Technical Note

TN_172

FT602 Errata Technical Note

Version 1.0

Issue Date: 2017-12-12

The intention of this errata technical note is to give a detailed description of known functional or electrical issues with the FTDI FT602 device.

The current revision of the FT602 is **Revision B, released Jan 2018.**

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1 Glossary of Terms

Sl.No.	Term	Description
1	Aligned write	An aligned write is a write on the FIFO interface with all byte enables selected, i.e. on a 32-bit interface; an aligned write is 32-bits wide.
2	Unaligned write	An unaligned write is a write on the FIFO interface that is not as wide as the interface, i.e. on a 32-bit interface; an unaligned write is 1, 2, or 3 bytes.
3	Aligned read	An aligned read is a read from the FIFO interface when the slave asserts all byte enables. on a 32-bit interface, an aligned read is 32-bits wide
4	Unaligned read	An unaligned read is a read from the FIFO interface that is not as wide as the interface, i.e. on a 32-bit interface; an unaligned read is 1, 2, or 3 bytes. An unaligned read from the slave always signals that it is a short packet
5	ZLP	A USB Zero-length packet
6	Short packet	A short packet – a packet that is less than the full packet size. In USB2.0 (High Speed), a short packet has a non-zero length less than 512 bytes and in USB 3.1 (Super Speed), a short packet has a non-zero length less than 1024 bytes. Short packet signals an end of transfer on the endpoint.
7	Full packet	In USB2.0 (High Speed), a full packet has a length equal to 512 bytes and in USB 3.1 (Super Speed); a full packet has a length equal to 1024 bytes.

2 Errata List

2.1 Erratum 0001

Erratum	0001	Additional Notes
Title	Enumeration fails occasionally while performing the USB3.1 compliance link test	
Severity	Low	
Affected Revisions	FT602-Revision A	
Detailed Description	Upon resetting the FT602 device, an internal watchdog timer is started after initialization is complete. During enumeration or after enumeration, if the watchdog is not updated regularly, a watchdog timeout resets and recovers the device to a known good state. During USB3.1 LFPS and LTSSM tests, the link is held in a low power managed state for longer than the watchdog timer setting such that the watchdog timer expires. This causes the link to undergo a warm reset and fails the test.	
Workaround	None. The error does not occur in the functional state as the link state is not held during enumeration (i.e. enumeration is not paused in functional state).	
Fix Status	FT602-Revision B	
Fix Description	The issue is rectified in Rev. B.	

Table 1 - Erratum 0001

2.2 Erratum 0002

Erratum	0002	Additional Notes
Title	Data transfer in USB3.1 SuperSpeed could fail when the FT602 is connected to certain USB hubs.	
Severity	Medium	
Affected Revisions	FT602-Revision A	
Detailed Description	When the FT602 is connected to a downstream port of a hub and while the downstream port is in a power managed state, the hub may defer a transfer request from a host by responding to the host with an ACK packet with the Deferred Flag (DF) set. Later, when the downstream port is out of the power managed state (device has data to send), the hub sends an ACK packet to the device with the DF set. The FT602 Rev A device does not handle the DF correctly and no data transfer takes place.	
Workaround	FT602 Rev A devices may not send any data to the host when connected behind a hub after exiting from a link power managed event. To work around this defect: (a) FT602 Rev A devices shall be connected to the host downstream root port (b) Hubs should be configured to prevent DF flag usage.	
Fix Status	FT602-Revision B	
Fix Description	The issue is rectified in Rev. B.	

Table 2 - Erratum 0002

3 Contact Information

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Distributor and Sales Representatives

Please visit the Sales Network page of the FTDI Web site for the contact details of our distributor(s) and sales representative(s) in your country.

Appendix A – References

Document References

DS_FT602

Acronyms and Abbreviations

Terms	Description
FIFO	First In First Out
USB	Universal Serial Bus
UVC	USB Video Class
VBUS	USB Voltage Supply (nominal: +5V)
ZLP	Zero Length Packet

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Appendix C – Revision History

Document Title: TN_172 FT602 Errata Technical Note
Document Reference No.: FT_001402
Clearance No.: FTDI#538
Product Page: http://www.ftdichip.com/Products/ICs/FT602.html
Document Feedback: Send Feedback

Revision	Changes	Date
1.0	Initial Release	2017-12-12