

SMDV2731-500H2C*2:2700-3100MHz**July 15, 2026****Introduction**

This amplifier is designed with 50V GaN.

Demo and Transistor

Frequency band: 2700-3100 MHz,

Application: Telecom

Configuration: ClassAB

Test Signal: Pulse

Transistor: SMDV2731-500H2C*2

Date code: 262807S

Package: H2C*2

PCB: 30 Mil Rogers 4350 (44*40MM)

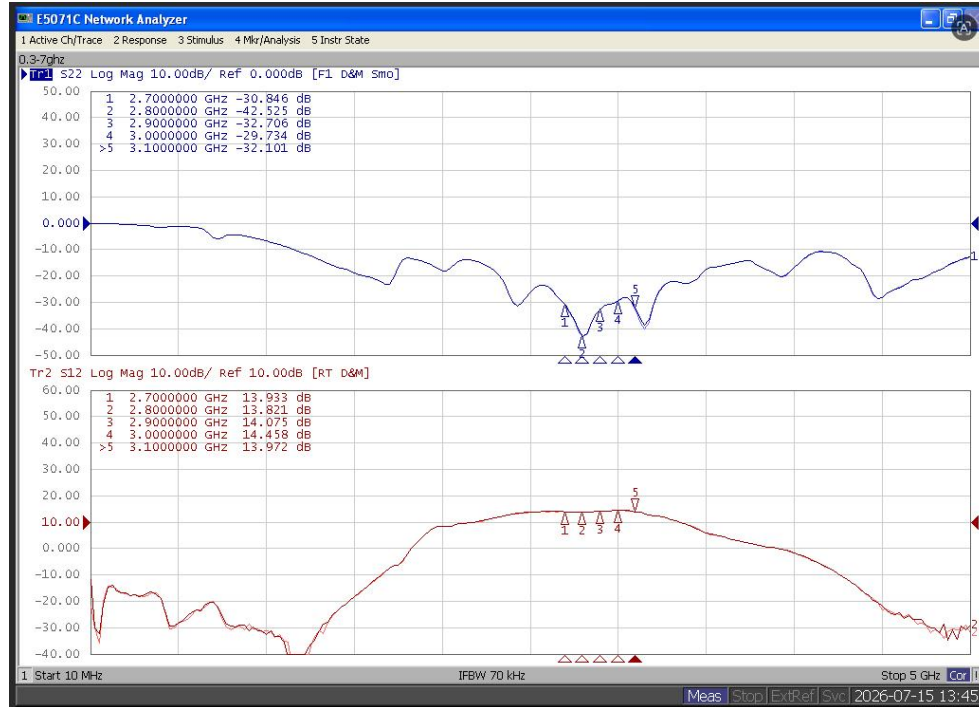
The amplifier has been characterized under the following conditions:

- Network Analyzer plots for gain and IRL.
- P1dB and P3.5dB Peak power measurement using the Pulse, 20 us width, 5% duty cycle.
- RF Test Bench1

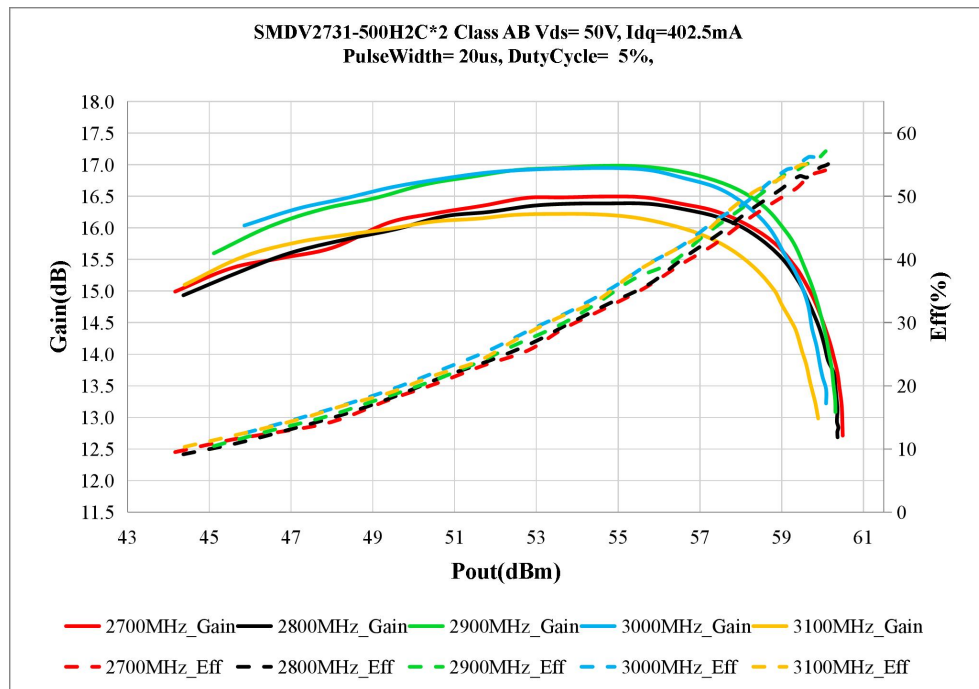
Note: all measurements unless otherwise noted.

1 Network Analyzer Results:

V_{ds}=50V V_{g1}=- 3.45V ,V_{g2}=-3.45V Id_q=1A



2 Pulse Test(V_{ds}=50V)



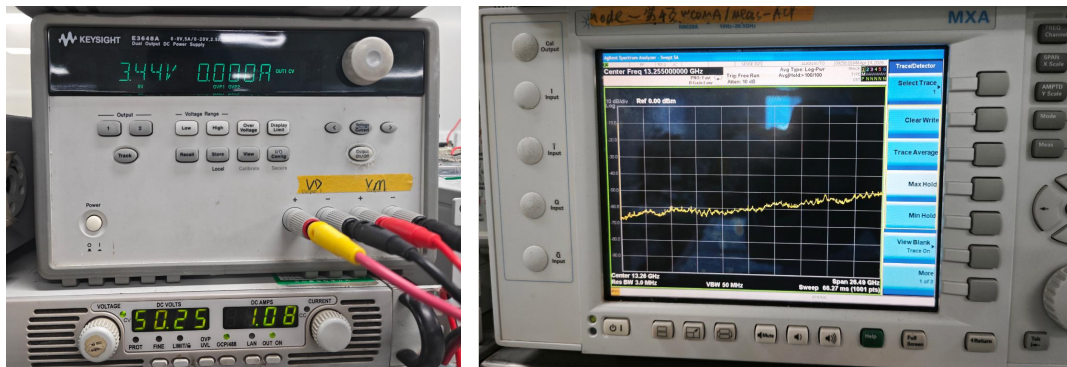
Gain&Eff vs. Output Power

VDS= 50V, Vgs1= -3.54V, Idq1=200mA, Vgs2= -3.54V, Idq2=200mA							
Freq (MHz)	P1dB (dBm)	P1dB (W)	P1dB Eff (%)	P1dB Gain (dB)	P3.5dB (dBm)	P3.5dB (W)	P3.5dB Eff (%)
2700	59.16	824.6	50.5	15.51	60.48	1116.7	55.8
2800	59.13	818.5	51.8	15.4	60.37	1087.7	56.3
2900	59.03	799.6	53.2	16	60.27	1064.1	57.4
3000	58.72	745.3	52.3	15.96	60.08	1018.6	57.3
3100	58.51	709.9	51.3	15.24	59.89	975.1	55.9

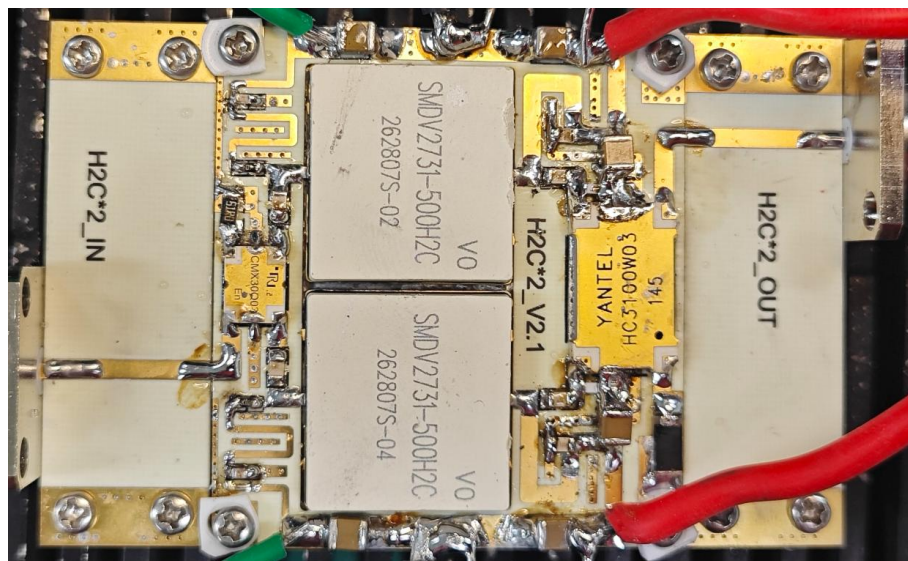
3 Spectrum Analyzer To Show No Oscillation Or Instability Issue

Note:

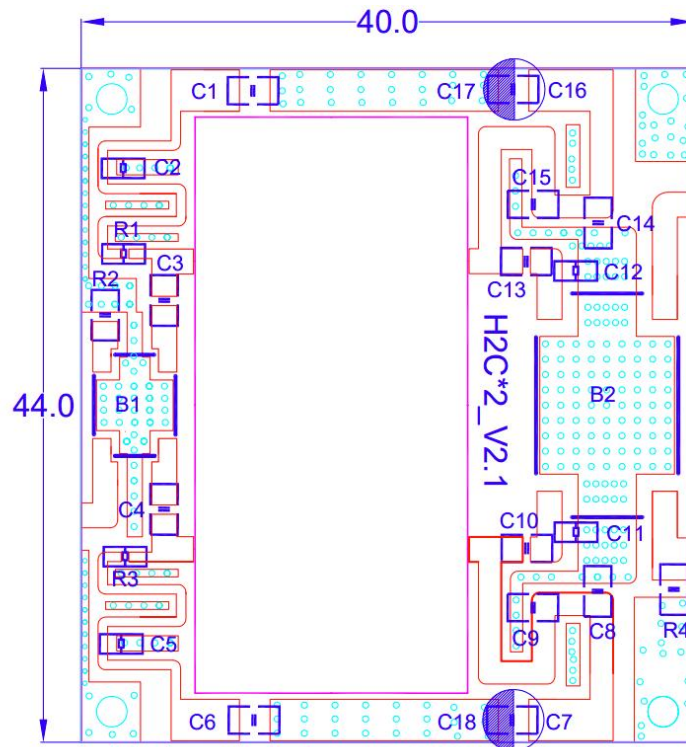
- The SMDV2731-500H2C*2 is tested with a supply voltage of $V_{ds}=50V$, $I_{dq}=1A$



4 Demo Appearance



5 BOM



Component	Value	Footprint
C1, C6, C7, C8, C14, C16	10UF/100V	1210
C2, C5	12PF/250V	0603
C3, C4, C9, C10, C13, C15	12PF/250V	0805
C11, C12	0.3PF/250V	0603
C17, C18	4700UF/63V	
R1, R3	10 Ω	0603
R2	50 Ω	0805
R4	RFR50N-20CT0410B	YuLongTong
B1	CMX30Q03	Rn2
B2	HC3100W03	Yantel
U1, U2	SMDV2731-500H2C	INS