TN0014 – EH1200 and EH1200L.v2 SW Update 2.0.2

Introduction

This technical note details the SW update that includes the solution for a limitation identified in the EtherHaul-1200 and EtherHaul-1200L.v2 ODUs regarding operation in cold temperatures. The new SW also adds improvement to the RSSI reading accuracy and introduces new feature: Transmit Power Control (TPC).

Note Details

Link malfunction in low, sub-zero temperatures (Celsius), issue was identified with previous SW releases (2.0.0.x and 2.0.1.x) that required the introduction of this SW update.

The limitation was identified in the ODU's automatic gain control (AGC) causing Rx gain to increase dramatically, overloading the Rx channel, when operating at sub-zero temperatures.

This software release fixes this limitation allowing the deployment of the links at the temperature range of -45°C ÷ +55°C.

As will be detailed in the 'Upgrade Overview' hereunder, transmit power control should be used to limit the max received RSSI to -35dBm in short links to assure proper operation throughout the full temperature range.

Release History

Date	Version	Version Description
March 22, 2011	1.1.0.x	Software version 1.1.0.x is the first commercial software release for the EtherHaul-1200 products. The software version 1.1.0.x provides the core features of the EH-1200 products including Adaptive Bandwidth, Coding and Modulation, Bridging, classification and Quality of Service, OAM and performance monitoring and management interfaces.
August 31, 2011	2.0.0.x	Software version 2.0.0.x is the second commercial software release for the EtherHaul-1200 products. The software version 2.0.0.x provides performance improvements and additional features for the EH-1200 products including 1 Gbps aggregated capacity, Synchronous Ethernet and Ethernet Ring Protection.
September 27, 2011	2.0.1.x	Software version 2.0.1.x is a bug fix release for the EtherHaul-1200 products. This version fixes the following limitations: 1. 1200L.v2: maximum data-rate should be 400Mbps instead of 200Mbps. 2. SyncE Wander Transfer performance.
December 6, 2011	2.0.2.x	Software version 2.0.2.x includes the following fixes, changes and features: Fixed limitations: 1. Link malfunction in low, sub-zero temperatures

		2. RSSI readings accuracy
		
		Changes (applicable for the EH-1200L.v2 only):
		    1. Operating mode QPSK 4, 1, 2/3 is replaced with operating mode QAM16 4, 1, 0.5 making it in line with the operating modes of the EH-1200. There is no impact on performance.
		Features:
		    1. Transmit Power Control (TPC)
		
		Upgrading to software version 2.0.2.x is mandatory for all EH-1200 and EH-1200L.v2. For the upgrade procedure details please see Technical Note - TN0014.

The new version will be implemented in Siklu's production line starting December 2011.

Applicable Products

The issue and fix are applicable to:

- EtherHaul-1200
- EtherHaul-1200L.v2

Software version 2.x.x.x is not compatible with the EtherHaul-1200L.

Implementation Recommendation

Siklu's recommendation is for immediate implementation of the new SW version on **ALL** EtherHaul-1200 and EtherHaul-1200L.v2.

Upgrade Overview

The implementation of the new SW version should be done in the following sequence:

1. Download and activate the new SW version on the local and remote ODUs.
The upgrade of the new SW version should be done according to Siklu's SW upgrade procedure.
2. Check the received RSSI on the link. If the received RSSI is higher (better) than -35dBm, reduce the ODU's Tx power by the RSSI difference.
3. If you do not have direct management to the remote end of the link, it is recommended to use 'rollback timeout' before changing the Tx power.
4. Use the CLI to execute 'reset rf' (as changing the Tx power requires reset).
5. Wait for the ODUs to complete startup and check the RSSI, verifying it does not exceed -35dBm.
6. Verify proper operation of the link.
7. Save the configuration to the ODU.

For EH1200L.v2 ODUs only:

8. Use the CLI to execute the following commands to update the modulation table on both ODUs:

```
set modulation qpsk 4 1 0.5 cinr-low 10 cinr-high 16
clear modulation qpsk 4 1 0.67
set modulation qpsk 1 4 0.5 cinr-low -128 cinr-high 11
set modulation qpsk 2 2 0.5 cinr-low 7 cinr-high 15
set modulation qpsk 4 1 0.5 cinr-low 11 cinr-high 17
set modulation qam16 4 1 0.5 cinr-low 16 cinr-high 127
```

9. Verify proper operation of the link.
10. Save the configuration to the ODU.

About Siklu

Siklu has been committed to reducing the cost of high capacity wireless backhaul solutions since 2008. The company's success centers on an innovative silicon-based design of the E-band radio system and components that has resulted in systems priced as low as 20% of competition. The EtherHaul delivers Gigabit speeds and is ideal for a wide range of urban and metropolitan Ethernet wireless backhaul applications. Serving providers around the world, Siklu Communication is based near Tel Aviv, Israel.

Siklu Communication Ltd.
7, Shoham St.
Petach Tikva 49517, Israel
Tel: +972 3 921 4015
Fax: +972 3 921 4162
info@siklu.com

www.siklu.com