JamX 22: Counter-Jamming Event

Science and Technology

JAMMING DISRUPTS LIFE-SAVING COMMS

First responders rely on communications equipment to protect and serve their communities and the nation. Illegal jamming of communication systems can interfere with responders' ability to receive or provide life-saving information, as well as hamper their situational awareness. Jamming devices emit radio frequency (RF) noise over specific bands to overpower signals at the receiver, blocking the intended signals.

The Department of Homeland Security (DHS) Science and Technology Directorate (S&T) works to combat jamming threats through evaluating threats, developing and testing mitigation tactics, working with public safety agencies on training procedures to address jamming, and raising awareness of jamming threats and how to report them.

PRIOR EXERCISES AND LESSONS LEARNED

The 2016 First Responder Electronic Jamming Exercise was a multi-agency operational exercise at White Sands Missile Range (WSMR) in New Mexico that tested illegal, commercial-grade jammers against public safety communications. It demonstrated how jamming affects federal and public safety communications systems, as well as how responders can recognize and react to jamming. The 2017 First Responder Electronic Jamming Exercise (JamX 17) took place at the U.S. Department of Energy's Idaho National Laboratory and assessed the effectiveness of jamming identification, localization and mitigation technologies and tactics.

RESILIENT COMMUNICATIONS TRAINING

DHS Cybersecurity and Infrastructure Security Agency (CISA) Emergency Communications Division (ECD) is developing Resilient Communications Training based on the 2016 and 2017 results. The training prepares mission-critical operational and technical personnel to mitigate and overcome communications interruptions to achieve the mission objective. This effort is part of DHS' goal to make mission-critical communications more resilient to communications denial, interruptions and threats.

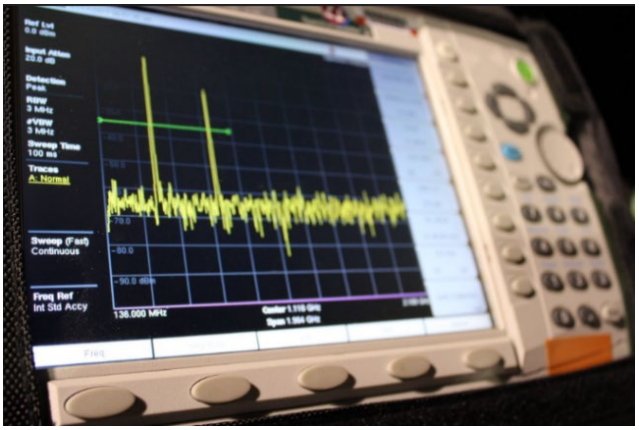
JAMX 22

JamX 22 continues S&T's work to prepare public safety to face jamming threats and returns to WSMR on April 25-29, 2022. There are two parts that will occur simultaneously:

- **Operation Trinity** is an *exercise* with federal and first responder personnel that will assess the effectiveness of Resilient Communications Training for operational and technical personnel.
- **Project Resilience** is an *experiment* with industry, academia and federal partners to assess tools and technologies that identify, locate and mitigate spectrum interference, including illegal jamming signals and to measure the impact of that interference on communications networks.

Scenarios will introduce jamming into everyday response operations to assess how the participating teams overcome communications denial to still achieve their response objectives. Teams that underwent Resilient Communications Training will be assessed on how effectively they applied their training. In addition to the team exercise scenarios, DHS-developed and commercial counter-jamming technologies will be tested for their effectiveness.

JamX 22 results will help improve the current Resilient Communications Training and will be included in CISA ECD's Resilient Communications Toolkit.



Spectrum analyzer during JamX17

EXERCISE PARTNERS

Federal, state and local participants in JamX 22 will represent a cross-section of key agencies. S&T partners will contribute by sharing their past JamX and real-world expertise by participating in training development, serving as JamX evaluators and identifying ways to improve the training.