



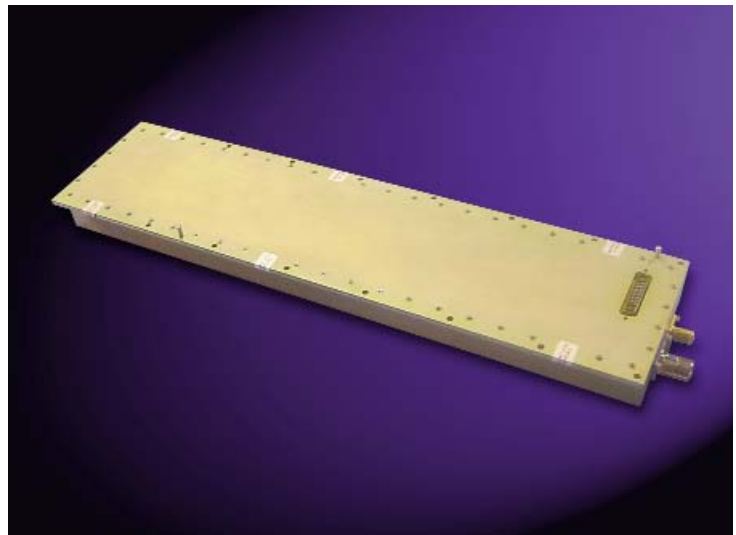
## High Power Pulsed L Band T/R Module

Aethercomm Part Number TR 1.35-1.45-80 is a high power transmit/receive module used in the Global Positioning Range Application Data Link Subsystem. This TR module operates over the military L band frequency range and provides TDMA data communications of time-space-position information between aircraft and ground stations. The system operates in transmit or receive mode at any given time but not simultaneously. Typical transmit duty cycles do not exceed 50%. In Rx mode, the module provides a low noise front-end that includes band limited filtering, a high power limiter, low noise amplification and image rejection filtering. In the Tx mode, the module amplifies a low level, L band signal up to a power level of greater than 80 watts at the antenna. The antennal port offers a bi-directional interface to the Rx and Tx sections of the module. This unit is fully GPS compliant. Standard features include forward power monitoring, reflected power monitoring, output short and open circuit protection, over and under voltage protection, receiver protection, very fast switching speeds between Rx and Tx operation and a fully regulated DC-DC converter. This unit operates from a 28Vdc supply and can survive temperatures of 95°C base plate before the unit shuts off with over-temperature protection.

### Transmit Section Operational Performance

Parameter	Min	Typ	Max
Peak Output Power (Watts)	80	90	120
RF Output Power Droop (dB)	0.2	0.5	0.75
Input Return Loss (dB)	-20	-17.5	-15.0
Duty Cycle (%)	20	25	50
Harmonics (dBc)	-100	-75	-65
Non Harmonic Spurs (dBc)	< -100	< -90	< -80
Quiescent Current (Amps)	1.5	1.6	2.0
Rejection at 1220 and 1600 MHz (dB)	60	70	80

- High power, L band transmit/receive module
- Tx minimum output power = 80 watts @ 71C base plate
- Rx typical noise figure = 3.0 dB
- Transmit pulse widths of 3 mSecs
- Fully GPS compatible



### Receive Section Operational Performance

Parameter	Min	Typ	Max
Average Input Power - No Damage (Watts)	1.0	1.5	2.0
Noise Figure (dB)	2.0	3.0	4.0
Input Return Loss (dB)	-20	-17.5	-15.0
Rx Gain (dB)	20	22	24
Rx IMD's (dB)	-96	-88	-84
Rejection at 1220 and 1600 MHz (dB)	60	70	80