

Technical Disclosure Commons

Defensive Publications Series

November 2019

DESIGN OF TYPE-C PLUGIN TO SOLVE THE WIGGLE ISSUE

HP INC

Follow this and additional works at: https://www.tdcommons.org/dpubs_series

Recommended Citation

INC, HP, "DESIGN OF TYPE-C PLUGIN TO SOLVE THE WIGGLE ISSUE", Technical Disclosure Commons, (November 13, 2019)

https://www.tdcommons.org/dpubs_series/2681



This work is licensed under a [Creative Commons Attribution 4.0 License](https://creativecommons.org/licenses/by/4.0/).

This Article is brought to you for free and open access by Technical Disclosure Commons. It has been accepted for inclusion in Defensive Publications Series by an authorized administrator of Technical Disclosure Commons.

Design of Type-C plugin to solve the wiggle issue

The USB Type-C plugin is widely being used in mobile electric product design today, such as in application of phone, notebook computer as a data, imagine and power supplier I/O Port. Due to the heavily usage of plugin and unplugging, the reliability is becoming a big concern, such as Wiggle, deformation and crack.

Current design, the wiggle is controlled through a smaller locker on the type C connector which is easily lost function because of material mechanical properties is not good enough, the Plugin force is easily loose

The new design is proposed by using assistant of a pins on type C plugin to enhance the anti-deformation of both housing of type –c and its support C-cover connector, to avoid the overloading by unexpected usage through user.

Those Pins can be withdrawal to working like normal USB type C, if there is non-hole design on the device housing, such as C-cover.

The optimized pin on the type –c plugin surface is designed to keep a good resistance to prevent the loose of the type-C.

New design of type-c plugin

Optimized Pins are used on the type C plugin, those Pins can be withdrawal to working like normal USB type C , if there is non hole design on the device housing , such as C-cover.

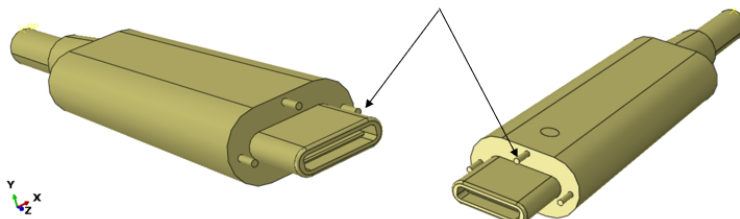


Fig.1 The two views of the new type –c plugin design

In this innovation, with assistant of pin design on the surface of USB type –C to solve the Type C wiggle is proposed. The new design is proposed by using optimized PIN design on the surface of type –c plugin to keep a good resistance to prevent the loose of the type-C. the stiffness of the plugin both from connector and plugin are enhanced. Fig. 1 is showing the new type C plugin design which is using a optimized pins on the surface of type –C plugin, to help the holding type –c firmly. To overcome any kind of overloading, up, down and twist, to keep good connection inside electrical part and its surface. Fig .2 showing the pins can be withdrawable if there are no pin hole on the C-cover of NB device

The advantage are;

- No additional cost added
- The lifecycle is increased to meet customer expectation
- Solving problem due to normal force drop and easy loose after 3K times.

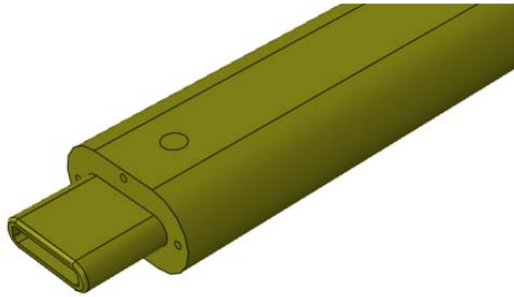


Fig .2 the pins can be withdrawable if there are no pin hole on the C-cover of NB device

Disclosed by Baosheng Zhang, Park Chan, Leng Lim and Joe Lo, HP Inc.