

Broadband Low Noise Amplifier

3 GHz to 7 GHz

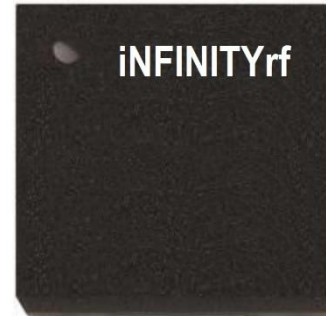
Product Description

The iNF12671 is a broadband MMIC LNA

NF<1.5dB with an operating frequency range of 3 to 7 GHz. The single 2V self-bias supply provides stable over-temperature performance and process variation.

The iNF12671 is internally matched to 50 ohms and optimized from 3 to 7 GHz for gain flatness, low-noise figure, and excellent linearity. No external parts for the match required.

This device will support 5G bands n46, n77, n78, and n79, and support Wi-Fi 6E and Wi-Fi 7.



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

Key Features

Parameter	Value	Unit
Vdd	2	V
Power Gain	>18	dB
S11/S12	<-10	dB
Noise Figure	<1.5	dB

Applications

- 5G small cell applications
- Wi-Fi 6/6e systems
- Active antenna array
- Receive LNA for micro, macro and small cell base stations
- Mobile radios
- Low-noise broadband gain block and driver amplifier

Absolute Maximum Ratings

Parameter	Symbol	Value			Unit
		Min	Typ.	Max	
Supply voltage 1	Vdd1			2.2	V
Supply voltage 2	Vdd2			2.2	V
Operating temperature	Ta	-30		+85	C

Nominal Operating Parameters:

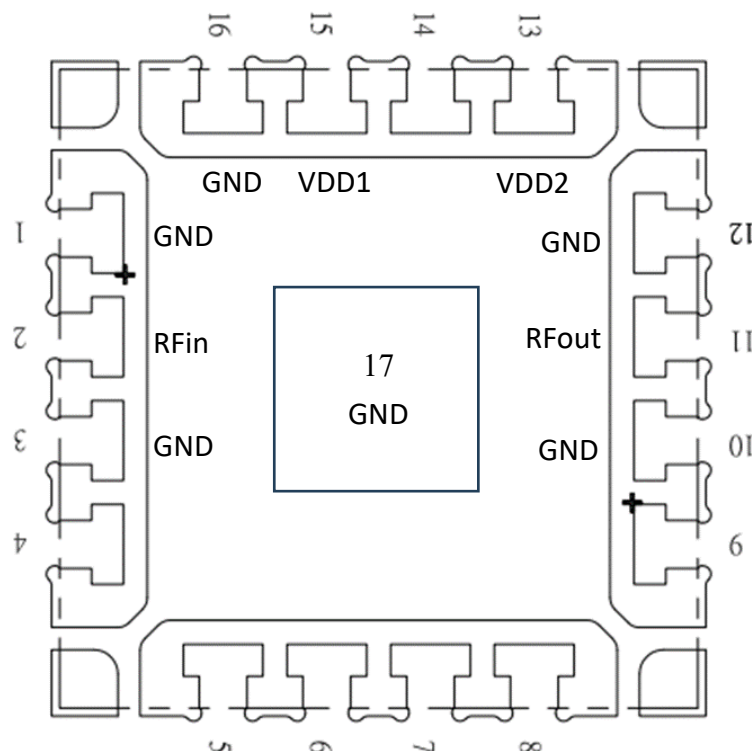
Parameter	Symbol	Value			Unit
		Min	Typ.	Max	
Supply voltage 1	Vdd1		2		V
Supply voltage 2	Vdd2		2		V

Electrical Characteristic (T_{SUBSTRATE} = 25 °C except as noted)

Parameter	Symbol	Test Conditions	Value			Unit
			Min	Typ.	Max	
Noise figure	NF	f=5.5 GHz		1.2		dB
Input return loss	S11	f=5 GHz		-13		dB
Small signal gain	S21	f=5 GHz		21		dB
Out return loss	S22	f=5 GHz		-10		dB

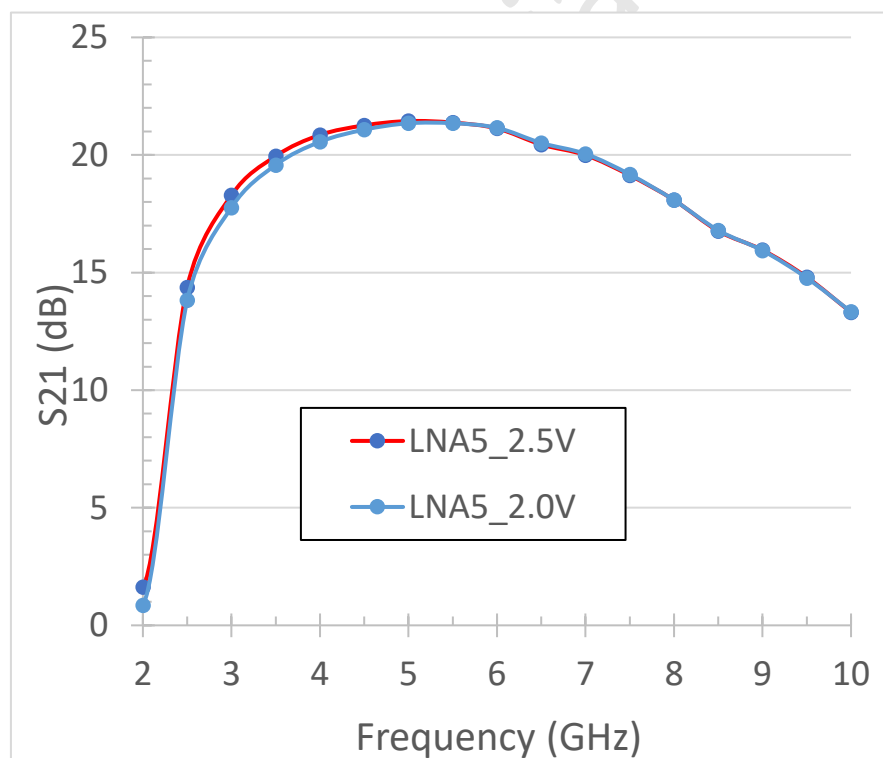
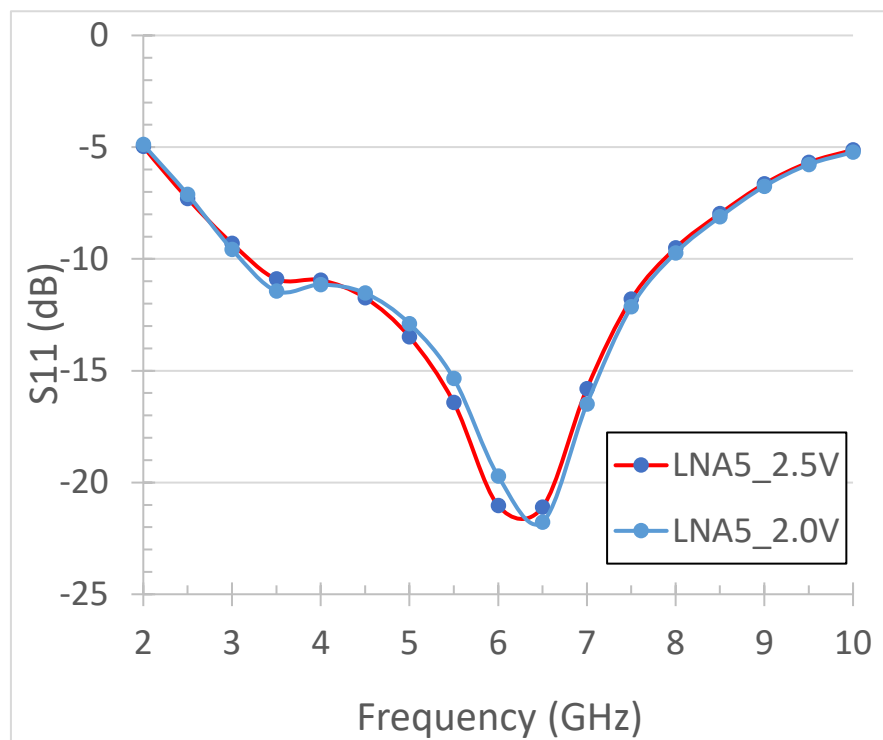
Performance will vary based on assembly technique and substrate of choice.

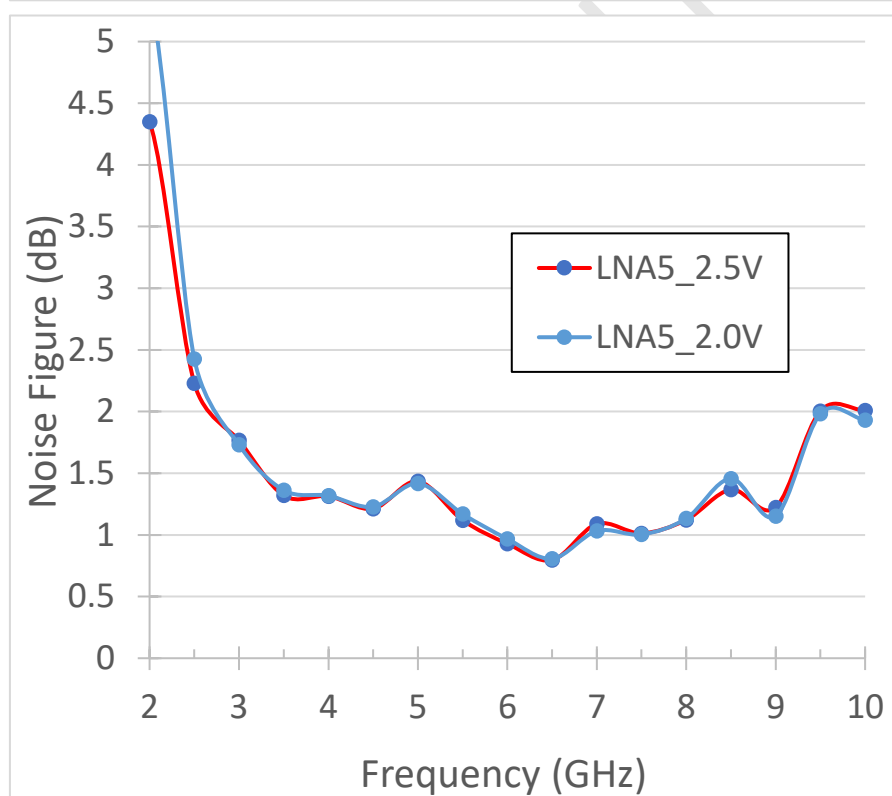
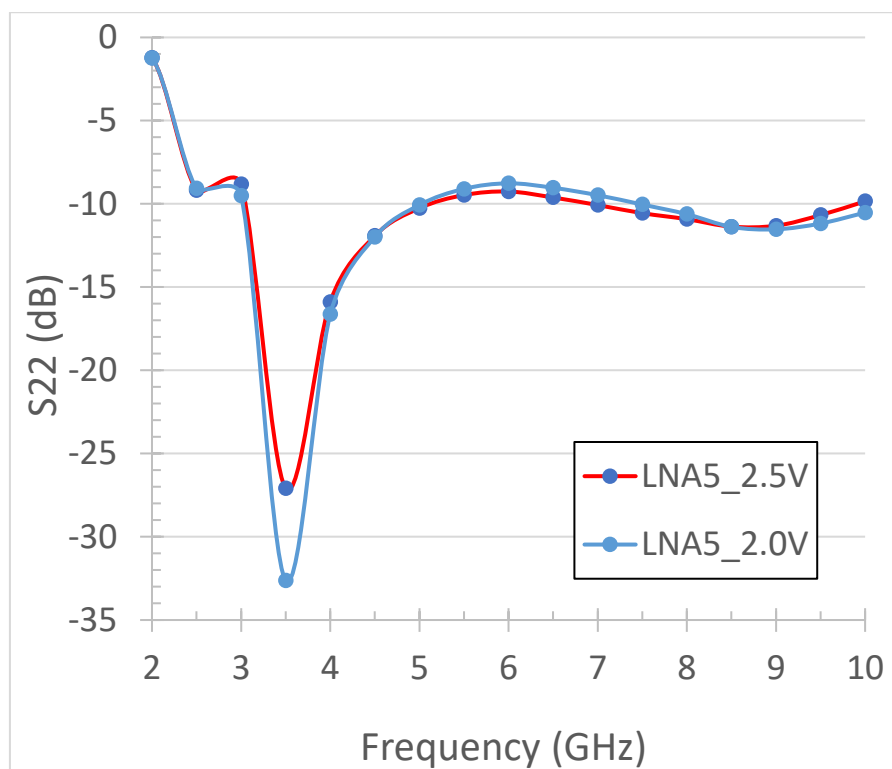
Pin Configuration and Description

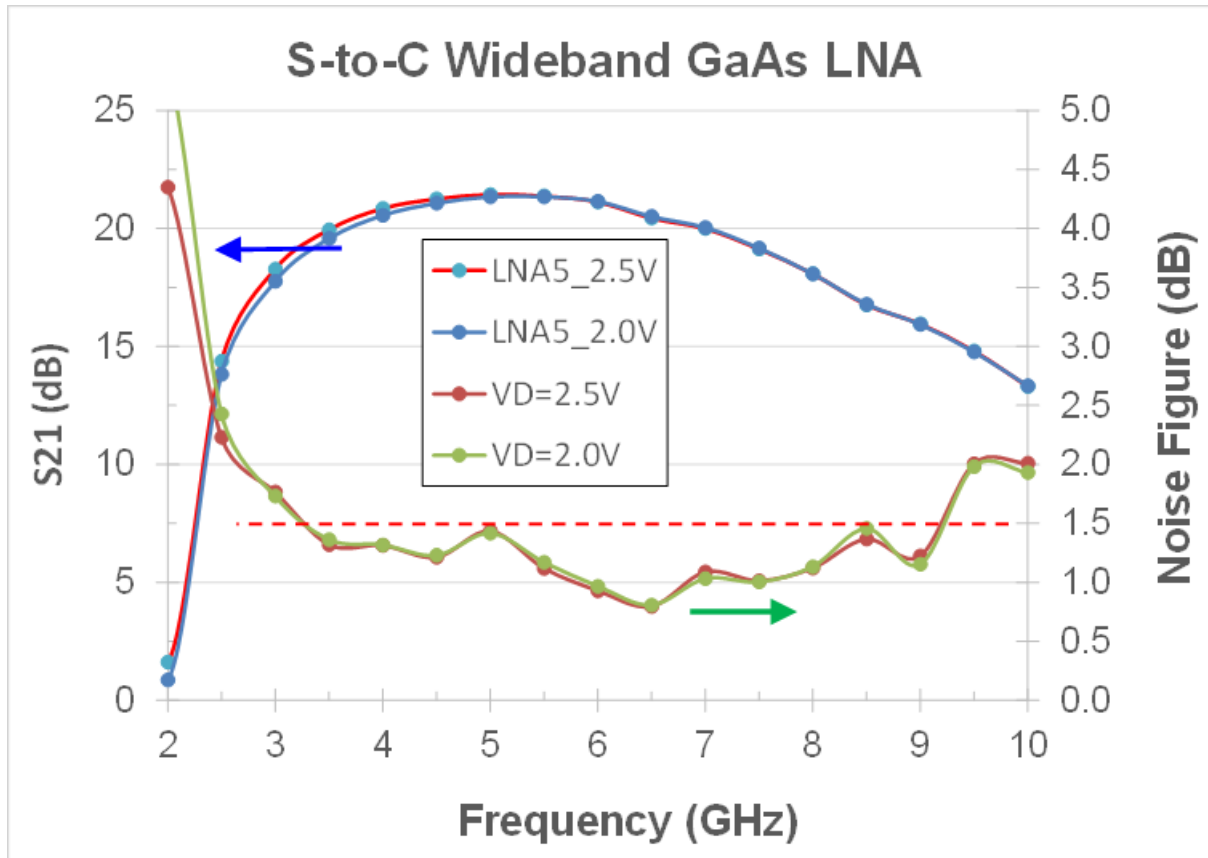


Pin	Symbol	Description	Pin	Symbol	Description
1	GND	Ground	10	GND	Ground
2	RFin	RF input	11	RFout	RF output
3	GND	Ground	12	GND	Ground
4	NC	No Connection	13	VDD2	VCC voltage
5	NC	No Connection	14	NC	No Connection
6	NC	No Connection	15	VDD1	VCC voltage
7	NC	No Connection	16	GND	Ground
8	NC	No Connection	17	GND	Ground Slug
9	NC	No Connection			

Typical Performance (Measured on EVB)

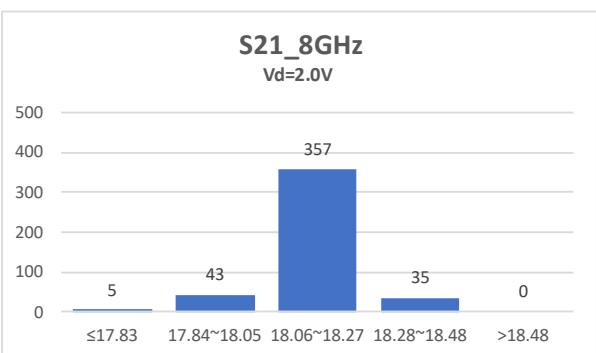
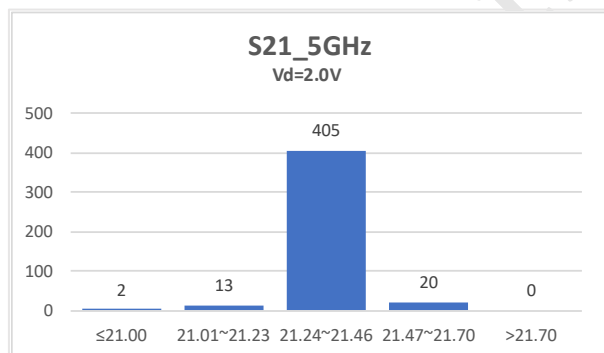
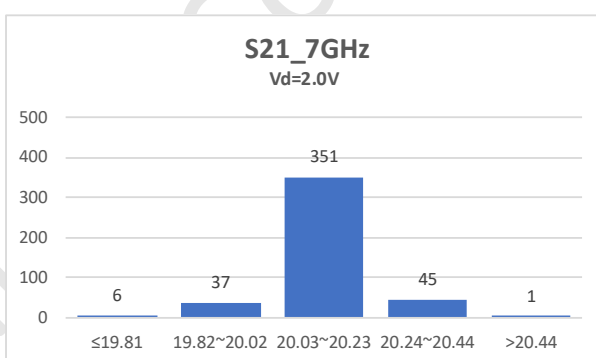
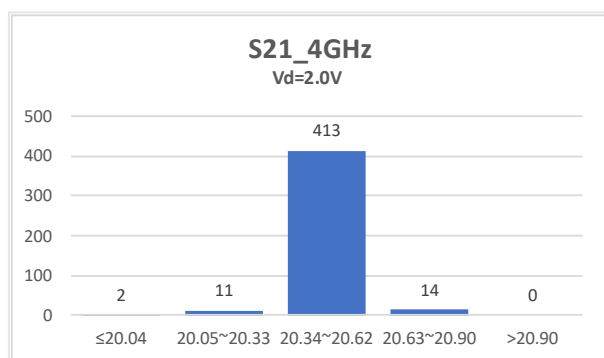
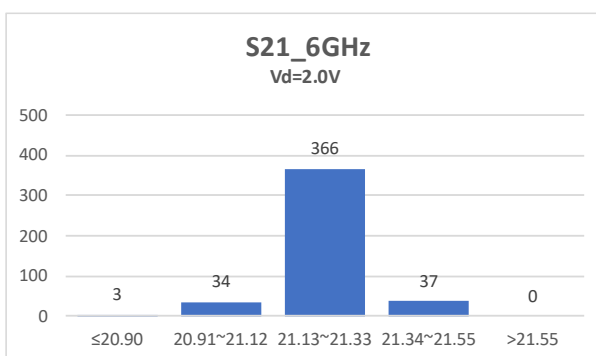
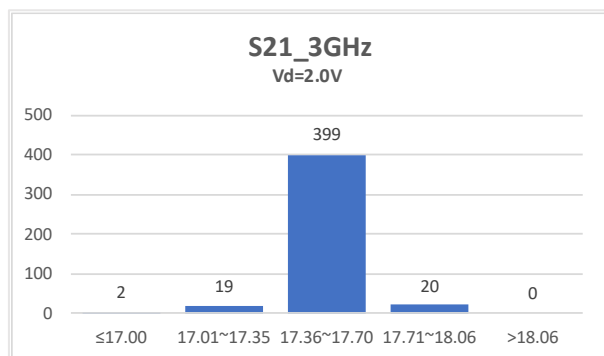




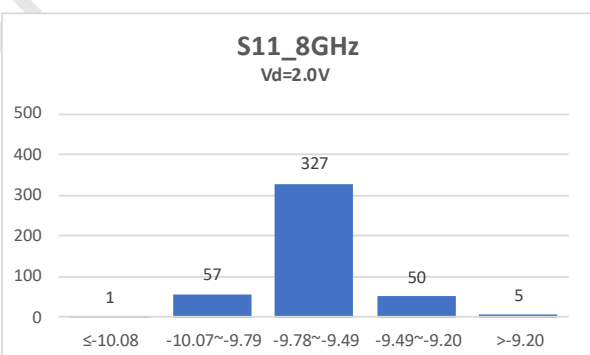
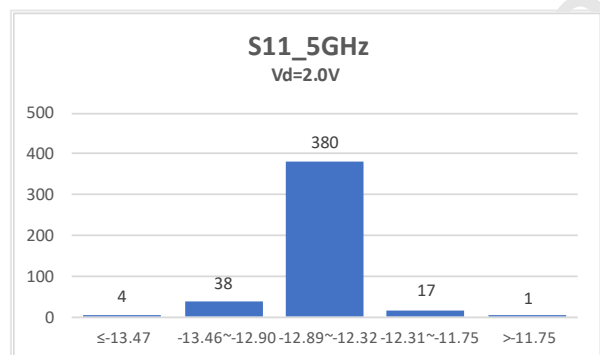
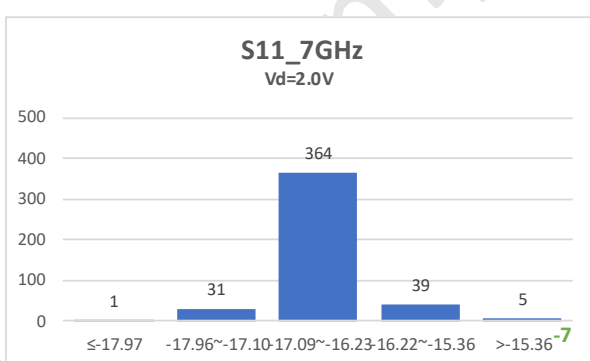
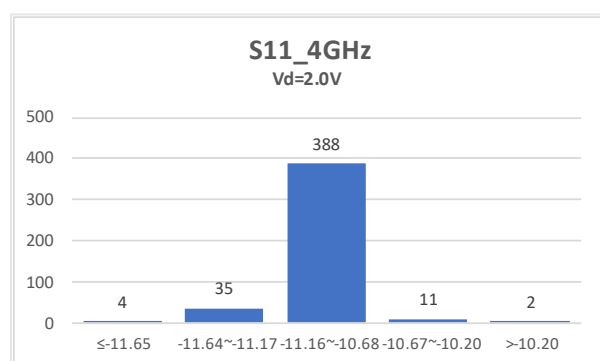
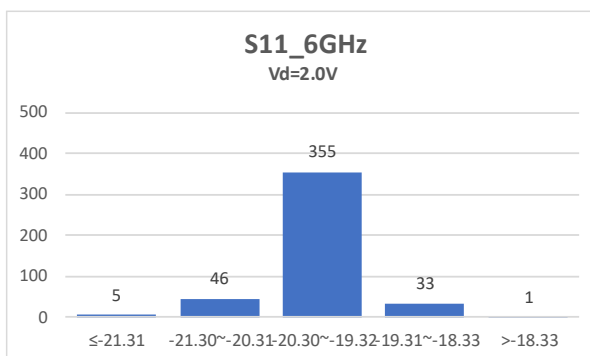
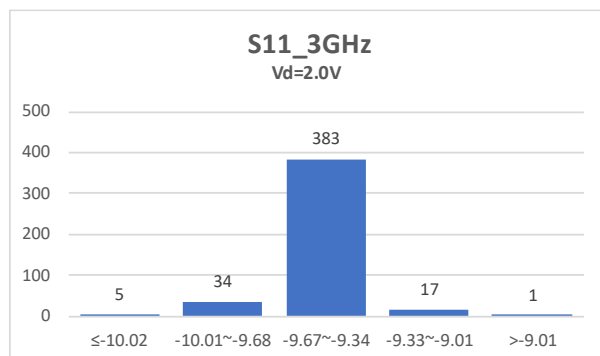


HISTOGRAM CHART

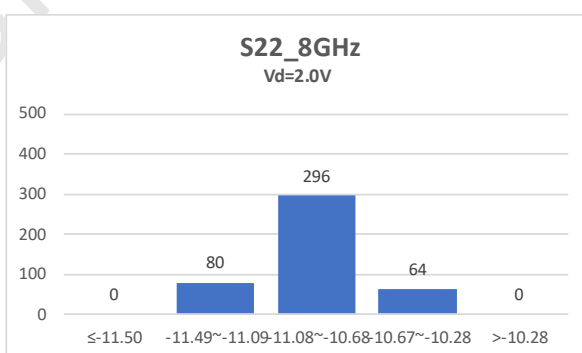
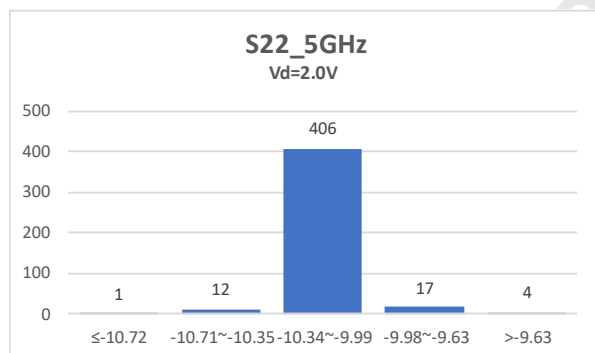
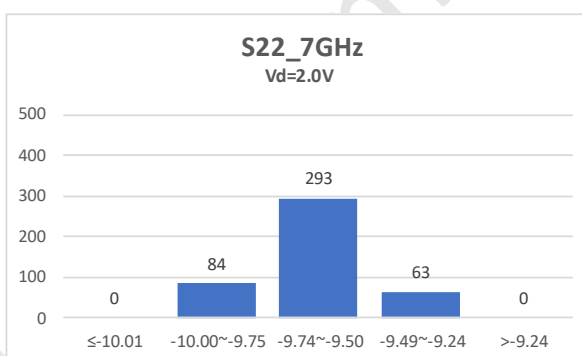
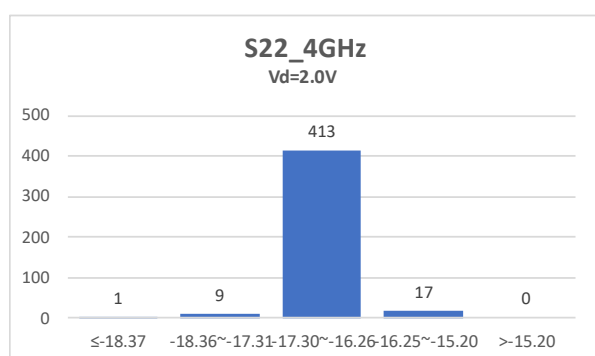
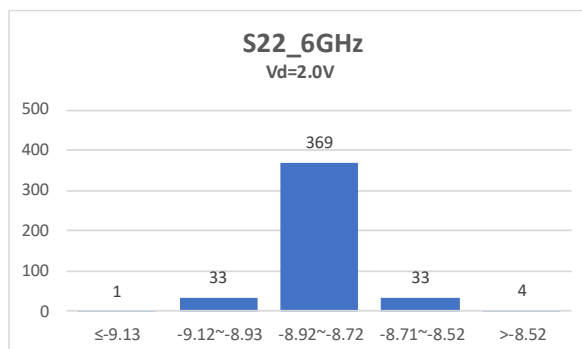
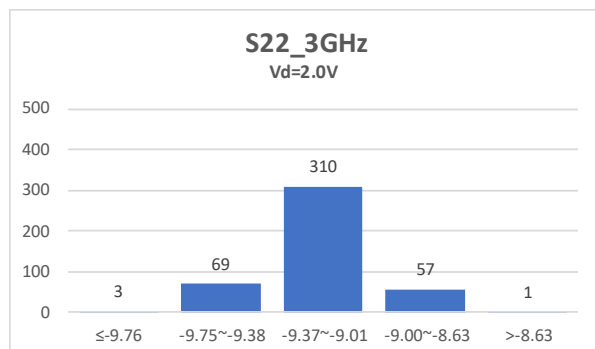
S21



S11



S22



Noise Figure

