



USDOT Roadside Unit 4.1 Specification

Plugfest

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FEDERAL HIGHWAY ADMINISTRATION



Introduction



This presentation will:

- Review questions and issues that have been raised regarding the latest (4.1) release of the RSU spec
- Introduce testing planned for this week

Disclaimer



This presentation is the product of a government contractor and does not necessarily reflect any policy endorsed by the U.S. government.



SPECIFICATION REVIEW

Environmental



- Shock and Vibe
 - USDOT_RSU-Req_319 calls for testing according to MIL-STD-810G
 - USDOT_RSU-Req_320 calls for testing according to IEC-60068/60721 (preferred)
 - USDOT_RSU-Req_439 calls for *transportation* shock and vibe testing according to MIL-STD-810G
- Climatic
 - USDOT_RSU-Req_325 calls for an enclosure that meets NEMA 4X or IP66

Temperature

- USDOT_RSU-Req_312 & USDOT_RSU-Req_313 call for temperature cycling according to NEMA TS 2-2003 v02.06
- Refer to Figure 2-1 in section 2-2

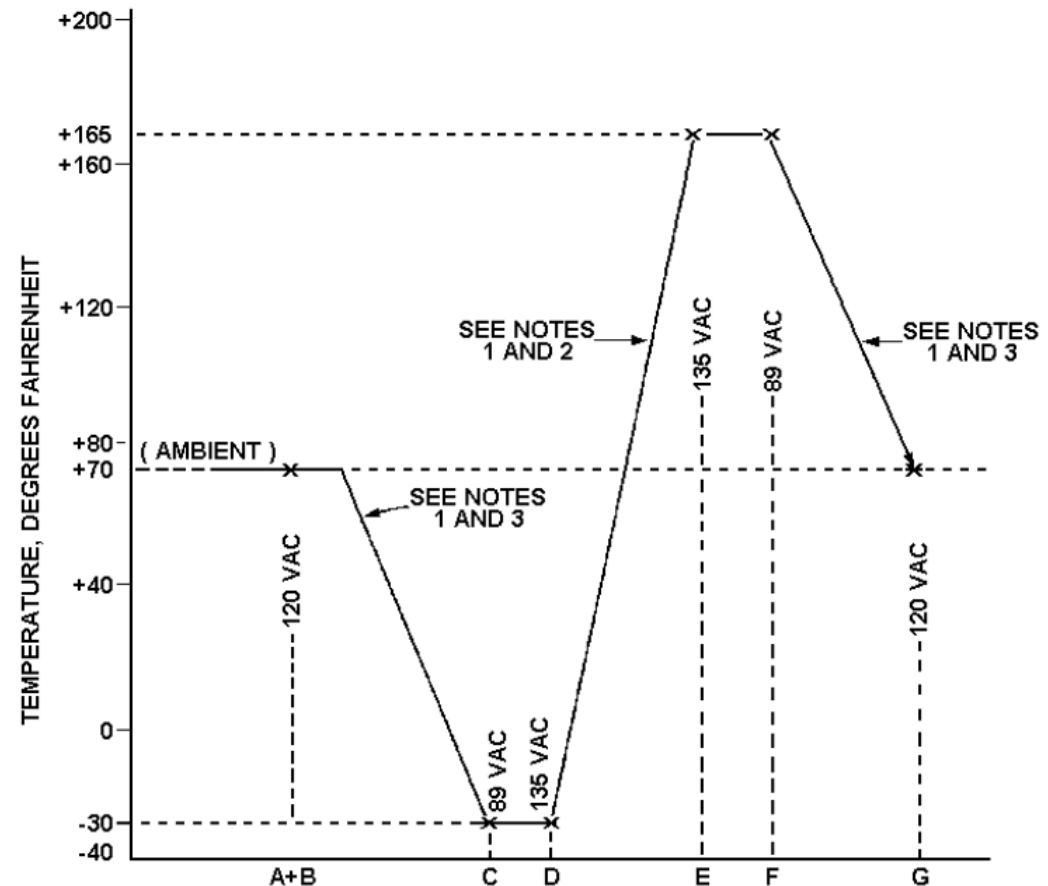


Figure 2-1
TEST PROFILE

SNMP



- Intent is to move toward SNMP rather than direct loading of message files by SCP, etc.
 - Simplify device interaction
 - Improve security
 - Simplify management of a large number of devices

RSU Set



- Intent is to allow a large intersection with poor line-of-sight to be equipped with multiple RSUs that will provide the same messages and improve the coverage of DSRC radios
- Operate as a single unit and appear to vehicles and to a TMC as a single unit

Message Forwarding



- Should the RSU forward (1609) headers?
 - Headers contain useful information
 - Make it configurable?
- How should the WSA handle Immediate Forward messages?
 - IF messages don't have a predefined duration
 - Advertise the service as long as the message is transmitted?



TESTING REVIEW

Positioning



- Time should register as UTC time
- Position should register as the actual position
- Location should be sent to a configurable IP address and port number at a configurable interval

SNMP



- Users can be created
- OIDs all exists with default values
- GPGGA string transmission can be configured
- Store and Repeat messages can be configured
- DSRC Forward messages can be configured
- WSA parameters are available

Message Forwarding



- Store and Repeat messages programmed into the device transmit on the appropriate channel during the correct time period
- Immediate Forward messages transmit according to the instructions
- DSRC messages with the correct PSID are forwarded to the appropriate IP address/port

Wave Service Advertisement



- WSA should be sent on the Control Channel (178)
- WSA should include services available on the Service Channel
- WSA should NOT include services available on the Control Channel

Future Releases



- A 5.0 release is expected before widespread deployment (years away)
 - Account for lessons learned from SCMS
 - Build on experience of Pilots and other deployers
- Guidance for 4.1 spec may be released in the form of an FAQ
- Corrections to MIB will continue to be made



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Questions for You



Keeping in mind this is a minimum spec...

- Where should the spec go next?
- What should be added to a future release?
- What should be removed in a future release?