Product Features

HF-1000MHz

30W CW @28V, 40W CW@32V

>40% Drain Efficiency@28V

>13dB power gain

50ohm in and out, 30*90mm, screw down

Linear or saturated use

Device used：XU6009H

Applications

HF/VHF/UHF Power amplifier

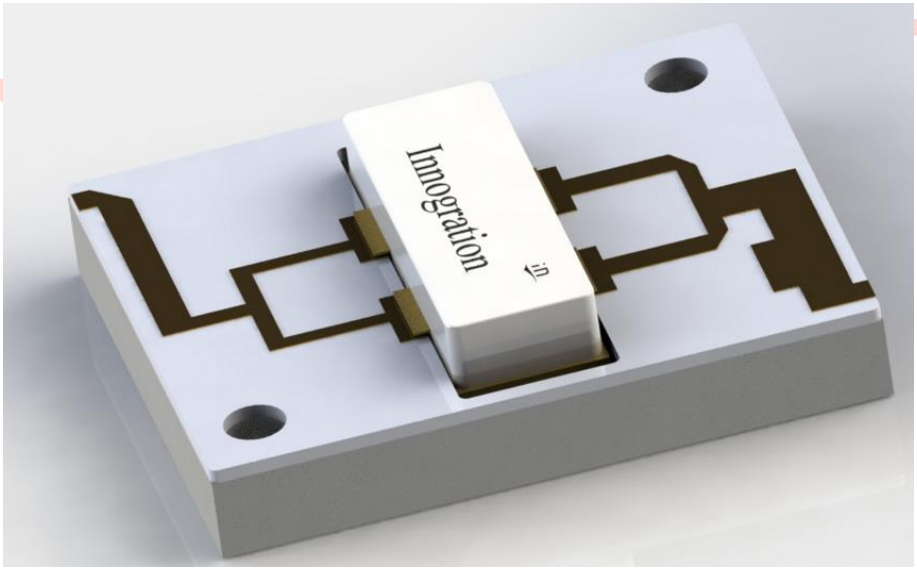
UAV Jammer

ISM

Land Mobile

Description

The XMPA0010-30H is designed for HF/VHF/UHF comm, test and measurement and other ISM applications at 10-1000MHz. This Amplifier pallet is suitable for use in linear and saturated applications. Featured by its tiny size 80*20mm, 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 @Vds=28V, T=25℃, 50Ωsystem

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Operating Frequency	MHz	10	-	1000	fo
Operating Bandwidth	MHz		1000	-	OBW
CW Output Power	W	30	40	-	Pout
Power Gain	dB	13		-	G_P
Gain Flatness	dB	-	±2	-	G_F
Input Return Loss	dB	-	-	-10	S_{11}
Operating Voltage	V	-	28	36	V_{DS}
Quiescent Current	mA	-	250	-	I_{DQ}
Efficiency@Psat	%	40		-	Eff

Environmental Characteristics

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Operating Case Temperature	℃	-20	-	85	Ta
Storage Temperature	℃	-40		100	Tstg
Relative humidity w/o condensation	%	-	-	95	RH

Mechanical Specifications

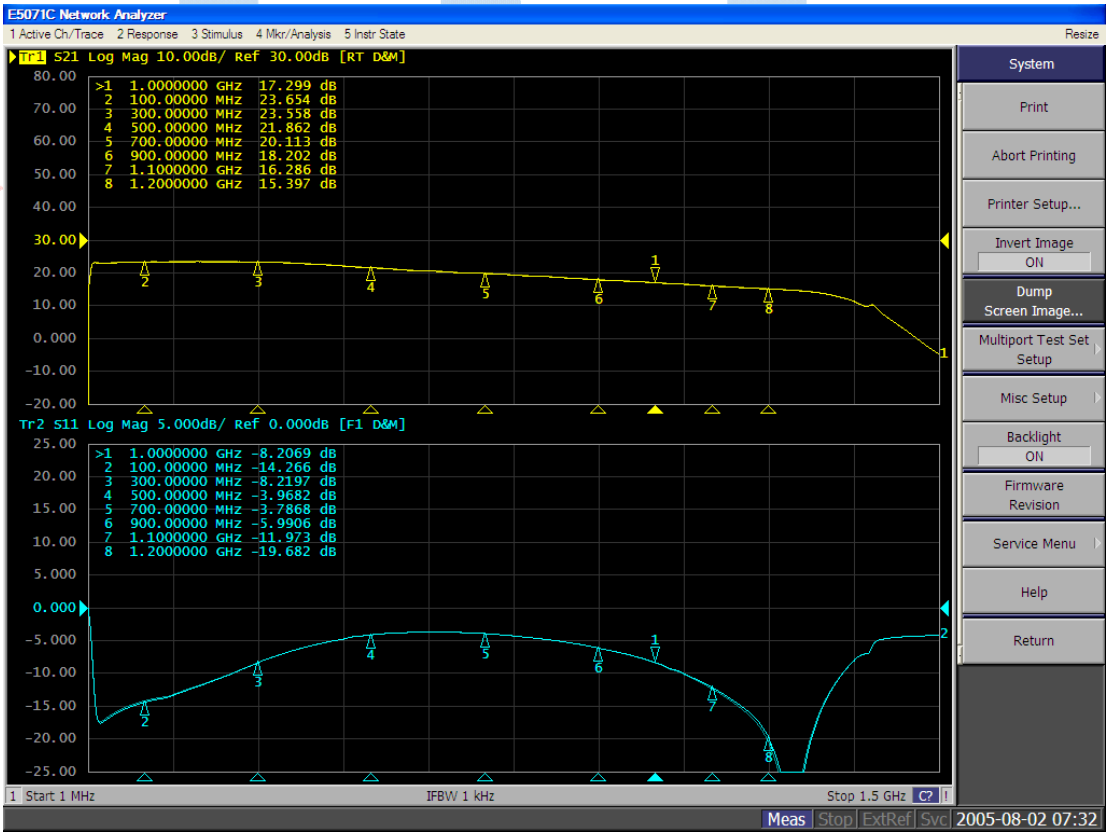
PARAMETER	UNIT	VALUE
Dimensions(L × W)	mm	90*30
Weight	g	TBD
RF Input Connector	-	N/A
RF Output Connector	-	N/A
Cooling	-	External Heat-sink

Typical performance

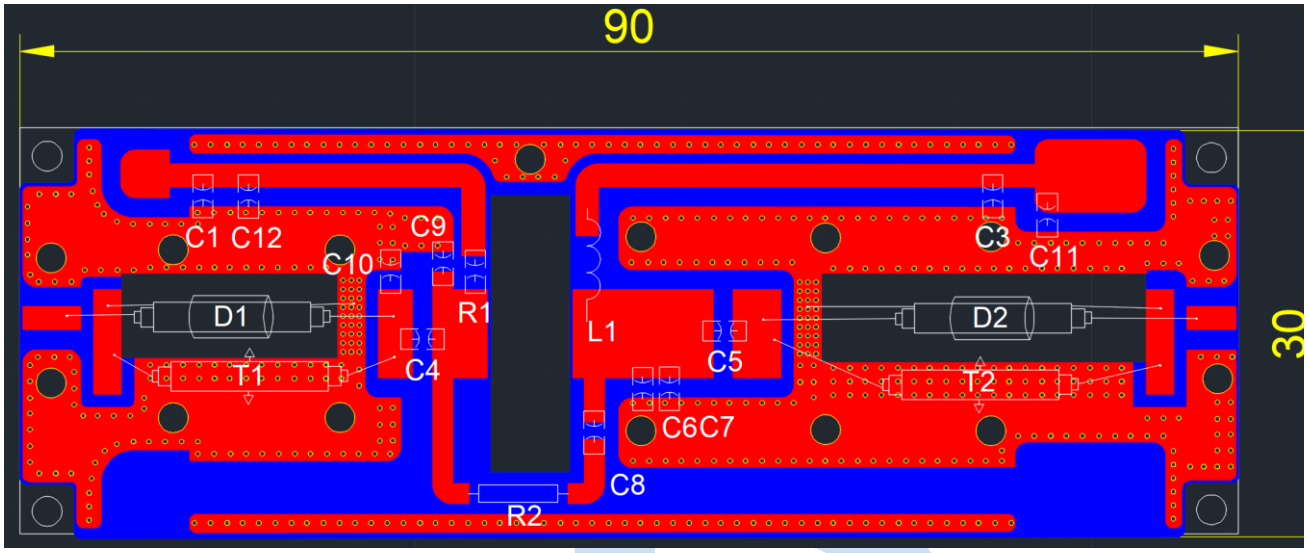
- CW performance: Vds=+28V, IDQ=250mA, T=25℃

F (MHz)	Pin (dBm)	Pout (dBm)	Pout (W)	I (A)	Gain (dB)	Eff (%)	2nd	3rd
7	25.8	45.90	39	3.90	20.1	35.6	-8.00	-11.00
10	**25.9**	**46.10**	**41**	**3.28**	**20.2**	**44.4**	**-8.10**	**-11.00**
20	**25.9**	**45.80**	**38**	**2.45**	**19.9**	**55.4**	**-10.60**	**-12.30**
30	**25.9**	**46.09**	**41**	**2.43**	**20.2**	**59.7**	**-13.30**	**-11.50**
50	**25.9**	**45.93**	**39**	**2.20**	**20.0**	**63.6**	**-14.00**	**-11.60**
100	**25.5**	**46.24**	**42**	**2.20**	**20.7**	**68.3**	**-20.30**	**-11.50**
200	**26.9**	**46.70**	**47**	**2.57**	**19.8**	**65.0**	**-30.80**	**-11.50**
300	**27.8**	**46.76**	**47**	**2.71**	**19.0**	**62.5**	**-23.30**	**-13.00**
400	**28.1**	**47.41**	**55**	**3.30**	**19.3**	**59.6**	**-22.30**	**-17.50**
500	**29.2**	**46.78**	**48**	**3.00**	**17.6**	**56.7**	**-18.70**	**-20.10**
600	**30.0**	**46.49**	**45**	**2.60**	**16.5**	**61.2**	**-15.30**	**-46.30**
700	**32.1**	**46.86**	**49**	**3.60**	**14.8**	**48.1**	**-12.50**	**-34.60**
800	**32.3**	**47.05**	**51**	**3.07**	**14.8**	**59.0**	**-28.00**	**-36.00**
900	**32.5**	**46.74**	**47**	**2.96**	**14.2**	**57.0**	**-45.00**	**-40.00**
1000	**32.6**	**46.30**	**43**	**3.46**	**13.7**	**44.0**	**-42.30**	**-35.00**
1100	32.0	45.96	39	4.40	14.0	32.0	-35.00	-31.00

- **S21/S11 from network analyzer VDS=28V IDQ=250mA**



Pallet outline



C12,C3,C4,C5	10nF/1210	/
C1,C11	10uF/1210	/
C6,C7	5.6pF/MQ301111	
C8	1000pF/MQ301111	
C9,C10	6.2pF/MQ301111	
R1	200Ω/1206	/
R2	300Ω/0.25W	/
D1	25 Ohm,24mm/FB-61-2501	RFSFBU-086-25
D2	16.7Ohm,31mm/FB-61-2501	SFF-16.7-1.5
T1	25 Ohm,22mm	RFSFBU-086-25
T2	25 Ohm,29mm	SFF-16.7-1.5
L1	1mm wire,6turns,φ=7mm	DIY inductor

Revision History

Document revision history

Date	Revision	Datasheet Status
2026/3/13	Rev 1.0	Preliminary Datasheet

Application data based on SYX-26-17

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