



Caper Smart Cart

Product Specifications

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1. Overview

The Caper Smart Cart is the first AI-powered shopping cart that lets grocery shoppers skip checkout lines. Shoppers scan the barcode, toss the item inside, pay and go! With the help of 3 high resolution cameras and weight sensors that constantly train the CV algorithm, the Caper Cart is continuously learning. Soon no barcode scanning will take place, as the smarter cart will instantly recognize each and every product that enters the basket.

The Caper Cart is made up of three essential components: the cart frame, the front unit and the top unit (screen encasing). The front unit is a simple structure that rests at the rail guard in front of the cart frame, it consists of 2 cameras and an LED. The screen encasing and the front unit can be removed from the frame. It is held together by a series of screws found beneath the components.

2. Dimensions

The Caper smart shopping cart is 116 x 61 x 124 cm (L x W x H) including the screen unit, and 116 x 61 x 106 cm (L x W x H) with just the frame alone. Figure 1 shows measured in millimeters showing the full width of the cart.

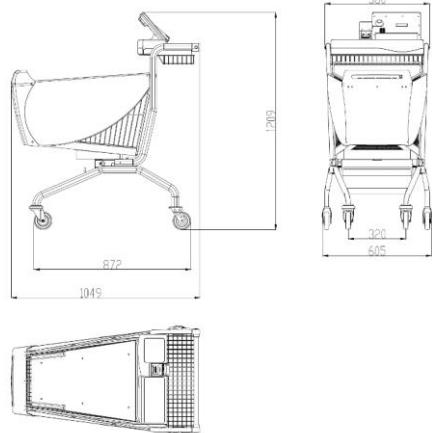


Figure 1. Hardware dimensions

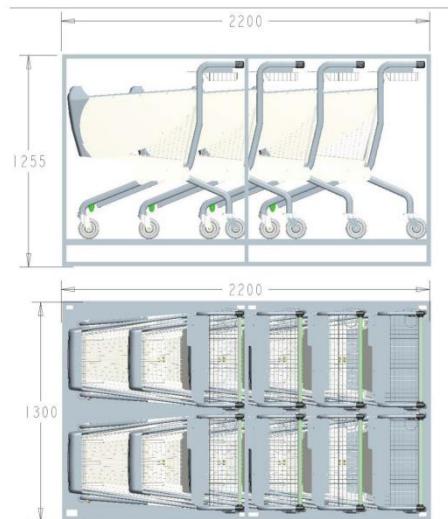


Figure 2. Nested dimensions

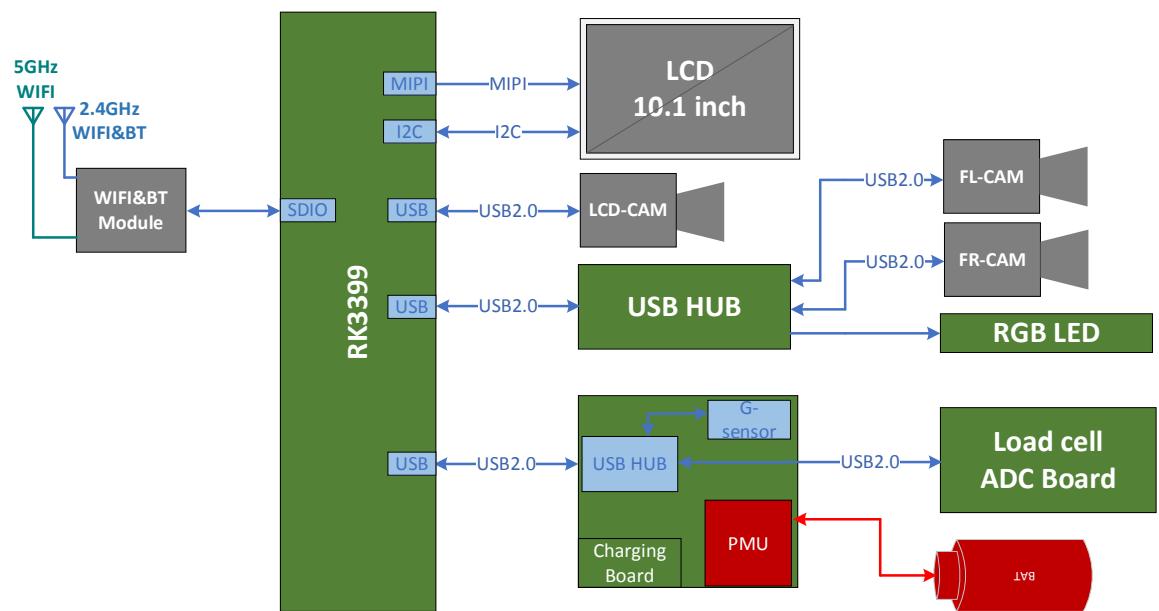
Each Caper cart is 116 cm long. Each additional cart adds about 38cm. Figure 2 shows a measurement of 4 carts nesting together, in millimeters.

3. Hardware Specifications

3.1. Electrical characteristics

	MIN	MAX	UNIT
Charging Voltage	15	20	V
Storage temperature	-40	70	°C
Working temperature	-20	40	°C
Working voltage		12V	
ESD	Air±8K	Contact±4K	V

3.2. Hardware Architecture



3.3. Hardware Modules



Figure 3. Hardware modules front view

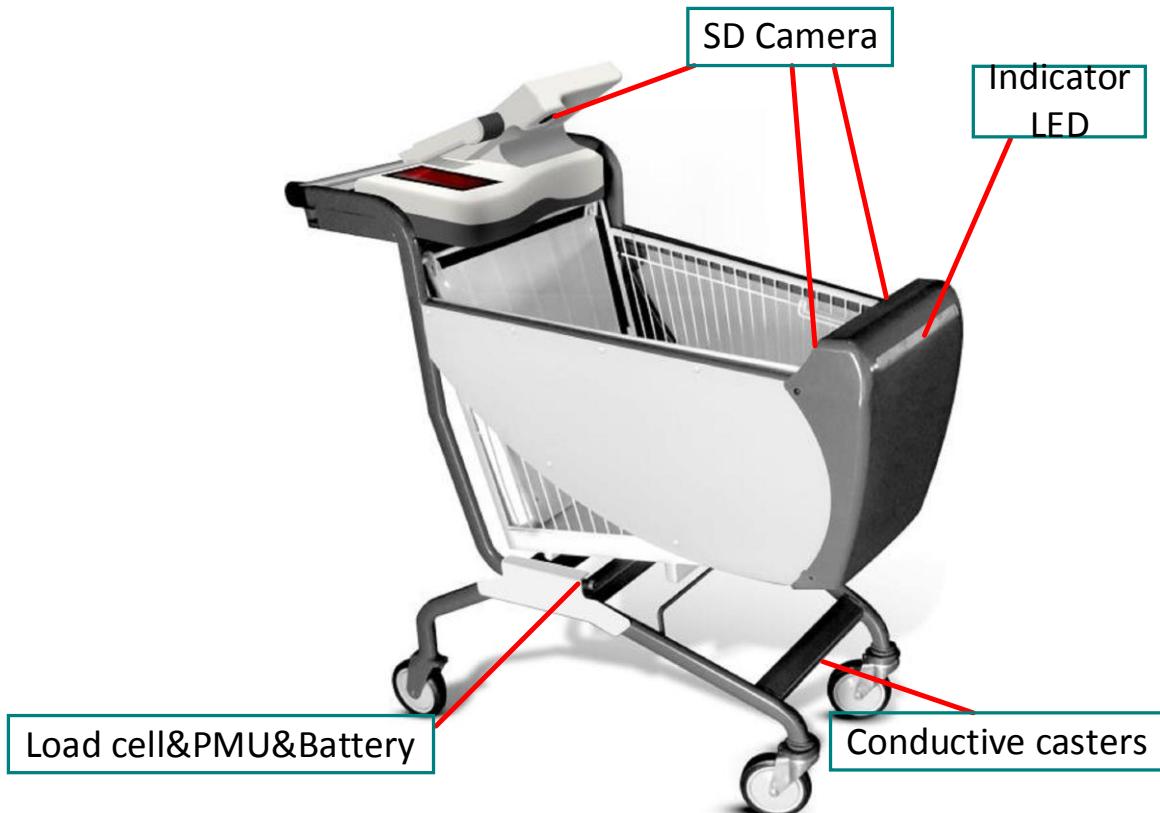


Figure 4. Figure 3. Hardware modules side view

3.4. Characteristics

CPU	RK3399
Operating system	Android 7.1
Charger input voltage	100V - 240V
Charging condition	16V 3A
Battery output	11.1V 2A
Battery life	24 hours (stand by), 18hours(assume 10 hours of usage)
Battery capacity	11.1V 28Ah
Switch	2 switches
Speaker	8Ohm, 3W
Indicators	Multi-color LED shopping status indicator in front unit. 3 color LED charging indicator in base unit
Camera	2MP
WIFI distance	30-50M
WIFI standard	802.11 a/b/g/n/ac
Barcode	UPC-A/UPC-E/EAN
Barcode scan angle	Elevation angle 45 °, Inclination angle 45 °
Barcode resolution	4 mil
Display	10.1 Inch TFT display, 1280*800, 600 nit
Weight scale	35kg/50lbs
Weight accuracy	±1g
Operating Ambient Temperature	-20 °C to 40 °C
Operating Ambient Humidity	10% to 90%
Debug port	USB type A port

4. Material

Shell material	ABS/PC
Shell color	Matte white/grey
Frame material	Iron tube
Frame color	Glossy grey
Frame finish	Powder coating
Side panel	PC
PCB requirements	PCB thickness 1.6mm, green

FCC Warning

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.