

# Dual Channel DC-32GHz Agile Up & Down Converter + VNA Extender Module Option

## APPLICATIONS:

- Test automation
- VNA Test equipment extender
- Low Cost Antenna measurement.
- Low cost test production test stations.
- 5G & 6G phased arrays.

## RF FEATURES:

- 2 x up / down channels
- Bi-Directional RF/IF
- LO: 8-32 GHz 1Hz Step
- IF: DC-8GHz
- RF: DC-32GHz
- Frequency and Phase Locked
- Variable RF and IF Gain Control
- Spur/Image Filtering and Control
- Ultra Low Noise
- Ultra Low Phase Noise
- High linearity
- High isolation
- Zero drift (oven stabilised)
- Fast switching
- Internal / External Frequency Reference

## CONTROL:

- Programable and versatile
- Easy to use
- Compatible with LabVIEW, Matlab, C and other environments
- USB interface

## MECHANICAL DETAILS:

- Compact and lightweight
- Portable and rugged
- Mounting screws
- EMC shielded



Easy to Use



Portable



Value for Money



Rugged

EECL is pleased to offer the market a dual channel converter **Overview**

module that can be configured for RF->IF or IF->RF (independent) conversion utilising two frequency and phase locked channels. Gain control (+30 to -30 dB) of both IF and RF ports is facilitated, and these can be reversed as required independently. Each channel has an extremely high isolation of 90dB. The LO used for mixing is generated from an extremely low phase noise VCO and can be set anywhere from 8GHz to 32GHz. The unit has integrated tuneable harmonic filters to prevent unwanted spurious and the unit provides extremely high dynamic range and low noise figure. The unit takes a 6V power supply and operates over USB with a simple UART based command set, perfect to control with Matlab, C, Labview. The unit is drift stabilised by the inclusion of an oven and therefore suitable for long term use in a calibrated system (S-Parameter measurement).

- Dual channel with high isolation
- Up & down conversion in a single unit
- RF: DC – 32GHz
- IF: DC – 8GHz
- Synthesizer frequency: 8GHz – 32GHz
- Tuneable local oscillator frequency
- Ideal for 5G communication
- 2.92mm RF & SMA IF ports
- Inbuilt heater for stabilization
- Low mass
- Compact
- Aluminium main body fully EMC Shielded

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**EECL** European Engineering & Consultancy Ltd

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## INTERFACE

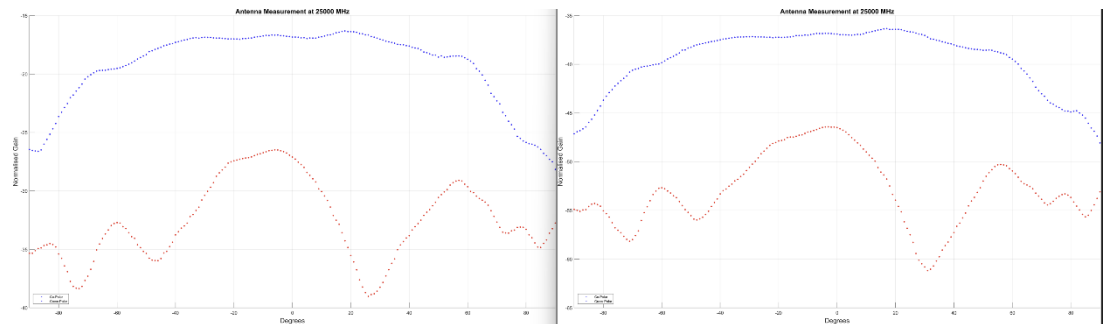
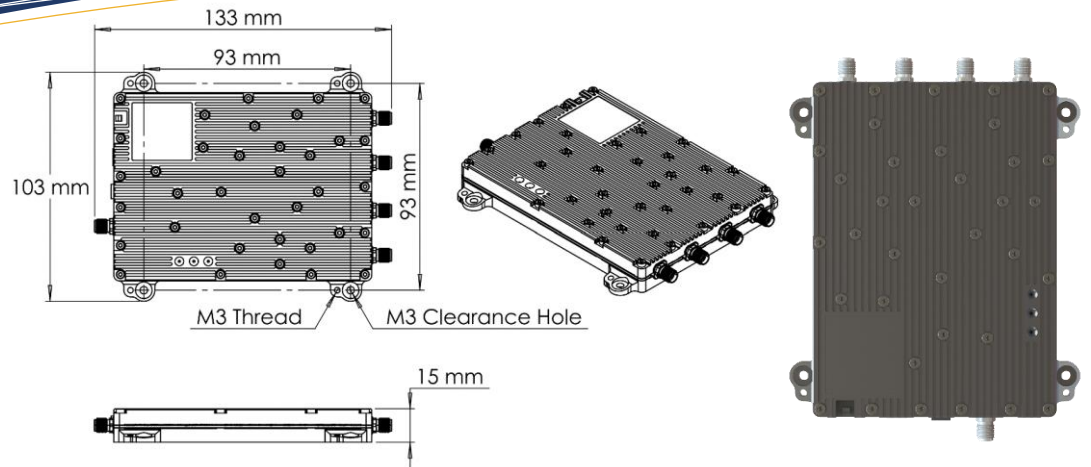
- USB SCPI style interface
- Fast data transfer
- Field upgradable software and regular firmware releases.
- Matlab / Labview Drivers
- Windows GUI for plug and play functionality with scripts for complex automated test routines.

## TECHNICAL SUPPORT

EECL offers support to get you up and running quickly. Please don't hesitate to get in touch at [info@euroecl.com](mailto:info@euroecl.com)

## TURNKEY SOLUTIONS

We have many customers who require a complete turnkey test solution. We can implement new firmware commands to enable custom measurements to be completed at the hardware level. See the following pages for examples of where a turnkey implementation was used. If you require anything just a little bit different to what is here, please get in touch – we may be able to make or modify it for you.



When used as a VNA extender for anechoic chamber measurement, the module allows an extremely low-cost measurement system to be used with zero compromise on measurement made. The above plot shows Left (our low cost VNA/extender combo) and Right a high end Keysight PNA direct measurement. Both measurements are identical.

## Main Specifications

Parameter	Description	Value
RF frequency		DC – 32GHz
IF frequency		DC – 8GHz
LO frequency		8GHz – 32GHz
LO frequency resolution		1Hz
Mass		220g
RF port	2.92mm port	N/A
IF port	SMA port	N/A
Control		USB 2.0 (VCP)
Spurious		Less than 60dB

## SERVICES AVAILABLE

- Technical Support
- Installation and Setup
- Maintenance
- Application Support
- Hardware Support
- New Features on Request
- Calibration
- Warranty

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