



SHIELD MegaFi and HPUE Technology

Stephen Kowal – Chief Commercial Officer



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Chief Commercial Officer, Nextivity



ELEVATE PARTNER SUMMIT – 2023

Assured Wireless Acquisition



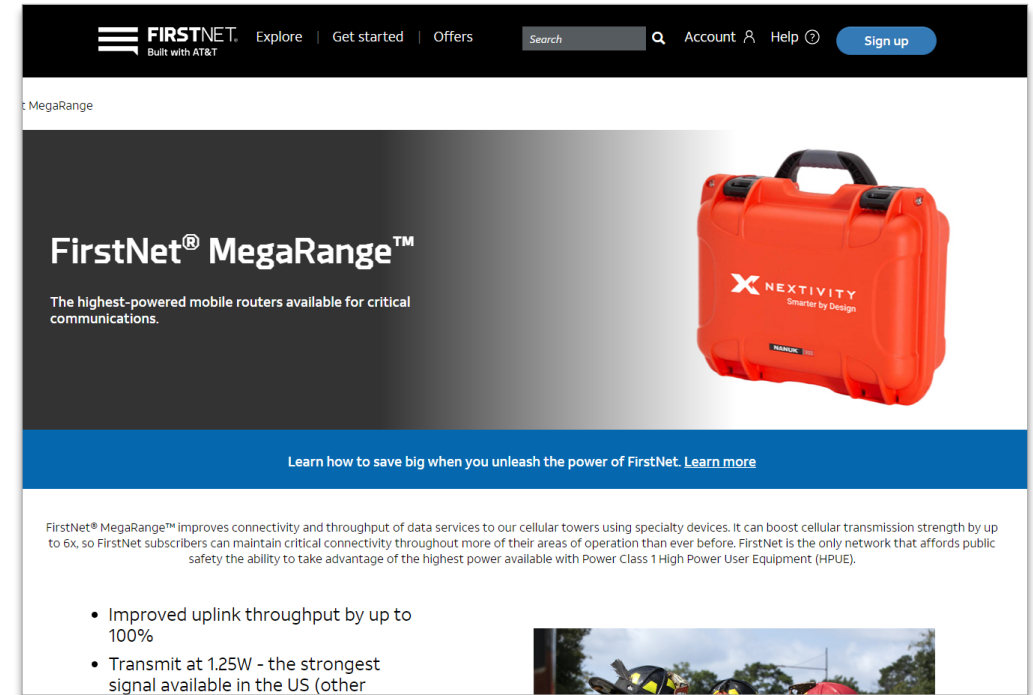
HPUE TECHNOLOGY ACQUISITION: Assured Wireless

- Mid-January acquisition
- First products already in-market and in use on FirstNet
 - MegaFixed
 - MegaMobile
 - MegaGo
- Prepping for new offering with integrated router, streamlined installation is user experience
- Good fit with Nextivity “coverage” focus and heritage of releasing products with significant technology-based performance advantages in marketplace
- Company synergies rooted in shared personnel through the years



AT&T, FirstNet® MegaRange™, SHIELD and such...

- FirstNet® MegaRange™ = AT&T brand of HPUE solutions for first responders
- SHIELD = Nextivity family of products for critical communications. Includes HPUE and ERCES Public Safety offerings
- So... Some Nextivity SHIELD products are HPUE products that are marketed exclusively by AT&T for Band 14 (FirstNet) using FirstNet® MegaRange™ branding
- Both the existing and newly released HPUE products from Nextivity have earned the FirstNet Trusted badge.



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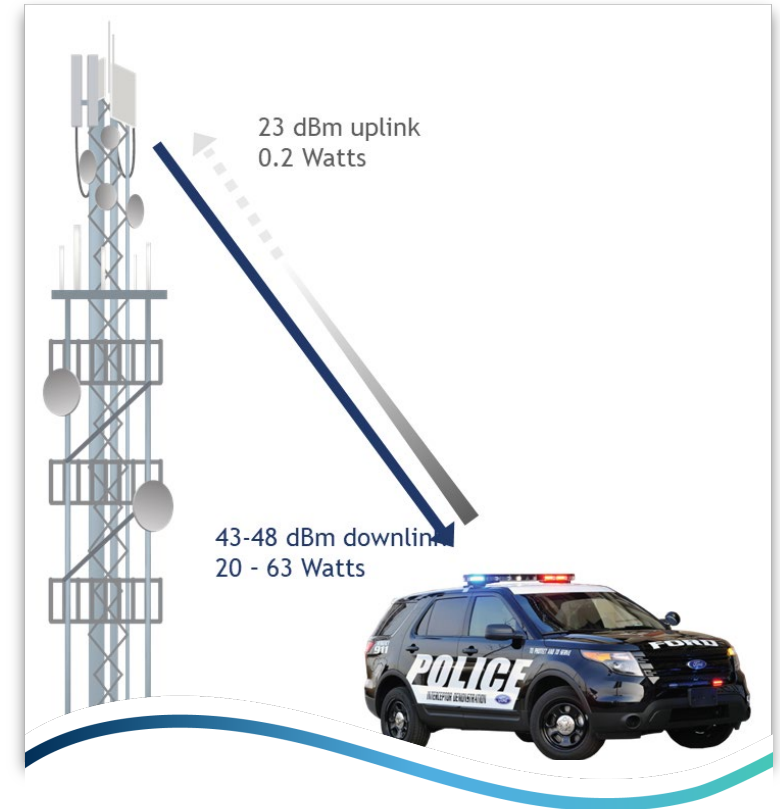
HPUE Technology



HPUE TECHNOLOGY

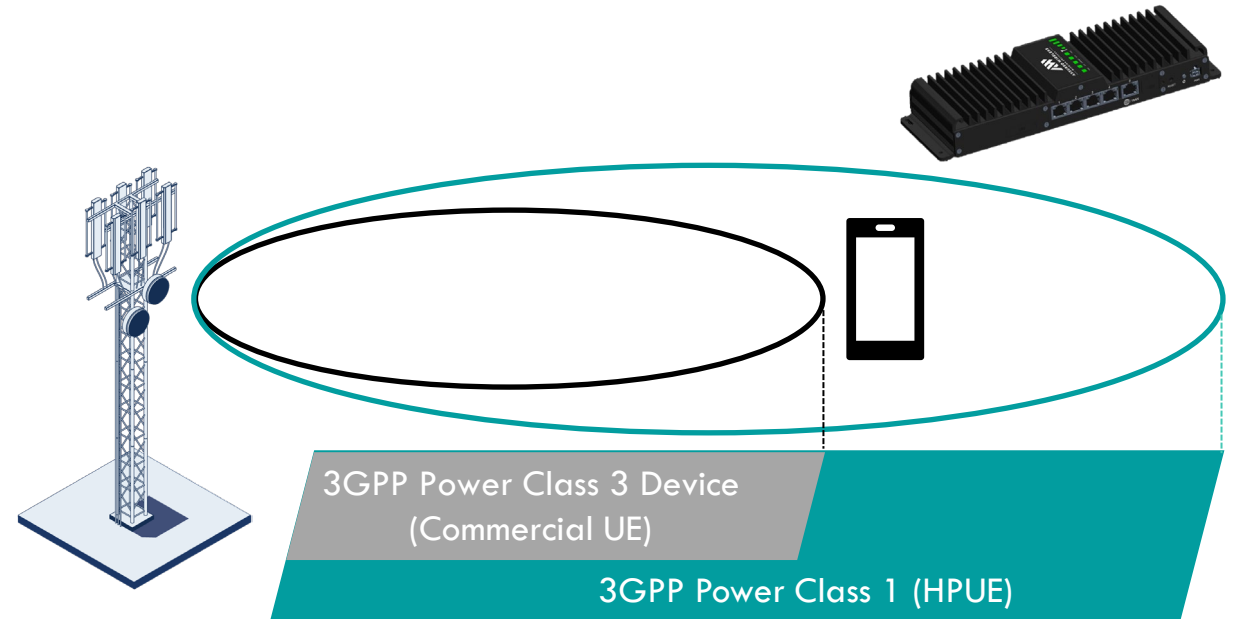
- HPUE = High Power User Equipment
High Power User Equipment (HPUE) is a special class of user equipment (devices) for the LTE cellular network that increase device transmission power by six times (6x).
- The range for cellular LTE/FirstNet coverage is typically limited uplink power. By design, downlink power from the cell site is much greater than the uplink power from the user
- FirstNet® MegaRange™ technology remedies this imbalance - delivering 6x the power of legacy equipment.

Right now, in U.S., this only operates on Band 14 and Nextivity offers the only legal HPUE device.



HPUE TECHNOLOGY

- High Power User Equipment (HPUE) helps balance the downlink and uplink ranges
- HPUE is defined by the international standards body 3GPP as Power Class 1
- Power Class 1 devices are the most powerful devices allowed under 3GPP standards



High Power User Equipment	Power Class 1	1.25 Watts AT&T FirstNet
Standard LTE User Equipment	Power Class 3	0.2 Watts Verizon, T-Mobile AT&T (except FirstNet)

HPUE TECHNOLOGY in Action

On the Edge

- Stronger and more reliable connections with faster uplink as First Responders pass the normal “cell edge”

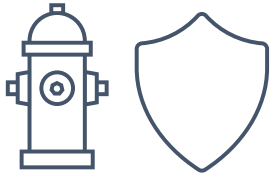


In the City

- Better connectivity in buildings, building shadows, and underground locations



HPUE Target Buyers



Public Safety Pros

- Sheriff
- State Police
- Firefighters (Wildfires)
- State EMS
- Offshore Patrol



Call Centers

- PSAPs (9-1-1)



Critical Infrastructure

- Water
- Electric
- Oil & Gas



Disaster Response

- Telemedicine
- Insurance
- NGOs
- Gov't Agencies



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Introducing SHIELD MegaFi



SHIELD MegaFi with FirstNet® MegaRange™

“The highest-powered mobile routers available for critical communications”

Launched as exclusive to FirstNet users:

- 6x the power of standard consumer devices
- Stay connected in most challenging environments
- 5-port Ethernet router
- GPS and location-based services
- Wi-Fi hotspot
- Intuitive graphical user interface

Features:

- Solution is packaged as all-in-one solution
- Mobile, Fixed, and Portable options
- Integrated Wi-Fi Router
- Bundled with Antenna(s)



Nextivity SHIELD MegaFi



Fulfilled by: GetWireless



SHIELD AW12 with FirstNet® MegaRange™

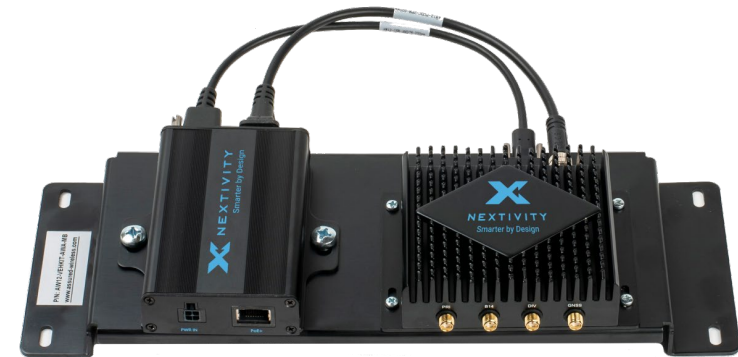
- First HPUE Modem on the market – also available in Fixed and Mobile versions

Launched October 2020:

- First generation HPUE device
- Continued availability
- Same connectivity performance as SHIELD MegaFi, but different features and accessories

Customer and Partner Feedback Drove 2nd Gen:

- Package as all-in-one solution vs. selecting antennas etc.
- Integrate the Wi-Fi router for easier installation
- Improve GPS capabilities
- Cloud management



Nextivity SHIELD AW12



SHIELD MegaGo

Rapid Deployment Portable Case

- **SHIELD MegaGo**
 - One-Touch operation
 - HPUE enabled
 - Integrated, custom antenna in case lid
 - Rechargeable 12-hour battery
 - Wi-Fi hot spot

Size: 18.75" x 14.75" x 7"



Nextivity SHIELD MegaGo



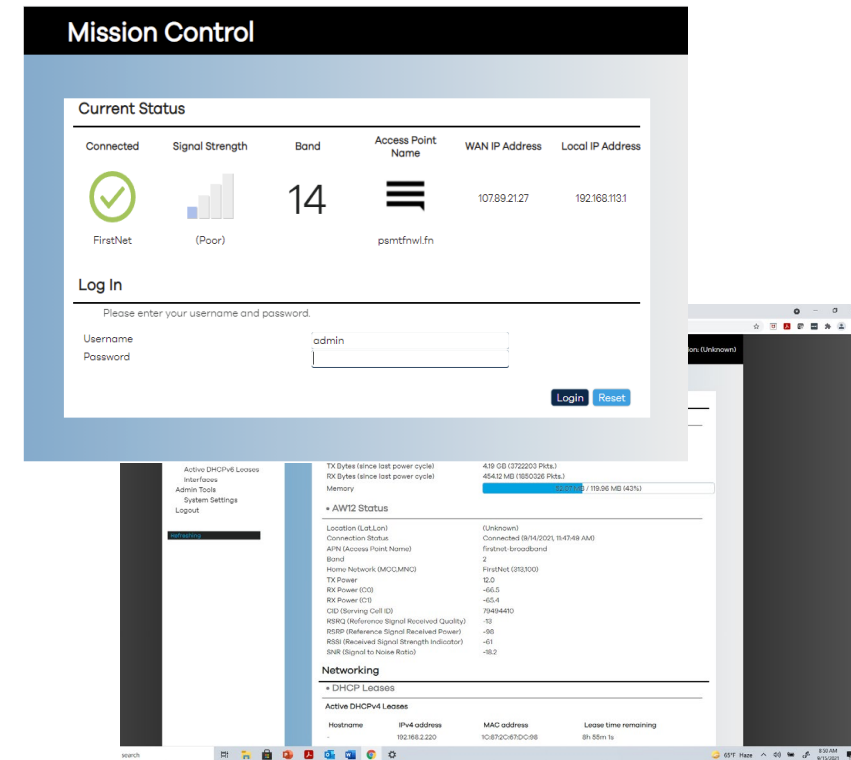
SHIELD MegaRange Software

Mission Control Software (on device)

- GUI for device management and situational awareness
- Easy-to use, menu driven system
- All Key Modem Parameters:
 - Band Information
 - TX Power
 - RX Parameters
- Easily update Custom APN, advanced firewall rules, MTU size, and other modem and router parameters

Cloud-Based Device Management: MegaPortal

- mega.nextivityinc.com
- Free software that enables users to remotely manage and track all their devices.



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Test Drives, Test Cases, and Test-imonials



In Their Own Words...

“Our warrant officer was called to help the Sheriff’s department in an arrest of a subject. The call was a domestic violence call and in route it was determined that the victim was being held hostage at gunpoint by the suspect. The area where the house was had low cell signal - however, **we had our HPUE vehicle with the wireless router.** I had made up QR Codes for quick access to the Wi-Fi username and password and **within seconds, the responding officers had connected to the HPUE Wi-Fi system and were able to have network connection during the situation. The officers found it very helpful/useful.** I’m sure this isn’t the first time where this has come in useful for your other clients; however, it was pretty slick and **glad we had it here.** ”

*Jeremy Burns
Jackson, MI*



In Their Own Words...

“We provide services in areas with challenging terrain. With [Assured Wireless HPUE through] FirstNet MegaRange, our paramedics were incredibly impressed with the improved coverage helping them to deliver critical patient care. With our previous carrier, we had 60% coverage, now with [HPUE through] FirstNet MegaRange, we have 99.8% coverage. We plan to equip all our vehicles with FirstNet MegaRange.”

- Brad Marzolf, Director of Information Services, Compliance Officer, Bangs Ambulance

“With [Assured Wireless HPUE through] FirstNet MegaRange, we noticed a substantial coverage improvement in some remote areas, and we sustained high data speeds even as we moved further away from wireless towers. This will be especially advantageous for public safety and first responders who have high uplink needs, such as drone teams sending video back to operations centers.”

- Jared Vandenneuvel, Program Coordinator with the Texas Department of Public Safety

“Officers were impressed with [Assured Wireless HPUE through] FirstNet MegaRange, and we now have 100% broadband coverage in Sherburne County. Our officers want to use the vehicles that we have equipped with this new equipment, so we are planning to outfit all of our vehicles [with HPUE].”

- Matt Albrecht, Director – Information Services, Sherburne County Sheriff’s Office



Coverage Test: U.S. Coast Guard

- Based in Marina Del Rey, CA
- Patrol Area covers 500km from Morro Bay to Dana Point, CA +several offshore islands
- Needs cellular coverage for broadband communications in marine operations and during search and rescue missions



Challenge

Route: Channel Islands, ~20 miles covering Conception dive accident

Goal: 5 Mbps at 20 miles for video uploads

HPUE Results

- Highest UL at 25 miles: 15 Mbps
- Furthest distance: **28 miles** (14.7 Mbps)
- Avg Downlink and Uplink Speeds: **16 Mbps (both)**

Coverage Test: U.S. Coast Guard



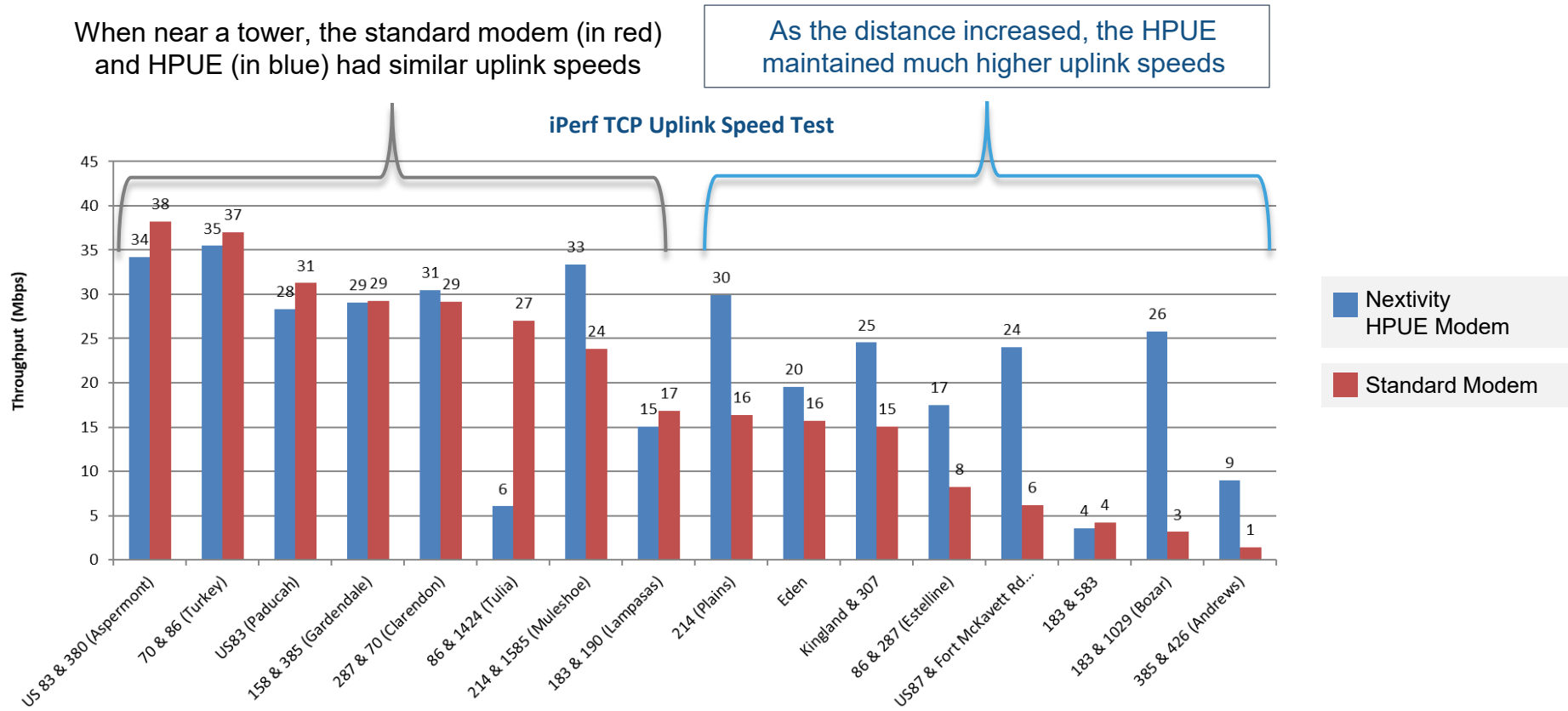
Uplink (UL) and Downlink (DL) Speeds For Bands Tested on Channel Islands on California Coast		
Band	DL (Avg)	UL (Avg)
B14 with HPUE	16.774	16.240
B2	17.469	2.05
B12	4.141	3.694



Independent Road Test: 233-mile Route in Texas

Del Rio to Fort Stockton Route Across West TX Using a Live Network

HPUE modem maintained much stronger connectivity at greater distances from a cell tower.



New York City Field Test

*20% of New York City is NOT covered for mobile video
HPUE technology decreased the uncovered area to 2%*

- **20% of New York City is not covered for mobile video because standard wireless connectivity is too weak to reach areas such as:**
 - ❌ Elevators
 - ❌ Parking Garages
 - ❌ Stairwells
 - ❌ Subway Tunnels
- On October 17, 2019, Assured Wireless conducted a comparative RF (radio frequency) test.

*With HPUE technology,
New York City coverage skyrocketed to 98%*



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For Nextivity Partners



Opportunities for Our Partners

Become a Nextivity HPUE Partner!

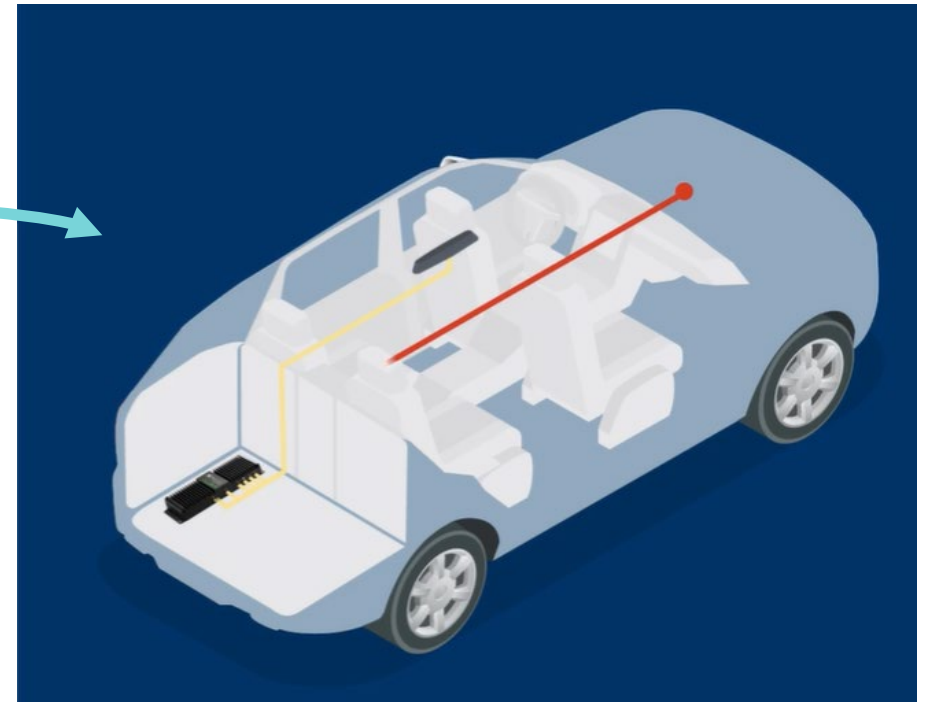
Nextivity is rapidly expanding our HPUE Partner Network

- Sell
- Install (become a Certified Installer!)
- Manage

Contact:

Miles Mattingly, Business Development Director, AT&T FirstNet
424-324-1478, mmattingly@nextivityinc.com

Miles is based in Atlanta, GA



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What's Next for HPUE



MegaGo + miniCRD

- MegaGo doubles the distance a miniCRD can transmit from (or doubles how far away you be and still connect with a cell site)
- All miniCRDs have high power capabilities – when you pair them with a MegaGo you can turn, for example, a half-mile transmission radius into a one-mile transmission radius



Nextivity IntelliRange™

Nextivity launched the first commercially available and broadly used 3GPP Power Class 1 device.

In line with our “Smarter by Design” principles, Nextivity will continue to utilize our expertise to deploy HPUE technology wherever it’s needed for critical communications – both in the U.S. and across the globe.

IntelliRange™ Means

- We deliver coverage over a wider range with our smart solutions
- Our solutions are legal, network-safe, and we work with operators to assure efficacy
- We have unique technology, patents, experience, and trade secrets that make it difficult to match our price-to-performance ratio

IntelliRange™ Support

- Protected architecture
- Demonstrated ability to implement a device that allows maximum power despite challenges such as:
 - heat
 - RF performance (high power w/o signal distortion)
 - RF emissions: keeping within standard while reaching power levels and enabling carrier aggregation while HPUE is running





THANK YOU

Stephen Kowal
Chief Commercial Officer

