



# MC68QH302

## Device Errata MC68QH302

Revision C.1. Mask 2F26E.

August 5, 1998

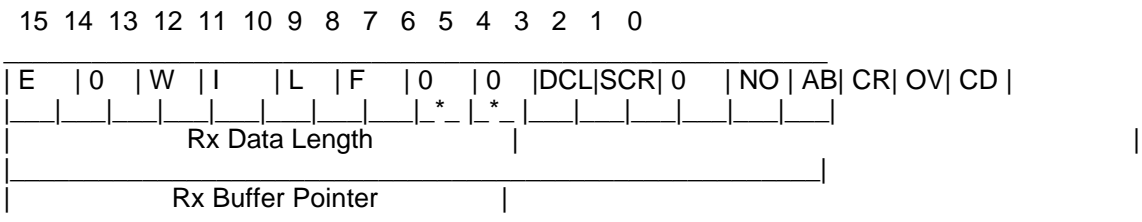
### Chip Errata

1. For the XC68QH302 which has Revision \$2 (read from REV bits in QH Type and Revision Number Register), when the XC68QH302 is running in QH mode, and all 3 SCCs are being used simultaneously (SCC1 for both B-channels, SCC3 for the D-channel, and SCC2 for another communication channel), one of the D-channel (SCC3) Receive Buffer Descriptor Length fields can be erroneous. Usually, the wrong Length value is higher than MRBLR.

If either SCC2, or B2 are disabled, the bug does not occur.  
This bug has been fixed in MC revisions of silicon with revision number \$3.

### Workaround

- The bug happens whenever SCC2 (DTE) request comes after D request, and at the same time the D channel is at the middle of A buffer. The buffer data length is corrupted.  
The ram u-code routine solves this bug transparently to the user.
- This bug happens for B channels if the last bit of a received frame is a zero-inserted bit (i.e. CRC ends with five 1's), then depends on the framer routine state, the last byte of the CRC may be written to the buffer twice. Thus, within the last BD, the Data Length is 1 more then the real value and a CRC error is reported.  
The ram u-code patch solves this in the following way:  
Two special bits were defined in the Rx BD status field: DCL and SCR. These bits should be checked in every RxBD by the s.w. (These bits can really be set by the risc, on the Last RxBD of a frame or a one RxBD before ONLY).



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DCL- Decrement Data Length of the LAST RxBD by 1 and discard LAST byte.  
SCR- Special CRC indication.

If the DCL bit is set, the s.w. must decrement the Data Length value of the Last RxBD of the frame, by 1 and discard the last data byte of it. In this case, the usual CRC error status bit (bit2) is not valid and s.w. MUST use the SCR bit instead.

S00600004844521B  
S309007000003FDF000068  
S309007000043D91CB7475  
S309007000083E17CB6CF2  
S3090070000C3E1DCB6CE8  
S309007000103F2CCB6CD4  
S309007000143D69CB6C95  
S309007000183F2CCB6CCC  
S3090070001C3F2CCB6CC8  
S309007000202FDA00005D  
S309007000242FDE000055  
S309007000282FD2CB741E  
S3090070002C2FD6CB7416  
S309007000302FCECB6C22  
S309007000342FCACB6C22  
S309007000382FC617DF63  
S3090070003C27C23E24FF  
S3090070004000002FC057  
S3090070004437DC3F767A  
S3090070004800002FC04F  
S3090070004C37D83FC12B  
S3090070005000002FC047  
S3090070005437D43F5296  
S3090070005800002FC03F  
S3090070005C37D03FA53F  
S3090070006000002FC037  
S3090070006437CC3FC11F  
S3090070006800002FC02F  
S3090070006C37C83F7666  
S3090070007000002FC027  
S3090070007437C439FFDF  
S3090070007800003F2CA3  
S3090070007C0000C7FF44  
S30900700080CACFCBBFE3  
S30900700084AFFEC6F699  
S309007000886AB927A113  
S3090070008CCB4FC58794  
S30900700090AFFEC7FD85  
S30900700094CAD5CB9DEB  
S30900700098D63E6AEC84  
S3090070009CC43EBFFE2B  
S309007000A0CFDFAFFE8B  
S309007000A4BFEEEEBB496  
S309007000A8C506C3A6AA  
S309007000AC6AA1CBDF25  
S309007000B0AFEEBFFE7C  
S309007000B4C587AFFED9  
S309007000B8CA3EBFFE09  
S309007000BCC7FFCAD763



S309007000C0CB27CB8F7A  
S309007000C4BFFCC564DE  
S309007000C8A59C6B1200  
S309007000CC6E126CD2FC  
S309007000D0A58FCD476E  
S309007000D4CD8F6A12DA  
S309007000D82788D76CBC  
S309007000DC6A8E2F9BE8  
S309007000E0CB6CC7FFA9  
S309007000E4CAD7CB270F  
S309007000E8CB8FAFFC99  
S309007000EC805FA4BC5B  
S309007000F0A43FAFFE06  
S309007000F46DC2D63E4F  
S309007000F85AD6CB3E55  
S309007000FCA04DC67562  
S309007001005AE3A48B19  
S30900700104A47BA5FBC2  
S309007001085BF82F7685  
S3090070010C177E2F763F  
S30900700110177A0000E4  
S309007001140000000071  
S30900700118000000006D  
S3090070011C0000000069  
S309007001200000000065  
S309007001240000000061  
S30900700128000000005D  
S3090070012C0000000059  
S309007001300000000055  
S30900700134B47BB48BE3  
S30900700138A47FA49DE9  
S3090070013CF3EF5A9A73  
S309007001405B99A4AD00  
S30900700144A48FF3EF2C  
S309007001485AD9CB5EE1  
S3090070014CA43F2F9295  
S30900700150BFFEEBACE1  
S30900700154A04CCAEC8F  
S30900700158B04CEBA5A1  
S3090070015C1FFBC46CDF  
S30900700160CB3CB4BCAE  
S30900700164C4C4A04FAA  
S30900700168C4672F9231  
S3090070016CA04F00002A  
S9030000FC

2. On the MC68QH302 Revision \$3 (read from REV bits in QH Type and Revision Number Register).

If a HDLC frame with the last byte (CRC) equal to 80 (hex) is received on a B channel in QH mode at a very specific timing, a CRC error will be reported erroneously, and the length will be reported with a value of one byte less than the actual value.