

RF Attenuation and Wireless Security

GlassLock's SpyGuard Technology provides customized film, glass and architectural surfaces for radio frequency (RF) Electromagnetic Interference (EMI) attenuation/eavesdropping countermeasures/wireless security as-well-as blast hazard reduction for physical security concerns.

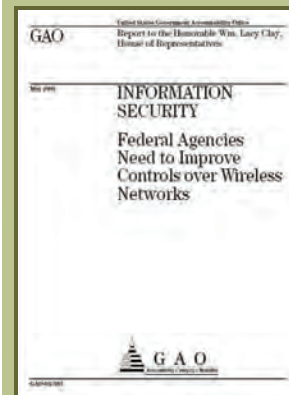


A recent (May 2005) GAO report concerning wireless security disclosed the ease of gaining access to over 1,000 wireless networks within a 15 block area in Washington DC with just a common network scanner!

Significant "signal leakage" (wireless network signals traveling beyond an organization's perimeter) allowed for

Radio Frequency Attenuation

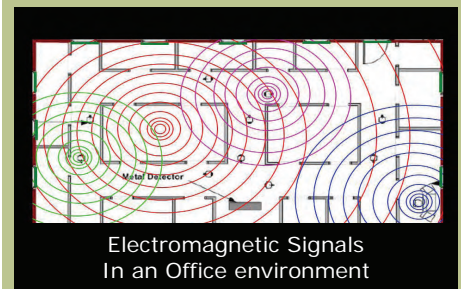
Unauthorized users to monitor, check security configurations, and eavesdrop.



Signal leakage can be significantly reduced by deploying SpyGuard Technology. Applied to the glass, SpyGuard offers an average of

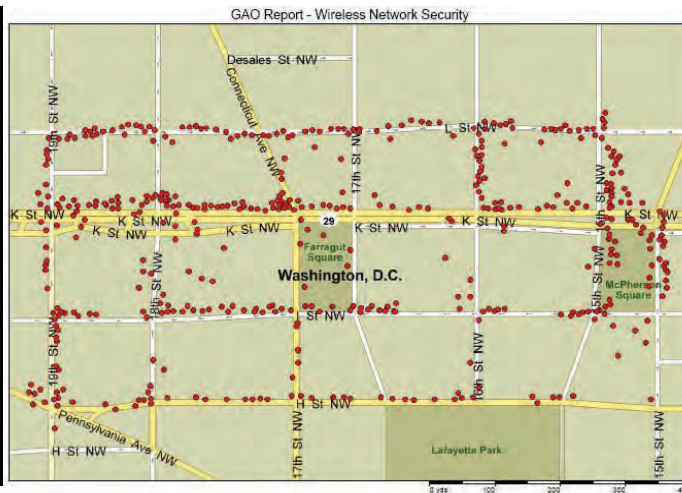
39db attenuation from 300 MHz to 6GHz 44db at 1GHz.

By making wireless signals inaccessible, any miscues with respect to encryption, authentication, VPN and firewall rules are protected until they can be corrected. Example of multiple RF/EMI signals in an office environment below.



Electromagnetic Signals In an Office environment

Secure or proprietary information is increasingly under threat of being illegally accessed by sophisticated technology.



Few people are fully aware of the threats of remote eavesdropping through window glass. Some of these methods are effective at distances up to or beyond a quarter mile. Proven eavesdropping methods are:

- Recording meetings and conversations using laser microphones
- Recording radio frequency emissions and the electromagnetic energy that leaks from computers, printers, facsimiles, cellular telephones, and other electronic devices.
- Capturing infra-red signals from wireless PDA's, laptops and IR communication systems.
- Capturing and translating optical bandwidth that emanates from computer displays to reconstruct the entire image on the monitor.

In addition to providing wireless network protection, a significant extra benefit of the optically clear SpyGuard Technology is that it provides 50-75% total solar energy reduction (TSER). This equates to energy savings.

GlassLock offers a complete product line of patented window solutions called SpyGuard. Tested at highest government levels and proven to mitigate virtually all forms of electronic eavesdropping, SpyGuard products provide Tempest and Wireless security requirements mitigation. Also available in fragment retention film and laminated glass, SpyGuard can provide total physical protection and information security in one installation.

SpyGuard glass and architectural surface coatings have been approved and installed at the highest levels of Government security operations as-well-as in private and commercial applications. Electromagnetic signals can be intercepted and processed permitting certain amounts of information to be reconstructed. Basically, anything with a microchip, diode, or transistor, gives off these fields. Fax machines, computer monitors, external disc drives, CD-R drives, scanners, printers and other high bandwidth peripherals can act as transmitters.

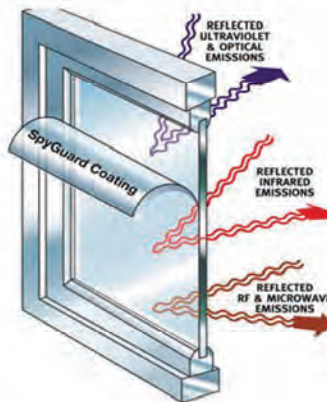
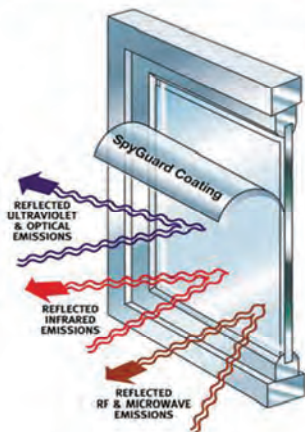


(Unintentional) Interior Transmission Mitigation

Exterior Eavesdropping (Threat) Mitigation

MITIGATE SECURITY THREATS

- **UV AND OPTICAL:**
Computer monitors
Display screens
- **INFRARED:**
PDA's and laptops
Laser microphones
- **MICROWAVE AND RF:**
PDA's and laptops
Cellular phones
Computer monitors
EMI and EMP
ELINT and SIGINT receivers
- **WIRELESS NETWORKS AND DEVICES**



SPYGUARD COATINGS MITIGATION COVERAGE

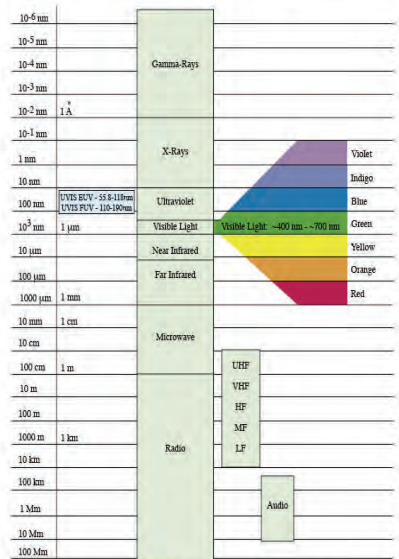


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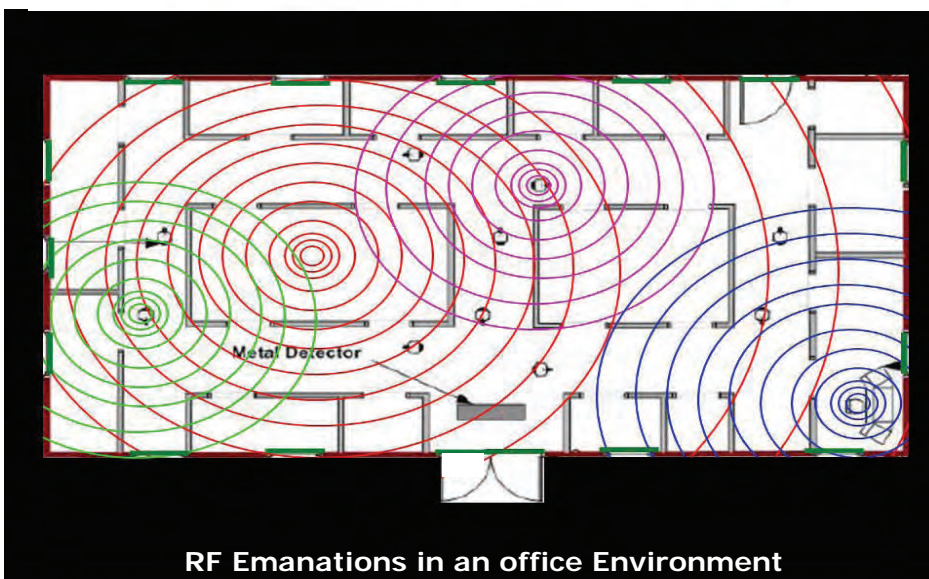


The Electromagnetic Spectrum

Chart by USF/University of Colorado, Boulder



nm=nanometer, Å=angstrom, μm=micrometer, mm=millimeter, cm=centimeter, m=meter, km=kilometer, Mm=Megameter



RF Emanations in an office Environment