

STCH15075GX Class AB 120~1200MHz

May 13, 2026

Introduction

This amplifier is designed with Innogrations 28V GaN transistor.

Demo and Transistor

Frequency band :	120~1200MHz
Application :	Multi Market
Configuration :	Class AB
Test Signal :	CW/Pulse
Transistor :	STCH15075GX
Date code :	260223;
PCB :	F4BTMS1000 ,r=10.2 ,30 mil

The amplifier has been characterized under the following conditions:

- Network Analyzer plots for gain and IRL.
- The output power measurement using CW

Note: The PA is tested with a supply voltage of $V_{ds} = 28V$, $V_{gs} = -3.26V$, $I_{dq} = 100mA$ all measurements unless otherwise noted.

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STCH150756X

Test Results

1. Summary @ Bench (Chengdu)

(1) Test Condition

$V_{gs} = 3.26\text{ V}$, $V_{ds} = 28\text{ V}$, $I_{dq} = 100\text{ mA}$

Signal mode : CW, Frequency : 100-1200MHz

Freq(MHz)	Pin(dBm)	Pout(dBm)	Pout(W)	IDS(A)	Gain(dB)	Eff(%)	2th	3rd
100	31.87	45.77	37.76	2.32	13.9	58.12	-6.60	-11.00
120	33.87	48.01	63.24	3.6	14.14	62.74	-6.20	-11.60
150	32.87	48.69	73.96	4.45	15.82	59.36	-7.60	-10.40
200	32.21	49.86	96.83	5	17.65	69.16	-12.80	-12.70
300	31.88	47.98	62.81	3.08	16.1	72.83	-20.60	-12.50
400	32.52	49.65	92.26	4.48	17.13	73.55	-11.30	-12.00
500	32.24	48.07	64.12	3.07	15.83	74.59	-13.70	-12.10
600	33.2	47.73	59.29	3.53	14.53	59.99	-24.30	-15.60
700	33.3	47.57	57.15	3.36	14.27	60.74	-10.60	-16.80
800	32.66	47.84	60.81	3.28	15.18	66.22	-11.50	-18.40
900	32.42	49.02	79.80	4.64	16.6	61.42	-15.80	-18.90
1000	32.7	48.73	74.64	4.1	16.03	65.02	-17.80	-18.50
1100	32.39	48.12	64.86	3.95	15.73	58.65	-17.00	-15.90
1200	33.25	47.21	52.60	2.81	13.96	66.86	-17.10	-16.60

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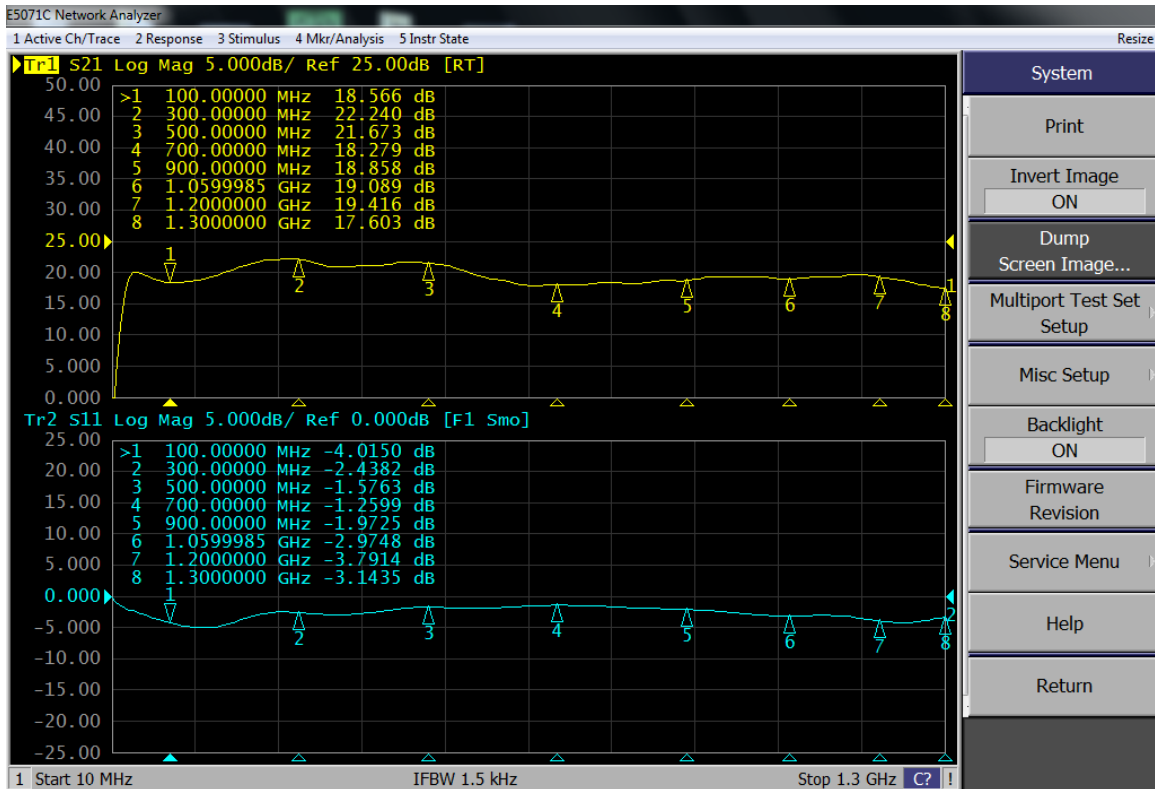
STCH15075GX

2. Network Results

Test Condition

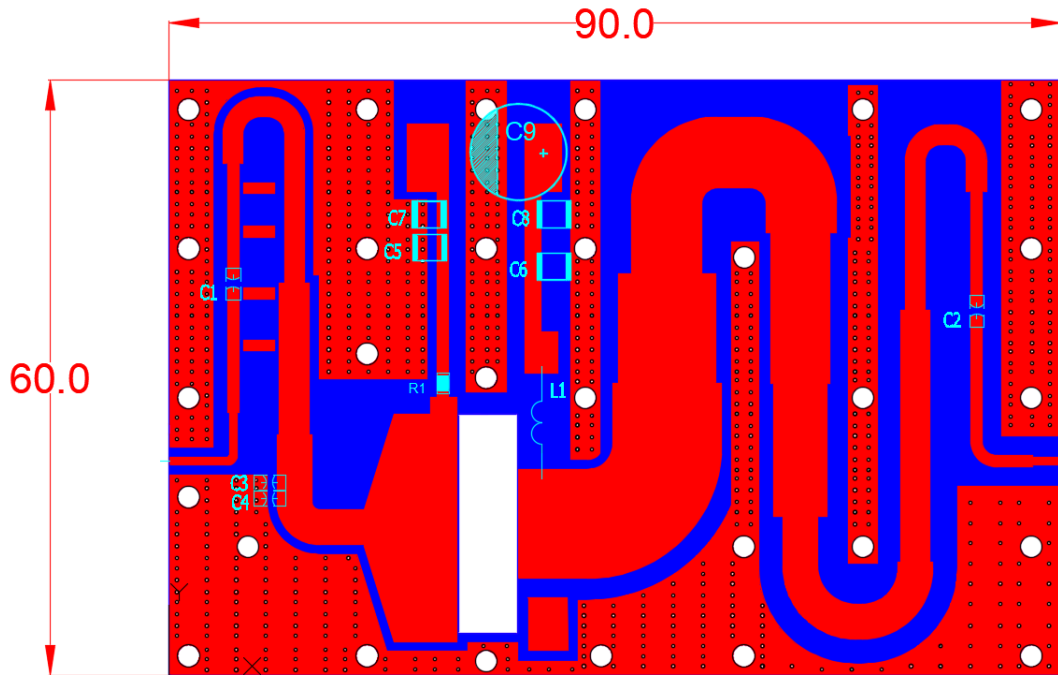
$V_{gs} = -3.1V$, $V_{ds} = 28V$, $I_{dq} = 200mA$

input power = 0 dBm



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BOM of Test Circuit

STCH15075GX



Component	Description	Suggested Manufacturer
C9	470uF/63V	-
C7,C8	10uF (1210)	-
C5,C6	10nF (1210)	-
C1,C2	100pF(MQ300805)	BEIJING YUANLU HONGYUAN ELECTRONIC TECHNOLOGY CO., LTD
C3, C4	2pF(MQ300805)	BEIJING YUANLU HONGYUAN ELECTRONIC TECHNOLOGY CO., LTD
L1	1mm, 8,turns, diameter :5mm	-
R1	Chip Resistor,10Ω (1206)	-
PCB	F4BTMS1000,r=10.2,30mil	-

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Demo Picture

