

EMI Pre-Compliance Testing Solution

GW Instek introduces the latest and comprehensive EMC testing solution to meet customers' requirements of EMC pre-compliance conduction and radiation testing during product development and verification stages. The EMC pre-compliance testing mode is ideal for electronics product development. With this solution, users can resolve problems at the earliest phase to avoid reconfiguration once the product development was finalized. Reducing product development cycles and verification laboratory fees is conducive to expediting the process of product verification and launch time.

EMC Pre-Compliance Testing Solution comprises GSP-9300 spectrum analyzer, conduction emission and radiation emission testing accessories.

EMC Pre-Compliance testing package:

1. **Spectrum Analyzer:** GSP-9300 + TG option
2. **EMI Near Field Probe Set:** GKT-008
3. **EMI software:** SpectrumShot, free of charge

Product Introduction

GSP-9300 Spectrum Analyzer

- Frequency range: 9 kHz ~ 3 GHz
- EMC pre-test mode function
- 6dB EMI filter: 200Hz / 9kHz/ 120kHz/ 1MHz
- Built-in pre-amplifier
- Support USB / LAN / RS-232 / GPIB (optional) interface
- Built-in tracking generator (optional)
- External EMI testing computer software support



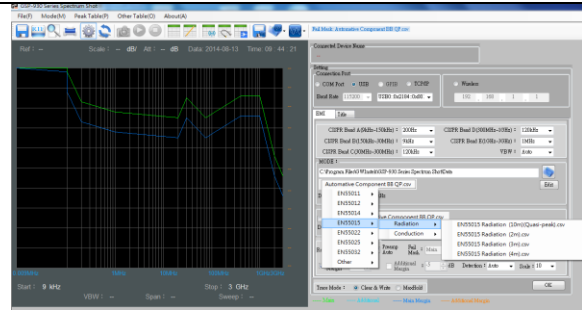
GKT-008 EMI Near Field Probe Set

- PR-01: AC voltage probe, 150kHz ~ 30MHz
- PR-02: Electric field probe, 30MHz ~ 3GHz
- ANT-04: Magnetic field probe, 30MHz ~ 3GHz
- ANT-05: Magnetic field probe, 30MHz ~ 3GHz
- ADP-002 : adaptor SMA(F) to N-type (M)
- GTL-303 : RF testing cable SMA(M) to SMA(M)



SpectrumShot Software

Users can use the external software SpectrumShot for EMI test report management and assessment. Users can select the required CISPR EMI regulation for conduction and radiation measurement.



The Key Features of GSP-9300 Spectrum Analyzer

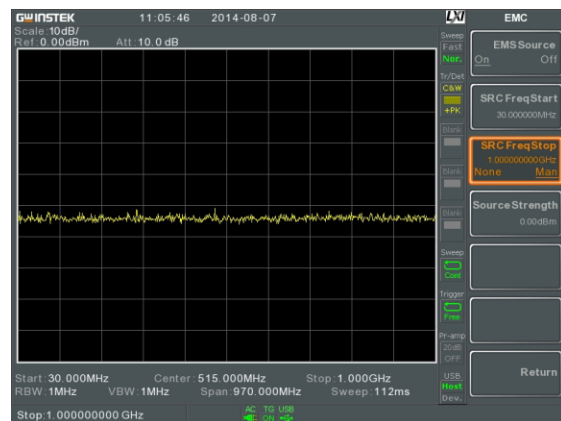
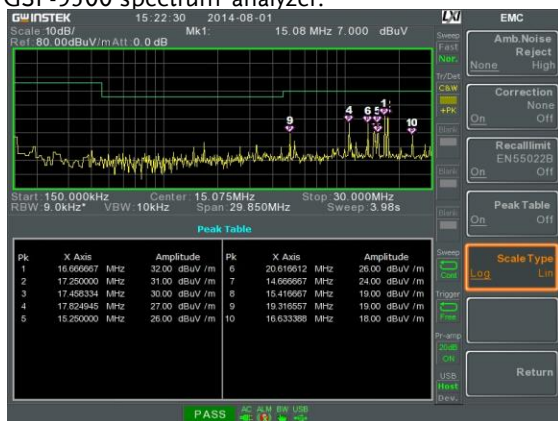
EMC Pretest Mode

GSP-9300 supports -6dB EMI filter with 200/9k/120k/1M Hz bandwidth and it has a built-in low noise amplifier. Users can apply maximum peak detector and EMI filter to conduct pre-compliance testing for electronics products. Users can activate built-in amplifier to measure feeble electromagnetic interfering signals to -150dBm/Hz in 1GHz frequency band.

EMC pretest mode collocates with near field probe or antenna to carry out conduction and radiation electromagnetic interference (EMI) test. Additionally, near field probe and GSP-9300 tracking generator can be used to output 0dBm RF signals to test electromagnetic susceptibility (EMS) for electronics products.

There are five selections of the EMC pretest function, including EMI Test, EMI M Probe, EMI E Probe, Voltage Probe, and EMS Test.

- With the EMI Test function, users can predict the amount of radiation or conduction emission. For radiation emission, users can input far field antenna factor into correction factors. For conduction emission, users can input LISN loss factor into correction factors.
- With the EMI M Probe function, users can utilize ANT-04 and ANT-05 of the GKT-008 EMI near field probe set to measure magnetic field radiation interfering signals.
- With the EMI E probe function, users can use PR-02 of the GKT-008 EMI near field probe set to measure electric field conduction interfering signals.
- With the Voltage probe function, users can use PR-01 of the GKT-008 EMI near field probe set to measure AC voltage conduction interfering signals.
- With the EMS function, users can utilize GKT-008 EMI near field probe set to measure radiation and conduction electromagnetic susceptibility. This function requires the tracking generator (optional) of GSP-9300 spectrum analyzer.



Various Instrument Control Interface

GSP-9300 provides instrument control interface including LAN, RS-232, USB, and GPIB (optional).

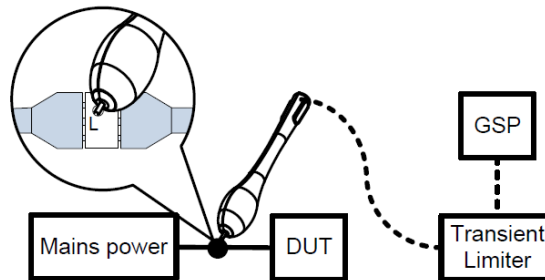


The Key Features of GKT-008 EMI Near Field Probe Set

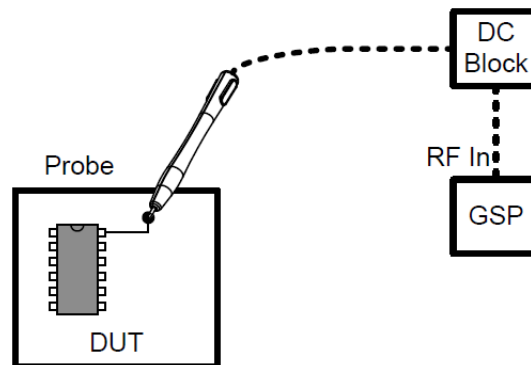
GKT-008 EMI Near Filed Probe Set

GKT-008 EMI Near Field Probe Set comprises four probes, including PR-01, PR-02, ANT-04, and ANT-05. The antenna factors of these four probes are built in the EMC Pretest function of GSP-9300 spectrum analyzer.

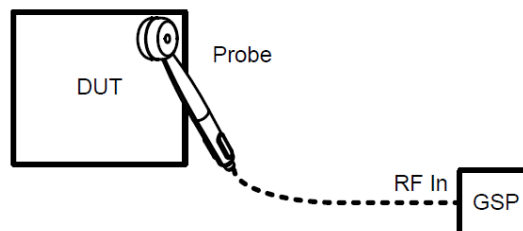
- PR-01 is an AC voltage probe, which can maximally sustain CAT II, 300VAC. PR-01 AC voltage probe will collocate with GPL-5010 transient limiter and BNC (M) to SMA (F) adaptor to avoid damaging spectrum analyzer and the RF input terminal of DUT receiver.



- PR-02 is an EMI electric field probe, which can maximally sustain CAT I 50V DC. PR-02 electric field probe will collocate with ADB-008 DC block to avoid damaging spectrum analyzer and the RF input terminal of DUT receiver.



- ANT-04 and ANT-05 are EMI magnetic field probes, which can maximally sustain CAT I 50Vdc.



The Advantages of GKT-008 EMI Near Field Probe Set:

The conventional magnetic field probes are hollow loop probes. When the magnetic field is perpendicular to probe's loop surface, the maximum measurement value can be obtained. The maximum magnetic field value can only be measured by rotating probe's direction. GKT-008 EMI near field probe features high spatial resolution and sensitivity without rotating probe's direction to measure the maximum magnetic field value so as to identify the main radiation signal source. This probe set aims at carrying out pre-test and debug of EMI field scanner so as to effectively obtain EMI source, segmented frequency strength of EMI source, etc. that provides key indicators for resolving EMC issues. By this probe set, users can formulate solutions to amend failed products.

Ordering Information

Spectrum Analyzer: GSP-9300 + TG option

EMI Near Field Probe Set: GKT-008

Standard Accessories

| | |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GSP-9300 Spectrum Analyzer | Power Cord, Quick Start Guide, Certificate of Calibration, CD-ROM (with User Manual, Programming Manual, SpectrumShot Software, SpectrumShot Quick Start Guide & IVI Driver) |
| GKT-008 EMI Near Field Probe Set | User Manual |

Options

| | |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GSP-9300 Spectrum Analyzer | Option 01, Tracking Generator Option 02, Battery Pack Option 03, GPIB Interface |
| GKT-008 EMI Near Field Probe Set | PR-01: AC voltage probe, 150kHz ~ 30MHz PR-02: Electric field probe, 30MHz ~ 3GHz ANT-04: Magnetic field probe, 30MHz ~ 3GHz ANT-05: Magnetic field probe, 30MHz ~ 3GHz ADP-002 : adaptor SMA(F) to N-type (M) GTL-303 : RF testing cable SMA(M) to SMA(M) |

Free Download

SpectrumShot PC Software for Windows System (available on GW Instek website)

GKT-008 Specifications

| PR-01 | | PR-02 | |
|--------------------------------------------|-------------------------|--------------------------------------------|-------------------------|
| Frequency Range | 150 kHz to 30 MHz | Frequency Range | 30MHz to 3GHz |
| Primary Sensor | E-field | Primary Sensor | E-field |
| Insertion Loss S21 / Frequency Response | 5 dB / -3.6 dB (Avg.) | Insertion Loss S21 / Frequency Response | 10 dB / -13.5 dB (Avg.) |
| Deviation of Insertion Loss | ±1 dB | Deviation of Insertion Loss | ±3 dB |
| Connector | 50 Ω (SMA) | Connector | 50 Ω (SMA) |
| Input Resistance | 10 MΩ | Input Resistance | 1 MΩ |
| Rated Voltage | 300 VAC | Rated Voltage | 50 VDC |
| ANT-04 | | | |
| ANT-04 | | ANT-05 | |
| Frequency Range | 30 MHz to 3 GHz | Frequency Range | 30MHz to 3GHz |
| Primary Sensor | H-field | Primary Sensor | H-field |
| Correction Factor / Frequency Response | 10 dB / -26.5 dB (Avg.) | Correction Factor / Frequency Response | 10 dB / -26.5 dB (Avg.) |
| Deviation of Correction Factor | ±4 dB | Deviation of Correction Factor | ±4 dB |
| Connector | 50 Ω (SMA) | Connector | 50 Ω (SMA) |
| Maximum Input Power | 0.5 W | Maximum Input Power | 0.5 W |