ATEVK-MXT1296M1 Family Information Sheet

Documentation Zip Contents

Information Sheet
Configuration File (xcfg)
EVK Design File Schematic
EVK Design File Layout
Touchscreen Design File

Kit Contents

1x 12.3" Touchscreen Assembly (MISC1099)
1x ATMXT1296M1T-I2C-PCB (11093)
1x ATUSB-HSBB-PCB (10945)
1x G-Key PCB Self-Cap + Cover (10-10507)
1x G-Key PCB Mutual + Cover (10-10506)
1x Cable 80mm automotive SPI (CAB1022)
6x Self Adhesive Feet (HW1009)
1x CABLE USB Male-A to Male Mini-B (CAB0019)

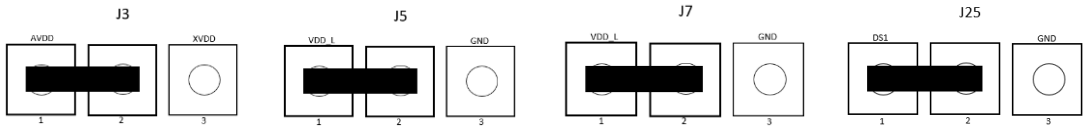
Using the Evaluation Kit

This kit (ATEVK-MXT1296M1T-A) is for the evaluation and development of Microchip maXTouch™ applications using the ATMXT1296M1 family of Integrated Circuits (ICs).

In this example, the device can be connected through a flexible printed circuit (FPC) to an Indium Tin Oxide (ITO) glass touchscreen. A set of self-adhesive feet have been supplied with the kit to allow for the touchscreen assembly to be used on the desk or bench. Alternatively, the touchscreen assembly may be mounted to a suitable display for evaluation of *on-screen* performance.

Caution: This unit contains a glass panel in front of the touchscreen. Whilst the glass is strengthened to reduce the risk of breakage, care should be taken not to subject the glass to excessive force in order to reduce the risk of glass breakage that may result in minor or moderate injury.

Jumper Settings:



Evaluation Software

A PC application: maXTouch Studio LITE is required to facilitate evaluation of the product.

https://www.microchip.com/maxtouch

The LITE version of the tool allows viewing of messages and objects and loading of the configuration files. To tune and change objects, a full version of the tool is available for download also. Please contact your local Microchip representative for details.

- Install the software for maXTouch Studio LITE.
- Connect the supplied USB cable to the ATUSB-HSBB-PCB / ATMXT1296M1T-I2C-PCB and to any available USB port.

Object Explorer

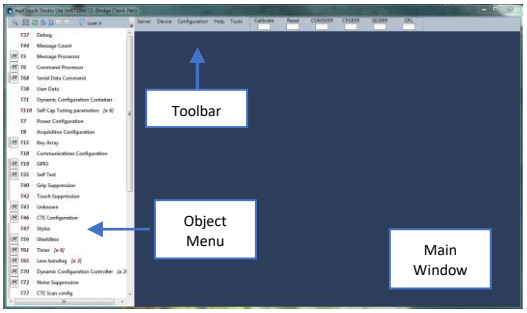
The maXTouch Studio application via the Object Explorer allows for various operating parameters to be configured. The Object Explorer is also the means by which different configurations, such as touch keys or touchscreen format can be loaded into the ATMXT1296M1 device. The explorer only displays the objects present in the connected device.

Before making changes to individual parameters, it is advisable to save the current default settings.

- This can be done from the Save Config option in the Configuration menu in the maXTouch Studio toolbar. Save this default config onto your desktop or a USB key.
- To change a parameter, click on the object you wish to alter (e.g. Multiple Touch Touchscreen T100).
- After changing any parameters, click on the Write button of the active window to apply the new settings.

NOTE: Settings will revert to their defaults when you unplug and re-plug the USB cable unless you click on the Backup button in the Device menu on maXTouch Studio LITE toolbar.

- To view touches graphically use Touch Reporter in the Tools menu in the toolbar.



Restoring Factory Configuration

If required, the unit may be set back to factory default settings. This may be of use if settings have been changed, and the unit is no longer functioning as intended.

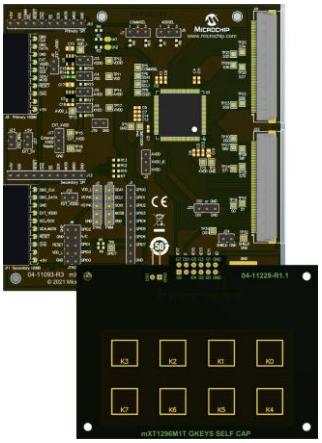
- Run the maXTouch Studio LITE application and select Configuration from the toolbar.
- Select Zero Config and then Load Config.
- From the Open dialog box, navigate to the Default Configuration File you previous saved and load the xcfg file.
- Once the file is loaded, click on the Device menu on the maXTouch Studio.
- Select Backup then select Reset. The default factory settings are now set.

Additional Information

More information about this product is available in the data sheet and user guide.
The product documentation zip file and enc file can be found online, more information about maXTouch Studio is also available, please contact your Microchip representative.

Assembling the Evaluation Kit

Attach one of the G-Key PCBs to the ATMXT1296M1T-I2C-PCB by aligning the pins on connector J4 so that the board protrudes out from the side of the ATMXT1296M1T-I2C-PCB, and slide into place. Attach the touchscreen.

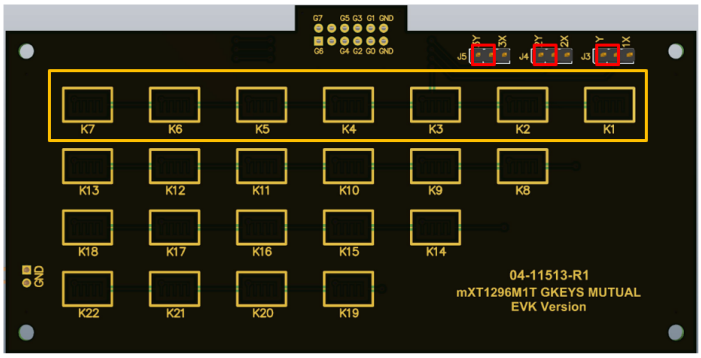


Configuring the G-Key Mutual PCB

The EVK board comes pre-configured with 4X by 4Y settings for the Mutual G-key board. The EVK can configured for different X and Y combinations by changing T15 object XSIZE and YSIZE settings, and corresponding jumpers on the G-key PCB (see images below). G-Key Y lines always follow immediately after X lines on the G-Key port. If the application does not use all the G-Key lines (e.g. 3X by 2Y), set the jumpers for the number of X lines in the design (3X) and then the remaining jumpers as Y lines.

In the case of the Mutual G-key 3X by 2Y example, see image “3X by (up to) 5Y” below:
Jumpers J3 and J4 are set for X lines (GKEY1 and GKEY2 respectively – GKEY0 is always an X line and has no jumper). Jumper J5 is set as a Y line. This results in keys K3, K4, K9, K10, K14 and K15 being active, with K3 as the least significant key.

1X by (up to) 7Y

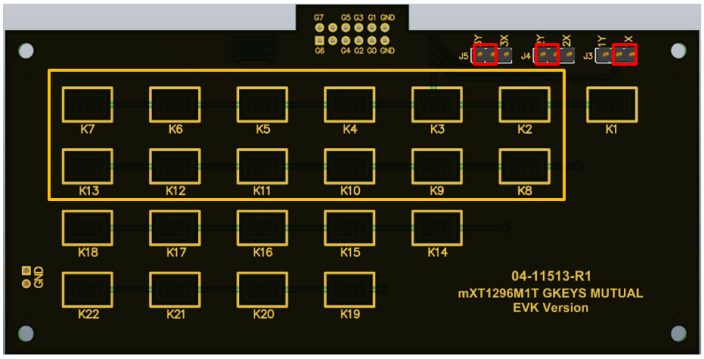


	T15 message bytes	
KEY	Byte2	Byte3
1	1	0
2	2	0
3	4	0
4	8	0
5	16	0
6	32	0
7	64	0

Jumper placement

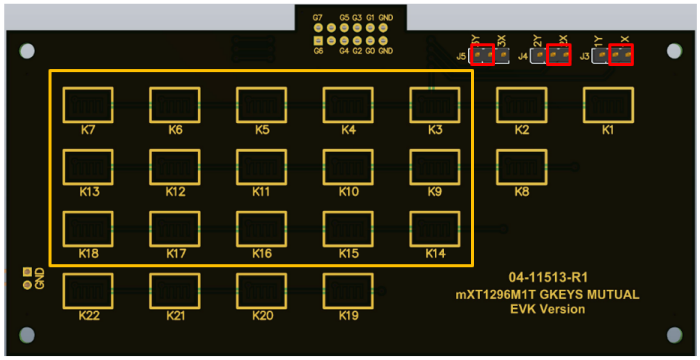
Active keys

2X by (up to) 6Y



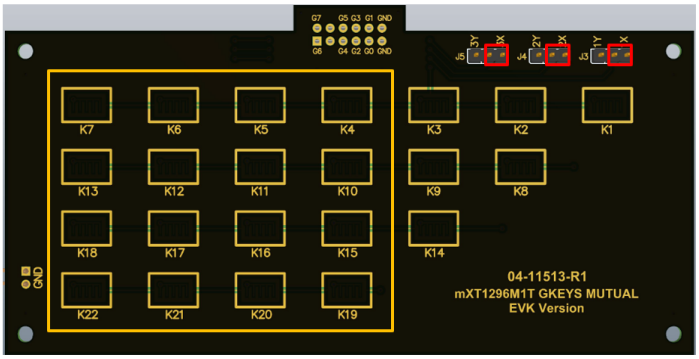
	T15 message bytes	
KEY	Byte2	Byte3
2	1	0
8	2	0
3	4	0
9	8	0
4	16	0
10	32	0
5	64	0
11	128	0
6	0	1
12	0	2
7	0	4
13	0	8

3X by (up to) 5Y



	T15 message bytes	
KEY	Byte2	Byte3
3	1	0
9	2	0
14	4	0
4	8	0
10	16	0
15	32	0
5	64	0
11	128	0
16	0	1
6	0	2
12	0	4
17	0	8
7	0	16
13	0	32
18	0	64

4X by (up to) 4Y



	T15 message bytes	
KEY	Byte2	Byte3
4	1	0
10	2	0
15	4	0
19	8	0
5	16	0
11	32	0
16	64	0
20	128	0
6	0	1
12	0	2
17	0	4
21	0	8
7	0	16
13	0	32
18	0	64
22	0	128

Configuring the G-Key Self-Cap PCB

To use the Self Cap G-Key board, the config file *EVK_mXT1296M1T_1.0.AA_v1.1_P2PMu_Self_cap_keys.xcfg* must be loaded into the device. There are no jumpers required on the Self Cap G-key board.

Self-Cap G-key PCB (8 keys)