**Joint Action on HARmonized Products 2020 JAHARP2020-3**

**Grant Agreement No. GA SI2.851409**

**Work Package (WP) 3**

**Call for Tender for Test Laboratories**

**USB Chargers**

Appendix I – Detailed Product Testing Requirements

The tests to be carried out in the framework of this Joint Market Surveillance Action will be based on the latest valid harmonised (as published in the Official Journal of the European Union – OJEU) edition of EN 62368-1 and must include the testing criteria listed in the table below. The purpose of testing is to identify non-compliances allowing a market surveillance authority to decide whether a specific USB charger poses a risk to consumers such that action may be taken against it. Testing must therefore focus on areas where products are likely to fail.

The testing covers USB chargers of the direct plug-in type in the scope of the EU Low Voltage Directive 2014/35/EU. Testing is a ‘smart-screening’ approach and not type testing. Testing is targeted at safety-critical criteria likely to result in significant failures and potential hazards. Testing personnel should use their professional judgement in selecting the most appropriate clause/sub-clause for the product under test. The project allows for testing of approximately 130 USB charger products. Two samples of each USB charger product type would be provided, giving a total of 260 product samples.

The suggested maximum testing duration per product is 6 hours. Testing criteria details are provided in the table below. The criteria have been revised following the responses received from the invitation for expression of interest in December 2021.

Please provide the price in Euros per clause including the price for producing a short form report for each product under test and a total price for product testing and test report production for each product under test.

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| **USB CHARGERS according to latest valid (harmonised) edition of EN 62368-1** |
| Clause of EN 62368-1 | Testing criteria | Price (EUR) |
|  | **General remarks**: As this is a ‘smart-screening’ approach and not type testing, please use your professional judgement in selecting the most appropriate clause/sub-clause from the criteria listed below for the USB charger product under test. The testing should focus on areas that are likely to reveal a nonconformity/product hazard. Please plan to perform the potentially destructive testing near or at the end of the testing sequence. Please note the condition of the product sample on arrival and perform an initial functional check to determine whether it operates in accordance with the user instructions provided.  |  |
| 4.1.2 | Use of components – No individual component approvals/certification data will be provided. Please include assessment of capacitors (X/Y1/Y2), varistors (overload, clause G.8.2), optocouplers, PCBs and transformers. |  |
| 4.1.15 | Marking and instructions -This should include the marking durability test where necessary. |  |
| T.7 | Safeguards – Drop test only.Please note that the laboratory will be requested to perform a non-standard ad-hoc mechanical impact test on a limited number of product samples. This will be done for project research purposes, as the EN 62368-1 does not include such a test for direct plug-in USB chargers. The mechanical impact might be based around impact apparatus used in EN 60335-1, clause 21.2. But the testing to be carried out will be determined after discussion with the selected laboratory. |  |
| 4.6 | Fixing of conductors – Evaluate the fixing means of conductors in respect of any reduction in clearances of creepage distances.  |  |
| 4.7 | Plug portion and mains socket-outlets – Dimensional check for plug portion of USB charger and pull and torque test against EN 50075 (flat 2.5 A plug), clause 13.  |  |
| 5.4 | Insulation materials – Determination of minimum distance through insulation (clause 5.4.4.2) and creepage and clearance distances, mainly between mains and secondary side (SELV), particularly those of the transformer.  |  |
| 5.4.9 | Electric strength – At room temperature, via *Method 3.* |  |
| 5.7.1 | Prospective touch voltage, touch current, and protective conductor current– Testing performed at most unfavourable supply voltage. |  |
| 6.4.8 | Fire enclosures and fire barriers – Needle-flame test. |  |
| Price (EUR) for producing a short form modified IECEE TRF CB test report (per sample of each USB charger)  |  |
| Total price (EUR) for testing and test report production of each USB charger |  |