Radiated and Conducted Immunity Testing

Keysight Technologies and TOYO

Ensure your products meet standards for immunity to electromagnetic interference

The effective operation of your product depends upon its ability to function in the presence of electromagnetic interference (EMI). International standard IEC61000 specifies the conditions under which a product must be tested in order to confirm that the equipment-under-test (EUT) has the specified immunity against external electrical noise. In Europe, IEC6100 forms part of the EMC Directive and is mandatory for all companies wishing to sell their products into the region.

Radiated and conducted immunity testing assesses the ability of a product to withstand radiated and conducted noise. A signal generator is used as a noise source, which is then passed through an RF power amplifier and applied as interference to the EUT. For a radiated immunity test the signal is routed through an RF antenna while for a conducted test it is applied via a CDN (coupling/decoupling network). The interference level is calibrated by an electric field sensor (radiated) or a spectrum analyzer (conducted), and an RF power meter is used to monitor the output from the RF power amplifier.

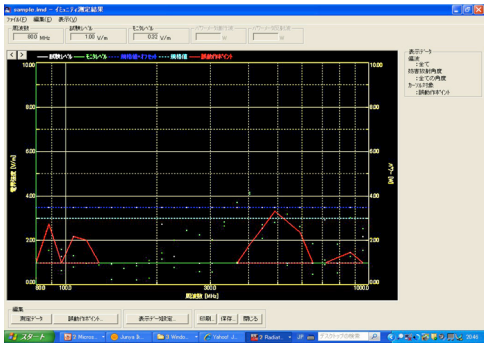
TOYO Corporation offers a comprehensive range of solutions for radiated immunity and conducted immunity testing. The test systems use an Keysight Technologies N5181A MXG RF signal generator, E9304A E-series average power sensor, N1914A EPM series dual channel power meter and N9320B RF spectrum analyzer. TOYO's proprietary software application controls all of the instruments ensuring a fully automated test solution.

- Test your product's immunity to electromagnetic interference
- Radiated and conducted immunity testing
- Automated immunity test system.
- Uses Keysight test instrumentation
- Frequency range 80 MHz to 2.7 GHz (radiated)
- Frequency range 150 kHz to 80 MHz (conducted)
- Prove compliance to international EMI immunity standards

KEYSIGHT TECHNOLOGIES

Radiated and Conducted Immunity Testing

For radiated immunity testing the systems provide a frequency range of 80 MHz to 2.7 GHz while for conducted immunity testing the frequency range is from 150 kHz to 80 MHz. Interference levels are: for industrial zones, 10 V/m (radiated), 10 Vemf (conducted) and for commercial or residential zones, 3 V/m (radiated), 3 Vemf (conducted). TOYO also offers immunity test systems for automobiles and on-vehicle components generating interference levels of up to 200 V/m.



With TOYO radiated and conducted immunity test systems based on Keysight instrumentation you can ensure that your products meet the requirements of international standards for immunity to electromagnetic interference.

System Components

Keysight Technologies

N5181A	MXG RF analog signal generator
E9304A	E-Series average power sensor
N1914A	EPM Series dual channel power meter
N9320B	RF spectrum analyzer, 9 kHz to 3 GHz

TOYO Corporation

IM5/RS-AJ	Radiated immunity measurement software
IM5/CS-AJ	Conducted immunity measurement software
CBA 1G-250	RF power amplifier (80 M-1 GHz/250 W)
CBA230M-080	RF power amplifier (150 k-230 MHz/80 W)
AS0102-55	RF power amplifier (1-2 GHz/55 W)
AS1806-55	RF power amplifier (1.8-6 GHz/55 W)
VULP9118E	Log-periodic antenna (70 M-1.5 GHz)
STLP9149	Stack log-periodic antenna (700 M-9 GHz)
EP-600	Electric field sensor (100 k-9.25 GHz)
CDN	Coupler/de-coupler network
BS5000	RF selecto

To learn how this solution can address your specific needs please contact Keysight's solutions partner, TOYO
www.keysight.com/find/toyo

TOYO Corporation

Keysight & Solutions Partners
Extending our solutions to meet your needs

Keysight and its Solutions Partners work together to help customers meet their unique challenges, in design, manufacturing, installation or support. To learn more about the program, our partners and solutions go to
www.keysight.com/find/solutionspartner

TOYO Corporation has more than 30 years of experience in the field of EMC measurement. The company is one of Japan's pre-eminent specialists in measurement, providing comprehensive and integrated support in hardware, software and education.
www.toyo.co.jp/english

For information on Keysight Technologies' products, applications and services, go to
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