



USER GUIDE

ePMP Command Line Interface



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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> |
|---|--|
| <code>config apply</code> | Apply configuration |
| <code>config import <url></code> | Import JSON configuration file from <url> |
| <code>config import errors</code> | Show JSON configuration import errors |
| <code>config save</code> | Save configuration |
| <code>config set <string></code> | Show configuration parameters available containing <string> |
| <code>config set <parameter></code> | Show help for <parameter> |
| <code>config set <parameter> <value></code> | Set <parameter> with <value> |
| <code>config set <table> <row> <parameter> <value></code> | Set <parameter> with <value> inside <table>, row <row> |
| <code>config show</code> | Show running configuration |
| <code>config show json</code> | Show running configuration in JSON format |
| <code>config show <string></code> | Show running configuration with name containing <string> |
| <code>config show dump</code> | Show running configuration as a list of “config set” commands |
| <code>config show changes</code> | Show changes pending to be applied |
| <code>exit</code> | Exit shell |
| <code>history [num]</code> | Show last [num] commands |
| <code>linktest <mac> [-t time] [-s size] [-f force antenna]</code> | 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 |
| <code>passwd</code> | Change password |
| <code>ping <ip> [-c n] [-s size]</code> | 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> | <i>Example:</i> snmp set -v 2c -c private 192.168.0.1 wirelessStaIsolate.0 i 1 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" |

tcpdump dump <parameters>

Dump pcap file

tcpdump show

List saved pcap files

tcpdump delete

Delete saved pcap files

traceroute <ip>

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
(Where 1 represents the first row of the MIR Profiles list)
>config set wirelessMIRProfileTable 1 wirelessMIRProfileDescription 10Mbps
>config set wirelessMIRProfileTable 1 wirelessDLMIR 10000
>config set wirelessMIRProfileTable 1 wirelessULMIR 1000
>config save
>config apply
```

3.3 Example 3: Configuring Wireless MAC Address Filtering

To enable MAC address filtering:

```
>config set wirelessMACFilter 1
```

To configure the policy to “prevent”:

```
>config set wirelessMACFilterPolicy 1
```

To set the first MAC address in the table:

```
>config set wirelessMACFilterTable 1 wirelessFilterMAC 00:00:00:00:00:01  
(Where 1 represents the first row of the Wireless MAC Filter List)
```

To set the first MAC address description in the table:

```
>config set wirelessMACFilterTable 1 wirelessFilterInfo "FirstEntry"  
>config save  
>config apply
```

To remove the entry from the first row of the Wireless MAC Filter List:

```
>config set wirelessMACFilterTable 1 " "  
>config save  
>config apply
```

4 REFERENCE LIST OF CONFIGURATION PARAMETERS

| <i>Name</i> | <i>Description</i> |
|-------------------------|--|
| cambiumSystemLog | |
| 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" |
| cambiumDHCP | |
| 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" |
| dhcplanOption82 | "DHCP Option82: 0 - Disable 1 - Enable Device Allocation:AP" |
| cambiumSSHServer cambiumSSHServerEnable | "Cambium SSH Server: 0 - Disable, 1 - Enable Device Allocation:AP, SM" |
| network | |
| 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 Device Allocation:AP, SM" |
| networkBroadcastStormRate | "Broadcast Storm Control Rate in frames per second Device Allocation:AP, SM" |
| networkLan2Enabled | "AUX Lan Port Enabled 0 - Disable, 1 - Enable Device Allocation:AP, SM" |
| networkLan2AutoNegotiation | "Lan Autonegotiation 0 - Disable, 1 - Enable Device Allocation:AP, SM" |
| networkLan2Speed | "LAN Speed 10 - 10 Mb/s, 100 - 100 Mb/s, Device Allocation:AP, SM" |
| networkLan2Duplex | "LAN Duplex Mode 0 - Half, 1 - Full Device Allocation:AP, SM" |
| networkLan2PoEEnabled | "PoE Enabled |

| | |
|-------------------------|--|
| networkLanDefaultIP | 0 - Disabled, 1 - Enabled Device Allocation:SM" |
| dlkmNATSIPHelpers | Default Network IP 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 |
| mgmtIF | |
| mgmtIFEnable | Separate Management Interface Enabled: 0 - Disabled, 1 - Enabled Device Allocation:SM |
| mgmtIFVLAN | Separate Management Interface VLAN Enabled: 0 - Disabled, 1 - Enabled Device Allocation:SM |
| mgmtIFVID | Separate Management Interface VLAN Device Allocation:SM |
| mgmtIFVP | Separate Management Interface VP Device Allocation:SM |
| mgmtIFIPAddressMode | Separate Management IP Address Mode 1 - Static, 2 - DHCP Device Allocation:SM |
| 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 |
| networkWan | |
| 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 |
| mgmtVLAN | |
| 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" |
| networkBridge | |
| 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: 1 - NAT, 2 - Bridge, 3 - Router Device Allocation:SM" |
| networkSTP | "Spanning Tree Protocol: 0 - Disable STP (Default mode) 1 - Enable STP Device Allocation:AP, SM" |
| networkPortSecurity | "LAN Port Security switch: 0 - Disable 1 - Enable Device Allocation:SM" |
| networkPortSecurityMax | "Number of secure MAC addresses: 1-254 - Fixed Learned MAC limit Device Allocation:SM" |
| networkPortSecurityAgingTime | "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" |

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| mcastGroupLimit | "Multicast Group Limit: Default - is 3 Multicast Groups. Device Allocation:SM" |
| snmp | |
| 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 0 - Disable, 1 - Enable Device Allocation:AP, SM" |
| snmpDomainAccessIP | "SNMP Access Domain IP Address Device Allocation:AP, SM" |
| snmpDomainAccessIPMask | "SNMP Access Domain IP Mask Device Allocation:AP, SM" |
| cambiumSystem | |
| systemConfig | |
| 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." |

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| systemDeviceLocLatitude | Device Allocation:AP" "Device GPS Location Latitude. Coordinates of device in (h ddd.ddddd) format. Used to display location at Google Maps service. |
| systemDeviceLocLongitude | Device Allocation:AP, SM" "Device GPS Location Longitude. Coordinates of device in (h ddd.ddddd) format. Used to display location at Google Maps service. |
| systemDeviceLocHeight | Device Allocation:AP, SM" "Device GPS Location Longitude. Altitude of device above/below mean sea level. |
| cambiumTelnetServerEnable | Device Allocation:AP, SM" Cambium Telnet Server: 0 - Disable, 1 - Enable |
| networkMACTELNET | Device Allocation:AP, SM Enable MAC-Telnet Service 0 - Disable, 1 - Enable |
| networkMACTELNETProto | Device Allocation:AP,SM MAC-Telnet Service Protocol 1 - MAC-Telnet 2 - MAC-SSH |
| networkNATPMP | Device Allocation:AP,SM Enable NAT-PMP on SM in NAT mode 0 - Disable, 1 - Enable |
| systemConfigFactoryResetKeepPwd | Device Allocation:SM Keep Passwords after Factory Default 0 - Disabled 1 - Enabled |
| systemConfigIPv6Support | Device Allocation:AP, SM Systemwide IPv6 support. Enables Systemwide IPv6 support: 0 - IPv6 Support Disabled, 1 - IPv6 Support Enabled, |
| systemConfigMinAntGain | Device Allocation:AP, SM Return Minimum allowed Antenna Gain. |
| systemNtpServer | |
| systemNtpServerIPMode | "NTP Server IP Address receive mode 1 - Static, 2 - DHCP |
| systemNtpServerPrimaryIP | Device Allocation:AP, SM" "NTP Server 1 IP Address |
| systemNtpServerSecondaryIP | Device Allocation:AP, SM" "NTP Server 2 IP Address |
| cambiumWebServer | |
| webService | "Web Service |

| | |
|---------------------------------------|--|
| httpPort | 1 - HTTP, 2 - HTTPS Device Allocation:AP, SM" "HTTP Port |
| httpsPort | Device Allocation:AP, SM" "HTTPs Port" |
| wireless | |
| wirelessDevice | |
| 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 |
| wirelessInterface | |
| 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. |

| | |
|--|---|
| wirelessInterfaceHTMode | <p>Default allocation:AP, SM.</p> <p>"Frequency Bandwidth</p> <p>1 - 20Mhz,</p> <p>2 - 40Mhz,</p> <p>3 - 10Mhz,</p> <p>4 - 5MHz</p> |
| wirelessInterfaceTXPower | <p>Device Allocation:AP"</p> <p>"TX Power (Board Output Conducted)</p> |
| wirelessInterfaceTDDAntennaGain | <p>Device Allocation:AP"</p> <p>"Antenna Gain</p> |
| wirelessInterfaceTDDRatio | <p>Device Allocation:AP, SM"</p> <p>"DL/UL Ratio:</p> <p>1 - 75/25,</p> <p>2 - 50/50,</p> <p>3 - 30/70,</p> <p>4 - Flexible</p> |
| wirelessInterfaceTPCTRL | <p>Device Allocation:AP"</p> <p>"Set/get target receive level (TRL)</p> |
| wirelessInterfaceTPCMode | <p>Device Allocation:AP"</p> <p>"Power mode selection.</p> <p>Values:0 - Disable, 1 - Open Loop, 2 - Close Loop</p> <p>When system is in Fixed mode (75/35, 50/50, 30/70), this parameter can only be Close or Open Loop.</p> <p>When system is in Flexible mode, this parameter can be either Close Loop, Open Loop or Disable.</p> <p>The default TPC mode is Close Loop.</p> |
| wirelessInterfacePTPMode | <p>Device Allocation:AP"</p> <p>"PTP Setting</p> <p>0 - Off,</p> <p>1 - Connect First SM,</p> <p>2 - MAC Address Limited</p> |
| wirelessInterfacePTPMACAddress | <p>Device Allocation:AP"</p> <p>"PTP MAC Address</p> |
| wirelessInterfaceSyncSource | <p>Device Allocation:AP"</p> <p>"1PPS Sync Source</p> <p>1 - GPS,</p> <p>2 - CMM,</p> <p>3 - Internal Free Run</p> |
| wirelessInterfaceSyncHoldTime | <p>Device Allocation:AP"</p> <p>"GPS Sync Hold Time in seconds</p> |
| wirelessInterfaceScanFrequencyListTwenty | <p>Device Allocation:AP"</p> <p>"Scan Frequency List for 20 MHz</p> |
| wirelessInterfaceScanFrequencyListForty | <p>Device Allocation:SM"</p> <p>"Scan Frequency List for 40 MHz</p> |
| centerFrequency | <p>Device Allocation:SM"</p> <p>"Per freq band:5725 GHz for 5G SKU, 2412 for 2.4G SKU</p> |
| dfsAlternative1CenterFrequency | <p>Device Allocation:AP"</p> <p>"Per freq band</p> |
| dfsAlternative2CenterFrequency | <p>Device Allocation:AP"</p> <p>"Per freq band</p> |

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|---|--|
| 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: |

| | |
|--|---|
| wirelessInterfaceFreqReuseMode | <p>1 - Long GuardInterval, 2 - Short GuardInterval Device Allocation:AP" "Frequency Reuse Mode: 0 - Off, 1 - Frequency-Reuse-Front, 2 - Frequency-Reuse-Back</p> |
| wirelessSTAPriority | <p>Device Allocation:AP" "SM priority value: 0 - Normal, 1 - High, 2 - Low</p> |
| wirelessSmoothingBit | <p>Device Allocation:SM" "Smoothing Bit values: 0 - Bit is cleared, smoothing is off, 1 - Bit is set, smoothing is on</p> |
| wirelessSecurityMethod | <p>Device Allocation:AP" "Allowed types of authentications on SM side (Preferred AP list is not set) 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"</p> |
| wirelessAcceptableAPSNRThreshold | <p>"AP CINR Threshold Device Allocation:SM"</p> |
| wirelessMgmtPacketRate | <p>"Management rate: 0 - MCS0 1 - MCS1</p> |
| wirelessStalsolate | <p>Device Allocation:AP" "Enables or disables bridging within the AP driver between SMs. 0 - Disabled 1 - Enabled</p> |
| wirelessCcaEnable | <p>Device Allocation:AP" "Clear Channel Assignment: 0 - Disable 1 - Enable</p> |
| wirelessInterfaceScanFrequencyListTen | <p>Device Allocation:AP" "Scan Frequency List for 10MHz</p> |
| wirelessInterfaceScanFrequencyListFive | <p>Device Allocation:SM" "Scan Frequency List for 5MHz</p> |
| wirelessMulticastEnhanceMode | <p>Device Allocation:SM" "Multicast enhancement mode 0 - Disabled 3 - IGMP Snooping + MC Passthru</p> |
| wirelessInterfaceProtocolMode | <p>Device Allocation:AP" Protocol Module Mode: 1 - TDD 2 - AP/SM WiFi</p> |

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| | <p>3 - PTP.LL 4 - TDD PTP</p> |
| wirelessClientBridgeMode | <p>Device Allocation: AP/SM Enables ARPNAT feature, translates ARP requests from Ethernet side of SM to Wireless and vice-versa: 0 - Disabled 1 - Enabled</p> |
| wirelessInterfaceRateMaxMCS | <p>Device Allocation:SM Minimum locked MCS rate. Default allocation: AP, SM.</p> |
| wirelessMulticastIcmpFastLeave | <p>Multicast enhancement mode 0 - IGMP Fast Leave OFF 1 - IGMP Fast Leave ON</p> |
| wirelessInterfaceTDDFrameSize | <p>Device Allocation:AP TDD Frame Duration in microseconds 2500 - 2.5 ms 5000 - 5 ms</p> |
| wirelessInterfaceColocState | <p>Device Allocation:AP Co-location state 0 - disabled 1 - FSK co-location</p> |
| wirelessInterfaceColocSystemSyncSrc | <p>Device Allocation:AP Co-location state 1 - GPS, 2 - CMM4, 4 - CMM3</p> |
| wirelessTXPowerManualLimit | <p>Device Allocation:AP "Allow user to limit MAX output TX Power</p> |
| wirelessRateMaxMCS | <p>Device Allocation:SM" Allow user to set MAX TX rate Not allowed for SNMP processing</p> |
| apWiFiCompWDSTrBridge | <p>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</p> |
| wirelessMACFilter | <p>Device Allocation:AP Enable/Disable MAC list filter 0 - Disabled, 1 - Enabled</p> |
| wirelessMACFilterPolicy | <p>Device Allocation:AP Permit/Prevent policy for MAC list 1 - Prevent 2 - Permit</p> |
| wirelessMACFilterTable | <p>Device Allocation:AP Table for MAC filter list</p> |
| apWiFiDLCTSMODE | <p>Device Allocation:AP Force AP WiFi to enable Self CTS 0 - Disabled,</p> |

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| apWiFiRTSThreshold | 1 - Enabled 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 Device Allocation:AP |
| wirelessPrefList | |
| prefferedAPTable | "Preffered AP Table Device Allocation:SM" |
| prefferedAPEntry | "Preffered SSID Table Entry Device Allocation:SM" |
| prefferedListTableEntryIndex | "Preferred AP Table Index Table Entry is cleared if Index is set to zero Device Allocation:SM" |
| prefferedListTableEntrySSID | "Preferred AP SSID Device Allocation:SM" |
| prefferedListTableEntryKEY | "Preferred AP Shared Key Device Allocation:SM" |
| prefferedListTableSecurityMethod | "Authentication modes to connect to AP Device Allocation:SM 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" |
| wirelessMIRList | |
| 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" |

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| wirelessRadius | |
| 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 |
| wirelessRadiusCertificateList | |
| wirelessRadiusCertificateListRow1 | |
| wirelessRadiusUseDefCertificate | "RADIUS default certificate use Device Allocation:SM" |
| wirelessRadiusDefCertificateView | "RADIUS default certificate view Device Allocation:AP" |
| wirelessRadiusCertificateListRow2 | |
| wirelessRadiusUser1CertificateName | "First user RADIUS certificate name Device Allocation:AP" |
| wirelessRadiusUser1CertificateView | "First user RADIUS certificate view Device Allocation:AP" |
| wirelessRadiusCertificateListRow3 | |

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| wirelessRadiusUser2CertificateName | "Second user RADIUS certificate name Device Allocation:AP" |
| wirelessRadiusUser2CertificateView | "Second user RADIUS certificate view Device Allocation:AP" |
| wirelessRadiusCertificateSet | |
| 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" |
| wirelessRadiusExtraCertificateSet | |
| 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" |
| I2Firewall | |
| 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 Device Allocation:AP, SM" |
| I2FirewallEntryName | "L2 ACL Rule Name. Device Allocation:AP, SM" |
| I2FirewallEntryAction | "Action: 0 - Reject, 1 - Permit. Device Allocation:AP, SM" |
| I2FirewallEntryInterface | "Interface: 1 - WAN, 2 - LAN. Device Allocation:AP, SM" |
| I2FirewallEntryLog | "Log: 1 - On, 0 - Off. Device Allocation:AP, SM" |
| I2FirewallEntryEtherType | "L2 ACL Ethernet type:0000-ffff Device Allocation:AP, SM" |

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| I2FirewallEntryVlanID | "L2 ACL Vlan ID Device Allocation:AP, SM" |
| I2FirewallEntrySrcMAC | "L2 ACL Source MAC Address Device Allocation:AP, SM" |
| I2FirewallEntrySrcMask | "L2 ACL Source MAC Address Mask Device Allocation:AP, SM" |
| I2FirewallEntryDstMAC | "L2 ACL Destination MAC Address Device Allocation:AP, SM" |
| I2FirewallEntryDstMask | "L2 ACL Destination MAC Address Mask Device Allocation:AP, SM" |
| I2WanRemoteAccess | "Remote Access To AP Through Wan: 0 - Decline, 1 - Allow Device Allocation:AP, SM" |
| I2SnmpLanRemoteAccess | "SNMP access from LAN: 0 - Decline, 1 - Allow Device Allocation:AP, SM" |
| I2DHCPServersBelowSTA | "Allow DHCP Servers Below SM: 0 - Decline, 1 - Allow Device Allocation:SM" |
| I3Firewall | |
| I3FirewallEnable | "L3 ACL Rule Status 1 - Enable, 0 - Disable Device Allocation:AP, SM" |
| I3FirewallTable | "L3 Firewall Table Device Allocation:AP, SM" |
| I3FirewallEntry | "L3 Firewall Table Entry Device Allocation:AP, SM" |
| I3FirewallEntryIndex | "L3 ACL Table Index Table Entry is cleared if Index is set to zero Device Allocation:AP, SM" |
| I3FirewallEntryName | "L3 ACL Rule Name Device Allocation:AP, SM" |
| I3FirewallEntryAction | "L3 ACL Rule Acrion 0 - Reject, 1 - Permit Device Allocation:AP, SM" |
| I3FirewallEntryInterface | "L3 ACL Rule Interface 1 - WAN, 2 - LAN Device Allocation:AP, SM" |
| I3FirewallEntryLog | "L3 ACL Rule Log Flag 1 - Rule Loggin is On, 0 - Rule Logging is Off Device Allocation:AP, SM" |
| I3FirewallEntryProtocol | "L3 ACL Rules IP Protocol 1 - TCP, 2 - UDP, |

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| | <p>3 - TCP+UDP, 4 - ICMP, 5 - IP Device Allocation:AP, SM" "L3 ACL Rule Port Device Allocation:AP, SM" "L3 ACL Rule Source IP Address Device Allocation:AP, SM" "L3 ACL Rule Source Network Mask Device Allocation:AP, SM" "L3 ACL Rule Destination IP Address Device Allocation:AP, SM" "L3 ACL Rule Destination Network Mask Device Allocation:AP, SM" "L3 ACL Rule DSCP Device Allocation:AP, SM" "L3 ACL Rule TOS Device Allocation:AP, SM"</p> |
| I3FirewallEntryPort | |
| I3FirewallEntrySrcIP | |
| I3FirewallEntrySrcMask | |
| I3FirewallEntryDstIP | |
| I3FirewallEntryDstMask | |
| I3FirewallEntryDSCP | |
| I3FirewallEntryToS | |
| confQoS | |
| voipEnable | <p>"VoIP Enable: 0 - disable, 1 - enable Device Allocation:AP, SM"</p> |
| qosEnable | <p>"Enable QoS: 0 - disable, 1 - enable Device Allocation:AP, SM"</p> |
| classificationListTable | <p>"Quality of Service rules Table Device Allocation:AP, SM"</p> |
| classificationListEntry | <p>"Quality of Service Rule Entry Device Allocation:AP, SM"</p> |
| classificationRuleIndex | <p>"QoS Rule Table Index Table Entry is cleared if Index is set to zero Device Allocation:AP, SM"</p> |
| classificationRuleType | <p>"QoS Rule Type: 1 - voip, 2 - dscp, 3 - cos, 4 - vlanid, 5 - ethertype, 6 - ipv4, 7 - mac, 8 - broadcast, 9 - multicast Device Allocation:AP, SM"</p> |
| classificationRuleValue | <p>"QoS Rule Value. Qos rule value is valid only for dscp, cos, vlanid and ethertype Rule types Device Allocation:AP, SM"</p> |
| classificationRuleIP | <p>"QoS IP Address Device Allocation:AP, SM"</p> |
| classificationRuleMAC | <p>"QoS MAC Address</p> |

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| 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 |
| dmz | |
| dmzEnable | "Enable DMZ: 1 - Enable, 0 - Disable. |
| dmzIPAddress | Device Allocation:SM" "DMZ IP Address. Device Allocation:SM" |
| portForwarding | |
| portForwardingEntryEnable | "Port Forwarding feature: 0 - Disable, 1 - Enable |
| portForwardingTable | Device Allocation:SM" "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 |

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| | Device Allocation:SM" |
| acs | |
| 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 |
| vlan | |
| 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 Device Allocation:SM" |
| mappingVLANEntry | "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" |
| cnMaestro / CNS | |
| cambiumDeviceAgentCNSURL | cnMaestro URL: This specifies the URL for accessing the cnMaestro Cloud Manager |

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| 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. |
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