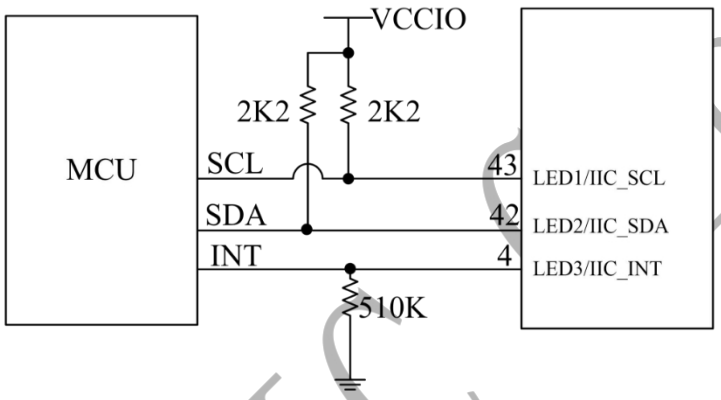
Version/revision history

releases	dates	revision	Proposed/revised by
V1.00	2021-10-25	Initial release	IT360
V1.60	2022-05-16	Revision of typography and instructions	IT360
V1.61	2022-07-13	Increase VSYS power mail Memory High 8-bit	IT360

1 Typical Application Notes

1.1 I2C Connection Method

IP2368 can be used as a slave device, MCU can read or set the voltage, current, power and other information of IP2368 through I2C interface, IP2368 I2C connection is as follows:



1.2 I2C Notes

- The I2C device address of IP2368 is 0xEA for write and 0xEB for read, if other address is required, it can be customized;
- The I2C communication voltage of IP2368 is 3.3V. If the MCU side is 5V, you need to add a level converter chip to switch to 3.3V;
- IP2368 INT application description: IP2368 will wake up when it detects INT is high when it sleeps, after waking up, IP2368 actively pulls up INT, and after 100ms, MCU can carry out I2C communication and read/write operation of registers; before IP2368 enters hibernation, it will switch to input high-resistance to detect the INT status, if it is high level, MCU is considered that If it is high, the MCU will think that the IP2368 is not allowed to enter hibernation; if it is low, the IP2368 will enter hibernation; the MCU will stop accessing the IC within 16ms after detecting that the INT is low;
- The I2C of IP2368 supports up to 250k communication frequency. Considering the clock deviation, it is recommended to use 100k-200k for the I2C communication clock of MCU;
- If you want to modify the value of a certain register in IP2368, you need to read out the value of the corresponding register first, and then write the calculated value into the register after performing the sum or operation on the Bit that needs to be modified, and you can't modify the value of other registers that are not open. The default value of the register is based on

the value read, and the default value may be different for different ICs;

- IP2368 I2C communication is real-time data, after receiving the request, you need to enter the interrupt for data preparation, the preparation time is longer, so the MCU needs to judge whether it receives ACK and increase the delay time by 50us after sending the address in I2C communication (refer to the I2C application example); it is recommended to read by single byte, 100k I2C communication frequency, and increase the delay time by 1ms between each byte;
- At the end of I2C read data, after reading the last byte, must give NACK signal, otherwise IP2368 will think that it is still continuing to read data, the next clock will continue to output the next data, resulting in failure to receive the STOP signal, and finally read error;

- Reserved registers must not be written to or changed from their original values, or else unintended results will occur. The operation of the register must be carried out according to read-modify-write, only modify the bit to be used, not modify the value of other unused bit;
- This document is only for IP2368_I2C_COUT/IP2368_I2C_NACT models, other models are invalid;

1.3 I2C Application Examples

After the INT pin of IP2368 is continuously high for 100ms, MCU can carry out I2C communication, initialize the registers first (modify the registers only when you need to modify the special functions, if you don't need to modify them, you can not write the registers); then read the internal information of IP2368 (battery level, charging and discharging status, key status); finally, carry out the operation of the special requirements (such as special indicator, charging and discharging management, fast charging request management); MCU needs to stop accessing I2C within 16ms after detecting the INT pin is low. Then read the internal information of IP2368 (power level, charging/discharging status, key status); finally, perform special operations (e.g. special indicator, charging/discharging management, fast charging request management); after the MCU detects that the INT is low, the MCU needs to stop accessing the I2C within 16ms.

Example:

Write data to 0x05 register 0x5A

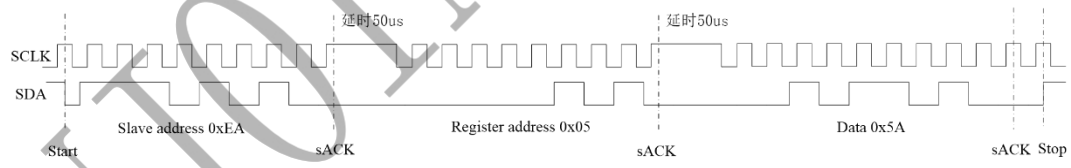


Figure 1 I2C Write 0x05

Read back data from 0x05 register

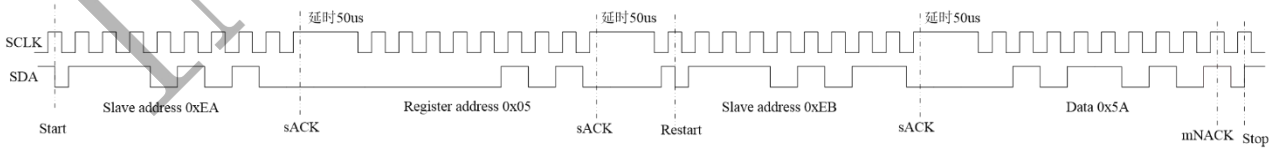


Figure 2 I2C Read 0x05

Actually read back data from 0x31 register

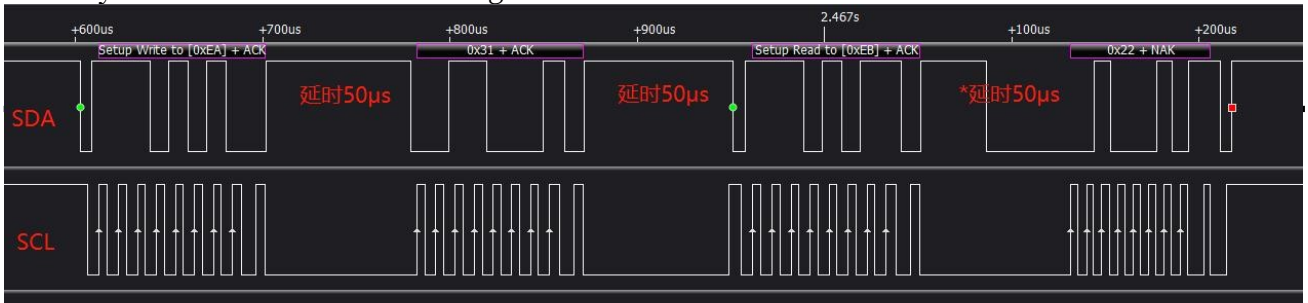


Figure 3I2C Read 0x31

2 Register List:

2.1 Readable/Writable Operation Registers

SYS_CTL0 (charge enable register)

I2C Address 0XEA Register address = 0x00

Bit(s)	Name	Description	R/W	RESET
7	En_LOADOTP	Power-on wake-up reset register value enable 0: Do not reset register values 1: Reset register values This bit is not recommended to be changed to 0. If it needs to be changed, the software needs to periodically Reset register default value, e.g. after VINOk VBUOk signal trigger	R/W	1
6	En_RESETMCU	MCU Reset Register Write 1: reset the register to the default value, the bit will be restored automatically after reset. Reset to 0	R/W	0
5	En_INT_low	When there is an abnormality, INT is pulled down by 2MS to indicate that there is an abnormality in the MCU. 1: Enable 0: disable	R/W	0
4	En_Vbus_SinkDPdM	C Port Input DM DP Fast Charge Enable 1: Enable 0: disable	R/W	1
3	En _Vbus_SinkPd	C Port Input Pd Fast Charge Enable 1: Enable 0: disable	R/W	1
2	En_Vbus_SinkSCP	C Port Input SCP Fast Charge Enable 1: Enable 0: disable	R/W	1
1	En_Vbus_Sinkctrl	C port MOS input enable 1: Enable, turn on C port MOS 0: disable, disable C port MOS	R/W	1
0	En_Charger	Charging enable (only charging when turned off) 1: Enable 0: disable	R/W	1

SYS_CTL1 (series section setting, battery type, current setting mode)

I2C Address 0XEA Register address = 0x01

Bit(s)	Name	Description	R/W	RESET
7:4	Reserved			
3	En_BATmode_set	Set battery type enable (battery type by register 0x01[2]) 1: Enable, allow to set battery type 0: disable, do not allow setting battery type	R/W	0

2	Set_BATmode	Battery type setting 0: lithium iron phosphate battery, single cell trickle constant current voltage 2.5V, full voltage 3.6V or so 1：Ordinary lithium batteries, single cell trickle current voltage 3.0V, full voltage 4.2V or so	R/W	1
1	En_Isetmode_set	Select current setting mode enable 1: Enable, current setting mode is allowed to be selected 0: disable, current setting mode is not allowed to be selected	R/W	0
0	Set_Isetmode	Select current setting mode (current and power register 0x03 [6:0]) 0: Iset sets the battery side current. 1: Iset sets the power at the input.	R/W	1

SYS_CTL2 (Vset full voltage setting)

I2C Address 0XEA Register address = 0x02

Bit(s)	Name	Description	R/W	RESET
7	En_Vset_set	Set full voltage enable 1: Enable, allows setting of full voltage 0: disable, full voltage setting is not allowed	R/W	0
6:0	Vset	Full voltage setting Lithium iron phosphate battery mode (0x01[2]=0), single cell full voltage Vset=N*10+3500mV (max. 3.7V) In normal Li-ion battery mode (0x01[2]=1), single cell full voltage Vset=N*10+4000mV (up to 4.4V)		00 1010

SYS_CTL3 (Iset charging power or current setting)

I2C Address 0XEA Register address = 0x03

Bit(s)	Name	Description	R/W	RESET
7	En_Iset_set	Set charging power or current enable 1: Enable, allows to set the charging power or current 0: disable, does not allow setting charging power or current	R/W	0
6:0	Iset	Battery-side current or power setting When set to battery-side current (0x01[0]=0), the battery-side current Iset=N*100mA (5A maximum) When set to charge input power mode (0x01[0]=1), the set charge power Pmax=N*1W (charging max. 100W)	R/W	0111100

SYS_CTL4 (battery capacity setting)

I2C Address 0XEA Register address = 0x04

Bit(s)	Name	Description	R/W	RESET
7	En_FCAP_set	Set battery capacity function enable 1: Enable, allows setting the battery capacity 0: disable, does not allow setting battery capacity	R/W	0
6:0	Fcap	Battery Capacity FCAP= N*200mAh	R/W	0101000

SYS_CTL6 (current power level)

I2C Address 0XEA Register address = 0x06

Bit(s)	Name	Description	R/W	RESET
7:0	Cap_Now	Current power level (read/write) Cap_Now=N	R/W	x

SYS_CTL7 (trickle charge current, threshold and charge timeout settings)

I2C Address 0XEA Register address = 0x07

Bit(s)	Name	Description	R/W	RESET
7:4	Itk	Trickle charge current setting (maximum trickle charge current 400ma) Itk=N*50mA	R/W	0100
3:2	Vtk	Trickle-to-constant-current charging voltage threshold for a single battery When set to lithium iron phosphate mode (0x01[2]=0) 00: 2.3V 01: 2.4V 10: 2.5V 11: 2.6V When set to normal lithium battery mode (0x01[2]=1) 00: 2.8V 01: 2.9V 10: 3.0V 11: 3.1V	R/W	10
1:0	Charge_OT	Charge Timeout Setting 00: disable, no charge timeout 01: 24h 10:36h 11:48h	R/W	10

SYS_CTL8 (Stop Charge Flow and Recharge Threshold Setting)

I2C Address 0XEA Register address = 0x08

Bit(s)	Name	Description	R/W	RESET
7:4	Istop	Stop Charge Current Setting Istop=N*50mA	R/W	0010
3:2	Vrch	recharge threshold 00: No re-charging function after full charge 01: V_{TRGT} - N*0.05 10: V_{TRGT} - N*0.1 11: V_{TRGT} - N*0.2 V_{TRGT} ---- Charge Voltage N---- Battery series connection	R/W	10
1:0	Reserved			

SYS_CTL9 (standby enable and low power voltage setting)

I2C Address 0XEA Register address = 0x09

Bit(s)	Name	Description	R/W	RESET
7	En_Standby	standby enable 1: Enabling 0: not enabled	R/W	1
6	En_BATlow_Set	Battery low voltage setting enable (battery voltage setting register 0x0A) 0: disable 1: Enable	R/W	0
5	En_BAT_Low	Turn off the battery low power shutdown function 0: disable 1: Enable	R/W	0
4:0	Reserved			

SYS_CTL10 (battery low voltage setting)

I2C Address 0XEA Register address = 0x0A

Bit(s)	Name	Description	R/W	RESET
7:5	Set_BATlow	Battery low voltage setting 000:Lithium battery 2.80V*N/Lithium iron battery 2.3V*N 001:Lithium battery 2.90V*N/Lithium iron battery 2.4V*N 010:Li-ion Battery 3.00V*N/Li-Fe Battery 2.5V*N 011:Lithium Battery 3.10V*N/Lithium Iron Battery 2.6V*N 100:Lithium battery 3.20V*N/Lithium iron battery 2.7V*N N:Battery series connection	R/W	010
4:0	Reserved			

SYS_CTL11 (output enable register)

I2C Address 0XEA Register address = 0x0B

Bit(s)	Name	Description	R/W	RESET
7	En_Dc-Dc_Output	Discharge output enable (no output when turned off) 1: Enabling 0: not enabled	R/W	1
6	En_Vbus_Src_DP dM	C Port Output DP/DM Fast Charge Enable 1: Enable 0: disable	R/W	1
5	En _Vbus_SrcPd	C Port Output Pd Fast Charge Enable 1: Enable 0: disable	R/W	1
4	En _Vbus_SrcSCP	C port output SCP fast charge enable 1: Enable 0: disable	R/W	1
3:0	Reserved			

SYS_CTL12 (output maximum power selection register)

I2C Address 0XEA Register address = 0x0C

Bit(s)	Name	Description	R/W	RESET
7:5	Vbus_Src_Power	Vbus1 Output power selection: 000: 20W 001: 25W 010: 30W 011: 45W 100: 60W 101: 100W	R/W	101
4:0	Reserved			

100W requires the addition of Emark recognition circuitry.

TypeC_CTL8 (TYPE-C mode control register)

I2C Address 0XEA Register address = 0x22

Bit(s)	Name	Description	R/W	RESET
7:6	Vbus_Mode_Set	Vbus CC Mode Selection 00: UFP 01: DFP 11: DRP	R/W	0
5:0	Reserved			

TypeC_CTL9 (Output Pdo Current Setting Register)

I2C Address 0XEA Register address = 0x23

Bit(s)	Name	Description	R/W	RESET
7	En_5VPdo_3A/2.4A	5VPdo Current Setting 1: 3A 0: 2.4A	R/W	1
6	En_Pps2Pdo_Iset	Pps2 Pdo Current Setting Enable 1: Enable 0: disable *The output power and overcurrent are based on the set Pdo current after enabling, and the overcurrent is based on the set Pdo current, and the overcurrent is based on the set Pdo current. Current is 1.1 times the set Pdo current.	R/W	0
5	En_Pps1Pdo_Iset	Pps1 Pdo Current Setting Enable 1: Enable 0: disable *The output power and overcurrent are based on the set Pdo current after enabling, and the overcurrent is based on the set Pdo current, and the overcurrent is based on the set Pdo current. Current is 1.1 times the set Pdo current.	R/W	0
4	En_20VPdo_Iset	20VPdo Current Setting Enable 1: Enable 0: disable *The output power and overcurrent are based on the set Pdo current after enabling, and the overcurrent is based on the set Pdo current, and the overcurrent is based on the set Pdo current. Current is 1.1 times the set Pdo current.	R/W	0
3	En_15VPdo_Iset	15VPdo Current Setting Enable 1: Enable 0: disable *The output power and overcurrent are based on the set Pdo current after enabling, and the overcurrent is based on the set Pdo current, and the overcurrent is based on the set Pdo current. Current is 1.1 times the set Pdo current.	R/W	0
2	En_12VPdo_Iset	12VPdo Current Setting Enable 1: Enable 0: disable *The output power and overcurrent are based on the set Pdo current after enabling, and the overcurrent is based on the set Pdo current, and the overcurrent is based on the set Pdo current. Current is 1.1 times the set Pdo current.	R/W	0
1	En_9VPdo_Iset	9VPdo Current Setting Enable 1: Enable 0: disable *The output power and overcurrent are based on the set Pdo current after enabling, and the overcurrent is based on the set Pdo current, and the overcurrent is based on the set Pdo current. Current is 1.1 times the set Pdo current.	R/W	0
0	En_5VPdo_Iset	5VPdo Current Setting Enable 1: Enable 0: disable	R/W	0

TypeC_CTL10 (5VPdo Current Setting Register)

I2C Address 0XEA Register address = 0x24

Bit(s)	Name	Description	R/W	RESET
7:0	5VPdo_Iset	5VPdo Current Setting 5VPdo=20mA*N (Default 3A,Max=3A)	R/W	0x96

TypeC_CTL11 (9VPdo Current Setting Register)

I2C Address 0XEA Register address = 0x25

Bit(s)	Name	Description	R/W	RESET
7:0	9VPdo_Iset	9VPdo Current Setting 9VPdo=20mA*N (Default 3A,Max=3A)	R/W	0x96

TypeC_CTL12 (12VPdo Current Setting Register)

I2C Address 0XEA Register address = 0x26

Bit(s)	Name	Description	R/W	RESET
7:0	12VPdo_Iset	12VPdo Current Setting 12VPdo=20mA*N (Default 3A,Max=3A)	R/W	0x96

TypeC_CTL13 (15VPdo Current Setting Register)

I2C Address 0XEA Register address = 0x27

Bit(s)	Name	Description	R/W	RESET
7:0	15VPdo_Iset	15VPdo Current Setting 15VPdo=20mA*N (Default 3A,Max=3A)	R/W	0x96

TypeC_CTL14 (20VPdo Current Setting Register)

I2C Address 0XEA Register address = 0x28

Bit(s)	Name	Description	R/W	RESET
7:0	20VPdo_Iset	20VPdo Current Setting 20VPdo=20mA*N (Default 5A, need to recognize to the emark,Max=5A) did not recognize emark as 3A.	R/W	0xFA

TypeC_CTL23 (Pps1 Pdo Current Setting Register)

I2C Address 0XEA Register address = 0x29

Bit(s)	Name	Description	R/W	RESET
7:0	Pps1Pdo_Iset	Pps1 Pdo Current Setting Pps1 Pdo=50mA*N (Default 5A, need to recognize to the emark,Max=5A) did not recognize emark as 3A.	R/W	0x3C

TypeC_CTL24 (Pps2 Pdo Current Setting Register)

I2C Address 0XEA Register address = 0x2A

Bit(s)	Name	Description	R/W	RESET
7:0	Pps2Pdo_Iset	Pps2 Pdo Current Setting Pps2 Pdo=50mA*N (Default 5A, need to recognize to the emark,Max=5A) did not recognize emark as 3A.	R/W	0x3C

TypeC_CTL17 (Output Pdo Setting Register)

I2C Address 0XEA Register address = 0x2B

Bit(s)	Name	Description	R/W	RESET
7	Reserved		R/W	R
6	En_Src_Pps2Pdo	Pps2 Pdo enable 1: Enable 0: disable * No Pps2 Pdo after disable.	R/W	1
5	En_Src_Pps1Pdo	Pps1 Pdo enable 1: Enable 0: disable * No Pps1 Pdo after disable.	R/W	1
4	En_Src_20VPdo	20VPdo enable 1: Enable 0: disable * No 20V Pdo after disable	R/W	1
3	En_Src_15VPdo	15VPdo enable 1: Enable 0: disable * No 15V Pdo after disable	R/W	1
2	En_Src_12VPdo	12VPdo enable 1: Enable 0: disable * No 12V Pdo after disable	R/W	1
1	En_Src_9VPdo	9VPdo enable 1: Enable 0: disable	R/W	1

		* No 9V Pdo after disable		
0	Reserved		R/W	R

2.2 Read-only status indication register

SOC_CAP_DATA (cell charge data register)

I2C Address 0XEA Register Address = 0X30

Bit(s)	Name	Description	R/W
7:0	Soc_Cap	Cell percentage charge data (%) Soc_Cap=N	R

STATE_CTL0 (Charge Status Control Register)

I2C Address 0XEA Register address = 0X31

Bit(s)	Name	Description	R/W
7:6	Reserved		R
5	CHG_En	Charge Flag Bit 1: Charging status (VbusOk even if charging status) 0: Non-charging state	R
4	CHG_End	Filled Status Flag Bit 1: Charging is full 0: Charge is not full	R
3	Output_En	Discharge status flag bit 1: Discharge state and the output port has been opened without any abnormality 0: Discharge status output is not turned on or there is discharge abnormality	R
2:0	Chg_state	Chg_state 000: standby 001: Trickle 010: Constant current charging 011: Constant voltage charging 100: Charging pending (including cases where charging is not turned on, etc.) 101: Full state 110: Charge timeout	R

STATE_CTL1 (Charge Status Control Register)

I2C Address 0XEA Register address = 0X32

Bit(s)	Name	Description	R/W
7:6	Chg_State	Chg_state 00: 5V input charging 01: High voltage input fast charging	R
5:0	Reserved		R

STATE_CTL2 (Input Pd Status Control Register)

I2C Address 0XEA Register address = 0X33

Bit(s)	Name	Description	R/W
7	Vbus_Ok	Vbus_Ok 1: Vbus powered 0: Vbus no power	R
6	Vbus_Ov	Vbus_Ov 1: Vbus input overvoltage 0: No overvoltage on Vbus input	R
5:3	Reserved		
2:0	Chg_Vbus	Charging Voltage 111: 20V Charging 110: 15V charging 101: 12V Charging 100: 9V charging 011: 7V charging 010: 5V Charging	R

TypeC_STATE (system status indication register)

I2C Address 0XEA Register address = 0X34

Bit(s)	Name	Description	R/W
7	Sink_Ok	TypeC Sink Input Connection Flag Bit 1: Effective 0: Invalid	R
6	Src_Ok	TypeC Src Output Connection Flag Bit 1: Effective 0: Invalid	R
5	Src_Pd_Ok	Src_Pd_Ok Output connection flag bit 1: Effective 0: Invalid	R
4	Sink_Pd_Ok	Sink_Pd_Ok Input connection flag bit 1: Effective 0: Invalid	R
3	Vbus_Sink_Qc_Ok	Input fast charging valid flag bits Qc5V and Pd5V are not counted as fast charging Ok 1: Valid 0: Invalid	R
2	Vbus_Src_Qc_Ok	Output fast charging valid flag bits Qc5V and Pd5V are not counted as fast charging Ok 1: Valid 0: Invalid	R
1:0	Reserved		

MOS_STATE (input MOS status indication register)

I2C Address 0XEA Register address = 0X35

Bit(s)	Name	Description	R/W
7	Reserved		R
6	Vbus_Mos_State	Vbus port input MOS status 0: Closed 1: Open state	R
5:0	Reserved		R

STATE_CTL3 (system overcurrent indication register)

I2C Address 0XEA Register address = 0X38

Bit(s)	Name	Description	R/W
7:6	Reserved		R
5	Vsys_Oc	Vsys output overcurrent flag bit, need to be written 1 clear 0 1: Vsys output has triggered overcurrent signal 0: No overcurrent signal triggered at Vsys output When the first short-circuit signal is detected, write 1 to clear 0 and then read it again. If more than two consecutive overcurrent signals are detected within 600ms, it is recognized. Valid for overcurrent signal	R
4	Vsys_Scdt	Vsys output short-circuit flag bit, need to write 1 to clear 0 1: Vsys output has triggered short-circuit signal 0: No short-circuit signal triggered at Vsys output When the first short-circuit signal is detected, write 1 to clear 0 and then read it again. If more than two short-circuit signals are detected in a row within 600ms, it will be recognized as a short-circuit signal Valid for short-circuit signal	R

BATVADC_DAT0 (VBAT voltage register)

I2C Address 0XEA Register Address = 0X50

Bit(s)	Name	Description	R/W
7:0	BATVADC[7:0]	BATVADC Low 8bit of data	R
3:0	Reserved	Voltage of VBATPIN	R

BATVADC_DAT1 (VBAT voltage register)

I2C Address 0XEA Register Address = 0X51

Bit(s)	Name	Description	R/W
7:0	BATVADC[15:8]	BATVADC High 8bit of data	R

		Voltage of VBATPIN VBAT=BATVADC (mV)	

VsysVADC_DAT0 (Vsys voltage register)

I2C Address 0XEA Register Address = 0X52

Bit(s)	Name	Description	R/W
7:0	VsysVADC[7:0]	Vsys Low 8bit of voltage data Voltage at VsysPIN	R

VsysVADC_DAT1 (Vsys voltage register)

Send I2C address 0XEA Register address = 0X53

Bit(s)	Name	Description	R/W
7:0	VsysVADC[15:8]	Vsys Voltage data of high 8bit VsysPIN voltage Vsys= VsysVADC (mV)	R

IVbus_Sink_IADC_DAT0 (input current register)

I2C Address 0XEA Register Address = 0X54

Bit(s)	Name	Description	R/W
7:0	IVbus ADC[7:0]	Low 8bit of charge input current data Current at Vbus input	R

IVbus_Sink_IADC_DAT1 (input current register)

Send I2C address 0XEA Register address = 0X55

Bit(s)	Name	Description	R/W
7:0	IVbusADC[15:8]	High 8bit of charge input current data Current at Vbus input Iin=IVbusADC (mA)	R

When charging, the current is stored in 0X54 and 0x55. 0x31 register bit5 is the charge flag bit.

IVbus_Src_IADC_DAT0 (output current register)

I2C Address 0XEA Register Address = 0X56

Bit(s)	Name	Description	R/W
7:0	IVbus ADC[7:0]	Lower 8 bits of discharge output current data	R

		Current at Vbus output	

IVbus_Src_IADC_DAT1 (output current register)

Send I2C address 0XEA Register address = 0X57

Bit(s)	Name	Description	R/W
7:0	IVbusADC[15:8]	Discharge output current data of the high 8bit Vbus output current Iout=IVbusADC(mA)	R

When discharging, the current is read from 0x57. 0x31 register bit5 is the discharge flag bit.

IBATIADC_DAT0 (BAT side current register)

I2C Address 0XEA Register Address = 0x6E

Bit(s)	Name	Description	R/W
7:0	IBATIADC[7:0]	Cell end current IBATIADC data low 8bit	R

IBATIADC_DAT1 (BAT side current register)

I2C Address 0XEA Register Address = 0x6F

Bit(s)	Name	Description	R/W
7:0	IBATIADC[15:8]	Cell end current High 8bit of BATIADC data IBAT= IBATIADC(mA)	R

ISYS_IADC_DAT0 (IVsys side current register)

I2C Address 0XEA Register Address = 0x70

Bit(s)	Name	Description	R/W
7:0	ISYSIADC[7:0]	IVsys end current VsysIADC data low 8bit	R

IVsys_IADC_DAT1 (IVsys side current register)

I2C Address 0XEA Register Address = 0x71

Bit(s)	Name	Description	R/W
7:0	IVsysIADC[15:8]	IVsys end current VsysIADC data high 8bit IVsys = VsysIADC(mA)	R

Vsys_POW_DAT0 (Vsys side power register)

I2C Address 0XEA Register Address = 0X74

Bit(s)	Name	Description	R/W
7:0	Vsys_POW_ADC [7:0]	Lower 8 bits of Vsys-side power ADC data	R

Vsys_POW _DAT1 (Vsys side power register)

I2C Address 0XEA Register Address = 0X75

Bit(s)	Name	Description	R/W
7:0	Vsys_POW_ADC[15:8]	Vsys-side power ADC data, medium 8bit	R

Vsys_POW _DAT2 (Vsys side power register)

I2C Address 0XEA Register Address = 0X76

Bit(s)	Name	Description	R/W
7:0	Vsys_POW_ADC[23:16]	High 8bit of Vsys end power ADC data Vsys_POW= Vsys_POW_ADC(mW)	R

INTC_IADC _DAT0 (NTC output current register)

I2C Address 0XEA Register Address = 0X77

Bit(s)	Name	Description	R/W
7	NTC_IADC_DAT	0:Output 20uA 1:Output 80uA	R
6:0	Reserved		

VGPIO0_NTC_DAT0 (VGPIO0_NTC_ADC voltage register)

I2C Address 0XEA Register Address = 0X78

Bit(s)	Name	Description	R/W
7:0	VGPIO0_DAT0 [7:0]	Low 8bit of VGPIO0_ADC data	R

VGPIO0_NTC_DAT1 (VGPIO0_NTC_ADC voltage register)

I2C Address 0XEA Register Address = 0X79

Bit(s)	Name	Description	R/W

7:0	vgpio0_dat1 [15:8]	High 8bit of VGPIO0_ADC data VGPIO0_DAT= VGPIO0_ADC (mV) (0~3.3V)	R

VGPIO1_Iset_DAT0 (VGPIO1_Iset_ADC voltage register)

I2C Address 0XEA Register Address = 0X7A

Bit(s)	Name	Description	R/W
7:0	VGPIO1_DAT0 [7:0]	Low 8bit of VGPIO1_ADC data	R

VGPIO1_Iset_DAT1 (VGPIO1_Iset_ADC voltage register)

I2C Address 0XEA Register Address = 0X7B

Bit(s)	Name	Description	R/W
7:0	vgpio1_dat1 [15:8]	High 8bit of VGPIO1_ADC data VGPIO1_DAT= VGPIO1_ADC (mV) (0~3.3V)	R

VGPIO2_Vset_DAT0 (VGPIO2_Vset_ADC voltage register)

I2C Address 0XEA Register Address = 0X7C

Bit(s)	Name	Description	R/W
7:0	VGPIO2_DAT0 [7:0]	Low 8bit of VGPIO2_ADC data	R

VGPIO2_Vset_DAT1 (VGPIO2_Vset_ADC voltage register)

I2C Address 0XEA Register Address = 0X7D

Bit(s)	Name	Description	R/W
7:0	vgpio2_dat1 [15:8]	High 8bit of VGPIO2_ADC data VGPIO2_DAT= VGPIO2_ADC (mV) (0~3.3V)	R

VGPIO3_FCAP_DAT0 (VGPIO3_FCAP_ADC voltage register)

I2C Address 0XEA Register Address = 0X7E

Bit(s)	Name	Description	R/W
7:0	VGPIO3_DAT0 [7:0]	Low 8bit of VGPIO3_ADC data	R

VGPIO3_FCAP_DAT1 (VGPIO3_FCAP_ADC voltage register)

I2C Address 0XEA Register Address = 0X7F

Bit(s)	Name	Description	R/W
7:0	v gpio3_dat1 [15:8]	High 8bit of VGPIO3_ADC data VGPIO3_DAT= VGPIO3_ADC (mV) (0~3.3V)	R

VGPIO4_BATNUM_DAT0 (VGPIO4_BATNUM_ADC voltage register)

I2C Address 0XEA Register Address = 0X80

Bit(s)	Name	Description	R/W
7:0	VGPIO4_DAT0 [7:0]	Low 8bit of VGPIO4_ADC data	R

VGPIO4_BATNUM_DAT1 (VGPIO4_BATNUM_ADC voltage register)

I2C Address 0XEA Register Address = 0X81

Bit(s)	Name	Description	R/W
7:0	v gpio4_dat1 [15:8]	High 8bit of VGPIO4_ADC data VGPIO3_DAT= VGPIO3_ADC (mV) (0~3.3V)	R

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