

Features:

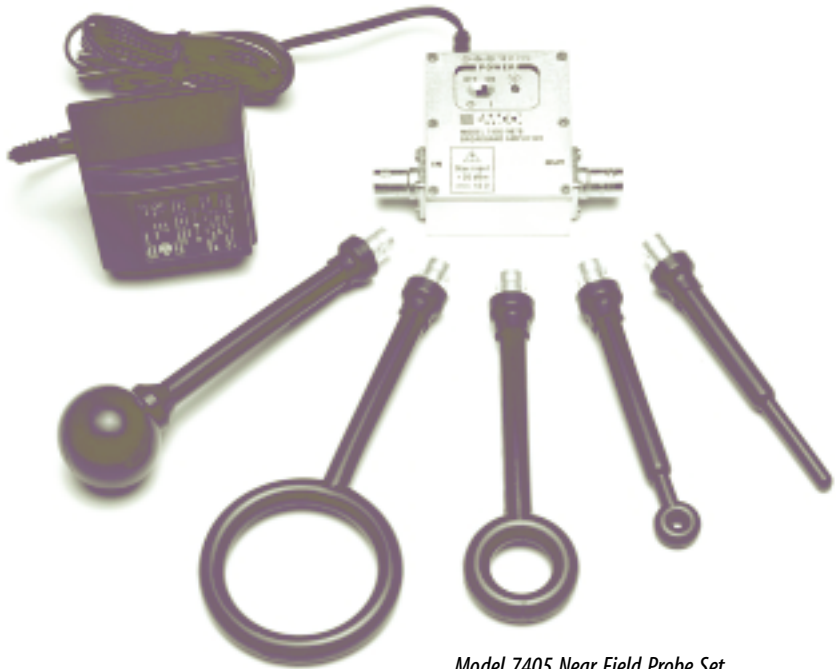
- **Broadband Frequency Range**
- **Linear Response**
- **Locates both E and H- Field Emissions Sources**
- **Specialized Sizes / Shapes for Sensitivity**
- **Includes Free Carrying Case**
- **New Optional Preamplifier for Signal Amplification**

ETS-EMCO's Model 7405 Probe Set is a passive, near field probe set designed as a diagnostic aid for locating and characterizing sources of E and H-Field emissions. The set consists of three loop probes, one stub and one ball probe, an extension handle, an optional battery-powered preamplifier, and a foam-lined carrying case with a manual and application note.

The handle of each probe terminates in a BNC connector. Probes are designed to be used with a signal analyzing device such as an oscilloscope or spectrum analyzer. The optional preamplifier is useful when signal amplification is necessary for the analyzing device.

The loop probes are H-Field selective and directional. Sensitivity is relative to loop diameter. For example, the 6 cm loop can be used to make a general survey for H-Field emissions, while the smaller diameter loops can isolate specific sources.

The ball and stub probes are E-Field selective and omni-directional. The stub probe is designed for precise E-Field source location, such as signal traces or IC pins. The ball probe has a large



Model 7405 Near Field Probe Set with New Optional Preamplifier

sensing element and is capable of locating weaker signals.

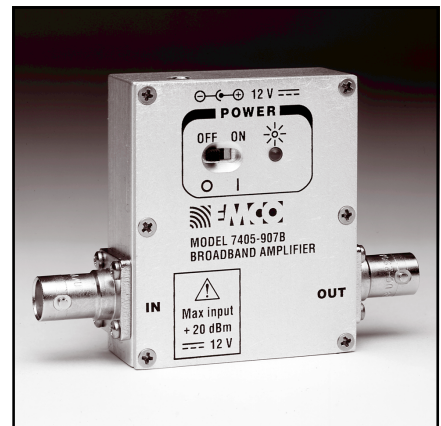
Typical applications include locating and characterizing emissions from PCB's, IC's, etch runs, cables, cover seams, etc.

Standard Configuration

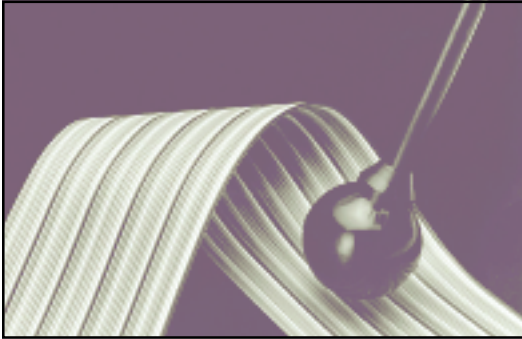
- **Three loop probes**
- **One ball probe**
- **One stub probe**
- **One 20 cm (7.87 in) extension handle**
- **Manual**
- **Carrying case**

Options
Preamplifier

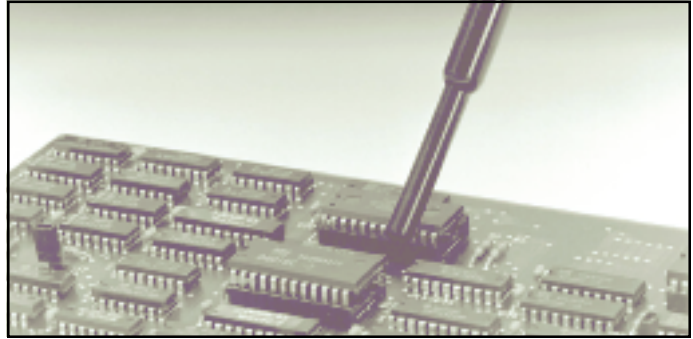
ETS-EMCO's Model 7405-907B preamplifier exhibits excellent gain characteristics across a broadband frequency range



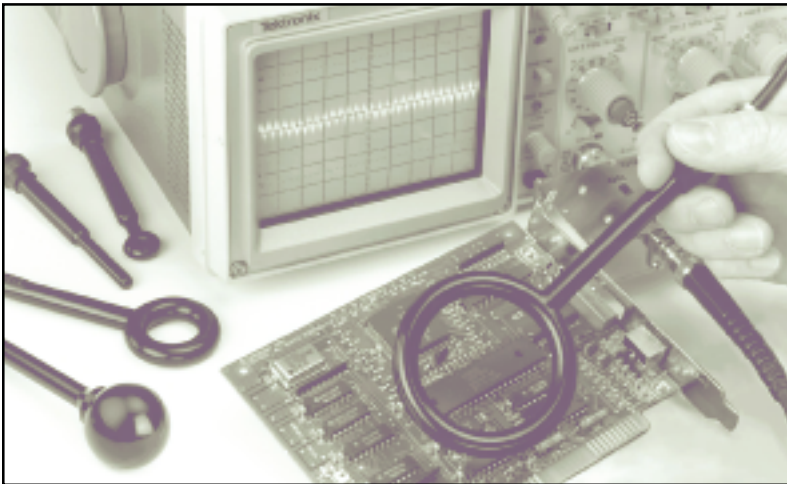
of 100 kHz to 3 GHz. The preamplifier enhances the sensitivity of spectrum analyzers, oscilloscopes and other receivers. The unit can be ordered with either Type BNC connectors or type N connectors. A wall-mounted power supply is included (please specify 110 or 220 VAC). Purchase as an option to the Model 7405 probe set or as a stand-alone product.



Omni-directional Ball Probe identifies E-Field signals over a broad frequency range.

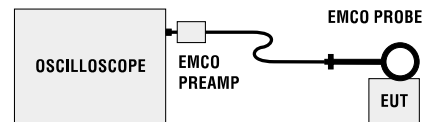
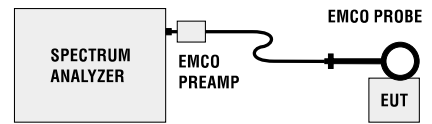


Stub Probe provides E-Field measurement near the signal source.

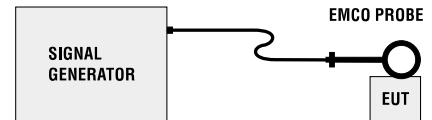


Loop Probes offer varying sensitivities to H-Field emissions.

Receiving Applications



Radiating Applications



Note: Power input to probe should be limited to a maximum of 0.1 watt to safeguard sensitive circuitry.

Electrical Characteristics of Probes

MODEL 7405	PROBE TYPE	PRIMARY SENSOR	E/H OR H/E REJECTION	UPPER RESONANT
901B	6.0 cm Loop	H-Field	41 dB	790.0 MHz
902B	3.0 cm Loop	H-Field	29 dB	1.5 GHz
903B	1.0 cm Loop	H-Field	11 dB	2.3 GHz
904B	3.6 cm Ball	E-Field	30 dB	> 1.0 GHz
905B	6.0 mm Stub Tip	E-Field	30 dB	> 3.0 GHz

Nominal Gain of Optional Pre-amplifier

FREQUENCY	GAIN
100 kHz	35.5 dB
1 MHz	38.1 dB
100 MHz	37.2 dB
1 GHz	32.5 dB
2 GHz	25.0 dB
3 GHz	13.0 dB

Electrical Characteristics of Optional Pre-amplifier

MODEL 7405	BANDWIDTH	NOISE FIGURE (@ 100 MHz freq)	SATURATED OUTPUT POWER (@ 100 MHz freq)	1db GAIN COMPRESSION INTERCEPT	CONNECTOR
907B	100 kHz–3 GHz	3.5 dB (typical)	+12.0 dBm (typical)	+ 10.0 dBm	TYPE BNC
907BN	100 kHz–3 GHz	3.5 dB (typical)	+12.0 dBm (typical)	+ 10.0 dBm	TYPE N

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