

The Invisible World of Electromagnetic Eavesdropping

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Advanced TEMPEST technology for a safer future



Information Security

Securing your assets
and protecting your
information

Physical security: fences, barriers & guards

Access Control: restricted areas, CCTV

Network segregation and or physical air-gaps

User authentication: Smartcards and Passwords

Firewalls

Intrusion Detection Systems & audit logs

Anti-Virus protection

Encryption

Audio & video surveillance countermeasures

What is TEMPEST?

A branch of IT security that focuses on the study of unintentional electromagnetic emanations from electronic devices.

Every electronic device emits electromagnetic radiation as a byproduct of their operation in everyday life.

The emanations carry information including the data being processed.

TEMPEST is necessary for securing sensitive and classified information from attacks.

What TEMPEST is not.



TEMPEST is different from “hacking” as a TEMPEST attack leaves no trace – attackers can be situated a long distance away from the signal source.

Electro-Magnetic Compatibility, TEMPEST is all about emanations of Data – not levels of susceptibility and interference.

OSPL has a range of TEMPEST protected equipment that is modified in such a way that these unintentional or unwanted emissions are eliminated or reduced to an acceptable level.

TEMPEST and EU NATO Standards



	Highest Level 'Full TEMPEST'	Second Level 'Intermediate TEMPEST'	Lowest Level 'Tactical TEMPEST'
NATO TEMPEST Standard	SDIP-27/2 Level A [Level 1 USA/Canada]	SDIP-27/2 Level B [Level 2 USA/Canada]	SDIP-27/2 Level C [Level 3 USA/Canada]
EU TEMPEST Standard	IASG 07-03 Level A	IASG 07-03 Level B	IASG 07-03 Level C
NATO ZONE	SDIP-28/2 Zone 0	SDIP-28/2 Zone 1	SDIP-28 Zone 2
NATO TEMPEST Installation standard			SDIP-29/2

What we add:

TEMPEST modifications

Filters

Shielding

Gaskets

Ferrites

Fibre
optics

Mesh
windows



TEMPEST modifications

What we might remove:

Bluetooth or Wi-Fi
Unused interfaces
Any potential aerials



Commercial vs TEMPEST



How to
protect
yourself
against
TEMPEST



Level A is typically used when:

- The threat from a foreign intelligence agency is considered high
- Processed Data is marked Secret and above
- Little or no control over the perimeter such as an Embassy
- A facility is designated as a NATO facility Zone 0.



Level B is typically used when:

- There is credible threat from a foreign intelligence agency
- Processed Data is marked Confidential or above
- The site has a guarded perimeter e.g., Army or Air force base
- A facility is designated as a NATO facility Zone 1



Level C is most often used when:

- Equipment is mobile or deployable and the risk is deemed lower
- Coalition operation processing national secrets
- Equipment is located in close proximity to battlefield communication systems
- A facility is designated as a NATO facility Zone 2

Where is TEMPEST equipment needed?



Overseas Embassies and Missions, MoFA



Government offices, Ministry of Interior



Security Services



Critical National Infrastructure (CNI)



Royal Family, VIPs or HVA



National Banks – State financial institutions



Military bases – Army, Airforce, Navy and coalition operations.



Border Agencies – watch list.



OSPL TEMEST test facility

As part of its core capability, OSPL operates and manages three TEMEST test chambers which are approved and regulated by the Netherlands National COMSEC Agency, (NL NSA), NATO and the EU Commission.

Utilising the latest Intriple TEMEST receiver technology, together with a current Facilities Qualification Certificate, (FQC), OSPL's test chambers are certified to perform TEMEST testing to the highest NATO TEMEST standard, SDIP-27/2 Level A and EU TEMEST standard IASG 07-04 Level A.

In addition to the sale of TEMEST equipment, OSPL offers its TEMEST test services to 3rd party organisations wishing to verify or modify their equipment to current TEMEST standards

“NATO Certified TEMEST Vendor”

OSPL's chambers and test facility have been accredited to ISO/IEC 17025 and ISO 9001 per the requirements of NATO SDIP-55.

TEMPEST Zoning

The NATO Zoning standard is SDIP-28/2

Level of Classified DATA being processed

Controlled space

Construction of building or room

Distance from wire or uncontrolled areas

Possible data exit paths of building or room

Electronic measurement of attenuation characteristics may have to be undertaken for complex installations.

Possible exits paths – inspectable space?

Heating systems/air-con

Telephones/Mobile phones

AC cables & copper cabling/conduits
etc

Kensington locks

Proximity to other equipment

Human error & Malicious Intervention

WiFi and other Transmitters/Radios

Malware to turn PC in to transmitter

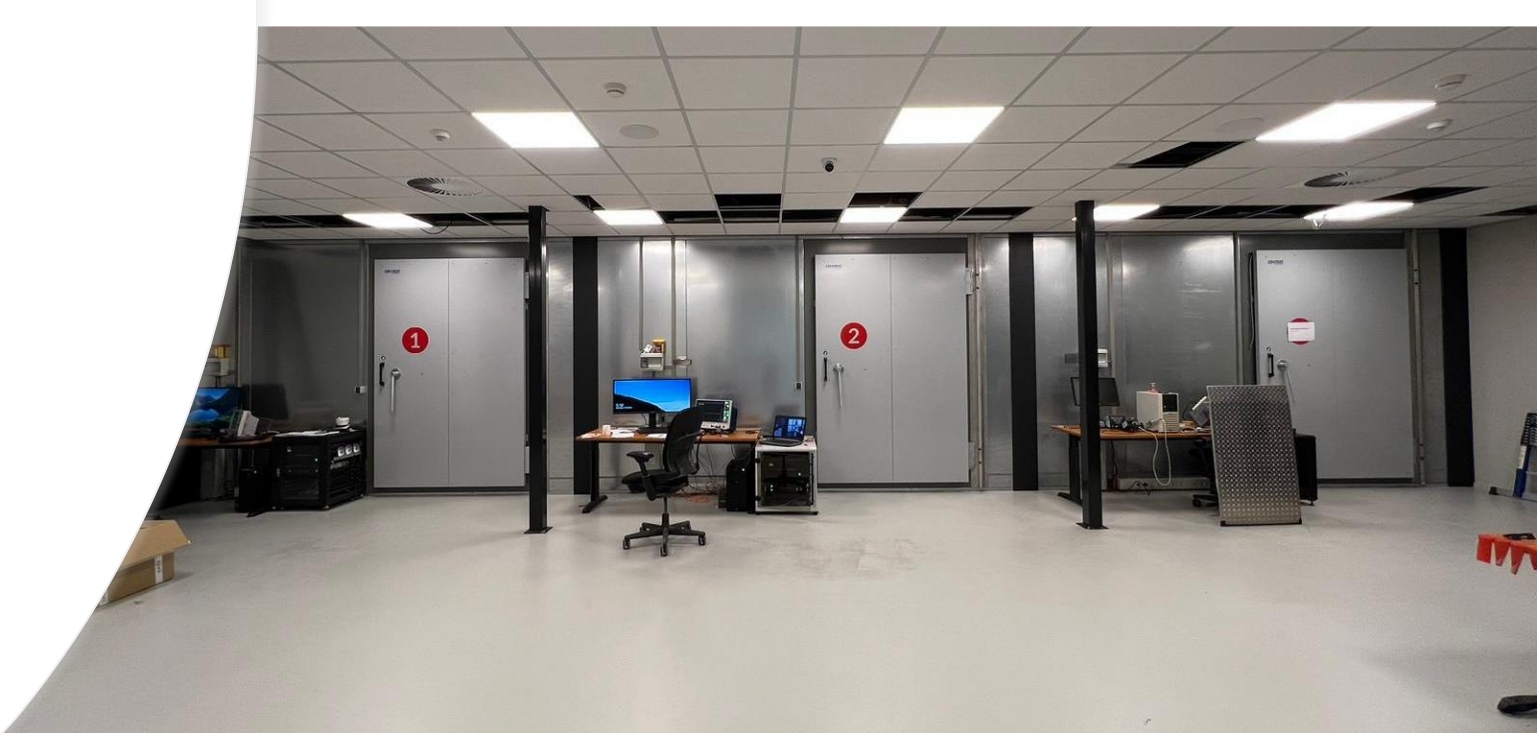
TEMPEST Installation

All TEMPEST equipment must be installed per SDIP-29 as humans are the weakest link.

Continued Investment

News...

- Three New TEMPEST chambers, completed with three TEMPEST test receivers from Intriple.
- Continued expansion of stores & production capability - Moved to a newer and larger facility in Q3 2023



New Products

BlackBox and Belkin
TEMPEST & NIAP
accredited Secure
KVM switches.

BlackBox TEMPEST
KVM fibre optic
extenders.

Level A and B Amulet
Hotkey UK NCSC
approved DXZC and
DXZ4 Zero Clients.

Level A,B,C Rugged
Laptops.

Level A 4-way HDMI
splitters.

Level A 65" and 55"
4K LCD Displays.

Level B Sony PHZ-51
Laser projector.

Level A, B, C Up to
47U EMC Server
Racks

Level A, B, C
Samsung, LG 24", 27"
& 32" monitors

Level A, B, C HP/Dell
Tower, SFF, Mini
Workstations

Level A Cisco Room
Kit VTC and 27"
LCD

Level C Smart
Boards/Interactive
boards



Any Questions?

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