SBIR 06.2 PHASE I - AWARD DETAILS	
ORGANIZATION	PEO IEW&S
TOPIC NUMBER	A06-196
CONTRACT NUMBER	
YEAR OF AWARD	
AWARD START DATE	
AWARD COMPLETION DATE	
PROPOSAL NUMBER	A062-196-2068
TITLE	High Power Ka/Ku Dual-Band mm-wave Power Amplifiers
PROJECT MANAGER	Ho C Huang (301) 353-8400 hohuang@aol.com
COMPANY	AMCOM Communications, Inc. 22300 Comsat Drive PO Box 179 Clarksburg MD 20871 Minority Owned: No Veteran Owned: No Number of Employees: 9
KEYWORDS	Broadband Amplifier, GaN, HEMT, HIFET, High Impedance, High Power Amplifier, High Voltage, Millimeter wave power, MMIC, pHEMT
ABSTRACT	The objective of this Phase I research is to analyze and find solutions to design a dual-band power MMIC with 30W output power at Ku and Ka-Band as described in the Army SBIR solicitation. Millimeter-wave high-power broadband MMIC amplifiers have numerous applications in EW and in military and commercial communications. AMCOM proposes to adapt its unique HIFET technology to mm-Wave GaN devices and to design an MMIC meeting the program goals. The technical challenge in developing high power amplifiers is matching the low optimal output impedance to 50 Ohms. Furthermore, the dual-band requirement further complicates such a task. The HIFET technology offers great potential in designing microwave and mm-wave broadband devices with optimum load impedance close to 50 Ohms thus eliminating the obstacles in developing broadband power MMICs. Currently, there is no existing MMIC PA that can meet the Army requirements. The development of such an amplifier will greatly reduce the size, weight, system DC power requirement, and would provide a large business potential.
BENEFITS	AMCOM will leverage the results from this SBIR Program to develop a series of high-power GaN HEMT PA products for radar, communication, EW, JTRS, broadband jammer, WiMAX base station / repeater PA, …etc. We estimate the GaN PA business to grow to $100 million per year and the HIFET share of this business to be at least $10 million per year.