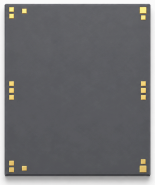
2700–3900 MHz GaN MMIC Power Amplifier Die

LCI-PA-2700-3900-PS48T is a GaN MMIC power amplifier supplied as bare die for 2700–3900 MHz. It supports CW and pulsed operation.



The RF table specifies: PSAT 48 dBm (typical); Power gain 24 dB (typical); PAE 56% (typical). RF test conditions: Vd = +28 V; Vg = -2.7 V; Pin = 24 dBm; τ = 100 µs; D = 10%.

Die dimensions: 3.71 × 4.58 mm. Thickness is not specified.

RF characteristics

Vd = +28 V; Vg = -2.7 V; Pin = 24 dBm; τ = 100 µs; D = 10%

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating frequency	f	2700	-	3900	MHz
Saturated output power	Psat	47.6	48	-	dBm
Power gain	Gp	23.6	24	-	dB
Power-gain flatness	ΔGp	-	-	±0.6	dB
Power-added efficiency	PAE	54	56	-	%
Small-signal gain	S21	32	33	35	dB
Small-signal gain flatness	ΔS21	-	-	±1.5	dB
Input VSWR	VSWR(in)	-	1.8	2	-

DC bias and current

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Drain voltage	Vd	-	28	-	V
Recommended gate voltage	Vg	-3	-	-2.6	V
Quiescent drain current [1]	Id	-	-	1.5	A

[1] Vd = +28 V; Adjustable bias point.; Recommended ceiling

Absolute limits

Absolute limits; these are not normal operating targets.

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Maximum drain-source voltage	Vd	-	-	30	V
Minimum gate bias	Vg	-5	-	-	V
Maximum input power	Pin	-	-	26	dBm
Storage temperature	TSTG	-65	-	150	°C
Maximum channel temperature	Top	-	-	200	°C

Die dimensions

Parameter	Value	Unit
Die dimensions	3.71 × 4.58	mm
Plan-view outline tolerance	±100 (Plan-view outline only; the source does not specify thickness tolerance.)	µm

Current publication record · 1.6 · 2026-11-12. Product description or editorial content updated. Replaces revision 1.5.

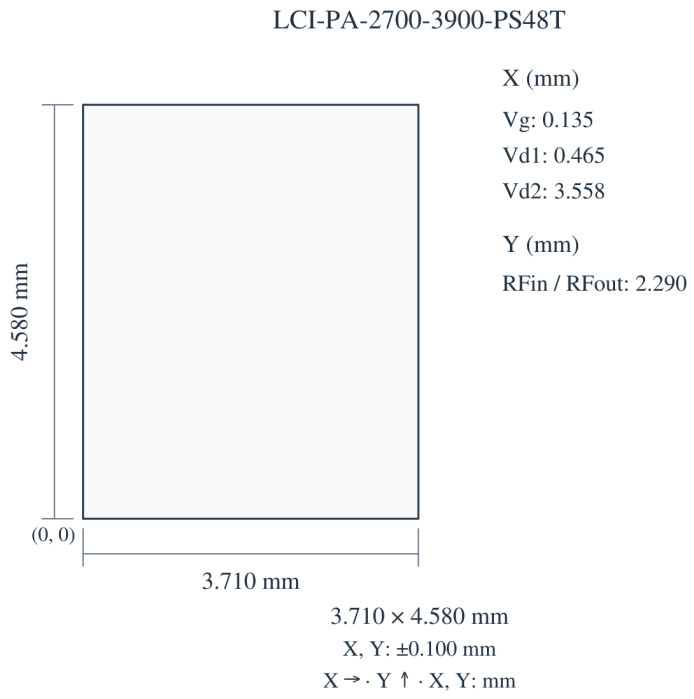
Die integration and bias sequencing

Integrated DC blocking: RFin / RFout. DC path to ground: RFin / RFout → GND. Internally connected gate pads: Vg ↔ Vg. Apply gate bias before drain bias. Remove drain bias before gate bias. Outline and dimensioned coordinates in mm. Use this drawing as a dimensional reference. Fabrication and wire bonding require complete drawings.

Bond-pad dimensions

RFin: 100 × 100 µm. Vg: 120 × 100 µm. Vd1: 120 × 100 µm. Vd2: 150 × 150 µm. RFout: 120 × 120 µm.

Mechanical Outline

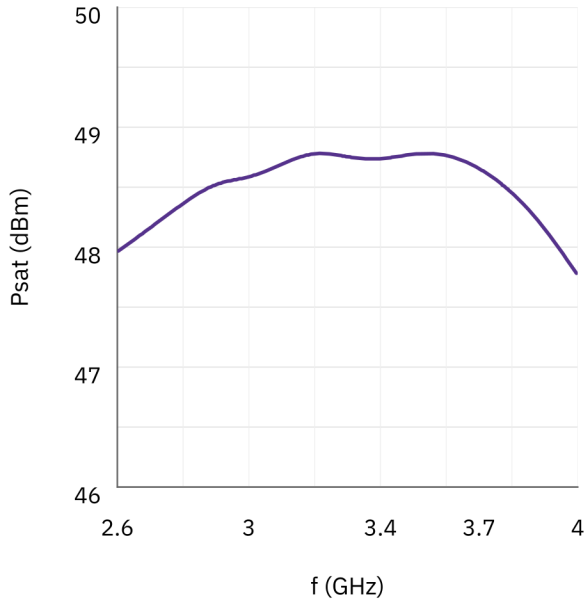


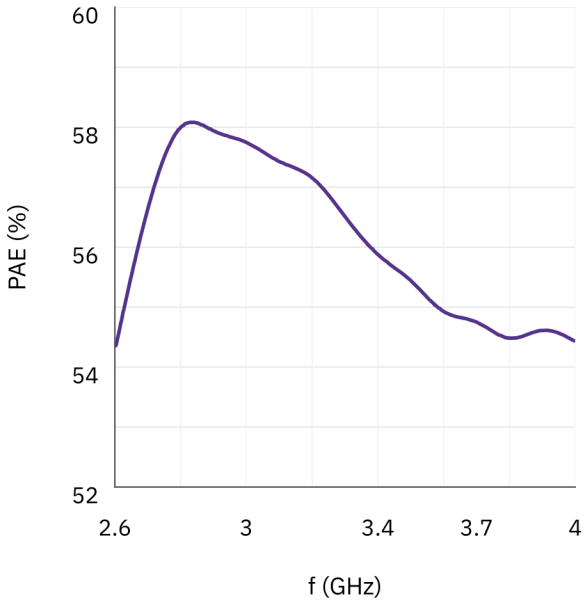
Performance curves

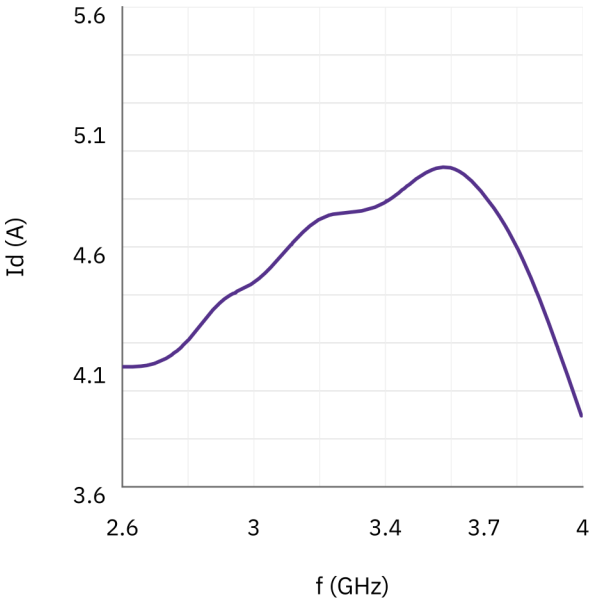
Read each figure with its stated operating conditions.

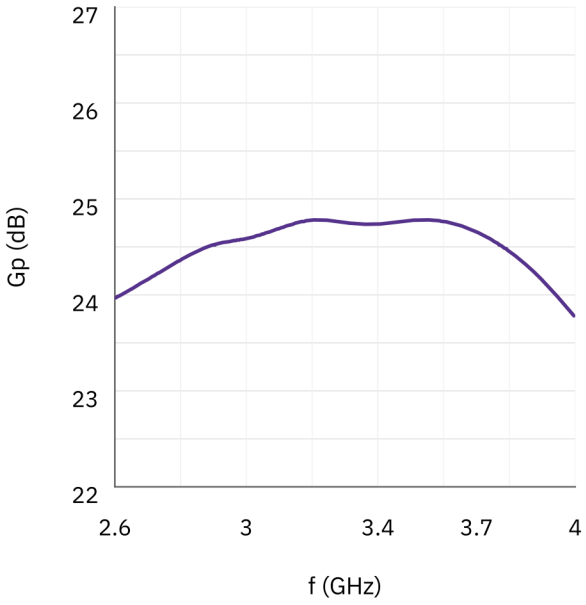
Pulsed — Saturated output power; Power-added efficiency; Dynamic drain current; Power gain.

Figure notes: TA=+25°C; Vd=+28V; Vg=-2.7V; Pin=24dBm. Readings are approximate. Pulse width = 100 µs; duty cycle = 10%.



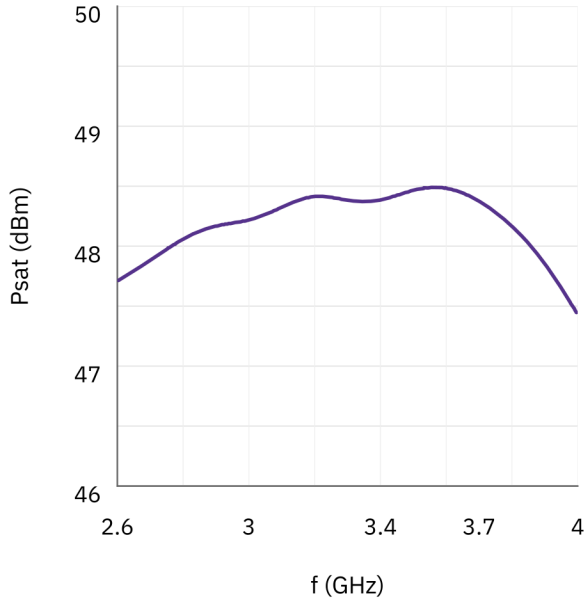


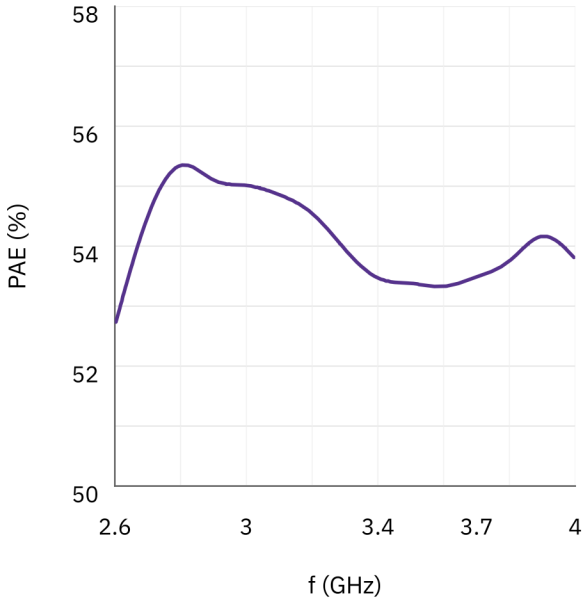


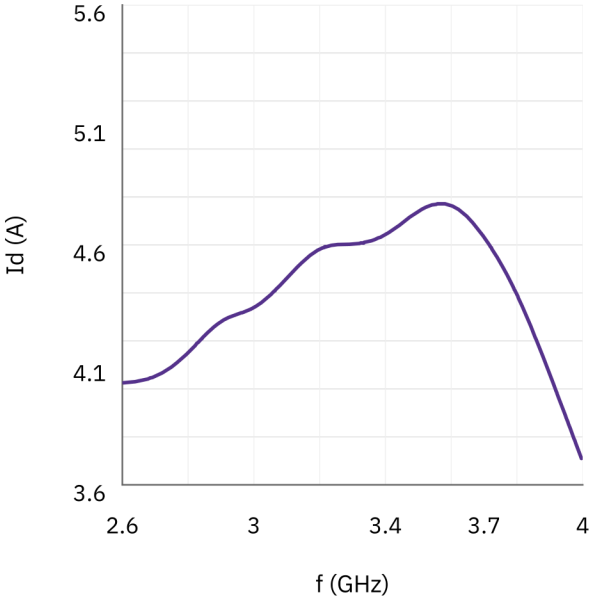


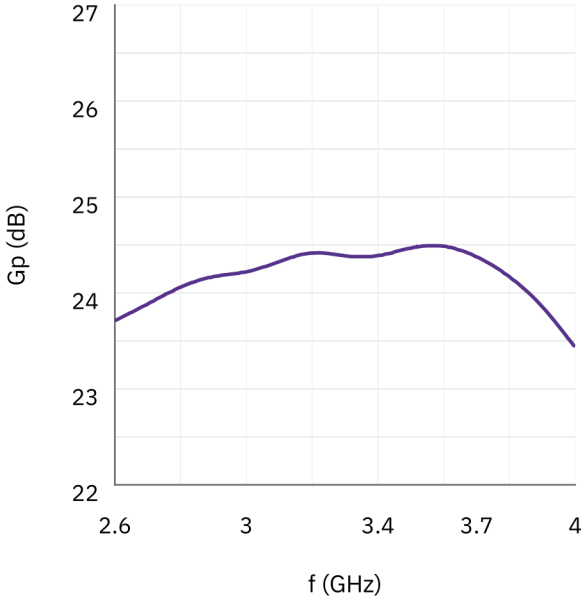
Continuous wave (CW) — Saturated output power; Power-added efficiency; Dynamic drain current; Power gain.

Figure notes: TA=+25°C; Vd=+28V; Vg=-2.7V; Pin=24dBm. Readings are approximate.









Document notice

Specifications are subject to revision. Before design release, confirm the current document revision and product-specific requirements with LCRF. The approved quotation and order documentation define the supplied configuration.