

SUMMARY OF TOPICS

The following topics for the Standard for Standard for Household Microwave Ovens, UL 923, are being recirculated:

1. Safety of Smart Enabled Microwave Cooking Appliances

COMMENTS DUE: November 26, 2018

For your convenience in review, proposed additions to the previously proposed requirements dated April 27, 2018 are shown underlined and proposed deletions are shown ~~lined-out~~.

1. Safety of Smart Enabled Microwave Cooking Appliances

RATIONALE

Responses to comments have been posted within the 923 Proposal Review Work Area dated April 27, 2018.

PROPOSAL

Table SC2.1
Operating control parameters

Information	Operating control requirements
Operating ambient	As specified by the device manufacturer and verified during the Normal Temperature test, Section 41, of the appliance
Endurance testing for power switching devices	A) 100,000 cycles for automatic, self-resetting operating controls B) 6,000 cycles for manual, non-self-resetting operating controls
Overvoltage category	Overvoltage category II
Pollution degree	<u>2 for controlled environment per 2-12 PD 3 for OTR's and PD 2 for all others</u>

SC2.1.2 With respect to SC2.1.1, the requirement is not applicable to controls located in low voltage circuits where the maximum power available does not exceed 15 W. This does not exempt the control from investigation for compliance with Functional Safety, Section SC3.

Exception: A communication device, display, router, monitor, etc. that does not have direct control over the operation of the appliance does not need to be investigated in accordance with the requirements for Functional Safety, Section SC3.

SC2.1.3 With respect to SC2.1.1, compliance with the Standard for Solid-State Controls for Appliances, UL 244A, or the Standard for Temperature-Indicating and -Regulating Equipment, UL 873, taking into account criteria comparable to that specified in Table SC2.1 is considered to fulfill this requirement.

SC2.1.4 With respect to SC2.1.1, a communication device that is not integral with the appliance control (e.g. on a separate printed wiring board), and does not incorporate Class B safety functionalities, may alternatively comply with the Standard for Information Technology Equipment Safety - Part 1: General Requirements, UL 60950-1.

Exception: External communication or display devices powered via connection to communication or data ports on the appliance which are located in low voltage, Class 2, SELV or PELV circuits do not require investigation.

SC2.2.1 For appliance controls that communicate by wire connection to a LAN or other separate device, the separation of communication circuits from power and control circuits shall be evaluated for risk of electric shock in accordance with 32.3.

SC3.2 With respect to SC3.1, the control shall not:

- a) Render inoperative any Type 2, Class B or C functionality of any control within the appliance;
 - b) Alter the response or expected performance of any Type 2, Class B or C functionality of any control within the appliance.
 - c) Alter the response or expected performance of user actuation of controls, movement of doors, covers, lids, locking and/or interlocking mechanisms that function to limit user exposure to hazardous electrical parts, hazardous moving parts, hazardous hot parts, heated cavities or radiation;
- Exception: If the altered response or performance does not introduce a hazardous condition (e.g. a rotating part stops more quickly), this requirement is not applicable.*
- d) Enable remote operation to allow starting or restarting of the cooking mode (microwave, convection, bake, etc) or self-cleaning function of the appliance, see SC3.6 for Exception;
 - e) Alter the order of appliance control response in a manner that forces a protective control to operate where normally an operating control would respond; or
 - f) Supersede the response of any protective control such as temperature limiting or door interlocking functions etc. Examples of protective control functions include temperature limiting and door interlocking functions.

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