NA-1649

BLF578 at 500 MHz

Rev. 3 — 05 October 2015

AMPLEON

Application Measurement Report

Document information

Info	Content
Keywords	NA-1649
Abstract	Measurement results of a demo board for 500 MHz with 1x BLF578

Revision history

Rev	Date	Description
1	20140919	
2	20150424	Update for web publication
3	20151005	The format of this document has been redesigned to comply with the new identity guidelines of Ampleon. Legal texts have been adapted to the new company name where appropriate.

1. Introduction

1.1 General Description

This document contains measurement results of a 500MHz demo amplifier (Board NA-1649 with 1x BLF578.

1.1.1 Test object details

Transistor type:	BLF578 (Pressed down)
Production code:	
Package:	SOT539
Board:	Input BLF578 V2 2x35um Output BLF578 V2 2x70um
Demo number:	NA-1649

1.2 Used Test signals

CW:	CW

1.3 Testcircuit

A description of this circuit can be found in **chapter 3**. The test circuit has been designed on Taconic RF35, h=0.762mm, er=3.48, input pcb=2x35um, output pcb=2x70um. Supply voltage (drain-source) is typical 50V. Increase Vgs until the total Idq will be 200mA.

2. Measurement Results

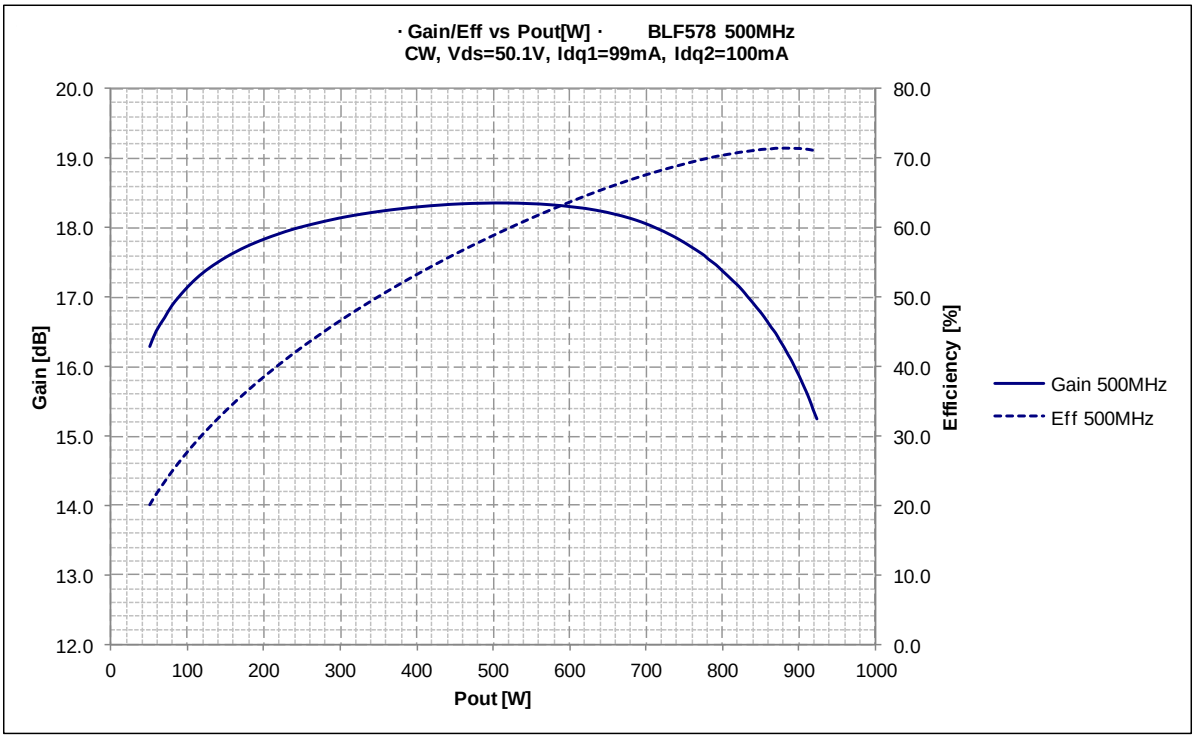
2.1 Summary CW – Power Sweep

2.1.1 Gain & Efficiency @ Pout = 800 W

Freq [MHz]	P1dB [dBm]*	P1dB [W]*	Eff@P1dB [%]*	Gain [dB]@800W	Compr [dB]@800W	Eff [%]@800W
500.0	59.0	801.7	70.4	17.4	-0.98	70.3

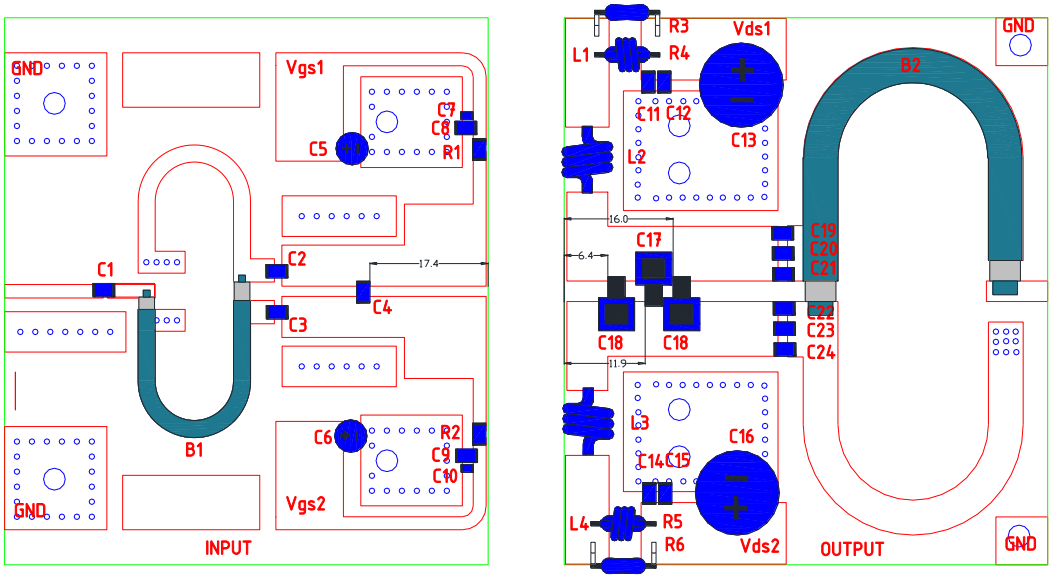
2.2 CW – Power Sweep

2.2.1 Gain & Efficiency @ Frequency = 500 MHz



3. PCB Layout

3.1 PCB Layout Drawing



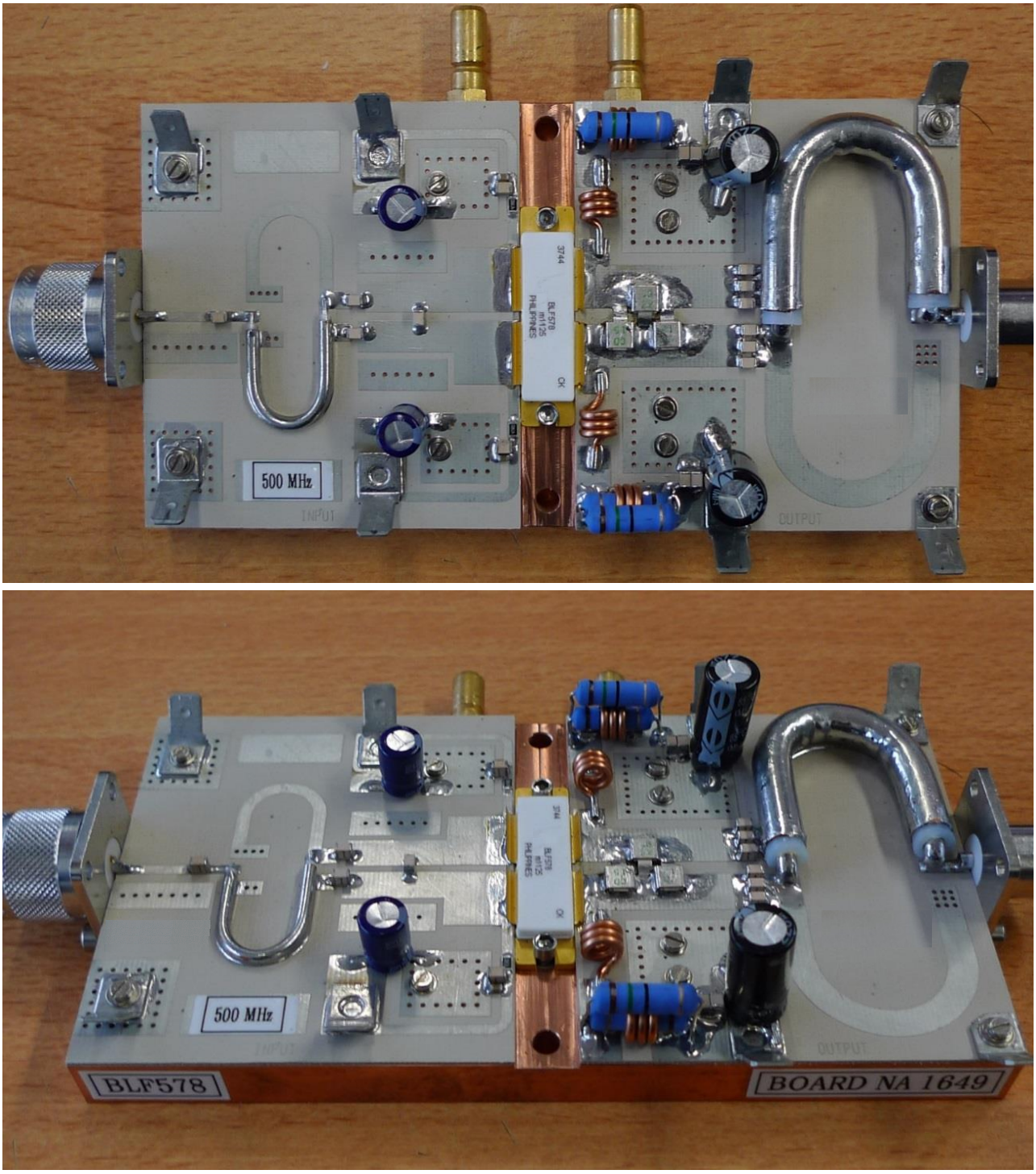
3.2 Component list

Partslist Demo BLF578 500MHz

Input / Output

no.	value	type	comment
C1,C8,C9	100pF	ATC100B	soldered on the side
C2,C3	56pF	ATC100B	soldered on the side
C4	22pF	ATC100B	soldered on the side
C5,C6	100uF 63V	Electrolytic Capacitor	
C7,C10	100nF	Murata	X7R
C11,C14	100pF	ATC100B	soldered on the side
C12,C15	1nF	ATC100B	soldered on the side
C13,C16	220uF 63V	Electrolytic Capacitor	
C17	22pF	CDE MIN02	
C18	12pF	CDE MIN02	
C19,C20,C21,C22,C23,C24	15pF	ATC100B	soldered on the side
C25	15pF	ATC100B	soldered on the side
R1,R2	47Ω	SMD 1206	
R3,R6	15Ω	3W	
R4,R5	10Ω	3W	
Balun B1	semirigid Zc=25	UT-090C-25	
Balun B2	semirigid Zc=25	UT-300C-25	
PCB INPUT	Taconic RF35	h=0.762mm, Cu=2x35um	Er=3.48
PCB OUTPUT	Taconic RF35	h=0.762mm, Cu=2x70um	Er=3.48

3.3 Photo's Demo Board



4. Attachments

Please see the attachment for the support files.

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