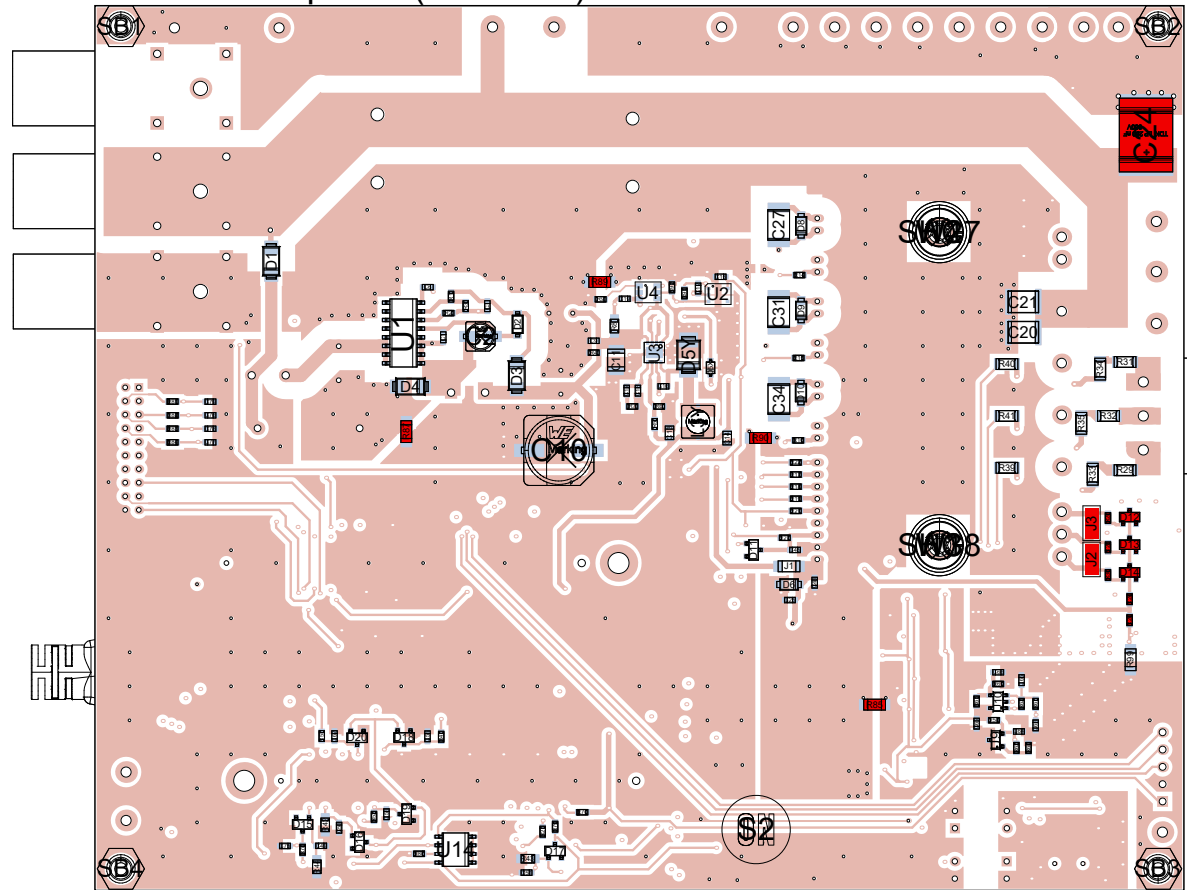



## Bill Of Materials - Top side components 1/2

Designator	Comment	Quantity
3.3V, 5V, 15V	15VDC	3
AUX_SW	SW	1
B1	TEC0177-01	1
C1	100 nF	1
C2	10 $\mu$ F	1
C3	330 nF	1
C4	100 nF	1
C5	10 $\mu$ F	1
C6	47 nF	1
C7, C8	220 $\mu$ F	2
C9	150 nF	1
C10	100 $\mu$ F	1
C11	4 $\mu$ 7	1
C12, C15, C75	1uF	3
C13, C14	10 $\mu$ F	2
C16	100 nF	1
C17	1n8	1
C18	10 pF	1
C19	1 nF	1
C20, C21	100 nF	2
C22, C23	470 $\mu$ F	2
C25	100 nF	1
C26	330 $\mu$ F	1
C27, C31, C34	22 $\mu$ F	3
C28, C30, C32, C33, C35, C36, C43, C46, C47, C48, C66, C67	100 nF	12
C29, C45, C49, C50, C51, C68	1 nF	6
C37, C38, C39, C40, C41, C42, C55, C59, C63, C65	100 pF	10
C44	15 nF	1
C52, C56, C60	10 nF	3
C53, C57, C61	100 nF	3
C54, C58, C62, C76, C77, C78, C79	1 nF	7
C64	47 $\mu$ F	1
CON1	RED	1
CON2	BLACK	1
CON3	OUTPUT	1
CON5, CON4	MDK Controller	1
CON6	62502021621	1
CON7	61300511121	1
CON8	Green	1
D1	MRA4007T3G	1
D2	MMSD4148T1G	1
D3, D4	MURA160T3G	2
D5X	NSR0340H	1
D5Y	MBRS2040L	1
D6, D8, D9, D10	24 pF	4
D7, D11, D15, D16, D17	240 pF	5
D18, D19, D20	BAT54SLT1G	3
DC_LINK, FAULT, TEMP, VCC_IPM	GND_IPM	4
DISABLE, INH_U, INH_V, INH_W, INL_U, INL_V, INL_W	ENABLE	7
G_IPM	D	1
HSC1	Heatsink SK64550SA	1
J1, R99	0R	2
L1	1 mH	1
L2	560uH	1
L3Y	6 $\mu$ 8	1
N1	washer under NFAM5065L4B	1
R1, R63, R65	56k	3
R2, R3, R4	15k	3
R5	487R	1
R6	93R1	1

View from Top side (Scale 0.9) 1/2



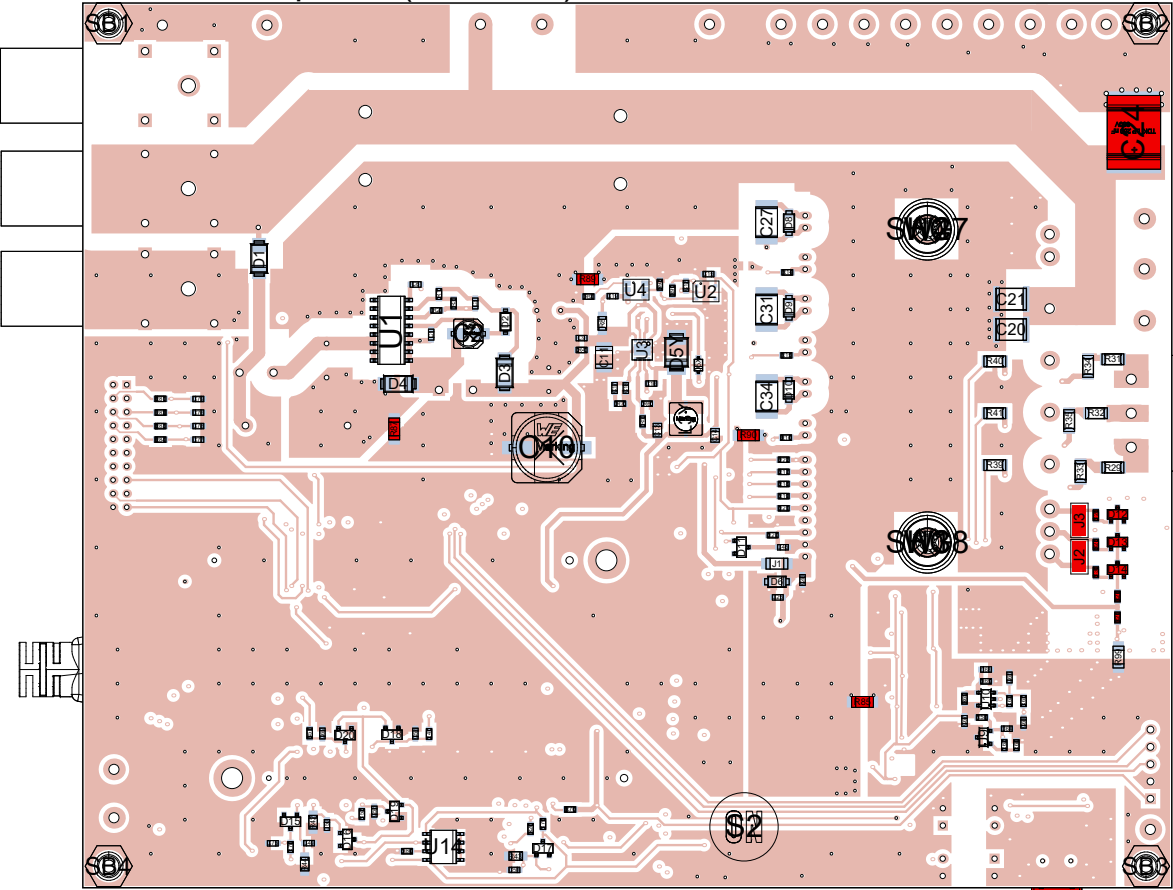
- ① Only components present in this assembly variant are listed in BoM table on the left
- ② Components not present in this assembly variant are crossed out by red line

<b>SPM31 Module Demo</b>		<b>Revision:</b> 1.1	<b>State:</b> released
Variant name: standard_board_U1_100kHz		Assembly document	Sheet 1 / 7
Engineer: zbjtdn	Date:		
PCB File: ON_Semiconductor_4_sided_PCB.PcbDoc		<b>ON Semiconductor</b> Solution Engineering Center Piešťany 	
Repository revision: locally modified 1251			

Bill Of Materials - Top side components 2/2

Designator	Comment	Quantity
R2, R3, R4	15k	3
R5	487R	1
R6	93R1	1
R7	12k	1
R8	56k2	1
R9	1k	1
R10, R11, R12, R29, R31, R32, R33, R34, R35, R39, R40, R41	330k	12
R13	6k8	1
R14, R15, R16, R17, R18, R19, R20, R22, R23, R27, R60, R64, R66	100R	13
R21	10k	1
R36, R37, R38	0R01	3
R42, R43, R44	13k7	3
R45, R49, R50, R54, R55, R61	10k	6
R46, R48, R51, R53, R56, R59	1k	6
R47, R52, R57	1k	3
R58	680R	1
R62	1k	1
R67	330R	1
R68	3k	1
R69	3K9	1
R70	0R	1
R71	0R	1
R72, R73, R76, R77	2K7	4
R74, R75	27R	2
R78, R79	4k7	2
R80, R81, R82, R83, R84	0R	5
R91	2k7	1
R92	4k7	1
SB1, SB2, SB3, SB4, SC1, SC2, SC3, SC4	Comment	8
SHC7, SHC8	M4x16 ISO7045	2
U1	IC_ON_NCP1063	1
U2	NCP718BSN330T1G	1
U3	NCV890100MWTXG	1
U4	FDC6326L	1
U5	NFAM5065L4B	1
U6, U7, U8	NCS20166	3
U9	TLV431	1
U10	NCS2250SN2T3G	1
U11	IC_FT230X_SSOP	1
U12, U13	IC_ON_FODM8801B	2
U14	CAT24C512	1
U_OUT, V_OUT, VB_U, W_OUT	DC_LINK	4
W1, W2	Plain washer HV140 ISO7089 M4	2
W3, W4	spring washer M4 DIN7980	2

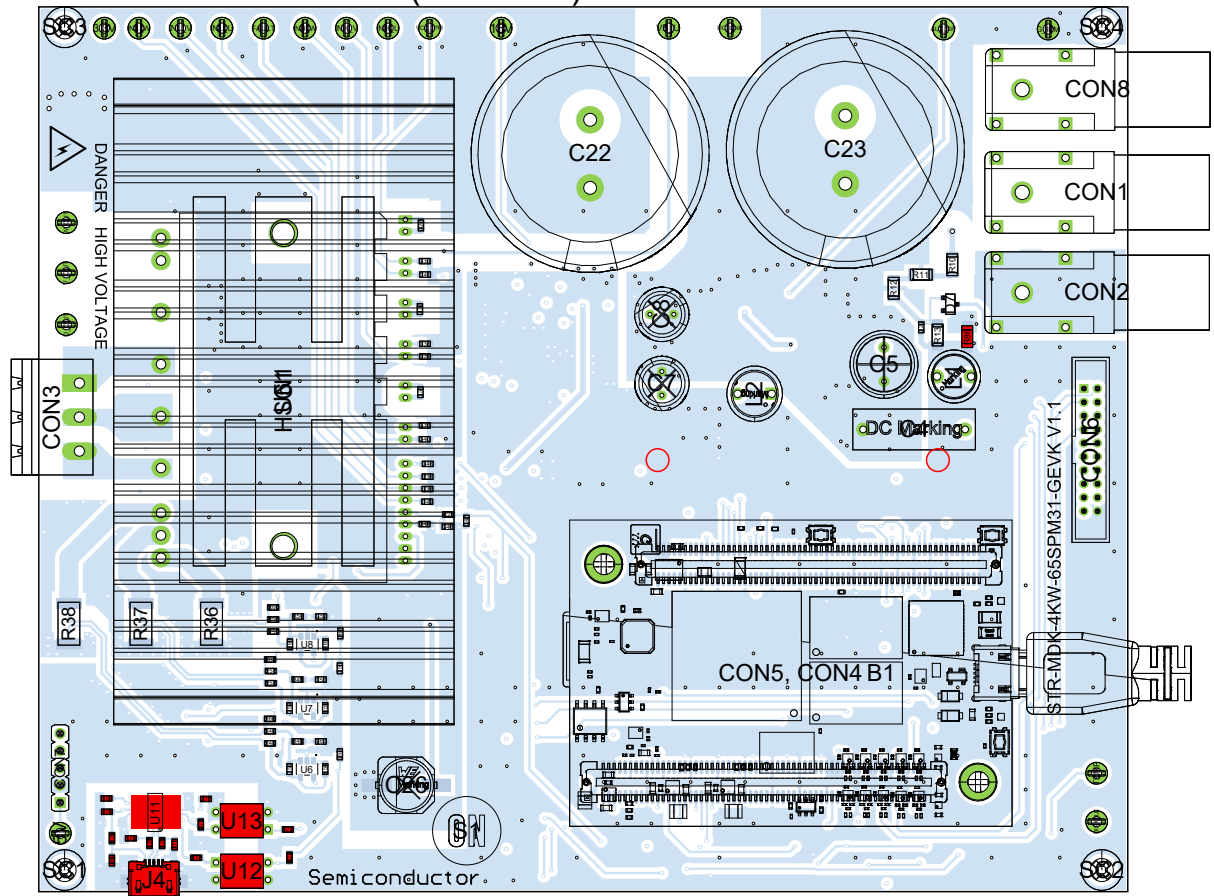
View from Top side (Scale 0.9) 2/2



# Bill Of Materials - Bottom side components

Designator	Comment	Quantity
3.3V, 5V, 15V	15VDC	3
AUX_SW	SW	1
B1	TEC0177-01	1
C1	100 nF	1
C2	10 µF	1
C3	330 nF	1
C4	100 nF	1
C5	10 µF	1
C6	47 nF	1
C7, C8	220 µF	2
C9	150 nF	1
C10	100 µF	1
C11	4µ7	1
C12, C15, C70, C75	1uF	4
C13, C14	10 µF	2
C16	100 nF	1
C17	1n8	1
C18	10 pF	1
C19	1 nF	1
C20, C21	100 nF	2
C22, C23	470 µF	2
C25	100 nF	1
C26	330 µF	1
C27, C31, C34	22 µF	3
C28, C30, C32, C33, C35, C36, C43, C46, C47, C48, C66, C67, C69, C71, C72	100 nF	15
C29, C45, C49, C50, C51, C68	1 nF	6
C37, C38, C39, C40, C41, C42, C55, C59, C63, C65	100 pF	10
C44	15 nF	1
C52, C56, C60	10 nF	3
C53, C57, C61	100 nF	3
C54, C58, C62, C76, C77, C78, C79	1 nF	7
C64	47 µF	1
C73, C74	33pF	2
CON1	RED	1
CON2	BLACK	1
CON3	OUTPUT	1
CON5, CON4	MDK Controller	1
CON6	62502021621	1
CON7	61300511121	1
CON8	Green	1
D1	MRA4007T3G	1
D2	MMSD4148T1G	1
D3, D4	MURA160T3G	2
D5X	NSR0340H	1
D5Y	MBRS2040L	1
D6, D8, D9, D10	24 pF	4
D7, D11, D15, D16, D17	240 pF	5
D18, D19, D20	BAT54SLT1G	3
DC_LINK, FAULT, TEMP, VCC_IPM	GND_IPM	4
DISABLE, INH_U, INH_V, INH_W, INL_U, INL_V, INL_W	ENABLE	7
G_IPM	D	1
HSC1	Heatsink SK64550SA	1
J1, R99	OR	2
J4	629 105 136 821	1
L1	1 mH	1
L2	560uH	1
L3Y	6µ8	1
N1	washer under NFAM5065L4B	1

## View from Bottom side (Scale 0.9)



- 5 CHA & CHB have to be properly oriented according their polarity !
- 6 Only components present in this assembly variant are listed in BoM table on the left
- 7 Components not present in this assembly variant are crossed out by red line

## SPM31 Module Demo

Variant name: standard\_board\_U1\_100kHz

Engineer: zbajdn

Date:

PCB File: ON\_Semiconductor\_4\_sided\_PCB.PcbDoc

Repository revision: locally modified 1251

Revision:  
1.1

State:  
released

Assembly  
document

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2

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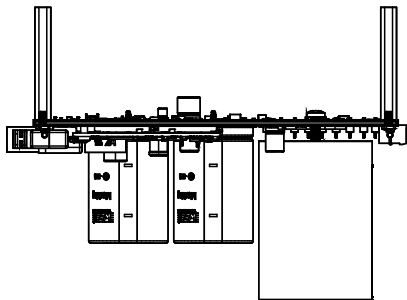
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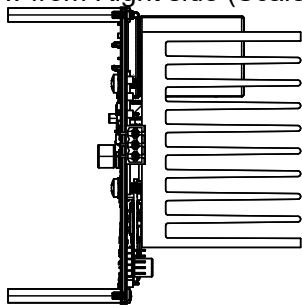
A

A

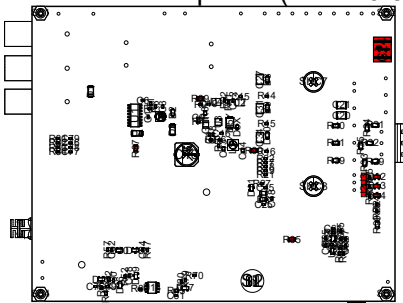
View from Front side (Scale 0.3)



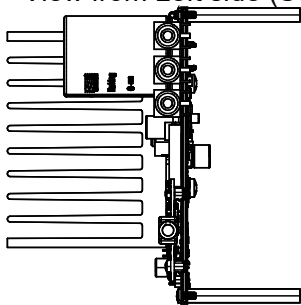
View from Right side (Scale 0.3)



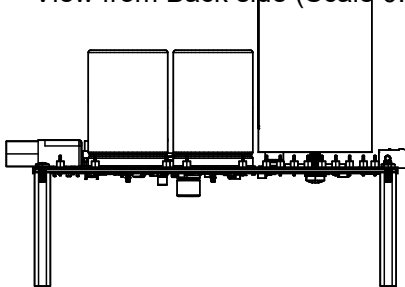
View from Top side (Scale 0.3)



View from Left side (Scale 0.3)



View from Back side (Scale 0.3)



B

B

C

C

D

D

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Engineer: zbjtdn	Date:		
PCB File: ON_Semiconductor_4_sided_PCB.PcbDoc		<b>ON Semiconductor</b> Solution Engineering Center Piestany	
Repository revision: locally modified 1251			

1

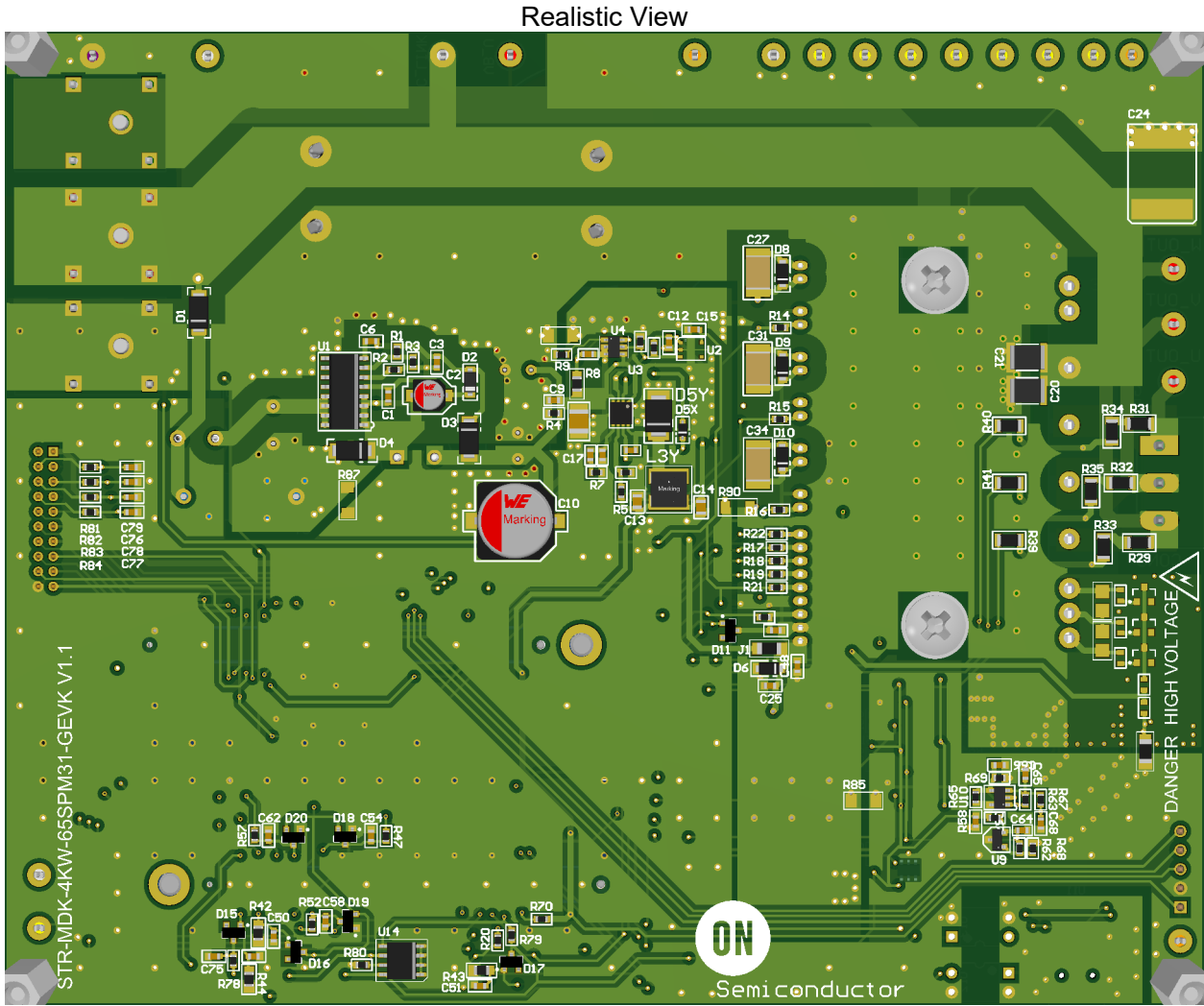
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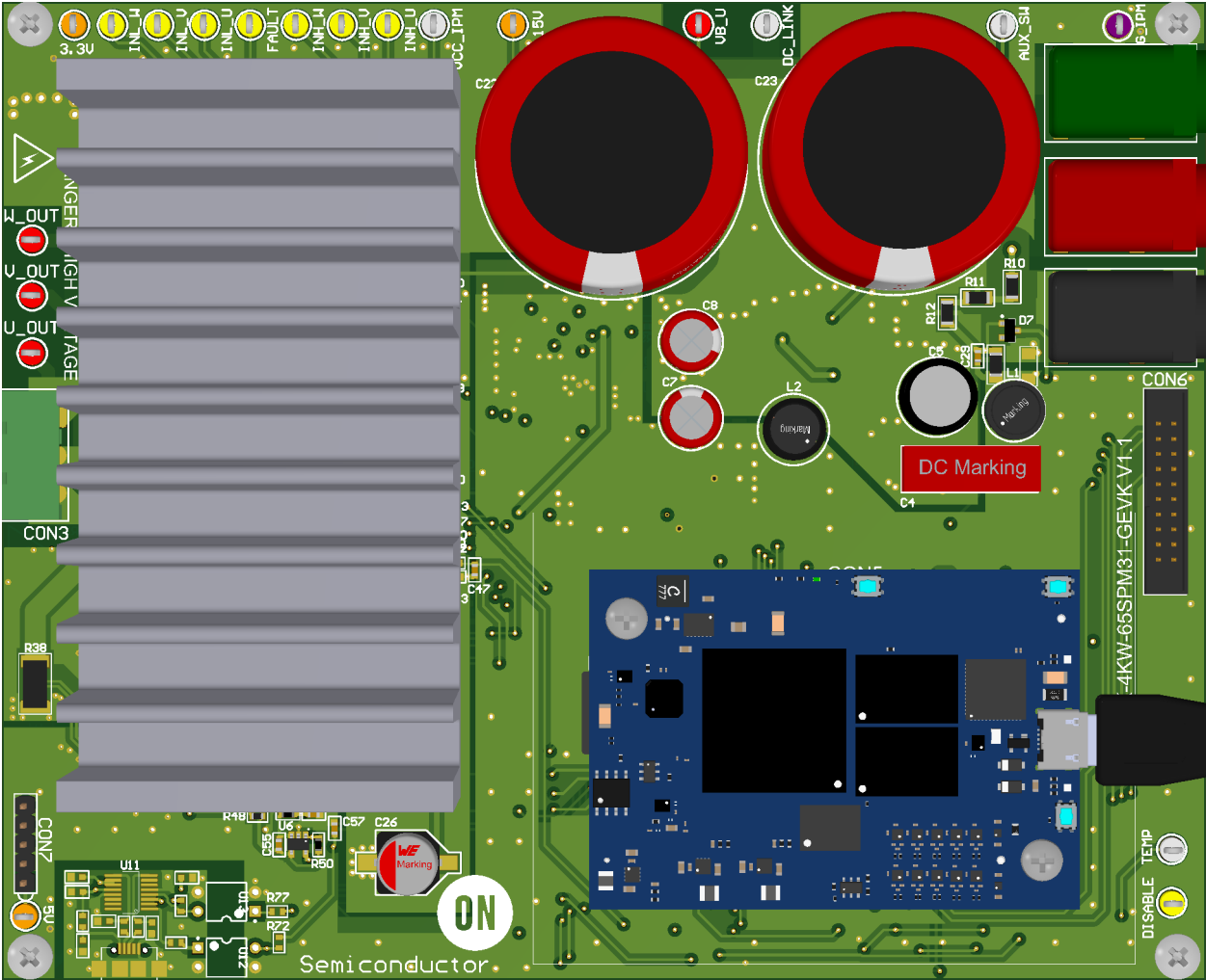
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SPM31 Module Demo		Revision: 1.1	State: released
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Engineer: zbjtdn	Date:		
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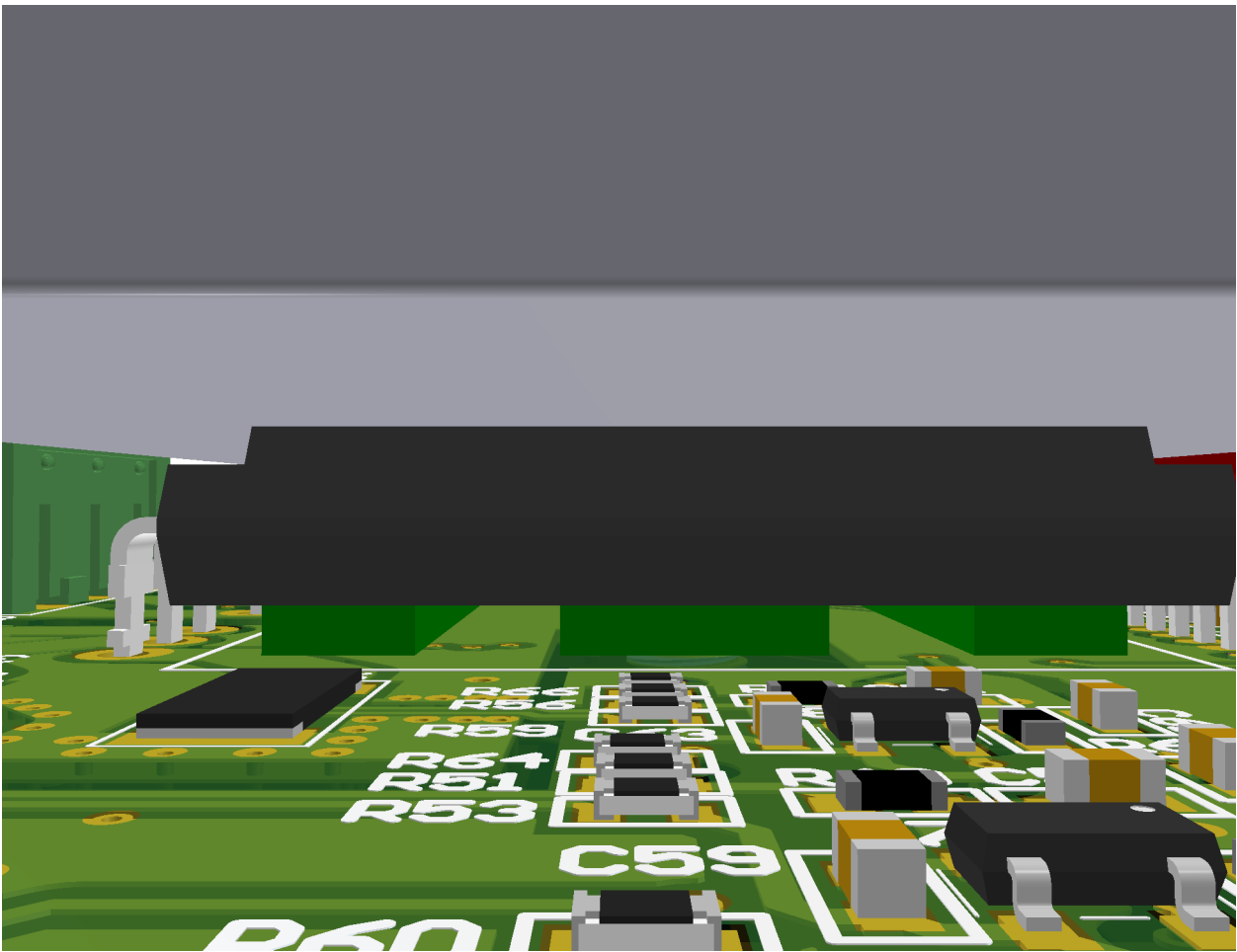
Realistic View




SPM31 Module Demo		Revision: 1.1	State: released
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Realistic View



<b>SPM31 Module Demo</b>		<b>Revision:</b> 1.1	<b>State:</b> released
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