

## AN09: Test instrument general handling and maintenance

Centellax test instruments and accessories should be handled with care to avoid damage. This document outlines some of the precautionary measures that you should use when handling these parts.

### General Information

1. Read and follow operating instructions; do not exceed min/max specifications, especially RF input power, DC bias, and environmental specifications.
2. Use ESD protection at all times, but especially when handling RF input and output; ground cable conductor pins before use to remove static buildup.
3. Situate the equipment away from heat sources.
4. Do not block airflow around equipment; do not allow foreign material into enclosure.
5. Always use provided AC adaptor. Do not power the unit with a different adaptor. Do not modify the power plug or wall outlet to remove the third (ground) pin.
6. Do not drop or shake the equipment; minimize vibration; handle with care.
7. There are no user-serviceable parts within. Return damaged equipment for factory-authorized repair. Refer to warranty for more information.

### Connector Care

Ensure cable and DUT connectors are matched to equipment connectors, and suitable for the frequency range of the application. We do not recommend using male SMA connectors with the female K-connectors; the male SMA pin has looser tolerances than the female K sleeve, and may damage the connector. Connector damage will degrade signal fidelity.

Centellax also recommends the following:

1. Use a 7-10in-lbs torque wrench when attaching most connectors; refer to connector manufacturers for additional details.
2. Use connector savers to prolong performance and minimize damage to equipment; periodic replacement of connector savers may be required.
3. Differential connectors may be used single-ended if second end terminated in 50 $\Omega$ .
4. Terminate all unused RF connectors with 50 $\Omega$  terminations.

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### **Performance Recommendations**

Follow the following recommendations for best performance:

1. When using differential mode connections, ensure cables are phase-matched to minimize skew between channels.
2. Use high-quality cables, keep cable lengths short, and minimize number of cable bends and connectors.
3. Terminate all unused RF connectors with 50 $\Omega$  terminations.