EMCtools

Multi Bus Tester (MBT)

Signal generator and receiver for
HS-CAN, LS-CAN, Single Wire LS-CAN, LIN-Bus, K-Line and J1850-Bus

EMCtools
Dipl.-Ing. (FH) Armin Lenk
Meginhardstrasse 50
88356 Ostrach-Magenbuch
Germany
Tel: 0176/38139026
info@emctools.de

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The EMCtools Multi Bus Tester simulates an automotive Device under Test (DUT) including cable harness and Load-Box inside and a separate stimulator outside the EMC chamber. Based on an analysis of commonly used bus systems in automotive tests, the EMCtools MBT provides the possibility to test six different field bus systems:

1. **High Speed CAN**
2. **Low Speed CAN**
3. **Low Speed Single Wire CAN**
4. **LIN-bus**
5. **K-Line (L-Line)**
6. **J1850 (class B)**

The MBT-set consists of a Master and a Slave unit, a load simulator with cable harness and includes cables for wiring. The Slave unit (DUT) controls 4 bulbs in a load simulator connected to the Slave unit via a cable harness of approx. 190cm length acc. ISO11451-2 immunity and CISPR25 emission standards. The Slave unit requires a supply voltage of 9 – 15 Volts from a symmetrical LISN (Line Stabilization Network or Artificial network) or 2 LISN (remote ground acc. ISO 11452-2).
The Slave unit is controlled by a second device outside the EMC chamber, the Master unit. This Master unit sends bus messages to switch on and off the lights on Slave unit inside the EMC chamber. The Slave unit (DUT) loops back the received bus messages to the Master unit via fiber optic bus and the slave unit then activates LEDs on the Master unit rear panel to show the proper function of the Slave unit (DUT) and the fiber optic transmission and communication.
The MBT Master unit provides a trigger signal for “bus fail” and “error frames”.

The EMCtools Multi Bus Tester MBT in combination with EMCtools Microboxes has been tested for:

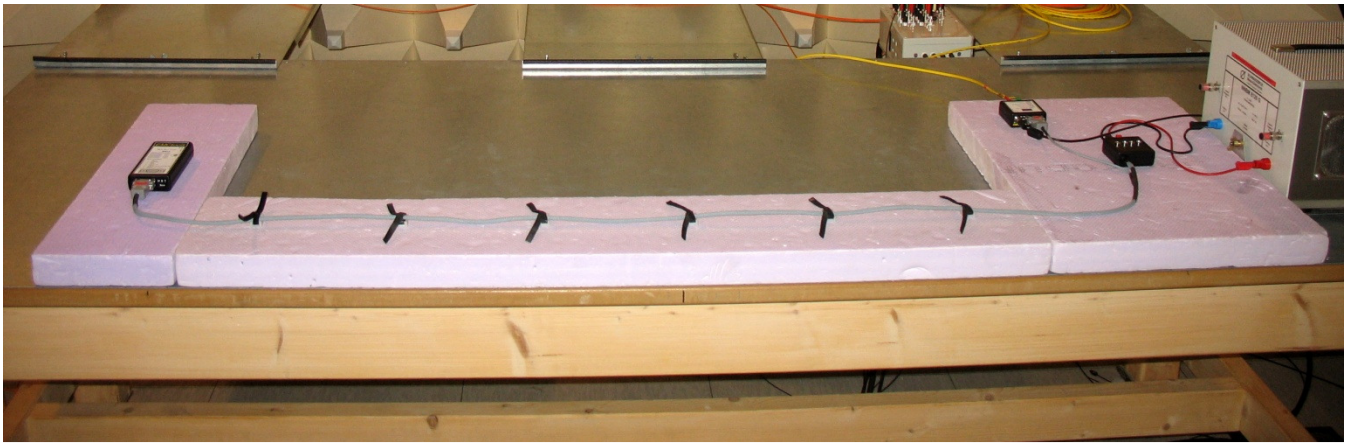
BCI tests (ISO 11452-4):

Calibration method	0.1 – 400 MHz	300mA	CW/AM 1kHz 80%

RI tests (ISO 11452-2)

Calibration method	200 – 3300 MHz	270 V/m	CW/AM 1kHz 80%/Pulse Mod.

Photo of a complete setup inside the EMC-chamber:



Delivered devices of the system and accessories:

1 pcs EMCtools MBT Slave unit (used inside EMC chamber)
1 pcs EMCtools MBT Master unit (used outside EMC chamber)
1 pcs red banana plug cable approx. 20cm
1 pcs black banana plug cable approx. 20cm
1 pcs Load simulator cable harness with Load Simulator
1 pcs Cable harness
1 pcs Manual EMCtools MBT

Technical data EMCtools MBT:

Bus settings:	HS-CAN:	500 kBit/s	standard CAN frames (11bit identifier)
	LS-CAN:	100 kBit/s	standard CAN frames (11bit identifier)
	SW LS-CAN:	33 kbit/s	standard CAN frames (11bit identifier)
	K-Line:	10.4 Kbit/s	K-Line physical layer
	J1850:	10.4 Kbit/s	J1850 pysical layer
	LIN:	19.2 kBit/s	LIN 2.0 data
Power-Supply:	9 – 15V DC, max. 250mA, DC		
BUS-connector:	9-pin Sub-D		
Temperature range:	operating/storage:	-40 – 85°C	(-40 – 185°F)
Size:	housing (l x w x h) 140x66x27mm, total length incl. switches 160mm		
Weight:	Master/Slave: approx 150g		