SBP-3734236547-2F22-EP

37 to 42 GHz Power Amplifier, 65 dB Gain, +47 dBm P_{sat}

SBP-3734236547-2F22-EP is a power amplifier with a typical small gain of 65 dB and a nominal P_{sat} of +47 dBm across the frequency range of 37 to 42 GHz. The DC power requirement for the amplifier is +20 V_{DC}/17.5 A. The mechanical configurations is an inline structure with 2.4 mm (F) connector as its input port and WR-22 waveguide with UG-383/U Anti-Cocking Flange as output port. Other port configurations, such as 2.4 mm (M) connectors and WR-22 waveguides for either the input or output port, are also available under different model numbers.

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	37 GHz		42 GHz
Small Signal Gain		65 dB	
Power Gain		47 dB	
Gain Flatness		±2 dB	
P_{sat}		+47 dBm	
P_{in}			+10 dBm
Input Return Loss		10 dB	
Output Return Loss		6 dB	
DC Supply Voltage (VDD)	+18 V_{DC}	+20 V_{DC}	+22 V_{DC}
DC Supply Current		17.5 A	
Specification Temperature		+25 ˚C	
Operating Temperature	0˚C		+50 ˚C

Mechanical Specifications:

Item	Specification
Package	Hermetically Sealed
RF Input	2.4 mm Female
RF Output	WR-22 Waveguide with UG-383/U Anti-Cocking Flange
Power Supply & Control	D-SUB13W3
Case Material	Aluminum
Finish	Chem Film, Clear
Weight	4.2 lbs
Size	10.63” (L) X 4.72” (W) X 1.38” (H)
Outline	BP-HC-CW1

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

APPLICATIONS

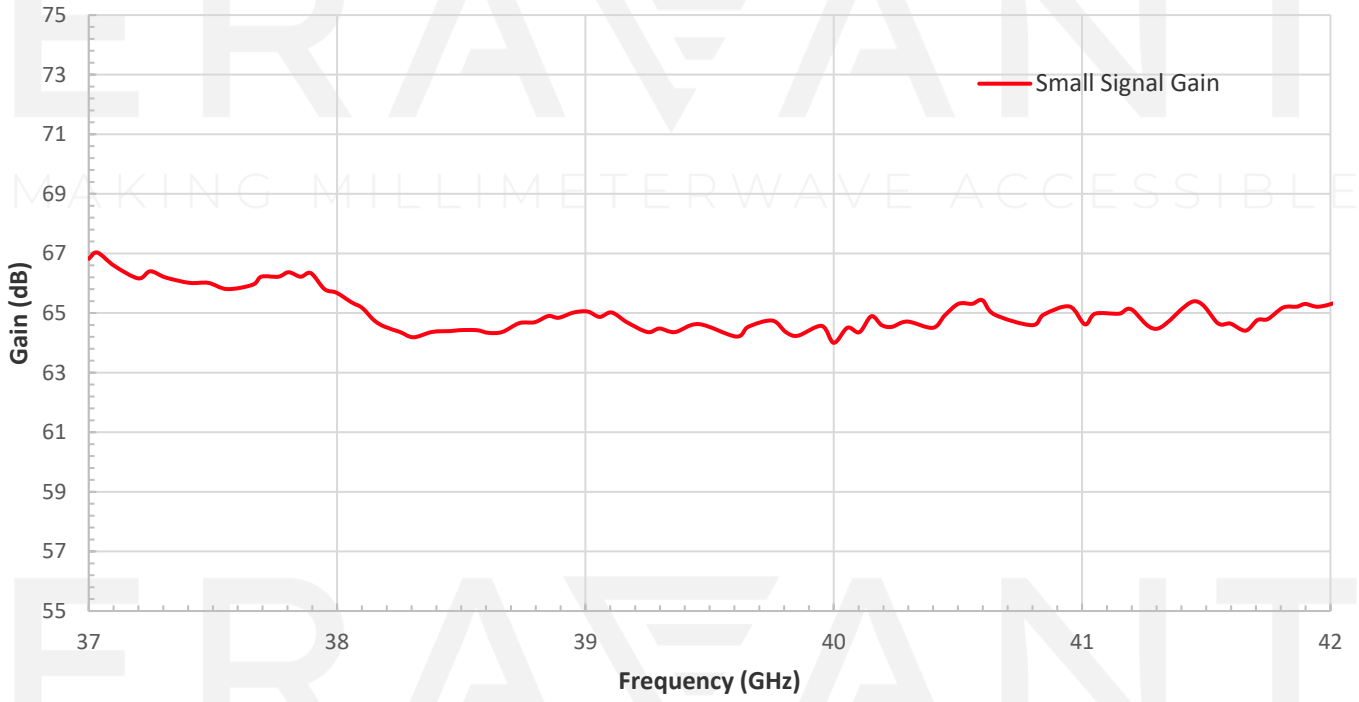
- Radar Systems
- Communication Systems
- Test Equipment

SUPPLEMENTAL DETAILS

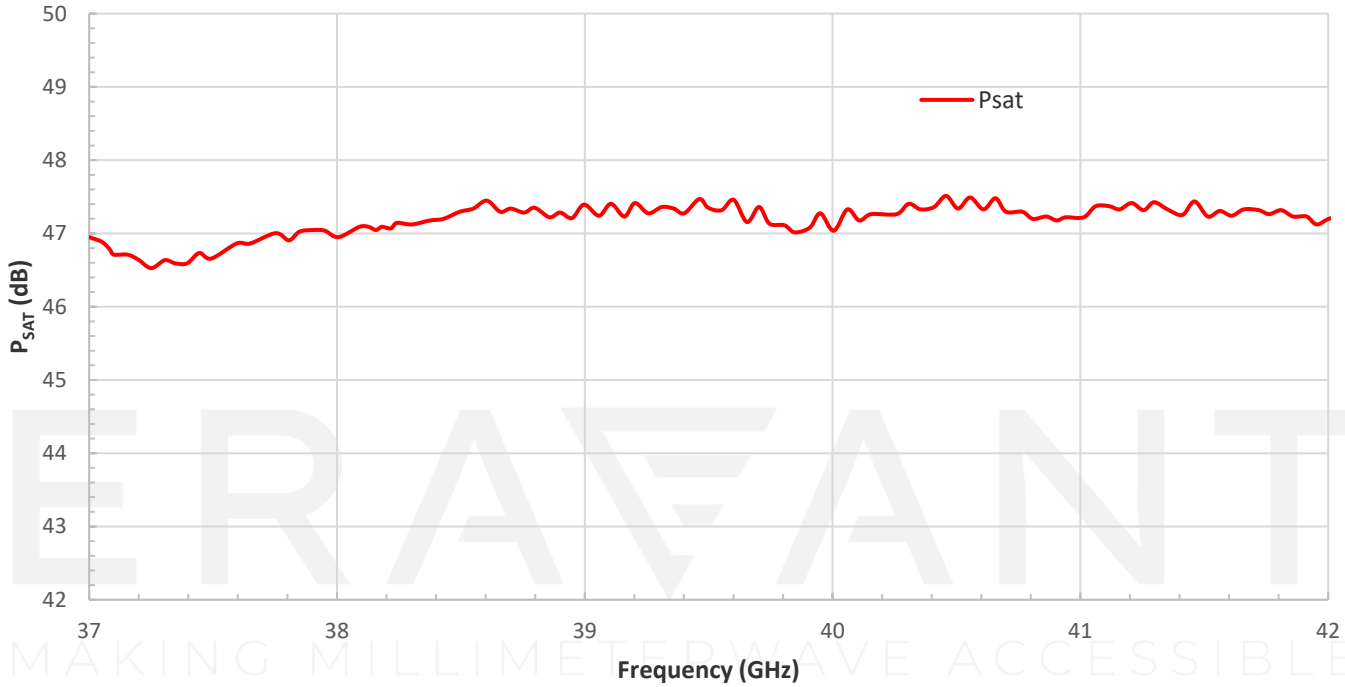
Control and Monitors:

Item	Specification
Power Enable	Turns on/off power supply to the amplifier
Pulsed Control	Continuous Wave and Pulse Compatible
Input/Output Power Detector	Provides input/output power reading
High VSWR Protection	Auto shutdown if internal temperature 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 (+24 V)

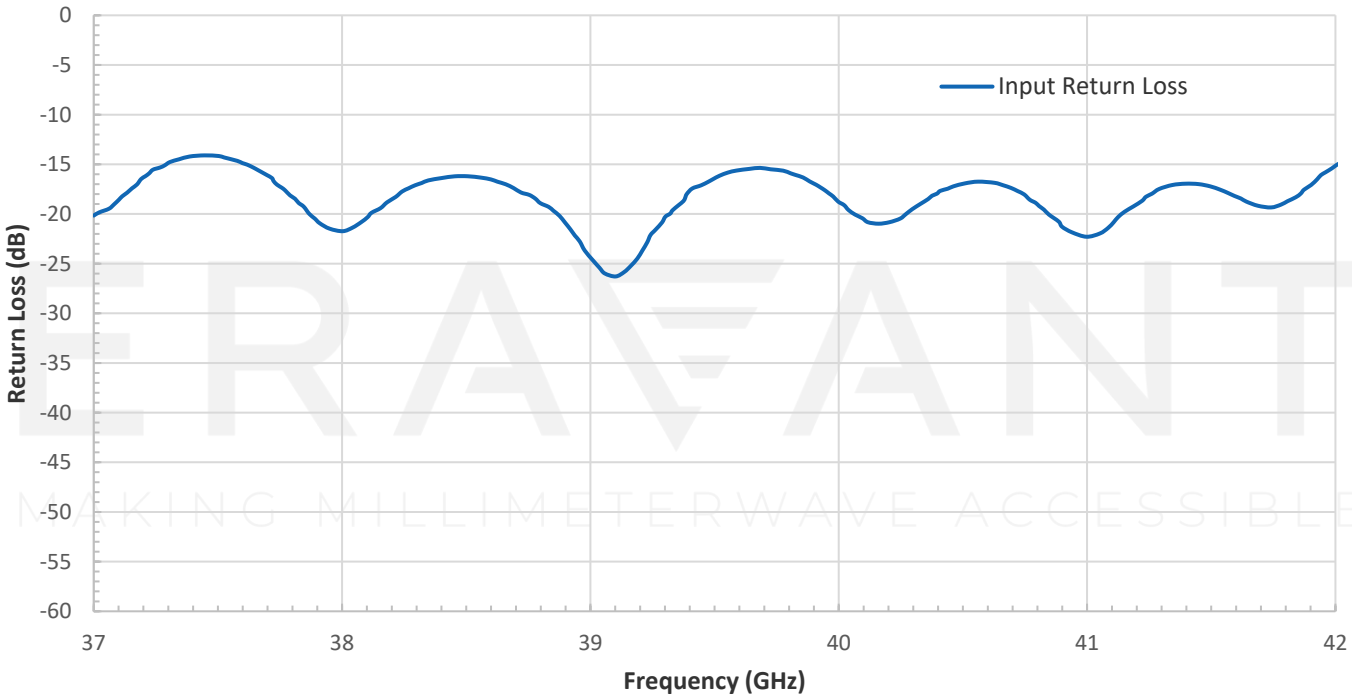
Typical Gain vs. Frequency



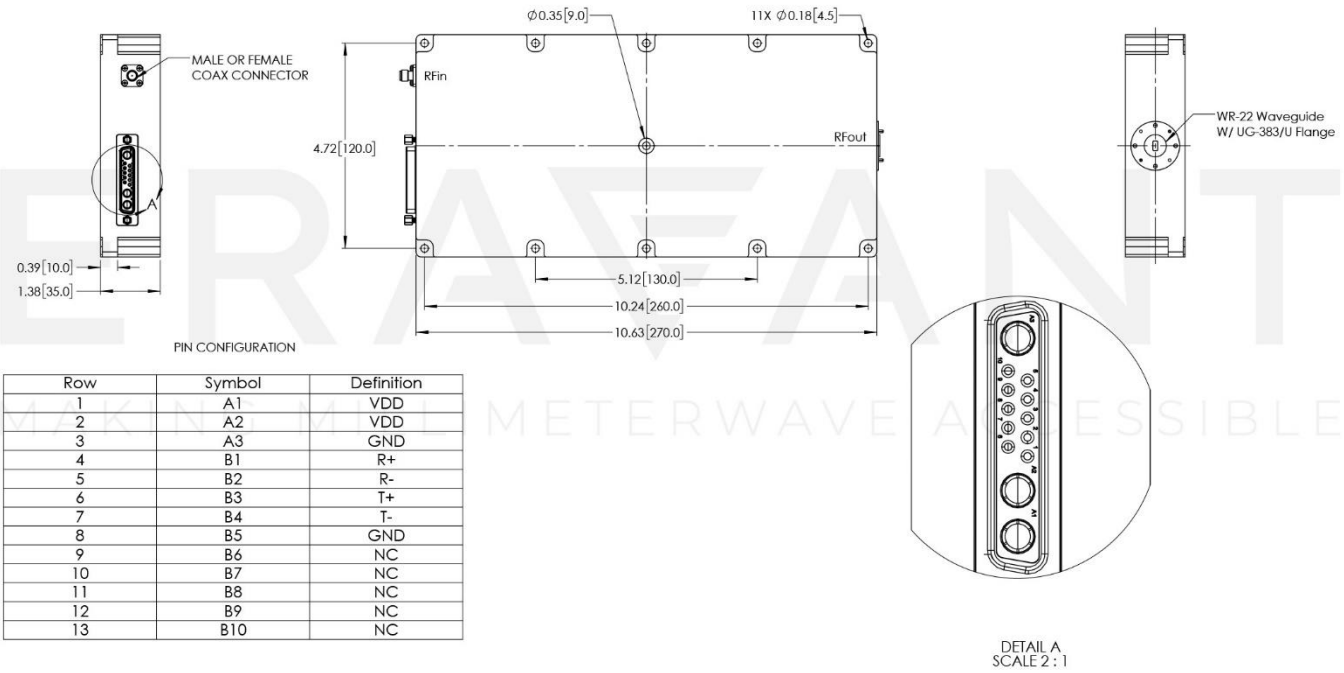
Typical P_{SAT} vs. Frequency



Typical Return Loss vs. Frequency



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



PIN CONFIGURATION

Row	Symbol	Definition
1	A1	VDD
2	A2	VDD
3	A3	GND
4	B1	R+
5	B2	R-
6	B3	T+
7	B4	T-
8	B5	GND
9	B6	NC
10	B7	NC
11	B8	NC
12	B9	NC
13	B10	NC

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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