

RF MMIC Innovator

[www.berex.com](http://www.berex.com)

[Classification] Application Note

[Date] 2011.04

[Revision No.] Rev.A

[Measuring Instruments]

- NA\_Agilent 8753ES

- SA\_Agilent E4404B

- SG\_Agilent 4438C

- SG\_IFR 3416

## High Power Amp BT301

### Application Note



**Contents**

RF MMIC INNOVATOR [WWW.BEREX.COM](http://WWW.BEREX.COM)..... 1

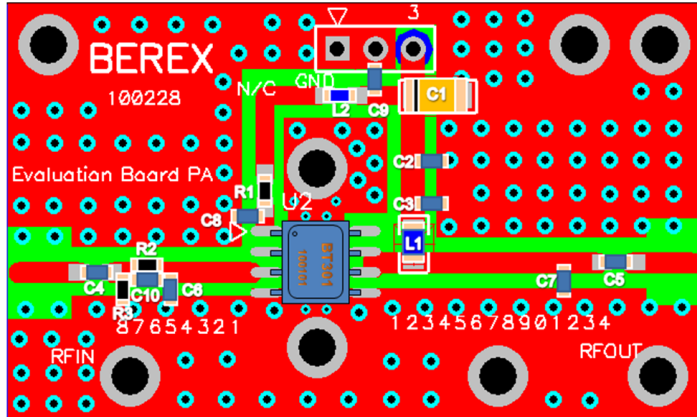
1. 900MHZ RESISTANCE APPLICATION .....3

1.1 900MHZ RESISTANCE TEST RESULT(S-PARAMETER, OIP3, P1, NF) ..... 4

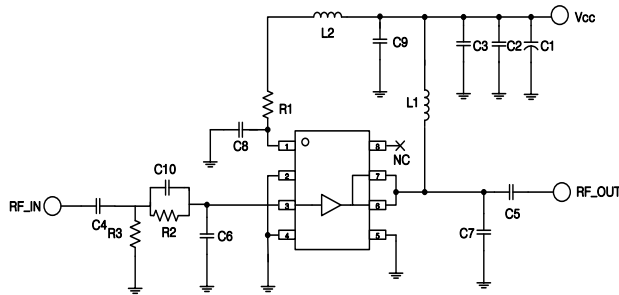
1.2 900MHZ RESISTANCE TEST RESULT(SPURIOUS).....5

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1. BT301 \_ 900MHz Resistance Application



Ref. Des.	Description/ Part Number	Values	Tolerance
C1	3216 Tantal	10uF	±5%
C2	1608 CAP	1.0nF	±5%
C3	1608 CAP	100pF	±5%
C4	1608 CAP	3.0pF	±5%
C5	1608 CAP	100pF	±5%
C6	1608 CAP	4.7pF	±5%
C7	1608 CAP	5.0pF	±5%
C8	1608 CAP	2.7pF	±5%
C9	1608 CAP	100pF	±5%
C10	1608 CAP	15pF	±5%
R1	1608 R	12 ohm	±5%
R2	1608 R	51ohm	±5%
R3	1608 R	1kohm	±5%
L1	1608 L	56nH	±5%
L2	1608 L	4.7nH	±5%
Q1	SOIC-8 PKG	BT301	-



Note:

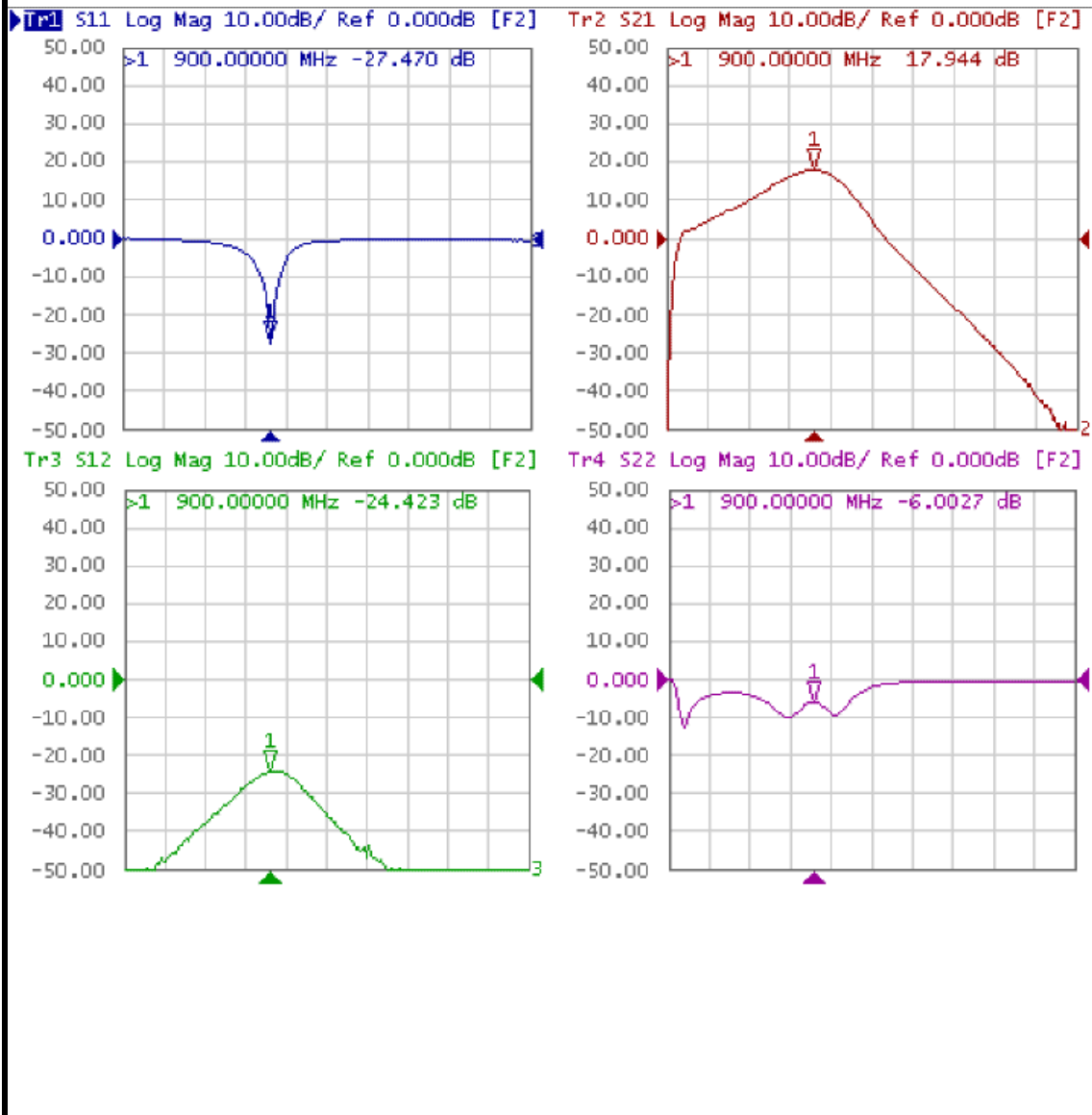
1. PCB: 31mil thick FR4
2. Distance between the center of the shunt cap(C6) and the input pin of BT301 is 6.00 mm.
3. Distance between the center of the shunt cap (C7) and the input pin of BT301 is 12.00 mm.

TITLE	
BT301 Evaluation Board	
(900 MHz)	
Drawing Number	Rev.
Date	Drawn By
FILE NAME	SHEET

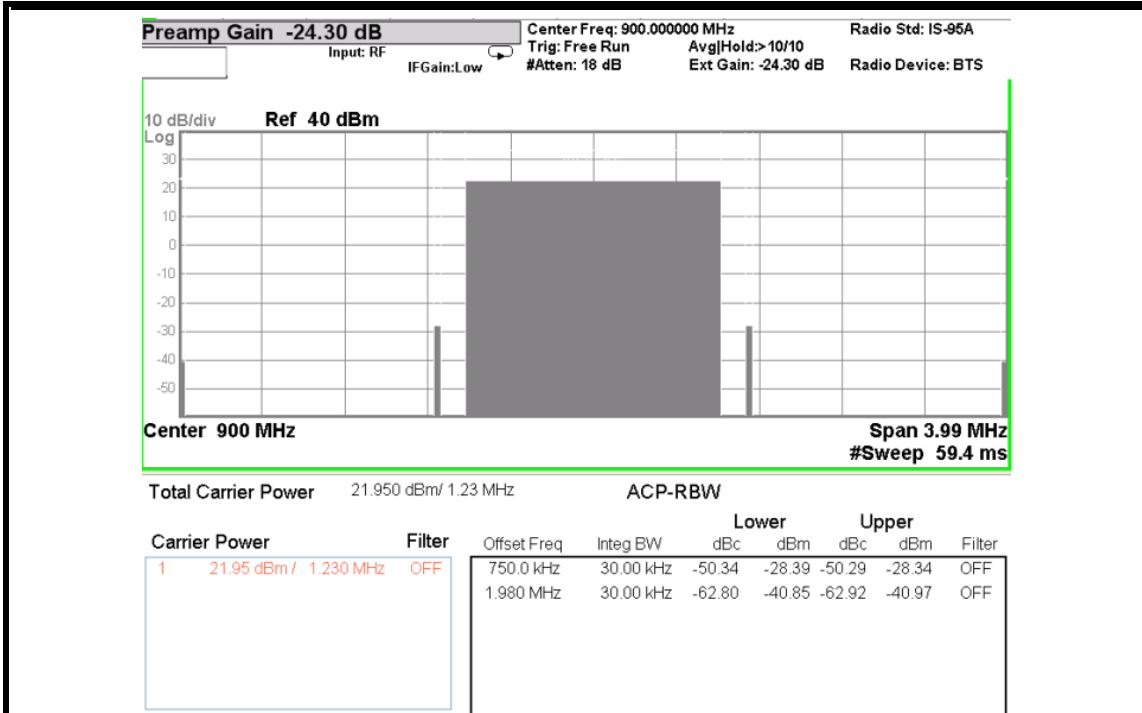
1.1 BT301\_900MHz Resistance Test Result

SN	Freq [MHz]	Vcc [V]	Icc [mA]	Gain [dB]	OIP3 [dBm] <sup>(1)</sup>	P1dB [dBm]	IRL [dB]	ORL [dB]	NF [dB]
-	900	5	340	17.9	47.3	29.87	27.47	6.0	9.2

(1) OIP3 was tested @Pout=20dBm/tone 1MHz offset

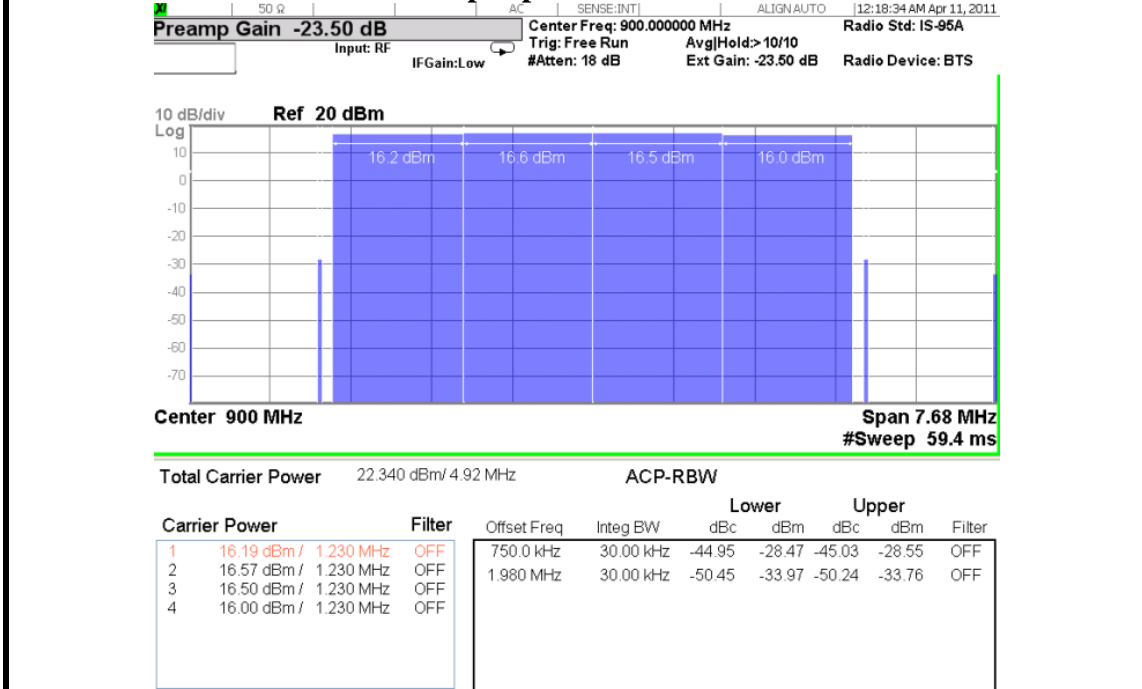


### 1.2 BT301\_900MHz Resistance SPURIOUS



[Test condition]

#### 1FA / 750KHz- 50dBc@ Output power 21.95dBm



[Test condition]

#### 4FA / 750KHz- 45dBc@ Output power 22.34dBm