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### Test bench for automotive RF testing

#### Authors:

Gianluca Pizzocolo (IPSES s.r.l), Engineering Management  
Cinzia Mancuso (IPSES s.r.l), Management

#### Used products:

- YAV90832 Multifunction board with 80 in/out
- YAV90132 32 Channel 2A SPDT relays
- 19 inch 3U CAN bus Power Management & MMI module

#### The challenge:

Implementing quickly a modular and standard EOL test bench capable of performing complete functional tests on RF transmitters of automotive keys and relevant control units placed in the car.

#### The solution:

The test bench was made using a 6TL-22 platform equipped with YAV multifunction I/O board and YAV CAN bus relay board. For the RF characterization and test, we integrated in the 6TL-22 bench a PXI chassis of National Instruments equipped with RF generation and acquiring modules.

#### Article:

Thanks to Virginia Panel standard connectors of the 6TL platform , the system allows the easy exchangeability of the two supplied fixtures, one for the testing of RF transmitter and the other one for the testing of the relevant control unit. The mass interconnect technology from Virginia Panel, together with the YAV modules from 6TL, are guaranteeing the maximum reliability during time of the connectors.

The test software was developed using NI TestStand and LabVIEW.

#### Conclusion:

We realized a system able to respond effectively to the needs of reliability, modularity , standardization and content development time required by the customer. The bench was installed in the first production line of FAB Vehicle Security Solutions on RF and control automotive systems. The experience of IPSES in conceiving test system together with the partnership with 6TL allowed to deliver a fully customized solution, with reduction of cost and time for the investment: the realized bench is completely modular and allows an easy upgradability and maintainability during time.

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