



# EMI Test System (EMI -9KA/EMI -9KB)

## Brochure

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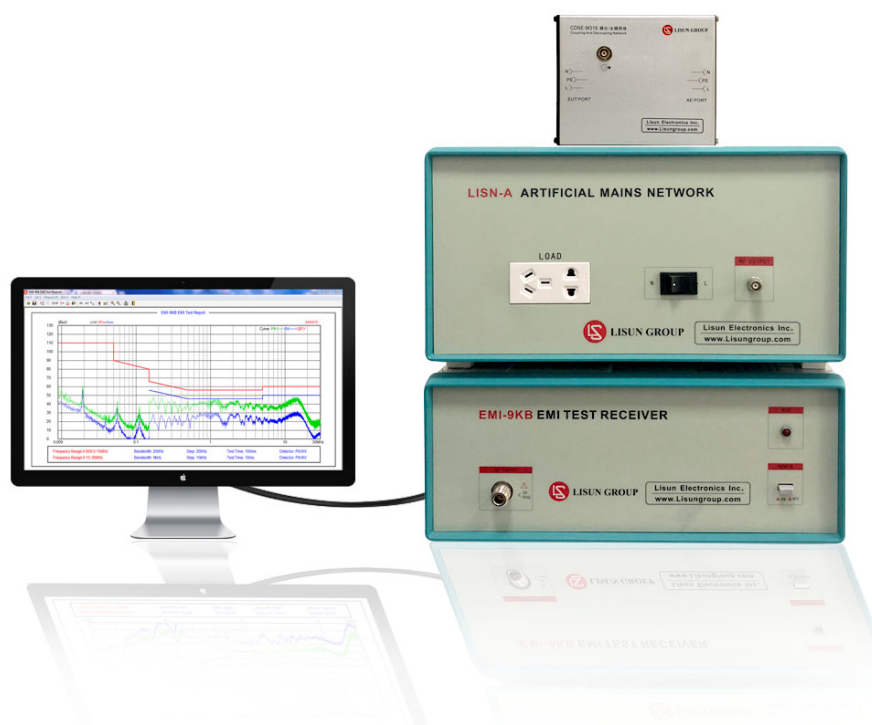
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**Leader in Lighting & Electrical Test Instruments**

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EMI-9KB is an automatic EMI receiver. It is a main test system for EMI (Electro Magnetic Interference) testing. The EMI-9KB is produced by the full closure structure and strong electro-conductibility material, which make sure high shielding effect. Due to the new technology for the EMI Test System, it solved the instrument self-EMI problem. The test results are according to the international format test report. The EMI Test System EMI-9KB fully meets CISPR16-1, CISPR15:2018, GB17743, FCC, EN55015 and EN55022



The EMI-9KA/EMI-9KB System were used to test the 9K-300MHz Electro Magnetic Interference for **Lighting Luminaries, Mobile and Networks, Automotive Electronics and Home Applications**

## 1、 System Configurations

- **EMI-9KB Test System includes:** EMI-9KB 9K-300MHz Receiver, LISN-A 5A Artificial Network Power, CDNE-M316 Coupling/Decoupling Network for Emission, 3pcs Isolation Transformers, Attenuator and cables.
- **EMI-9KA Test System includes:** EMI-9KA 9K-30MHz Receiver, LISN-A 5A Artificial Network Power, 3pcs Isolation Transformers, Attenuator and cables.

### Option instruments to work with the EMI-9KA/EMI-9KB:

- [LISUN LSP-500VAR/LSP-1KVAR Pure Sine Wave AC Power Source](#) for EUT
- [LISUN SDR-2000B Magnetic Shielding Cabinet](#) for the EMI System
- [LISUN VVLA-30M Three Loop Antenna](#) to test 9k-30MHz Radiation
- [LISUN AB-CLP Absorbing Clamp](#) to test the Home Applications & motor tools

## 2、 Specifications:

### 2.1 EMI Receiver (EMI-9KA/EMI-9KB):

- Detection frequency range: EMI-9KB is 9kHz~300MHz and EMI-9KA is 9KHz~30MHz
- Frequency stability:  $1 \times 10^{-6}$
- Frequency resolution: (9kHz~150kHz) 30Hz; (150kHz~30MHz) 1kHz; (30MHz~300MHz) 5kHz
- Test Tolerance:  $\pm 2$  dB
- Measure and Detection method: PK,QP and AV range from 20dB $\mu$ V to 140dB $\mu$ V
- Test time: setting by customers
- Frequency scanning step length: 20Hz~2M
- Sweep bandwidth: 200Hz; 9kHz; 120kHz

### 2.2 Artificial Network Power (LISN-A/LISN-B):

- Use 50 $\Omega$ /50 $\mu$ H + 5 $\Omega$  single phase analog network according to requirement of international standard;
- Max current for EUT: 5A (LISN-A) or 16A (LISN-B);
- Power supplied according to load requirement, 220V or 110V optional;
- Phase line or null line optional on front panel for test.

### 2.3 Coupling/Decoupling Network for Emission (CDNE-M316/CDNE-M216):

- EMI receiver equipped with Coupling/Decoupling Network for Emission is equivalent to test radiated electromagnetic disturbance of electric lighting appliance with frequency from 30M-300mHz
- CDNE-M316 is for N, L and PE lines and CDNE-M216 is for N and L lines.



### 3、 Requirements of test environment

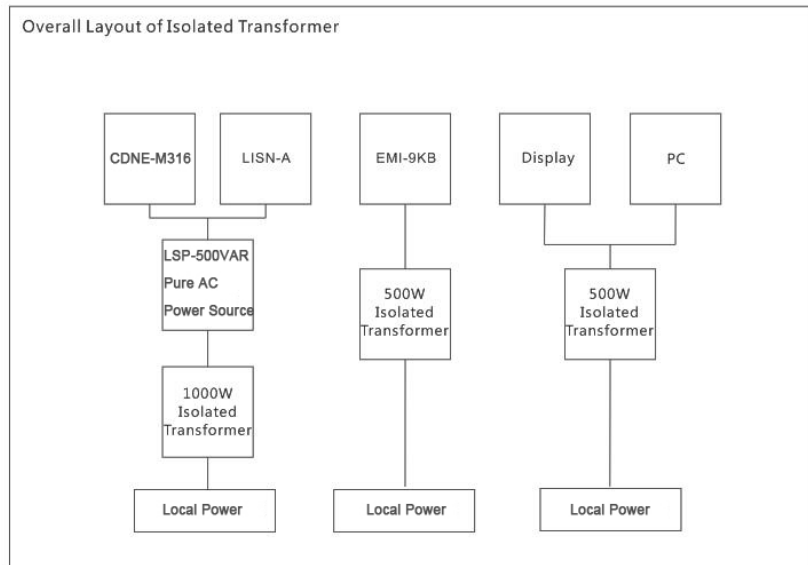
- Square meter of the room should be bigger than 3\*3\*2.5M (L\*W\*H), no other equipment in same room which could have radio interference.
- Recommend work with LISUN SDR-4000 or SDR2000B magnetic shielding cabinet to test. If don't have shielding cabinet, the best location of test room is in ground floor, which makes minimum earth resistance possible.
- Big metal plate basis is required. Metal plate can be 1mm or 2mm thick copper plate with minimum 2 square meters.
- Metal plate shall be well earthed. Dig a more than 2 meters depth hole in humid area, put a copper stick with diameter more than 20mm and length more than 1m into ground as basis connection of copper stick and cable must be soldered or connected by screw, no loose is permitted.

### 4、 Installation



- Test Table A: Install the PC/Printer/EMI Receiver on the desk. Put the Isolated Transformer on the bottom with table E. (Can add a LSP-500VAR Pure AC power source on the bottom with the table D.)
- EUT Table B: Install the LISN-A/LISN-B on the table, and prepare the EUT on the table B when did Conduction Emission testing 9KHZ~30MHZ. Install the CDNE-M316/M216 on bottom of the table B.
- EUT Table C: When did Radiation test 30MHZ-300MHZ, install the EUT on the table C and connect to the CDNE-M316/M216.

**P.S. Please contact LISUN engineer dept to ask for the details design for the table and lab**



P.S. According to CISPR 15:2018, CDNE-M216/M316 replaces the previous CDN-M23 since 2019 year

**The Next Pages are EMI -9KA/EMI -9KB Test Report**



