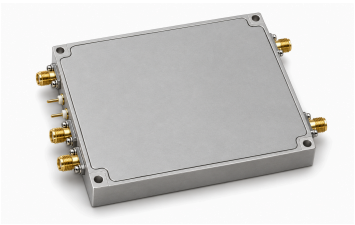
6–8.3 GHz Up/Downconverter with Dual IF Transmit Inputs

LCMIXUD-6000-8300 combines two IF transmit inputs internally and provides separate RF transmit and receive ports. TTL selects one conversion mode: 3.3 V enables upconversion; 0 V enables downconversion. The input is internally pulled low. These controls do not establish simultaneous full-duplex operation.



The downconversion path specifies 30 dB typical gain and 2 dB maximum noise figure. The module uses +5 V nominal supply, 6 V maximum and 600 mA typical current, in a 100 × 80 × 13 mm body. The −15 dBm upconversion input recommendation is matching guidance; Psat ≤5 dBm remains an upper-bound source value.

Electrical specifications

Parameter	Value	Unit
RF frequency range	6–8.3	GHz
IF frequency range	3.2–5.5	GHz
Downconversion gain	30 (Typical)	dB
Downconversion noise figure [1]	2	dB
Saturated output power (Psat) [2]	≤5	dBm
Output spurious [3]	−40 (Typical)	dBc
Leakage level / source rejection value	40 (Typical)	dBc
Supply voltage [4]	+5	VDC
Supply current	600 (Typical)	mA
Internal LO frequency	11.5	GHz
Internal reference frequency	50	MHz

[1] Maximum: 2 dB.

[2] Upper bound stated in the source; not minimum output capability.

[3] At RF output power 0 dBm.

[4] Stated +5 V supply; 6 V maximum. No typical qualifier is inferred. Maximum: 6 VDC.

Environmental limits

Parameter	Value	Unit
Operating temperature	−40–+70	°C
Storage temperature	−40–+85	°C

Interfaces and contacts

Interface	Specification
Receive RF input	RF_R: SMA
Receive IF output	IF_R: SMA
Transmit IF inputs	IF_T1, IF_T2: SMA (Two IF inputs combine in the source block.)
Transmit RF output	RF_T: SMA
Power interface	+5 V / GND (Supply uses a feed-through capacitor; ground uses a metal grounding tab.)

Control and filter selection

Parameter	Value
Mode control interface [1]	TTL
TTL high mode [2]	3.3 V
TTL low mode [3]	0 V
TTL default state	Internally pulled low.

[1] Control through a feed-through capacitor.

[2] Upconversion on; downconversion off.

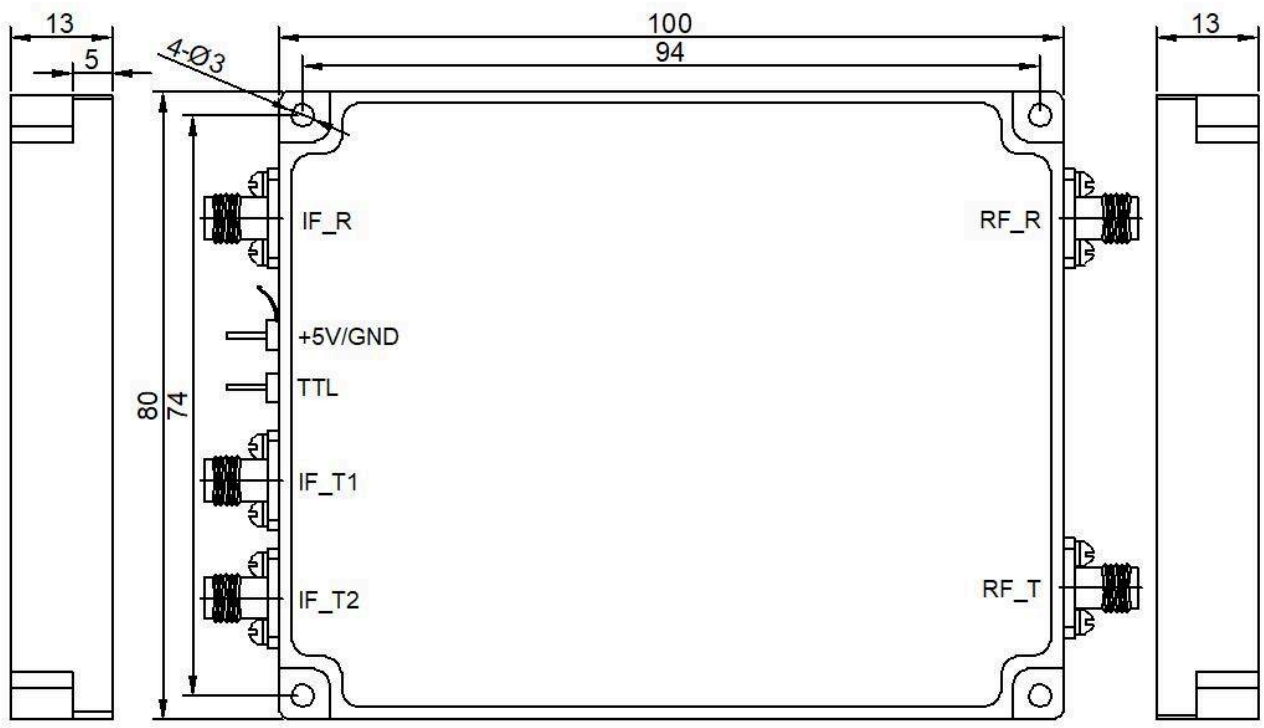
[3] Downconversion on; upconversion off.

Integration guidance

Parameter	Value	Unit
Recommended upconversion input	–15 (Matching guidance; not an absolute rating or P1dB.)	dBm

Mechanical specifications

Parameter	Value	Unit
Body dimensions	100 × 80 × 13	mm
Mounting-hole center spacing	94 × 74	mm
Mounting holes	4 × Φ3	mm



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.