

2 General Product Information

2.1 Product Function and Intended Use

The equipment under test (EUT) is an electric room heater operating at 433.920MHz.

FCC ID ULERCR2F

Model	Product description
SFE-35 SFE-35C	Electric Room Heater

2.2 Circuit Description

The appliance incorporates heating assembly, flame emulation system, power supply unit, and electronic control. The heating assembly consists of heating element, manual reset thermal cut-out and AC fan motor to blow heated air out. The flame emulation system consists of DC motor, lamp, glass plate with pattern, LED light, imitation fire log etc. The power supply PCB is used to supply DC power for flame system and control circuit. The control circuit is used to receive wireless signal and control function. After voltage (12V) from power supply unit is stabilized (5V) by the voltage regulator 78L05, this control board is power supplies to the receiver module which receives ASK (Amplitude-Shift-Keying) wireless digital signal transfer. The antenna receives the carrier signal which is then filtered through R and C, then the signal is amplified by RF amplifier and mixed by the mixer, the oscillating signal from the oscillator formed by R, L, C is to be compared with the received signal, the intermediate frequency signal is gained as a result. The signal is then to be amplified by the IF amplifier in the emitter coupled pair with dual input symmetrically and single output, filtered by the IF filter, Limited by the voltage limiter. The message is divided into two in parallel and sent to the comparator. Different low-pass constant will be taken from the same message, the digitalized message is separated through the comparator and decoded by the remote control special chip 2602a, the heating assembly and the flame emulation system are controlled by the pins, and auto-control is realized with relays.

2.3 Ratings and System Details

	Receiver
Frequency range	: 433.920MHz
Crystal Tolerance	: +/-100kHz
Number of channels	: 1
Type of antenna	: Integral antenna
Power supply	: AC 120V
Ports	: AC mains
Protection Class	: I
Classification of device	: B