Overview

UDC series

UDC RF Converter Series

RF Test Equipment for Wireless Communications

Getting the most performance out of any communications system means minimizing sources of error wherever possible. dBm's UDC series of RF Converters perform broadband frequency translation with low distortion, high dynamic range, and low phase noise.

These RF Converters can optionally have internal or external local oscillators, and wide range AGC and AFC with ultra-linear transfer characteristics. For RF to baseband units, the I/Q interface can be programmed for level, impedance, and DC offset. The AGC and AFC control can be internal, or can be supplied externally.

dBm has an extensive range of RF Converters that can be customized to suit your specific application. And although these converters can be customized, we use standard building blocks so that you don't have to wait forever to get one.

Select a fixed frequency block conversion or tunable frequency architecture with step sizes as low as 2KHz over multi-octave bands. Frequency conversion from base band/IF to L,C,S Ku and Ka bands are available in single and multiple channels.

Applications

Typical applications for the *UDC RF Converter Series* include:

- Mobile phone baseband chipset test
- Satellite system integration
- Frequency translation to microwave and millimeter wave devices
- Multimedia Mobile Access (MMAC)

Features

Flexibility

Using standard building blocks for single, double, and triple conversion converters, each RF Converter can be customized in accordance with your specific test needs. Functionality, performance, and even connector location, are optimized.

Block or Tunable, IF or Baseband

Whether performing block up and down conversion or tunable translation with 2 KHz resolution, we have a solution. RF to baseband units can provide I/Q interfaces with programmable AGC and AFC.

Rack Mounting and Custom Enclosures

All RF Converters are available in 19" rack mountable enclosures, or as an option can be designed as an embedded chassis.

Multiple Control Options

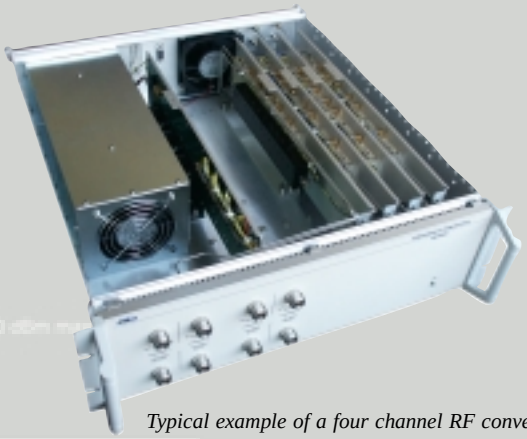
IEEE-488.2 standard, LAN, serial port or addressable parallel binary control interfaces are available.

UDC RF Converter Series

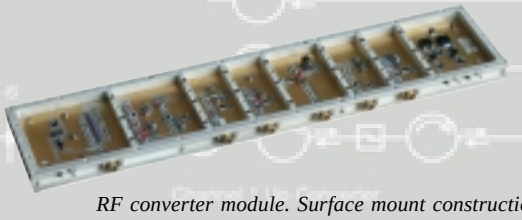
Modular construction - Allows easily customized solutions

The UDC series is based on a modular architecture, allowing a cost effective system to be easily tailored to meet your exact application. A selection of (tunable or block) RF Up and Down converters can be installed in the same housing giving ultimate flexibility in configuring a "unique" densely packaged solution.

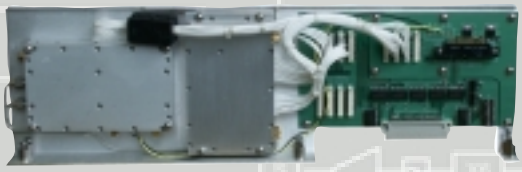
Additionally a range of programmable synthesizers may be configured giving you the ability to optimize your RF converter system. Typical applications include frequency translators and multi-channel up/down converters. dBm can also provide turn-key ATE solutions built around our Satellite Link Emulators, wideband Noise Generators and RF attenuator modules.



Typical example of a four channel RF converter (additional space available for expansion)



RF converter module. Surface mount construction ensures high performance/reliabilty



Modular self contained synthesizers

Typical Specifications

Number of converters:	Up to 8 per chassis
Architecture	any combination of block and tunable
Conversion topology	single, double or triple
Step size (tunable)	typical range from 2KHz to 1MHz
spectral inversion	to be specified by user

Down converter

Input frequency range:	typically L,C,S, Ku or Ka bands
Output frequency :	IF (typically 70 or 140MHz) or I/Q
Input Power (max):	- 10 to +5dBm typical
Conversion gain:	0 dB +/- 1.5 dB typical
IF bandwidth:	80 MHz typical
Spurious: out of band:	< -60 to -50 dBc typical
In band non-harmonic:	< -60 to -50 dBc typical
harmonic :	< -30 dBc typical
Amplitude Flatness:	< 0.2 dBpp / 2 MHz typical
	< 2.0 dBpp/ 20MHz typical
Phase linearity:	+/- 2 degrees / 10 MHz typical
VSWR:	1.5:1 maximum into 50 ohms

Primary Power

Voltage:	90-264 VAC auto ranging
Frequency:	48-66 Hz
Consumption:	1.0A maximum
Fuse:	2A
Ambient (operating) :	+10°C to +40°C
Dimensions (per chassis)	5.25 H x 19 W x 21 D inches

Up converter

Input frequency:	baseband or IF typical
Input power (max):	-10 to +5 dBm typical
Conversion loss:	0 dB +/- 1.5 dB
IF bandwidth:	80 MHz typical
Amplitude Flatness:	< 0.2 dBpp / 2 MHz typical
	< 2.0 dBpp/ 20MHz typical
Phase linearity:	+/- 2 degrees/10MHz typical
Output frequency range:	typically L,C,S, Ku or Ka bands
In-band Spurious:	< -60 to -50 dBc typical
Out of band Spurious:	< -60 to -40 dBc typical
VSWR:	1.5:1 maximum into 50 ohms

General

Input/ Output Connectors:	type N or K(3.5mm) typical,
Control	IEEE 488.2 standard,
	LAN, RS232, binary optional

Ordering Information

Please consult the factory with your specific requirements

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