Detects Interference and Spoofing within the GPS signal and GPS spectrum
Over 75 Jamming and spoofing detection algorithms
Seamlessly integrated with SecureSync
• Works with our standard commercial GPS/GNSS receiver
• Automatic enabling/disabling of GPS during interference events
• Status information through the UI
• Integrated notifications and alarms

Protecting GPS/GNSS critical infrastructure against emerging threats
WHAT IS BROADSHIELD?

75+ jamming and spoofing detection algorithms

Software running on the SecureSync precise time and frequency ref.

Algorithms work – they have been field proven dating back to 2008

Learn more at talen-x.com/products/broadshield
GPS JAMMING AND SPOOFING ATTACKS ARE ON THE RISE

Hardware costs: <$1,000
- Software defined radios (SDRs)
- Cigarette jammers

Open Source Software
Tutorials on YouTube

More critical now more than ever to protect your PNT
Extent of GPS Dependencies

- GPS Supporting Power Grid Systems
  - Energy Plants
  - Substations
- GPS Supporting Banking Operations
  - ATM Networks
  - Stock Exchanges
  - Internet Banking
- GPS Supporting Transportation Systems
  - Rail Yards
  - Switching Towers & Signals
  - Air Traffic Control
  - C2 Centers
  - Ship Routing
- GPS Supporting Communications Systems
  - Access GIS/Map
  - Comms Networks
  - GPS Time & Position
  - Relay Position To 911 Dispatch

SecureSync BroadShield Capabilities
BROADSHIELD PROTECTS YOU

It's Like….

**Body Armor**

…. For Your SecureSync

You wouldn't go into battle without it.
Detects **Jamming**

- Continuous Wave (CW)
- Swept CW
- Pulsed CW
- AWGN
- BPSK
- And more

Calibration **not** required

- Dynamic range based on the receiver RF front end (AGC, LNA, etc.)

Detects **Spoofing**

- GNSS simulators
- Anomalies in the GPS data
- Jumps in position and time
- And everything in between

Alerts when jamming and/or spoofing is detected

- SecureSync automatically implements user-defined counter measures
- Allowing for continuous and reliable operation in adverse environments
January 25, 2016: GPS Control Segment uploaded incorrect data to SVs (A0=13.7us, ToT=0, WN=0)

BroadShield inference and detection algorithms detected the anomaly **within 2 seconds**

Anomalies detected continuously for 12+ hours on 12 different SVs

GPS Control Segment confirmed anomaly several hours later
BROADSHIELD WEBUI – BUILT INTO SECURESYNC WEBUI

Dashboard
Penalty Scores
1-hour
3-hour
6-hour
1-day
7-day

View Jamming/Spoofing over time

Real-time 8MHz Spectrum

Download Logs
Pro Feature

Export & Reset
CLEAR LOGS
NEW LOG SESSION
DOWNLOAD LOGS

Receiver Status

SecureSync BroadShield Capabilities 10/6/2017
Current spoofing/jamming line is below the critical threshold

Current jamming line is above the critical threshold
**BROADSHIELD VS BROADSHIELD PRO**

**BroadShield**
- Jamming detection
- Spoofing detection
- 75+ algorithms
- Integrated WebUI
  - Spectrum
  - Detection graph over time
- SecureSync automatically implements user-defined counter measures action during Jamming or Spoofing

For deployed systems, no user action required.

**BroadShield Pro**
- Jamming detection
- Spoofing detection
- 75+ algorithms
- Integrated WebUI
  - Spectrum
  - Detection graph over time
- SecureSync automatically implements user-defined counter measures action during Jamming or Spoofing
- Exportable recorded log files (.csv) and a binary receiver binary file (.bin)

For advanced research and users that require logs for post action analysis.
• Vulnerability research is on the rise.
• Field tests have identified the need for BroadShield

SecureSync + BroadShield will outperform all competing solutions.
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