TGN 32 on the Requirement for Detailed Results in Test Reports

EUANB Technical Guidance Note 32 on the Requirement for Detailed Results in Test Reports

Introduction and Background:

It has come to the attention of the EUANB that test reports do not always contain test results. Most harmonised and non-harmonised standards do confirm that the test results obtained shall be compared to the limits in order to prove compliance. However this is often not happening. Instead, test reports often just report a “pass” or “fail” statement with no actual test results.

It was noted that due to the automated nature of the test systems used in some measurements, it can be time consuming to insert the test results into the reports and it can also create large documents.

Conclusions:

After discussion, it was agreed by the EUANB that test reports must contain the actual test results, not just a pass or fail statement. The EUANB feels that full test data is an essential part of the test report, to enable the manufacturer to sign their Declaration of Conformity. It is also essential information for the Notified Body to complete a review of the Technical File. Finally, it has been expressed as mandatory information by market surveillance authorities.

Guidance:

For Test Laboratories

The guidance to test labs is that all test reports should contain actual test results in accordance with the requirements of the standard and in order to correctly demonstrate compliance with the limits including the associated measurement uncertainty.

In the case of transient tests (ESD, EFT/B etc) it is acceptable to indicate the result by phrases such as ‘no degradation of performance’ or ‘no loss of function’. If any observed variation in function or state of the EUT is observed, then this must be recorded (as opposed to text such as ‘meets performance criteria B’). For example, if a device experiences errors but is self-recoverable; this would be a passing test result but the specific details of events should be clearly explained in the test report.

With regard to performance criteria and monitoring the equipment under test (EUT) during immunity tests, it is important to clearly detail exactly how the EUT was operated, how the EUT was monitored and how a decision of pass or fail was derived. It is not sufficient to simply quote the criteria clauses from the test standard in cases where the standard should be interpreted specific to an EUT.
For example, the statement of “Continued to operate as intended” is only appropriate if the test report also explains exactly the intended operation, the declared acceptable performance level and the method of assessment.
For some types of device, the acceptable performance level is specified in the standard (such as a Bit Error Rate or audio breakthrough level); however, for some types of device the acceptable performance level is specified by the manufacturer. In this latter case, it must be clearly documented in the test report.

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For Manufacturers
The guidance to manufacturers is to insist on actual test results in the test report. This will enable the manufacturer to make an informed decision about the product, based on the test results and compliance margins when compared to the test lab's measurement uncertainties and their own manufacturing tolerances.

For Notified Bodies
The guidance to Notified Bodies is to insist on actual test results in all test reports contained in the Technical Files being reviewed. The NB's decision on the performance and on-going compliance of the device being assessed is directly linked to the device's performance during the compliance tests.

A few examples of why test results may be necessary:

1. The manufacturer may be advised that their product is faulty in the field. This fault may have been observed during immunity testing and deemed acceptable by the manufacturer (e.g. temporary loss of performance during ESD testing).

2. It may be important for the manufacturer to observe their compliance margins for developing their products.

3. In general, a pass with a clear margin would give the manufacturer confidence but a pass with a small margin may worry the manufacturer and make them reluctant to sign their Declaration of Conformity.

4. A Notified Body may be assessing a Technical File from a non-accredited test lab and therefore test methods and measurement uncertainties become very important.

5. A Notified Body may be assessing a Technical File from a manufacturer without any quality assurance and therefore compliance margins become very important.

6. A manufacturer may make small changes to their product and decide how much re-testing is necessary. Actual test results would be essential for making this decision.

7. A Notified Body may be assessing a partially tested device, using a complete old test report and a partial new report. This would be very difficult without actual test results.

8. A market surveillance authority may be testing a device and wish to compare the results to the originally reported levels.

9. Much as it should not be true… Test labs often make mistakes and do the tests wrong. It is impossible to spot this if the results are not reported.

Disclaimer
This guidance document does not replace the text of the EMC Directive and is for guidance only. In legal disputes the text of the Directive, or its implementation in National legislation, takes precedence.