

Guidelines for the Behavior of Qi v1.3 EPP Power Receivers when a Power Transmitter Fails to Authenticate

A Qi v1.3-certified EPP Power Receiver Product may encounter situations in which a Power Transmitter Product is incapable of authenticating or its attempt to authenticate fails.

This document provides recommendations for the behavior of the Power Receiver Product in these circumstances. A Power Receiver Product is not required to follow these guidelines: it is free to determine the appropriate amount of power to accept from the Power Transmitter Product and controls that power level at all times.

1 BPP Power Transmitter Products

BPP Power Transmitter Products do not support authentication.

Recommendation: Accept up to 5 W

2 Legacy EPP Power Transmitter Products

v1.2.x EPP Power Transmitter Products do not support authentication.

Recommendation: Accept from 8 W to 15 W

3 EPP5 Power Transmitter Products

Support for authentication is optional for v1.3 EPP5 Power Transmitter Products, and so a Qi-certified Power Transmitter Product may fail to authenticate. Note also that a Power Receiver cannot distinguish between EPP5 and v1.3.x EPP Power Transmitter Products.

Recommendation: Accept up to 5 W

4 Authentication failure with v1.3 EPP Power Transmitter Products

4.1 *Incorrect product unit certificate*

If the certificate is not correctly formatted, not properly signed, or linked to the WPC Root CA, the product cannot be trusted.

4.1.1 *Incorrect product unit certificate – certificate error*

If the certificate is not correctly formatted, not properly signed, or linked to the WPC Root CA, the product cannot be trusted.

Recommendation: Accept up to 5 W

4.1.2 *Incorrect product unit certificate – communication error*

The certificate is incorrect due to a communication error (e.g. Bit flip or Bit Error Rate too high).

Recommendation: Accept up to 15 W

4.2 Product Unit Certificate revoked**4.2.1 Serial Number of Product Unit Certificate was revoked**

This failure indicates the Power Transmitter Product is not Qi Certified. The reason may be that a cloned private key is being used or it contains stolen Provisioned Secure Storage Subsystems.

Recommendation: Do not accept power from the Power Transmitter Product. Give a suitable error message to the user advising against using this charger.

4.2.2 Qi-ID revoked because the product was recalled

This failure indicates the Power Transmitter Product is known to be unsafe because safety failures have occurred in the market. These failures are often unrelated to the wireless power functionality in the product.

Recommendation: Do not accept power from the Power Transmitter Product. Give a suitable error message to the user advising against using this charger.

4.2.3 Qi-ID revoked because the product failed a market inspection test

Market inspection tests focus on compliance with safety features and requirements defined in the Qi Specification. This failure indicates the Power Transmitter Product is known to be non-compliant with the Qi Specification. It is therefore likely that the product is unsafe to use at power levels above 5 W.

Recommendation: Accept up to 5 W

4.2.4 Qi-ID revoked because the secret key in the Secure Storage Subsystem in the product was compromised multiple times

This failure indicates that while the Power Transmitter Product may be a genuine and safe charger, it could potentially be a non-certified charger that contains stolen credentials.

Recommendation: Accept up to 5 W

4.3 Manufacturer CA Certificate revoked

This failure indicates that while the Power Transmitter Product may be a genuine and safe charger, it could potentially be a non-certified charger that contains stolen credentials.

Recommendation: Accept up to 5 W