

GENERAL DESCRIPTION

1-1. INTRODUCTION

This manual contains information and procedures for installation, operation, and maintenance of Powerwave's model NTGY81AA multichannel power amplifier (MCPA). The manual is organized into six sections as follows:

- Section 1. General Description
- Section 2. Installation
- Section 3. Operating Instructions
- Section 4. Principles of Operation
- Section 5. Maintenance
- Section 6: Troubleshooting

1-2. GENERAL DESCRIPTION

The NTGY81AA is a linear, multichannel power amplifier that operates in the 60 MHz frequency band from 1930 MHz to 1990 MHz. It is designed to be mounted in an enclosure with EMI containment. Its flat base plate allows for mounting on a flat thermal-absorbing surface to provide adequate heat dissipation.

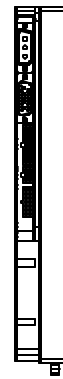
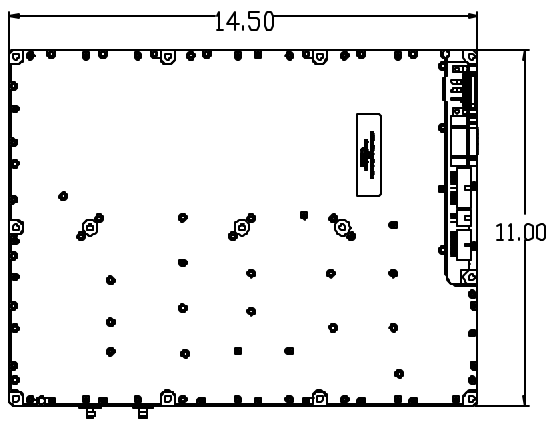
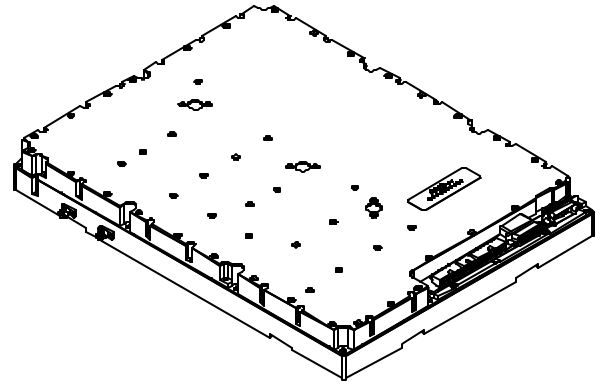
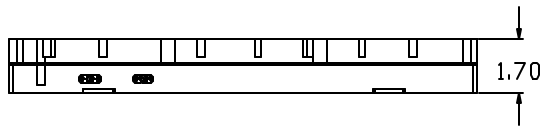
Each amplifier module has a power, alarm, and control connector that allows the host system to monitor the amplifier module performance. Primary power for the amplifier is +26 Vdc.

1-3. FUNCTIONAL AND PHYSICAL SPECIFICATIONS

Functional and physical specifications for the amplifier are listed in table 1-1.

Table 1-1. NTGY81AA Multichannel Power Amplifier Functional Specifications

Frequency Range	1930-1990 MHz (60 MHz Bandwidth)		
Maximum Average Input Power	13 dBm		
Continuous Average Output Power	50 Watts		
Spurious Emissions @ Maximum Rated Output Power (50 W / 47 dBm)	<u>Frequency Offset</u>	<u>Requirement</u>	<u>Meas. Bandwidth</u>
		<u>Max.</u> <u>Min.</u>	
	0.885-1.25 MHz	-47 dBc	30 kHz
	1.25-1.98 MHz	-16.5 dBm	37.5 kHz
	1.98-2.25 MHz	-58 dBc	30 kHz
	>2.25 MHz	-15 dBm	1 MHz
RF Gain	47 \pm 2 dB		
Gain Flatness:	\pm 0.2 dB for any 1.25-MHz band within frequency range.		
Output Protection:	Mismatch Protected		
Input Port Return Loss:	VSWR 2:1 Max.		
Out of Band Spurious:	Less than -15 dBm / 1 MHz		
DC Input Power:	+26 \pm 0.5 Vdc, 260 mV p-p max. ripple, \leq 500 watts		
Operating Temperature:	-15 °C. to +85 °C. (heatsink temperature)		
Storage Temperature:	-40 °C. to +85 °C.		
Operating Humidity:	5 % - 95 % Relative Humidity (Noncondensing)		
Storage Humidity:	5 % - 95 % Relative Humidity (Noncondensing)		
Interface Connectors:			
RF Input -----	SMA Female		
RF Output-----	SMA Female		
+26 Vdc Power and Ground-----	3W3 D-Sub (Connector P1)		
Alarms and Sensing -----	14-Position Micro-Fit 3.0 (Connector P2)		
Differential IIC Clock, Rcv., Xmit. ----	6-Position Micro-Fit 3.0 (Connector P3)		
IIC, Power, Alarms, Controls-----	26-Position High Density D-Sub (Connector P4)		
IIC, RS485, Power, Other Signals ---	18-Position Micro-Fit 3.0 (Connector P5)		
Dimensions (inches):	11.00 x 14.50; height: 1.70		



P1

P4

P5

P3

P2

RF OUT RF IN

Figure 1-1. NTGY81AA Multichannel Power Amplifier