

Syx-22-07 Test Report SU1532V 1000-2000MHz**SU1532V Class AB 800-2000MHz
JULY 11, 2022****Introduction**

This amplifier is designed with Innogrations 50V GaN transistor.

Demo and Transistor

Frequency band :800-2000MHz
Application : Multi Market
Configuration : Class AB
Test Signal : Pulse
Transistor : SU1532V
Date code :22217
PCB : 20mil Ro

The amplifier has been characterized under the following conditions:

- Network Analyzer plots for gain and IRL.
- P1dB and P3dB Peak power measurement using the CW

Note: The PA is tested with a supply voltage of $V_{DS}=50V, V_{GS}=-3.117V, I_{DQ}=300mA$ all measurements unless otherwise noted.

Syx-22-07 Test Report SU1532V 1000-2000MHz

Test Results:

1. Summary

@Bench 2(Chengdu)

(1)VDS=50V VGS=-3.117V IDQ=300mA

Signal mode:Pulse Period=1ms Pulse width=100us

Frequency: 800-2000MHz,Pout=Psat

SU1532V Vdd=50V Idq=300mA Pulse Period=1ms Pulse width=100us						
Freq(MHz)	Pin(dBm)	Pout(dBm)	Pout(W)	IDS(A)	Gain(dB)	Eff(%)
800	41.8	54.66	292.4	0.8	12.86	73.10
900	44.6	54.60	288.4	0.91	10	63.39
1000	44.7	54.96	312.0	1	10.26	62.40
1100	44.7	55.05	315.0	1	10.35	63.00
1200	44.6	55.10	322.0	0.97	10.5	66.39
1300	42.8	55.10	322.0	0.95	12.3	67.79
1400	43.3	55.05	315.0	0.98	11.75	64.29
1500	44.4	55.13	324.0	1	10.73	64.80
1600	45	55.08	321.0	1	10.08	64.20
1700	44.2	55.37	341.0	1.1	11.17	62.00
1800	44.8	55.16	323.0	1	10.36	64.60
1900	45	55.00	311.0	0.96	10	64.79
2000	44.7	54.94	310.0	0.93	10.24	66.67

2. Summary

@Bench 2(Chengdu)

(1)VDS=28V VGS=-3.1V IDQ=300mA

Signal mode:CW

Frequency: 800-2000MHz,Pout=Psat

SU1532V Vdd=28V Idq=300mA CW						
Freq(MHz)	Pin(dBm)	Pout(dBm)	Pout(W)	IDS(A)	Gain(dB)	Eff(%)
800	39.5	50.1	102.3	5.4	10.6	67.68
900	42.8	50.5	112.2	6.3	7.7	63.61
1000	43.3	50.98	125.3	7.1	7.68	63.04
1200	43.5	51.16	130.6	6.6	7.66	70.68
1500	42.9	50.5	112.2	6.67	7.6	60.08
1800	43.3	50.7	117.5	7.1	7.4	59.10
2000	43.5	50.2	104.7	6.4	6.7	58.43

Syx-22-07 Test Report SU1532V 1000-2000MHz

3. Summary

@Bench 2(Chengdu)

(1)VDS=32V VGS=-3.12V IDQ=300mA

Signal mode:CW

Frequency: 800-2000MHz,Pout=Psat

SU1532V Vdd=32V Idq=300mA CW						
Freq(MHz)	Pin(dBm)	Pout(dBm)	Pout(W)	IDS(A)	Gain(dB)	Eff(%)
800	39.5	51.1	128.8	5.87	11.6	68.58
900	42.8	51.4	138.0	6.9	8.6	62.52
1000	43.3	51.7	147.9	7.3	8.4	63.32
1200	43.5	52	158.5	7.18	8.5	68.98
1500	42.9	51.3	134.9	7.1	8.4	59.37
1800	43.3	51.6	144.5	7.7	8.3	58.66
2000	43.5	51.3	134.9	7	7.8	60.22

4. Summary

@Bench 2(Chengdu)

(1)VDS=36V VGS=-3.13V IDQ=300mA

Signal mode:CW

Frequency: 800-2000MHz,Pout=Psat

SU1532V Vdd=36V Idq=300mA CW						
Freq(MHz)	Pin(dBm)	Pout(dBm)	Pout(W)	IDS(A)	Gain(dB)	Eff(%)
800	39.5	51.8	151.4	6.28	12.3	66.95
900	42.8	52.1	162.2	7.3	9.3	61.71
1000	43.3	52.5	177.8	8.1	9.2	60.98
1200	43.5	52.8	190.5	7.8	9.3	67.86
1500	42.9	52.2	166.0	7.7	9.3	59.87
1800	43.3	52.26	168.3	8.18	8.96	57.14
2000	43.5	52	158.5	7.5	8.5	58.70

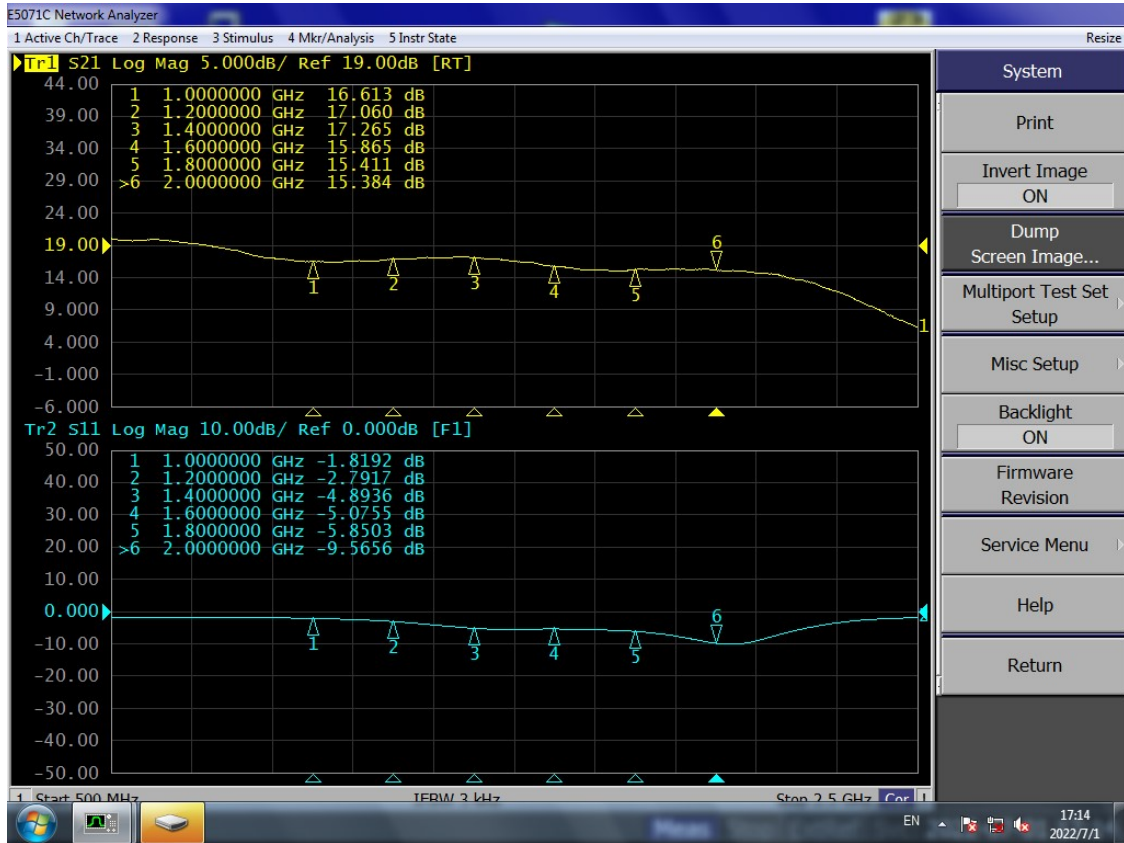
Syx-22-07 Test Report SU1532V 1000-2000MHz

Network Results

Test Condition:

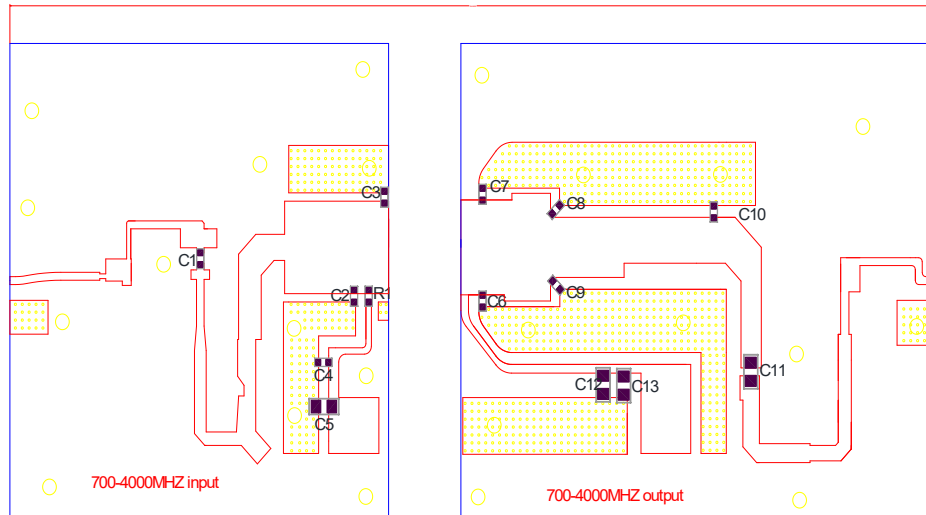
VDS=50V VGS=-3.07V IDQ=1000mA

Input Power = 0dBm



Syx-22-07 Test Report SU1532V 1000-2000MHz

5. BOM of Test Circuit



Component	Description	Suggested Manufacturer
C1, C4	56pF ATC 100A	
C12, C11	39pF ATC 800R	
C6, C7	2pF ATC 100B	
C2, C9, C8, C3	1pF ATC 100B	
C5, C13	10UF 1210	
C10	0.5pF ATC 100B	
R1	33Ω 0603	
PCB	20mil Rogers4350B	

6. Demo Picture

