

RF MMIC Innovator

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[CLASSIFICATION] APPLICATION NOTE

[DATE] 2022.06

[REVISION NO.] REV.1.1

[MEASURING INSTRUMENTS]

- NA_AGILENT E5080A

- SA_AGILENT N9020A

- SG_AGILENT N5182A

- SG_AGILENT N5182B

High Power Amp BMT333

FR4 Application Note



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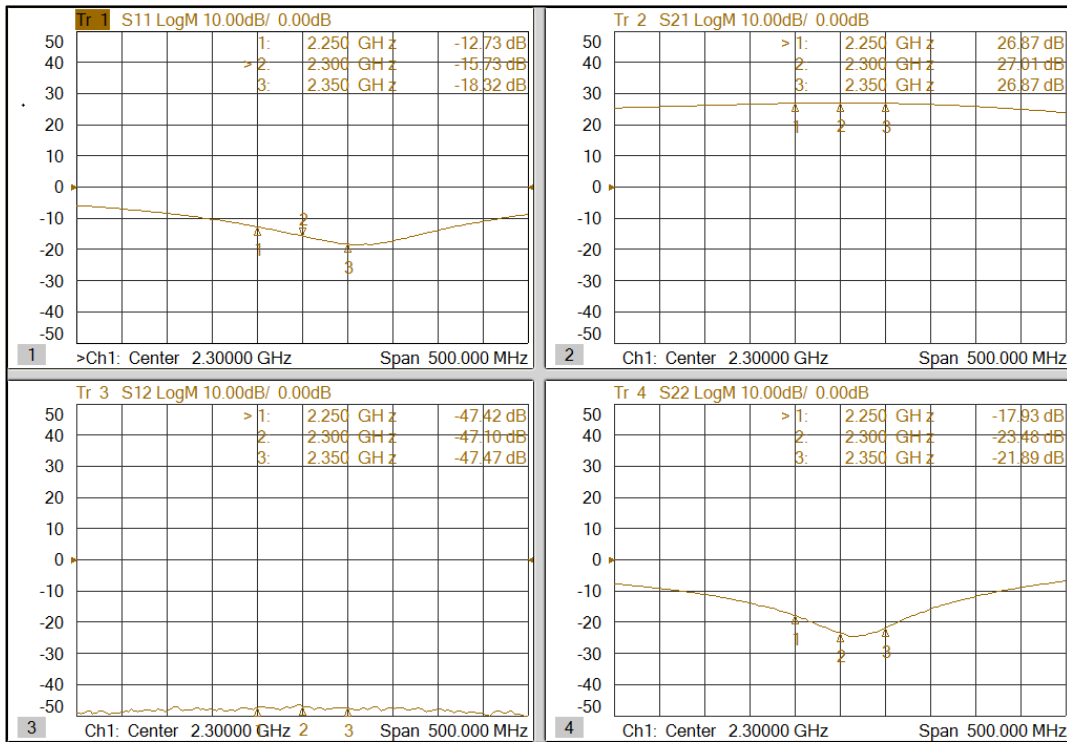
1. BMT333 2300MHz Application Note

Schematic Diagram	BOM	Marks	
	C1	1206 10uF Tantalum	
	C2	0603 N/A	
	C3	0603 680pF	
	C4	0603 1nF	
	C5	0603 1nF	
	C6	0603 1nF	
	C7	0603 0 Ω	
	C8	0603 1.2pF	
	C9	0603 1.5pF	
	C10	0603 3.3pF High Q	
	C11	0603 10pF	
	C12	0603 1nF	
	C13	0603 100pF	
	C14	0603 1nF	
	C15	1206 10uF Tantalum	
L1	0603 N/A		
L2	0603 0 Ω		
L3	1008 18nH HQ Coil		
R1	0603 150 Ω		
R2	0603 270 Ω		
PCB Diagram	Notice		
	Below information is subject to change as conditions of the substrate.		
	Reference	Object	Distance
	Input pin	C8	5.2mm
	Input pin	C9	3.2mm
	Output pin	C10	1.2mm
	Pin 16	C3	6.2mm
	Pin 16	C6	5.0mm
	Pin 19	C5	1.0mm
	Pin 20	C2	5.0mm
	Figure about the reference position of components		

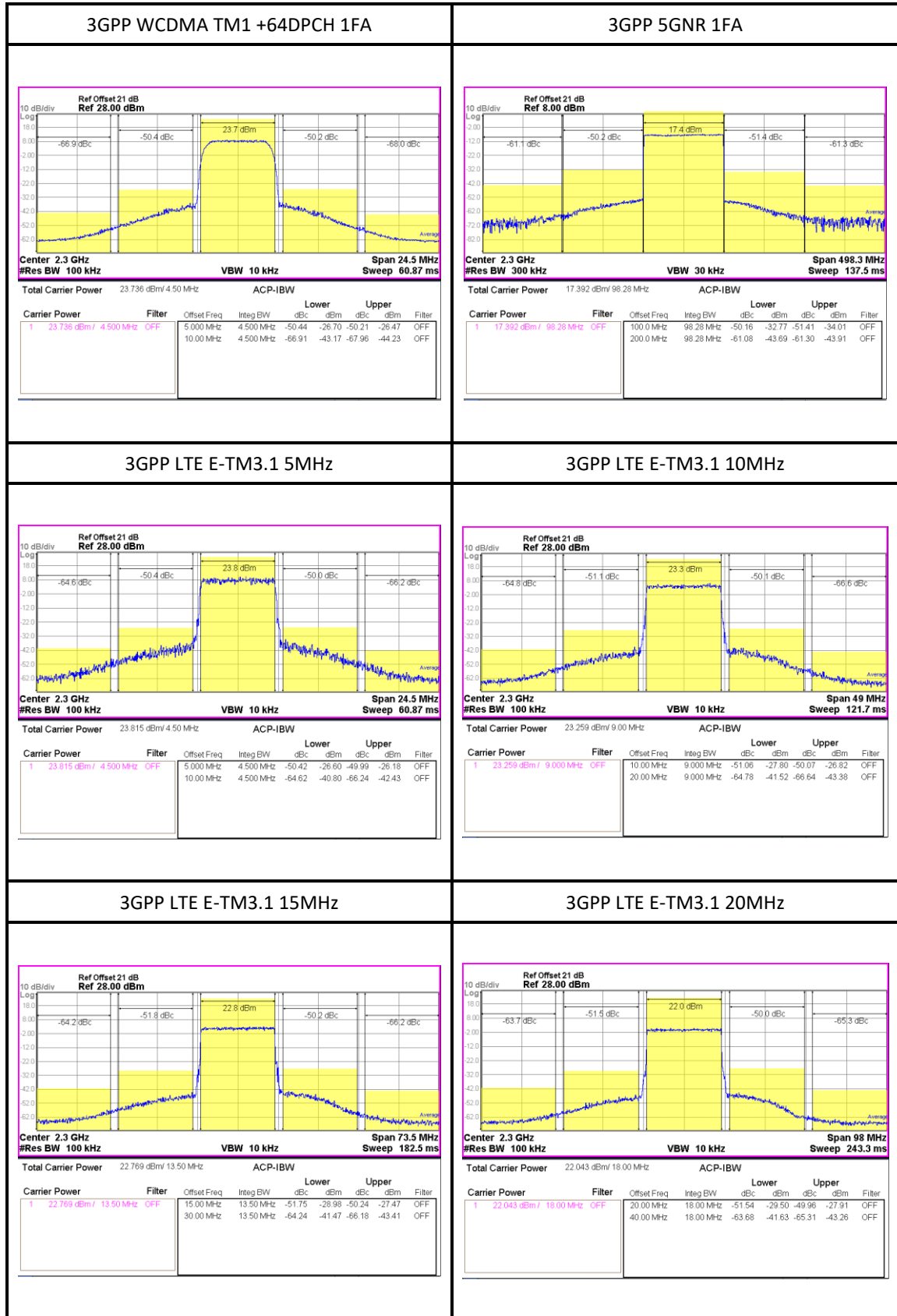
1.1 BMT333 2300MHz Test Result

No.	Freq [MHz]	Vcc [V]	Ic _q [mA]	Gain [dB]	OIP3 [dBm] ⁽¹⁾	P1dB [dBm]	IRL [dB]	ORL [dB]	NF [dB]
#1	2250	5	601	26.9	47.2	34.2	-12.7	-17.9	-
#1	2300	5	601	27.0	49.4	34.0	-15.7	-23.5	-
#1	2350	5	601	26.9	47.7	33.2	-18.3	-21.9	-

(1) OIP3 was tested @Pout=23dBm/tone (CW) 1MHz offset



1.2 BMT333 2300MHz ACLR Test Result



2. BMT333 2600MHz Application Note

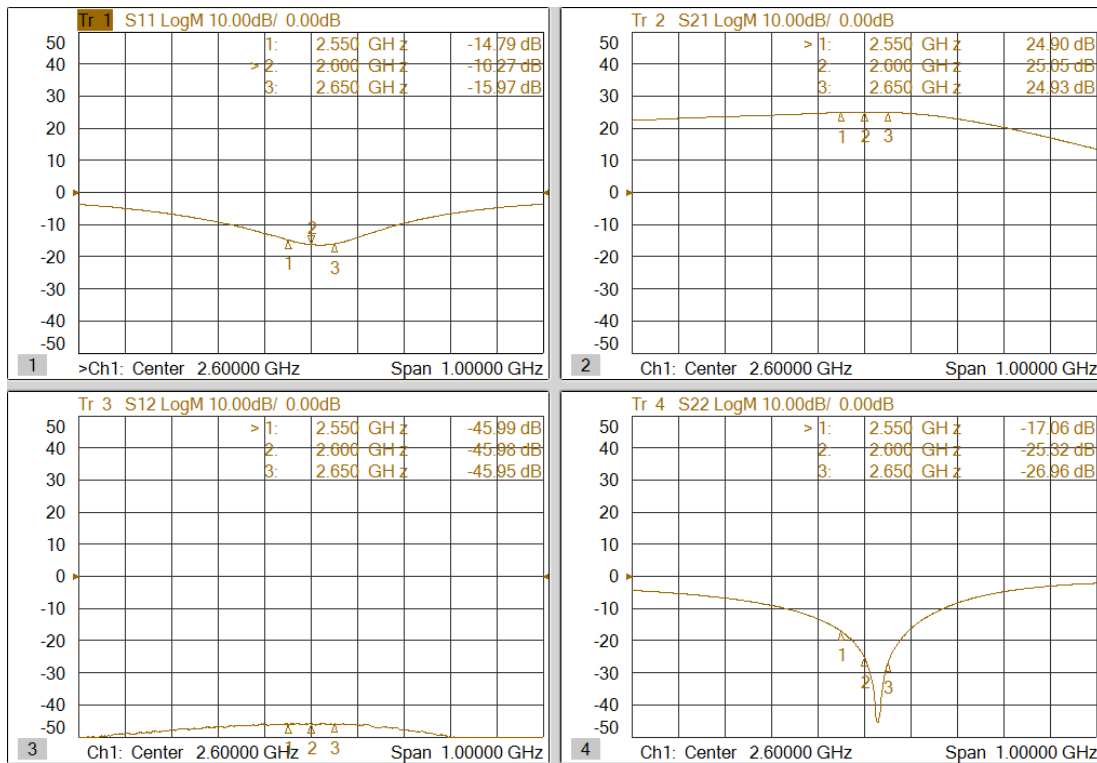
Schematic Diagram		BOM		Marks
	C1	1206	10uF	Tantalum
	C2	0603	N/A	
	C3	0603	N/A	
	C4	0603	1nF	
	C5	0603	1nF	
	C6	0603	43pF	
	C7	0603	0 Ω	
	C8	0603	1pF	
	C9	0603	1.5pF	
	C10	0603	3pF	High Q
	C11	0603	10pF	
	C12	0603	1nF	
	C13	0603	100pF	
	C14	0603	1nF	
	C15	1206	10uF	Tantalum
L1	0603	N/A		
L2	0603	0 Ω		
L3	1008	18nH	HQ Coil	
R1	0603	150 Ω		
R2	0603	270 Ω		

PCB Diagram		Notice	
	Below information is subject to change as conditions of the substrate.		
	Reference	Object	Distance
	Input pin	C8	5.2mm
	Input pin	C9	1.9mm
	Output pin	C10	1.0mm
	Pin 16	C6	2.0mm
	Pin 19	C5	1.0mm
Pin 20	C4	5.0mm	
Figure about the reference position of components			

2.1 BMT333 2600MHz Test Result

No.	Freq [MHz]	Vcc [V]	Icq [mA]	Gain [dB]	OIP3 [dBm] ⁽¹⁾	P1dB [dBm]	IRL [dB]	ORL [dB]	NF [dB]
#29	2550	5	602	24.9	46.0	33.2	-14.8	-17.1	-
#29	2600	5	602	25.1	46.3	33.4	-16.3	-25.3	-
#29	2650	5	602	24.9	44.3	32.6	-16.0	-27.0	-

(1) OIP3 was tested @Pout=23dBm/tone (CW) 1MHz offset



2.2 BMT333 2600MHz ACLR Test Result

