Product catalog

Frequency Conversion & IF Processing

Frequency conversion and IF processing hardware moves signals between RF, microwave, IF and baseband ranges, including up/down converters, transceiver converters, mixers, IQ modules, IF modules, multipliers, dividers and transverters.



Products: 16

Revision: 9 · Revision date: 2026-11-28

Down Converter Modules



LCMIXD-10700-12750

10.7–12.75 GHz Dual-Channel RF Downconverter Module

Dual-channel RF downconverter with 10.7–12.75 GHz inputs, 1.7–3.75 GHz IF outputs, 50 dB minimum conversion gain and 1.8 dB maximum noise figure. Operates from a +12 VDC supply.

RF input frequency: Specification: 10.7–12.75; Unit: GHz

IF output frequency: Specification: 1.7–3.75; Unit: GHz

Downconversion gain: Specification: 50 (minimum); Unit: dB

Noise figure: Specification: 1.8 (maximum); Unit: dB

Product details Product datasheet



LCMIXD-20-3600

20–3600 MHz Dual-Conversion RF Downconverter Module

Convert 20–3600 MHz RF to a 153.6 MHz wideband IF or a 140 MHz narrowband IF. Three SPI-selectable modes provide 45, 30 or 10 dB conversion gain, each specified at ±2 dB.

RF input frequency: Specification: 20–3600 MHz; Unit: MHz

Tuning resolution: Specification: 10 kHz; Unit: kHz

Frequency switching time: Specification: ≤100 µs; Unit: µs

Frequency accuracy: Specification: ≤0.1 ppm · over full operating temperature range; Unit: ppm

Product details Product datasheet



LCMIXD-2000-18000

2–18 GHz SPI-Controlled Broadband RF Downconverter Module

Broadband RF downconverter covering 2–18 GHz with a fixed 1.8 GHz IF output and 28 dB minimum conversion gain. SPI selects RF filters and programmable attenuation; two external LO inputs serve the conversion chain.

RF input frequency: Specification: 2–18; Unit: GHz; Notes: Broadband

IF output centre frequency: Specification: 1.8; Unit: GHz; Notes: Fixed

Conversion gain: Specification: ≥28; Unit: dB; Notes: Minimum

Noise figure: Specification: ≤12; Unit: dB

Product details Product datasheet



LCMIXUD-380-18000-2G

0.38–18 GHz RF Up/Downconverter Module with Internal LO

Separate upconversion and downconversion paths cover 0.38–18 GHz RF and 3.6 ±1 GHz IF, with up to 2 GHz instantaneous bandwidth. Both paths support direct operation over 0.38–4.6 GHz; internal LO sources and SPI control are integrated.

RF input frequency: Specification: 0.38–18; Unit: GHz; Notes: Broadband RF input

Converted IF output band: Specification: 3.6 ±1; Unit: GHz; Notes: Nominal centre 3.6 GHz

Direct RF output band: Specification: 0.38–4.6; Unit: GHz; Notes: Separate output path without frequency conversion

Instantaneous bandwidth: Specification: Up to 2; Unit: GHz; Notes: Source description; converted IF operation

Product details Product datasheet



LCLNB106-LO2S

Ku-Band 10.70–12.75 GHz LNB with WR-75 Input

Satellite downconverter to 950–2150 MHz IF, ≥60 dB conversion gain, ≤0.8 dB noise figure and N female IF/DC interface.

RF input frequency: Value: 10.70–12.75; Unit: GHz

IF output frequency: Value: 950–2150; Unit: MHz

Internal LO frequency: Value: 9.75 / 10.60; Unit: GHz

LO selection voltage: Value: 13 / 18; Unit: V

Product details Product datasheet



LCMIXD-2000-18000-4C

2–18 GHz Four-Channel Downconverter with SPI Control

Four-channel conversion to fixed 1.8 GHz IF, ≥28 dB gain, ≤12 dB noise figure and independent RF/ calibration attenuation.

RF input frequency: Value: 2–18; Unit: GHz

Channel count: Value: 4

IF output frequency: Value: 1.8; Unit: GHz

IF output bandwidth: Value: 1; Unit: GHz

Product details Product datasheet



LCMIXD-6000-9000

6–9 GHz Downconverter with 5 GHz IF

Selectable-band RF downconverter with 30 dB typical conversion gain and 2.5 dB maximum noise figure. Typical source value; not a guaranteed no-damage limit. Typical: 33 dBm.

RF input frequency: Value: 6–9; Unit: GHz

IF output frequency: Value: 5±0.75; Unit: GHz

Downconversion gain: Value: 30; Unit: dB; Notes: Typical: 30 dB.

Downconversion noise figure: Value: 2.5; Unit: dB; Notes: Maximum: 2.5 dB.

Product details Product datasheet



LCMIXD-6000-9000A

6–9 GHz Downconverter with 5 GHz IF, A Variant

Separate A variant with selectable RF bands, 30 dB typical conversion gain and 12 dBm typical Psat; noise figure is not specified. Typical source value; not a guaranteed no-damage limit. Typical: 33 dBm.

RF input frequency: Value: 6–9; Unit: GHz

IF output frequency: Value: 5±0.75; Unit: GHz

Downconversion gain: Value: 30; Unit: dB; Notes: Typical: 30 dB.

Saturated output power (Psat): Value: 12; Unit: dBm; Notes: Typical: 12 dBm.

Product details Product datasheet



LCMIXD-8500-10500

8500–10500 MHz X-Band RF Downconverter with Internal LO and AGC

X-band downconversion to a 1200 MHz typical IF, with an internal 7300–9300 MHz LO and 3 dB maximum noise figure.

RF input frequency: Symbol: BW; Minimum: 8500; Maximum: 10500; Unit: MHz

RF input power range: Symbol: Pin; Minimum: -85; Maximum: -35; Unit: dBm

IF output frequency: Symbol: BW; Typical: 1200; Unit: MHz

IF output power range: Symbol: Pout; Minimum: -3; Maximum: 0; Unit: dBm

Product details Product datasheet



LCMIXUD-2000-18000-2G

2–18 GHz Downconverter with 2 GHz IF Bandwidth

Documented RF-to-IF conversion to 3.75±1 GHz, with 60 dB typical LNA-path gain, ≥12 dBm output P1dB and RF/IF attenuation.

RF input frequency: Value: 2–18; Unit: GHz

IF output frequency: Value: 3.75±1; Unit: GHz

IF output bandwidth: Value: 2; Unit: GHz

LNA-path gain: Value: 60; Unit: dB; Notes: Typical: 60 dB.

Product details Product datasheet

Transceiver Converter Modules



LCMIXUD-6000-8500

6–8.5 GHz Integrated RF Up/Downconverter Module

Integrated conversion between 6–8.5 GHz RF and 3–5.5 GHz IF. The downconversion path provides 25 dB typical gain and 2 dB maximum noise figure; TTL control selects the active conversion direction.

RF operating frequency: Specification: 6–8.5; Unit: GHz

IF operating frequency: Specification: 3–5.5; Unit: GHz

Downconversion gain: Specification: 25; Typical; Unit: dB

Downconversion noise figure: Specification: 2; Maximum; Unit: dB

Product details Product datasheet



LCMIXUD-2000-18000A

2–18 GHz Up/Downconverter with 1.8 GHz IF

Separate conversion channels, 65 dB typical downconversion LNA gain and ≥15 dB upconversion gain with programmable attenuation.

RF input frequency: Value: 2–18; Unit: GHz

IF output frequency: Value: 1.8±0.5; Unit: GHz

LNA-path gain: Value: 65; Unit: dB; Notes: Typical: 65 dB.

Through-path gain: Value: 28; Unit: dB; Notes: Typical: 28 dB.

Product details Product datasheet



LCMIXUD-6000-8300

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

Mode-selected converter for 6–8.3 GHz RF and 3.2–5.5 GHz IF, with 30 dB typical downconversion gain and 2 dB maximum noise figure.

RF frequency range: Value: 6–8.3; Unit: GHz

IF frequency range: Value: 3.2–5.5; Unit: GHz

Downconversion gain: Value: 30; Unit: dB; Notes: Typical: 30 dB.

Downconversion noise figure: Value: 2; Unit: dB; Notes: Maximum: 2 dB.

Product details Product datasheet

Up Converter Modules



LCMIXU-2000-18000

2–18 GHz Broadband Upconverter with SPI Filter Control

Upconverter with 1.8 GHz IF, external dual LO inputs, ≥15 dB small-signal gain, ≥5 dBm output P1dB and 0.5 dB calibration attenuation steps.

RF output frequency: Value: 2–18; Unit: GHz

IF input frequency: Value: 1.8; Unit: GHz

IF input passband: Value: 1.8±0.5; Unit: GHz

Small-signal gain: Value: ≥15; Unit: dB; Notes: Minimum: 15 dB.

Product details Product datasheet



LCMIXU-6000-8300

6–8.3 GHz Upconverter with 3.5–5.8 GHz IF

SMA upconverter with at least 30 dB gain, internal 11.8 GHz LO synthesis and 160 mA typical current from a +28 V supply.

RF output frequency: Value: 6–8.3; Unit: GHz

IF input frequency: Value: 3.5–5.8; Unit: GHz

Upconversion gain: Value: ≥30; Unit: dB; Notes: Minimum: 30 dB.

Saturated output power (Psat): Value: ≤5; Unit: dBm; Notes: Upper bound stated in the source; not minimum output capability. Maximum: 5 dBm.

Product details Product datasheet

LCBUC-13750-14500-400

400 W Ku-Band Block Upconverter

A GaN Ku-band block upconverter with 950–1700 MHz IF input and 13750–14500 MHz RF output for satellite ground station transmit chains.

RF output frequency: Value: 13750–14500; Unit: MHz

Saturated RF output power: Value: 400; Unit: W

IF input frequency: Value: 950–1700; Unit: MHz

Local oscillator frequency: Value: 12800; Unit: MHz

Product details Product datasheet

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.