ETS·LINDGREN
An ESCO Technologies Company

*Wireless Testing*

# Wireless Interface Test System Model 5211 WITS™

## Features

- **On-The-Air Test TX, RX Functionality Without Direct Cable Connection to Phone Data Port**
- **>80 dB Typical RF Isolation**
- **Flat Coupling Response Over 700 MHz - 2 GHz**
- **Works with Mobile/Cellular Radio Test Sets**
- **Phone Placement Fixture Assures Test Repeatability**
- **Field Proven**
- **Custom Configurations Available**

*ETS-Lindgren's Model 5211 Wireless Interface Test System (WITS™)*

**ETS-Lindgren's Model 5211 Wireless Interface Test System (WITS™)** is a self-contained portable enclosure that can check transmit and receive functionality with or without direct cable connection to the RF or data ports. This is accomplished using a patented near field coupler in the enclosure that couples with the phone's own antenna. The coupling coefficient has a flat response over the frequency range of 700 MHz - 2 GHz.

With this Common Air Interface (CAI), the operator performs the test faster and simulates a real-world environment. In contrast, the direct connection method bypasses the antenna and adds up to several dB of loss to the measurement. The CAI method provides a shorter signal path and readily detects a faulty antenna. (A connector is provided for testing with a direct connection if desired).

To eliminate nulls and hot spots, each enclosure is lined with ETS-Lindgren RF absorber, which improves test repeatability. Compressible RF gaskets are used to seal the lid on closure. Nominal shielding effectiveness >80 dB, although higher values are possible.

Consistent orientation of the phone in the enclosure is important for test repeatability. To help the operator position the phone correctly, a sliding clamp and alignment post are build into the bottom of the enclosure. The base is also marked with an illustration of a typical phone position.

The enclosure includes one external Type-N connector, which links the antenna coupler to the test set; one Type-N connector feedthrough for traditional direct connection testing; and a 9-pin filtered D-sub connector for more advanced test procedures.


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## Electrical Specifications

### Typical RF Isolation

| |
|---|
| 1 MHz - 2 GHz |
| > 80 dB |

### Typical Internal RF Absorption

| 800 MHz - 1.0 GHz | 1.8 GHz - 2.0 GHz |
|---|---|
| Q<2 | Q<2 |

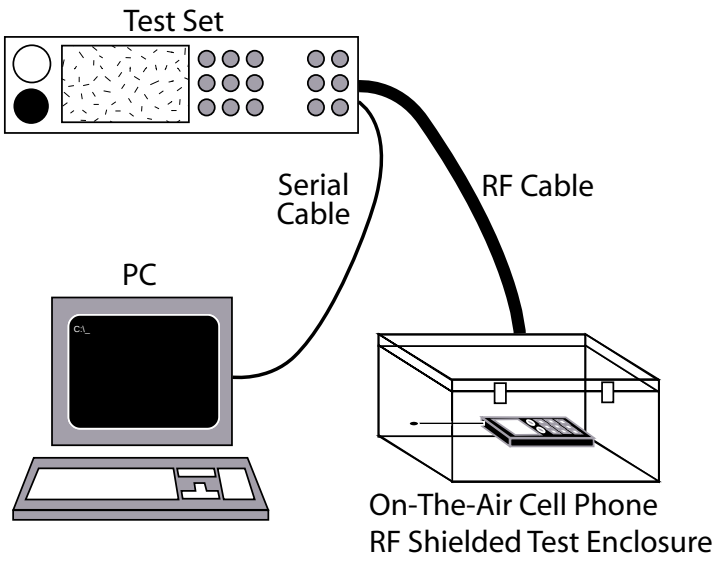
### Coupling Factor*

| 824 MHz - 894 MHz | 1.8 GHz - 2.0 GHz |
|---|---|
| < 8 dB | < 11 dB |

** Typical, to resonant dipole 1 in from coupler surface*

### Typical Coupling Loss Repeatability

| |
|---|
| +/- 1 dB |




**Typical Test Setup**

## Connectors

| Antenna Coupler | Calibration | DC/Audio |
|---|---|---|
| Type N Female<br>External | Type N Female<br>Internal & External | Filtered DB9<br>Internal & External |

## Physical Specifications

| External Dimensions | Internal Dimensions |
|---|---|
| L x W x H | L x W x H |
| 49.5 cm x 35.5 cm x 22.8 cm | 37.46 cm x 20.32 cm x 8.25 cm |
| 19.5 in x 14.0 in x 9.5 in | 14.75 in x 8.0 in x 3.25 in |

| Max Phone Body Size | Max Phone Antenna Size |
|---|---|
| L x W x H | L |
| 19.0 cm x 7.6 cm x 8.2 cm | 17.78 cm |
| 7.5 in x 3.0 in x 3.25 in | 7.0 in |

### Weight

| |
|---|
| 6.8 kg |
| 15.0 lb |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