

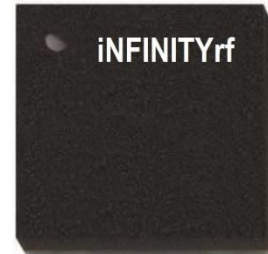
Drive amplifier

3 GHz to 5 GHz

Description

The iFN10521 Driver amplifier is a broadband PA with an operating frequency range of 3 to 5 GHz.

The iFN10521 is internally matched to 50 ohms and optimized from 3 to 5 GHz for gain flatness with excellent linearity. No external parts for the match are required.



Package: QFN, 16-pin,
4.0mm x 4.0mm

Applications

- 5G NR systems
- 5G small cell applications
- Driver amplifier for micro and macro base stations

Key Features

Parameters @5GHz	Value	Unit
Power Gain	25	dB
Pout @P-1dB	27	dBm
PAE	>25	%

Absolute Maximum Ratings

Parameter	Symbol	Value			Unit
		Min	Typ.	Max	
Supply voltage	Vdd			6.6	V
Operating temperature	Ta	-30		+85	C

Nominal Operating Parameters:

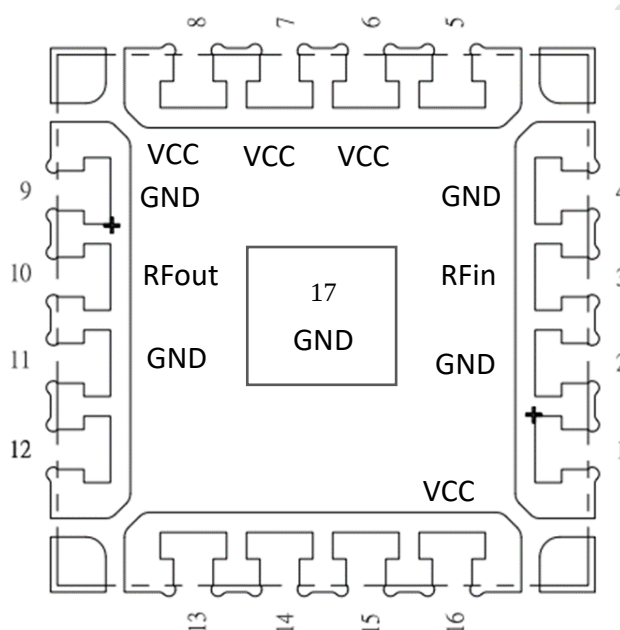
Parameter	Symbol	Test Conditions	Value			Unit
			Min	Typ.	Max	
Supply voltage	Vdd			6		V

Electrical Characteristic ($T_{\text{SUBSTRATE}} = 25\text{ }^{\circ}\text{C}$ except as noted)

Parameter	Symbol	Test Conditions	Value			Unit
			Min	Typ.	Max	
Input return loss	S11	f=4 GHz		-10		dB
Small signal gain	S21	f=4 GHz		25		dB
Output return loss	S22	f=4 GHz		-10		dB

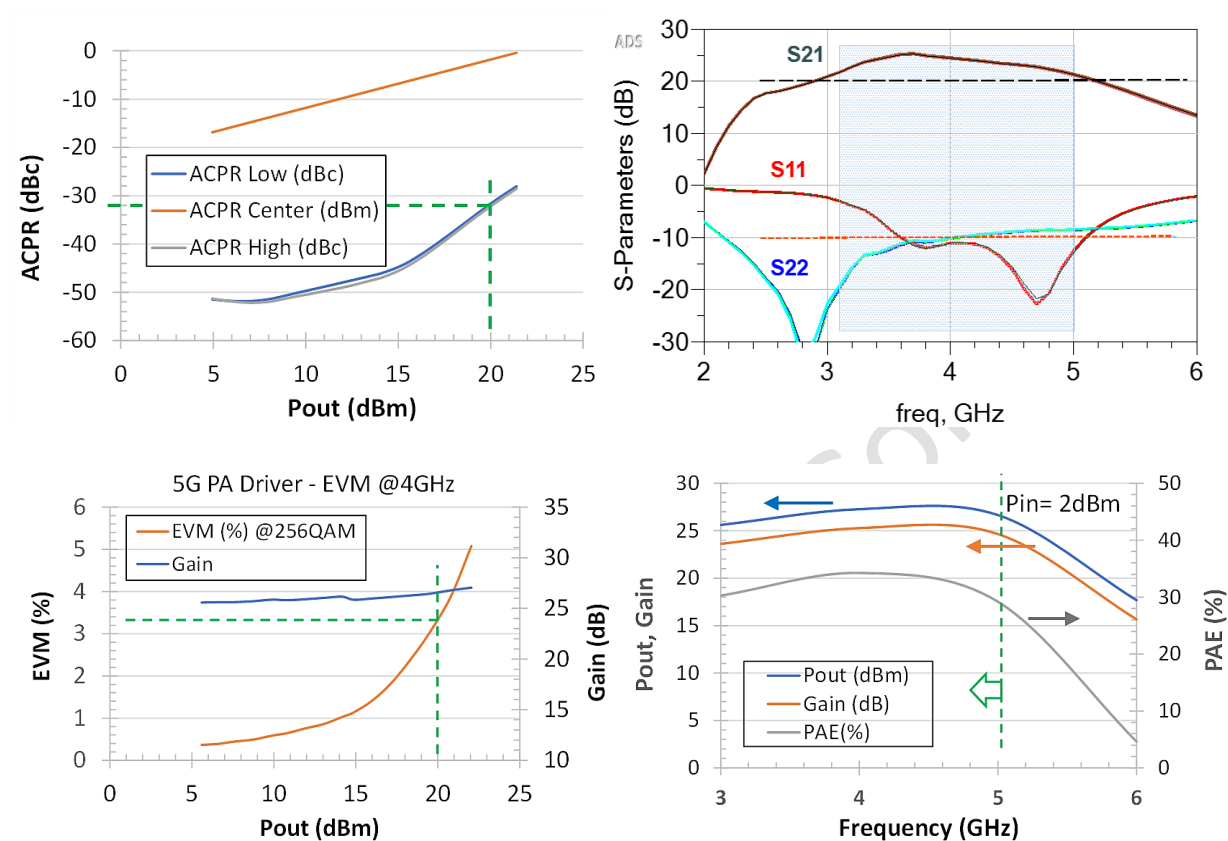
Performance will vary based on assembly technique and substrate of choice.

Pin Configuration and Description (Top View)



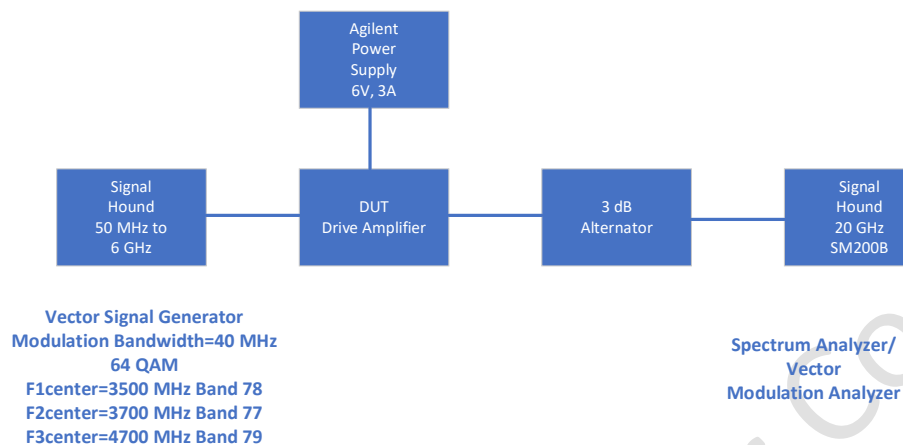
Pin	Symbol	Description	Pin	Symbol	Description
1	NC	No Connection	10	RFout	RF output
2	GND	Ground	11	GND	Ground
3	RFin	RF input	12	NC	No Connection
4	GND	Ground	13	NC	No Connection
5	NC	No Connection	14	NC	No Connection
6	Vcc	VCC voltage	15	NC	No Connection
7	Vcc	VCC voltage	16	Vcc	VCC voltage
8	Vcc	VCC voltage	17	GND	Ground Slug
9	GND	Ground			

Measurement data (on EVB)

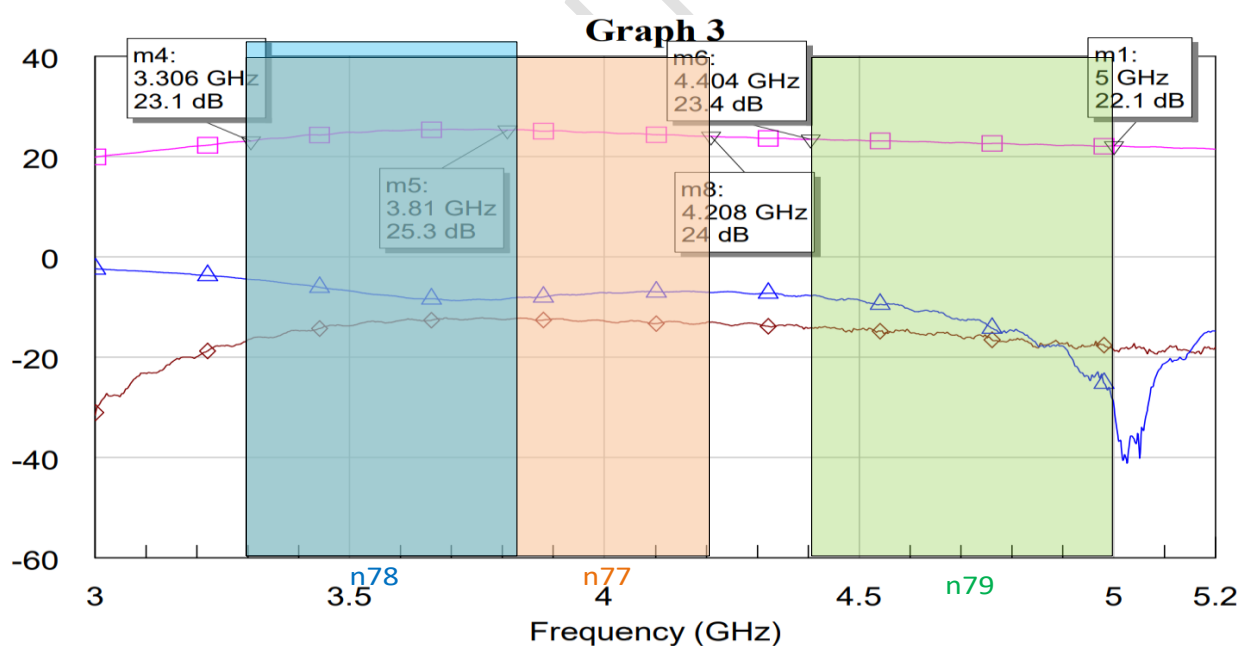


Test setup and condition

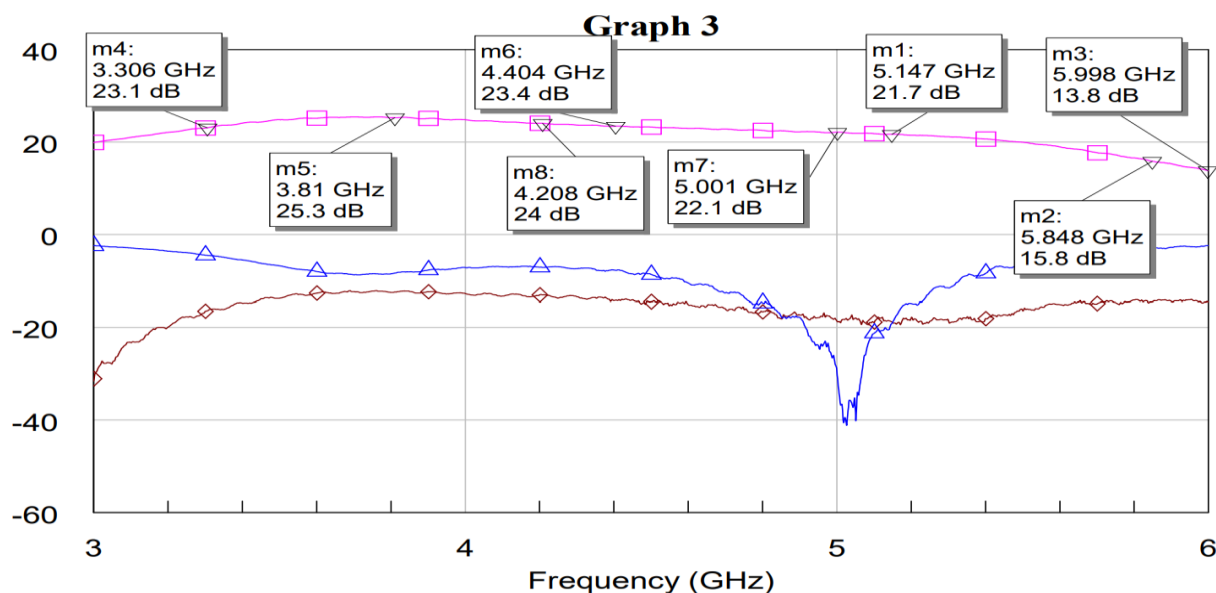
Vcc=6 V, Icc=160 mA, Room temperature (25 C°)



Drive Amplifier (100 mW PA) support entire Sub 6G Band

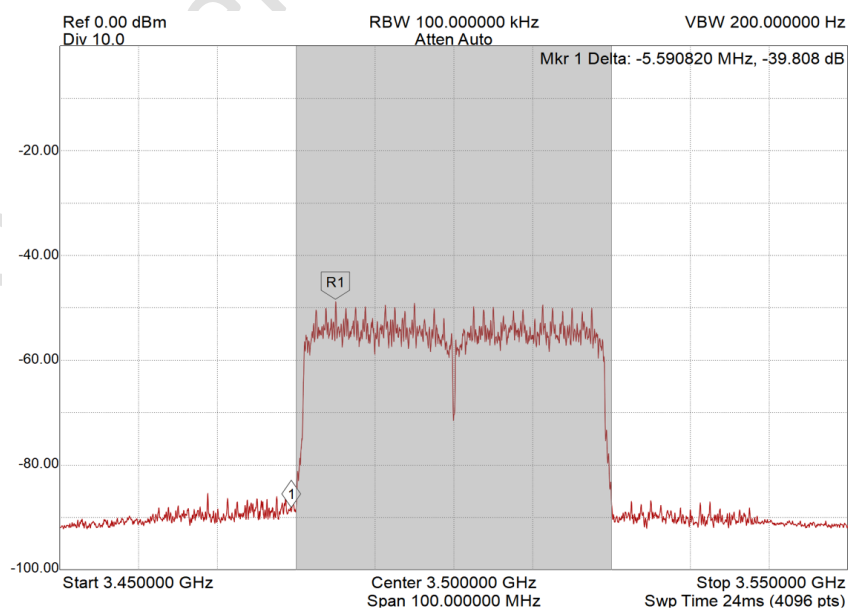


Drive Amplifier Broadband Performance



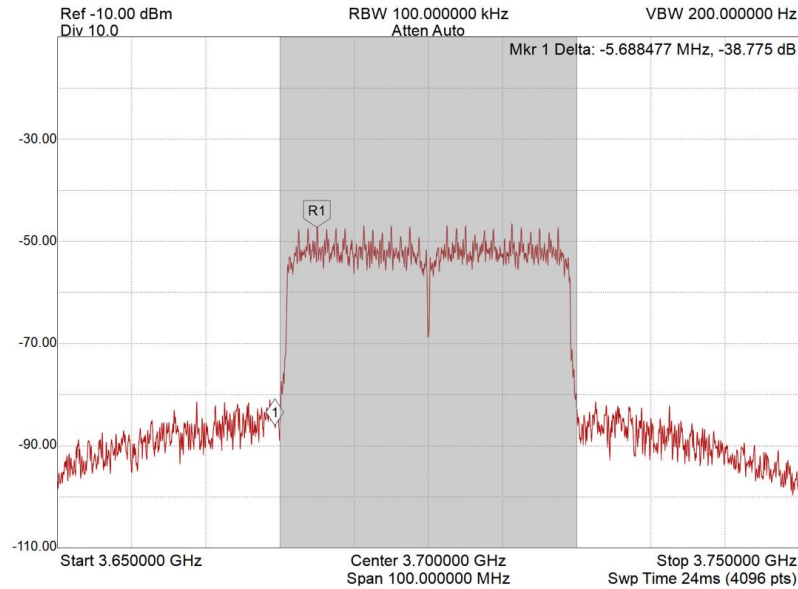
Drive Amplifier Linearity performance (20 dBm Output, without pre-distortion, Band 78) at 3.5 GHz and 40 MHz bandwidth.

P output = 20 dBm



Drive Amplifier Linearity performance (20 dBm Output, without pre-distortion, Band 77) at 3.7 GHz and 40 MHz bandwidth.

P output = 20 dBm



Drive Amplifier Linearity performance (20 dBm Output, without pre-distortion, Band 79) at 4.7 GHz and 40 MHz bandwidth.

P output = 20 dBm

