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<b>PROJECT ID</b> AL-22856		<b>PROJECT NAME</b> AL-22856-STLA_HIGH DEFINITION ECU		<b>FUNCTION/VER</b> HD_ECU C1 design		<b>PAGE NAME</b> 00_BlockDiagram	
<b>PCBA</b>	<b>REV.</b>	<b>VARIANT</b>	<b>REV. AD</b>	<b>PCBU</b>	<b>REV.</b>	<b>SCHEMATIC</b>	<b>REV.</b>
FEH0001435	AD	Volvo	FEH0002206AC	1473002256	AE	000008354	AD
<b>DESIGNER NAME</b>				<b>DATE</b>		<b>SAMPLE C1</b>	<b>PAGE OF</b>
KOSLENKO VIKTOR (f74845a)				Tuesday, September 19, 2023		1	11



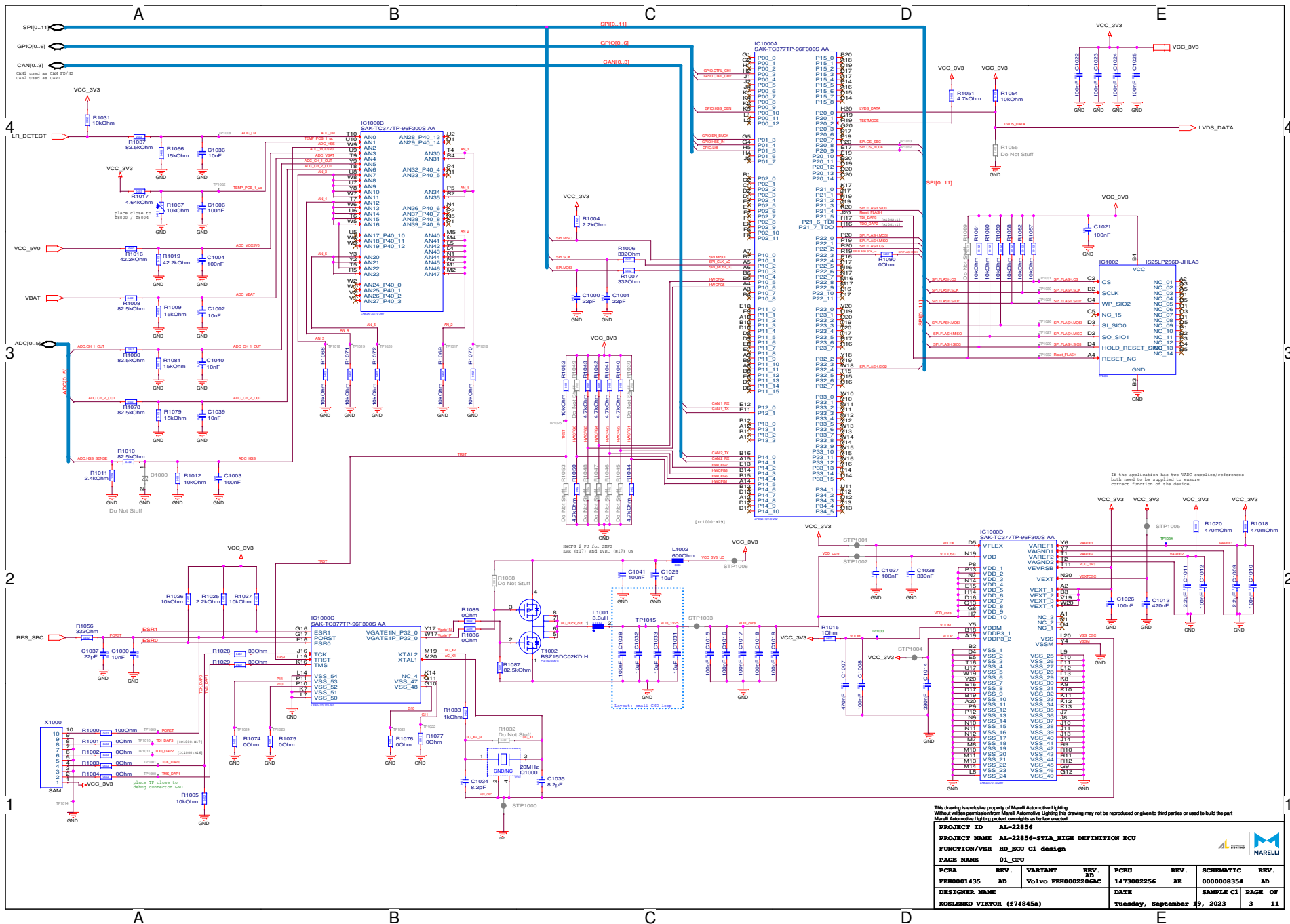
Revision Table:

Version	Date	ECR	Changes	Drawn
00	16.12.2021	10EEG?	Creation A Sample	Sautter M.
01	24.05.2022	10EEG?	draft B0 Sample	Sautter M.
02	20.06.22	10EEG?	B0 Sample core design review issues implemented	Sautter M.
03	01.08.22	10EEG?	B0 Sample init op Volvo, init op OV64	Sautter M.
04	26.10.22	10EEG?	B1 sample for review	Sautter M.
05	18.11.22	10EEG?	B1 sample OV64	Sautter M.
06	22.11.22	10EEG?	B1 sample Volvo HDC / Nio Leo	Sautter M.
07	02.12.22	10EEG?	B1 sample Volvo HDC / Nio Leo update IC1002	Sautter M.
08	02.03.23	10EEG?	C0 sample: preparation of C0-Sample design	Koslenko V.
09	25.08.23	10EEG?	C1 sample: removed TP8006 WAKE is not used for all variants CAN termination changed to 60.4 Ohm	Koslenko V.
10	dd.mm.yy	10EEG?		
11	dd.mm.yy	10EEG?		

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<b>PROJECT ID</b> AL-22856											
<b>PROJECT NAME</b> AL-22856-STLA_HIGH DEFINITION ECU											
<b>FUNCTION/VER</b> HD_ECU C1 design											
<b>PAGE NAME</b> 00_Revisiontable											
<b>PCBA</b>	<b>REV.</b>	<b>VARIANT</b>	<b>REV.</b>	<b>PCBU</b>	<b>REV.</b>	<b>SCHEMATIC</b>	<b>REV.</b>				
FEH0001435	AD	Volvo FEH0002206AC	AD	1473002256	AE	000008354	AD				
<b>DESIGNER NAME</b>				<b>DATE</b>		<b>SAMPLE C1</b>		<b>PAGE OF</b>			
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PROJECT ID	AI-22856								
PROJECT NAME	AI-22856-STIA_HIGH DEFINITION ECU								
FUNCTION/VER	HD_ECU CI design								
PAGE NAME	01_CPU								
PCBA REV.	AD	VARIANT	Volvo FER0002206AC	PCBU REV.	1473002256	AE	SCHEMATIC REV.	0000008354	AD
DESIGNER NAME	ROSLERNO VIKTOR (f74845a)	DATE	Tuesday, September 19, 2023	SAMPLE CI		PAGE OF	3	11	



HWCFG [1] P14.5	HWCFG [2] P14.2	HWCFG [3] P14.3	HWCFG [4] P10.5	HWCFG [5] P10.6	HWCFG [6] P14.4
0 - EVR33OFF 1 - EVR33ON	0 - EVRCOFF 1 - EVRCON	0 - Boot from pins HWCFG [5:4] 1 - Flash BMI boot	HWCFG [4:5] [0 0]- Generic Bootstrap (P14.0/1) [0 1]- ABM, Generic Bootstrap on fail (P14.0/1) [1 0]- ABM, ASC Bootstrap on fail (P15.2/3) [1 1]- Internal start from Flash (reset state depends on HWCFG6 level)		Default Pad state 0 - Pins in tristate 1 - Pins with pull-up
(weak pull-up active on reset)	(weak pull-up active on reset)	(weak pull-up active on reset)			(weak pull-up active on reset)

- 1.) HWCFG [1:3, 6] has weak internal pull-up active at start-up if the pin is left unconnected.
- 2.) If HWCFG [6] is left unconnected or is externally pulled high, HWCFG [4:5] pins have weak internal pull-ups active at start-up. If HWCFG [6] is connected to ground, HWCFG [4:5] pins are in tristate.

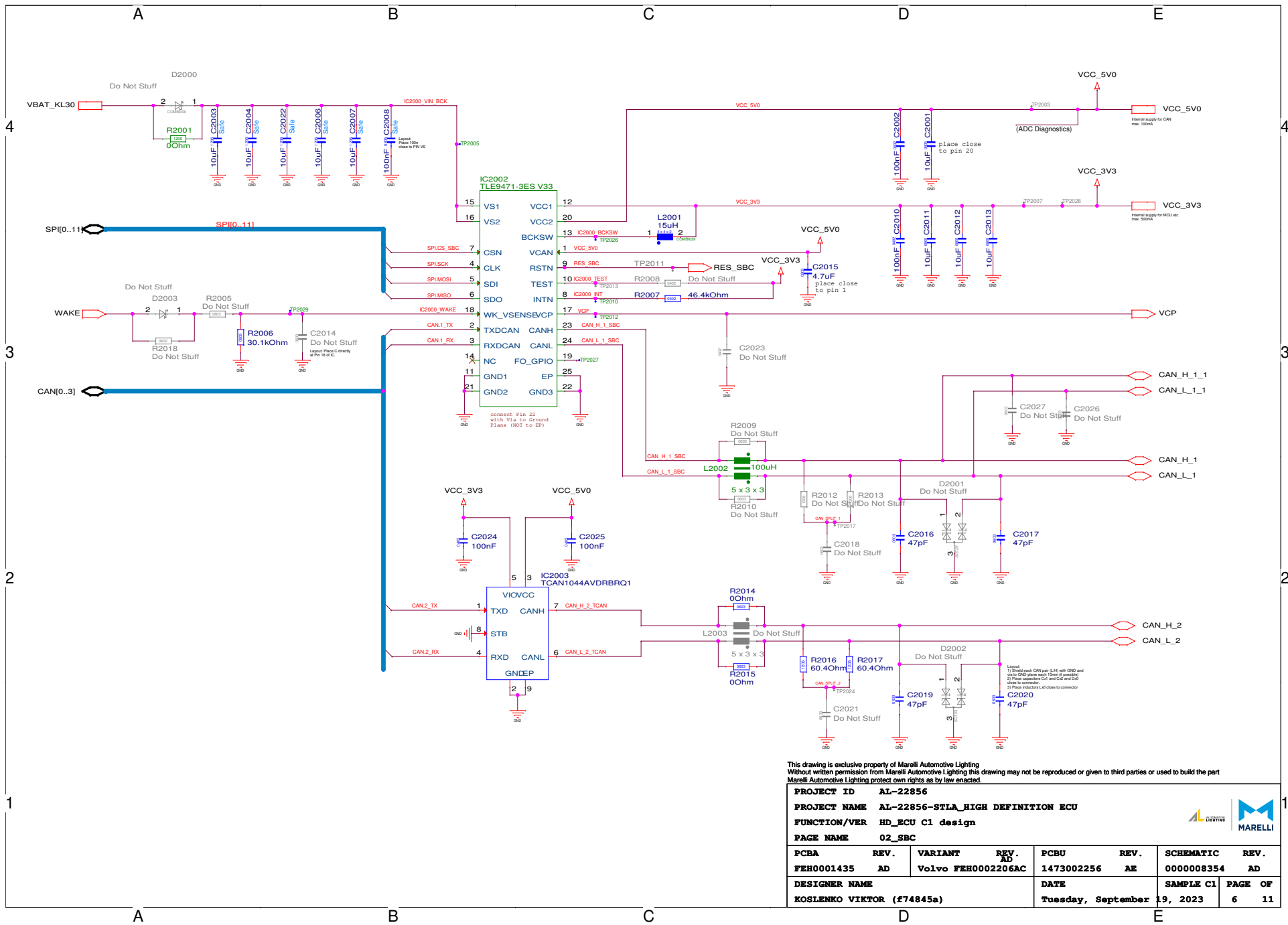
Figure 267 Hardware Configuration (HWCFG) pins

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	NC1	VEXT	P10.7	P10.8	P10.2	P10.3	P10.0	P11.11	P11.9	P11.2	P13.3	P13.1	P14.8	P14.5	P14.1	P15.6	P15.4	P15.1	VDDP3	VSS
B	P02.0	V5B	VEXT	P10.8	P10.5	P10.4	P10.1	P11.12	P11.10	P11.3	P13.2	P13.0	P14.6	P14.3	P14.4	P14.0	P15.3	VDDP3	V5B	P15.0
C	P02.2	P02.1																	P15.2	P00.14
D	P02.4	P02.3																	P20.12	P20.13
E	P02.6	P02.5																	P20.10	P20.11
F	P02.8	P02.7																	P20.7	P20.8
G	P00.0	P00.1																	P20.1	P20.3
H	P00.2	P00.3																	P20.2	P20.0
J	P00.4	P00.5																	P21.3	P21.5
K	P00.7	P00.9																	P21.2	P21.4
L	P00.11	P00.12																	TRST	V5B
M	AN46	AN47																	XTAL2	XTAL1
N	AN44	AN45																	VDD	VEXT
P	AN39/ P40.9	AN37/ P40.7																	P22.1	P22.0
R	AN33/ P40.5	AN35																	P22.3	P22.2
T	VAREF 2	VAGND 2																	P23.3	P23.4
U	AN29/ P40.14	AN28/ P40.13																	P23.1	P23.2
V	AN27/ P40.3	AN26/ P40.2																	VEXT	P23.0
W	AN25/ P40.1	AN24/ P40.0	AN19/ P40.12	AN18/ P40.11	AN16	AN15	AN14	AN11	AN8	AN2	P33.0	P33.2	P33.4	P33.6	P33.8	P33.10	P33.12	P32.4	VSS	VEXT
Y	NC1	AN21	AN20	VSSM	VDDM	VAREF 1	VAGND 1	AN10	AN5	AN3	P33.1	P33.3	P33.5	P33.7	P33.9	P33.11	P33.13	P32.2	P32.3	VSS

Figure 2-1 TC37x TP package variant LFBGA-292

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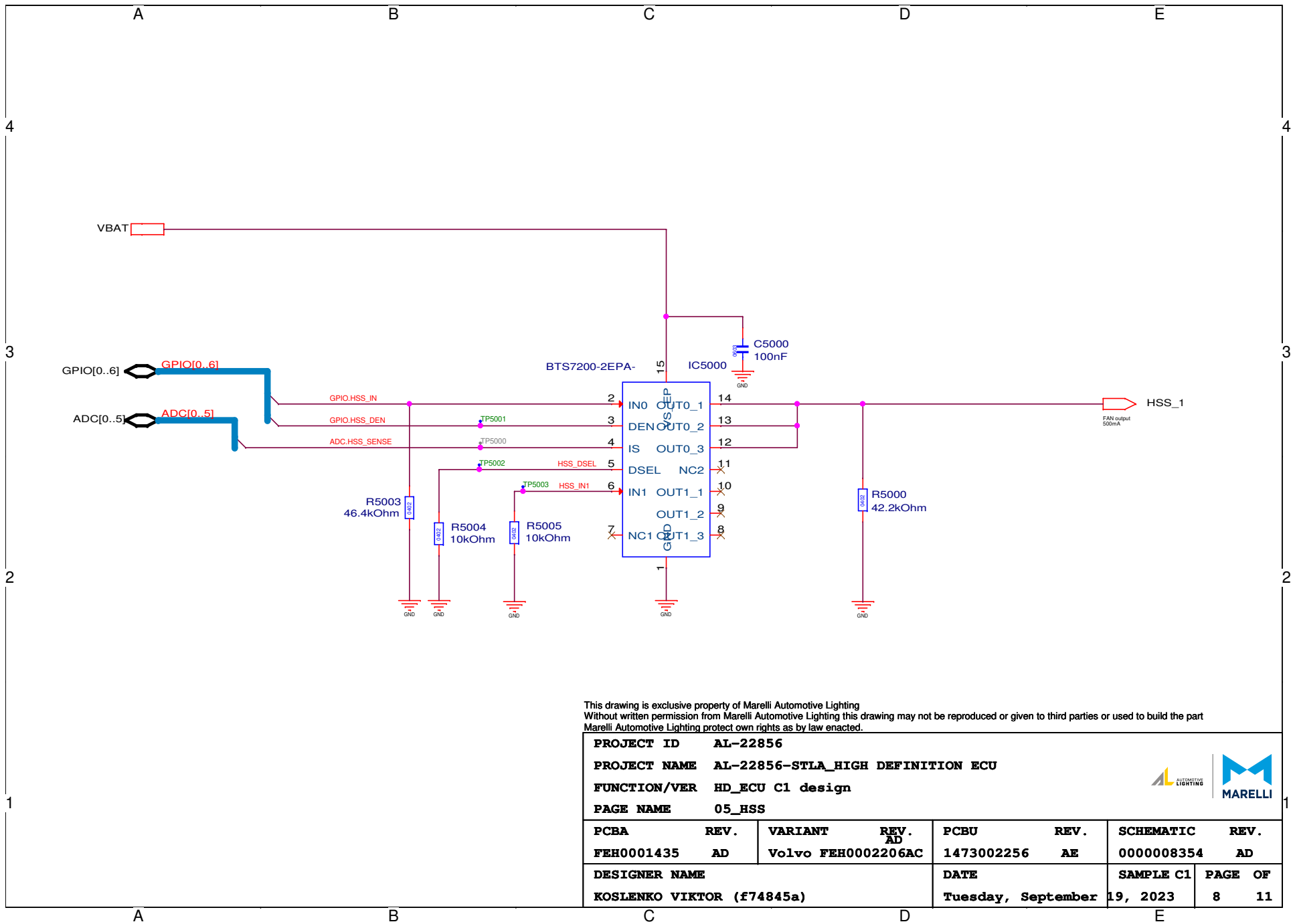
<b>PROJECT ID</b> AL-22856		<b>PROJECT NAME</b> AL-22856-STLA_HIGH DEFINITION ECU			
<b>FUNCTION/VER</b> HD_ECU C1 design		<b>PAGE NAME</b> 01_uc_Config			
<b>PCBA REV.</b>	<b>VARIANT</b>	<b>REV. AD</b>	<b>PCBU REV.</b>	<b>SCHEMATIC REV.</b>	<b>REV. AD</b>
FEH0001435	AD	Volvo FEH0002206AC	1473002256	AE	000008354
<b>DESIGNER NAME</b>			<b>DATE</b>	<b>SAMPLE CI</b>	<b>PAGE OF</b>
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<b>PROJECT ID</b> AL-22856		<b>PROJECT NAME</b> AL-22856-STLA_HIGH DEFINITION ECU			
<b>FUNCTION/VER</b> HD_ECU C1 design		<b>PAGE NAME</b> 02_SBC			
<b>PCBa</b> FEH0001435	<b>REV.</b> AD	<b>VARIANT</b> VoIvo	<b>REV. AD</b> FEH0002206AC	<b>PCBU</b> 1473002256	<b>REV.</b> AE
<b>DESIGNER NAME</b> ROSLENKO VIKTOR (f74845a)		<b>DATE</b> Tuesday, September 19, 2023		<b>SCHEMATIC C1</b> 0000008354	<b>REV. AD</b>
				<b>SAMPLE C1</b>	<b>PAGE OF</b> 6 11

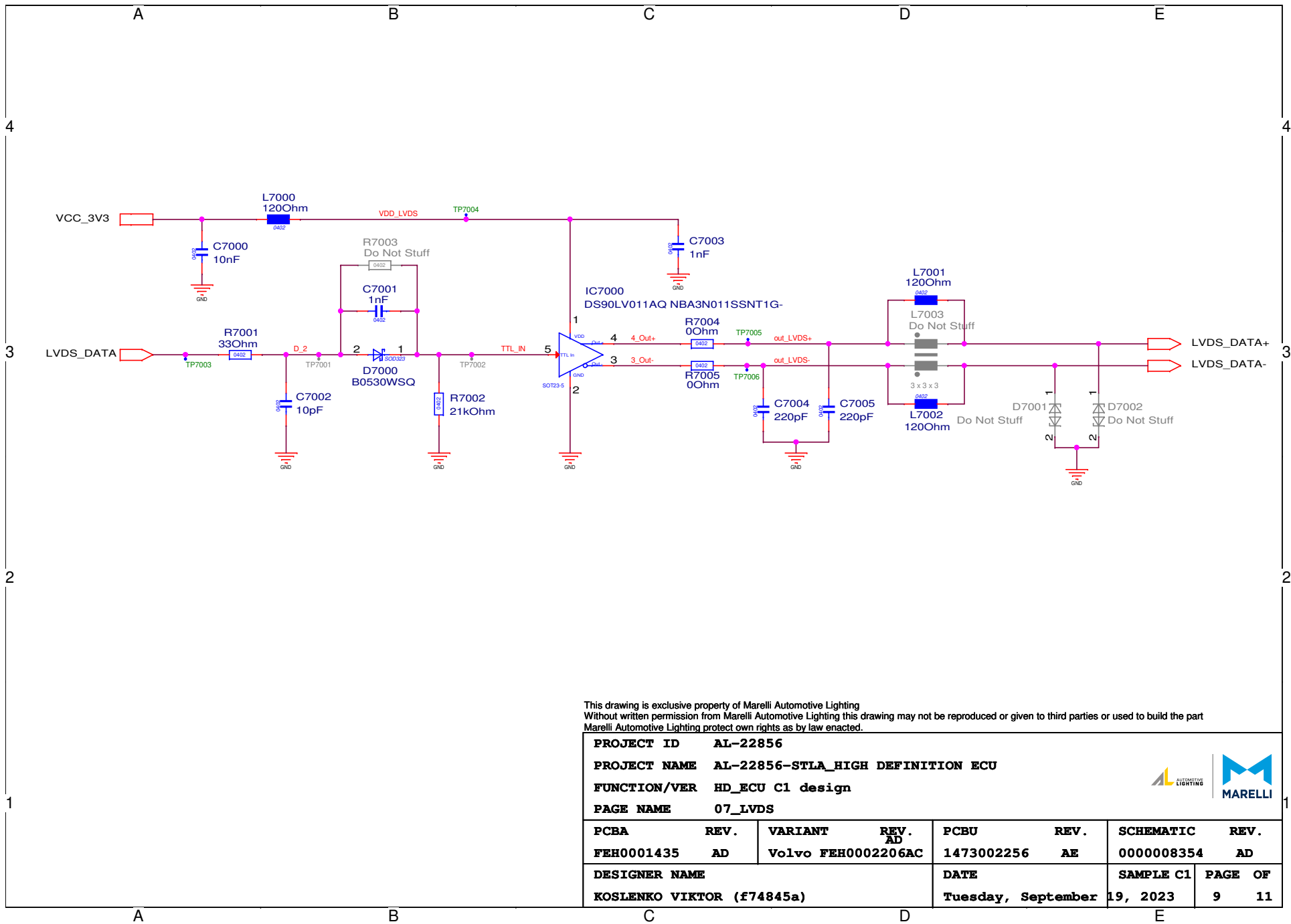




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<b>PCBA</b>	<b>REV.</b>	<b>VARIANT</b>	<b>REV.</b>	<b>PCBU</b>	<b>REV.</b>	<b>SCHEMATIC</b>	<b>REV.</b>
FEH0001435	AD	Volvo	FEH0002206AC	1473002256	AE	0000008354	AD
<b>DESIGNER NAME</b>				<b>DATE</b>		<b>SAMPLE C1</b>	<b>PAGE OF</b>
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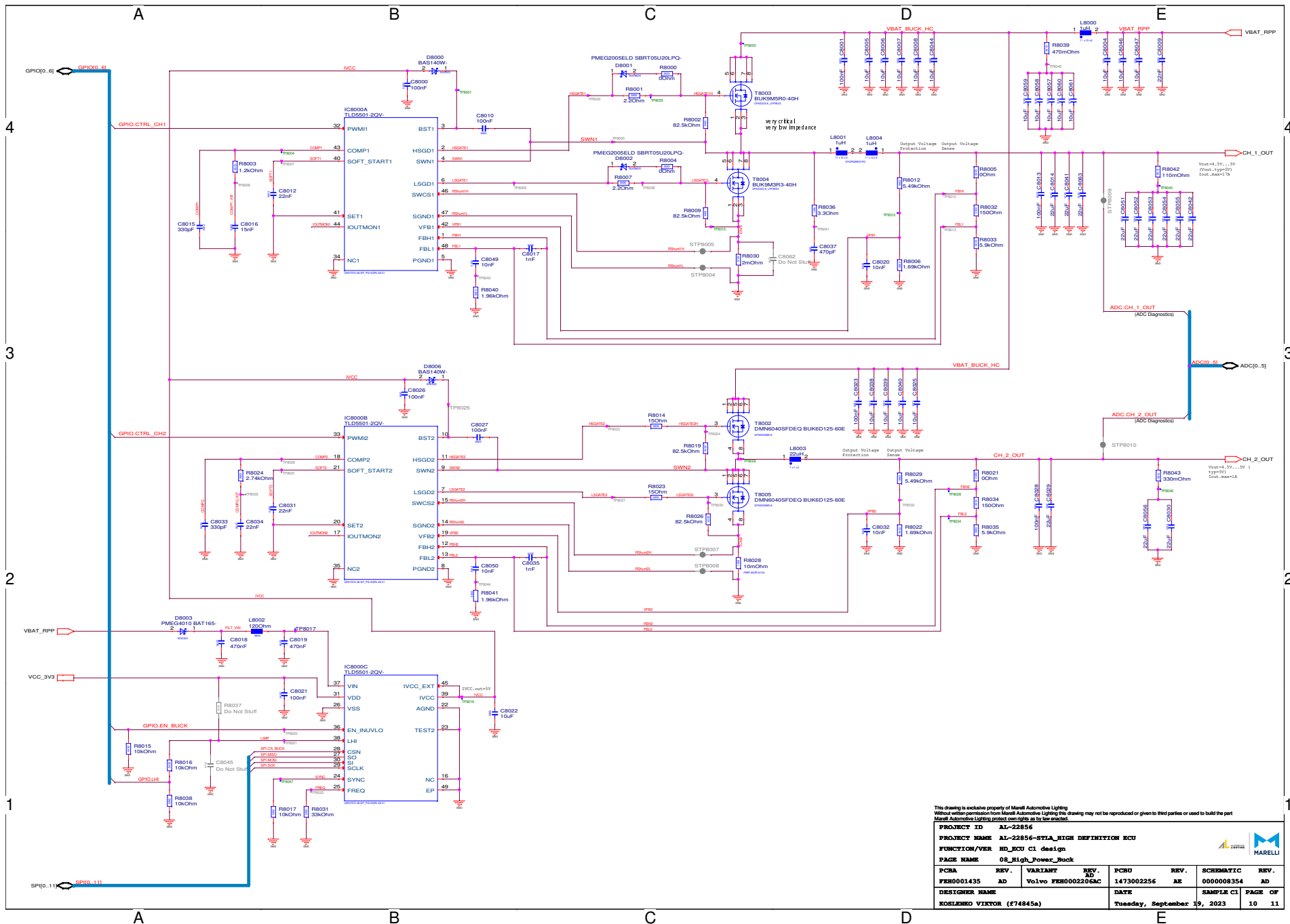




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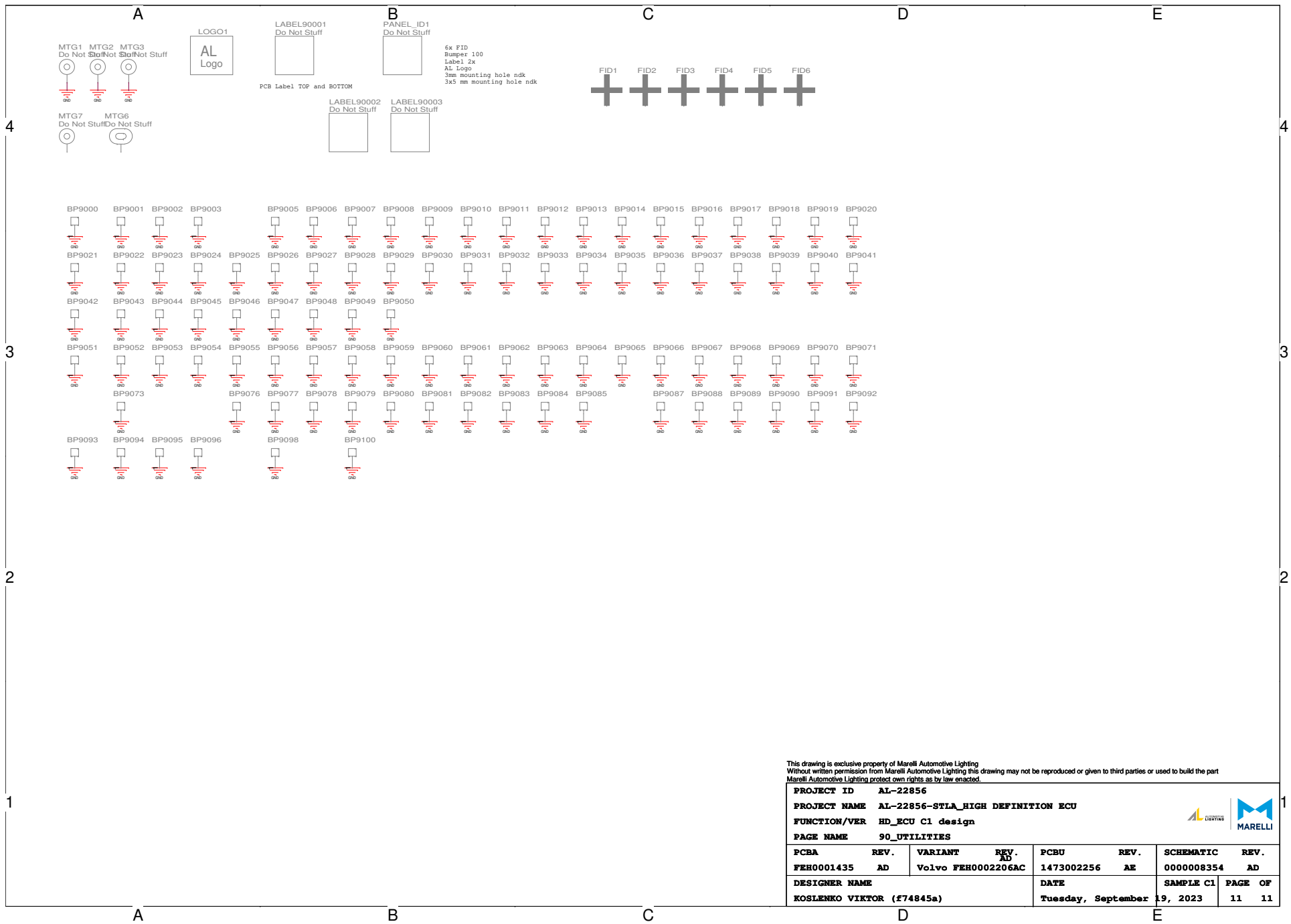
<b>PROJECT ID</b>		AL-22856		<b>PCBU</b>		1473002256	
<b>PROJECT NAME</b>		AL-22856-STLA_HIGH DEFINITION ECU		<b>REV.</b>		AE	
<b>FUNCTION/VER</b>		HD_ECU C1 design		<b>SCHEMATIC</b>		000008354	
<b>PAGE NAME</b>		07_LVDS		<b>REV.</b>		AD	
<b>PCBA</b>	<b>REV.</b>	<b>VARIANT</b>	<b>REV.</b>	<b>PCBU</b>	<b>REV.</b>	<b>SCHEMATIC</b>	<b>REV.</b>
FEH0001435	AD	Volvo	FEH0002206AC	1473002256	AE	000008354	AD
<b>DESIGNER NAME</b>				<b>DATE</b>		<b>SAMPLE C1</b>	<b>PAGE OF</b>
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PROJECT ID	AI-22856						
PROJECT NAME	AI-22856-STLA_HIGH DEFINITION ECU						
FUNCTION/VER	HD_ECU CI design						
PCBA NAME	08_High_Power_Buck						
PCBA REV.	REV. AD	VARIANT	REV. AD	PCBU	REV. AE	SCHEMATIC	REV. AD
FEH0001435	AD	Volvo	FEH0002206AC	1473002256	AE	0000008354	AD
DESIGNER NAME	DATE			SAMPLE CI		PAGE OF	
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<b>PROJECT ID</b> AL-22856		<b>PROJECT NAME</b> AL-22856-STLA_HIGH DEFINITION ECU					
<b>FUNCTION/VER</b> HD_ECU C1 design		<b>PAGE NAME</b> 90_UTILITIES					
<b>PCBA</b>	<b>REV.</b>	<b>VARIANT</b>	<b>REV. AD</b>	<b>PCBU</b>	<b>REV.</b>	<b>SCHEMATIC</b>	<b>REV.</b>
FEH0001435	AD	Volvo FEH0002206AC		1473002256	AE	000008354	AD
<b>DESIGNER NAME</b>				<b>DATE</b>		<b>SAMPLE CI</b>	<b>PAGE OF</b>
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