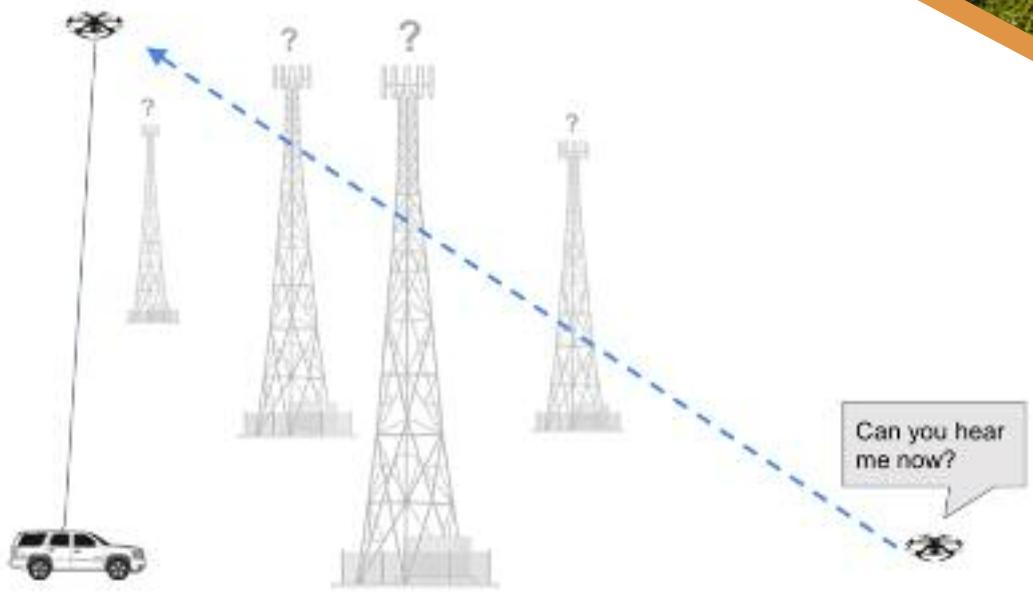
EQUINOX
INNOVATIVE SYSTEMS

VERIFIER

LTE UPLINK MEASUREMENT TOOL FOR TOWER CONSTRUCTION SITE SELECTION



PRODUCT OVERVIEW

Designed to mitigate modelling errors and overbuild costs, the Verifier uses a tethered drone to elevate cellular receivers as a notional "tower" at 150m above a candidate tower construction site to test LTE uplink signal quality. The companion engineering handset acts as a "subscriber" emitting a test signal along with its location/elevation to the "tower" drone, so that true coverage can be verified before final tower construction location selection.

CAPABILITIES

Both the "tower and the "handset" leverage an auto-tracking gimbal, a directional antenna, an optional camera verifying antenna alignment, and a Software Defined Radio configured its test scenario role. System output characterized LTE uplink signal quality by analyzing SINAD, RSSI, RSRP, and RSRQ of the test signal from the "handset" location/elevation as received by the "tower" drone at its location/elevation.

ADDITIONAL FEATURES

The Verifier companion "handset" can be flown on a companion drone, carried, or mounted on a vehicle. The Verifier "tower" and optional companion "handset" drones measure 31 in x 38 in x 21.7 in, weighs 10.3 pounds, are able to carry an additional 33 pounds of max payload, and can fly 150m tethered for more than 8 hours or for 30 minutes in free flight. Compact and efficient, the "tower" drone can easily be operated with a 12A 240 VAC generator in the field.

EQUINOX INNOVATIVE SYSTEMS
www.equinoxinnovativesystems.com

SPECIFICATIONS FOR VERIFIER

DRONE

Ready to Fly *for Equinox Innovative Systems*

Dimensions	31 in x 38 in x 21.7 in
Weight	10.3 lbs

Flight control and networking:

DJI Option:	DJI A3 Flight controller
	DJI Light Bridge 2
	RTK-G for precision timing and location
Pixhawk-2 Option:	Pixhawk 2 flight controller
	Non-DJI FPV video link
	Optional combined drone and payload control and/or sensor data storage and video link display on a laptop (free flight and tethered)
	RTK GNSS or Precision GPS

Optional 2nd payload controller

Configured for both free flight (30 minutes) and tethered flight (8+ hours)

Optional configuration for operation above a moving vehicle

GROUND UNIT

Line or Generator Supply

12A @ 240 VAC

Tether with power supply and auto-tensioned reel with tether up to 150m

Optional HD video display

Optional data-over-power (Ethernet) sensor data storage on a laptop

DRONE PAYLOAD

Auto-tracking gimbal/servo

Yagi antenna ~12 dBi

Optional camera verifying antenna alignment

Software Defined Radio (SDR)

Configured as engineering handset (tx) sending

- LTE test signal
- Location
- Elevation

Configured as base station (rx) measuring LTE signal quality parameters:

- SINAD, RSSI, RSRP, RSRQ
- Location
- Elevation

Data storage or transmission module

Optional software to provide heat map illustrating signal quality across desired coverage area

Optional data storage on a laptop via tether

"Equinox offers the first fully functional drone-based inspection platforms, mobile communications towers and test systems with variable elevation control, ultra-high bandwidth, operation on the move & unlimited flight time."

EQUINOX
INNOVATIVE SYSTEMS

COMPANY OVERVIEW

Headquartered in the Washington D.C. area, Equinox Innovative Systems is a products and services company focused on drone-based communications and inspection systems with an emphasis on RF engineering. Equinox is changing the face of Defense and Public Safety C4ISR and Broadband Communications. Our drones replace towers when they fail, or are not there when needed. We provide more power to sensors and bandwidth to communications than ever before through the optimization of ultra-efficient aerial platforms and our patent-pending technology in an ultra-high bandwidth tether system.

www.equinoxinnovativesystems.com
443.822.0952 • COLUMBIA, MARYLAND