CONFIGURATION GUIDE

RUCKUS Hanshow Dongle and ESL Configuration Guide

Supporting Release 6.1.1 and later

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Contacting RUCKUS Customer Services and Support

The Customer Services and Support (CSS) organization is available to provide assistance to customers with active warranties on their RUCKUS products, and customers and partners with active support contracts.

For product support information and details on contacting the Support Team, go directly to the RUCKUS Support Portal using https://support.ruckuswireless.com, or go to https://www.commscope.com/ruckus and select **Support**.

What Support Do I Need?

Technical issues are usually described in terms of priority (or severity). To determine if you need to call and open a case or access the self-service resources, use the following criteria:

- Priority 1 (P1)—Critical. Network or service is down and business is impacted. No known workaround. Go to the **Open a Case** section.
- Priority 2 (P2)—High. Network or service is impacted, but not down. Business impact may be high. Workaround may be available. Go to the **Open a Case** section.
- Priority 3 (P3)—Medium. Network or service is moderately impacted, but most business remains functional. Go to the **Self-Service Resources** section.
- Priority 4 (P4)—Low. Requests for information, product documentation, or product enhancements. Go to the **Self-Service Resources** section.

Open a Case

When your entire network is down (P1), or severely impacted (P2), call the appropriate telephone number listed below to get help:

- Continental United States: 1-855-782-5871
- Canada: 1-855-782-5871
- Europe, Middle East, Africa, Central and South America, and Asia Pacific, toll-free numbers are available at https://support.ruckuswireless.com/contact-us and Live Chat is also available.
- Worldwide toll number for our support organization. Phone charges will apply: +1-650-265-0903

We suggest that you keep a physical note of the appropriate support number in case you have an entire network outage.

Self-Service Resources

The RUCKUS Support Portal at https://support.ruckuswireless.com offers a number of tools to help you to research and resolve problems with your RUCKUS products, including:

- Technical Documentation—https://support.ruckuswireless.com/documents
- Community Forums—https://community.ruckuswireless.com
- Knowledge Base Articles—https://support.ruckuswireless.com/answers
- Software Downloads and Release Notes—https://support.ruckuswireless.com/#products_grid
- Security Bulletins—https://support.ruckuswireless.com/security

Using these resources will help you to resolve some issues, and will provide TAC with additional data from your troubleshooting analysis if you still require assistance through a support case or RMA. If you still require help, open and manage your case at https://support.ruckuswireless.com/case_management.

Document Feedback

RUCKUS is interested in improving its documentation and welcomes your comments and suggestions.

You can email your comments to RUCKUS at #Ruckus-Docs@commscope.com.

When contacting us, include the following information:

- Document title and release number
- Document part number (on the cover page)
- Page number (if appropriate)

For example:

- RUCKUS SmartZone Upgrade Guide, Release 5.0
- Part number: 800-71850-001 Rev A
- Page 7

RUCKUS Product Documentation Resources

Visit the RUCKUS website to locate related documentation for your product and additional RUCKUS resources.

Release Notes and other user documentation are available at https://support.ruckuswireless.com/documents. You can locate the documentation by product or perform a text search. Access to Release Notes requires an active support contract and a RUCKUS Support Portal user account. Other technical documentation content is available without logging in to the RUCKUS Support Portal.

White papers, data sheets, and other product documentation are available at https://www.commscope.com/ruckus .

Online Training Resources

To access a variety of online RUCKUS training modules, including free introductory courses to wireless networking essentials, site surveys, and products, visit the RUCKUS Training Portal at https://commscopeuniversity.myabsorb.com/. The registration is a two-step process described in this video. You create a CommScope account and then register for, and request access for, CommScope University.

Document Conventions

The following table lists the text conventions that are used throughout this guide.

TABLE 1 Text Conventions

Convention	Description	Example
`monospace`	Identifies command syntax examples	`device(config)# interface ethernet 1/1/6`
bold	User interface (UI) components such as screen or page names, keyboard keys, software buttons, and field names	On the **Start** menu, click **All Programs**.
italics	Publication titles	Refer to the *RUCKUS Small Cell Release Notes* for more information.

Notes, Cautions, and Safety Warnings

Notes, cautions, and warning statements may be used in this document. They are listed in the order of increasing severity of potential hazards.

NOTE
A NOTE provides a tip, guidance, or advice, emphasizes important information, or provides a reference to related information.

ATTENTION
An ATTENTION statement indicates some information that you must read before continuing with the current action or task.

CAUTION
A CAUTION statement alerts you to situations that can be potentially hazardous to you or cause damage to hardware, firmware, software, or data.

DANGER
A DANGER statement indicates conditions or situations that can be potentially lethal or extremely hazardous to you. Safety labels are also attached directly to products to warn of these conditions or situations.

Command Syntax Conventions

Bold and italic text identify command syntax components. Delimiters and operators define groupings of parameters and their logical relationships.

Convention	Description
bold text	Identifies command names, keywords, and command options.
italic text	Identifies a variable.
[ ]	Syntax components displayed within square brackets are optional. Default responses to system prompts are enclosed in square brackets.
{**x**| **y**| **z**}	A choice of required parameters is enclosed in curly brackets separated by vertical bars. You must select one of the options.
x|**y**	A vertical bar separates mutually exclusive elements.
< >	Nonprinting characters, for example, passwords, are enclosed in angle brackets.
...	Repeat the previous element, for example, *member*[*member*...].
\	Indicates a “soft” line break in command examples. If a backslash separates two lines of a command input, enter the entire command at the prompt without the backslash.

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Support for APs

. The list of APs that support the ESL (Electronic Shelf Label) system are as below.

- T350d
- T350SE
- R760
- R350
- R560
- H550
- R550
- R850
- R750
- R650
- T750

The Hanshow feature has few limitations that are listed below.

- The feature provides support for AP CLI configuration, it does not provide configuration support for SmartZone controller
- Supports only 11ax AP and not 11 AC APs.
- Not recommended to use IPv6
- R350 is not suggested to use in Hanshow project since it supports USB power 1W only.
- PoE power 802.3af does not support enable USB interface.
- For R560 and R760, when power-mode is injector, it might be recognized as 802.3at. so usb interface will be disabled

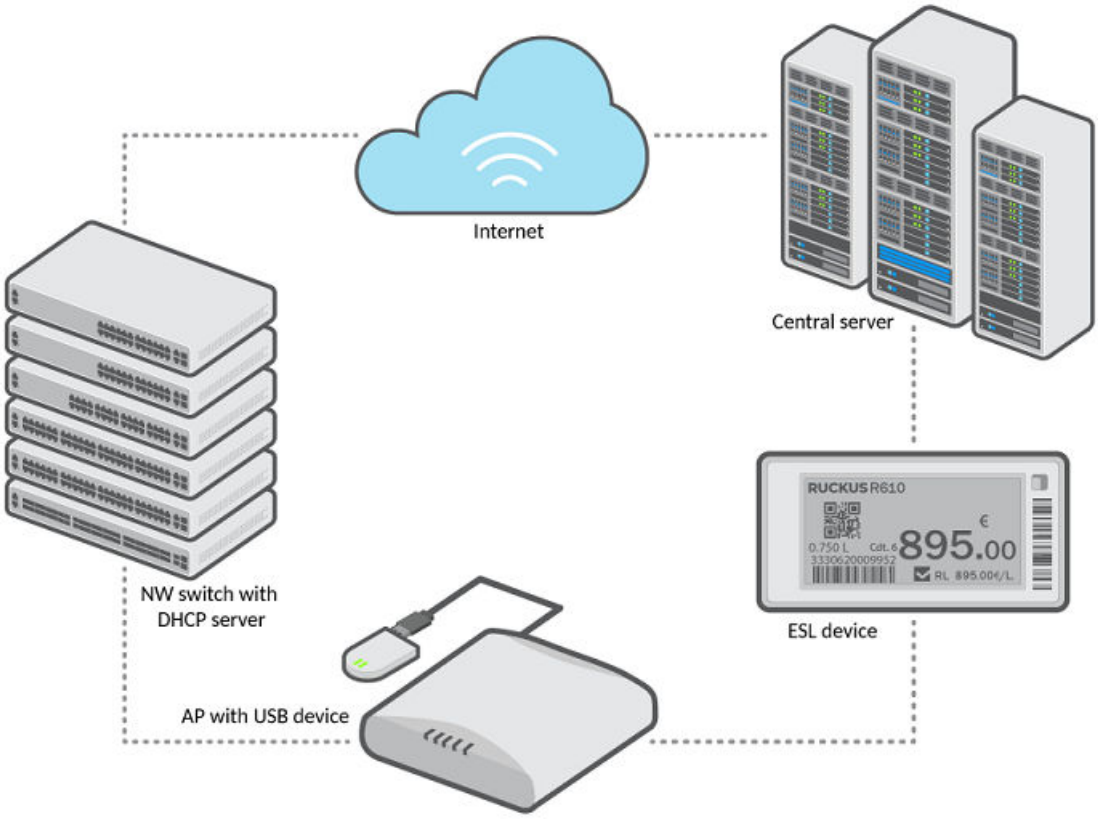
Introduction to ESL System and RUCKUS APs

An Electronic Shelf Label (ESL) system is used by retailers for displaying product pricing on their shelves. The product pricing is automatically updated whenever a price is changed from a central control server. To support the ESL solution, the RUCKUS AP must have a provision to support third-party USB devices. The USB device is used to communicate with the ESL devices through a proprietary wireless protocol.

The guide provides instructions on how to establisha connection between an access point (AP) and the SmartCell Gateway (SCG), and how to configure theUSB dongle.

FIGURE 1 Data Transmission in the ESL System

The following diagram shows the various components involved in the data transmission from the central control server to the ESL device.



Establishing the AP and SCG Connection

Before you attach the USB dongle to the access point (AP), you must ensure that the AP is connected to SmartCell Gateway (SCG).

Complete the following steps to establish a connection between the AP and SCG.

1. Enter the **set scg ip** command with the appropriate IP address of the AP.

```
rkscli: get version
Ruckus R350 Multimedia Hotzone Wireless AP
Version: 6.1.1.0.780
OK
rkscli: set scg ip 10.223.69.235
OK
rkscli: get scg

------ SCG Information ------
SCG Service is enabled.
AP is managed by SCG.
State: RUN
Server List: 10.223.69.235
SSH tunnel connected to 10.223.69.235
Last Join Time : Thu Jun 23 23:42:27 UTC 2022
Tunnel Uptime : 2 hrs 3 mins 25 secs
Total SSH Tunnel Establishments: 21
Failover List: Not found
Failover Max Retry: 2
DHCP Opt43 Code: 6
Server List from DHCP (Opt43/Opt52): Not found
SCG default URL: RuckusController
SCG config|heartbeat intervals: 30|30
SCG gwloss|serverloss timeouts: 1800|7200
Controller Cert Validation : disable
-----------------------------
OK
```

2. After the connection is established, plug the USB dongle into the AP.

FIGURE 2 Connecting the USB Dongle to the AP

3. Enter the **get power-mode** command to check the AP Power Mode. The following output is displayed.

   PoE Configured Mode : Auto

   Power Consumption Status : DC

   USB Status : Enabled

4. Enter the **get usb-power** command to check whether the USB interface is enabled. The following output is displayed.

   USB power is enabled

   OK

5. Enter the **set esl-driver** enable command to enable the ESL driver. The following output is displayed:

   OK

   NOTE
   The ESL- driver must be enabled manually for the first time, and is kept enabled after you unplug or plugin dongle, or reboot an AP. The AP set factory command will cause ESL-driver to be disabled.

6. Enter the **get esl-driver** command to check if the ESL drivers are enabled successfully. The following output is displayed:

   ESL driver is inserted

   OK

7. Enter the **get interface usb0** command to check the USB interface VLAN status.

   FIGURE 3 Checking USB Interface VLAN Status

```
rkscli: get interface usb0

Name        Forwarding    Port-Type      Untag     Vlans      Firewall-ID
-------------------------------------------------------------------------
usb0        WAN           ACCESS         1         1          0
OK
```

8. Enter the **get client-info usb0** command to get the IP address of the USB dongle.

   FIGURE 4 Getting the IP Address of the USB Dongle

```
kscli: get client-info usb0
8:6d:35:73:29:87 {
    Allow                   : Y
    Device Info             : { Unknown, Unknown,  } (null)
    Hostname                :
    Forwarding Policy       : 0(Default)
    VLAN ID                 : 1
    IP Address              : 10.223.19.41 (D)
    IPv6 Address            :
    DHCP Lease Time         : 3600
    DHCP XID                : 0x6e81ec08
```

9. Enter the command **set interface usb0 type access untag N** or**set interface usb0 type vlan-trunk untag N** to set VLAN N for USB dongle. Ensure network support VLAN N.

   FIGURE 5 Setting the IP Address of the USB Dongle

```
rkscli: get interface usb0

Name       Forwarding   Port-Type     Untag    Vlans     Firewall-ID
-------------------------------------------------------------------
usb0       WAN          ACCESS        104      104       0
OK
rkscli: set interface usb0 type access untag 108
OK
rkscli: get interface usb0

Name       Forwarding   Port-Type     Untag    Vlans     Firewall-ID
-------------------------------------------------------------------
usb0       WAN          ACCESS        108      108       0
OK
```

10. Enter the **get interface usb0** command to get the IP address of VLAN N from the DHCP server.

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