



**Blue Tops RF Modules > Low Noise Broadband Amplifier**

**Features:**

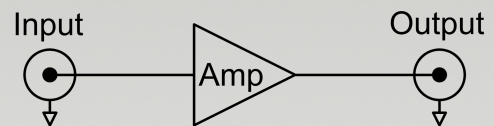
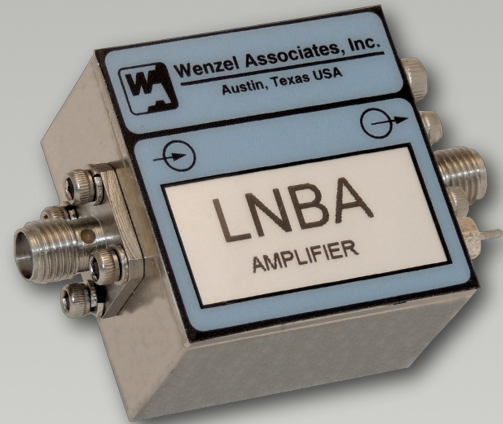
- Frequencies to 2 GHz
- Characterized Phase Noise
- Integral Attenuators

**Applications:**

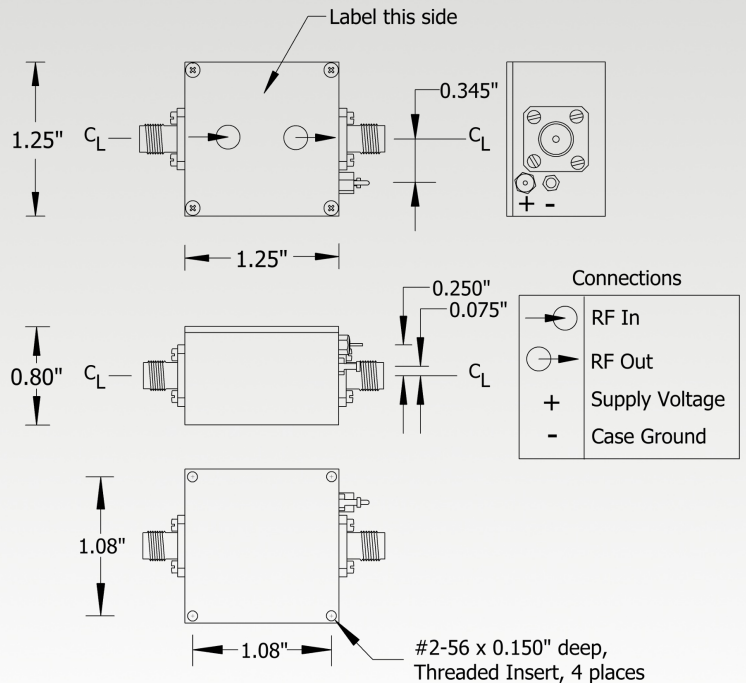
- Low Phase Noise Amplification
- Broadband Amplification

**Description:**

The LNBA is a broadband amplifier that is characterized to a specific customer specified frequency within the operating band. A wide selection of common amplifiers and input/output attenuators provide flexibility in configuring gain and input/output levels (see amplifier selection table for options). Residual phase noise is verified at 100 MHz unless otherwise specified. Please consult our technical staff for assistance in configuring an amplifier to suit your input and output requirements.



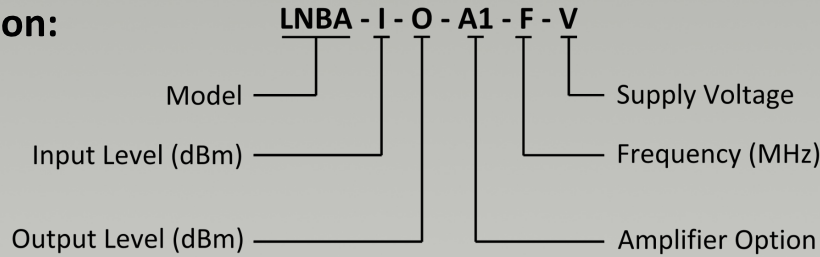
| Electrical Specifications                                                                                                                                                                |                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| Input Frequency Range                                                                                                                                                                    | to 2 GHz                       |
| Gain                                                                                                                                                                                     | to 25 dB                       |
| Output Power (P <sub>1dB</sub> )                                                                                                                                                         | to +26 dBm (±1 dB)             |
| Input/Output Impedance                                                                                                                                                                   | 50 ohms                        |
| VSWR                                                                                                                                                                                     | ≤ 2.0:1                        |
| Phase Noise Floor (Intrinsic, Input Referred)                                                                                                                                            | As low as -178 dBc/Hz          |
| Harmonics                                                                                                                                                                                | ≤ -25 dBc, typical             |
| Spurious (Excluding Supply Line Related Spurs)                                                                                                                                           | ≤ -80 dBc                      |
| Supply Voltage                                                                                                                                                                           | + 8, +10, +12 or +15 VDC (±2%) |
| Current Draw (Amplifier Dependent)                                                                                                                                                       | 30 to 205 mA                   |
| Operating Temperature                                                                                                                                                                    | 0 to +50°C                     |
| Storage Temperature                                                                                                                                                                      | -40 to +85°C                   |
| Mechanical                                                                                                                                                                               |                                |
| Dimensions                                                                                                                                                                               | 1.25" x 1.25" x 0.8"           |
| DC Supply                                                                                                                                                                                | Feed Thru Capacitors           |
| Ground                                                                                                                                                                                   | Turret Terminal                |
| RF Input / Output                                                                                                                                                                        | SMA female *                   |
| <b>NOTE: See amplifier selection table for your preferred amplifier specifications.</b>                                                                                                  |                                |
| * SMA female connectors are used unless otherwise specified. Other options include SMA male, right angle SMAs, BNC male or female and others. Contact factory for custom configurations. |                                |





## Blue Tops RF Modules > Low Noise Broadband Amplifier

### Ordering Information:



| Standard P/N **               | Input Level | Output Level (±1 dB) | Specified Frequency of Operation | Residual Phase Noise Floor | Supply Voltage |
|-------------------------------|-------------|----------------------|----------------------------------|----------------------------|----------------|
| <b>LNBA-6-16-AA-100-15</b>    | +6 dBm      | +16 dBm              | 100 MHz                          | ≤ -170 dBc/Hz              | +15 VDC        |
| <b>LNBA-0-18-BT-100-15</b>    | 0 dBm       | +18 dBm              | 100 MHz                          | ≤ -170 dBc/Hz              | +15 VDC        |
| <b>LNBA-7-21-AU-500-15</b>    | +7 dBm      | +21 dBm              | 500 MHz                          | ≤ -175 dBc/Hz              | +15 VDC        |
| <b>LNBA-13-26-AE-100-15</b>   | +13 dBm     | +26 dBm              | 100 MHz                          | ≤ -173 dBc/Hz              | +15 VDC        |
| <b>LNBA-6-15-CT-1000-8</b>    | +6 dBm      | +15 dBm              | 1 GHz                            | ≤ -170 dBc/Hz              | +8 VDC         |
| <b>LNBA-(-6)-18-CZ-1000-8</b> | -6 dBm      | +18 dBm              | 1 GHz                            | ≤ -170 dBc/Hz              | +8 VDC         |
| <b>LNBA-12-20-BP-100-15</b>   | +12 dBm     | +20 dBm              | 100 MHz                          | ≤ -178 dBc/Hz              | +15 VDC        |
| <b>LNBA-12-20-DB-100-12</b>   | +12 dBm     | +20 dBm              | 100 MHz                          | ≤ -178 dBc/Hz              | +12 VDC        |

\*\* These part numbers are a few common configurations. Use the Ordering Information guide and the [Amplifier Selection Table](#) for additional amplifier options or consult the factory for assistance.

### Standard Amplifier Options:

| Amplifier *** | Frequency Range |         | Gain (dB) |      | P1dB (dBm) |      | Input Referred Residual Phase Noise (dBc/Hz), typical |       |        |         | Supply Voltage (VDC)    | Current Draw (mA) |
|---------------|-----------------|---------|-----------|------|------------|------|-------------------------------------------------------|-------|--------|---------|-------------------------|-------------------|
|               | Min.            | Max.    | Min.      | Max. | Min.       | Max. | 100 Hz                                                | 1 kHz | 10 kHz | 100 kHz |                         |                   |
| <b>AA</b>     | 50 MHz          | 1.3 GHz | 10        | 12   | 15         | 17   | -155                                                  | -165  | -170   | -170    | +8, +10, +12 or +15     | 60                |
| <b>AB</b>     | DC              | 4 GHz   | 16        | 20   | 16         | 18   | -155                                                  | -165  | -170   | -170    | +5, +8, +10, +12 or +15 | 65                |
| <b>AC</b>     | 5 MHz           | 500 MHz | 12        | 14   | 19         | 21   | -158                                                  | -168  | -175   | -175    | +15                     | 90                |
| <b>AD</b>     | 5 MHz           | 1 GHz   | 10        | 12   | 18         | 20   | -158                                                  | -168  | -175   | -175    | +15                     | 90                |
| <b>AE</b>     | 10 MHz          | 1 GHz   | 11        | 13   | 23         | 26   | -156                                                  | -166  | -173   | -173    | +15                     | 205               |
| <b>AU</b>     | 5 MHz           | 500 MHz | 12        | 14   | 20         | 22   | -158                                                  | -168  | -175   | -175    | +15                     | 88                |
| <b>AV</b>     | 5 MHz           | 300 MHz | 12        | 14   | 19         | 21   | -158                                                  | -168  | -175   | -175    | +15                     | 85                |
| <b>BA</b>     | 100 MHz         | 2 GHz   | 9         | 11   | 24         | 26   | -156                                                  | -166  | -172   | -172    | +15                     | 175               |
| <b>BP</b>     | 10 MHz          | 200 MHz | 7         | 8    | 18         | 20   | -158                                                  | -168  | -178   | -178    | +15                     | 30                |
| <b>BT</b>     | DC              | 4 GHz   | 13        | 18   | 16         | 18   | -155                                                  | -165  | -170   | -170    | +5, +8, +10, +12 or +15 | 65                |
| <b>CK</b>     | 10 MHz          | 1.5 GHz | 12        | 13   | 21         | 23   | -156                                                  | -166  | -172   | -172    | +15 VDC                 | 195               |
| <b>CT</b>     | DC              | 4 GHz   | 9         | 10   | 14         | 16   | -155                                                  | -165  | -170   | -170    | +5, +8, +10, +12 or +15 | 70                |
| <b>CZ</b>     | DC              | 6 GHz   | 23        | 25   | 17         | 19   | -155                                                  | -165  | -170   | -170    | +8, +10, +12 or +15     | 80                |
| <b>DB</b>     | 30 MHz          | 200 MHz | 7         | 8    | 18         | 20   | -158                                                  | -168  | -178   | -178    | +12                     | 30                |

\*\*\* See the complete [Amplifier Selection Table](#) for additional amplifier options.