

## RF/FIELD INTENSITY METER      KNM-2403

The KNM-2403 Electromagnetic Interference Field Intensity Meter quickly measures electromagnetic interference (EMI) conforming to CISPR, VDE, FCC, VCCI and other foreign standards. It has many functions which revolutionized the conventional EMI Field Intensity Meter concept. It has high performance and high input sensitivity and measurement by automatic sweep, plotting and graphing of the measured value by plotter and printer and many other functions and features.

### FEATURES

**# Frequency synthesizer system**

**# Automatic scan mode**

Automatic measurement without an external controller is possible and the measured result can be immediately output to a plotter or printer.

**# Function memory**

Eight scan modes are memorized and troublesome setting is unnecessary at repetitive measurement.

**# Conversion factor correction**

Antenna and Artificial mains network conversion factor and measurement units selection and automatic correction are possible.

**# Antenna correction coefficient**

Four coefficients are available as user memory. The data of 50 points each can be stored. (External controller used)

**# Measurement conditions setting**

Bandwidth, detection and other measurement conditions can be set.

**# Panel setting memory**

The measurement condition set can be memorized by memory key.

**# Fully automatic measurement system**

GP-IB interface is provided for building a fully automatic measurement system.

**# Calibration**

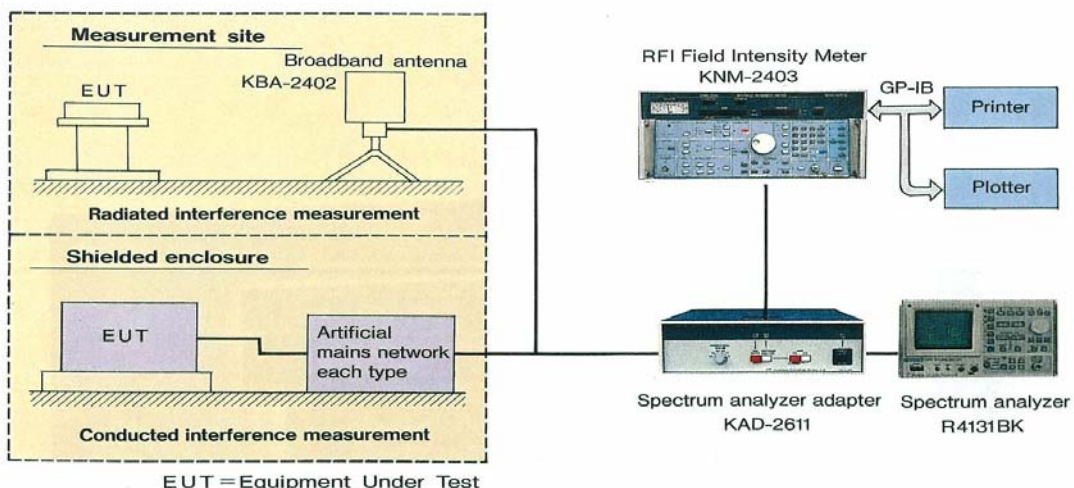
All frequency bands automatic calibration and arbitrary calibration of each frequency are possible.

**# Automatic ranging**

The measurement range is set automatically according to the input frequency and the optimum measured result is guaranteed.



### SYSTEM CONFIGURATION EXAMPLE



## FUNCTIONS

- SCANNING
- PLOTTER OUTPUT

- MEMORY SCANNING
- PRINTER OUTPUT

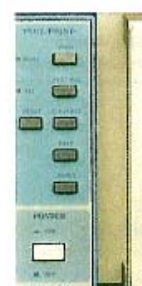
<b>SCAN</b>	<ol style="list-style-type: none"> <li>1. Single scan</li> <li>2. Endless scan</li> <li>3. High-speed scan</li> </ol>	One scan between start frequency and end frequency Repetitive sweep between start frequency and end frequency Level is not displayed during sweep, but sweep is stopped and the level is displayed when a signal is received
<b>MEMORY SCAN</b>	<ol style="list-style-type: none"> <li>1. Single scan</li> <li>2. Endless scan</li> <li>3. High-speed scan</li> <li>4. Mode select scan</li> <li>5. Arbitrary set group scan</li> </ol>	} Same as scan above  Scanning is possible by selection by detection, voice demodulation, frequency band, or other mode and division into groups Scanning by combining the modes by means of the above and dividing them into group A and group B
<b>MAX, MIN (level display)</b>		Maximum value and minimum value in sampling time are displayed
<b>CAL. ALL</b>		The functions which automatically calibrates and corrects the gain frequency characteristic and memorizes the correction value until the end of measurement.
<b>PRINT</b>	<ol style="list-style-type: none"> <li>1. Data printout</li> <li>2. Scan printout</li> <li>3. Memory scan printout</li> <li>4. Continuous printout</li> </ol>	Each time the print key is pressed, the data at that time is printed out Printout when a signal is received at scan Printout when a signal is received at memory scan Printout at the end of each sampling
<b>PLOT</b>	<ol style="list-style-type: none"> <li>1. Linear scale</li> <li>2. Log scale</li> </ol>	Graphic display in linear scale between start frequency and end frequency in MHz units Graph format is fixed (9kHz to 30MHz). For data display, the start frequency and end frequency can be set freely, in log scale



MAX. MIN LEVEL DISPLAY



SCANNING SETTING



PRINTER, PLOTTER SETTING

## SPECIFICATIONS

Frequency range Frequency setting  Frequency display Frequency setting error Memory Internal noise level	9 kHz to 30 MHz Setting by rotary encoder or keyboard, minimum step 100 Hz, frequency synthesizer system Sweep step 100 Hz, 1 kHz, 3 kHz, 10 kHz, Free (arbitrary setting) Digital 6 segments LED display, minimum 100 Hz $< 5 \times 10^{-6}$ Max. $< 500\text{Hz}$ (30MHz) 100 waves (frequency and measurement conditions)												
Voltage measurement range  Measured value display  Voltage measurement error  Field intensity display Indication mode  Automatic measurement Output Power requirement Dimensions and weight	<table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td></td> <td style="text-align: center;">9 ~ 149.9 kHz (BW = 200Hz)</td> <td style="text-align: center;">0.15 ~ 30 MHz (BW = 9 kHz)</td> </tr> <tr> <td>Q. P mode</td> <td style="text-align: center;">Typ. - 23 dB<math>\mu</math>V (fin &gt; 50kHz)</td> <td style="text-align: center;">Typ. - 11 dB<math>\mu</math>V</td> </tr> <tr> <td>Average value</td> <td style="text-align: center;">Typ. - 26 dB<math>\mu</math>V (fin &gt; 50kHz)</td> <td style="text-align: center;">Typ. - 16 dB<math>\mu</math>V</td> </tr> <tr> <td>Peak value</td> <td style="text-align: center;">Typ. - 20 dB<math>\mu</math>V (fin &gt; 50kHz)</td> <td style="text-align: center;">Typ. - 8 dB<math>\mu</math>V</td> </tr> </table> Lower limit : +6 dB from internal noise level (min, -20 dB) Upper limit : 134 dB $\mu$ V (LOG 20 dB operation range) 114 dB $\mu$ V (CISPR mode) dB- $\mu$ V, dB- $\mu$ V/m, dB-pW digital display 4 digits, resolution 0.1 dB Analog display (output indicator) LIN : -5 to +5 dB (1 dB steps)      LOG : -5 to +25 dB (1 dB steps) $\pm 1$ dB (at average value measurement with sine wave at least 16 dB higher than internal noise level) Built-in antenna calibration curve, automatic correction AV, PEAK value, AVERAGE value, Q. PEAK (Quasi-peak) value, CISPR (conform to bandwidth, detected wave characteristic, pulse response characteristic, and other CISPR standards), PEAK value (sampling time, and display time can be set) GP-IB (IEEE 488) compatible Printer output, plotter output : GP-IB talker mode AC 100/220 V $\pm 10\%$ 50/60 Hz, 50 VA 425 (W) $\times$ 200 (H) $\times$ 400 (D) mm, 20 kg		9 ~ 149.9 kHz (BW = 200Hz)	0.15 ~ 30 MHz (BW = 9 kHz)	Q. P mode	Typ. - 23 dB $\mu$ V (fin > 50kHz)	Typ. - 11 dB $\mu$ V	Average value	Typ. - 26 dB $\mu$ V (fin > 50kHz)	Typ. - 16 dB $\mu$ V	Peak value	Typ. - 20 dB $\mu$ V (fin > 50kHz)	Typ. - 8 dB $\mu$ V
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