

Checking magnetic field emission noise of LED luminaire at 3-axis using loop antenna easily

◇ Checking the radiated noise characteristics of LED luminaire at three axes of X-Y-Z easily.

◇ Since effect of measures can be immediately estimated by easy measurement, development period is shortened and cost is reduced.

**\*Application\***

Recently, LED luminaire has been spread rapidly but the noise radiated from built-in AC-DC converter causes problems. For this reason, Electrical Appliances and Material Act will be applied to it in Japan.

Method of measuring the noise at 3-axis using loop antenna is defined in CISPR and moreover will be followed in Electrical Appliances and Material Act, but

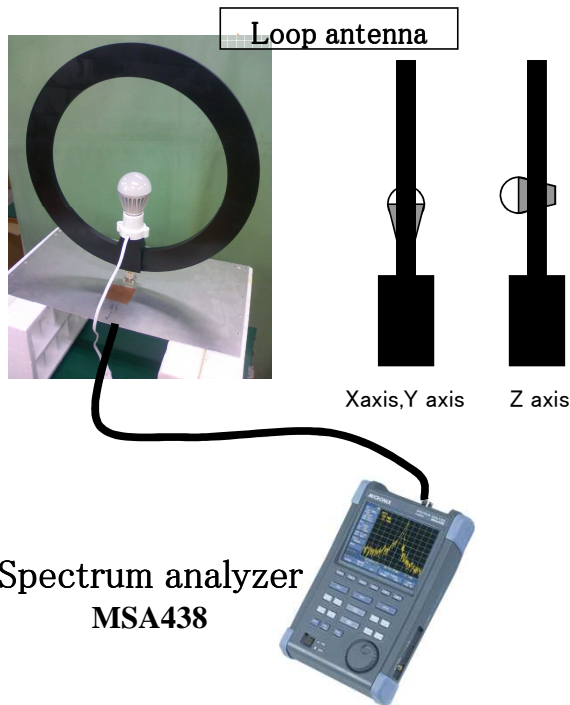
it is difficult to check the effect of measures immediately since equipment cost is very expensive.

With our system combining handheld spectrum analyzer with loop antenna, the magnetic field radiation noise characteristics can be checked at 3-axis easily and by inexpensive cost.

This is not a formal evaluation system for obtaining certification. However, the effect of measures can be immediately confirmed since it is possible to check the existence of unnecessary noise and frequency characteristics simply. As a result, development period is shortened and development cost is reduced.

- Simple check of the magnetic field radiated emission characteristics at 3-axis of X-Y-Z using loop antenna
- Measurement result is saved in USB memory, and then various processings can be simply performed with PC.
- The handheld type of easy-to-use: compact, light weight and 4 hour battery operation

**\*Solution\***



Spectrum analyzer  
MSA438

**Other features of MSA438**

- Wide measurement frequency range from 50kHz to 3.3GHz
- 200 setting parameters can be saved and loaded.
- With a dedicated USB printer, printing of screen can be performed easily.
- Easy operation
- Abundant calculation functions and measuring functions  
Max/Min Hold, Averaging/OverWrite,  
Channel power, Adjacent channel power,

*System configuration*

- ① 3.3GHz spectrum analyzer (MSA438)
- ② Dedicated battery (MB400)
- ③ Loop antenna (MAN120)
- ④ Connection cable

**Result of radiated magnetic field strength measurement: up to 500kHz**

- The state of radiated noise is different in each of X-Y-Z axis.

