BWA VL

SU-Lite Ver.3.0.6
GA Release Note

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P/N 215623

General

This document details the main features, known limitations and other important notifications with respect to BWA VL release for SU-Lite. It corresponds to VL-SU-Lite software version 3.0.6.

Introduction

With this release new capabilities for the SU-Lite are introduced, including support for 10MHz channel bandwidth, as well as burst support for improved efficient performance.

For details on the specific capabilities added in this release please refer to section 4 below.

SU-Lite presents VL customers both with an advanced feature rich easy to install subscriber unit as well as a cost effective competitive solution. SU-Lite can be deployed in any VL sector (AU-SA, AU-BS, AUS) and with any type of VL SUs (SU-3, SU-6, SU-V, SU-54) enabling customer's maximal flexibility. License upgrades for additional capacity of SU-L are available (SU-3-L to SU-6-L and SU-6-L to SU-12-L).

Frequency Bands

The currently supported frequency bands:

- 5.8 GHz Band: 5.725–5.875 GHz
- 5.4 GHz Band: 5.470–5.725 GHz
- 5.2 GHz Band: 5.150–5.350 GHz
- 5.3 GHz Band: 5.250–5.350 GHz
- 4.9 GHz Band: 4.900-5.100 GHz

SU-Lite Version 3.0.6 New Features

10 MHz Channel Support

Version 3.0.6 introduces support for 10MHz channel bandwidth (i.e. supporting either 10 or 20 MHz). 10MHz channel bandwidth is necessary for cases of narrow available frequency band, or for cases of high spectral occupancy (co-location / co-existence scenarios) gaining reduced interference (less noise summed due to narrower integration window) and higher probability of locating available channel.

Burst Support on SU-Lite

For better performance utilization and efficiency, support for Burst Mode similar to the Burst Mode in regular SU-VL.

Important Notes for SU-Lite

- SU-L units running SW version 1.0 will not be accepted at association by BWA AU units running SW version 5.5 and later. In this situation customer must upgrade the SU-L unit to version 3.0.4. SU-L units will not be associated by BWA AU units running any other SW version but 5.5 or later.
- **Customer should upgrade from version 1.0 only using the upgrade application (upgrade_ez.exe) provided by the supplier. Choosing other upgrade methods (web, FTP etc) may produce unrecoverable damage to the units.**
  To help within the upgrade process the supplier is also providing a technical note (SU-L Software Upgrade Procedure) which is guiding, step by step, through this process. The upgrade application as well as the technical note are available on the customer support web page or via the distributor

- In case where Information Rate (IR) is not achieved, the SU-L total aggregated traffic can be increased by decreasing the CW parameter value effectively increasing the SU chances to use the air (special care should be taken as decreasing the CW value can increase the collision probability resulting in reduced capacity)
- With respect to the new ETSI DFS regulation in the 5.4 -5.8 GHz, when upgrading the installed SU-L units to version 2.1.10, the DFS feature will not be enabled. Manually enabling the DFS option is required.
- When upgrading SU-L units from 2.1 or lower to 3.0 or higher, support for 10 and 20 MHz channel bandwidth is enabled by default. Therefore, since the SU-L units scan both bandwidths to find an AU, association time might increase after the upgrade to 3.0 or higher.
- Working with ATPC for SU-L requires customers to configure the same management VLAN ID on both the AU and the SU-L.
- When ATPC Option for SU-L is enabled on the AU, any power level change requested by the AU and performed on the SU-L is followed by an automatic status-update. This results in a need for the SU-L to disassociate and re-associate causing a short interruption in service.
- Any parameter change on SU-L followed by status-update from telnet/SSH or Update command from Web causes automatic disassociation and re-association of the SU-L.
- SU-L is set by default to scan all available channels for the regdomain in use. However, SU-L can be made to associate significantly faster by disabling (un-checking) channels on the SU-L which are not relevant, such as belonging to bands not supported by the AU, etc.

Known Issues Related to SU-Lite

- For upgrading customer should use the firmware file provided by the supplier. In case customer accidentally uses a different file bigger than 18MB the result is unpredictable and can result in a need to reset the SU.
- Customers are advised not to refresh the web page with unreasonable speed.
- SU-Lite re-association time might be longer than regular SU when DFS requires channel change.
- From the HTTP/HTTPS interface if the DHCP option is activated the static IP cannot be configured. It is recommended to configure the static IP address prior to activation of DHCP
- When working via webpage in the SU-Lite There is no way to verify that the encryption key has been introduced successfully - there is no warning message or other indication when configuring the encryption key from the web fails (for example if a wrong value is accidentally inserted)
- When cell capacity is reached the overall delay might increase dramatically.
- Upon unit upgrade or downgrade, at boot time, if the unit detects errors in the new versions, it might temporarily switch to the default values. Applying HW reset to the unit will bring it back to the configured values.
- In the event that the Ethernet data rate exceeds the MIR value, the packet delay, especially when working with UDP traffic, can significantly increase.
- When using HTTP to configure SU-L, if one parameter is set outside its range, none of the parameters will be applied (the page is rejected as a block).
- Simultaneous setting of all 4 MIR/CIR parameters from web might not work (for example, if the new values cannot be validated against all of the old values) – customer is advised to set them one by one according to the right order.
- Restoring an encrypted configuration file in the SU-L doesn't necessarily change all the MIR/CIR parameters. In such case, customers will need to manually configure the MIR/CIR parameters.

- When upgrading the SU-L via FTP or TFTP, the absolute FTP/TFTP path (e.g. with sub-folders) of the upgrade file is not taken into account. In such cases, customers need to set the root of the FTP server manually and make sure the SU-L firmware file is located in the FTP/TFTP root folder.
- SW upgrade of SU-L might fail when the last channel on the frequencies list is being heavily interfered. In such cases, that heavily interfered frequency should be removed from the list and SW upgrade repeated.
- An error message might be displayed at the bottom of the SU-L web page ('sh: ifconfig: not found') after the upload of a configuration file is performed. This is only a display issue and does not affect unit operation in any way; it should be ignored.

Limitations of SU-Lite

- It is recommended not to set the same exact values for the CIR and MIR; in case CIR=MIR then the CIR value will not be reached.
- SU-L does not support concatenation, which may result in slightly lower performance in condensed sectors or when working with small packets (such as voice).
- The version name downloaded to the unit via FTP must have a minimum of 6 characters.
- The SU-L Cell Distance option should be manually set when operating in mixed SU-VL and SU-L sectors (SU-L cannot learn the maximum distance from the AU).
- RF distance parameter is set to 1km when reset to factory defaults is applied. Following factory reset customers should configure the 'distance' parameter according to their needs.
- If Shared Key authentication is used, then the data encryption option must be enabled in order to allow the SU-L to associate.
- Promiscuous mode doesn't work in AU for SU-L subscribers (SU-L not supported in this mode).
- Data encryption must be set in the same way throughout the cell in order to support traffic relay. If the SU data encryption is enabled then the AU data encryption must also be enabled.
- SU-L will not associate with an AU that uses Hidden ESSID.
- Setting the admin password in telnet does not require status update.
- When an SU-L is scanning for available AU Access Units, it may discover also other unit types (i.e. other 802.11a APs). However, it will only associate to compatible Access Units.
- When using encryption, either for data or authentication, make sure all relevant settings are the same in the SU and the AU otherwise the SU-L might not associate.
- When configuring parameters of SU-L, do not use backslash ("\") in free text parameters such as ESSID. A backslash may be interpreted by the device as a command, causing unexpected behavior that may result in complete lose of the ability to manage the unit.
- In SU-L, the Noise Floor value is fixed at -96 dBm.
- It's not recommended to apply changes to SU-L units from web and telnet/SSH simultaneously without properly updating the unit separately after each change. Failure to do so can cause unpredictable behavior, such as losing the parameters configured previously.
- Different RSSI values for AUs might be shown in SU-L Status Information and Site Survey menus. This is because Site Survey results show the RSSI of Beacons (which are always transmitted by the AU with highest available power), while Status Information results show RSSI of data packets.
- Enabling User Filtering option on the AU can block management access to SU-L, therefore it's recommended to always perform the User Filtering settings in such a way that they will allow management traffic to and from the SU-L.