

GaN HEMT Transistors for Frequency-agile, Software Defined Radios, 3G/4G Telecom BTS, C-OFDM Data-links and Satcom Applications



Cree's GaN HEMT devices are ideally suited for a host of communications applications. They are perfect for applications seeking to improve bandwidth, efficiency, frequency of operation, or for transmitters challenged to reduce size and weight. These features enable significant savings on operating expenses.

The family of products includes 6 W to 120 W, unmatched, packaged discrete devices suitable from DC-2 GHz, 1.8-2.3 GHz, 3.3-3.8 GHz, and 4.9-5.8 GHz. The portfolio also includes high power internally matched devices at 120 W and 240 W levels operating at 1.8-2.3 GHz and 2.5-2.7 GHz.

GaN SELECTOR GUIDE

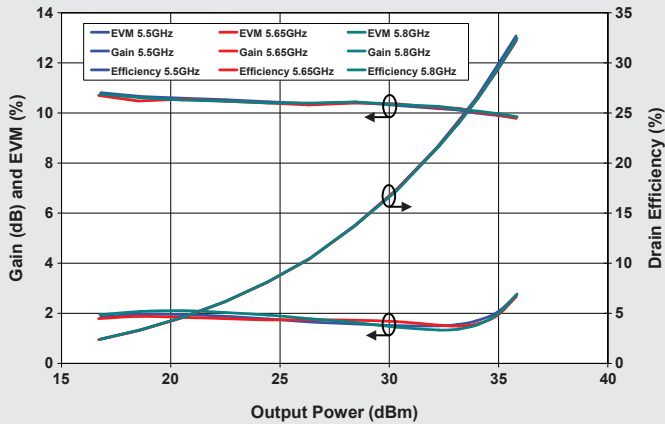
Output Power	DC - 2.0 GHz	1.8 - 2.3 GHz	2.3 - 2.7 GHz	3.3 - 3.8 GHz	5.3 - 5.8 GHz	Package Styles
6 W	CGH40006S	CGH40006S	CGH40006S	CGH40006S	CGH40006S	3x3 QFNL
15 W	CGH27015F / P	CGH27015F / P	CGH27015F / P	CGH35015F / P	CGH55015F1 / P1	440166/440196
30 W	CGH27030F / P	CGH27030F / P*	CGH27030F / P	CGH35030F / P*	CGH55030F1 / P1	440166/440196
60 W	CGH27060F	CGH27060F*	CGH27060F	CGH35060F	-	440193
120 W	CGH09120F	CGH21120F	CGH25120F	-	-	440095 or 440162
180 - 240 W	-	CGH21240F*	-	-	-	440117

*Doherty Reference Design Available. Contact Cree.

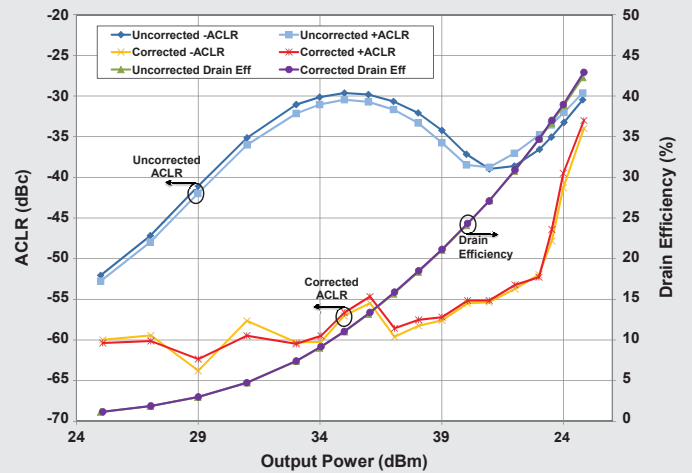


TYPICAL PERFORMANCE FOR BWA AND W-CDMA APPLICATIONS

Gain, EVM and Efficiency of CGH55015F vs. Output Power in a Broadband Amplifier Circuit
 $V_{DD} = 28\text{ V}, I_{DQ} = 75\text{ mA}$



WCDMA Characteristics with and without DPD Correction, ACLR, and Drain Efficiency vs Output Power of the CGH09120F measured in CGH09120F-TB Amplifier Circuit. Two Channel WCDMA 7.5dB PAR with CFR



CGH21120F WCDMA Transfer with and without DPD correction Single Channel WCDMA 6.5dB PAR with CFR
 $V_{DS} = 28\text{ V}, I_{DS} = 500\text{ mA}, \text{Frequency} = 2.14\text{ GHz}$

