

CLINICAL POWER

MedCharge CAREHUB 120

Clinical Multi-Device Charging & Docking Station



One clean station for the devices caregivers use every day.

CONCEPT PRODUCT | NOT CLEARED FOR CLINICAL SALE

Clinical device readiness in one compact station

A managed charging accessory for non-life-support mobile equipment.

Design intent

MedCharge CareHub 120 organizes wireless and wired charging for the handheld equipment used throughout clinical workflows. Its upright cradle keeps a device visible while charging, and four top ports support tablets, scanners and communication terminals. A medically oriented power architecture adds isolation, leakage-current control and thermal supervision beyond a consumer charging hub.

01 Reduce charging clutter

Replace scattered adapters with one managed station and defined device profiles.

02 Keep devices visible

The angled cradle supports status viewing without removing the device.

03 Separate patient care from power

Intended for equipment preparation and charging zones, not patient connection.

04 Design for clinical risk

Isolation, heat, liquid ingress, cleaning and EMC are treated as system requirements.

Power, interfaces & physical targets

All values are proposed design targets requiring verification with intended parent devices.

System power	120 W shared output budget
AC supply	External medical-grade PSU: 100-240 VAC, 50/60 Hz
Station DC input	24 VDC, 6.25 A max, locking connector
Wireless output	5 / 10 / 15 / 30 W selectable; receiver compatibility required
USB-C ports	2 x USB-C PD/PPS, up to 30 W each
USB-A ports	2 x USB-A, 5 V / 2.4 A, 12 W each
Power allocation	Dynamic priority with per-port current limiting
Wireless protection	Foreign-object detection, alignment check and coil temperature limit
Electrical protection	OVP, OCP, SCP, OTP, surge and reverse-input protection
Isolation target	External PSU with 2 MOPP architecture
Touch current target	Less than 100 microamp under normal condition
Enclosure	UL 94 V-0 target, smooth disinfectant-resistant polymer
Ingress target	IP22 minimum concept target
Dimensions target	Approx. 220 W x 150 D x 120 H mm
Weight target	Less than 1.2 kg, excluding external PSU
Environment	10 to 35 deg C; 30-75% RH non-condensing
Use limitation	Non-life-support accessories; no charging while connected to a patient
Compliance path	IEC 60601-1, IEC 60601-1-2, IEC 62366-1, ISO 14971

Separated, supervised and current-limited

MEDICAL-GRADE PSU

AC isolation and 24 VDC system bus

POWER CONTROLLER

Dynamic allocation and fault shutdown

WIRELESS CHANNEL

5-30 W with FOD and coil sensing

2 x USB-C PD

Independent negotiation, 30 W each

2 x USB-A

5 V current-limited legacy outputs

FAULT RESPONSE

An affected port shuts down independently when over-current, over-temperature or foreign-object conditions are detected. Other validated channels remain available within the shared power budget.

A latched fault requires device removal or a controlled power reset.

A visible, organized device-readiness point



Nurse stations

Charge communication terminals, scanners and tablets between rounds.

Equipment preparation

Create a defined charging location before devices return to service.

Medical carts

Mount or secure the station on non-patient-connected equipment carts.

Outpatient clinics

Consolidate everyday accessory charging in compact treatment support areas.

INTENDED-USE BOUNDARY

CareHub is a concept charging accessory. Compatibility must be limited to specifically validated devices and manufacturer-approved charging profiles. It is not intended to power life-support equipment.

Six website-ready selling points

01

One station, five outputs

A wireless cradle plus four wired ports consolidate everyday charging.

02

Clinical visibility

The angled front stand keeps device status readable at a glance.

03

Managed power delivery

Per-port limits and dynamic allocation reduce uncontrolled adapter mixing.

04

Medical-oriented isolation

A 2 MOPP external power strategy supports the safety development path.

05

Thermal & FOD protection

Supervision protects against heat buildup and misplaced metal objects.

06

Cleanable industrial design

Smooth surfaces, minimal seams and a stable cradle simplify routine wiping.

Validation required before clinical launch

RISK	ISO 14971 hazard analysis, intended-use limits and device compatibility matrix.
ELECTRICAL	2 MOPP review, leakage, dielectric strength, abnormal operation and heating.
EMC	IEC 60601-1-2 emissions and immunity in the intended clinical environment.
USABILITY	IEC 62366-1 use errors, port identification, cleaning and status indication.
WIRELESS	Receiver alignment, FOD, thermal limits and device-specific charge behavior.
MATERIALS	Cleaning-agent resistance, flammability, discoloration and drop testing.

Regulatory note

- FDA treats an accessory according to its intended use and its own risk profile.
- FDA advises using manufacturer-provided charging accessories to control overheating and fire risk.
- IEC 60601-1-2 defines EMC requirements for medical electrical equipment and systems.

REFERENCE SOURCES

FDA - Medical Device Accessories: [fda.gov/medical-devices/classify-your-medical-device/medical-device-accessories](https://www.fda.gov/medical-devices/classify-your-medical-device/medical-device-accessories)

FDA - Tips to Help Charge Medical Devices Safely and Avoid Overheating: [fda.gov/medical-devices/consumer-products/](https://www.fda.gov/medical-devices/consumer-products/)

IEC 60601-1-2:2014+A1:2020 - Electromagnetic disturbances - requirements and tests: webstore.iec.ch

Accessed 17 September 2026. This document describes a concept, not a cleared or certified medical device.