# OSM/EE DECISION SHEET

| Category | Standard: | Clause | Document no. |
|---|---|---|---|
| ITAV | EN 62368-1:2014 + A11:2017<br>EN IEC 62368-1:2020 + A11:2020 | M.4.2 | OSM-EE 21/1 |

| Subject | Key words | Meeting |
|---|---|---|
| Charging safeguards for equipment powered by secondary lithium battery | Lithium battery,<br>Charging safeguards | Online meeting<br>12-15 April 2021 |

**Question**

The affected equipment (amplifier with radio) is powered by mains or internal lithium batteries which can be recharged in the equipment by a direct wall plug-in charger. Although intended for indoor / outdoor use, it is not classified as outdoor equipment.

The M.4.1 requirement is as follows :

"The battery charging circuit shall stop charging when the temperature of the battery exceeds the highest specified charging temperature. The battery charging circuit shall limit the current to the value specified by the battery manufacturer when the battery temperature is lower than the lowest specified charging temperature. »

This is a requirement for normal operating conditions, abnormal operating conditions or single fault conditions.

The limits provided by battery manufacturer are 0°C and 45°C.

No temperature limits provided for end product in User Manual.

There are two opposite interpretations:

1) The equipment should be tested two times in a climatic chamber at temperatures set for two values slightly exceeding the limits given for the battery and verified that the control circuit operates,

2) The temperature of the battery is measured during the charging under all conditions (Annex B) and, if the temperature does not reach the limits, the test is N/A.

Question : Which interpretation is correct, 1 or 2 ?

**Decision**

It is the opinion of the OSM-EE that for equipment that is likely to be used in an environment that is outside of the manufacturer's ambient temperature limits for example portable equipment that may be used in a vehicle or outdoors, there shall be abnormal testing related to the upper and lower limits of ambient temperature.

**Explanatory notes**