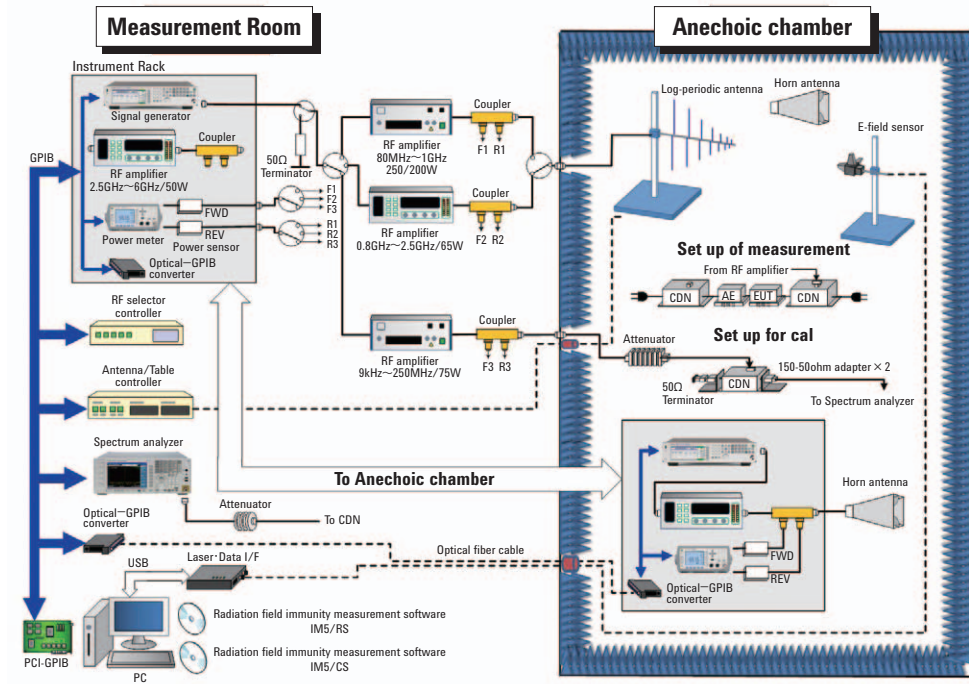


# Radiated/Conducted Immunity Test Systems

## Agilent Technologies and TOYO Corporation



## TOYO Immunity Test Systems

Agilent Signal Generators, Power Meters, and Spectrum Analyzers can be used in our systems in various combinations according to the frequency – an example is shown on the next page.

In the Radiated/Conducted Immunity Test, a signal generated by a signal generator and amplified by an RF power amplifier is applied as an interference to an electric appliance through an RF antenna (Radiated) or a CDN (Conducted). The interference level is calibrated by an electric field sensor (Radiated) or a spectrum analyzer (Conducted), and an RF power meter needs to be prepared to monitor the output from the RF power amplifier.

Frequency range for the Radiated Immunity Test is 80MHz to 2.7GHz (to be expanded to 6GHz in the future) and that for the Conducted Immunity Test is 150kHz to 80MHz. Interference levels are as follows:

- Radiated Immunity : 10V/m (industrial zone)
- 3V/m (commercial/residential zones)
- Conducted Immunity : 10Vemf (industrial zone)
- 3Vemf (commercial/residential zones)

This test has been automated by TOYO's self-made software applications that control all the instruments used.

Immunity Test Systems for on-vehicle components and automobiles are also on our product line, and they can generate up to 200V/m if a larger amplifier is selected. Toyo corporation proposes the most suitable test system for individual customer's test environment, as well as designing and installing a system that satisfies each customer's needs.

### System Background

This is an immunity test conducted in accordance with IEC61000, an international standard – the immunity test is to confirm that the EUT has the specified immunity against external electric noise. European countries have made this test mandatory in the EMC Directive, and a failure to meet this requirement may result in product recovery or a fine.

### Primary Users

- Computer-related manufacturers
- Office equipment manufacturers
- Electric appliance manufacturers
- Automobile-related manufacturers

 **TOYO Corporation**

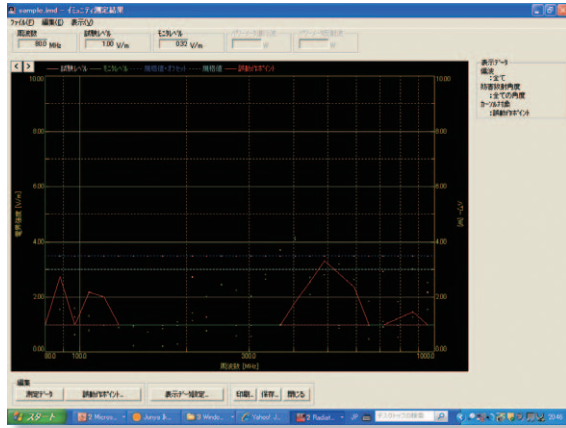
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Global Solutions Partner



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# Radiated/Conducted Immunity Test Systems



Screen example of IM5/RS-AJ Measurement Software



MILMEGA's RF power amplifier



N5181A Signal Generator



N1914A Power Meter 2ch

## Example of Agilent's components

Model	Product name
N5181A	Signal generator
N5181A Opt.506	100k-6GHz RF Module
N5181A Opt.UNT	AM/FM/φ Modulator
N1914A	Power Meter 2ch
N9304A	Power Sensor 9k-6GHz (2 units)
N9320B	Spectrum Analyzer 9k-3GHz
N9320B Opt.G01	GPIB Interface

## Main components

Model	Product name
IM5/RS-AJ	Radiated Immunity Measurement Software
IM5/CS-AJ	Conducted Immunity Measurement Software
CBA 1G-250	RF Power Amplifier (80M-1GHz/250W)
CBA230M-080	RF Power Amplifier (150k-230MHz/80W)
AS0102-55	RF Power Amplifier (1-2GHz/55W)
AS1806-55	RF Power Amplifier (1.8-6GHz/55W)
VULP9118E	Log-periodic Antenna (70M-1.5GHz)
STLP9149	Stack Log-periodic Antenna (700M-9GHz)
EP-600	Electric Field Sensor (100k-9.25GHz)
CDN	Coupler/decoupler Network
BS5000	RF Selector
A set of RF cables	

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