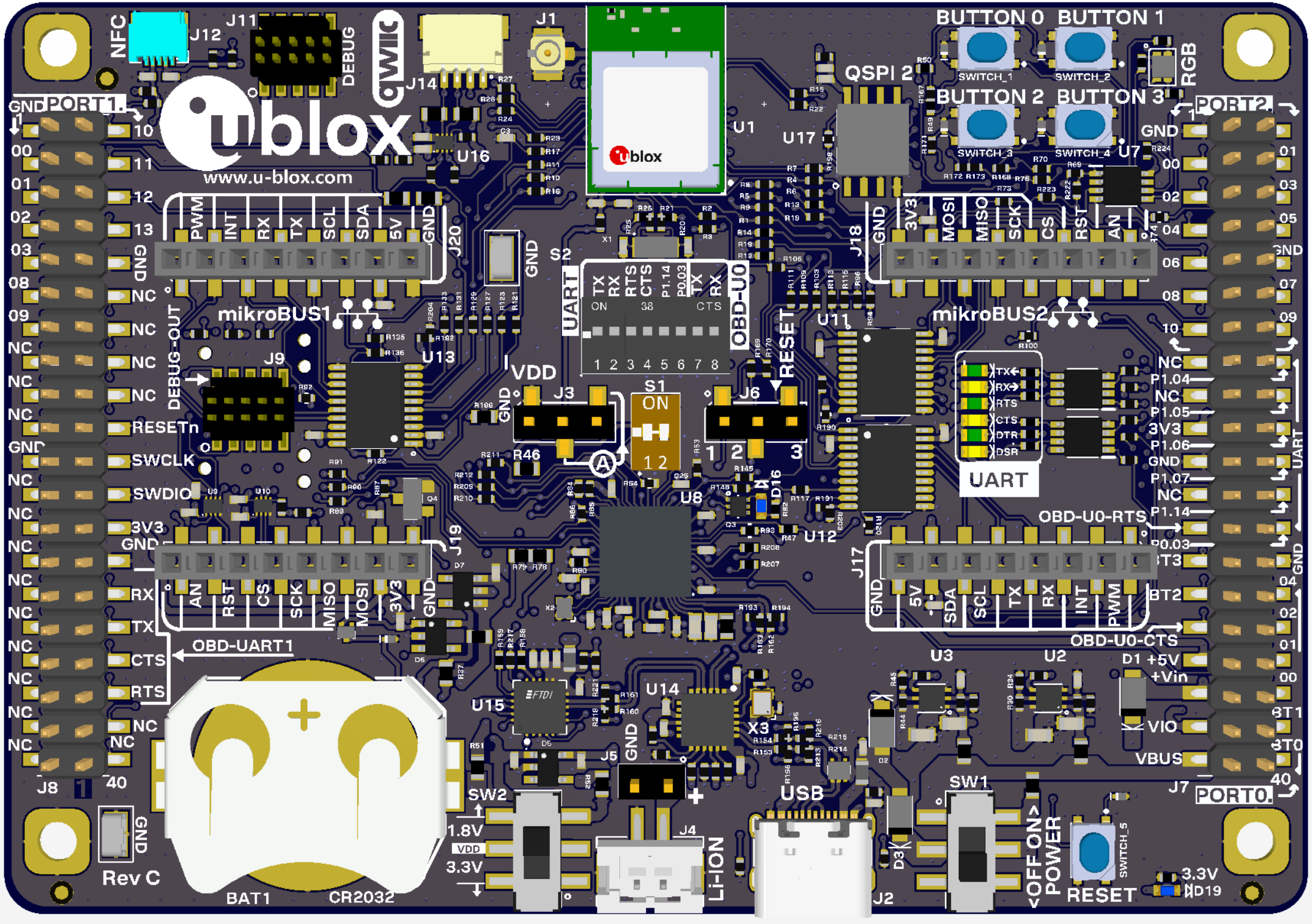
NFC
J12
J11
DEBUG
J14
J1
www.u-blox.com
U1
U16
U17
QSPI 2
BUTTON 0
BUTTON 1
BUTTON 2
BUTTON 3
SWITCH_1
SWITCH_2
SWITCH_3
SWITCH_4
RGB
U7
PORT1
PORT2
PORT0
GND
PWM
INT
RX
TX
SCL
SDA
5V
J20
S2
UART
TX
RX
RTS
CTS
P1.14
P0.03
ON
38
CTS
OBD-U0
RESET
U11
J18
3V3
MOSI
MISO
SCK
CS
RST
AN
mikroBUS1
mikroBUS2
J9
DEBUG-OUT
U13
VDD
J3
S1
ON
J6
R46
U8
D16
U12
RESETn
SWCLK
SWDIO
3V3
J19
J17
OBD-U0-RTS
OBD-U0-CTS
OBD-UART1
U15
U14
X3
U3
U2
D1 +5V
+Vin
VIO
VBUS
J5
J8
BAT1
CR2032
Rev C
SW2
1.8V
VDD
3.3V
J4
Li-ION
USB
J2
SW1
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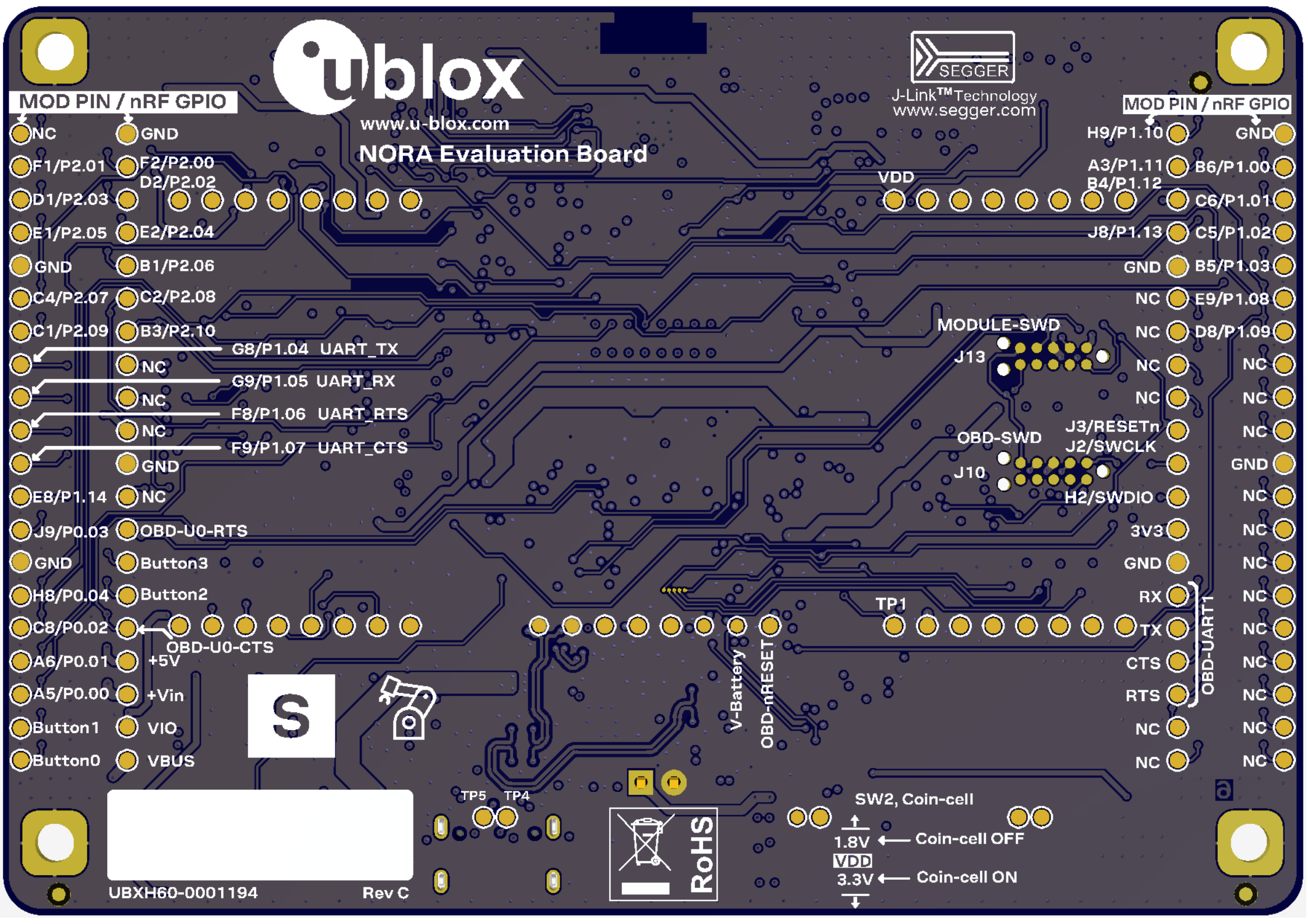
POWER
RESET
SWITCH_5
3.3V
D19
J7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NORA Evaluation Board
SEGGER
J-Link™ Technology
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MOD PIN / nRF GPIO
NC
F1/P2.01
D1/P2.03
E1/P2.05
GND
C4/P2.07
C1/P2.09
E8/P1.14
J9/P0.03
GND
H8/P0.04
C8/P0.02
A6/P0.01
A5/P0.00
Button1
Button0
GND
F2/P2.00
D2/P2.02
E2/P2.04
B1/P2.06
C2/P2.08
B3/P2.10
NC
NC
NC
GND
NC
OBD-U0-RTS
Button3
Button2
OBD-U0-CTS
+5V
+Vin
VIO
VBUS
G8/P1.04 UART_TX
G9/P1.05 UART_RX
F8/P1.06 UART_RTS
F9/P1.07 UART_CTS
VDD
MODULE-SWD
J13
OBD-SWD
J10
J3/RESETn
J2/SWCLK
H2/SWDIO
3V3
GND
RX
TX
CTS
RTS
NC
NC
OBD-UART1
TP1
V-Battery
OBD-nRESET
TP5
TP4
SW2, Coin-cell
1.8V
Coin-cell OFF
VDD
3.3V
Coin-cell ON
RoHS
UBXH60-0001194
Rev C
MOD PIN / nRF GPIO
H9/P1.10
A3/P1.11
B4/P1.12
J8/P1.13
GND
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NC
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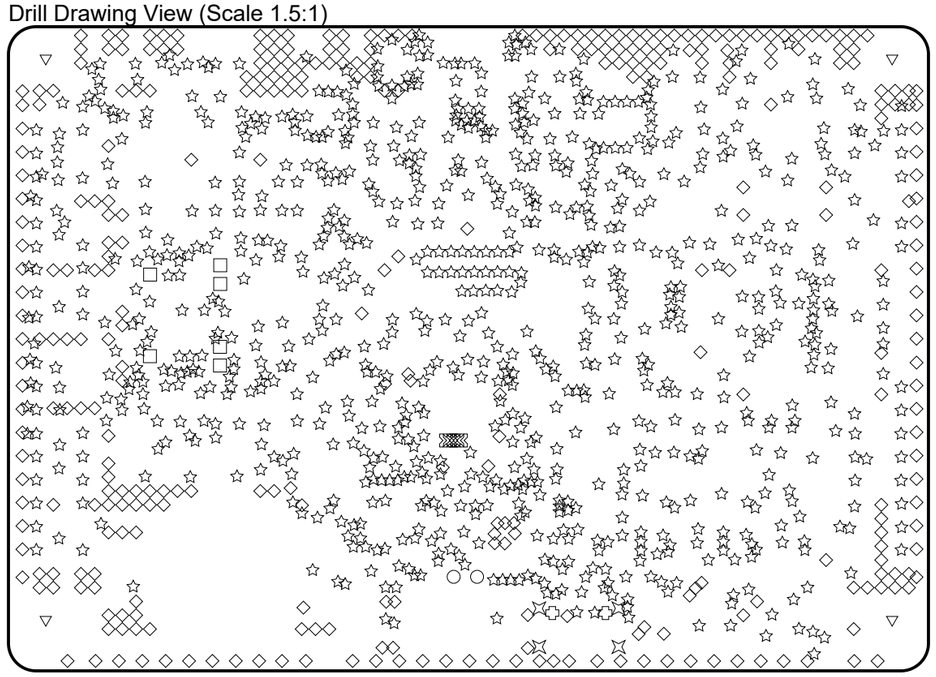
B6/P1.00
C6/P1.01
C5/P1.02
B5/P1.03
E9/P1.08
D8/P1.09
NC
NC
NC
NC
NC
NC
NC
NC
NC
NC
NC
NC

Rev.	Description	Date	By
A	PT1 Release	20/06/2024	habd
B	PT2 Release	01/11/2024	habd
C	ES Release	04/04/2025	habd
-	-	-	-
-	-	-	-

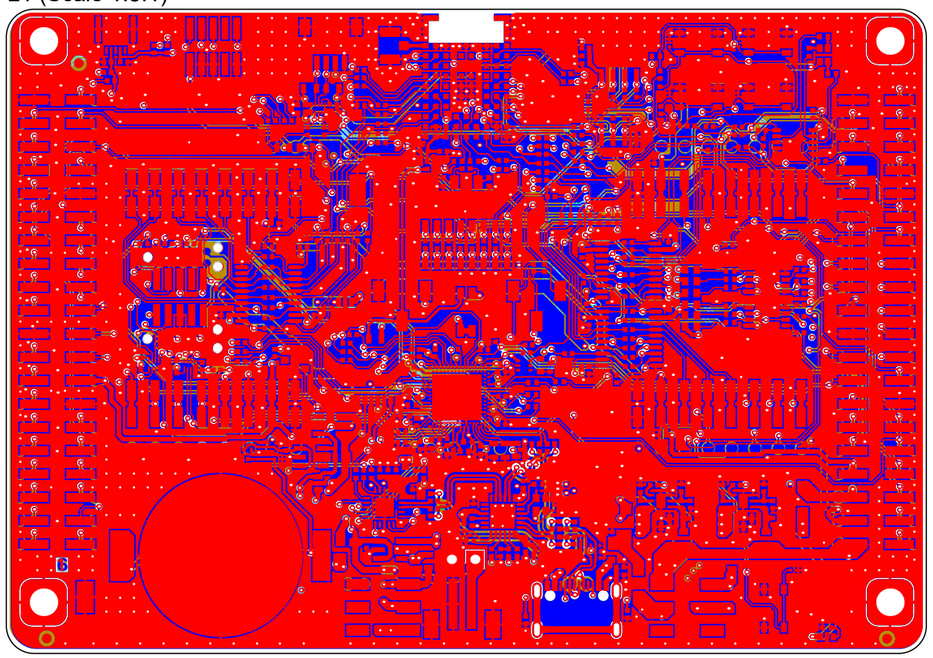
Notes:

1. Fabricate to meet or exceed latest revisios of applicable standards of IPC 6011/6012/6016 Class 2 and IPC-2615.
2. Material shall meet or exceed requirements of IPC-4101/126 (current revision). Proposed material and stack-up shall be confirmed u-blox.
3. The fabricated board shall be compliant to Directive 2011/65/EU (EU RoHS 2) and its amendment Directive (EU) 2015/863 (EU RoHS 3).
4. All drill tool diameters are nominal dimensions. Microvias have no tolerance specification; optimize drill diameter for production. Outer layer vias must be filled and capped.
5. Minimum trace width/space is 0.1mm/0.1mm on outer layers, 0.075mm/0.075mm on inner layers
6. Board finish is Electroless Nickel, Immersion Gold per IPC-4552A
7. Apply LPI soldermask (color Green) over bare copper IAW IPC-SM-840 (current revision), on both sides
8. Bow and twist shall not exceed 0.75% as per IPC-TM-650 2.4.22
9. PCB shall comply with IPC-5704 cleanliness requirements
10. All boards shall be 100% electrically tested using supplied IPC-D-356 netlist according to IPC-9252, Class 2
11. Finished board shall meet the requirements of UL796 with a flammability rating of UL 94V-0 or better. Vendor's UL logo and/or designation and date required; to be located on the panel rails. Any vendor markings to be on Top Copper on panel rails. No silkscreen allowed on individual PCBs.

Drill Drawing View (Scale 1.5:1)



L1 (Scale 1.5:1)



Drill Table

Symbol	Count	Hole Size	Plated	Hole Type	Drill Layer Pair
⊠	5	0.10mm	Есть	Round	L1 - L6
◇	329	0.25mm	Есть	Round	L1 - L6
☆	912	0.25mm	Есть	Round	L1 - L6
⌘	4	0.60mm	Есть	Slot	L1 - L6
✪	2	0.65mm	Нет	Round	L1 - L6
□	6	1.00mm	Есть	Round	L1 - L6
○	2	1.02mm	Есть	Round	L1 - L6
▽	4	3.00mm	Есть	Round	L1 - L6
	1264 Total				

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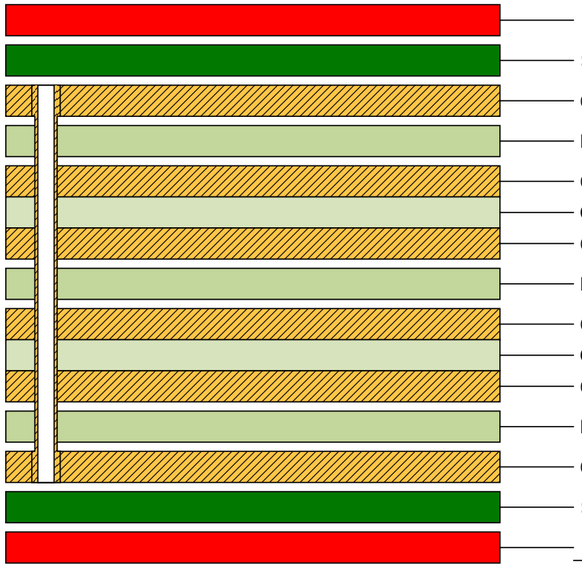
C3-Confidential

PCB NAME: EVK-NORA-B20		DATE: 04/04/2025
PROJECT: NORA-B2	ENGINEER: HABD	REVISION: Rev C
PCB NO: UBXH60-0001194	PRJ CODE: TE-54_L	SHEET 1 of 2

Notes:

12. Total board thickness is 0.474mm +/- 0.06mm. See stack-up below

Layer Stack Legend



Material	Layer	Thickness	Dielectric Material	Type	Gerber	Dk	Frequency	Note	Df
	Top Overlay			Legend	GTO				
Surface Material	Top Solder	0.010mm	Solder Resist	Solder Mask	GTS	3,5			
Copper	L1	0.035mm		Signal	GTL				
Prepreg		**0.218mm**	**PP-023**	**Dielectric**		**4,5**	**1GHz**		**0,02**
CF-004	L2	0.035mm		Signal	G1				
Core		**0.360mm**	**Core-034**	**Dielectric**		**4,6**	**1GHz**		**0,02**
Copper	L3	0.035mm		Signal	G2				
Prepreg		**0.180mm**	**PP-021**	**Dielectric**		**4,7**	**1GHz**		**0,02**
Copper	L4	0.035mm		Signal	G3				
Core		**0.360mm**	**Core-034**	**Dielectric**		**4,6**	**1GHz**		**0,02**
CF-004	L5	0.035mm		Signal	G4				
Prepreg		**0.218mm**	**PP-023**	**Dielectric**		**4,5**	**1GHz**		**0,02**
Copper	L6	0.035mm		Signal	GBL				
Surface Material	Bottom Solder	0.010mm	Solder Resist	Solder Mask	GBS	3,5			
	Bottom Overlay			Legend	GBO				

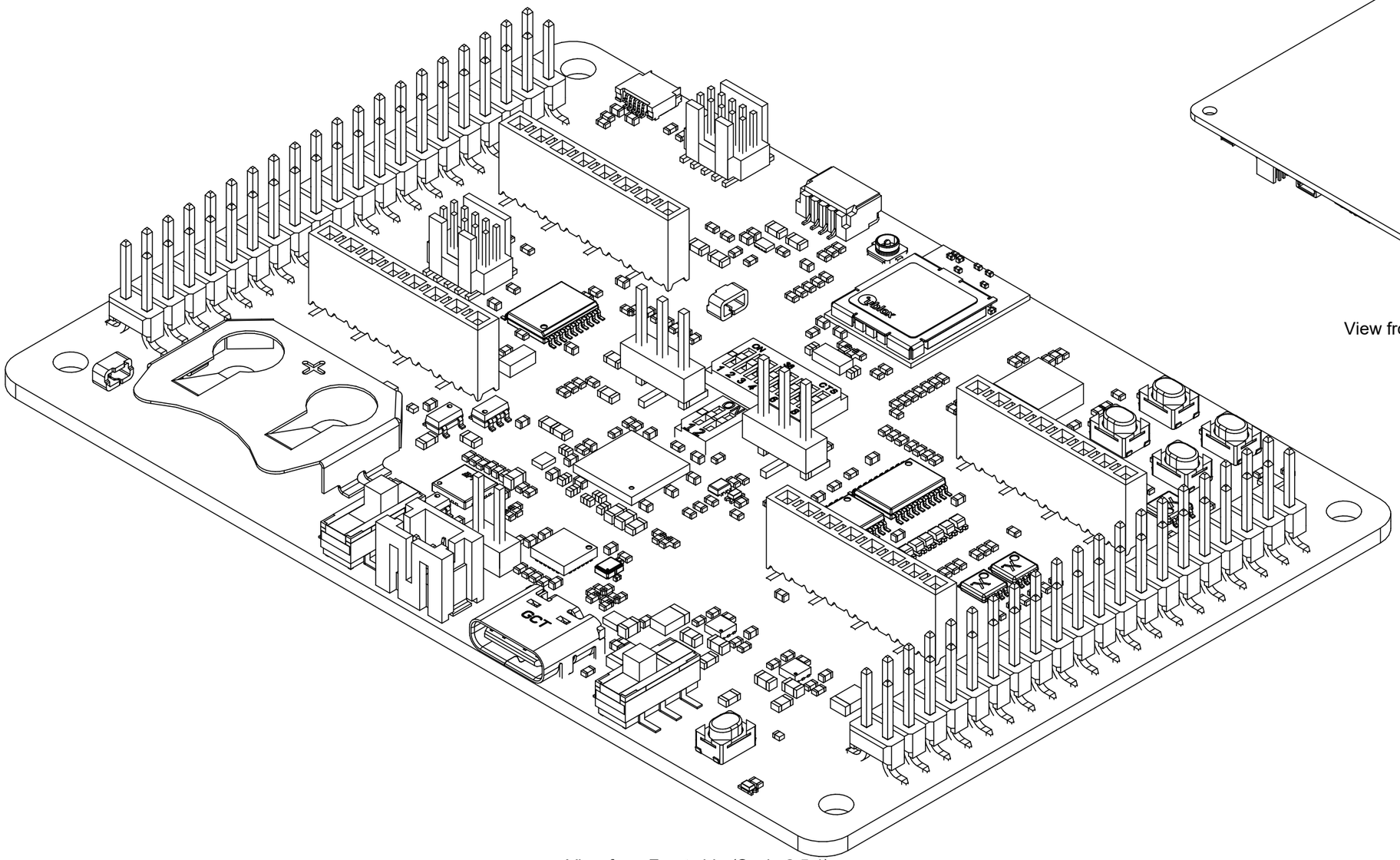
Total thickness: 1.567mm

ublox C3-Confidential	PROJECT: NORA-B2		DATE: 04/04/2025
	PCB NO: UBXH60-0001194	Rev: Rev C	ENGINEER: HABD	SHEET 2 of 2

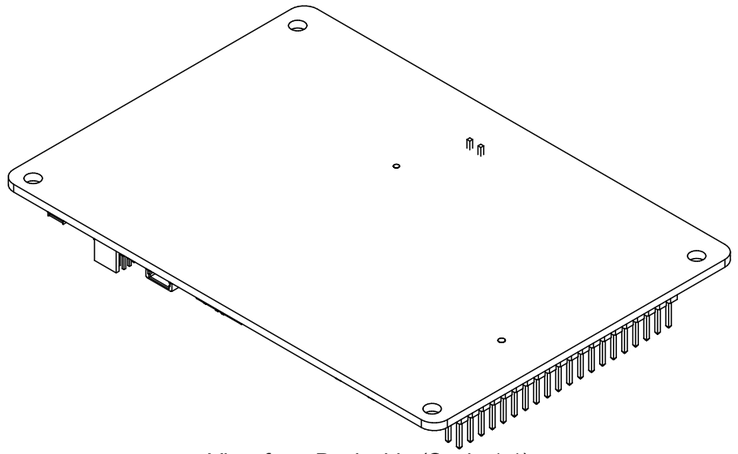
Notes:

1. Assemble to meet inspection criteria of IPC-A-610, class 2, current revision
2. All parts and materials shall be compliant to Directive 2011/65/EU (EU RoHS 2) and its amendment Directive (EU) 2015/863 (EU RoHS 3).
3. Affix serial number label to the specified location on the top of the PCB

Rev.	Description	Date	By
A	PT1 Release	20/06/2024	habd
B	PT2 Release	01/11/2024	habd
C	ES Release	04/04/2025	habd
-	-	-	-
-	-	-	-



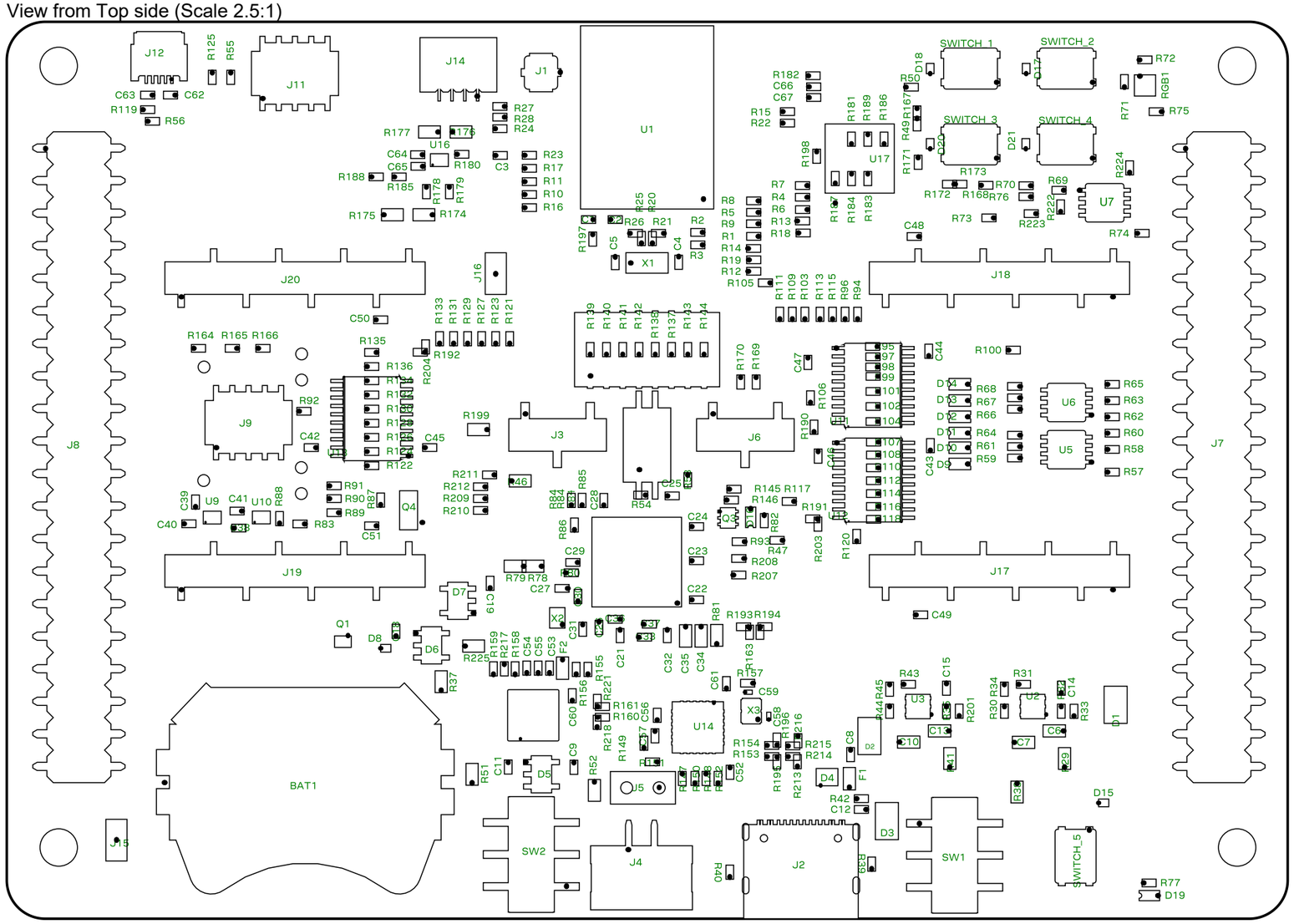
View from Front side (Scale 2.5:1)



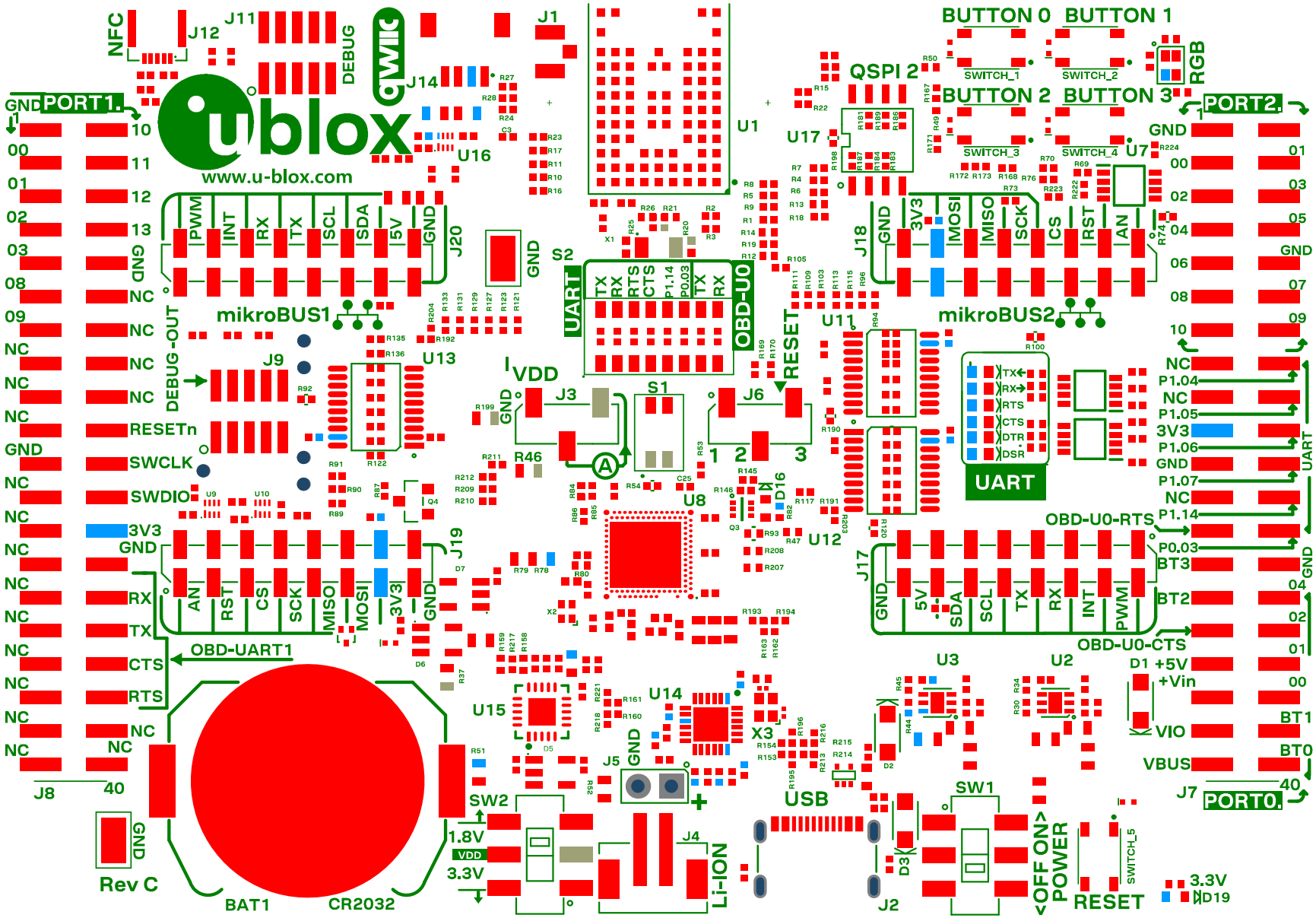
View from Back side (Scale 1:1)

ublox C3-Confidential	PCB NAME: EVK-NORA-B20		DATE: 04/04/2025
	PROJECT: NORA-B2	ENGINEER: HABD	REVISION: Rev C
	PCB NO: UBXH60-0001194	PRJ CODE: TE-54_L	SHEET 1 of 2

View from Top side (Scale 2.5:1)



u-blox C3-Confidential	PROJECT: NORA-B2		DATE: 04/04/2025
	PCB NO: UBXH60-0001194	Rev: Rev C	ENGINEER: HABD	SHEET 2 of 2


NFC
J12
J11
DEBUG
J14
J1
U1
BUTTON 0
BUTTON 1
BUTTON 2
BUTTON 3
SWITCH_1
SWITCH_2
SWITCH_3
SWITCH_4
RGB
QSPI 2
U17
U7
PORT1
PORT2
PORT0
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U16
PWM
INT
RX
TX
SCL
SDA
5V
GND
J20
mikroBUS1
mikroBUS2
DEBUG-OUT
J9
U13
RESETn
SWCLK
SWDIO
3V3
J19
AN
RST
CS
SCK
MISO
MOSI
OBD-UART1
J8
Rev C
BAT1
CR2032
S2
UART
OBD-U0
RESET
VDD
J3
S1
J6
R46
U8
U11
U12
J18
J17
OBD-U0-RTS
OBD-U0-CTS
P1.04
P1.05
P1.06
P1.07
P1.14
P0.03
BT3
BT2
BT1
BT0
+5V
+Vin
VIO
VBUS
U15
U14
U3
U2
X3
J5
SW2
1.8V
3.3V
J4
Li-ION
USB
J2
SW1
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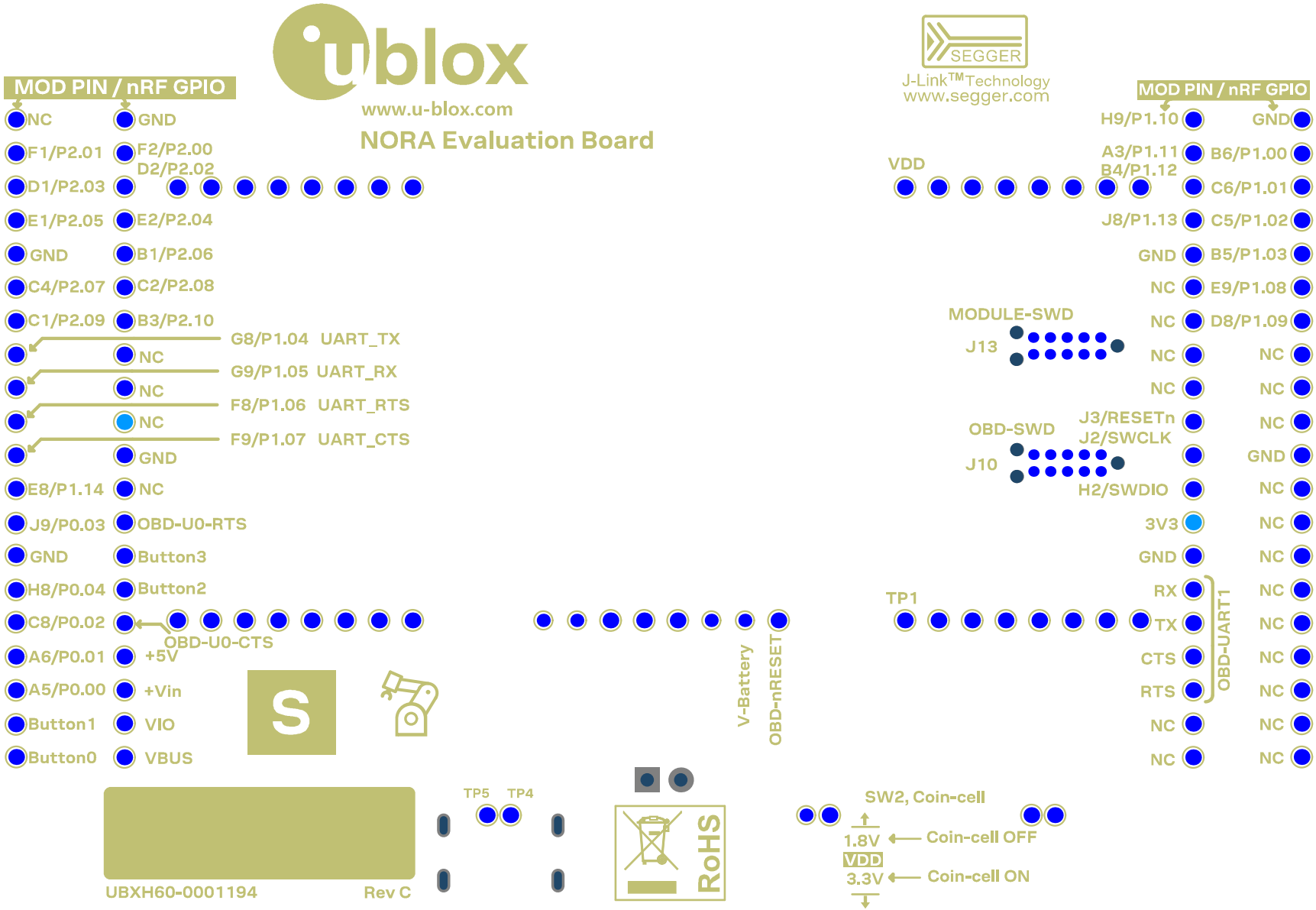
POWER
RESET
SWITCH_5
3.3V
D19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SEGGER
J-Link™ Technology
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MOD PIN / nRF GPIO
NC
GND
F1/P2.01
F2/P2.00
D2/P2.02
D1/P2.03
E1/P2.05
E2/P2.04
GND
B1/P2.06
C4/P2.07
C2/P2.08
C1/P2.09
B3/P2.10
G8/P1.04 UART_TX
NC
G9/P1.05 UART_RX
NC
F8/P1.06 UART_RTS
NC
F9/P1.07 UART_CTS
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E8/P1.14
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J9/P0.03
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H8/P0.04
Button2
C8/P0.02
OBD-U0-CTS
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+5V
A5/P0.00
+Vin
Button1
VIO
Button0
VBUS
S
V-Battery
OBD-nRESET
UBXH60-0001194
Rev C
TP5
TP4
RoHS
MOD PIN / nRF GPIO
H9/P1.10
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VDD
A3/P1.11
B4/P1.12
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C6/P1.01
J8/P1.13
C5/P1.02
GND
B5/P1.03
NC
E9/P1.08
MODULE-SWD
J13
NC
D8/P1.09
NC
NC
NC
NC
OBD-SWD
J10
J3/RESETn
J2/SWCLK
NC
GND
H2/SWDIO
NC
3V3
NC
GND
NC
TP1
RX
NC
TX
CTS
RTS
OBD-UART1
NC
NC
NC
NC
NC
SW2, Coin-cell
1.8V
Coin-cell OFF
VDD
3.3V
Coin-cell ON