

NA-1797

CLF1G0060-10 at 3100-3500 MHz

Rev. 3 — 05 October 2015

AMPLEON

Application Measurement
Report

Document information

Info	Content
Keywords	NA-1797
Abstract	Measurement results of a demo board for 3100-3500MHz with 1x CLF1G0060-10.

Revision history

Rev	Date	Description
1	20130304	
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 shows the measurement results of a 3100-3500MHz demo amplifier (Board NA-1797) with 1x CLF1G0060-10.

1.1.1 Test object details

Transistor type: CLF1G0060-10 (bolted down)

Production code:

Package:

Board: CLF1G0060-10 Rev1 -Output
CLF1G0060-10 Rev1 -Input

Demo number: NA-1797

1.2 Used Test signals

CW-pulsed: Power Sweeps at 3.1-3.5GHz and Frequency Sweep at 10W (40dBm)

1.3 Test circuit

A description of this circuit can be found in **chapter 3**. The test circuit has been designed on Taconic RF60A, h=25mil, er=6.15, 2x35um copper. Supply voltage (drain-source) is 50V. The Idq is set to 40mA at the bias module. You can measure Id on the pins at shunt R3 (0.01Ohm).

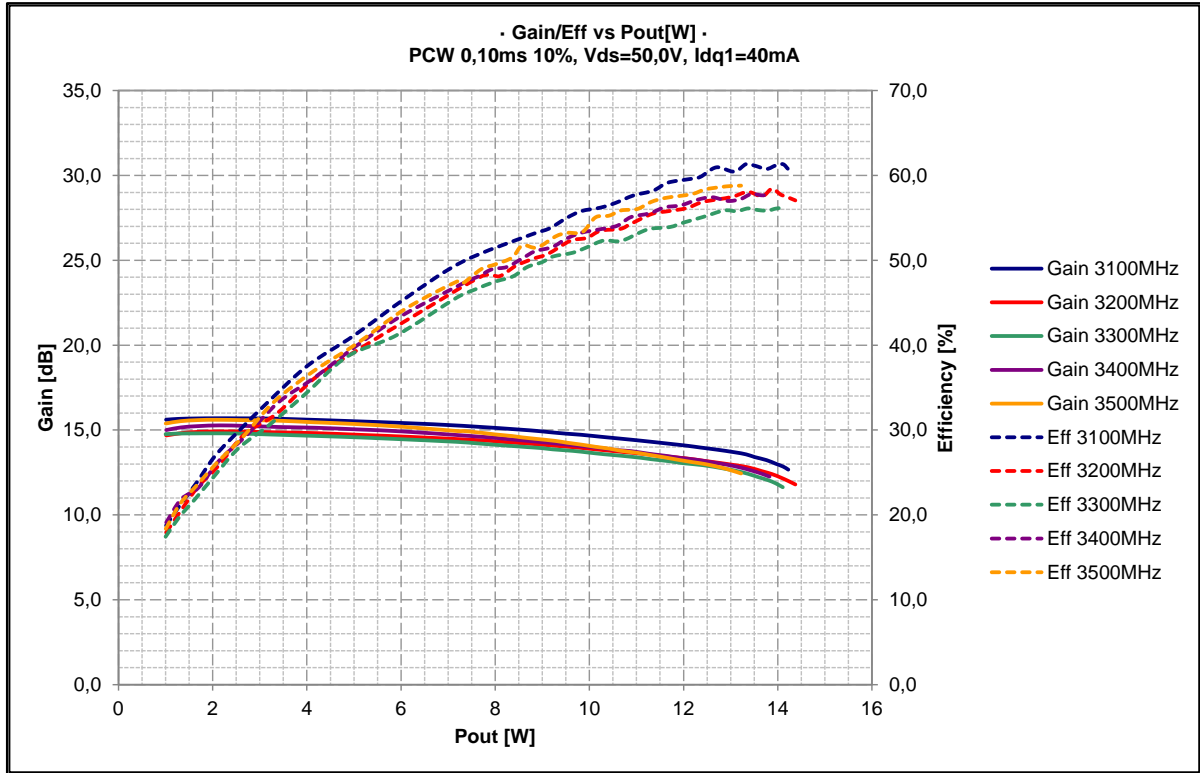
Please note that the Bias module draws current. Approximately 20-30 mA.

A description can be found in application note: **AN11130**.

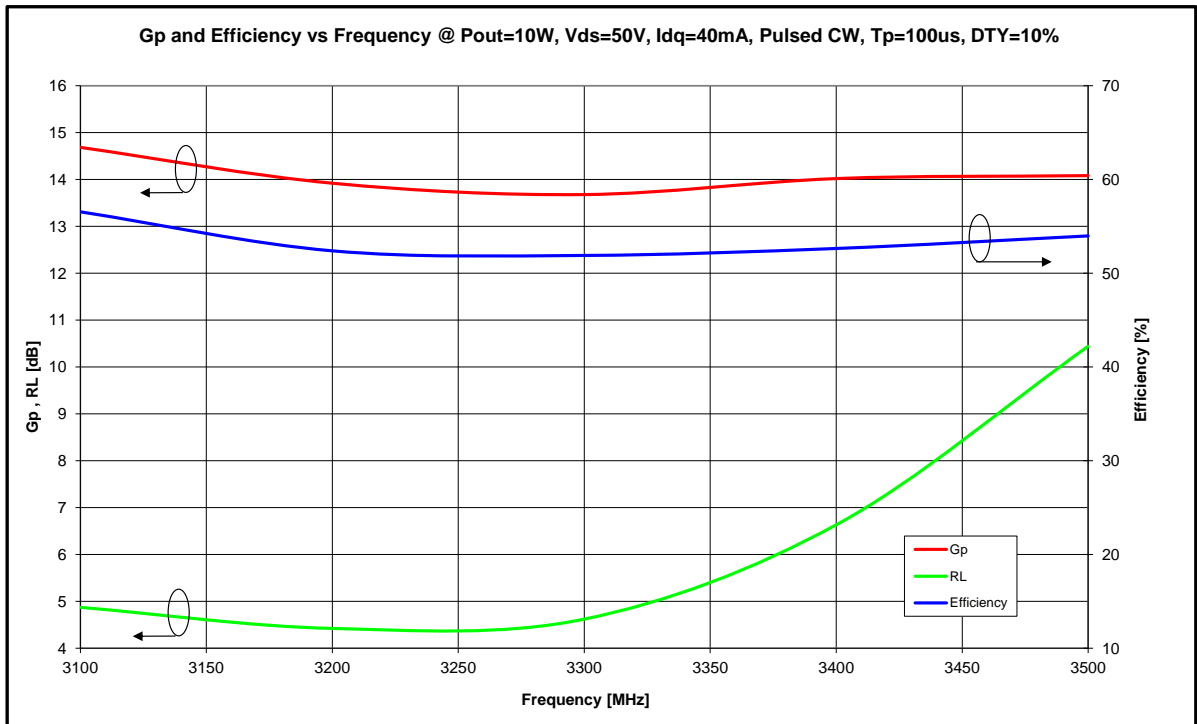
NOTE: Use an electrolytic capacitor 10000uF parallel to the Vds as close as possible to the demo board. This delivers the current peaks to the demo board.

2. Measurement Results

2.1 CW-pulsed – Power Sweep

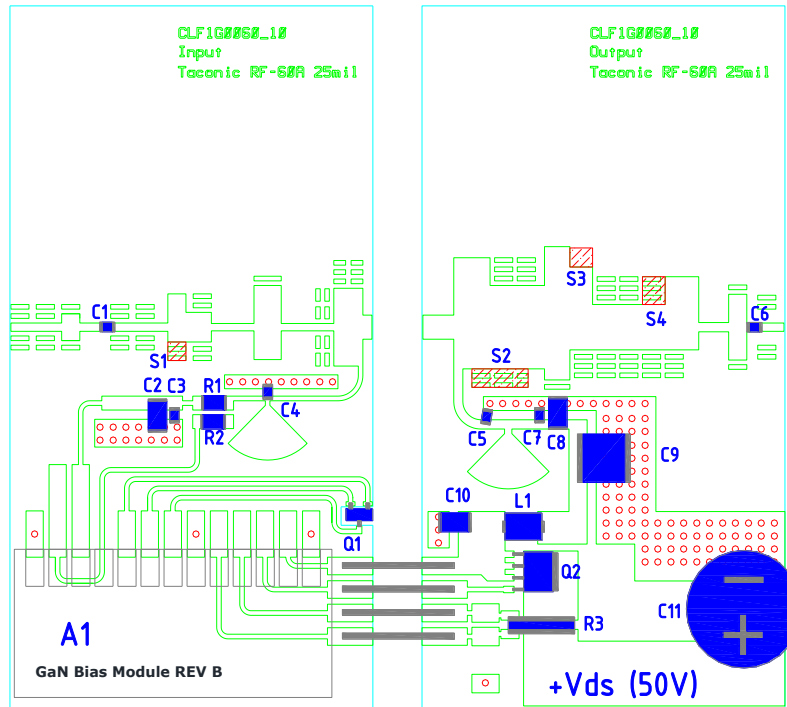


2.2 Frequency sweep at Pout=10W (40dBm)



3. PCB Layout

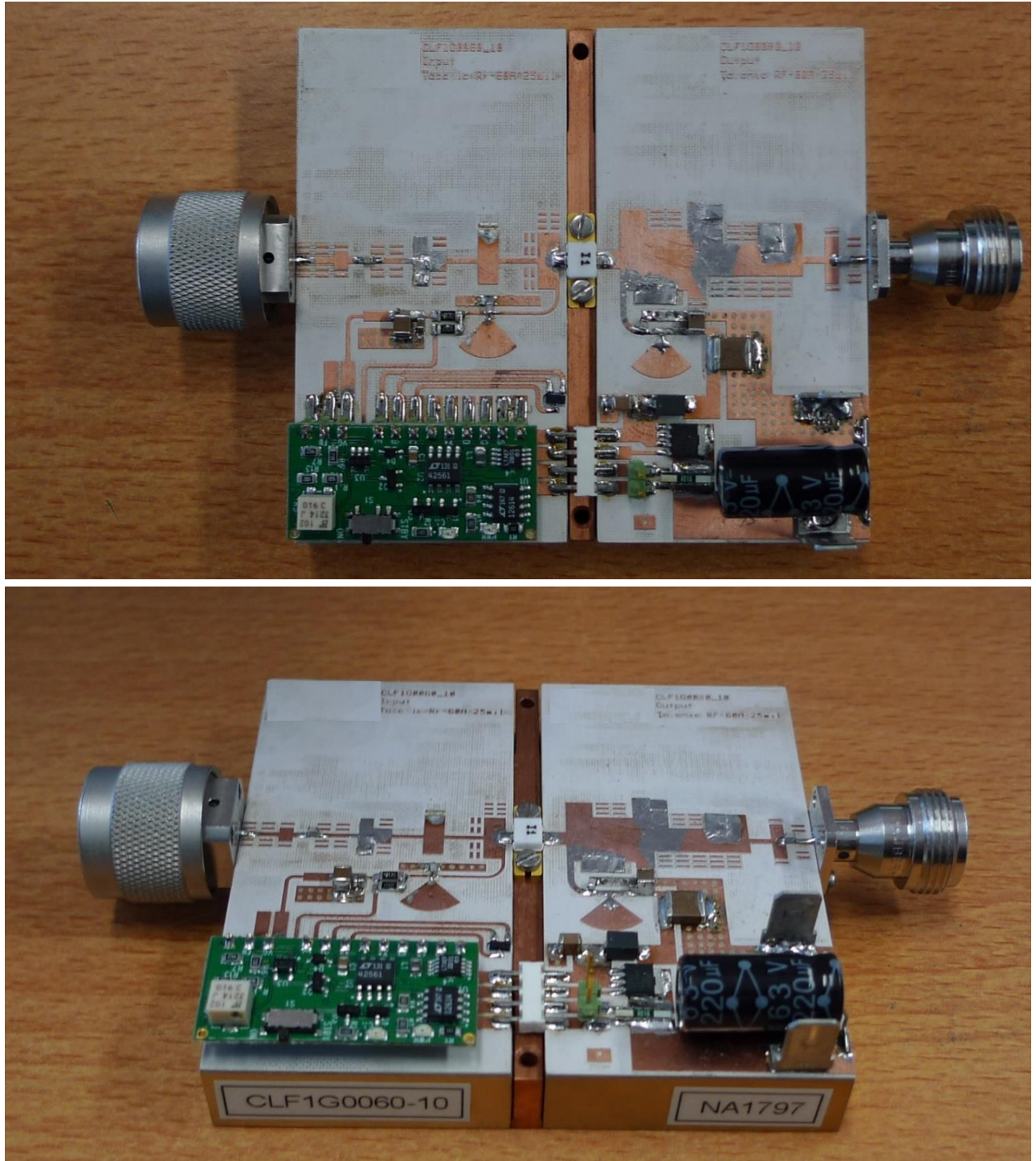
3.1 PCB Layout Drawing



3.2 Component list

Components list circuit.			
C1,C4,C6	20pF	ATC800A	
C5	24pF	ATC800A	
C2,C8	4.7uF	Murata, 50V	
C9	10uF	Murata, 50V	
C3,C7	1nF	ATC700A	
C10	20nF	ATC	
C11	220uF	Electrolytic Capacitor	63V
L1		Ferrite Bead	Fair-Rite 2743019447
R1	5.1 Ω	SMD Resistor 1206	
R2	10k Ω	SMD Resistor 1206	
R3	0.01 Ω	Resistor 3008, 2W	Susumu RL7520WT-R010-F
Q1	10W	Transistor Ampleon	Ampleon CLF1G0060-10
Q2	PNP 45V 100mA GP	Transistor NXP	NXP BC857B
Q3	N-ch MOS 80V 80A	Transistor NXP	NXP BSMN8R2-80YS
A1	As described in AN11130	Ampleon	GaN Bias Module Rev B
S1,S2,S3,S4	Tuning strip		
PCB Material: Taconic RF60A, Thickness 0,64mm, εr = 6.15, Cu=2x35 micron			

3.3 Photo's Demo Board



4. Attachments

Please see the attachment for the support files.

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