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# **UTP 9065**

RUN-IN/SCREENING SYSTEM FOR MULTI-DUT TEST SOLUTIONS



# FAST > FLEXIBLE > FOCUSED

**MATIONAL** 



#### PROJECT DESCRIPTION

- > New law in Europe requires simultaneous sending of automated emergency call and GPS-information to European emergency number 112 in the case of an accident, production of eCallmodules in high quantity
- > RunIn-Screening-Tester, testing of up to 28 eCall-modules in parallel within a climate cabinet and at the same time offering a comprehensive variant management because the modules are equipped with several connectors and board layouts in dependence of the vehicle manufacturers
- > Conception and implementation of an complete function test of Multiple-DUTs based on NOFFZ UTP-9065-testing system

#### CUSTOMER REQUIREMENTS

- Climate cabinet-test system which is able to perform a parallel screening test of 28 DUTs between -40°C and +85°C
- Connection to customers databank and the iTAC-system with comprehensive variant management
- > As much as possible measurements on 28 DUTs in parallel at the same time
- > Tasks and validation test steps as measurement of bias current, awakening via USB and DIAG CAN, activation of test mode, inquiry of hard- und software status, over- and undervoltage operation mode
- In NI LabVIEW respectively NI TestStand separate code-modules for CAN-Bus, activation of digital I/Os and of the climate cabinet as well as for parallel current measurement and realization of further test requirements
- Allocation of by the iTAC system predetermined serial number of DUT during testing



## HARD- AND SOFTWARE

Parallel testing of batch-process including variant management completely implemented in NI TestStand.

Test steps were modular transformed with NI LabVIEW, then integrated in NI TestStand and depending on variants executed.

#### Hardware components

- > NI VST for RF testing
- > SCU for product-specific signal distribution
- > RF Switching
- > NI PXI-1045, 18-Slot 3U Chassis with universal AC PSU
- to carry all measurement- and card module boards, triggering via one IPC with MXI-interface



### Multiple-DUT Operator Interface

with NI VST is Non-Signaling-Test for LTE-modules possible

- > 40-145-201 100 x SPST electromechanical relays card module for parallel switching of the USB-supply voltage of the 28 nests
- NI PXI-6225 DAQ 16 bit, 250 kS/s, 80 analog inlets for differential logging of bias currents in parallel
- NI PXI-4065 DMM with 6 ½ digits for measurements of CAN-Bus level and USB-shield resistance
- > NI PXI-8513/2 NI-XNET-CAN-interface board with 2 ports for controlling of CAN-EPT and CAN-DIAG
- > NI PXI-2576 multiplexer with 128 channels (dual 32x1 2-wire) for entering of CAN-EPT respectively CAN-DIAG on each DUT
- NI PXI-8430/16 RS232-interface with 16 ports for parallel controlling of Debugging-interface
- > NI PXI-2547 8x1-multiplexer, 2,7 GHz, 50R for switching of one DUT on a 100k load
- NI PCI-GPIB for controlling of power supplies
- NI PXI-6509 digital-I/O- with 96 channels and 5 V TTL/CMOS for system respectively adapter controlling
- NI PXI-PCI8360 MXI-express kit for controlling of the PXI-Chassis via an IPC
- N5747A DC system power supply, 60V, 12.5A, 750W for parallel supply of 28 DUTs
- > N5745A DC system power supply, 30V, 25A, 750W for parallel USB-supply of 28 DUTs
- > Temperature resistant cables for an operational area of -40°C to +85°C



Inside the tester - here the PXI core system

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