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[CLASSIFICATION] APPLICATION NOTE

[DATE] 2015.04

[REVISION NO.] REV.A

[MEASURING INSTRUMENTS]

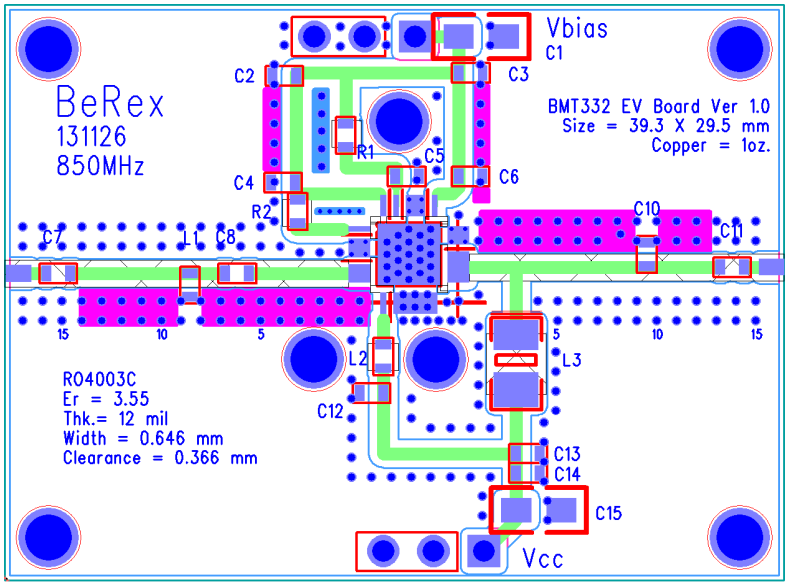
- NA_AGILENT 8753ES
- SA_AGILENT E4404B
- SG_AGILENT 4438C
- SG_IFR 3416

High Power Amp BT332

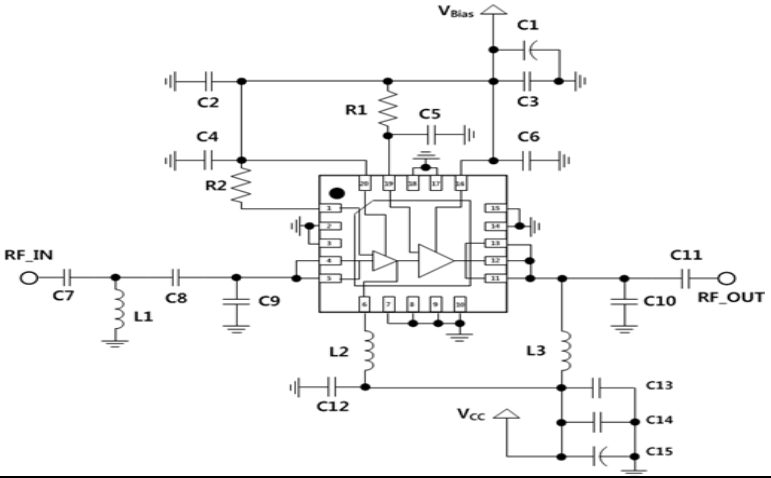
Application Note

Contents

1. BT332_ 738MHz Application Note



Ref. Des.	Description/ Part Number	Values	Vendor
C1	A3216 CAP	10uF	AVX
C3	0603 CAP	68pF	Samsung
C4	0603 CAP	1nF	Samsung
C6	0603 CAP	6.8pF	Samsung
C7	0603 CAP	100pF	Samsung
C8	0603 CAP	6pF	Samsung
C10	0603 CAP	10pF	High Q
C11	0603 CAP	10pF	Samsung
C12	0603 CAP	1uF	Samsung
C13	0603 CAP	100pF	Samsung
C14	0603 CAP	1nF	Samsung
C15	A3216 CAP	10uF	AVX
L1	0603 IND	6.8nH	Ceratech
L2	0603 IND	22nH	Ceratech
L3	1008 IND	22nH	Ceratech
R1	0603RES	100ohm	Samsung
R2	0603RES	270ohm	Samsung
U1	QFN 5x5	BT332	BEREX



Note:

Below information is subject to change as conditions of the substrate.

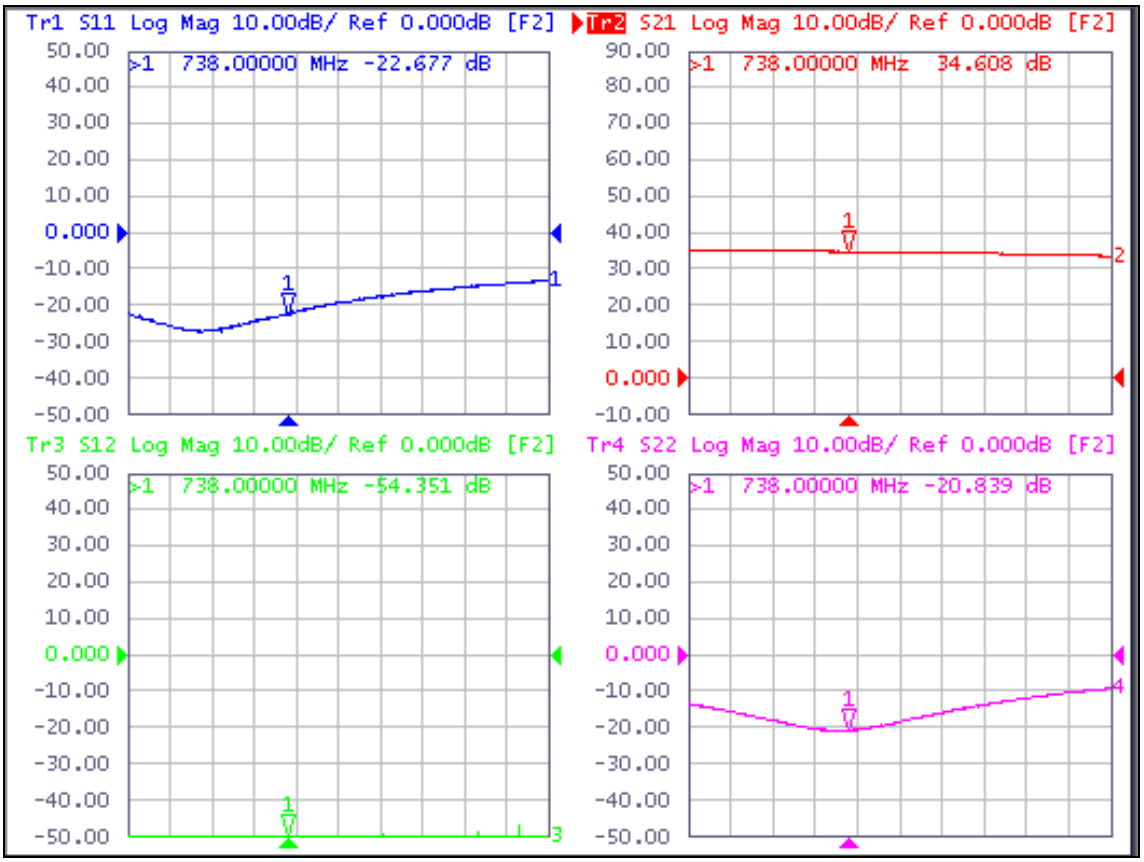
1. Pin 16 & 20 is used for Vce of the inner bias circuit. To eliminate bias line resonance you need above 10mm transmission line and adjust the position of C2, C3, C4 ,C5 and C6. Also you can adjust spectrum regrowth about bandwidth of signals which you want.

TITLE	
BT332 Evaluation Board	
(738 MHz)	
Drawing Number	Rev.
Date	Drawn By
FILE NAME	SHEET

1.1 BT332_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	710	34.6	49.8	33.7	-22.6	-20.8	8.8

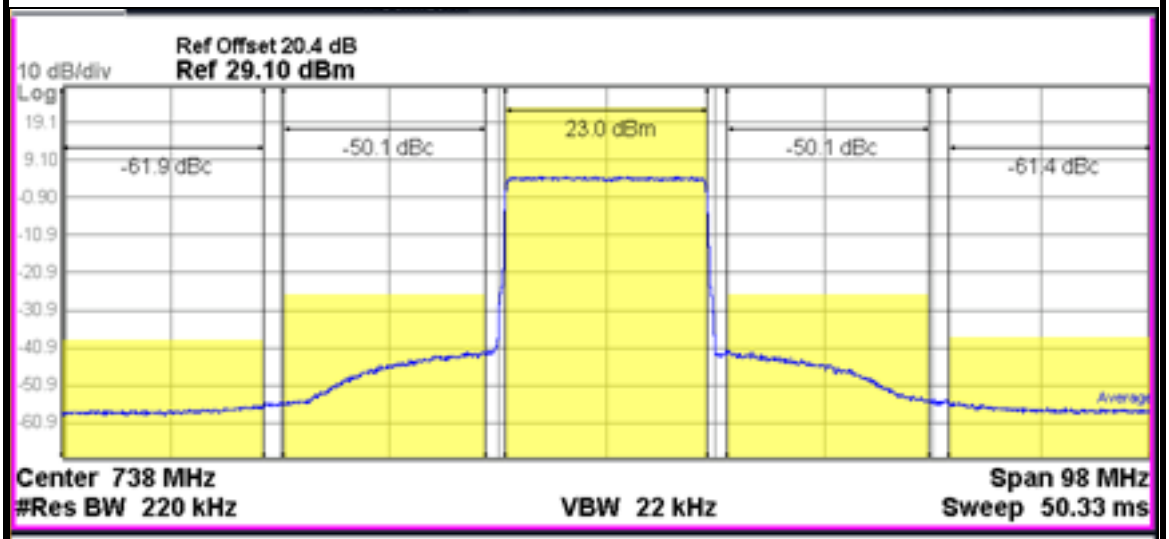
(1) OIP3_tested @Pout=23dBm/tone 1MHz offset



1-2. LTE_20MHz_ ACLR Test Result

Out Power : 23 dBm

LTE_FDD_20MHz_TM 3p1_100 : 738MHz -50dBc



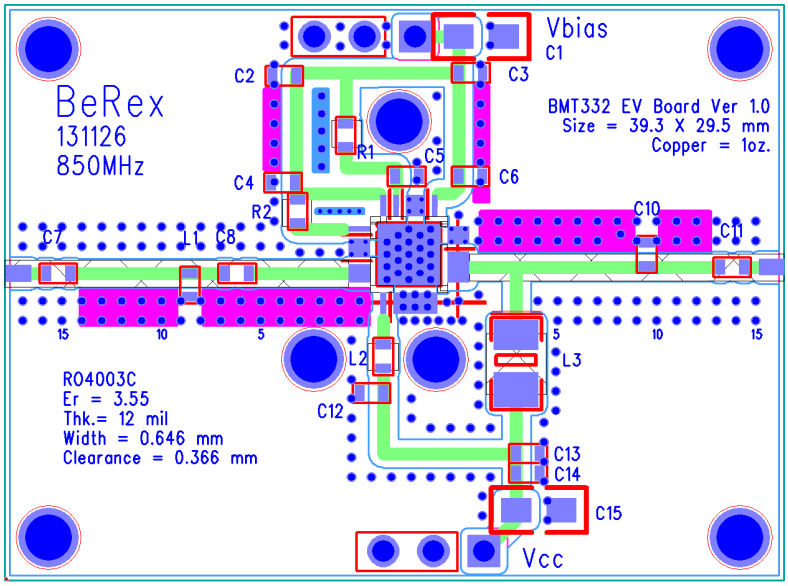
Total Carrier Power 22.999 dBm/ 18.00 MHz

ACP-IBW

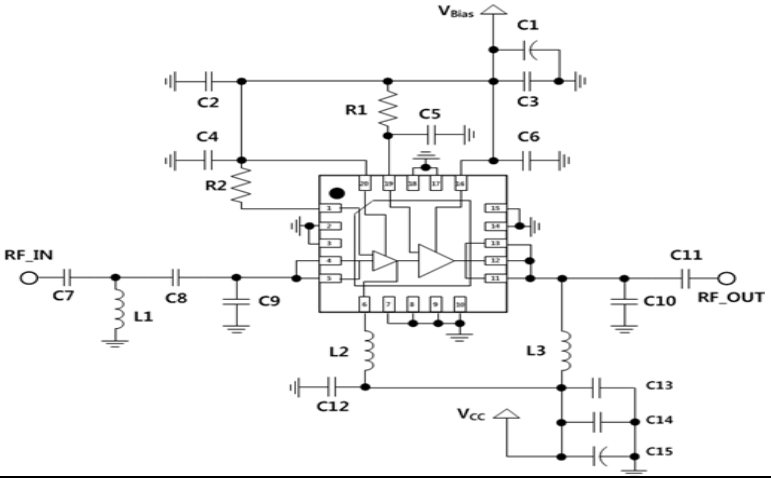
Carrier Power			Filter
1	22.999 dBm /	18.00 MHz	OFF

Offset Freq	Integ BW	Lower dBc	Lower dBm	Upper dBc	Upper dBm	Filter
20.00 MHz	18.00 MHz	-50.07	-27.07	-50.08	-27.08	OFF
40.00 MHz	18.00 MHz	-61.93	-38.93	-61.40	-38.41	OFF

2. BT332_ 793MHz Application Note



Ref. Des.	Description/ Part Number	Values	Vendor
C1	A3216 CAP	10uF	AVX
C3	0603 CAP	68pF	Samsung
C4	0603 CAP	1nF	Samsung
C6	0603 CAP	2.7pF	Samsung
C7	0603 CAP	100pF	Samsung
C8	0603 CAP	6pF	Samsung
C10	0603 CAP	10pF	High Q
C11	0603 CAP	10pF	Samsung
C12	0603 CAP	1uF	Samsung
C13	0603 CAP	100pF	Samsung
C14	0603 CAP	1nF	Samsung
C15	A3216 CAP	10uF	AVX
L1	0603 IND	6.8nH	Ceratech
L2	0603 IND	22nH	Ceratech
L3	1008 IND	22nH	Ceratech
R1	0603RES	100ohm	Samsung
R2	0603RES	270ohm	Samsung
U1	QFN 5x5	BT332	BEREX



Note:

Below information is subject to change as conditions of the substrate.

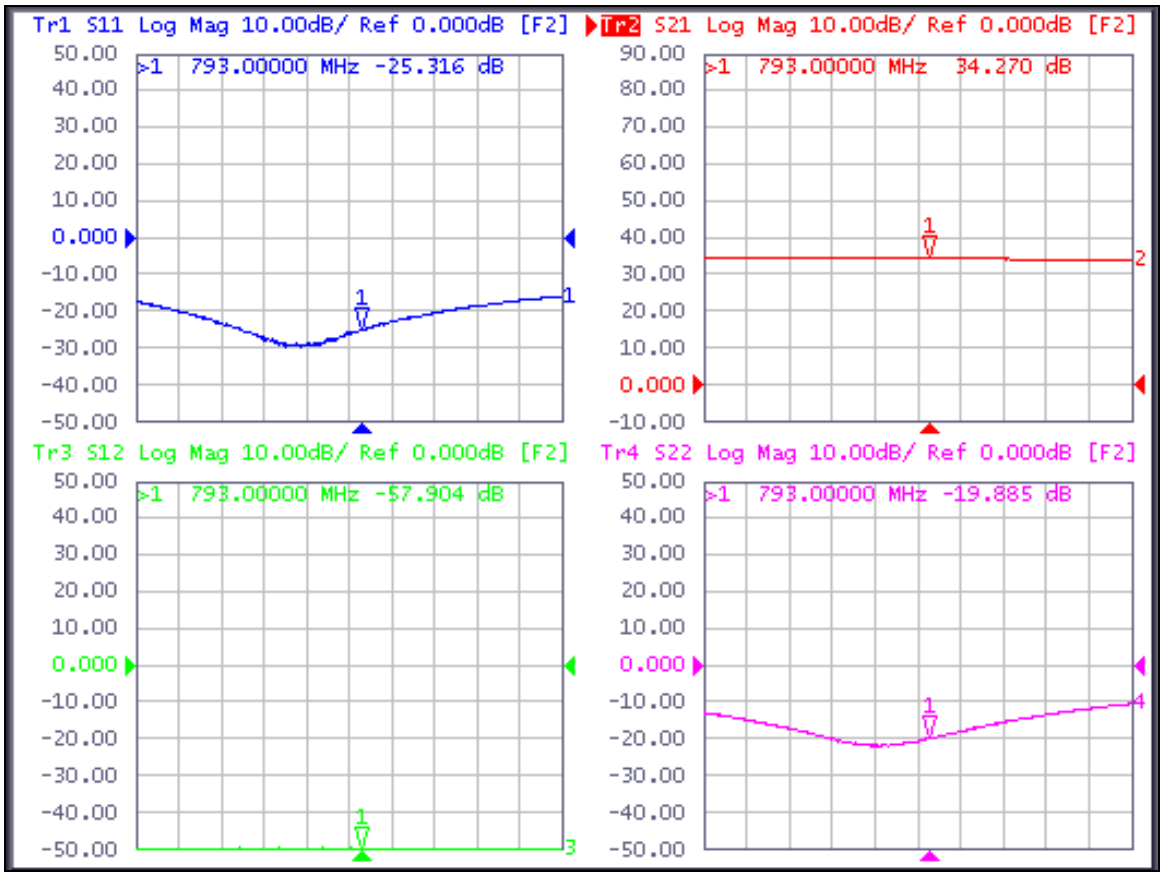
1. Pin 16 & 20 is used for Vce of the inner bias circuit. To eliminate bias line resonance you need above 10mm transmission line and adjust the position of C2, C3, C4 ,C5 and C6. Also you can adjust spectrum regrowth about bandwidth of signals which you want.

TITLE	
BT332 Evaluation Board	
(793 MHz)	
Drawing Number	Rev.
Date	Drawn By
FILE NAME	SHEET

1.1 BT332_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	720	34.2	49.9	33.8	-25.3	-19.9	8.8

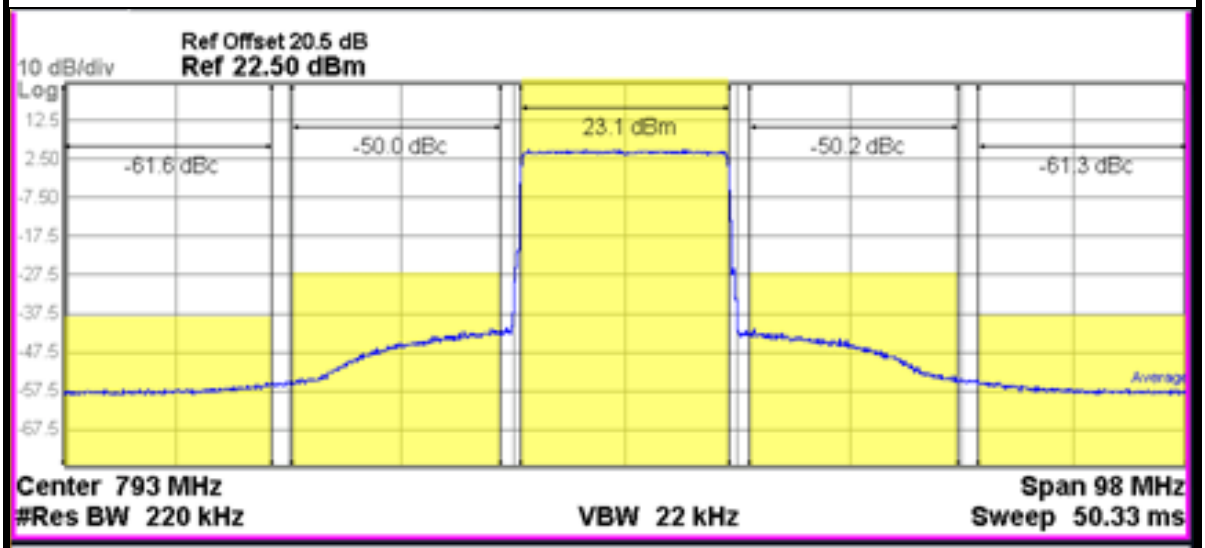
(1) OIP3_tested @Pout=23dBm/tone 1MHz offset



1-2. LTE_20MHz_ ACLR Test Result

Out Power : 23 dBm

LTE_FDD_20MHz_TM 3p1_100 : 793MHz -50dBc



Total Carrier Power 23.066 dBm/ 18.00 MHz

ACP-IBW

Carrier Power			Filter
1	23.066 dBm /	18.00 MHz	OFF

		Lower		Upper		
Offset Freq	Integ BW	dBc	dBm	dBc	dBm	Filter
20.00 MHz	18.00 MHz	-50.03	-26.97	-50.18	-27.11	OFF
40.00 MHz	18.00 MHz	-61.63	-38.56	-61.34	-38.27	OFF