

BRF MMIC Innovator

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

[Classification] Application Note

[Date] 2013.03

[Revision No.] Rev.A

[Measuring Instruments]

- NA\_Agilent 8753ES

- SA\_Agilent E4404B

- SG\_Agilent 4438C

- SG\_IFR 3416

## Wide Band Gain Block Amp BG18B

### Application Note



**Contents**

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

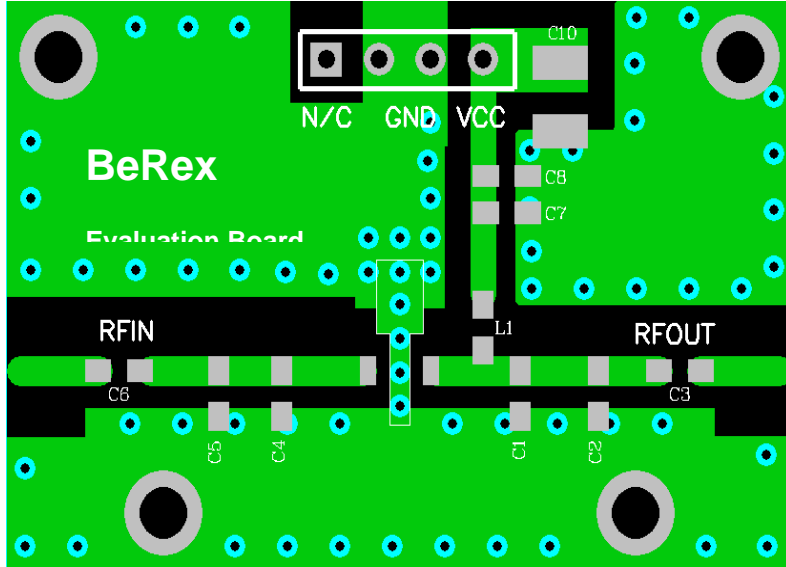
1. 2600MHZ APPLICATION ..... 3

1.1 2600MHZ TEST RESULT(S-PARAMETER, OIP3, P1, NF) ..... 4

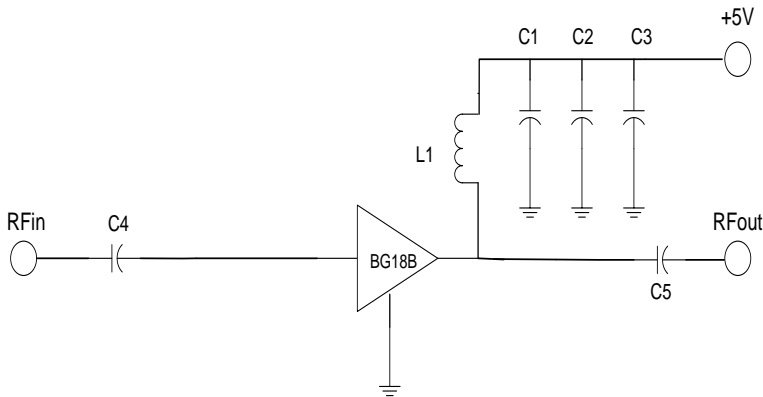
1-1 2600MHZ WCDMA 4FA\_ ACLR TEST RESULT ..... 5

1-2 2600MHZ LTE\_20MHZ\_ACLR TEST RESULT ..... 6

1. BG18B\_ 2600MHz Application Note



Ref. Des.	Description/ Part Number	Values	Vendor
C1	0603 CAP	100pF	Samsung
C2	604 CAP	1000pF	Samsung
C3	A3216 CAP	10uF	AVX
C4	0603 CAP	100pF	Samsung
C5	0603 CAP	100pF	Samsung
C6	0603 CAP	NA	
C7	0603 CAP	NA	
C8	0603 CAP	NA	
C9	0603 CAP	NA	
C10	0603 CAP	NA	
C11	0603 CAP	NA	
C12	0603 CAP	NA	
L1	0603 IND	20nH	Ceratech
L2	0603 IND	NZ	
L3	0603 IND	NA	
R1	0603 RES	NA	
U1	SOT89 PKG	BG18B	BEREX



Note:

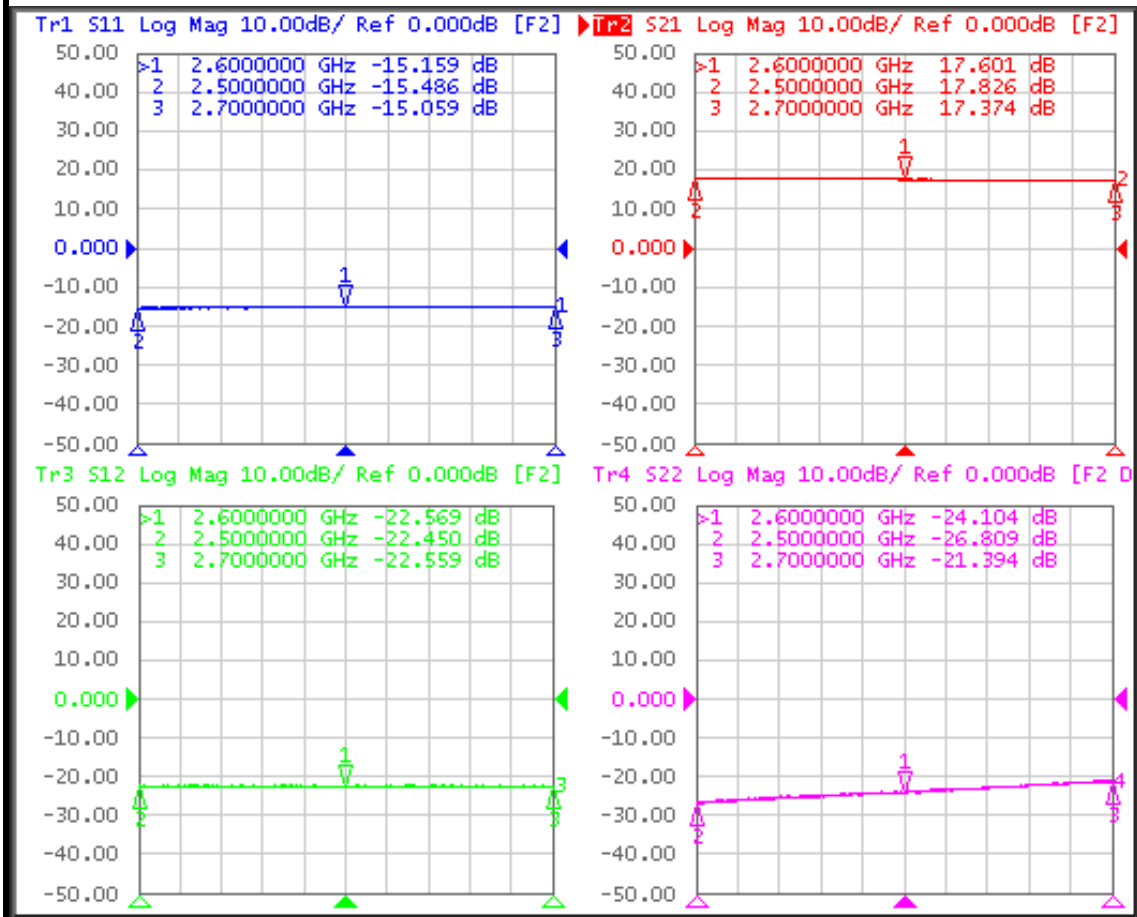
1. PCB: 31mil thick FR4

TITLE	
BG18B Evaluation Board	
(2600MHz)	
Drawing Number	Rev.
Date	Drawn By
FILE NAME	SHEET

### 1.1 BG18B\_2600MHz Test Result

SN	Freq [MHz]	Vcc [V]	Icc [mA]	Gain [dB]	OIP3 [dBm] <sup>(1)</sup>	P1dB [dBm]	IRL [dB]	ORL [dB]	NF [dB]
-	2500	5	71	17.8	30.0	17.6	-15.4	-26.8	3.5
-	2600	5	71	17.6	29.5	17.4	-15.1	-24.1	3.5
-	2700	5	71	17.3	29.5	17.2	-15.0	-21.3	3.5

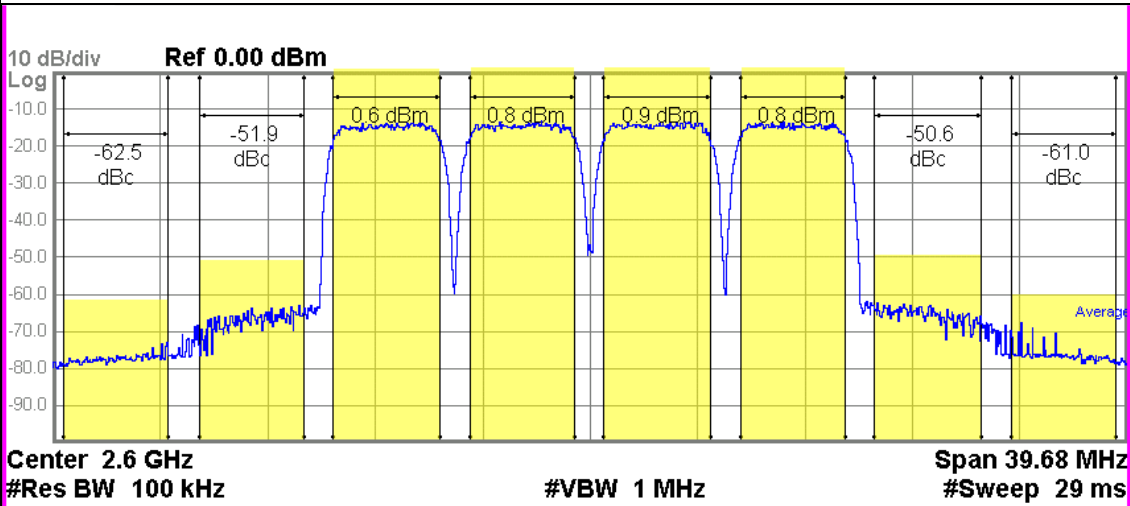
(1) OIP3 was tested @Pout=7dBm/tone 1MHz offset



**1-1. WCDMA 4FA\_ ACLR Test Result**

Out Power : 6.76 dBm

**WCDMA 4FA : 2600 -50dBc**



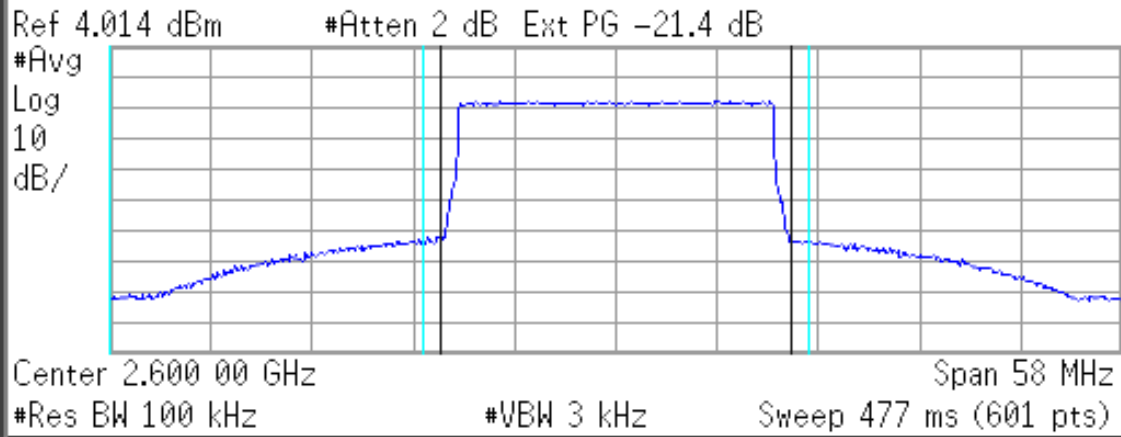
Carrier Power		Filter	Offset Freq	Integ BW	Lower		Upper		Filter
					dBc	dBm	dBc	dBm	
1	0.589 dBm / 3.840 MHz	ON	5.000 MHz	3.840 MHz	-51.89	-51.02	-50.57	-49.70	ON
2	0.758 dBm / 3.840 MHz	ON	10.00 MHz	3.840 MHz	-62.51	-61.64	-61.03	-60.16	ON
3	0.873 dBm / 3.840 MHz	ON							
4	0.766 dBm / 3.840 MHz	ON							

Total Carrier Power 6.768 dBm/ 15.36 MHz ACP-IBW

**1-2. LTE\_20MHz\_ACLR Test Result**

Out Power : 7.77 dBm

**LTE\_FDD\_20MHz\_TM 3p1\_100 : 2600 -50dBc**



<b>RMS Results</b>		Freq Offset	Ref BW	dBc	Lower	dBm	dBc	Upper	dBm
Carrier Power	20.00 MHz	18.00 MHz	-50.00	-42.23	-50.36	-42.59			
7.77 dBm /									
20.0000 MHz									