

RF MMIC Innovator

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[CLASSIFICATION] APPLICATION NOTE

[DATE] 2015. 04

[REVISION NO.] REV.A

[MEASURING INSTRUMENTS]

- NA_AGILENT E5071B

- SA_AGILENT E4440B

- SG_AGILENT 4438C

- SG_IFR 3416

Wide Band Medium Power Amp BT09VG

Application Note



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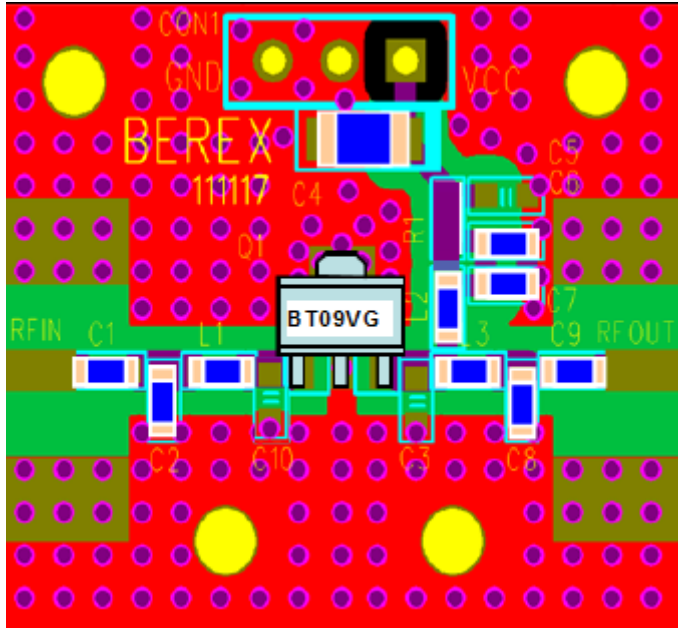
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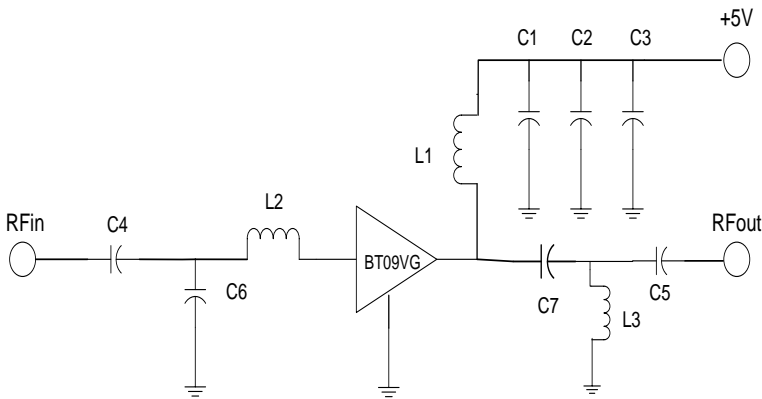
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1. BT09VG_ 738MHz Application Note



Ref. Des.	Description/ Part Number	Values	Vendor
C1	0603 CAP	100pF	Samsung
C2	0603 CAP	1nF	Samsung
C3	A3216 CAP	10uF	AVX
C4	0603 CAP	100pF	Samsung
C5	0603 CAP	100pF	Samsung
C6	0603 CAP	9pF	Samsung
C7	0603 CAP	12pF	Samsung
L1	0603 IND	39nH	Ceratech
L2	0603 IND	2.7nH	Ceratech
L3	0603 IND	10nH	Ceratech
U1	SOT89 PKG	BT09VG	BEREX



Note:

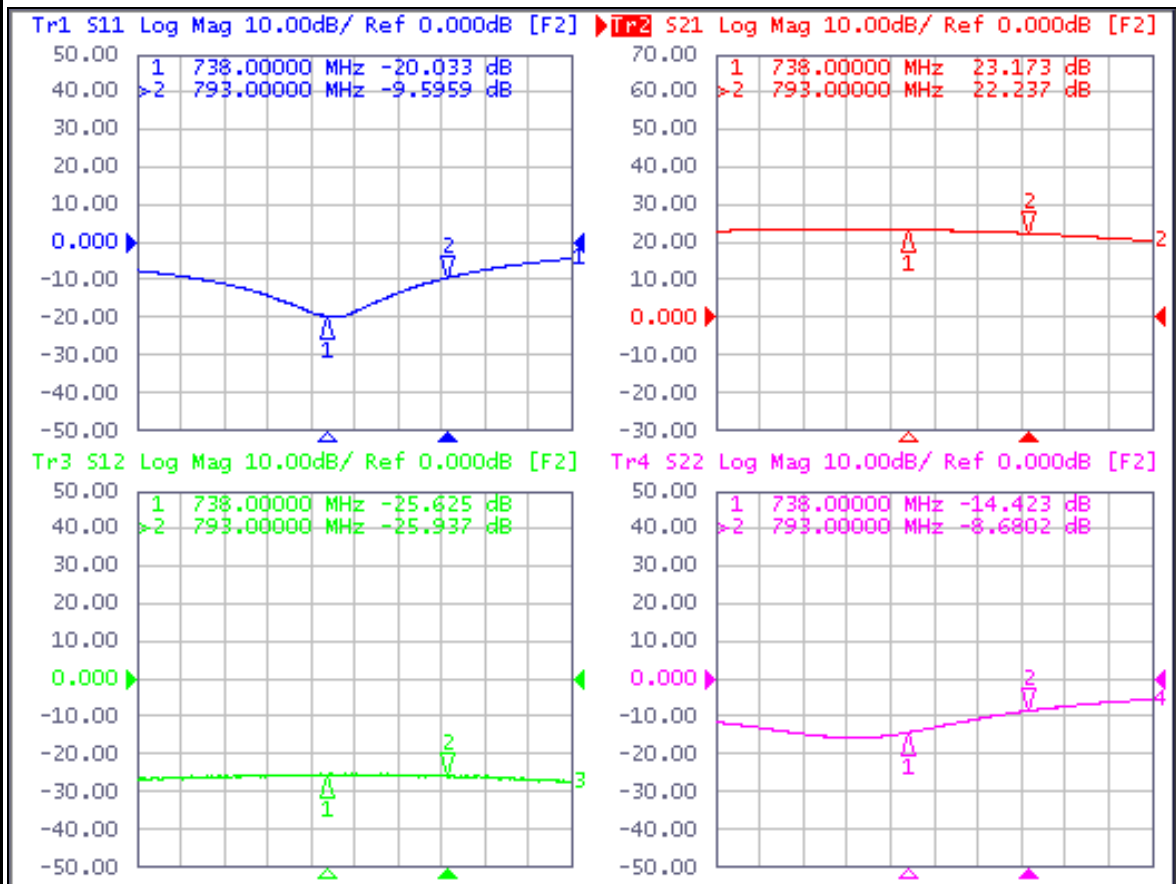
1. PCB: 31mil thick FR4

TITLE	
BT09VG Evaluation Board	
(738MHz)	
Drawing Number	Rev.
Date	Drawn By
FILE NAME	SHEET

1.1 BT09VG_738MHz Test Result

SN	Freq [MHz]	Vcc [V]	Icc [mA]	Gain [dB]	OIP3 [dBm] ⁽¹⁾	P1dB [dBm]	IRL [dB]	ORL [dB]	NF [dB]
-	738	5	142	23.2	42.0	26	-20.0	-14.4	3.6

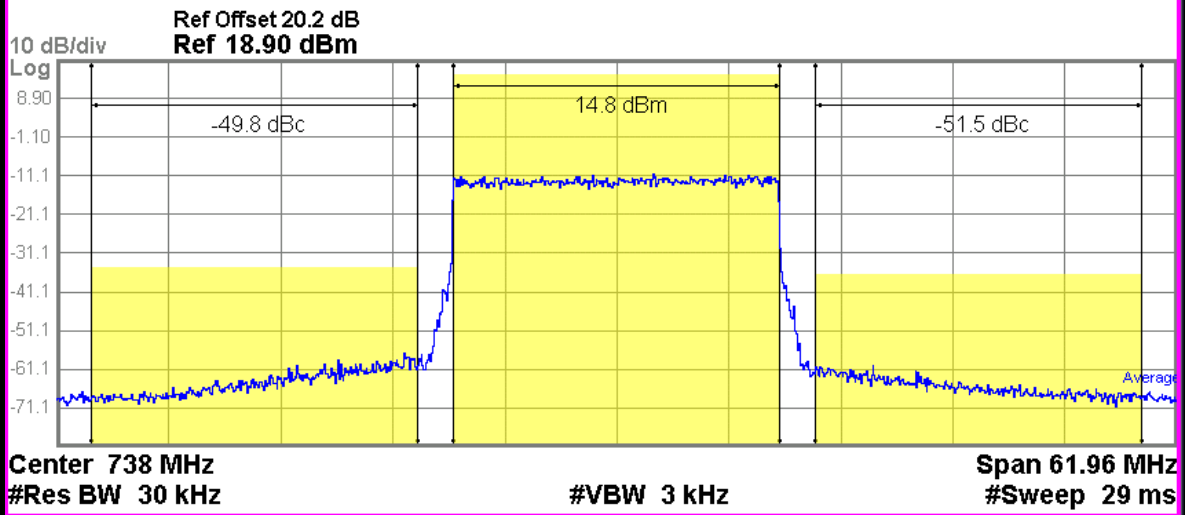
(1) OIP3 was tested @Pout=13dBm/tone 1MHz offset



1.2 LTE_20MHz_ACLR Test Result

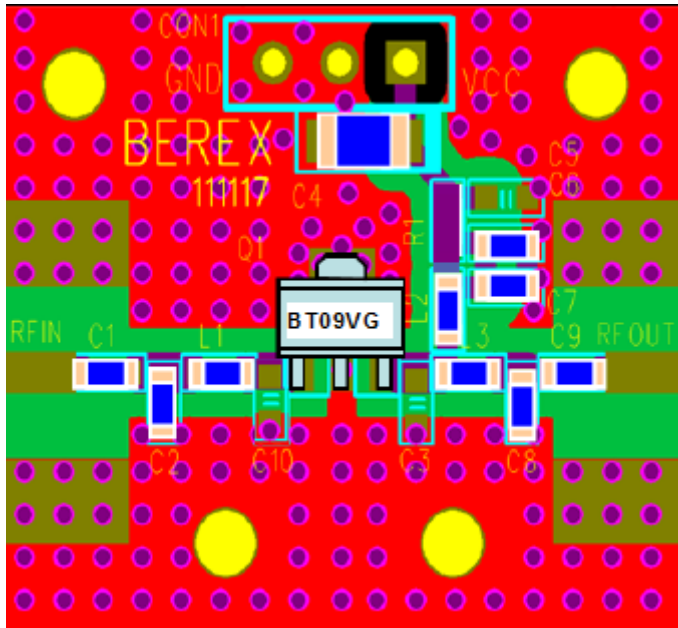
Out Power : 14.8 dBm

LTE_FDD_20MHz_TM 3.1_100% : 738MHz -50dBc

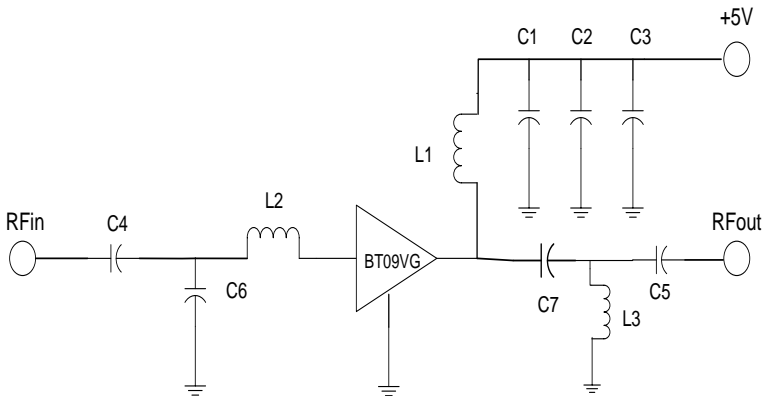


Total Carrier Power		14.807 dBm/ 18.00 MHz		ACP-IBW					
Carrier Power	Filter	Offset Freq	Integ BW	Lower dBc	Lower dBm	Upper dBc	Upper dBm	Filter	
1	14.807 dBm/ 18.00 MHz ON	20.00 MHz	18.00 MHz	-49.85	-35.04	-51.48	-36.68	ON	

2. BT09VG_ 793MHz Application Note



Ref. Des.	Description/ Part Number	Values	Vendor
C1	0603 CAP	100pF	Samsung
C2	0603 CAP	1nF	Samsung
C3	A3216 CAP	10uF	AVX
C4	0603 CAP	100pF	Samsung
C5	0603 CAP	100pF	Samsung
C6	0603 CAP	9pF	Samsung
C7	0603 CAP	13pF	Samsung
L1	0603 IND	39nH	Ceratech
L2	0603 IND	2.2nH	Ceratech
L3	0603 IND	8.2nH	Ceratech
U1	SOT89 PKG	BT09VG	BEREX



Note:

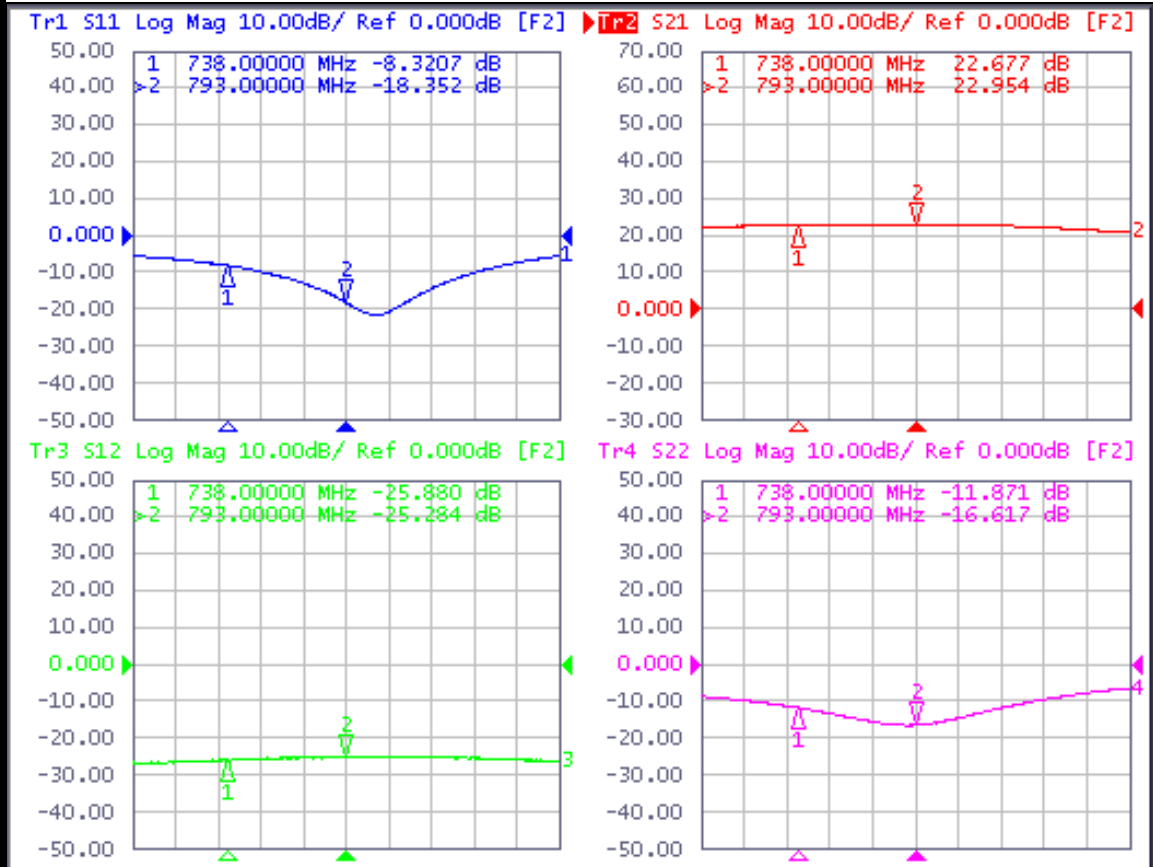
- 2. PCB: 31mil thick FR4

TITLE	
BT09VG Evaluation Board	
(793MHz)	
Drawing Number	Rev.
Date	Drawn By
FILE NAME	SHEET

2.1 BT09VG_793MHz Test Result

SN	Freq [MHz]	Vcc [V]	Icc [mA]	Gain [dB]	OIP3 [dBm] ⁽¹⁾	P1dB [dBm]	IRL [dB]	ORL [dB]	NF [dB]
-	793	5	142	22.9	40.5	26.1	-18.4	-16.6	3.6

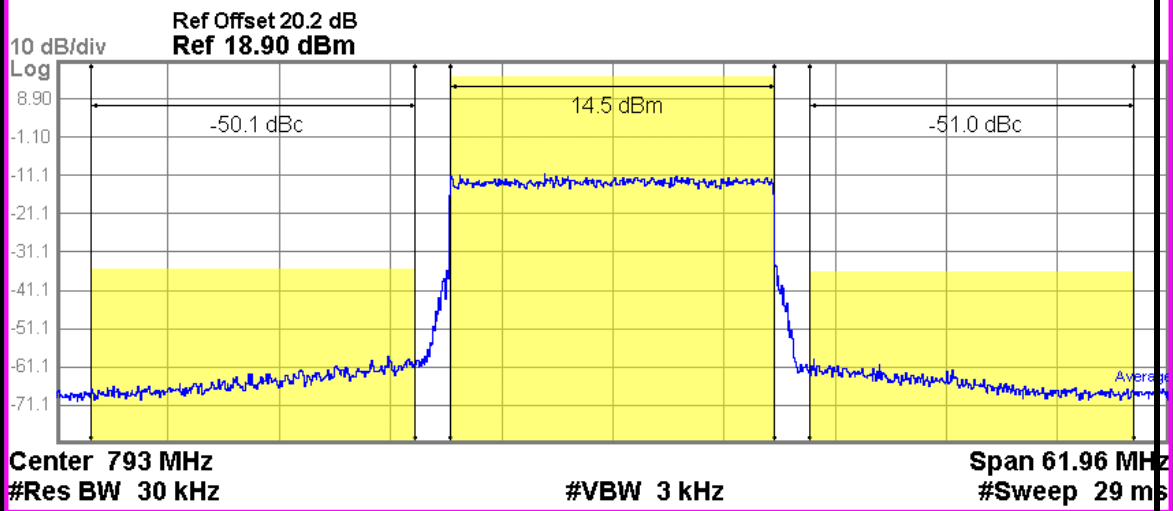
(1) OIP3 was tested @Pout=13dBm/tone 1MHz offset



2.2 LTE_20MHz_ACLR Test Result

Out Power : 14.5 dBm

LTE_FDD_20MHz_TM 3.1_100% : 793MHz -50dBc



Total Carrier Power		14.529 dBm/ 18.00 MHz		ACP-IBW		Lower		Upper		Filter
Carrier Power	Filter	Offset Freq	Integ BW	dBc	dBm	dBc	dBm	Filter		
1	14.529 dBm / 18.00 MHz ON	20.00 MHz	18.00 MHz	-50.13	-35.60	-51.01	-36.48	ON		