

**Bi-Directional Amplifier, High Power 5/20 Watts
 Linear/CW, 1.35 GHz to 1.39 GHz, 1 us switching,
 22 dB Gain, SMA**

STA-014-22-20-SMA is an L-Band bi-directional amplifier that delivers high quality TX signals while amplifying the RX signal with an advanced LNA to produce the highest possible data rates. The amplifier operates in the 1350 to 1390 MHz frequency range and offers 5 Watts typical Power for 64 QAM and 20 Watts typical Power for 16 QPSK. High efficiency and advanced switching technology meets the requirements of some of the most demanding RF radio systems. The module provides 22 dB typical small signal gain with gain flatness of ± 0.5 dB typical. The connectorized SMA module is unconditionally stable, requires typically +28V DC, and operates over the temperature range of -40°C and +80°C.



Electrical Specifications (TA = +25°C, DC Voltage = 28Volts DC Current = 2,400mA)

Transmit

Description	Min	Typ	Max	Unit
Frequency Range	1.35		1.39	GHz
Power for 802.11b		20		Watts
Power for 802.11g		5		Watts
Gain	21	22	23	dB
Gain Flatness		± 0.5	± 1.3	dB
Input Return Loss		-12		dB
Operating DC Voltage	24	28	30	Volts
Current Draw 802.11b		2,400		mA
Current Draw 802.11g		900		mA
Switching Time		1	2	uSec

Receive

Description	Min	Typ	Max	Unit
1 dB Compression Point		+0		dBm
Gain		10		dB
Gain Flatness		± 0.5	± 1.3	dB
Input Return Loss	-8	-10		dB
Noise Figure		2.5		dB
Current Draw		50	70	mA

Mechanical Specifications

Size	
Length	3.33 in [84.58 mm]
Width	2.69 in [68.33 mm]
Height	0.65 in [16.51 mm]
Weight	0.34 lbs [154.22 g]

Features:

- 1350 MHz to 1390 MHz Frequency Range
- 20 Watts typ Power for 16 QPSK
- 5 Watts typ Power for 64 QAM
- Small Signal Gain: 22 dB min
- Gain Flatness: ± 0.5 typical
- 50 Ohms Input and Output Matched
- Unconditionally Stable

Applications:

- L-band Military Radio
- Communication Systems
- High Gain Driver Power Amplifier
- High Gain Output Power Amplifier
- Unmanned Aerial Vehicles (UAV)
- Unmanned Ground Vehicles
- L and S Band Radar
- Commercial Air Traffic Control
- Weather and Earth Observation
- Satellites

Fairview Microwave
 1130 Junction Dr. #100
 Allen, TX 75013
 Tel: 1-800-715-4396 / (972) 649-6678
 Fax: (972) 649-6689
www.fairviewmicrowave.com
sales@fairviewmicrowave.com

Compliance Certifications (visit www.FairviewMicrowave.com for current document)
 Not RoHS Compliant

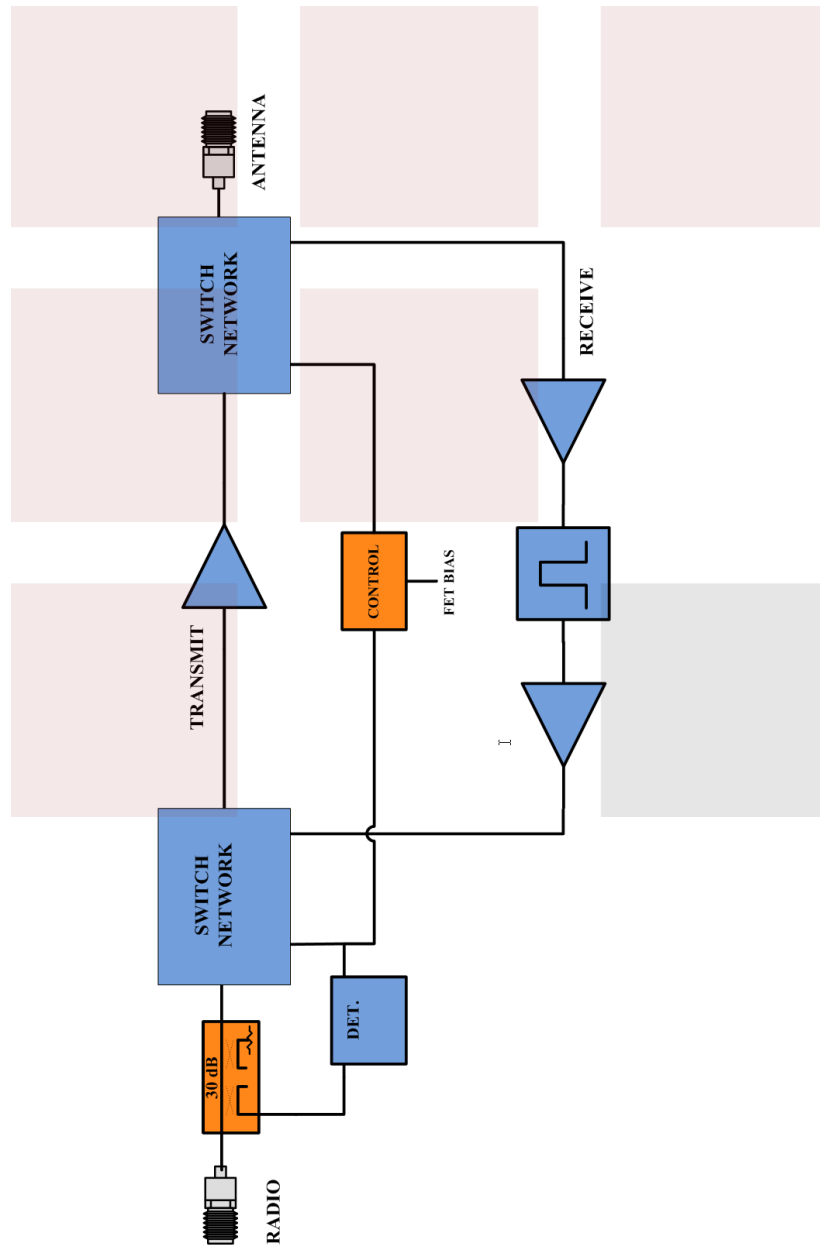
Plotted and Other Data

Notes:

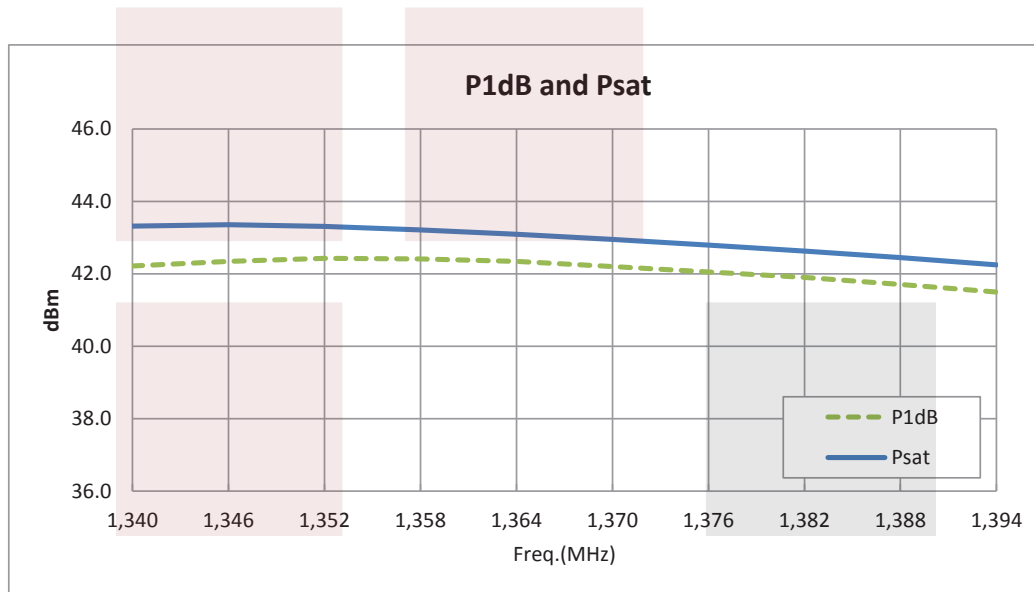
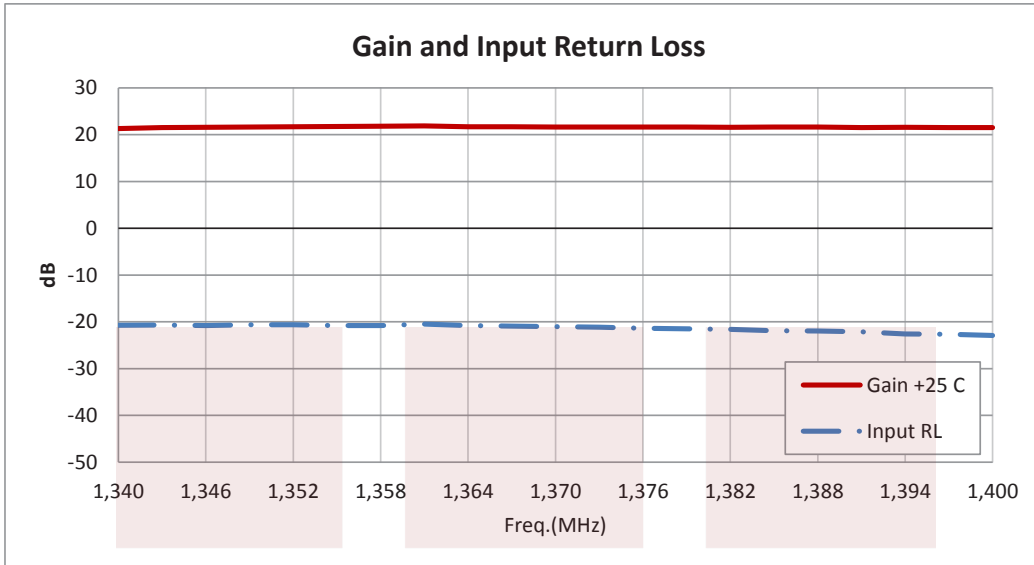
- Values at +25 °C, sea level
- ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in approved ESD Workstation.
- Heat Sink Required for Proper Operation, Unit is cooled by conduction to heat sink.

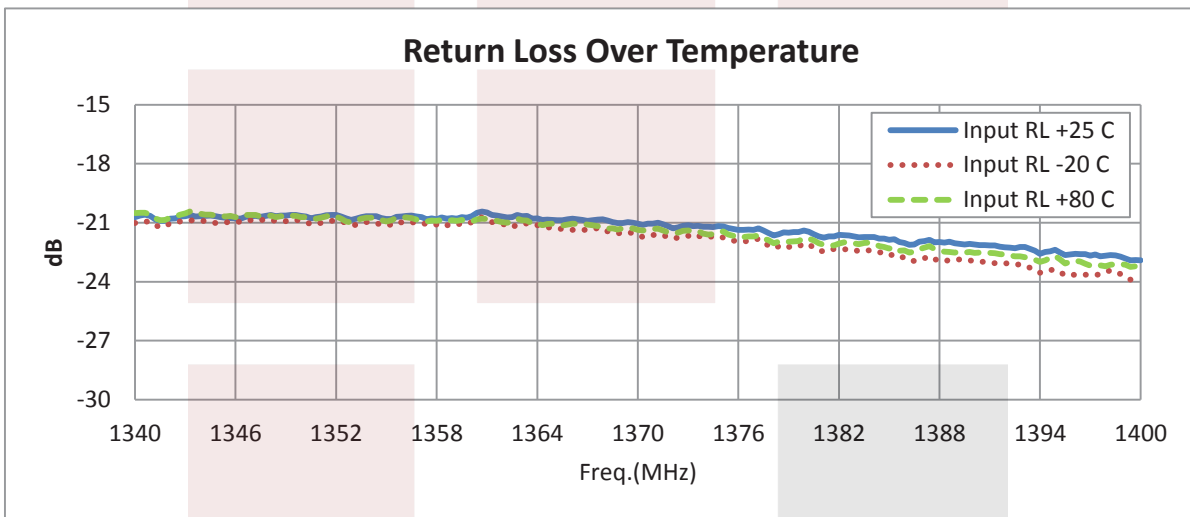
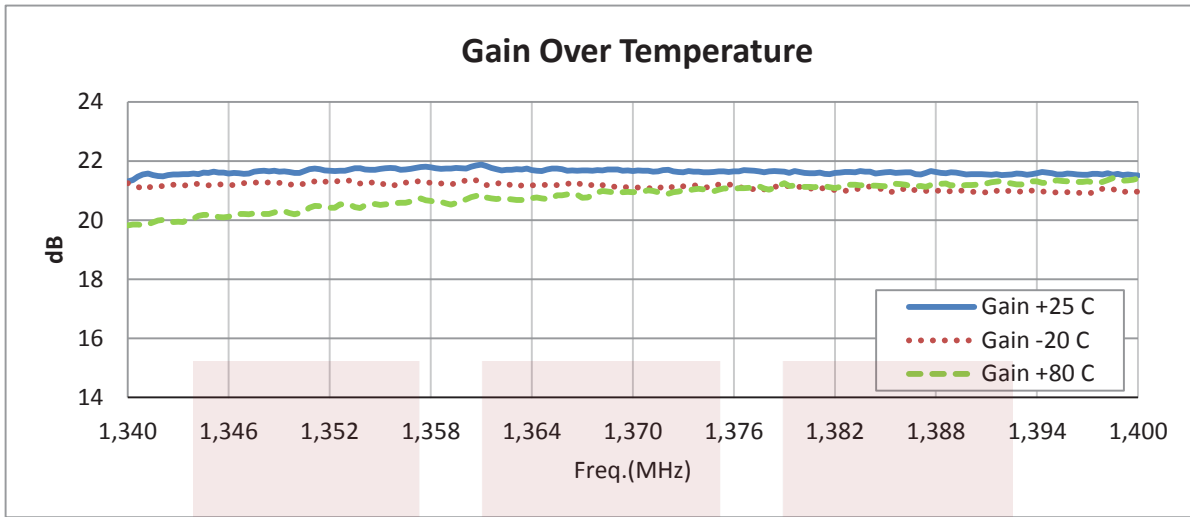


Block Diagram



Typical Performance Data



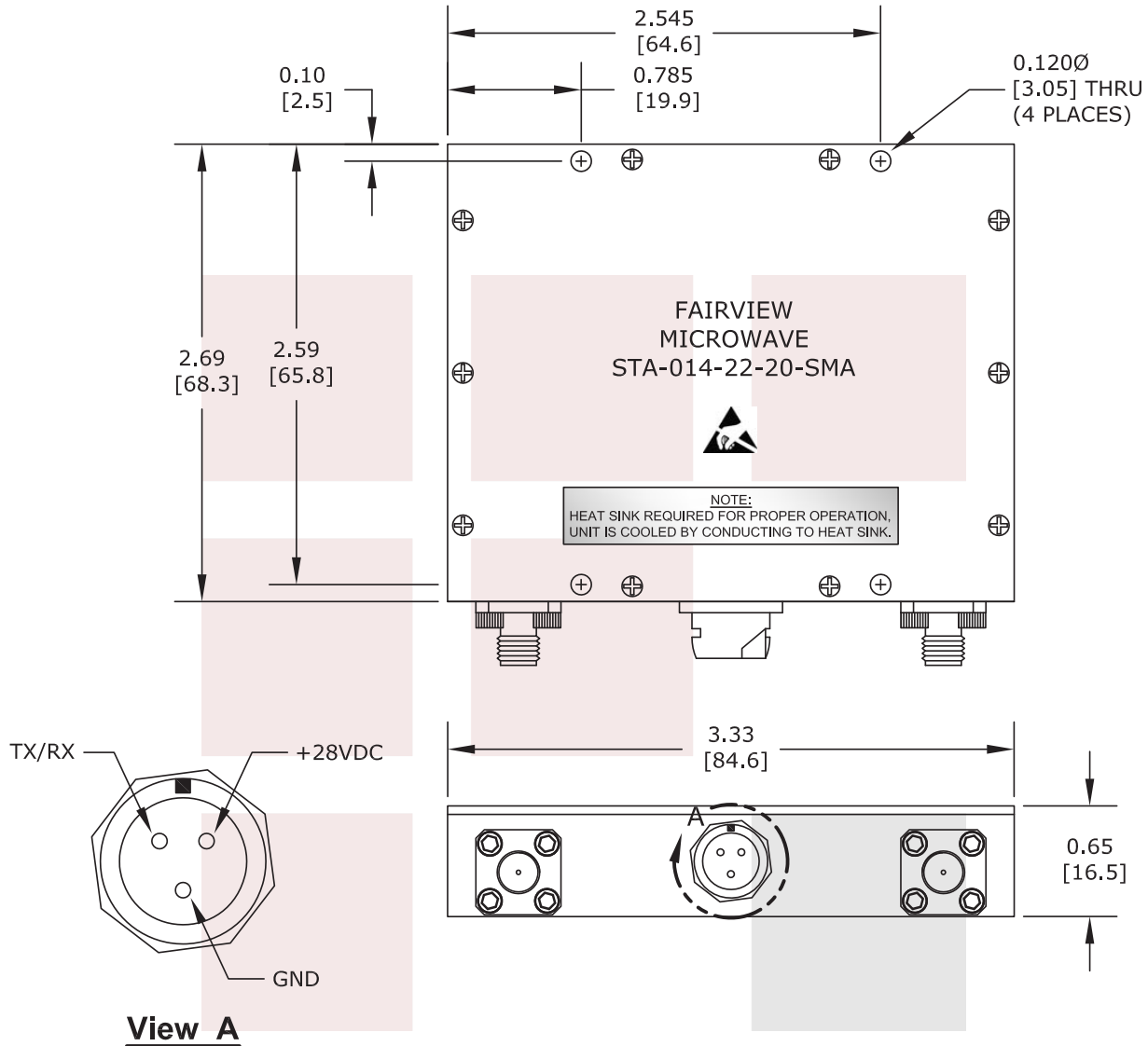


Bi-Directional Amplifier, High Power 5/20 Watts Linear/CW, 1.35 GHz to 1.39 GHz, 1 us switching, 22 dB Gain, SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [Bi-Directional Amplifier, High Power 5/20 Watts Linear/CW, 1.35 GHz to 1.39 GHz, 1 us switching, 22 dB Gain, SMA STA-014-22-20-SMA](#)

URL: <http://www.fairviewmicrowave.com/bi-directional-amplifier-power-5-20-watts-linear-sta-014-22-20-sma-p.aspx>

The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Fairview Microwave reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Fairview Microwave does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Fairview Microwave does not assume any liability arising out of the use of any part or documentation.



NOTE:
HEAT SINK REQUIRED FOR PROPER OPERATION, UNIT
IS COOLED BY CONDUCTING TO HEAT SINK.

PIN	DESCRIPTION	SPECIFICATION
1 - TX/RX	Not Connected since AUTO SWITCHING is active	
2 - GND	Ground	---
3 - +VDC	DC Supply	+28 VDC

FAIRVIEW MICROWAVE INC.
ALLEN, TX 75013 WWW.FAIRVIEWMICROWAVE.COM

NOTES:
1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.
2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.
3. DIMENSIONS ARE IN INCHES [mm].

TITLE	DWG NO	CAGE CODE
Bi-Directional Amplifier, High Power 5/20 Watts Linear/CW, 1.35 GHz to 1.39 GHz, 1 us switching, 22 dB Gain, SMA	STA-014-22-20-SMA	3FKR5
CAD FILE 101014 SHEET	SCALE N/A	SIZE A 2233