

Product Features

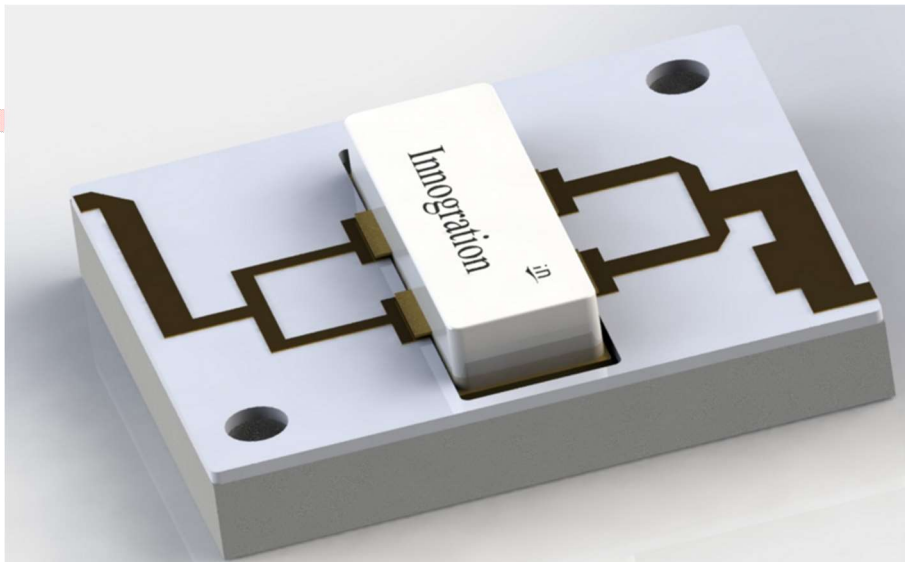
6.9-7.4GHz(C band)
50W(min) pulse CW
45% Drain Efficiency@28V
50ohm in and out, 20*24mm, screw down
CW or pulsed CW linear or saturated use

Applications

5G Power amplifier
C band Satcom
ISM

Description

The GMPA6975-50H is designed for 5G or satcom, test and measurement and other ISM applications at 6900-7500MHz. This Amplifier pallet is suitable for use in linear and saturated applications. Featured by its tiny size 20*24mm, and 50ohm fully matched at input and output, drop-in placement by screwing it down and 100% RF test, it enables easier power combination to reach higher power with high production yield as part of customer's power amplifier system.





Electrical Specifications @VCC=28V, T=25°C, 50Ωsystem

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Operating Frequency	MHz	6900	-	7500	fo
Operating Bandwidth	MHz	600		-	OBW
Pulse CW Output Power	W	50	60	-	Pout
Power Gain	dB		11	-	Gp
Gain Flatness	dB	-	-	±0.5	Gf
Input Return Loss	dB	-	-	-10	S11
Operating Voltage	V	-	28	36	VDS
Quiescent Current	mA	-	10	-	IdQ
Efficiency@Psat	%		45	-	Eff

Environmental Characteristics

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Operating Case Temperature	°C	0	-	60	Ta
Storage Temperature	°C	-40		100	Tstg
Relative humidity w/o condensation	%	-	-	95	RH

Mechanical Specifications

PARAMETER	UNIT	VALUE
Dimensions(L × W × H)	mm	20×24×4
Weight	g	50
RF Input Connector	-	N/A
RF Output Connector	-	N/A
Cooling	-	External Heat-sink



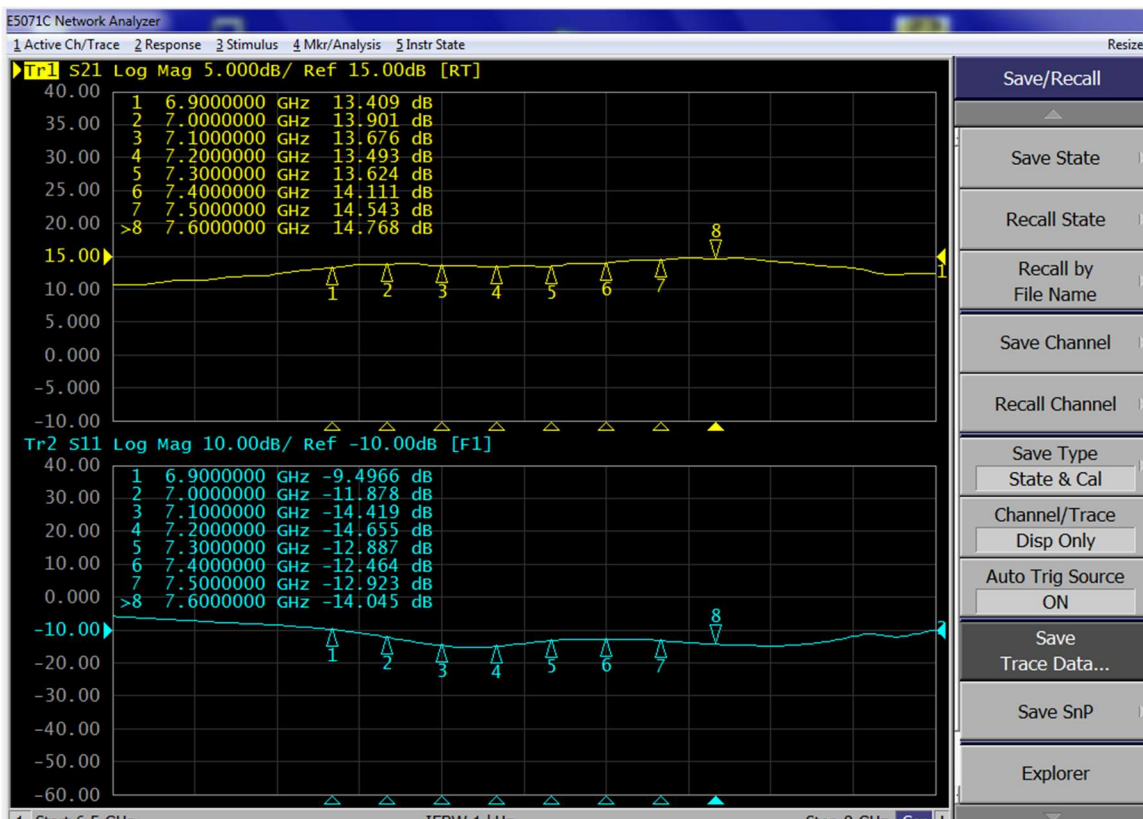
Typical performance

- Pulsed CW performance

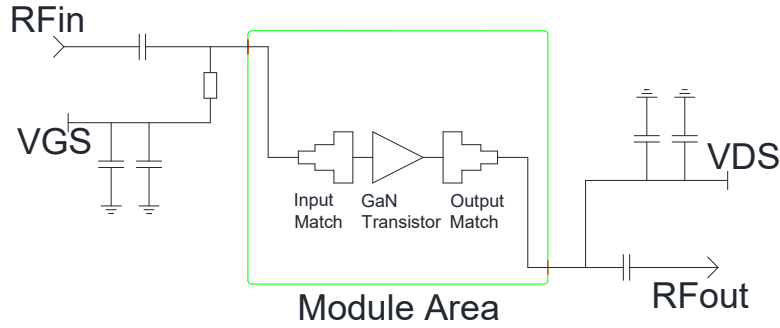
Test Condition: $V_{ds}=+28V$, $I_{DQ}=10mA$, $T=25^{\circ}C$, pulse width 100us, duty cycle 10%,

Freq(MHz)	Pin(dBm)	PoutdBm)	Pout(W)	IDS(A)	Gain(dB)	Eff(%)
6900	37.52	48.74	74.82	0.572	11.22	46.71
7000	37.09	48.42	69.50	0.535	11.33	46.40
7100	37.48	48.47	70.31	0.536	10.99	46.85
7200	37.55	48.59	72.28	0.57	11.04	45.29
7300	37.65	48.61	72.61	0.582	10.96	44.56
7400	37.51	48.1	64.57	0.52	10.59	44.34

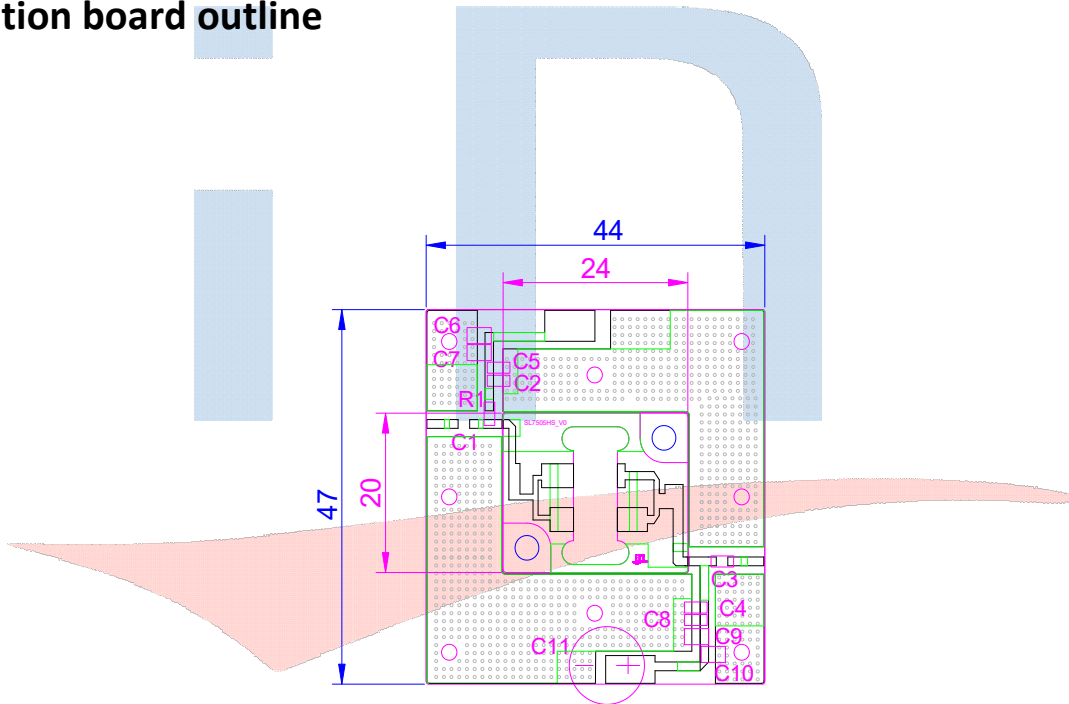
- S21/S11 from network analyzer $V_{DS}=28V$ $V_{GS}=-3.23V$ $I_{DQ}=200mA$



Evaluation board Block Diagram



Evaluation board outline



Component	Description	Suggested Manufacturer
C1, C2, C3, C4	2pF	DLC75D
C5, C8	100pF	DLC75D
C6, C7, C9, C10	Ceramic multilayer capacitor, 10uF, 100V	10uF/100V
C11	470UF	63V/470UF
R1	Chip Resistor, 11 Ω, .0603	
PCB	3.508mm 1/0oz TACONIC RF-35TC-0200-A-CL1/C3mm	



Revision History

Document revision history

Date	Revision	Datasheet Status
2020/12/30	Rev 1.0	Preliminary Datasheet
2021/3/30	Rev 1.1	Modify some typo

Application data based on YHG-20-30 (NL7505HS)



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