

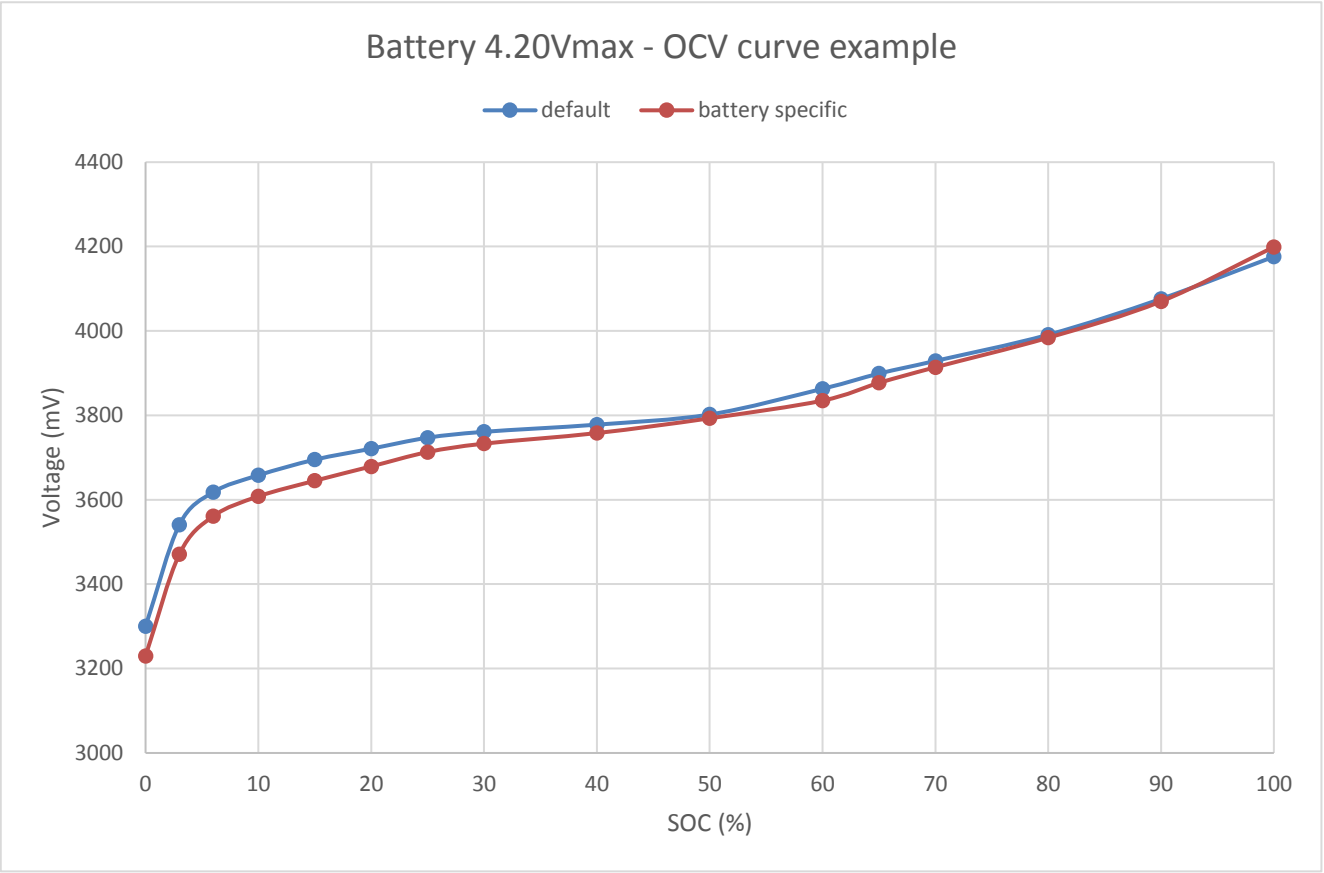
STC3115 OCV registers:  
How to fill the STC3115 registers depending on battery characteristics

- Example for a 3.7V battery (4.2V max charge voltage)

register Address	corresponding SOC (%)	Default OCV curve voltage (mV)	REG_OCVTAB
		STC3115AUT (4.2V max battery)	Default register value (mV)
0x30	0	3300	0
0x31	3	3541	0
0x32	6	3618	0
0x33	10	3658	0
0x34	15	3695	0
0x35	20	3721	0
0x36	25	3747	0
0x37	30	3761	0
0x38	40	3778	0
0x39	50	3802	0
0x3A	60	3863	0
0x3B	65	3899	0
0x3C	70	3929	0
0x3D	80	3991	0
0x3E	90	4076	0
0x3F	100	4176	0

Example with user specific battery (OCV curve measure with

Battery specific OCV curve	OCV offset (mV)	register REG_OCVTAB value	
	(relative to reference curve)	Dec (0.55 mV)	Hex (0.55 mV)
[mV]			
3230	-70	-127	FFFFFFFF81
3471	-70	-127	FFFFFFFF81
3561	-57	-104	FFFFFFFF98
3608	-50	-91	FFFFFFFFA5
3645	-50	-91	FFFFFFFFA5
3679	-42	-76	FFFFFFFFB4
3713	-34	-62	FFFFFFFFC2
3733	-28	-51	FFFFFFFFCD
3758	-20	-36	FFFFFFFFDC
3793	-9	-16	FFFFFFFFF0
3835	-28	-51	FFFFFFFFCD
3877	-22	-40	FFFFFFFFD8
3914	-15	-27	FFFFFFFFE5
3984	-7	-13	FFFFFFFFF3
4070	-6	-11	FFFFFFFFF5
4199	23	42	2A

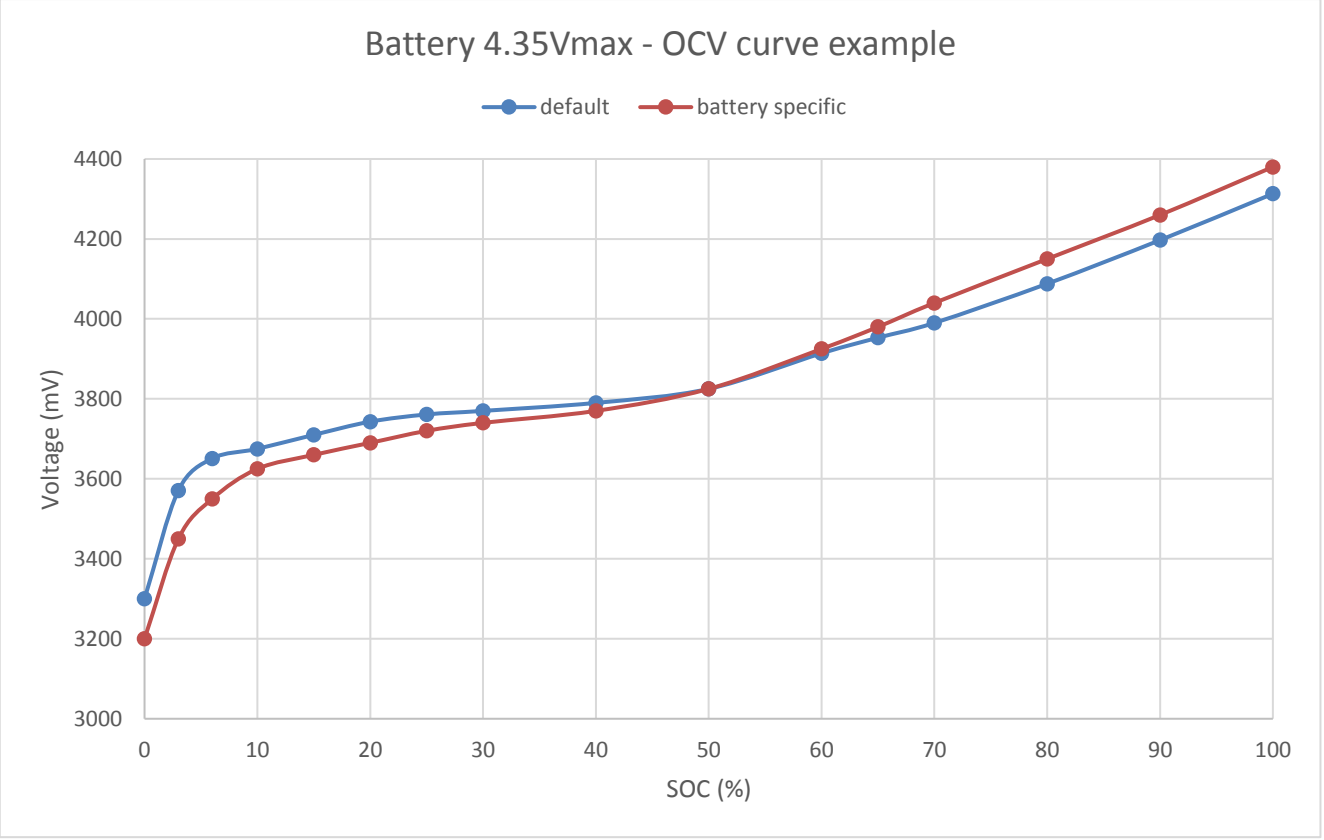


- Example for a 3.8V battery (4.35V max):

register Address	corresponding SOC (%)	Default OCV curve voltage (mV)	REG_OCVTAB
		STC3115IUT (4.35V max battery)	Default register value (mV)
0x30	0	3300	0
0x31	3	3571	0
0x32	6	3651	0
0x33	10	3675	0
0x34	15	3710	0
0x35	20	3743	0
0x36	25	3761	0
0x37	30	3770	0
0x38	40	3790	0
0x39	50	3825	0
0x3A	60	3914	0
0x3B	65	3953	0
0x3C	70	3990	0
0x3D	80	4088	0
0x3E	90	4197	0
0x3F	100	4313	0

Example with user specific battery (OCV curve measure with

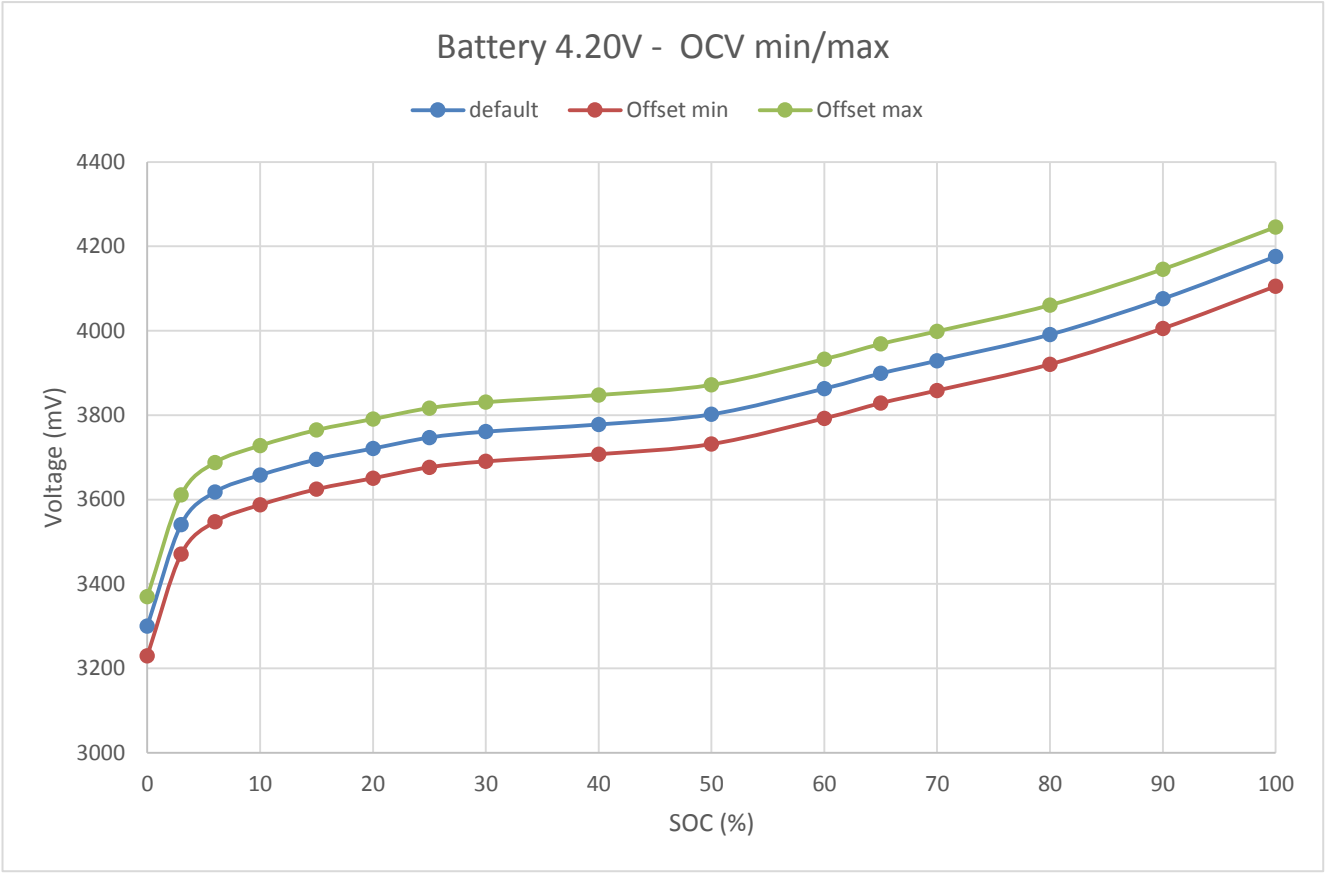
Battery specific OCV curve	OCV offset (mV)	register REG_OCVTAB value	
	(relative to reference curve)	Dec (0.55 mV)	Hex (0.55 mV)
[mV]			
3200	-100	-182	FFFFFFFF4A
3450	-121	-220	FFFFFFFF24
3550	-101	-184	FFFFFFFF48
3625	-50	-91	FFFFFFFFA5
3660	-50	-91	FFFFFFFFA5
3690	-53	-96	FFFFFFFFA0
3720	-41	-75	FFFFFFFFB5
3740	-30	-55	FFFFFFFFC9
3770	-20	-36	FFFFFFFFDC
3825	0	0	00
3925	11	20	14
3980	27	49	31
4040	50	91	5B
4150	62	113	71
4260	63	115	73
4380	67	122	7A



• Example for the min/max battery voltage:

register Address	correspon ding SOC (%)	Default OCV curve voltage (mV)	REG_OCVTAB
		STC3115AIUT (4.2V max battery)	Default register value (mV)
0x30	0	3300	0
0x31	3	3541	0
0x32	6	3618	0
0x33	10	3658	0
0x34	15	3695	0
0x35	20	3721	0
0x36	25	3747	0
0x37	30	3761	0
0x38	40	3778	0
0x39	50	3802	0
0x3A	60	3863	0
0x3B	65	3899	0
0x3C	70	3929	0
0x3D	80	3991	0
0x3E	90	4076	0
0x3F	100	4176	0

register REG_OCVTAB value		OCV offset (mV)	Battery OCV curve
Offset MIN (8bit) Dec (0.55 mV)		Offset MIN (8bit) Hex (0.55 mV)	(relative to reference curve)
			[mV]
-128	FFFFFFFF80	-70.4	3229.6
-128	FFFFFFFF80	-70.4	3470.6
-128	FFFFFFFF80	-70.4	3547.6
-128	FFFFFFFF80	-70.4	3587.6
-128	FFFFFFFF80	-70.4	3624.6
-128	FFFFFFFF80	-70.4	3650.6
-128	FFFFFFFF80	-70.4	3676.6
-128	FFFFFFFF80	-70.4	3690.6
-128	FFFFFFFF80	-70.4	3707.6
-128	FFFFFFFF80	-70.4	3731.6
-128	FFFFFFFF80	-70.4	3792.6
-128	FFFFFFFF80	-70.4	3828.6
-128	FFFFFFFF80	-70.4	3858.6
-128	FFFFFFFF80	-70.4	3920.6
-128	FFFFFFFF80	-70.4	4005.6
-128	FFFFFFFF80	-70.4	4105.6

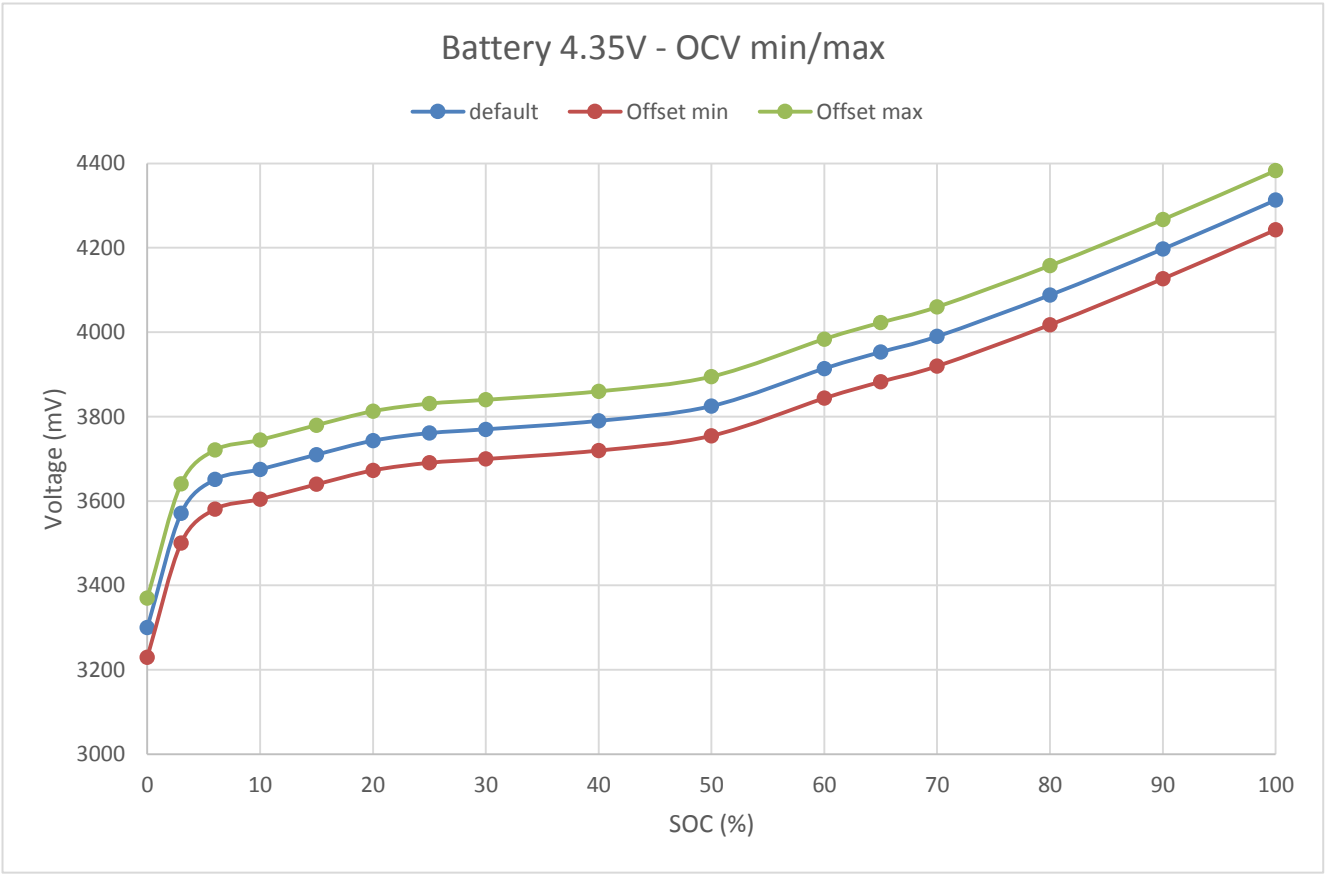


register REG_OCVTAB value		OCV offset (mV)	Battery OCV curve
Offset MAX (8bit) Dec (0.55 mV)		Offset MAX (8bit) Hex (0.55 mV)	(relative to reference curve)
			[mV]
127	7F	69.85	3369.85
127	7F	69.85	3610.85
127	7F	69.85	3687.85
127	7F	69.85	3727.85
127	7F	69.85	3764.85
127	7F	69.85	3790.85
127	7F	69.85	3816.85
127	7F	69.85	3830.85
127	7F	69.85	3847.85
127	7F	69.85	3871.85
127	7F	69.85	3932.85
127	7F	69.85	3968.85
127	7F	69.85	3998.85
127	7F	69.85	4060.85
127	7F	69.85	4145.85
127	7F	69.85	4245.85

• Example for the min/max battery voltage:

register Address	correspon ding SOC (%)	Default OCV curve voltage (mV)	REG_OCVTAB
		STC3115IUT (4.35V max battery)	Default register value (mV)
0x30	0	3300	0
0x31	3	3571	0
0x32	6	3651	0
0x33	10	3675	0
0x34	15	3710	0
0x35	20	3743	0
0x36	25	3761	0
0x37	30	3770	0
0x38	40	3790	0
0x39	50	3825	0
0x3A	60	3914	0
0x3B	65	3953	0
0x3C	70	3990	0
0x3D	80	4088	0
0x3E	90	4197	0
0x3F	100	4313	0

register REG_OCVTAB value		OCV offset (mV)	Battery OCV curve
Offset MIN (8bit) Dec (0.55 mV)		Offset MIN (8bit) Hex (0.55 mV)	(relative to reference curve)
			[mV]
-128	FFFFFFFF80	-70.4	3229.6
-128	FFFFFFFF80	-70.4	3500.6
-128	FFFFFFFF80	-70.4	3580.6
-128	FFFFFFFF80	-70.4	3604.6
-128	FFFFFFFF80	-70.4	3639.6
-128	FFFFFFFF80	-70.4	3672.6
-128	FFFFFFFF80	-70.4	3690.6
-128	FFFFFFFF80	-70.4	3699.6
-128	FFFFFFFF80	-70.4	3719.6
-128	FFFFFFFF80	-70.4	3754.6
-128	FFFFFFFF80	-70.4	3843.6
-128	FFFFFFFF80	-70.4	3882.6
-128	FFFFFFFF80	-70.4	3919.6
-128	FFFFFFFF80	-70.4	4017.6
-128	FFFFFFFF80	-70.4	4126.6
-128	FFFFFFFF80	-70.4	4242.6



register REG_OCVTAB value		OCV offset (mV)	Battery OCV curve
Offset MAX (8bit) Dec (0.55 mV)		Offset MAX (8bit) Hex (0.55 mV)	(relative to reference curve)
			[mV]
127	7F	69.85	3369.85
127	7F	69.85	3640.85
127	7F	69.85	3720.85
127	7F	69.85	3744.85
127	7F	69.85	3779.85
127	7F	69.85	3812.85
127	7F	69.85	3830.85
127	7F	69.85	3839.85
127	7F	69.85	3859.85
127	7F	69.85	3894.85
127	7F	69.85	3983.85
127	7F	69.85	4022.85
127	7F	69.85	4059.85
127	7F	69.85	4157.85
127	7F	69.85	4266.85
127	7F	69.85	4382.85