



Product Change Notification

PCN Number: QC151901

Notification Date: May 14, 2015

Title: MXT1664T3 Firmware v1.1 Release

Product Identification: ATMXT1664T3-CCU/-CCUR & ATMXT1664T3-C2U/-C2UR

Reason for Change:

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

Change Description:

An updated version of the ATMXT1664T3 (I2C only) product has been implemented, available in release of v1.1.AA to production.

Main Added Features:

- Addition of new low power idle mode
- Ability to set VDDIO boost clock in low frequency mode
- TSCONTSUP control to prevent touches reported if touch moves from screen to key array
- Independent Edge correction controls
- Controls to improve movements after fast swiping

Objects Removed:

- None

The changes in v1.1.AA are not backwardly compatible with the previous release v1.0.AA. Please see Attachment 1 for full details of all changes.

Please note that it is not possible to update v2.0.AA products to v1.1.AA.

Identification Method to Distinguish Change:

Orderable part number has a new QS reference number.
General customer release QS numbers are shown below.
Contact your Atmel Sales Representative or Distributor for any customer specific reference numbers.

Current Order Code (Firmware v1.0.AA)	New Order Code (Firmware v1.1.AA)
MXT1664T3-CCU/-CCUR; Q1004	MXT1664T3-CCU/-CCUR; QS866
MXT1664T3-C2U/-C2UR; Q1004	MXT1664T3-C2U/-C2UR; QS866

Marking of device:

As previous v1.0.AA release – No further changes.

ATMEL
MXT1664T3-C2U
YYWW#X (YYWW = Date Code, # = Die Revision, X = Country Code)
LOTCODE

ATMEL
MXT1664T3
-CCU
YYWW#X (YYWW = Date Code, # = Die Revision, X = Country Code)
LOTCODE

Product Variant ID:

As previous v1.0.AA release – No further changes. Product Variant ID remains as 0x13

Qualification Data:	☐ Available	☐ Will be available (mm/dd/yr):	☒ Not Applicable
Samples:	☐ Available	☒ Will be available (mm/dd/yr): 06/26/15	☐ 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*: 07 August 2015

**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.*

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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CUSTOMER ACKNOWLEDGEMENT OF RECEIPT: Atmel requests you acknowledge receipt of this PCN. Please complete and email to pcnadm@atmel.com and the Atmel Contact listed above. In your acknowledgement, you can grant approval or request additional information. **Atmel will deem this change accepted unless specific conditions of acceptance are provided in writing within 30 days from the date of this notice.**

To be completed by customer:

☐ Approved

☐ Rejected (Please state reason for rejection):

Company:

Name:

Title:

Date:

Email

Address:

Location:

Comments:

Attachment 1

Overview

This table provides a summary of the changes related to MXT1664T3 firmware release v1.1.AA from v1.0.AA

NEW FEATURES	Summary	Backward Compatible?
	T8 – added ability to set Selfcap Prox as the default idle measurement to save power in idle mode	Y
	T15 – added TSCONTSUP feature to prevent keys being reported if a touch moves from touchscreen to key array	Y
	Added independent edge correction controls for all four edges in T100 (touch), T47 (passive stylus)	Y
	T72 – added fields to control the running of noise line scans for different touch and noise states to save power.	Y
	T93 - added touch radius testing for touch sequence and double tap. Also added T93 Real Time debug and history logging.	Y
	T100 – added controls to improve movement hysteresis scaling	Y
	T111 – added controls to configure the conditions for leaving the new low power idle mode	N T111 DCTHR fields will need to be reviewed
	T111 - added debug output control bit which enables output of filtering information. This consists of the DYNIIIR coefficient in use and max unfiltered difference between frames. This output is helpful to setup the DYNIIIR for the amount of noise in the system.	Y
	T46 – added ability to set VDDIO boost clock in low frequency mode.	Y Requires a change in inductor if low frequency mode is configured
	Added independent inrush resistor selection controls for Self-Cap Single Ended.	N Needs config data change to ensure same functionality

REMOVED FEATURES	Summary	Backward Compatible?
	None	
BEHAVIOURAL CHANGES	Summary	Backward Compatible?
	Passive stylus linearity improvements (optional spatial filter and separate movement filter for passive stylus touches)	Y
	Hysteresis for T100 (Touch and internal), T101, T104 thresholds limit increased from 25% to 75%	Y
	T113 - Ability to select best axis for the SCP measurement.	N
BUG FIXES	Summary	Backward Compatible?
	Added filtering mechanism (and related control) to T80, to address issue with passive stylus when moisture is detected.	Y
	Corrected alignment of mutual scan with SCT in DualX mode.	Y
	Stopped T93 fail history from being cleared on successful touch sequence or double tap	Y
	Fixed issue to make jumplimit with SCT as default measurement comparable to jumplimit with MCT as default measurement.	Y (JUMPLIMIT setting – may need reducing if using SCT as the default measurement)
	Changes to T111 DC level algorithms and controls	N
	Fixed problem preventing T100 and T15 sharing X lines in mutual measurements.	Y
	Self cap tuning process improvements	Y
	Fixed the problem that the maXTouch controller could not respond to host HID/I2C communication after reset if it has backed up with settings to use "Deep Sleep" mode and the "Automatic I2C/HID-I2C" feature is used.	Y
	Correction to self-test so that it no longer introduces signal shifts on the self-cap measurement, after running the pin fault test.	Y

	Corrected thresholds used by T80 to include SCT hysteresis.	Y
	SESC drift suspend time corrected	Y
	Corrected double counting of hysteresis within T113.	Y