



# **Cambium Networks**

**ePMP Command Line Interface**

**User Manual**

Firmware version 2.4.3

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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] - Delete the character to the right on the insertion point.

[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 &lt;url&gt;</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   &lt;string&gt;</code>	Show configuration parameters available containing <string>
<code>config set &lt;parameter&gt;</code>	Show help for <parameter>
<code>config set &lt;parameter&gt; &lt;value&gt;</code>	Set <parameter> with <value>
<code>config set &lt;table&gt; &lt;row&gt; &lt;parameter&gt; &lt;value&gt;</code>	Set <parameter> with <value> inside <table>, row <row>
<code>config show</code>	Show running configuration
<code>config show   &lt;string&gt;</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 &lt;mac&gt; [-t time] [-s size]</code>	Run link test for specific <mac>
<code>passwd</code>	Change password
<code>ping &lt;ip&gt; [-c n] [-s size]</code>	Ping
<code>reboot</code>	Reboot
<code>show acs</code>	Show ACS
<code>show ap</code>	Show list of AP
<code>show arp</code>	Show ARP table
<code>show bridge ap</code>	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 gpssat	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 < <u>parameters</u> >	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 < <u>parameters</u> >	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>
<code>config apply</code>	Apply configuration
<code>config save</code>	Save configuration
<code>config set &lt;parameter&gt;</code>	Show help for <parameter>
<code>config set &lt;parameter&gt; &lt;value&gt;</code>	Set <parameter> with <value>
<code>config set &lt;parameter&gt; " "</code>	Delete parameter from configuration
<code>config set &lt;table&gt; &lt;row&gt; &lt;parameter&gt; &lt;value&gt;</code>	Set <parameter> with <value> inside <table>, row <row>
<code>config show</code>	Show running configuration
<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

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>).

### 3.1.1 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
```

### 3.1.2 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: 0x00 - all messages, 0x01 - emerg, 0x02 - alert, 0x04 - crit, 0x08 - err, 0x10 - warning, 0x20 - notice, 0x40 - info, 0x80 - 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"



dhcpLanHostName	Device Allocation:SM" "Optional hostname to assign
dhcpOption82	Device Allocation:SM" "DHCP Option82: 0 - Disable 1 - Enable
cambiumSSHServer	Device Allocation:AP"
cambiumSSHServerEnable	"Cambium SSH Server: 0 - Disable, 1 - Enable Device Allocation:AP, SM"
<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 Device Allocation:AP, SM"

networkBroadcastStormRate	"Broadcast Strom 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 0 - Disabled, 1 - Enabled Device Allocation:SM"
networkLanDefaultIP	Default Network IP Device Allocation:AP, SM
<b>mgmtIF</b>	
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
<b>networkWan</b>	
networkWanIPAddressMode	"SM NAT WAN IP Address Mode 1 - Static, 2 - DHCP

networkWanIPAddr	Device Allocation:SM" "SM NAT WAN IP Address
networkWanNetmask	Device Allocation:SM" "SM NAT WAN IP Subnet Mask
networkWanGatewayIP	Device Allocation:SM" "SM NAT WAN Gateway IP Address
networkWanDNSIPAddr	Device Allocation:SM" "SM NAT WAN DNS Server IP Address
networkWanMTU	Device Allocation:SM" "SM NAT WAN MTU size
networkWanDNSIPAddrPrimary	Device Allocation:SM" "SM NAT WAN DNS Server IP Address
networkWanDNSIPAddrSecondary	Device Allocation:SM Primary Server IP" "SM NAT WAN DNS Server IP Address
networkWanPPPoE	Device Allocation:SM Secondary Server IP" "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"
<b>mgmtVLAN</b>	
mgmtVLANEnable	"Management VLANs State: 0 - Disable, 1 - Enable
mgmtVLANVID	Device Allocation:AP, SM" "Management VLAN ID
mgmtVLANVP	Device Allocation:AP, SM" "Management VLAN VP
dataVLAN	Device Allocation:AP, SM"
dataVLANEnable	"Data VLANs State: 0 - Disable, 1 - Enable

dataVLANVID	Device Allocation:SM" "Data VLAN ID
dataVLANVP	Device Allocation:SM" "Data VLAN VP
mcastVLAN	Device Allocation:SM"
mcastVLANEnable	"Multicast VLAN State: 0 - Disable, 1 - Enable
mcastVLANVID	Device Allocation:SM" "Multicast VLAN ID
mcastVLANVP	Device Allocation:SM" "Multicast VLAN VP
<b>networkBridge</b>	
networkBridgeIPAddressMode	"Device Bridge IP Address Mode 1 - Static, 2 - DHCP
networkBridgeIPAddr	Device Allocation:AP, SM" "Device Bridge IP Address
networkBridgeNetmask	Device Allocation:AP, SM" "Device Bridge IP Subnet Mask
networkBridgeGatewayIP	Device Allocation:AP, SM" "Device Bridge Gateway IP Address
networkBridgeDNSIPAddr	Device Allocation:AP, SM" "Device Bridge DNS Server IP Address
networkBridgeMTU	Device Allocation:AP, SM" "Device Bridge MTU size
networkBridgeDNSIPAddrPrimary	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
networkSTP	Device Allocation:SM" "Spanning Tree Protocol: 0 - Disable STP (Default mode) 1 - Enable STP
networkPortSecurity	Device Allocation:AP, SM" "LAN Port Security switch: 0 - Disable 1 - Enable
networkPortSecurityMax	Device Allocation:SM" "Number of secure MAC addresses: 1-254 - Fixed Learned MAC limit
networkPortSecurityAgingTime	Device Allocation:SM" "Security MAC address aging time: This prameter indicates on how long to store learned

mcastGroupLimit	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"
<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 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"
<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

	<p>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"                  "Software Lock Bit.                  This bit indicates if the Software Lock Bit is set or not.                  If the software bit is set then country code needs to be set using License Key from Cambium Webserver                  0 - Bit not Set,                  1 - Bit is set                  Device Allocation:AP, SM"                  "Hardware Lock Bit.                  This bit indicates if the hardware Lock Bit is set or not.                  If the hardware bit is set then country code cannot be changed.                  0 - Bit not Set,                  1 - Bit is set                  Device Allocation:AP, SM"                  "Device GPS Location Latitude.                  Coordinates of device in (h ddd.ddddd) format.                  Used to display location at Google Maps service.                  Device Allocation:AP, SM"                  "Device GPS Location Longitude.                  Coordinates of device in (h ddd.ddddd) format.                  Used to display location at Google Maps service.                  Device Allocation:AP, SM"                  "Device GPS Location Longitude.                  Altitude of device above/below mean sea level.                  Device Allocation:AP, SM"</p>
systemConfigSWLockBit	
systemConfigHWLockBit	
systemDeviceLocLatitude	
systemDeviceLocLongitude	
systemDeviceLocHeight	
<b>systemNtpServer</b>	
systemNtpServerIPMode	<p>"NTP Server IP Address receive mode                  1 - Static,                  2 - DHCP                  Device Allocation:AP, SM"</p>
systemNtpServerPrimaryIP	<p>"NTP Server 1 IP Address                  Device Allocation:AP, SM"</p>
systemNtpServerSecondaryIP	<p>"NTP Server 2 IP Address                  Device Allocation:AP, SM"</p>
<b>cambiumWebServer</b>	
webService	<p>"Web Service                  1 - HTTP,                  2 - HTTPS                  Device Allocation:AP, SM"</p>
httpPort	<p>"HTTP Port                  Device Allocation:AP, SM"</p>
httpsPort	<p>"HTTPs Port"</p>
<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."
<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"
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.
wirelessInterfacePTPMode	Device Allocation:AP" "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 Device Allocation:SM"



wirelessAcceptableAPCINRThreshold	"AP CINR Threshold Device Allocation:SM"
wirelessInterfaceUnblockUSfreqs	"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 Device Allocation:SM"

wirelessMgmtPacketRate	"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
wirelessInterfaceRateMaxMCS	Minimum locked MCS rate. Default allocation: AP, SM.
wirelessTXPowerManualLimit	"Allow user to limit MAX output TX Power Device Allocation:SM"
<b>wirelessPrefList</b>	
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"
<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"
<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 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:"

I2FirewallEntryLog	1 - WAN, 2 - LAN. 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
I2DHCP ServersBelowSTA	Device Allocation:AP, SM" "Allow DHCP Servers Below SM: 0 - Decline, 1 - Allow
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<b>I3Firewall</b>	
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, 3 - TCP+UDP, 4 - ICMP, 5 - IP Device Allocation:AP, SM"
I3FirewallEntryPort	"L3 ACL Rule Port Device Allocation:AP, SM"
I3FirewallEntrySrcIP	"L3 ACL Rule Source IP Address Device Allocation:AP, SM"
I3FirewallEntrySrcMask	"L3 ACL Rule Source Network Mask Device Allocation:AP, SM"
I3FirewallEntryDstIP	"L3 ACL Rule Destination IP Address Device Allocation:AP, SM"
I3FirewallEntryDstMask	"L3 ACL Rule Destination Network Mask Device Allocation:AP, SM"
I3FirewallEntryDSCP	"L3 ACL Rule DSCP Device Allocation:AP, SM"
I3FirewallEntryToS	"L3 ACL Rule TOS Device Allocation:AP, SM"
<b>confQoS</b>	
voipEnable	"VoIP Enable: 0 - disable, 1 - enable Device Allocation:AP, SM"
qosEnable	"Enable QoS: 0 - disable, 1 - enable Device Allocation:AP, SM"
classificationListTable	"Quality of Service rules Table Device Allocation:AP, SM"
classificationListEntry	"Quality of Service Rule Entry Device Allocation:AP, SM"
classificationRuleIndex	"QoS Rule Table Index Table Entry is cleared if Index is set to zero Device Allocation:AP, SM"
classificationRuleType	"QoS Rule Type: 1 - voip, 2 - dscp, 3 - cos, 4 - vlanid, 5 - ethertype, 6 - ipv4, 7 - mac, 8 - broadcast,

	<p>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                  Device Allocation:AP, SM"</p>
classificationRuleMask	<p>"QoS Netmask                  Device Allocation:AP, SM"</p>
classificationRuleDirection	<p>"IP or MAC Rules direction:                  1 - Source,                  2 - Destination,                  3 - Either (or Both directions)                  Device Allocation:AP, SM"</p>
classificationRuleQueue	<p>"Rule Queue:                  1- Hight,                  2 - Low,                  3 - VoIP                  Device Allocation:AP, SM"</p>
mcPriority	<p>"Multicast Priority:                  0 - low,                  1 - high                  Device Allocation:AP, SM"</p>
bcPriority	<p>"Broadcast Priority:                  0 - low,                  1 - high                  Device Allocation:AP, SM"</p>
<b>dmz</b>	
dmzEnable	<p>"Enable DMZ:                  1 - Enable,                  0 - Disable.                  Device Allocation:SM"</p>
dmzIPAddress	<p>"DMZ IP Address.                  Device Allocation:SM"</p>
<b>portForwarding</b>	
portForwardingEntryEnable	<p>"Port Forwarding feature:                  0 - Disable,                  1 - Enable                  Device Allocation:SM"</p>
portForwardingTable	<p>"Port Forwarding Rules Table                  Device Allocation:SM"</p>
portForwardingEntry	<p>"Port Forwarding Table Rule Entry                  Device Allocation:SM"</p>
portForwardingTableEntryIndex	<p>"Port Forwarding Table Entry Index                  Table Entry is cleared if Index is set to zero                  Device Allocation:SM"</p>
portForwardingTableEntryProtocol	<p>"Port Forwarding Table Entry Rule Protocol:                  0 - Clear Rule,                  1 - UDP,                  2 - TCP,</p>

	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>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 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"