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ENGINEERING STATEMENT

In Regard to Measurements on

Model: Smart Home

DESIGNTECH INTERNATIONAL, INC.

FCC ID: ELGHOME

A. INTRODUCTION

Hyak Laboratories, Inc. has been authorized by Designtech International, Inc. to perform measurements on a receiver to determine compliance with FCC rules, Part 15, Subpart B, Para. 15.107 and 15.109.

The receiver operates in the 433 MHz band and is intended for use as a communications receiver.

B. DESCRIPTION OF RECEIVER

The receiver incorporates a dual conversion super-hetrodyne design.

The following information is supplied as requested in FCC Bulletin OCE 24:

1. Service in which the receiver will be used: Part 15.
2. Function of receiver: Communications Receiver.
3. Tuning range: 433.5 - 434.5 MHz.
4. IFs used: N/A
5. Fundamental frequency of all oscillators in the receiver.

   First local oscillator: Saw Resonator, 433.8 MHz.

C. DESCRIPTION OF MEASUREMENT FACILITIES

A description of the Hyak Laboratories' open area test site is a matter of record with the FCC. The facility was accepted for radiation measurements from 30 to 1000 MHz on October 1, 1976, and is currently listed as an accepted site.

D. DESCRIPTION OF MEASUREMENT PROCEDURE: RADIATED EMISSIONS

Measurements of receiver radiation field strength were made using ANSI 63.4-1992 as the basic procedure. Measurements were made with 3 meter spacing between the receiver under test and the test equipment antenna. The antenna connected to the receiver under test consisted of a flexible antenna approximately 10 cm long.

The receiver under test was placed on a rotatable table 80 cm in height.

Measurement of field strength was made through use of a HP 8596E spectrum analyzer in conjunction with Singer DM-105A series calibrated dipoles.

For each spurious emission identified between 30 to 2000 MHz, the test sample was rotated for maximum pickup, the test antenna varied in elevation, and the test antenna polarization shifted between horizontal to vertical in order to maximize observed signals.

E. REPORT OF RADIATED EMISSIONS

Table 1 lists the frequency and amplitude of all signals observed from 30 to 2000 MHz that were within 20 dB of the limits of paragraph 15.109 of the FCC Rules, for operating frequencies at low, mid and high portions of the receiver coverage band.

TABLE 1

RADIATED SPURIOUS EMISSIONS
Measured at 3 meters
PART 15(B) PARA. 15.109

Frequency To Which Tuned (MHz)	Frequency of Emission (MHz)	Meter Reading (dBm)	Antenna Factor (dB)	Field[1] Intensity uV/m @ 3m	FCC Limit uV/m @ 3m	dB to Limit
433.800	433.834	-90.9	24.9	113	200	-5.0
433.800	862.669	-95.5	31.7	145	200	-2.8
433.800	1301.501	-100.5	25.2	39*	500	-22
433.800	1735.336	-109.4	26.9	17*	500	-30
433.800	2169.165	-95.3	28.7	105	500	-14

Note 1: $uV/m = \text{Log}^{-1}\frac{dBu/m}{20}$

$dBu = dBm + \text{antenna factor} + 107$

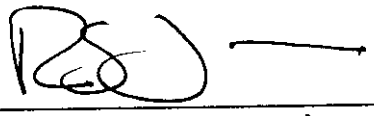
*Reference data, 20 dB or more below FCC limit.

F. PROCEDURE - AC LINE CONDUCTED SPURIOUS

No ac line-conducted measurements were made since the device operates from batteries.

G. STATEMENT

Technical test data are from tests performed by me or under my supervision. My qualifications are a matter of record with the Federal Communications Commission. I personally attest to the accuracy of the test data submitted as a part of this engineering statement.



Rowland S. Johnson

Dated: May 13, 1998