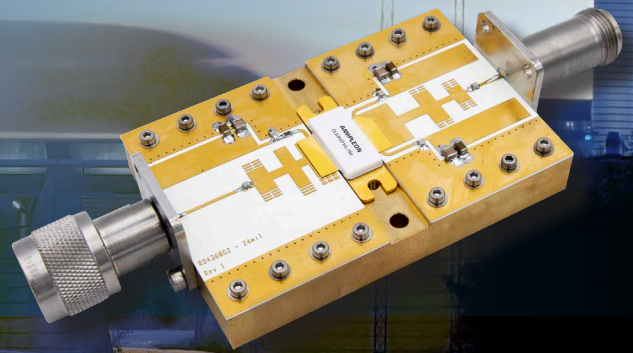


High-reliability LDMOS and GaN RF transistors for Avionics

Powering reliable Communication, Navigation, and Surveillance across the skies.



Avionics systems form the backbone of safe and efficient airspace operations, where precision, reliability, and communication integrity are essential. From air-traffic control and navigation to identification and collision avoidance, RF power amplification lies at the heart of both airborne and ground-based infrastructure.

Applications such as Distance Measuring Equipment (DME), Tactical Air Navigation (TACAN), Identification Friend or Foe (IFF), Secondary Surveillance Radar (Mode S / ATCRBS), and Traffic Collision Avoidance Systems (TCAS / ACAS) all rely on high-performance L-band amplification between 960 MHz and 1215 MHz.

At higher frequencies, S-band primary and weather radars (2.7–2.9 GHz) depend on solid-state RF power to deliver long-range, high-resolution situational awareness.

Ampleon's LDMOS technology has been trusted for decades in these demanding systems, combining high peak power, thermal stability, and proven reliability under extreme conditions.

Building on this heritage, Gallium Nitride (GaN) devices extend performance to new levels of efficiency, power density, and compactness, enabling the next generation of energy-optimized avionics platforms.

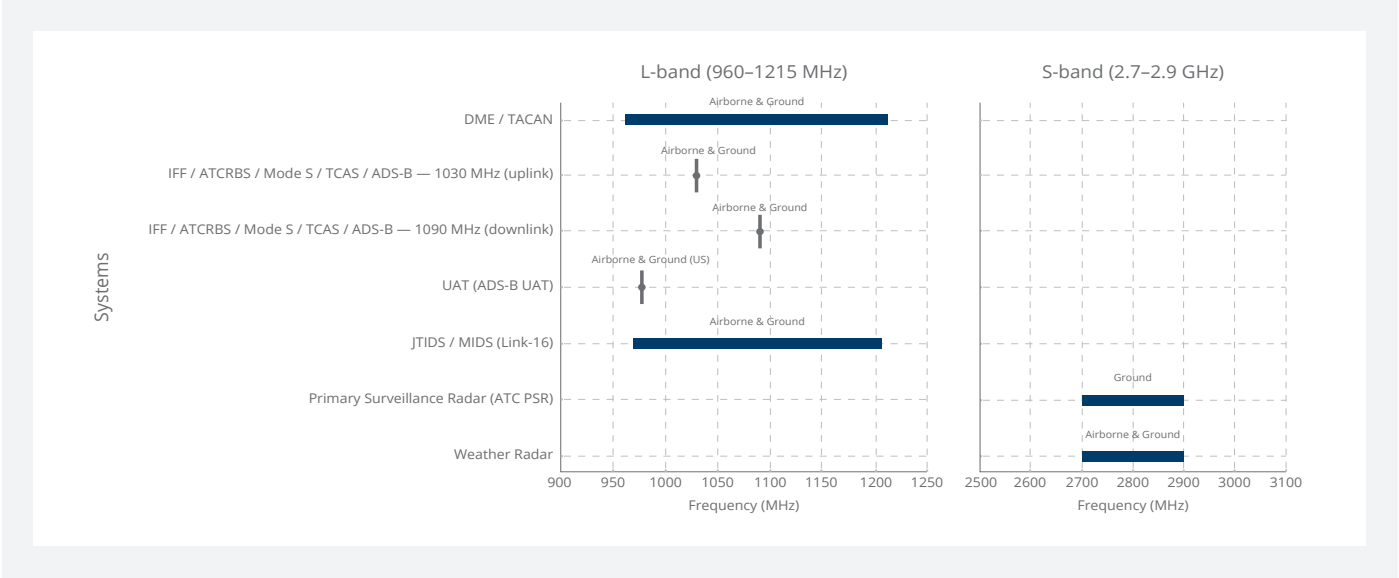
KEY FEATURES

- High-efficiency pulsed RF performance across L- and S-band systems
- Rugged, thermally optimized design for airborne and ground equipment
- Scalable power levels from tens of watts to multi-kilowatt arrays
- Broad portfolio supporting both new and legacy architectures
- Qualified packaging for harsh operational environments

KEY BENEFITS

- Proven reliability in aviation and defense communication systems
- Thermal robustness ensuring long service life under extreme conditions
- Lower total cost of ownership through high efficiency and durability
- Seamless migration path from LDMOS to GaN for next-generation designs
- Platform compatibility across a wide range of avionics applications

Broadband RF systems across Avionics bands



Application overview

| Report number | Type number | Technology | Recommended driver | F _{range} (MHz) | P _{1dB} (W)* | P _{3dB} (W)* | η _D (%) | V _{DS} (V) |
|---------------|------------------------|------------|--------------------|--------------------------|-----------------------|-----------------------|--------------------|---------------------|
| AR181082 | BLA9H0912L(S)-1200P(G) | LDMOS | BLP15H9S30(G) | 960-1215 | 1100 | | 55 | 50 |
| AR181126 | BLA9H0912L(S)-700(G) | LDMOS | BLP15H9S30(G) | 1030-1090 | 600 | 750 | 55 | 50 |
| AR161145 | BLA9G1011L(S)-300(G) | LDMOS | BLP15M9S30(G) | 1030-1090 | > 300 | | > 63.5 | 32 |
| AR181125 | BLA9H0912L(S)-250(G) | LDMOS | BLP15H9S10 | 1030-1090 | 275 | 340 | 55 | 50 |
| AR181109 | BLA9H0912L(S)-250(G) | LDMOS | BLP15H9S10 | 960-1215 | 250 | 300 | 55 | 50 |
| AR211131** | CLS3H2731L(S)-700 | GaN | CLF3H0035(S)-100 | 2700-3100 | 700 | | 58 | 50 |
| AR191060 | CLL3H0914L(S)-700 | GaN | BLP15H9S30 | 1200-1400 | 700 | | > 61 | 50 |
| AR201110 | CLL3H0914L(S)-700 | GaN | BLP15H9S30 | 960-1215 | 725 | | 62 | 52 |
| AR232016 | BLP15M9S70(G) | LDMOS | | 950-1200 | 55 | | 50 | 28 |
| AR202046 | BLP15H9S30(G) | LDMOS | | 1025-1150 | 30 | 39 | > 50 | 50 |
| AR191184 | BLP15H9S10(G) | LDMOS | | 1030-1090 | 10 | 10.9 | 63.5 | 50 |

* CW pulsed test signal
** For access, please contact our local sales representative via: www.ampleon.com/contact

Contact information



www.ampleon.com/avionics#contact