

# Q-/V-Band Traveling Wave Tube Amplifier (TWTA)

Stellant Systems' Traveling Wave Tubes (TWTs) are key components for satellite communications.

We have five decades of experience developing TWTs/TWTAs for space-based applications and recently introduced our Q-Band 200 W Downlink TWTA and V-Band 200 W Uplink TWT to better serve the high-throughput satellite market.

The key to a higher throughput satellite for these operators is a high-power, wideband downlink signal. Stellant Systems is reshaping the TWTA market by introducing new, revolutionary technologies to accommodate Q-/V-Band needs.

## Key Features

- Space-qualified, proven technology
- High reliability
- Conduction-cooled
- Addresses emerging Q-/V-Band commercial market



---

## Downlink TWTA

### KEY FEATURES

- 20 to 200 W RF
- 37.5 to 43.5 GHz
- 2.5 to 6.0 kg

---

## Uplink TWT

### KEY FEATURES

- 125 W Sat / 250 W Peak
- 47.0 to 52.5 GHz
- Partnering with Comtech Xicom

# Q-/V-Band Traveling Wave Tube Amplifier (TWTA)

## Q-Band Downlink TWTA

SPECIFICATIONS	
RF Power	≤ 200 W
Frequency Range	37.5 GHz to 43.5 GHz
Typical Instantaneous Bandwidth	≤ 5 GHz
Saturated Gain	43 dB to 56 dB
Efficiency	Up to 58% for TWT
Phase Shift	45 °
AM/PM Conversion	4.5 ° / dB @ Sat
C/3IM @ -3 dB IBO	10.0 dB
Configuration	Conduction
TWT MECHANICAL CHARACTERISTICS	
Mass	1,500 g
Dimensions (L x W x H)	13.5 in. x 3.5 in. x 2.8 in.
RF Input Connector	WR 22
RF Output Connector	WR 22

## V-Band Uplink TWT

SPECIFICATIONS	
RF Power (Saturated / Peak)	125 W / 250 W
Frequency Range	47.0 GHz to 52.5 GHz
Typical Instantaneous Bandwidth	≤ 5.0 GHz
Saturated Gain	42 dB to 48 dB
Efficiency	Up to 33% for TWT
Phase Shift	50 °
AM/PM Conversion	≤ 5.0 ° / dB @ Sat
Noise Power	-21.0 dBm/MHz max
Configuration	Conduction
MECHANICAL CHARACTERISTICS	
Mass (with 36" leads)	≤ 3,000 g
Dimensions (L x W x H)	15.0 in. x 3.5 in. x 3.3 in.
RF Input Connector	WR 19
RF Output Connector	WR 19

[www.StellantSystems.com](http://www.StellantSystems.com)

### Headquarters

3100 Lomita Blvd.  
Torrance, California 90505  
T: 310.517.6000

1035 Westminster Dr.  
Williamsport, Pennsylvania 17701  
T: 570.326.3561

107 Woodmere Rd.  
Folsom, California 95630  
T: 916-351-4500

**Stellant Systems** is a partner for civil, military, and commercial organizations whose missions seek to ensure a safe, aware, and connected world.

We are a premier manufacturer of critical spectrum and power amplification systems for defense, space, medical and industrial customers worldwide.