IEC 62684 and Common Charger in EU

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Background of Common Charger in EU

Route towards common charging solution

- In 2009 European Commission initiated a discussion with the industry to agree a common charging system for mobile phones.
  - Voluntary agreement to have Micro-USB compatible charging system
  - Signed by all major handset vendors
  - Applied to data enabled phones
  - Terminated 31.12.2012
- Standardisation activities
  - Technically the MoU was based on using USB Battery Charging specification 1.1
  - Still the industry saw that additional technical specifications are needed and preparatory work was done by a group of companies within DE, but not officially by DE.
  - European Commission gave the required standardisation mandate to proceed.
  - Practical work was done in CENELEC BTTF 135-1 based on MoU tech group input.
  - The resulting standard had parallel approval in CENELEC and IEC resulting IEC 62684
  - CENELEC group has since been disbanded with no further work planned.
  - IEC 62684 is now the basis of common chargers in EU
  - ITU-T L.1000 is also based on the IEC 62684

Common Charger System

How it has been implemented?

USB Common Charger with USB A power supply

USB Common Charger with captive cable

Charging ecosystems are built around USB-chargers.

- In most cases there is a separate power supply with USB A receptacle and a normal USB-A to Micro-B cable.
- Some manufacturers have their own plugs instead of the Micro-B, but claim to comply with USB-A on the power supply.
- Captive cable ending with Micro-B is another possibility.

In some cases manufacturer comply with adapters or specific cables.

Current status of the MoU and EU market

- The MoU has done it's job well and markets are almost 100% compliant with the common charger.
- After the MoU disbanded at the end of 2012, the Commission has put some pressure to the industry to sign a new MoU.
- In April 2013 eight leading mobile phone manufacturers signed a LOI to supply chargers to the EU market until the end of 2013, which conform to the 2009 MoU on common chargers.
- As part of the LOI the manufacturers undertook to continue to work on evolving the standards. Active participation in the ongoing development and maintenance of the European standards already produced as a result of the MoU, to consider possible changes needed to support evolution of the USB specifications (including USB Power Delivery) and the delivery of higher power output chargers
- The EC remains very interested to follow developments and there is an expactation that work will continue.

Technical Developments

What has changed since IEC 62684 was published?

- USB-charging has been developing further with Introduction of the BC 1.2 with higher currents than 1.5 A
  - >1.5A short circuit protected chargers
  - ≤1.5A constant current source
  - With PD-rated connectors it is possible to supply up to 3.0A

- IEC 62684 introduced some common mode noise requirements in order to guarantee touch screen operation during charging.
  - Display technology has been evolving since the original technical specification and some requirements are outdated or misplaced.
  - To overcome the encountered problems the MoU signatories have published an annex III to the MoU ”Guide on Implementation of Requirements of the Common EPS”

Proposal

TC100 role

- Currently IEC 62684 stability date is set for 2015
- There are however technical reasons, which suggest that the standard should be revised earlier.
- The industry should keep the initiative on charger development on it's own hands and the revision of the IEC 62684 would be a good step.
- TC100 would be the correct place to do the work as it has the required competencies.
- In the European discussion it has been proposed that CENELEC would request IEC to do the work.
- TC100 should consider changing the stability date and should be prepared to start a revision project.