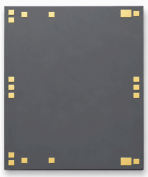
# 13750–14500 MHz GaN MMIC Power Amplifier Die

LCI-PA-13750-14500-PS45MIN is a GaN MMIC power amplifier supplied as bare die for 13750–14500 MHz. It supports CW operation.

pulsed: PSAT: 45 dBm (minimum); Power gain: 20 dB (minimum); PAE: 37 % (minimum) / 38 % (typical). Die dimensions: 2.8 × 3.5 × 0.1 mm.



## RF characteristics

TA = +25 °C; Vd = +28 V; Vg = -3.08 V; pulsed

| Parameter | Symbol | Minimum | Typical | Maximum | Unit |
|---|---|---|---|---|---|
| Operating frequency | f | 13750 | - | 14500 | MHz |
| Saturated output power | Psat | 45 | - | - | dBm |
| Power gain | Gp | 20 | - | - | dB |
| Power-gain flatness | ΔGp | - | ±0.3 | - | dB |
| Power-added efficiency | PAE | 37 | 38 | - | % |
| Input VSWR | VSWR(in) | - | - | 2 | - |

## DC bias and current

TA = +25 °C

| Parameter | Symbol | Minimum | Typical | Maximum | Unit |
|---|---|---|---|---|---|
| Drain voltage | Vd | 24 | 28 | 32 | V |
| Gate voltage | Vg | -5 | -3.08 | -2.6 | V |
| Quiescent drain current | Id | - | 0.2 | - | A |
| Dynamic drain current | Idd | - | 3.1 | 3.5 | A |
| Dynamic gate current | Igg | - | 0.5 | 5 | mA |

## Absolute limits

| Parameter | Symbol | Minimum | Typical | Maximum | Unit |
|---|---|---|---|---|---|
| Maximum drain-source voltage | Vd | - | - | 32 | V |
| Minimum gate bias | Vg | -5 | - | - | V |
| Maximum input power | Pin | - | - | 28 | dBm |
| Storage temperature | TSTG | -65 | - | 150 | °C |
| Maximum channel temperature | Top | - | - | 225 | °C |

## Die dimensions

| Parameter | Value | Unit |
|---|---|---|
| Die dimensions | 2.8 × 3.5 × 0.1 | mm |

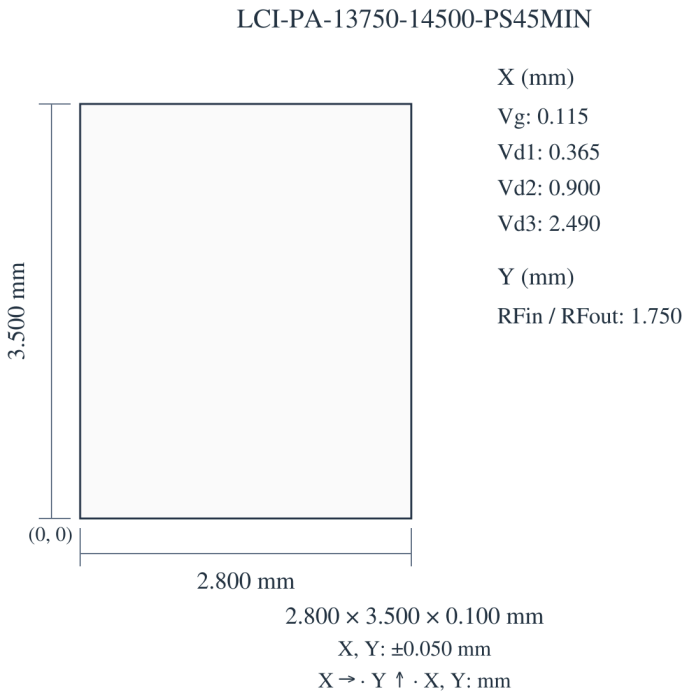
**Current publication record** · 1.8 · 2026-11-12. Product description or editorial content updated. Replaces revision 1.7.

## Die integration and bias sequencing

Integrated DC blocking: RFin / RFout. DC path to ground: RFin → GND. Separate characterization: Vd = +28 V; Vg = -3.08 V; CW; Pin = 25 dBm. Apply gate bias before drain bias. Remove drain bias before gate bias. Two-sided bias feed is recommended.

## Mechanical Outline

Outline and dimensioned coordinates in mm. Use this drawing as a dimensional reference. Fabrication and wire bonding require complete drawings.

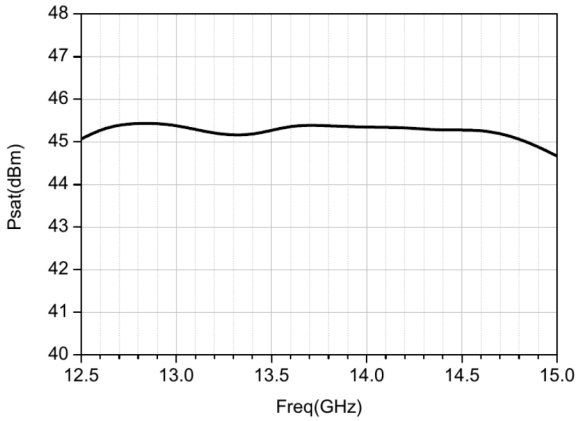


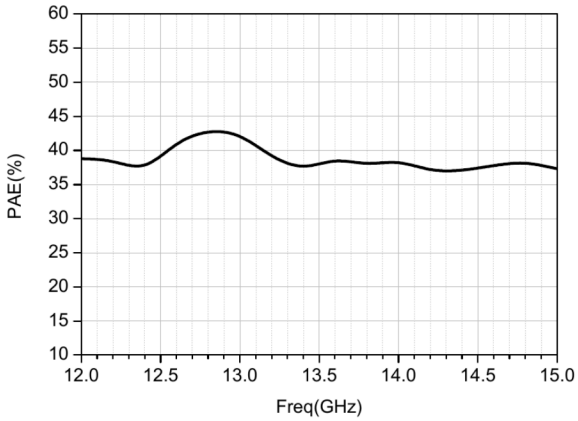
## Performance curves

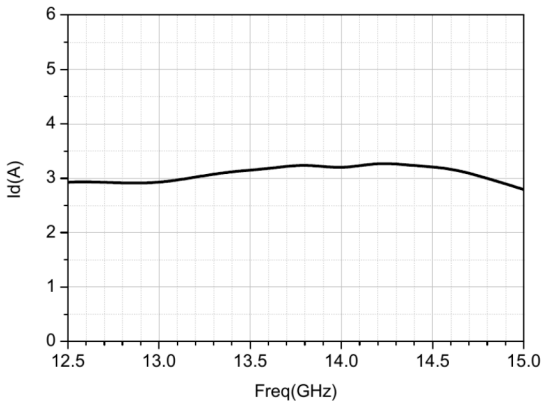
Each performance plot applies to its stated operating conditions.

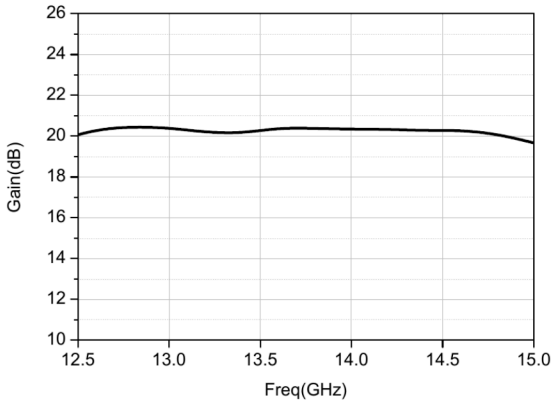
### Saturated output power; Power-added efficiency; Dynamic drain current; Power gain; IMD3.

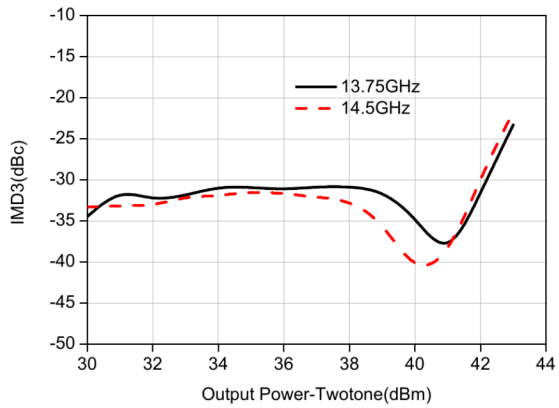
Figure notes: Vd=+28V; Vg=-3.08V. (1–4): Pin = 25 dBm. IMD3: f = 13.75 / 14.5 GHz. (6): S21 ≠ Gain; Pin = −10 dBm. Conditions apply to the indicated plots and their own legends. Use the axis labels to identify the plotted quantities. Read symbols and units as labeled on the axes.

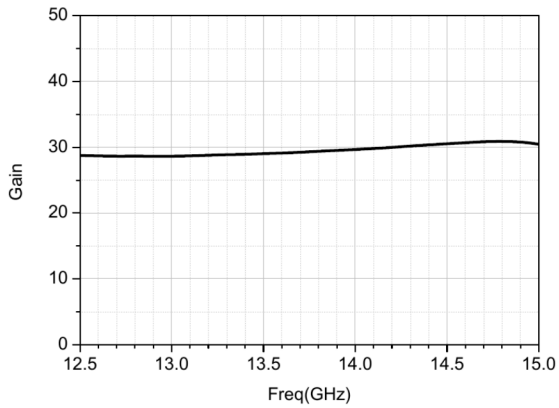



**Document notice**

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.