

## 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.

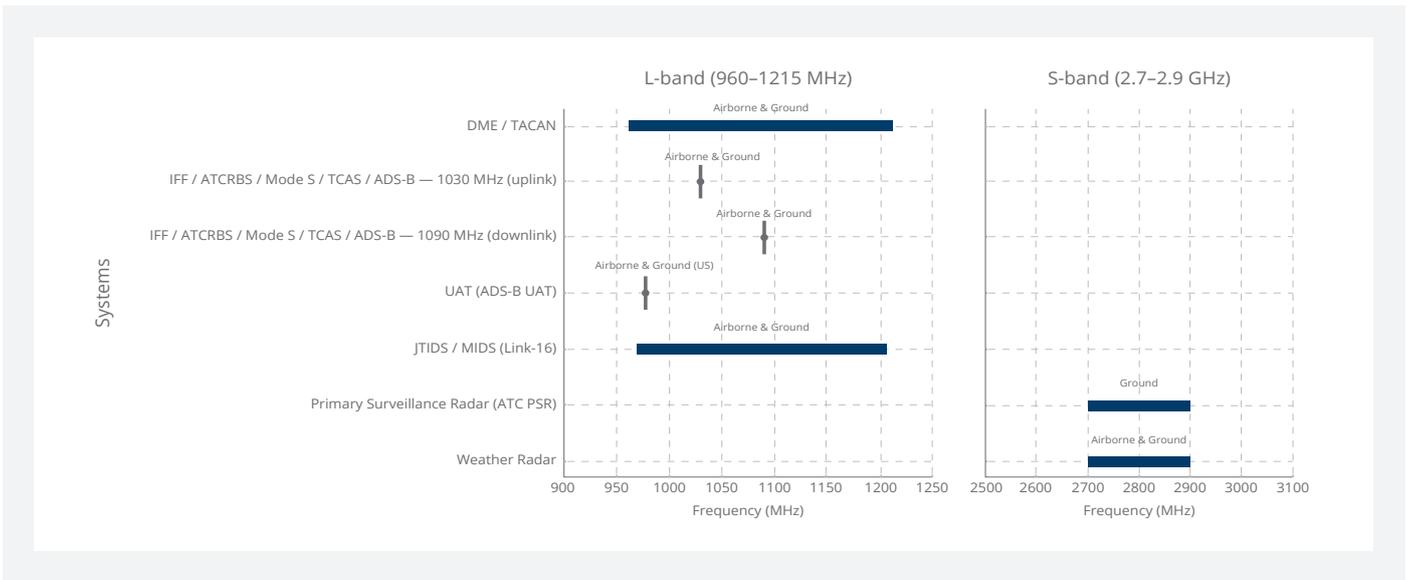
### KEY FEATURES

- 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 <sub>range</sub> (MHz)	P <sub>i,dB</sub> (W)*	P <sub>3,dB</sub> (W)*	η <sub>D</sub> (%)	V <sub>DS</sub> (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	BLP15H9G30	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](http://www.ampleon.com/contact)

## Contact information



[www.ampleon.com/avionics#contact](http://www.ampleon.com/avionics#contact)