

**N00039-11-X-0001**  
**Shipboard Wireless Network Broad Agency Announcement (BAA)**  
**Questions and Answers - Set #2**

Question #	Question	Government Answer	Change To BAA
5	The BAA mentions that the proposed technology shall conform to DoD requirements. Since we are not familiar with those requirements, would you please elaborate or list the fundamental and key requirements?	As stated in the BAA, Section 3, "Requirements", the US Navy seeks research into a 60 GHz wireless technology that can be accredited under the guidelines established in DoD 8501.01. Research papers should discuss how their wireless technology would meet the guidelines applicable to surface ships. The proposal shall discuss how the proposed 60 GHz wireless technology can meet the specifications established in MIL-STD-901D, MIL-STD-167-1A, and MIL-STD-461F as a requirement for any proposed surface installation. See the answers to Questions 9, 10 and 11 for further info.	N/A
6	What are the target system specifications such as:		
	a. Data rate	The US Navy has not established a specific target data rate. The US Navy is open to any data rate proposed for the wireless technology.	N/A
	b. Power consumption	The US Navy has stated power consumption as listed in the BAA, Section 3, "Requirements". The power consumed by a individual piece of 60 GHz wireless technology should be less than the requirements in the BAA.	N/A
	c. Communication distance	MIL-STD-464A establishes that unintentional electromagnetic radiated emissions shall not exceed -110 dBm/m2 at one nautical mile in any direction from the system. The minimum and unimpeded distance expected for the 60 GHz wireless technology to emanate and function is 30 feet. The US Navy is seeking research into 60 GHz Wireless technology that will meet that criterion.	BAA Section 3, "Requirements" has been updated to reflect this requirement. (See BAA REV 3)
	d. What are the communication modes: burst mode or continuous mode? Does it have system response time requirements?	The Government will evaluate the communication mode in the proposals in accordance with its relevance to the requirements identified in Section 3, of the BAA.	N/A
7	Does it require every contractor to have SECRET level or above clearances?	The US Navy requires any contractor participating in testing or demonstration of the wireless technology on board a US Navy Vessel is able to obtain a SECRET clearance for ship access. In accordance with BAA, Section 3, "Requirements", if the contractor does not possess a SECRET level or above clearance, a non-classified designated area or location for testing or demonstration will be selected by mutual agreement.	N/A

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8	The BAA states a key goal for the 60 GHz wireless technology is to deliver ".extensive bandwidth to support multiple and concurrent mobile users.". This is a somewhat ambiguous goal - please bound or further define the terms "extensive", "multiple" and "concurrent".	The US Navy seeks research on demonstrating how maximum bandwidth can be obtained from 5 or more concurrent mobile users within the 57 – 64 GHz bandwidth for transmitting and receiving data from a single node. The US Navy seeks knowledge on what industry is able to develop for shipboard application.	N/A
9	Application of MIL-STD-461F is to be tailored in accordance with the intended installation platform and its mission. The specification provides specific recommended test cases for Surface Ships, Submarines, Navy Aircraft, and Navy Ground - please specify which platform(s) is/are intended. If the answer is "all platforms/missions" is there an intended roll-out schedule?	The MIL-STD-461F specification applicable to this case will be limited to surface ships.	N/A
10	MIL-STD-461F provides specific test cases for conducted and radiated emissions and conducted and radiated susceptibility. Depending on the applicable intended platform, these test cases may be either an outright requirement, limited in scope per the standard, or subject to the procuring activity's definition. Can you provide the specific list of test cases that are expected to be run.	Specific lists of test cases to be run cannot be provided at this time. Test cases will be developed and provided if the US Navy decides to proceed with plans to install a 60 GHz wireless network on surface ships.	N/A
11	Which level of conformance to MIL-STD-901D is required - Grade A or Grade B?	Grade B will be the minimum level of conformance to MIL-STD-901D the US Navy uses for any hardware and equipment developed for a 60 GHz wireless network.	N/A
12	The BAA states that the size shall be 6.5" high X 9.31" deep x 11.31" wide which equals 684 cubic inches. For the antenna, would it be allowable to extend the height beyond the 6.5" in a small area while keeping the total volume less than or equal to 684 cubic inches?	The dimensions provided on the BAA reflect the size and space requirements for 2.4 GHz Wi-Fi access points installed on US Navy ships. The US Navy expects that these listed size and space requirements in the BAA may not be met by, or be applicable to, hardware and equipment in a 60 GHz wireless network. The requirements were provided as guideline to size and space that were favorable for installation. The US Navy will evaluate the relevance of the proposed research to the requirements identified in BAA, Section 3, "Requirements".	N/A
13	The Navy has identified Wireless Intrusion Detection System (WIDS) as an existing element in its shipboard WLAN network. Is it correct to assume that this device is only scanning the existing 2.4 GHz ISM band? Is the requirement then to expand these capabilities to the entire 60 GHz V-band spectrum being proposed by way of an upgrade to the existing WIDS device?	For the scope of this BAA the US Navy will not be upgrading the WIDS to scan the 60 GHz V-band spectrum.	N/A

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14	The Navy has included a power consumption requirement of 115VAC @ 0.340 Amps. It appears that this number exceeds the power handling capabilities of any traditional standard PoE device (~13W power per IEEE802.3af). Could you clarify if Navy plans to provide non standard PoE devices? If so, what's the maximum power handling capability of such device?	The Government will not provide any standard or non-standard PoE devices for the proposed 60GHz wireless technology solution. The power requirements listed in Section 3, "Requirements" have been revised to 100 - 240 VAC / 45 Watts Max Consumption. This is the range of power an individual component (i.e. access point) should utilize.	BAA Section 3, "Requirements" has been updated to reflect this requirement. (See BAA REV 3)
15	It appears that the emission control, limits and susceptibility requirement in MIL-STD-461F and MIL-STD-464A are not specified for frequencies higher than 40 GHz. Is it correct to assume that for operating frequencies exceeding this limit (such as 60 GHz), the 40 GHz requirements should be used?	MIL-STD-461F and MIL-STD-464A do not list the test requirements for 60 GHz and only list the requirements for 40 GHz. The intent is for offerors to be aware of the MIL standards and develop the 60 GHz solution with the 40 GHz requirements as a reference. The proposed 60 GHz solution will be for testing and demonstration purposes only, as per the revised BAA Section 3 "Requirements".	BAA Section 3, "Requirements" has been updated to reflect this requirement. (See BAA REV 3)
16	Is the Navy looking for a networked solution or a simple point to point solution?	The US Navy is seeking a networked solution.	BAA Section 3, "Requirements" has been updated to reflect this requirement. (See BAA REV 3)
17	Does the Navy have non-line-of-sight (NLOS) requirements for this solution?	The desirable solution should be non-line-of-sight (NLOS). The attempt will be for mobile users to access the wired network from a 60 GHz wireless network from anywhere the RF can establish a connection to the user.	BAA Section 3, "Requirements" has been updated to reflect this requirement. (See BAA REV 3)
18	In response to question 2 posted on the website, the government answer is: "The US Navy is seeking any waveform/protocol used at 60 GHz that will adhere to specifications promoted and established by the industry (i.e. WiGig, Wireless HD, etc.)". My question is the following:		N/A
	a. If the government is looking to simply adopt an industry standard and use it, then what innovation if any is sought in this BAA?	The US Navy will look at all wireless solutions proposed. Wireless solutions can incorporate existing commercial-off-the-shelf (COTS) and/or proprietary technology.	N/A
	b. Is the intent of the government to simply take an off-the-shelf WiGig or Wireless HD solution and to see how it would work in EMCON conditions?	The US Navy will look at all wireless solutions proposed. Wireless solutions can incorporate existing commercial-off-the-shelf (COTS) and/or proprietary technology.	N/A
	c. Is there any desire to look at tailor made solutions that operate at 60 GHz and are not WiGig or Wireless HD compliant? Such solutions will be optimized for data traffic as compared to HDMI cable replacement which is characteristics of the WiGig and Wireless HD solutions.	The US Navy will look at all wireless solutions proposed. Wireless solutions can incorporate existing commercial-off-the-shelf (COTS) and/or proprietary technology.	N/A