SBP-2733137449-KF28-EP

27 to 31 GHz Power Amplifier, 74 dB Gain, +49 dBm P_{sat}

SBP-2733137449-KF28-EP is a power amplifier with a typical small gain of 74 dB and a nominal P_{sat} of +49 dBm across the frequency range of 27 to 31 GHz. The mechanical configurations is an inline structure with 2.92 mm (F) connector as its input port and WR-28 waveguide with UG-599/U Flange as output port. Other port configurations, such as K(M) connectors and WR-28 waveguides for either the input or output port, are also available under different model numbers.

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	27 GHz		31 GHz
Small Signal Gain		74 dB	
Power Gain		65 dB	
Gain Flatness		±2 dB	
P_{sat}		+49 dBm	
P_{in}			-10 dBm
Input Return Loss		10 dB	
Output Return Loss		5 dB	
DC Supply Voltage (VDD)	+18 V_{DC}	+22 V_{DC}	+24 V_{DC}
DC Supply Current		21 A	
Specification Temperature		+25 ˚C	
Operating Temperature	0˚C		+50 ˚C

Mechanical Specifications:

Item	Specification
Package	Hermetically Sealed for PA Module
Input Port (X1)	2.92 mm (K) Female
Sample Port* (X2)	2.92 mm (K) Female
Output Port (X3)	WR-28 Waveguide with UG-599/U Flange
Power Supply (X4)	JY27496E13F04SN02 Cylinder Connector
Monitor & Control (X5)	JY27496E11F35SN02 Cylinder Connector
Case Material	Aluminum
Finish	Chem Film
Weight	16.8 lbs (7.6 kg)
Size	7.87” (L) X 9.84” (W) X 3.94” (H)
Outline	BP-HA-CW1

*Sample Port (X2), -55 dB Coupling Port for Output Port (X3)

ECCN

3A001.b.4

FEATURES

- Class AB GaN Technique
- Broadband Performance
- High Gain
- High Output Power
- Hermetically Sealed
- Input/Output Power Detector
- High VSWR Protection
- Overtemperature Protection
- Forced Air Cooling

APPLICATIONS

- Radar Systems
- Communication Systems
- Test Equipment

SUPPLEMENTAL DETAILS

Control and Monitors:

Item	Specification
Power Enable	Turns on/off power supply to the amplifier
Input/Output Power Detector	Provides input/output power reading
High VSWR Protection	Auto shutdown if output VSWR exceeds maximum limit (3.5:1)
Overtemperature Protection	Auto shutdown if internal temperature exceeds maximum limit (85 ˚C)
Input Overdrive	Auto shutdown if Input power exceeds maximum limit (-10 dBm)
Over-Voltage	Auto shutdown if DC Supply Voltage exceeds maximum limit (+25.6 V)

Pin Definition of X4:

Pin	Symbol	**Definition**
A	VDD	+22 V_{DC}
B	GND	Ground
C	GND	Ground
D	VDD	+22 V_{DC}

Pin Definition of X5:

Pin	Symbol	**Definition**
1	RS422_R+	RS 422 Communication Ports
2	RS422_R-	
3	RS422_T+	
4	RS422_T-	
5	NC	N/A
6	NC	N/A
7	NC	N/A
8	GND	Ground
9	NC	N/A

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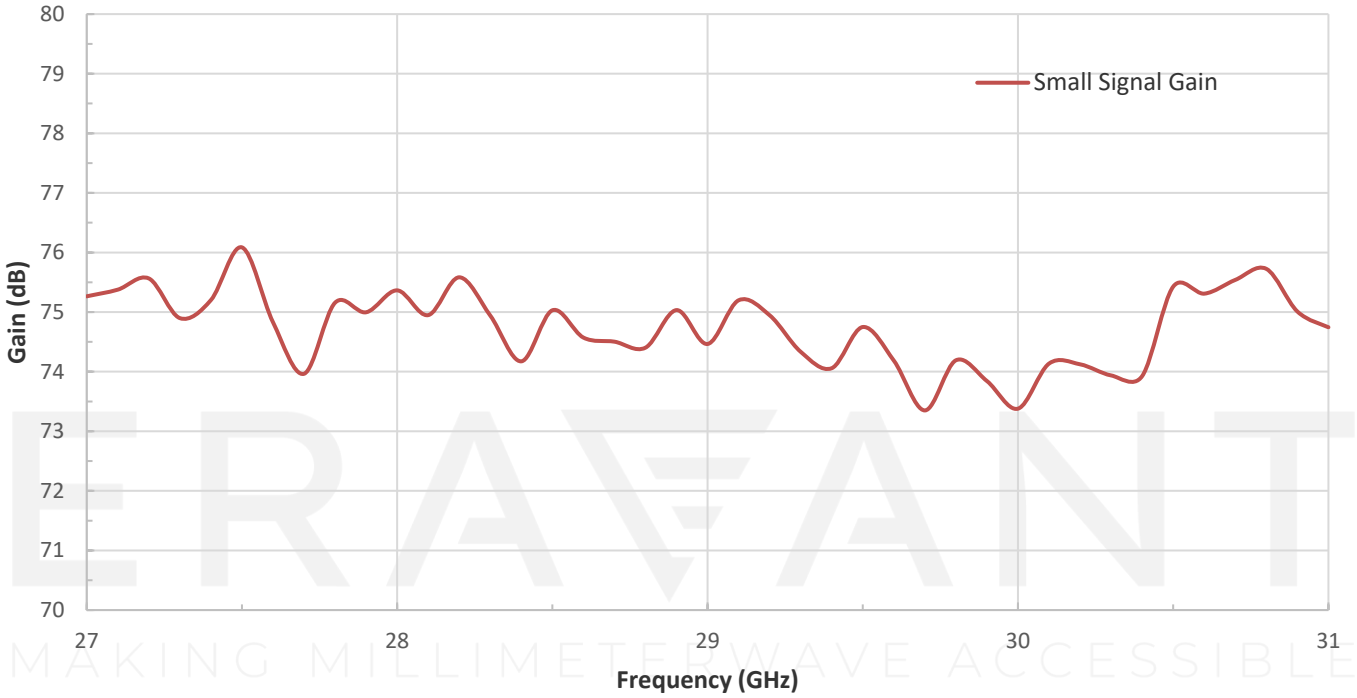
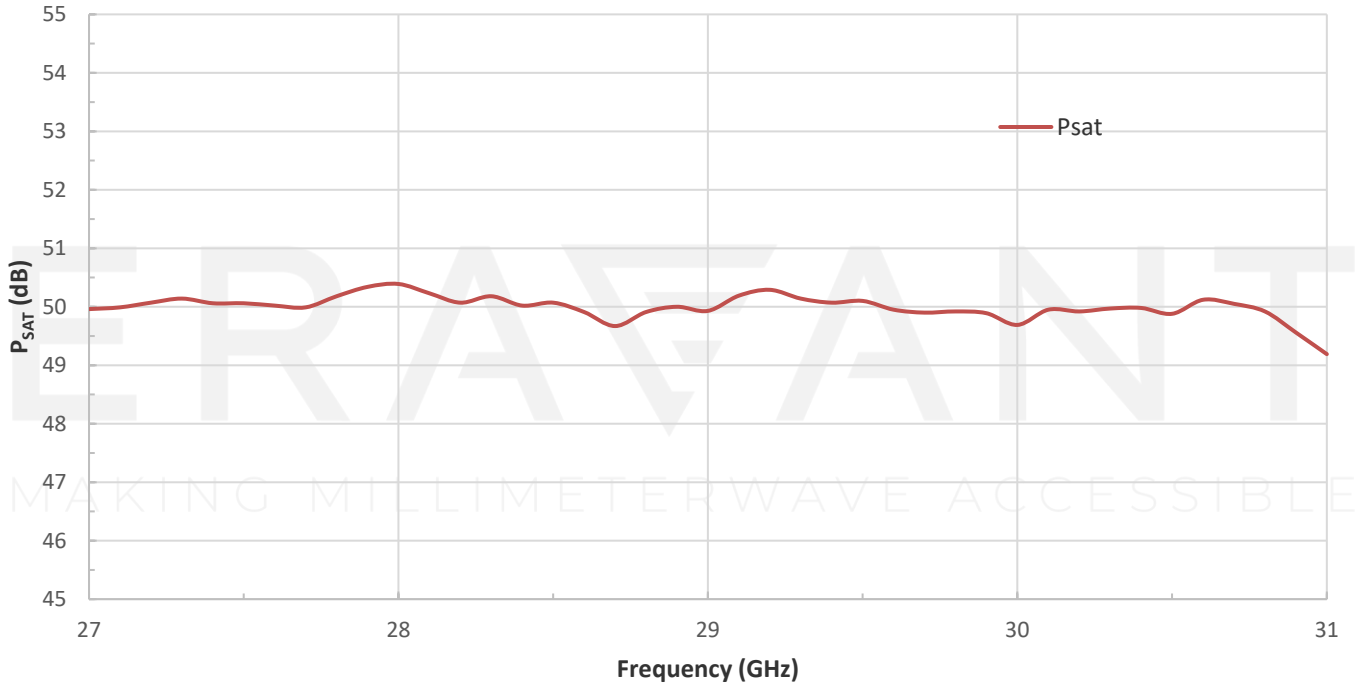
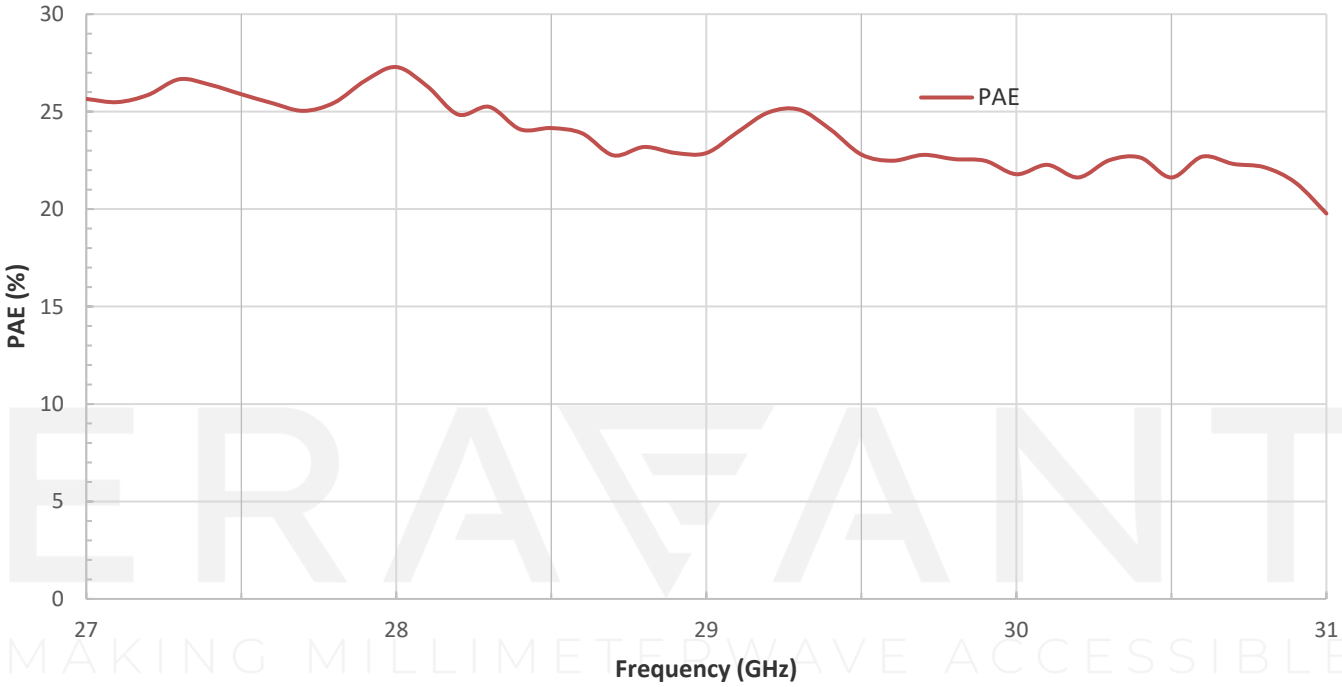
Typical Gain vs. Frequency



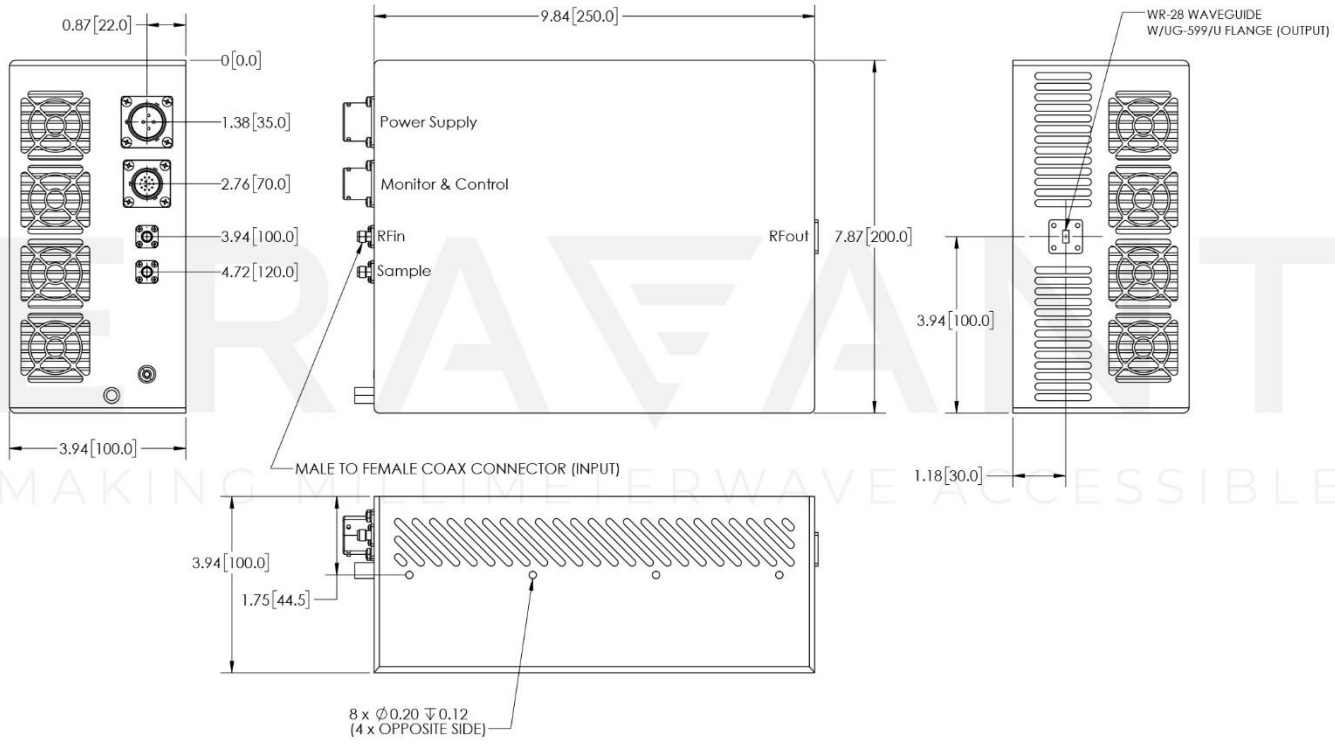
Typical P_{SAT} vs. Frequency



Typical PAE vs. Frequency



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



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.
- Proper torque should be applied: 8.0 ± 0.15 inch-pounds (0.90 ± 0.02 Nm). Torque wrench model SCH-08008-S1 is highly recommended.

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