NA-1489

BLF879P at 470-860 MHz

Rev. 3 — 05 Octoberl 2015

AMPLEON

Application Measurement Report

Document information

Info	Content
Keywords	NA-1489
Abstract	Measurement results of a demo board for 470-860 MHz with 1x BLF879P.

Revision history

Rev	Date	Description
1	20120309	
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 470-860 MHz demo amplifier (Board NA-1489) with 1x BLF879P.

1.1.1 Test object details

Transistor type:	BLF879P (Pressed down)
Production code:	7642-m1106 W0
Package:	SOT539
Board:	BLF888 V4 –Output (for this application we used the same pcb as for BLF888) BLF888 V4 –Intput (for this application we used the same pcb as for BLF888)
Demo number:	NA-1489

1.2 Used Test signals

DVB-T: DVB-T signal wit IMD3 @ 4.3MHz from fc

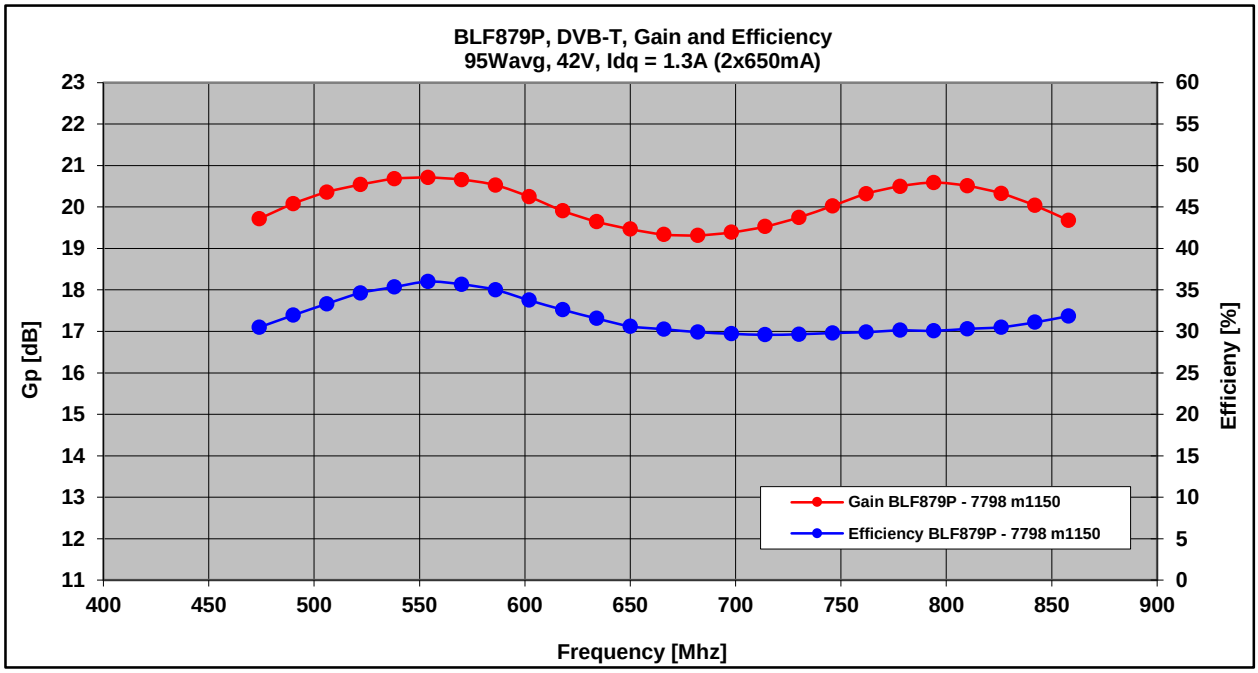
1.3 Testcircuit

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. Supply voltage (drain-source) is typical 42V. Increase Vgs till around 3Volts so the **total Idq** should be 1.3A (2x650mA).

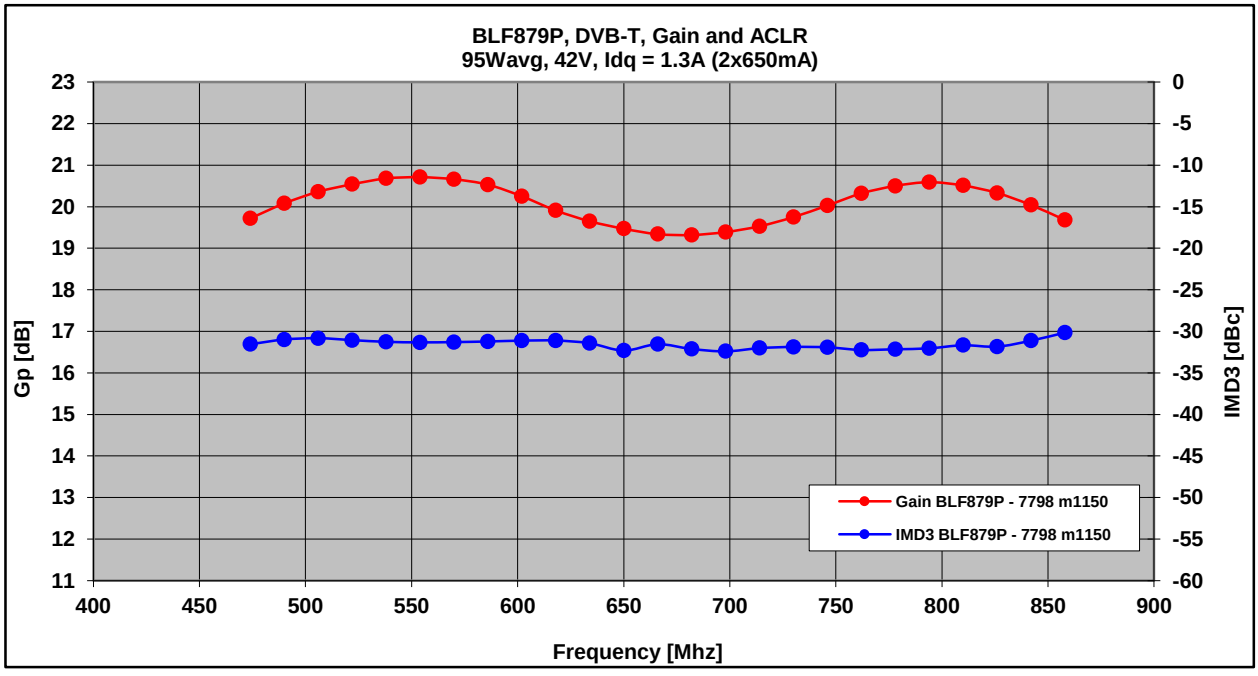
2. Measurement Results

2.1 DVB-T – Frequency Sweeps

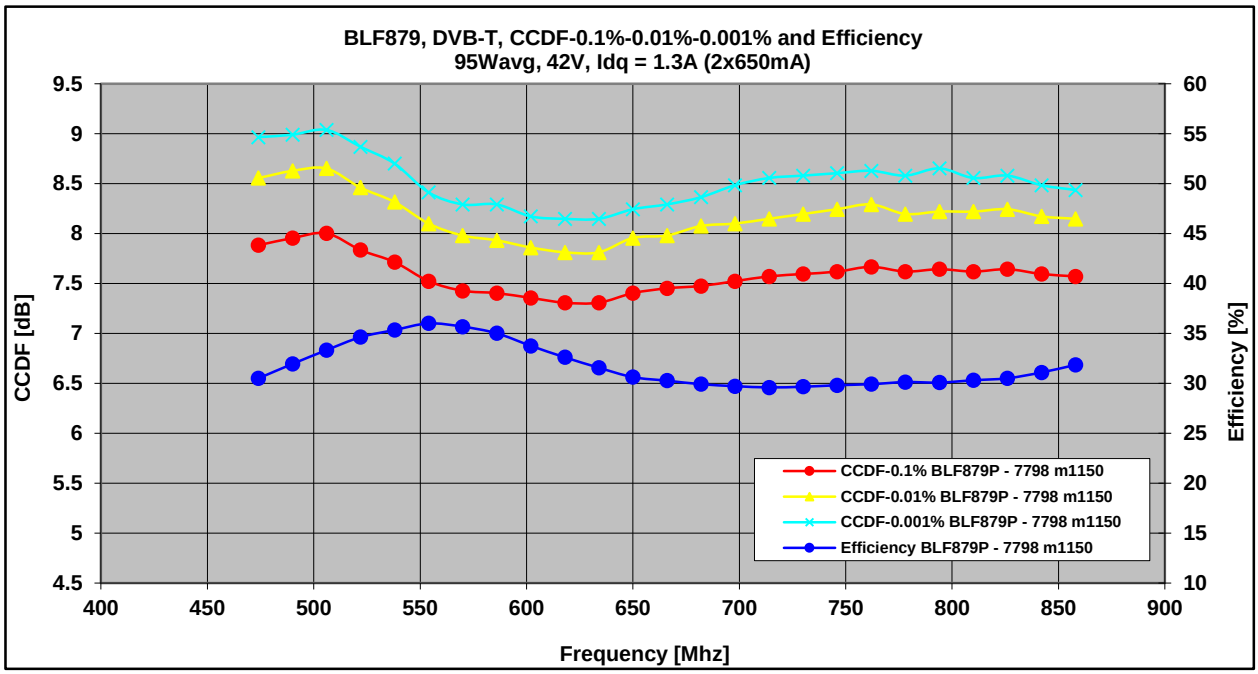
2.1.1 Gain & Efficiency @ Pout=95W



2.1.2 Gain & ACLR @ Pout=95W

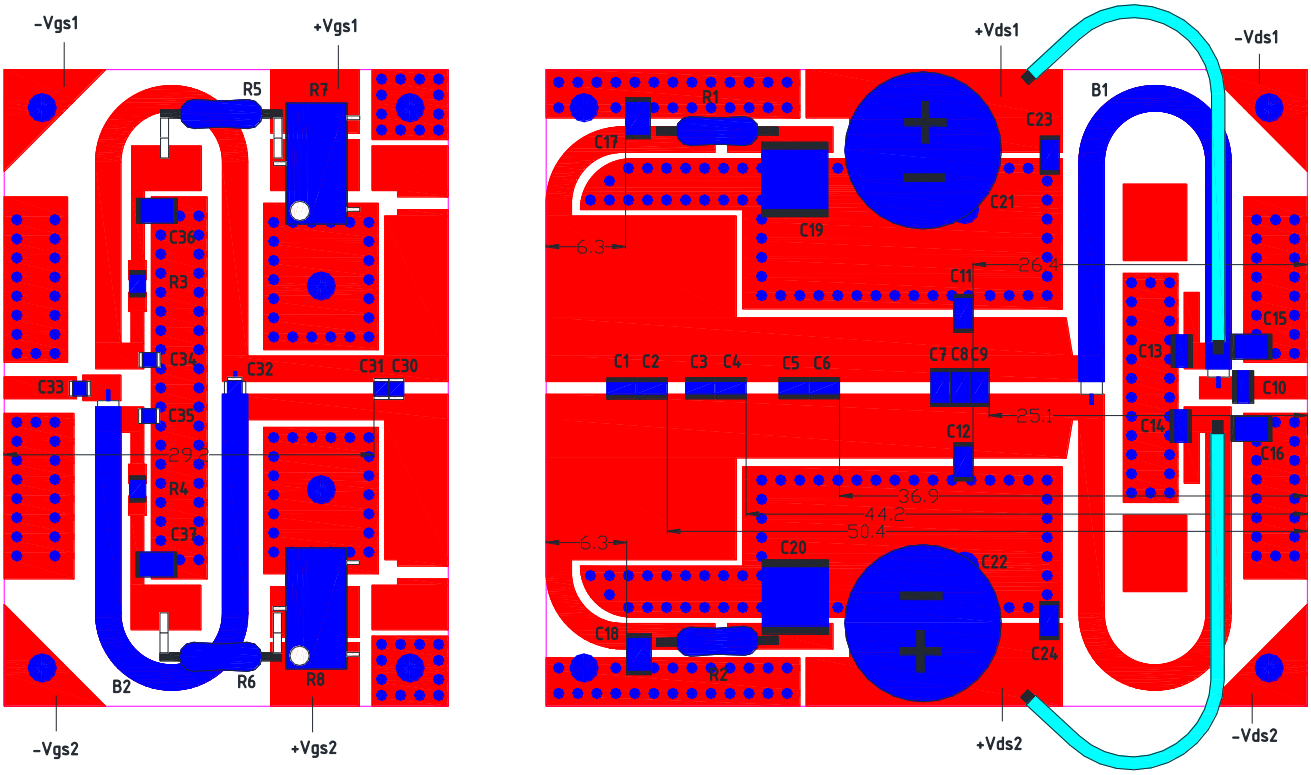


2.1.3 Efficiency & CCDF @ Pout=95W



3. PCB Layout

3.1 PCB Layout Drawing



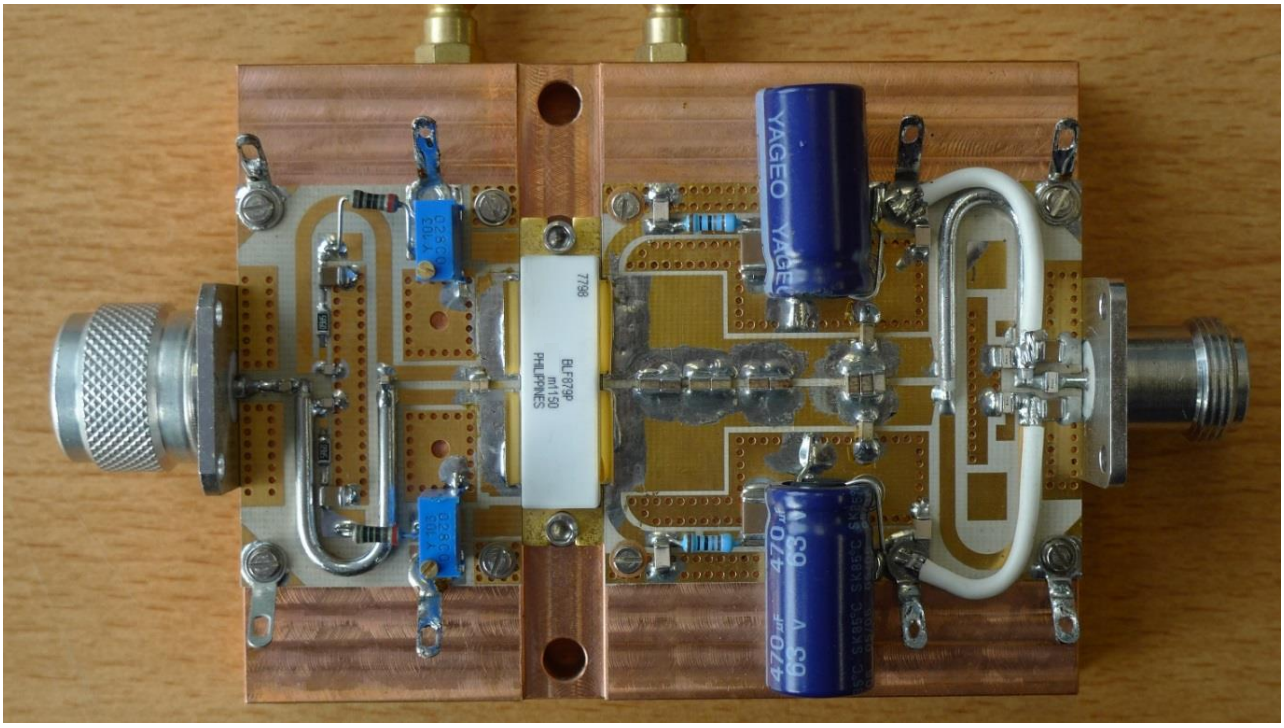
3.2 Component list

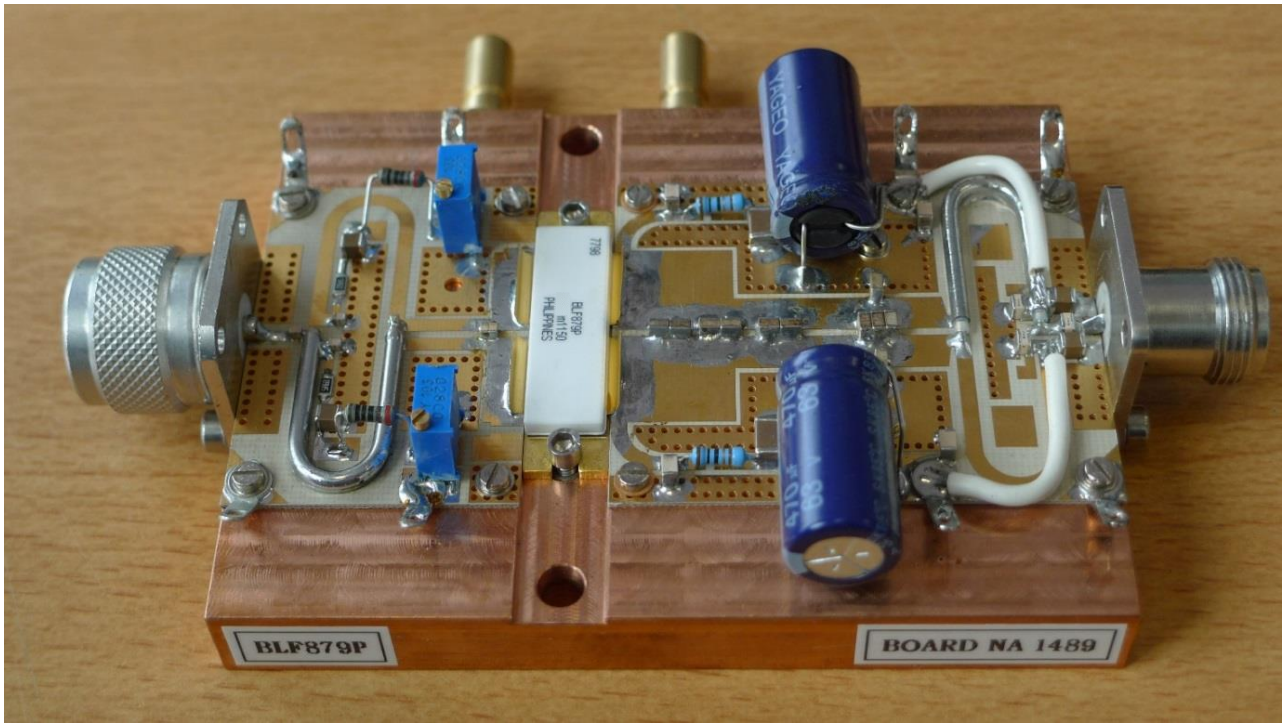
Partslist BLF879P 105x50mm application circuit

Output			
no.	value	type	comment
C1	12pF	ATC180R	
C2,C3	8.2pF (−8.1pF)	ATC180R	Different value due to tolerance
C4,C5,C7	8.2pF (−8.8pF)	ATC180R	Different value due to tolerance
C7	6.8pF	ATC800B	soldered on the side
[illegible]hart Area	2.7pF	ATC800B	soldered on the side
[illegible]	2.2pF	ATC800B	soldered on the side
C10,C13,C14	100pF	ATC180R	
C11,C12	10pF	ATC800B	soldered on the side
C15,C16	4u7	Kemet C1210X476K6RAC-TU	
C17,C18	100pF	ATC100B	soldered on the side
C19,C20	10µF	TDK C5750X7R1H106KT 000N	
C21,C22	470µF	Electrolytic Capacitor	63V
C23,C24	200pF	ATC100B	soldered on the side
R1,2	10Ω		
L1	16 x 13 mm	microstripline	length x width
L2	26 x 6 mm		
L3	49.6 x 2 mm		
L4	3.6 x 1.7 mm		
L5	9.6 x 2 mm		
Balun B1	semi rigid coax	UT-090C-25	
	Zc=25 ohms	(EZ 90-25)	
	49.6 mm		
PCB		Taconic RF35 epsr = 3.5	
		h = 0.76mm	
		50 x 50 mm	
		Cu plating 35µ	

Input			
no.	value	type	comment
C30	10pF	ATC100A	soldered on the side
C31	9p1	ATC100A	soldered on the side
C32	3p9	ATC100A	
C33,C34,C35	100pF	ATC100A	soldered on the side
C36,C37	4.7µF	TDK C4532X7R1E475MT020U	
R3, R4	6.8Ω		
R5, R6	100Ω		
R7, R8	10kΩ	potentiometer	
L30	13.5 x 5 mm	microstripline	length x width
L31	11 x 2 mm		
L32	49.6 x 2 mm		
L33	3 x 2 mm		
Balun B2	semi rigid coax	UT-090C-25	
	Zc=25 ohms	(EZ 90-25)	
	49.6 mm		
PCB		Taconic RF35 epsr = 3.5	
		h = 0.76mm	
		35 x 50 mm	
		Cu plating 35µ	

3.3 Photo's Demo Board





4. Attachments

Please see the attachment for the support files.

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