

RF MMIC Innovator

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[CLASSIFICATION] APPLICATION NOTE

[DATE] 2024.07

[REVISION NO.] REV.B

[MEASURING INSTRUMENTS]

- NA_AGILENT 8753ES

- SA_AGILENT E4404B

- SG_AGILENT 4438C

- SG_IFR 3416

Si-Ge Gain Block Amp BGS2

Application Note



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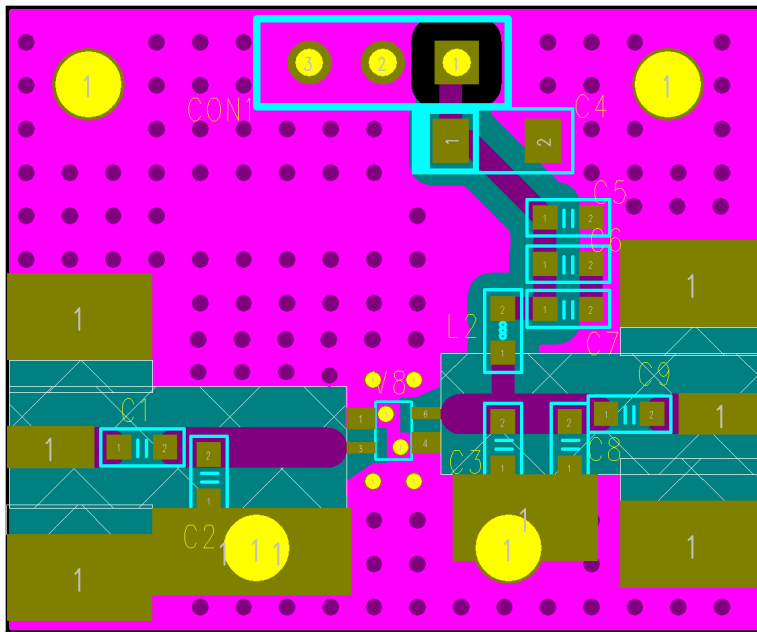
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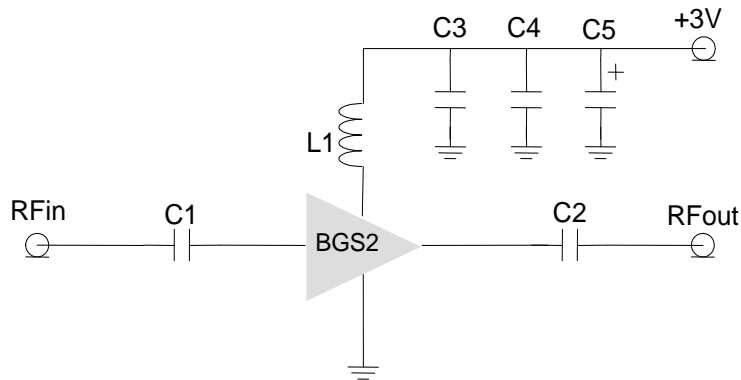
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1. BGS2_ 2600MHz Application Note



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	BGS2	BEREX



Note:

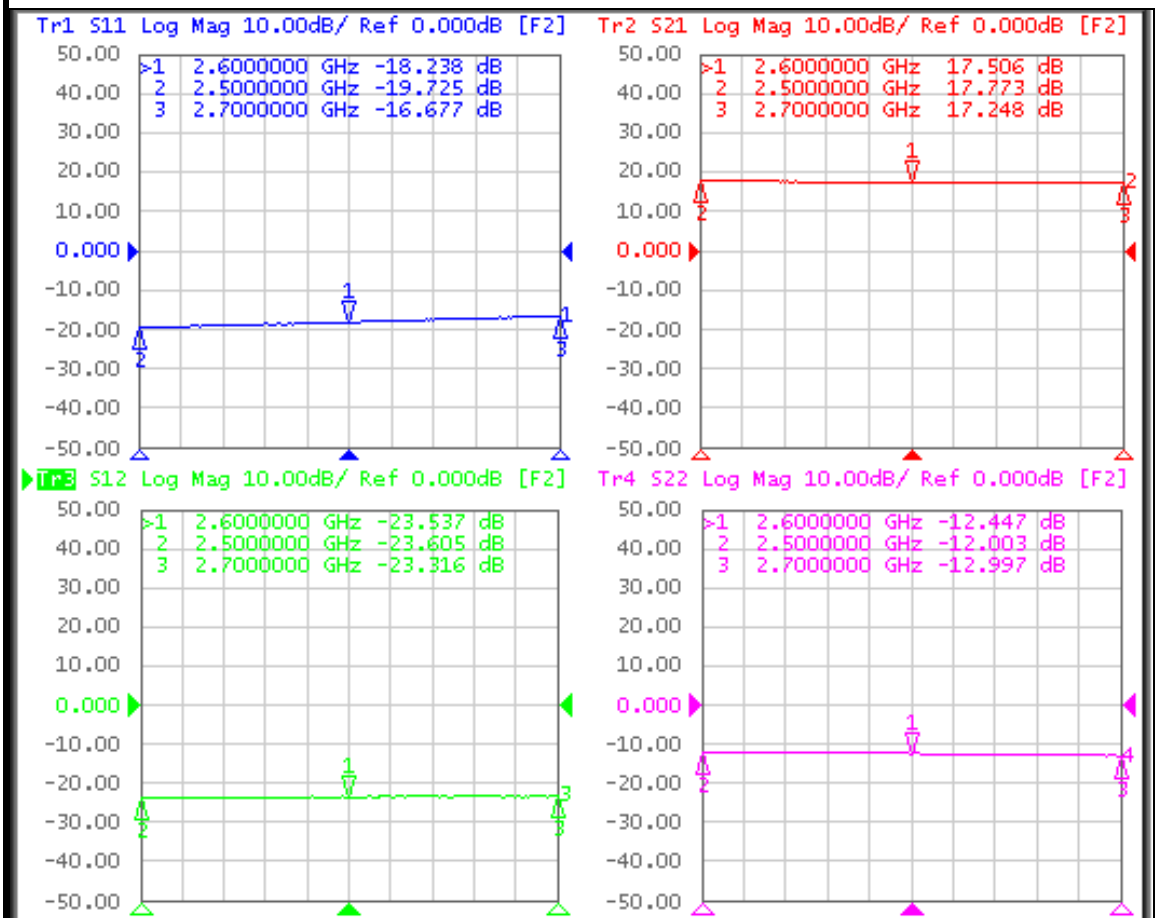
1. PCB: 31mil thick FR4

TITLE	
BGS2 Evaluation Board	
(2600MHz)	
Drawing Number	Rev.
Date	Drawn By
FILE NAME	SHEET

1.1 BGS2_2600MHz Test Result

SN	Freq [MHz]	Vcc [V]	Icc [mA]	Gain [dB]	OIP3 [dBm] ⁽¹⁾	P1dB [dBm]	IRL [dB]	ORL [dB]	NF [dB]
-	2500	3.0	34	17.7	21.0	10.2	-19.7	-12.0	2.4
-	2600	3.0	34	17.5	21.0	10.4	-18.2	-12.4	2.4
-	2700	3.0	34	17.2	21.0	10.0	-16.6	-12.9	2.4

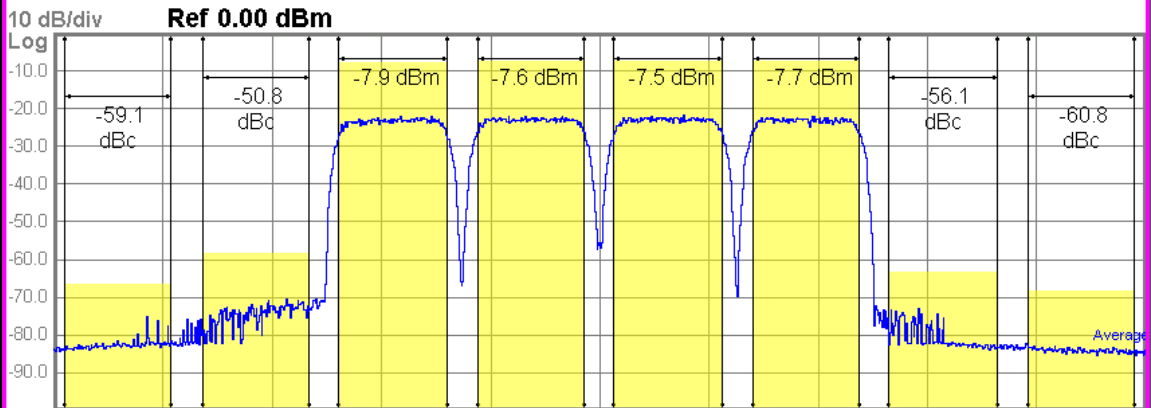
(1) OIP3 was tested @Pout=0dBm/tone 1MHz offset



1-1.WCDMA4FA_ ACLR Test Result

Out Power : -1.62 dBm

WCDMA 4FA : 2600 -50dBc



Center 2.6 GHz #Res BW 100 kHz #VBW 1 MHz Span 39.68 MHz #Sweep 29 ms

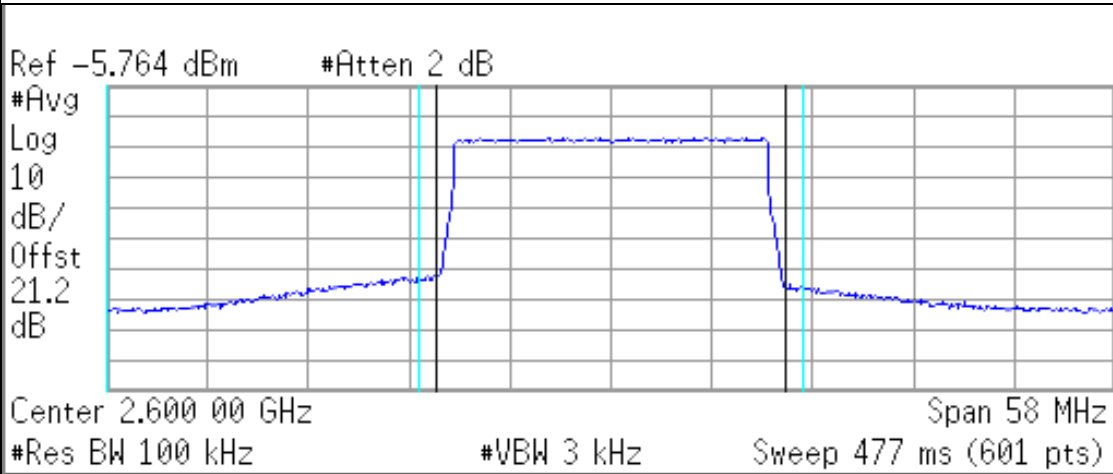
Carrier Power		Filter	Offset Freq	Integ BW	Lower		Upper		Filter
					dBc	dBm	dBc	dBm	
1	-7.865 dBm / 3.840 MHz	ON	5.000 MHz	3.840 MHz	-50.81	-58.39	-56.10	-63.67	ON
2	-7.576 dBm / 3.840 MHz	ON	10.00 MHz	3.840 MHz	-59.15	-66.73	-60.85	-68.42	ON
3	-7.501 dBm / 3.840 MHz	ON							
4	-7.650 dBm / 3.840 MHz	ON							

Total Carrier Power -1.626 dBm/ 15.36 MHz ACP-IBW

1-2. LTE_20MHz_ACLR Test Result

Out Power : -1.22 dBm

LTE_FDD_20MHz_TM 3p1_100 : 2600 -50dBc



RMS Results		Freq Offset	Ref BW	dBc	Lower dBm	dBc	Upper dBm
Carrier Power	-1.22 dBm /	20.00 MHz	18.00 MHz	-49.99	-51.21	-52.83	-54.05
	20.0000 MHz						