The default selection is Enable.

4.2.6.5.9.2 Minimum Interval Between Adaptive Modulation Messages

The Minimum Interval Between Adaptive Modulation Messages sets the minimum interval between two consecutive adaptive modulation messages, carrying information on the SNR of received signals. The messages in the AU include SNR information on all the SUs associated with it.

The available range is from 1 to 3600 seconds.

The default is 4 seconds.

4.2.6.5.9.3 Adaptive Modulation Decision Thresholds

Enables selection between Normal and High decision thresholds for the Adaptive Modulation algorithm. In links with a low SNR (below 13), the Adaptive Modulation algorithm may not stabilize on the correct modulation level when using the standard decision thresholds. In this case the algorithm may try to use a modulation level that is too high, resulting in a relatively large number of dropped frames. The "High" option solves this limitation and ensures good performance also in links with a low SNR.

The default is Normal.

4.2.6.5.10 Concatenation Parameters

The Concatenation mechanism enables bundling several data frames into a single frame for transmission to the wireless link. This feature improves throughput and reduces the overhead in the wireless medium, by requiring only one CRC for each concatenated frame, one RTS/CTS cycle if applicable, and a single waiting period according to the contention window mechanism before transmission. When concatenation is enabled, data packets in the queue of the internal bridge can be accumulated before the concatenated frame is transmitted to the wireless medium. Data frames can be accumulated up to a maximum frame size of 2200 bytes for units with HW revision A or B, or 4032 bytes for units with HW revision C or higher. In the AU, the concatenation process is performed separately for each destination SU.

NOTE

Using the Link Capability exchange mechanism, each unit learns the HW Revision and the SW Version of the unit(s) associated with it. A concatenated frame with a length exceeding 2200 bytes may be generated and transmitted only if both the source and destination units have HW Revision C or higher. If either the source or destination unit uses SW Version 3.0 or 3.1, then the maximum size of the concatenated frame is 3400 bytes, and the maximum number of data frames that can be bundled into a concatenated frame is 2 for units with SW version 3.0 and 8 for units with SW version 3.1.

A frame is a candidate for bundling into a concatenated frame if all the following conditions are met:

- The frame is a data frame
- The destination is an entity behind the destination AU/SU.
- The destination AU/SU can support the feature (uses SW version 3.0 or higher).

When a frame is identified as an eligible candidate for concatenation, it is marked accordingly and will be processed according to the following:

- If there is no concatenated frame designated to the same destination unit in the queue:
  - If the hardware queue is empty – the frame is transmitted immediately.
  - Otherwise (the queue is not empty) – the frame is inserted to the queue as a concatenated frame.
- If a concatenated frame designated to the same destination unit exists in the queue:
  - If the combined size of both frames is above the maximum allowed concatenated frame size – both frames are transmitted as two separate frames.
  - Otherwise (the combined frames size is below the maximum size) – the new frame is added to the concatenated frame. If the number of data frames in the concatenated frame has reached the maximum allowed (applicable only if the destination unit uses SW version 3.0 or 3.1) – the concatenated frame will be transmitted to the wireless medium. Otherwise – the concatenated frame remains in the queue (until the hardware queue becomes free).

NOTE

When a frame is marked as a candidate for concatenation, it will be transmitted as a concatenated frame. If it is not bundled with another data frame before transmission, it will be a concatenated frame with a single data frame (Concatenated Frame Single). If it is bundled with two or more data frames, it will be a concatenated frame with either double data frames (Concatenated Frame Double) or more data frames (Concatenated Frame More).

The Concatenation Parameters submenu includes:

4.2.6.5.10.1 Concatenation Option

The Concatenation Option enables or disables the concatenation mechanism.

The default is Enable.

4.2.6.5.10.2 Maximum Concatenated Frame Size

The Maximum Concatenated Frame Size parameter defines the maximum size (in bytes) for a concatenated frame.

The range is:

- 1256 to 2200 bytes for units with HW revision A or B
- 256 to 4032 bytes for units with HW revision C or higher

The Default values are:

- 2200 for units with HW revision A or B
- 4032 for units with HW revision C or higher

4.2.6.6 Service Parameters

The Service Parameters menu enables defining user filtering, MIR/CIR parameters, traffic prioritization parameters and DRAP parameters.

The Service Parameters menu includes the following options:

- User Filtering Parameters (SU only)
- MIR and CIR Parameters
- Traffic Prioritization
- DRAP Parameters (AU only)
- Wireless Link Prioritization (only AU with a license for the feature)

4.2.6.6.1 User Filtering Parameters (SU only)

The User Filtering Parameters submenu enables defining the IP addresses of user devices authorized to access the wireless medium for security and/or control purposes. In addition, it can be used to enable the transmission and reception of specific protocol frames. These filtering options do not affect management frames sent to or generated by the unit.

The User Filtering Parameters menu provides the following options:

4.2.6.6.1.1 User Filtering Option

The User Filtering Option disables or enables the User Filtering feature. The following options are available:

- **Disable** - no filtering.
- **IP Protocol Only** - only IP Protocol packets pass.
- **User Defined Addresses Only** - only IP frames from/to IP addresses included in the User Filter Addresses list pass.
- **PPPoE Protocol Only** - only PPPoE messages pass (Ethernet type 0x8863 and 0x8864).

The default selection is Disable.

4.2.6.6.1.2 Set/Change Filter IP Address Range

The Set/Change Filter IP Address Ranges option enables defining/updating up to 8 IP address ranges to/from which IP frames are to pass if the User Defined Addresses Only option is selected in the User Filtering Option parameter.

The default Filter IP Address Range is 0.0.0.0 TO 0.0.0.0 (all 8 ranges).

A range can be defined using a string that includes either a start and end address, in the format “<start address> to <end address>” (example: 192.168.1.1 to 192.168.1.255), or a base address and a mask, in the format “<base address> mask <mask>” (example: 192.168.1.1 mask 255.255.255.0).

4.2.6.6.1.3 Delete Filter IP Address Range

The Delete Filter IP Address Range option enables deleting IP address range entries from the Filter IP Address Ranges list.

4.2.6.6.1.4 Delete All User Filtering Entries

The Delete All User Filtering Entries option enables deleting all entries from the Filter IP Address Ranges list.

4.2.6.6.1.5 DHCP Unicast Override Filter

When user filtering is activated, unicast DHCP messages are filtered out; therefore the unit cannot communicate with the DHCP server. The DHCP Unicast Override Filter option enables to overcome this problem. When enabled, unicast DHCP messages pass, overriding the user filtering mechanism.

The default is Disable DHCP Unicast.

4.2.6.6.1.6 Show User Filtering Parameters

The Show All User Filtering Parameters option displays the current value of the User Filtering Option and the list of User Filtering addresses, subnet masks and ranges.

4.2.6.6.2 MIR and CIR Parameters

The CIR (Committed Information Rate) specifies the minimum data rate guaranteed to the relevant subscriber. The MIR (Maximum Information Rate) value specifies the maximum data rate available for burst transmissions, provided such bandwidth is available.

Under normal conditions, the actual Information Rate (IR) is between the applicable CIR and MIR values, based on the following formula:

IR=CIR+K(MIR - CIR).

In this formula K is between 0 and 1 and is determined dynamically by the AU according to overall demand in the cell and the prevailing conditions that influence the performance of the wireless link. In some situations the minimum rate (CIR) cannot be provided. This may result from high demand and poor wireless link conditions and/or high demand in over-subscribed cells. When this occurs, the actual information rate is lower than the CIR.

The simple solution for managing the information rate in such cases can result in an unfair allocation of resources, as subscribers with a higher CIR actually receive an IR lower than the CIR designated for subscribers in a lower CIR bracket.

A special algorithm for graceful degradation is incorporated into the AU, ensuring that the degradation of performance for each individual Subscriber Unit is proportional to its CIR.

The MIR/CIR algorithm uses buffers to control the flow of data. To balance the performance over time, a special Burst Duration algorithm is employed to enable higher transmission rates after a period of inactivity. If no data is received from the Ethernet port during the last N seconds, the unit is allowed to transmit N times its CIR value without any delay. For example, after a period of inactivity of 0.5 seconds, a unit with CIR = 128 Kbps can transmit up to 128 Kbits x 0.5 = 64 Kbits without any delay.

4.2.6.6.2.1 MIR: Downlink (SU only)

Sets the Maximum Information Rate of the downlink from the AU to the SU. The MIR value cannot be lower than the corresponding CIR value.

Available values range and default value are shown inTable 4-12.

The actual value will be the entered value rounded to the nearest multiple of 128 (N*128).

4.2.6.6.2.2 MIR: Uplink (SU only)

Sets the Maximum Information Rate of the up-link from the SU to the AU. The MIR value cannot be lower than the corresponding CIR value.

Available values range and default value are shown in Table 4-12.

The actual value will be the entered value rounded to the nearest multiple of 128 (N*128).

4.2.6.6.2.3 CIR: Downlink (SU only)

Sets the Committed Information Rate of the downlink from the AU to the SU. The CIR value cannot be higher than the corresponding MIR value.

Available values range and default value are shown in**Error! Reference source not found.**.

The actual value will be the entered value rounded to the nearest multiple of 128 (N*128).

4.2.6.6.2.4 CIR: Uplink (SU only)

Sets the Committed Information Rate of the uplink from the SU to the AU. The CIR value cannot be higher than the corresponding MIR value.

Available values range and default value are shown in**Error! Reference source not found.**.

The actual value will be the entered value rounded to the nearest multiple of 128 (N*128).

Table 4-12: MIR Ranges and Defaults

	MIR Uplink		MIR Downlink	
Unit Type	**Range (Kbps)**	**Default (Kbps)**	**Range (Kbps)**	**Default (Kbps)**
SU-3	128-2,048	2,048	128-3,072	3,072
SU-6	128-4,096	4,096	128-6,016	6,016
SU-54	128-53,888	32,896	128-53,888	32,896
SU-I	128-2,048	2,048	128-6,016	6,016

Table 4-13: CIR Ranges and Defaults				
	CIR Uplink		CIR Downlink	
Unit Type	Range (Kbps)	Default (Kbps)	Range (Kbps)	Default (Kbps)
SU-3	0-2,048	0	0-2,048	0
SU-6	0-4,096	0	0-4,096	0
SU-54	0-45,056	0	0-45,056	0
SU-I	0-2,048	0	0-6,016	0

4.2.6.6.2.5 Maximum Burst Duration (SU and AU)

Sets the maximum time for accumulating burst transmission rights according to the Burst Duration algorithm.

Available values range from 0 to 2000 (milliseconds).

The default value is 5 (milliseconds), enabling a maximum burst of (0.005 X CIR) Kbps after a period of inactivity of 5 milliseconds or more.

4.2.6.6.2.6 Maximum Delay (SU only)

Sets the maximum permitted delay in the buffers system. As certain applications are very sensitive to delay, if relatively high delays are permitted, these applications may suffer from poor performance due to data accumulation in the buffers from other applications, such as FTP. The Maximum Delay parameter limits the number of available buffers. Data that is delayed more than the permitted maximum delay is discarded. If the SU supports applications that are very sensitive to delay, the value of the Maximum Delay should be decreased.

Valid values range from 300 to 10000 (milliseconds).

The default value is 5000 (milliseconds).

4.2.6.6.2.7 Graceful Degradation Limit (AU only)

Sets the limit on using the graceful degradation algorithm. In cases of over demand, the performance of all SUs is degraded proportionally to their CIR (IR=(100%-k%) x CIR). The graceful degradation algorithm is used as long as $k \leq K$, where K is the Graceful Degradation Limit. Beyond this point the simple “brute force” algorithm is used. The Graceful Degradation Limit should be raised in proportion to the demand in the cell. The higher the expected demand in a cell, the higher the value of the Graceful Degradation Limit. Higher demand can be expected in cases of significant over_subscription and/or in deployments where a high number of subscribers are in locations without proper communication with the AU at the highest data rate.

The available values range from 0 to 70 (%).

The default value is 70 (%).

4.2.6.6.2.8 MIR Only Option (AU only)

When the MIR Only Option is enabled, it forces the MIR/CIR algorithm to use MIR values only. The MIR/CIR algorithm determines the actual information rate for each of the supported SUs under changing conditions of demand, based on the configured CIR and MIR values. When the MIR Only Option is enabled, the MIR/CIR algorithm is overridden and forced to operate with MIR values only. For example, the AU attempts to enable all SUs to transmit/receive information at the specified MIR value. When enabled, the graceful degradation algorithm, which is a part of the CIR/MIR algorithm, is also disabled.

The default is Enable.

4.2.6.6.2.9 Show MIR/CIR Parameters

Displays the current values of the MIR and CIR parameters.

4.2.6.6.3 Traffic Prioritization

Each packet that is received from the Ethernet port is placed in either the High or Low queue, according to the Traffic Prioritization parameters. When the MIR/CIR mechanism decides that a packet must be sent, the High priority queue will be checked first. If the High priority queue is not empty, the first element in the queue is forwarded to the MIR/CIR mechanism. Packets from the Low priority queue will be forwarded only if the High queue is empty.

The prioritization of the packets is done using different classifiers:

- VLAN Priority
- ToS Priority: IP Precedence or DSCP
- UDP and/or TCP ports

Each one of these classifiers can be activated/deactivated. If more than one classifier is activated, the priority of each packet will be determined by the highest priority given to it by the active classifiers.

The Traffic Prioritization menu enables activating/deactivating each of these classifiers, and configuring the applicable parameters for each classifier.

The Low Priority Traffic Minimum Percent parameter can be used to prevent starvation of low priority traffic by ensuring that a certain number of low priority packets is transmitted even at the expense of high priority traffic.

In addition, the Wireless Link Prioritization, which is a licensable feature, enables to configure parameters that affect the prioritization of traffic in the wireless link for packets with high/low priority from different units.

4.2.6.6.3.1 VLAN Priority Threshold

The VLAN Priority Threshold is applicable for Trunk and Hybrid Links only. It enables defining the value of the VLAN Priority Threshold. If the VLAN Priority field in a tagged frame is higher than the value of the VLAN Priority Threshold parameter, the packet will be routed to the High queue. If the VLAN Priority field is lower than or equal to this value, the packet will be transferred to the Low queue (unless it is assigned a High priority by another classifier).

Valid values range from 0 to 7.

The default value is 7, which means that all packets get a low priority (equivalent to disabling the VLAN-based classifier).

4.2.6.6.3.2 ToS Prioritization

The ToS Prioritization parameters enable defining prioritization in accordance with either the 3 IP Precedence bits in the IP header in accordance with RFC 791, or the 6 DSCP (Differentiated Services Code Point) bits in accordance with RFC 2474. The ToS Prioritization menu includes the following parameters:

4.2.6.6.3.2.1 ToS Prioritization Option

The ToS Prioritization Option defines whether ToS-based prioritization is enabled or disabled. The following options are available:

- Disable
- Enable IP Precedence (RFC791) Prioritization
- Enable DSCP (RFC2474) Prioritization

The default is Disable.

4.2.6.6.3.2.2 IP Precedence Threshold

The IP Precedence Threshold parameter is applicable when the ToS Prioritization Option is set to Enable IP Precedence (RFC791) Prioritization. If the value of the 3 IP Precedence bits in the IP header is higher than this threshold, the packet is routed to the High queue. If the value is lower than or equal to this threshold, the packet will be transferred to the Low queue (unless it is assigned a High priority by another classifier).

Valid values range from 0 to 7.

The default value is 4.

4.2.6.6.3.2.3 DSCP Threshold

The DSCP Threshold parameter is applicable when the ToS Prioritization Option is set to Enable DSCP (RFC2474) Prioritization. If the value of the 6 DSCP bits in the IP header is higher than this threshold, the packet is routed to the High queue. If the value is lower than or equal to this threshold, the packet will be routed to the Low queue (unless it is assigned a High priority by another classifier).

Valid values range from 0 to 63.

The default value is 32.

4.2.6.6.3.3 UDP/TCP Port Ranges Traffic Prioritization

The UDP/TCP Port Ranges Traffic Prioritization parameters enable defining prioritization in accordance with the UDP and/or TCP destination port ranges. The UDP/TCP Port Ranges Traffic Prioritization menu includes the following parameters:

4.2.6.6.3.3.1 UDP/TCP Port Ranges Prioritization Option

The UDP/TCP Port Ranges Prioritization Option defines whether port ranges based prioritization is enabled or disabled. The following options are available:

- Disable
- Enable Only for UDP
- Enable Only for TCP
- Enable for both UDP and TCP

The default is Disable.

4.2.6.6.3.3.2 UDP Port Ranges

The UDP Port Ranges menu enables defining port ranges to be used as priority classifiers when the UDP/TCP Port Ranges Prioritization Option is set to either Enable Only for UDP or Enable for both UDP and TCP. All packets whose destination is included in the list will be routed to the High queue. All other packets will be routed to the Low queue (unless they were assigned a High priority by another classifier).

The UDP Port Ranges menu includes the following options:

- **UDP RTP/RTCP Prioritization**: Voice over IP is transported using Real Time Protocol (RTP). The Real Time Control Protocol (RTCP) is used to control the RTP. When an application uses RTP/RTCP, it chooses for destination ports

consecutive numbers: RTP port is always an even number, and the port with the odd number following it will be assigned to RTCP.

If the administrator selects to prioritize only the RTP packets, then all the packets with an odd numbered destination port will always have Low priority. The packets with an even number for destination port will receive High priority, if the port number is included in the specified ranges.

If the administrator selects to prioritize both RTP and RTCP packets, then all packets whose destination port number is included is in the specified ranges will receive High priority.

The available options are:

- ◇ RTP & RTCP
- ◇ RTP Only

The default is RTP & RTCP

- **Add UDP Port Ranges**: This option enables adding UDP port ranges to the list of priority port numbers. The list can include up to 64 ranges. It is possible to add discrete port numbers and/or ranges. In ranges, a hyphen is used to separate between start and end port numbers. A comma is used to separate between entries.

  For example: 8900,9000-9005,9010,9016-9017.

- **Delete UDP Port Ranges**: This option enables deleting UDP port ranges from the list of priority port numbers. It is possible to delete discrete port numbers and/or ranges. In ranges, a hyphen is used to separate between start and end port numbers. A comma is used to separate between entries.

  For example: 8900,9000-9005,9010,9016-9017.

- **Delete All UDP Port Ranges**: This option enables deleting all UDP port ranges from the list of priority port numbers.

- **Show UDP Port Ranges**: Select this option to view the current UDP RTP/RTCP Prioritization option and the list of UDP Port Ranges.

4.2.6.6.3.3.3 TCP Port Ranges

The TCP Port Ranges menu enables defining port ranges to be used as priority classifiers when the UDP/TCP Port Ranges Prioritization Option is set to either Enable Only for TCP or Enable for both UDP and TCP. All packets whose

destination is included in the list will be routed to the High queue. All other packets will be routed to the Low queue (unless they were assigned a High priority by another classifier).

The TCP Port Ranges menu includes the following options:

- **TCP RTP/RTCP Prioritization**: Voice over IP is transported using Real Time Protocol (RTP). The Real Time Control Protocol (RTCP) is used to control the RTP. When an application uses RTP/RTCP, it chooses for destination ports consecutive numbers: RTP port is always an even number, and the port with the odd number following it will be assigned to RTCP.

  If the administrator selects to prioritize only the RTP packets, then all the packets with an odd numbered destination port will always have Low priority. The packets with an even number for destination port will receive High priority, if the port number is included in the specified ranges.

  If the administrator selects to prioritize both RTP and RTCP packets, then all packets whose destination port number is included in the specified ranges will receive High priority.

  The available options are:

  - ◇ RTP & RTCP
  - ◇ RTP Only

  The default is RTP & RTCP

- **Add TCP Port Ranges**: This option enables adding TCP port ranges to the list of priority port numbers. The list can include up to 64 ranges. It is possible to add discrete port numbers and/or ranges. In ranges, a hyphen is used to separate between start and end port numbers. A comma is used to separate between entries. For example: 8900,9000-9005,9010,9016-9017.

- **Delete TCP Port Ranges**: This option enables deleting TCP port ranges from the list of priority port numbers. It is possible to delete discrete port numbers and/or ranges. In ranges, a hyphen is used to separate between start and end port numbers. A comma is used to separate between entries.

  For example: 8900,9000-9005,9010,9016-9017.

- **Delete All TCP Port Ranges**: This option enables deleting all TCP port ranges from the list of priority port numbers.

- **Show TCP Port Ranges**: Select this option to view the current TCP RTP/RTCP Prioritization option and the list of TCP Port Ranges.

4.2.6.6.3.4 Low Priority Traffic Minimum Percent

This feature ensures that a certain amount of low priority packets, specified by the Low Priority Traffic Minimum Percent (LPTMP) parameter, is transmitted even at the expense of high priority traffic.

The mechanism guarantees a low priority traffic with a rate of LPTMP * RT /100, where RT symbolizes the allowed traffic rate. The high priority traffic will thus not be able to exceed (100-LPTMP) * RT/100. If the system receives high priority traffic at a rate higher than this figure, some high priority packets will be discarded.

The range is between 0 and 100 (%).

The default value is 0 (%).

4.2.6.6.3.5 Wireless Link Prioritization Parameters (AU)

To better support delay-sensitive and other high-priority traffic, a set of Wireless Link Prioritization parameters enables configuring parameters that affect the processes of gaining access to the wireless media and of transmitting high/low priority packets.

The Wireless Link Prioritization feature is a licensed feature and is available only in units with the suitable Feature License.

The time interval between two consecutive transmissions of frames is called Inter-Frame Spacing (IFS). This is the time during which the unit determines whether the medium is idle using the carrier sense mechanism. The IFS depends on the type of the next frame to be transmitted, as follows:

- SIFS (Short Inter-Frame Spacing) is used for certain frames that should be transmitted immediately, such as ACK and CTS frames. The value of SIFS is 16 microseconds.

- DIFS (Distributed coordination function Inter-Frame Spacing) is typically used for other frame types when the medium is free. If the unit decides that the medium is not free, it will defer transmission by DIFS plus a number of time slots as determined by the Contention Window back-off algorithm after reaching a decision that the medium has become free. DIFS equal SIFS plus AIFS, where AIFS is a configurable number of time slots.

Under regular conditions, AIFS is configured to two time slots. To support prioritization in the wireless link, we can configure a higher AIFS for low priority traffic (AIFS of two time slots will always be used for high priority traffic as well as AU's transmissions of broadcasts/multicasts and beacons). This will give

advantage to units that need to transmit high priority traffic (depending also on the configured values for the Contention Window parameters).

Other parameters related to transmission to the wireless media that can be configured separately for high/low priority packets are the Number of HW Retries and Burst Duration.

Typically, a lower value of Number of HW Retries should be configured for traffic such as VoIP, which on the one hand is sensitive to delays and on the other hand is less sensitive to missing packets than data traffic.

The Burst Duration, which defines the maximum duration of a burst, should be set to a lower value for delay sensitive traffic. Typically the Burst Duration of the AU should be set to higher value than that of the SUs, because of the higher number of packets that should be transmitted by the AU.

When the Wireless Link Prioritization feature is enabled, the following parameters are not applicable:

- Arbitration Inter-Frame Spacing (AIFS)
- Number of HW Retries
- Burst Mode Option
- Burst Mode Time Interval

When an SU with a SW version below 4.0 tries to associate with an AU that has the Wireless Link Prioritization feature enable, the AU will generate a trap that will include information about this SU. In this way the system administrator can be alerted that the SU should be upgraded. This is necessary because otherwise an SU that does not support the Wireless Link Prioritization feature will send all the traffic as high priority.

CAUTION

Verify that all SUs served by an AU with the Wireless Link Prioritization Option enabled use a SW version that supports this feature (SW version 4.0 and higher). Otherwise, overall performance and quality of service in the cell may be reduced since all data from an SU with SW version below 4.0 will be sent with high priority.

The Wireless Link Prioritization Parameters menu includes the following:

4.2.6.6.3.5.1 Wireless Link Prioritization Option

The Wireless Link Prioritization Option enables or disables the Wireless Link Prioritization feature.

The default option is Disable.

4.2.6.6.3.5.2 Low Priority AIFS

The Low Priority AIFS defines the AIFS number of time slots that will be used by the AU and the SUs served by it for low priority traffic.

The range is from 3 to 254 (time slots).

The default is 3.

4.2.6.6.3.5.3 Number of HW Retries for High Priority Traffic

The Number of HW Retries for High Priority Traffic defines the maximum number of times that an unacknowledged high priority unicast packet can be retransmitted. This is the value that will be used by the AU and by the SUs served with it.

The range is from 1 to 14 times.

The default is 10 times.

4.2.6.6.3.5.4 Number of HW Retries for Low Priority Traffic

The Number of HW Retries for Low Priority Traffic defines the maximum number of times that an unacknowledged low priority unicast packet can be retransmitted. This is the value that will be used by the AU and by the SUs served with it.

The range is from 1 to 14 times.

The default is 10 times.

4.2.6.6.3.5.5 AU Burst Duration for High Priority Traffic

The AU Burst Duration for High Priority Traffic parameter defines the maximum duration of a burst that can be made by the AU for high priority packets.

The measurement unit is 250 microseconds and the range is from 1 to 40 (0.25 to 10 milliseconds) or 0 to disable bursts for high priority packets.

The default is 16 (4 milliseconds).

4.2.6.6.3.5.6 AU Burst Duration for Low Priority Traffic

The AU Burst Duration for Low Priority Traffic parameter defines the maximum duration of a burst that can be made by the AU for low priority packets.

The measurement unit is 250 microseconds and the range is from 1 to 40 (0.25 to 10 milliseconds) or 0 to disable bursts for low priority packets.

The default is 20 (5 milliseconds).

4.2.6.6.3.5.7 SU Burst Duration for High Priority Traffic

The SU Burst Duration for Ligh Priority Traffic parameter defines the maximum duration of a burst that can be made by the SUs served by the AU for high priority packets.

The measurement unit is 250 microseconds and the range is from 1 to 40 (0.25 to 10 milliseconds) or 0 to disable bursts for high priority packets.

The default is 8 (2 milliseconds).

4.2.6.6.3.5.8 SU Burst Duration for Low Priority Traffic

The SU Burst Duration for Ligh Priority Traffic parameter defines the maximum duration of a burst that can be made by the SUs served by the AU for low priority packets.

The measurement unit is 250 microseconds and the range is from 1 to 40 (0.25 to 10 milliseconds) or 0 to disable bursts for low priority packets.

The default is 20 (5 milliseconds).

4.2.6.6.4 DRAP Parameters (AU only)

DRAP (Dynamic Resources Allocation Protocol is a protocol that can be used by the AU to communicate with Voice and Networking Gateways connected to SUs served by it, enabling identification of these Gateways. It also enables managing voice calls made by Voice Gateways (VG).

The AU keeps track of all current voice calls and, upon receiving from a VG a request for a new call, compares the current number of calls to the maximum allowed number. If the maximum allowed number has been reached, the AU will not confirm the request.

The DRAP feature is applicable only for gateways that support DRAP.

The following is a description of DRAP-related parameters:

4.2.6.6.4.1 DRAP Support

The DRAP Support option enables or disables the DRAP feature that offers the possibility of identifying the connected Gateways and limiting the maximum number of voice calls made by Voice Gateways in a cell.

The default option is Enable.

4.2.6.6.4.2 UDP Port

The UDP Port parameter defines the UDP port used by the DRAP protocol.

The range is from 8000 to 8200.

The default value is 8171.

4.2.6.6.4.3 Maximum Number of Voice Calls

The Maximum Number of Voice Calls parameter sets the maximum number of active calls in the cell.

The range is between 0 and 255.

The default value is 40.

4.2.6.6.4.4 DRAP TTL

The DRAP TTL parameter sets the time between two consecutive Allocation Requests from the Gateways. The Allocation requests are used to identify the existence of an active Gateway. In Voice Gateways they also include information about the current number of voice calls and requests for new calls.

The range is between 1 and 255 (seconds).

The default value is 10 (seconds).

4.2.6.6.4.5 Number of Active Voice Calls

This option shows the current number of active voice calls in the cell.

4.2.6.6.5 Show Service Parameters

Displays the current values of the Service Parameters.

4.2.6.7 Security Parameters

BreezeACCESS VL systems can support encryption of authentication messages and/or data frames using one of the following encryption standards:

- **WEP** Wireless Equivalent Privacy algorithm. WEP is defined in the IEEE 802.11 Wireless LAN standard and is based on the RSA's RC4 encryption algorithm.
- **AES OCB** Advanced Encryption Standard. AES is defined by the National Institute of Standards and Technology (NIST) and is based on Rijndael block cipher. AES OCB (Offset Code Book) is a mode that operates by augmenting the normal encryption process by incorporating an offset value.
- **FIPS 197** is certified for compliance with Federal Information Processing Standards. It provides encryption and message integrity in one solution and implements the Advanced Encryption Standard using Rijndael block cipher.

NOTE

The FIPS 197 encryption algorithm is a licensed feature, and is available only in units with the required license. FIPS 197 can be supported only in Access Units with HW revision C or higher. FIPS 197 feature license is not available for AUS unit.

The following parameters are available through the Security Parameters menu (in certain units some or all of the security options may not be available):

- Authentication Algorithm
- Data Encryption Option
- Security Mode
- Default Key (SU only)
- Default Multicast Key (AU only)
- Key # 1 to Key # 4
- Promiscuous Authentication (AU only)

4.2.6.7.1 Authentication Algorithm

The Authentication Algorithm option determines the operation mode of the selected unit. The following two options are available:

- **Open System**: An SU configured to Open System can only associate with an AU also configured to Open System. In this case, the authentication encryption algorithm is not used.
- **Shared Key**: The authentication messages are encrypted. An SU configured to use a Shared Key can only be authenticated by an AU configured to use a Shared Key, provided the applicable Key (which means both the key number and its content) in the AU is identical to the key selected as the Default Key in the SU.

  The default is Open System.

NOTE

The Shared Key option cannot be selected before at least one Key is defined. In the SU, a Default Key that refers to a valid Key must be selected.

The AU and all the SUs it serves should be configured to the same Authentication Algorithm option. Mixed operation is not supported.

4.2.6.7.2 Data Encryption Option

The Data Encryption Option allows enabling or disabling data encryption. When enabled, all data frames, including frames using management protocols such as Telnet, FTP, TFTP, SNMP, DHCP and ICMP, are encrypted.

The default is Disable.

NOTE

- The AU and all the SUs it serves should be configured to the same Data Encryption Option. Mixed operation is not supported.
- An SU with Data Encryption Option enabled can accept non-encrypted data frames.
- When the Data Encryption Option is enabled, the maximum number of SUs that can associate with the AU is limited to 124. The Maximum Number of Associations Limit is indicated in the Show Air Interface Parameters display.

4.2.6.7.3 Security Mode

The Security Mode option enables selecting the algorithm to be used for encrypting the authentication messages and/or data frames.

The available options are WEP, AES OCB and FIPS 197 (if available).

The default is WEP.

4.2.6.7.4 Default Key (SU only)

The Default Key defines the Key to be used for encrypting/decrypting the authentication messages (Shared Key mode) and/or data frames (Data Encryption enabled). The AU learns the Default Key from the SU provided it is one of the Keys defined in the AU. The AU may use different keys when authenticating and/or communicating with different SUs.

Available values range from 1 to 4.

The default is KEY # 1.

4.2.6.7.5 Default Multicast Key (AU only)

The Multicast Default Key defines the Key to be used for encrypting/decrypting multicasts and broadcasts when Data Encryption is enabled.

Available values range from 1 to 4.

The default is KEY # 1.

4.2.6.7.6 Key # 1 to Key # 4

The Key # options enables defining the encryption key to be used for initializing the pseudo-random number generator that forms part of the encryption/decryption process. The Keys must be set before the Shared Key authentication algorithm or Data Encryption can be used. To support proper operation, both the Key # and the content must be identical at both sides of a wireless link.

Each Key is a string of 32 hexadecimal numbers. For security reasons, it is a “write only” parameter, displayed as a string of asterisks (“*”).

The default for all 4 Keys is 000…0 (a string of 32 zeros), which means no key.

4.2.6.7.7 Promiscuous Authentication (AU only)

The Promiscuous Authentication mode enables new SUs to join an active cell where Shared Key operation and/or Data Encryption are used, even if this SU does not have the correct security parameters. In promiscuous mode, all downlink transmissions (from AU to SUs) are not encrypted, allowing remote configuration of security parameters, regardless of the current settings in the SUs of the parameters related to data encryption. After a new SU joins the cell it should be remotely configured with the proper parameters (or upgraded). When the SU is configured properly, the Promiscuous Mode should be disabled.

The default is Disable.

NOTE

Do not leave the AU in the enabled Promiscuous Authentication mode for prolonged periods. Use it only when absolutely necessary, perform the required actions as quickly as possible and disable it. The unit will return automatically to Promiscuous Authentication disabled mode after reset.

Appendix A - Software Version Loading Using TFTP

Firmware upgrades to the unit's FLASH memory can be performed by a simple loading procedure using a TFTP application. Before performing an upgrade procedure, be sure you have the correct files and most recent instructions.

Upgrade packages can be obtained from the Technical Support section of Alvarion's web site, http://www.alvarion.com/.

CAUTION

Shutting down power to the unit before completion of the loading procedure may cause the unit to be inoperable.

To load software versions:

1. Verify that IP connectivity to the required unit is established.
2. Ensure that the IP address of the PC from which the upgrade is to be performed belongs to the same subnet as the unit to be upgraded, unless the unit is behind a router. If the unit is behind a router, verify that the unit is configured with the correct **Default Gateway Address**.
3. To view the current IP parameters of the unit, use the Monitor program by connecting the PC to the unit either directly or via Telnet. To access the IP parameters via the Monitor program:
   a. From the *Main Menu* select **1 - Info Screens**.
   b. From the *Info Screen* menu select **2 - Show Basic Configuration**. The current basic configuration is displayed, including the run time values for the IP Address, Subnet Mask and Default Gateway Address parameters.
4. To modify any of the IP parameters:
   a. From the *Main Menu*, select **3 - Basic Configuration**.
   b. To configure the IP address, select: **1 - IP Address**.
   c. To configure the subnet mask, select **2 - Subnet Mask**.
   d. To configure the default gateway address, select **3 - Default Gateway Address**.
5. To verify the connection, PING the unit's IP address and verify that PING replies are being received.
6. Use the TFTP utility, with the following syntax, to perform the upgrade:

   tftp -i hostaddress put sourcefile [destinationfile]

   where *-i* is for binary mode and *hostaddress* is the IP address of the unit to be upgraded. *put* causes the PC client to send a file to the *hostaddress*.

7 The original *sourcefile* name of SW files is in the structure uX_Y_Z.bz, where u is the unit type (a for AU, s for SU) and X.Y.Z is the version number.

8 *destinationfile* is the name of the file to be loaded. Use the SNMP write community <SnmpWriteCommunity>.bz to define the destination filename. The default SNMP write community is *private*. For example, to load the upgrade file a4_0_13.bz to an AU whose IP address is *206.25.63.65: tftp -i 206.25.63.65 put a4_0_13.bz private.bz*

9 When the loading is complete, the following message is displayed, indicating completion of the TFTP process:

```
Download operation has been completed successfully
```

10 The unit decompresses the loaded file and checks the integrity of the new version. The new version replaces the previous shadow version only after verification. If verification tests fail, the loaded version will be rejected. Among other things that are tested, the unit will reject a file if either the file name or the version number matches the current Main versions. The unit will also reject a file designated for a different unit type, e.g. an AU upgrade file with the prefix a in the original file name will not be accepted by SUs.

11 The FLASH memory can store two software versions. One version is called Current and the second version is called *Shadow*. The new version is loaded into the Shadow (backup) FLASH memory. To check that the new firmware was properly downloaded and verified, view the firmware versions stored in the FLASH, as follows:

a From the Main Menu, select **2 - Unit Control**.

b From the Unit Control menu, select **5 - Flash Memory Control**.

c From the *Flash Memory Control* menu, select **S - Show Flash Versions**. The following information is displayed:

```
Flash Versions
============
Running from                :Main Version
Main Version File Name      :3.1.25
Main Version Number         :3.1.25
Shadow Version File Name    :4.0.27.bz
Shadow Version Number       :4.0.27
```

Appendix B - File Download and Upload Using TFTP

The File Download/Upload feature simplifies the task of remotely configuring a large number of units using TFTP protocol. By downloading the configuration file to a PC it is possible to view all the parameters configured for the unit, as a plain ASCII text file. It is necessary to edit the file using a simple editor and remove certain parameters or change their values prior to uploading the configuration to another unit. The file loading procedure can also be used for uploading a feature license file or an updated country code file to multiple units.

When multiple configurations are being done simultaneously, that is, the file is being uploaded to several units, it is recommended that the file will include only the required parameters.

In the configuration file, the following three fields represent each parameter:

1. A symbolic string similar to the name of the parameter in the Monitor program, followed by "=".
2. The value of the parameters, which uses the same values as the Monitor program.
3. An optional comment. If used, the comment should start with a ";" character.

An unknown parameter will be ignored. A known parameter with a value that is invalid or out of range will be set by the unit to its default value.

Use the SNMP write community string (the default is “private”) to define both the uploaded file (*put*) and the downloaded file (*get*). The file should be transferred in ASCII mode.

Use the extension cfg for a configuration file.

Use the extension cmr for the Operator Defaults file.

Use the extension fln for a Feature License file.

Use the extension ccf for a Country Code file.

Feature license and country code files include multiple strings, where each string is applicable only for a certain unit identified by its MAC address. When uploading a feature license or a country code file to multiple units, each unit will accept only the parts that are applicable for itself.

Examples:

1. To upload the configuration file using a DOS based TFTP Client to an SU whose IP address is 206.25.63.65, enter:
   tftp 206.25.63.65 put Suconf private.cfg
2. To download the Operator Defaults file from the same unit, enter:
   tftp 206.25.63.65 get private.cmr Suconf
3. To upload the Feature Upgrade file to the same unit, enter:
   tftp 206.25.63.65 put Suconf private.fln
4. To upload the Country Code file from to same unit, enter:
   tftp 206.25.63.65 put Suconf private.ccf

NOTE

The Configuration File mechanism is common to BreezeACCESS VL and BreezeNET B product lines. The Configuration File includes also parameters that are applicable only to BreezeNET B products. Do not attempt to change the default values of these parameters.

Appendix C - Using the Set Factory Defaults Utility

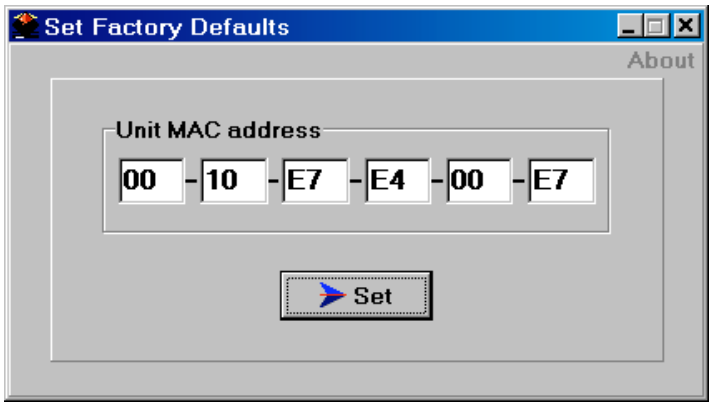
The Set Factory Defaults utility is intended to enable management access to a unit in cases where such access is not possible due to wrong or unknown configuration of certain parameters. This includes cases such as unknown Management VLAN ID and wrong management access filtering.

The utility accesses the unit by sending a special packet. Access to the unit is based on its MAC address, which must be entered in the **Unit MAC address** field.

The set unit defaults feature is only available via the Ethernet port.

To set factory defaults:

1 Connect the PC with the Set Factory Defaults utility to the Ethernet port of the unit.



2 Enter the unit's MAC address.

3 Click on the **Set** button.

This utility performs the same operation as Set Complete Factory Defaults, restoring the default factory configuration of all parameters, except to Passwords, general FTP parameters and AU's Frequency.

D

Appendix D - Preparing the Indoor to Outdoor SU Cable

The Indoor-to-Outdoor cable provides pin-to-pin connection on both ends.

Figure 4-2 shows the wire pair connections required for the Indoor-to-Outdoor cable.

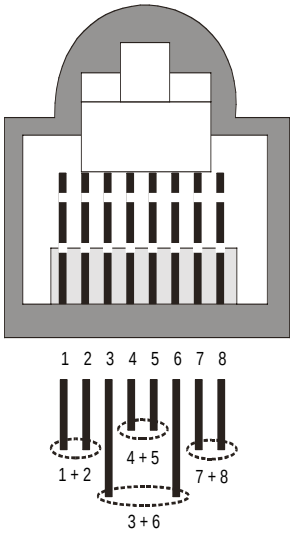


Figure 4-2: Ethernet Connector Pin Assignments

The color codes used in cables that are supplied with crimped connectors are as listed in the following table:

Cable Color Codes	
Wire color	**Pin**
Blue	1
Blue/white	2
Orange	3
Orange/white	6
Brown	4
Brown/white	5
Green	7
Green/white	8

Use a crimp tool for RJ-45 connectors to prepare the wires, insert them into the appropriate pins and use the crimp tool to crimp the connector. Make sure to do the following:

1. Remove as small a length as possible of the external jacket. Verify that the external jacket is well inside the service box to ensure good sealing.
2. Take back the shield drain wire before inserting the cable into the RJ-45 connector, to ensure a good connection with the connector's shield after crimping.

Appendix E - BreezeACCES VL MIB

In This Appendix:

BreezeACCESS VL agents support the following MIBs:

- MIB_II (RFC1213)
- BRIDGE_MIB (RFC1286)
- BreezeACCESS VL Private MIB (breezeAccessVLMib)

The following are described in this Appendix:

NOTE

The BreezeAccessVLMib is used for both BreezeACCESS VL (AU, SU) and BreezeNET B (BU, RB) product lines. Some of the parameters are only applicable to one of the product lines.

E.1 System Object Identifiers

Object	Path
alvarion	OID =1.3.6.1.4.1.12394 {(iso(1) org(3) dod(6) internet(1) private(4) enterprises(1) alvarion(12394)}
products	OID = 1.3.6.1.4.1.12394.1 {alvarion 1}
breezeAccessVLMib	OID = 1.3.6.1.4.1.12394.1.1 {products 1}
alvarionbwaOID	OID = 1.3.6.1.4.1.12394.4 {alvarion 4}
brzAccessVLOID	OID = 1.3.6.1.4.1.12394.4.1 {alvarionOID 1}
brzAccessVLAU	OID = 1.3.6.1.4.1.12394.4.1.1 {brzAccessVLOID 1}
brzAccessVLSU	OID = 1.3.6.1.4.1.12394.4.1.2 {brzAccessVLOID 2}
brzAccessVLAU-BS	OID = 1.3.6.1.4.1.12394.4.1.4 {brzAccessVLOID 4}
brzAccessVLAU-SA	OID = 1.3.6.1.4.1.12394.4.1.5 {brzAccessVLOID 5}
brzAccessVLAUS-BS	OID = 1.3.6.1.4.1.12394.4.1.6 {brzAccessVLOID 6}
brzAccessVLAUS-SA	OID = 1.3.6.1.4.1.12394.4.1.7 {brzAccessVLOID 7}
brzAccessVLSU-6-1D	OID = 1.3.6.1.4.1.12394.4.1.11 {brzAccessVLOID 11}
brzAccessVLSU-6-BD	OID = 1.3.6.1.4.1.12394.4.1.12 {brzAccessVLOID 12}
brzAccessVLSU-24-BD	OID = 1.3.6.1.4.1.12394.4.1.13 {brzAccessVLOID 13}
brzAccessVLSU-BD	OID = 1.3.6.1.4.1.12394.4.1.14 {brzAccessVLOID 14}
brzAccessVLSU-54-BD	OID = 1.3.6.1.4.1.12394.4.1.15 {brzAccessVLOID 15}
brzAccessVLSU-3-1D	OID = 1.3.6.1.4.1.12394.4.1.16 {brzAccessVLOID 16}
brzAccessVLSU-3-4D	OID = 1.3.6.1.4.1.12394.4.1.17 {brzAccessVLOID 17}
brzAccessVLSU-I	OID = 1.3.6.1.4.1.12394.4.1.17 {brzAccessVLOID 18}
brzNetB-BU-B14	OID = 1.3.6.1.4.1.12394.4.1.21 {brzAccessVLOID 21}
brzNetB-BU-B28	OID = 1.3.6.1.4.1.12394.4.1.22 {brzAccessVLOID 22}
brzNetB-BU-B100	OID = 1.3.6.1.4.1.12394.4.1.23 {brzAccessVLOID 23}
brzNetB-RB-B14	OID = 1.3.6.1.4.1.12394.4.1.31 {brzAccessVLOID 31}
brzNetB-RB-B28	OID = 1.3.6.1.4.1.12394.4.1.32 {brzAccessVLOID 32}
brzNetB-RB-B100	OID = 1.3.6.1.4.1.12394.4.1.33 {brzAccessVLOID 33}
brzAccess4900-AU-BS	OID = 1.3.6.1.4.1.12394.4.1.41 {brzAccessVLOID 41}

Object	Path
brzAccess4900-AU-SA	OID = 1.3.6.1.4.1.12394.4.1.42 {brzAccessVLOID 42}
brzAccess4900-SU-BD	OID = 1.3.6.1.4.1.12394.4.1.51 {brzAccessVLOID 51}
brzAccessVLProducts	OID = 1.3.6.1.4.1.12394.4.1.3 {brzAccessVLOID 3}

E.2 breezeAccessVLMib

OBJECT IDENTIFIER = 1.3.6.1.4.1.12394.1.1

NOTE

An * is used instead of the brzaccVL prefix.

E.2.1 System Information Parameters

MIB Parameter	Description	Value/Range
*SysInfo (breezeAccessVLMib 1)	System Information Parameters	
*UnitHwVersion (*SysInfo 1)	Applicable to all units. Read-only: Hardware platform version.	DisplayString (SIZE(0..32))
*RunningSoftwareVersion (*SysInfo 2)	Applicable to all units. Read-only: Running software version.	DisplayString (SIZE(0..32))
*RunningFrom (*SysInfo 3)	Applicable to all units. Read-only: The memory (main or shadow) from which the current version is running from.	Integer mainVersion (1) shadowVersion (2)
*MainVersionNumber (*SysInfo 4)	Applicable to all units. Read only: Main software version number.	DisplayString (SIZE(0..32))
*MainVersionFileName (*SysInfo 5)	Applicable to all units. Read-only: Main software version file name.	DisplayString (SIZE(0..32))
*ShadowVersionNumber (*SysInfo 6)	Applicable to all units. Read-only: Shadow software version number.	DisplayString (SIZE(0..32))
*ShadowVersionFileName (*SysInfo 7)	Applicable to all units. Read-only: Shadow software version file name.	DisplayString (SIZE(0..32))
*UnitMacAddress (*SysInfo 8)	Applicable to all units. Read-only: Unit hardware MAC address.	MAC address
*UnitType (*SysInfo 9)	Applicable to all units. Read-only: Unit type.	Integer auBS (1) auSA (2) su-6-BD (3) su-24-BD (4) su-6-1D (5) bu-B14 (6) bu-B28 (7) rb-B14 (8) rb-B28 (9) su-BD (10) su-54-BD (11) su-3-1D (12) su-3-4D (13) ausBS (14) ausSA (15) auBS4900 (16) auSA4900 (17)

MIB Parameter	Description	Value/Range
		suBD4900 (18) bu-B100 (19) rb-B100 (20) su-I (21)
*AssociatedAU (*SysInfo 10)	Applicable to SU/RB. Read-only: Associated AU/BU MAC address.	MAC address
*NumOfAssociationsSinceLastReset (*SysInfo 11)	Applicable to all units. Read-only: The number of associations since last reset, including duplicate associations (re-associations).	Integer
*CurrentNumOfAssociations (*SysInfo 13)	Applicable to AU only. Not applicable to BreezeNET B products. Read-only. The number of subscriber units currently associated with the AU.	Integer na (65535)
*UnitBootVersion (*SysInfo 14)	Applicable to all units. Read-only: The Boot software version.	DisplayString (SIZE(0..32))
*RadioBand (*SysInfo 15)	Applicable to all units. Read-only: The radio band of the unit.	Integer band-5-8GHz (1) band-5-4GHz (2) band-4-9GHz (3) band-5-2GHz (4) band-2-4GHz (5) band-5-3GHz (6) band-4-9GHzJapan (7)
*CurrentEthernetPortState (*SysInfo 16)	Applicable to all units. Read-only. The current state of the Ethernet port.	Integer HalfDuplexAnd10Mbps (1) FullDuplexAnd10Mbps (2) HalfDuplexAnd100Mbps 3) FullDuplexAnd100Mbps (4) linkDown (5)
*TimeSinceLastReset (*SysInfo 17)	Applicable to all units. Read-only. The elapsed time since last reset.	DisplayString (SIZE(0..32))
*CountryDependentParameters (*SysInfo 18)	Country Dependent Parameters	
*CountryCode (*CountryDependentParameters 1)	Applicable to all units. Read only. The country code and country or country group name that is supported by the unit	DisplayString (SIZE(0..32))
*CountryDependentParamsTable (*CountryDependentParameters 2)	Applicable to all units. Not accessible. A table of country dependent parameters.	
*CountryDependentParameterEntry (*CountryDependentParamsTable 1)	Applicable to all units. Not accessible. An entry in the country dependent parameters table.	
*CountryDependentParameterTableIdx (*CountryDependentParameterEntry 1)	Applicable to all units. Read only. The sub-band ID of the entry in the Country Dependent Parameters table. Serves also as index for the table	Integer

MIB Parameter	Description	Value/Range
	entry.	
*CountryDependentParameterFrequencies (*CountryDependentParameterEntry 2)	Applicable to all units. Read only. The frequencies included in the applicable sub-band entry.	DisplayString
*AllowedBandwidth (*CountryDependentParameterEntry 3)	Applicable to all units. Read only. The bandwidth when using the applicable the sub-band.	Integer
*RegulationMaxTxPowerAtAntennaPort (*CountryDependentParameterEntry 4)	Applicable to all units. Read only. The maximum allowed Tx power at the antenna port when using the applicable sub-band.	Integer
*RegulationMaxEIRP (*CountryDependentParameterEntry 5)	Applicable to all units. Read only. The maximum allowed EIRP when using the applicable sub-band.	Integer A Regulation Max EIRP of 100 means no limit.
*MinModulationLevel (*CountryDependentParameterEntry 6)	Applicable to all units. Read only. The minimum supported modulation level.	Integer level1 (1) level2 (2) level3 (3) level4 (4) level5 (5) level6 (6) level7 (7) level8 (8)
*MaxModulationLevel (*CountryDependentParameterEntry 7)	Applicable to all units. Read only. The maximum supported modulation level.	Integer level1 (1) level2 (2) level3 (3) level4 (4) level5 (5) level6 (6) level7 (7) level8 (8)
*BurstModeSupport (*CountryDependentParameterEntry 8)	Applicable to all units. Read only. The supported Burst Mode Option.	Integer supported (1) notSupported (2)
*MaximumBurstDuration (*CountryDependentParameterEntry 9)	Applicable to all units. Read only. Applicable only if Burst Mode Option is supported. The maximum supported burst duration.	Integer
*DfsSupport (*CountryDependentParameterEntry 10)	Applicable to AU/BU only. Read only. The supported DFS Option.	Integer supported (1) notSupported (2)
*MinimumHwRevision (*CountryDependentParameterEntry 11)	Applicable to all units. Read only. The Minimum HW Revision needed to support the Sub-Band.	Integer hwRevisionA (1), hwRevisionB (2), hwRevisionC (3), hwRevisionD (4), hwRevisionE (5), na (255)
*AuthenticationEncryptionSupport (CountryDependentParameters 3)	Applicable to all units. Read only. The supported Authentication Encryption Option.	Integer supported (1) notSupported (2)
*DataEncryptionSupport (CountryDependentParameters 4)	Applicable to all units. Read only. The supported	Integer supported (1)

MIB Parameter	Description	Value/Range
	Data Encryption Option.	notSupported (2)
*AESEncryptionSupport (CountryDependentParameters 5)	Applicable to all units. Read only. The supported AES Encryption Option.	Integer supported (1) notSupported (2)
*AntennaGainChange (*SysInfo 19)	Applicable to all units. Indicates whether the Antenna Gain parameter is changeable of fixed.	Integer supported (1) notSupported (2)

E.2.2 Unit Control Parameters

MIB Parameter	Description	Value/Range
*UnitControl (breezeAccessVLMib 2)		
*ResetUnit (*UnitControl 1)	Applicable to all units. Resets the unit and applies new parameter values.	Integer cancel (1) resetSystemNow (2)
*SetDefaults (*UnitControl 2)	Applicable to all units. Sets unit configuration to Defaults values after the next reset. completeFactory: All parameters revert to Factory Defaults values partialFactory: All parameters revert to Factory Defaults values, except the parameters required for maintaining wireless connectivity. completeOperator: All parameters revert to Operator Defaults values partialOperator: All parameters revert to Operator Defaults values, except the parameters required for maintaining wireless connectivity.	Integer NoDefaultSettingRequested (0), completeFactory (1) partialFactory (2) completeOperator (3) partialOperator (4) cancelCurrentPendingRequest (5)
*UnitName (*UnitControl 3)	Applicable to all units. The unit name.	DisplayString (SIZE(32)) A string of up to 32 printable ASCII characters.
*FlashMemoryControl (*UnitControl 4)	Applicable to all units. Reset And Boot From Shadow Version: Activates the shadow version. Use Running Version After Reset: The currently active version will become the main version and will be activated after next reset.	Integer resetAndBootFrom ShadowVersion (1) useRunningVersion AfterReset (2) cancel (3)
*TelnetLogoutTimer (*UnitControl 5)	Applicable to all units. Time-out of management via Telnet. Automatic exit if the program is inactive for the defined time.	Integer 1-999 (minutes)
*SaveCurrentConfigurationAs OperatorDefaults (*UnitControl 6)	Applicable to all units. Saves the current configuration as Operator Defaults.	Integer saveAsDefaults (1) cancel (2)
*ExitTelnet (*UnitControl 7)	Applicable to all units. Exit the Telnet Monitor session.	Integer cancelOperation (1) exit (2)
*UnitPasswords	Applicable to all units. Unit	

MIB Parameter	Description	Value/Range
(*UnitControl 8)	passwords.	
*ReadOnlyPassword (*UnitPasswords 1)	Applicable to all units. The User (read only) password.	DisplayString (SIZE(8)). Up to 8 printable ASCII characters.
*InstallerPassword (*UnitPasswords 2)	Applicable to all units. The Installer password.	DisplayString (SIZE(8)). Up to 8 printable ASCII characters.
*AdminPassword (*UnitPasswords 3)	Applicable to all units. The Administrator password. This is also the SNMP Write Community String.	DisplayString (SIZE(8)). Up to 8 printable ASCII characters.
*EthernetNegotiationMode (*UnitControl 9)	Applicable to all units. Ethernet port mode of operation.	Integer force10MbpsAnd HalfDuplex (1) force10MbpsAnd FullDuplex (2) force100MbpsAnd HalfDuplex (3) force100MbpsAnd FullDuplex (4) autoNegotiationMode (5)
*FTPParameters (*UnitControl 10)	Applicable to all units. FTP parameters	
*FTPServerParams (*FTPParameters 1)	Applicable to all units. General FTP server parameters.	
*FTPServerUserName (*FTPServerParams 1)	Applicable to all units. The user name to be used for access to the FTP server	DisplayString (SIZE(20)). Up to 18 printable ASCII characters.
*FTPServerPassword (*FTPServerParams 2)	Applicable to all units. The password to be used for access to the FTP server	DisplayString (SIZE(20)). Up to 18 printable ASCII characters.
*FTPClientIpAddress (*FTPParameters 3)	Applicable to all units. The IP address of the FTP stack in the unit. For SW version 4.0 and higher this is read-only, set to the IP Address of the unit.	IP address
*FTPServertIpaddress (*FTPServerParams 4)	Applicable to all units. The IP address of the FTP server	IP address
*FTPClientMask (*FTPParameters 5)	Applicable to all units. The IP MASK of the FTP stack in the unit.	IP address
*FTPGatewayIPAddress (*FTPParameters 6)	Applicable to all units. The FTP Default Gateway IP address.	IP address
*FTPSwDownload (*FTPParameters 2)	Applicable to all units. SW download parameters.	
*FTPSwFileName (*FTPSwDownload 1)	Applicable to all units. The name of the SW file to be downloaded.	DisplayString (SIZE(80)). Up to 20 printable ASCII characters. An empty string is not allowed.
*FtpSwDownloadSourceDir (*FTPSwDownload 2)	Applicable to all units. The source directory of the required file in the FTP server	DisplayString (SIZE(80)). Up to 80 printable ASCII characters. Use “.” To clear field.
*DownloadSwFile (*FTPSwDownload 3)	Applicable to all units. Execution of the SW download operation.	Integer downloadFile (1) cancel (2)
*ConfigurationFileLoading (*FTPParameters 3)	Applicable to all units. Configuration file and Operator Defaults file download/upload parameters.	

MIB Parameter	Description	Value/Range
*ConfigurationFileName (*ConfigurationFileLoading 1)	Applicable to all units. The name of the configuration file to be downloaded/uploaded.	DisplayString (SIZE(80)). Up to 20 printable ASCII characters. An empty string is not allowed.
*OperatorDefaultsFileName (*ConfigurationFileLoading 2)	Applicable to all units. The name of the Operator Defaults file to be downloaded/uploaded.	DisplayString (SIZE(80)). Up to 20 printable ASCII characters. An empty string is not allowed.
*FTPConfigurationFileSourceDir (*ConfigurationFileLoading 3)	Applicable to all units. The source directory of the required file in the FTP server	DisplayString (SIZE(80)). Up to 80 printable ASCII characters. Use "." To clear field.
*ExecuteFTPConfigurationFileLoading (*ConfigurationFileLoading 4)	Applicable to all units. Execution of the file download/upload operation.	Integer executeFTPGetConfiguration File (1) executeFTPPutConfiguration File (2) executeFTPGetOperator Defaults (3) executeFTPPutOperator Defaults (4) cancel (5)
*EventLogFileUploading (*FTPParameters 4)	Applicable to all units. Event Log file upload parameters.	
*EventLogFileName (*EventLogFileUploading 1)	Applicable to all units. The name of the event log file to be uploaded.	DisplayString (SIZE(80)). Up to 20 printable ASCII characters.
*EventLogDestinationDir (*EventLogFileUploading 2)	Applicable to all units. The destination directory for the event logd file in the FTP server	DisplayString (SIZE(80)). Up to 80 printable ASCII characters. Use "." To clear field.
*UploadEventLogFile (*EventLogFileUploading 3)	Applicable to all units. Execution of the event log upload operation	Integer uploadFile (1) cancel (2)
*LoadingStatus (*UnitControl 11)	Applicable to all units. The status of an FTP or TFTP loading process.	Integer inProcess (1) successful (2) failed (3)
*EventLogFileParams (*UnitControl 12)	Event Log parameters	
*EventLogPolicy (*EventLogFileParams 1)	Applicable to all units. The lowest severity of events to be logged.	Integer message (1) warning (2) error (3) fatal(4) logNone(5)
*EraseEventLog (*EventLogFileParams 2)	Applicable to all units. Erase the log file.	Integer eraseEventLog (1) cancel(2)
*SysLocation (*UnitControl 13)	Applicable to all units. The unit location.	DisplayString (SIZE(0..34))
*FeatureUpgrade (*UnitControl 14)	Feature Upgrade parameters	
*FeatureUpgradeManually (*FeatureUpgrade 1)	Applicable to all units. Upgrade unit to support new feature.	DisplayString (SIZE(32..64)) License string: 32 to 64 hexadecimal digits.
*ChangeUnitType (*UnitControl 15)	Applicable RB/BU only. Change the unit type between BU and RB.	Integer bu (1), rb (2), cancel (3)

E.2.3 Network Management Parameters

MIB Parameter	Description	Value/Range
*NwMngParameters (breezeAccessVLMib 3)	Network management parameters.	
*AccessToNwMng (*NwMngParameters 1)	Applicable to all units. The port to be used for remote management.	Integer fromwirelessOnly (1) fromEthernetOnly (2) fromBothWirelessnAndEthernet (3) na (255)
*NwMngFilter (*NwMngParameters 2)	Applicable to all units. Disables or enable IP address based filtering of management messages on one or both ports.	Integer disable (1) activateOnEthernetPort (2) activateOnWirelessPort (3) activateOnBothWirelessAndEthernet (4) na (255)
mngIpFilterTable (*NwMngParameters 3)	Applicable to all units. A table of up to 10 IP addresses of stations that are authorized to access the unit for management purposes. Not accessible.	
mngIpFilterEntry (mngIpFilterTable 1)	Applicable to all units. A Management IP Addresses Table entry. Not accessible.	
*NwMngIpAddress (mngIpFilterEntry 1)	Applicable to all units. An IP address in the Management IP Addresses Table entry.	IP address
*NwMngIpTableIdx (mngIpFilterEntry 2)	Applicable to all units. Read-only. A table index for an entry in the Management IP Addresses Table.	Integer 1-10
*DeleteOneNwIpAddr (*NwMngParameters 4)	Applicable to all units. Deletes a single selected entry from the Management IP Addresses Table.	Integer cancelOperation (0) deleteEntry (1…10) na (255)
*DeleteAllNwIpAddrs (*NwMngParameters 5)	Applicable to all units. Deletes all entries from the Management IP Addresses Table.	Integer deleteAll (1) cancelOperation (2) na (255)
*AccessToNwTrap (*NwMngParameters 6)	Applicable to all units. Enables or disables the sending of SNMP traps.	Integer disable (1) enable (2)
mngTrapTable (*NwMngParameters 7)	Applicable to all units. A table of up to 10 IP addresses of stations to which to send SNMP traps. Not accessible.	
mngTrapEntry (mngTrapTable 1)	Applicable to all units. A Management Trap Table entry. Not accessible.	
*NwMngTrapCommunity (mngTrapEntry 1)	Applicable to all units. The trap community associated with the applicable entry in the Management Trap Table.	DisplayString (SIZE(14)) Up to 14 printable ASCII characters.
*NwMngTrapAddress (mngTrapEntry 2)	Applicable to all units. An IP address in the Management Trap Table.	IP address
*NwMngTrapTableIdx (mngTrapEntry 3)	Applicable to all units. Read only. Index for an entry in the Management Trap Table.	Integer 1-10

MIB Parameter	Description	Value/Range
*DeleteOneTrapAddr (*NwMngParameters 8)	Applicable to all units. Deletes a single selected entry from the Management Trap Table.	Integer cancelOperation (0) deleteEntry (1…10) na (255)
*DeleteAllTrapAddrs (*NwMngParameters 9)	Applicable to all units. Deletes all entries from the Management Trap Table.	Integer deleteAll (1) cancelOperation (2) na (255)
*MngIpRangesTable (*NwMngParameters 10)	Applicable to all units. A table of Management IP Address Ranges. Not accessible.	
*MngIpRangesEntry (*MngIpRangesTable 1)	Applicable to all units. An entry in the table of Management IP Address Ranges. Not accessible.	
*MngIpRangeIdx (*MngIpRangesEntry 1)	Applicable to all units. Index of an entry in the IP Address Ranges Table.	Integer 1-10
*MngIPRangeFlag (*MngIpRangesEntry 2)	Applicable to all units. Defines the method of defining the range: Using Start & End Addresses (rangeDefinedByStartEndAddr), or using Start Address and Mask (rangeDefinedByStartAddrMask	Integer rangeDefinedByStartEndAddr(1), rangeDefinedByStartAddrMask(2)
*MngIpRangeStart (*MngIpRangesEntry 3)	Applicable to all units. Start Address of the range.	IP address
*MngIpRangeEnd (*MngIpRangesEntry 4)	Applicable to all units. End Address of the range. Used only if brzaccVLMngIPRangeFlag is rangeDefinedByStartEndAddr	IP address
*MngIpRangeMask (*MngIpRangesEntry 5)	Applicable to all units. The subnet mask of the range. Used only if brzaccVLMngIPRangeFlag is rangeDefinedByStartAddrMask.	IP address
*DeleteOneNwIpRange (*NwMngParameters 11)	Applicable to all units. Deletes a single selected entry from the Management IP Ranges Table.	Integer cancelOperation (0) deleteEntry (1…10) na (255)
*DeleteAllNwIpRanges (*NwMngParameters 12)	Applicable to all units. Deletes all entries from the Management IP Ranges Table.	Integer deleteAll (1) cancelOperation (2) na (255)
*ApClientIpAddress (*NwMngParameters 13)	Applicable to SU/RB only. The IP address of a WiFi AP connected to the unit.	IP address

E.2.4 IP Parameters

MIB Parameter	Description	Value/Range
*IpParams (breezeAccessVLMib 4)		
*UnitIpAddress (*IpParams 1)	Applicable to all units. IP address of the unit.	IP address
*SubNetMask (*IpParams 2)	Applicable to all units. Subnet mask of the unit.	IP address
*DefaultGWAddress	Applicable to all units. Default	IP address

MIB Parameter	Description	Value/Range
(*IpParams 3)	gateway IP address of the unit.	
*UseDhcp (*IpParams 4)	Applicable to all units. DHCP client mode of operation. disable: Use regular (manual) methods to configure IP parameters. DHCP Only: Use DHCP server to configure IP parameters. automatic: Use DHCP server to configure IP parameters. If a DHCP server is not available, use manually configured values for *UnitIpAdress, *SubnetMask and *DefaultGWAdress.	Integer disable (1) dHCPOnly (2) automatic (3)
*AccessToDHCP (*IpParams 5)	Applicable to all units. The port to be used for communicating with a DHCP server.	Integer fromWirelessOnly (1) fromEthernetOnly (2) fromBothWirelessAndEthernet (3)
*RunTimeIPaddr (*IpParams 6)	Applicable to all units. Read-only: The run-time IP address. If DHCP is used, the run-time IP address is the address given to the unit by the server. Alternatively the static IP address is used.	IP address
*RunTimeSubNetMask (*IpParams 7)	Applicable to all units. Read-only: The run-time subnet mask. If DHCP is used, the run-time subnet mask is the mask given to the unit by the server. Alternatively the static subnet mask value is used.	IP address
*RunTimeDefaultIPGateway (*IpParams 8)	Applicable to all units. Read-only: The run-time Gateway IP address. If DHCP is used, the Run Time Gateway IP Address is the address given to the unit by the server. Alternatively, the static default gateway is used.	IP address

E.2.5 Bridge Parameters

MIB Parameter	Description	Value/Range
*BridgeParameters (breezeAccessVLMib 5)	Bridge parameters.	
*VLANSupport (*BridgeParameters 1)	Applicable to all units. VLAN support parameters. Applicable to Access Link only.	
*VlanID (*VLANSupport 1)	Applicable to SU/RB only. VLAN ID for data frame tagging.	Integer 1-4094. 0 –na (no VLAN ID)
*EthernetLinkType (*VLANSupport 2)	Applicable to all units. VLAN support mode (Link Type). The accessLink option is not available for AU/BU. serviceProviderLink is not applicable for BU/RB.	Integer accessLink (1) trunkLink (2) hybridLink (3) serviceProviderLink (4)

MIB Parameter	Description	Value/Range
*ManagementVID (*VLANSupport 3)	Applicable to all units. VLAN ID for management frame tagging.	Integer 1-4094 65535 - no VLAN tagging.
*VLANForwarding (*VLANSupport 4)	VLAN forwarding feature parameters.	
*VlanForwardingSupport (*VLANForwarding 1)	Applicable to all units. Enables or disables the VLAN forwarding feature. Applicable to Trunk and Service Provider links only.	Integer disable (1) enable (2) na (255)
*VlanForwardingTable (*VLANForwarding 2)	Applicable to all units. A table of up to 20 VLAN IDs of devices to which data frames are forwarded when the VLAN Forwarding feature is Enabled. Applicable to Trunk and Service Provider links only. Not accessible.	
*VlanForwardingEntry (*VlanForwardingTable 1)	Applicable to all units. A VLAN Forwarding Table entry. Applicable to Trunk and Service Provider links only. Not accessible.	
*VlanForwardingTableIdx (*VlanForwardingEntry 1)	Applicable to all units. A read only table index for a VLAN entry in the VLAN Forwarding Table.	Integer 1-20
*VlanIdForwarding (*VlanForwardingEntry 2)	Applicable to all units. The list of VLAN ID's in the VLAN ID Forwarding Table. To remove a VLAN ID - SET the corresponding entry to 0. To add a new VLAN ID SET an entry which is now 0.	Integer 1-4094 0-remove entry.
*VLANRelaying (*VLANSupport 5)	VLAN Relaying feature parameters. Not applicable to BreezeNET B products.	
*VlanRelayingSupport (*VLANRelaying 1)	Applicable to AU only. Not applicable to BreezeNET B products. Enables or disables the VLAN Relaying feature. Applicable to Trunk and Service Provider links only.	Integer disable (1) enable (2) na (255)
*VlanRelayingTable (*VLANRelaying 2)	Applicable to AU only. Not applicable to BreezeNET B products. A table of up to 20 VLAN IDs of devices to which data frames are relayed when the VLAN Relaying feature is Enabled. Applicable to Trunk and Service Provider links only. Not accessible.	
*VlanRelayingEntry (*VlanRelayingTable 1)	Applicable to AU only. Not applicable to BreezeNET B products. A VLAN Relaying Table entry. Applicable to Trunk and Service Provider links only. Not accessible.	
*VlanRelayingTableIdx (*VlanRelayingEntry) 1	Applicable to AU only. Not applicable to BreezeNET B products. A read only table index for a VLAN entry in the VLAN Relaying Table.	Integer 1-20
*VlanIdRelaying (*VlanRelayingEntry 2)	Applicable to AU only. Not applicable to BreezeNET B products. The list of VLAN ID's in the VLAN ID Relaying Table. To remove a VLAN ID - SET the corresponding entry to 0. To add a new VLAN ID SET an entry which is now 0.	Integer 1-4094 0-remove entry.
*VLANTrafficPriority (*VLANSupport 6)	VLAN traffic priority parameters.	
*VlanDataPriority	Applicable to SU/RB only.	Integer

MIB Parameter	Description	Value/Range
(*VLANTrafficPriority 1)	Priority tagging for data frames. Applicable to Access Link only.	0 – 7 255-na
*VlanManagementPriority (*VLANTrafficPriority 3)	Applicable to all units. Priority tagging for management frames. Applicable to Access Link and Trunk Link only.	Integer 0 – 7 255-na
*VlanPriorityThreshold (*VLANTrafficPriority 4)	Applicable to all units. Not applicable to units with SW version 3.1 and higher where this parameter is replaced by Priority threshold for tagged frames received from Ethernet port. Applicable to Hybrid Link and Trunk Link only.	Integer 0 – 7 255-na
*VLANQinQ *VLANSupport 7	QinQ (Service Provider Link) parameters. Not applicable to BreezeNET-B units.	
*QinQEthertype (*VLANQinQ 1)	Applicable to AU and SU. The Ethernet type of the Service Provider tag	Integer 33024 (0x8100) – 36864 (0x9000), 37120 (0x9100), 37376 (0x9200)
*QinQProviderVlanID (*VLANQinQ 2)	Applicable to SU only. VLAN ID of the Service Provider tag.	Integer 1-4094
*BridgeAgingTime (*BridgeParameters 2)	Applicable to all units. Bridge aging time for devices learned from both the Ethernet and wireless link ports.	Integer 20 – 2000 (seconds)
*BroadcastRelaying (*BridgeParameters 4)	Applicable to AU only. Not applicable to BreezeNET B products. Enables or disables the relaying of broadcast messages to the wireless link.	Integer disable (1) enable (2) na (255)
*UnicastRelaying (*BridgeParameters 5)	Applicable to AU only. Not applicable to BreezeNET B products. Enables or disables the relaying of unicast messages to the wireless link.	Integer disable (1) enable (2) na (255)
*EthBroadcastFiltering (*BridgeParameters 6)	Applicable to SU/RB only. Enables or disables the filtering of Ethernet (layer2) broadcasts. disable: No filtering. onEthrnetOnly: Filters broadcasts received on the Ethernet port only. onWirelessOnly: Filters broadcasts received on the wireless port only. onBothWirelessAndEthernet: Filters broadcasts received on both ports.	Integer disable (1) onEthernetOnly (2) onwirelessOnly (3) onBothWirelessAndEthernet (4) na (255)
*EthBroadcastingParameters (*BridgeParameters 7)		
*DHCPBroadcastOverrideFilter (*EthBroadcastingParameters 1)	Applicable to SU/RB only. Enables or disables the broadcasting of DHCP messages, overriding the general *EthBroadcastFiltering Ethernet broadcast filtering option.	Integer disable (1) enable (2) na (255)
*PPPoEBroadcastOverrideFilter (*EthBroadcastingParameters 2)	Applicable to SU/RB only. Enables or disables the broadcasting of PPPoE messages, overriding the general *EthBroadcastFiltering Ethernet broadcast filtering option.	Integer disable (1) enable (2) na (255)
*ARPBroadcastOverrideFilter (*EthBroadcastingParameters 3)	Applicable to SU/RB only. Enables or disables the broadcasting of ARP messages, overriding the general *EthBroadcastFiltering Ethernet broadcast filtering option.	Integer disable (1) enable (2) na (255)
*EthBroadcastMulticastLimiterOption (*EthBroadcastingParameters 4)	Applicable to all units. Enable/disable the limiter for multicast and broadcast	Integer disable (1)

MIB Parameter	Description	Value/Range
	packets.	limitOnlyBroadcasts(2) limitMulticastsExceptBroadcasts(3) limitAllMulticasts(4)
*EthBroadcastMulticastLimiterThreshold (*EthBroadcastingParameters 5)	Applicable to all units. The limit for the allowed number of multicast and broadcast packets when the Ethernet Broadcast/Multicast Limiter Option is enabled	Integer 0 - 204800
*EthBroadcastMulticastLimiterSendTrapInterval (*EthBroadcastingParameters 5)	Applicable to all units. The minimum time in minutes between two successive traps that are sent, indicating the number of packets that were dropped by the Ethernet Broadcast/Multicast Limiter since the last trap was sent.	Integer 1-60
*ToSPriorityParameters (*BridgeParameters 8)		
*ToSPrecedenceThreshold (*ToSPriorityParameters 1)	Applicable to all units. Not applicable to units with SW version 3.1 and higher. Priority threshold (based on the ToS) for frames received from Ethernet port.	Integer 0-7
*RoamingOption (*BridgeParameters 9)	Applicable to SU/RB only.Disable/enable the roaming feature. When enabled, the SU will start scanning for an AU/RB after one second of not receiving beacons from current AU/BU. Once it found a new AU/BU, it will also send through the wireless network a roaming SNAP on behalf of its clients informing other devices in the network of their new location. When disabled, it will wait for seven seconds before starting scanning, and it will not send roaming SNAPs.	Integer disable (1) enable (2) na (255)
*MacAddressDenyList (*BridgeParameters 10)	MAC Address Deny List parameters	
*MacAddressDenyListTable (*MacAddressDenyList 1)	Applicable to AU only. Not applicable to BreezeNET B units. A list of up to 100 MAC Addresses. If brzaccVLMacAddressDenyListAction is set to denyList, these are SUs that are not allowed to transfer data to the AU. If brzaccVLMacAddressDenyListAction is set to allowList, only these SUs are allowed to transfer data to the AU. Not accessible.	
*MacAddressDenyListEntry (*MacAddressDenyListTable 1)	Applicable to AU only. Not applicable to BreezeNET B units. An entry in the Mac Address Deny List Table. Not accessible.	
*MacAddressDenyListTableIdx (*MacAddressDenyListEntry 1)	Applicable to AU only. Not applicable to BreezeNET B units. A read only table index for a MAC Address entry in the Mac Address Deny List Table.	Integer Range: 1 to 100
*MacAddressDenyListId (*MacAddressDenyListEntry 2)	Applicable to AU only. Not applicable to BreezeNET B units. The list of MAC Addresses in the MAC Address Deny List Table. To Remove a MAC Address - SET the corresponding entry to 0. To Add a new MAC Address - SET an entry which is currently 0.	MAC Address
*MacAddressDenyListAdd	Applicable to AU only. Not applicable to	MAC Address

MIB Parameter	Description	Value/Range
(*MacAddressDenyList 2)	BreezeNET B units. Add a MAC address to the MAC Address Deny List Table	
*MacAddressDenyListRemove (*MacAddressDenyList 3)	Applicable to AU only. Not applicable to BreezeNET B units. Remove a MAC address from the MAC Address Deny List Table	MAC Address
*NumberOfMacAddressesInDenyList (*MacAddressDenyList 4)	Applicable to AU only. Not applicable to BreezeNET B units. Read only. The number of MAC addresses in the MAC Address Deny List Table.	Integer Range: 0 to 100 Na (255)
*MacAddressDenyListAction (*MacAddressDenyList 5)	Applicable to AU only. Not applicable to BreezeNET Bunits. Defines the action to be used by the Mac Address Deny List.	Integer denyList (1), allowedList (2), na (255)
*PortsControl (*BridgeParameters 11)	Ports Control parameters. Applicable to SU/RB only.	
*EthernetPortControl (*PortsControl 1)	Applicable to SU/RB only. Enable/disable the Ethernet port. When disabled, only data frames are blocked. Management frames are accepted.	Integer disable (1), enable (2), na (255)

E.2.6 Air Interface Parameters

MIB Parameter	Description	Value/Range
*AirInterface (breezeAccessVLMib 6)	Applicable to all units. Air Interface parameters.	
*ESSIDParameters (*AirInterface 1)	Applicable to all units. ESSID Parameters.	
*ESSID (*ESSIDParameters 1)	Applicable to all units. The Extended Service Set ID (ESSID) used to prevent the merging of collocated systems. The ESSID is accessible only with the write community string (administrator password).	DisplayString (SIZE(31)) Up to 31 printable case sensitive ASCII characters.
*OperatorESSIDOption (*ESSIDParameters 2)	Applicable to AU/BU only. Enabling/disabling the use of the Operator ESSID	Integer disable (1) enable (2) na (255)
*OperatorESSID (*ESSIDParameters 3)	Applicable to AU/BU only. A secondary ESSID to support easy installation of SUs as well as the use of the Best AU/BU feature. Accessible only with SNMP Write Community string (administrator password).	DisplayString (SIZE(31)) Up to 31 printable case sensitive ASCII characters.
*RunTimeESSID (*ESSIDParameters 1)	Applicable to SU/RB only. The ESSID of the associated AU/BU. Accessible only with SNMP Write Community string (administrator password).	DisplayString (SIZE(31)) Up to 31 printable case sensitive ASCII characters.
*MaximumCellDistance (*AirInterface 2)	Applicable to all units. For AU/BU: read-write. For SU/RB: read-only. The distance is learned from the AU/BU. In units with SW version 2.0 and up - applicable only when the Cell Distance Mode is set to Manual.	Integer Range: For units with SW version bellow version 2.0 the range is 0 - 50000 Meters. For units with SW version

MIB Parameter	Description	Value/Range
	The highest distance from the AU/BU of any SU/RB served by it. Affects the maximum time the units wait for a response message and the slot size by taking into account the round trip propagation delay.	2.0 and up the range is 0 to 54 Kilometers. 0 means no compensation (minimum slot size, maximal delay timeout).
*AIFS (*AirInterface 3)	Applicable to AU and SU. Not applicable to BreezeNET B products. Arbitration Inter-Frame Spacing (AIFS). This is the number of time slots that define the DIFS. (DIFS=SIFS+AIFS). A value of 1 should be used only in point-to-point applications to allow one unit to have advantage over the other unit.	Integer oneSlot (1) twoSlots (2) na (255)
*WirelessTrapThreshold (*AirInterface 4)	Applicable to AU/BU only. A wireless link quality threshold, expressed in % of retransmissions, for sending the brzaccVLAUWirelessQualityTRAP. This trap indicate whether the quality has gone below or above the specified threshold	Integer 1-100 (%)
*TransmitPowerTable (*AirInterface 5)	Applicable to all units. Not accessible. Transmit Power parameters table.	
*TransmitPowerEntry (*TransmitPowerTable 1)	Applicable to all units. Not accessible. An entry in the Transmit Power parameters table.	
*TransmitPowerIdx (*TransmitPowerEntry 1)	Applicable to all units. Read-only. An index of an entry in the Transmit Power parameters table.	Integer 1-4
*ApplicableModulationLevel (*TransmitPowerEntry 2)	Applicable to all units. Read-only. The applicable modulation level for an entry in the Transmit Power parameters table. Level 8 is not applicable to units with HW revision A.	Level1to5 (1) Level6 (2) Level7 (3) Level8 (4)
*MaximumTxPowerRange (*TransmitPowerEntry 3)	Applicable to all units. Read-only. The allowed range for the *TxPower parameter at the applicable modulation level.	DisplayString Range: -10 to the maximum allowed for the applicable modulation level.
*TxPower (*TransmitPowerEntry 4)	Applicable to all units. Read-only for units with SW version 4.0 and higher. AU/BU: The transmit power defined for the applicable modulation level. SU/RB: If ATPC is disabled, this is The transmit power defined for the applicable modulation level. If ATPC is enabled, it serves as the initial transmit power for the ATPC algorithm.	DisplayString Range: In SU/RB: The range is -10 dBm to the power value defined by *MaximumTxPower for the applicable modulation level. In AU/BU: The range is -10 dBm to the power value defined by *MaximumTxPowerRange for the applicable modulation level
*CurrentTxPower (*TransmitPowerEntry 5)	Applicable to SU/RB. Read-only. The actual transmit power in dBm at the applicable modulation level.	DisplayString Range: -17 to the maximum value defined by

MIB Parameter	Description	Value/Range
		*MaximumTxPowerRange for the applicable modulation level.
*MaximumTransmitPowerTable (*AirInterface 6)	Applicable to SU /RB. Not accessible. Maximum Transmit Power parameters table.	
*MaximumTransmitPowerEntry (*TransmitPowerTable 1)	Applicable to SU/RB. Not accessible. An entry in the Maximum Transmit Power parameters table.	
*MaximumTransmitPowerIdx (*MaximumTransmitPowerEntry 1)	Applicable to SU/RB. Read-only. An index of an entry in the Maximum Transmit Power parameters table.	Integer 1-4
*MaxTxApplicableModulationLevel (*MaximumTransmitPowerEntry 2)	Applicable to SU/RB. Read-only. The applicable modulation level for an entry in the Maximum Transmit Power parameters table. Level 8 is not applicable to units with HW revision A.	Level1to5 (1) Level6 (2) Level7 (3) Level8 (4)
*DefinedMaximumTxPowerRange (*MaximumTransmitPowerEntry 3)	Applicable to SU/RB. Read-only. The allowed range for the *MaxTxPower parameter at the applicable modulation level.	DisplayString Range: -10 to the maximum allowed for the applicable modulation level.
*MaxTxPower (*MaximumTransmitPowerEntry 4)	Applicable to SU/RB. Read-only for units with SW version 4.0 and higher. The maximum transmit power level that can be either configured for the *TxPower parameter or reached by the ATPC algorithm.	DisplayString Range: -10 to the maximum defined by the *DefinedMaximumTxPowerRange for the applicable modulation level.
*MaxNumOfAssociations (*AirInterface 10)	Applicable to AU. Not applicable to BreezeNET B products. The upper limit for the number of Subscriber Units that can be associated with the AU.	Integer AU-BS, AU-SA: 0-512 (0-124 if Data Encryption Option is enabled). AUS-BS, AUS-SA with SW version 4.0 and higher: 0-8. AUS-BS, AUS-SA with SW version below 4.0: 0-5. na (65535)
*BestAu (*AirInterface 11)	Best AU/BU parameters. Applicable to SU/RB.	
*BestAuSupport (*BestAu 1)	Applicable to SU/RB. Disable/enable the Best AU/BU selection mechanism	Integer disable (1) enable (2) na (255)
*BestAuNoOfScanningAttempts (*BestAu 2)	Applicable to SU/RB. The number of scanning attempts to collect information for the Best AU/BU decision	Integer 1-255
*PreferredAuMacAddress (*BestAu 3)	Applicable to SU only. The MAC address of the preferred AU/BU (overriding the Best AU/BU selection process).	Mac Address 000000000000 means no preferred AU
*NeighborAuTable (*BestAu 4)	Applicable to SU/RB. Not accessible. Neighboring AUs/BUs table.	
*NeighborAuEntry (*NeighborAuTable 1)	Applicable to SU only. Not accessible. An entry in the Neighboring AUs table.	
*NeighborAuIdx	Applicable to SU/RB. Read-only. An	Integer

MIB Parameter	Description	Value/Range
(*NeighborAuEntry 1)	Index of an entry in the Neighboring AU/BU Table	Range: 1…20
*NeighborAuMacAdd (*NeighborAuEntry 2)	Applicable to SU/RB. Read-only. The MAC Address of the AU/BU associated with the entry in the Neighboring AU/BU Table	MAC Address
*NeighborAuESSID (*NeighborAuEntry 3)	Applicable to SU/RB. Read-only. The ESSID of the AU/BU associated with the entry in the Neighboring AU/BU Table. Accessible only with the SNMP Write community string (Administrator Password).	DisplayString
*NeighborAuSNR (*NeighborAuEntry 4)	Applicable to SU/RB. Read-only. The average SNR at which the SU/RB receives the AU/BU associated with the entry in the Neighboring AU/BU Table.	Integer Na (255)
*NeighborAuAssocLoadStatus (*NeighborAuEntry 5)	Applicable to SU/RB. Read-only. The load status of the AU/BU associated with the entry in the Neighboring AU/BU Table. Full means that it has reached its maximum permitted load, meaning in AU that the number of associated SUs is the Maximum Number Of Associations (for AU) or in BU that it is already associated with an RB.	Integer full (1) notFull (2) na (255)
*NeighborAuMark (*NeighborAuEntry 6)	Applicable to SU/RB. Read-only. The overall mark given by the Best AU/BU algorithm to the AU/BU associated with the entry in the Neighboring AU/BU Table.	Integer
*NeighborAuHwRevision (*NeighborAuEntry 7)	Applicable to SU/RB. Read-only. The HW revision of the AU/BU associated with the entry in the Neighboring AU/BU Table.	Integer HwRevisionA (1), HwRevisionB (2), HwRevisionC (3), na (255)
*NeighborAuCountryCode (*NeighborAuEntry 8)	Applicable to SU/RB. Read-only. The Country Code of the AU/BU associated with the entry in the Neighboring AU/BU Table.	Integer
*NeighborAuSwVer (*NeighborAuEntry 9)	Applicable to SU/RB. Read-only. The SW Version of the AU/BU associated with the entry in the Neighboring AU/BU Table.	DisplayString
*NeighborAuAtpcOption (*NeighborAuEntry 10)	Applicable to SU/RB. Read-only. The current ATPC Option of the AU/BU associated with the entry in the Neighboring AU/BU Table.	Integer disable (1), enable (2), na (255)
*NeighborAuAdapModOption (*NeighborAuEntry 11)	Applicable to SU/RB. Read-only. The current Adaptive Modulation Option of the AU/BU associated with the entry in the Neighboring AU/BU Table.	Integer disable (1), enable (2), na (255)
*NeighborAuBurstModeOption (*NeighborAuEntry 12)	Applicable to SU/RB. Read-only. The current Burst Mode Option of the AU/BU associated with the entry in the Neighboring AU/BU Table.	Integer disable (1), enable (2), na (255)
*NeighborAuDfsOption (*NeighborAuEntry 14)	Applicable to SU/RB. Read-only. The current DFS Option of the	Integer disable (1),

MIB Parameter	Description	Value/Range
	AU/BU associated with the entry in the Neighboring AU/BU Table.	enable (2), na (255)
*NeighborAuConcatenationOption (*NeighborAuEntry 15)	Applicable to SU/RB. Read-only. The current Concatenation Option of the AU/BU associated with the entry in the Neighboring AU/BU Table.	Integer disable (1), enable (2), na (255)
*NeighborAuLearnCountryCodeBySU (*NeighborAuEntry 17)	Applicable to SU. Not applicable for BreezeNET Band BreezeACCESS products. Read-only. The current Country Code Learning by SU option of the AU associated with the entry in the Neighboring AU Table.	Integer disable (1), enable (2), na (255)
*NeighborAuSecurityMode (*NeighborAuEntry 18)	Applicable to SU/RB. Read-only. The current Security Mode of the AU/BU associated with the entry in the Neighboring AU/BU Table.	Integer wep (1), aesOCB (2), fips197 (3), na (255)
*NeighborAuAuthOption (*NeighborAuEntry 19)	Applicable to SU/RB. Read-only. The current Authentication algorithm of the AU/BU associated with the entry in the Neighboring AU/BU Table.	Integer openSysteme (1), sharedKey (2), na (255)
*NeighborAuDataEncyptOption (*NeighborAuEntry 20)	Applicable to SU/RB. Read-only. The current Data Encryption option of the AU/BU associated with the entry in the Neighboring AU/BU Table.	Integer disable (1), enable (2), na (255)
*NeighborAuPerSuDistanceLearning (*NeighborAuEntry 21)	Applicable to SU. Read-only. The current Per SU Distance Learning option of the AU associated with the entry in the Neighboring AU Table.	Integer disable (1), enable (2), na (255)
*FrequencyDefinition (*AirInterface 12)	Frequency Definition parameters	
*SubBandLowerFrequency (*FrequencyDefinition 1)	Applicable to SU/RB. Not applicable to units with SW version 2.0 or higher. The lowest frequency in the subset to be used for scanning. For 5.8 GHz products the range is 5740 to 5830 MHz using a 10 MHz resolution. For 4.9GHz products the range is 4920 to 5080 MHz using a 10 MHz resolution. For HW Revision C and above this leaf is not relevant - shall return 0.	Integer
*SubBandUpperFrequency (*FrequencyDefinition 2)	Applicable to SU/RB. Not applicable to units with SW version 2.0 or higher. The lowest frequency in the subset to be used for scanning. For 5.8 GHz products the range is 5740 to 5830 MHz using a 10 MHz resolution. For 4.9G Hz products the range is 4920 to 5080 MHz using a 10 MHz resolution. For HW Revision C and above this leaf is not relevant - shall return 0.	Integer
*ScanningStep (*FrequencyDefinition 3)	Applicable to all units - For flexible Sub-Bands only. For units with version 2.0 and above this is a	Integer mhz-5 (1), mhz-10 (2),

MIB Parameter	Description	Value/Range
	read-only parameter. The scanning step to be used for generating the frequency subset.	mhz-20 (3) na (255)
*FrequencySubsetTable (*FrequencyDefinition 4)	Applicable to all units. Not applicable to SU/RB with SW version 4.0 and higher. Not accessible. The Frequency Subset table that includes all frequencies from the selected Sub-band.	
*FrequencySubsetEntry (FrequencySubsetTable 1)	Applicable to all units. Not applicable to SU/RB with SW version 4.0 and higher. Not accessible. An entry in the Frequency Subset table.	
*FrequencySubsetTableIdx (*FrequencySubsetEntry 1)	Applicable to all units. Not applicable to SU/RB with SW version 4.0 and higher. Read-only. The index of an entry in the Frequency Subset table.	Integer
*FrequencySubsetFrequency (*FrequencySubsetEntry 2)	Applicable to all units with HW revision B and lower (for units with HW revision C and higher replaced by *FrequencySubsetFrequencyNew to support a resolution of 0.5 MHz). Not applicable to SU/RB with SW version 4.0 and higher. Read-only. The frequency in MHz of an entry in the Frequency Subset table.	Integer
*FrequencySubsetActive (*FrequencySubsetEntry 3)	Applicable to all units. Not applicable to SU/RB with SW version 4.0 and higher. The status of an entry in the Frequency subset Table. Only frequencies of active entries will be included in the final list of frequencies to be used for scanning.	Integer active (1) notActive (2)
*FrequencySubsetFrequencyNew (*FrequencySubsetEntry 4)	Applicable to all units. Not applicable to SU/RB with SW version 4.0 and higher. Read-only. The frequency in MHz of an entry in the Frequency Subset table. (Replaces *FrequencySubsetFrequency to support a resolution of 0.5 MHz for units with HW revision C and higher).	DisplayString
*SetSelectedFreqsSubset (*FrequencyDefinition 5)	Applicable to all units. Not applicable to SU/RB with SW version 4.0 and higher. Apply the selected subset. After the next reset the new subset will be used for scanning.	Integer SetSelectedFreqsSubset (1) cancel (2)
*CurrentFrequencySubsetTable (*FrequencyDefinition 6)	Applicable to all units. Not applicable to SU/RB with SW version 4.0 and higher. Not accessible. The Current Frequency Subset table that for SU/RB includes all frequencies that are currently used for scanning. In AU/BU it includes all frequencies that can be used by the DFS mechanism (if applicable).	
*CurrentFrequencySubsetEntry (CurrentFrequencySubsetTable 1)	Applicable to all units. Not applicable to SU/RB with SW version 4.0 and higher. Not accessible. An entry in the Current Frequency Subset table.	

MIB Parameter	Description	Value/Range
*CurrentFrequencySubsetTableIdx (*CurrentFrequencySubsetEntry 1)	Applicable to all units. Not applicable to SU/RB with SW version 4.0 and higher. Read-only. The index of an entry in the Current Frequency Subset table.	Integer
*CurrentFrequencySubset Frequency (*FrequencySubsetEntry 2)	Applicable to all units with HW revision B and lower (for units with HW revision C and higher replaced by *CurrentFrequencySubsetFrequency New to support a resolution of 0.5 MHz). Not applicable to SU/RB with SW version 4.0 and higher. Read-only. The frequency in MHz of an entry in the Current Frequency Subset table.	Integer
*CurrentFrequencySubset FrequencyNew (*FrequencySubsetEntry 3)	Applicable to all units. Not applicable to SU/RB with SW version 4.0 and higher. Read-only. The frequency in MHz of an entry in the Current Frequency Subset table. (Replaces *CurrentFrequencySubsetFrequency to support a resolution of 0.5 MHz for units with HW revision C and higher).	DisplayString
*CurrentAUOperatingFrequency (*FrequencyDefinition 7)	Applicable to AU/BU with HW revision B and lower (for units with HW revision C and higher replaced by *CurrentUOperatingFrequencyNew to support a resolution of 0.5 MHz). Read-only. The operating frequency in MHz.	Integer For 5.8 GHz products with SW version below 2.0 the range is 5740 to 5830 MHz using a 10 MHz resolution. For units with SW version 2.0 and up the range is as defined in the selected Sub-Band.
*AUDefinedFrequency (*FrequencyDefinition 8)	Applicable to AU/BU with HW revision B and lower (for units with HW revision C and higher replaced by *DefinedAUOperatingFrequencyNew to support a resolution of 0.5 MHz). Read-only. For 5.8 GHz products with SW version below 2.0 this is the frequency in MHz of the AU/BU after the next reset. For units with SW version 2.0 and up this is the frequency in MHz to use when the DFS Option is disabled.	Integer For 5.8 GHz products with SW version below 2.0 the range is 5740 to 5830 MHz using a 10M Hz resolution. For units with SW version 2.0 and up the range is as defined in the selected Sub-Band.
*CurrentSUOperatingFrequency (*FrequencyDefinition 9)	Applicable to SU/RB. Read only. The current operating frequency in MHz.	DisplayString For 5.8 GHz products with SW version below 2.0 the range is 5740 to 5830 MHz using a 10 MHz resolution. For units with SW version 2.0 and up the range is as defined in the selected Sub-Band.
*SubBandSelect (*FrequencyDefinition 10)	Sub-Band Selection parameters	
*SelectSubBandIndex (*SubBandSelect 1)	Applicable to all units. Read only for SU/RB with SW version 4.0 and	Integer

MIB Parameter	Description	Value/Range
	higher. The ID of the sub-band used by the unit.	
*DFSParameters (*FrequencyDefinition 11)	DFS Parameters. Applicable to AU/BU.	
*DFSOption (*DFSParameters 1)	Applicable to AU/BU. Enabling/disabling the DFS Algorithm. Not applicable if DFS Option is not supported by the current Sub-Band.	Integer disable (1) enable (2) na (255)
*DFSChannelCheckTime (*DFSParameters 3)	Applicable to AU/BU. Defines the time the unit checks the channel for presence of radar signals and does not transmit after power up or association or after moving to a new channel due to detecting radar in the previously used channel.	Integer Range: 1 to 3600 (seconds).
*DFSChannelAvoidancePeriod (*DFSParameters 4)	Applicable to AU/BU. Defines the time after detecting radar signals in a channel of avoiding using the channel or adjacent channels in accordance with the bandwidth.	Integer Range: 1 to 60 (minutes).
*DFSSuWaitingOption (*DFSParameters 5)	Applicable to AU/BU. Defines whether the associated SUs may should wait for this AU/BU after it stopped transmitting due to radar detection, before they starts scanning for other AUs/BUs.	Integer disable (1) enable (2) na (255)
*DFSClearRadarChannels (*DFSParameters 6)	Applicable to AU/BU. Clear Radar Detected and Adjacent to Radar channels after unit reset. Returns the unit to operate in default frequency	Integer cancel (1) clearRadarChannels (2) na (255)
*DFSRadarDetectionChannelsTable (*DFSParameters 7)	Applicable to AU/BU. Applicable only when DFS option is on. Displays the current channels defined in the sub-band and their radar detection status.	
*DFSRadarDetectionChannelsEntry (*DFSRadarDetectionChannelsTable 1)	Applicable to AU/BU. An entry in the DFS Radar Detection Channels Table.	
*DFSChannelIdx (*DFSRadarDetectionChannelsEntry 1)	Applicable to AU/BU. Read-only. The index of the entry in the DFS Radar Detection Channels Table.	Integer
*DFSChannelFrequency (*DFSRadarDetectionChannelsEntry 2)	Applicable to AU/BU with HW revision B and lower (for units with HW revision C and higher replaced by * DFSChannelFrequency New to support a resolution of 0.5 MHz). Read-only. The frequency in MHz of a channel in the DFS Radar Detection Channels Table.	Integer
*DFSChannelRadarStatus (*DFSRadarDetectionChannelsEntry 3)	Applicable to AU/BU. The radar detection status of a channel in the DFS Radar Detection Channels Table.	Integer radarFree (1) adjacentToRadar (2) radarDetected (3)
*DFSChannelFrequencyNew (*DFSRadarDetectionChannelsEntry 4)	Applicable to AU/BU. Read-only. The frequency of a channel in the DFS Radar Detection Channels	DisplayString

MIB Parameter	Description	Value/Range
	Table. (Replaces *DFSChannelFrequency to support a resolution of 0.5 MHz for units with HW revision C and higher).	
*DFSMinimumPulsesToDetect (*DFSParameters 8)	Applicable to AU/BU. Defines the minimum number of pulses to detect radar.	Integer 1 - 100
*DFSChannelReuseParameters (*DFSParameters 9)	Channel Reuse Parameters	
*DFSChannelReuseOption (*DFSChannelReuseParameters 1)	Applicable to AU/BU. Enabling/disabling the DFS Channel Reuse Algorithm.	Integer disable (1) enable (2) na (255)
*DFSRadarActivityAssessmentPeriod (*DFSChannelReuseParameters 2)	Applicable to AU/BU. The period in hours for assessment of radar activity when the Channel reuse algorithm is enabled.	Integer 1 – 12 hours.
*DFSMaximumNumberOfDetectionsInAssessmentPeriod (*DFSChannelReuseParameters 3)	Applicable to AU/BU. The maximum number of radar detection in the original channel during the Radar Activity Assessment Period that is required for reaching a decision to try again the original channel.	Integer 1 – 10 detections.
*CountryCodeLearningBySU (*FrequencyDefinition 12)	Applicable to AU only. Starting with 4.0 it is nor applicable for BreezeACCESS and BreezeNET B. Defines whether the SU should learn the country code of the AU.	Integer disable (1) enable (2) na (255)
*CurrentAUOperatingFrequencyNew (*FrequencyDefinition 13)	Applicable to AU/BU. Read-only. The operating frequency in MHz. (Replaces *CurrentAUOperatingFrequency to support a resolution of 0.5 MHz for units with HW revision C and higher).	DisplayString For 5.8 GHz products with SW version below 2.0 the range is 5740 to 5830 MHz using a 10 MHz resolution. For units with SW version 2.0 and up the range is as defined in the selected Sub-Band.
*AUDefinedFrequencyNew (*FrequencyDefinition 14)	Applicable to AU/BU. Read-only. For 5.8 GHz products with SW version below 2.0 this is the frequency in MHz of the AU/BU after the next reset. For units with SW version 2.0 and up this is the frequency in MHz to use when the DFS Option is disabled. (Replaces *AUDefinedFrequency to support a resolution of 0.5 MHz for units with HW revision C and higher).	DisplayString For 5.8 GHz products with SW version below 2.0 the range is 5740 to 5830 MHz using a 10 MHz resolution. For units with SW version 2.0 and up the range is as defined in the selected Sub-Band.
*AutoSubBandSelect (*FrequencyDefinition 15)	Auto Sub Band Select parameters. Applicable to SU/RB with SW version 4.0 and higher.	
*AutoSubBandSelectedFreqSubset (*AutoSubBandSelect 1)	Applicable to SU/RB with SW version 4.0 and higher. Apply the selected subset. After the next reset the new subset will be used for scanning.	Integer setAllSelectedFreqsSubset (1), cancel (2)
*AutoSubBandFrequencySubsetTable (*AutoSubBandSelect 2)	Applicable to SU/RB with SW version 4.0 and higher. Not accessible. The Frequency Subset	

MIB Parameter	Description	Value/Range
	Table that includes all available sub-bands and all the frequencies in these sub-bands.	
*AutoSubBandFrequencySubsetEntry (*AutoSubBandFrequencySubsetTable 1)	Applicable to SU/RB with SW version 4.0 and higher. Not accessible. An entry in the Auto SubBand Frequency Subset Table.	
*AutoSubBandFrequencySubsetBandIdx (*AutoSubBandFrequencySubsetEntry 1)	Applicable to SU/RB with SW version 4.0 and higher. Read-only. The index of the applicable Sub Band. This is the Sub Band ID of the relevant entry in the Country Dependent Parameters table. Serves also as an index of the entry in the Auto Sub Babd Frequency Subset Table.	Integer 1-5
*AutoSubBandFrequencySubsetFrequencyIdx (*AutoSubBandFrequencySubsetEntry 2)	Applicable to SU/RB with SW version 4.0 and higher. Read-only. The index of the applicable frequency in the applicable Sub Band. Serves also as an index of the entry in the Auto Sub Band Frequency Subset Table.	Integer 1-40
*AutoSubBandFrequencySubsetActive (*AutoSubBandFrequencySubsetEntry 3)	Applicable to SU/RB with SW version 4.0 and higher. The status of an entry in the Auto Sub Band Frequency Subset Table. The frequency of an active entry will be included in the final list of frequencies to be used for scanning.	Integer active (1) , notActive (2)
*AutoSubBandFrequencySubsetFrequency (*AutoSubBandFrequencySubsetEntry 4)	Applicable to SU/RB with SW version 4.0 and higher. Read-only. The frequency in MHz of the entry in the Auto Sub Band Frequency Subset table.	DisplayString
*ATPC (*AirInterface 13)	ATPC parameters	
*AtpcOption (*ATPC 1)	Applicable to all units. Enabling/disabling the ATPC Algorithm	Integer disable (1) enable (2) na (255)
*DeltaFromMinSNRLevel (*ATPC 2)	Applicable to AU/BU. The Minimum SNR Level plus the value of this parameter define the maximum desired level of the average SNR at the AU/BU. If the ATPC Option is enabled, than if the received SNR is above the maximum desired level, the AU/BU will transmit Power-Down messages to the applicable SU/RB.	Integer 4-20 (dB)
*MinimumSNRLevel (*ATPC 3)	Applicable to AU/BU. Defines the minimum desired level in dB of the average SNR at the AU/BU. Below this level, if ATPC Option is enabled, the AU/BU will transmit ATPC Power-Up messages to the applicable SU/RB.	Integer 4-60 (dB)
*MinimumIntervalBetweenATPC Messages (*ATPC 4)	Applicable to AU/BU. The minimal time between consecutive power-up/power-down messages.	Integer Range: 1 to 3600 (seconds)

MIB Parameter	Description	Value/Range
*PowerLevelSteps (*ATPC 6)	Applicable to AU/BU. The step in dB that the SU/RB will use when receiving an ATPC Power-Up/Power-Down message	Integer 1-20 (dB)
*CellDistanceParameters (*AirInterface 15)	Cell distance Parameters	
*CellDistanceMode (*CellDistanceParameters 1)	Applicable AU/BU. The selected mode of deciding on Cell Distance.	Integer automatic (1) manual (2) na (255)
*FairnessFactor (*CellDistanceParameters 2)	Applicable AU/BU. Not applicable to BreezeNET B products with SW version below 4.0. The percentage of the maximum distance that is taken into account in the time slot calculation.	Integer Range: 0 to 100 (Percent). A value of 0 means the minimal slot size (9 microseconds). Na (255)
*MeasuredMaxCellDistance (*CellDistanceParameters 3)	Applicable AU/BU. The Maximum Cell Distance as calculated by the AU/BU.	Integer Range: 0 to 54 (Kilometers). 1 means “below 2 km”.
*UnitWithMaxDistance (*CellDistanceParameters 4)	Applicable AU only. Not applicable to BreezeNET B units. The MAC address of the unit with the maximum distance from the AU.	MAC Address
*PerSuDistanceLearning (*CellDistanceParameters 5)	Aplicable only to AU with SW version 4.0 and higher. Applicable only if Cell Distance Mode is set to Automatic. When disabled, all SUs in the cell will use for the ACK Timeout the computed distance of the farthest SU. When enabled, each SU will use its own computed distance.	Integer disable (1) enable (2)
*ScanningMode (*AirInterface 16)	Applicable to SU/RB. The scanning mode. In cells where the DFS Option is enabled Scanning Mode is forced to Passive.	Integer passive (1) active (2)
*Antenna Gain (*AirInterface 17)	Applicable to all units. Read-write in units where *AntennaGainChange is supported. Read-only in units where *AntennaGainChange is not supported. The net gain (including cable attenuation for detached antennas) of the antenna.	Integer 0-50 (dB) -1 (not configurable) means “Not Set Yet”. -2 (not configurable) means “Don’t Care”.
*SpectrumAnalysisParameters (*AirInterface 18)	Spectrum Analysis Parameters.	
*SpectrumAnalysisChannelScanPeriod (*SpectrumAnalysisParameters 1)	Applicable to all units. The period in seconds of staying on each channel for information gathering during each cycle when performing Spectrum analysis.	Integer Range: 2-30 seconds.
*SpectrumAnalysisChannelScanCycles (*SpectrumAnalysisParameters 2)	Applicable to all units. The number of scanning cycles when performing Spectrum Analysis.	Integer Range: 1-100 seconds.
*AutomaticChannelSelection (*SpectrumAnalysisParameters 3)	Applicable to AU/BU. Defines weather the AU/BU shall choose the most noise free channel upon startup after spectrum analysis.	Integer disable (1), enable (2), na (255)
*SpectrumAnalysisActivation (*SpectrumAnalysisParameters 4)	Applicable to all units. Activates the spectrum analysis. The	Integer cancelOperation (1),

MIB Parameter	Description	Value/Range
	unit is automatically reset upon activation.	activateNow (2)
*SpectrumAnalysisStatus (*SpectrumAnalysisParameters 5)	Applicable to all units. Read-only. Indicates whether the unit is currently performing a spectrum analysis process.	Integer inactive (1), currentlyActive (2)
*ResetSpectrumCounters (*SpectrumAnalysisParameters 6)	Applicable to all units. Resets the spectrum analysis counters.	Integer cancelOperation (1), resetCounters (2)
*SpectrumAnalysisInformationTable (*SpectrumAnalysisParameters 7)	Applicable to all units. Not accessible. The spectrum analysis information table.	
*SpectrumAnalysisInformationEntry (*SpectrumAnalysisInformationTable 1)	Applicable to all units. Not accessible. An entry in the spectrum analysis information table.	
*SpectrumAnalysisInformationTableIdx (*SpectrumAnalysisInformationEntry 1)	Applicable to all units. Read-only. A table index for a Spectrum Analysis Information Entry in the Spectrum Analysis Information Table.	
*SpectrumAnalysisInformationChannel (*SpectrumAnalysisInformationEntry 2)	Applicable to all units. Read-only. The channel's frequency of the relevant entry in the Spectrum Analysis Information Table.	DisplayString
*SpectrumAnalysisInformationSignalCount (*SpectrumAnalysisInformationEntry 3)	Applicable to all units. Read-only. The number of signals (excluding OFDM frames) detected in the channel.	Integer
*SpectrumAnalysisInformationSignalSNR (*SpectrumAnalysisInformationEntry 4)	Applicable to all units. Read-only. The approximate SNR of the signals (excluding OFDM frames) detected in the relevant channel.	Integer
*SpectrumAnalysisInformationSignalWidth (*SpectrumAnalysisInformationEntry 5)	Applicable to all units. Read-only. The average width in microseconds of the signals (excluding OFDM frames) detected in the relevant channel.	Integer
*SpectrumAnalysisInformationOFDMFrames (*SpectrumAnalysisInformationEntry 6)	Applicable to all units. Read-only. The number of OFDM frames received in the relevant channel.	Integer
* MaxNumOfAssociationsLimit (*AirInterface 19)	Applicable to AU only. Not applicable to BreezeNET B products. Shows the limit for the number of SUs that can be associated with the AU.	Integer AU-BS, AU-SA: If Data Encryption is enabled, the upper limit is 124. Otherwise it is 512. AUS-BS, AUS-SA with SW version below 4.0: 5. AUS-BS, AUS-SA with SW version 4.0 and higher: 8 BreezeNET B products return 65535.
*Disassociate (*AirInterface 20)	Disassociation parameters.	
*DisassociateAllSUs (*Disassociate 1)	Applicable to AU. Disassociate ass SUs.	Integer cancelOperation (1), disassociateAllSUs (2)
*DisassociateSuByMacAddress (*Disassociate 2)	Applicable to AU. Disassociate specified SU.	MacAddress
*TxControl (*AirInterface 21)	Applicable to AU/BU. Enables to turn the transmitter Off and On. If set to	Integer on(1)

MIB Parameter	Description	Value/Range
	ethernetStatusControl, the unit will not transmit if the Ethernet link is down. This parameter can be configured only via the ethernet port. In units with SW version below 4.0, the unit is reset automatically upon configuration. For unit with SW version 4.0 and higher this parameter is applied in run-time.	off (2) ethernetStatusControl 3)
*LostBeaconsWatchdogThreshold (*AirInterface 22)	Applicable to AU/BU only. The number of unsuccessful consecutive transmissions of beacons before Internal refresh is performed. 0 means that the lost beacons watchdog is not used and internal refresh is not performed.	Integer 0, 100-1000
*TransmitPower (*AirInterface 23)	Applicable to all units with SW version 4.0 and higher. The uniform transmit power for all modulation levels. For a specific modulation level the effective transmit power (brzaccVLTxPower) is the minimum between the uniform transmit power and the maximum transmit power for that modulation level.	Integer
*MaximumTxPower (*AirInterface 24)	Applicable to only SU/RB with SW version 4.0 and higher. The Maximum Transmit Power for all modulation levels. The Maximum Transmit Power for a specific modulation level is the minimum between this parameter and the hardware limitation for that modulation level.	Integer

E.2.7 Service Parameters

MIB Parameter	Description	Value/Range

MIB Parameter	Description	Value/Range
*ServiceParameters (breezeAccessVLMib 7)	Applicable to all units. Service parameters.	
*MirDownlink (*ServiceParameters 2)	Applicable to SU/RB. The Maximum Information Rate (MIR) from AU/BU to SU/RB. MIR must be above brzaccVLCirDownlink value.	Integer Range for Set: SU-3 with SW version below 4.0: 128 – 2,048 (Kbps) SU-3 with SW version 4.0 or higher: 128 – 3,072 (Kbps) SU-6 with SW version below 4.0: 128 – 3,968 (Kbps) SU-6 with SW version 4.0 or higher: 128 – 6,016 (Kbps) SU-54: 128 – 53,888 (Kbps) SU-I: 128 – 6,016 (Kbps) RB-14: 128 – 6,912 (Kbps) RB-28: 128 – 22,016 (Kbps) RB-100: 128-107,904 (Kbps) The actual value (Get) will be the entered value rounded to the nearest multiple of 128 (N*128)
*MirUplink (*ServiceParameters 3)	Applicable to SU/RB. The Maximum Information Rate (MIR) from SU/RB to AU/BU. MIR must be above brzaccVLCirUplink value.	Integer Range for Set: SU-3 with SW version below 4.0: 128 – 2,048 (Kbps) SU-3 with SW version 4.0 or higher: 128 – 3,072 (Kbps) SU-6 with SW version below 4.0: 128 – 3,968 (Kbps) SU-6 with SW version 4.0 or higher: 128 – 6,016 (Kbps) SU-54: 128 – 53,888 (Kbps) SU-I: 128 – 2,048 (Kbps) RB-14: 128 – 6,912 (Kbps) RB-28: 128 – 22,016 (Kbps) RB-100: 128-107,904 (Kbps) The actual value (Get) will be the entered value rounded to the nearest multiple of 128 (N*128)
*CirDownlink (*ServiceParameters 4)	Applicable to SU only. Not applicable to BreezeNET B products. The Committed Information Rate (CIR) from AU to SU. CIR must be below brzaccVLMirDownlink value.	Integer Range for Set: SU-3 with SW version below 4.0: 0 – 2,048 (Kbps) SU-3 with SW version 4.0 or higher: 0 – 3,072 (Kbps) SU-6 with SW version below 4.0: 0 – 3,968 (Kbps) SU-6 with SW version 4.0 or higher: 0 – 6,016 (Kbps) SU-54: 0 – 45,056 (Kbps) SU-I: 0 –6,016 (Kbps) The actual value (Get) will be the entered value rounded to the nearest multiple of 128 (N*128). BreezeNET B products will return 65535 for na.
*CirUplink (*ServiceParameters 5)	Applicable to SU only. Not applicable to BreezeNET B products. The Committed	Integer Integer Range for Set:

MIB Parameter	Description	Value/Range
	Information Rate (CIR) from SU to AU. CIR must be below brzaccVLMirUplink value.	SU-3 with SW version below 4.0: 0 – 2,048 (Kbps) SU-3 with SW version 4.0 or higher: 0 – 3,072 (Kbps) SU-6 with SW version below 4.0: 0 – 3,968 (Kbps) SU-6 with SW version 4.0 or higher: 0 – 6,016 (Kbps) SU-54: 0 – 45,056 (Kbps) SU-I: 0 – 2,048 (Kbps) The actual value (Get) will be the entered value rounded to the nearest multiple of 128 (N*128). BreezeNET B products will return 65535 for na.
*MaxDelay (*ServiceParameters 6)	Applicable to SU only. Not applicable to BreezeNET B products. The maximal time packets may be delayed by the CIR\MIR mechanism. Above the configured maximal period the packets are discarded.	Integer Range: 300 - 10000 (milliseconds) BreezeNET B products will return 65535 for na.
*MaxBurstDuration (*ServiceParameters 7)	Applicable to AU and SU. Not applicable to BreezeNET B products. The maximum time during which inactivity bonus time can be accumulated for future burst transmissions.	Integer Range: 0 – 2000 (milliseconds) BreezeNET B products will return 65535 for na.
*GracefulDegradationLimit (*ServiceParameters 8)	Applicable to AU only. Not applicable to BreezeNET B products. The maximum limit for activating the graceful degradation algorithm.	Integer Range: 0 – 70 (%) na (255)
*MirOnlyOption (*ServiceParameters 9)	Applicable only to AU. Not applicable to BreezeNET B products. When enabled, it overrides the CIR/MIR algorithm for determining actual information rate and forces the algorithm to operate with MIR parameters' settings only. When enabled, the Graceful Degradation algorithm is disabled.	Integer disable (1) enable (2) na (255)
*TrafficPrioritization (*ServiceParameters 10)	Traffic Prioritization parameters. Applicable to all units.	
*VLTrafficPriVLAN (*TrafficPrioritization 1)	VLAN Prioritization parameters. Applicable to all units.	
*LANPriorityThreshold (*VLTrafficPriVLAN 1)	Applicable to all units. If the VLAN Priority's value of the frame is less than or equal to this threshold, the frame	Integer 0-7

MIB Parameter	Description	Value/Range
	will get Low priority, otherwise the frame will get High priority. Untagged frames will get Low priority.	
*TrafficPriIPToS (*TrafficPrioritization 2)	ToS Prioritization parameters. Applicable to all units.	
*ToSPrioritizationOption (*TrafficPriIPToS 1)	Applicable to all units. Disable/Enable IP ToS prioritization and chooses the interpretation of the IP ToS field from IP header: ipPrecedence(2): The IP ToS field is defined by RFC791. In this case the prioritization will be done using the Precedence sub-field of IP ToS. This sub-field has 3 bits, so it can be between 0 and 7. dSCP(3): The IP ToS field is defined by RFC2474. In this case the prioritization will be done using the DSCP sub-field. The size of the sub-field is 6 bits, so the range is 0 to 63.	Integer disable(1), ipPrecedence(2), dSCP(3)
*IPPrecedenceThreshold (*TrafficPriIPToS 2)	Applicable to all units. The threshold of Precedence sub-field of IP ToS field from IP Header (RFC791) to be used when the ToS Prioritization Option is set to IP Precedence. If the Precedence sub-field of a frame is less than or equal to this threshold the frame will have Low priority, otherwise it will get High priority.	Integer 0-7
*IPDSCPThreshold (*TrafficPriIPToS 3)	Applicable to all units. The threshold of DSCP sub-field of IP ToS field from IP Header (RFC2474) to be used when ToS Prioritization Option is set to DSCP. If the DSCP sub-field of a frame is less than or equal to this threshold the frame will have Low priority, otherwise it will get High priority.	Integer 0-63
*TrafficPriUdpTcpPortRange (*TrafficPrioritization 3)	UDP/TCP Port Ranges Prioritization parameters. Applicable to all units.	
*UdpTcpPortRangePrioritizationOption (*TrafficPriUdpTcpPortRange 1)	Applicable to all units. Disable/Enable Prioritization using UDP and/or TCP Port Ranges. udpOnly(2): prioritization will	Integer disable(1), udpOnly(2), tcpOnly(3), udpANDtcp(4)

MIB Parameter	Description	Value/Range
	be done only for UDP packets tcpOnly(3): prioritization will be done only for TCP packets udpANDtcp(4): prioritization will be done for UDP and TCP packets	
*UdpPortRangeConfig (*TrafficPriUdpTcpPortRange 2)	UDP Port Range parameters. Applicable to all units.	
*UdpPortPriRTPRTCP (*UdpPortRangeConfig 1)	Applicable to all units. RTP/RTCP ports prioritization option for UDP packet. rtpANDrtcp(1): the possible RTP and RTCP packet with destination port in the defined port ranges will get High priority. rtpOnly(2): only possible RTP packet (packet with even destination port) with destination port in the defined port ranges will get High priority.	Integer rtpANDrtcp(1), rtpOnly(2)
*UdpPortRangeNum (*UdpPortRangeConfig 2)	Applicable to all units. Read-only. The number of entries in the UDP Port Range Table.	Integer
*UdpPortRangeTable (*UdpPortRangeConfig 3)	Applicable to all units. Not accessible. A table of UDP port ranges used for prioritization. The user can define up to 64 ranges. An entry is empty if start is 65535 and end is 0.	
*UdpPortRangeEntry (*UdpPortRangeTable 1)	Applicable to all units. Not accessible. A UDP Port Ranges Table entry.	
*UdpPortRangeStart (*UdpPortRangeEntry 1)	Applicable to all units. Read-only. Start port of an UDP Port Range	Integer 0-65535
*UdpPortRangeEnd (*UdpPortRangeEntry 2)	Applicable to all units. Read-only. End port of an UDP Port Range	Integer 0-65535
*UdpPortRangeIdx (*UdpPortRangeEntry 3)	Applicable to all units. Read-only. Index of an UDP Port Range entry	Integer 1-64
*UdpPortRangeAdd (*UdpPortRangeConfig 4)	Applicable to all units. Add port range(s) to UDP Port Ranges Table. Get operation will return an empty string.	DisplayString A range is defined by <start>-<end> or <start>, where <start> is the Start Port of the range and <end> is the End Port. If only <start> is specified the range is <start>-<start>. The value of <start> and <end> are between 0 and 65535. The user can add several

MIB Parameter	Description	Value/Range
		ranges using a comma to separate between ranges. Example: 10-26,99,987-900.
*UdpPortRangeDelete (*UdpPortRangeConfig 5)	Applicable to all units. Delete port range(s) from UDP Port Ranges Table. Get operation will return an empty string.	DisplayString A range is defined by <start>-<end> or <start>, where <start> is the Start Port of the range and <end> is the End Port. If only <start> is specified the range is <start>-<start>. The value of <start> and <end> are between 0 and 65535. The user can delete several ranges using a comma to separate between ranges. Example: 10-26,99,987-900.
*UdpPortRangeDeleteAll (*UdpPortRangeConfig 6)	Applicable to all units. Delete all entries form UDP Port Ranges Table. Get operation will return 1	Integer deleteAll(1), cancelOperation (2)
*TcpPortRangeConfig (*TrafficPriUdpTcpPortRange 3)	UDP Port Range parameters. Applicable to all units.	
*TcpPortPriRTPRTCP (*TcpPortRangeConfig 1)	Applicable to all units. RTP/RTCP ports prioritization option for TCP packets. rtpANDrtcp(1): the possible RTP and RTCP packet with destination port in the defined port ranges will get High priority. rtpOnly(2): only possible RTP packet (packet with even destination port) with destination port in the defined port ranges will get High priority.	Integer rtpANDrtcp(1), rtpOnly(2)
*TcpPortRangeNum (*TcpPortRangeConfig 2)	Applicable to all units. Read-only. The number of entries in the TCP Port Range Table.	Integer
*TcpPortRangeTable (*TcpPortRangeConfig 3)	Applicable to all units. Not accessible. A table of TCP port ranges used for prioritization. The user can define up to 64 ranges. An entry is empty if start is 65535 and end is 0.	
*TcpPortRangeEntry (*TcpPortRangeTable 1)	Applicable to all units. Not accessible. A TCP Port Ranges Table entry.	
*TcpPortRangeStart (*TcpPortRangeEntry 1)	Applicable to all units. Read-only. Start port of an TCP Port Range	Integer 0-65535
*TcpPortRangeEnd (*TcpPortRangeEntry 2)	Applicable to all units. Read-only. End port of an TCP Port Range	Integer 0-65535
*TcpPortRangeIdx	Applicable to all units. Read-	Integer

MIB Parameter	Description	Value/Range
(*TcpPortRangeEntry 3)	only. Index of an TCP Port Range entry	1-64
*TcpPortRangeAdd (*TcpPortRangeConfig 4)	Applicable to all units. Add port range(s) to TCP Port Ranges Table. Get operation will return an empty string.	DisplayString A range is defined by <start>-<end> or <start>, where <start> is the Start Port of the range and <end> is the End Port. If only <start> is specified the range is <start>-<start>. The value of <start> and <end> are between 0 and 65535. The user can add several ranges using a comma to separate between ranges. Example: 10-26,99,987-900.
*TcpPortRangeDelete (*TcpPortRangeConfig 5)	Applicable to all units. Delete port range(s) from TCP Port Ranges Table. Get operation will return an empty string.	DisplayString A range is defined by <start>-<end> or <start>, where <start> is the Start Port of the range and <end> is the End Port. If only <start> is specified the range is <start>-<start>. The value of <start> and <end> are between 0 and 65535. The user can delete several ranges using a comma to separate between ranges. Example: 10-26,99,987-900.
*TcpPortRangeDeleteAll (*TcpPortRangeConfig 6)	Applicable to all units. Delete all entries form TCP Port Ranges Table. Get operation will return 1	Integer deleteAll(1), cancelOperation (2)
*WirelessLinkPrioritization (*TrafficPrioritization 4)	Wireless Link Prioritization parameters.	
*WirelessLinkPrioritizationOption (*WirelessLinkPrioritization 1)	Applicable only to AU with a license for the Wireless Link Prioritization feature and to BU-100. Enable/disable the traffic prioritization over the Wireless Link.	Integer disable (1) enable (2) na (255)
*lowPriorityAIFS (*WirelessLinkPrioritization 2)	Applicable only to AU with a license for the Wireless Link Prioritization feature and to BU-100. Applicable only if the Wireless Link Prioritization Option is enabled. Define the AIFS (Arbitration Inter-frame Space) that will be used for transmitting Low Priority Traffic	Integer 3-254
*HWRetriesHighPriority (*WirelessLinkPrioritization 3)	Applicable only to AU with a license for the Wireless Link Prioritization feature and to BU-100. Applicable only if the Wireless Link Prioritization Option is enabled. Defines the	Integer 1-14

MIB Parameter	Description	Value/Range
	Maximum number of HW Retries for a unicast data packet that has High Priority.	
*HWRetriesLowPriority (*WirelessLinkPrioritization 4)	Applicable only to AU with a license for the Wireless Link Prioritization feature and to BU-100. Applicable only if the Wireless Link Prioritization Option is enabled. Defines the Maximum number of HW Retries for a unicast data packet that has Low Priority.	Integer 1-14
*AUBurstDurationHighPriority (*WirelessLinkPrioritization 5)	Applicable only to AU with a license for the Wireless Link Prioritization feature and to BU-100. Applicable only if the Wireless Link Prioritization Option is enabled. Defines the Maximum duration of burst that can be done by AU/BU with High Priority packets. The time is given in 250 microseconds units.	Integer 0-40
*AUBurstDurationLowPriority (*WirelessLinkPrioritization 6)	Applicable only to AU with a license for the Wireless Link Prioritization feature and to BU-100. Applicable only if the Wireless Link Prioritization Option is enabled. Defines the Maximum duration of burst that can be done by AU/BU with Low Priority packets. The time is given in 250 microseconds units.	Integer 0-40
*SUBurstDurationHighPriority (*WirelessLinkPrioritization 7)	Applicable only to AU with a license for the Wireless Link Prioritization feature and to BU-100. Applicable only if the Wireless Link Prioritization Option is enabled. Defines the Maximum duration of burst that can be done by SU/RB with High Priority packets. The time is given in 250 microseconds units.	Integer 0-40
*SUBurstDurationLowPriority (*WirelessLinkPrioritization 8)	Applicable only to AU with a license for the Wireless Link Prioritization feature and to BU-100. Applicable only if the Wireless Link Prioritization Option is enabled. Defines the Maximum duration of burst that can be done by SU/RB with Low Priority packets.	Integer 0-40

MIB Parameter	Description	Value/Range
	The time is given in 250 microseconds units.	
*Drap (*ServiceParameters 11)	DRAP Parameters. Applicable only to AU with SW version 4.0 and higher. Not applicable to BreezeNET Bproducts.	
*DrapSupport (*Drap 1)	Disable/Enable the DRAP feature.	Integer disable (1) enable (2) na (255)
*DrapUdpPort (*Drap 2)	The UDP port used for the DRAP server.	Integer 8000-8200
*DrapMaxNumberOfVoiceCalls (*Drap 3)	The maximum number of voice calls that can be supported by the AU when DRAP is enabled.	Integer 0-255
*DrapTTL (*Drap 4)	The maximum time in seconds between two allocation requests.	Integer 1-255
*DrapNoOfActiveVoiceCalls (*Drap 5)	Read-only. The current total number of active voice calls.	Integer
*LowPriorityTrafficMinimumPercent (*ServiceParameters 12)	The minimum percent of the traffic rate that is allocated to the low priority traffic.	Integer 0-100

E.2.8 User Filtering Parameters

MIB Parameter	Description	Value/Range
*UserFilterParams (breezeAccessVLMib 8)	Applicable to SU/RB. User filtering parameters.	
*UserFilterOption (*UserFilterParams 1)	Applicable to SU/RB. Defines user-filtering options. disable: No filtering. iPOnly: Only IP protocol packets pass. userDefinedAddrOnly: Only IP frames from/to user defined IP addresses pass. pPPoE Only: Only PPPoE frames pass.	Integer disable (1) ipOnly (2) userDefinedAddrOnly (3) pPPoEOnly (4) na (255)
*IpFilterTable (*UserFilterParams 2)	Applicable to SU/RB. A table of up to 8 user defined addresses, or address groups, to be used if the User Filtering Option (*UserFilterOption) is userDefinedAddrOnly. Not accessible.	
*IpFilterEntry (*IpFilterTable 1)	Applicable to SU/RB. An IP Filter table entry. Not accessible.	
*IpID (*IpFilterEntry 1)	Applicable to SU/RB. An IP address in the IP Filter table.	IP Address

MIB Parameter	Description	Value/Range
*MaskID (*IpFilterEntry 2)	Applicable to SU/RB. An IP mask for the IP Filter entry. Either a mask or a range, but not both can be used to define an address group. If the range is other than 0, than the mask is ignored and only the range value is used to define the address group.	IP Address
*IpFilterRange (*IpFilterEntry 3)	Applicable to SU/RB. An address range for the IP Filter entry. The first address in the range is the IP address (*iPID). O means that the range is not used. Either a mask or a range, but not both can be used to define an address group. If the range is other than 0, than the mask is ignored and only the range value is used to define the address group.	Integer 0 - 255
*IpFilterIdx (*IpFilterEntry 4)	Applicable to SU/RB. Read-only. A table index for the IP Filter entry.	Integer 1-8
*DeleteOneUserFilter (*UserFilterParams 3)	Applicable to SU/RB. Deletes a single selected entry from the IP Filter table.	Integer deletefirstEntry (1) deletesecondEntry (2) deletethirdEntry (3) deletefourthEntry (4) deletefifthEntry (5) deletesixthEntry (6) deleteseventhEntry (7) deleteeighthEntry (8) cancelOperation (9) na (255)
*DeleteAllUserFilters (*UserFilterParams 4)	Applicable to SU/RB. Deletes all entries from the IP Filter table.	Integer deleteAll (1) cancelOperation (2) na (255)
*DHCPUnicastOverrideFilter (*UserFilterParams 5)	Applicable to SU/RB. Enables or disables the unicast DHCP messages, overriding the IP Filtering option.	Integer disable (1) enable(2) na (255)

E.2.9 Security Parameters

MIB Parameter	Description	Value/Range

MIB Parameter	Description	Value/Range
*SecurityParams (breezeAccessVLMib 9)		
*AuthenticationAlgorithm (*SecurityParameters 1)	Applicable to all units. Enables/disables the authentication encryption option. openSystem: Authentication messages are not encrypted. sharedKey : Authentication messages are encrypted.	Integer openSystem (1) sharedKey (2)
*DefaultKey (*SecurityParameters 2)	Applicable to SU/RB. The ID of the key to be used for encrypting/decrypting the authentication messages.	Integer Range: 1 to 4.
*DataEncryptionOption (*SecurityParameters 3)	Applicable to all units. Enables/disables the data encryption option.	Integer disable (1) enable (2)
*DefaultMulticastKey (*SecurityParameters 4)	Applicable to AU/RB. The ID of the key to be used for encrypting/decrypting multicasts.	Integer Range: 1 to 4.
*SecurityMode (*SecurityParameters 5)	Applicable to all units. The encryption algorithm to be used for authentication messages and/or data encryption. The fips197 option is applicable only to units with HW revision C or higher, provided they have a license to use FIPS 197 algorithm.	Integer wep (1) aesOCB (2) fips197 (3)
*PromiscuousAuthenticationMode (*SecurityParameters 6)	Applicable to AU/RB. Enabling/disabling the promiscuous mode, where any SU can be authenticated by and communicate with the AU.	Integer disable (1) enable (2)
*Key1 (*SecurityParameters 7)	Applicable to all units. Key number 1. Accessible only with SNMP Write Community String (administrator password).	DisplayString 32 hexadecimal digits
*Key2 (*SecurityParameters 8)	Applicable to all units. Key number 2. Accessible only with SNMP Write Community String (administrator password).	DisplayString 32 hexadecimal digits
*Key3 (*SecurityParameters 9)	Applicable to all units. Key number 3. Accessible only with SNMP Write Community String (administrator password).	DisplayString 32 hexadecimal digits
*Key4 (*SecurityParameters 10)	Applicable to all units. Key number 4. Accessible only with SNMP Write Community String (administrator password).	DisplayString 32 hexadecimal digits
*SecurityModeSupport (SecurityParameters 12)	Applicable to all units. Returns types of encryption that are supported.	Integer (0..7) No encryption (0) WEP (1) AES/OCB (2)

MIB Parameter	Description	Value/Range
		WEP + AES/OCB (3) FIPS-197 (4) WEP + FIPS-197 (5) AES/OCB + FIPS-197 (6) WEP + AES/OCB + FIPS-197 (7)

E.2.10 Performance Parameters

MIB Parameter	Description	Value/Range
*PerformanceParams (breezeAccessVLMib 10)		
*RTSThreshold (*PerformanceParams 1)	Applicable to SU and AU. Not applicable to BreezeNET B products. The minimum frame size that requires an RTS/CTS handshake.	Integer 20-4032 (bytes) (20-1600 for units running SW version below 3.0, 20-3400 for units with SW version 3.0) na (65535)
*MinContentionWindow (*PerformanceParams 3)	Applicable to SU, AU, BU-100 and RB-100. The initial value to be used by the contention window calculation algorithm. A value of 0 disables the back-off algorithm.	Integer 0, 7, 15, 31, 63, 127, 255, 511, 1023. na (65535) BU/RB-14/28 will return 65535
*MaxContentionWindow (*PerformanceParams 4)	Applicable to SU, AU, BU-100 and RB-100. The maximum value to be used by the contention window calculation algorithm.	Integer 7, 15, 31, 63, 127, 255, 511, 1023 na (65535) BU/RB-14/28 will return 65535
*MaximumModulationLevel (*PerformanceParams 5)	Applicable to all units. If the Adaptive Modulation algorithm is enabled, it sets the maximum modulation level to be used. If The Adaptive Modulation algorithm is disabled, it set the fixed modulation level to be used.	Integer Range: 1 to 8* *Range depends on HW version and Min/Max Modulation Levels as defined by Sub-Band.
*MulticastModulationLevel (*PerformanceParams 6)	Applicable to AU/BU. The modulation level for multicast and broadcast data frames.	Integer Range: 1 to 8* *Range depends on HW version and Min/Max Modulation Levels as defined by Sub-Band.
*AvgSNRMemoryFactor (*PerformanceParams 7)	Applicable to all units. The weight of history in average RSSI calculation for the ATPC (AU only) and Adaptive Modulation algorithm. The higher is the value, the higher is the weight of history	DisplayString -1 (Disregard History) to 32
*HardwareRetries (*PerformanceParams 8)	Applicable to all units. Not applicable if Wireless Link Prioritization is enabled. The maximum number of trials to	Integer 1-14 for units with SW version 4.0 and higher. 1-15 for units with SW

MIB Parameter	Description	Value/Range
	transmit an unacknowledged frame in each Hardware Retrials phase.	version below 4.0.
*AdaptiveModulationParams (*PerformanceParams 9)	Adaptive Modulation Parameters	
*AdaptiveModulationAlgorithmOption (*AdaptiveModulationParams 1)	Applicable to all units. Enabling/disabling the Adaptive Modulation algorithm.	Integer disable (1) enable (2)
*SoftwareRetrySupport (*AdaptiveModulationParams 2)	Applicable to all units. Read-only for units with version 2.0. Not applicable for units with SW version 3.0 and higher. The status of the Software Retry mechanism. Enabled when the Adaptive Modulation algorithm is enabled and the Burst Mode Option is disabled. Otherwise it is disabled.	Integer disable (1) enable (2) na (255)
*NumberOfSoftwareRetries (*AdaptiveModulationParams 3)	Applicable to all units. Read-only for units with version 2.0. Not applicable for units with SW version 3.0 and higher. The maximum number of times to use the Software Retry mechanism when it is enabled.	Integer 0-14
*MinimumIntervalBetweenAdaptiveModulation AlgorithmMessages (*AdaptiveModulationParams 4)	Applicable to all units. The minimum interval between two consecutive adaptive modulation algorithm messages carrying information on the SNR of received signals.	Integer 1-3600 (seconds)
*AdaptiveModulationDecisionThresholds (*AdaptiveModulationParams 5)	Applicable to all units. Defines the setting of thresholds for the rate decision algorithm. high (2) should typically be used when the SNR is lower than 13 dB.	Integer normal (1) high (2) na (255)
*BurstMode (*PerformanceParams 10)	Burst Mode Parameters. Applicable to all units. Not applicable if Wireless Link Prioritization is enabled.	
*BurstModeOption (*BurstMode 1)	Applicable to all units. Applicable only if Burst Mode Option is supported by the Sub-Band. Not applicable if Wireless Link Prioritization is enabled. Enabling/disabling burst mode operation. In SU/RB with HW Revision B or lower blocked (3) value is returned when Security Mode is Wep, Data Encryption Option is Enabled and Burst option is Enabled. In AU/BU with HW Revision B or lower blocked (3) value is returned when Dfs Option is Enabled and Burst mode is enabled.	Integer disable (1) enable (2) blocked (3) na (255)
*BurstInterval (*BurstMode 2)	Applicable to all units. Not applicable if Wireless Link Prioritization is enabled. The burst interval in milliseconds.	Integer 1-the maximum value as defined in the Sub-Band. (milliseconds) na (255)
*ConcatenationParameters	Concatenation Parameters.	

MIB Parameter	Description	Value/Range
(*PerformanceParams 11)	Applicable to all units.	
*ConcatenationOption (*ConcatenationParameters 1)	Applicable to all units. Enabling/disabling the concatenation mechanism.	Integer disable (1) enable (2) na (255)
*ConcatenationMaximumNumberOfFrames (*ConcatenationParameters 2)	Applicable to all units. Not applicable to units with SW version 4.0 and higher. Defines the maximum number of data frames that can be concatenated.	Integer 2 – 8
*ConcatenationMaxFrameSize (*ConcatenationParameters 3)	Applicable to all units with SW version 4.0 and higher. Defines the maximum size of a concatenated frame.	Integer Range: 256 to 2200 (bytes) for BU/RB-14 BU/RB-28, or for AU/SU with HW revision A or B. 256 to 4032 (bytes) for AU/SU with HW Revision C or higher and BU/RB-100.

E.2.11 Site Survey Parameters

MIB Parameter	Description	Value/Range
*SiteSurvey (breezeAccessVLMib 11)		
*AverageReceiveSNR (*SiteSurvey 1)	Applicable to SU/RB. Read-only. The average Signal to Noise Ratio of received frames.	Integer
*TrafficStatistics (*SiteSurvey 2)	Applicable to all units. Traffic statistics parameters.	
*ResetTrafficCounters (*TrafficStatistics 1)	Applicable to all units. Resets the traffic counters.	Integer reset (1) cancel (2)
*EthCounters (*TrafficStatistics 2)	Applicable to all units. Ethernet counters.	
*TotalRxFramesViaEthernet (*EthCounters 1)	Applicable to all units. Read-only. Total number of frames received via the Ethernet port.	Counter 32
*TxWirelessToEthernet (*EthCounters 2)	Applicable to all units. Read-only. Total number of frames transmitted to the Ethernet port.	Counter 32
*WirelessLinkCounters (*TrafficStatistics 3)	Applicable to all units. Wireless link counters.	
*TxFramesToWireless (*WirelessLinkCounters 1)	Transmitted frames counters	
*AUBeaconsToWireless (*TxFramesToWireless 1)	Applicable to AU/BU. Read-only. The number of Beacon frames transmitted to the wireless medium.	Counter 32
*DataAndOtherMngFramesToWireless (*TxFramesToWireless 3)	Applicable to AU/BU. Read-only. The number of data and other management frames (excluding beacons) transmitted to the wireless medium. The count includes multicasts/broadcasts and one count for each unicast frame transmitted successfully (excluding retransmissions).	Counter 32

MIB Parameter	Description	Value/Range
*TotalTxFramesToWireless (*TxFramesToWireless 4)	Applicable to all units. Read-only. The number of frames transmitted to the wireless medium. The count includes one count for each data frame transmitted successfully (excluding retransmissions), and the number of transmitted control and wireless management frames.	Counter 32
*TotalTransmitted Unicasts (*TxFramesToWireless 5)	Applicable to AU. Not applicable to BreezeNET B products. Read-only. The total number of unicast frames successfully transmitted to the wireless medium, excluding retransmissions.	Counter 32
*TotalTransmittedConcatenatedFramesDouble (*TxFramesToWireless 6)	Applicable to all units Read-only. The total number of double concatenated frames that were successfully transmitted to the wireless medium, excluding retransmissions.	Counter 32
*TotalTransmittedConcatenatedFramesSingle (*TxFramesToWireless 7)	Applicable to all units Read-only. The total number of single concatenated frames that were successfully transmitted to the wireless medium, excluding retransmissions.	Counter 32
*TotalTransmittedConcatenatedFramesMore (*TxFramesToWireless 8)	Applicable to all units Read-only. The total number of concatenated frames with more than two data frames that were successfully transmitted to the wireless medium, excluding retransmissions.	Counter 32
*TotalRxFramesFromWireless (*WirelessLinkCounters 2)	Applicable to all units. Read-only. The total number of frames received from the wireless medium. The count includes data and control and wireless management frames, including beacons received from the AU. The count does not include frames discarded internally, bad frames and duplicate frames.	Counter 32
*TotalRetransmittedFrames (*WirelessLinkCounters 3)	Applicable to all units. Read-only. The total number of retransmissions of data frames (counts all unsuccessful transmissions/retransmissions).	Counter 32
*FramesDropped (*WirelessLinkCounters 4)	Applicable to all units. Read-only. The number of dropped frames. The frames retransmitted to the maximum allowed number of retransmissions without being acknowledged.	Counter 32
*DataFramesSubmittedToBridge (*WirelessLinkCounters 5)	Submitted frames counters	
*DataFramesSubmittedViaHighQueue (*DataFramesSubmittedToBridge 1)	Applicable to all units. Read-only. The number of data frames submitted to the internal bridge via the high priority queue for transmission to the wireless medium.	Counter 32
*DataFramesSubmittedViaMidQueue (*DataFramesSubmittedToBridge 2)	Applicable to all units. Read-only. The number of data frames submitted to the internal bridge via the mid priority queue for transmission to the wireless medium.	Counter 32
*DataFramesSubmittedViaLowQueue (*DataFramesSubmittedToBridge 3)	Applicable to all units. Read-only. The number of data frames submitted to the internal bridge via the low priority queue	Counter 32

MIB Parameter	Description	Value/Range
	for transmission to the wireless medium.	
*TotalNoOfDataFramesSubmitted (*DataFramesSubmittedToBridge 4)	Applicable to all units. Read-only. The total number of data frames submitted to the internal bridge for transmission to the wireless medium.	Counter 32
*TotalRecievedDataFrames (*WirelessLinkCounters 6)	Applicable to all units. Read-only. The total number of data frames received from the wireless medium, including duplicate frames.	Counter 32
*RecievedBadFrames (*WirelessLinkCounters 7)	Applicable to all units. Read-only. The number of frames received from the wireless medium with errors (CRC errors).	Counter 32
*NoOfDuplicateFramesDiscarded (*WirelessLinkCounters 8)	Applicable to all units. Read-only. The number of frames discarded due to receiving multiple copies.	Counter 32
*InternallyDiscardedMirCir (*WirelessLinkCounters 9)	Applicable to all units. Read-only. The number of data frames received from the Ethernet port that were discarded by the MIR/CIR mechanism to avoid exceeding the maximum allowed information rate	Counter 32
*TotalRxConcatenatedFramesDouble (*WirelessLinkCounters 10)	Applicable to all units Read-only. The total number of double concatenated frames that were received from the wireless medium, including duplicate frames.	Counter 32
*TotalRxConcatenatedFramesSingle (*WirelessLinkCounters 11)	Applicable to all units Read-only. The total number of single concatenated frames that were received from the wireless medium, including duplicate frames.	Counter 32
*TotalRxConcatenatedFramesMore (*WirelessLinkCounters 12)	Applicable to all units Read-only. The total number of concatenated frames with more than two data frames that were received from the wireless medium, including duplicate frames.	Counter 32
*WirelessLinkEvents (*TrafficStatistics 4)	Applicable to all units. Wireless link event counters.	
*TxEvents (*WirelessLinkEvents 1)	Applicable to all units. Read-only. Tx event counters.	
*DroppedFrameEvents (*TxEvents 1)	Applicable to all units. The number frames that were dropped because they were retransmitted to the maximum allowed number of retransmissions without being acknowledged.	Counter 32
*FramesDelayedDueToSwRetry (*TxEvents 2)	Applicable to all units. Not applicable for units running SW version 3.0 and higher. The number of frames that were delayed because the SW retry algorithm was activated on a previous frame designated for the same recipient.	Counter 32
*Underrun Events (*TxEvents 3)	Applicable to all units. The number of frames whose transmission was aborted because the rate of submitting frames for transmission exceeds the available transmission capability.	Counter 32
*OtherTxEvents (*TxEvents 4)	Applicable to all units. The number of Tx events due to problems other than those represented by the other Tx Events	Counter 32

MIB Parameter	Description	Value/Range
	counters.	
*TotalTxEvents (*TxEvents 5)	Applicable to all units. The total number of Tx events.	Counter 32
*RxEvents (*WirelessLinkEvents 2)	Applicable to all units. Read-only. Rx errors counters.	
*PhyErrors (*RxErrors 1)	Applicable to all units. Read-only. The number of unidentified signals.	Counter 32
*CRCEvents (*RxEvents 2)	Applicable to all units. Read-only. The number of frames received from the wireless medium containing CRC errors.	Counter 32
*OverrunEvents (*RxEvents 3)	Applicable to all units. Read-only. The number of frames that were discarded because the receive rate exceeded the processing capability or the capacity of the Ethernet port.	Counter 32
*RxDecryptEvents (*RxEvents 4)	Applicable to all units. Read-only. The number of frames that were not received properly due to a problem in the data decryption mechanism.	Counter 32
*TotalRxEvents (*RxEvents 5)	Applicable to all units. Read-only. The total number of Rx events.	Counter 32
*PerModulationLevelCounters (*TrafficStatistics 5)	Per Modulation Level Counters.	
*ResetPerModulationLevelCounters (*PerModulationLevelCounters 1)	Applicable to all units. Resets the Per Modulation Level Counters	Integer resetCounters (1) cancel (2)
*SUPerModulationLevelCountersTable (*PerModulationLevelCounters 2)	Applicable to SU/RB. Not accessible. The Per Modulation Level Counters Table.	
*SUPerModulationLevelCountersEntry (*PerModulationLevelCountersTable 1)	Applicable to SU/RB. Not accessible. An entry in the Per Modulation Level Counters Table.	
*SUPerModulationLevelCountersTableIdx (*PerModulationLevelCountersEntry 1)	Applicable to SU/RB. Read-only. The index of an entry in the Per Modulation Level Counters Table.	
*SUPerModulationLevelCountersApplicable ModulationLeve (*PerModulationLevelCountersEntry 2)	Applicable to SU/RB. Read-only. The modulation level applicable for the entry in the Per Modulation Level Counters Table.	Integer Range: 1 to 8* *Level 8 is not applicable to devices with HW revision A
*SUPerModulationLevelCountersTxSuccess (*PerModulationLevelCountersEntry 3)	Applicable to SU/RB. Read-only. The total number of successfully transmitted unicasts at the applicable modulation level.	Counter 32
*SUPerModulationLevelCountersTxFailed (*PerModulationLevelCountersEntry 4)	Applicable to SU/RB. Read-only. The total number of failures to successfully transmit a unicast frame during a HW Retry cycle at the applicable modulation level.	Counter 32
*AverageModulationLevel (*PerModulationLevelCounters 3)	Applicable to SU/RB. Read-only. The average modulation level for successful transmission (rounded to nearest integer) since last reset of the Per Modulation Level counters.	Integer 1-8.
*MacAddressDatabase (*SiteSurvey 5)	MAC Address Database	
*AUMacAddressDatabase (*MacAddressDatabase 1)	AU MAC Address Database	

MIB Parameter	Description	Value/Range
*AdbResetAllCounters (*AUMacAddressDatabase 1)	Applicable to AU/BU. Resets all the counters for all SUs in the MAC Address Database.	Integer reset (1) noReset (2)
*AUAdbTable (*AUMacAddressDatabase 2)	Applicable to AU/BU. Not accessible. The AU MAC Address Database Table.	
*AUAdbEntry (*AUAdbTable 1)	Applicable to AU/BU. Not accessible. An entry in the AU MAC Address Database Table.	
*AdbIndex (*AUAdbEntry 1)	Applicable to AU/BU. Read-only. The Index of an entry in the AU MAC Address Database Table.	Integer
*AdbMacAddress (*AUAdbEntry 2)	Applicable to AU/BU. Read-only. The MAC Address of an SU entry in the AU MAC Address Database Table.	MAC Address
*AdbStatus (*AUAdbEntry 3)	Applicable to AU/BU. Read-only. The wireless status of the relevant SU.	Integer associated (1) authenticated (2) notAuthenticated (3)
*AdbSwVersion (*AUAdbEntry 4)	Applicable to AU/BU. Read-only. The SW Version of the relevant SU.	Display String
*AdbSNR (*AUAdbEntry 5)	Applicable to AU/BU. Read-only. The average Signal to Noise Ratio in dB of frames received by the AU from the relevant SU.	Integer 0-60
*AdbMaxModulationLevel (*AUAdbEntry 6)	Applicable to AU/BU. Read-only. The value configured in the relevant SU for the Maximum Modulation Level parameter.	Integer Range: 1 to 8* *Level 8 is not applicable to devices with HW revision A.
*AdbTxFramesTotal (*AUAdbEntry 7)	Applicable to AU/BU. Read-only. Counts the total number of frames (excluding retransmissions) that were transmitted by the AU to the relevant SU.	Counter 32
*AdbDroppedFramesTotal (*AUAdbEntry 8)	Applicable to AU/BU. Read-only. Counts the total number of intended to the relevant SU that were dropped because they were retransmitted by the AU to the extent of the maximum allowed number of retransmissions without being acknowledged.	Counter 32
*AdbTxSuccessModLevel1 (*AUAdbEntry 9)	Applicable to AU/BU. Read-only. Counts the total number of unicast frames (excluding retransmissions) that were successfully transmitted to the SU over the wireless link using modulation level 1.	Counter 32
*AdbTxSuccess ModLevel2 (*AUAdbEntry 10)	Applicable to AU/BU. Read-only. Counts the total number of unicast frames (excluding retransmissions) that were successfully transmitted to the SU over the wireless link using modulation level 2.	Counter 32
*AdbTxSuccess ModLevel3 (*AUAdbEntry 11)	Applicable to AU/BU. Read-only. Counts the total number of unicast frames (excluding retransmissions) that were successfully transmitted to the SU over the wireless link using modulation level 3.	Counter 32
*AdbTxSuccess ModLevel4	Applicable to AU/BU. Read-only. Counts	Counter 32

MIB Parameter	Description	Value/Range
(*AUAdbEntry 12)	the total number of unicast frames (excluding retransmissions) that were successfully transmitted to the SU over the wireless link using modulation level 4.	
*AdbTxSuccess ModLevel5 (*AUAdbEntry 13)	Applicable to AU/BU. Read-only. Counts the total number of unicast frames (excluding retransmissions) that were successfully transmitted to the SU over the wireless link using modulation level 5.	Counter 32
*AdbTxSuccess ModLevel6 (*AUAdbEntry 14)	Applicable to AU/BU. Read-only. Counts the total number of unicast frames (excluding retransmissions) that were successfully transmitted to the SU over the wireless link using modulation level 6.	Counter 32
*AdbTxSuccess ModLevel7 (*AUAdbEntry 15)	Applicable to AU/BU. Read-only. Counts the total number of unicast frames (excluding retransmissions) that were successfully transmitted to the SU over the wireless link using modulation level 7.	Counter 32
*AdbTxSuccess ModLevel8 (*AUAdbEntry 16)	Applicable to AU/BU. Not applicable to units with HW revision A. Read-only. Counts the total number of unicast frames (excluding retransmissions) that were successfully transmitted to the SU over the wireless link using modulation level 8.	Counter 32
*AdbTxFailed ModLevel1 (*AUAdbEntry 17)	Applicable to AU/BU. Read-only. Counts the total number of failures to successfully transmit a unicast frame intended to the SU during a HW Retry cycle using modulation level 1.	Counter 32
*AdbTxFailed ModLevel2 (*AUAdbEntry 18)	Applicable to AU/BU. Read-only. Counts the total number of failures to successfully transmit a unicast frame intended to the SU during a HW Retry cycle using modulation level 2.	Counter 32
*AdbTxFailed ModLevel3 (*AUAdbEntry 19)	Applicable to AU/BU. Read-only. Counts the total number of failures to successfully transmit a unicast frame intended to the SU during a HW Retry cycle using modulation level 3.	Counter 32
*AdbTxFailed ModLevel4 (*AUAdbEntry 20)	Applicable to AU/BU. Read-only. Counts the total number of failures to successfully transmit a unicast frame intended to the SU during a HW Retry cycle using modulation level 4.	Counter 32
*AdbTxFailed ModLevel5 (*AUAdbEntry 21)	Applicable to AU/BU. Read-only. Counts the total number of failures to successfully transmit a unicast frame intended to the SU during a HW Retry cycle using modulation level 5.	Counter 32
*AdbTxFailed ModLevel6 (*AUAdbEntry 22)	Applicable to AU/BU. Read-only. Counts the total number of failures to successfully transmit a unicast frame intended to the SU during a HW Retry cycle using modulation level 6.	Counter 32

MIB Parameter	Description	Value/Range
*AdbTxFailed ModLevel7 (*AUAdbEntry 23)	Applicable to AU/BU. Read-only. Counts the total number of failures to successfully transmit a unicast frame intended to the SU during a HW Retry cycle using modulation level 7.	Counter 32
*AdbTxFailed ModLevel8 (*AUAdbEntry 24)	Applicable to AU/BU. Not applicable to units with HW revision A. Read-only. Counts the total number of failures to successfully transmit a unicast frame intended to the SU during a HW Retry cycle using modulation level 8.	Counter 32
*AdbCirTx (*AUAdbEntry 25)	Applicable to AU Only. Not applicable to BreezeNET B products. Read-only. The value configured in the relevant SU for the CIR: Uplink parameter.	Integer
*AdbMirTx (*AUAdbEntry 26)	Applicable to AU/BU. Read-only. The value configured in the relevant SU for the MIR: Uplink parameter.	Integer
*AdbCirRx (*AUAdbEntry 27)	Applicable to AU. Not applicable to BreezeNET B products. Read-only. The value configured in the relevant SU for the CIR: Downlink parameter.	Integer
*AdbMirRx (*AUAdbEntry 28)	Applicable to AU/BU. Read-only. The value configured in the relevant SU for the MIR: Downlink parameter.	Integer
*AdbCirMaxDelay (*AUAdbEntry 29)	Applicable to AU. Not applicable to BreezeNET B products. Read-only. The value configured in the relevant SU for the Maximum Delay parameter.	Integer
*AdbDistance (*AUAdbEntry 30)	Applicable to AU/BU. Read-only. The measured distance between the relevant SU/RB and the AU/BU (In Kilometers).	Integer 1 means any distance below 2 km
*AdbHwRevision (*AUAdbEntry 31)	Applicable to AU/BU. Read-only. The HW Revision of the relevant SU/RB.	Integer hwRevisionA (1), hwRevisionB (2), hwRevisionC (3), hwRevisionD (4), hwRevisionE (5), na(255)
*AdbCpldVer (*AUAdbEntry 32)	Applicable to AU/BU. Read-only. The CPLD Version of the relevant SU/RB.	DisplayString
*AdbCountryCode (*AUAdbEntry 33)	Applicable to AU/BU. Read-only. The Country Code of the relevant SU/RB.	Integer
*AdbBootVer (*AUAdbEntry 34)	Applicable to AU/BU. Read-only. The Boot Version of the relevant SU/RB.	DisplayString
*AdbAtpcOption (*AUAdbEntry 35)	Applicable to AU/BU. Read-only. The current ATPC Option of the relevant SU/RB.	Integer disable (1), enable (2), na(255)
*AdbAdapModOption (*AUAdbEntry 36)	Applicable to AU/BU. Read-only. The current Adaptive Modulation Option of the relevant SU/RB.	Integer disable (1), enable (2), na(255)
*AdbBurstModeOption (*AUAdbEntry 37)	Applicable to AU/BU. Read-only. The current Burst Mode Option of the relevant SU/RB.	Integer disable (1), enable (2), na(255)
*AdbConcatenationOption (*AUAdbEntry 39)	Applicable to AU/BU. Read-only. The current Concatenation Option of the	Integer disable (1),

MIB Parameter	Description	Value/Range
	relevant SU/RB.	enable (2), na(255)
*AdbSecurityMode (*AUAdbEntry 41)	Applicable to AU/BU. Read-only. The current Security Mode of the relevant SU/RB.	Integer wep (1), aesOCB (2), fips197 (3) na(255)
*AdbAuthOption (*AUAdbEntry 42)	Applicable to AU/BU. Read-only. The current Authentication Algorithm Option of the relevant SU/RB.	Integer openSystem(1), sharedKey (2), na(255)
*AdbDataEncryptOption (*AUAdbEntry 43)	Applicable to AU/BU. Read-only. The current Data Encryption Option of the relevant SU/RB.	Integer disable (1), enable (2), na(255)
*AdbAge (*AUAdbEntry 44)	Applicable to AU/BU. Read-only. The time in seconds elapsed since receiving the last packet from the relevant SU/RB.	Integer
*AdbUnitName (*AUAdbEntry 45)	Applicable to AU/BU. Read-only. The Unit Name of the relevant SU/RB.	DisplayString
*UpLinkQualityIndicator (*SiteSurvey 6)	UpLink quality Indicator (LQI) parameters. Applicable only to SU/RB.	
*MeasureUpLinkQualityIndicator (*UpLinkQualityIndicator 1)	Applicable to SU/RB. Starts calculation of LQI. The calculation will be for a period of 10 seconds.	Integer start (1), cancel (2)
*ReadUpLinkQualityIndicator (*UpLinkQualityIndicator 2)	Applicable to SU/RB. Read-only. The results of the last LQI calculation.	Integer 1-8.
*UpLinkQualityIndicatorStatus (*UpLinkQualityIndicator 3)	Applicable to SU/RB Only. Indicates the test conditions. fullTest means that there are no limitations on the range of available modulation levels, and that all modulation levels from 1 to 8 can be used. limitedTest indicates that the results may not indicate the true quality since the available range is limited - by HW (HW Revision A), or by the applicable parameters in the country code, or by the configurable Maximum Modulation Level parameter.	Integer fullTest (1), limitedTest (2)
*MacPinpoint (*SiteSurvey 7)	Applicable to AU/BU. MAC Pinpoint parameters.	
*MacPinpointTable (*MacPinpoint 1)	Applicable to AU/BU. MAC Pinpoint table. Not accessible.	
*MacPinpointEntry (MacPinpointTable 1)	Applicable to AU/BU. An entry in the MAC Pinpoint table. Not accessible. Each entry contains an Ethernet station MAC address and the MAC address of the wireless device used to connect it to the wireless network	
MptEthernetStationMACAddress (*MacPinpointEntry 1)	Applicable to AU/BU only. Read only. The MAC address of the Ethernet station. It is used as an index in the MAC Pinpoint Table.	MAC address
MptUnitMACAddress (*MacPinpointEntry 2)	Applicable to AU/BU only. Read only. The MAC address of the wireless device used by the station with the MAC Address from the index in order to access the wireless network	MAC address
*DrapGatewaysTable (*SiteSurvey 8)	DRAP Gateways table. Not accessible. Applicable only to AU with DRAP	

MIB Parameter	Description	Value/Range
	Support enabled. A table holding information on DRAP enabled gateways connected to SUs that are served by the AU.	
*DrapGatewayEntry (*DrapGatewaysTable 1)	Not accessible. An entry in the DRAP Gateways Table.	
*DrapGatewayIndex (*DrapGatewaysEntry 1)	Read-only. Gateway Entry's Index	Integer
*DrapGatewayIP (*DrapGatewaysEntry 2)	Read-only. The Gateway's IP address.	IP address
*DrapGatewayType (*DrapGatewaysEntry 3)	Read-only. The Gateway's type.	Integer vgDataVoice (4), vgData1Voice1 (5), vgData4Voice2 (6), vgDataVoice2 (7), ngData4Wireless (11), unknown (255)
*DrapGatewayNoOfActiveVoiceCalls (*DrapGatewaysEntry 4)	Read-only. The current number of active voice calls handled by the Gateway. Applicable only to Voice Gateways.	Integer

E.3 Supported Traps

NOTE

An * is used instead of the brzaccVL prefix.

E.3.1 Trap Variables

MIB Parameter	Description	Value/Range
*Traps (breezeAccessVLMib 14)		
*TrapSUMacAddr (*Traps 1)	Applicable to AU/BU. An SU/RB MAC address.	MAC address
*TrapText (*Traps 3)	Applicable to all units. Textual string for future use.	DisplayString
*TrapToggle (*Traps 4)	Applicable to all units. An On/Off toggle status.	Integer on (1) off (2)
*TrapParameterChanged (*Traps 5)	Applicable to all units. A modification to one of the parameters related to IP Filtering, MIR/CIR or VLAN.	Integer cirOrMir (1) ipFilter (2) vlan (3)
*TrapAccessRights (*Traps 6)	Applicable to all units. The access rights used for login.	Integer notLoggedIn (1) readOnly (2) installer (3) administrator (4) factory (5)
*TrapLog (*Traps 7)	Applicable to all units. Login or logout to the Monitor program Telnet.	Integer telnetLogin (1) telnetLogout (2)
*TrapTelnetUserIpAddress (*Traps 8)	Applicable to all units. The IP address of a Telnet user.	IP address
*TrapRTx (*Traps 9)	Applicable to AU/BU. Retransmissions rate.	
*TrapFtpOrTftpStatus (*Traps 10)	Applicable to all units. The status of the last FTP/TFTP loading process.	successful (1) failed (2)
*TrapDFSMoveFreq (*Traps 11)	Applicable to AU/BU with HW revision B and lower (for units with HW revision C and higher replaced by *TrapDFSMoveFreq New to support a resolution of 0.5 MHz). The new frequency in MHz after detecting radar on a previous channel.	Integer
*TrapDFSMoveFreqNew (*Traps 12)	Applicable to AU/BU. The new frequency in MHz after detecting radar on a previous channel. (Replaces *TrapDFSMoveFreq to support a resolution of 0.5 MHz for units with HW revision C and higher).	DisplayString
*EthBroadcastThresholdExceeded (*Traps 13)	Applicable to all units. The number of packets that were dropped by the Ethernet broadcast/multicast limiter.	Integer
*TrapSubscriberType (*Traps 14)	Applicable to AUS only. The type of subscriber that was rejected by the AUS (AUS can serve up to 8 SUs. Only SU-3,	Integer unknownSubscriberType(0), su-3(3)

MIB Parameter	Description	Value/Range
	SU-6 and SU-I are supported).	su-6(6), rb-14(14), su-24(24), rb-28(28), su-54(54), rb-100 (100)
*TrapMACAddress (*Traps 15)	Applicable to BU/RB only. The MAC address of the BU/RB unit whose type has been changed.	MAC Address
*NewUnitType (*Traps 16)	Applicable to BU/RB only. The new type of the unit.	Integer bu (1), rb (2)
*TrapSWVersion (Traps 17)	The SW version of the SU/RB-B100 with a SW version below 4.0 that tries to associate with a station that has Wireless Link Prioritization Enabled	DisplayString

E.3.2 Private Traps

Trap (Number)	Description	Variables
*SUassociatedAUTRAP (2)	An AU/BU trap indicating a new association with an SU/RB.	*TrapSUMacAddr
*AUdisassociatedTRAP (3)	An AU/BU trap indicating that an SU/RB has been disassociated from the AU/BU. The AU/BU decides that an SU/RB has been disassociated from it and remove it from the ADB after receiving from another AU/BU a SNAP frame with the SU/RB MAC address. The SNAP frame indicating a network topology change where the SU/RB has associated with another AU/BU will be received if both AUs/BUs are connected to the same Ethernet backbone.	*TrapSUMacAddr
*AUagingTRAP (4)	An AU/BU trap indicating that an SU/RB aged out and was removed from the Associations database following its failure to acknowledge a specified number of consecutive frames.	*TrapSUMacAddr
*SUassociatedTRAP (6)	An SU/RB trap indicating association with an AU/BU. In addition to the MAC address information of the AU/BU, the trap also includes information on the average SNR of frames received from the AU/BU.	*AssociatedAU
*AUwirelessQualityTRAP (20)	An AU/BU trap, indicating that the quality of the wireless link has changed and dropped	*TrapToggle *TrapRTx

Trap (Number)	Description	Variables
	below (Off) or increased above (On) a threshold defined by the *WirelessTrapThreshold.	
*PowerUpFromReset (101)	An AU/BU trap indicating power up after reset.	*UnitMacAddress
*MonitorStatusTRAP (102)	Applicable to all units. A trap indicating that a log-in or log-out has been performed via Telnet. Includes the login access right and the IP address of the PC performing Telnet.	*TrapLog *TrapAccessRights *TrapTelnetUserIpAddress
*ParameterChangedTRAP(103)	Applicable to all units. A trap indicating a change in CIR/MIR, IP Filter or VLAN parameter.	*TrapParameterChanged
*LoadingStatusTRAP(104)	Applicable to all units. A trap indicating the results (successful or failed) of the last FTP/TFTP loading process.	*TrapFtpOrTftpStatus *UnitMacAddress
*PromiscuousModeTRAP (105)	An AU/BU trap indicating that promiscuous mode was enabled (on) or disabled (off)	*TrapToggle *UnitMacAddress
*DFSRadarDetectedTRAP (106)	An AU/BU trap indicating that radar was detected	*UnitMacAddress
*DFSFrequencyTRAP (107)	An AU/BU trap indicating the new frequency after radar was detected.	*TrapDFSMoveFreq (HW Revision B and lower). *TrapDFSMoveFreqNew (HW Revision C and higher).
*DFSNoFreeChannelsExistTRAP (108)	An AU/BU trap indicating that radar was detected and there is no free channel.	*UnitMacAddress
*EthBroadcastMulticatLimiterTRAP (109)	Applicable for all units. The trap is send if the Ethernet broadcast filter threshold is exceeded and it contains the number of packets that were dropped since the last trap.	*UnitMacAddress *EthBroadcastThresholdExceeded
*UnsupportedSubscriberTypeTRAP (110)	Applicable to AUS only. This trap is generated when a subscriber unit that is not supported tries to associate with the AUS. The AUS supports only up to 8 SU-3 and/or SU-6 and/or SU-I units.	*TrapSUMacAddr *TrapSubscriberType
*UnitTypeChangedTRAP (111)	Applicable to BU/RB only. This trap is generated when the user changes the type of the unit. The RB can be converted to BU or vice versa.	*TrapMACAddress *NewUnitType
*PrioritizationNotSupportedBySUTRAP (112)	Applicable to AU only. This trap is generated when an SU with a SW version below 4.0 that does not support Wireless Link Prioritization is associated with an AU with the Wireless Link Prioritization Option enabled.	*TrapSUMACAddress *TrapSWVersion

Appendix F - Parameters Summary

In This Appendix:

- The tables provide an at a glance summary of the configurable parameters, value ranges, and default values. In addition, each parameter entry also includes an indication as to whether the parameter is updated in run-time or whether the unit must be reset before the modification takes effect.

F.1 Parameters Summary

F.1.1 Unit Control Parameters

Parameter	Unit	Range	Default	Run-Time
Change Unit Name	AU, SU	Up to 32 printable ASCII characters	None	Yes
Change Read Only Password	AU, SU	Up to 8 printable ASCII characters	public	No
Change Installer Password	AU, SU	Up to 8 printable ASCII characters	user	No
Change Administrator Password	AU, SU	Up to 8 printable ASCII characters	private	No
FTP SW Version File Name	AU, SU	Up to 20 printable ASCII characters. An empty string is not allowed.	VxWorks.bz	Yes
Configuration File Name	AU, SU	Up to 20 printable ASCII characters. An empty string is not allowed.	config.cfg	Yes
Operator Defaults File Name	AU, SU	Up to 20 printable ASCII characters. An empty string is not allowed.	operator.cmr	Yes
FTP Source Dir	AU, SU	Up to 80 printable ASCII characters. Use "." to clear.	None (empty)	Yes
FTP Server IP Address	AU, SU	IP address	10.0.0.253	No
FTP Gateway IP Address	AU, SU	IP address	0.0.0.0	No
FTP User Name	AU, SU	Up to 18 printable ASCII characters	vx	No
FTP Password	AU, SU	Up to 18 printable ASCII characters	Vx	No
FTP Log File Name	AU, SU	Up to 20 printable ASCII characters	logfile.log	Yes
FTP Log File Destination Directory	AU, SU	Up to 80 printable ASCII characters. Use "." to clear.	None (empty)	Yes
Event Log Policy	AU, SU	■ Message ■ Warning ■ Error ■ Fatal ■ Log None	Warning	Yes
Log Out Timer	AU, SU	1-999 minutes	5	Yes
Ethernet Port Negotiation Mode	AU, SU	■ Force 10 Mbps and Half-Duplex ■ Force 10 Mbps and Full-Duplex ■ Force 100 Mbps and Half-Duplex ■ Force 100 Mbps and Full-Duplex ■ Auto Negotiation	Auto Negotiation	No
Change System Location	AU, SU	Up to 34 printable ASCII characters	None	Yes
Manual Feature Upgrade	AU, SU	License string: 32 to 64 hexadecimal digits	None	No

F.1.2 IP Parameters

Parameter	Unit	Range	Default	Run-Time
IP Address	AU, SU	IP address	10.0.0.1	No
Subnet Mask	AU, SU	IP address	255.0.0.0	No
Default Gateway Address	AU, SU	IP address	0.0.0.0	No
DHCP Option	AU, SU	■ Disable ■ DHCP Only ■ Automatic	Disable	No
Access to DHCP	AU, SU	■ From Wireless Only ■ From Ethernet Only ■ From Both Wireless and Ethernet	AU: From Ethernet Only SU: From Wireless Only	No

F.1.3 Air Interface Parameters

Parameter	Unit	Range	Default	Run-Time
ESSID	AU, SU	Up to 31 printable ASCII characters	ESSID1	No
Operator ESSID Option	AU	■ Disable ■ Enable	Enable	No
Operator ESSID	AU	Up to 31 printable ASCII characters	ESSID1	No
Best AU Support	SU	■ Disable ■ Enable	Disable	No
Number of Scanning Attempts	SU	1 – 255	4	No
Preferred AU MAC Address	SU	MAC Address	00-00-00-00-00-00 (no preferred AU)	Yes
Scanning Mode	SU	Passive, Active	Passive	No
Cell Distance Mode	AU	Automatic, Manual	Automatic	No
Maximum Cell Distance	AU	0-54 (Km) 0 means no compensation	0 (no compensation)	Yes
Fairness Factor	AU	0 – 100 (%)	100 (%)	No
Arbitration Inter-Frame Spacing	AU, SU	■ 1 time slot ■ 2 time slots	2 time slots	Yes
Per SU Distance Learning	AU	■ Disable ■ Enable	Disable	Yes
Wireless Trap Threshold	AU	1-100 (%)	30 (%)	Yes
Maximum Number of Associations	AU	AU-BS, AU-SA: 1-512 (1-124 if Data Encryption Option is enabled). AUS-BS, AUS-SA: 1-8	AU-BS, AU-SA: 512 AUS-BS, AUS-SA: 8	Yes
Sub-Band Select*	AU	According to the Country Code	1	No
Frequency	AU	According to the Sub-Band	The lowest frequency in the Sub-Band	No
User Defined Frequency Subsets	SU	All frequencies in the available Sub Bands	All available frequencies in all available Sub Bands	Yes

Parameter	Unit	Range	Default	Run-Time
DFS Option**	AU	■ Disable ■ Enable	Dependent on Country DFS Support: If DFS is supported by the country code then the default will be Enable, else it will be Disable.	No
Frequency Subset Definition (in AU)**	AU	According to the Sub-Band. A list of frequency indexes or A for all frequencies supported by the Sub-Band	A	No
Channel Check Time**	AU	1 – 3600 (seconds)	60 (seconds)	No
Channel Avoidance Period**	AU	1 – 60 (minutes)	30 (minutes)	No
SU Waiting Option**	AU	■ Disable ■ Enable	Enable	No
Minimum Pulses to Detect**	AU	1-100	6	No
Clear radar Detected Channels After Reset**	AU	■ Disable ■ Enable	Disable	Yes
Channel Reuse Option**	AU	■ Disable ■ Enable	Disable	No
Radar Activity Assessment Period**	AU	1 – 12 hours	5 hours	No
Maximum Number of Detections in Assessment Period**	AU	1 – 10 detections	5 detections	No
Country Code Learning by SU	AU	■ Disable ■ Enable	Enable	Yes
Transmit Power	AU, SU	-10 dBm to a value that depends on HW revision , Country Code / Antenna Gain and (in SU) the Max Tx Power parameter	The highest allowed value	Yes
Maximum Tx Power	SU	-10 dBm to a value that depends on HW revision and Country Code / Antenna Gain	The highest allowed value	Yes
ATPC Option	AU, SU	■ Disable ■ Enable	Enable	Yes
Delta from Minimum SNR Level	AU	4-20 (dB)	■ Units in 5.4, 5.8 GHz bands: 5 (dB) ■ Units in the 4.9, 5.2 and 5.3 GHz bands: 8 (dB)	Yes
Minimum SNR Level	AU	4-60 (dB)	28 (dB)	Yes
Minimum Interval Between ATPC Messages	AU	1-3600 (seconds)	30 (seconds)	Yes
ATPC Power Level Steps	AU	1-20 (dB)	4	Yes
Tx Control	AU	■ Off ■ On ■ Ethernet Status Control	On	Yes
Antenna Gain	AU, SU***	0 – 50 (dB)	According to the antenna supplied with the unit.	No

Parameter	Unit	Range	Default	Run-Time
Spectrum Analysis Channel Scan Period	AU, SU	2 – 30 seconds	5 seconds	No
Spectrum Analysis Scan Cycles	AU, SU	1 – 100 cycles	2 cycles	No
Automatic Channel Selection	AU	■ Disable ■ Enable	Disable	No (Configured per analysis)
Lost Beacons Watchdog Threshold	AU	100 – 1000, 0 means Not Used	218	Yes
Noise Immunity State Control	AU, SU	■ Automatic ■ Manual	Automatic	Yes
Noise Immunity Level	AU, SU	0 – 4 Use only 0 or 4	0	Yes
Spur Immunity Level	AU, SU	0 – 7	0	Yes
OFDM Weak Signal	AU, SU	0 (not active) or 1 (active)	0	Yes
Pulse Detection Sensitivity	AU, SU	■ Low ■ High	High	Yes

* Not applicable if only one Sub-Band is available for the applicable Country Code

** Applicable only if DFS is supported by the Sub-Band

*** Configurable only in units without an integral antenna.

F.1.4 Network Management Parameters

Parameter	Unit	Range	Default	Run-Time
Access to Network Management	AU, SU	■ From Wireless Link Only ■ From Ethernet Only ■ From Both Ethernet and Wireless Link	From Both Ethernet and Wireless Link	No
Network Management Filtering	AU, SU	■ Disable ■ Activate Management IP Filter On Ethernet Port ■ Activate Management IP Filter On Wireless Port ■ Activate Management IP Filter On Both Ethernet and Wireless Ports	Disable	No
Set Network Management IP Address	AU, SU	IP address	0.0.0.0 (all 10 entries)	No
Set/Change Network Management IP Address Ranges	AU, SU	<start address> to <end address> or, <base address> mask <mask>	0.0.0.0 TO 0.0.0.0 (all 10 entries)	No
Send SNMP Traps	AU, SU	■ Disable ■ Enable	Disable	Yes
SNPM Traps IP Destination	AU, SU	IP address	0.0.0.0 (all 10 entries)	No

Parameter	Unit	Range	Default	Run-Time
SNMP Traps Community	AU, SU	Up to 14 printable ASCII characters	public (all 10 entries)	No
AP Client IP Address	SU	IP address	0.0.0.0 (none)	Yes

F.1.5 Bridge Parameters

Parameter	Unit	Range	Default	Run-Time
VLAN ID-Data	SU	1 – 4094	1	No
VLAN ID – Management	AU, SU	1 – 4094, 65535	65535 (no VLAN)	No
VLAN Link Type	AU, SU	■ Hybrid Link ■ Trunk Link ■ Access Link (only in SU) ■ Service Provider Link	Hybrid Link	No
VLAN Forwarding Support	AU, SU	Disable, Enable	Disable	No
VLAN Forwarding ID	AU, SU	1 – 4094 (up to 20 entries)	Empty list	No
VLAN Relaying Support	AU	Disable, Enable	Disable	No
VLAN Relaying ID	AU	1 – 4094 (up to 20 entries)	Empty list	No
VLAN Priority – Data	SU	0 – 7	0	No
VLAN Priority – Management	AU, SU	0 – 7	0	No
VLAN QinQ Protocol Ethertype	AU, SU	8100 – 9000, 9100, 9200 (hex)	8100 (hex)	No
Service Provider VLAN ID	SU	1 – 4094	1	No
Ethernet Broadcast Filtering Options	SU	■ Disable, ■ On Ethernet Port Only ■ On Wireless Port Only ■ On Both Wireless and Ethernet Ports	Disable	Yes
DHCP Broadcast Override Filter	SU	■ Disable ■ Enable	Disable	Yes
PPPoE Broadcast Override Filter	SU	■ Disable ■ Enable	Disable	Yes
ARP Broadcast Override Filter	SU	■ Disable ■ Enable	Enable	Yes
Ethernet Broadcast/Multicast Limiter Option	AU, SU	■ Disable ■ Limit only Broadcast Packets ■ Limit Multicast Packets that are not Broadcasts ■ Limit All Multicast Packets (including broadcast)	Disable	Yes
Ethernet Broadcast/Multicast Limiter Threshold	AU, SU	0 – 204800 (packets/second)	50	Yes
Ethernet Broadcast/Multicast Limiter Send Trap Interval	AU, SU	1 – 60 (minutes)	5 (minutes)	Yes
Bridge Aging Time	AU, SU	20 – 2000 seconds	300	No
Broadcast Relaying	AU	Disable, Enable	Enable	No
Unicast Relaying	AU	■ Disable	Enable	No

Parameter	Unit	Range	Default	Run-Time
		■ Enable		
MAC Address List	AU	Up to 100 MAC addresses	None (empty)	Yes
MAC Address List Action	AU	■ Deny ■ Allow	Deny	Yes
Roaming Option	SU	■ Disable ■ Enable	Disable	No
Ethernet Port Control	SU	■ Disable ■ Enable	Enable	Yes

F.1.6 Performance Parameters

Parameter	Unit	Range	Default	Run-Time
RTS Threshold	AU, SU	20 – 4032 (bytes)	AU: 4032 SU: 60	Yes
Minimum Contention Window	AU, SU	0, 7, 15, 31, 63, 127, 255, 511, 1023	15	Yes
Maximum Contention Window	AU, SU	7, 15, 31, 63, 127, 255, 511, 1023	1023	Yes
Maximum Modulation Level	AU, SU	According to the Min/Max Modulation Level defined for the Sub-Band	The highest available value	Yes
Multicast Modulation Level	AU	According to the Min/Max Modulation Level defined for the Sub-Band	The lowest available value	Yes
Number of HW Retries	AU, SU	1 - 14	10	Yes
Average SNR Memory Factor	AU, SU	-1 to 32	5	Yes
Burst Mode Option*	AU, SU	■ Disable ■ Enable	Enable	No
Burst Mode Time Interval*	AU, SU	1 to the value defined in the Sub-Band for Maximum Burst Duration (milliseconds)	5 milliseconds or the value of Maximum Burst Duration defined for the Sub-Band (the lower of the two values).	Yes
Adaptive Modulation Option	AU, SU	■ Disable ■ Enable	Enable	No
Minimum Interval Between Adaptive Modulation Messages	AU, SU	1-3600 (seconds)	4 (seconds)	Yes
Adaptive Modulation Decisión Threshold	AU, SU	■ Normal ■ High	Normal	No
Concatenation Option	AU, SU	■ Disable ■ Enable	Enable	No
Maximum Concatenated Frame Size	AU, SU	■ 256 to 2200 bytes for units with HW revision A or B ■ 256 to 4032 bytes for units with HW revision C or higher	■ 2200 for units with rev A or B ■ 4032 for units with rev C or higher	Yes

* Applicable only if Burst Mode is supported by the Sub-Band.

F.1.7 Service Parameters

Parameter	Unit	Range	Default	Run-Time
User Filtering Option	SU	■ Disable ■ IP Protocol Only ■ User Defined Addresses Only ■ PPPoE Protocol Only	Disable	Yes
Set/Change Filter IP Address Ranges	SU	<start address> to <end address> or, <base address> mask <mask>	0.0.0.0 TO 0.0.0.0 (all 8 entries)	No
DHCP Unicast Override Filter	SU	■ Disable DHCP Unicast ■ Enable DHCP Unicast	Disable DHCP Unicast	Yes
MIR: Downlink	SU	SU-3: 128-3072 (Kbps) SU-6: 128-6016 (Kbps) SU-54: 128-53888 (Kbps) SU-I: 128-6016 (Kbps)	SU-3: 3072 SU-6: 6016 SU-54: 32896 SU-I: 6016	No
MIR: Uplink	SU	SU-3: 128-2048 (Kbps) SU-6: 128-4096 (Kbps) SU-54: 128-53888 (Kbps) SU-I: 128-2048 (Kbps)	SU-3: 2048 SU-6: 4096 SU-54: 32896 SU-I: 2048	No
CIR: Downlink	SU	SU-3: 0-2048 (Kbps) SU-6: 0-4096 (Kbps) SU-54: 0-45056 (Kbps) SU-I: 0-6016 (Kbps)	0 (Kbps	No
CIR: Uplink	SU	SU-3: 0-2048 (Kbps) SU-6: 0-4096 (Kbps) SU-54: 0-45056 (Kbps) SU-I: 0-2048 (Kbps)	0 (Kbps)	No
Maximum Delay	SU	300 – 10,000 (ms)	5,000 (ms)	No
Maximum Burst Duration	AU, SU	0 – 2,000 (ms)	5 (ms)	No
Graceful Degradation Limit	AU	0 – 70 (%)	70 (%)	No
MIR Only Option	AU	■ Disable ■ Enable	Enable	No
VLAN Priority Threshold	AU, SU	0 – 7	7	No
ToS Prioritization Option	AU, SU	■ Disable ■ Enable IP Precedence (RFC791) Prioritization ■ Enable DSCP (RFC2474) Prioritization	Disable	No
IP Precedence Threshold	AU, SU	0 – 7	4	No
DSCP Threshold	AU, SU	0 – 63	32	No
UDP/TCP Port Ranges Prioritization Option	AU, SU	■ Disable ■ Enable Only for UDP ■ Enable Only for TCP ■ Enable for both UDP and TCP	Disable	No
UDP RTP/RTCP Prioritization	AU, SU	■ RTP & RTCP ■ RTP Only	RTP & RTCP	No
TCP RTP/RTCP Prioritization	AU, SU	■ RTP & RTCP ■ RTP Only	RTP & RTCP	No

Parameter	Unit	Range	Default	Run-Time
Low Priority Traffic Minimum Percent	AU, SU	0 – 100 (%)	0 (%)	Yes
Wireless Link Prioritization Option*	AU	■ Disable ■ Enable	Disable	Yes
Low Priority AIFS*	AU	3-254	3	Yes
Number of HW Retries for High Priority Traffic*	AU	1-14	10	Yes
Number of HW Retries for Low Priority Traffic*	AU	1-14	10	Yes
AU Burst Duration for High Priority Traffic*	AU	0-40 (in 0.25 milliseconds units)	16 (4 milliseconds)	Yes
AU Burst Duration for Low Priority Traffic*	AU	0-40 (in 0.25 milliseconds units)	20 (5 milliseconds)	Yes
SU Burst Duration for High Priority Traffic*	AU	0-40 (in 0.25 milliseconds units)	8 (2 milliseconds)	Yes
SU Burst Duration for Low Priority Traffic*	AU	0-40 (in 0.25 milliseconds units)	20 (5 milliseconds)	Yes
DRAP Support	AU	■ Disable ■ Enable	Enable	No
UDP Port	AU	8000–8200	8171	No
Maximum Number Of Voice Calls	AU	1–255	40	No
DRAP TTL	AU	1–255 (seconds)	10 (seconds)	No

* Wireless Link Prioritization parameters are applicable only for units with a license for this feature

F.1.8 Security Parameters

Parameter	Unit	Range	Default	Run-Time
Authentication Algorithm*	AU, SU	■ Open system ■ Shared Key	Open system	No
Data Encryption Option*	AU, SU	■ Disable ■ Enable	Disable	No
Security Mode*	AU, SU	■ WEP ■ AES OCB ■ FIPS-197**	WEP	No
Default Key	SU	1-4	1	No
Default Multicast Key	AU	1-4	1	No
Key # 1 to Key # 4	AU, SU	32 hexadecimal digits	0…0 (all 0=no key)	No
Promiscuous Authentication	AU	■ Disable ■ Enable	Disable	Yes (Disable after reset)

* Applicable only if supported by the Sub-Band.

** The FIPS-197 option is available only in units with HW revision C or higher that have the applicable license.

Appendix G - Troubleshooting

G.1 Ethernet Port Connection Problems

Problem and Indication	Possible Cause	Corrective Action
The Ethernet Integrity Indicator (the yellow LED embedded in the Ethernet connector) is off, and/or the Ethernet Activity Indicator (the green embedded LED) does not blink when there should be traffic on the Ethernet port.	Wrong type of Ethernet cable	If connected directly to PC-use a crossed cable. Otherwise-use a straight cable
	Faulty Ethernet cable	Replace cable
The unit does not respond to ping.	Wrong IP configuration	Make sure that the PC is on the same subnet as the unit*.
	Wrong Ethernet port operation mode	Make sure that the speed and duplex settings in the PC match the configuration in the unit (the default is Auto Negotiation)

* If the IP parameters of the unit are unknown, use the Set Factory Defaults utility to restore the default factory configuration of all parameters (except to Passwords, general FTP parameters and AU's Frequency). The IP address of the unit after setting to factory defaults is 10.0.0.1.

G.2 SU Association Problems

Problem and Indication	Possible Cause	Corrective Action
SU does not associate with AU	Wrong configuration	Check proper configuration of basic parameters: ■ ESSID ■ Sub-band and frequencies subset ■ Best AU parameters ■ ATPC Option ■ Transmit Power ■ Maximum Transmit Power ■ Antenna Gain ■ Security parameters: Authentication Algorithm, and Default Key. If necessary-use Promiscuous Mode in AU.
	Access is denied by AU	Verify that the SU is not included in MAC Address Deny List of the AU.
	Link quality is too low	■ Verify that unit is in coverage area of AU according to radio planning. ■ Verify that antenna is directed toward the AU ■ Try to improve location/height of antenna.

G.3 Low Throughput Problems

Problem and Indication	Possible Cause	Corrective Action
Low throughput is suspected (Check the dominant Modulation Level in Per rate Counters and see expected throughput in the "Expected Throughput" table below)	Ethernet link problems	■ Verify proper settings of Ethernet operation mode (actual Ethernet speed of 100 Mbps). ■ Check Ethernet counters
	Wrong configuration of Maximum Modulation level	Verify that Maximum Modulation level is not set to a value that is not too low according to the "Recommended Maximum Modulation Level" table below.
Low throughput of multicast/broadcast traffic	Non-optimal configuration of Multicast Modulation level	A value that is too low (see the "Recommended Maximum Modulation Level" table below) may degrade throughput of broadcast and multicast traffic.
High retransmissions rate	Interference problems (retransmissions rate in excess of 15%)	Check for interference using the Spectrum Analysis Mode. If necessary, change the operating frequency of the AU.

Expected Throughput in Mbps, TCP Traffic @ 20 MHz Bandwidth, Burst Mode Enabled, Concatenation Enabled									
Unit	**TCP Traffic**	**Modulation Level**							
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
SU-3	Uplink	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	Downlink	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
	Aggregate (Bi-directional)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
SU-6	Uplink	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
	Downlink	4.8	5.6	5.6	5.6	5.6	5.6	5.6	5.6
	Aggregate (Bi-directional)	5	6.7	7	7.1	7.1	7.2	7.2	7.2
SU-54	Uplink	4.7	6.7	8.9	12.4	15.8	21	25.1	26.4
	Downlink	4.8	7.1	9.4	13.7	17.7	24.7	28.9	30.1
	Aggregate (Bi-directional)	4.8	7	9.3	13.1	16.9	22.8	29.4	32

* The throughput results are for net TCP traffic (excluding protocols overheads)

Recommended Maximum Modulation Level*	
SNR	**Maximum Modulation Level**
SNR > 23 dB	8
21 dB < SNR < 23 dB	7
16 dB< SNR < 21 dB	6
13 dB < SNR < 16 dB	5
10 dB < SNR < 13 dB	4
8 dB < SNR < 10 dB	3
7 dB < SNR < 8 dB	2
6 dB < SNR < 7 dB	1

* The maximum supported value depends on the unit's HW revision and on the Max Modulation Level according to the Sub-Band.