ENERGY STAR
Telephony Test Method Webinar

December 18, 2012

Bryan Berringer, U.S. Department of Energy
Paul Karaffa, U.S. Environmental Protection Agency

ENERGY STAR Program

Webinar Details

- Webinar slides and related materials will be available on the Telephony Web page:
  - www.energystar.gov/revisedspecs
  - Follow link to “Version 3.0 is in Development” under “Telephony”

- Audio provided via teleconference:
  
  **Call in:** +1 (877) 423-6338 (U.S.)
  +1 (571) 281-2578 (International)
  
  **Code:** 436598#

- Phone lines will remain open during discussion
- Please mute line unless speaking
- Press *6 to mute or un-mute your line
Webinar Goals

- Review changes from Draft 1 to Draft 2 Test Method and receive feedback from stakeholders
- Provide update on Specification development

Agenda

1. Draft 2 Test Method Update
2. Specification Update
3. Next Steps
Review of Draft 2 Test Method

• Draft 2 Test Method published on December 7, 2012
  – Comments are due by December 28, 2012
• Draft 2 contains revisions to five major areas
  – Scope
  – Mode Definitions
  – Power over Ethernet (PoE) voltage requirements
  – Testing with Additional Handsets (AH)
  – Partial On Mode Test for Cordless Telephones
• Changes based on
  – Stakeholder feedback
  – Additional DOE research

Revision #1 – Scope

• Draft 1 Proposal: Telephones with Video Calling capability were not addressed

• Comment Received: Stakeholder requested that video-capable Telephones be explicitly addressed in the scope
Revision #1 – Scope

- **Draft 2 Proposal:** Telephones with Video Calling capability are excluded from the Version 3.0 scope
  - Definition for “Video Calling” included for clarity

- **Rationale:**
  - The test method, as currently proposed, is not sufficient to test video-capable Telephones
  - DOE and EPA may consider these products for inclusion in the next version

Revision #2 – Mode Definitions

- **Draft 1 Proposal:** Proposed the following Operational Modes:
  - Partial On (Sleep) Mode – “on the hook,” ready for a call
  - Idle Mode – “off the hook,” with a dial tone
  - Operation Mode – “off the hook,” connected to a call
  - Charging Mode – “on the hook,” charging a battery
  - Off Mode – plugged in, performing no functions

- **Comment Received:** Stakeholders requested changes to the Operational Mode terms to align with current industry terms
Revision #2 – Mode Definitions

• **Draft 2 Proposal**: DOE is proposing to update the Operational Mode terms

<table>
<thead>
<tr>
<th>Draft 1 Term</th>
<th>Draft 2 Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partial On (Sleep) Mode</td>
<td>Partial On (Sleep) Mode</td>
<td>“on the hook,” ready for a call</td>
</tr>
<tr>
<td>Idle Mode</td>
<td>Call Origination Mode</td>
<td>“off the hook,” with dial tone</td>
</tr>
<tr>
<td>Operation Mode</td>
<td>Active Mode</td>
<td>“off the hook” connected to a call</td>
</tr>
<tr>
<td>Charging Mode</td>
<td>(Removed)</td>
<td>“on the hook,” charging a battery</td>
</tr>
<tr>
<td>Off Mode</td>
<td>Off Mode</td>
<td>plugged in, performing no functions</td>
</tr>
</tbody>
</table>

Revision #2 – Mode Definitions

• **Rationale:**
  – Draft 1 terms conflicted with current industry terms
  – Charging is not a mode but a function which can occur during any of the other defined modes
Revision #3 – PoE Voltage Requirements

• **Draft 1 Proposal:** Connect PoE units to a voltage source of 48 ± 2 volts

• **Comment Received:** Specifying an input voltage of 48 ± 2 volts prohibits the use of Type 2 Power Sourcing Equipment (PSE)

Revision #3 – PoE Voltage Requirements

• **Draft 2 Proposal:** Connect PoE units to a voltage source of 53 ± 2 volts

• **Rationale:** Both Type 1 and Type 2 PSEs can source voltage in the range provided
  – Still provides stringent power requirements
Revision #3 – PoE Voltage Requirements

Can all PoE units operate within the provided voltage range?

Revision #4 – Testing with Additional Handsets (AHs)

• Draft 1 Proposal: Test units both with and without all AHs and accessories set up

• Comment Received: Stakeholders requested clarification regarding the test set up for AHs:
  – What mode should AHs be in during base unit Active Mode testing?
  – Should the power consumption of AHs be measured in addition to the base unit’s?
Revision #4 – Testing with Additional Handsets

• **Draft 2 proposal:** When testing a base unit with AHs:
  – All AHs shall remain in Partial On Mode for the duration of testing
  – Measure only the power consumption of the base unit

• **Rationale:**
  – Most accurately represents normal usage
  – Power consumption of AHs measured when qualifying an AH for ENERGY STAR

Revision #5 – Partial On Mode Testing

• **Draft 1 proposal:** Measure average power consumption over a five minute test period

• **Comment Received:** The five minute measurement period is not representative of normal Telephone operation
  – Units with cordless handsets have charging cycles much longer than five minutes
Revision #5 – Partial On Mode Testing

• Draft 2 proposal: For units with cordless handsets:
  – Stabilize unit in the charging cradle for at least two hours prior to testing
  – Measure average power consumption over two hour test period

• Rationale:
  – Stabilization period ensures battery is fully charged prior to testing
  – 2 hour test period measures larger portion of charging cycle – more representative of normal operation

Summary of Proposed Changes

<table>
<thead>
<tr>
<th>Topic</th>
<th>Draft 1 Test Method</th>
<th>Draft 2 Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope</td>
<td>Video-capable Telephones not addressed</td>
<td>Video-capable Telephones are excluded from the Version 3.0 scope</td>
</tr>
<tr>
<td>Definitions</td>
<td>• Partial On (Sleep) Mode</td>
<td>• Partial On (Sleep) Mode</td>
</tr>
<tr>
<td></td>
<td>• Idle Mode</td>
<td>• Call Origination</td>
</tr>
<tr>
<td></td>
<td>• Operation Mode</td>
<td>• Active Mode</td>
</tr>
<tr>
<td></td>
<td>• Charging Mode</td>
<td>• (Removed)</td>
</tr>
<tr>
<td></td>
<td>• Off Mode</td>
<td>• Off Mode</td>
</tr>
<tr>
<td>PoE Voltage Requirements</td>
<td>Connect units to a voltage source of 48 ± 2 volts</td>
<td>Connect units to a voltage source of 53 ± 2 volts</td>
</tr>
</tbody>
</table>
Summary of Proposed Changes

<table>
<thead>
<tr>
<th>Topic</th>
<th>Draft 1 Test Method</th>
<th>Draft 2 Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Testing with Additional Handsets</td>
<td>Test units both with and without AHs set up</td>
<td>When testing with AH:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- All AHs remain in Partial On Mode</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Measure only the base unit’s power consumption</td>
</tr>
<tr>
<td>Partial On Mode Testing</td>
<td>For all units</td>
<td>For units with cordless handsets</td>
</tr>
<tr>
<td></td>
<td>- Stabilize unit for 5 minutes</td>
<td>- Stabilize unit for two hours</td>
</tr>
<tr>
<td></td>
<td>- Measure average power over 5 minute period</td>
<td>- Measure average power over two hour period</td>
</tr>
<tr>
<td></td>
<td></td>
<td>For all other units</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Stabilize unit for 10 minutes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Measure average power over 10 minute period</td>
</tr>
</tbody>
</table>

Agenda

1. Draft 2 Test Method Update
2. Specification Update
3. Next Steps
Data Assembly Start

- With the release of this test method, EPA would like to start the data assembly process
- Data assembly will run: December 2012–February 28, 2013
- All data shared by stakeholders will be treated in confidence.
- Data will be used in the aggregate to develop Draft 1 specification levels in the spring

Data Collection Form

- Test Reporting Template Accompanied Test Method
  - Also available through energystar.gov/RevisedSpecs
  - Use template to record and provide data to EPA
  - Includes space for both test results and product characteristics
  - Data collection to run until: February 28, 2013

Send data to telephony@energystar.gov
Version 3.0 Data Needs

- Need data for VoIP/Hybrid, Corded, Conference
- Will use Qualified Product Data for Cordless

Thank You in Advance

Thank you in advance!

EPA is looking forward to your contributions.
Agenda

1. Draft 2 Test Method Update
2. Specification Update
3. Next Steps

Framework: Test Method Development Timeline

<table>
<thead>
<tr>
<th>Draft 1 Version 3.0 Test Method to stakeholders</th>
<th>June 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draft 1 Version 3.0 Test Method comments due</td>
<td>June 2012</td>
</tr>
<tr>
<td>Draft 2 Version 3.0 Test Method to stakeholders</td>
<td>December 2012</td>
</tr>
<tr>
<td>Draft 2 Version 3.0 Test Method comments due</td>
<td>December 2012</td>
</tr>
<tr>
<td>Final Draft Version 3.0 Test Method to stakeholders</td>
<td>Early 2013</td>
</tr>
<tr>
<td>Final Draft Version 3.0 Test Method comments due</td>
<td>Early 2013</td>
</tr>
<tr>
<td>Final Version 3.0 Test Method</td>
<td>Mid 2013</td>
</tr>
</tbody>
</table>
Framework: Data Assembly and Specification Development Timeline

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draft 2 Version 3.0 Test Method to stakeholders</td>
<td>December 2012</td>
</tr>
<tr>
<td>Data Assembly Period Starts</td>
<td>December 7, 2012</td>
</tr>
<tr>
<td>Data Assembly Period Ends</td>
<td>February 28, 2013</td>
</tr>
<tr>
<td>Draft 1 Version 3.0 Specification Published</td>
<td>Spring 2013</td>
</tr>
</tbody>
</table>

EPA thanks all stakeholders for their contributions to the data assembly process!

Contact Information

Please send any additional comments to telephony@energystar.gov or contact:

Bryan Berringer  
DOE ENERGY STAR Program  
Bryan.Berringer@ee.doe.gov

Kurt Klinke  
Navigant Consulting, Inc.  
Kurt.Klinke@navigant.com

Paul Karaffa  
EPA ENERGY STAR Program  
Karaffa.Paul@epa.gov

Rachel Unger  
ICF International  
Rachel.Unger@icfi.com

www.energystar.gov/productdevelopment