

## 1. GENERAL INFORMATION

### 1-1. Product Description

The Chicony Electronics Co., Ltd. Model KBR9930(referred to as the EUT in this report) is a RF keyboard transmitter that uses FSK(Frequency Shift Keyed) mode frequency modulation radio technology to operate a receiver Model:KBR9930, which designed as an " Input Device " for compatible with a PS/2 interface protocol PC system. The EUT is a part of this composite system which considered as a short range, low power communication device transmitter.

Details of technical specification for EUT, refer to the follows:

#### (1) Transmitter Frequency Designation

Operating Frequency Range : 26.955 MHz to 27.070 MHz

Frequency Band : 26.960 , 26.975 , 26.990, 27.005, 27.020, 27.035, 29.050, 27.065 (in MHz)  
8 channels, selectable. Channel setting by software control.

Frequency Tolerance :  $\pm 5$  KHz @ center frequency for each channel.

Channel Separation : 15 KHz

#### (2) Effective Radiated Power and Distance

Radiated Power : 1 mW max.

#### (3) Power Rating

Keyboard: 3V , 30 mA(Max.)

#### (4) Operation Methodology

The keyboard encoder generates a pulse code serially transmit (typical designation) into the modulator(or called as mixer) stage in circuit. This pulse signal mixed with the carrier at modulator(mixer) stage by way of FSK mode frequency modulation. The modulation depth is designed such as  $\pm 5$ KHz in this application, that means the pulse(may be at high level state or low level state) will trigger the oscillator to generate a frequency at a specified fundamental frequency +5KHz or -5KHz, depended on the designation. For example, if the carrier frequency defined as fundamental frequency +5KHz at high level state, then the alternative carrier frequency will be fundamental frequency -5KHz at low level state.

Then the modulator(mixer) will output a modulated signal into RF amplifier stage and finally to the transmit antenna.