A. DEVICE UNDER TEST

The device is a low power remote control transmitter operating under the provisions of Part 15.231 of the FCC rules. The transmit frequency is 315MHz.nominal. The modulation mode is on/off keying.

B. MEASUREMENT PROCEDURE: RADIATED EMISSIONS

Transmitter field strength measurements were conducted according to the procedures set forth in ANSI C63.4 (1992). The device under test was placed on a rotating turntable 0.8 meters high, centered at 3 meters distant from the measurement antenna. The device was placed in the center of the turntable and tested in three major planes as shown in the photographs

The device is powered from an in internal 9V alkaline battery and is internally regulated at 3.3V. The test was conducted with a fresh battery. Several spare batteries were on hand for the test but the first battery was checked periodically and never dropped below 85% capacity. For the purposes of testing, the device was locked in a constant transmit mode by locking one of the pushbuttons in the on position.

The field strength measurements were taken using an HP8596E spectrum analyzer, EMCO 3121C dipole set, an EMCO 3115 double ridge guide horn and an Avantek UJ210 preamp The device was scanned from 30MHz. to 4GHz. and all emissions were noted. In this case the only emissions detected were those harmonically related to the fundamental transmit frequency.

At each detected frequency of emission, the device was measured by rotating the turntable and adjusting the antenna height over a range of 1 to 4 meters to obtain the maximum output level. This procedure was performed with both horizontal and vertical antenna polarizations with the device placed in the positions described above. The peak reading for each frequency was recorded in the second column on the data sheet. The readings for the ninth and tenth harmonics were obtained by reducing the distance from the measurement antenna to 1 meter and entering a -9.5dB distance correction factor into the final calculation for those measurements.

The calculations for this device were adjusted by factoring in a duty cycle correction factor that was derived from an analysis of the time domain plots. This correction factor is given in the sixth column on the data sheet. The transmitted pulse durations were measured at points at least 6dB below peak to insure worst case averaging.