A useful quality standard

MOST Compliance

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Since July 2004 MOST control units have to be tested for compliance conformity within the framework of the MOST Compliance Verification Process. Ruetz Technologies has developed the Compliance Standards together with the MOST Cooperation within the framework of the Most Compliance Technical Group (MCTG). Ruetz Technologies is a certified MOST Compliance Test House (MCTH).

1 Introduction

MOST Compliance Tests will verify that devices developed according to the MOST specification work properly. Different so-called "scopes" are tested which refer to the individual layers of a MOST device and their respective functionalities. The physical layer refers to the testing of individual components of a control unit (e.g. FOT units). The limited physical layer tests the functionality of the physical layer of an entire device which consists of components previously certified. Core Compliance refers to the fundamental network functionalities of the MOST Bus. The standards of the device applications are tested by Profile Compliance, **Figure 1**.

MOST Compliance is a standard independent of individual manufacturers. Manufacturers as well as systems suppliers benefit from the synergetic effects thus created. Manufacturers no longer have to test across all levels of the MOST bus but can focus on optimizing the application instead. Systems suppliers can use standard components based on the MOST compliance and they can therefore reduce the number of special components specific to individual manufacturers. What we will have achieved at the end of this process are improved quality of development, higher system stability and satisfied customers as a result.

2 The Path Towards MOST Compliance Certification

The basis of a development conforming to MOST Compliance standards is formed by the chosen MOST specification und the MOST-Test-Specification derived from the former. The certification process is described in **Figure 2** which also shows the interaction of the various entities which participate in legislative and executive functions in the MOST Cooperation.

The MOST Compliance Test House (MCTH) is part of the executive and responsible for the testing according to Compliance Conformity. Ruetz Technologies is a certified MOST Compliance Test House, which means that Ruetz Technologies is authorized by the MOST Cooperation to carry out compliance testing. The required testing tools were developed by Ruetz Technologies over a period of three years and Ruetz Technologies' expertise has been proven. **Figure 3** provides a detailed description of the interaction between system supplier and MCTH.

In case of positive test results, a so-called "Declaration of Compliance" is issued to the MOST Cooperation Administrator (MCA) following feedback to the supplier. After verifying the documents, the product will be included in the MOST Compliant Product List (MCPL) at a previously agreed date. MCPL provides all MOST members with an up-to-date overview of individual components and devices which conform to the Compliance Standards.

3 Compliance Tests at the Developmental Stage – Testerlyzer CCS

The Testerlyzer CCS testing system allows a manufacturer of control units to test his devices for Core Compliance conformity before the official test, so that testing can already be carried out at the developmental stage. The most important advantages of this testing system are:

- MCTH compatibility: A manufacturer of control units has the same testing system as the MOST Compliance Test House.
- Shorter testing periods: The degree of automation is 100%. All the test scenarios can be configured in such a way that they proceed automatically. Tests can also be carried out repeatedly in succession.
- Control of all wake-up possibilities: Control units can be woken up either optically or via an "electric wakeup line". Via a CAN connection telegrams can be sent to gateways, which can consequently also be triggered for waking up the MOST Bus.
- Clearly structured protocols targeted to the needs of different user groups: According to different specifications it is possible to generate different protocols, ranging from simple OK/NOK protocols to comparing target and real measured values and to documenting every detail of the testing process.
- Open standard: By default the protocols are generated in HTML-format and can be read by any browser.

Moreover, the Testerlyzer CCS system can be remote-controlled via a higher test-administration system. The results will be reported back and can then be analysed by the administration system. By using the testing system it is possible to prepare for MOST Core Compliance Certification by a MOST Compliance Test House (MCTH) in an appropriate and cost-efficient way.

4 Summary

In July 2004, the MOST Compliance Verification Process became a mandatory requirement. MOST Compliance is a quality standard for manufacturers independent of individual manufacturers. Standardisation results in economic synergy effects for both manufacturers and suppliers. Ruetz Technologies is a certified MOST Compliance Test House (MCTH) and offers all required testing for MOST devices (Core und Limited Physical Layer Compliance). Testerlyzer CCS is the MCTH-compatible Core Compliance Test Tool which can be used at the developmental stage.