

RF 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

## Si-Ge Gain Block Amp BGS1

### Application Note



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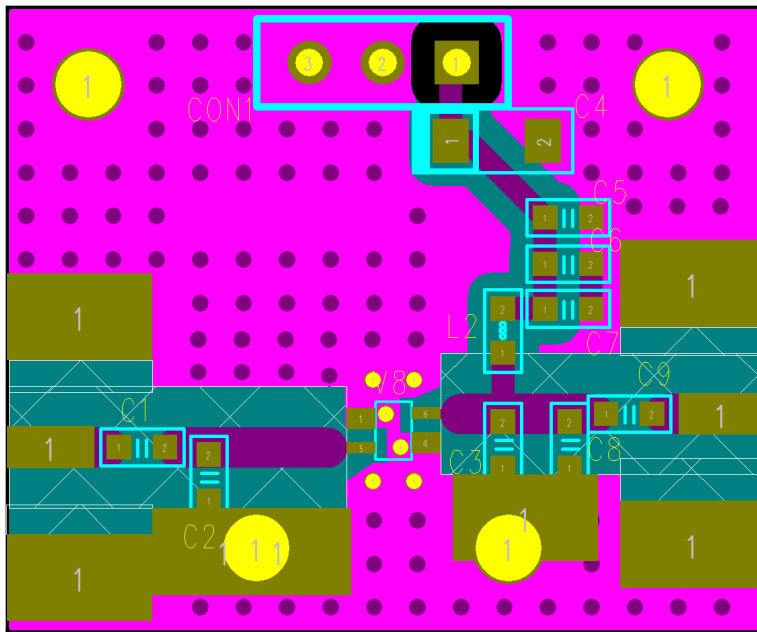
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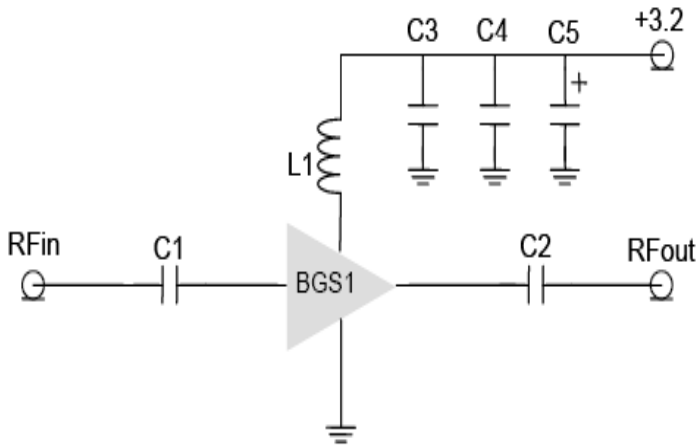
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1. BGS1\_2600MHz Application Note



Ref. Des.	Description/ Part Number	Values	Vendor
C1	0603 CAP	100pF	Samsung
C2	0603 CAP	100pF	Samsung
C3	0603 CAP	100pF	Samsung
C4	0603 CAP	1000pF	Samsung
C5	A3216 CAP	10uF	AVX
L1	0603 CAP	56nH	Samsung
U1	SOT363 PKG	BGS1	BEREX



Note:

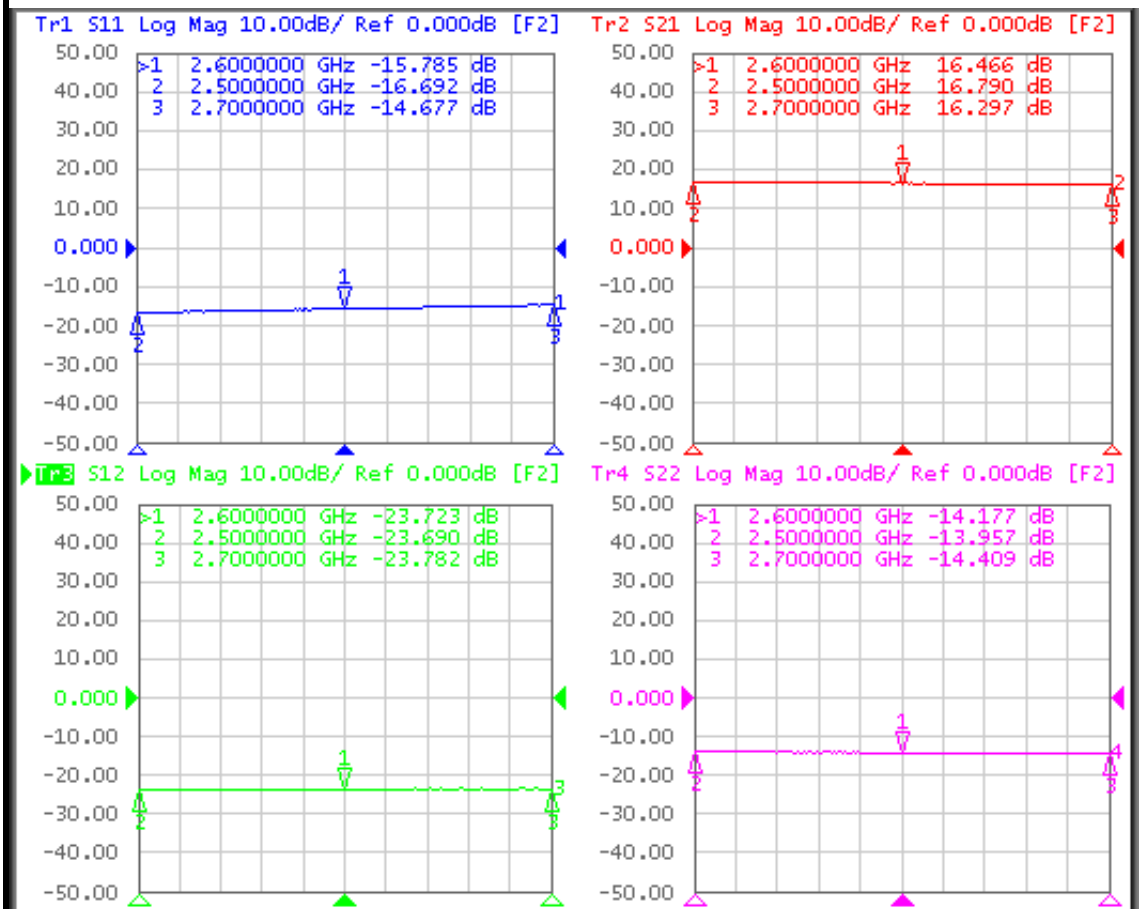
1. PCB: 31mil thick FR4

TITLE	
BGS1 Evaluation Board	
(2600MHz)	
Drawing Number	Rev.
Date	Drawn By
FILE NAME	SHEET

### 1.1 BGS1\_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	3.2	27	16.8	22.5	12.4	-16.7	-14	3.4
-	2600	3.2	27	16.5	22.5	12.2	-15.8	-14.2	3.4
-	2700	3.2	27	16.3	22.5	12.1	-14.6	-14.4	3.4

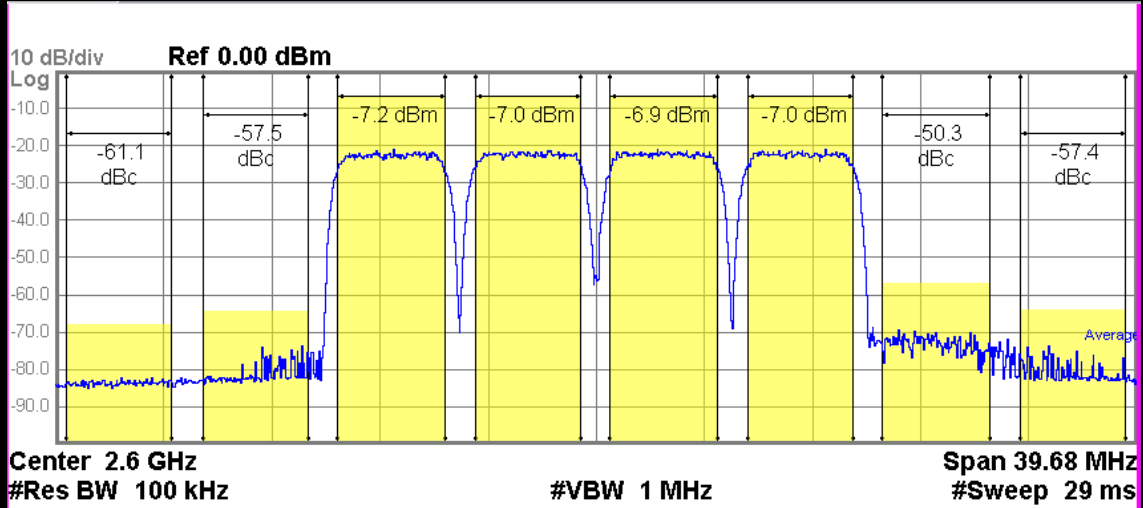
(1) OIP3 was tested @Pout=0dBm/tone 1MHz offset



**1-1.WCDMA4FA\_ ACLR Test Result**

Out Power : -1.01 dBm

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



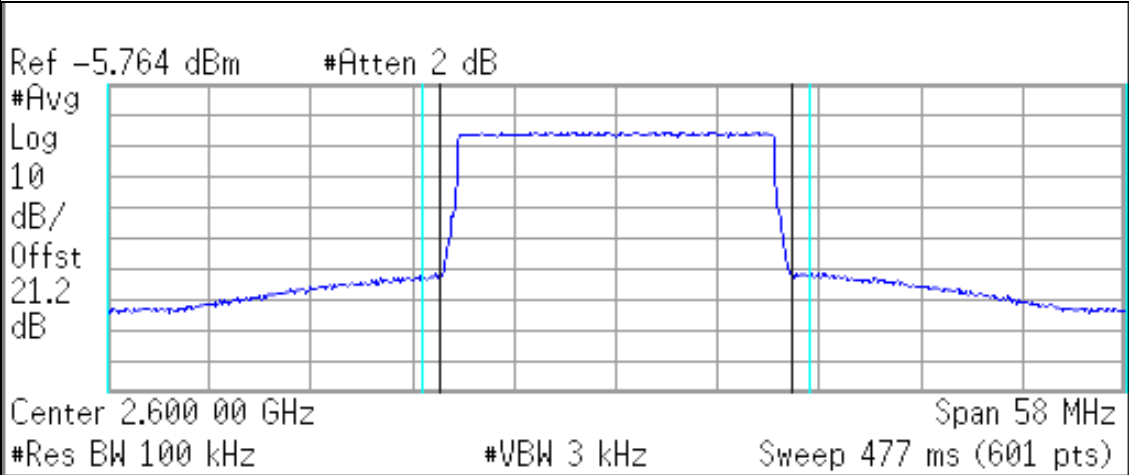
Carrier Power		Filter	Offset Freq	Integ BW	Lower		Upper		Filter
					dBc	dBm	dBc	dBm	
1	-7.225 dBm / 3.840 MHz	ON	5.000 MHz	3.840 MHz	-57.54	-64.54	-50.28	-57.28	ON
2	-7.000 dBm / 3.840 MHz	ON	10.00 MHz	3.840 MHz	-61.06	-68.06	-57.39	-64.39	ON
3	-6.930 dBm / 3.840 MHz	ON							
4	-6.983 dBm / 3.840 MHz	ON							

Total Carrier Power -1.012 dBm/ 15.36 MHz ACP-IBW

1-2. LTE\_20MHz\_ACLR Test Result

Out Power : 0.4 dBm

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



RMS Results		Freq	Offset	Ref BW	dBc	Lower	dBm	dBc	Upper	dBm
Carrier Power	0.39 dBm /	20.00 MHz		18.00 MHz	-51.10	-50.71		-50.15		-49.75
	20.0000 MHz									