Dear [Name] and all:

I hope you have enjoyed a restful summer break.

Rather than the high voltage charging which USB-PD has adopted, various proprietary charging solutions leverage large current charging with charging current exceeding the upper limit of 5A defined in the USB PD standard (EN IEC 62680-1-2:2022). Proprietary charging solutions could deliver higher power than USB-PD even they are based on the same charging voltage, using the same hardware.

Let's take a simple example as illustrated by the following table.

<table>
<thead>
<tr>
<th></th>
<th>Voltage (V)</th>
<th>Current (A)</th>
<th>Charging (W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USB-PD</td>
<td>11</td>
<td>5</td>
<td>55</td>
</tr>
<tr>
<td>SUPERVOOC</td>
<td>11</td>
<td>6.1</td>
<td>67</td>
</tr>
</tbody>
</table>

Here the charging power of SUPERVOOC is 67W (11V * 6.1A). Even the radio device can support 11V charging via USB-PD, it could only be charged at a maximum of 55W (11V* 5A) because of the maximum current restriction by USB-PD. This is the real reason of why other charging solution could deliver higher power than USB-PD (on the basis of common charging voltage).

This example illustrates that it is the upper limit for charging current (5A) which is restricting the maximum charging power of USB-PD. SUPERVOOC, used as an example for proprietary solutions here, is neither limiting the charging power of USB-PD nor impeding the full functionality of USB-PD.

In other words, USB-PD cannot fully leverage the capability of the underlying hardware capabilities (mainly maximum current here), but major proprietary charging solutions do. It's
the USB-PD protocol limiting the full use of existing hardware resources and it's not proprietary charging solutions limiting USB-PD.

I remember you are invited to a DigitalEurope meeting in June and updated us your explanations on some key issues related to Directive (EU) 2022/2380, which is very helpful for all of vendors. You said most of questions and answers provided by DigitalEurope in the FAQ document were adopted except two of those questions/answers. There was a Q15 in that FAQ document which discussed the upper limit for charging current (5A) of USB-PD. I attached that FAQ document for your convenience. I believe this Q15, which is elaborated in the first part of this email, is of utmost importance for understanding charging power related issues and the interpretation of ‘full functionality’. Kindly ask you to contemplate this issue again!

Wish you a very pleasant day!

All the best!

OPPO Mobile Telecommunications Corp., Ltd.

From: eec.europa.eu
Date: 2023-08-09 16:06
To: oppo.com
CC: eec.europa.eu
Subject: RE: RE: A question about EU 2022/2380 common charger regulation

Dear,

Thank you for your email.

The European Commission is a law-making body, we can provide guidance on the interpretation of the legislation, but we are not competent for its implementation. We can therefore not provide technical assistance, nor pronounce ourselves on how to draw the necessary certificates required by the EU acts.

That being said, please note that the ‘Common Charger’ Directive ([https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L.2022.315.01.0030.01.ENG&toc=OJ%3AL%3A2022%3A315%3ATOC](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L.2022.315.01.0030.01.ENG&toc=OJ%3AL%3A2022%3A315%3ATOC)) requires radio equipment to be equipped with the USB Type-C receptacle as described in standard EN IEC 62680-1-3:2021. The standard defines USB Type-C receptacles and their contacts that are to be applied.
Please also note that the Directive applies to the categories or classes of radio equipment capable of being recharged via wired charging that are listed in Annex Ia.

I hope this information is useful.

Regards,

From: [Redacted] @oppor.com
Sent: Monday, July 17, 2023 3:56 AM
To: [Redacted] @oppor.com; [Redacted] @oppor.com
Cc: [Redacted] @oppor.com; [Redacted] @oppor.com
Subject: RE: A question about EU 2022/2380 common charger regulation

Dear [Redacted],

I hope this email finds you well!

After evaluating the compliance of Type C receptacle of our products, we would like to consult if both of the following implementations are deemed as meeting the requirements of point 2.1 of Annex Ia in DIRECTIVE (EU) 2022/2380.

**Implementation 1:**
For some products with low demand for data transmission (like earbud), implementations of Type C receptacle of these kind of products only contain 8 pins rather than 16 or 24 pins as required by 62680-1-3:2021, but after series of interoperability testing we are pretty confident that this kind of implementations could ensure basic charging function and interoperability between devices provided by different vendors.

The principle and propose of this design is to ensure that there are no problems with the charging function and the product can still be capable of being charged with cables which comply with the standard EN IEC 62680-1-3:2021 mentioned in point 2.2 of Annex Ia while reducing the cost.
The design comparison chart is as follows:

Implementation 2):
At present, it is understood that the mechanical design of the Type C receptacle of some products is not completely complying with the design requirement of EMC ground return path as described in 3.2.1 Interface Definition of IEC62680-1-3:2021. But this implementation can still ensure basic charging function and fast charging function, and also the full functionality of USB-PD protocol.

Really appreciated if you can give me a more clearer interpretation and explanation!

Regards,

OPPO

发件人: [email]@oppo.com>
发送时间: 2023年2月9日 17:56
收件人: [email]@ec.europa.eu> [email]@oppo.com>
抄送: [email]@ec.europa.eu; [email]@ec.europa.eu>
主题: Re: RE: A question about EU 2022/2380 common charger regulation

Dear [Name]

Thank you very much for your kindly reply.
Really helps, now I have a much more clear understanding of ‘full functionality’ and the intention of this legal instrument.

Thanks again, wish you a very happy day!

All the best!

OPPO Mobile Telecommunications Corp., Ltd.

From: [Email]  
Date: 2023-02-07 16:31  
To: [Email]; [Email]  
CC: [Email]

Subject: RE: A question about EU 2022/2380 common charger regulation

Dear [Name], Dear [Name],

Thank you for your message.

The purpose of the harmonised charging solution is to ensure interoperability between the radio equipment and charging devices (external power supplies) irrespective of their brand.

Article 3.2 of Part I of Annex Ia of Directive (EU) 2022/2380 (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2022.315.01.0030.01.ENG&toc=OJ%3AL%3A2022%3A315%3ATOC) is there to ensure such interoperability: “[...] 3.2 ensure that any additional charging protocol allows for the full functionality of the USB Power Delivery referred to in point 3.1, irrespective of the charging device used.”

The provision is there to make sure that ‘fast charging’ via USB Power Delivery is not limited by proprietary communication protocol. If the radio equipment is allowed to support a certain charging power, it shall support it across all communication protocols that the radio equipment incorporates/uses. Two (2) chargers withsame maximum power but with a different communication protocol (one with harmonised solution USB PD and the other with a proprietary solution) cannot provide a different speed of charge which depends on a limitation of the power accepted by the radio equipment for a specific communication protocol.

As regards to your concern of usage of counterfeit cables and charging devices, by default, they shouldn’t be present on the market. Nonetheless, towards the goal of a ‘common charger’ and to complement the ‘common charging’ solution on radio
equipment side, work is ongoing as regards interoperability on the side of the external power supply. The Ecodesign Regulation (2019/1782) covers these external power supplies. The Commission is reviewing this Ecodesign Regulation to, among other things, promote interoperability by introducing corresponding requirements and provide consumers information related to the external power supply.

I hope this answers your question.

Regards,

From: @oppo.com>
Sent: Tuesday, January 31, 2023 6:52 PM
To: (GROW) @ec.europa.eu>
Cc: @ec.europa.eu>; @ec.europa.eu>; @oppo.com>
Subject: A question about EU 2022/2380 common charger regulation

Dear and all:

I am with OPPO Telecommunications. Sorry to bother you asking question with regard to EU 2022/2380 (common charger regulation).

Many colleagues of OPPO are hardly working to adapt products according to EU 2022/2380. But there are some ambiguities in EU 2022/2380 common charger regulation especially in USB-PD related provisions, my colleagues do not know how to do without a clear interpretation of those provisions.

Before the question below, please allow me to explain the state of the art. Taking into account the risk of counterfeit chargers and cables and also the widely adopted fast charging technology for which a safe charging process is of utmost importance, nowadays many devices (including smartphone, tablets) implemented authentication mechanisms on charger and cable just to make sure charger/cable could be fully trusted with regard to safety. As a result of this authentication and negotiation process, devices could be charged at higher power using manufacturers' own charger/cable than when using 3rd party charger/cable. This authentication and subsequent charging process fully comply with EN IEC 62680-1-2:2021 standard.
My question: Is the radio equipment allowed to support higher charging power (e.g. 55W) when using the manufacturer's own USB-PD compliant charger than when using other manufacturer's charger (e.g. 33W)?

Very much appreciated if you can give me a more clearer interpretation and explanation!
not be liable for any damages that arise or may arise from the intentional or negligent use of such information.

Cultural Differences Disclosure: Due to global cultural differences, any reply with only YES\OK or other simple words does not constitute any confirmation or acceptance of any transaction or contract, please confirm with the sender again to ensure clear opinion in written form. The sender shall not be responsible for any direct or indirect damages resulting from the intentional or misuse of such information.