HFCL ngFWA Series Next Generation Fixed Wireless Access User Guide

Next Generation Fixed Wireless Access
2Gbps Enterprise/Carrier Grade Fixed Wireless Point-to-Point & Point-to-MultiPoint Series.
Bridging the Digital Divide with Unparalleled Connectivity!

Contents

ngFWA Series Next Generation Fixed Wireless Access

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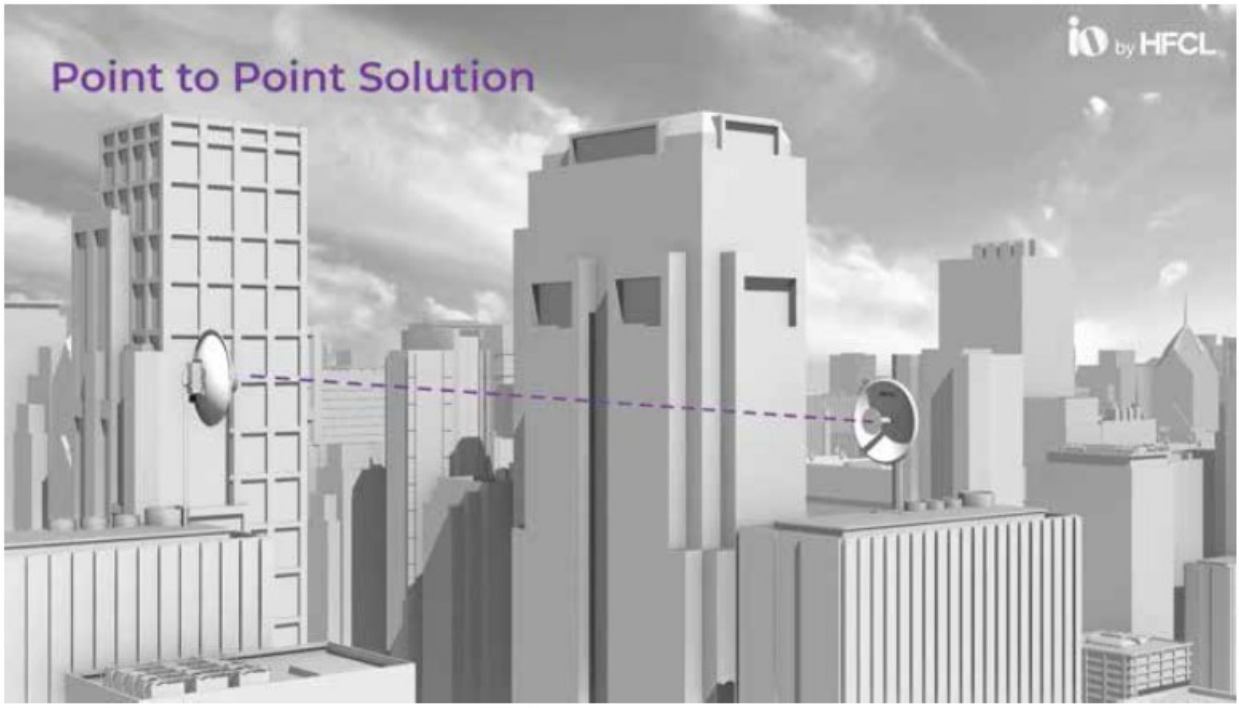
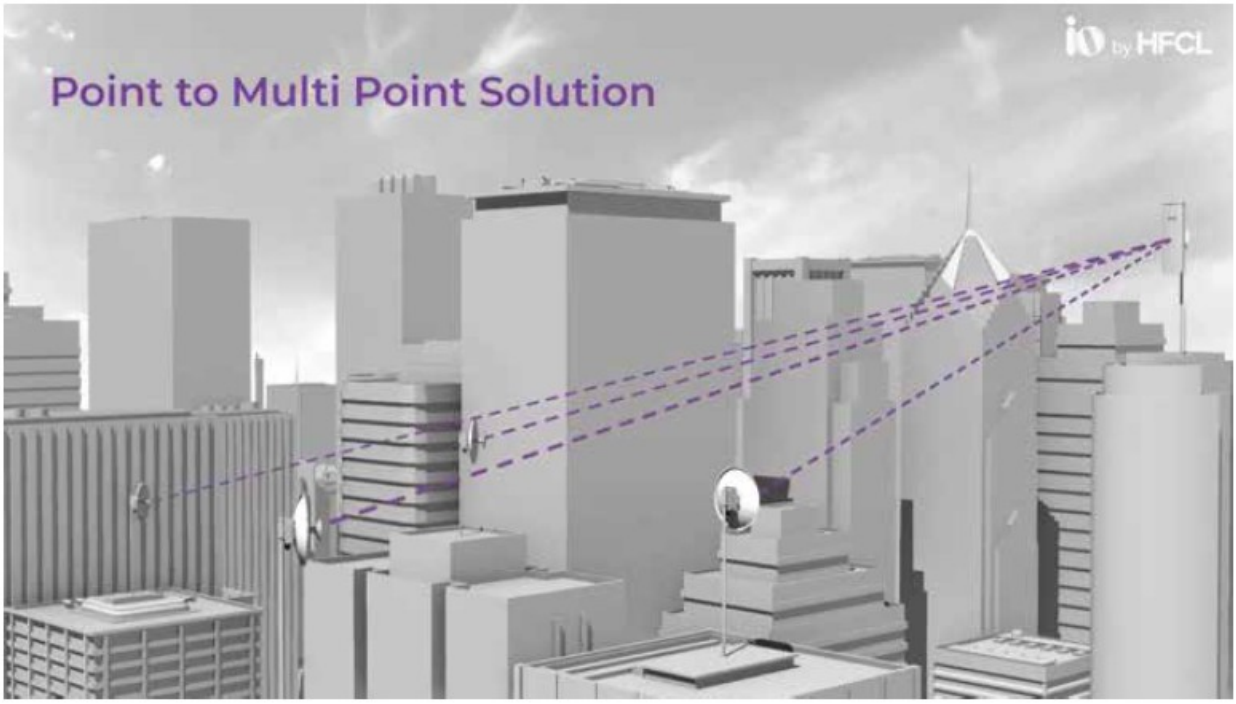
Executive Summary

In today's digital era, access to reliable and high-speed internet connectivity is essential for individuals, businesses, and communities. Yet, the digital divide persists, leaving millions
without high-speed broadband access.
io by HFCL addresses this pressing need with its Next-Generation 2 Gbps Enterprise/Carrier Grade Fixed Wireless Point-to-Point (P2P) and Point-to-Multipoint (P2MP) Series. This
revolutionary ngngFWA (Next Generation Fixed Wireless Access) technology offers fiber-like speeds with minimal latency, perfect for areas where fiber connectivity is not feasible. This technology distinguishes itself with efficient utilization of unlicensed spectrum, which lowers the total cost of ownership, making it a viable option for Internet Service Providers (ISPs), Telecom Service Providers (TSPs), and enterprises. Additionally, the deployment of backhaul towers enables seamless connectivity even in regions where fiber does not reach or where microwave spots are unavailable.
Moreover, organizations facing congestion on their existing links can benefit from this solution, as it allows them to split their connections or create backup links, ensuring uninterrupted and reliable connectivity.
A standout feature is last-mile connectivity support, crucial for private networks, intranet setup, and LAN extension. Simulating Ethernet wirelessly, this ngFWA Series establishes a strong, secure connection from central hub to peripheral regions. By complementing existing fiber networks and reaching areas where fiber deployment is challenging, io by HFCL strives to deliver seamless connectivity to all, thus blurring the boundaries of digital divide.





Technical Innovation

The ngFWA Series by io by HFCL exemplifies cutting-edge wireless networking. Boasting adaptive RF technology, an extended frequency range, and enhanced security, it ensures seamless performance and adaptability. io by HFCL's series embodies a reliable and high-performance wireless solution, reflecting their commitment to innovation in the industry.

Unparalleled Performance with Ease of Installation & Zero Touch Provisioning Feature
The ngFWA Series offers customers a transformative experience with its effortless installation and zero-touch provisioning. LED blink patterns and buzzer sounds enable precise alignment of the product's position, reducing the need for field experts and minimizing deployment costs. Its durable hardware ensures consistent performance, even in the harshest conditions and terrains.

Redefining Connectivity with Wider Spectrum Coverage
Operating seamlessly within the extended frequency range of 4.9 to 6.4 GHz, the product ensures unparalleled connectivity. This extended frequency range empowers the ngFWA Series to operate seamlessly across diverse

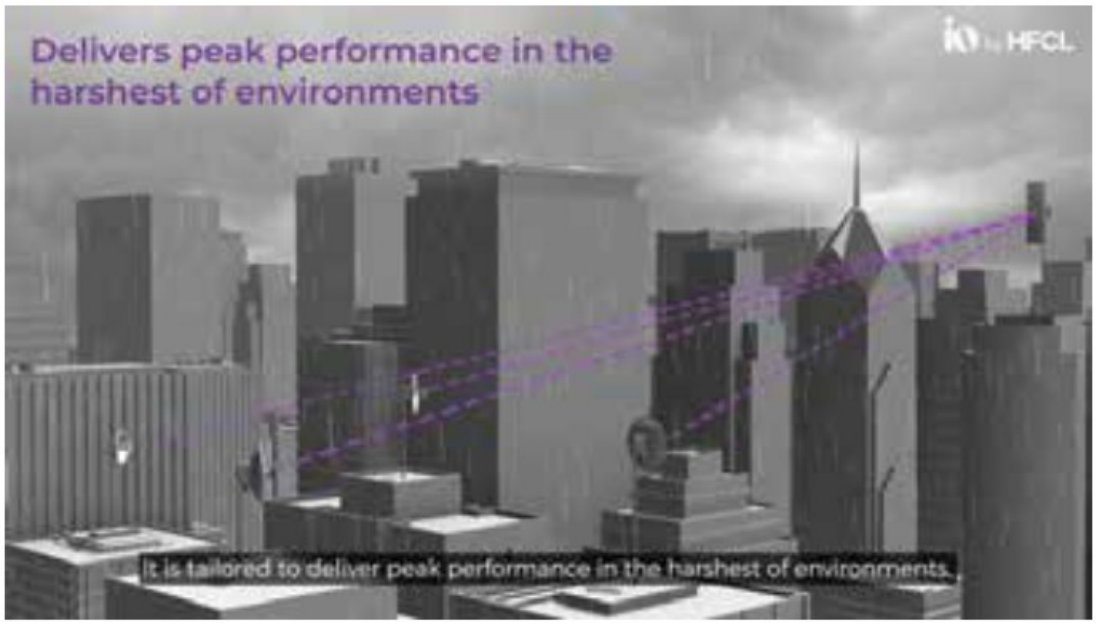
networking scenarios and regulatory contexts. It optimizes spectrum utilization, alleviates congestion in densely populated areas, minimizes interference, and boosts overall network performance.

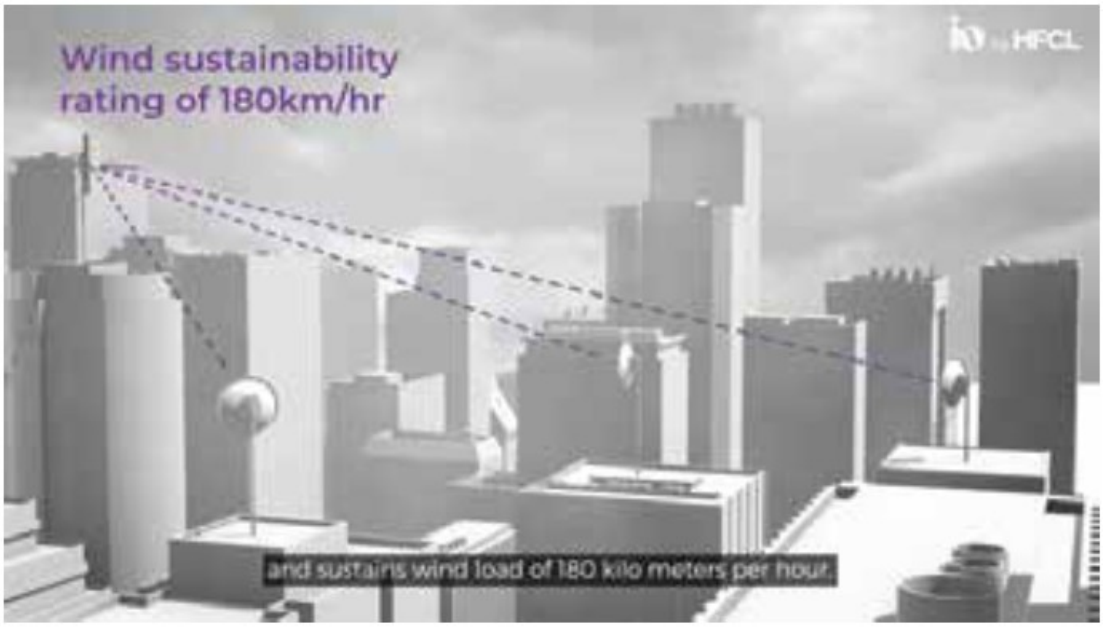
Adaptive RF Technology: Elevating Wireless Connectivity with Intelligent Precision

io by HFCL's ngFWA Series employs adaptive RF technology, using AI algorithms to automatically optimize frequency and modulation. This enhances the signal quality and network efficiency. Features like Automatic Channel Selection, Dynamic Data Rate Selection, Automatic Transmit Power Control, and Dynamic Channel Selection make real-time adjustments to ensure a reliable connection, consistent data flow, and maintain peak performance.

Durability and Protection for Extreme Environments

Certified with IP67, this futuristic technology is built for tough environments, enduring wind loads up to 180 kmph and temperatures from -40°C to 55°C. Its rugged PoE design with 6KV Surge Protection on Telecom and Power ports offers robust protection against electrical surges.





Advanced Technology Support:

Redefining Network Management

io by HFCL's ngFWA Series goes beyond ordinary connectivity solutions, offering advanced technology support that elevates network management to new heights. The Dying Gasp functionality provides vital status before the shutdown, minimizing downtime. GPS Integration streamlines network planning optimizing coverage. The Temperature Sensor ensures device health, safeguarding against potential damage and ensuring peak performance.

Advanced Security Features

Security is paramount, and io by HFCL's ngFWA Series ensures robust protection. AES-256 encryption provides an impenetrable shield against potential threats. Wireless MAC Access Level Control and SSID/MAC lock add extra layers of security, allowing only authorized devices to connect.

User Experience at its Best

- Swift and hassle-free deployment with easy installation and zero-touch provisioning.
- Optimized signal quality and efficient data transfer through adaptive RF technology and advanced features.
- Robust security with AES-256 encryption and Wireless MAC Access Level Control for a secure and protected

network environment.

Empowering Business Growth With Rich Enterprise Features

io by HFCL's ngFWA Series offers more than just high-speed connectivity; it's a comprehensive solution packed with rich enterprise features that propel businesses forward. From advanced network management to seamless data handling, this product streamlines operations boosts efficiency, and fosters growth. The product supports both IPv4 and IPv6, ensuring compatibility with current and future networking standards and keeping businesses ready for evolving tech needs. Its ability to manage jumbo frames up to 9600 MTU optimizes data transmission, enhancing network performance and reducing latency.
The product's 4-Level Priority QoS efficiently manages traffic, letting businesses prioritize crucial applications like Voice and Video. The Redundant Link Switching feature offers 1+1 and 2+0 deployments, ensuring continuous connectivity even during link failures, thus enhancing business continuity and customer satisfaction. The Flexi Channel Bonding allows businesses to combine different bandwidths (20/40/80) for customized connectivity, ensuring optimal network performance. Additionally, the NTP Client Application maintains precise time synchronization across the network, crucial for time-sensitive tasks and improved organizational coordination.

Scale of Market Impact

Between 2023 and 2032, the P2P and P2MP Fixed Wireless market is poised for expansion, propelled by rising demand for reliable high-capacity wireless connectivity and efforts to bridge the digital divide. Forecasted to reach USD 119,123.3 million by 2032, with a CAGR of 27.1% since 2022. The market's expansion is further propelled by rising opportunities in the industrial IoT, smart cities, and public safety sectors

Conclusion
io by HFCL's 2 Gbps ngFWA Series marks a significant stride in bridging the digital divide, revolutionizing connectivity in challenging environments, and empowering businesses with unparalleled networking solutions.
The ngFWA Series redefines connectivity across challenging terrains, offering high-speed and minimal latency. Serving as an economical substitute to traditional alternatives, it spearheads the charge against the digital divide. This advanced technology not only complements existing fiber networks but also ensures adaptability to forthcoming technological advancements. Guided by io by HFCL's expertise, the global community is stepping into a more connected era.

About HFCL
HFCL is a leading technology company specializing in creating digital networks for telcos, enterprises and governments. Over the years, HFCL has emerged as a trusted partner offering sustainable high-tech solutions with a commitment to providing the latest technology products to its customers. Our strong R&D expertise coupled with our global system integration services and decades of experience in fiber optics enables us to deliver innovative digital network solutions required for the most advanced networks.
The Company's in-house R&D Centers located at Gurgaon & Bengaluru along with invested R&D Houses and other R&D collaborators at different locations in India and abroad, innovate a futuristic range of technology products and solutions. HFCL has developed capabilities to provide premium quality Optical Fiber and Optical Fiber Cables, state-of-the-art telecom products including 5G Radio Access Network (RAN) products, 5G Transport Products, WiFi Systems (WiFi 6, WiFi 7), Unlicensed Band Radios, Switches, Routers and Software Defined Radios.
The Company has state-of-the-art Optical Fiber and Optical Fiber Cable manufacturing plants at Hyderabad, Optical Fiber Cable manufacturing plant in Goa and in its subsidiary HTL Limited at Chennai.
We are a partner of choice for our customers across India, Europe, Asia Pacific, the Middle East, Africa and the USA. Our commitment to quality and environmental sustainability inspires us to innovate solutions for ever-evolving customer needs.

visit our website: io.hfcl.com | hfcl.com

Documents / Resources

	HFCL ngFWA Series Next Generation Fixed Wireless Access [pdf] User Guide ngFWA Series Next Generation Fixed Wireless Access, ngFWA Series, Next Generation Fixed Wireless Access, Fixed Wireless Access, Wireless Access

References

- HFCL | Leading Digital Network Solutions | Manufacturers of Optical Fiber Cables
- IO by HFCL: Transforming Telecom and Technology Solutions
- User Manual