

Military Wiring

BCF Designs Ltd specialises in the design and supply of Ground Support Equipment for use at operational level. Innovative solutions for testing Aerospace Military Wiring, Fuel Systems, EMC Compliance and Digital Avionics are currently available as commercial off the shelf test equipment.



EMC Compliance

Filter Tester

Fuel Systems

In today's evermore powerful electromagnetic environment, the serviceability of those components which contribute to the overall protection of equipment is critically important.

Testing of electrical filters, particularly if they are installed in connectors, either integrated into black boxes or in looms has been difficult without dismantling the installation.

Digital Avionics

Both HIRTA clearance for military aircraft or compliance with the harmonised external environment for civil aircraft, are required to be maintained throughout the aircraft's operational life.

The TE 6596/P filter test set overcomes this difficulty by allowing the maintenance engineer to test insertion loss from one side of the connector only.

Customer Applications

The TE6596/P provides the user with a powerful tool in the maintenance of aerospace EMC filters installed in most of today's aircraft. Periodic testing of filters combined with other good EMC engineering practices should ensure that the effects of electromagnetic interference are kept to a minimum. This will consequently maintain the necessary clearances.

Maintenance of electrical filtering is just one part of the process of "**compliance maintenance**", but an important one. Degradation of, or failure of, filtering components results in that equipment being more susceptible to the external electromagnetic environment in which it is operating.

Benefits:

- Single sided measurement
- Reports unserviceable and degraded filters
- Records all measurements for historical comparison
- Assists in maintenance of EMC compliance
- Simple configuration
- Automatic operation
- Non-intrusive testing
- Self calibrating
- Universal power supply
- Simplicity of use

Technical data TE6596/P EMC Compliance Test Set



Signal Source

Frequency Range:

10kHz to 40MHz in logarithmic steps

Applied Signal: 1.5V RMS sinewave

Source Impedance: 50 ohms

Filters Measured

Single section low pass Pi filter

Capacitance value: 1nF to 50nF

Inductance value: >200nH

Single section low pass L filter

Capacitance value: 100pF to 50nF

Inductance value: >200nH

Single section low pass C filter

Capacitance value: 100pF to 50nF

Single section low pass T filter

Capacitance value: 100pF to 50nF

Inductance value: >100nH

Measurement Time

< 5 seconds per pin

Load Impedance Limits

>10R resistive

>2mH shunt inductance

Total capacitance <60nF
(inc filter)

(Note: Voltage dependent loads may affect the load resistance)

Dimensions: Approx 460mm x 360mm x 540mm (18" x 14" x 21")

Weight: Approx 27Kgs (60 lbs)

Temperature Range: +5C to +40C
(41F to 104F)

Power supply: 85V to 265V, 40Hz to 400Hz or 18VDC to 32VDC

Accessories:

Supplied with test set:

3Mtr control cable.

Supply input cable.

TS6596/P software.

Single probe.

Optional:

High frequency probe (2mtr or 5mtr).

System check Adaptor.

DC leakage test

Transient device test

Nato Stock Number:

4920-99-359-6010

General Description

The EMC Compliance Test Set has been designed to enable filter parameter measurement where there is access to the input of the filter only, which is very often the case when the filter has been integrated into equipment.

The ECTS will produce an output measurement detailing the effectiveness of the filter pin performance over time in terms of filter insertion loss, identifying failed pins, both open and short circuit.

No knowledge of the impedance terminating the filter is required to perform the tests, and using a High Frequency Probe (HFP) systems containing up to 120 filter pins can be measured automatically within a single measurement cycle with each filter pin measurement taking less than 5 seconds.

A single probe is available to allow the measurement of a single filter or to identify the presence of a filter within the system or connector.

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