

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 Drive Amp BT05AG

### Application Note



**Contents**

RF MMIC INNOVATOR [WWW.BEREX.COM](http://WWW.BEREX.COM) ..... 1

1. 738MHZ APPLICATION.....3

    1.1 738MHZ TEST RESULT(S-PARAMETER, OIP3, P1, NF,ACLR) ..... 4

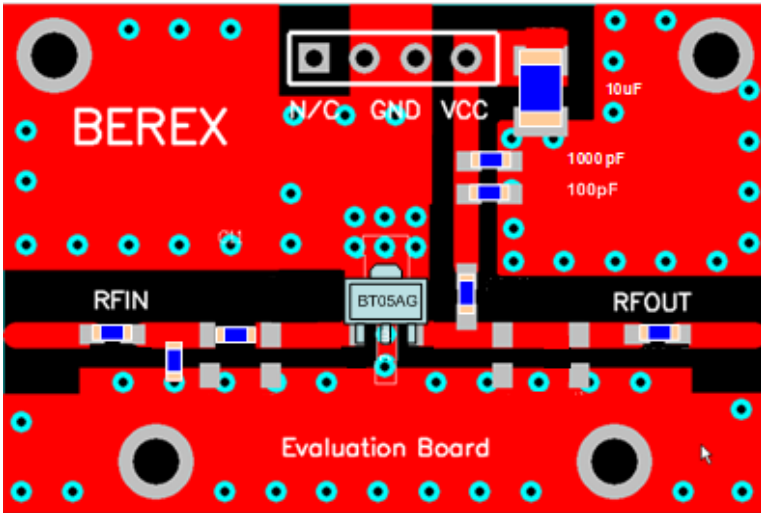
    1.2 738MHZ LTE\_20MHZ\_ACLR TEST RESULT ..... 5

2. 793MHZ APPLICATION.....6

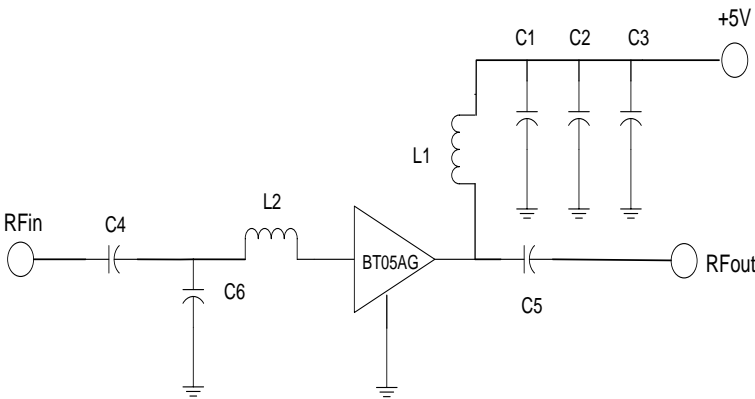
    2.1 793MHZ TEST RESULT(S-PARAMETER, OIP3, P1, NF,ACLR) ..... 7

    2.2 793MHZ LTE\_20MHZ\_ACLR TEST RESULT ..... 8

1. BT05AG\_ 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	4pF	Samsung
L1	0603 IND	39nH	Ceratech
L2	0603 IND	3.3nH	Ceratech
U1	SOT89 PKG	BT05AG	BEREX



Note:

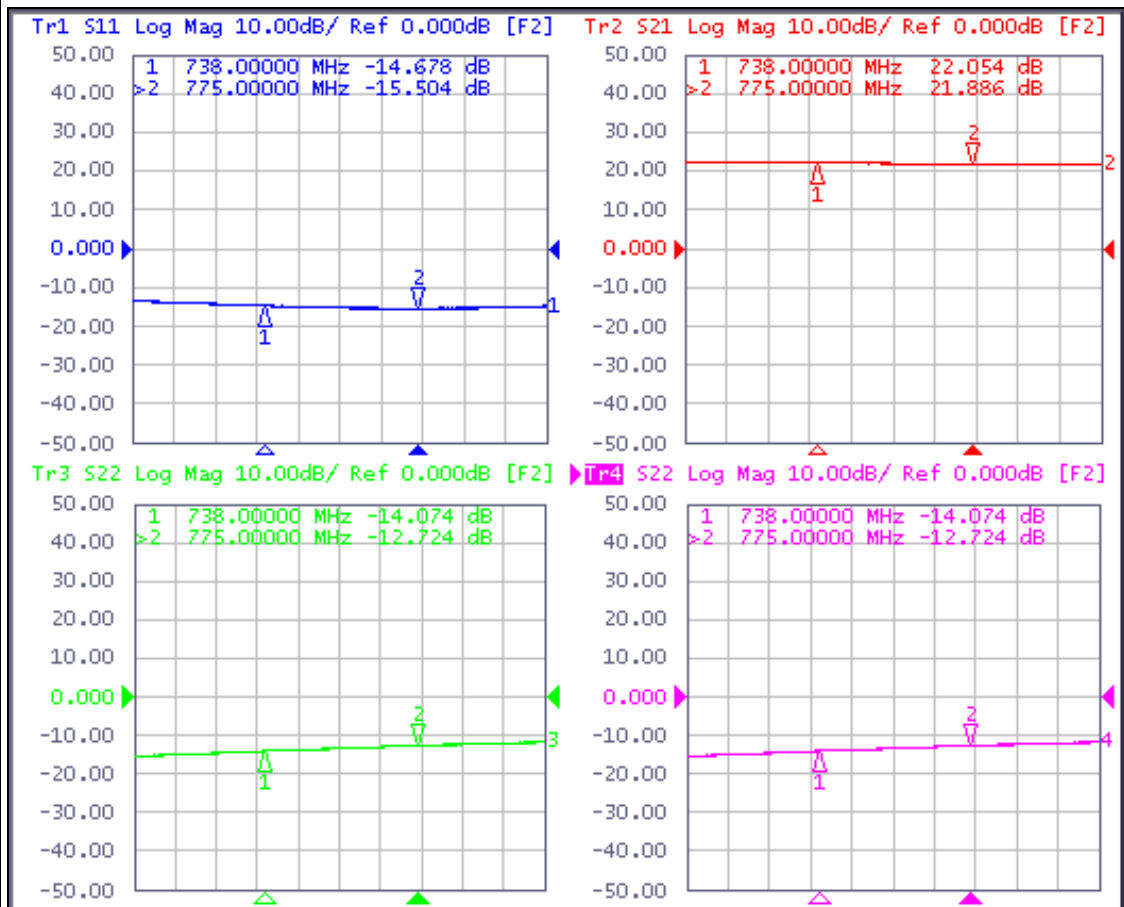
1. PCB: 31mil thick FR4

TITLE	
BT05AG Evaluation Board	
(738MHz)	
Drawing Number	Rev.
Date	Drawn By
FILE NAME	SHEET

### 1.1 BT05AG\_738MHz Test Result

SN	Freq [MHz]	Vcc [V]	Icc [mA]	Gain [dB]	OIP3 [dBm] <sup>(1)</sup>	P1dB [dBm]	IRL [dB]	ORL [dB]	NF [dB]
-	738	5	90	22	41	25	-14.6	-14.0	4.7

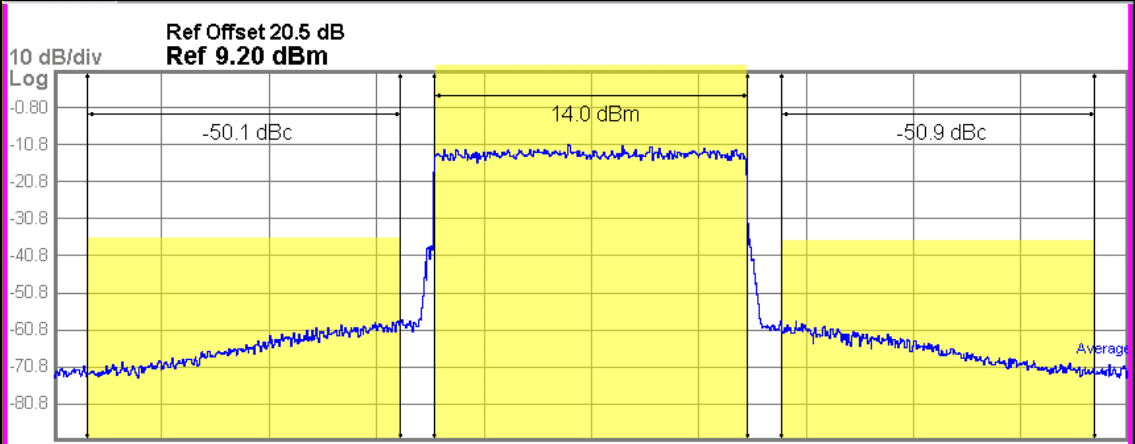
(1) OIP3 was tested @Pout=10dBm/tone 1MHz offset



### 1.2 LTE\_20MHz\_ACLR Test Result

Out Power : 14.02 dBm

LTE\_FDD\_20MHz\_TM 3.1\_100% : 738MHz -50dBc

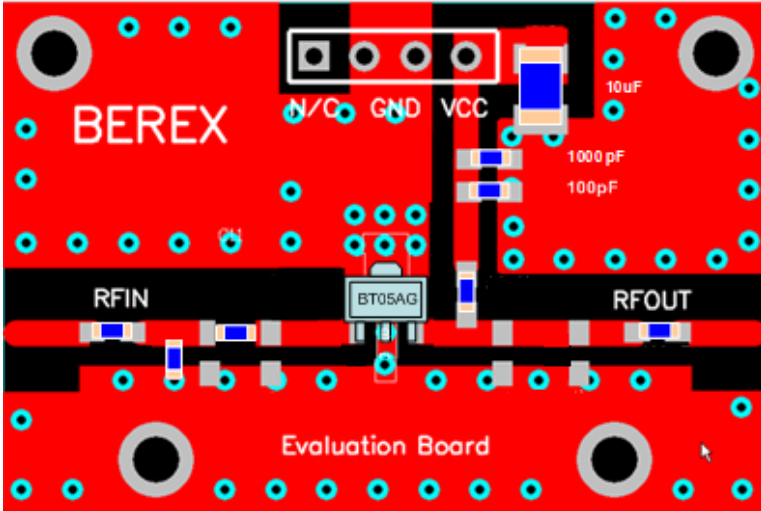


Center 738 MHz #Res BW 30 kHz #VBW 3 kHz Span 61.96 MHz #Sweep 29 ms

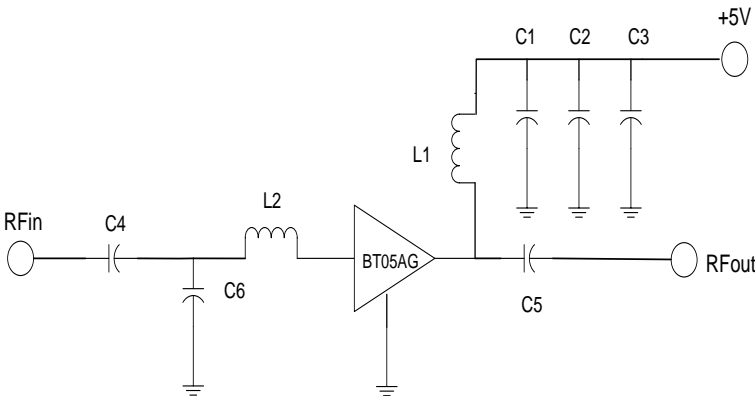
Carrier Power		Filter	Offset Freq	Integ BW	Lower		Upper		Filter
					dBc	dBm	dBc	dBm	
1	14.022 dBm / 18.00 MHz	ON	20.00 MHz	18.00 MHz	-50.05	-36.03	-50.93	-36.91	ON

Total Carrier Power 14.022 dBm/ 18.00 MHz ACP-IBW

2. BT05AG\_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	4pF	Samsung
L1	0603 IND	39nH	Ceratech
L2	0603 IND	3.3nH	Ceratech
U1	SOT89 PKG	BT05AG	BEREX



Note:

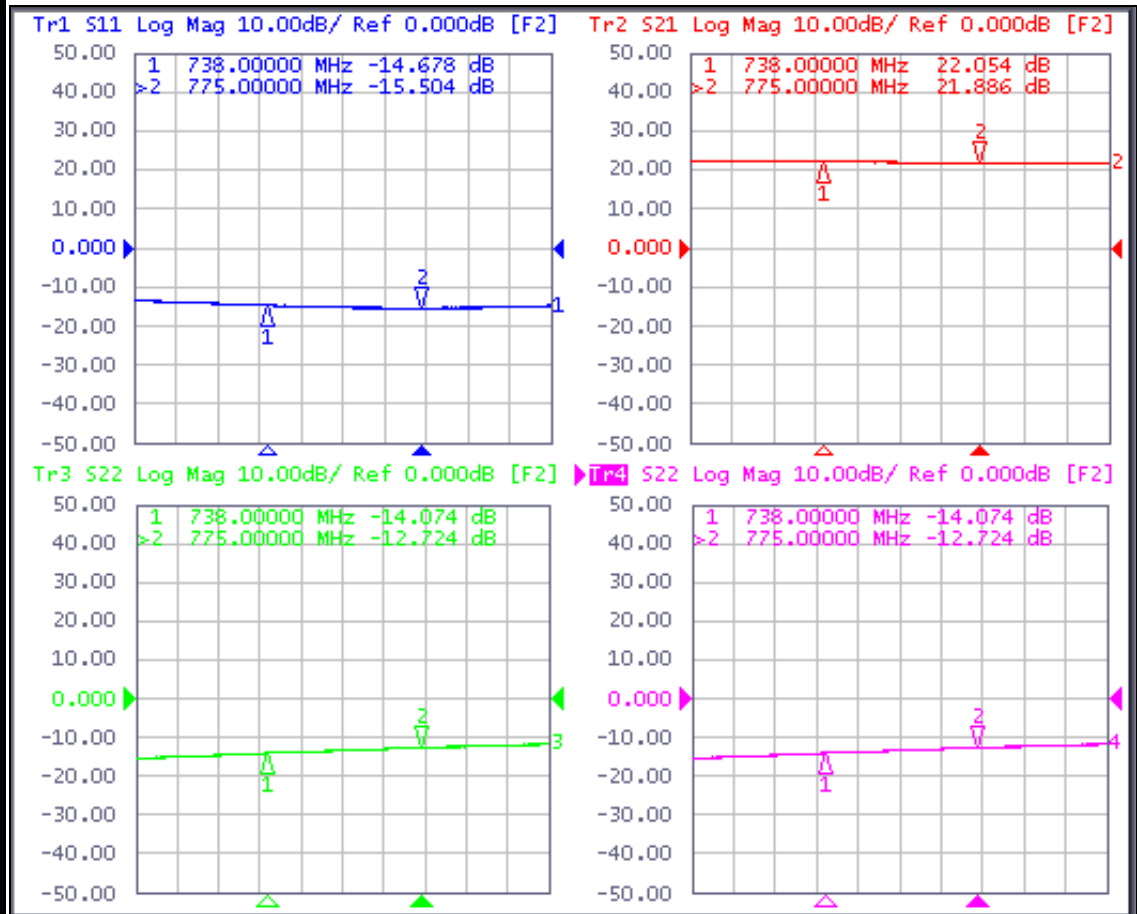
- 2. PCB: 31mil thick FR4

TITLE	
BT05AG Evaluation Board	
(793MHz)	
Drawing Number	Rev.
Date	Drawn By
FILE NAME	SHEET

2.1 BT05AG\_793MHz Test Result

SN	Freq [MHz]	Vcc [V]	Icc [mA]	Gain [dB]	OIP3 [dBm] <sup>(1)</sup>	P1dB [dBm]	IRL [dB]	ORL [dB]	NF [dB]
-	793	5	90	21.9	40	25.2	-15.5	-12.7	4.6

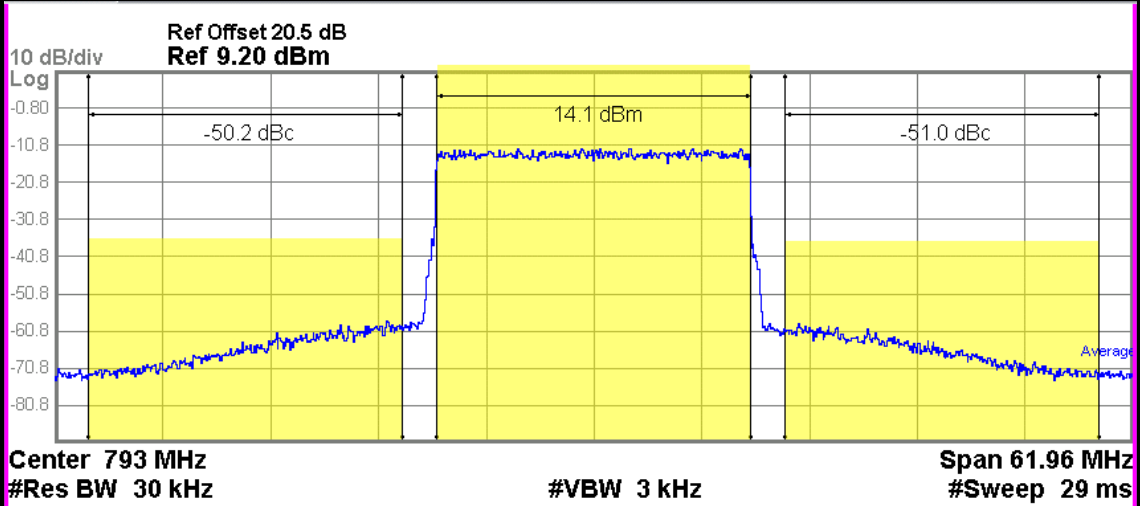
(1) OIP3 was tested @Pout=10dBm/tone 1MHz offset



### 2.2 LTE\_20MHz\_ACLR Test Result

Out Power : 14.07 dBm

LTE\_FDD\_20MHz\_TM 3.1\_100% : 793MHz -50dBc



Total Carrier Power		14.071 dBm/ 18.00 MHz		ACP-IBW				
Carrier Power	Filter	Offset Freq	Integ BW	Lower		Upper		Filter
				dBc	dBm	dBc	dBm	
1	14.071 dBm / 18.00 MHz ON	20.00 MHz	18.00 MHz	-50.17	-36.10	-51.01	-36.94	ON