

Kernel driver mc13783-adc

Supported chips:

* Freescale Atlas MC13783

Prefix: 'mc13783_adc'

Datasheet:

http://www.freescale.com/files/rf_if/doc/data_sheet/MC13783.pdf?fsrch=1

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Description

The Freescale MC13783 is a Power Management and Audio Circuit. Among other things it contains a 10-bit A/D converter. The converter has 16 channels which can be used in different modes.

The A/D converter has a resolution of 2.25mV. Channels 0-4 have a dedicated meaning with chip internal scaling applied. Channels 5-7 can be used as general purpose inputs or alternatively in a dedicated mode. Channels 12-15 are occupied by the touchscreen if it's active.

Currently the driver only supports channels 2 and 5-15 with no alternative modes for channels 5-7.

See this table for the meaning of the different channels and their chip internal scaling:

Channel	Signal	Input Range	Scaling
0	Battery Voltage (BATT)	2.50 - 4.65V	-2.40V
1	Battery Current (BATT - BATTISNS)	-50 - 50 mV	x20
2	Application Supply (BP)	2.50 - 4.65V	-2.40V
3	Charger Voltage (CHRGRAW)	0 - 10V / 0 - 20V	/5 /10
4	Charger Current (CHRGISNSP-CHRGISNSN)	-0.25V - 0.25V	x4
5	General Purpose ADIN5 / Battery Pack Thermistor	0 - 2.30V	No
6	General Purpose ADIN6 / Backup Voltage (LICELL)	0 - 2.30V / 1.50 - 3.50V	No / -1.20V
7	General Purpose ADIN7 / UID / Die Temperature	0 - 2.30V / 0 - 2.55V /	No / x0.9 /
No			
8	General Purpose ADIN8	0 - 2.30V	No
9	General Purpose ADIN9	0 - 2.30V	No
10	General Purpose ADIN10	0 - 2.30V	No
11	General Purpose ADIN11	0 - 2.30V	No
12	General Purpose TSX1 / Touchscreen X-plate 1	0 - 2.30V	No
13	General Purpose TSX2 / Touchscreen X-plate 2	0 - 2.30V	No
14	General Purpose TSY1 / Touchscreen Y-plate 1	0 - 2.30V	No
15	General Purpose TSY2 / Touchscreen Y-plate 2	0 - 2.30V	No