Topic	Subtopic	Comment	EPA Response
General	Timeline	Some stakeholders commented against the proposed timeline for Version 3.0 as -Changing the test method for both paper usage and network activity requires considerable time to study, verification, and data collection from key stakeholders -Version 2.0 data cannot be used to inform the Version 3.0 requirement levels -Version 3.0 could be the last Imaging Equipment specification revision for a long time, and the process should be well thought out	Due to the complexity of developing the proposed test method updates and consideration of the paper usage assumptions, EPA is extending the timeline for the Version 3.0 specification revision. EPA anticipates providing an updated, estimated timeline with the release of the Draft 1, Version 3.0 specification, by the end of the year.
Maintenance Modes		Many stakeholders commented that the high-energy using maintenance mode presented in the discussion document is a fringe case. Three stakeholders commented that maintenance modes are infrequent and short in duration, noting that they typically take less than a minute and occur between several times daily to once every several days for electrophotography products and every 10–20 days for ink jet products. One stakeholders argued that maintenance modes are too irregular to be address in the test method without affecting its reproducibility. One stakeholder commented in support of limiting frequency, duration, or energy consumption of maintenance modes. This stakeholder argued that maintenance mode energy should be incorporated into the measurement results to reflect real-world use. On the other hand, another argued that the maintenance modes should not be discouraged, as they prevent service calls that would actually have a greater environmental impact.	EPA has discussed this issue with manufacturers and testing organizations and has determined that the observed example of problematic maintenance mode is not indicative of the market. EPA is therefore not proposing any changes to how maintenance modes are treated in the test method.
Network Activity	User Action	Two stakeholders suggested user actions that would test product behavior in response to network commands: - Adding a PC to the network - Checking printer status - Opening network list in Windows Explorer	EPA has proposed to test the network response of imaging equipment using dedicated software that connects to the imaging equipment using the Simple Network Management Protocol (SNMP) and NetBIOS Name Service (NBNS) protocols. These protocols are employed during the typical user actions noted by stakeholders and allow for clear and consistent testing.
Network Activity	Required software	Numerous stakeholders agreed that the best way to control specific data packet types is by using 3rd party open source tools such as snmpwalk and snmpget, which could reflect typical SNMP requests for device status. One stakeholder recommended simulating a cartridge level check and computer bootup with the tool.	EPA has proposed to test the network response of imaging equipment using dedicated, commonly available software to simulate typical user behaviors.
Network Activity	Number of Devices	Two stakeholders argued that more devices (more print requests & retrieval packets) increases frequency of machine wake up, while three stakeholders argued that the relationship is non-existent or at most indirect. One stakeholder noted the importance of a quiet network for conducting a network test.	EPA is not proposing to change the current test method set-up requirement of one computer connected to the UUT. This should provide a quiet network for the test. Finally, although EPA understands that a single computer and network test may not be fully representative, the results of the test may be scaled, if necessary, to reflect typical conditions.

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Network Activity	General	Multiple stakeholders argued against a test method revision, citing the following reasons: 1) Insufficient timeline 2) Test method complexity and lack of repeatability (e.g. operating system and other software differences) 3) Re-testing costs 4) The function of TEC values are to rank products, not serve as representative data A stakeholder recommend developing a deeper understanding of network activity impacts and discussing the proposed test method changes with test labs and certification bodies before moving forward with the revision. One stakeholder commented in support of the proposed test method revision, and noted that repeatability of the test method is important.	EPA has proposed to revise the test method to include a network test and plans to address stakeholder concerns by providing additional time (as noted in Response #2) to research, discuss, and validate the test method. The test will be an additional test, so current TEC tests would not need to be redone-simply re-calculated. Finally, EPA is concerned that network wakeups under real-world conditions could change some products' TEC so much that they would no longer be ranked correctly, not to mention represent typical energy experienced by users. EPA believes that the proposed test method update will be repeatable and has worked with stakeholders, including test labs, in developing the proposal.
Network Activity	DFE	Three stakeholders agreed that DFEs will not be affected by the network activity test method revision proposals. One stakeholder proposed to exclude DFEs from the sleep mode test, stating that DFEs are computers and computers have to wake up to handle application layer protocols. One stakeholder commented that the effect on DFEs will depend on details and the test method option chosen.	EPA proposes to include DFEs in all testing, as they are a key component of the imaging equipment as shipped.
Network Activity	Computer/Network behavior	Stakeholders listed broadcast packet distribution (including Multicast Domain Name Service (MDNS), SNMP), configuration changes, and general status checks as network behavior that can wake up imaging equipment, and intentionally so. Another stakeholder indicated that more open ports in a system will impact the ability to remain asleep. One stakeholder commented that they do not characterize packets as problematic, but rather normal network traffic.	EPA has proposed to test the network response of imaging equipment using dedicated software that connects to the imaging equipment using the SNMP and NBNS protocols. The specific ports required for the test would have to be enabled. Finally, EPA has added testing requirements to confirm that the imaging equipment can respond to the SNMP and NBNS queries to ensure normal network behavior.
Network Activity	Affected Market Portion	Stakeholders estimated that most, if not all, network connected products will be affected by the proposed revision, requiring re-testing before revised specification requirements can be developed. DFE products will not have to be retested.	EPA thanks stakeholders for the information and has strived to minimize any re-testing burden in this proposal.
Product Speed		One stakeholder commented that product speed should be specified in a standardized way, similar to the Blue Angel program, rather than claimed by manufacturers.	EPA reviewed product data from four manufacturers and found that there is an opportunity to promote further consistency by referencing the ISO/IEC standards that the Blue Angel program also references. EPA expects that manufacturers are already performing tests according to these international standards and therefore does not believe that this requirement would impose additional burden.

Topic	Subtopic	Comment	EPA Response
Paper Usage Assumptions		One stakeholder argued against revising the paper usage assumptions; this stakeholder cited a lack of data and stated that the purpose of TEC testing in the ENERGY STAR program is to rank products, with representativeness secondary. Four stakeholders supported the proposal to change the paper usage assumption, arguing that TEC values should be as representative as possible, as they can affect other environmental calculations and life cycle analyses. One stakeholder provided confidential data and two others pointed EPA in the direction of public average monthly print volume (AMPV) data provided by BLI. One noted that paper commercial paper usage has been flat, but there are regional differences, such that revising the usage assumption may be challenging. Another noted that although individual stakeholders may not agree on a specific usage assumption, they can agree that the current one is wrong.	EPA has received real-world usage data from multiple manufacturers, which indicates that the TEC paper usage assumptions are two to ten times higher than reported. While the TEC metric could continue to be used for ranking, EPA is proposing to revise how it is calculated to better reflect the data it has received. This change would not impact the test procedure, only subsequent TEC calculations. By amending the paper usage in this manner, EPA does not anticipate any additional testing burden.
Wi-Fi	**Priority**	Three stakeholders agreed with EPA's proposed revision to the network connection priority order, as Wi-Fi is more common than USB. These three stakeholders also agreed that for TEC products with wired Ethernet connection, Ethernet continues to be the primary connection for customers.	EPA has proposed updating Table 6 to give Wi-Fi connection priority over USB as discussed in the discussion document. EPA believes this reflects typical use.