

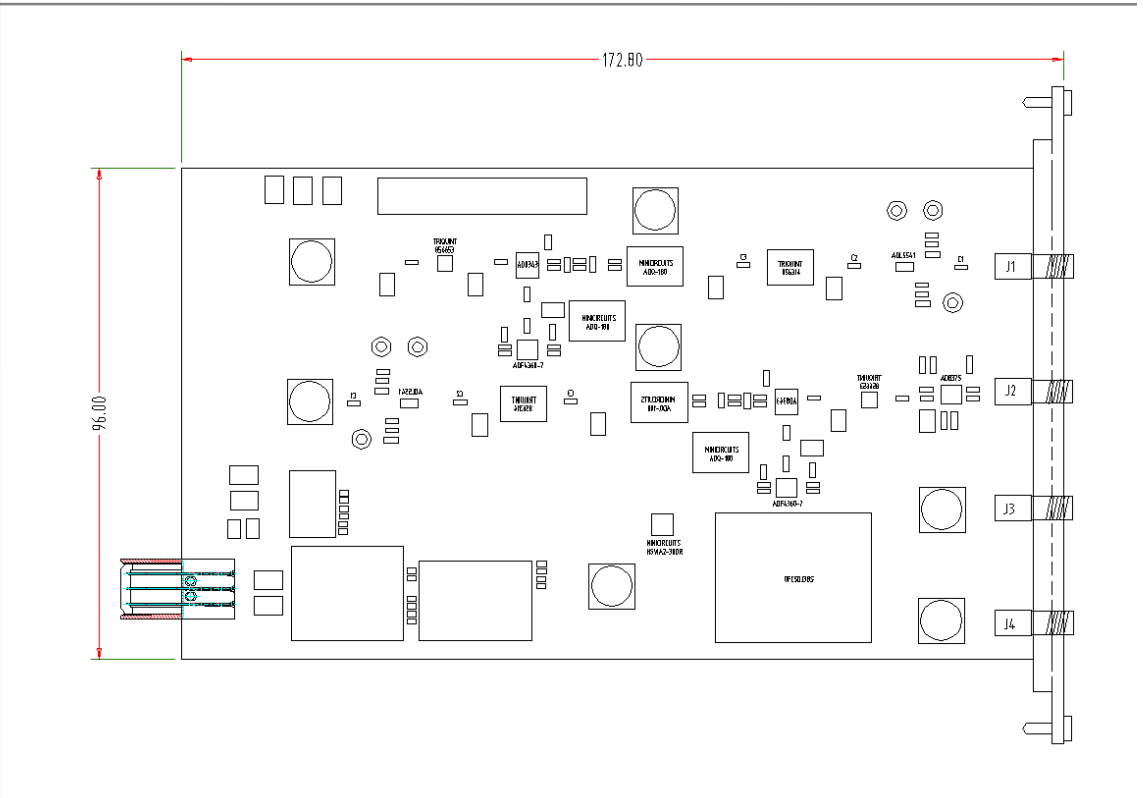


DM9000 L-band RF Tuner

(preliminary data-sheet)

Description	<p>The DM9000 is a 3U form factor RF Board aimed for interfacing a standard IF Modem and the conversion from L-band to IF (140MHz) and from IF (140MHz) to L-band.</p> <p>The DM9000 RF central frequency is centred around 1.25GHz. The RF Board is equipped with up and down conversion data paths, and a synthesizer section aimed to generate the RF LO starting from an internal 10.00MHz oscillator or alternatively from an external 10.00MHz LO.</p> <p>The RF up-converter overall has a fixed insertion loss of -7dB. The RF down-converter has a VGA that allow to control overall the RF down-conversion gain from a maximum of +13 dB to a minimum of -11dB. The RF LO synthesizer is implemented through an integrated integer-N synthesizer and voltage controlled oscillator (VCO). RF LO synthesizer center frequency is set by external inductors. Its frequency can be tuned in the range of 1.25GHz using a standard SPI three wires interface. The RF down-converter VGA gain can be controlled via a parallel TTL bus. The RF LO synthesizer section is independent for the up and down converter section allowing the RF center frequency to be offset independently. The 10.00MHz LO internal oscillato is shared between the two up and down conversoin section of the Board.</p>
Features	<ul style="list-style-type: none"> ❖ Up-converter from IF 140MHz to RF 1.25GHz ❖ Down-converter from RF 1.25Ghz to IF 140MHz ❖ Up-converter IF input maximum power level +4dBm (50Ohm S.E. AC coupled) ❖ Up-converter RF output maximum power level -3dBm (50Ohm S.E.AC coupled) ❖ Internal RF and IF DC blocks ❖ Down-converter Noise Figure : TBD ❖ SAW Filter IF bandwidth (-3dB) : 72MHz ❖ SAW Filter RF bandwidth (-3dB) : 100MHz ❖ Dual Power Supply : +/- 5.0V ❖ Down-converter VGA gain controllable from -11dB up to +13dB

Board Layout

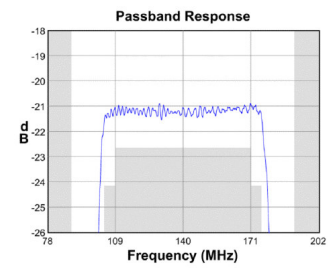
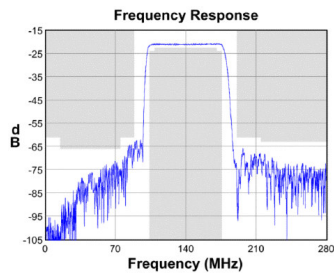
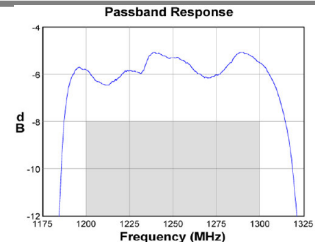
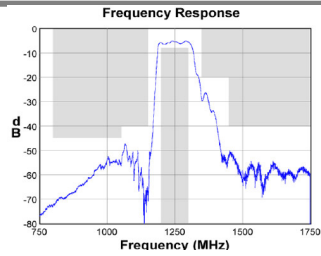




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RF & IF
SW Filters
Shaping



Up-converter
section block
diagram

Down-converter
section block
diagram