

## DEM MMICAMP 1 Low Noise Receive MMIC Amplifier

**Description:**

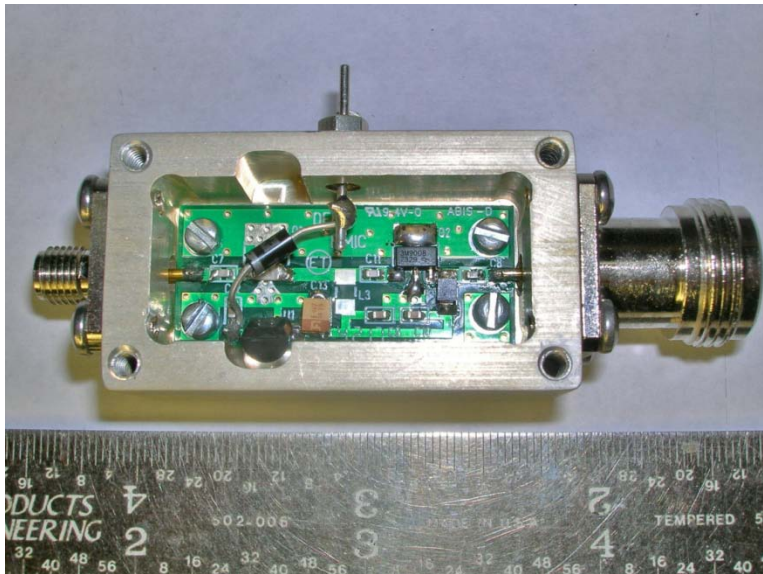
The DEM MMICAMP 1 is a single stage wide band low noise MMIC amplifier that operates between 30 MHz and 3.5 GHz. The active component is the QORVO TQP3M9008 MMIC amplifier. This amplifier is ideal for a 2<sup>nd</sup> stage low noise receiver amplifier. It is offered with a robust machined enclosure and various types of RF connectors and connector combinations to allow this amplifier to be “dropped in” to any pre-existing system or is ready to be a component in a newly developed receive system. This amplifier is also offered as a complete kit, DEM MMICAMP-1CK.



### Specifications below are all Nominal

IP3:	+36dBm output
Input VSWR:	>15dB 50 - 3500 MHz
Output VSWR:	>15dB 50 – 3500 MHz
Voltage:	+7 - +22 VDC
Current Drain	100 mA nominal

Frequency -MHz	Gain-dB	Noise Figure-dB
30	10.5	3.20
50	18.00	1.60
70	21.00	1.10
144	22.00	0.85
222	22.50	0.80
432	22.00	0.85
902	21.00	0.95
1296	19.50	1.10
2304	17.00	1.30
3456	15.50	1.80



**Installation and Operation:**

Depending on your application, the LNA may be installed anywhere in your system to increase gain and to maintain its system noise figure if utilized as a 2<sup>nd</sup> stage installed after your frequency specific low noise amplifier. If you plan to utilize this amplifier in a transceive system with transmit bypass relays, be sure of their isolation characteristics and transmit power handling capabilities before transmitting. Use only interconnecting cables and/or adapters that are rated for use at or above the intended frequency

of use. Inadequate cabling or cables with poor shielding may cause system instabilities, signal loss, or undesirable intermittent operation. Test any sequenced scheme before applying transmit power to avoid mishaps.

The connector marked **IN** (Input), is to be connected towards the antenna side of the system. The **OUT** connector (Output) is connected to the receiver side of the system. Expected performance should be what the specifications stated previously. The proper installation of this amplifier becomes more important if your installation is in a harsh RF environment. The gain bandwidth of the LNA is very wide. This may result in the passing of strong out of band signals that may cause the overloading of your receiver resulting in increased inter-modulation. It is important to use good gain management and adequate filtering between stages. If you desire to pre-test the LNA in a test bench environment before installation, do not apply more than -10dBm to the input if testing linear response. At levels above 0dBm, expect some gain compression.

**Schematic Diagram and Layout:**

