

Domain: *Land*

Application: *RF Recording (IQ data capture & analysis)*

Customer: *Government Agency*

How CRFS helped a national force secure its borders

Tactical, real-time border monitoring and I/Q capture for intelligence purposes

Situation

A national border force monitoring a potentially hostile border rife with people smuggling relied on dated and limited equipment—not good news for national security.

The force needed to modernize its capability to undertake spectrum monitoring. It needed to capture I/Q data for intelligence purposes. And, to add to the intelligence picture, it wanted to carry out TDOA to accurately determine the location of a source, even a mobile one moving quickly—beneficial for signals intelligence (SIGINT) and electronic warfare (EW).

The force had previously used CRFS' equipment and recognized its excellent capabilities. So they contacted the RF spectrum monitoring specialists with a unique request—a product that did not exist.



Solution

The border force needed a bespoke solution. It was impressed with the capabilities of the RFeye SenS Portable and the RFeye SenS Node 100-18, but it wanted the best of both. The request was to develop a solution that combined the capabilities of these popular products.

CRFS and the end-user worked closely together to develop new equipment to solve a specific need. The technical team developed a solution to meticulously fit the application—and proved to be far more capable than the existing off-the-shelf solution.

That solution was named the RFeye SenS Remote.

The equipment has a frequency range of up to 18 GHz—allowing the border force extensive signal coverage. Being able to operate anywhere within this band, the user can detect a vast range of signals—from standard communications signals up to radar signals and even some satellite communications. The user has full flexibility to use the RFeye SenS Remote for COMINT or ELINT applications.

But the solution did not end there. Together with its new hardware, the border force required an adapted software solution to maximize its use of the SenS Remote.

Software engineers adjusted RFeye DeepView so the end-user could enter the I/Q data it collected into third-party software to decode and demodulate signals—further increasing their intelligence acquisition. This was only possible as DeepView uses open non-proprietary formats.

Results

By building full I/Q capability with the RFeye SenS Remote, the border force now has a more secure border.

After full training on how to use the hardware and software, the force is now capturing and identifying signals of interest and carrying out spectrum monitoring, situational awareness, and EW support.

It captures comms signals and radar signals, which are analyzed, put into detection systems, and, ultimately, passed on to tactical units.

The delivery and operation of the RFeye SenS Remote have been so effective that the national border force is planning to expand its TDOA network across its extensive and potentially hostile borders using RFeye Nodes 100-18.

Equipment used

RFeye SenS Remote

High-fidelity RF recorded (I/Q) for enhanced intelligence

RFeye DeepView

Forensic signal analysis with 100% POI



Want to discuss I/Q data recording for lab analysis?
Let's talk about your requirements to see if I can help.

[Book a call with Darren](#)

