RFI Test - 12m Antenna Camera
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1 Introduction

For this test, the enclosure was changed (see Fig. 2) and the front window was shielded with a special RFI proof film. The camera was tested with the enclosure closed, and the data is compared with the emissions of the camera only (tested on Feb 14, 2012). This test was requested by Victor Negron and Ganesan Rajagopalan.

2 Equipment

Camera and Enclosure:

- Camera GANZ CLH-401
- DC Power Supply, wall adapter.

Agilent E4445A Spectrum Analyzer:

- Trace 1: Clear Write, Average ON, 20 spec.
- Trace 2: Max Hold.
- Trace 3: Min Hold.
- 8192 points per spec.
- Internal Amplifier ON.
- 6dB Attenuation.
- SCPI Commands from Python.

ETS Model 7405[1] probe No.902:

- Magnetic field.
- Res. Freq. 1.5GHz.
- H/E Rejection 29dB.
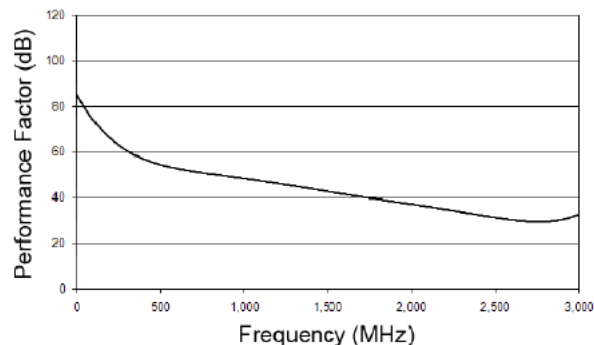- Performance: Fig. 1.
- + 15ft coax cable

Figure 1: Probe No. 902 Performance.

3 Test

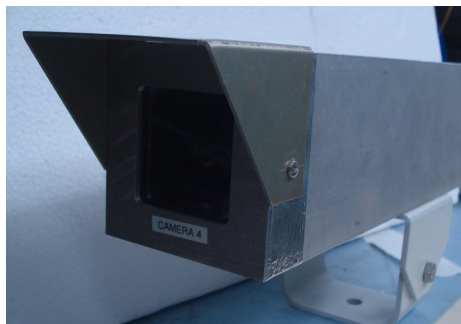Figure 2 shows the camera enclosure replacement, and RFI film at the front window.

Figure 2: 12m Camera, closed enclosure.

These are some details of the test procedure:

- Screen/shielded room front door closed.
- A/C ON, eth. switch ON, 10MHz buffer OFF
- Other equipment: spectrum analyzer, camera and power supply.
- Disconnect 10MHz coax to the buffer (in some way this is causing interference at 10MHz).
- Video cable disconnected, only power supply for the camera.
- Thirty (30) 100MHz bandwidth scans (12.207kHz per channel), from 0 to 3000MHz. Enclosure closed.
- Twenty (20) seconds "integration" time per spectrum.
- Trace results recorded using SCPI commands from a Python script.

References

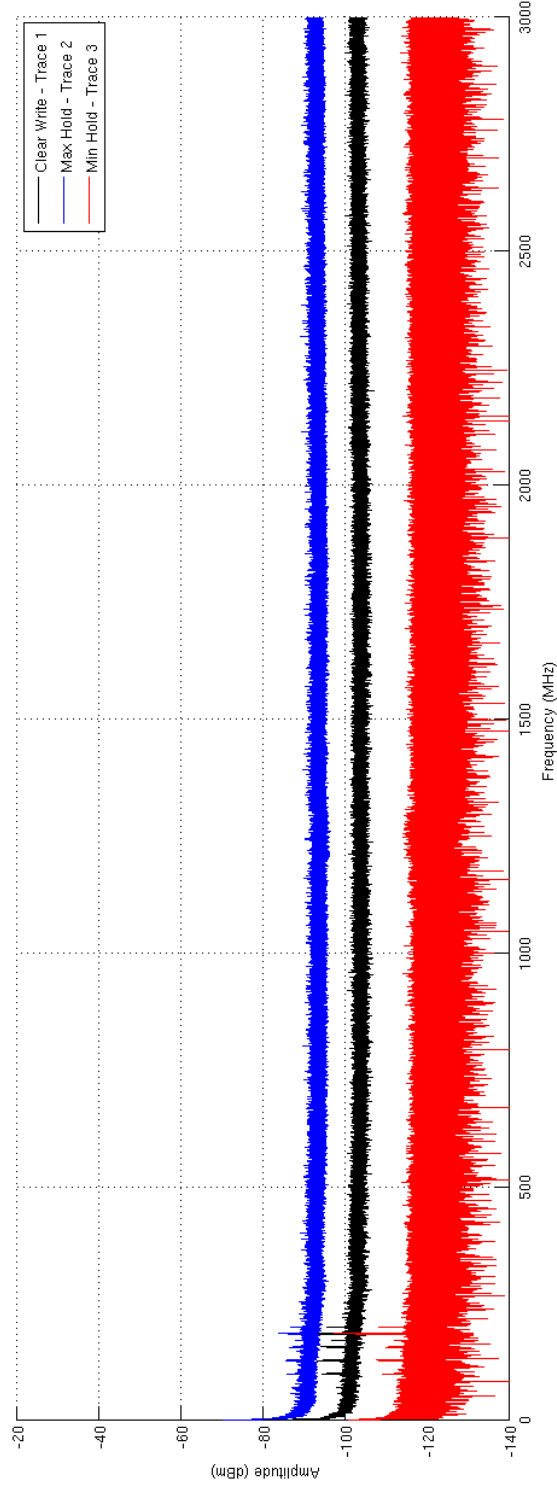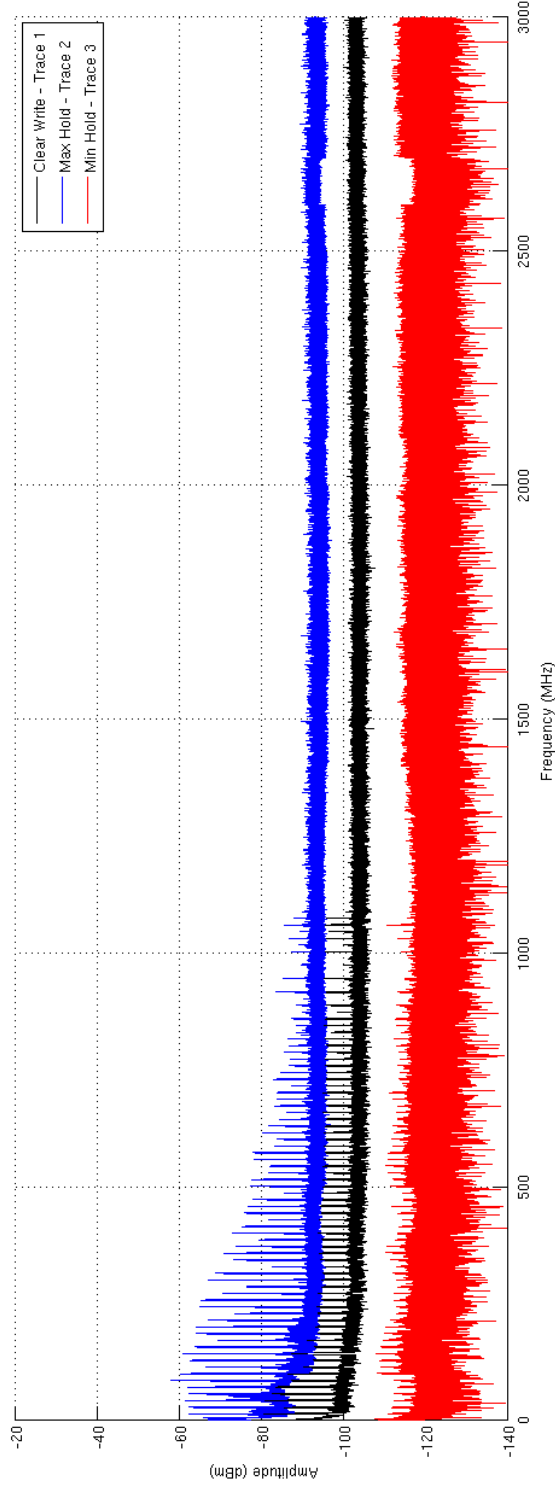[1] ETS LINDGREN, *ETS Near-Field Probe Set Model 7405*.
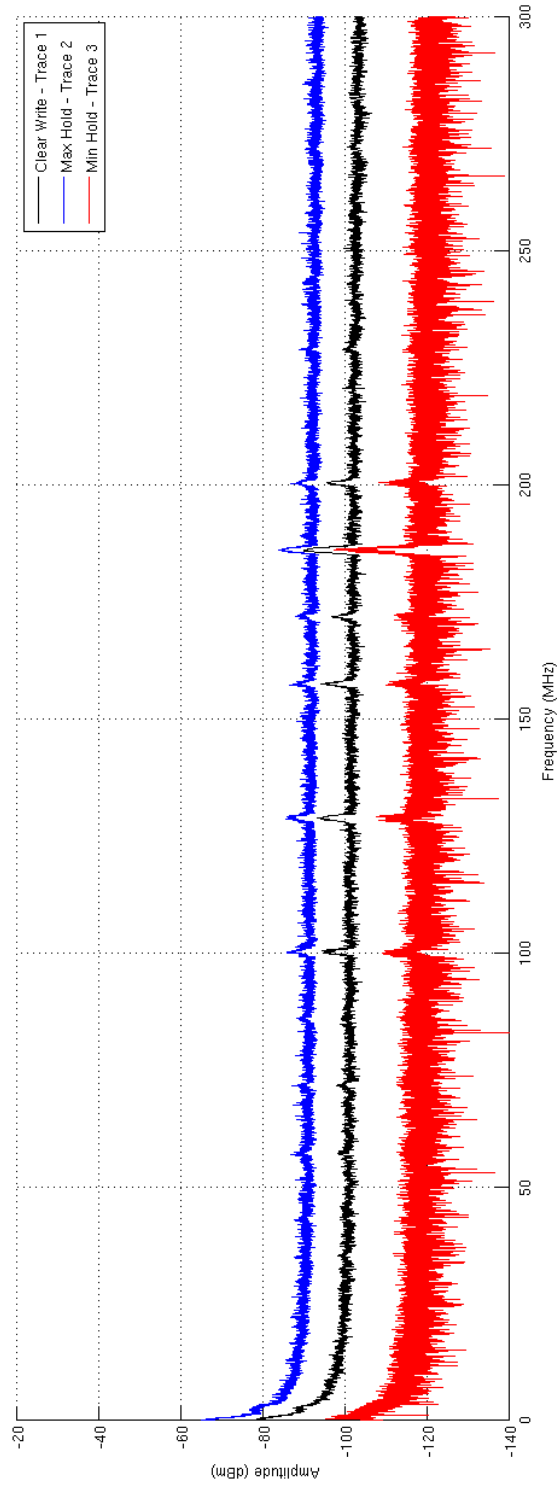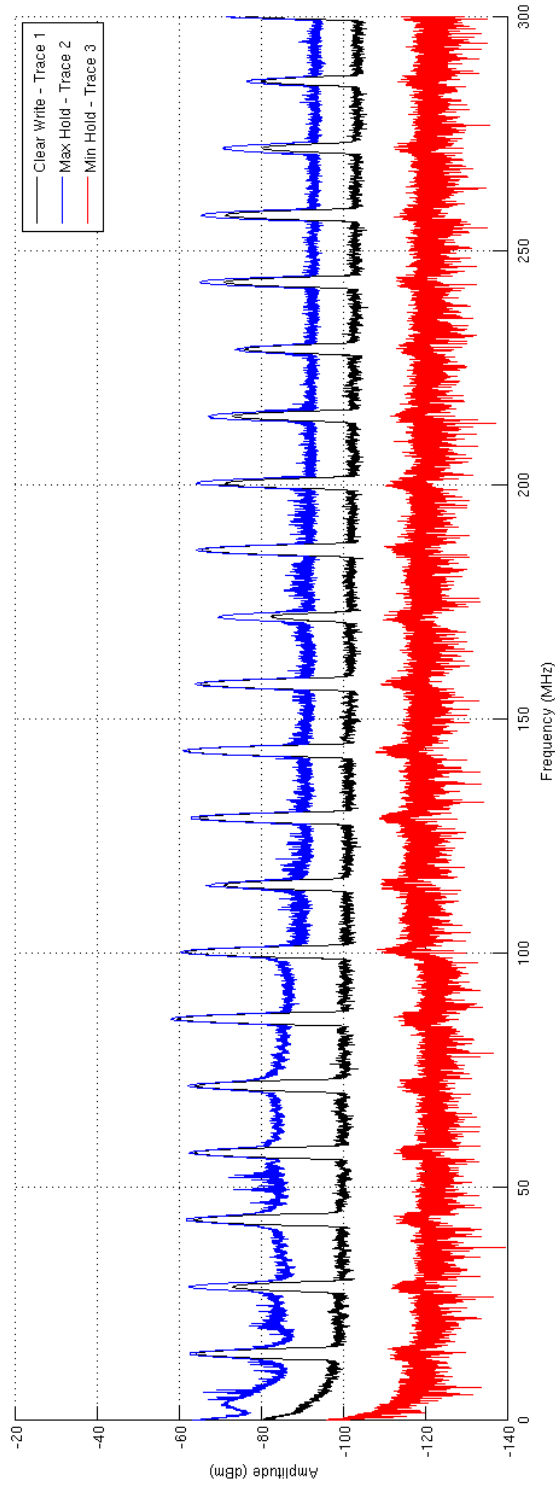
Figure 3: Test Results. Top: opened; Bottom: closed.

Figure 4: Test Results up to 200MHz. Top: opened; Bottom: closed.