



# **Cambium Networks**

**ePMP Command Line Interface**

**User Manual**

Firmware version 3.4.1

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## 1 INTRODUCTION

### 1.1 Purpose

This document describes basic usage of ePMP Command Line Interface.

### 1.2 Command Line Access

Access to command line is provided via SSH protocol version 2. To access CLI you can use the following identity:

- ADMINISTRATOR (default username/password “admin”), who has full read and write permission.

### 1.3 Command usage syntax

For every command in this document you can find a usage syntax. In command usage syntax, anything in a normal text font is required text. Anything in a boldface font is a flag or a subcommand. Anything underlined is a user-specified argument such as a filename.

Any argument surrounded by brackets is considered to be optional. For example, [ filename ] would indicate an optional filename argument.

Anything in angle brackets < > means the option is required.

### 1.4 Basic information

#### 1.4.1 Context sensitive help

To display the context sensitive help you can use the question mark sign on your keyboard - [?]. Help will provide you either a list of possible command completions with summaries, or the full syntax of the current command. A subsequent repeat of this key, when a command has been resolved, will display a detailed reference.

#### 1.4.2 Auto-completion

The following keys both perform auto-completion for the current command line. If the command prefix is not unique then the bell will ring and a subsequent repeat of the key will display possible completions.

[enter] - Auto-completes, syntax-checks then executes a command. If there is a syntax error then offending part of the command line will be highlighted and explained.

[space] - Auto-completes, or if the command is already resolved inserts a space.

#### 1.4.3 Movement keys

[CTRL-A] - Move to the start of the line

[CTRL-E] - Move to the end of the line.

[up] - Move to the previous command line held in history.

[down] - Move to the next command line held in history.

[left] - Move the insertion point left one character.

[right] - Move the insertion point right one character.

#### 1.4.4 Deletion keys

[CTRL-C] - Delete and abort the current line

[CTRL-D] - Close current SSH session.

[CTRL-K] - Delete all the characters to the right of the insertion point.

[CTRL-U] - Delete the whole line.

[backspace] - Delete the character to the left of the insertion point.

#### 1.4.5 Escape sequences

!! - Substitute the last command line.

!N - Substitute the Nth command line (absolute as per 'history' command)

!-N - Substitute the command line entered N lines before (relative)

## 2 COMMAND LINE INTERFACE OVERVIEW

### 2.1 Reference list of commands

<i>Command</i>	<i>Description</i>
config apply	Apply configuration
config import <url>	Import JSON configuration file from <url>
config import errors	Show JSON configuration import errors
config save	Save configuration
config set   <string>	Show configuration parameters available containing <string>
config set <parameter>	Show help for <parameter>
config set <parameter> <value>	Set <parameter> with <value>
config set <table> <row> <parameter> <value>	Set <parameter> with <value> inside <table>, row <row>
config show	Show running configuration
config show json	Show running configuration in JSON format
config show   <string>	Show running configuration with name containing <string>
config show dump	Show running configuration as a list of “config set” commands
config show changes	Show changes pending to be applied
exit	Exit shell
history [num]	Show last [num] commands
linktest <mac> [-t time] [-s size] [-f force antenna]	Run link test for specific <mac> and time/packet size. The following options are available for controlling the antenna usage during the link test: 0 - Auto, 1 - Force Sector Antenna, 2 - Force Smart Antenna
passwd	Change password
ping <ip> [-c n] [-s size]	Ping

reboot	Reboot
show acs	Show ACS
show ap	Show list of AP
show arp	Show ARP table
show bridge ap	Show bridge on AP
show bridge sm	Show bridge on STA
show config	Alias for "config show"
show dashboard	Show information available on WEB-Interface dashboard
show ethernet	Show Ethernet statistics counters
show gpsat	Show information for GPS Satellites
show edetect	Show eDetect information
show ealign	Show eAlign information
show ip	Show IP addresses
show netstat	Show TCP and UDP connections
show rssi [ <u>n</u> ]	Show RSSI per channel
show sta	Show list of stations
show syslog	Show system log
show wireless	Show wireless statistics counters
snmp get [-v <u>version</u> ] [-c <u>community</u> ] <ip> <oid>	SNMP get
snmp set [-v <u>version</u> ] [-c <u>community</u> ] <ip> <oid> <t> <v>	SNMP set
snmp walk [-v <u>version</u> ] [-c <u>community</u> ] <ip> <oid>	SNMP walk
tcpdump <parameters>	Tcpdump <i>Note:</i> Use quotes to pass multiple parameters to tcpdump <i>Example:</i> tcpdump "-i eth0 -e vlan and ip multicast"

<code>tcpdump dump &lt;parameters&gt;</code>	Dump pcap file
<code>tcpdump show</code>	List saved pcap files
<code>tcpdump delete</code>	Delete saved pcap files
<code>traceroute &lt;ip&gt;</code>	traceroute

---

### 3 CONFIGURATION

In order to configure ePMP via command line interface there is a subset of “config” commands:

<i>Command</i>	<i>Description</i>
config apply	Apply configuration
config save	Save configuration
config set <parameter>	Show help for <parameter>
config set <parameter> <value>	Set <parameter> with <value>
config set <parameter> " "	Delete parameter from configuration
config set <table> <row> <parameter> <value>	Set <parameter> with <value> inside <table>, row <row>
config show	Show running configuration
config show dump	Show running configuration as a list of “config set” commands
config show changes	Show changes pending to be applied

Configuration parameter names are compatible with the names used in “cambiumpmp80211SystemConfiguration” tree of SNMP Management Information Base (MIB) file, which is available for download from the Cambium Networks Support website (<https://support.cambiumnetworks.com/files/epmp>).

#### 3.1 Example 1: Changing device IP address in Bridge mode

In order to change device IP address in bridge mode the following commands should be used:

```
>config set networkBridgeIPAddr 192.168.0.100
>config save
>config apply
```

#### 3.2 Example 2: Creating/Modifying MIR Profile

In order to create or modify existing first MIR profile the following commands should be used:

```
>config set wirelessMIRProfileTable 1 wirelessMIRProfileNumber 1
>config set wirelessMIRProfileTable 1 wirelessMIRProfileDescription 10Mbps
>config set wirelessMIRProfileTable 1 wirelessDLMIR 10000
>config set wirelessMIRProfileTable 1 wirelessULMIR 1000
>config save
>config apply
```



## 4 REFERENCE LIST OF CONFIGURATION PARAMETERS

<i>Name</i>	<i>Description</i>
<b>cambiumSystemLog</b>	
syslogServerIPFirst	"Syslog Server IP Address 1 Device Allocation:AP, SM"
syslogServerIPSecond	"Syslog Server IP Address 2 Device Allocation:AP, SM"
syslogServerIPThird	"Syslog Server IP Address 3 Device Allocation:AP, SM"
syslogServerIPFourth	"Syslog Server IP Address 4 Device Allocation:AP, SM"
syslogServerLogToWeb	"Enable Log to WEB Interface: 0 - Disable, 1 - Enable Device Allocation:AP, SM"
syslogServerLogMask	"Log Level Mask: 0 - all messages, 1 - emerg, 2 - alert, 4 - crit, 8 - err, 16 - warning, 32 - notice, 64 - info, 128 - debug Device Allocation:AP, SM"
<b>cambiumDHCP</b>	
dhcpLanEnable	"Local DHCP Server Enable: 0 - Disable 1 - Enable Device Allocation:SM"
dhcpLanStart	"Local DHCP Server IP Start Address Offset from the Network address. Device Allocation:SM"
dhcpLanLimit	"Local DHCP Server IP End Address Offset from the Network address. Device Allocation:SM"
dhcpLanLeasetime	"Local DHCP Lease Setup in hours Valid Range:1 hour - 24 hours Device Allocation:SM"
dhcpLanHostTable	"Table for DHCP Hosts Device Allocation:SM"
dhcpLanHostEntry	"DHCP Hosts Table Entry Device Allocation:SM"
dhcpLanHostIndex	"DHCP host Table Index Table Entry is cleared if Index is set to zero Device Allocation:SM"
dhcpLanHostIP	"DHCP Lan Host IP 'ignore' or the IP address to be used for DHCP host Device Allocation:SM"

dhcpLanHostMAC	"The hardware address of this host Device Allocation:SM"
dhcpLanHostName	"Optional hostname to assign Device Allocation:SM"
dhcpOption82	"DHCP Option82: 0 - Disable 1 - Enable Device Allocation:AP"
cambiumSSHServer	"Cambium SSH Server: 0 - Disable, 1 - Enable Device Allocation:AP, SM"
cambiumSSHServerEnable	
<b>network</b>	
networkLan	
networkLanIPAddressMode	"SM NAT LAN IP Address Mode 1 - Static, 2 - DHCP Device Allocation:AP, SM"
networkLanIPAddr	"SM NAT LAN IP Address Device Allocation:SM"
networkLanNetmask	"SM NAT LAN IP Subnet Mask Device Allocation:SM"
networkLanGatewayIP	"SM NAT LAN Gateway IP Address Device Allocation:SM"
networkLanDNSIPAddr	"SM NAT LAN DNS Server IP Address Device Allocation:SM"
networkLanMTU	"SM NAT LAN MTU size Device Allocation:SM"
networkLanDNSIPAddrPrimary	"SM NAT LAN DNS Server IP Address Device Allocation:SM Primary Server IP"
networkLanDNSIPAddrSecondary	"SM NAT LAN DNS Server IP Address Device Allocation:SM Secondary Server IP"
networkLanAutoNegotiation	"Lan Autonegotiation 0 - Disable, 1 - Enable Device Allocation:AP, SM"
networkLanSpeed	"LAN Speed 10 - 10 Mb/s, 100 - 100 Mb/s, 1000 - 1000 Mb/s Device Allocation:AP, SM"
networkLanDuplex	"LAN Duplex Mode 0 - Half, 1 - Full Device Allocation:AP, SM"
networkBroadcastStormEnabled	"Broadcast Storm Control 0 - Disabled, 1 - Enabled"

networkBroadcastStormRate	Device Allocation:AP, SM" "Broadcast Strom Control Rate in frames per second
networkLan2Enabled	Device Allocation:AP, SM" "AUX Lan Port Enabled 0 - Disable, 1 - Enable
networkLan2AutoNegotiation	Device Allocation:AP, SM" "Lan Autonegotiation 0 - Disable, 1 - Enable
networkLan2Speed	Device Allocation:AP, SM" "LAN Speed 10 - 10 Mb/s, 100 - 100 Mb/s,
networkLan2Duplex	Device Allocation:AP, SM" "LAN Duplex Mode 0 - Half, 1 - Full
networkLan2PoEEnabled	Device Allocation:AP, SM" "PoE Enabled 0 - Disabled, 1 - Enabled
networkLanDefaultIP	Device Allocation:SM" Default Network IP
dlkmNATSIPHelpers	Device Allocation:AP, SM Enables Auxiliary Netfilter NAT SIP Helper modules support: 0 - Disable, 1 - Enabled
staticRoutesEnableMain	Device Allocation:AP, SM Static Routes trigger 0 - Disable 1 - Enable
<b>mgmtIF</b>	
mgmtIFEnable	Separate Management Interface Enabled: 0 - Disabled, 1 - Enabled
mgmtIFVLAN	Device Allocation:SM Separate Management Interface VLAN Enabled: 0 - Disabled, 1 - Enabled
mgmtIFVID	Device Allocation:SM Separate Management Interface VLAN
mgmtIFVP	Device Allocation:SM Separate Management Interface VP
mgmtIFIPAddressMode	Device Allocation:SM Separate Management IP Address Mode 1 - Static, 2 - DHCP

mgmtIFIPAddr	Separate Management IP Address Device Allocation:SM
mgmtIFNetmask	Separate Management IP Subnet Mask Device Allocation:SM
mgmtIFGateway	Separate Management IP Gateway Device Allocation:SM
<b>networkWan</b>	
networkWanIPAddressMode	"SM NAT WAN IP Address Mode 1 - Static, 2 - DHCP Device Allocation:SM"
networkWanIPAddr	"SM NAT WAN IP Address Device Allocation:SM"
networkWanNetmask	"SM NAT WAN IP Subnet Mask Device Allocation:SM"
networkWanGatewayIP	"SM NAT WAN Gateway IP Address Device Allocation:SM"
networkWanDNSIPAddr	"SM NAT WAN DNS Server IP Address Device Allocation:SM"
networkWanMTU	"SM NAT WAN MTU size Device Allocation:SM"
networkWanDNSIPAddrPrimary	"SM NAT WAN DNS Server IP Address Device Allocation:SM Primary Server IP"
networkWanDNSIPAddrSecondary	"SM NAT WAN DNS Server IP Address Device Allocation:SM Secondary Server IP"
networkWanPPPoE	"SM only.Enable or Disable PPPoE mode. 1 is enable 0 is disable"
networkWanPPPoEUsername	"SM only.Username to authenticate with PPPoE Server"
networkWanPPPoEPassword	"SM only.Password to authenticate with PPPoE Server"
networkWanPPPoEAC	"SM only.PPPoE Access Concentrator Name"
networkWanPPPoEService	"SM only.PPPoE Service Name"
networkWanPPPoEAuth	"SM only.This indicates type of authentication with PPPoE Server. Options are 0 - All 1 - PAP 2 - CHAP"
networkWanPPPoEMTU	"SM only.MTU size to be used for PPPoE connection"
networkWanPPPoEKeepAlive	"SM only.Time in seconds for the keep Alive messages from PPPoE client to PPPoE Server"
networkWanPPPoEMSSClamping	"SM only.Enable or disable MSS Clamping 0 - Disable 1 - Enable"
networkWanIPv6AddressMode	SM NAT WAN IPv6 Address Mode 1 - Static, 2 - DHCPv6

	Device Allocation:SM
<b>mgmtVLAN</b>	
mgmtVLANEnable	"Management VLANs State: 0 - Disable, 1 - Enable Device Allocation:AP, SM"
mgmtVLANVID	"Management VLAN ID Device Allocation:AP, SM"
mgmtVLANVP	"Management VLAN VP Device Allocation:AP, SM"
dataVLAN	
dataVLANEnable	"Data VLANs State: 0 - Disable, 1 - Enable Device Allocation:SM"
dataVLANVID	"Data VLAN ID Device Allocation:SM"
dataVLANVP	"Data VLAN VP Device Allocation:SM"
mcastVLAN	
mcastVLANEnable	"Multicast VLAN State: 0 - Disable, 1 - Enable Device Allocation:SM"
mcastVLANVID	"Multicast VLAN ID Device Allocation:SM"
mcastVLANVP	"Multicast VLAN VP Device Allocation:SM"
<b>networkBridge</b>	
networkBridgeIPAddressMode	"Device Bridge IP Address Mode 1 - Static, 2 - DHCP Device Allocation:AP, SM"
networkBridgeIPAddr	"Device Bridge IP Address Device Allocation:AP, SM"
networkBridgeNetmask	"Device Bridge IP Subnet Mask Device Allocation:AP, SM"
networkBridgeGatewayIP	"Device Bridge Gateway IP Address Device Allocation:AP, SM"
networkBridgeDNSIPAddr	"Device Bridge DNS Server IP Address Device Allocation:AP, SM"
networkBridgeMTU	"Device Bridge MTU size Device Allocation:AP, SM"
networkBridgeDNSIPAddrPrimary	"Device Bridge DNS Server IP Address Device Allocation:AP, SM Primary Server IP"
networkBridgeDNSIPAddrSecondary	"Device Bridge DNS Server IP Address Device Allocation:AP, SM Secondary Server IP"
networkMode	"SM Network Mode:

	<p>1 - NAT,                  2 - Bridge,                  3 - Router                  Device Allocation:SM"                  "Spanning Tree Protocol:                  0 - Disable STP (Default mode)                  1 - Enable STP                  Device Allocation:AP, SM"                  "LAN Port Security switch:                  0 - Disable                  1 - Enable                  Device Allocation:SM"                  "Number of secure MAC addresses:                  1-254 - Fixed Learned MAC limit                  Device Allocation:SM"                  "Security MAC address aging time:                  This parameter indicates on how long to store learned                  MAC address in the cache in seconds,                  0 - do not delete MAC address from the buffer,                  Default - is 300 seconds.                  Device Allocation:AP, SM"                  "Multicast Group Limit:                  Default - is 3 Multicast Groups.                  Device Allocation:SM"</p>
networkSTP	
networkPortSecurity	
networkPortSecurityMax	
networkPortSecurityAgingTime	
mcastGroupLimit	
<b>snmp</b>	
snmpReadOnlyCommunity	"SNMP read-only community name Device Allocation:AP, SM"
snmpReadWriteCommunity	"SNMP read-write community name Device Allocation:AP, SM"
snmpSystemName	"SNMP System Name Device Allocation:AP, SM"
snmpSystemDescription	"SNMP System Description Device Allocation:AP, SM"
snmpTrapEnable	"SNMP Trap Support Enable 0 - Disable, 1 - Enable Device Allocation:AP, SM"
snmpTrapCommunity	"SNMP Trap Community Device Allocation:AP, SM"
snmpTrapTable	"SNMP Trap Servers Table Device Allocation:AP, SM"
snmpTrapEntry	"SNMP Trap Table Entry Device Allocation:AP, SM"
snmpTrapEntryIndex	"SNMP Trap Server IP Table Index Table Entry is cleared if Index is set to zero Device Allocation:AP, SM"
snmpTrapEntryIP	"SNMP Trap Server IP Address Device Allocation:AP, SM"
snmpTrapEntryPort	"SNMP Trap Server Port Number Device Allocation:AP, SM"
snmpDomainAccessEnable	"SNMP Access Domain Enable"

	<p>0 - Disable, 1 - Enable Device Allocation:AP, SM" "SNMP Access Domain IP Address Device Allocation:AP, SM" "SNMP Access Domain IP Mask Device Allocation:AP, SM"</p>
<b>cambiumSystem</b>	
<b>systemConfig</b>	
systemConfigTimezone	"Time Zone Device Allocation:AP, SM"
systemConfigDeviceName	"SM Device Name Device Allocation:AP, SM"
systemConfigETSILicense	"ETSI Country Code. Set the country code using license key on AP. Visit Cambium Webserver to get the license key. The country code set in license key will be used to set country code on AP if the key validation pass. This parameter is for AP only. Device Allocation:AP"
systemDeviceLocLatitude	"Device GPS Location Latitude. Coordinates of device in (h ddd.ddddd) format. Used to display location at Google Maps service. Device Allocation:AP, SM"
systemDeviceLocLongitude	"Device GPS Location Longitude. Coordinates of device in (h ddd.ddddd) format. Used to display location at Google Maps service. Device Allocation:AP, SM"
systemDeviceLocHeight	"Device GPS Location Longitude. Altitude of device above/below mean sea level. Device Allocation:AP, SM"
cambiumTelnetServerEnable	Cambium Telnet Server: 0 - Disable, 1 - Enable Device Allocation:AP, SM
networkMACTELNET	Enable MAC-Telnet Service 0 - Disable, 1 - Enable Device Allocation:AP,SM
networkMACTELNETProto	MAC-Telnet Service Protocol 1 - MAC-Telnet 2 - MAC-SSH Device Allocation:AP,SM
networkNATPMP	Enable NAT-PMP on SM in NAT mode 0 - Disable, 1 - Enable Device Allocation:SM
systemConfigFactoryResetKeepPwd	Keep Passwords after Factory Default 0 - Disabled

	1 - Enabled Device Allocation:AP, SM
systemConfigIPv6Support	Systemwide IPv6 support. Enables Systemwide IPv6 support: 0 - IPv6 Support Disabled, 1 - IPv6 Support Enabled, Device Allocation:AP, SM
systemConfigMinAntGain	Return Minimum allowed Antenna Gain. Device Allocation:AP, SM
<b>systemNtpServer</b>	
systemNtpServerIPMode	"NTP Server IP Address receive mode 1 - Static, 2 - DHCP Device Allocation:AP, SM"
systemNtpServerPrimaryIP	"NTP Server 1 IP Address Device Allocation:AP, SM"
systemNtpServerSecondaryIP	"NTP Server 2 IP Address Device Allocation:AP, SM"
<b>cambiumWebServer</b>	
webService	"Web Service 1 - HTTP, 2 - HTTPS Device Allocation:AP, SM"
httpPort	"HTTP Port Device Allocation:AP, SM"
httpsPort	"HTTPS Port"
<b>wireless</b>	
<b>wirelessDevice</b>	
wirelessDeviceCountryCode	"Country Code. If US Lock SKU, this is US and cannot be changed. If not locked, for 9350, it will be None, for 9344, it will be Follow AP CC. When user change CC at SM, the SM Scan Frequency Type will be FA Device Allocation:AP"
wirelessType	"Wireless type: 1 - tdd driver, 2 - 80211 (aquila) driver Device Allocation:AP, SM"
wirelessDefaultCountryCode	"Default Country Code."
wirelessAPForcedSector	Enable/Disable Forcing of Sector/Smart Antenna for all SMs. 0 - auto mode (default) 1 - force sector antenna 2 - force Smart antenna Device Allocation:AP
wirelessSTAFORcedSector	Enable/Disable Forcing of Sector/Smart Antenna for current SM. 0 - auto mode (default) 1 - force sector antenna



	2 - force Smart antenna Device Allocation:STA
<b>wirelessInterface</b>	
wirelessInterfaceMode	"Wireless Interface Mode: 1 for AP, 2 for SM, 3 for Spectrum Analyzer Device Allocation:AP, SM"
wirelessInterfaceSSID	"Wireless SSID Device Allocation:AP"
wirelessInterfaceEncryption	"Wireless authentication type: 1 - Open mode, 2 - wpa2 mode, 3 - EAP-TTLS Device Allocation:AP"
wirelessInterfaceEncryptionKey	"Pre-shared authentication key. Device Allocation:AP"
wirelessInterfaceForceMcastBcast4Addr	1 - TRUE 0 - FALSE
wirelessInterfaceRateMinMCS	Minimum locked MCS rate. Default allocation:AP, SM.
wirelessInterfaceHTMode	"Frequency Bandwidth 1 - 20Mhz, 2 - 40Mhz, 3 - 10Mhz, 4 - 5MHz Device Allocation:AP"
wirelessInterfaceTXPower	"TX Power (Board Output Conducted) Device Allocation:AP"
wirelessInterfaceTDDAntennaGain	"Antenna Gain Device Allocation:AP, SM"
wirelessInterfaceTDDRatio	"DL/UL Ratio: 1 - 75/25, 2 - 50/50, 3 - 30/70, 4 - Flexible Device Allocation:AP"
wirelessInterfaceTPCTRL	"Set/get target receive level (TRL) Device Allocation:AP"
wirelessInterfaceTPCMode	"Power mode selection. Values:0 - Disable, 1 - Open Loop, 2 - Close Loop When system is in Fixed mode (75/35, 50/50, 30/70), this parameter can only be Close or Open Loop. When system is in Flexible mode, this parameter can be either Close Loop, Open Loop or Disable. The default TPC mode is Close Loop. Device Allocation:AP"
wirelessInterfacePTPMode	"PTP Setting 0 - Off, 1 - Connect First SM, 2 - MAC Address Limited

wirelessInterfacePTPMACAddress	Device Allocation:AP" "PTP MAC Address
wirelessInterfaceSyncSource	Device Allocation:AP" "1PPS Sync Source 1 - GPS, 2 - CMM, 3 - Internal Free Run
wirelessInterfaceSyncHoldTime	Device Allocation:AP" "GPS Sync Hold Time in seconds
wirelessInterfaceScanFrequencyListTwenty	Device Allocation:AP" "Scan Frequency List for 20 MHz
wirelessInterfaceScanFrequencyListForty	Device Allocation:SM" "Scan Frequency List for 40 MHz
centerFrequency	Device Allocation:SM" "Per freq band:5725 GHz for 5G SKU, 2412 for 2.4G SKU
dfsAlternative1CenterFrequency	Device Allocation:AP" "Per freq band
dfsAlternative2CenterFrequency	Device Allocation:AP" "Per freq band
wirelessMaximumCellSize	Device Allocation:AP" "Maximum Cell Size in units wirelessCellSizeUnit defines the unit type: 1 - Miles 2 - Kilometers
wirelessCellSizeUnit	Device Allocation:AP" "Maximum Cell Size units: 1 - Miles 2 - Kilometers
wirelessMaximumSTA	Device Allocation:AP" "Maximum Number of SM
dfsAlternative1Bandwidth	Device Allocation:AP" "Frequency Bandwidth 1 - 20Mhz, 2 - 40Mhz, 3 - 10Mhz, 4 - 5Mhz,
dfsAlternative2Bandwidth	Device Allocation:AP" "Frequency Bandwidth 1 - 20Mhz, 2 - 40Mhz, 3 - 10Mhz, 4 - 5Mhz,
wirelessAcceptableAPRSSIThreshold	Device Allocation:AP" "AP RSSI Threshold
wirelessAcceptableAPCINRThreshold	Device Allocation:SM" "AP CINR Threshold
wirelessInterfaceUnblockUSfreqs	Device Allocation:SM" "Block US 5.2 and 5.4 bands 5.2 and 5.4 bands are blocked until DFS certification is acheived

wirelessMIREnable	Device Allocation:AP, SM" "Maximum Information Rate (MIR) Limiting: 0 - Disable, 1 - Enable
wirelessMIRSTAProfileNumber	Device Allocation:AP" "Maximum Information Rate (MIR) Limiting Profile Number on SM
wirelessMIRAPDefaultProfileNumber	Device Allocation:SM" "Maximum Information Rate (MIR) Limiting Default Profile number on AP This Profile Number will be used by AP is SM provides improper profile
wirelessInterfaceScanFrequencyBandwidth	Device Allocation:AP" "Frequency Bandwidth as bitmask, fields are: 1 - 20Mhz, 2 - 40Mhz, 4 - 10Mhz, 8 - 5Mhz
wirelessInterfaceGuardInterval	Device Allocation:SM" "Guard Interval: 1 - Long GuardInterval, 2 - Short GuardInterval
wirelessInterfaceiFreqReuseMode	Device Allocation:AP" "Frequency Reuse Mode: 0 - Off, 1 - Frequency-Reuse-Front, 2 - Frequency-Reuse-Back
wirelessSTAPriority	Device Allocation:AP" "SM priority value: 0 - Normal, 1 - High, 2 - Low
wirelessSmoothingBit	Device Allocation:SM" "Smoothing Bit values: 0 - Bit is cleared, smoothing is off, 1 - Bit is set, smoothing is on
wirelessSecurityMethod	Device Allocation:AP" "Allowed types of authentications on SM side (Preferred AP list is not set) Use bitmask to enable pereferred methods, 0 - means enable method: set 0-th bit to 0 - Open method (110b) set 1-st bit to 0 - WPA2 method (101b) set 2-nd bit to 0 - EAP-TTLS method (011b) 0x00 - All enabled"
wirelessAcceptableAPSNRThreshold	"AP CINR Threshold
wirelessMgmtPacketRate	Device Allocation:SM" "Management rate: 0 - MCS0 1 - MCS1 Device Allocation:AP"

wirelessStalsolate	"Enables or disables bridging within the AP driver between SMs. 0 - Disabled 1 - Enabled Device Allocation:AP"
wirelessCcaEnable	"Clear Channel Assignment: 0 - Disable 1 - Enable Device Allocation:AP"
wirelessInterfaceScanFrequencyListTen	"Scan Frequency List for 10MHz Device Allocation:SM"
wirelessInterfaceScanFrequencyListFive	"Scan Frequency List for 5MHz Device Allocation:SM"
wirelessMulticastEnhanceMode	"Multicast enhancement mode 0 - Disabled 3 - IGMP Snooping + MC Passthru Device Allocation:AP"
wirelessInterfaceProtocolMode	Protocol Module Mode: 1 - TDD 2 - AP/SM WiFi 3 - PTP.LL 4 - TDD PTP Device Allocation: AP/SM
wirelessClientBridgeMode	Enables ARP NAT feature, translates ARP requests from Ethernet side of SM to Wireless and vice-versa: 0 - Disabled 1 - Enabled Device Allocation:SM
wirelessInterfaceRateMaxMCS	Minimum locked MCS rate. Default allocation: AP, SM.
wirelessMulticastIgmpFastLeave	Multicast enhancement mode 0 - IGMP Fast Leave OFF 1 - IGMP Fast Leave ON Device Allocation:AP
wirelessInterfaceTDDFrameSize	TDD Frame Duration in microseconds 2500 - 2.5 ms 5000 - 5 ms Device Allocation:AP
wirelessInterfaceColocState	Co-location state 0 - disabled 1 - FSK co-location Device Allocation:AP
wirelessInterfaceColocSystemSyncSrc	Co-location state 1 - GPS, 2 - CMM4, 4 - CMM3 Device Allocation:AP
wirelessTXPowerManualLimit	"Allow user to limit MAX output TX Power Device Allocation:SM"
wirelessRateMaxMCS	Allow user to set MAX TX rate Not allowed for SNMP processing

apWiFiCompWDSTrBridge	Device Allocation:AP, SM AP Wi-Fi WDS Transparent bridge mode Compatibility mode for Ubiquiti WDS Transparent bridge and Mikrotik station WDS 0 - Disabled, 1 - Enabled
wirelessMACFilter	Device Allocation:AP Enable/Disable MAC list filter 0 - Disabled, 1 - Enabled
wirelessMACFilterPolicy	Device Allocation:AP Permit/Prevent policy for MAC list 1 - Prevent 2 - Permit
apWiFiDLCTSMODE	Device Allocation:AP Force AP WiFi to enable Self CTS 0 - Disabled, 1 - Enabled
apWiFiRTSThreshold	Device Allocation:AP Wi-Fi interface RTS Threshold
apWiFiULCTSRTSMODE	Device Allocation:AP, SM Force AP WiFi to add ERP IE to the Beacon 0 - Disabled, 1 - Enabled
wirelessAPWifiWLANmode	Device Allocation:AP AP Wi-Fi WLAN mode (short, 1000m operational distance) 0 - Disabled, 1 - Enabled
<hr/>	
<b>wirelessPrefList</b>	Device Allocation:AP
preferredAPTable	"Preferred AP Table Device Allocation:SM"
preferredAPEntry	"Preferred SSID Table Entry Device Allocation:SM"
preferredListTableEntryIndex	"Preferred AP Table Index Table Entry is cleared if Index is set to zero Device Allocation:SM"
preferredListTableEntrySSID	"Preferred AP SSID Device Allocation:SM"
preferredListTableEntryKEY	"Preferred AP Shared Key Device Allocation:SM"
preferredListTableSecurityMethod	"Authentication modes to connect to AP Device Allocation:SM Use bitmask to enable preferred methods, 0 - means enable method: set 0-th bit to 0 - Open method (110b) set 1-st bit to 0 - WPA2 method (101b) set 2-nd bit to 0 - EAP-TTLS method (011b) 0x00 - All enabled"

<b>wirelessMIRList</b>	
wirelessMIRProfileTable	"Maximum Information Rate (MIR) Limiting profile Table Device Allocation:AP"
wirelessMIRProfileEntry	"Maximum Information Rate (MIR) Limiting profile Table Entry Device Allocation:AP"
wirelessMIRProfileIndex	"Maximum Information Rate (MIR) Limiting profile Number Device Allocation:AP"
wirelessMIRProfileNumber	"Number of MIR profile Device Allocation:AP"
wirelessMIRProfileDescription	"MIR profile description Device Allocation:AP"
wirelessDLMIR	"DL MIR in kilobits per second Device Allocation:AP"
wirelessULMIR	"UL MIR in kilobits per second Device Allocation:AP"
<b>wirelessRadius</b>	
wirelessRadiusTimeout	"RADIUS server response timeout Device Allocation:AP"
wirelessRadiusRetry	"RADIUS server retry Device Allocation:AP"
wirelessRadiusGUIUserAuth	"GUI User Authentication Option Device Allocation:AP"
wirelessRadiusCurrentGUIUserAuth	"Current GUI User Authentication Option Device Allocation:SM"
wirelessRadiusSeverInfo	"RADIUS server info Device Allocation:SM"
wirelessRadiusIdentityStr	"Authentication Identity String Device Allocation:SM"
wirelessRadiusIdentityRealm	"Authentication Identity Realm Device Allocation:SM"
wirelessRadiusUsername	"Authentication Username Device Allocation:SM"
wirelessRadiusPassword	"Authentication Password Device Allocation:SM"
wirelessRadiusServerList	
wirelessRadiusServerTable	"RADIUS servers table Device Allocation:AP"
wirelessRadiusServerEntry	"RADIUS servers table entry Device Allocation:AP"
wirelessRadiusServerIndex	"RADIUS servers limiting number Device Allocation:AP"
wirelessRadiusServerIP	"RADIUS server IP address Device Allocation:AP"
wirelessRadiusServerPort	"RADIUS server port Device Allocation:AP"
wirelessRadiusServerSecret	"RADIUS server port Device Allocation:AP"
useMACAddressAsWirelessRadiusUsername	For using an Ethernet MAC address instead of

	RADIUS username 0 - Off (default), 1 - using ':' as format, 2 - using '-' as format Device Allocation:SM
<b>wirelessRadiusCertificateList</b>	
<b>wirelessRadiusCertificateListRow1</b>	
wirelessRadiusUseDefCertificate	"RADIUS default certificate use Device Allocation:SM"
wirelessRadiusDefCertificateView	"RADIUS default certificate view Device Allocation:AP"
<b>wirelessRadiusCertificateListRow2</b>	
wirelessRadiusUser1CertificateName	"First user RADIUS certificate name Device Allocation:AP"
wirelessRadiusUser1CertificateView	"First user RADIUS certificate view Device Allocation:AP"
<b>wirelessRadiusCertificateListRow3</b>	
wirelessRadiusUser2CertificateName	"Second user RADIUS certificate name Device Allocation:AP"
wirelessRadiusUser2CertificateView	"Second user RADIUS certificate view Device Allocation:AP"
<b>wirelessRadiusCertificateSet</b>	
wirelessRadiusDefaultCertificate	"Default RADIUS certificate Device Allocation:SM"
wirelessRadiusUser1Certificate	"Default RADIUS certificate Device Allocation:SM"
wirelessRadiusUser2Certificate	"Default RADIUS certificate Device Allocation:SM"
wirelessRadiusUseDefaultCertificate	"RADIUS default certificate use Device Allocation:SM"
<b>wirelessRadiusExtraCertificateSet</b>	
wirelessRadiusPMP320Certificate	"PMP320 RADIUS certificate Device Allocation:SM"
wirelessRadiusUsePMP320Certificate	"RADIUS PMP320 certificate use Device Allocation:SM"
wirelessRadiusPMP450Certificate	"PMP450 RADIUS certificate Device Allocation:SM"
wirelessRadiusUsePMP450Certificate	"RADIUS PMP450 certificate use Device Allocation:SM"
<b>I2Firewall</b>	
I2FirewallEnable	"L2 ACL Status Flag: 0 - Disable, 1 - Enable. Device Allocation:AP, SM"
I2FirewallTable	"Table for L2 ACL Device Allocation:AP, SM"
I2FirewallEntry	"L2 ACL Table Entry Device Allocation:AP, SM"
I2FirewallEntryIndex	"L2 Firewall Table Index Table Entry is cleared if Index is set to zero

I2FirewallEntryName	Device Allocation:AP, SM" "L2 ACL Rule Name.
I2FirewallEntryAction	Device Allocation:AP, SM" "Action: 0 - Reject, 1 - Permit.
I2FirewallEntryInterface	Device Allocation:AP, SM" "Interface: 1 - WAN, 2 - LAN.
I2FirewallEntryLog	Device Allocation:AP, SM" "Log: 1 - On, 0 - Off.
I2FirewallEntryEtherType	Device Allocation:AP, SM" "L2 ACL Ethernet type:0000-ffff
I2FirewallEntryVlanID	Device Allocation:AP, SM" "L2 ACL Vlan ID
I2FirewallEntrySrcMAC	Device Allocation:AP, SM" "L2 ACL Source MAC Address
I2FirewallEntrySrcMask	Device Allocation:AP, SM" "L2 ACL Source MAC Address Mask
I2FirewallEntryDstMAC	Device Allocation:AP, SM" "L2 ACL Destination MAC Address
I2FirewallEntryDstMask	Device Allocation:AP, SM" "L2 ACL Destination MAC Address Mask
I2WanRemoteAccess	Device Allocation:AP, SM" "Remote Access To AP Through Wan: 0 - Decline, 1 - Allow
I2SnmpLanRemoteAccess	Device Allocation:AP, SM" "SNMP access from LAN: 0 - Decline, 1 - Allow
I2DHCPsServersBelowSTA	Device Allocation:AP, SM" "Allow DHCP Servers Below SM: 0 - Decline, 1 - Allow
<b>I3Firewall</b>	
I3FirewallEnable	Device Allocation:SM" "L3 ACL Rule Status 1 - Enable, 0 - Disable
I3FirewallTable	Device Allocation:AP, SM" "L3 Firewall Table
I3FirewallEntry	Device Allocation:AP, SM" "L3 Firewall Table Entry
I3FirewallEntryIndex	Device Allocation:AP, SM" "L3 ACL Table Index Table Entry is cleared if Index is set to zero



I3FirewallEntryName	Device Allocation:AP, SM" "L3 ACL Rule Name
I3FirewallEntryAction	Device Allocation:AP, SM" "L3 ACL Rule Acrion 0 - Reject, 1 - Permit
I3FirewallEntryInterface	Device Allocation:AP, SM" "L3 ACL Rule Interface 1 - WAN, 2 - LAN
I3FirewallEntryLog	Device Allocation:AP, SM" "L3 ACL Rule Log Flag 1 - Rule Loggin is On, 0 - Rule Logging is Off
I3FirewallEntryProtocol	Device Allocation:AP, SM" "L3 ACL Rules IP Protocol 1 - TCP, 2 - UDP, 3 - TCP+UDP, 4 - ICMP, 5 - IP
I3FirewallEntryPort	Device Allocation:AP, SM" "L3 ACL Rule Port
I3FirewallEntrySrcIP	Device Allocation:AP, SM" "L3 ACL Rule Source IP Address
I3FirewallEntrySrcMask	Device Allocation:AP, SM" "L3 ACL Rule Source Network Mask
I3FirewallEntryDstIP	Device Allocation:AP, SM" "L3 ACL Rule Destination IP Address
I3FirewallEntryDstMask	Device Allocation:AP, SM" "L3 ACL Rule Destination Network Mask
I3FirewallEntryDSCP	Device Allocation:AP, SM" "L3 ACL Rule DSCP
I3FirewallEntryToS	Device Allocation:AP, SM" "L3 ACL Rule TOS
<b>confQoS</b>	
voipEnable	"VoIP Enable: 0 - disable, 1 - enable
qosEnable	Device Allocation:AP, SM" "Enable QoS: 0 - disable, 1 - enable
classificationListTable	Device Allocation:AP, SM" "Quality of Service rules Table
classificationListEntry	Device Allocation:AP, SM" "Quality of Service Rule Entry
classificationRuleIndex	Device Allocation:AP, SM" "QoS Rule Table Index Table Entry is cleared if Index is set to zero

classificationRuleType	Device Allocation:AP, SM" "QoS Rule Type: 1 - voip, 2 - dscp, 3 - cos, 4 - vlanid, 5 - ethertype, 6 - ipv4, 7 - mac, 8 - broadcast, 9 - multicast
classificationRuleValue	Device Allocation:AP, SM" "QoS Rule Value. Qos rule value is valid only for dscp, cos, vlanid and ethertype Rule types
classificationRuleIP	Device Allocation:AP, SM" "QoS IP Address
classificationRuleMAC	Device Allocation:AP, SM" "QoS MAC Address
classificationRuleMask	Device Allocation:AP, SM" "QoS Netmask
classificationRuleDirection	Device Allocation:AP, SM" "IP or MAC Rules direction: 1 - Source, 2 - Destination, 3 - Either (or Both directions)
classificationRuleQueue	Device Allocation:AP, SM" "Rule Queue: 1- Hight, 2 - Low, 3 - VoIP
mcPriority	Device Allocation:AP, SM" "Multicast Priority: 0 - low, 1 - high
bcPriority	Device Allocation:AP, SM" "Broadcast Priority: 0 - low, 1 - high
<b>dmz</b>	
dmzEnable	"Enable DMZ: 1 - Enable, 0 - Disable.
dmzIPAddress	Device Allocation:SM" "DMZ IP Address. Device Allocation:SM"
<b>portForwarding</b>	
portForwardingEntryEnable	"Port Forwarding feature: 0 - Disable, 1 - Enable Device Allocation:SM"

portForwardingTable	"Port Forwarding Rules Table Device Allocation:SM"
portForwardingEntry	"Port Forwarding Table Rule Entry Device Allocation:SM"
portForwardingTableEntryIndex	"Port Forwarding Table Entry Index Table Entry is cleared if Index is set to zero Device Allocation:SM"
portForwardingTableEntryProtocol	"Port Forwarding Table Entry Rule Protocol: 0 - Clear Rule, 1 - UDP, 2 - TCP, 3 - UDP+TCP Device Allocation:SM"
portForwardingTableEntryWLANPortBegin	"Port Forwarding WLAN Port Start number Device Allocation:SM"
portForwardingTableEntryWLANPortEnd	"Port Forwarding WLAN Port End number Device Allocation:SM"
portForwardingTableEntryLANIP	"Port Forwarding LAN IP Address Device Allocation:SM"
<b>acs</b>	
acsControl	Automatic Channel Selection (ACS) control: 0 - No change, 1 - Run scan now, 2 - Abort current scan Device Allocation:AP
acsEnable	Automatic Channel Selection (ACS) automatically selects best values for centerFrequency, dfsAlternative1CenterFrequency and dfsAlternative2CenterFrequency: 0 - Disable, 1 - Enable Device Allocation:AP
acsScanMaxDwellTime	Maximum dwell time during Automatic Channel Selection (ACS) scan in milliseconds. Device Allocation:AP
acsScanMinDwellTime	Minimum dwell time during Automatic Channel Selection (ACS) scan in milliseconds. Device Allocation:AP
<b>vlan</b>	
membershipVLANTable	"Membership VLAN Rules Table Device Allocation:SM"
membershipVLANEntry	"Membership VLAN Table Rule Entry Device Allocation:SM"
membershipVLANTableEntryIndex	"Membership VLAN Table Entry Index Table Entry is cleared if Index is set to zero Device Allocation:SM"
membershipVLANTableEntryVIDBegin	"Membership VLAN Table Entry VLAN ID Begin Device Allocation:SM"
membershipVLANTableEntryVIDEnd	"Membership VLAN Table Entry VLAN ID End Device Allocation:SM"
mappingVLANTable	"Mapping VLAN Rules Table

mappingVLANEntry	Device Allocation:SM" "Mapping VLAN Table Rule Entry Device Allocation:SM"
mappingVLANTableEntryIndex	"Mapping VLAN Table Entry Index Table Entry is cleared if Index is set to zero Device Allocation:SM"
mappingVLANTableEntryCVLAN	"Mapping VLAN Table C-VLAN ID, Defines VLAN ID to be mapped from CPE side. Device Allocation:SM"
mappingVLANTableEntrySVLAN	"Mapping VLAN Table S-VLAN ID, Defines VLAN ID to be mapped from Service provider. Device Allocation:SM"
<b>cnMaestro / CNS</b>	
cambiumDeviceAgentCNSURL	cnMaestro URL: This specifies the URL for accessing the cnMaestro Cloud Manager
cambiumDeviceAgentEnable	Remote Management: 0 - Disable 1 - Enable Cambium provides cloud management of Cambium devices called cnMaestro. This allows a user to manage all of their various Cambium devices via the web from any location in the world. This field enables this cnMaestro Cloud Management.