SLOVENSKI STANDARD
oSIST prEN IEC 63758-1-3:2026

01-november-2026

Specifikacija Qi - Različica 2.3 - 1-3. del : Splošno - Pregled tehničnega sistema (hitri postopek)

Qi specification - Version 2.3 - Part 1-3: General - Technical system overview (Fast Track)

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ICS:

29.240.99	Druga oprema v zvezi z omrežji za prenos in distribucijo električne energije	Other equipment related to power transmission and distribution networks
33.160.99	Druga avdio, video in avdiovizuelna oprema	Other audio, video and audiovisual equipment
35.200	Vmesniška in povezovalna oprema	Interface and interconnection equipment

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2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

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100/4538/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

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IEC TC 100 : AUDIO, VIDEO AND MULTIMEDIA SYSTEMS AND EQUIPMENT	
SECRETARIAT: Japan	SECRETARY: Ms Mahiru Uehara
OF INTEREST TO THE FOLLOWING COMMITTEES: TC 106,TC 108	HORIZONTAL FUNCTION(S):
ASPECTS CONCERNED:	
☒ SUBMITTED FOR CENELEC PARALLEL VOTING **Attention IEC-CENELEC parallel voting** The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Committee Draft for Vote (CDV) is submitted for parallel voting. The CENELEC members are invited to vote through the CENELEC online voting system.	☐ NOT SUBMITTED FOR CENELEC PARALLEL VOTING

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TITLE:

Qi Specification - Version 2.3 - Part 1-3: General - Technical system overview (Fast Track)

PROPOSED STABILITY DATE: 2029

NOTE FROM TC/SC OFFICERS:

As this is a fast-track process offered by WPC, the Word file is not provided.

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WIRELESS POWER

CONSORTIUM

Qi Specification

Technical System Overview

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Version 2.3

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1. Introduction

The *Qi Specification*, developed by the *Wireless Power Consortium* (WPC), sets the standard for interoperability between products incorporating wireless power functionality. The prevalent use case for this technology is the wireless charging of smartphones. In this use case, a user can charge a smartphone simply placing it on a *wireless charger*, also known as a *charging pad* or *charging mat*. The *Qi Specification* formally refers to such a device as a *power transmitter product*. Similarly, it refers to the smartphone as a *power receiver product*.
This document introduces the basic concepts behind the Qi wireless power transfer system, and the terminology used throughout the specification documentation.

NOTE: Unless otherwise specified, all diagrams within the specification documentation are for illustrative purposes only and are not dimensionally accurate representations of products or designs.

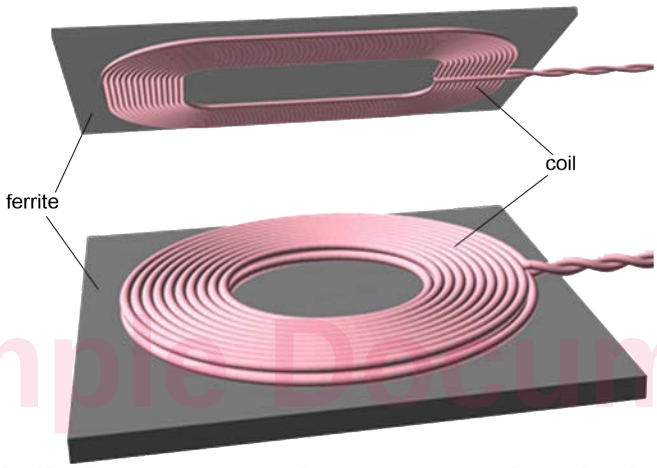
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2. Basic Concepts

The Qi wireless power transfer system uses the principles of magnetic induction to transfer power from a *power transmitter* (PTx) to a *power receiver* (PRx). Power transfer is the act of providing power from a PTx to a PRx for a prolonged period of time. A device containing a power receiver is known as a *PRx product*, while a device containing one or more power transmitters is known as a *PTx product*. The PTx and PRx are individual units contained within a PTx or PRx product. The PTx unit is responsible for generating a magnetic field, while the PRx unit extracts electrical power from the magnetic field.

As shown in Figure 1, both PTx and PRx contain pancake coils between which magnetic induction, and thus power transfer, can take place. Other vital components within the system are typically protected from electromagnetic interference by ferrite shielding.



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Figure 1 - Pancake coils and ferrite shielding

Figure 2 shows a schematic cross section of a power receiver product that is resting on a power transmitter product. The product enclosures do not form part of either the PRx or PTx units, thus neither unit extends all the way up to the outer surface of the product.



Figure 2 - Cross-section of mated PTx and PRx products showing coils and ferrites

As illustrated in Figure 3, a user brings a PRx product and a PTx product together to initiate the power transfer process; an act known as *mating*. When the coils of the PTx and PRx face each other correctly, the power transfer process can start. The interaction between a charging pad (a PTx product), and a smartphone (a PRx product) is a typical demonstration of this system in action.

Note that the form factors of products may prevent a *natural match* between specific PTx and PRx products. Here, a natural match refers to a combination of PTx and PRx product having form factors that enable mating without the help of additional objects such as rubber bands or other supports. Accordingly, specific PTx and PRx products may not work together, even though both carry the Qi logo. In such cases, that should be obvious to a user who has previously been exposed to products supporting wireless charging.

When a PRx and PTx product are mated, the parts of the device enclosures that face each other are referred to as *interface surfaces*. Between the interface surfaces there may be an *air gap*. An air gap is the distance between the interface surfaces of the PTx and PRx products, and if present, typically is filled with material from an accessory added to a PRx product, e.g., a protective case. The presence of an air gap should not prevent power transfer, provided the air gap is not too great. See Figure 4 for a high-level illustration of these concepts.

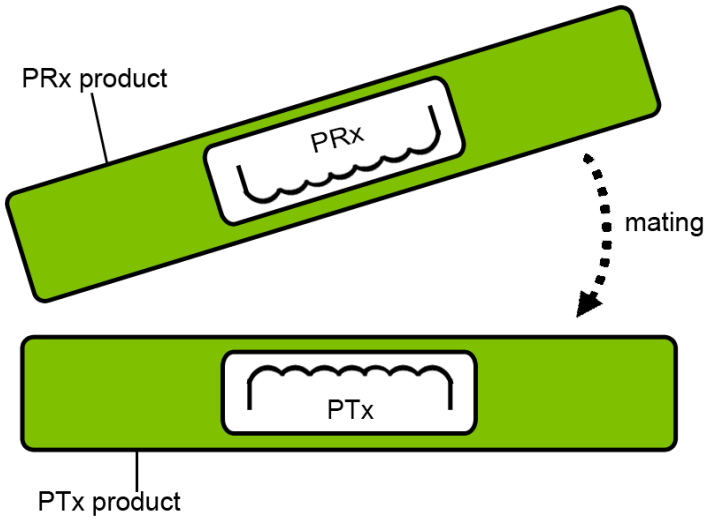


Figure 3 - Mating a PRx product with a PTx product

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When the power transfer starts, the PTx generates a *power signal* between the PTx and PRx coils. A power signal is a high frequency, alternating magnetic field intended to transfer power, with frequencies typically ranging between a hundred and a few hundreds of kilohertz. The volume in which the power signal is non-negligible during the power transfer is referred to as the interface volume *interface volume*. This volume typically comprises parts of both the PTx and PRx products, as well as any objects present in the air gap. The *active area*, however, refers only to the part of the interface surface through which a non-negligible power signal penetrates while the power transfer is in progress. The extents of the interface volume and active areas depend on the details of the designs of the PTx product and PRx product as well as their alignment after mating.

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