

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 Drive Amp BT05VG2

Application Note



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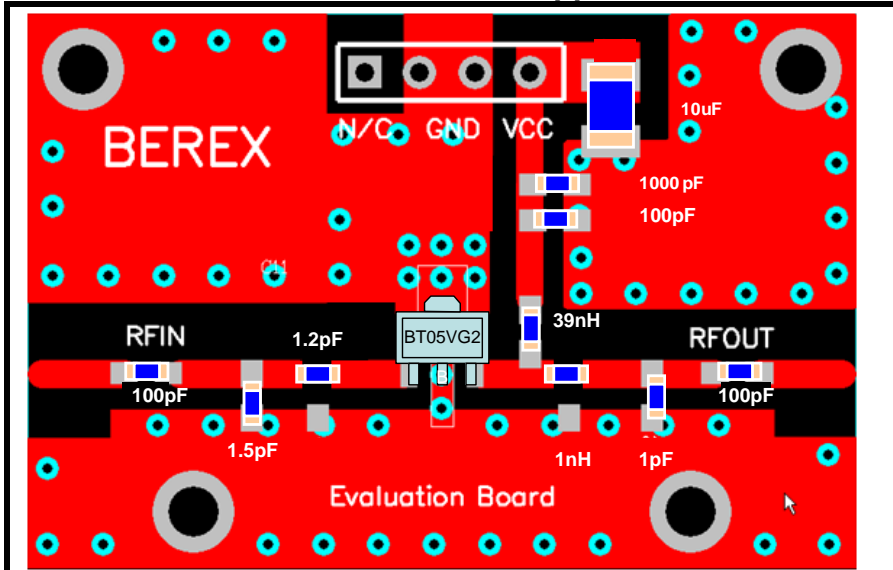
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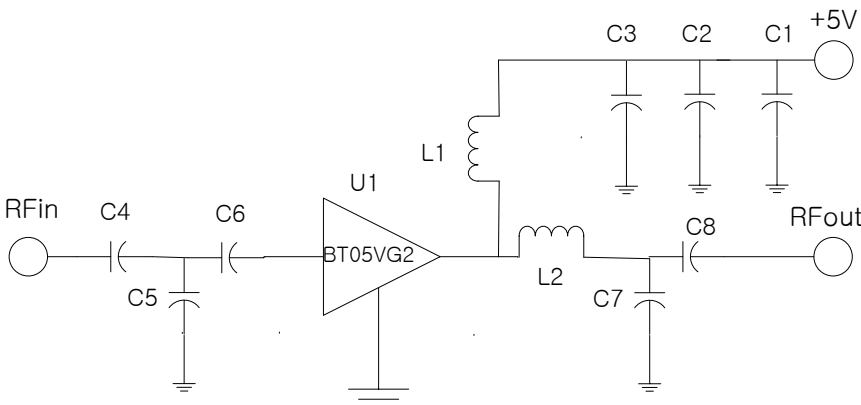
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1. BT05VG2_ 2600MHz Application Note



Ref. Des.	Description/ Part Number	Values	Vendor
C1	A3216 CAP	10uF	AVX
C2	0603 CAP	1000pF	Samsung
C3	0603 CAP	100pF	Samsung
C4	0603 CAP	100pF	Samsung
C5	0603 CAP	1.5pF	Samsung
C6	0603 CAP	1.2pF	Samsung
C7	0603 CAP	1pF	Samsung
C8	0603 CAP	100pF	Samsung
L1	0603 IND	39nH	Ceratech
L2	0603 IND	1nH	Ceratech
U1	SOT89 PKG	BT05VG2	BEREX



Note:

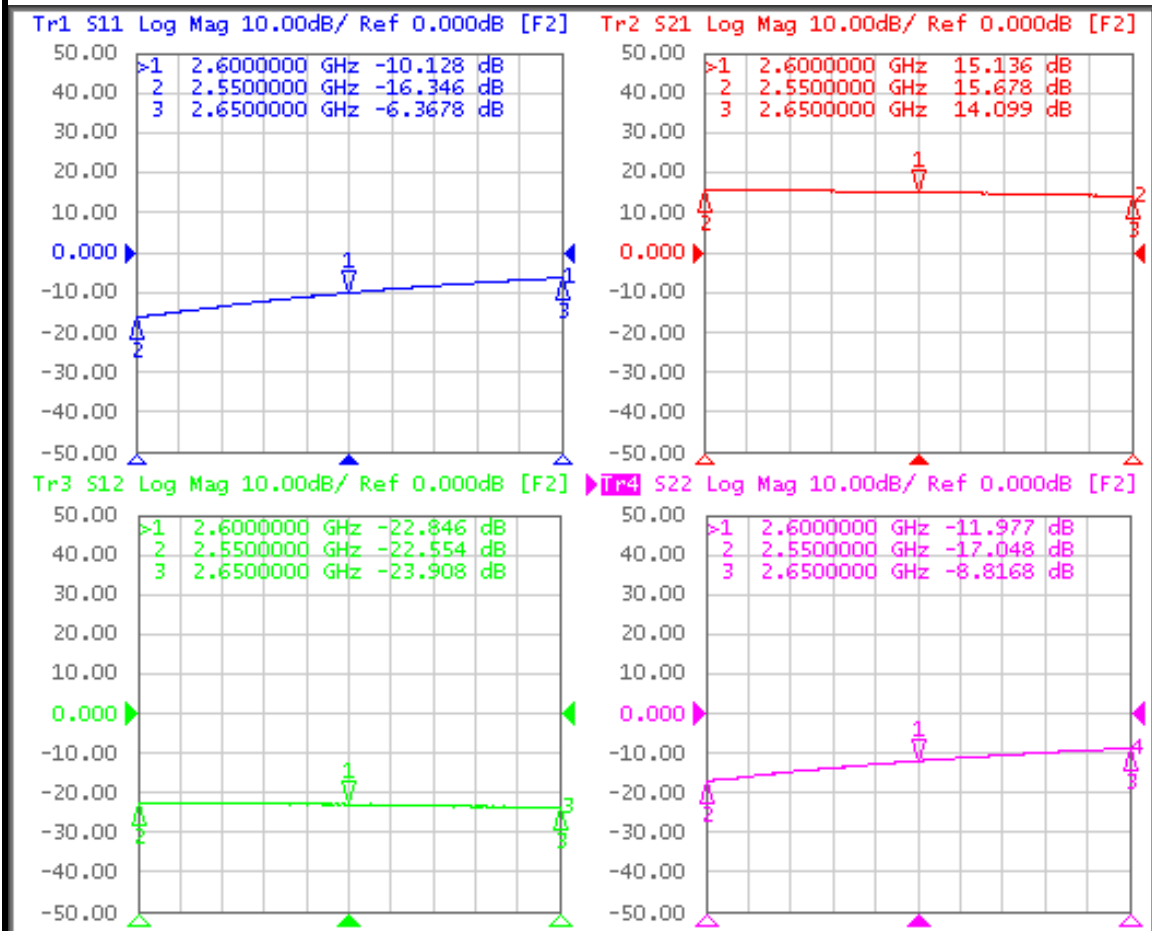
1. PCB: 31mil thick FR4
2. The distance between the center of the shunt cap(C5) and the Input Pin of BT05VG2 _ **6.6mm**
3. The distance between the center of the series cap(C6) and the Input Pin of BT05VG2 _ **2.3mm**
4. The distance between the center of the series Inductor(L2) and the Output Pin of BT05VG2 _ **4.5mm**
5. The distance between the center of the shunt cap(C7) and the Output Pin of BT05VG2 _ **7.9mm**

TITLE	
BT05VG2 Evaluation Board	
(2600 MHz)	
Drawing Number	Rev.
Date	Drawn By
FILE NAME	SHEET

1.1 BT05VG2_2600MHz Test Result

SN	Freq [MHz]	Vcc [V]	Icc [mA]	Gain [dB]	OIP3 [dBm] ⁽¹⁾	P1dB [dBm]	IRL [dB]	ORL [dB]	NF [dB]
-	2600	5	84	15.1	39	23.2	-10.1	-11.9	4.3

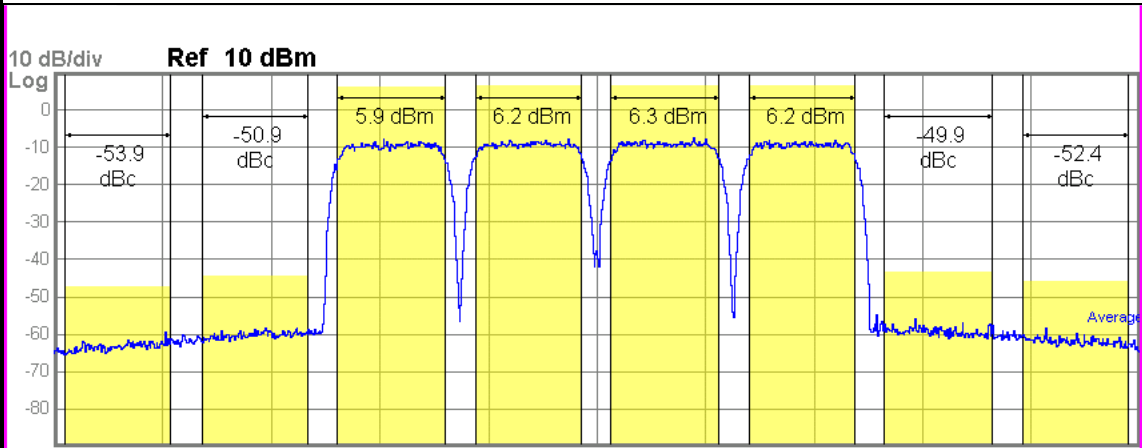
(1) OIP3_tested @Pout=11dBm/tone 1MHz offset



1-1. WCDMA 4FA_ ACLR Test Result

Out Power : 12.17 dBm

WCDMA 4FA : 2600 -50dBc



Center 2.6 GHz #Res BW 100 kHz #VBW 300 kHz Span 39.68 MHz #Sweep 29 ms

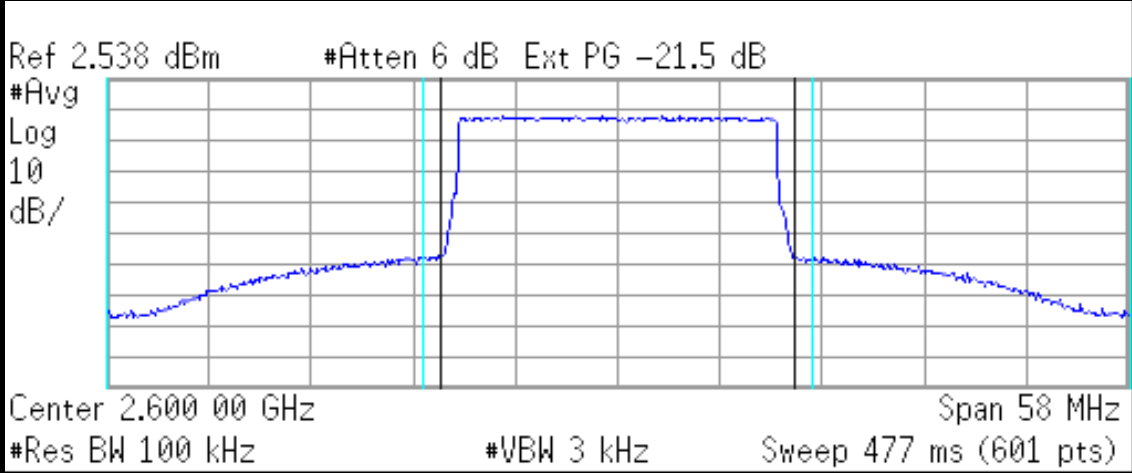
Total Carrier Power 12.170 dBm/ 15.36 MHz ACP-IBW

Carrier Power	Filter	Offset Freq	Integ BW	Lower		Upper		Filter
				dBc	dBm	dBc	dBm	
1 5.857 dBm / 3.840 MHz	ON	5.000 MHz	3.840 MHz	-50.85	-44.52	-49.91	-43.57	ON
2 6.196 dBm / 3.840 MHz	OFF	10.00 MHz	3.840 MHz	-53.90	-47.57	-52.44	-46.11	ON
3 6.334 dBm / 3.840 MHz	OFF							
4 6.184 dBm / 3.840 MHz	OFF							

1-2. LTE_20MHz_ACLR Test Result

Out Power : 11.78 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	-50.01	-38.23	-50.13	-38.35	
11.78 dBm /							
20.0000 MHz							