SpeedChip XRS7000 Series

Errata

1. ISSUES

This document describes the known issues of SpeedChip XRS7000 Series devices as well as methods to work around them. Table 1 lists the issues found, affected device types and solutions. Revision history of this document can be found on the last page.

Table 1. XRS7000 Series Device Issues

Issue	Affected devices	Solution	Chapter
Startup failure	XRS7003E rev.1.0 XRS7004E rev.1.0	fixed in rev. 1.1 fixed in rev. 1.1	1.1
Management trailer with two management ports	XRS7003E rev.1.1 and earlier XRS7004E rev.1.1 and earlier XRS7003F rev.1.0 XRS7004F rev.1.0	fixed in rev. 1.2 fixed in rev. 1.2 fixed in rev. 1.2 fixed in rev. 1.2	1.2
Padding in VLAN tagged PRP frames	XRS7003E rev.1.1 and earlier XRS7004E rev.1.1 and earlier XRS7003F rev.1.0 XRS7004F rev.1.0	fixed in rev. 1.2 fixed in rev. 1.2 fixed in rev. 1.2 fixed in rev. 1.2	1.3
Forwarding in HSR-PRP Redbox	XRS7003E rev.1.1 and earlier XRS7004E rev.1.1 and earlier XRS7003F rev.1.0 XRS7004F rev.1.0	fixed in rev. 1.2 fixed in rev. 1.2 fixed in rev. 1.2 fixed in rev. 1.2	1.4
MDIO read	XRS7003E rev.1.1 and earlier XRS7004E rev.1.1 and earlier XRS7003F rev.1.0 XRS7004F rev.1.0	fixed in rev. 1.2 fixed in rev. 1.2 fixed in rev. 1.2 fixed in rev. 1.2	1.5
RGMII input pull-ups	XRS7003E rev.1.1 and earlier XRS7004E rev.1.1 and earlier XRS7003F rev.1.0 XRS7004F rev.1.0	fixed in rev. 1.2 fixed in rev. 1.2 fixed in rev. 1.2 fixed in rev. 1.2	1.6

1.1 Startup Failure

The XRS device may occasionally fail to start up properly. When the failure occurs the device registers cannot be accessed with MDIO or I^2C.

1.1.1 *Solution*

The issue was fixed in device revision 1.1. Also the power supply ramp time max was changed from 50 ms to 3 ms in User Manual version 1.2 (dated 11.5.2016).

1.2 Management Trailer with two management ports

Management trailer does not contain correct port information for a port when it is in management mode. This mode may be used for example to connect two devices together, to form HSR Quadbox for example.

1.2.1 *Solution*

The issue was fixed in device revision 1.2. In previous versions, management trailer information shall not be used if frame is received via management port. This can be detected by checking the other trailer bits (set by another device to other byte of the management trailer).

1.3 Padding in VLAN tagged PRP frames

When a minimum size VLAN tagged frame was forwarded to a PRP network, it was not padded to minimum MTU of 74 octets.

1.3.1 *Solution*

The issue was fixed in device revision 1.2. This may cause problems only when VLAN header is removed by a non-PRP aware switch, which should be avoided in use cases with the previous device version.

1.4 Forwarding in HSR-PRP redbox

The XRS device may make false forwarding decisions in HSR-PRP redbox mode without respecting rule not to forward to PRP network from HSR network when PRP netid:s match. This happens only when multiple pre-requirements are true, especially when another redundant link is down.

1.4.1 *Solution*

The issue was fixed in device revision 1.2. In previous versions, redundant port shall not be disabled to prevent false forwarding in all cases and in versions starting 1.2 register bit 7 in GENERAL register shall be set at least in HSR-PRP mode.

1.5 MDIO read

The XRS device pulls down the MDIO line during read accesses to other MDIO addresses than its own. This may cause problems in case there are other devices on the same MDIO bus, because the other devices may not be able to drive the MDIO signal high, making it impossible to make read accesses to their registers.

1.5.1 *Solution*

The issue was fixed in device revision 1.2.

1.6 RGMII input pull-ups

RGMII input signals have weak internal pull-ups to VCCIO. May cause problems with PHY chips that use these signals as inputs defining their bootup configuration.

1.6.1 *Solution*

The issue was fixed in device revision 1.2 by removing the pull-ups.

2. ERRATA REVISION HISTORY

Table 2. Errata Revision History

Errata Revision	Date	Comments
1.0	26.05.2016	First release of errata
1.1	15.11.2016	Added a table explaining correlation between device revisions and manual versions
1.2	1.12.2017	Added new information

3. CHIP AND MANUAL REVISIONS

Table 3. Correlation Between Device Revisions and Manual Versions

Device Revision	Device Release Date	Manual Version	Manual Release Date
1.0	23.3.2016	1.0	20.11.2015
-	-	1.1	15.4.2016
1.1	18.5.2016	1.2	11.5.2016
1.2	30.11.2017	1.3	6.11.2017