

## Key Features



- 50 Ohm Impedance
- 1.1 ~ 1.6 GHz
- 0.50 dB Noise Figure
- 32.0 dBm Output IP<sub>3</sub>
- 35.0 dB Gain
- 30 dBm Max Input RF Power
- 17.0 dBm P<sub>1dB</sub>
- 20 dB Return Losses
- Single Power Supply
- >300,000 Hours MTBF
- Unconditional Stable
- RoHS Compliant

## Product Description

WLLA14-3535A is integrated with WanTcom proprietary low noise amplifier technology, high frequency micro electronic assembly techniques, and high reliability design to realize optimum low noise figure, wideband, high linearity, and unconditional stable performances together. With single DC voltage operation, the amplifier has optimal input and output matching in the specified frequency range. The amplifier has standard SMA connectorized WP-5 Gold plated housing.

The amplifier is designed to meet the rugged standard of MIL-STD-202g.

ELECTROSTATIC DISCHARGE  
SENSITIVE

## Applications

- Mobile Infrastructures
- GPS
- Defense
- Security System
- Measurement
- Fixed Wireless



## Specifications

### Summary of the electrical specifications WLLA14-3535A at room temperature

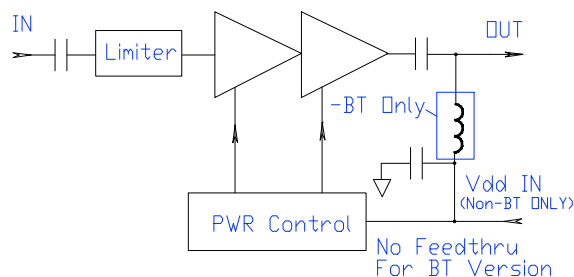
Index	Testing Item	Symbol	Test Constraints	Min	Nom	Max	Unit
1	Gain	S <sub>21</sub>	1.1 – 1.6 GHz	33	35		dB
2	Gain Variation	ΔG	1.1 – 1.6 GHz		+/- 0.5	+/-0.75	dB
3	Input Return Loss	S <sub>11</sub>	1.1 – 1.6 GHz	16	20		dB
4	Output Return Loss	S <sub>22</sub>	1.1 – 1.6 GHz	15	20		dB
5	Reverse Isolation	S <sub>12</sub>	1.1 – 1.6 GHz		45		dB
6	Noise Figure	NF	1.1 – 1.6 GHz		0.50	0.60	dB
7	Output Power 1dB Compression Point	P <sub>1dB</sub>	1.1 – 1.6 GHz	15	17		dBm
8	Output-Third-Order Interception Point	IP <sub>3</sub>	Two-tone, P <sub>out</sub> =+0 dBm each, 1 MHz sep.	29	32		dBm
9	Current Consumption	I <sub>dd</sub>	--		85		mA
10	Power Supply Voltage	V <sub>dd</sub>	WLLA14-3535A	+4.7	+5.0	+5.3	V
			WLLA14-3535B	+7	+12	+16	
11	Thermal Resistance, Junction to Case	R <sub>th,c</sub>	Last stage transistor V <sub>ds</sub> = 3.0V, I <sub>ds</sub> = 60 mA,			220	°C/W
12	Operating Temperature	T <sub>o</sub>	--	-40		+85	°C
13	Maximum CW RF Input Power	P <sub>IN, MAX</sub>	DC – 6 GHz			30	dBm

## Absolute Maximum Ratings

Parameters	Units	Ratings
DC Power Supply Voltage	V	-0.5, 6.0 (+16V for WLLA14-3535B)
Drain Current	mA	100
Total Power Dissipation	mW	400 (1600 for WLLA14-3535B)
CW RF Input Power	dBm	30
Channel Temperature	°C	150
Storage Temperature	°C	-55 ~ 125
Operating Temperature	°C	-40 ~ 85
Thermal Resistance	°C/W	220

Operation of this device above any one of these parameters may cause permanent damage.

## Functional Block Diagram



## Ordering Information

Model Number	Without Output Bias-T	With Output Bias-T
$V_{dd} = +5.0\text{ V}$	WLLA14-3535A	WLLA14-3535ABT
$V_{dd} = +7.0 \sim +16.0\text{ V}$	WLLA14-3535B	WLLA14-3535BBT

Specifications and information are subject to change without notice.

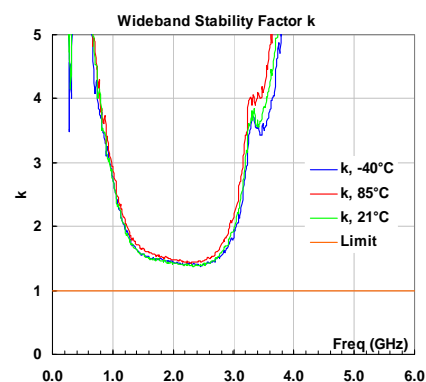
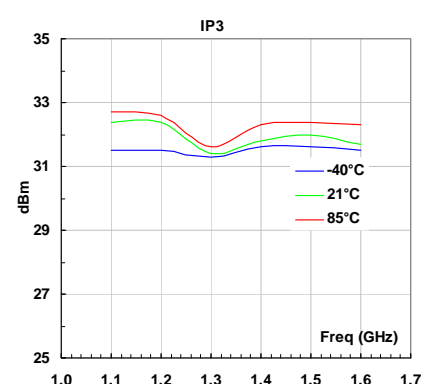
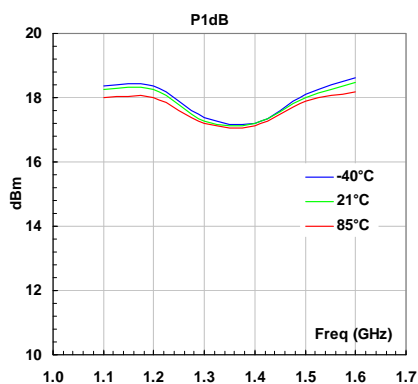
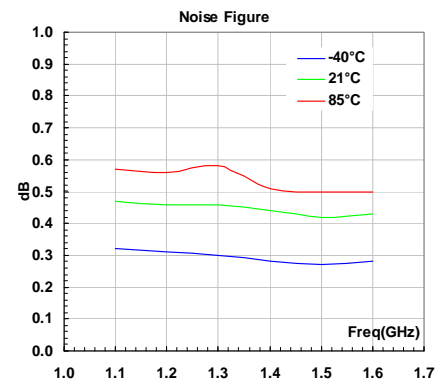
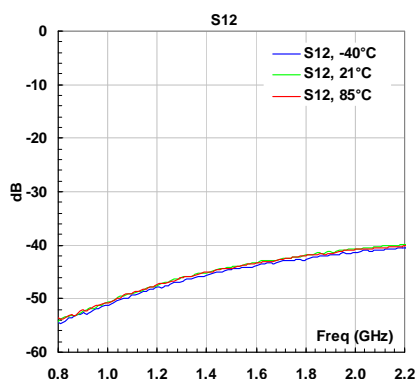
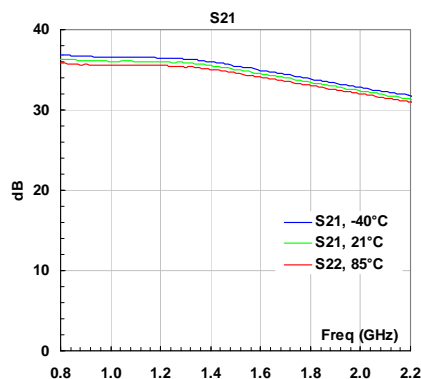
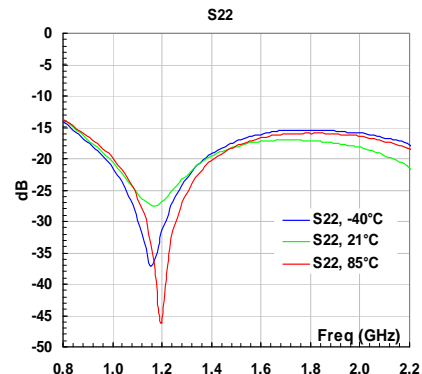
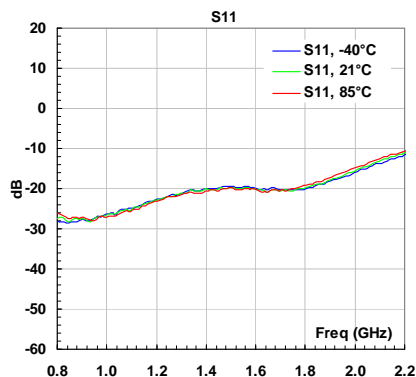
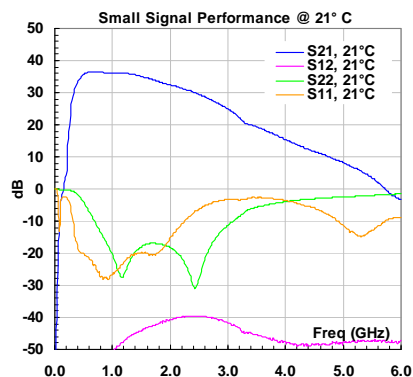


# WLLA14-3535A

## 1.1- 1.6 GHz LOW NOISE LIMITER AMPLIFIER

REV C  
June 2016

### Typical Data



Specifications and information are subject to change without notice.

WanTcom, Inc \* Phone 01 952 448 6088 \* FAX: 01 952 448 7188 \* e-mail: [sales@wantcominc.com](mailto:sales@wantcominc.com) \* Web site: [www.wantcominc.com](http://www.wantcominc.com)



# WLLA14-3535A

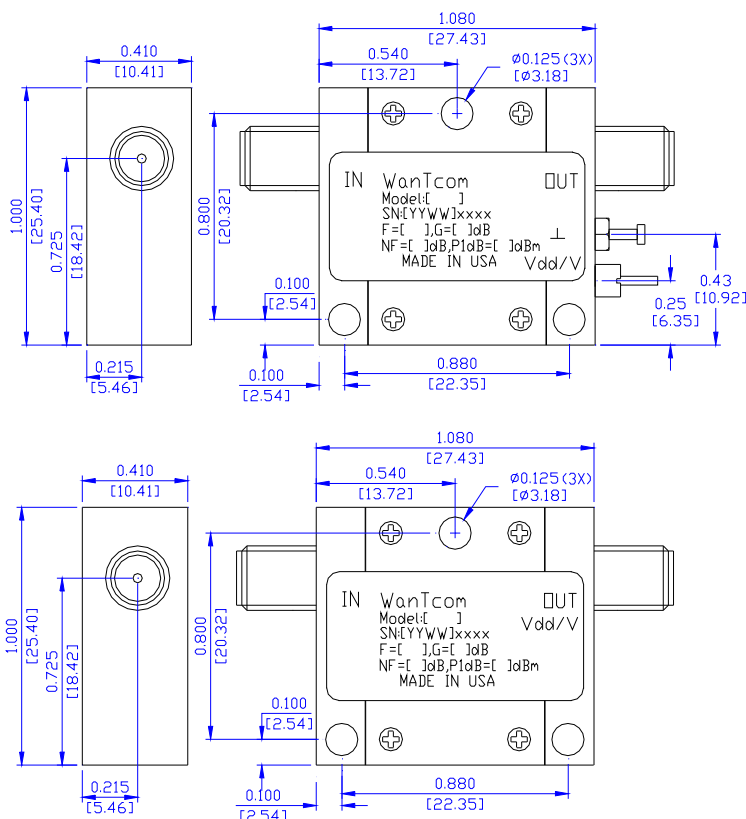
## 1.1- 1.6 GHz LOW NOISE LIMITER AMPLIFIER

REV C  
June 2016

### Outline, WP-5 Housing

UNITS: INCH  
[mm]  
BODY: Brass  
Finish: Gold Plating  
RF Connector: SMA F Gold  
V<sub>dd</sub> PWR: Feed through

WLLA14-3535A/B



### Application Notes:

#### A. SMA Torque Wrench Selection

Always use a torque wrench with 5 ~ 6 inch-lb coupling torque setting for mating the SMA cables to the amplifier. Never use torque more than 8 inch-lb wrench for tightening the mating cable to the connector. Otherwise, the permanent damage will occur to the SMA connectors of the amplifier. 8710-1582 (5 inch-lb) is one of the ideal torque wrench choice from Agilent Technology.

#### B. DC Power Line Connection

Strip the insulation layer at the end of DC power supply wire. The stripped distance should be in the range of 0.100" to 0.200". The 24 ~ 26 American Wire Gauge wire is suitable. Wound the stripped terminal wire about 3/4 to 1 turn on the DC feed thru center pin. Solder the wounded wire and the center pin together. Clean the soldering area by Q-tip with alcohol to remove the flux and residue.

Do not use large soldering iron tip with more than 750 degree Fahrenheit to solder the wire and feed thru pin. Damage may occur to the feed thru.

Repeat the process to solder the DC return wire on the ground turret.

#### C. Mounting the Amplifier

Use three pieces of #4-40 with longer than 9/16" screws for mounting the amplifier on a metal-based chase. Flat and spring washers are needed to prevent the screw loosening. Always use the appropriate torque setting of the power screwdriver to mount them.

Specifications and information are subject to change without notice.

WanTcom, Inc \* Phone 01 952 448 6088 \* FAX: 01 952 448 7188 \* e-mail: [sales@wantcominc.com](mailto:sales@wantcominc.com) \* Web site: [www.wantcominc.com](http://www.wantcominc.com)



# WLLA14-3535A

1.1- 1.6 GHz LOW NOISE LIMITER AMPLIFIER

---

REV C  
June 2016

\*\*\*\*\*

---

Specifications and information are subject to change without notice.

WanTcom, Inc \* Phone 01 952 448 6088 \* FAX: 01 952 448 7188 \* e-mail: [sales@wantcominc.com](mailto:sales@wantcominc.com) \* Web site: [www.wantcominc.com](http://www.wantcominc.com)