

# NWPA021-43

20 – 1000MHz 20W (CW)

Broadband SSPA

## GENERAL DESCRIPTION

The NWPA021-43 is a broadband Solid-State Power Amplifier offering 20W CW output power over the 20 MHz to 1000MHz band.

The SSPA has built-in protection and internal compensation. The module has a TTL On/Off control.



## FEATURES

- TTL On/Off
- Single voltage supply (12V)

## APPLICATIONS

- Communication Base Stations
- Repeaters
- Defense

## ELECTRICAL PARAMETERS

Parameter	Unit	Min	Typ.	Max	Remarks
Operating Frequency Range (BW)	MHz	20		1000	
Nominal Input Power (NIP)	dBm		-2		
Maximum Rating Power	dBm			+8	
CW Nominal Output Power (NOP)	dBm	+42			
CW Saturated Output Power (SOP)	dBm	+43			
Power Gain @ NOP	dB	40			
Gain Flatness @ NOP	dB				
@ -20°C				3.6	
@ +25°C				3.8	
@ +65°C				4.2	
Noise Figure	dB				
20MHz to 40MHz				8	
40MHz to 110MHz				7	
110MHz to 160MHz				5	
160MHz to 1000MHz				4.5	
Input Return Loss (S11)	dB			-12.0	
Output Return Loss (S22)	dB			-10.0	

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Parameter	Unit	Min	Typ.	Max	Remarks
3rd Order Intermodulation Distortion 2-Tone @ 38dBm/Tone, 1MHz Spacing (IM3)	dBc		-20.0		
2 <sup>nd</sup> Harmonics @ NOP	dBc			-20.0	
Spurious Signals (Spur)	dBc			-60.0	
Switch Control for RF ON/OFF	-		TTL		OFF: "Low" (0-0.8V) ON: "High" (2.0-5.0V) TTL current ±1.3mA max
Rise Time (Switch ON to 90% RF)	µs			100	
Fall Time (Switch OFF to 10% RF)	µs			900	
DC Supply Voltage (V <sub>dc</sub> )	V		12.0		
Supply Current @ SOP	A			5.6	

## MECHANICAL AND ENVIRONMENTAL PARAMETERS

Parameter	Unit	Min	Typ.	Max	Remarks
Operating Temperature Range	°C	-20		+65	
Storage Temperature Range	°C	-55		+100	
Base Plate Temperature	°C			+85	
Dimension W x H x D	Inch/ mm	2.95 x 1.12 x 5.00 / 74.93 x 28.45 x 127.00			Including mounting feet Without optional cooling fan
Weight	Grams		360		
MTBF	Hours		300,000		@30°C operation
RF Connectors Input / Output	-		SMA, Female		
DC Power and Control Connector	-		1924101		

Notes:

Specifications subject to change without notice.

**Table 1: Power and Control Connector**

PIN ID	Signal	Comment
1	INPUT_+12V	Input Voltage +12V
2	SSPA_CTRL	Control of SSPA ON/OFF
3	STATUS	Power Good Voltage Indicator
4	GND	Ground (Power Return)

## OUTLINE DRAWING

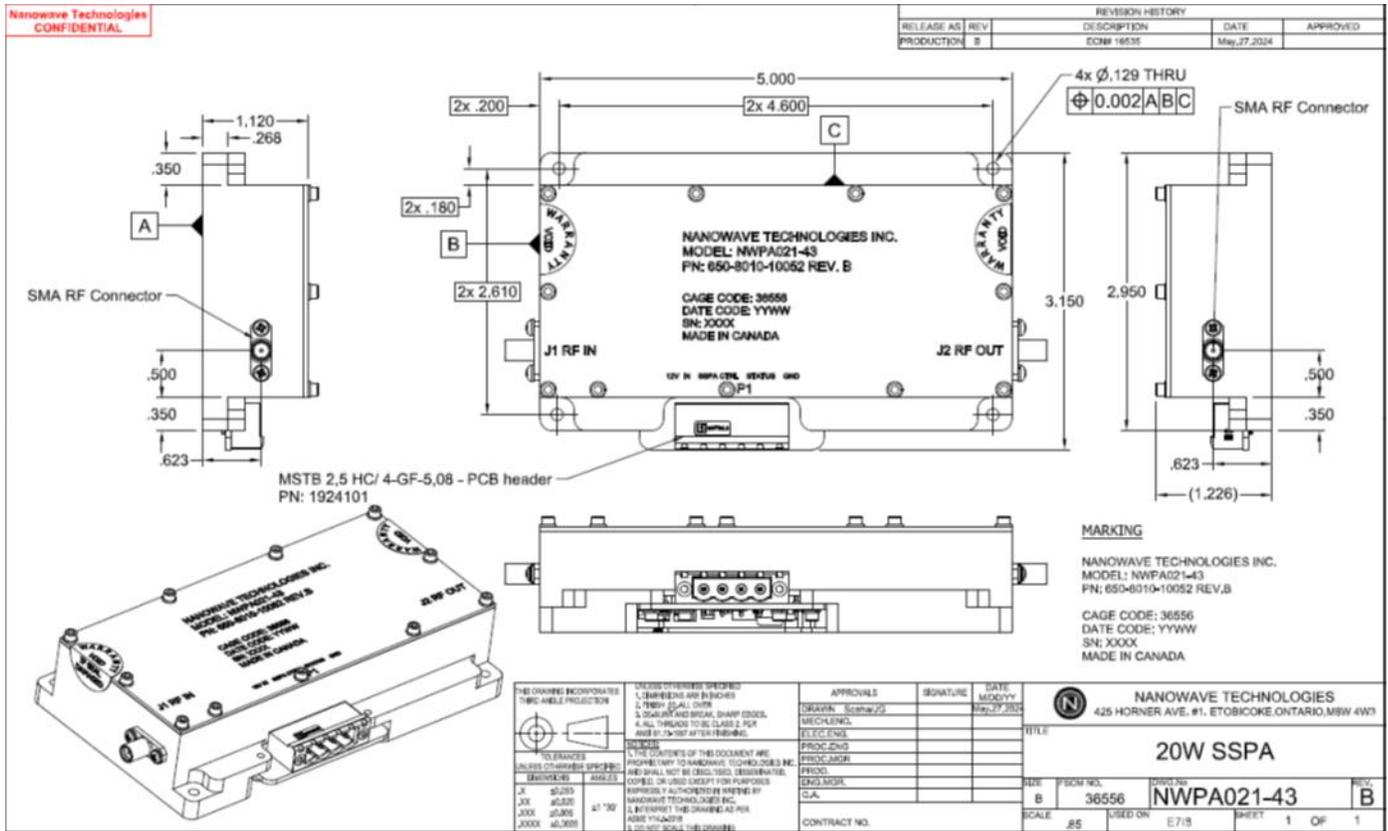


Figure 1: NWPA021-43 Outline Drawing

## ADDITIONAL FEATURES

- Marking: The unit is marked with Manufacturer Part Number, Date Code, and Serial Number.
- All plating and painting is RoHS compliant

For further information please contact NANOWAVE Technologies Inc. at [sales@nanowavetech.com](mailto:sales@nanowavetech.com) , or call at (+1) 416-252-5602.

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