

WHO

SYSCOM: NAVWAR

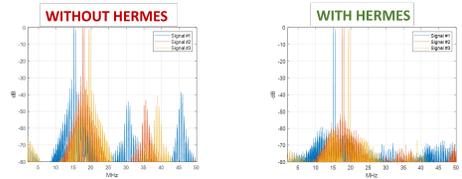
Sponsoring Program: NAVWAR

Transition Target: Phase III

TPOC: (619) 524-2510

Other Transition Opportunities: Potential Commercial Applications Include Commercial HF Communications (Trucking, Freight Shipping, and aviation) and Commercial DPD Market

Notes: Technology is in Phase II, with a prototype being developed currently.



HERMES High Power Amplifier with Excellent Signal Integrity

WHAT

Operational Need and Improvement: HERMES- High frequency (HF) band covering frequency range between 3 to 30 MHz provides over-the-horizon communications with ranges over thousands of kilometers through skywave propagation and offers an alternative to satellite communications. Considering the HF challenges outlined, and in response to this topic, MaXentric will develop a high-dynamic-range, high-power-handling, and high-survivability high frequency (HF) transmitter with significant enhancement in harmonic suppression, and fast frequency hopping support.

Specifications Required: Frequency Range: 2-30 MHz
 Support Multiple Simultaneous carriers within an HF sub-band
 High Output Power
 Support Frequency Hopping
 High linearity with Suppression of spurious products

Technology Developed: MaXentric's HERMES technology is a high-dynamic range, high-power handling, and high-survivability high frequency transmitter with improvements including enhanced spurious suppression with digital capabilities and demonstrates multi-carrier while operating in a sub-band at peak output power.

Warfighter Value: HERMES can help improve the connectivity and interoperability of ships, submarines, and airplanes by providing a filter-less solution with digital combining and significant size reduction (3-5U) for the same output power.

WHEN

Contract Number: N68335-23-C-0676

Ending on: Feb 14, 2025

Milestone	Risk Level	Measure of Success	Ending TRL	Date
Phase II Contract Start	N/A	Successful	1	4th QTR FY23
Software System Design Review	N/A	Successful	2	2nd QTR FY24
Hardware System Design Review and Initial Demo	N/A	Successful	2	4th QTR FY24
System Prototype and Demo	N/A	N/A	4	TBD

HOW

Projected Business Model: MaXentric will invite interested military and commercial parties to review HERMES prototype performance at the end of Phase II. Based on customer and partner feedback, MaXentric will adapt the prototype system specifications to satisfy the target application. Primary potential customers include agencies within the Department of Defense.

Company Objectives: MaXentric is an industry leader in radio frequency technology and high-speed wireless communication devices and works to provide modern and efficient solutions for commercial and government customers. MaXentric's current goal for HERMES is to transition the technology into current and future communications platforms.

Potential Commercial Applications: Potential commercial applications include Commercial HF Communications (Trucking, Freight Shipping, and aviation), Commercial DPD market