DEM MMICAMP 2
Low Level Driver MMIC Amplifier

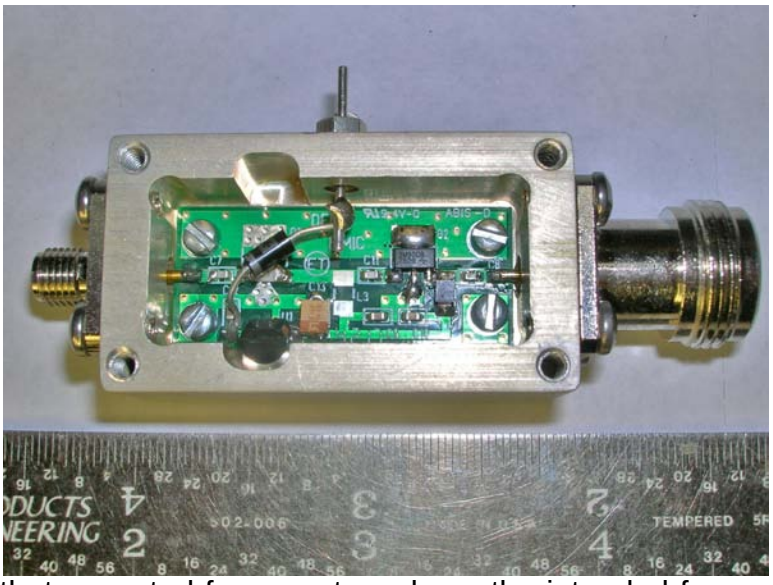
Description:

The DEM MMICAMP 1 is a single stage wide band low level driver MMIC amplifier that operates between 30 MHz and 3.5 GHz. The active component is the QORVO RFGA2054 MMIC amplifier. This amplifier is ideal for a 1st stage driver amplifier in a Transmit chain. 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 transmit chain. This amplifier is also offered as a complete kit, DEM MMICAMP-1CK.

Specifications below are all Nominal

Maximum Input Power	+15dBm output
Input VSWR:	>13dB 50 - 3500 MHz
Output VSWR:	>13dB 50 – 3500 MHz
Voltage:	+7 - +22 VDC
Current Drain	90 mA

Frequency -MHz	Gain-dB	P1dB
30	8.5	+13
50	15.00	+19
70	17.00	+20
144	19.00	+20
222	20.00	+20
432	20.00	+20
902	19.50	+20
1296	19.00	+20
2304	18.00	+19
3456	17.50	+18



Installation and Operation:

Depending on your application, the amplifier may be installed anywhere in your system to increase gain and to provide stable transmit power as specified. If you plan to utilize this amplifier as part of a transmit chain, it is important to consider filtering and isolation to prevent amplifying unnecessary harmonics and to prevent oscillation of other Transmit stages. Practice gain management to prevent compression if utilized in a linear transmitting chain. 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: