

## *New Compact 1.1-1.5 THz Frequency Extension Modules*

*August 2006*

VDI recently introduced a new broadband 1.1-1.5 THz Frequency Extension Module (FEM). The design is all solid state using planar GaAs technology. There are no mechanical tuners and the FEM may be electronically swept to any frequency in the band. This system is mechanically and electrically robust with 400 GHz of bandwidth and peak power of 2-3uW. FEMs to nearby bands are under development. Similar higher power systems are available with less bandwidth (see for example <http://www.virginiadiodes.com/VDI/pdf/VDI%20Nov%202005%20News%20Item%2025uW.pdf> ).

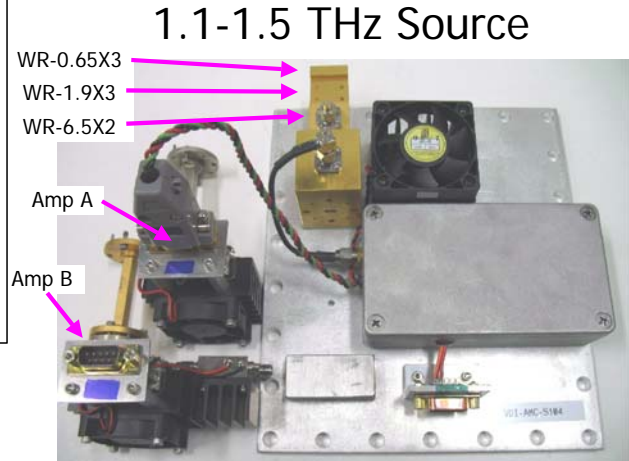
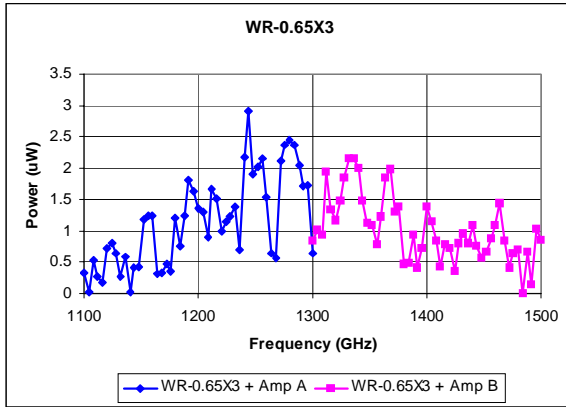
### 1.1-1.5 THz Source with Drivers



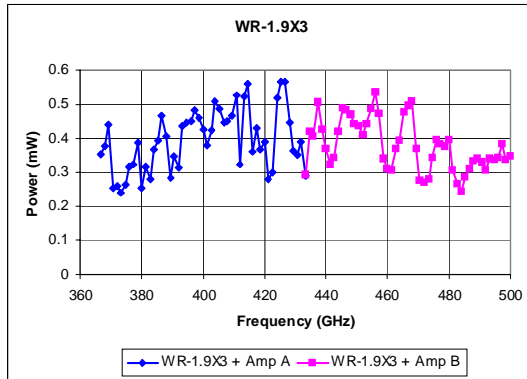
- Cover multiple bands with single amplified multiplier chain
  - WR-0.65X3
    - 1.1 uW (avg.) from 1.1-1.5 THz
  - WR-1.9X3
    - 0.33 mW (avg.) from 367-500 GHz
  - WR-6.5X2
    - 16 mW (avg.) from 116-167 GHz
- Two interchangeable driver amplifiers
  - Low and high frequency bands
- Turn-key operation
  - Driven by <20 GHz synthesizer
  - Rugged, ambient Operation



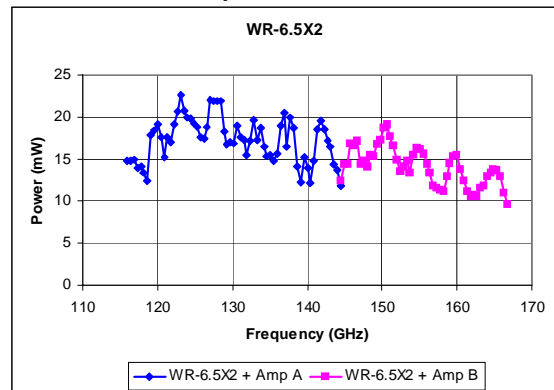
## WR-0.65X3: Output from 1.1-1.5 THz



## WR-1.9X3: Output from 367-500 GHz



## WR-6.5X2: Output from 116-167 GHz



*Please contact VDI today for additional details (434) 297-3257*