the same situation, it is possible to indicate the measurement is below the limit (Pass), with the statement "It is not possible to state compliance using a 95% coverage probability for the expanded uncertainty although the measurement result is below the limit". When shorter statements are reported, it should not give the impression that the result complies with specification or standard. For reporting of overall evaluation of compliance, it can be stated as "The statement(s) of compliance with specification (or requirement) is based on a 95% coverage probability for the expanded uncertainty of the measurement results on which the decision of compliance is based".

Case (IV):

- When reported measurement result plus the expanded uncertainty does not exceed the limiting value set in the specification or standard, a statement of meeting the requirements of the specification or standard is declared, reported as "Compliance" or "Pass".