

# Tactical Hub Simulator

## Case Study

After nearly two decades of conflict, and growing threats by major powers and adversaries, the need for military readiness is critical. A major component to readiness is communications and in the case of the military that means satellite communications.

With SATCOM being the backbone to a military communications architecture the need to train, test and validate systems is critical to the success of any mission. When it comes to testing and training in the world of MILSATCOM one of the most expensive components from both a monetary and time standpoint is Satellite bandwidth.

The logistics, costs, and limited availability of testing and training assets reduce the amount and quality of training and testing that units can perform. This can become a major issue where skillsets are perishable if not exercised with regularity. To address this challenge, the iDirectGov Tactical Hub and the Tampa Microwave Quad Band Satellite Simulator (QBSS) have been combined into a turnkey training and testing solution that provides the end users the ability to perform end-to-end system validation, RF equipment testing, and training of hub and remote terminals over a simulated satellite link with distance up to 300 feet away.

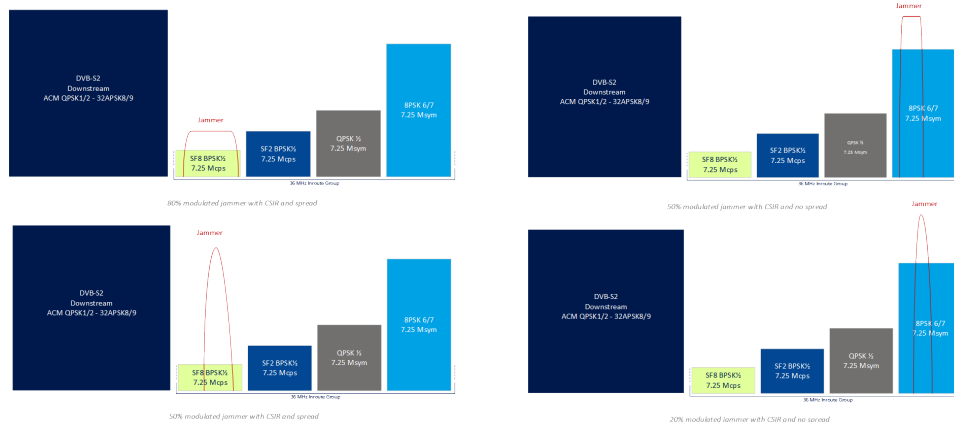
### Use Case:

**Validate and test the effectiveness of CSIR anti-jam technology in a SATCOM environment.**

**The Problem:** Satellite bandwidth is an expensive sought after resource. Units need bandwidth for training personnel and testing new equipment, technologies, and waveforms without incurring high costs or impacting real-world operations.

**The Solution:** By bundling the iDirect Government Tactical Hub with Tampa Microwave's Quad Band Satellite Simulator (QBSS) the customer is provided with a cost-effective turnkey training and testing solution that is not subject to external organizations dictating of training lead times, resource contention, and the limits on the types of training normally not allowed on live satellite networks (jamming).

In this scenario an iDirectGov 9350 was used to initiate a jamming signal that was uplinked via the hub RFT. The jamming signal was placed throughout the inroute group with varying frequency, modulation, amplitude and symbol rate to demonstrate both DSSS and CSIR's effectiveness with a variety of spread factors and MODCODS.



In this scenario an iDirectGov 9350 was used to initiate a jamming signal that was uplinked via the hub RFT. The jamming signal was placed throughout the inroute group with varying frequency, modulation, amplitude and symbol rate to demonstrate both DSSS and CSIR's effectiveness with a variety of spread factors and MODCODS.

### Outcome/Conclusion:

By bundling the iDirect Government Tactical Hub with Tampa Microwave's Quad Band Satellite Simulator (QBSS) the customer quickly, effectively and conduct training/testing on multiple interference scenarios without being subjected to external organizations dictating of training lead times, resource contention, and the limits on the types of training normally not allowed on live satellite networks (jamming). No one wants to intentionally jam a signal on a live network and potentially expose the user. This test and conclusion were executed without utilizing a live network taking away from real-world usage or incurring bandwidth costs.