



Contents E1 set:

- Burst generator: SGZ 21
- Magnetic field probe: MS 02
- Optical Sensor: S21 with optical fibre
- Magnetic field sources: BS 02; BS 04DB; BS 04DU; BS 05D
- E-field sources: ES 00; ES 01; ES 02; ES 05D; ES 08D
- Accessories E1 set
- User manual
- System case with quick guide

Usage:

The E1 immunity development system simulates interference processes within the device. Disturbance currents, electric and magnetic fields are injected directly into the electronic modules in different ways to determine the susceptible structures on the circuit board, understand the coupling mechanism and enable the implementation of the optimum modifications.

Immunity development system E1 set	
<h3>Measuring set-up</h3>	<h3>Measuring strategies</h3>
	<p>1. Analysis of disturbance current paths Disturbance currents flow through the modules of an EUT during burst tests. The corresponding magnetic fields generate voltage differences in the GND system and/or induce voltages in signal loops. When a functional fault is produced in the EUT, the first step of the subsequent fault localization is to examine individual parts of the EUT such as individual modules, individual cable connections, small areas of a large module.</p>
	<p>2. Fault localization with field sources The functional fault is often caused by magnetic fields of the disturbance current or by electric fields (inductive coupling). In order to pinpoint the place of interference, these fields are now injected with field sources which generate a magnetic or electric field in a small space. If a functional fault occurs when conducted disturbance current flows into and out of the EUT, magnetic field sources are used for fault localization. E field sources are used in the event that the fault occurs during inductive coupling.</p>
	<p>3. Monitoring of EUT logic signals Signals are monitored when disturbances are coupled in so as to recognize disturbed logic signals and test the efficiency of EMC measures. These measurements allow statements with regard to the instantaneous operating state of EUTs if an interference is not immediately recognizable or not at all from outside. A sensor S21 is installed in the EUT for signal monitoring. This sensor transmits a signal which is significant for the EUT function without interacting with the EUT to the SGZ 21 via optical fibre.</p>
	<p>4. Measuring burst magnetic fields The E1 allows measurements of burst magnetic fields in the EUT with hardly any interaction with the EUT, thus indicating the run of burst currents. Each measurement of burst magnetic fields provides two results: the amount of the magnetic field and the direction of the magnetic field. The direction of the magnetic field lines - the current involved flows at an angle of 90° to them - can be easily determined by turning the probe. It is thus possible to obtain a precise idea of the magnetic field in the EUT and to assess which structures are particularly at risk.</p>
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