



E I M A C
 Division of Varian
 SAN CARLOS
 CALIFORNIA

EM1184E

TRAVELING WAVE TUBE
 AMPLIFIER

7.9-8.4 GHz
 1 Watt CW Min.

The EIMAC EM1184E Traveling Wave Tube Amplifier combines a solid-state power supply with a miniaturized high-performance CW TWT (EM1044E). The resulting package provides optimum efficiency, high gain, and minimum weight consistent with reliable long-life performance. The TWT and power supply are designed for MTBF performance in excess of 50,000 hours.

This high-gain amplifier is designed specifically as a driver for satellite communications terminal equipment. The package is also suitable for airborne, transportable and ground-based satellite communication applications where available power and space are at a premium. Excellent fine-grain gain structure and phase performance make this TWTA particularly well suited for wideband communications applications.

If applications require protection of the final power amplifier, the EM1184E can be supplied with a solid-state switch capable of instantaneously turning off the rf output when triggered by an appropriate video pulse as low as 5 volts.



CHARACTERISTICS

ELECTRICAL PERFORMANCE

Frequency Range	- - - - -	7.9-8.4 GHz
Saturated Power (Min.)	- - - - -	1.0 W
(Typical)	- - - - -	3.0 W
Small Signal Gain (Min.)	- - - - -	56 db
(Typical)	- - - - -	62 db
Saturated Gain (Min.)	- - - - -	50 db
(Typical)	- - - - -	56 db
Output VSWR (Typical)	- - - - -	2.0:1
Input VSWR (Typical)	- - - - -	2.0:1
Impedance (Nominal)	- - - - -	50 Ω
Noise Figure (Maximum)	- - - - -	30 db
(Typical)	- - - - -	27 db
Phase Linearity (10 MHz bandwidth)	- - - - -	± 0.2 deg/MHz
Gain Slope (Maximum)	- - - - -	0.3 db/10 MHz
Power Supply Voltage (400 cps)	- - - - -	120 Vac
Power Supply Current (Nominal)	- - - - -	0.5 Aac

ENVIRONMENTAL PERFORMANCE

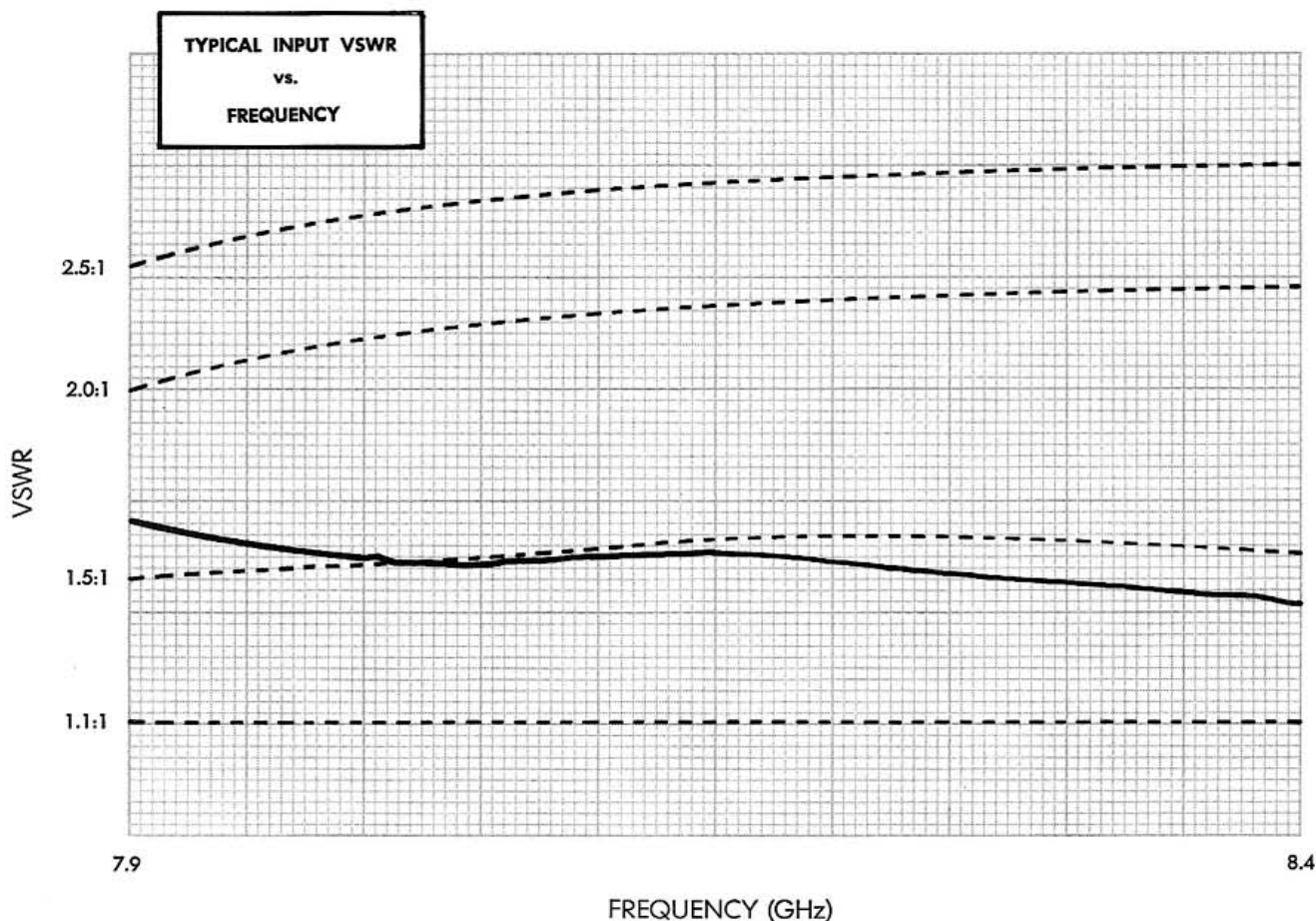
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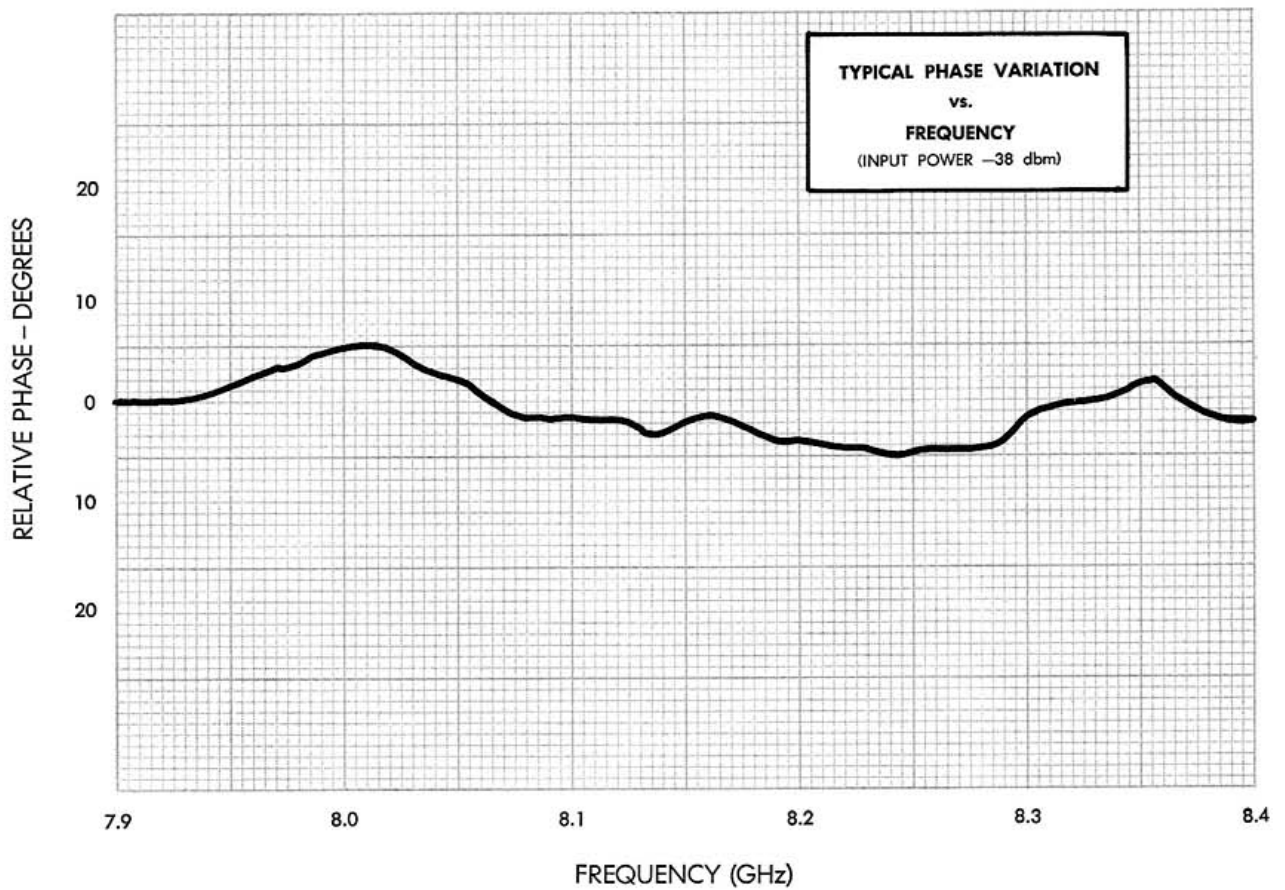
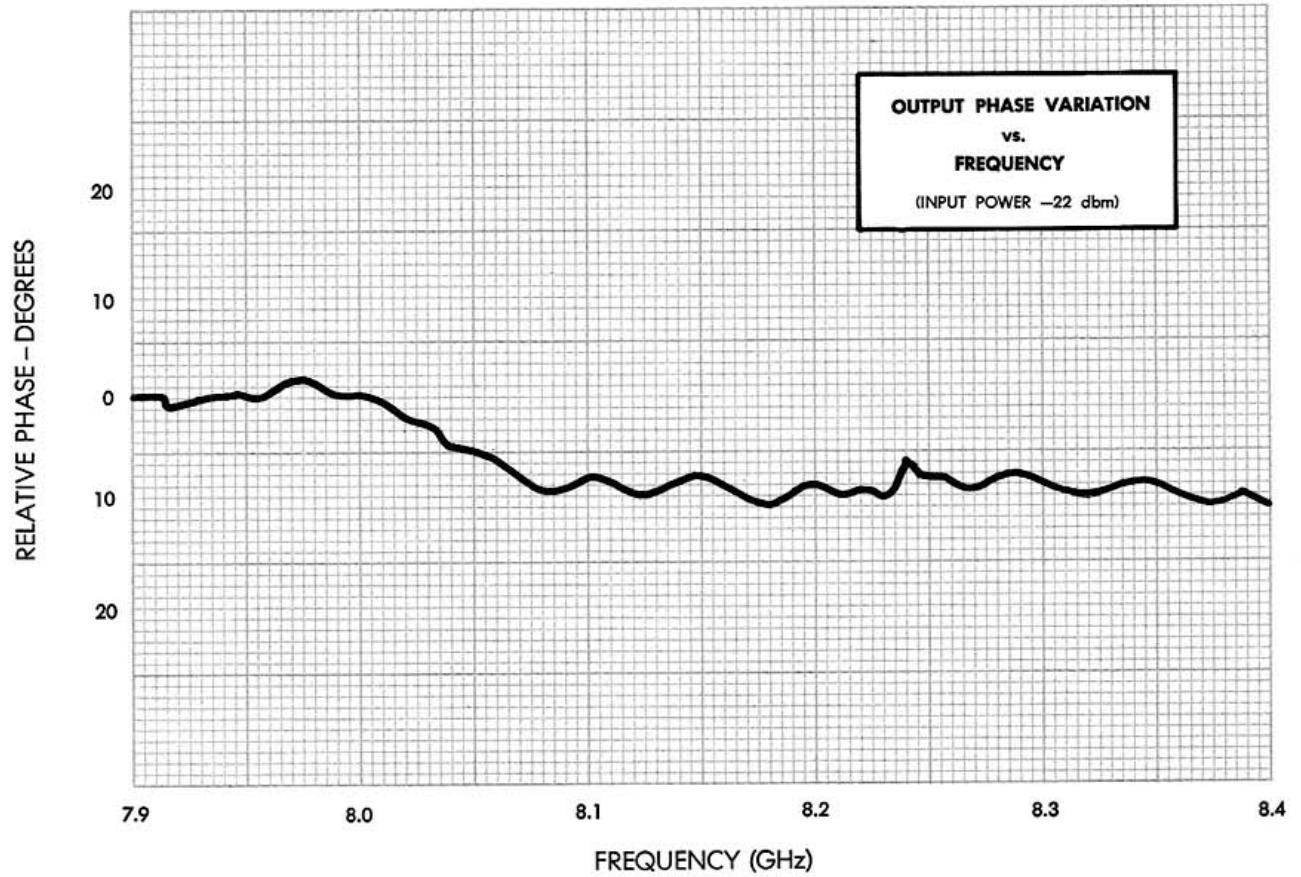
MECHANICAL CHARACTERISTICS

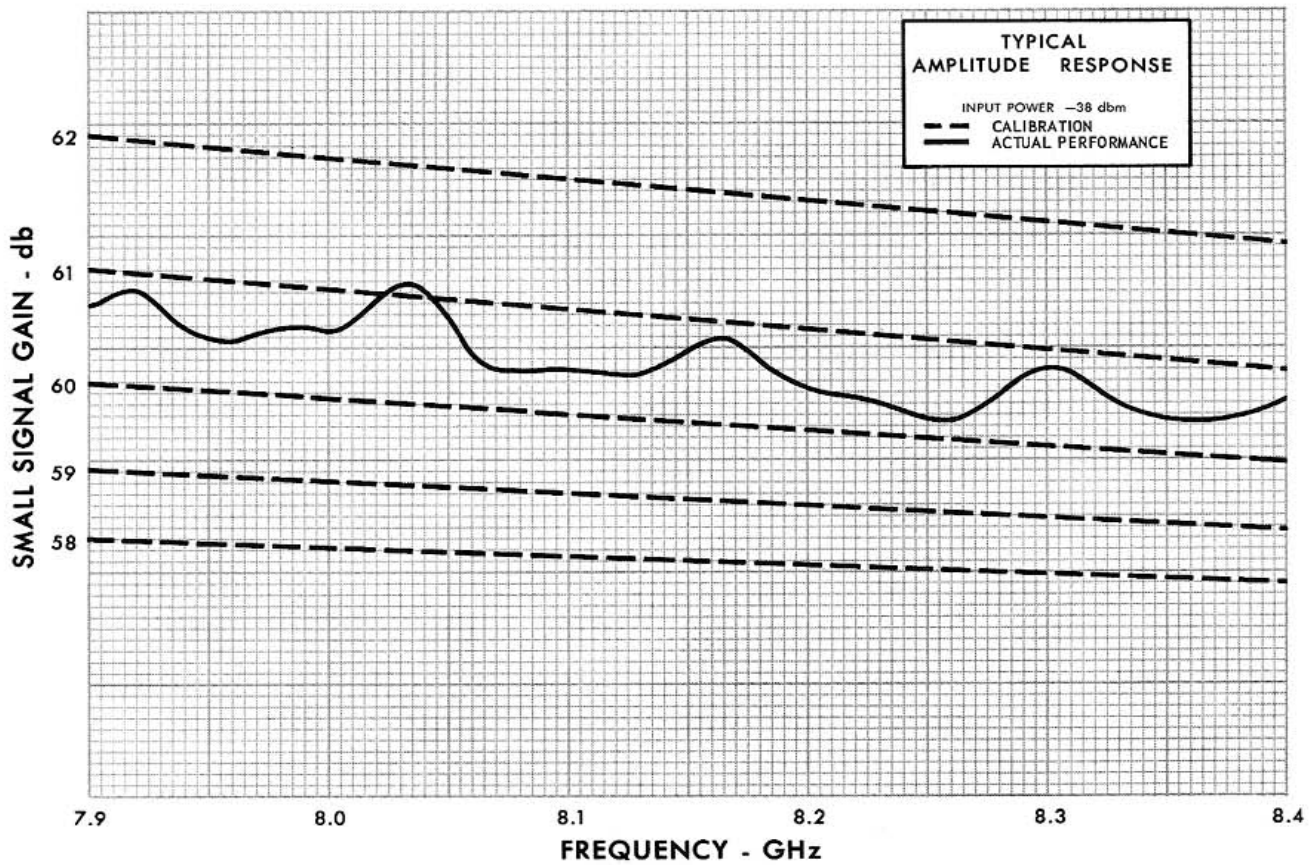
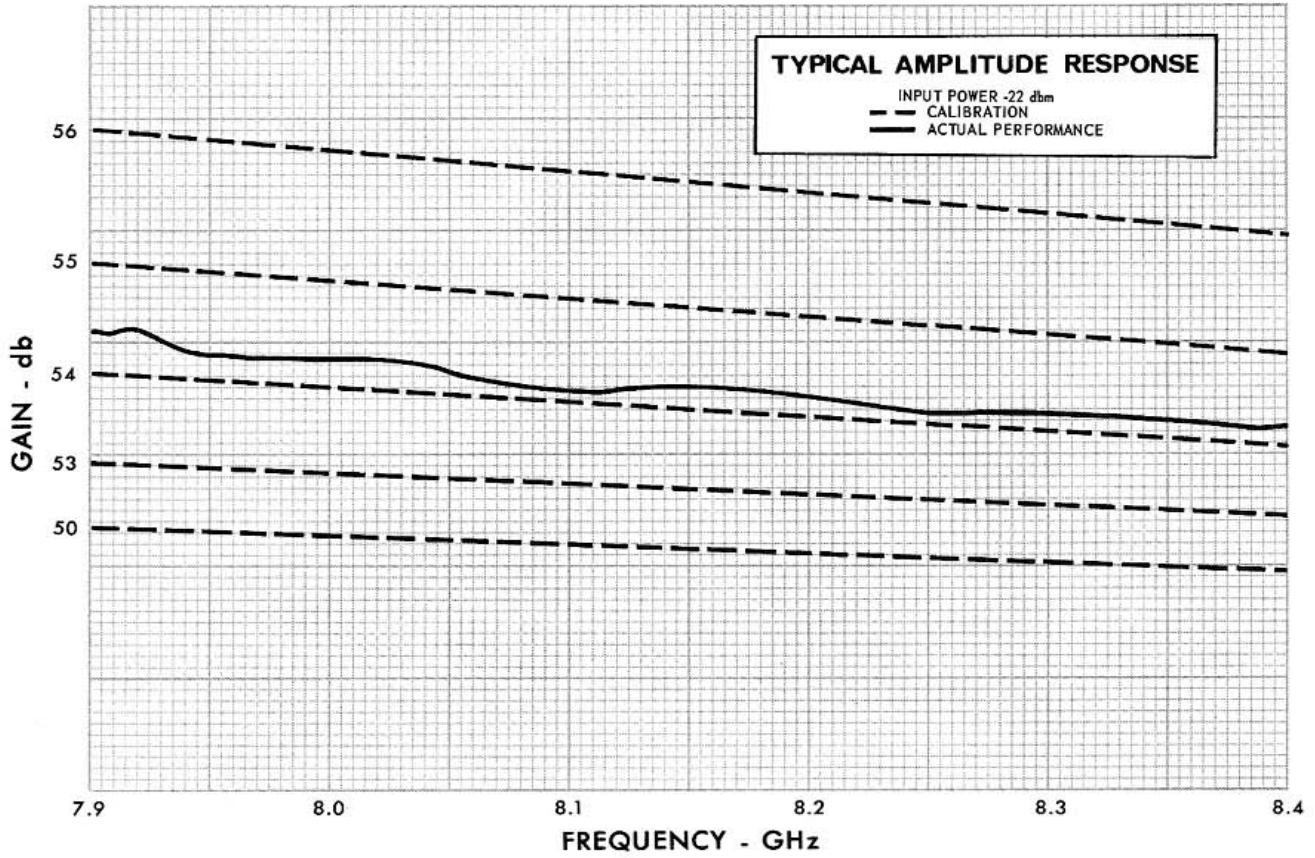
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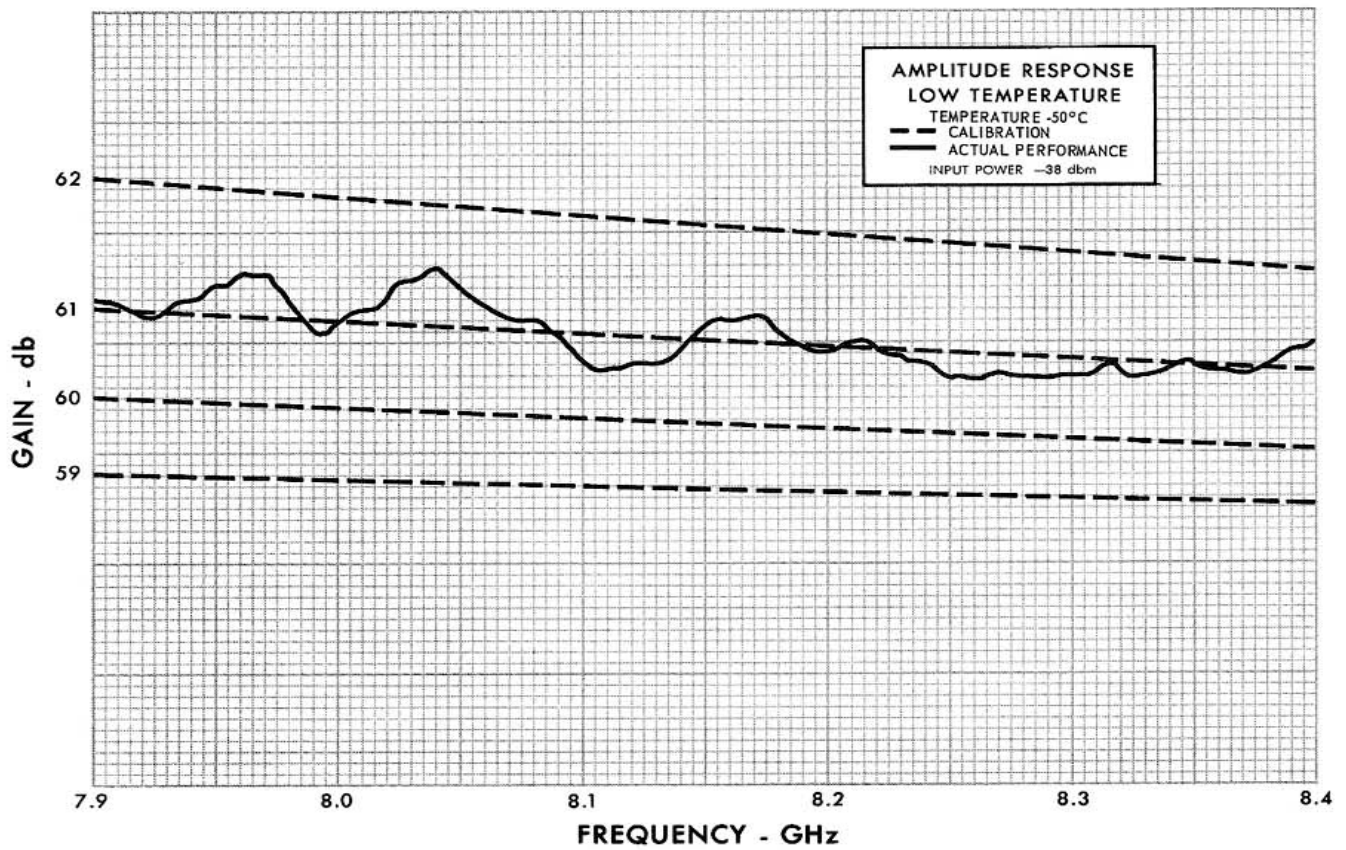
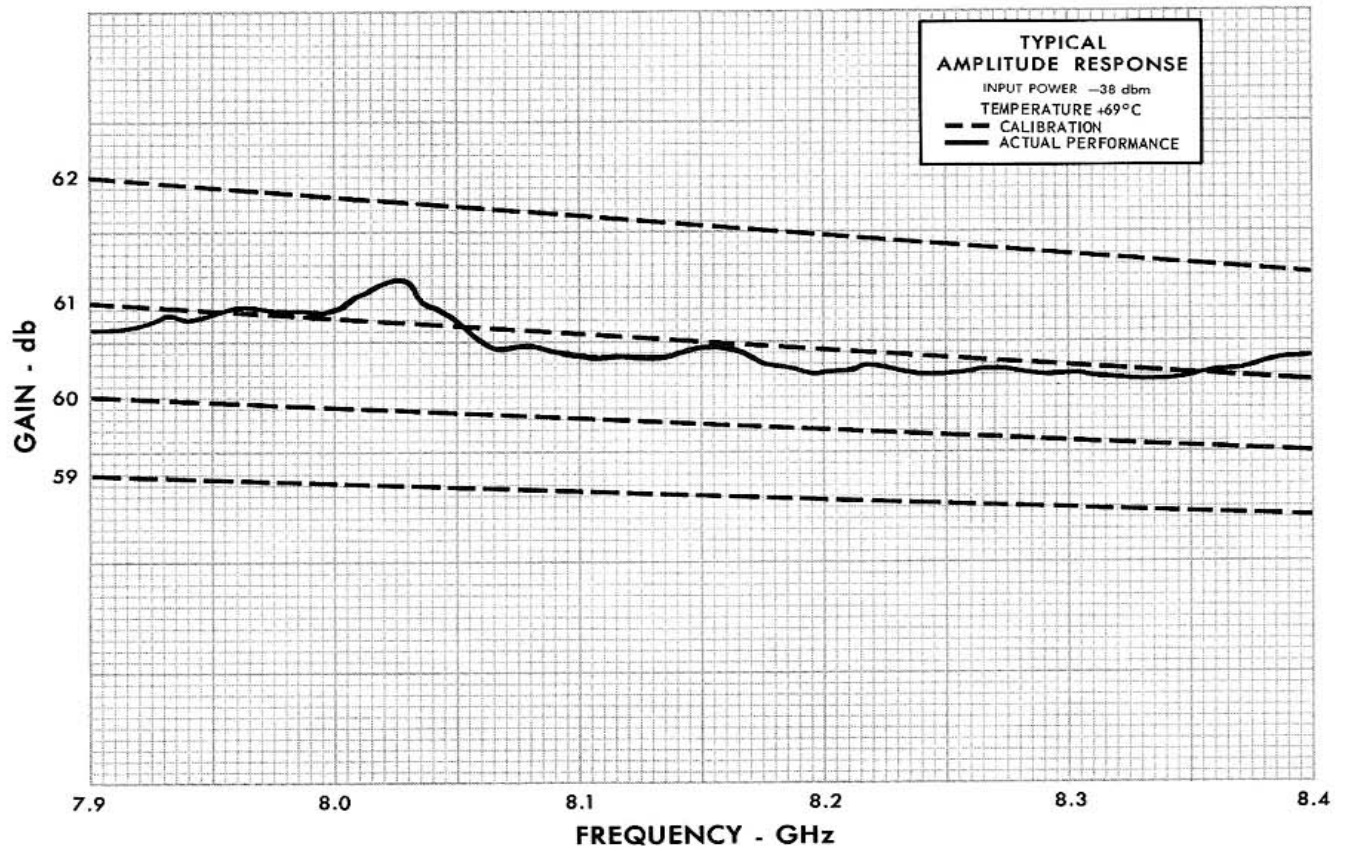
(1) TWTA base plate temperature $+85^{\circ}\text{C}$ maximum.

(2) EM1044E TWT is demountable and is available separately.











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