SBP-7531143033-1010-EP

W-Band Power Amplifier, 75 to 110 GHz, 30 dB Gain, +33 dBm P_{sat}

SBP-7531143033-1010-EP is a W-band GaN power amplifier with a typical small signal gain of 30 dB and a typical P_{sat} of +33 dBm across the frequency range of 75 to 110 GHz. The DC power requirement for the amplifier is +15 V_{DC}/4 A. The mechanical configurations is an inline structure with WR-10 waveguides and UG-387/U-M anti-cocking flanges. Power amplifier module comes with heatsink and fan asssembled with the unit.

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	75 GHz		110 GHz
Small Signal Gain		30 dB	
Power Gain		17 dB	
P_{sat} (+16 dBm Pin)		+33 dBm	
P_{in}			+25 dBm
Input Return Loss		7.5 dB	
Load Return Loss (No Damage)	4.5 dB		
DC Supply Voltage	+13 V_{DC}	+15 V_{DC}	+18 V_{DC}
DC Supply Current		4 A	
Supply Voltage to Fan		+12 V_{DC}/2.3 A	
Specification Temperature		+25 ˚C	
Operating Temperature	0˚C		+50 ˚C

Mechanical Specifications:

Item	Specification
Input	WR-10 Waveguide with UG-387/U-M Anti-Cocking Flange
Output	WR-10 Waveguide with UG-387/U-M Anti-Cocking Flange
Control & Power Supply	Micro-D, 15 Pin, Socket
Case Material	Aluminum
Finish	Gold Plated
Size	5.39” (L) X 3.15” (W) X 3.54” (H)
Outline	BP-HW-A-H7

ECCN

3A001.b.4

FEATURES

- High Output Power
- On/Off Control
- Temperature Monitor
- Forced Air Cooling
- In-line Port Configuration

APPLICATIONS

- Radar Systems
- Communication Systems
- Test Equipment

SUPPLEMENTAL DETAILS

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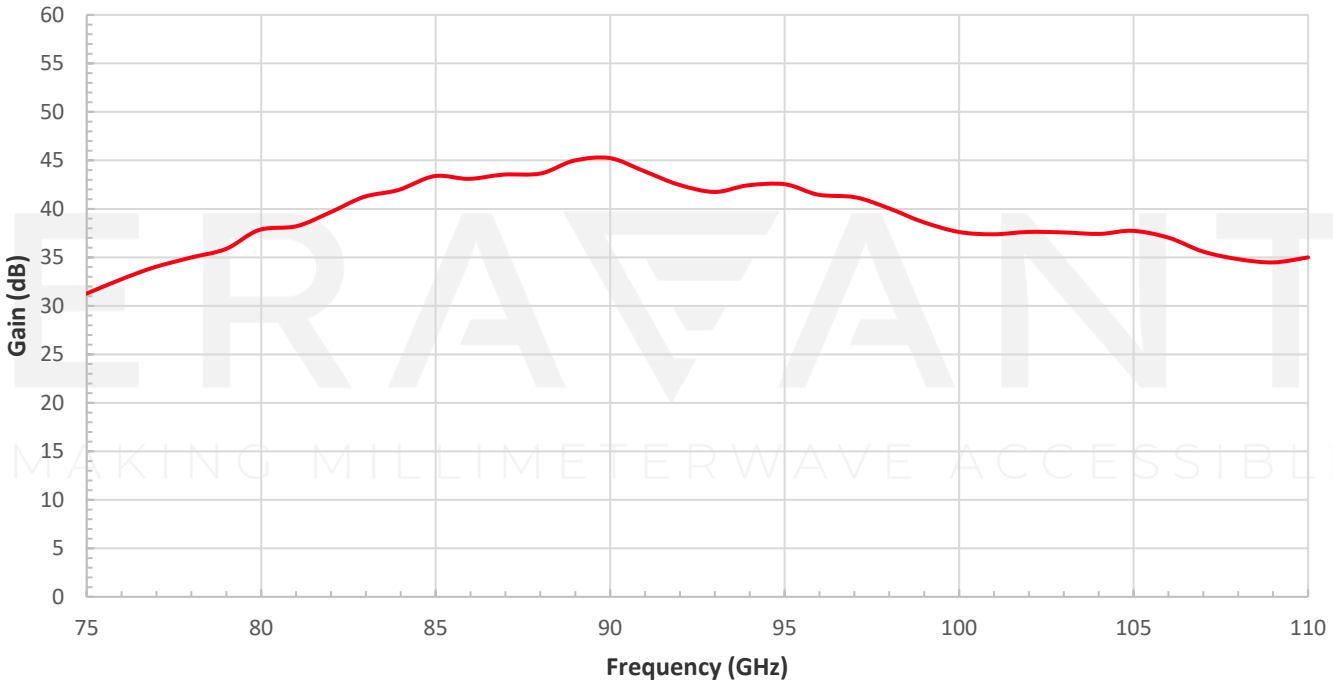
Power & Control Port Pin Definition (Max 3 A per core):

Pin	Definition	Description
1	-15 V	15 V return line, 3A maximum
2	-15 V	15 V return line, 3A maximum
3	-15 V	15 V return line, 3A maximum
4	GND	Ground
5	GND	Ground
6	I_ADC_OUT	Current monitor (0.1 V/A)
7	TTL	On / Off Control, TTL “High”: On
8	T_ADC	Temperature Monitor (1°C/ 0.01 V)
9	-15 V	15 V return line, 3A maximum
10	-15 V	15 V return line, 3A maximum
11	+15 V	15 V power line, 3A maximum
12	+15 V	15 V power line, 3A maximum
13	+15 V	15 V power line, 3A maximum
14	+15 V	15 V power line, 3A maximum
15	+15 V	15 V power line, 3A maximum

Typical Gain vs. Frequency

Bias: +15 V_{DC}/ 1200 mA



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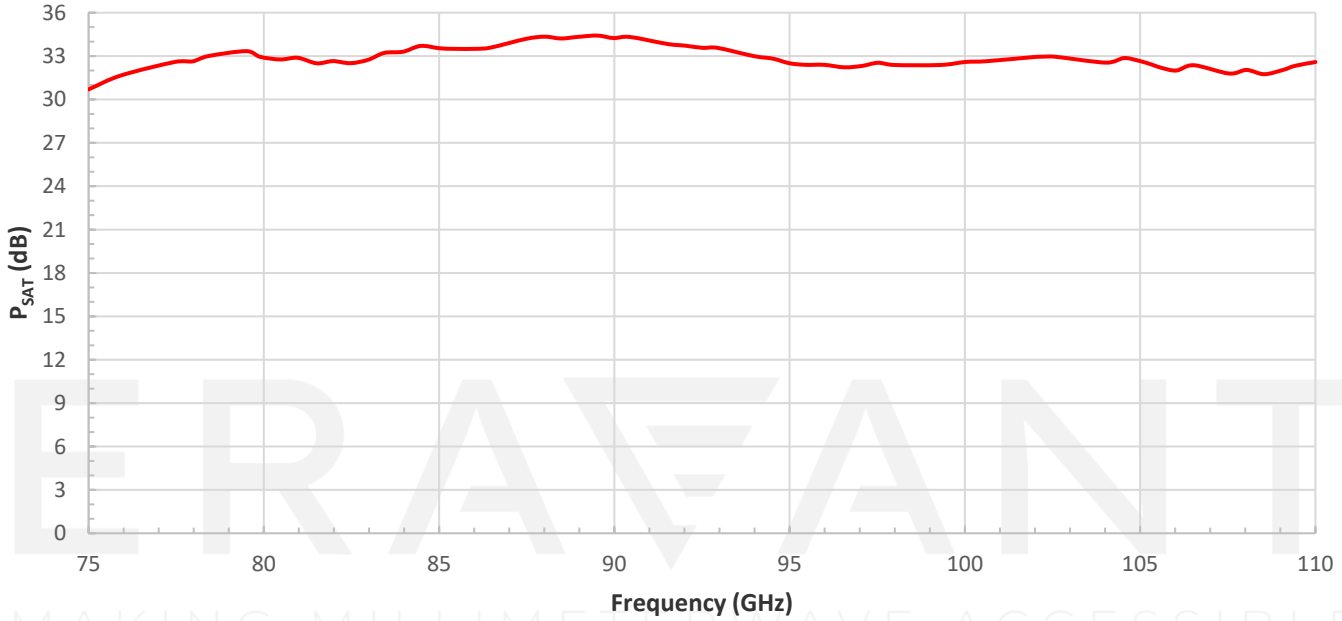
Typical P_{SAT} vs. Frequency

Bias: +15 V_{DC}/ 4000 mA



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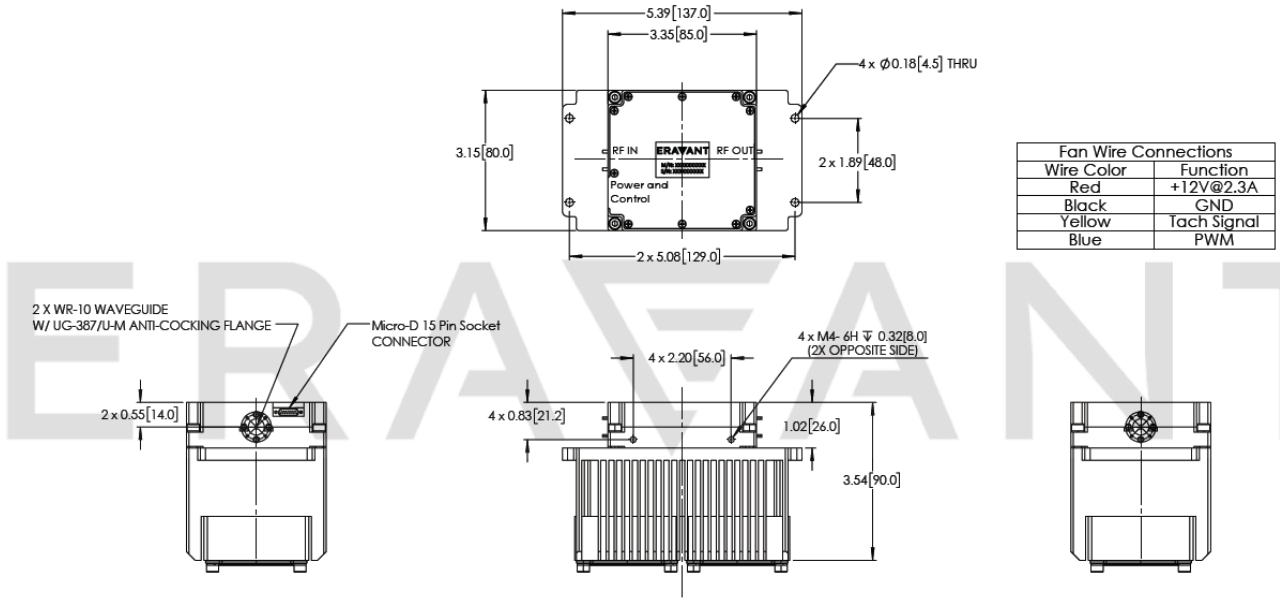
Mechanical Outline: (Unless otherwise specified, all dimensions are in inches [millimeters])



Fan Wire Connections	
Wire Color	Function
Red	+12V@2.3A
Black	GND
Yellow	Tach Signal
Blue	PWM

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NOTE:

- All data presented is collected from a sample lot. Actual data may vary unit to unit.
- All testing was performed under +25 ˚C case temperature.
- Other mechanical configurations are available under different model numbers.
- Eravant reserves the right to change the information presented without notice.

CAUTION:

- Exceeding absolute maximum ratings shown will damage the device.
- Do not block the air inlets and outlets.
- The device is static sensitive. Always follow ESD rules when working with the device.
- Do not plug or unplug any connectors when amplifier is activated. All connectors must be connected/disconnected when amplifier is off.
- The case temperature of the device shall never exceed +50 ˚C. Use proper heatsink or fan if necessary
- Any foreign objects in the waveguide will degrade performance and/or damage the device.

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