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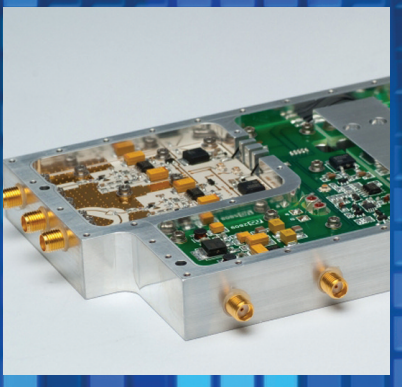
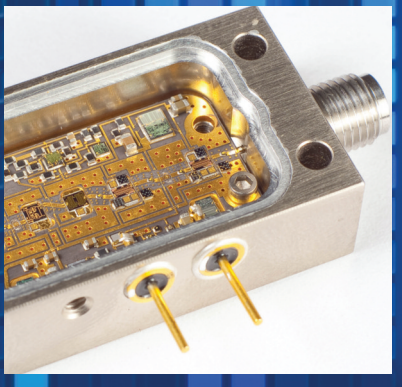
LINWAVE





RF COMPONENTS & SUB-SYSTEMS

linwave.co.uk

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Linwave Technology designs and manufactures microwave and RF components and subsystems in a seamless concept to finished product process.

A full test and measurement capability extends to 94GHz and allows our manufacturing team to produce value added products designed to exceed customer expectations.

Linwave's design team utilises state-of-the-art microwave simulation tools for circuit modeling and optimisation to provide the robust product solutions our customers demand.

A complete in house chip and wire assembly facility allows us to produce innovative products by utilising a chip and wire solution integrated with laminate based surface mount techniques.

DEFENCE

MEDICAL

SATCOMMS

MARINE

AEROSPACE

INDUSTRIAL

ISO 9001:2008 SGS UKAS QUALITY MANAGEMENT 005

ADS SC21 21ST CENTURY SUPPLY CHAINS Bronze Award

CUSTOMISED MICROWAVE SOLUTIONS



APPLICATIONS INCLUDE: ● GROUND RADAR ● MARINE ● AEROSPACE

CONVERTERS & TRANSCEIVERS



APPLICATIONS INCLUDE: ● BROADCASTING ● MILITARY SATCOMMS ● AEROSPACE

SOLID STATE AMPLIFIERS



APPLICATIONS INCLUDE: ● MEDICAL ● SATCOMMS ● INDUSTRIAL

QFN MULTI CHIP MODULES



APPLICATIONS INCLUDE: ● DEFENCE ● SATCOMMS ● MARINE SYSTEMS

DIODES



APPLICATIONS INCLUDE: ● DEFENCE ● LAW ENFORCEMENT ● SPORT ● AUTOMOTIVE

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Customised Microwave Solutions

Linwave Technology is a designer and manufacturer of high performance customised solutions for a wide range of microwave and RF applications in military, satellite communications, telecoms and industrial markets.

Covering up to 77GHz our engineered integrated solutions provide top tier customers with options to add functionality and performance for enhanced systems performance.

Typical Solutions:

- K Band FMCW Radar Modules
- Microwave Source Modules
- Marine Transponders
- Customised wideband /EW/ECM subsystems
- High power broadband ruggedised switches

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Converters and Transceivers

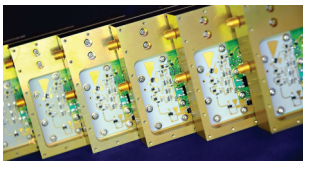
Linwave Technology is a leading supplier of converters and transceivers for aerospace, broadcast and defence and industrial applications. The solutions include block up and down converters for satellite communications, converters/transceivers for radars and FMCW transceivers for industrial applications

Typical Solutions:

- Military
- Broadcasting
- Aerospace
- IESS308 compliant, extended band versions
- Internal/external OCXO references, gain controlled variants
- High power BUC's, indoor and outdoor variants, custom designs

Outdoor BUC

Power BUC



Nano BUC

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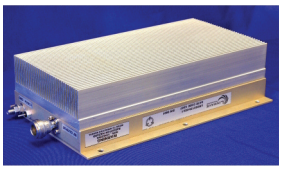
Solid State Amplifiers

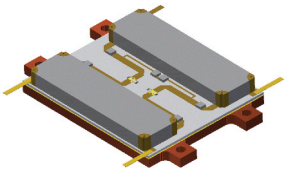
Linwave Technology designs and manufactures high performance RF High Power Amplifiers for a wide variety of applications. The principal markets we serve are defence, homeland security, commercial and industrial, scientific and medical sectors.

We have extensive experience of using different technologies using bare die and packaged devices.

Typical Solutions:

- Frequency and power
  - 30MHz - 30GHz
  - 10W - 1000W
- Technology
  - GaN - wider bandwidth, high efficiency, rugged
  - LDMOS - high power, low cost
  - GaAs - high frequency, power combined
- Packaged and bare die solutions
- Pallets and fully integrated solutions





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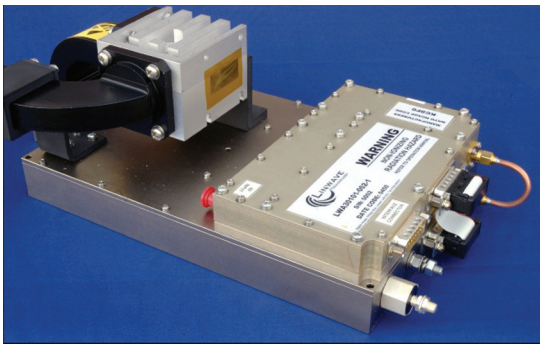
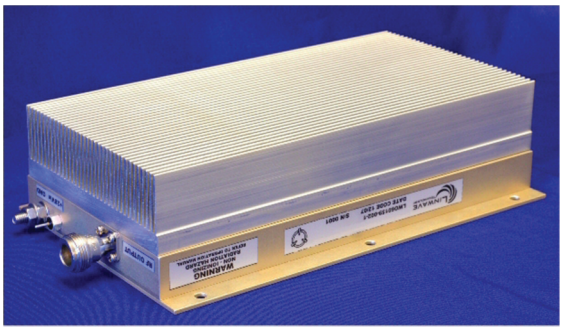
Solid State Amplifiers



- X band SSPA, GaAs solution
- P1dB > 100W
- Variable gain, microprocessor control
- Full onboard power sequencing
- Circulator/load protection and alarms
- 12V, 80A supply



- 2.45GHz, GaN solution
- Psat > 120W - 28V, 6A supply
- Full SMT design, flanged output device
- Option for integrated PLL oscillator
- Full monitor and control

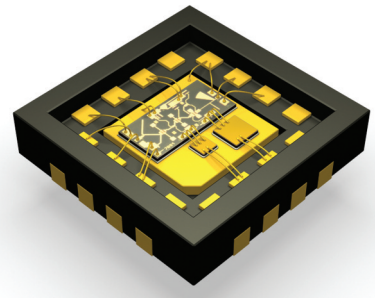
- 30-512 MHz
- UHF TACSAT and LOS
- 20W output power
- Integral switched filter bank
- Integral RX LNA
- Full by pass mode
- Environmentally sealed

ALARIS LINWAVE

Chip & Wire Multi Chip Modules

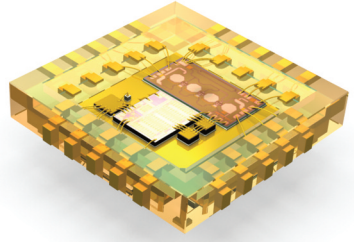
Standard QFN products

QFN Wideband
Microwave Pin Limiters



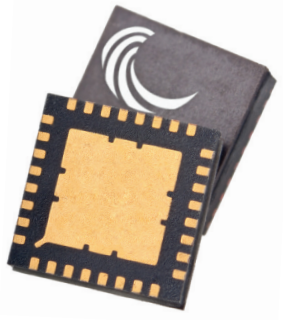
- 5x5 and 3x3 mm QFN Packages
- 2-20GHz Passive, high isolation limiter
- Low loss < 0.8dB, X-band
- Good Return Loss > 15dB
- Flat Leakage < +18dBm
- Input Power CW Survivability >5W
- Integrated DC Block on both input and output
- Associated Evaluation Boards available

QFN Wideband
RF Pin Limiters



- 5x5 QFN Packages
- 100-4500MHz Passive, high isolation limiter
- Low loss < 0.8dB
- Good Return Loss > 15dB
- Flat Leakage < +18dBm
- Input Power CW Survivability >10W
- Integrated DC Block on both input and output
- Associated Evaluation Boards available

QFN Wideband
Microwave Limiter/LNA



- Typical 5x5 QFN Packages
- 2 – 20 GHz Limiter/LNA
- Noise Figure <4dB, Typically <3dB
- Nominal Gain 16dB
- Return Losses > 10dB
- Input Power CW Survivability >5W
- Integrated DC Block on both input and output
- Associated Evaluation Boards available
- Custom Parts

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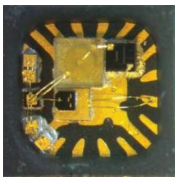
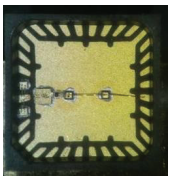
Chip & Wire Multi Chip Modules

Standard QFN products

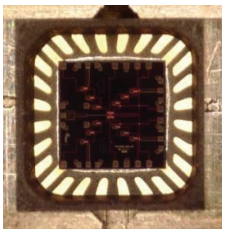
QFN Wideband
Microwave Detectors

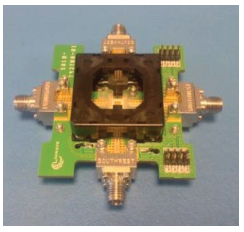




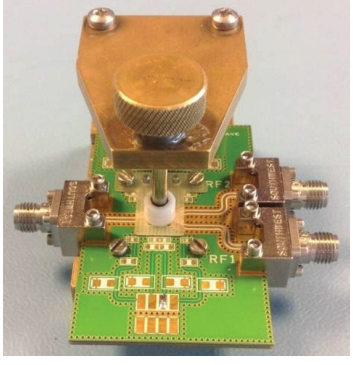
- 3x3 and 5x5 QFN Packages
- Wideband matched detector 8GHz to 12GHz
- Wideband matched Zero biased detector 1GHz to 18GHz
- Temperature Stable
- Good Return Loss > 10dB
- Normal SMT assembly process
- Low junction capacitance, typically 0.3pF
- Internally matched to 50 Ohms.
- DC block at input pin

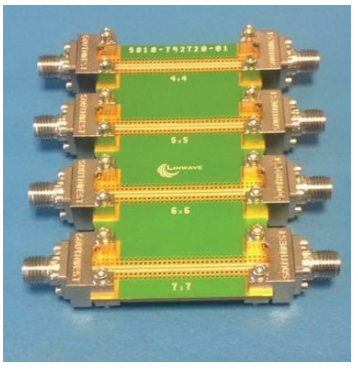
QFN Test Fixtures/ Eval Boards/
Custom Solutions





- Linwave Test Fixtures
- 3x3, 4x4, 5x5, 6x6, 7x7
  QFN Test Fixtures/Eval Boards
- Custom Fixture Designs
- Custom Packing Solutions





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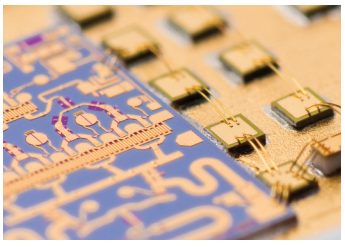
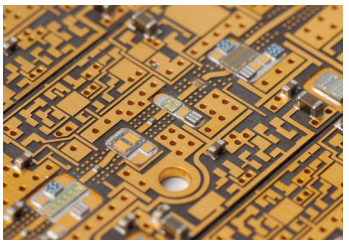
Hybrid Chip & Wire Assembly Capability

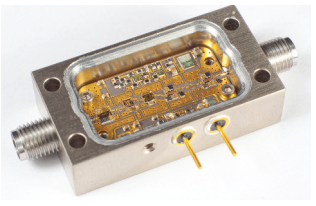
- Gold wedge, ball, ribbon bonders
- Manual and Semi Auto
- Eutectic die attach
- Epoxy die attach
- Dry Nitrogen backfill
- Bond pull tester
- Gap welder

Clean Room Facilities

- Class 10000 clean room with local class 100 laminar flow
- Temperature and humidity controlled
- Inert gas hermetic sealing - furnace and projection welding
- Wafer probe and Automatic Optical Inspection
- Automated wire bonding







Chip & Wire Amplifiers

- Chip and Wire on Laminate
- 5-40GHz
- 35dB Gain
- 6dB Noise Figure
- 20dBm P1dB

- Chip and Wire on Alumina
- 37-40GHz
- 13dB Gain
- 30dBm P1dB

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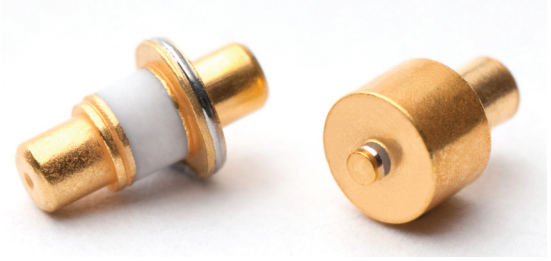
Diodes

Linwave offer a wide range of RF and Microwave diodes. Linwave can offer standard diodes and custom packaging solutions. The diodes are available in screw based, push fit, cavity, stripline and surface mount packages as standard, and in single or double die configurations

Gunn Diodes

The Gunn oscillator diode is the best known and most readily available device in the family of transferred electron devices (TED). They are employed as DC to microwave converters using the negative resistance characteristics of bulk Gallium Arsenide(GaAs) and only require a standard, low impedance, constant voltage power supply, thereby eliminating complex circuitry.



Limiter Diodes

Linwave can manufacture bespoke limiter diodes given a specified frequency & application, for more details or to discuss your requirement please contact us.

Detector Diodes

For detection applications, the diode is used as a rectifier to produce a DC output proportional to the very low levels of RF power incident upon it. Detector diodes can be unbiased, but they are much more sensitive to low level signals if they have a small applied DC bias. At higher bias levels the detector becomes much easier to match over a wide frequency range.

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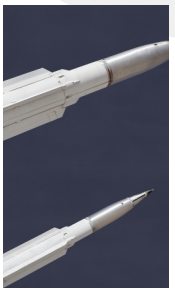


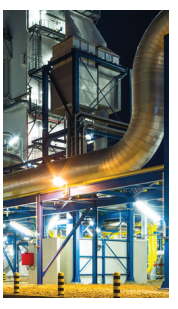

LINWAVE TECHNOLOGY

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