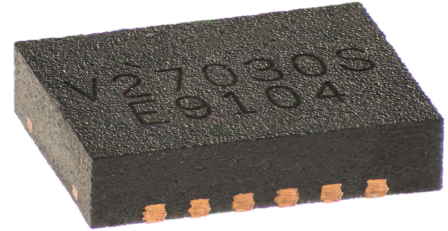


CGHV27030S

30 W, DC - 6.0 GHz, GaN HEMT

Description

The CGHV27030S is an unmatched, gallium nitride (GaN) high electron mobility transistor (HEMT) which offers high efficiency, high gain and wide bandwidth capabilities. The CGHV27030S GaN HEMT devices are ideal for telecommunications applications with frequencies of 700-960 MHz, 1200-1400 MHz, 1800-2200 MHz, 2500-2700 MHz, and 3300-3700 MHz at both 50 V and 28 V operations. The CGHV27030S is also ideal for tactical communications applications operating from 20-2500 MHz, including land mobile radios. Additional applications include L-Band RADAR and S-Band RADAR. The CGHV27030S can operate with either a 50 V or 28 V rail. The transistor is available in a 3mm x 4mm, surface mount, dual-flat-no-lead (DFN) package.



Package Type: 3x4 DFN
PN: CGHV27030S

Typical Performance 2.5-2.7 GHz ($T_c = 25^\circ\text{C}$), 50 V

Parameter	2.5 GHz	2.6 GHz	2.7 GHz	Units
Small Signal Gain	22.5	22.0	21.4	dB
Adjacent Channel Power @ $P_{AVE} = 5\text{ W}$	-34.5	-35.0	-34.0	dBc
Drain Efficiency @ $P_{AVE} = 5\text{ W}$	28.5	29.5	30.0	%
Input Return Loss	8.5	14	14	dB

Note: Measured in the CGHV27030S-AMP1 application circuit, under 7.5 dB PAR single carrier WCDMA signal test model 1 with 64 DPCCH

Features for 50 V in CGHV27030S-AMP1

- 2.5 - 2.7 GHz Operation
- 30 W Typical Output Power
- 20 dB Gain at 5 W P_{AVE}
- -34 dBc ACLR at 5 W P_{AVE}
- 30% efficiency at 5 W P_{AVE}
- High degree of APD and DPD correction can be applied

Listing of Available Hardware Application Circuits / Demonstration Circuits

Application Circuit	Operating Frequency	Amplifier Class	Operating Voltage
CGHV27030S-AMP1	2.5 - 2.7 GHz	Class A/B	50 V
CGHV27030S-AMP2			28 V
CGHV27030S-AMP3	1.8 - 2.2 GHz		
CGHV27030S-AMP4			50 V
CGHV27030S-AMP5	1.2 - 1.4 GHz		



Large Signal Models Available for ADS and MWO



Absolute Maximum Ratings (not simultaneous) at 25°C Case Temperature

Parameter	Symbol	Rating	Units	Conditions
Drain-Source Voltage	V_{DSS}	150	V	25°C
Gate-to-Source Voltage	V_{GS}	-10, +2		
Storage Temperature	T_{STG}	-65, +150	°C	
Operating Junction Temperature	T_J	225		
Maximum Forward Gate Current	I_{GMAX}	4	mA	25°C
Maximum Drain Current ¹	I_{DMAX}	1.5	A	
Soldering Temperature ²	T_S	245	°C	
Case Operating Temperature ³	T_C	-40, +150		
Thermal Resistance, Junction to Case ⁴	$R_{\theta JC}$	6.18	°C/W	85°C

Notes:

¹ Current limit for long term, reliable operation² Refer to the Application Note on soldering³ T_C = Case temperature for the device. It refers to the temperature at the ground tab underneath the package. The PCB will add additional thermal resistance⁴ Measured for the CGHV27030S at $P_{DSS} = 12$ WThe $R_{\theta TH}$ for the demonstration amplifier, CGHV27030S-AMP1, with 33 x 0.011 via holes designed on a 20 mil thick Rogers 4350 PCB, is 3.9°C. The total $R_{\theta TH}$ from the heat sink to the junction is 6.18°C + 3.9°C = 10.08°C/W

Electrical Characteristics ($T_C = 25^\circ\text{C}$)

Characteristics	Symbol	Min.	Typ.	Max.	Units	Conditions
DC Characteristics¹						
Gate Threshold Voltage	$V_{GS(th)}$	-3.8	-3.0	-2.3	V_{DC}	$V_{DS} = 10$ V, $I_D = 4$ mA
Gate Quiescent Voltage	$V_{GS(Q)}$	—	-2.7	—		$V_{DS} = 50$ V, $I_D = 0.13$ A
Saturated Drain Current	I_{DS}	2.6	3.7	—	A	$V_{DS} = 6.0$ V, $V_{GS} = 2.0$ V
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	125	—	—	V_{DC}	$V_{GS} = -8$ V, $I_D = 4$ mA
RF Characteristics³ ($T_C = 25^\circ\text{C}$, $F_0 = 2.65$ GHz unless otherwise noted)						
Gain	G	20	23	—	dB	$V_{DD} = 50$ V, $I_{DQ} = 0.13$ A, $P_{IN} = 10$ dBm
Output Power ⁴	P_{OUT}	44.5	45	—	dBm	$V_{DD} = 50$ V, $I_{DQ} = 0.13$ A, $P_{IN} = 28$ dBm
Drain Efficiency ⁴	η	64	73	—	%	
Output Mismatch Stress ⁴	VSWR	—	10 : 1	—	Ψ	No damage at all phase angles, $V_{DD} = 50$ V, $I_{DQ} = 0.13$ A, $P_{IN} = 28$ dBm
Dynamic Characteristics						
Input Capacitance ⁵	C_{GS}	—	5.38	—	pF	$V_{DS} = 50$ V, $V_{GS} = -8$ V, $f = 1$ MHz
Output Capacitance ⁵	C_{DS}	—	1.18	—		
Feedback Capacitance	C_{GD}	—	0.12	—		

Notes:

¹ Measured on wafer prior to packaging² Scaled from PCM data³ Measured in the production test fixture. This fixture is designed for high volume test at 2.65 GHz⁴ Un-modulated Pulsed Signal 100 μ s, 10% duty cycle⁵ Includes package parasitics

Typical Performance in Application Circuit CGHV27030S-AMP1

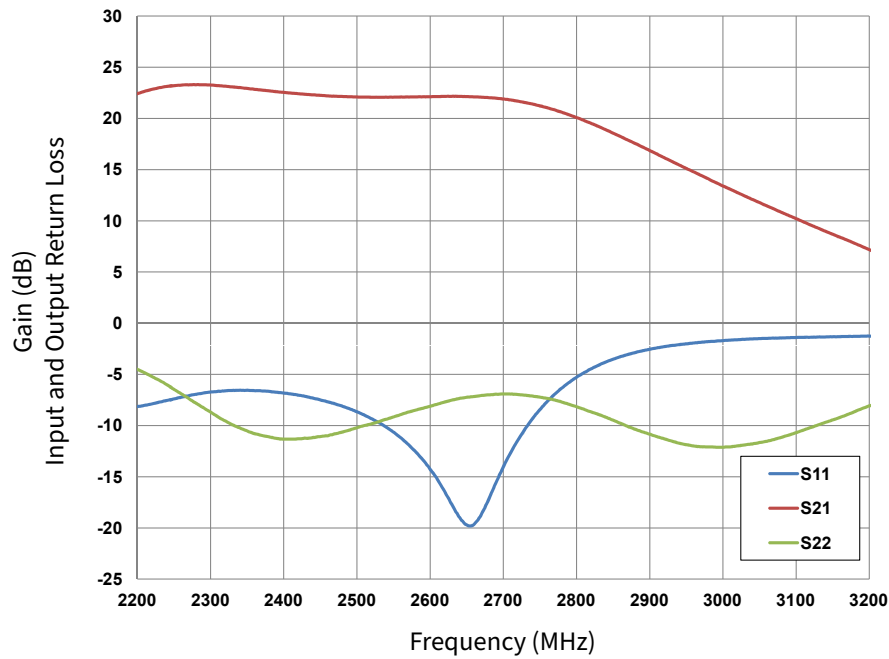


Figure 1. Small Signal Gain and Return Losses vs Frequency
 $V_{DD} = 50 \text{ V}$, $I_{DQ} = 0.13 \text{ A}$

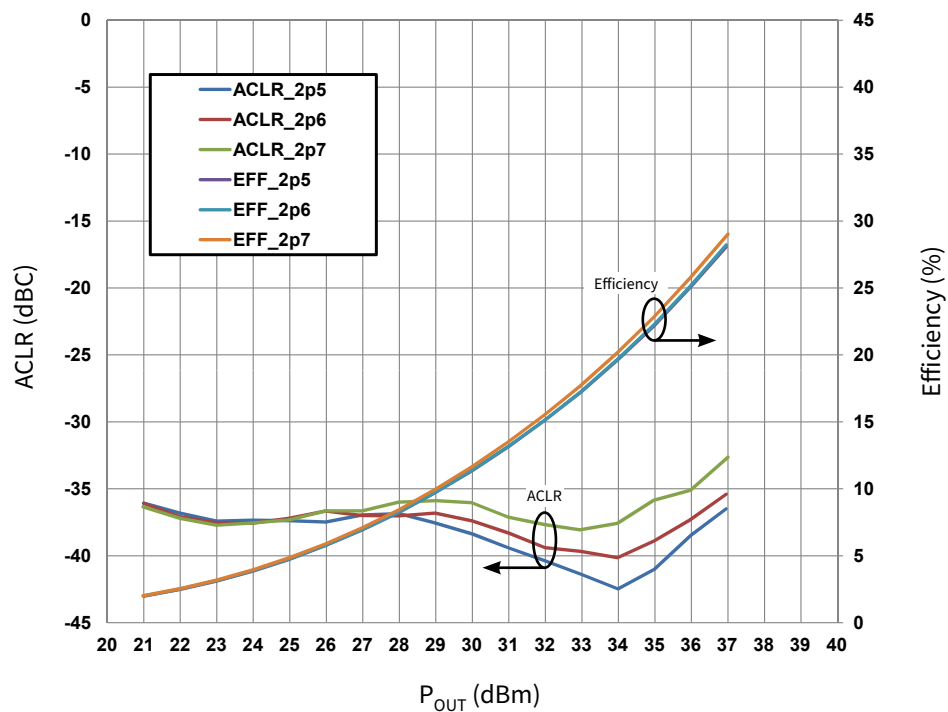


Figure 2. Typical Drain Efficiency and ACLR vs. Output Power
 $V_{DD} = 50 \text{ V}$, $I_{DQ} = 0.13 \text{ A}$, 1c WCDMA, PAR = 7.5 dB

Typical Performance in Application Circuit CGHV27030S-AMP1

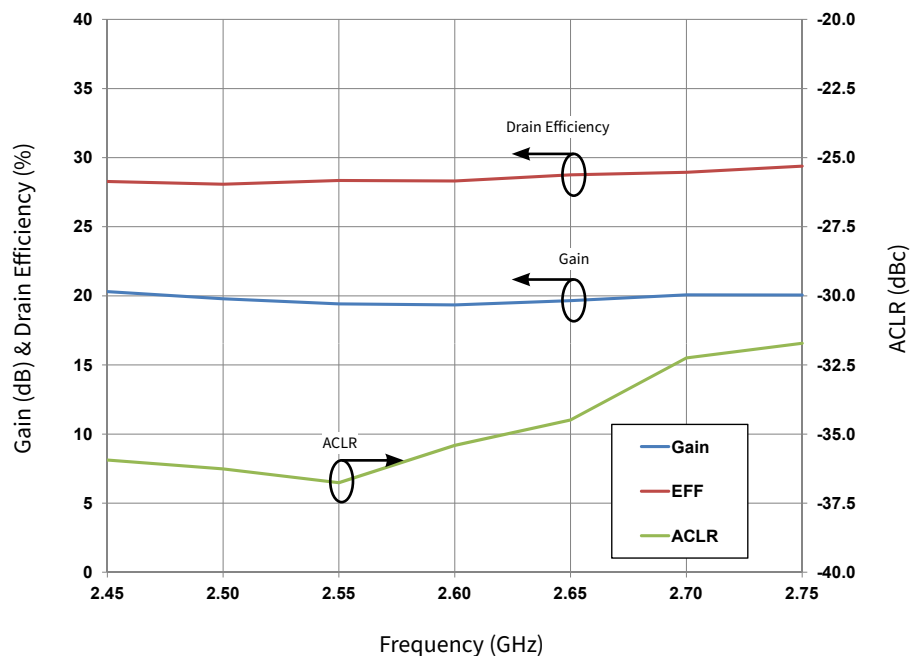
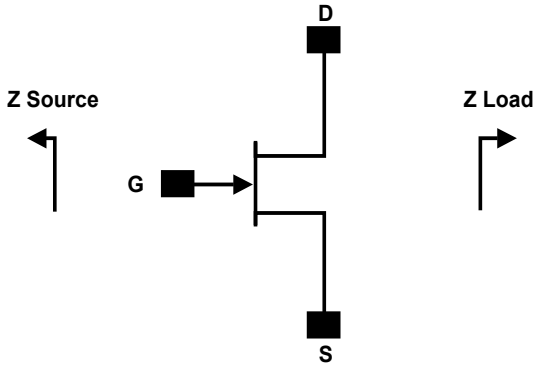


Figure 3. Typical Gain, Drain Efficiency and ACLR vs Frequency

$V_{DD} = 50\text{ V}$, $I_{DQ} = 0.13\text{ A}$, $P_{AVE} = 5\text{ W}$, 1c WCDMA, PAR = 7.5 dB

Source and Load Impedances for Application Circuit CGHV27030S-AMP1



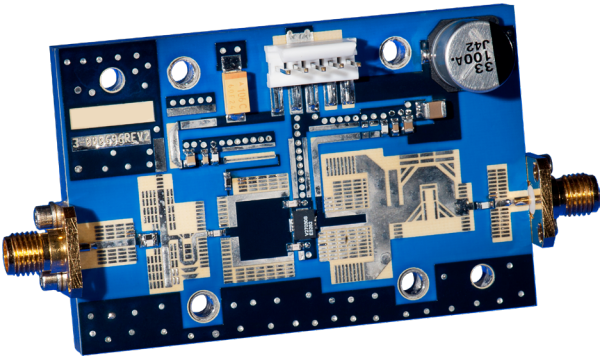
Frequency (MHz)	Z Source	Z Load
2500	5.69 + j7.82	10.9 + j15.7
2600	2.8 - j1.1	11.5 + j16.7
2700	2.5 - j1.7	12.1 + j17.7

Notes:
¹ V_{DD} = 50 V, I_{DD} = 0.13 A in the DFN package
² Impedances are extracted from the CGHV27030S-AMP1 application circuit and are not source and load pull data derived from the transistor

CGHV27030S-AMP1 Bill of Materials

Designator	Description	Qty
R1, R2	RES, 22.6 ohm, +/-1%, 1/16W, 0603	2
C1	CAP, 3.3 pF, ±0.1 pF, 0603, ATC	1
C2	CAP, 1.1 pF, ±0.05 pF, 0603, ATC	1
C3, C4	CAP, 0.7 pF, ±0.05 pF, 0603, ATC	3
C5, C11, C15	CAP, 8.2 pF, ±0.25 pF, 0603, ATC	3
C6, C16	CAP, 470 pF, 5%, 100 V, 0603	2
C7, C17	CAP, 33000 pF, 0805, 100 V, 0603, X7R	2
C18	CAP, 1.0 µF, 100 V, 10%, X7R, 1210	1
C8	CAP, 10 µF, 16 V, TANTALUM	1
C19	CAP, 33 µF, 20%, G CASE	1
J1, J2	CONN, SMA, PANEL MOUNT JACK, FLANGE, 4-HOLE, BLUNT POST	2
J3	HEADER RT>PLZ .1CEN LK 5 POS	1
PCB	PCB, ROGERS 4350, ER 3.66	1
Q1	CGHV27030S, QFN	1

CGHV27030S -AMP1 Application Circuit



The schematic diagram illustrates a 100-MHz CMOS differential amplifier. The input stage consists of an RF input (J1) connected to a matching network (R1, C1). The signal is then fed into a differential pair of NMOS and PMOS transistors (M1, M2), which are biased by a current source (M3). The output is taken differentially from the gates of M1 and M2, connected to a load network (C15, C16, C17, C18) and a matching network (C11, C19). The circuit is powered by a 1.8V supply (VDD) and grounded (GND).

Electrical Characteristics When Tested in CGHV27030S-AMP2, 28 V, 2.5 - 2.7 GHz

Parameter	2.5 GHz	2.6 GHz	2.7 GHz	Units
Small Signal Gain	15.5	15.7	16.0	dB
Adjacent Channel Power @ $P_{AVE} = 3.2\text{ W}$	-42.0	-41.7	-41.2	dBc
Drain Efficiency @ $P_{AVE} = 3.2\text{ W}$	33.5	34.2	34.1	%
Input Return Loss	-9.0	-8.8	-10.2	dB

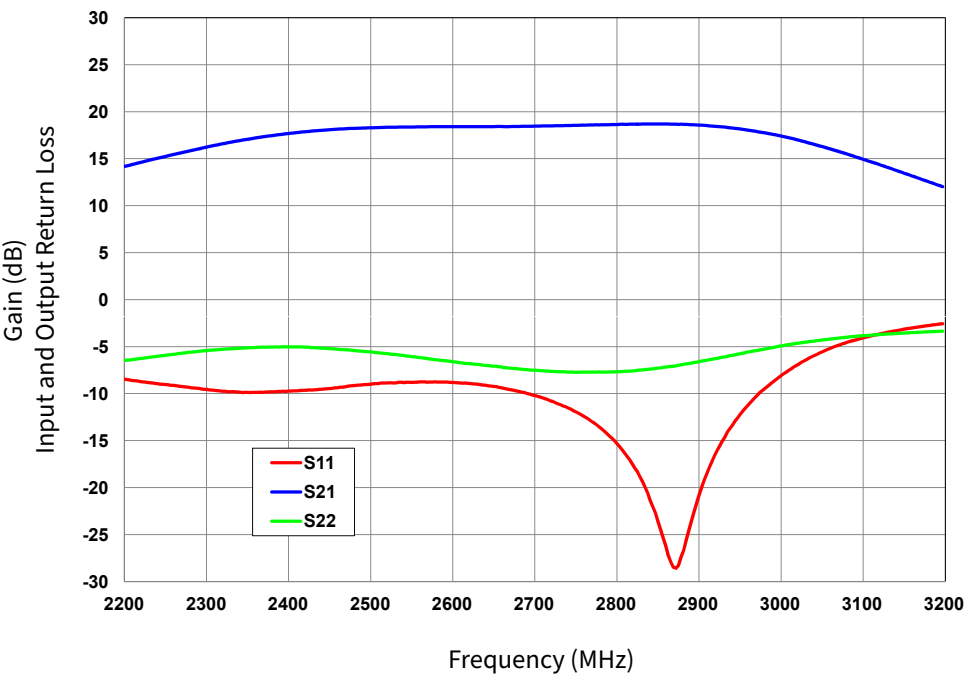


Figure 4. Small Signal Gain and Return Losses vs Frequency
 $V_{DD} = 28\text{ V}$, $I_{DQ} = 0.13\text{ A}$

Typical Performance in Application Circuit CGHV27030S-AMP2

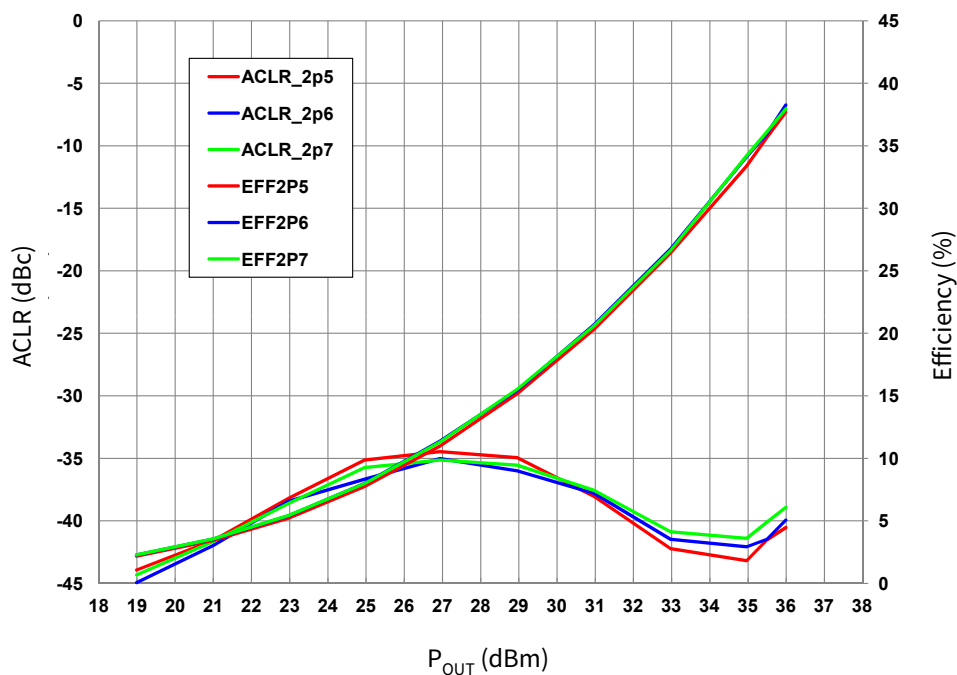


Figure 5. Typical Drain Efficiency and ACLR vs. Output Power

$V_{DD} = 28\text{ V}$, $I_{DQ} = 0.13\text{ A}$, 1c WCDMA, PAR = 7.5 dB

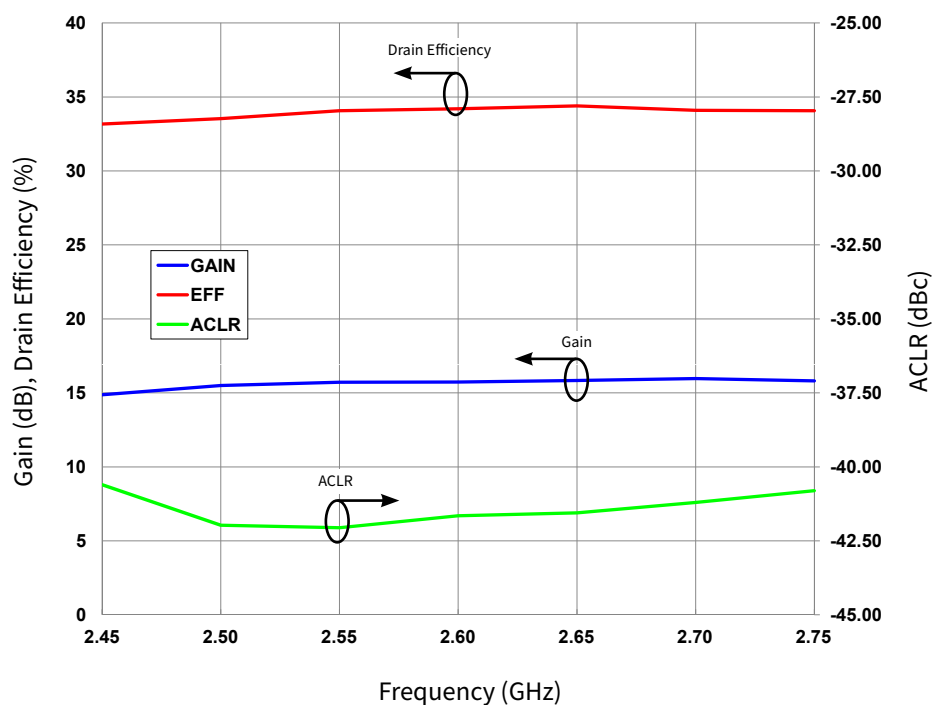
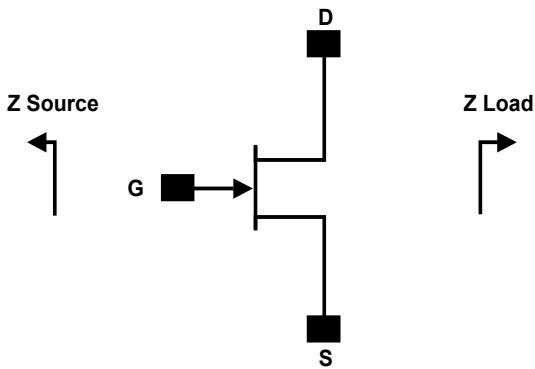


Figure 6. Typical Gain, Drain Efficiency and ACLR vs Frequency

$V_{DD} = 28\text{ V}$, $I_{DQ} = 0.13\text{ A}$, $P_{AVE} = 3.2\text{ W}$, 1c WCDMA, PAR = 7.5 dB

Source and Load Impedances for Application Circuit CGHV27030S-AMP2



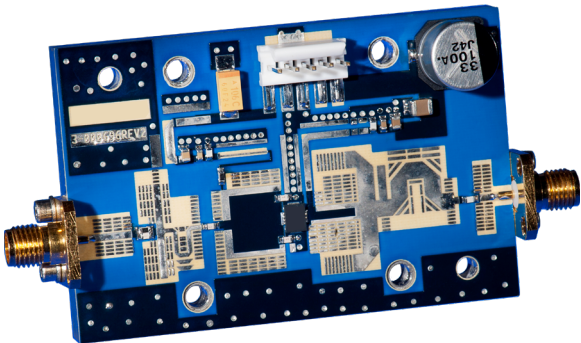
Frequency (MHz)	Z Source	Z Load
2500	2.9 - j2.7	14.5 + j7.4
2600	3.1 - j2.9	13.8 + j7.3
2700	2.7 - j3.1	12.9+j7.6

Notes:
¹ V_{DD} = 28 V, I_{DD} = 0.13 A in the DFN package
² Impedances are extracted from the CGHV27030S-AMP2 application circuit and are not source and load pull data derived from the transistor

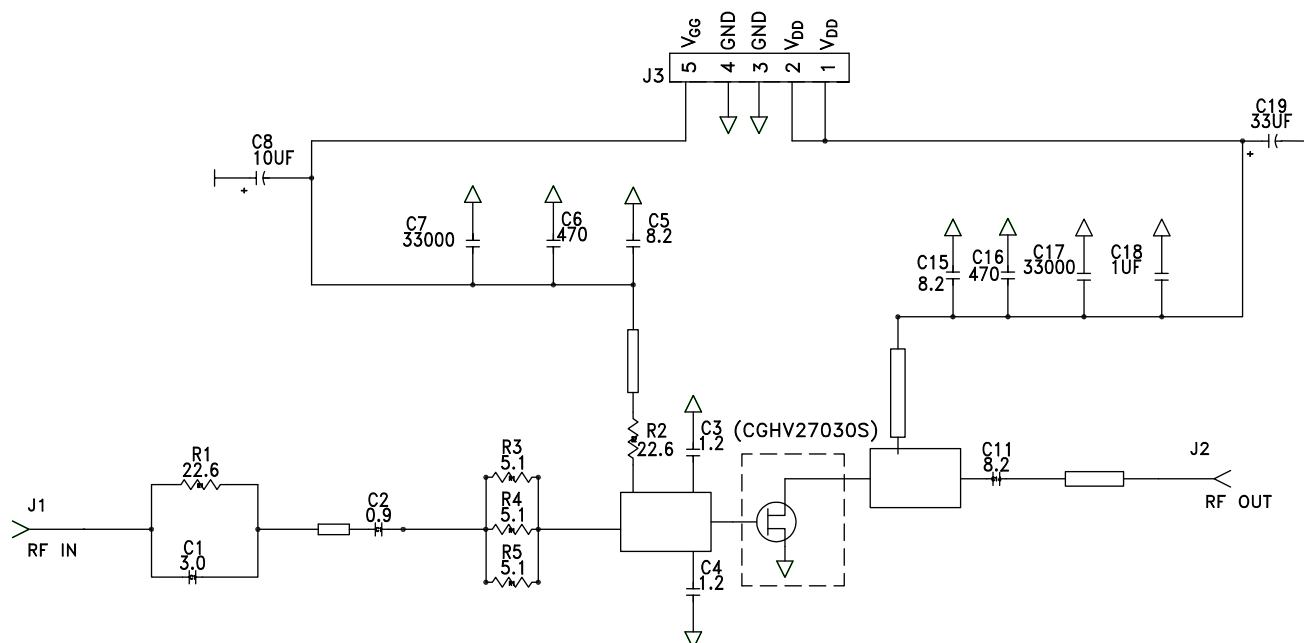
CGHV27030S-AMP2 Bill of Materials

Designator	Description	Qty
R1, R2	RES, 22.6 ohm, +/-1%, 1/16W, 0603	2
C1	CAP, 3.0 pF, ±0.1 pF, 0603, ATC	1
C2	CAP, 0.9 pF, ±0.05 pF, 0603, ATC	3
R3, R4, R5	RES, 1/16W, 0603, 1%, 5.1% ohms	3
C3,C4	CAP, 1.2 pF, +/-0.1 pF, 0603, ATC	2
C5, C11, C15	CAP, 8.2 pF, ±0.25 pF, 0603, ATC	3
C6, C16	CAP, 470 pF, 5%, 100 V, 0603	2
C7, C17	CAP, 33000 pF, 0805, 100 V, 0603, X7R	2
C18	CAP, 1.0 µF, 100 V, 10%, X7R, 1210	1
C8	CAP, 10 µF, 16 V TANTALUM	1
C19	CAP, 33 µF, 20%, G CASE	1
J1, J2	CONN, SMA, PANEL MOUNT JACK	2
J3	HEADER RT>PLZ .1CEN LK 5 POS	1
PCB	PCB, ROGERS 4350, ER 3.66	1
Q1	CGHV27030S, QFN	1

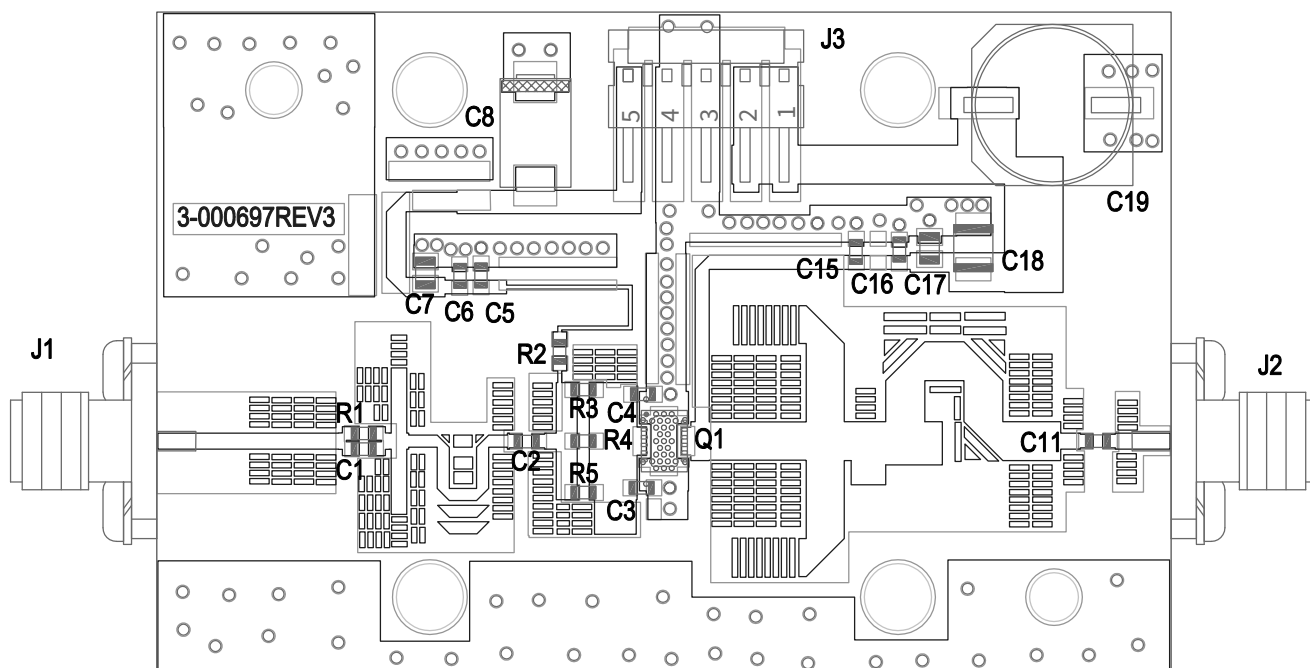
CGHV27030S-AMP2 Application Circuit



CGHV27030S-AMP2 Application Circuit Schematic, 28 V



CGHV27030S-AMP2 Application Circuit Outline, 28 V



Electrical Characteristics When Tested in CGHV27030S-AMP3, 28 V, 1.8 - 2.2 GHz

Parameter	1.8 GHz	2.0 GHz	2.2 GHz	Units
Small Signal Gain	19	19	18	dB
Adjacent Channel Power @ $P_{AVE} = 3.2$ W	-37	-38	-39	dBc
Drain Efficiency @ $P_{AVE} = 3.2$ W	35	35	33	%
Input Return Loss	5	6	7	dB

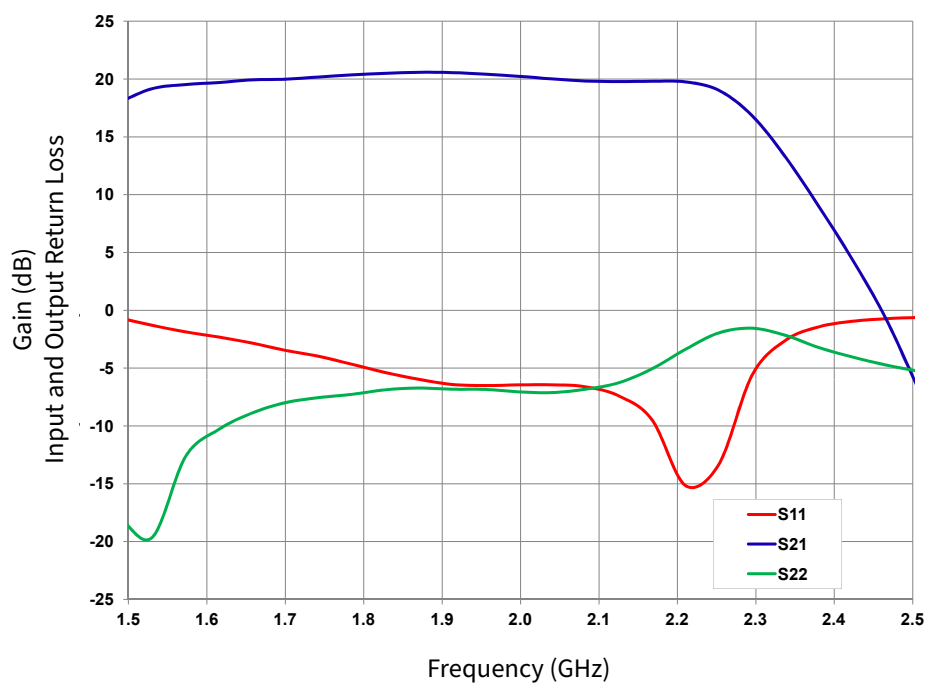


Figure 7. Small Signal Gain and Return Losses vs Frequency

$V_{DD} = 28$ V, $I_{DQ} = 0.13$ A

Typical Performance in Application Circuit CGHV27030S-AMP3

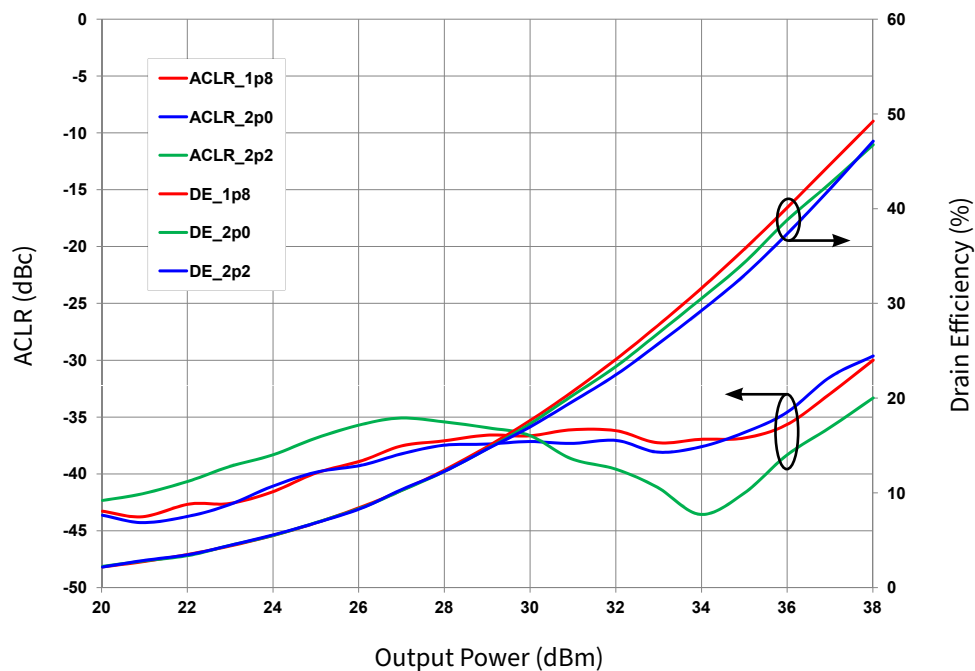


Figure 8. Typical Drain Efficiency and ACLR vs. Output Power

$V_{DD} = 28\text{ V}$, $I_{DQ} = 0.13\text{ A}$, 1c WCDMA, PAR = 7.5 dB

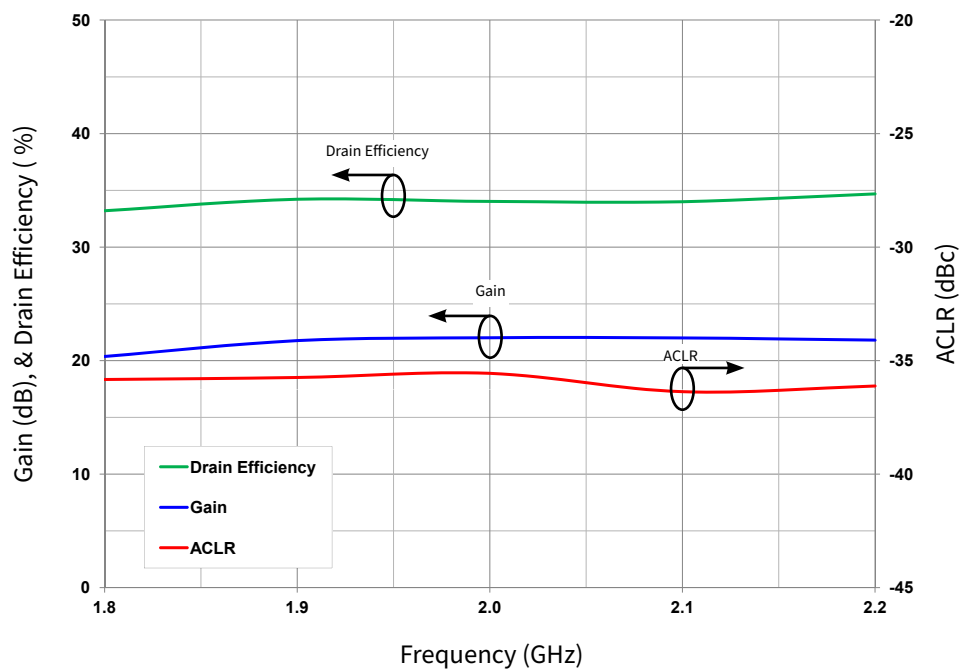
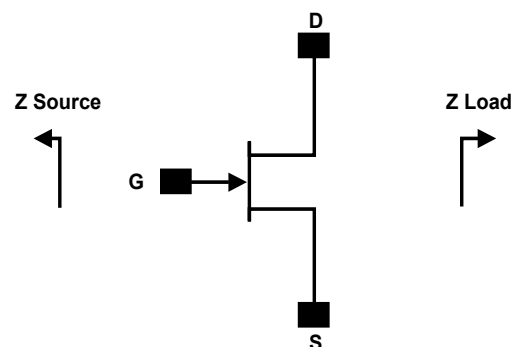


Figure 9. Typical Gain, Drain Efficiency and ACLR vs Frequency

$V_{DD} = 28\text{ V}$, $I_{DQ} = 0.13\text{ A}$, $P_{AVE} = 3.2\text{ W}$, 1c WCDMA, PAR = 7.5 dB

Source and Load Impedances for Application Circuit CGHV27030S-AMP3



Frequency (MHz)	Z Source	Z Load
1800	6.16 - j3.5	21.9 + j6.5
2000	6.8 - j1.7	21 + j8.4
2200	5.5 - j2.0	20.8 + j11

Notes:

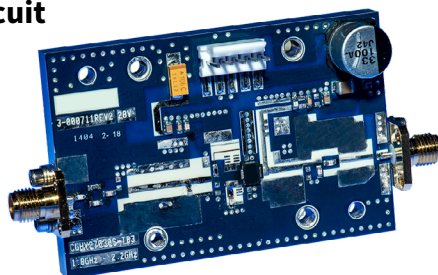
¹ $V_{DD} = 28\text{ V}$, $I_{DD} = 0.13\text{ A}$ in the DFN package

² Impedances are extracted from the CGHV27030S-AMP3 application circuit and are not source and load pull data derived from the transistor

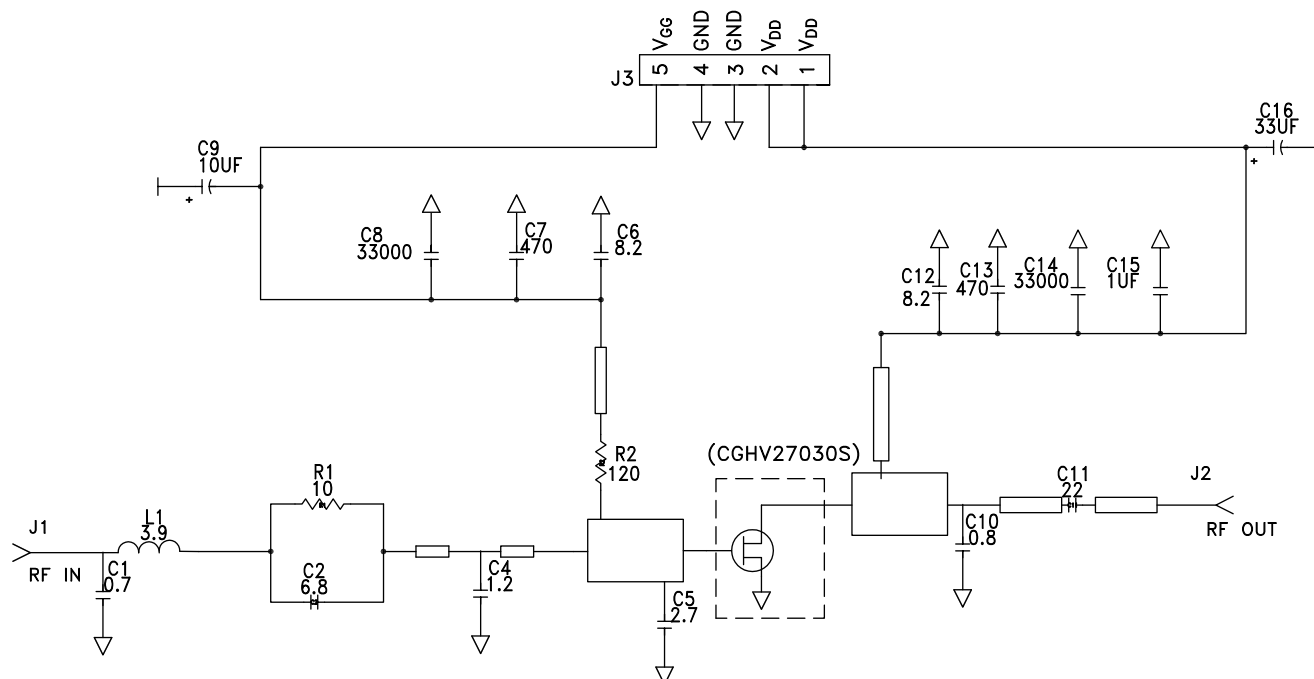
CGHV27030S-AMP3 Bill of Materials

Designator	Description	Qty
R1	RES, 10 ohm, +/-1%, 1/16W, 0603	1
R2	RES, 120 ohm, +/-1%, 1/16W, 0603	1
L1	IND, 3.9 nH, +/-5%, 0603, JOHANSON	1
C1	CAP, 0.7 pF, +/-0.1 pF, 0603, ATC	1
C2	CAP, 6.8 pF, +/-5%, 0603, ATC	1
C3	CAP, 47 pF, +/-0.1 pF, 0603, ATC	1
C4	CAP, 1.5 pF, +/-0.1 pF, 0603, ATC	1
C5	CAP, 2.7 pF, +/-0.1 pF, 0603, ATC	1
C6, C12	CAP, 8.2 pF, +/-0.25 pF, 0603, ATC	2
C7, C13	CAP, 470 pF, 5%, 100 V, 0603	2
C8, C14	CAP, 33000 pF, 0805, X7R	2
C9	CAP, 10 μF , 16 V, TANTALUM	1
C10	CAP, 0.7 pF, +/-0.05 pF, 0603, ATC	1
C11	CAP, 20 pF, +/-5%, 0603, ATC	1
C15	CAP, 1.0 μF , 100V, 10%, X7R, 1210	1
C16	CAP, 33 μF , 20%, G CASE	1
J1, J2	CONN, SMA, PANEL MOUNT JACK, FLANGE, 4-HOLE, BLUNT POST	2
	PCB, RO4350, 0.020" THK	1
	BASEPLATE, CGH35015, 2.60 X 1.7	1
J3	HEADER RT>PLZ .1CEN LK 5POS	1
	2-56 SOC HD SCREW 1/4 SS	4
	#2 SPLIT LOCKWASHER SS	4
Q1	CGHV27030S, QFN	1

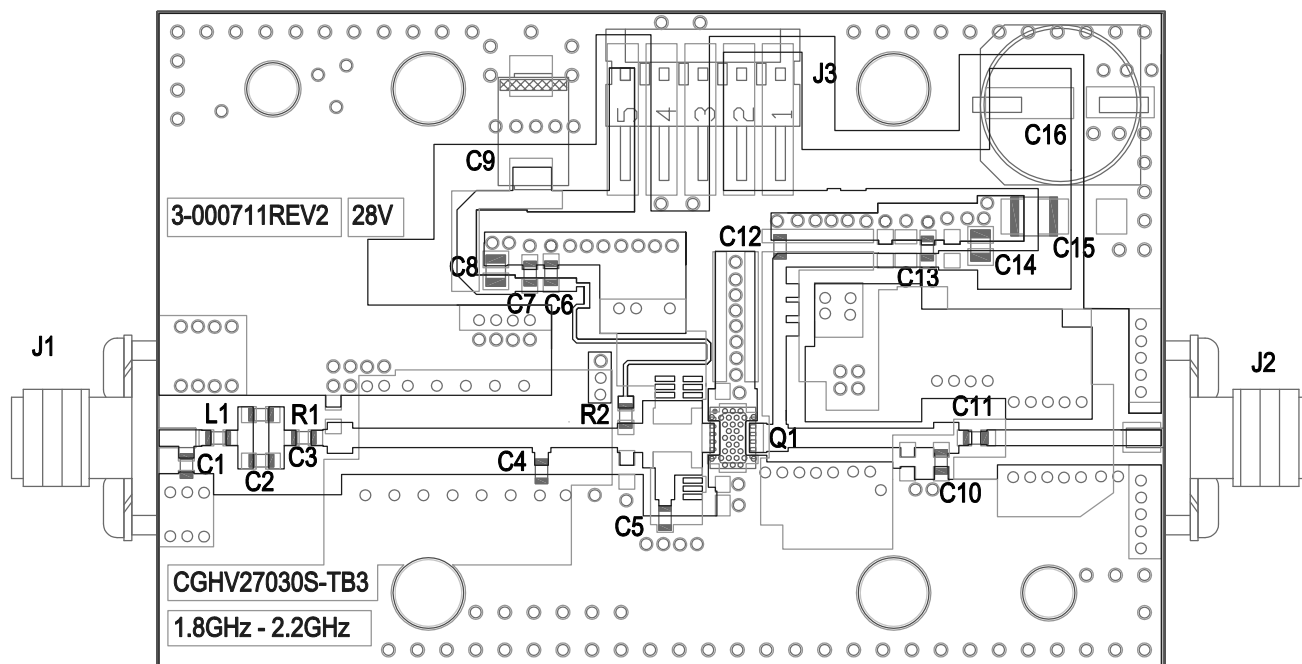
CGHV27030S-AMP3 Application Circuit



CGHV27030S-AMP3 Application Circuit Schematic, 28 V



CGHV27030S-AMP3 Application Circuit Outline, 28 V



Electrical Characteristics When Tested in CGHV27030S-AMP3, 28 V, 1.8 - 2.2 GHz

Parameter	1.8 GHz	2.0 GHz	2.2 GHz	Units
Small Signal Gain	22	22	21	dB
Adjacent Channel Power @ $P_{AVE} = 5\text{ W}$	-39	-38	-37	dBc
Drain Efficiency @ $P_{AVE} = 5\text{ W}$	31	31	33	%
Input Return Loss	5	7	6	dB

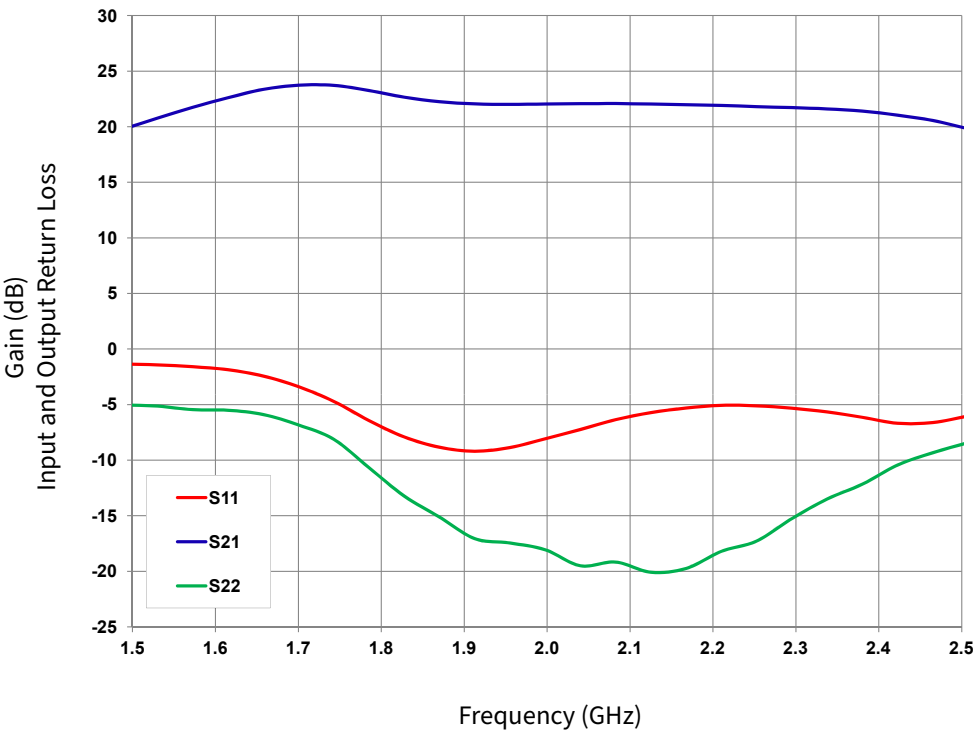


Figure 10. Small Signal Gain and Return Losses vs Frequency
 $V_{DD} = 50\text{ V}$, $I_{DQ} = 0.13\text{ A}$

Typical Performance in Application Circuit CGHV27030S-AMP4

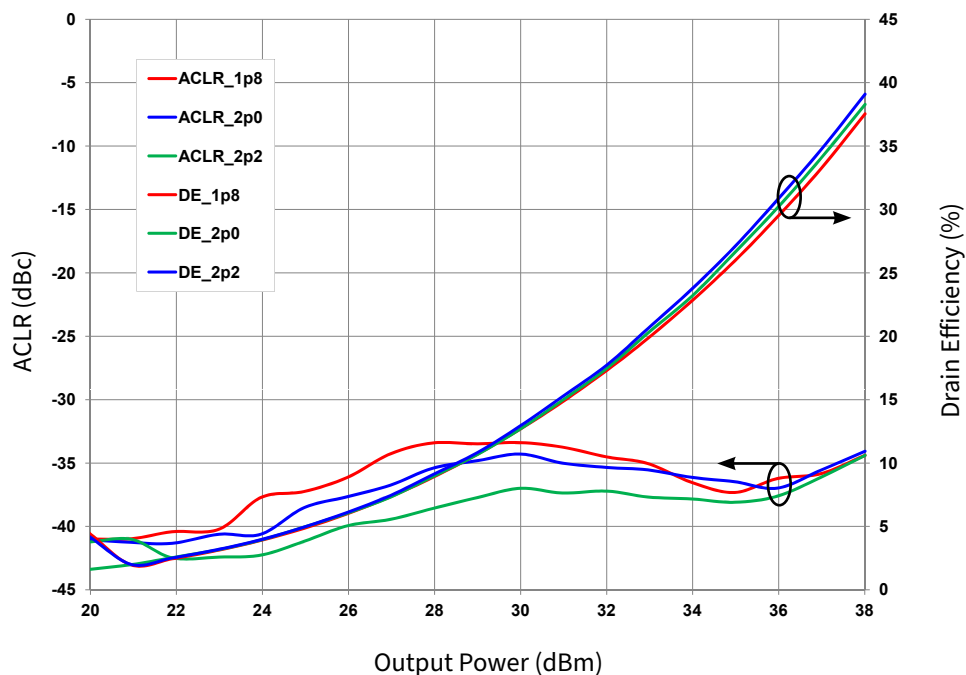


Figure 11. Typical Drain Efficiency and ACLR vs. Output Power

$V_{DD} = 50\text{ V}$, $I_{DQ} = 0.13\text{ A}$, 1c WCDMA, PAR = 7.5 dB

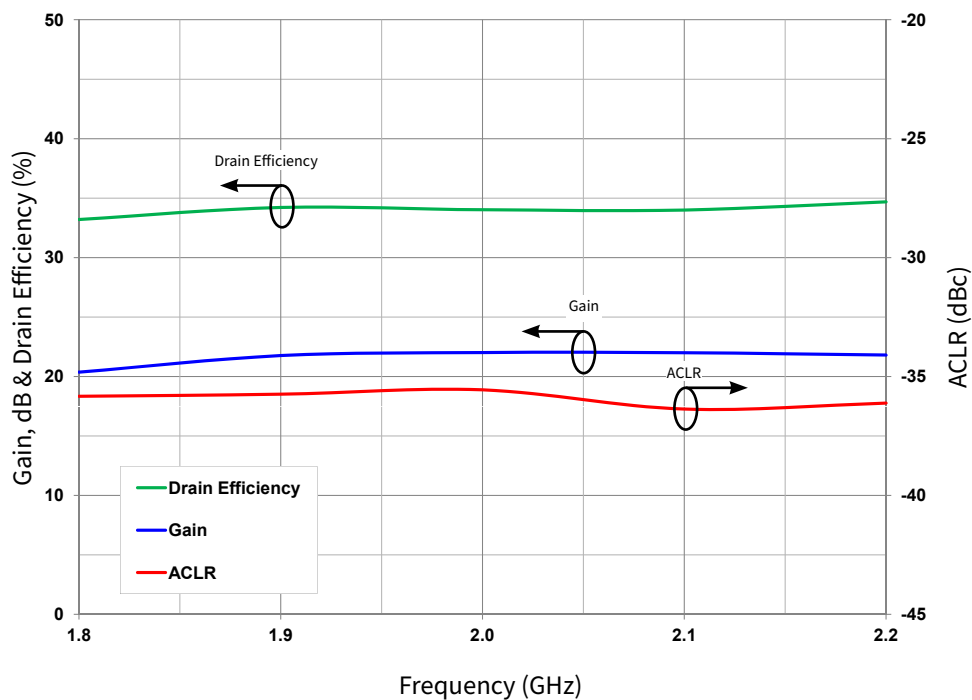
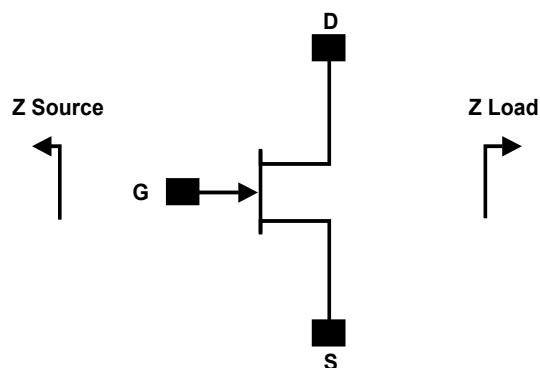


Figure 12. Typical Gain, Drain Efficiency and ACLR vs Frequency

$V_{DD} = 50\text{ V}$, $I_{DQ} = 0.13\text{ A}$, $P_{AVE} = 5\text{ W}$, 1c WCDMA, PAR = 7.5 dB

Source and Load Impedances for Application Circuit CGHV27030S-AMP4



Frequency (MHz)	Z Source	Z Load
1800	5.0 - j3.3	20.0 + j18.6
2000	6.4 - j3.3	17.8 + j19.1
2200	4.0 - j2.7	16.2 + j20.8

Notes:

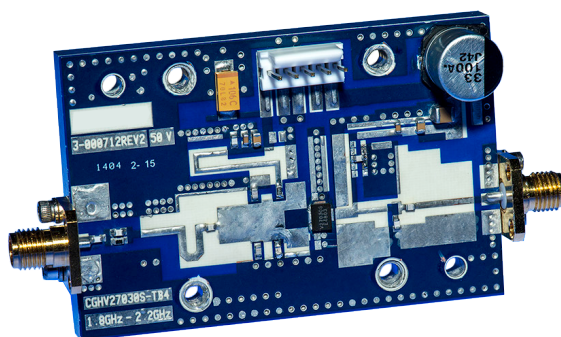
¹ $V_{DD} = 50\text{ V}$, $I_{DD} = 0.13\text{ A}$ in the DFN package

² Impedances are extracted from the CGHV27030S-AMP4 application circuit and are not source and load pull data derived from the transistor

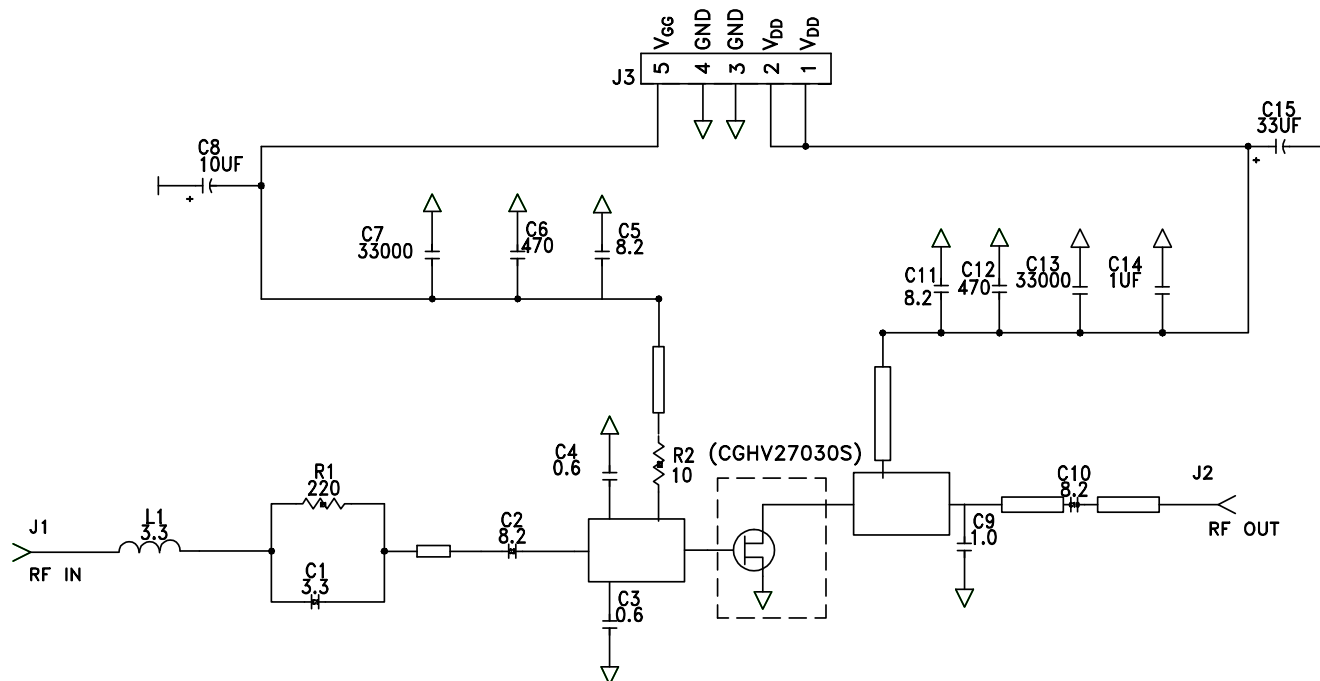
CGHV27030S-AMP4 Bill of Materials

Designator	Description	Qty
R1	RES, 220 ohm, +/-1%, 1/16W, 0603	1
R2	RES, 10 ohm, +/-1%, 1/16W, 0603	1
L1	IND, 3.3 nH, +/-5%, 0603, JOHANSON	1
C1	CAP, 3.3 pF, +/-0.1 pF, 0603, ATC	1
C2, C5, C10, C11	CAP, 8.2 pF, +/-5%, 0603, ATC	1
C3, C4	CAP, 0.6 pF, +/-0.1 pF, 0603, ATC	2
C6, C12	CAP, 470 pF, 5%, 100V, 0603, X	2
C7, C13	CAP, 33000 pF, 0805, 100V, X7R	2
C8	CAP, 10 μF , 16 V, TANTALUM	1
C9	CAP, 1.0 pF, +/-0.1 pF, 0603, ATC	1
C14	CAP, 1.0 μF , 100V, 10%, X7R, 1210	1
C15	CAP, 33 μF , 20%, G CASE	1
J1, J2	CONN, SMA, PANEL MOUNT JACK, FLANGE, 4-HOLE, BLUNT POST	2
PCB	PCB, RO4350, 0.020" THK	1
J3	HEADER RT>PLZ .1CEN LK 5POS	1
Q1	CGHV27030S, QFN	1

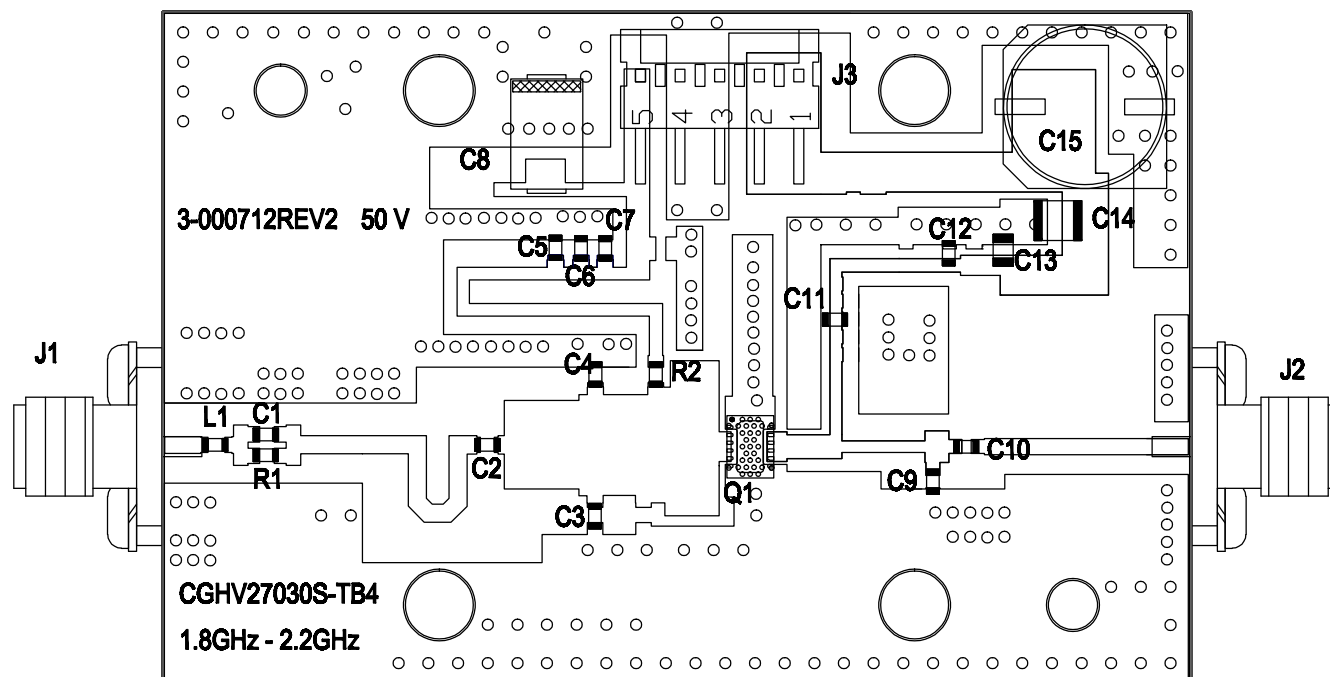
CGHV27030S-AMP4 Application Circuit



CGHV27030S-AMP4 Application Circuit Schematic, 50 V



CGHV27030S-AMP4 Application Circuit Outline, 50 V



Electrical Characteristics When Tested in CGHV27030S-AMP5, 50 V, 1.2 - 1.4 GHz

Parameter	1.2 GHz	1.3 GHz	1.4 GHz	Units
Output Power @ P _{IN} = 27 dBm	35.5	33.5	32.5	W
Gain @ P _{IN} = 27 dBm	18.5	18.25	18.1	dB
Drain Efficiency @ P _{IN} = 27 dBm	71	67	65	%

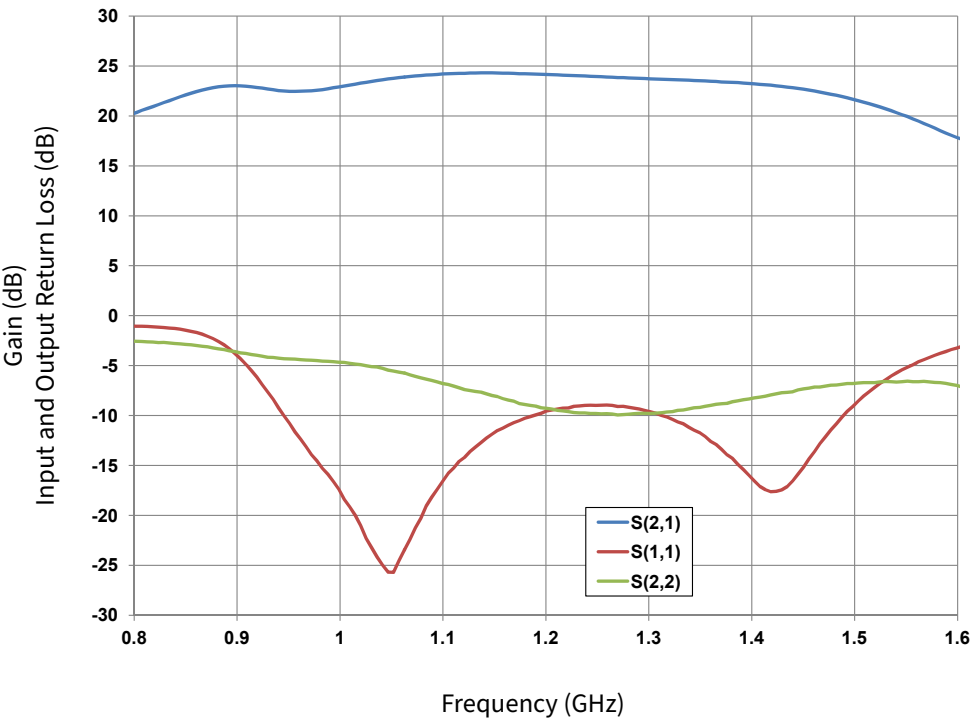


Figure 13. Small Signal Gain and Return Losses vs Frequency
 $V_{DD} = 50\text{ V}$, $I_{DQ} = 0.125\text{ A}$

Typical Performance in Application Circuit CGHV27030S-AMP5

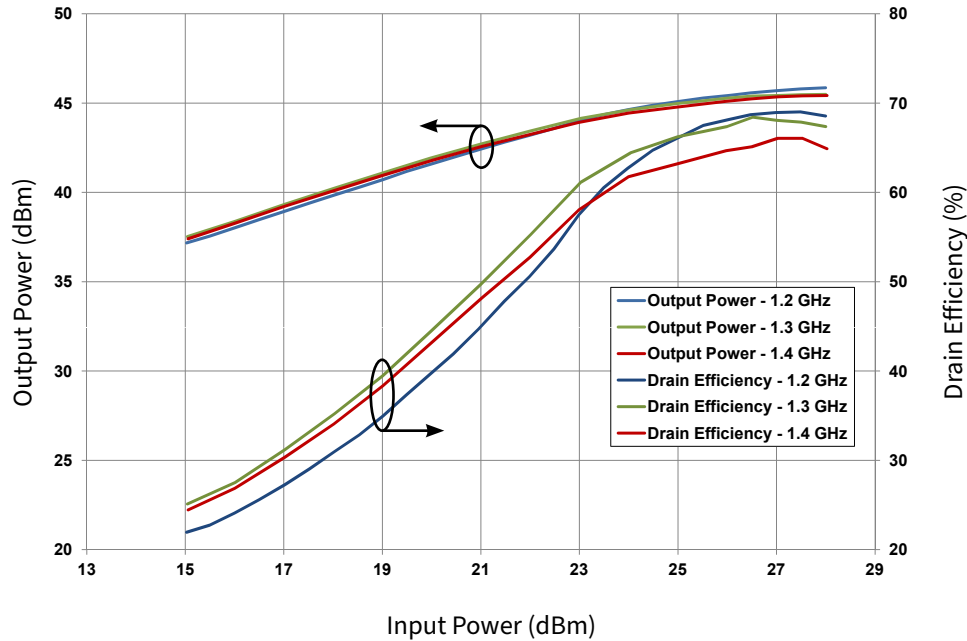


Figure 14. Typical Output Power and Drain Efficiency Input Power
 $V_{DD} = 50\text{ V}$, $I_{DQ} = 0.125\text{ A}$, Pulse Width = 100 us, Duty Cycle = 10%

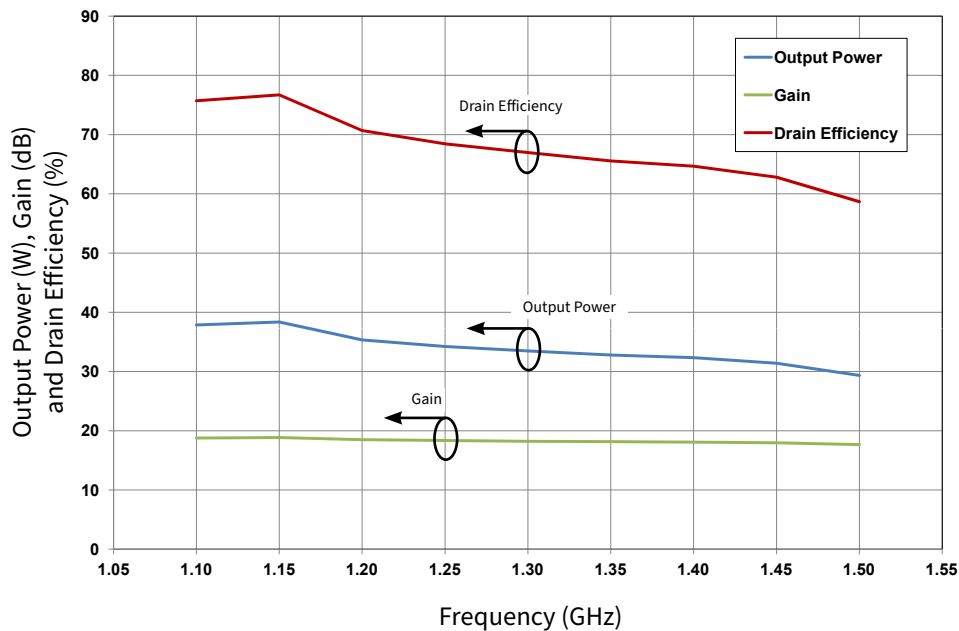
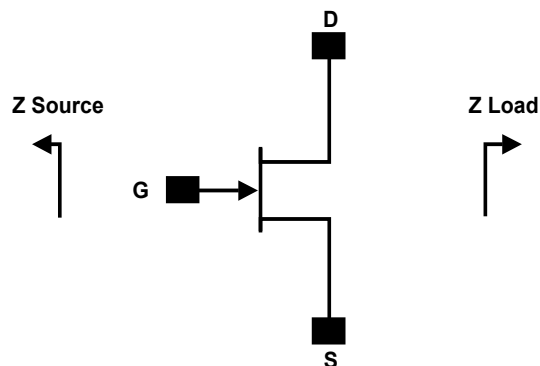


Figure 15. Typical Output Power, Gain, and Drain Efficiency vs Frequency
 $V_{DD} = 50\text{ V}$, $I_{DQ} = 0.125\text{ A}$, $P_{IN} = 27\text{ dBm}$, Pulse Width = 100 us, Duty Cycle = 10%

Source and Load Impedances for Application Circuit CGHV27030S-AMP5



Frequency (MHz)	Z Source	Z Load
1200	$8.6 + j5.4$	$25.4 + j29.2$
1300	$8.7 + j5.1$	$27.6 + j30.5$
1400	$7.4 + j5.2$	$30.1 + j31.8$

Notes:

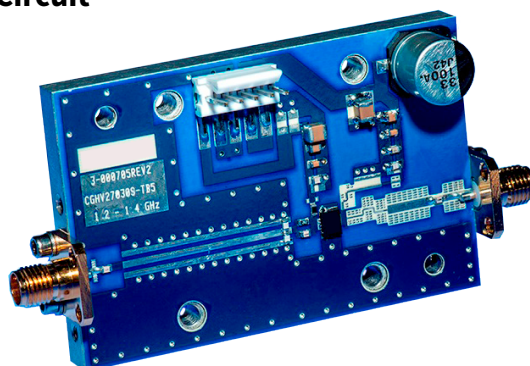
¹ $V_{DD} = 50\text{ V}$, $I_{DD} = 0.125\text{ A}$ in the DFN package

² Impedances are extracted from the CGHV27030S-AMP5 application circuit and are not source and load pull data derived from the transistor

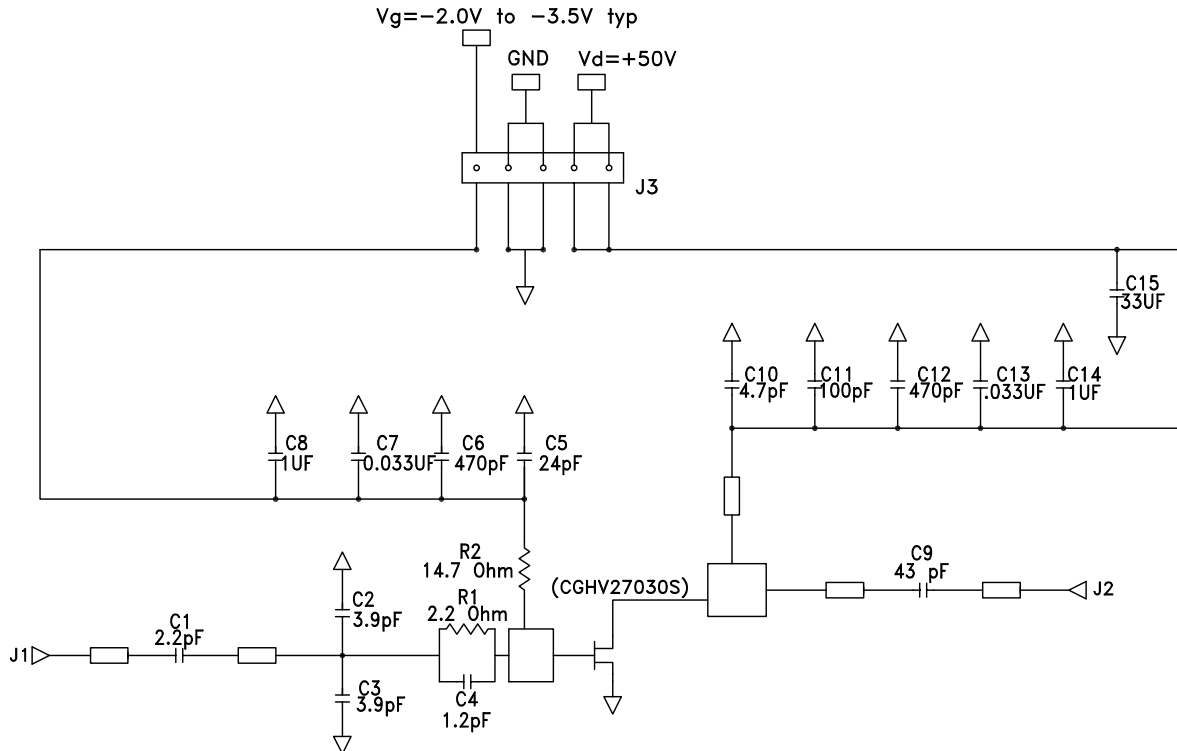
CGHV27030S-AMP5 Bill of Materials

Designator	Description	Qty
R1	RES, 2.2 ohm, 1/10W 5% 0603 SMD	1
R2	RES, 1/16W, 0603, 1%, 14.7 ohms	1
C1	CAP, 2.2 pF, +/-0.1 pF, 0603, ATC	1
C2, C3	CAP, 3.9 pF, +/-0.1 pF, 0603, ATC	2
C4	CAP, 1.2 pF, +/-0.1 pF, 0603, ATC	1
C5	CAP, 24 pF, +/-5%, 0603, ATC	1
C6, C12	CAP, 470 pF, 5%, 100V, 0603, X	2
C7, C13	CAP, 33000 pF, 0805, 100V, Z7R	2
C8, C14	CAP, 1.0 μF , 100V, 10%, X7R, 1210	2
C9	CAP, 43 pF, +/-5%, 0603, ATC	1
C10	CAP, 4.7 pF, +/-0.1 pF, 0603, ATC 600S	1
C11	CAP, 100.0 pF, +/-5%, 0603, ATC	1
C15	CAP, 33 μF , 20%, G CASE	
J1, J2	CONN, SMA, PANEL MOUNT JACK, FLANGE, 4-HOLE, BLUNT POST	2
PCB	PCB, RO4350, L-BAND, 1.7" X 2.6"	1
J3	HEADER RT>PLZ .1CEN LK 5POS	1
Q1	CGHV27030S, QFN	1

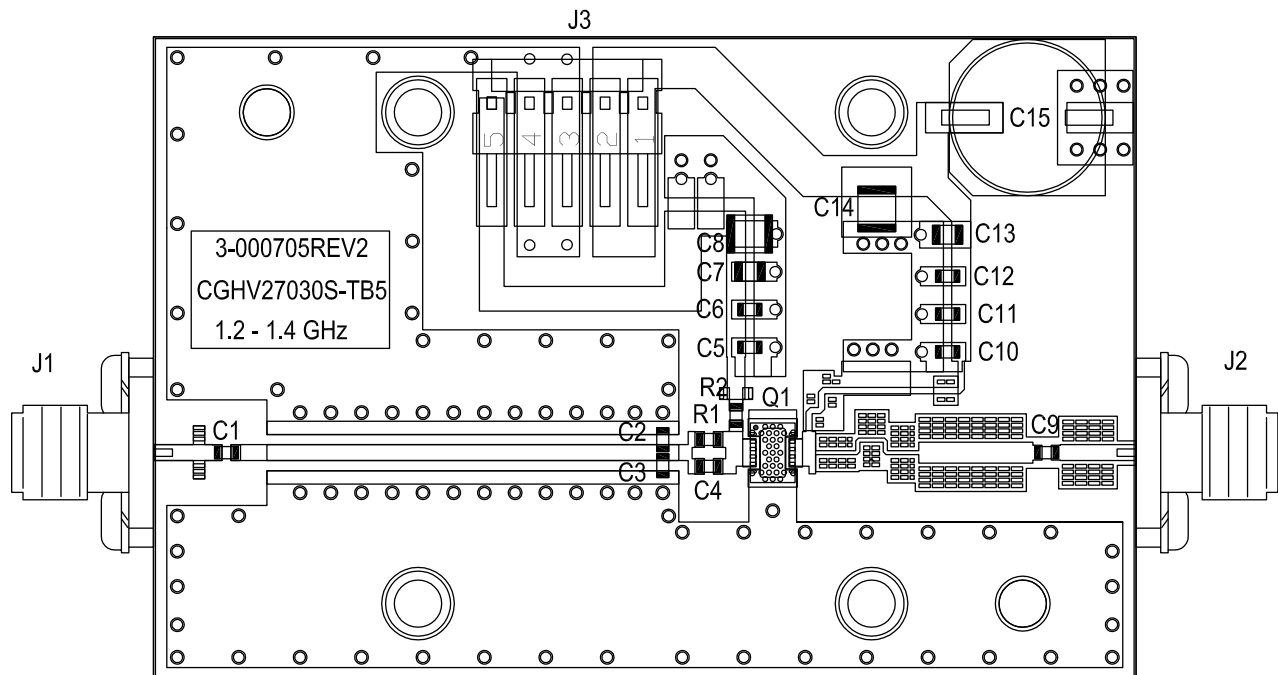
CGHV27030S-AMP5 Application Circuit



CGHV27030S-AMP5 Application Circuit Schematic, 50 V



CGHV27030S-AMP5 Application Circuit Outline, 50 V



Electrostatic Discharge (ESD) Classifications

Parameter	Symbol	Class	Classification Level	Test Methodology
Human Body Model	HBM	1A		JEDEC JESD22 A114-D
Charge Device Model	CDM	0CB		JEDEC JESD22 C101-C

Moisture Sensitivity Level (MSL) Classification

Parameter	Symbol	Level	Test Methodology
Moisture Sensitivity Level	MSL	3 (168 hours)	IPC/JEDEC J-STD-20

Typical Performance

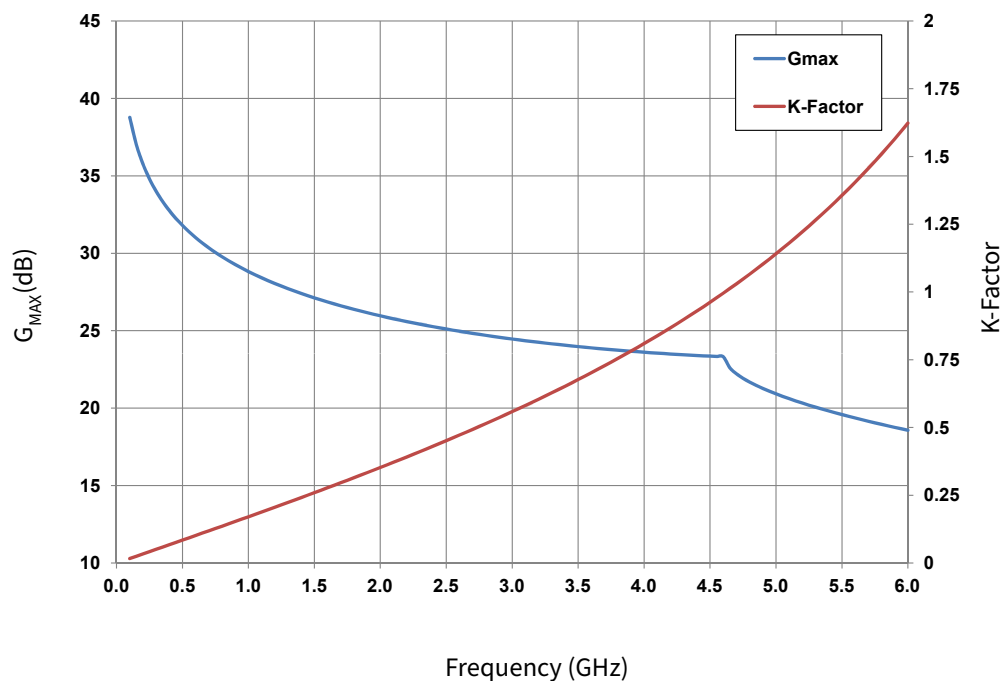
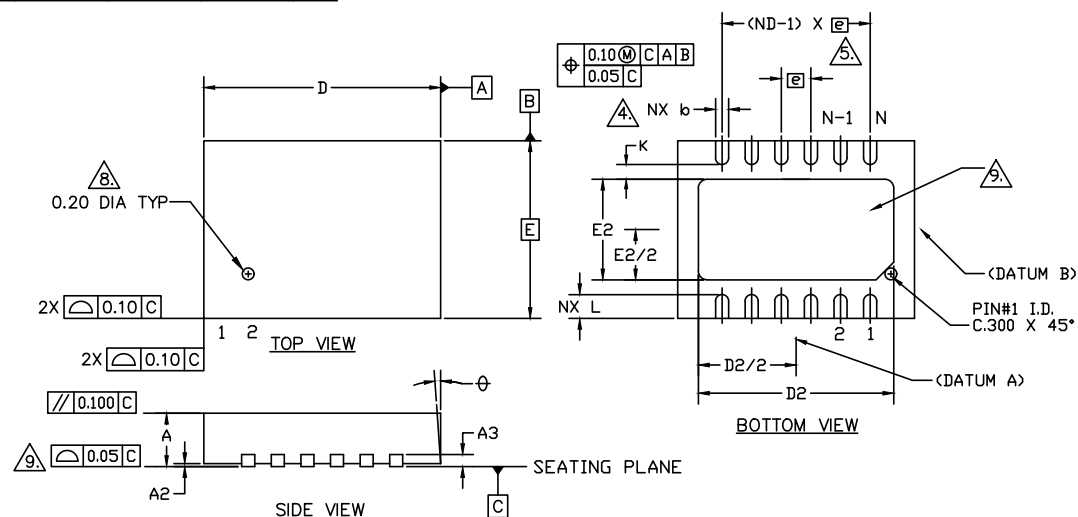


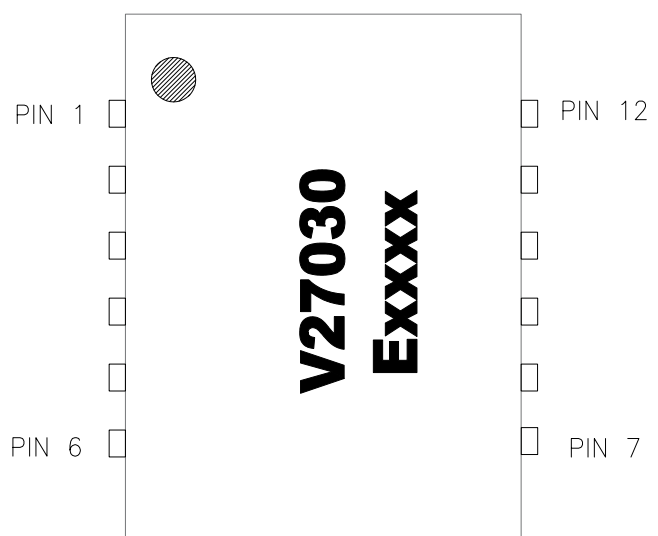
Figure 16. G_{MAX} and K-Factor vs Frequency
 $V_{DD} = 50\text{ V}$, $I_{DQ} = 130\text{ mA}$, $T_{CASE} = 25^\circ\text{C}$

Product Dimensions CGHV27030S (Package 3 x 4 DFN)

SYMBOL	COMMON DIMENSIONS			NOTES
	MIN.	NOM.	MAX.	
A	0.80	0.90	1.0	
A1	0.00	0.02	0.05	
A3	0.203 REF.			
Ø	0	—	12	2
D	4.00 BSC			
E	3.00 BSC			
Ø	0.50 BSC			
N	12			3
ND	6			△
L	0.35	0.40	0.45	
b	0.18	0.25	0.30	△
D2	3.20	3.30	3.40	
E2	1.60	1.7	1.80	
K	0.20	—	—	



PIN	Input/Output
1	GND
2	NC
3	RF IN
4	RF IN
5	NC
6	GND
7	GND
8	NC
9	RF OUT
10	RF OUT
11	NC
12	GND



Note: Leadframe finish for 3x4 DFN package is Nickel/Palladium/Gold. Gold is the outer layer

Part Number System

CGHV27030S

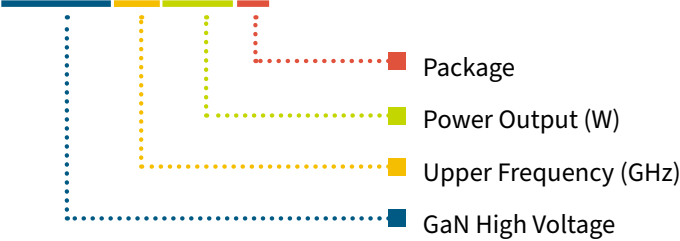


Table 1.

Parameter	Value	Units
Upper Frequency ¹	2.7	GHz
Power Output	30	W
Package	Surface Mount	—

Note:
¹ Alpha characters used in frequency code indicate a value greater than 9.9 GHz. See Table 2 for value.

Table 2.

Character Code	Code Value
A	0
B	1
C	2
D	3
E	4
F	5
G	6
H	7
J	8
K	9
Examples:	1A = 10.0 GHz 2H = 27.0 GHz

Product Ordering Information

Order Number	Description	Unit of Measure	Image
CGHV27030S	GaN HEMT	Each	
CGHV27030S-AMP1	Test board without GaN HEMT, 50 V 2.5-2.7 GHz	Each	
CGHV27030S-AMP2	Test board with GaN HEMT installed 28 V 2.5-2.7 GHz	Each	
CGHV27030S-AMP3	Test board with GaN HEMT installed 28 V 1.8-2.2 GHz	Each	
CGHV27030S-AMP4	Test board with GaN HEMT installed 50 V 1.8-2.2 GHz	Each	
CGHV27030S-AMP5	Test board with GaN HEMT installed 50 V 1.2-1.4 GHz	Each	

Notes & Disclaimer

MACOM Technology Solutions Inc. ("MACOM"). All rights reserved.

These materials are provided in connection with MACOM's products as a service to its customers and may be used for informational purposes only. Except as provided in its Terms and Conditions of Sale or any separate agreement, MACOM assumes no liability or responsibility whatsoever, including for (i) errors or omissions in these materials; (ii) failure to update these materials; or (iii) conflicts or incompatibilities arising from future changes to specifications and product descriptions, which MACOM may make at any time, without notice. These materials grant no license, express or implied, to any intellectual property rights.

THESE MATERIALS ARE PROVIDED "AS IS" WITH NO WARRANTY OR LIABILITY, EXPRESS OR IMPLIED, RELATING TO SALE AND/OR USE OF MACOM PRODUCTS INCLUDING FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHT, ACCURACY OR COMPLETENESS, OR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES WHICH MAY RESULT FROM USE OF THESE MATERIALS.

MACOM products are not intended for use in medical, lifesaving or life sustaining applications. MACOM customers using or selling MACOM products for use in such applications do so at their own risk and agree to fully indemnify MACOM for any damages resulting from such improper use or sale.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[MACOM:](#)

[CGHV27030S](#) [CGHV27030S-AMP1](#) [CGHV27030S-AMP4](#) [CGHV27030S-AMP5](#) [CGHV27030S-AMP2](#)
[CGHV27030S-AMP3](#)