



Q-/V-BAND TWTA

Traveling Wave Tube Amplifier

L3Harris's Traveling Wave Tubes (TWTAs) are key components for satellite communications.

L3Harris has five decades of experience developing TWTs/TWTAs for space-based applications and recently introduced its 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. L3Harris is reshaping the TWTA market by introducing new, revolutionary technologies to accommodate Q-/V-band needs.

Downlink TWTA

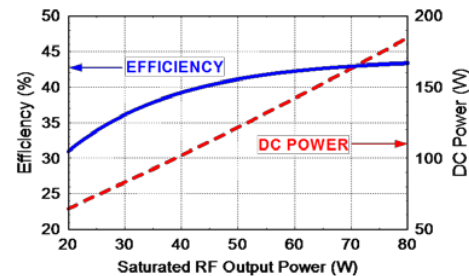
KEY FEATURES

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

Uplink TWT

KEY FEATURES

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



KEY FEATURES

- > Space qualified, proven technology
- > High-Reliability
- > Conduction-cooled
- > Addresses emerging Q-/V-band commercial market

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	1500 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



Q-BAND DOWNLINK TWTA

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 (w/36" leads)	≤ 3000 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



V-BAND UPLINK TWT

Q-/V-Band TWTA

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L3Harris Technologies is an agile global aerospace and defense technology innovator, delivering end-to-end solutions that meet customers' mission-critical needs. The company provides advanced defense and commercial technologies across air, land, sea, space and cyber domains.



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