

RFI Test - NETGEAR ProSafe GS110TP

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6 Sep 2012

1 Introduction

This document shows RFI test info and results for the NETGEAR ProSafe GS110TP and its power supply, Figures. 1 and 2 respectively. Both devices were tested with the magnetic 902 and electric 904 field probes. This test was requested by Jorge Rodriguez.



Figure 1: NETGEAR ProSafe GS110TP.



Figure 2: GS110TP 48VDC Power Supply.

2 Test Equipment

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. 3.
- + 15ft coax cable

ETS Model 7405[1] probe No.904:

- Electric field.
- Res. Freq. >1.0GHz.

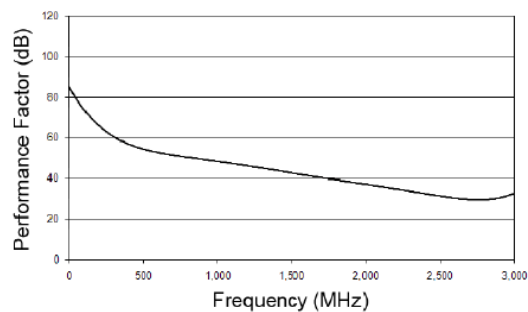


Figure 3: Probe No. 902 Performance.

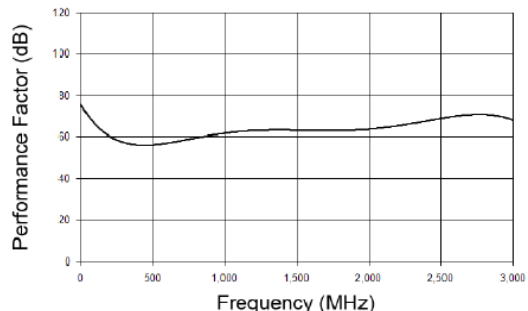


Figure 4: Probe No. 904 Performance.

- H/E Rejection 30dB.
- Performance: Fig. 4.
- + 15ft coax cable

3 Test Procedure

- NETGEAR ProSafe GS110TP with fiber module, no fiber connected. Port 8 connected to AO NET. Magnetic and electric probes located in the front panel. Results in Fig. 5.
- Power supply tested separately with load (switch) for electric and magnetic emissions (Fig. 6).
- Agilent E4445A Spectrum Analyzer preheated for more than 1hour.
- Thirty (30) 100MHz bandwidth scans (12.207kHz per channel), from 0 to 3000MHz, electric and magnetic field.
- Twenty (20) seconds “integration” time.
- Trace results recorded using SCPI commands from a Python script.
- Screen/shielded room front door closed. Fluorescent lights OFF.
- A/C ON, eth. switch ON, 10MHz buffer OFF, 10MHz ref. cable disconnected.
- 430MHz transmitter running (T1193).

References

- [1] ETS LINDGREN, *ETS Near-Field Probe Set 7405*.

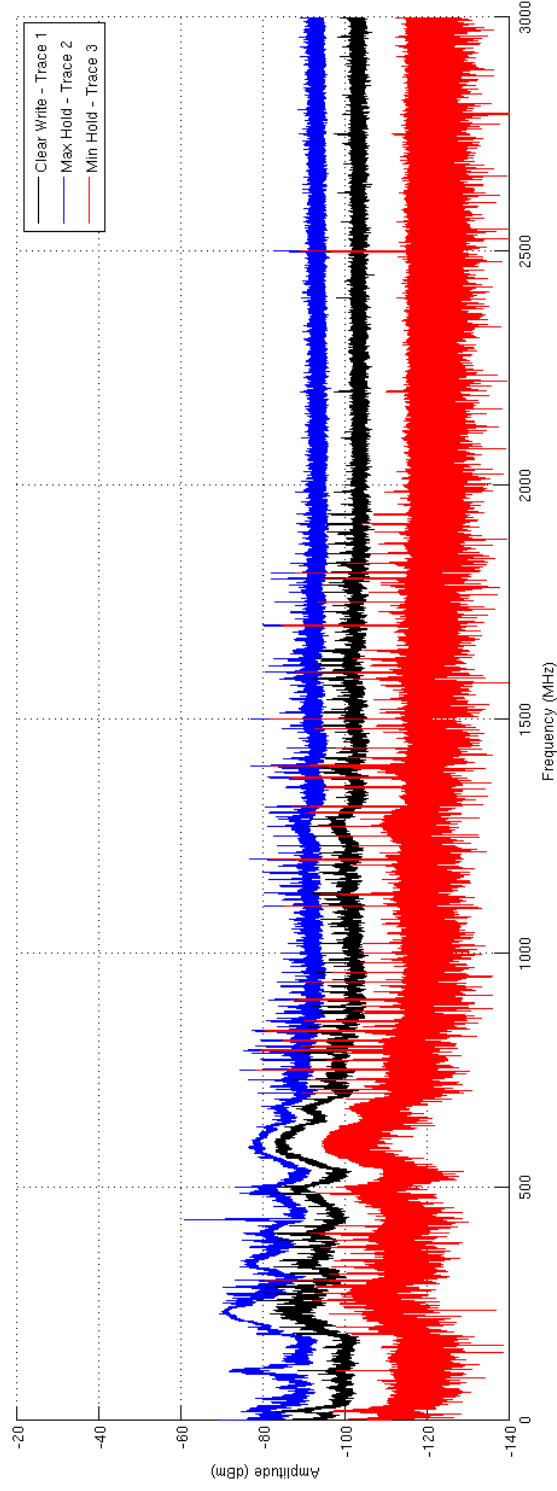
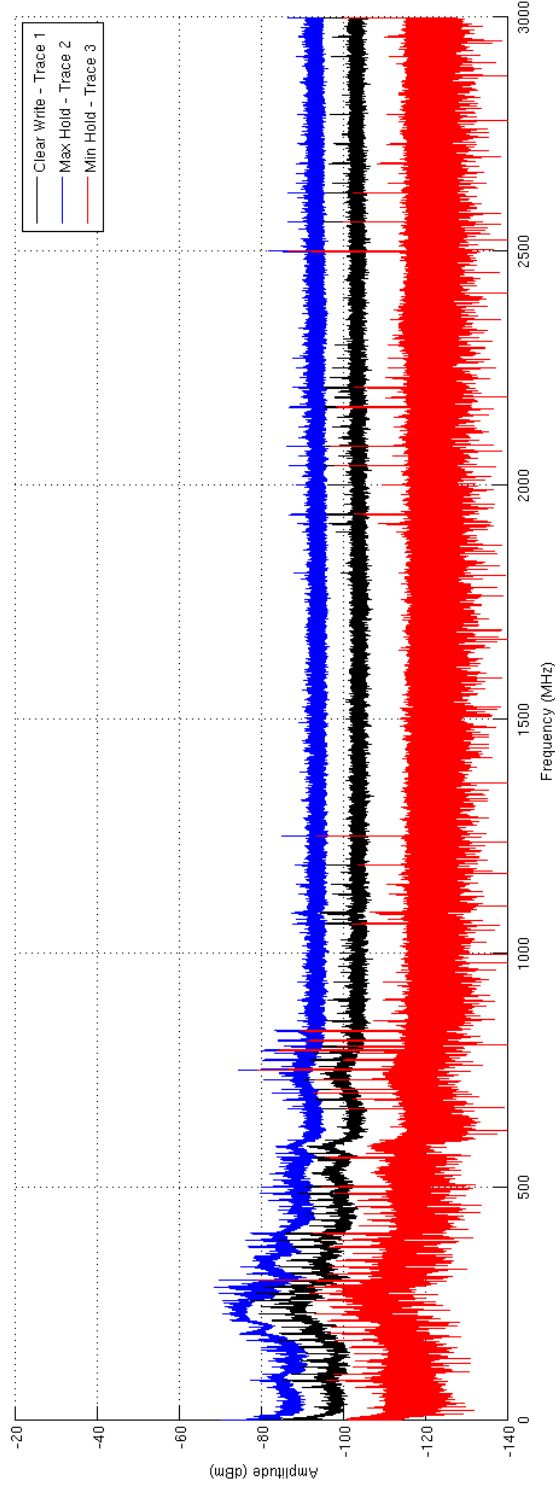


Figure 5: Switch Results. Top: Magnetic Field - 902 Probe; Bottom: Electric Field - 904 Probe.

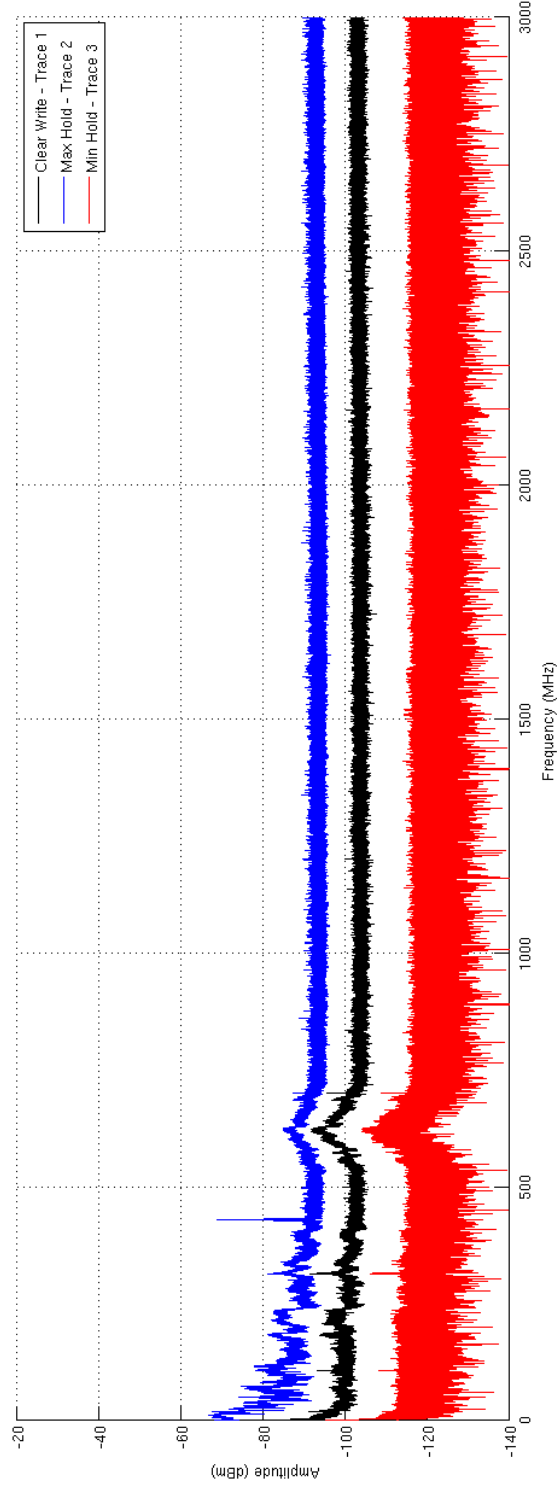
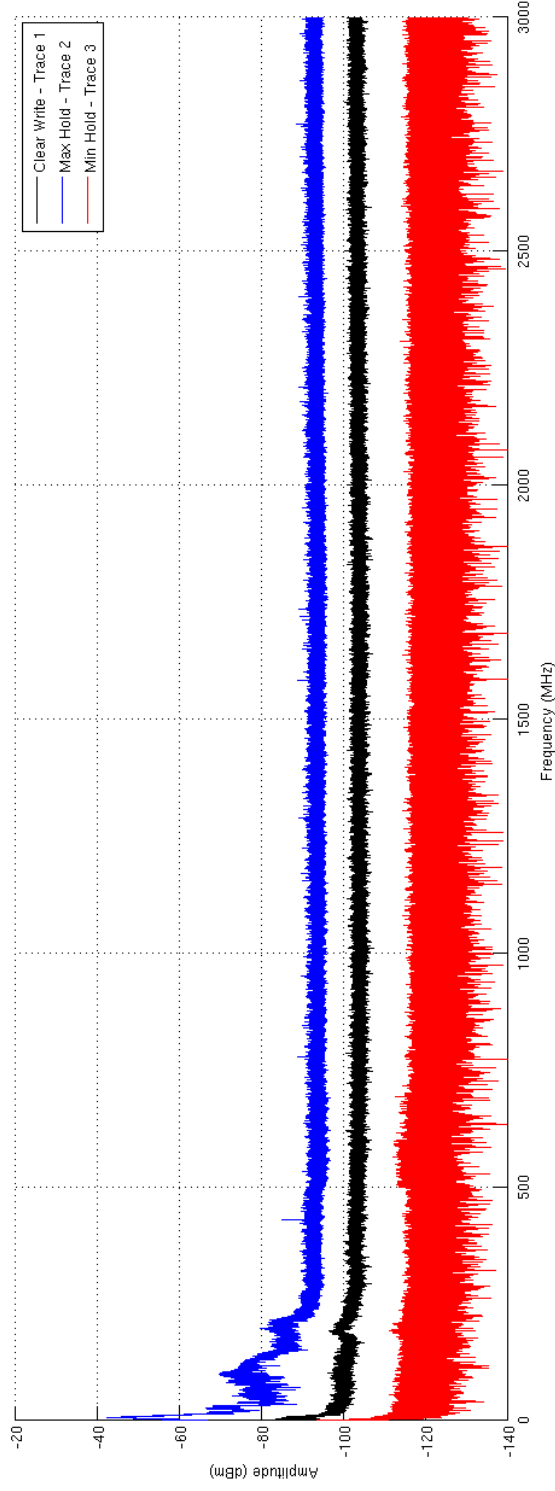


Figure 6: Power Supply Results. Top: Magnetic Field - 902 Probe; Bottom: Electric Field - 904 Probe.