



Product Change Notification

PCN Number: QC154502

Notification Date: November 05, 2015

Title: ATMXT1066T2 Firmware Revision Change from v1.3.AA to v1.4.AA

Product Identification:

ATMXT1066T2-C2U/-C2UR
ATMXT1066T2-NHU/-NHUR

Reason for Change:

- | | |
|---|---|
| ☐ Material / Composition | ☐ Manufacturing Location |
| ☐ Processing / Manufacturing | ☐ Quality / Reliability |
| ☒ Design / Firmware | ☐ Logistics |
| ☐ Datasheet | ☐ Other: |

Change Description:

As part of the continuous improvement of the mXT1066T2 touchscreen driver IC updates have been implemented in firmware V1.4.AA.

These improvements and enhancements have been implemented in releasing firmware V1.4.AA to production.

The changes in v1.4.AA are all backwards compatible with v1.3.AA.

See Table in [Attachment 1](#) for details.

Identification Method to Distinguish Change:

Orderable part numbers have new QS reference numbers:

Current Order Code (Firmware v1.3.AA)	New Order Code (Firmware v1.4.AA)
MXT1066T2-C2U/-C2UR; QS994	MXT1066T2-C2U/-C2UR; Q1108
MXT1066T2-NHU/-NHUR; QS994	MXT1066T2-NHU/-NHUR; Q1108

Marking of device:

No changes to marking from v1.3.AA to v1.4.AA. Text remains as shown below:

Current marking MXT1066T2-C2U/-C2UR
ATMEL
MXT1066T2
-C2U
YYWW# ZZ (YYWW = Date Code) (# = Die Revision) (ZZ = Assembly Location)
LOTCODE

Current marking MXT1066T2-NHU/-NHUR
ATMEL
MXT1066T2
-NHU
YYWW # ZZ (YYWW = Date Code) (# = Die Revision) (ZZ = Assembly Location)
LOTCODE

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Qualification Data:	☐ Available	☐ Will be available (mm/dd/yr):	☒ Not Applicable
Samples:	☐ Available	☒ Will be available (mm/dd/yr): 11/20/15	☐ Not Applicable
Quantifiable Impact on Quality & Reliability: No detrimental effect on product quality or reliability. Details of product functional performance as in Attachment 1			
Proposed First Ship Date*: February 05, 2016 <i>*The Proposed First Ship Date is the forecasted date that a customer may expect to receive changed product. This is determined by the estimated date of inventory depletion on the PCN issue date. This may be affected by fluctuations in supply and demand. Consequently, although customers should be prepared to receive changed product on this date, Atmel will continue to ship pre-changed product until a time in which inventory has been depleted. This may result in pre-changed product being shipped to customers after this forecasted date.</i>			
Atmel Contact: Please contact your Atmel Sales Representative or Distributor for additional information (when replying via e-mail please include the PCN number in subject line).			
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To be completed by customer: ☐ <u>Approved</u> ☐ <u>Rejected (Please state reason for rejection):</u> _____	
Company: Name: Title: Date: Email Address: Location: Comments:	

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Attachment 1

Overview

This table provides a summary of the changes related to MXT1066T2 firmware release v1.4.AA from v1.3.AA

NEW FEATURES	Summary	Backward Compatible?
	Added T47 controls (SATBXLO, SATBXHI, SATBYLO, SATBYHI, SATBDXXLO and SATBDXXHI) to saturate the passive stylus positions away from the edge. This avoids the jitter whilst still enabling the positions to be pulled a little bit closer to the edge.	Y
	Support application to read firmware CRC from T37 which added command 0x80 "Device Revision Identification Mode".	Y
	Add T80 new control that is "Compensation Configuration" to select the bounding box area threshold at which compensation is applied.	Y
	T109 is updated with new control DISMEASX and DISMEASY added so the palm recovery algorithms can now operate correctly with "single layer" sensor designs.	Y
	Add a new SYNCDELAY control (2 bytes) and ADCSPERSYNC control (1 byte) to T111 to determine whether that particular Selfcap measurement should be sync'd and provide the delay.	Y
	Added T47.MOVHYSTCFG, T100.MOVHYSTCFG, T101.MOVHYSTCFG and T107.MOVHYSTCFG to support independent control of improved movement hysteresis scaling.	Y
	Introduced new Dynamic SCT thresholding (T80. MOISTVLDTHRSF) for improved noise performance with large touches.	Y
	Enhanced the robustness of T80 to avoid mistakenly treating noise (if present) as moisture.	Y
	Introduced new T100.CONFTHR to delay a contacting touch class from being reported as a finger under very noisy conditions. T101.OUTCONFTHR to delay a contacting touch class from being reported with an incorrect touchdown position under very noisy conditions.	Y
	Adding T111.DCGAINSF which allows the DC level estimate to be tuned so that it matches the Main Selfcap measurement which it is associated with.	Y
	Updated T8.MEASIDLEDEF and T8.MEASACTVDEF to change the types of measurements in idle and active states. Introduced new T72.BGNLRATIOSTAB, T72.BGNLRATIONOIS, T72.BGNLRATIOVNOI and T72.NLRATIO to change the background noise scan rate in various T72 states. Introduced new T111.DCTHRX, T111.DCTHRY and T111.DCIDLESLEWMIN for all T111 instances except for SESC to control the DC measurement in low power idle state.	Y
	T93 add a new control TCHRADMAX (Touch Radius Maximum), maximum linear distance between the touchdown coordinates and all subsequent coordinates of this touch.	Y
	Improved power consumption when both T15 and T100 are enabled and sharing Y lines.	Y
	Added debug output control bit (T111.DBGCTRL.FILTEREN) which enables output of filtering information. For now, this consists of DYNIR coefficient in use and max unfiltered difference between frames. This output is helpful to setup the DYNIR for the amount of noise in the system.	Y
	T93 is updated to support real time multi tap debugging tool.	Y

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	T109 added IBUFCFG1, IBUFCFG2, CCCFG, TUNCFG2, and PRECHRGCFG controls to be able to tune the Selfcap system on a customer design.	Y
BEHAVIOURAL CHANGES	Summary	Backward Compatible?
	A fix has been made to the JUMPLIMIT feature, which allows smaller values to be used without compromising fast swipes. Smaller values will allow improved separation of fast alternate taps.	Y
	Updated P2P DC calibration recovery mechanisms to request SESC and P2P measurement type they use for processing (done to support independent SCT axes).	Y
	Improved multi-touch detection, when touch down occurs in close proximity to an existing touch.	Y
BUG FIXES	Summary	Backward Compatible?
	Fixed a bug that the touch controller didn't correctly increase the chance of identifying fast swiping passive stylus according to the setting of T80.TCHIMEASMOV.	Y
	Resolved issue where T93 does not use the correct T100.XRANGE and T100.YRANGE when T100.SWITCHXY is set.	Y
	The T42 TOUCHSUPPRESSION object is updated so the problem of distance suppression being triggered on a large touch that is too close to another large touch is now fixed.	Y
	The T93 Touch Sequence Logger object is updated so the problem that a subsequent double tap gesture is missed if the number of touch detected by the system on the sensor exceeds the maximum number of touches that t100 is able to report is now fixed.	Y
	The T72 NOISESUPPRESSION object is updated so it now correctly responds to noise injected through Y lines covered by other touch objects other than T100.	Y
	The T79 TOUCHEVENTTRIGGER object is updated so all T79 events no longer wrongly triggers after a long period of time (~16hrs) after the device has stayed in idle mode.	Y
	The T40 GRIPSUPPRESSION object is updated so touch is no longer wrongly suppressed at the edges when all grip suppression boundaries are set to zero.	Y
	Resolve issue where T80 requests two cycles of mutual to perform moisture detection when only 1 cycle is really needed. This can save power when the device is configured not to run mutual in idle mode.	Y
	The T80 TCHIMEASMOV object is updated so the feature associated with the TCHIMEASMOV control now functions correctly.	Y