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Issued by	Project	Doc type	Rev
Magnus Berggren	Robotic Mower P16	Prod doc	F

598 90 28-PCBA Spec-Application Board Type 4

Product Marking of PCBA:

QR field:

Each printed circuit board assembly (PCBA) shall be marked with:


- A QR code, min 7x7mm, consisting of HID and Rev according to “STD 0002” and “STD 0003”. In these standards the QR code is specified to start with [HTTPS://HQR.CODES](https://hqr.codes) but this must be excluded. This means that the complete QR code will be as follows:

HID=xxxxxxxxxxxxxxxxxxxxxxxxxxxx&REV=yy, where x the 25 letters in HID and y is one or two letters for revision.

Text field:

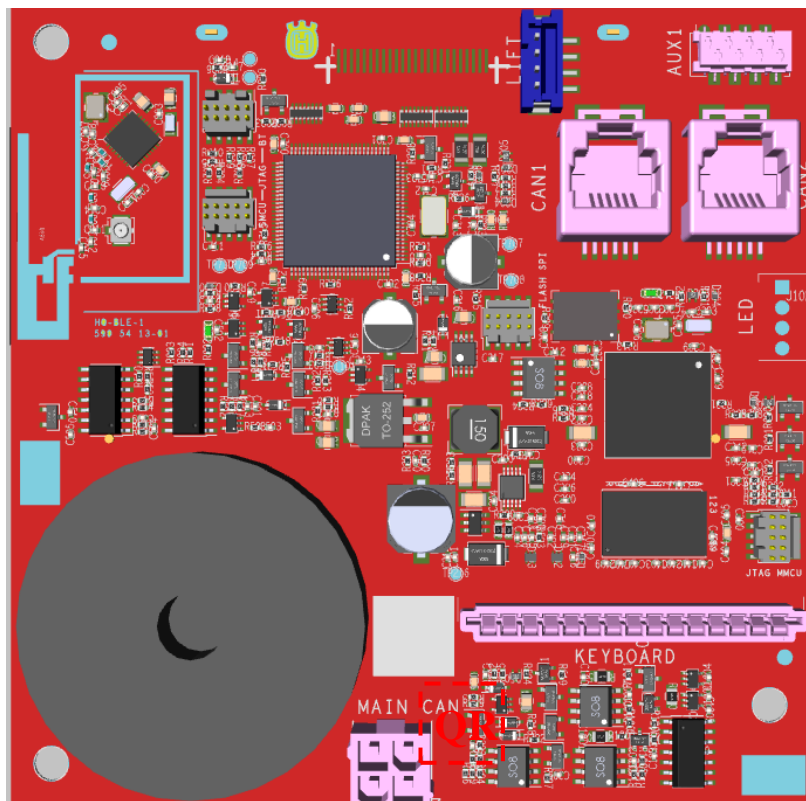
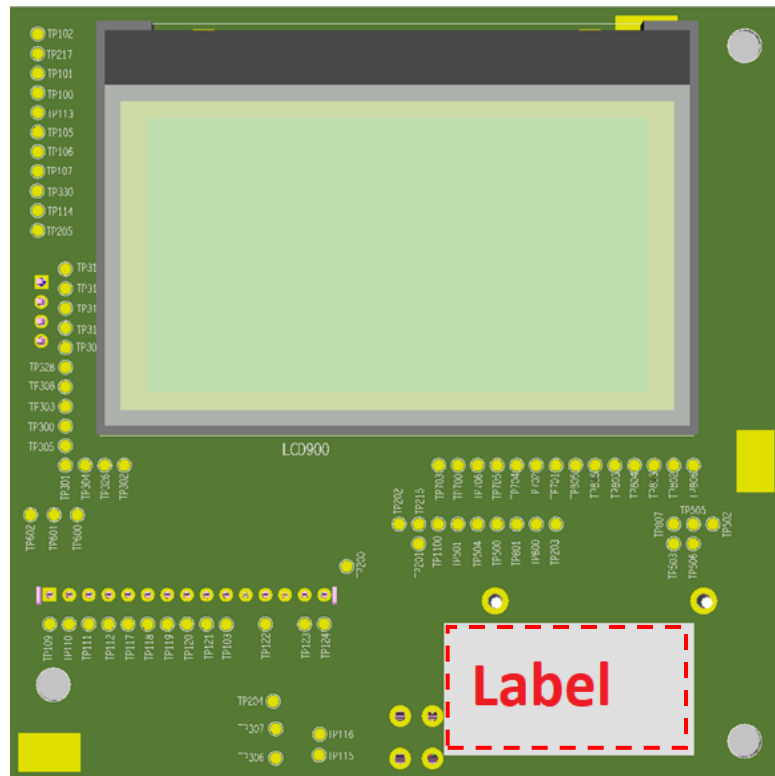
- Product name, (“Application Board Type 4”)
- Part number for the assembly, (“598 90 28-01”)
- Revision for the assembly, (“same as the (first) letter in PCBA revision according to BOM”)
- HID
- Radio certification text:
 - “FCC ID: ZASHQ-BLE-1H”
 - “IC:23307-HQBLE1H”

Example of label:

	Application Board Type 4 598 90 28-01 Rev yy HID: xxxxxxxxxxxxxxxxxxxxxxxxx FCC ID: ZASHQ-BLE-1H IC:23307-HQBLE1H Supplier specific code
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CPMS reporting of the produced part, including revision, must be done before delivery to Husqvarna, see further description in latest revision of ” 597180601 CPMS specification for vendors”.

The HID-label shall be placed inside the white area of the back side of PCB.



Manufacturer specific QR-code can be added in above square on top side, as seen above.
 (If the manufacturer of the PCB wishes to place his logo on the PCBA, this could be placed in the solder mask or on a label. It must not be placed in the copper layer.)

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Components, PCB and soldering:

Standard: IPC A-610-E class 2, or latest revision issued.

Compliance with RoHS /REACH.

Item shown in BOM must not contain substances classified as "banned" or "restricted" according to Husqvarna Group Restricted Materials List (see, “www.purchase.husqvarna.com”).

Mechanical outline requirements:

Tolerances in x- and y-direction are $\pm 0.25\text{mm}$.

Production requirements:

AOI:

- Must be used on every board after SMD and THD soldering process.
- Equipment must be able to inspect according to PCBA layout drawings supplied from Husqvarna.

X-ray:

- X-ray must be done on components that can't be verified in AOI.
- First and last board in a batch must be X-rayed. If the batch is > 500 pc, then each 500th board must also be x-rayed.

Flying Probe:

- First and last board in a batch must be used in Flying Probe tester. If the batch is > 500 pc, then each 500th board must also be tested.

FCT:

- Husqvarna will supply with a PTS spec that every board must be tested according to.
- Supplier/Manufacturer (or third party to them) of the PCBA must develop a test system according to the PTS and be responsible of the maintenance of that.

BT:

- BT tests, DUT must be placed in radio frequency shielded box to not interfere or be disturbed with other equipment.

EOL:

- EOL testing would be done on complete assy level including plastic cover or on a single coated PCBA if used as spare parts.

Washing:

- Boards must be washed before coating.

Coating:

- Coating must be done in a robotic system.

Traceability:

All boards must be possible to be trace on board level.

Buzzer soldering:

Make sure that buzzer pins are not longer than max 3,5mm.

Note, If upper points couldn't be achieved Husqvarna must be notified for further discussion.

Coating instruction:

Coating must be added on both sides of the PCB. The coating process must be configured in a way that no coating residuals enters the connector pins on any of the PCBA's in the panel.

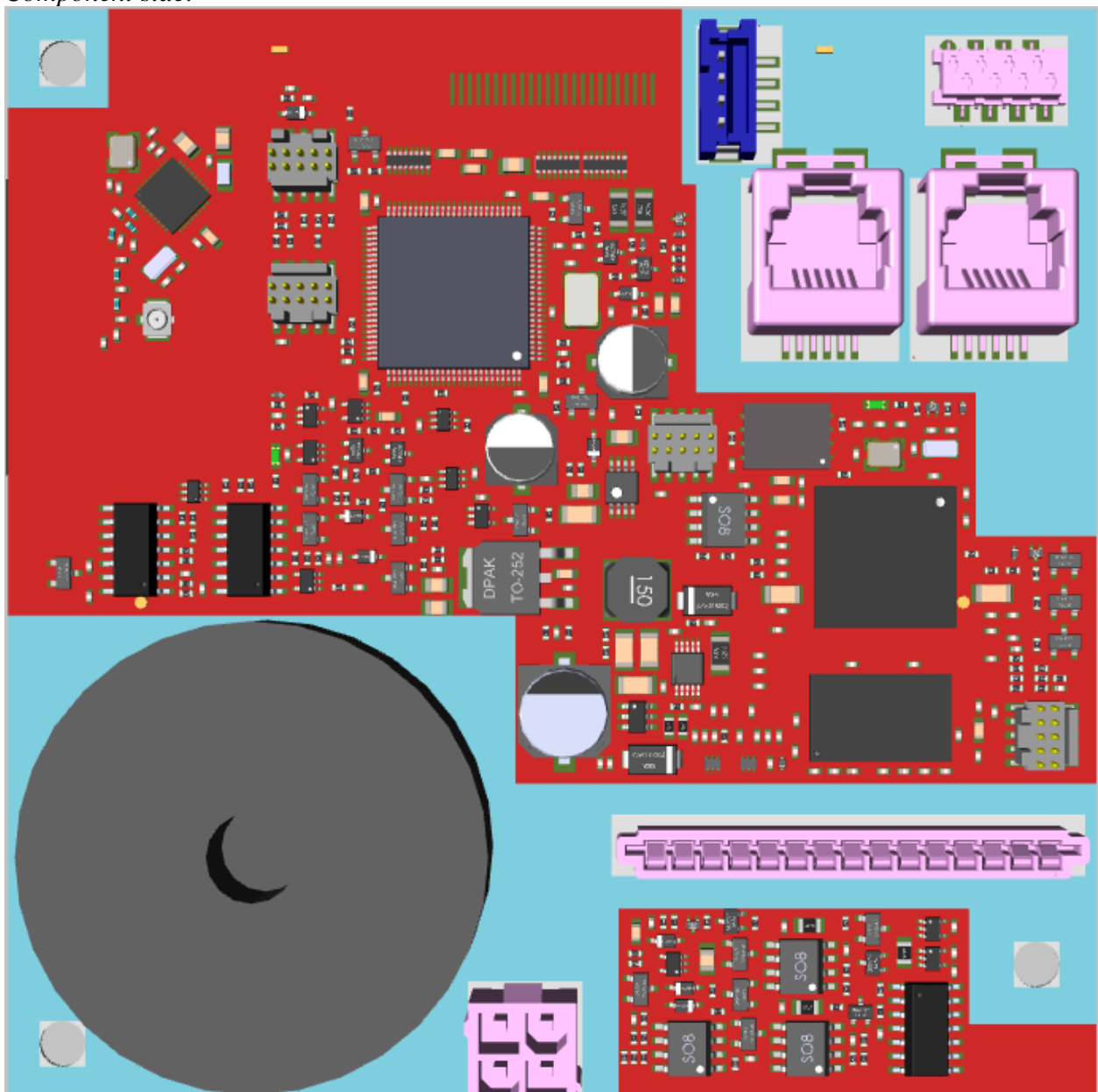
Coating should apply to the rules below:

Red area: Coating MUST be applied!

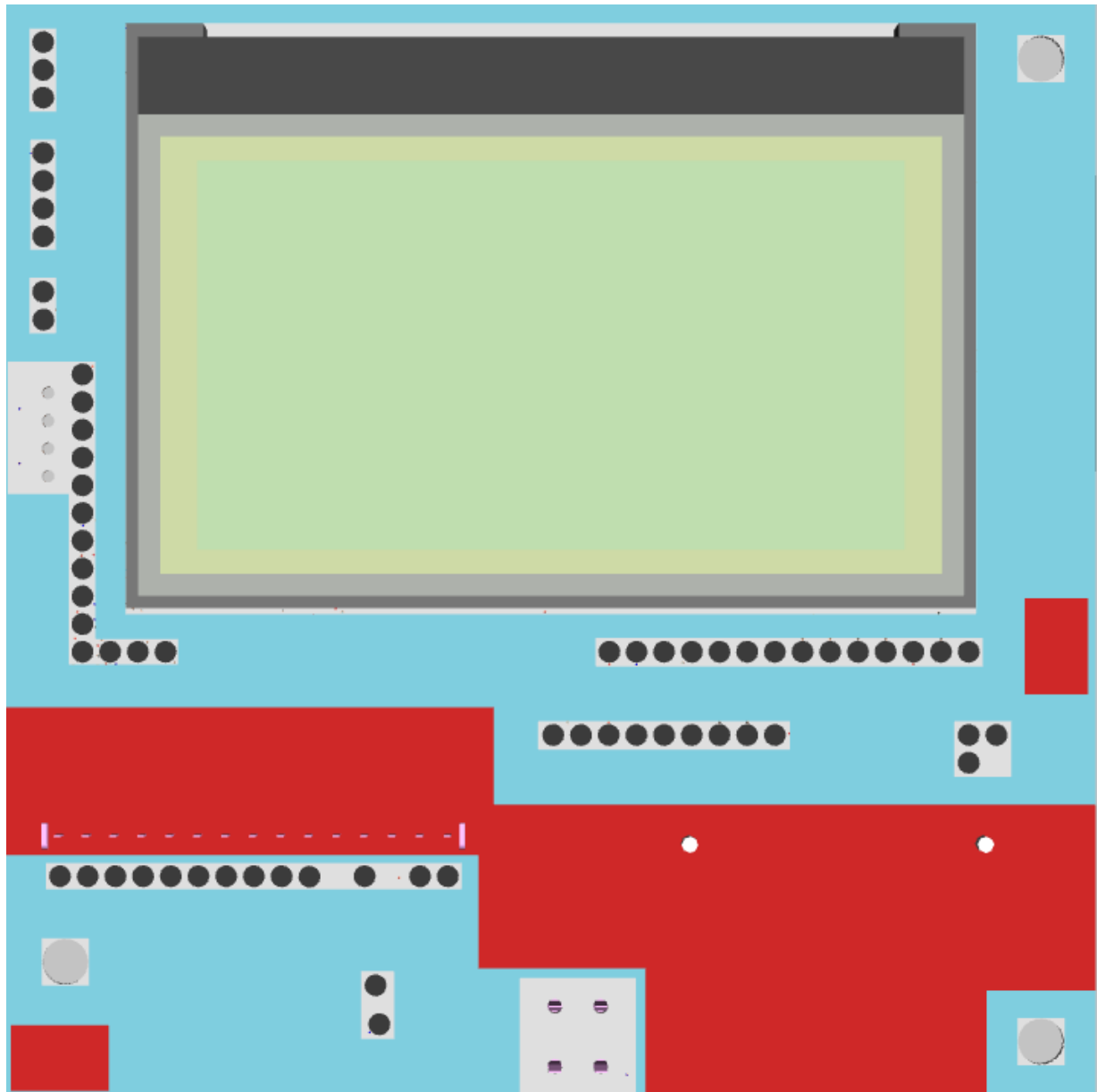
Blue area: Buffer zone - coating not necessary but allowed for the manufacturer's convenience.

Other area: No coating allowed!

Component side:



Bottom side:



The whole viewing area of the display shall be masked during display side coating.
Make sure that coating residuals do not cover the edge of the display.

Note: Pictures in above specification are for reference use only and could have minor changes compared to latest release revision of board.

Revision History

Revision	Date	Issued by	Comments
A	2019-12-17	Magnus Berggren	First release.
B.001	2020-03-02	Magnus Berggren	Radio cert revision changed to rev H.
B.002	2020-03-12	Magnus Berggren	Radio cert text updated.
B	2020-04-08	Magnus Berggren	Updated Coating instructions. Added Flying Probe testing.
C	2020-06-29	Johan Öster	Updated Coating instructions.
D	2020-09-09	Magnus Berggren	Updated with HID info on label. Added info about max buzzer pin length.
E.001	2020-10-12	Magnus Berggren	Removed “Assy test”.
E.002	2020-10-14	Adam Evegren	Updated Coating instructions.
E	2020-10-23	Magnus Berggren	Release
F	2021-01-26	Magnus Berggren	Updated coating instruction.