



novocomms



# Custom Antenna Design

Next-Generation Connectivity through engineered  
innovation

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# Delivering Engineering Precision for Next-Gen Connectivity

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Novocomms is a UK-based antenna design firm dedicated to transforming global connectivity. We are more than antenna designers. We are engineering partners for forward-thinking companies building tomorrow's connectivity solutions today. With over 15 years of product innovation, we deliver end-to-end engineering services from concept to deployment across wireless, RF, and antenna system design.

## Our Core Design Expertise



### mmWave Antenna Array Technology

High-efficiency, low-profile antennas with multi-beam and multi-polarization capabilities. Ideal for dense environments and adaptive networks.



### 5G mmWave FWA & Infrastructure Solutions

Fibre-like data rates and low latency in both dense urban corridors and remote settings, supporting both sub-6 GHz and mmWave deployments, all at reduced costs.



### Dynamic Beam Steering & Reconfiguration


Advanced beam control systems with real-time beam scanning, directional gain enhancement, and intelligent switching to optimize performance.



### System-Level Design & Embedded Integration


Embedded firmware development and RF system integration to ensure full-stack readiness and market-leading performance.

# Key Innovations




**MULTI-BEAM  
MULTI-  
POLARIZATION**

Our designs offer simultaneous beams and flexible polarisation states, maximising network capacity and resilience in high-demand conditions.



**LOW POWER  
CONSUMPTION  
UP TO 90% SAVING**

Through intelligent RF front-end integration and in-house patented antenna solution, our systems consume far less power than conventional phased arrays



**COST-EFFECTIVE  
DESIGN**

Our cost-effective approach drive significant savings (up to 50%) in bill-of-materials (BoM) and overall deployment costs.


# Our Engineering Process

**Concept & Prototyping**

Our team builds proof-of-concept systems and iterates rapidly for functional validation.

**Manufacturing Readiness**

With our manufacturing capabilities and trusted partners like Pegatron, we ensure supply chain stability, cost control, and product consistency



**Research & Requirement Analysis**

We assess the complete system context to align our designs with your technical and business goals.

**Custom Design & Testing**

We design, simulate, and validate antenna performance in our in-house testing chambers, including mmWave and microwave frequency bands.

# The Novocomms' Advantage

- ✔ Meets and exceeds customer specifications through deep technical engagement.
- ✔ Rapid time-to-market with flexible, agile development models.
- ✔ Design-for-manufacture and supply chain support from early concept stages.
- ✔ Value engineering mindset - delivering top-tier performance at competitive cost.
- ✔ End-to-end capabilities - from antenna, RF, and embedded design to mass production.

# Novocomms' Antenna in Commercial Deployments

Novocomm's technology doesn't stop at innovation; it goes to market.

Our custom antenna solutions have been successfully deployed in a wide range of commercial consumer electronics, wearables, and IoT devices, proving their reliability and performance in the real world.



## Laptops & Tablets

WiFi/LTE/GNSS/3g/4g/5g

Novocomms antennas have been integrated into high-performance tablets and hybrid laptops, optimising wireless performance across Wi-Fi, LTE, and GNSS bands without compromising sleek design.

## Smartwatches & Wearables

GPS/Bluetooth/

Our ultra-compact antennas power some leading global smartwatch brands, enabling GPS and Bluetooth connectivity in some of the smallest form factors on the market.



## Consumer IoT Devices

NFC/Bluetooth/GPS

From connected home security systems to next-gen asset trackers, our solutions are trusted for critical applications requiring long battery life, compactness, and multi-protocol compatibility.



## Partnering with Global Innovators

With millions of units shipped and antennas embedded in products used across the globe, Novocomms is proud to be the silent force behind reliable wireless performance

in today's connected world. We collaborate with industry leaders, OEMs, ODMs, and Tier-1 manufacturing partners to ensure our clients' designs scale to mass production smoothly and cost-effectively.

**100+**  
patents

**60+**  
products

**35m+**  
units shipped

## Intellectual Property

We hold **40+ granted patents** covering the core elements of our technology and system architecture. This robust IP portfolio underpins our commitment to ongoing innovation—protecting the unique benefits of our solutions while driving further advancements in antenna design and 5G deployment methodologies.

## Engineering Talent Behind Every Design

At the heart of every Novocomms solution is our exceptional engineering team, drawn from the forefront of British academia and trained to the highest levels, including PhD qualifications. Their expertise spans RF design and simulation, embedded firmware development for RF systems, advanced microwave antenna design, and precision thermal and mechanical integration. This depth of knowledge enables us to solve complex design challenges with speed and accuracy, delivering high-performance, production-ready solutions that meet and exceed client expectations.


## Trusted by Industry Leaders and Partners




## Let's Build Together

Whether you're building the next generation of satellite broadband, urban wireless networks, or IoT-enabled infrastructure, Novocomms has the capability, agility, and track record to get you to market—fast

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