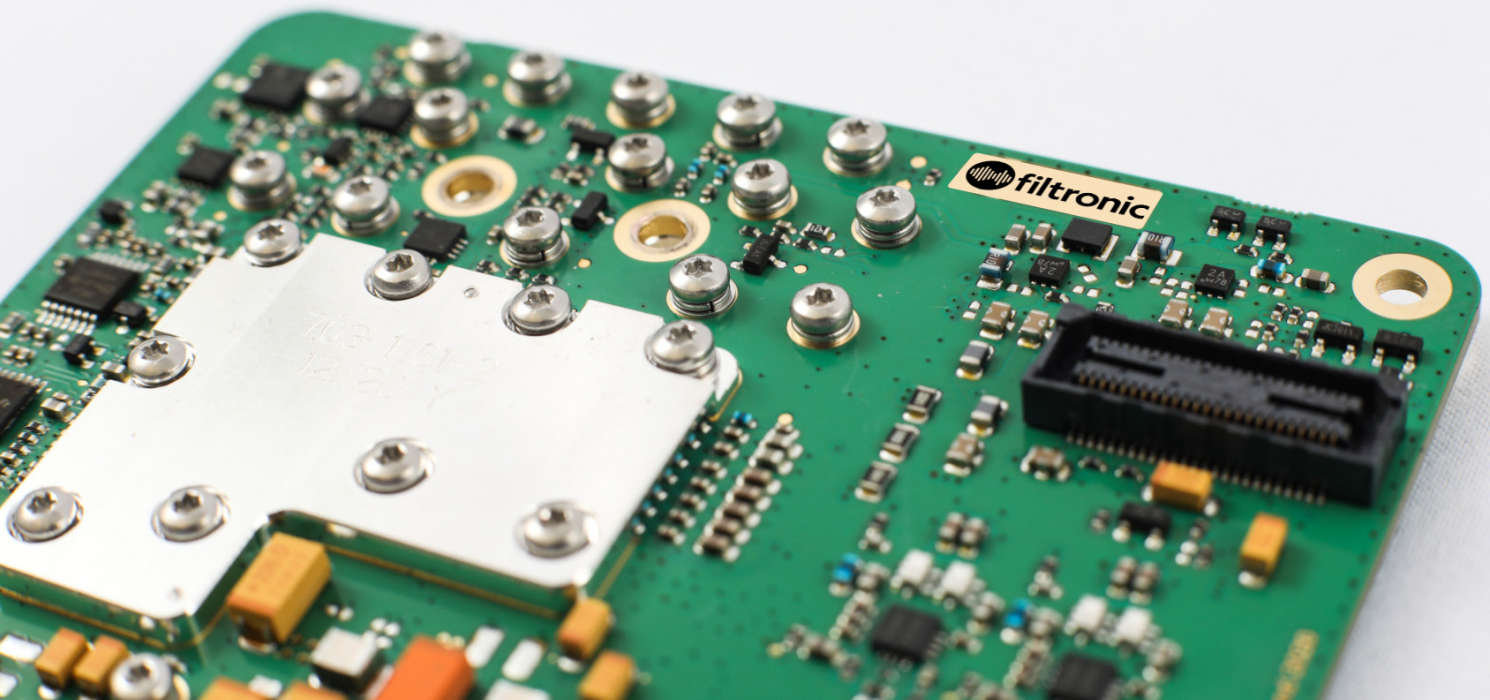




# High-performance RF for mission critical applications

At the forefront of RF for over 40 years.



# Innovation in RF technology

Filtronic products are critical to a range of challenging RF, microwave and mmWave applications, including telecommunications infrastructure, aerospace and defence, space, test & measurement, and critical communications.

Our global clients are household names and leaders in their fields. We are their RF partners and deliver high-performance technologies and services that solve their challenging requirements.

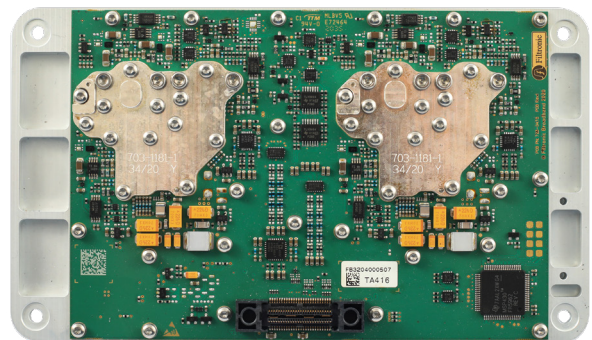
With expertise in high frequency, especially mmWave, Filtronic strengths are across the full RF spectrum, but specifically 300MHz to 175GHz.

## Creating value for our clients through technology leadership

- Accelerating their market entry
- Reducing whole life & development costs
- Developing customised solutions
- Giving them a competitive RF advantage.

### Our technologies:

- Transmit & receive radio signals
- Deliver passive & active RF conditioning
- Provide integrated systems and sub-systems



Filtronic develop and manufacture high performance RF, microwave and mmWave technologies, that transmit, receive and condition radio signals.

With a highly experienced team of engineers, our products and capabilities enable some of the world's technology leaders to push the boundaries further. We deliver repeatable and reliable RF into complex applications, challenging what's possible today and tomorrow.



### Aerospace & Defence

- Long-term partnerships built on excellence
- Customised aerospace & defence technology
- AESA radar TRM modules
- Electronic warfare
- Unmanned aerial vehicles
- Co-site interference mitigation



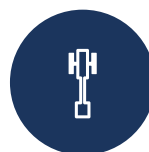
### Critical Communications

- Land Mobile Radio expertise with an enviable track record
- 5G – Next generation critical communications solutions for a converged network
- Highly integrated Size, Weight and Power (SWaP) improvements
- Improved performance, interference mitigation experts
- Assembled in the USA



### Space

- RF innovations for High Altitude Pseudo Satellites (HAPS)
- Off-the-shelf RF components for Low Earth Orbit (LEO)
- Improved Size, Weight and Power (SWaP) for better payload utilisation.
- Transceivers for ground-based terminals
- Bridging the digital divide by satellite



### Telecommunications Infrastructure

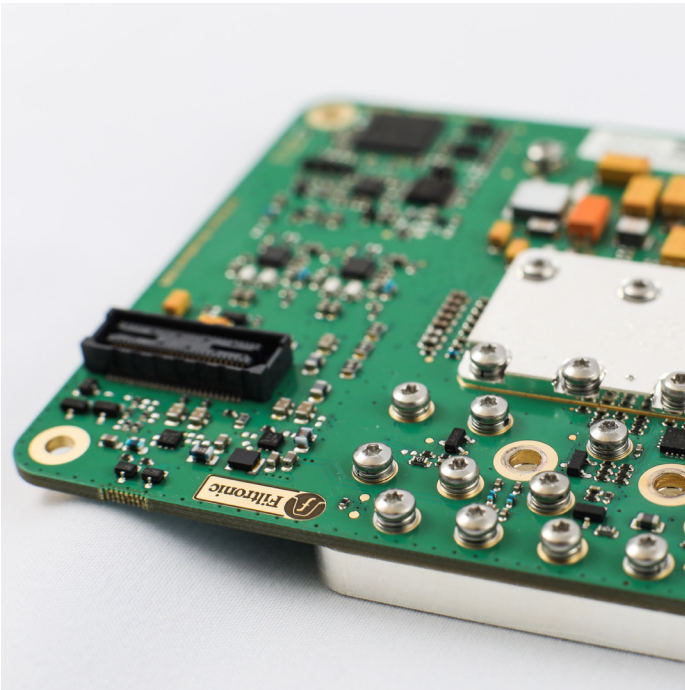
- At the forefront of the telecommunications infrastructure innovation
- The RF partner of choice for OEMs and MNOs
- Highly integrated Size, Weight and Power (SWaP) improvements
- High-performance point to point radio links
- Filter and interference mitigations expertise
- Transceivers that lower the cost per Gbps





# Transmit & Receive

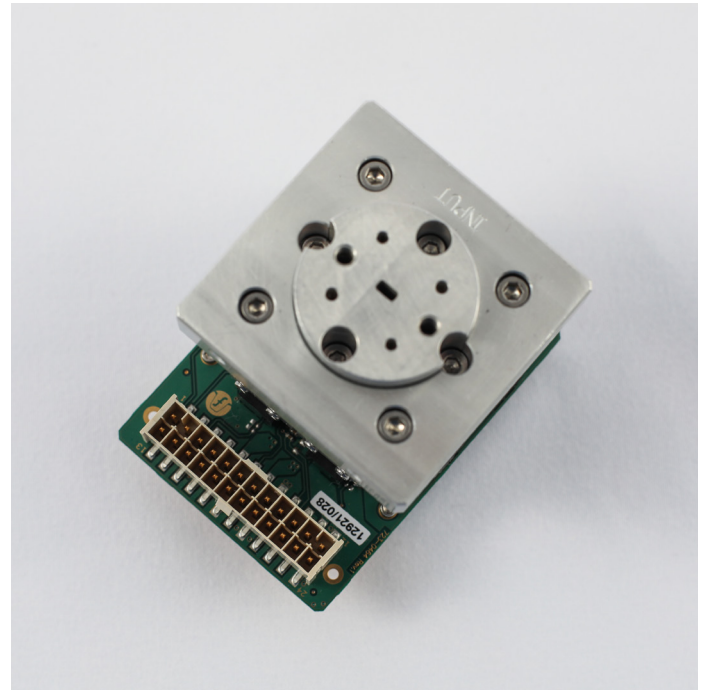
---



## Morpheus II

### 70-90GHz

- Range extension with leading, linear Tx power
- Supports 10Gbps per channel links
- Field proven technology
- Ideal for 5G wireless XHaul and fibre alternative applications



## Cerus 2, 4 & 8

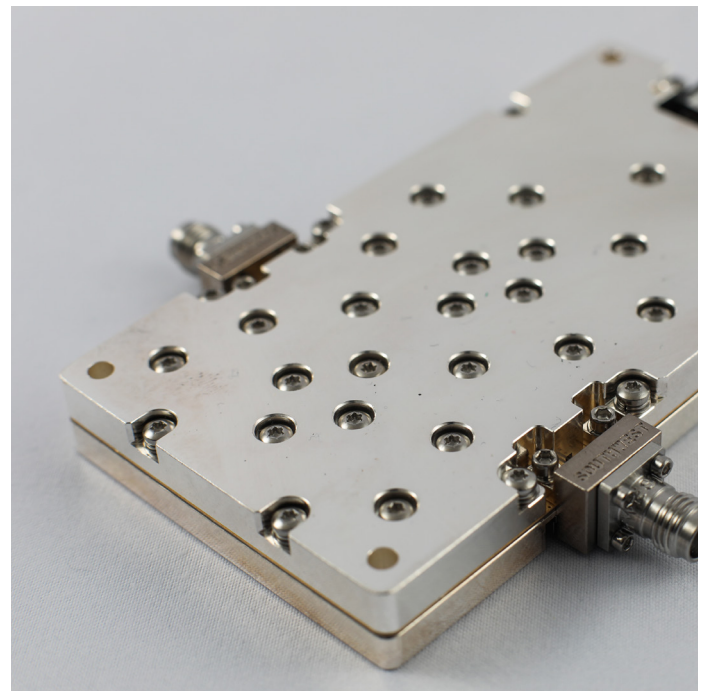
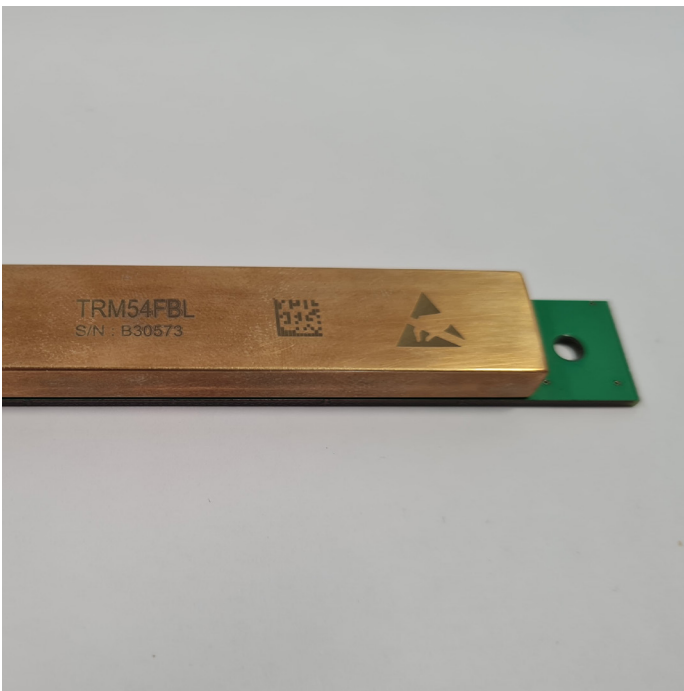
### 70-90GHz

- >20dB gain
- Saturated powers up to >+36dBm (Cerus 8)
- Suitable for military or commercial applications
- Low SWAP for airborne & HAPS applications



## High performance transmit & receive

Filtronic design and manufacture a range of transmit and receive products including transceivers, TRM modules, front end modules and power amplifiers. Our products provide high-performance and are competitively priced, significantly reducing our clients time to market.



### Transmit and receive modules

#### 0-18GHz

- High capacity and high performance as standard
- High linearity transmit and receive chains
- Internally integrated low-phase noise local oscillators
- Amplification and electronic beam steering

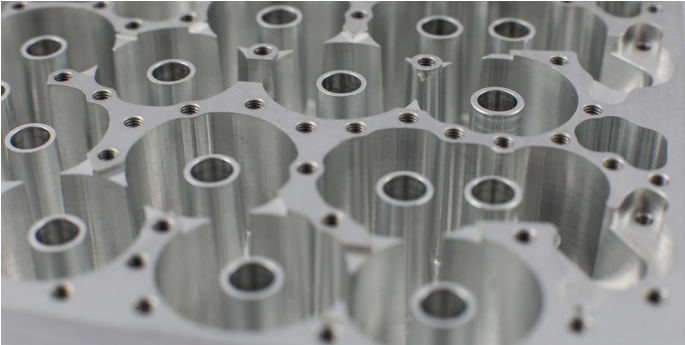
### Front end modules

#### 0-110GHz

- Fully integrated complex front-end switching and up/down conversion
- Designed to optimise system efficiency

# Passive & active RF solutions

---



## Custom filters

### 0-110GHz

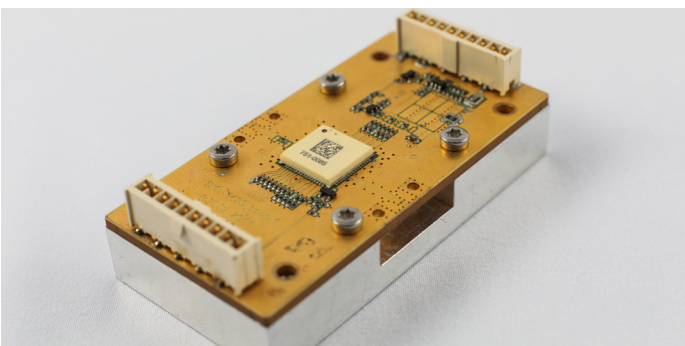
- Experts in SWAP reductions
- Range of environmental conditions
- Material expertise
- Bespoke designs, working to a customer's form factor



## Custom combiners

### <6GHz

- Specialists in complex, high Q solutions
- Delivering highest-in-class performance
- Combiners for telecoms and critical communications



## GaN Amplifiers

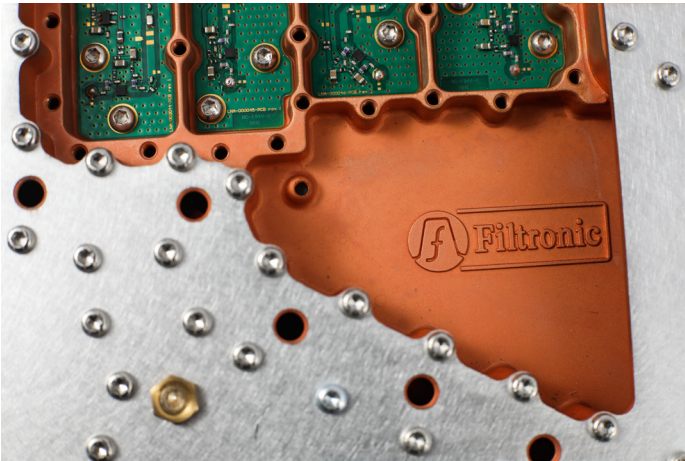
### 6-11GHz

- Ultra-compact GaN amplifier
- For point-to-point microwave and backhaul
- A range of extremely compact, high-efficiency amplifier modules based on our proprietary GaN power FET technology



## Passive and active signal conditioning specialists

Our engineering team are industry experts in designing high performance filters, combiners, and amplifiers that deliver world-class performance and reliability.



### Standard filters

#### 0-114GHz

- Thin film – 3GHz-114GHz
- Interference mitigation – 0-110GHz
- Ceramic – 0-10GHz
- Combine 100MHz – 20GHz
- Lumped element 1MHz – 20GHz
- Metal cavity 0 – 110GHz
- Suspended substrate – 500MHz – 26GHz



### Standard combiners

#### <6GHz

- Cross band - <6GHz
- In band - <6GHz
- Narrow guard band
- Low insertion loss
- High isolation

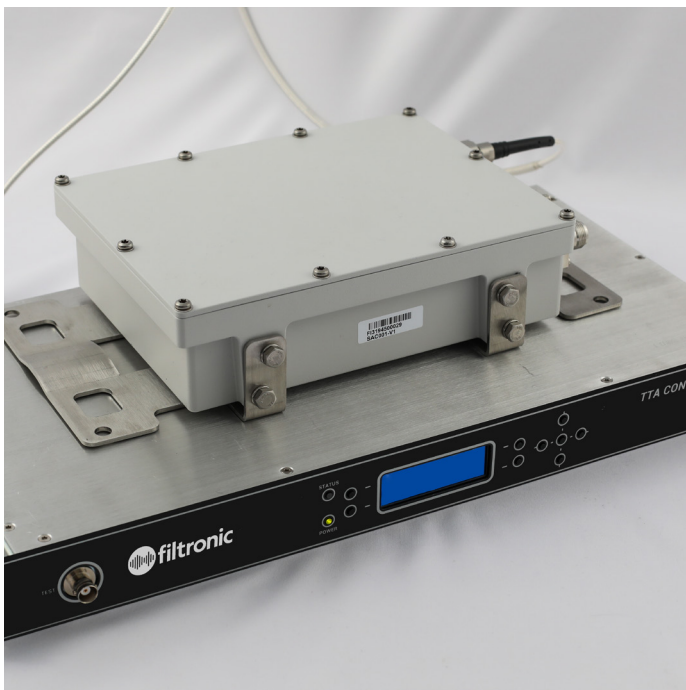


# Integrated subsystems

---

## Solving complex RF, microwave and mmWave challenges

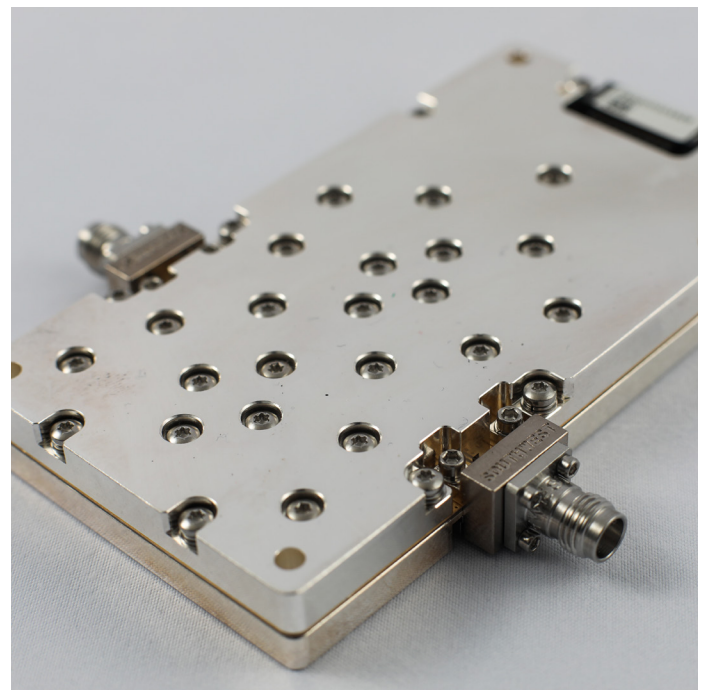
Our expertise in system integration enables reductions in component size and weight, improved reliability, and enhanced overall system performance.



### Tower top amplifiers

#### 700-800MHz

- Industry leading noise figure
- Better interference mitigation
- Highest available IIP3 on the market
- Manufactured in the USA



### Switched Filter Banks

#### 0-110GHz

- Compact, with low power consumption
- Improve overall performance
- Better insertion loss, flatness and voltage standing wave ratio (VSWR)





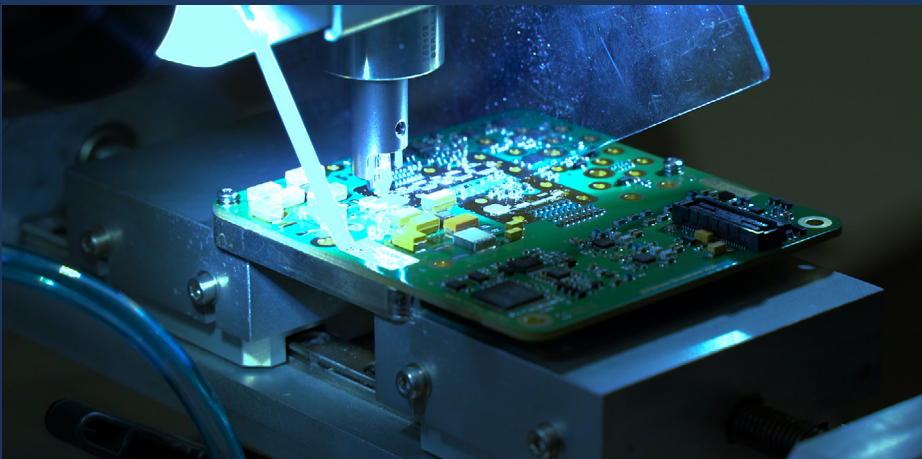
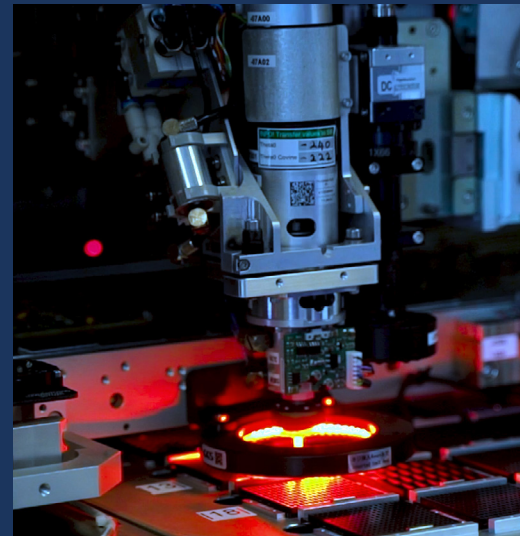
# Cost effective, high quality hybrid assembly and manufacturing services

Our hybrid contract microelectronics manufacturing services enable customers to realise their own designs using Filtronic's state-of-the-art facilities. This enables cost-effective manufacture and year on year cost reduction for customers requiring complex and high mix products.

We have over forty years' track record of delivering high performance RF technologies, offering bespoke microwave design services for a broad range of applications up to 175GHz.

Our core skill base includes:

- RF systems engineers
  - MMIC specialists
  - Filter specialists
  - Electronic and PCB layout designers
  - Mechanical design
  - Process engineers
  - Software and firmware experts
- Our facilities include highly automated production assembly lines, these enable MMIC die attach, wire and ribbon bonding, together with skilled manual assembly and hermetic sealing; all to Military/IPC standards. All processes are supported by our in-house leading manufacturing engineers and process engineering teams.
- Fully automated epoxy dispense
  - Die and component attach technology
  - Wire bonding
  - Air cavity packaging
  - In-house testing
  - World leading process control



---



**Business Address**

NETPark Plexus, Thomas Wright Way,  
Sedgefield, County Durham,  
United Kingdom, TS21 3FD

**T:** +44 (0) 1740 625 163

**E:** [sales@filtronic.com](mailto:sales@filtronic.com)

**[filtronic.com](http://filtronic.com)**