



[< Back to products list](#)

FREQUENCY CONVERTERS - STANDALONE OR DUAL

DESIGNED FOR ALL FREQUENCY BANDS UP TO V-BAND



Our portfolio of converters facilitates all common combinations of uplink and downlink frequencies. The frequency converters are proven in flight, and their flexible design allows adaptable gain, NF, linearity and RF slices depending on payload configuration. They are based on modern technologies such as macrohybrid techniques; MMIC, VCO MMIC, synthesized LO. Gain and LO flexibility are possible options.

To meet customer needs, this family of products leverages Thales' in-house RF MMIC design with its incredible frequency diversity from IF to V-band. It covers all active RF functions from LNA to HPA, specific mixers and control circuits.

DESIGNED AND QUALIFIED AT THE MULTI-PLATFORM LEVEL



PROVEN IN-SERVICE

More than 1700 RF chains in operation
More than 3300 RF chains produced



FLEXIBLE DESIGN

Can be easily adapted for different frequency bands and performance for 0.6 GHz band up to 52.4 GHz
Compatible with most bus interfaces



RELIABILITY & PERFORMANCE

Low noise performance (C, Ku, Ka), high linearity
Highly reliable design and grade 1 quality



LEO*, MEO*, GEO



PAYLOAD



TELECOMMUNICATIONS

*Depending on mission specification

COVERS ALL FREQUENCY BANDS AND BASED ON AN EASY TO MODIFY DESIGN USING WELL-KNOWN HYBRID TECHNOLOGY



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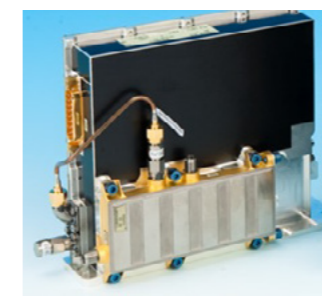
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MAIN TECHNICAL FEATURES

PARAMETER	PERFORMANCE	REMARKS
Product type	Standalone or dual (DCDC, TMTC, LO, RF chain inside a single unit)	
Frequency bands	V/Ka docon, Ka/Q upcon Ka/Ka RX, DC, upcon, dual docon, Ku Rx/docon, Q upcon assembly C-band RX & docon All possible crosstrap : Ka/Ku & Ku/Ka , ...	
Mass	From 0.6 to 1 Kg / RF chain	Depends on optional features (dual, LO flexibility, anti-aliasing filtering)
DC power consumption	From 7W to 11W	Average DC power consumption per RF slice depending on feature
LO reference	Internal OCXO or external reference compatibility	
Qualification temperature range	-20/+70°C	
Design life	18 years	
Optional feature	<ul style="list-style-type: none"> Gain flexibility LO flexibility Anti-aliasing / Nyquist filtering for digital payloads Improved phase noise Receiver with LNA intermediate output 	
TMTC protocol for gain / LO flexibility	CAN BUS, OBDH, PULSE ...	
Primary power bus	From 30V – 100V	



Flexible converter



Standalone Ku & C



Standalone Ka



DUAL RF/IF & IF/RF

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