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Test Report

Electromagnetic Emission Evaluation

Of the

Rosemount Measurement

APEX/APEX ULTRA Radar Level Gauge

Through a Concrete Tank Wall

November 1998

Submitted By:

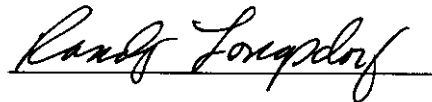
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ROSEMOUNT MEASUREMENT

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1. Purpose of Test

To evaluate the radiated electromagnetic emissions of the APEX/APEX ULTRA Radar Level Gauge through a concrete enclosure and determine the minimum thickness of concrete needed to sufficiently attenuate those emissions to an acceptable level under the FCC's Part 15 rules.

2. Equipment Under Test

APEX Radar Level Gauge
Model Number: APEX
Serial # 167910

3. Test Date

November 4, 1998

4. Test Location

Customer Industrial Site
GE Plastics
West Virginia, USA

4.1. Description of test tank

General

Diameter 30 feet
Height 15 feet

Wall Material

3.675 inch thick air-cell concrete stave blocks with an actual concrete thickness of 2.5 inches. The blocks are interlocking and are supported with metal bands around the outside diameter of the tank (see Photo Number 5).

There was approximately 5 feet of liquid product in the tank at the time of testing.

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5. Summary of Results

The APEX/APEX ULTRA Radar Level Gauge fully complies with the requirements of Subparts B and C of Part 15 of the FCC rules when installed on a concrete tank with a minimum wall thickness of 2.5 inches.

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6. Test Procedure

- 6.1. Install APEX/APEX ULTRA Radar Level Gauge. (See Photo 1)**
- 6.2. Verify the operation of the APEX Radar Gauge. (See Photo 2 and Graph 1)**
- 6.3. Stop the sweep of the device to provide a CW signal at 25 GHz.**
- 6.4. Search for emissions using both horizontal and vertical polarization at a 3 meter and 6 inch distance from the tank. (See Photos 3 & 4 and Graphs 3, 4, & 5)**
- 6.5. Record any emissions found.**

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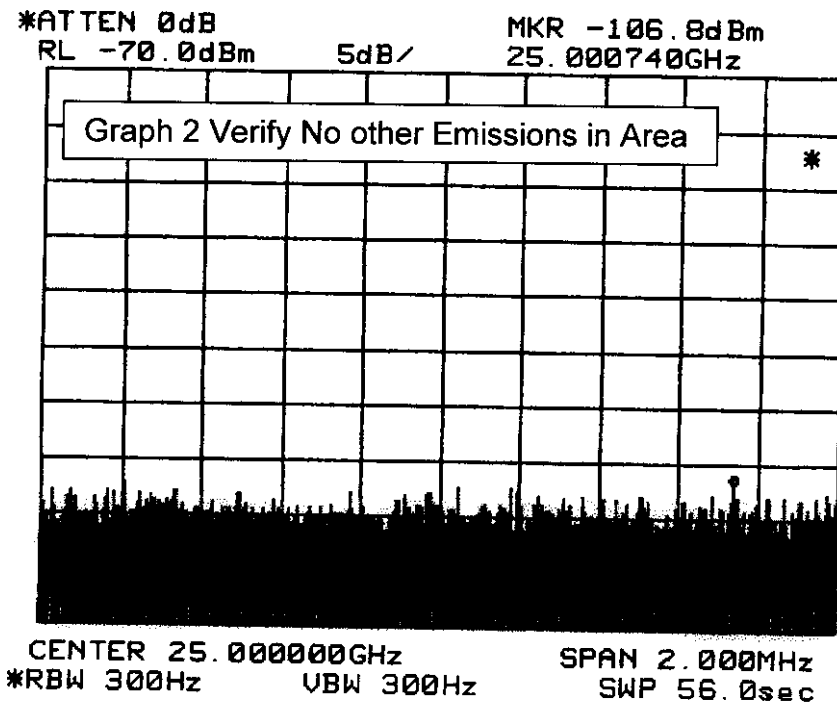
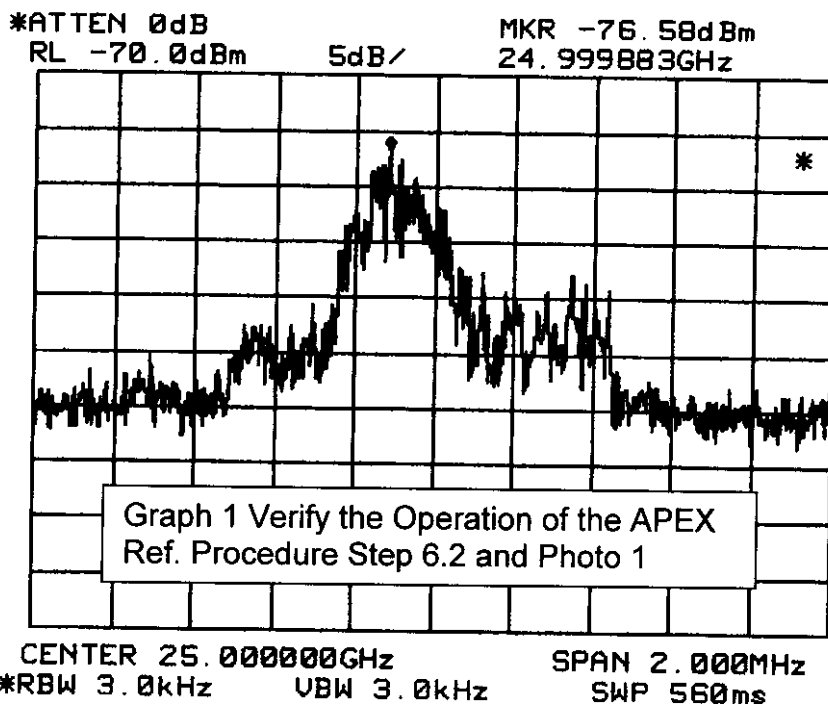
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7. Test Results

No emissions were found outside the tank. The following graphs show the actual data collected. Note: The resolution bandwidth of the spectrum analyzer was reduced to lower the noise floor in an attempt to locate any emissions.

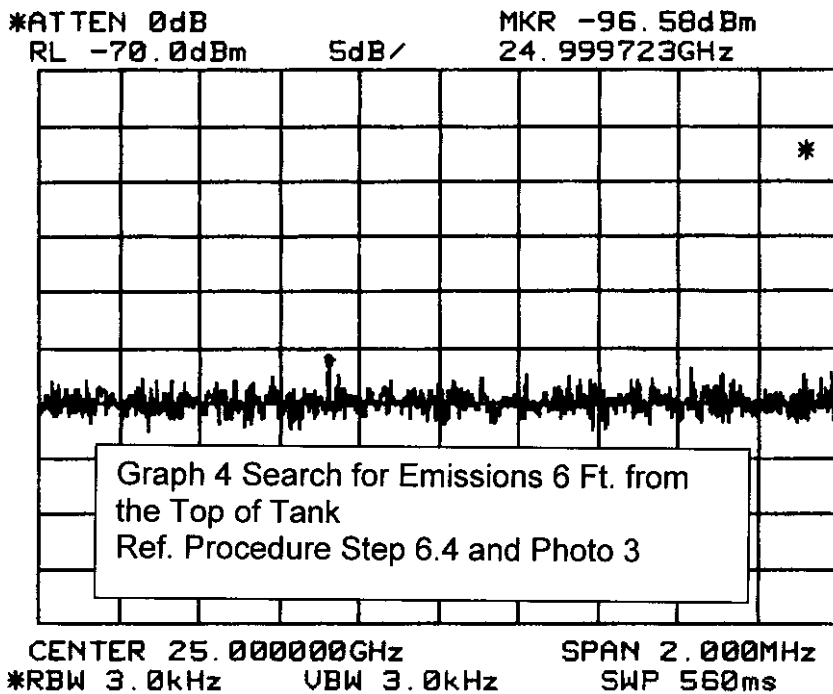
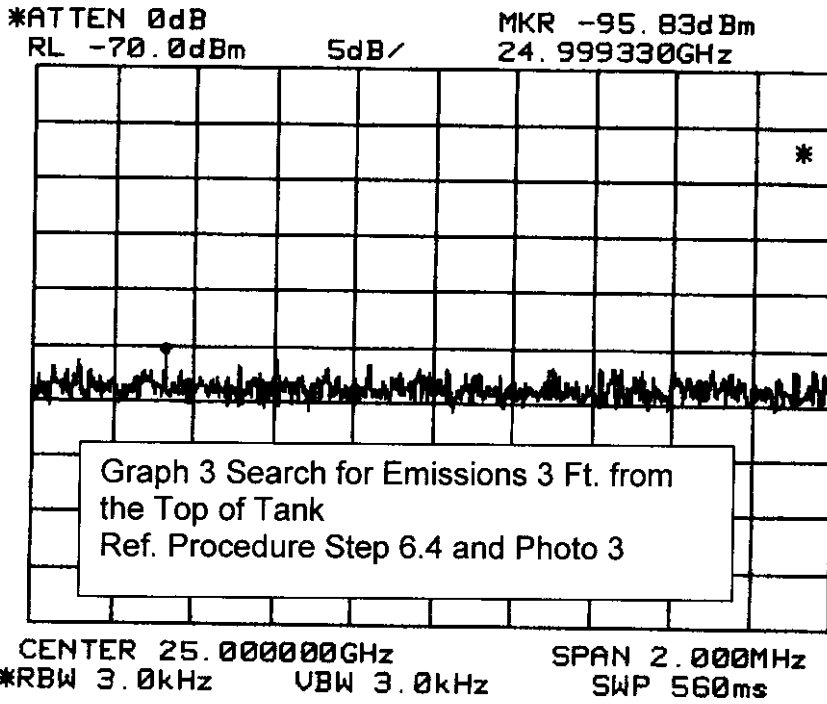
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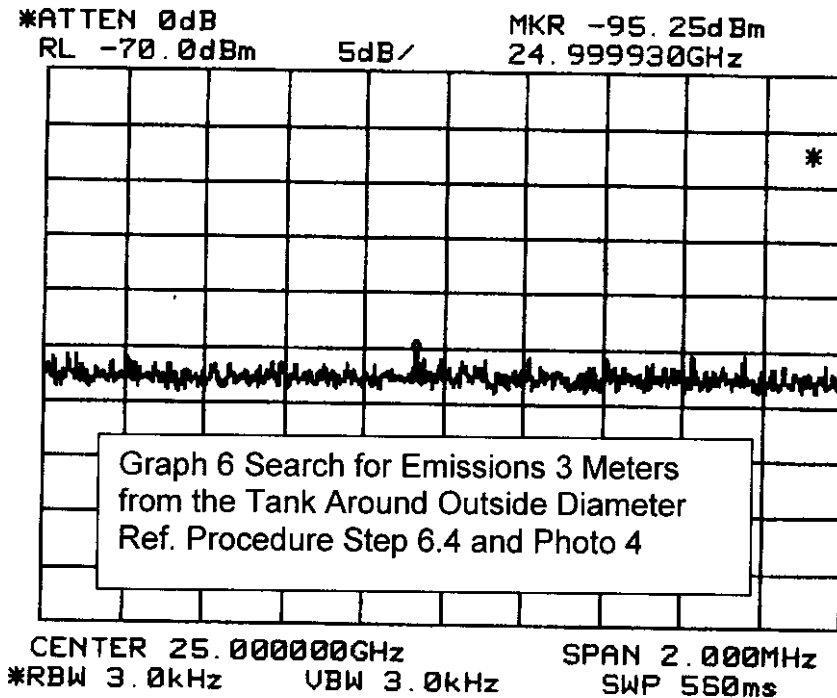
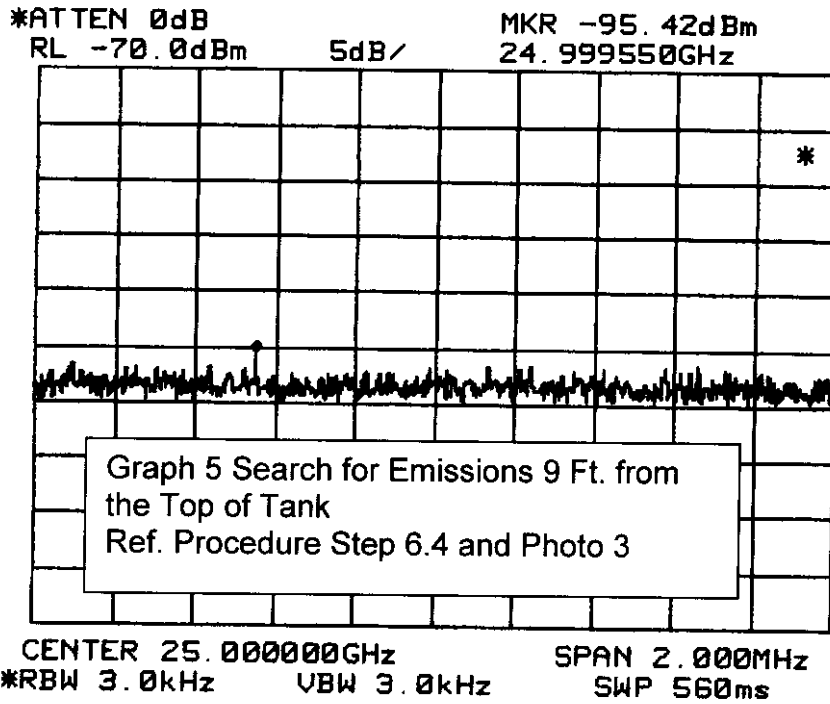
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9. Table 1 List of Test Equipment

<u>INSTRUMENT</u>	<u>MANUFACTURER</u>	<u>MODEL NUMBER</u>
Spectrum Analyzer	Hewlett Packard	HP8564E
Antenna	EMCO	3116
RF Cable	Semflex	M119BFBM30