

## ENGINEERING STATEMENT

For Certification of

MS Sedco

Model No: ID20  
FCC ID: OHRID20

I am an Electronics Engineer, a principal in the firm of Hyak Laboratories, Inc., Springfield, Virginia. My education and experience are a matter of record with the Federal Communications Commission.

Hyak Laboratories, Inc. has been authorized by MS Sedco to make measurements on the ID20 field disturbance detector. These tests made by me or under my supervision in our Springfield laboratory.

Test data and documentation required by the FCC are included in this report.

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Rowland S. Johnson

Dated: September 25, 2001

A. INTRODUCTION

The following data are submitted to establish compliance of the ID20 transceiver in accordance with Part 2, Subpart J of the FCC Rules.

The ID20 detector is a microwave field disturbance sensor for use only within a building or to open a building door and complies with 15.245(1)(i).

**B. RESULTS SUMMARY**

The ID20 detector met all the applicable requirements of Part 15.245.

**C. DESCRIPTION OF RADIATED SPURIOUS MEASUREMENT FACILITIES**

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

**D. FIELD STRENGTH MEASUREMENTS OF SPURIOUS RADIATION**

The procedures of ANSI 63.4 (1992) were followed.

Field intensity measurements of radiated spurious emissions from the ID20 detector were made with a Tektronix 494P spectrum analyzer with external mixers using Polarad CA-L or CA-S or EMCO 3115 or EMCO 3116 horns.

The transmitter was located in an open field 3 meters from the test antenna. Supply voltage was a terminal voltage under load of 18 Vdc.

The transmitter and test antennae were arranged to maximize pickup. Both vertical and horizontal test antenna polarization were employed.

Measurements were made from the lowest frequency generated within the unit (10.5 GHz), to the fifth harmonic (52.2 GHz) per FCC Rules 15.33(a)(2). Data after application of antenna factors and line loss corrections are shown in Table 1.

## RADIATED SPURIOUS EMISSIONS

Measured at 3 meters  
PART 15(C) PARA. 15.245

<u>Frequency To Which Tuned (GHz)</u>	<u>Frequency of Emission (GHz)</u>	<u>Meter Reading (dBm)</u>	<u>Antenna Factor (dB)</u>	<u>Field<sup>1</sup> Intensity dBu @ 3m</u>	<u>FCC Limit dBu @ 3m</u>	<u>dB to to Limit</u>
10.525	10.524	-30.7	42.8	119.1	128	- 8.9
10.525	21.048	-65.3*	44.2	85.9	88	- 2.1
10.525	31.573	-70.4*	46.9	83.5	88	- 4.5

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

\* Measured @ 1 m, extrapolated to 3 m. All other spurious were below FCC limit or measurement system noise to the fifth harmonic.