

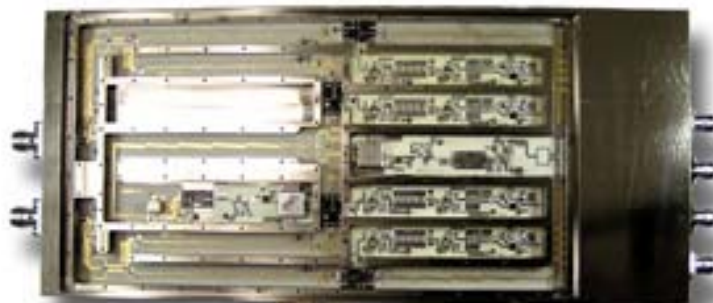
DBS Down Converter Unit 2 (DCU2)

Product Description

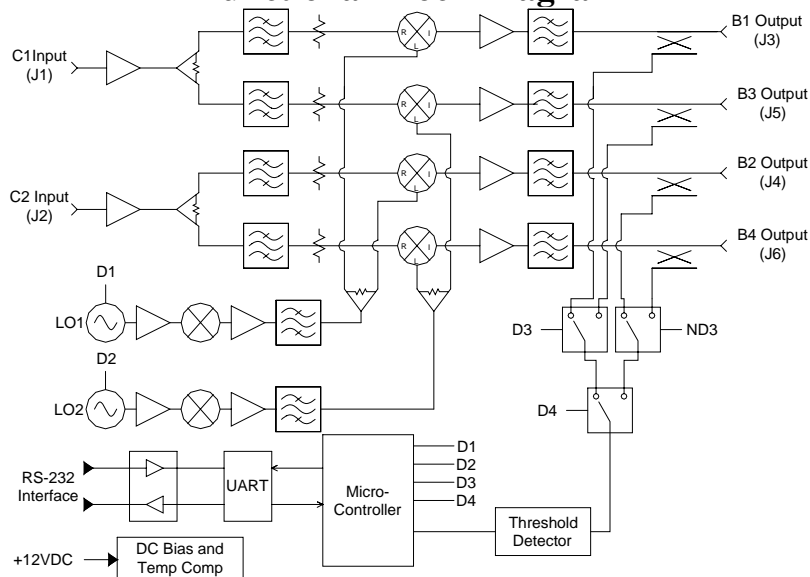
The A235001-1 Direct Broadcast Satellite (DBS) Down-Converter Unit is a high performance, multifunction device that converts 2 input C-Band signals to 4 L-Band output signals. This module incorporates two separately tunable integrated LO synthesizers as well as a selectable four channel threshold detector. High reliability MMIC's are used extensively throughout the unit, which also incorporates an RS232 interface as well as proprietary micro-processor controlled temperature compensation. The unit provides more than 20 dB of gain while exhibiting an extremely flat response over both frequency and temperature. Inter-modulation product suppression is typically better than 30dBc. This environmentally sealed multifunction assembly is an essential DBS component currently flying on commercial as well as private aircraft.

Product Features

- RF Frequency: 3.45 to 5.5 GHz
- IF Frequency: 0.95 to 2.15 GHz
- Two Integral Synthesized LOs Tunable from 2.5 to 3.5 GHz
- RS232 Interface
- Integral BIT Oscillator
- Switched 4-Channel Threshold Detector
- Firmware Controlled Temperature Compensation



Functional Block Diagram



Electrical Specifications

Parameter	Units	Typical
RF Frequency	GHz	3.45 to 5.5
IF Frequency	GHz	0.95 to 2.15
Gain	dB	20.0
Gain Flatness	dB	2.0
Input Return Loss	dB	14.0
Output Return Loss	dB	> 10.0
Noise Figure	dB	< 8.5
Output P1dB	dBm	> +3
Output IP3	dBm	> +12
Intermod Products	dBc	< -25
DC Bias	V	12 @ 500mA
Device Voltage	V	12 @ 900mA
Operating Temperature Range	°C	-55 to +75

Rev - 12/6/06

Microwave Concepts, Inc.

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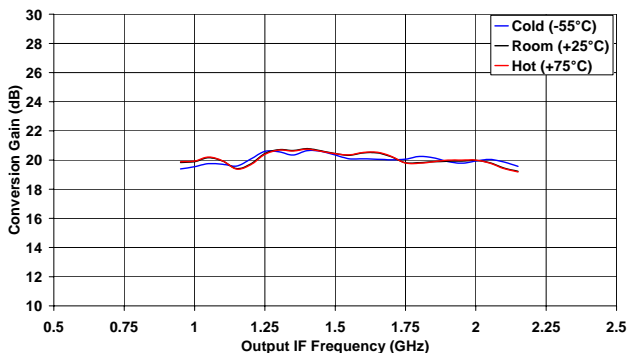
12 Gardner Road, Fairfield, NJ 07004 Telephone: 973-244-1040 Fax: 973-244-1188

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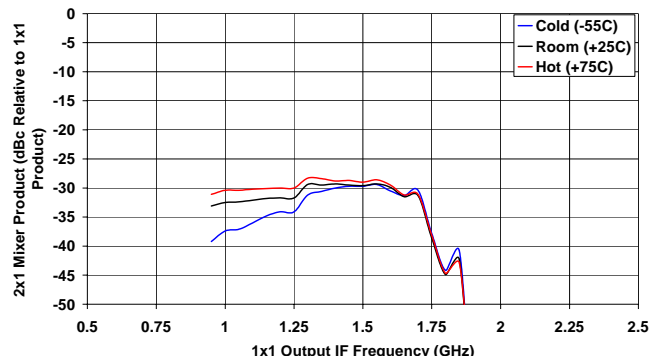
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Typical Device RF Performance

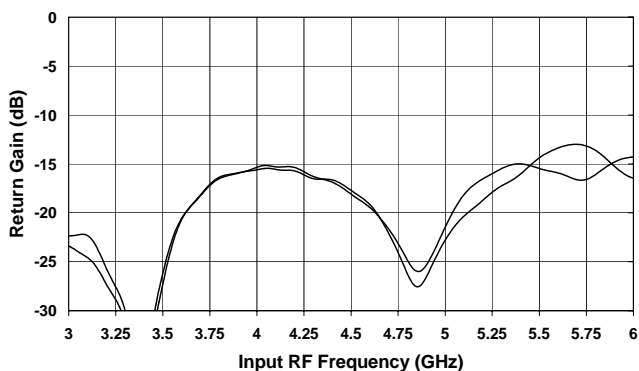
Gain vs. Temperature



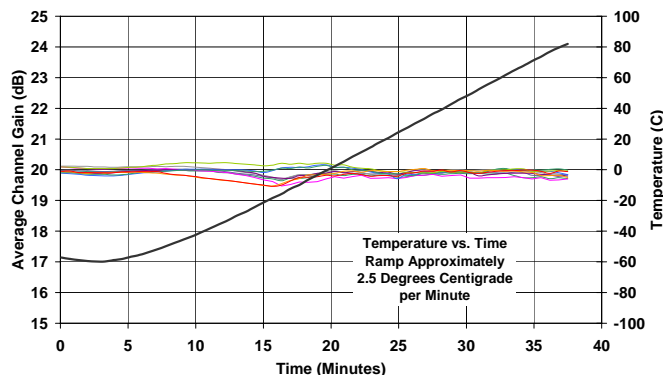
2 By 1 Spurious Signal vs. Temperature



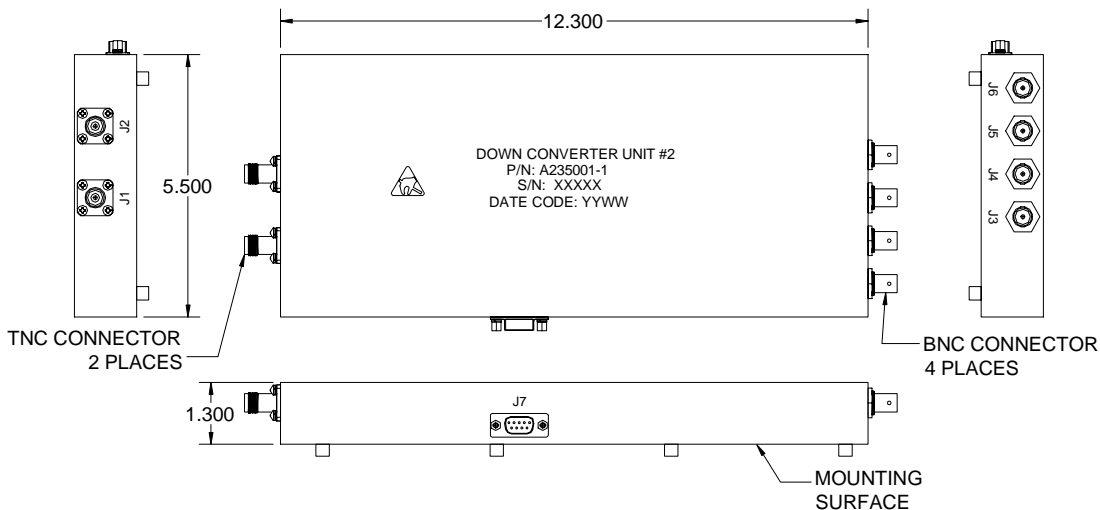
Return Loss @ 25°C



Average Gain vs. Temperature



Outline



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