

BRF MMIC Innovator

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[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 BG13D

Application Note



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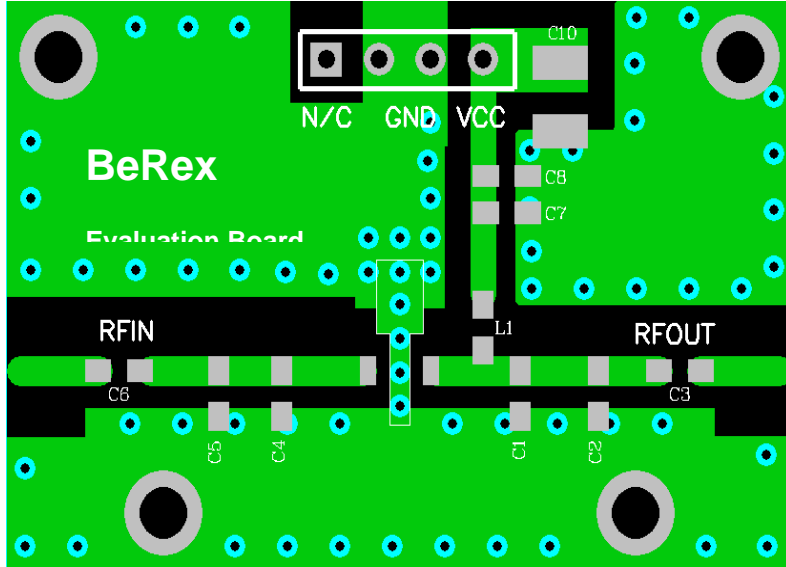
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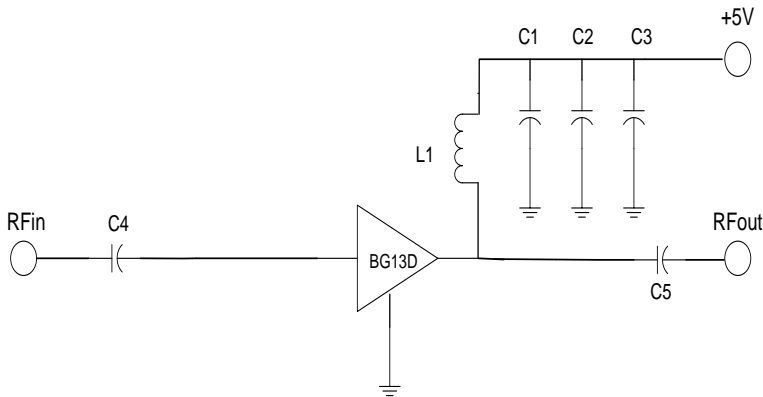
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1. BG13D_ 2600MHz Application Note



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	BG13D	BEREX



Note:

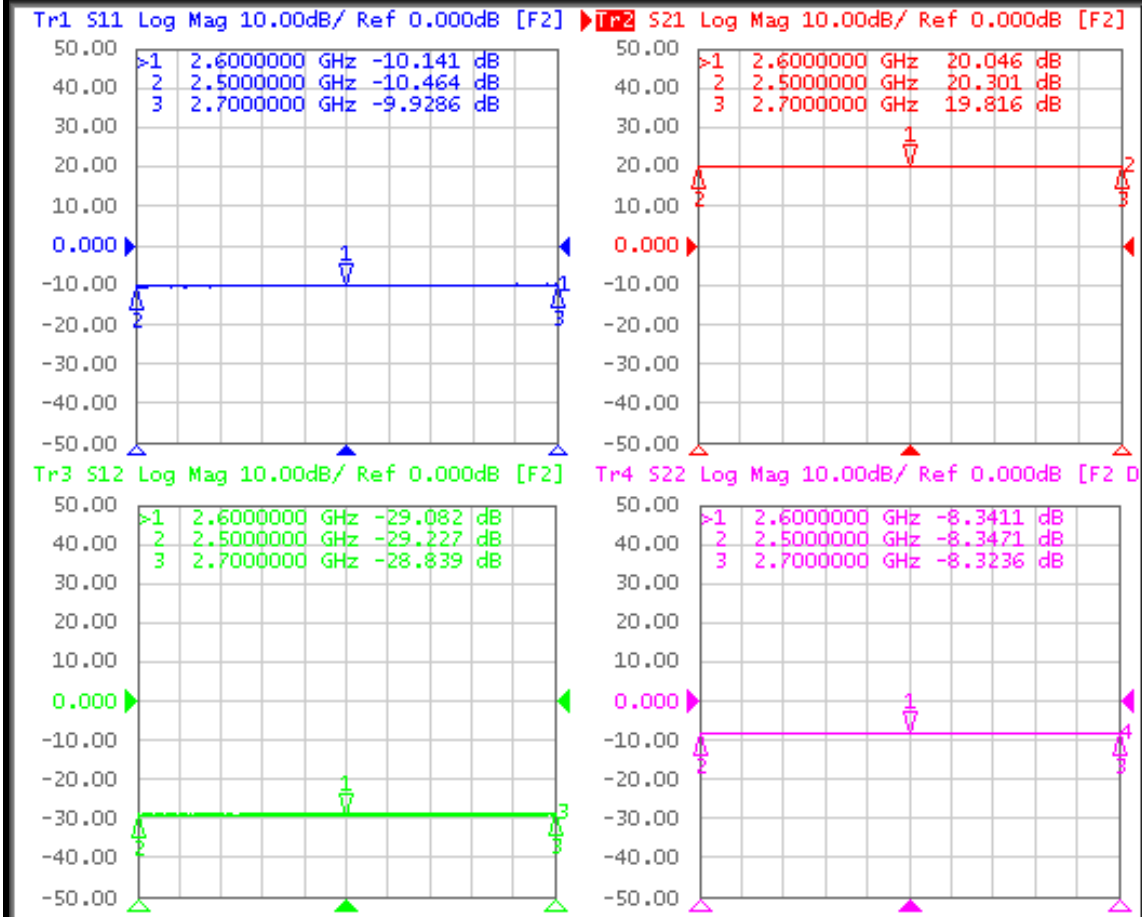
1. PCB: 31mil thick FR4

TITLE	
BG13D Evaluation Board	
(2600MHz)	
Drawing Number	Rev.
Date	Drawn By
FILE NAME	SHEET

1.1 BG13D_2600MHz Test Result

SN	Freq [MHz]	Vcc [V]	Icc [mA]	Gain [dB]	OIP3 [dBm] ⁽¹⁾	P1dB [dBm]	IRL [dB]	ORL [dB]	NF [dB]
-	2500	5	70	20.3	32.3	18.7	-10.4	-8.3	4.6
-	2600	5	70	20.0	32	18.4	-10.1	-8.3	4.6
-	2700	5	70	19.8	32	18.4	-9.9	-8.3	4.6

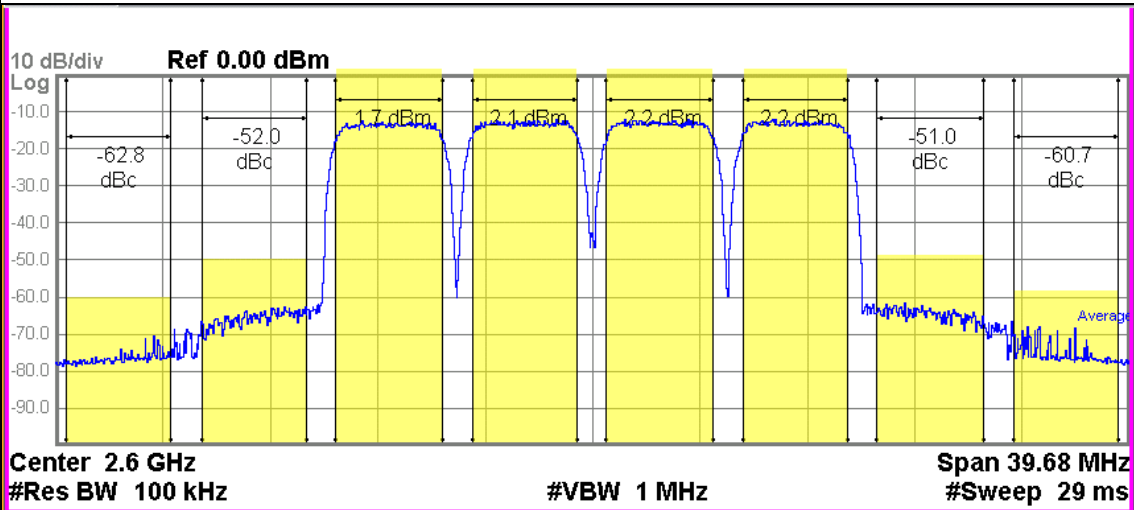
(1) OIP3 was tested @Pout=7dBm/tone 1MHz offset



1-1. WCDMA 4FA_ ACLR Test Result

Out Power : 8.0 dBm

WCDMA 4FA : 2600 -50dBc



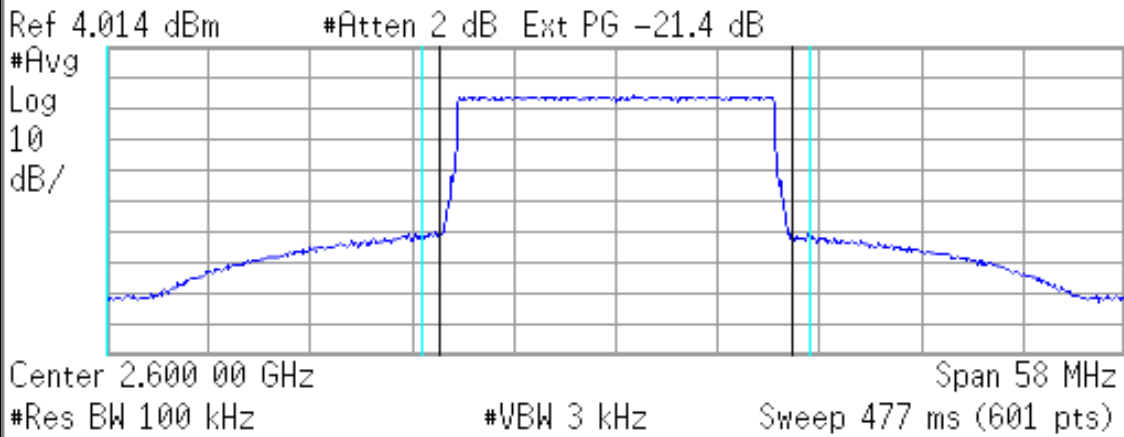
Carrier Power		Filter	Offset Freq	Integ BW	Lower		Upper		Filter
					dBc	dBm	dBc	dBm	
1	1.705 dBm / 3.840 MHz	ON	5.000 MHz	3.840 MHz	-52.02	-49.82	-51.04	-48.84	ON
2	2.088 dBm / 3.840 MHz	ON	10.00 MHz	3.840 MHz	-62.81	-60.61	-60.73	-58.53	ON
3	2.201 dBm / 3.840 MHz	ON							
4	2.170 dBm / 3.840 MHz	ON							

Total Carrier Power 8.066 dBm/ 15.36 MHz ACP-IBW

1-2. LTE_20MHz_ACLR Test Result

Out Power : 9.68 dBm

LTE_FDD_20MHz_TM 3p1_100 : 2600 -50dBc



RMS Results		Freq Offset	Ref BW	dBc	Lower dBm	dBc	Upper dBm
Carrier Power	20.00 MHz	18.00 MHz	-49.98	-40.30	-50.52	-40.83	
9.68 dBm /							
20.0000 MHz							