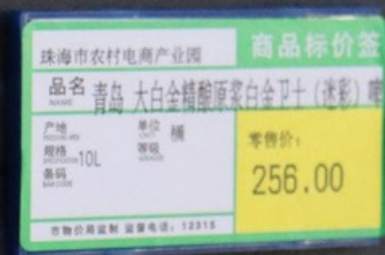




شركة الكويت كارپوريشن لميتد
KUWAIT CORPORATION LIMITED



2.4GHz Electronic Shelf Label

Solutions

Kuwait Corporation Limited

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1. ESL Solution Background

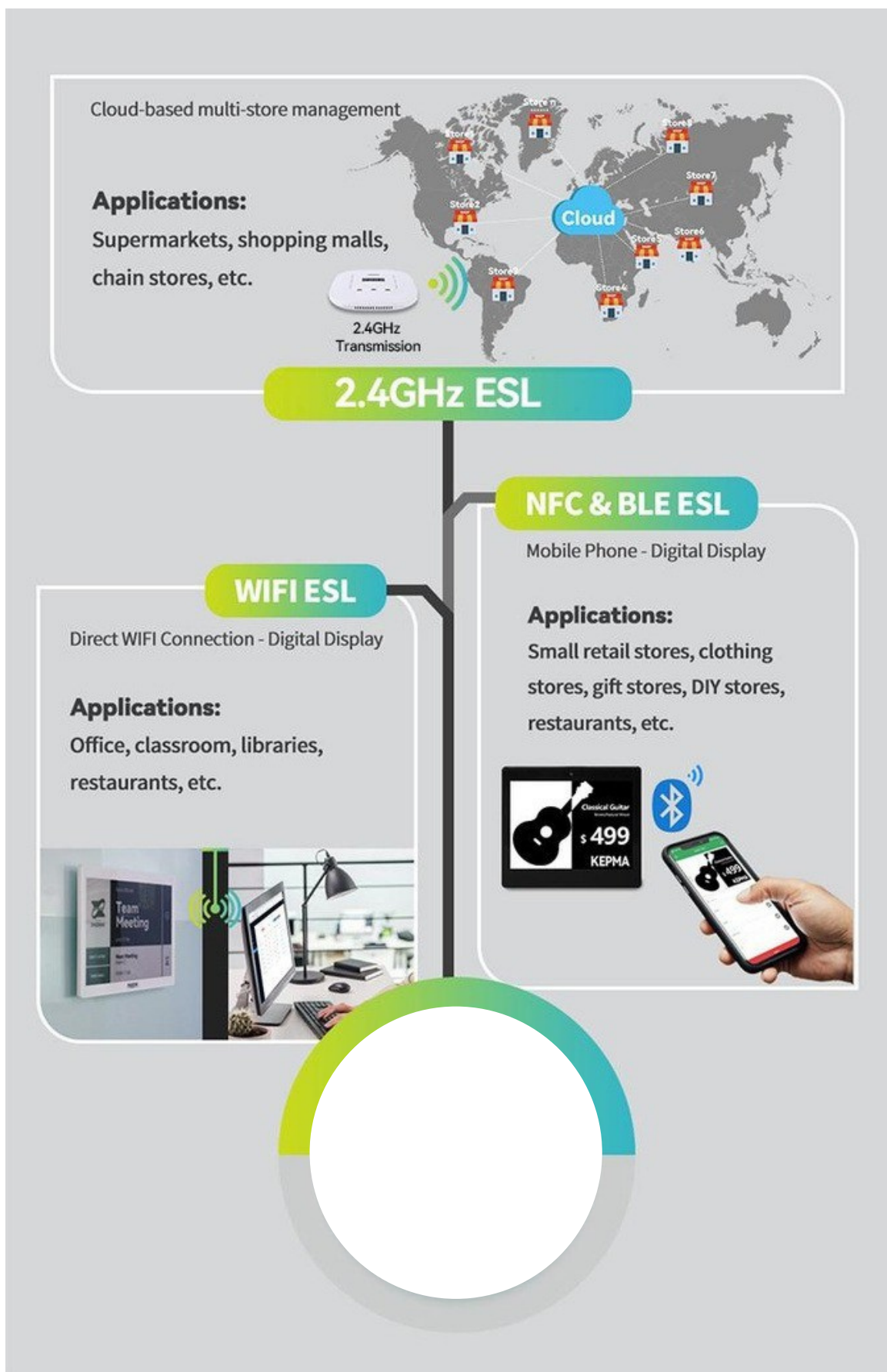
With labor costs increasing year by year and competitive pressure on commodity prices, the profits of retail supermarkets have been greatly affected. Meanwhile, talent shortage, high customer demand for store service levels and untimely updating of product price tags are problems that lead to customer complaints and compensation is not uncommon in the traditional retail industry.

Therefore, Europe, the highest labor cost countries take the lead in introducing the electronic shelf label product. With the combination of online and offline O2O mode gradually improved, the demand for electronic shelf labels is doubled year by year.

With the development of automation management, the intelligent retail management mode will gradually replace the traditional retail mode and take the dominant position.

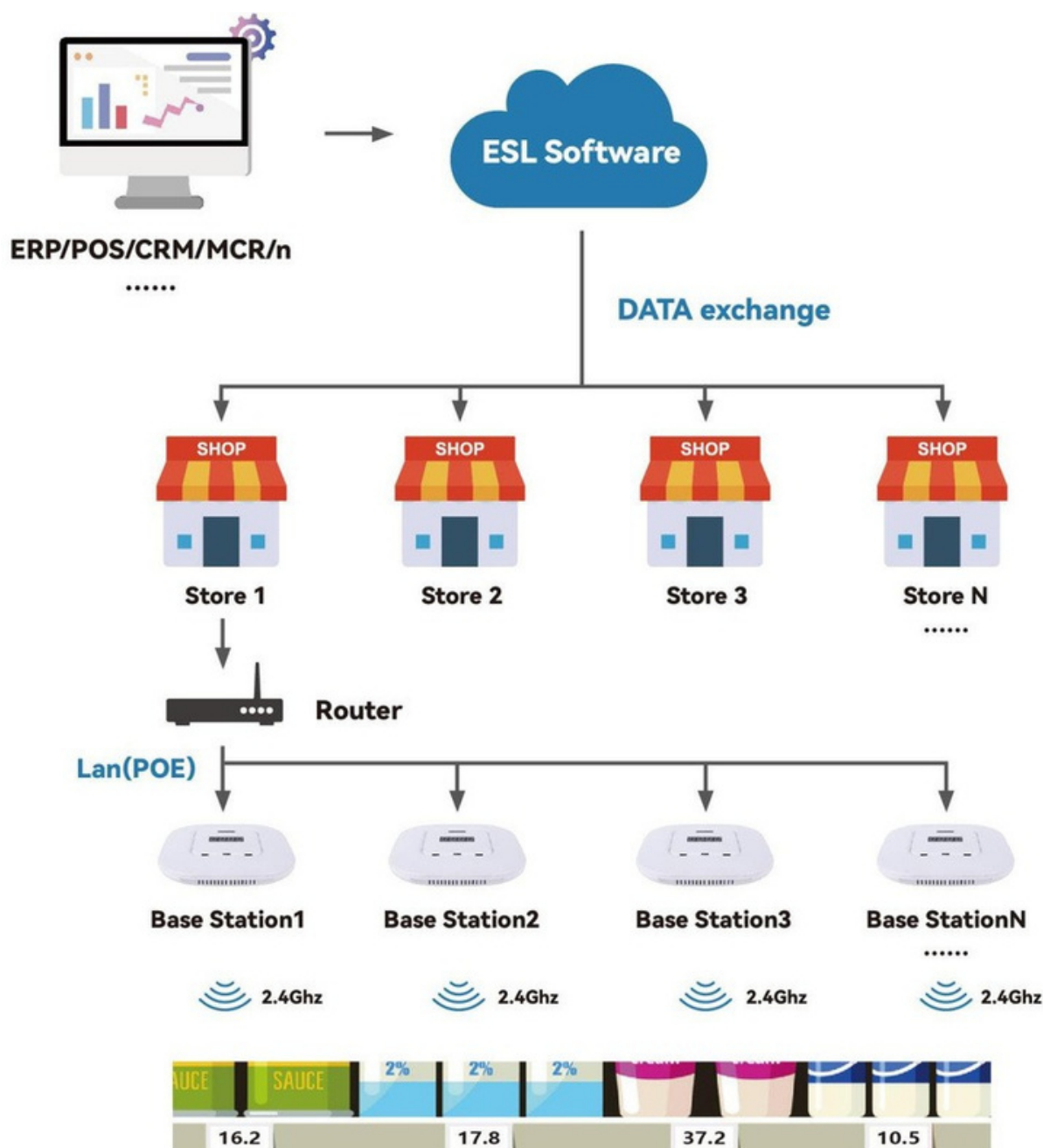


Zhsunyco® introduces a variety of communication technology electronic label solutions to better meet the needs of different customers, help the popularization of digital displays, and contribute to the realization of global carbon peaking and carbon neutrality.



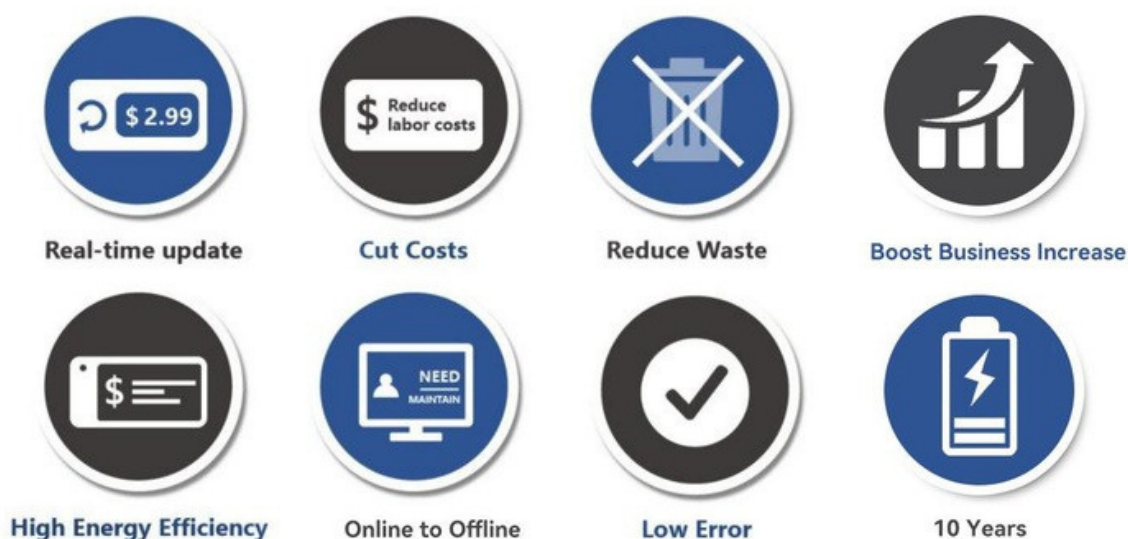
2. 2.4GHz Electronic Shelf Label solution

Zhsunyco® 2.4GHz Electronic Shelf Label solution consists of three components, including an Electronic Shelf Label management system (ESL Software), a wireless Base Station/AP and an Electronic Shelf Label.



Integrate the Electronic Shelf Label management system with the POS system/ERP system/CRM system/MCR system of the supermarket, the information of the customer database is sent to the Electronic Shelf Label management system, the Electronic Shelf Label management system will send the information to the wireless base station through LAN and the wireless base station will send the content to be displayed to the Electronic Shelf Label through the 2.4GHz communication frequency to realize the commodity information in real time update.

ESL Solution Benefits



Wireless RFID technology for real-time updating of bulk price tags.

Reducing labor costs and achieving profit growth in supermarkets.

Reducing paper waste and protecting the environment.

Improving the customers' experience with accurate, reliable pricing is a good way to achieve a business increase

Improving operational efficiency and saving time costs.

Online and offline, timely synchronization of product information across multiple stores.

Reducing error rates, customer complaints and merchant compensation.

Battery: High-performance, service life can up to 10 years.

2.1. Software Introduction

2.1.1. Product Matrix

Free test software

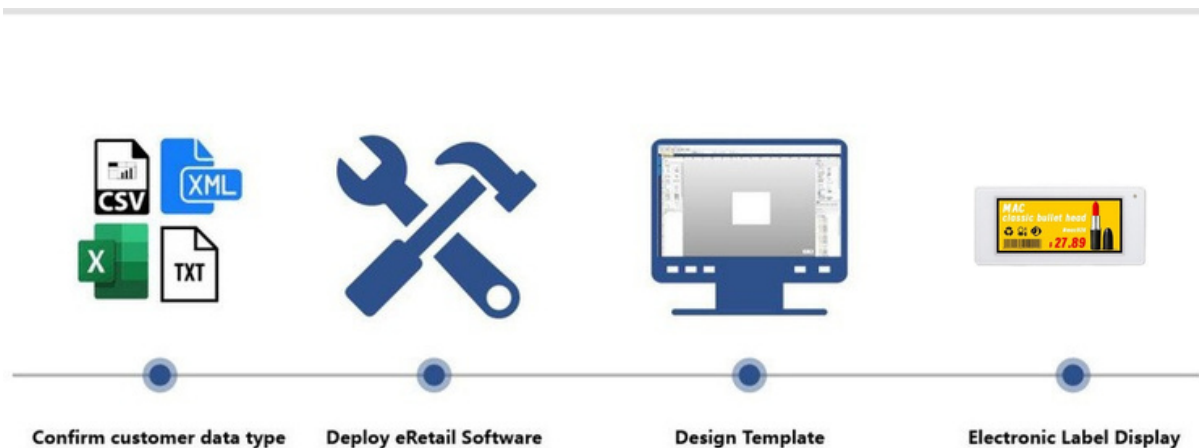
eDesigner3.2(ForeRetail3.2)

Pay to use software

eRetail3.2

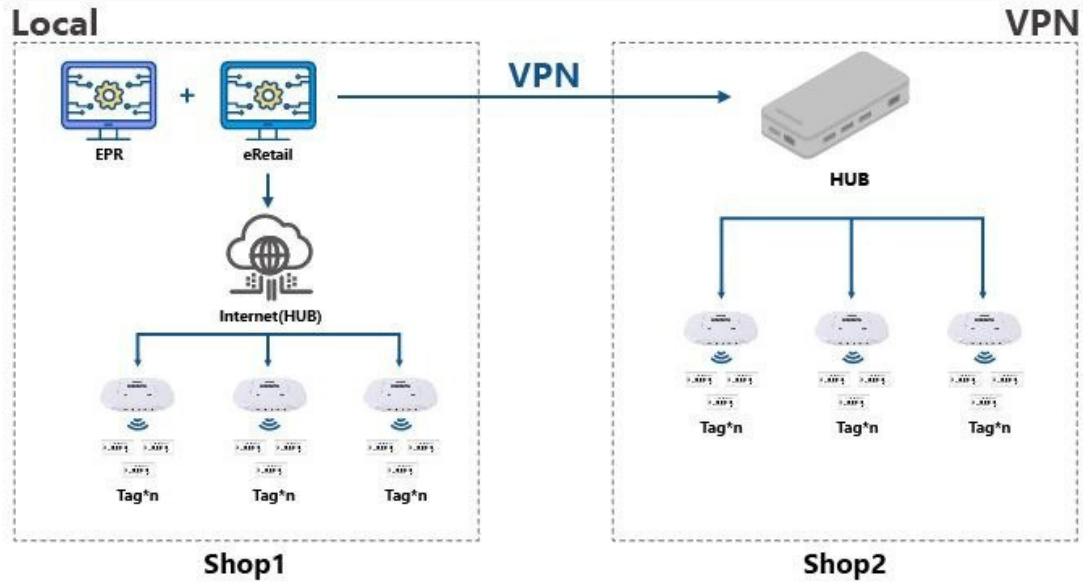
2.1.2. Steps to Deploy eRetail 3.2

Confirm customer data type → Deploy eRetail Software → Design Template → Electronic Label Display

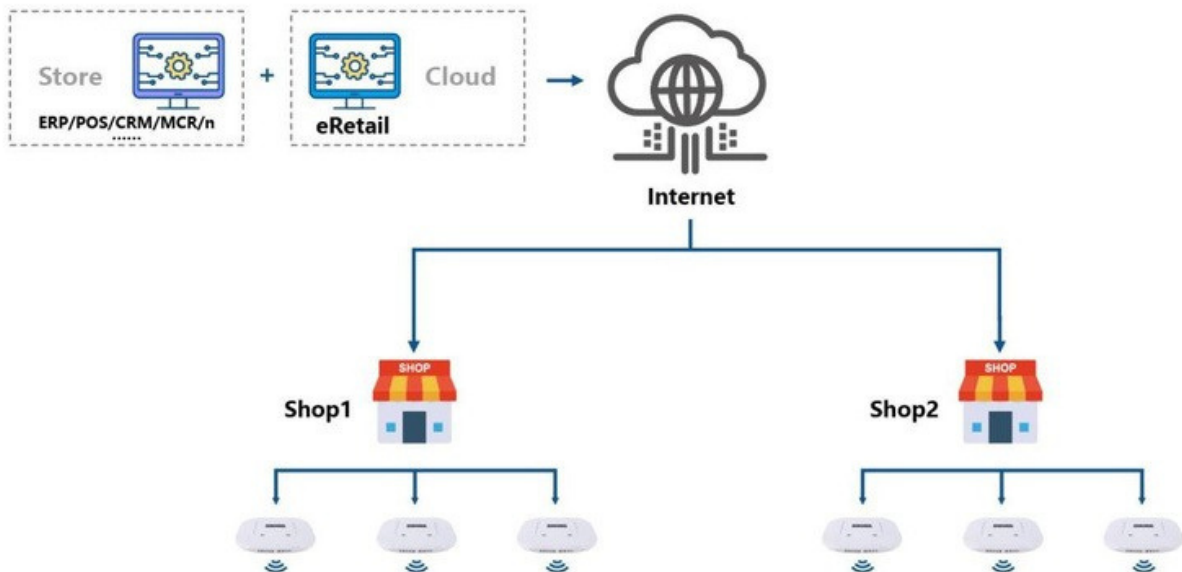


2.1.3. Multiple Network Architectures Available

Local LAN Advantage: Faster and more secure information transfer



Cloud Advantage: Product information can be updated anytime and anywhere; multi-store management is more convenient.



2.1.4. Advantages of Zhsunyco® eRetail Server

Server: NET 6.0, cross-platform, Windows, Linux, or macOS. Also support Docker deploy;

Client App: Android 5.0+, iOS 14.0+;

100% Customize interface or UI support.

2.1.5. New features of eRetail server

1. Support the real-time task statistics of color screen.
2. Support the use of color screen price tags, and support the adaptation and use of 37-inch advertising screens, which enrich the functions of the system.
3. Added a template design tool for the web version, which simplifies of use.
4. Added Redis to improve the throughput of the system.
5. Add the function of changing the display content regularly.

2.2. Base Station Introduction

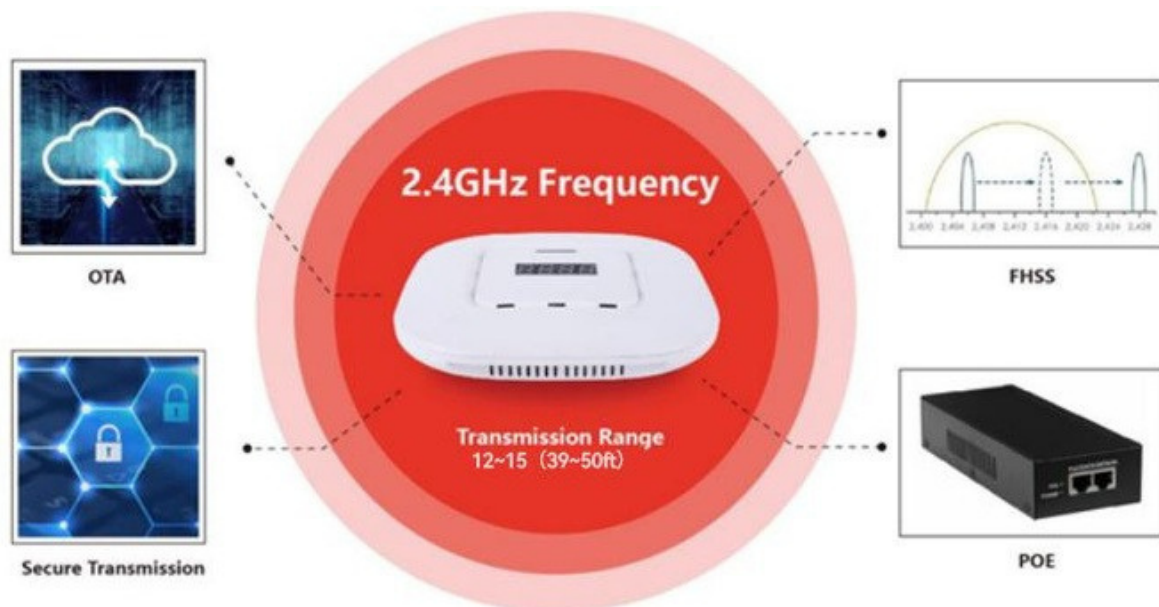
2.2.1. Parameters

		Item	Parameters
		Product Model	ETAP05
		H*V*D	190*190*41(mm)
		Weight	360g
		Color	W hite
Operating Voltage	DC 12V POE	Operating Current	Less than 300mA
Operating Temperature	-10~55°C	Communication Metho d	2.4Ghz
Storage Temperature	-20~70°C	Communication Distance	1 2-15m
Storage Humidity	45%~70%RH	Data Interface	Standard Network Cable Interface

Advantages of eRetail3.2:

1. Operating system: support Linux system.
2. Network configuration: Support DHCP automatic acquisition, fixed IP, and other configurations.
3. Data processing speed: fast (self-contained system, can process data by itself)
4. Support log function

2.2.2. Characteristics



Over-the-Air (OTA) firmware upgrade: Firmware upgrade via over-the-air download.

FHSS: Improve the anti-interference of data transmission through frequency hopping spread spectrum technology and ensure 100% label update.

POE: Support POE technology to simplify wiring and save costs.

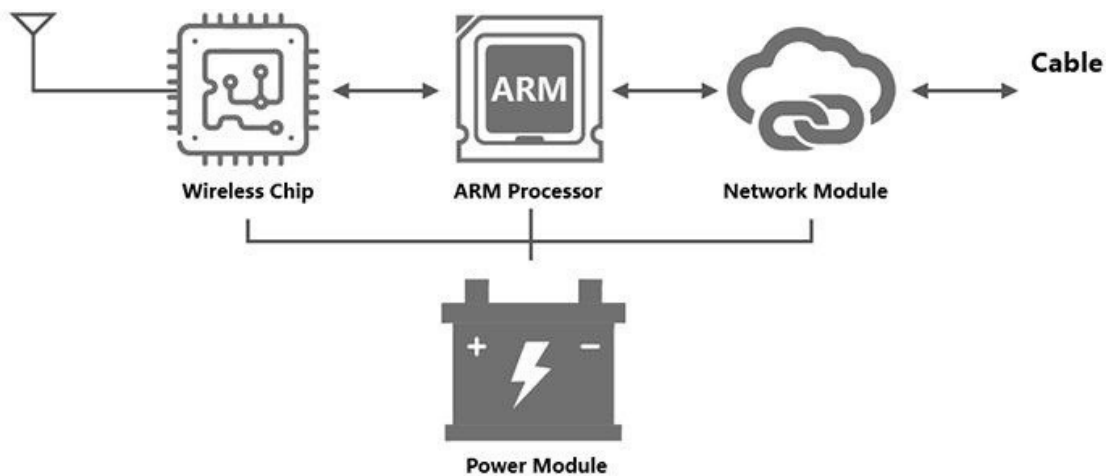
Encrypt on-the-fly: Automatically encrypt data in real time to ensure data security.

2.2.3. Working Principle & Status

Working principle:

1. After Base Station power on, the ARM processor starts working, initializes the network chip and wireless chip
2. After initialization, Base Station enters the network receiving state and waits for data from the server

3. When the server has tag data, it sends the data to Base Station through the network.
4. Base Station receives the data and sends it to the corresponding tag by wireless



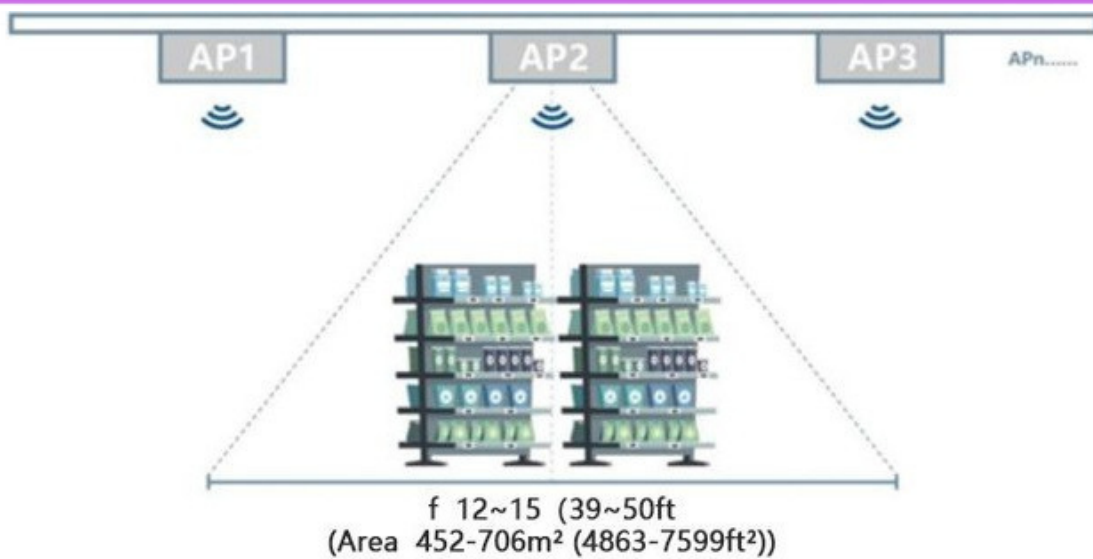
Base station status:

1. Start up: plug in the power supply and POE network cable, and the screen of the base station will display "F-01"
2. Network connection: WLAN port is connected to the router, and the screen of the base station displays "A-01"
3. Configuration: Configure the base station online through software, the base station screen will change, and finally display "A-01"
4. Communication: Use the background to send data, the base station screen will change, and finally display "A-01"

2.2.4. Control Range

Connection method: TCP/IP (Private Protocol)

Control area: Circle with a radius of 12-15m (39-50 ft) (Area 452-706m² (4863-7599ft²))



2.3.2.4GHz Electronic Shelf Label

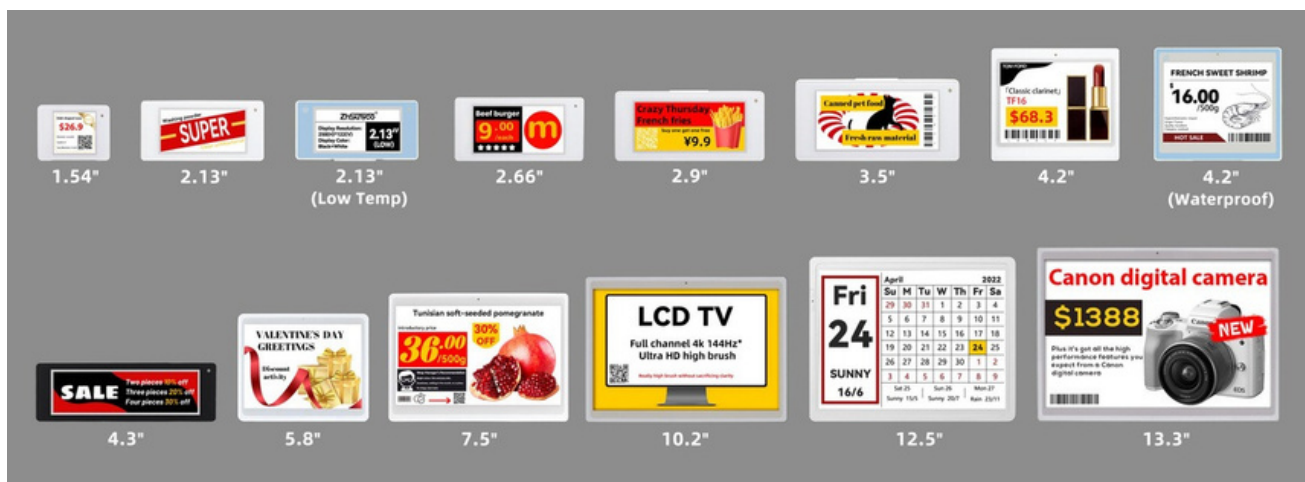
2.3.1ESL Sizes & Parameters

Labels can be made into 3 forms: without front cover version, common version and three-proof version according to customer needs.

2.4GHz ESL Parameters									
N. o.	Model	Dimensions H*V*D(mm)	Size	Display				Shell Colors	Battery In fo .
				L*H(mm)	Resolutio n	Colors	DPI		
1	S-ET 0154 -80	49*37.6*13	1.54	27*2 7	200 *200	B/W /R/Y	188	B/W	CR 2450*1
2	S-ET 0213 -81	71.3 *35.6 * 12	2.13	48.5 5*2 3.7	250 *122	B/W /R/Y	130	B/W	CR 2450*2
3	S-ET 0266 -82	85.8 *41.8 * 12	2.66	60.09 *30.7	296 *152	B/W /R/Y	125	B/W	CR 2450*2
4	S-ET 0290 -84	91.2 *41 *12	2.9	66.9 *29.0	296 *128	B/W /R/Y	112	B/W	CR 2450*2
5	S-ET 0350 -86	100.5 *4 8.5* 12	3.5	79.6 *38.1	384 *18 4	B/W /R/Y	122	B/W	CR 2450*2
6	S-ET 0420 -87	99.2 *89 *12	4.2	84.8 *63.6	400 *300	B/W /R/Y	119	B/W	CR 2450*2
7	S-ET 0580 -88	134 .5 *114 *9	5.8	118 .78 *88 .22	648 *480	B/W /R/Y	138	B/W	CR 2450*6
8	S-ET 0750 -89	178 * 127 *9	7.5	163. 2*9 7.9	800 *480	B/W /R	124	B/W	CR 2430*6
9	ET 0213-39 (Low Temp)	71.3 *35.6 * 12	2.13	48.6 *23.7	250 *122	B/W	130	W	CR 2450*2
10	S- ET 0266-5B (Low Temp)	85.8 *41.8 * 12	2.66	60.1 *30 .7	296 *152	B/W	125	W	CR 2450*2
11	S- ET 0290-54 (Low Temp)	91.2 *41 *12	2.9	66.9 *29.1	296 *128	B/W	112	W	CR 2450*2
12	S-ET 0420 -43 (Waterproof)	99.2 *89 *12	4.2	84.8 *63.6	400 *300	B/W /R	119	W	CR 2450*2
13	S-ET 1250 -58	281 .3*2 29 *17 .8	12.5	252.976 * 190 .896	130 4*9 84	B/W /R	131	W	CR 2450*7

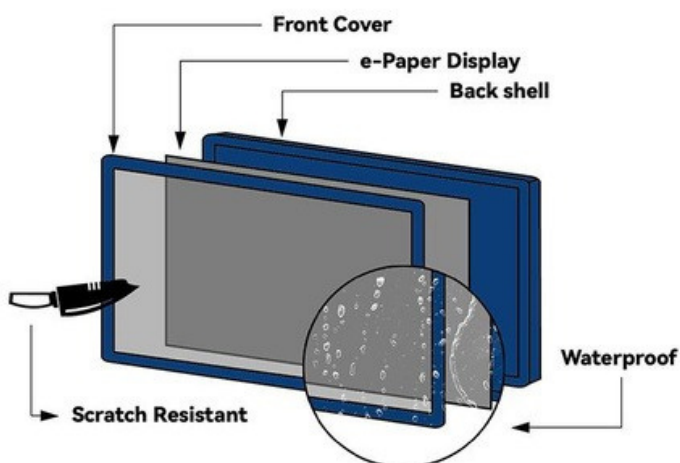
Display	Technology	Dot-matrix E-ink Display	Battery	Battery Life	10 years
	Viewable Angle	Close to 180°		Replacement Battery	Available Option
Communication Info	Frequency	2.4GHz	Operating & Storage Ambient	Operating Temperature	0~40°C
	Protocol	Private Protocol		Storage Temperature	0~40°C
	Distance	12 - 15m		Operating Humidify	45%~70%RH

2.3.2. ESL Pictures



2.3.3. ESL Structures

ESL composition: Front cover plate, E-ink display, PCBA board, Battery, Back cover plate.



The front cover plate is made of 4H hardness

acrylic, which has good anti-drop and anti-scratch characteristics.

E-ink Display: Bistable characteristics, still

displaying information after power failure, low power consumption, clear without backlight.

PCBA Board: ST Microelectronics chips.

Battery: High-performance, service life can up to 10 years.

Note: The waterproof label back cover plate is welded by ultrasonic machine, the battery cannot be replaced. In addition to 4.2-inch label is fully waterproof, other sizes of labels are surface waterproof, if you need full waterproof label can contact us to customize.

2.3.4. ESL Characteristics



Appearance.

Thin and light design with extremely narrow frame for a better visual experience

Labeling bottom design, more simple and beautiful.

Function.

Information display: support for multiple languages, graphics, text, symbols, etc.

NFC function: support NFC communication function (optional)

Temperature detection: support for temperature sampling, system readable

Power detection: each tag supports power sampling and can be read by the system

LED indicators: support 3-color independent control lights, user-defined blinking frequency and color of the indicators

2.3.5. Battery Removal



① Turn the end with the ID towards you



② Pry the bottom case off with a tool



③ Drag the bottom case to the left



④ Open successfully

2.3.6. Accessories and Installation



Desktop Holder



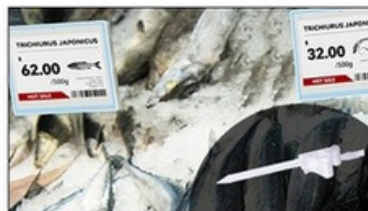
Degree Clip



Plastic Rail



Hanger/Clip



Ice Insertion

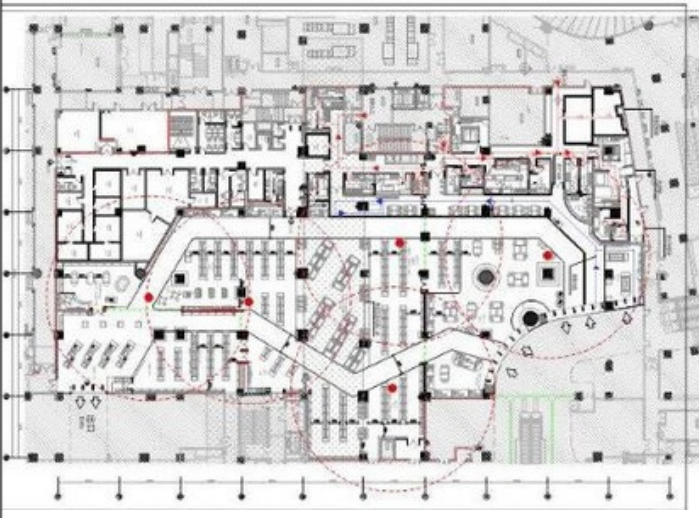


Hanger Clip

Note: This picture listed is regular accessories, if you have other needs, please contact us.

3. Introduction of ESL solution for supermarkets

3.1.Solution Design Case

Store Information		
Store Single Floor Plan	Basic Information	Details
	Chain store?	Yes
	How many floors?	1
	Single floor area	3500 m ² (37660ft ²)
	Product Management System (ERP/POS/CRM/MSS/Other)	ERP
	Store Type	Superm arket
	SKU	25320

SolutionConfigurationRecommendations				
Region	Part N.o.	Quantity	Accessory Name	Quantity
Fresh Food Area	S-ET 0420-87	2280	Hanger Clip,Desktop Holder, Degree Clip	2280
Freezing Area	S-ET0213-39	1140	Plastic Rail	190
Daily Necessities Area	S-ET 0213-81	21000	Plastic Rail	4000
Daily Necessities Area	S-ET 0290-84	300	Plastic Rail	50
Fruit & Vegetable Area	S-ET 0750-89	600	Hang Ring	600
Total.		25320	Total.	7120
Base stations	S-ETAP05-2.5	13	/	

3.2.Customer Feedback



The labels are very elegant and have a very good resolution, they have given the store a more modern touch. The software is easy to adapt and now I can keep all prices up to date without wasting time.

"The Digital Smart Label™ system is very simple and a lot better than paper labels. And it looks a lot cleaner on the shelf. It's just an excellent product!"



"I think any retailer out there who periodically changes prices would see a lot of return if they tried this technology as well."

4. After-sales & Common Troubleshooting

(一) After-sales: We will provide videos of installation, deployment and operation; at the same time, we will remotely assist customers with software deployment and label update demonstrations; if necessary, our company relevant technical personnel can provide on-site guidance.

(二) Common Troubleshooting:

The basestation is offline

1. Whether the basestation is connected with power supply.
2. Is the basestation transmit port filled in correctly?

Electronic Shelf Label cannot be updated

1. Make sure the tag ID is entered correctly. (For example, consider Bas8, and oas0)
2. Low battery power, you should check and replace the battery in time.

Electronic Shelf Label without information feedback alert

1. Make sure that the label is within valid control.
2. Low battery power, you should check and replace the battery in time.

If you encounter any problems in the product or software, or other installation and deployment, please contact us in time, we will assist you to complete the product testing and deployment work as soon as possible.

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