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Product change note

Topic **ODIN-W2 PCB update**
UBX-20017190

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1 Affected products

Product name	Order code	Old type no.	New type no.	Software
ODIN-W260	ODIN-W260-04B	ODIN-W260-04B-00	ODIN-W260-04B-01	u-connectXpress 5.0
ODIN-W260	ODIN-W260-05B	ODIN-W260-05B-00	ODIN-W260-05B-01	u-connectXpress 6.0
ODIN-W260	ODIN-W260-05X	ODIN-W260-05X-00	ODIN-W260-05X-01	u-connectXpress 6.0
ODIN-W260	ODIN-W260-06B	ODIN-W260-06B-00	ODIN-W260-06B-01	u-connectXpress 7.1
ODIN-W262	ODIN-W262-04B	ODIN-W262-04B-00	ODIN-W262-04B-01	u-connectXpress 5.0
ODIN-W262	ODIN-W262-05B	ODIN-W262-05B-00	ODIN-W262-05B-01	u-connectXpress 6.0
ODIN-W262	ODIN-W262-05X	ODIN-W262-05X-00	ODIN-W262-05X-01	u-connectXpress 6.0
ODIN-W262	ODIN-W262-06B	ODIN-W262-06B-00	ODIN-W262-06B-01	u-connectXpress 7.1
ODIN-W263	ODIN-W263-06B	ODIN-W263-06B-00	ODIN-W263-06B-01	u-connectXpress 7.1

2 Type of change

☒ Hardware modification
☐ Firmware update
☐ Documentation update
☐ Others

3 Description of change

The existing ODIN-W2 PCB uses triple-stacked microvias on some pins under the MCU and radio components. Both the MCU and the radio are wafer level chip scale packages (WLCSP) with solder balls that attach the chips to the module PCB. It is apparent that the use of triple-stacked microvias and WLCSP is not a reliable combination. In some cases, this problem can cause solder balls to crack under sudden temperature changes.

To address this issue, the ODIN-W2 PCB has been redesigned so that stacked microvias are changed to staggered microvias under the WLCSPs. The size of the pads, under the solder balls, has also been reduced in order to balance the thermomechanical stress caused by the entire structure.

u-blox has performed reliability stress testing to verify that these changes resolve the problem without affecting the performance of the product.

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4 Schedule

Shipment of parts with the new type number is estimated to start from August 6, 2020. This date is pending inventory depletion and may be affected by fluctuations in supply and demand.

Although customers should be prepared to receive the changed product on this date, u-blox will continue to ship pre-changed products until our current inventory has been depleted. This can result in the shipment of some pre-changed products to customers after the forecasted date.

5 Customer impact and recommended action

These changes are fully transparent to customers. All regulatory certifications are valid for the new type numbers.

6 Reference documents

[1] ODIN-W2 data sheet, UBX-14039949