LUTRON ELECTRONICS CO., INC. Date: 2014-06-20

Operational Description (device and circuit function)

Applicable Model Numbers: (herein referred to as DUT)

Model = GT RF

Device Function: The DUT is a in wall dimmer. It contains an FM transceiver and an antenna which is not accessible to the user and is used as part of an integrated lighting control system. The purpose of the RF communication is to transmit and receive command signals; transmitted commands allow the triggering of system events and received commands allow for updating of control indicator status.

RF Function: The receiver down converts a 431-437MHz carrier frequency using a 430.797 – 436.797 MHz voltage-controlled oscillator producing a 203 KHz IF signal. The signal is further processed to decode data. The transmitter uses the voltage-controlled oscillator, which is frequency modulated, and power amplifier to produce the modulated carrier. The DUT contains a micro controller running with an internal clock of 13MHz to ensure that all transmissions stop within 5 seconds of a button release or within 5 seconds on the beginning of a transmission. A transmission shall automatically cease within 5 seconds after activation. The ceasing of the transmission is accomplished via the microcontroller. Modulation is FM, sometimes referred to as Frequency Shift Keyed (FSK), data at 62.5kbps. The antenna is permanently attached and cannot be modified or replaced by the user since it is underneath the plastic enclosure, which is secured by several odd screws, unit labels that prevent the plastic from being pried open back screws with odd screw heads.

Analog Function: The DUT obtains power through standard household wiring. The power supply and voltage regulator produces a 2.5Vdc and 4.0 VDC output, which is used to power all analog and micro controller activities. A dimmed/switched hot signal is provided for control of lighting loads.