



Hanshow Stellar Ultra ESL Product Manual

V1.0.1

HS-ESL-SU001

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ABOUT THE MANUAL

This manual describes the features, specification, package and precautions of Hanshow Stellar Ultra series Electronic Shelf Label (hereinafter as ESL).

Please read this manual carefully before using the product for the 1st time, retain the manual for subsequent use or for the next owner. If the instructions contained in this manual are insufficient to resolve issues that occur during device operation or maintenance, please contact Hanshow Technical Customer Service Center (China: 400-0365-305; Benelux: +800-808-36000; France: 0800-90-2530; Germany/Poland: +800-836-86836; USA: 001-866-9570989; Australia: 0061-1800-953008) directly, we will provide you with multi-channel technical services.

TARGET USERS

This document provides engineers with necessary data and related guidelines of Stellar Ultra. Users must have the basic knowledge on communication and network and so on. This manual is applicable for the below engineers:

- Testing Engineer
- Technical Support Engineer
- After Sales Engineer
- Installation Engineer

SYMBOL DESCRIPTION

Icon	Description
	Information indicated with this icon should be paid special attention and attached great importance by the reader.
	Information indicated with this icon is the explanation on the formal text for the readers to comprehend the text better.
[X-X]	It means special noun definition is provided here.

EXPLANATION OF TERMS

Acronym	Expanded form	Description
PriSmart	PriSmart Smart Retail System	Manage all store product data and issue price update command, as well as support multi-store management.
ESL-Working	ESL-Working System	Manage all the APs and ESLs in store, and ESL-Working 3.0 and above supports multi-store management.
ESL Controller	ESL Controller	Also called AP that is used for data interaction between ESL-Working and ESL Controller.
ESL	Electronic Shelf Label	Used for displaying product information like promotion information, price, and grade.

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1 Overview

Stellar Ultra series is a new generation electronic ESL developed by Hanshow. Based on a 2.4GHz wireless proprietary protocol, it communicates bidirectionally with the ESL controller, enabling various features such as price changes, page switching, and LED flashing. The Stellar Ultra series boasts advantages like long lifespan and diverse displays, making it well-suited for a wide range of applications including traditional retail, new retail, department stores, fashion, healthcare, and cultural entertainment sectors.

1.1 System architecture

Hanshow ESL system includes ESLs, Access Point (aka ESL Controller), ESL-Working, All-Star, Database, Integration server, Monitor System and Handheld Terminal (PDA, PAD, Remote Control), as shown in [Figure 1-1](#). Specifically, the ESLs are used for electronically displaying product information such as name and price, and services available for customers.

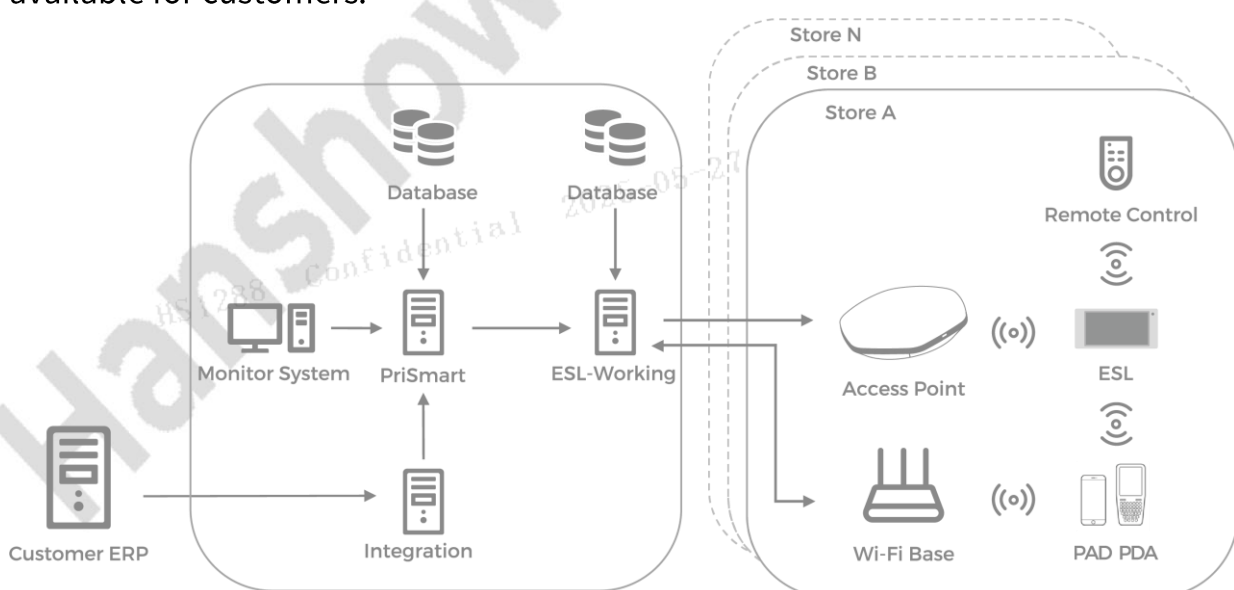


Figure 1-1 Hanshow ESL system architecture

1.2 Features

The features of Stellar Ultra Multi-colored ESLs are as follows:

- Display color: BWRYOG (Black-White-Red-Yellow-Orange-Gray).
- ESL sizes: 1.54", 2.13", 4.20".
- Operating frequency band: 2,402MHz~2,480MHz, max. transmit power 1dBm.
- Built-in LED indicator: Capable of displaying 7 colors to assist with product geolocation.
- Embedded NFC chip: Supports NFC function.
- Stellar Ultra multi-colored ESLs support multiple functions, including associating/disassociating, updating, instant flashing, multi-page storage, page switching, geolocation, and temperature collection.
- Supports AES-128 encryption.
- Supports OTA (Over-The-Air) upgrade.

2 Product view

This chapter describes the appearance and composition of Stellar Ultra multi-colored ESL.

2.1 Product appearance

Figure 2-1 to Figure 2-3 shows the dimensions of Stellar Ultra multi-colored ESL.

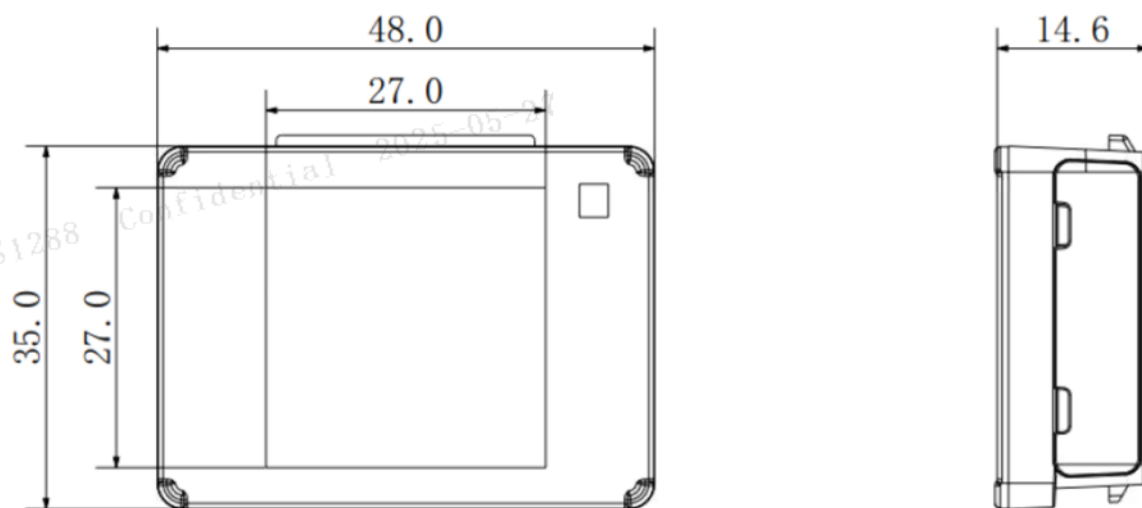


Figure 2-1 Stellar Ultra 154 Multi-colored ESL

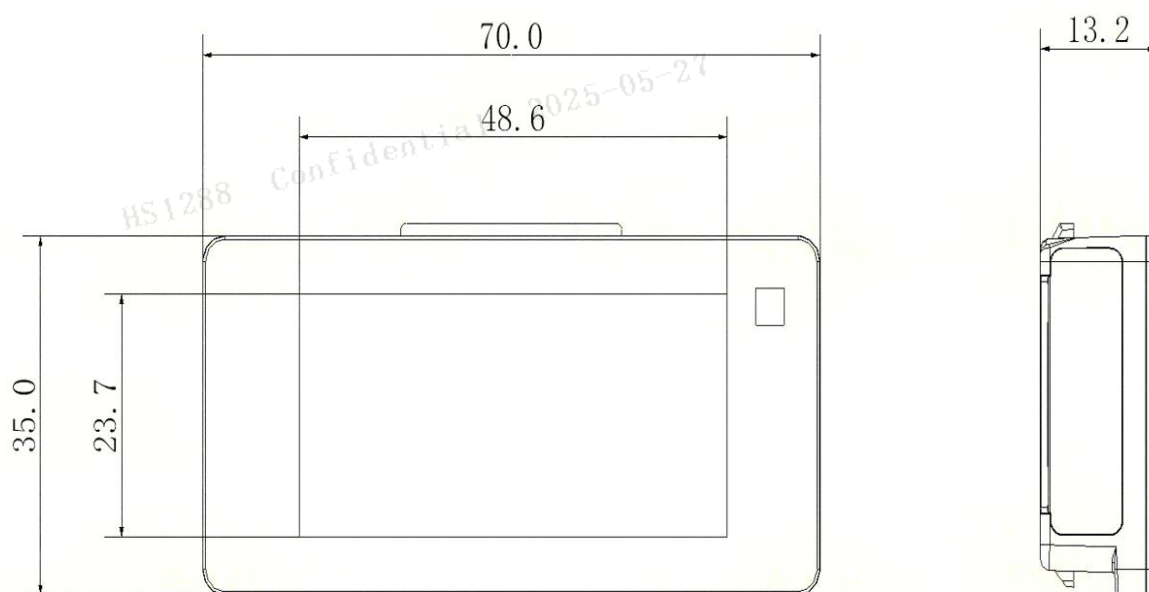


Figure 2-2 Stellar Ultra 213 Multi-colored ESL

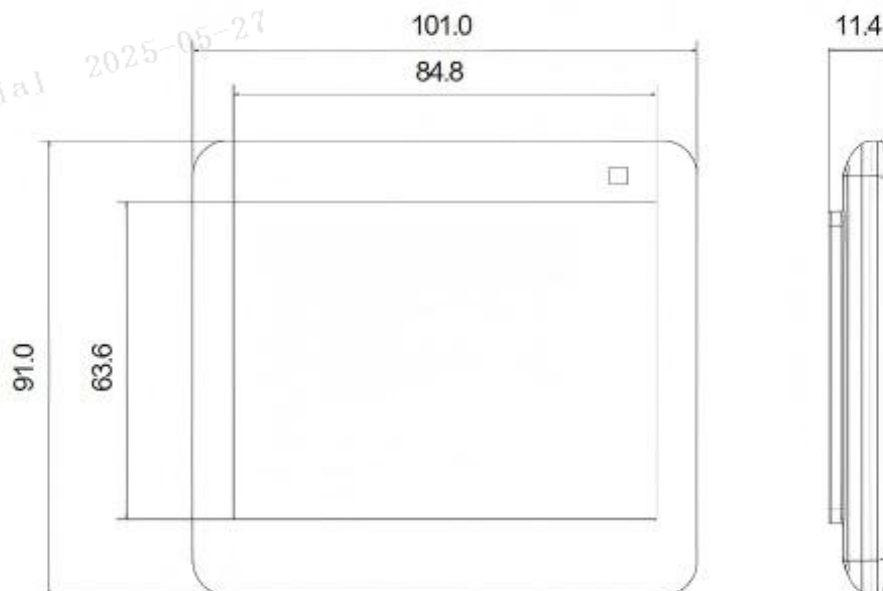


Figure 2-3 Stellar Ultra 420 Multi-colored ESL

Each section of Stellar Ultra and its relative description is shown in [Figure 2-4](#) and [Table 2-1](#).

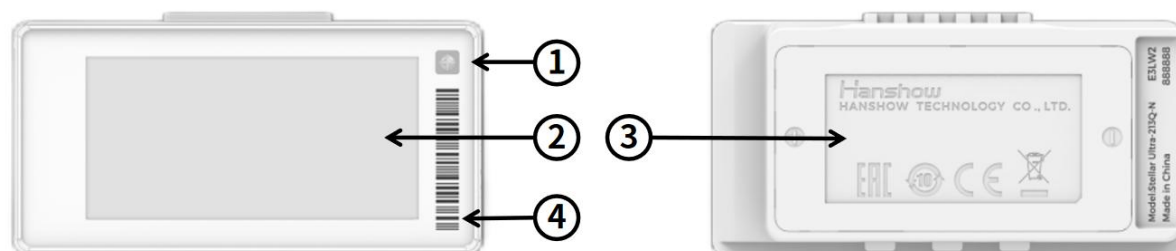


Figure 2-4 Key area of Stellar Ultra Multi-colored ESL

Table 2-1 Each area description of Stellar Ultra Multi-colored ESLs

No.	Name	Description
1	LED indicator	Supports 7-color flashing.
2	Display area	Supports Black/White/Red/Yellow/Orange/Gray display on E-ink screen. Display text, images, barcode, QR code and others. Product information display such as name, price, origin, unit, grade, phone number, barcode, and QR code. Supports customizable display position and font size. Supports 8-page storage and page switch functionality.
3	Nameplate	Product information mark, including Model, S/N and certifications.
4	Barcode area	18-digit barcode used for product binding and maintenance.

3 Hardware performance

3.1 Specifications

Table 3-1 lists the Stellar Ultra multi-colored ESL specifications.

Table 3-1 Stellar Ultra Multi-colored ESLs specifications

Name	1.54"	2.13"	4.20"	2.13"F
Dimensions (mm*mm*mm)	48.0*35.0*14.7	70.0*35.0*13.2	101.0*91.0*11.4	70.0*35.0*14.6
Weight (g)	21.7	32.8	38.4	30.0
Active display area (mm*mm)	27.0*27.0	48.6*23.7	84.8*63.6	48.6*23.7
Size (inch)	1.54	21.3	4.20	2.13
Battery life (years)	Up to 10 years	Up to 10 years	Up to 10 years	Up to 10 years
Viewing angle (degrees)	~ 180			
Protection level	IP65			IP67
Resolution (pixel)	200*200	250*122	400*300	250*122
DPI	188	130	120	130
Operating temperature (°C)	0 ~ 40			-25~0
Storage temperature (°C)	0 ~ 40			-25~40
Humidity (%RH)	45 ~ 65			

3.2 Identifying your ESLs

To identify your ESLs from the following Stellar Ultra multi-colored ESLs naming rules, as show in [Figure 3-1](#):

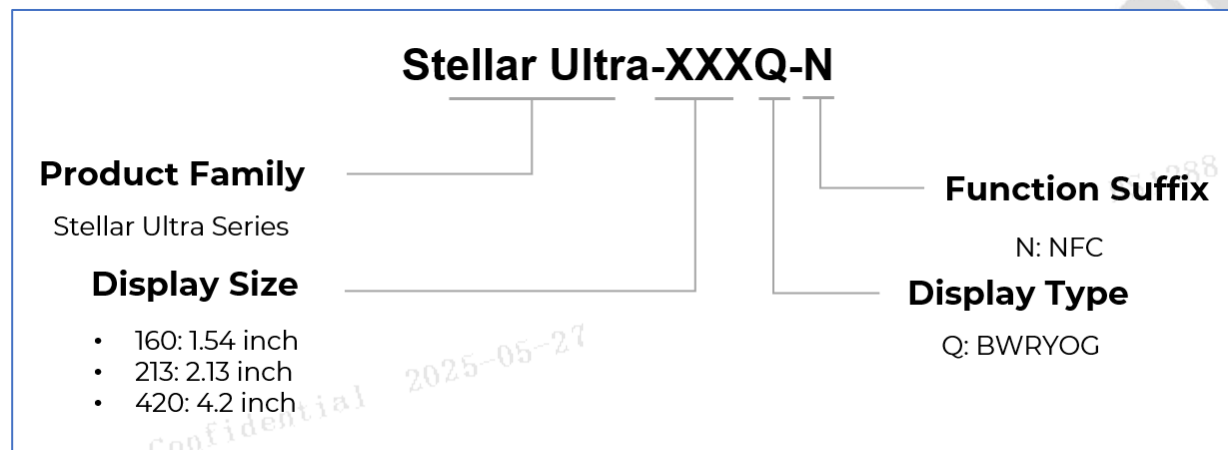


Figure 3-1 The Naming Rules of Stellar Ultra Multi-colored ESL

3.3 Product nameplate

[Figure 3-2](#) shows the nameplate of Stellar Ultra Multi-colored ESL.



Figure 3-2 Nameplate of Stellar Ultra multi-colored ESL

Note: The above is for reference only, actual label shall prevail.

4 Packaging and accessories

This chapter describes packaging and required accessories of Stellar Ultra multi-colored ESL.

4.1 Packaging

Stellar Ultra multicolored ESL packaging and the specific ESL quantity are shown in [Figure 4-1](#).

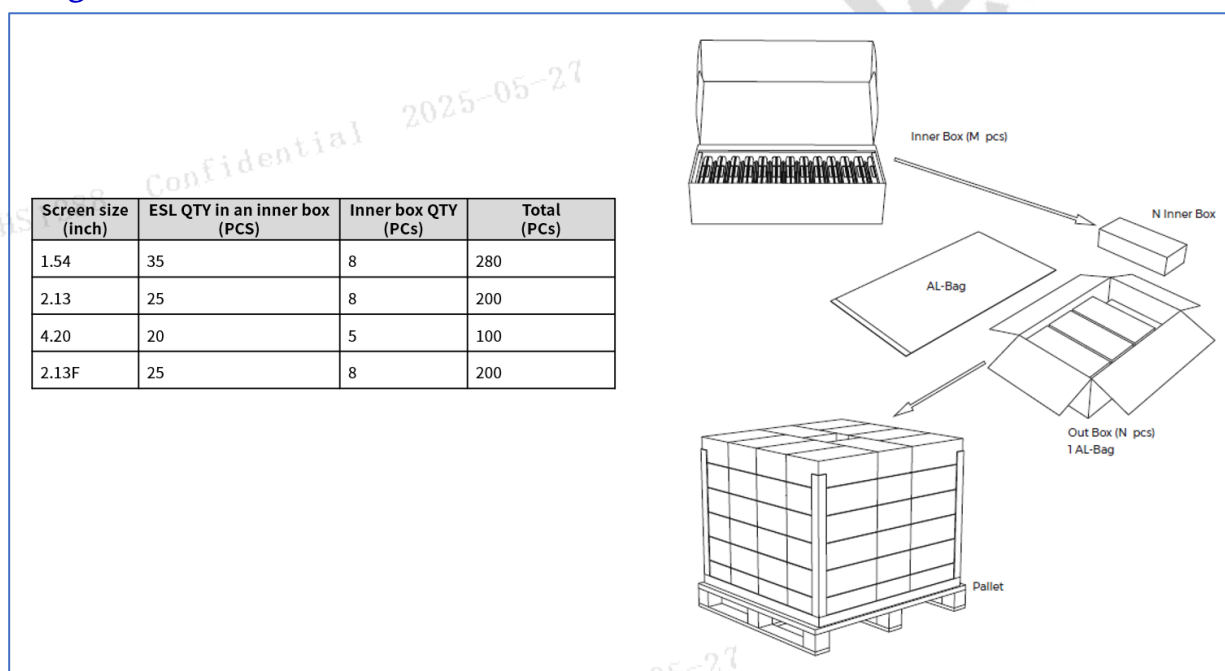
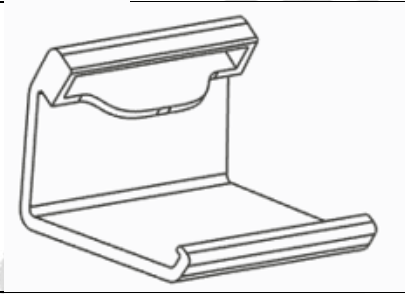
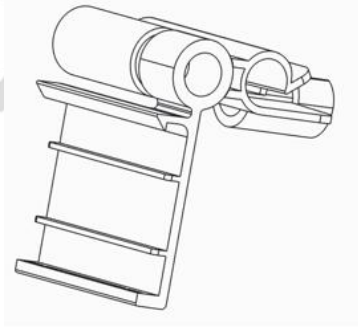
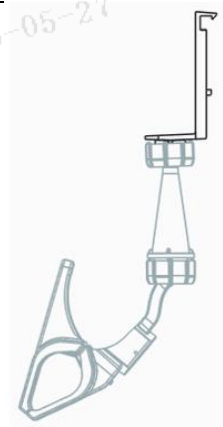


Figure 4-1 Stellar Ultra Multi-colored ESL packaging

4.2 Product accessories

Common accessories of Stellar Ultra multi-colored ESL are shown in [Table 4-1](#).

Table 4-1 Common accessories of Stellar Ultra multi-colored ESL

Rail	
Table stand	
T-hook	
Basket clip	

5 Application scenarios

Stellar Ultra multi-colored ESLs can apply to the following application scenarios in hypermarket, supermarket, and retail stores:

- Regular shelf racking area
- Regular shelf hook area
- Regular fence area
- Regular floor display area

6 Precautions

During transportation and usage of Stellar Ultra multi-colored ESLs, please note the following precautions.

6.1 Transportation considerations

Avoid the following considerations during transport:

- Water leakage or heavy moisture
- Heavy stacking
- High heat conditions above 40°C

6.2 Precautions for use

Follow the precautions:

- The room-temperature ESLs operate best in normal operating and storage environment, 0°C ~ 40°C, 45% ~ 65%RH.
- Keep ESLs within the specified temperature range, otherwise ESL screens might be damaged and the battery life might be shortened.
- The output capacity will degrade at low temperature.
- Frequent communications or updates might shorten battery life during the use.
- Avoid dropping or tossing ESLs.
- Do not disassemble ESLs without permission.
- If the screen creaks due to external factors, deal with it quickly.
- The mineral substances in rainwater, moisture or liquids might corrode the electronic circuit. Avoid water on the product as much as possible.
- Regularly clean the screen.
- Promptly remove cosmetics, perfume and other dirty on ESLs to avoid screen, case, or lens damaged.
- Do not use ESLs in water, otherwise no warranty will be provided.
- Avoid direct contact with chemical detergent.
- Do not install ESLs in a strong magnetic environment.
- ESLs communications might be limited or affected by other wireless communication systems that share the 2.4GHz frequency-band, such as Wi-Fi, Bluetooth, or Zigbee.
- Do not place ESLs near kitchen appliances such as a stove, a microwave oven.

7 FCC ID warning

7.1 Warning for nameplate

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.

7.2 Warning for product manual

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

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.

8 IC STATEMENT

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

(1) This device may not cause interference; and (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils

radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

(1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement

9 EU Regulations

Frequency Bands and Power:

SRD 2.4 GHz 2402MHz-2480MHz:10dBm

WEEE:

Special precautions must be taken to safely dispose of this product. This marking indicates that this product may not be discarded with other household waste in the EU.

To prevent harm to the environment or human health from inappropriate waste disposal, and to promote sustainable reuse of material resources, please recycle responsibly.

To safely recycle your device, please use return and collection systems or contact the retailer where the device was originally purchased.