

# AMP2W

## 2W Linear RF Power Amplifier

### Overview:

DTC's high efficiency RF power amplifier covering 200MHz to 6GHz (available in banded options) in a non-sealed 'plain' form factor ideal for use by system integrators. The product is available in two variants. The bypass variant provides a low loss RF return path for use with transceiver platforms without internal transmit/receive switching. The non-bypass variant is ideal where this is not required and provides a higher output power.

This amplifier is designed to meet the stringent requirements of the DVB-T spectral mask and may be used for COFDM, QPSK, QAM, CW and similar applications. The RF input and output ports provide excellent return loss for filter matching.

The DTC plain 2W amplifier is ideal for digital transmission applications in surveillance, law enforcement, military UAV and UGV, airborne data/telemetry and television broadcasting.



### Features and Benefits:

Two mode options available:

- Bypass mode (up to 2W RMS output power)
- Non-bypass mode (up to 2.8W RMS output power)

Low gain bypass mode typically 3dB

High power gain >20dB

High efficiency >16%

Small size

High linearity

### Product Information:

#### Product Includes

|                                      |   |
|--------------------------------------|---|
| AMP2W-xxxxxx-B-OEM<br>CA3442         | 2W power amplifier with bypass<br>2W amp to D1806, 70mm   |
| AMP2W-xxxxxx-OEM<br>CA3443<br>CA3471 | 2W power amplifier non-bypass<br>2W amp to D1740-OEM PCB cable<br>2W amp to D170x/D1713-OEM PCB cable |

xxxxxx denotes frequency range

#### Accessory Options (sold seperately)

|                       |   |
|-----------------------|---|
| CA3425                | 2W amp to D1806, 150mm  |
| CA3442                | 2W amp to D1806, 70mm   |
| CA3443                | 2W amp to D1740-OEM PCB cable   |
| CA3471                | 2W amp to D170x/D1713-OEM PCB cable                                     |
| D1806                 | SOL8SDR-C Gecko active breakout PCB<br>(for integration with SOL8SDR-C) |
| SOL8SDR-C             | Software Defined Radio, Concealment<br>(for use with bypass amplifiers) |
| SOL8SDR-C-CAKIT-A/B/C | Cable accessory kits A, B and C for SOL8SDR-C.<br>Refer to CAKIT guide. |

#### Related Documents

|        |   |
|--------|---|
| 100245 | 2W Power Amplifier OEM Integration Document |
| 100210 | SOL8SDR-C OEM Integration Document          |

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### Technical Specification:

#### Interfaces

|                           |                     |
|---------------------------|---------------------|
| RF in/out                 | SMA-F               |
| Power and data connection | JST 6-way connector |

#### RF Performance

|                                       |  |
|---------------------------------------|--|
| Operating power (RMS)                 | 34.5dBm (non-bypass mode)<br>33dBm (bypass mode) |
| Gain                                  | >20dB (dependent on frequency variant)           |
| Input/output return loss              | 10dB minimum<br>12dB typical                     |
| Shoulder performance at Fc +/- (BW/2) | 27dBc minimum                                    |
| Harmonic performance                  | 50dBc typical                                    |
| Efficiency                            | 16% typical                                      |
| Impedance                             | 50Ω  |
| Bypass gains (bypass mode only)       | 3dB typical                                      |

#### Physical

|            |   |
|------------|---|
| Dimensions | 83mm (L incl. SMAs), 47mm (W), 18mm (H) |
| Sealing    | None                                    |
| Weight     | 110g                                    |

#### Power

|              |                                 |
|--------------|---------------------------------|
| DC input     | 8V to 18V                       |
| Current draw | 2A typ @ 10V full power 34.5dBm |

#### Environment

|                   |  |
|-------------------|--|
| Temperature range | -10°C to 50°C (requires external heatsink) |
|-------------------|--|

#### Features / Options

|                    |            |
|--------------------|------------|
| Thermal shutdown   | +85°C      |
| TTL enable/disable | High speed |

#### Frequency Range Options

|         |              |
|---------|--------------|
| 032047  | 320~470MHz   |
| *045060 | 450~600MHz   |
| 120170  | 1200~1700MHz |
| 165240  | 1650~2400MHz |
| 198270  | 1980~2700MHz |
| 440500  | 4400~5000MHz |

\*Future development

Export of encrypted products is subject to United Kingdom regulatory export controls.

For further information contact your Sales Account Manager, one of our Regional Sales Offices, or email [solent.enquiries@domotactical.com](mailto:solent.enquiries@domotactical.com)

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