



DEPLOYMENT STORY

ENSURING RF SPECTRUM SECURITY AT A HIGHLY SECURE FACILITY

How a security service detects and geolocates unwanted signals to safeguard national security



Domain:
Land



Application:
Infrastructure protection



Customer:
Government agency

SITUATION: HIGHLY SOPHISTICATED HOSTILE ACTORS

The risk of espionage from hostile actors is a perpetual risk for this national intelligence agency. It must remain constantly vigilant for highly sophisticated threats such as electronic devices containing hidden chips that are smuggled into secure environments within its facilities.

Once inside, these devices can surreptitiously transmit RF data to receivers or relay equipment outside, permitting the unauthorized transfer of sensitive national security information to adversarial entities.

The agency needed to implement a continuous spectrum monitoring solution to ensure spectrum security. No unauthorized signal could be transmitted from the secure environment.

SOLUTION: BUILDING SPECTRUM SECURITY

The security agency chose to entrust its national security to CRFS' RFeye Guard TSCM (Technical Surveillance Countermeasures) system—an ecosystem combining highly sensitive RF receivers with autonomous software.

The solution comprised indoor ceiling kits housing RFeye Nodes that continuously scan the RF spectrum for unauthorized transmissions. Additional Nodes were located outside the building to enhance signal localisation (inside the secure facility to outside, or vice versa).

CRFS worked closely with the customer to optimise the deployment, including the receiver numbers and positioning, to deliver the most precise detection and geolocation of RF signals.


RESULTS: DETECTING & GEOLOCATING UNWANTED SIGNALS

The national intelligence agency found the RFeye ecosystem to provide the highest level of RF security, thanks to three critical elements.

- **Ultra-sensitive RF receivers:** RFeye Nodes are designed to detect extremely low-power signals.
- **Complete customizability:** The wideband system empowered the government agency to actively hunt for individual signals, rather than being forced to choose from a library-based system. Users can define the configuration of their network, tailoring the system according to their specific requirements.
- **Real-time and automated software:** RFeye Site is a real-time spectrum monitoring toolkit, permitting the parameters of each mission to be customized. RFeye Mission Manager compliments this capability, allowing users to automate sweeps and receive alerts when signals are detected. When a signal is detected, the network operations room receives an instant notification, which staff can immediately act upon.

As soon as the intelligence agency activated the RFeye ecosystem, it detected an unwanted signal. While not malicious, the signal was transmitted from a non-authorized piece of hardware, which was only detected thanks to robust RF security.

By deploying the system, the intelligence agency created a secure spectrum environment that improved operational security, safeguarded against espionage, and controlled information leakage.



Want to discuss Technical Surveillance Countermeasures?

[Talk to us](#)



Deployment arranged by **Darren Nicholls**

EQUIPMENT USED



RFeye® Guard

Continuous TSCM solution to ensure you never miss an illicit signal



RFeye® SyncLinc

Synchronize RFeye Nodes where GPS timing is unavailable



RFeye® Receiver (Node)

High-performance spectrum sensor (receive / record) to 40GHz



EXTRAORDINARY
RF TECHNOLOGY

CRFS is an RF technology specialist for defense, national security agencies and systems integration partners. We provide advanced capabilities for real-time spectrum monitoring, situational awareness and electronic warfare support to help our customers understand and exploit the electromagnetic environment.



CRFS Inc
Chantilly,
VA, USA
+1 571 321 5470

CRFS Ltd
Cambridge,
United Kingdom
+44 (0) 1223 859 500

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