

RF beauty devices – skin, body & rejuvenation applications powered by LDMOS

Delivering precision, power, and performance for next-generation aesthetic platforms – from compact home-use devices to advanced professional systems



Radio Frequency (RF) beauty technology is rapidly reshaping both professional and home-use skincare. In dermatology clinics, medical spas, and aesthetic platforms, RF devices operating from below 1 MHz up to 40.68 MHz are used for collagen stimulation, skin tightening, anti-aging, and skin rejuvenation - offering highly targeted, non-invasive treatments with visible results.

At the same time, the home-use RF beauty market is growing rapidly, as consumers seek to bring professional-grade treatments into their daily routines. Most portable devices operate below 3 MHz, but higher-frequency models are emerging, delivering clinic-quality outcomes in increasingly compact formats. While both segments rely on similar frequencies, power levels vary widely – from just a few watts in portable systems to hundreds of watts in professional platforms.

Whether you're developing a handheld beauty tool or powering an advanced clinical RF system, Ampleon provides the solid-state RF power technology to bring your innovation to life – with precision, performance, and reliability you can count on.

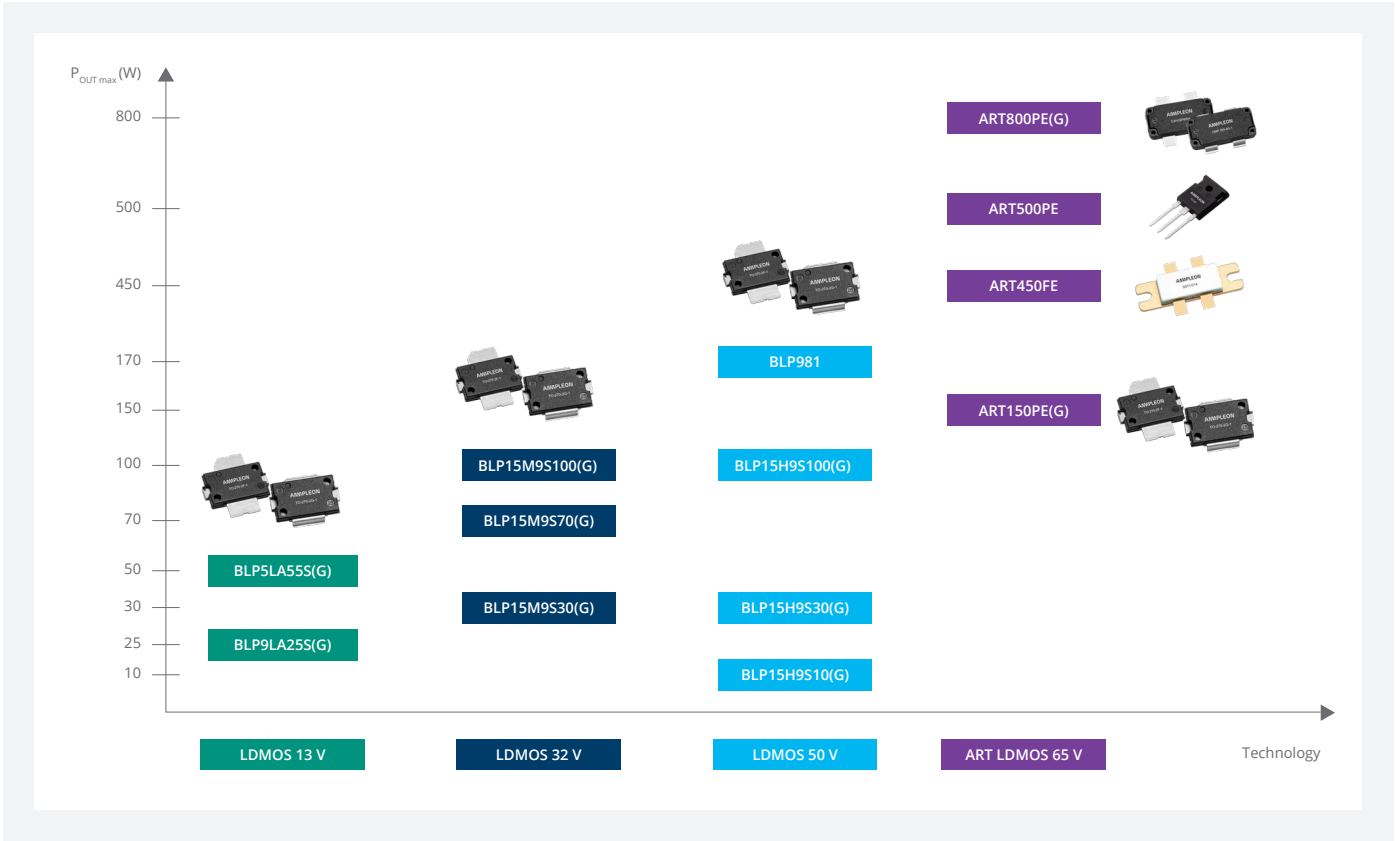
Key features

- Optimized LDMOS portfolio for 0.3 to 40.68 MHz RF beauty applications
- High output power with excellent efficiency across the full frequency range
- Engineered for mismatch tolerance and safe RF on/off cycling
- Wide supply voltage range (10–65 V) for flexible system design
- Low thermal resistance for passive cooling solutions
- Compact packaging suited for integration in handheld and professional devices

Key benefits

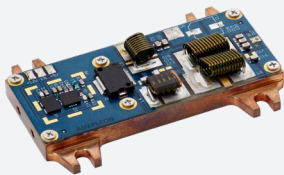
- Consistent performance in both professional and home-use beauty systems
- Reduced BOM complexity and compact footprint
- Minimized heat management challenges
- Enables high-frequency treatment options
- Reliable RF power delivery in portable, battery-powered systems

Solid-state RF power portfolio by technology and output range



Home-use applications – low voltage (10–20 V)

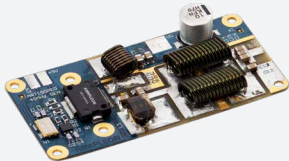
Type number	Frequency (MHz)	V_{DS} (V)	P_{OUT} (W)	η_D (%)
BLP15H9S30(G)	40.58	10	3.5	75.9
		12	4.7	71.8
ART150PE(G)	40.58	10	5.1	78.5
		15	11.1	80.4
	6.78	10	3.88	82.4
		20	15.5	84.3



BLP15H9S30(G) demo board

Professional applications – standard voltage (30–60 V)

Type number	Frequency (MHz)	V_{DS} (V)	P_{OUT} (W)	η_D (%)
ART150PE(G)	40.58	30	43.4	84.6
		40	76	86
		55	134	84.3
	6.78	30	35.4	86.4
		40	62.4	86.4
		60	138	86.5



ART150PE(G) demo board

Contact information



www.ampleon.com/rf-beauty#contact