



## LITHIUM BATTERIES TEST SUMMARY

IN ACCORDANCE WITH SUB-SECTION 38.3 OF UN MANUAL OF TESTS AND CRITERIA


|   |                      |  |
|---|----------------------|--|
| 1 | Product Manufacturer | Makita Corporation<br>3-11-8, Sumiyoshi-cho, Anjo, Aichi,<br>446-8502, Japan<br>Phone : +81 (0)566-98-1711<br><a href="http://www.makita.com">www.makita.com</a>   |
| 2 | Model                | Detachable Lithium-ion Batteries – Rechargeable<br>Makita Type : BL<br><br>Separable Lithium-ion Batteries – Rechargeable<br>Makita Type : PDC<br><br>Integral Lithium-ion Batteries – Rechargeable for Makita Cordless Cleaner<br><br>Integral Lithium-ion Batteries – Rechargeable for Makita Cordless Screwdriver<br><br>For detailed list of models see product test information table |
| 3 | Voltage rating       | 3.6V / 7.2V / 10.8V (12Vmax.) / 14.4V / 18V / 36V (40Vmax.) / 57.6V (64Vmax)   |
| 4 | Ah rating            | 1.3Ah / 1.5Ah / 2.0Ah / 2.5Ah / 3.0Ah / 4.0Ah / 5.0Ah / 6.0Ah / 33.5Ah   |
| 5 | Wh rating            | 5.4Wh / 10.8Wh / 14.0Wh / 16.2Wh / 17.0Wh / 22.0Wh / 27.0Wh / 28.08Wh / 35.1Wh / 36.0Wh / 44.0Wh / 54.0Wh / 58.0Wh / 72.0Wh / 80.0Wh / 87.0Wh / 90.0Wh / 94.0Wh / 108.0Wh / 144.0Wh / 180.0Wh / 230.2Wh / 288.0Wh / 1206Wh   |

### List of Tests Conducted and Results

| PERFORMED TESTS |                        | RESULTS |
|-----------------|------------------------|---------|
| 38.3.4.1 T1     | Altitude Simulation    | Passed  |
| 38.3.4.2 T2     | Thermal Test           | Passed  |
| 38.3.4.3 T3     | Vibration              | Passed  |
| 38.3.4.4 T4     | Shock                  | Passed  |
| 38.3.4.5 T5     | External Short Circuit | Passed  |
| 38.3.4.7 T7     | Overcharge             | Passed  |

(Note that tests T6 and T8 are not applicable to batteries.)



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|--|---|
| Revision Date: 2021-11-19  | Revision Number: 3.0  |
| RESEARCH & DEVELOPMENT PLANNING DEPARTMENT<br>GENERAL MANAGER<br>Yoshihisa Inuzuka | Signature  |

The UN 38.3 tests were performed by one of the following test houses and were tested to UN Manual Test and Criteria Revision 3 Amendment 1 or subsequent revisions or amendments.

|   |   |
|---|---|
| <p>Tohoku Murata Manufacturing Co., Ltd.<br/>1-1 Shimosugishita, Takakura, Hiwada-machi,<br/>Koriyama-shi, Fukushima, 963-0531 Japan<br/>Phone: +81-24-955-7770<br/>e-mail: <a href="mailto:tmm-qa-compliance@murata.com">tmm-qa-compliance@murata.com</a><br/>Website: <a href="https://www.murata.com/en-global/group/tohokumurata">https://www.murata.com/en-global/group/tohokumurata</a></p> | <p>Samsung SDI Co., Ltd<br/>467, Beonyeong-ro, Seobuk-gu,<br/>Cheonan-si, Chungcheongnam-do,<br/>Korea<br/>Phone: +82-41-560-3114<br/>e-mail: <a href="mailto:lian55.kim@samsung.com">lian55.kim@samsung.com</a><br/>Website: <a href="http://samsungsdi.co.kr">http://samsungsdi.co.kr</a></p>                                   |
| <p>CQC Intime Testing Technology Co.,Ltd.<br/>East Taihu Technology and Finance City,<br/>No.1368<br/>Wuzhong Dadao Rd., Wuzhong Economic<br/>Development<br/>Zone, Suzhou, Jiangsu.<br/>Phone: 0512-66303623<br/>e-mail: <a href="mailto:cqc_jszlb@126.com">cqc_jszlb@126.com</a><br/>Website: <a href="http://www.cqc-it.com">http://www.cqc-it.com</a></p>                                     | <p>Celxpert(Kunshan) Energy Co.Ltd<br/>NO.1111,Hanpu Road,Yushan<br/>Town,Kunshan City,Jiangsu<br/>Province,P.R.China<br/>Phone: +86-0512-57775999-8239<br/>e-mail: <a href="mailto:Frank_Gao@cn.celxpert.com">Frank_Gao@cn.celxpert.com</a><br/>Website: <a href="http://www.celxpert.com.tw">http://www.celxpert.com.tw</a></p> |
| <p>Murata Energy Device Wuxi Co., Ltd.<br/>No.27 Changjiang Road, New<br/>District,Wuxi,Jiangsu Province, 214028 P.R.C.<br/>Phone: +86-510-8523-9120<br/>e-mail: <a href="mailto:mdw-qa-comp@murata.com">mdw-qa-comp@murata.com</a><br/>Website: <a href="https://www.murata.com/en-global/group/tohokumurata">https://www.murata.com/en-global/group/tohokumurata</a></p>                        | <p>Shanghai Research Institute of Chemical<br/>Industry Testing Center<br/>No.345 East Yunling Road, Putuo,<br/>Shanghai,China<br/>Phone: +86-21-3176555<br/>e-mail: <a href="mailto:battery@ghs.cn">battery@ghs.cn</a><br/>Website: <a href="http://www.ghs.cn">http://www.ghs.cn</a></p>  |
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## Description of Battery and Test Information

| Model numbers                             | Physical Description                        | Battery weight (kg) | Wh rating | Test report number   | Test report date           | Applicable UN Numbers acc. to UN Model Regulations |
|---|---|---------------------|-----------|--|----------------------------|--|
| BL0715<br>7.2V<br>1.5 Ah                  | Detachable cluster lithium-ion accumulator  | 0.12                | 10.8      | QA-7349  | 10-Oct-2017                | UN3480/<br>UN3481                                  |
| BL1013/BL1014<br>10.8V/12Vmax.<br>1.3Ah   | Detachable cluster lithium-ion accumulator  | 0.17                | 14.0      | QA-7332<br>QA-7357   | 4-Oct-2017<br>20-Oct-2017  | UN3480/<br>UN3481                                  |
| BL1013/BL1014<br>10.8V/12Vmax.<br>1.3Ah   | Detachable slide in lithium-ion accumulator | 0.18                | 14.0      | MT0038801  | 4-Mar-2011                 | UN3480/<br>UN3481                                  |
| BL1015/BL1016<br>10.8V/12Vmax.<br>1.5Ah   | Detachable slide in lithium-ion accumulator | 0.25                | 17.0      | CPK-QA-Lab-<br>UN383PACK1402<br>CPK-Lab-<br>UN383PACK15060   | 16-Aug-2014<br>16-Aug-2015 | UN3480/<br>UN3481                                  |
| BL1015/BL1016<br>10.8V/12Vmax.<br>1.5Ah   | Detachable slide in lithium-ion accumulator | 0.21                | 16.2      | CPK-Lab-<br>UN383PACK21053-A<br>CPK-Lab-<br>UN383PACK21054-A | 05-Aug-2021<br>07-Aug-2021 | UN3480/<br>UN3481                                  |
| BL1021B<br>12Vmax.<br>2.0Ah               | Detachable slide in lithium-ion accumulator | 0.24                | 22.0      | CPK-QA-Lab-<br>UN383PACK15063                                | 20-Aug-2015                | UN3480/<br>UN3481                                  |
| BL1040B/BL1041B<br>10.8V/12Vmax.<br>4.0Ah | Detachable slide in lithium-ion accumulator | 0.43                | 44.0      | CPK-Lab-<br>UN383PACK14042<br>CPK-QA-Lab-<br>UN383PACK15062  | 23-Dec-2014<br>23-Aug-2015 | UN3480/<br>UN3481                                  |
| BL1415N<br>14.4V<br>1.5Ah                 | Detachable slide in lithium-ion accumulator | 0.32                | 22.0      | SDI-UN-131101-02   | 17-Dec-2017                | UN3480/<br>UN3481                                  |
| BL1415NA<br>14.4V<br>1.5Ah                | Detachable slide in lithium-ion accumulator | 0.40                | 21.6      | MT0045738  | 15-Jul-2011                | UN3480/<br>UN3481                                  |
| BL1430B<br>14.4V<br>3.0Ah                 | Detachable slide in lithium-ion accumulator | 0.50                | 44.0      | SDI-UN-P160118-01  | 18-Jan-2016                | UN3480/<br>UN348                                   |
| BL1440<br>14.4V<br>4.0Ah                  | Detachable slide in lithium-ion accumulator | 0.53                | 58.0      | QA-7358  | 20-Oct-2017                | UN3480/<br>UN3481                                  |
| BL1450<br>14.4V<br>5.0Ah                  | Detachable slide in lithium-ion accumulator | 0.51                | 72.0      | SDI-UN-P140807-01  | 11-Aug-2014                | UN3480/<br>UN348                                   |



|                           |   |      |       |                                      |              |                   |
|---------------------------|---|------|-------|--------------------------------------|--------------|-------------------|
| BL1460A<br>14.4V<br>6.0Ah | Detachable slide<br>in lithium-ion<br>accumulator | 0.54 | 87.0  | CPK-QA-Lab-<br>UN383PACK15061        | 12-June-2015 | UN3480/<br>UN3481 |
| BL1460B<br>14.4V<br>6.0Ah | Detachable slide<br>in lithium-ion<br>accumulator | 0.54 | 87.0  | CPK-QA-Lab-<br>UN383PACK15027        | 12-June-2015 | UN3480/<br>UN3481 |
| BL1415G<br>14.4V<br>1.5Ah | Detachable slide<br>in lithium-ion<br>accumulator | 0.33 | 22.0  | CPK-QA-Lab-<br>UN383PACK16008        | 01-Mar-2016  | UN3480/<br>UN3481 |
| BL1415G<br>14.4V<br>1.5Ah | Detachable slide<br>in lithium-ion<br>accumulator | 0.32 | 22.0  | CPK-QA-Lab-<br>UN383PACK21006-A      | 22-Mar-2021  | UN3480/<br>UN3481 |
| BL1420G<br>14.4V<br>2.0Ah | Detachable slide<br>in lithium-ion<br>accumulator | 0.33 | 28.08 | CPK-Lab-<br>UN383PACK21007-<br>A-1-1 | 23-Mar-2021  | UN3480/<br>UN3481 |
| BL1815N<br>18V<br>1.5Ah   | Detachable slide<br>in lithium-ion<br>accumulator | 0.36 | 27.0  | MT0059172                            | 15-Feb-2012  | UN3480/<br>UN3481 |
| BL1815N<br>18V<br>1.5Ah   | Detachable slide<br>in lithium-ion<br>accumulator | 0.36 | 27.0  | CPK-QA-Lab-<br>UN383PACK13025        | 13-Oct-2013  | UN3480/<br>UN3481 |
| BL1820B<br>18V<br>2.0Ah   | Detachable slide<br>in lithium-ion<br>accumulator | 0.38 | 36.0  | QA-7337                              | 5-Oct-2017   | UN3480/<br>UN3481 |
| BL1830B<br>18V<br>3.0Ah   | Detachable slide<br>in lithium-ion<br>accumulator | 0.64 | 54.0  | QA-7344                              | 5-Oct-2017   | UN3480/<br>UN3481 |
| BL1830B<br>18V<br>3.0Ah   | Detachable slide<br>in lithium-ion<br>accumulator | 0.60 | 54.0  | SDI-UN-P160314-01                    | 14-Mar-2016  | UN3480/<br>UN3481 |
| BL1840B<br>18V<br>4.0Ah   | Detachable slide<br>in lithium-ion<br>accumulator | 0.65 | 72.0  | QA-7285                              | 1-Sep-2017   | UN3480/<br>UN3481 |
| BL1840B<br>18V<br>4.0Ah   | Detachable slide<br>in lithium-ion<br>accumulator | 0.60 | 72.0  | SDI-UN-P150209-01                    | 10-Feb-2015  | UN3480/<br>UN3481 |
| BL1850B<br>18V<br>5.0Ah   | Detachable slide<br>in lithium-ion<br>accumulator | 0.64 | 90.0  | QA-7286                              | 1-Sep-2017   | UN3480/<br>UN3481 |
| BL1850B<br>18V<br>5.0Ah   | Detachable slide<br>in lithium-ion<br>accumulator | 0.62 | 90.0  | SDI-UN-P160104-01                    | 4-Jan-2016   | UN3480/<br>UN3481 |



|  |   |       |       |  |             |                   |
|--|---|-------|-------|--|-------------|-------------------|
| BL1860B<br>18V<br>6.0Ah                      | Detachable slide<br>in lithium-ion<br>accumulator | 0.67  | 108.0 | 2017126J17835                              | 7-Dec-2017  | UN3480/<br>UN3481 |
| BL1815G<br>18V<br>1.5Ah                      | Detachable slide<br>in lithium-ion<br>accumulator | 0.39  | 27.0  | CPK-QA-Lab-<br>UN383PACK16012              | 23-Mar-2016 | UN3480/<br>UN3481 |
| BL1815G<br>18V<br>1.5Ah                      | Detachable slide<br>in lithium-ion<br>accumulator | 0.38  | 27.0  | CPK-Lab-<br>UN383PACK21003-A               | 03-Mar-2021 | UN3480/<br>UN3481 |
| BL1820G<br>18V<br>2.0Ah                      | Detachable slide<br>in lithium-ion<br>accumulator | 0.39  | 35.1  | CPK-Lab-<br>UN383PACK21004-<br>A-1-1-1-1-1 | 09-Mar-2021 | UN3480/<br>UN3481 |
| BL3626<br>36V<br>2.6Ah                       | Detachable slide<br>in lithium-ion<br>accumulator | 1.34  | 94.0  | QA-7346                                    | 6-Oct-2017  | UN3480/<br>UN3481 |
| BL3622A<br>36V<br>2.2Ah                      | Detachable slide<br>in lithium-ion<br>accumulator | 1.33  | 80.0  | QA-7348                                    | 6-Oct-2017  | UN3480/<br>UN3481 |
| Integral Batteries<br>for DF001D             | Integral lithium-<br>ion accumulator              | 0.13  | 5.4   | CPK-QA-Lab-<br>UN383PACK16026              | 26-Dec-2016 | UN3480/<br>UN3481 |
| Integral Batteries<br>for<br>CL105D / CL110D | Integral lithium-<br>ion accumulator              | 0.18  | 14.0  | CPK-QA-Lab-<br>UN383PACK13028-<br>K092-1-1 | 18-May-2014 | UN3480/<br>UN3481 |
| Integral Batteries<br>for<br>CL104D / CL111D | Integral lithium-<br>ion accumulator              | 0.18  | 17.0  | CPK-QA-Lab-<br>UN383PACK16022-1-<br>1-1-1  | 27-Feb-2018 | UN3480/<br>UN3481 |
| BL1020V<br>10.8V/12Vmax.<br>2.0Ah            | Integral lithium-<br>ion accumulator              | 0.185 | 22.0  | CPK-Lab-<br>UN383PACK20004-A               | 21-Feb-2020 | UN3480/<br>UN3481 |
| BL4025<br>40Vmax.<br>2.5Ah                   | Detachable slide<br>in lithium-ion<br>accumulator | 0.70  | 90.0  | MDW-B19090                                 | 12-Sep-2019 | UN3480/<br>UN3481 |
| BL4040<br>40Vmax.<br>4.0Ah                   | Detachable slide<br>in lithium-ion<br>accumulator | 1.04  | 144.0 | 1119040200                                 | 20-May-2019 | UN3480/<br>UN3481 |
| BL4020<br>40Vmax.<br>2.0Ah                   | Detachable slide<br>in lithium-ion<br>accumulator | 0.68  | 72.0  | 1120010340                                 | 27-Feb-2020 | UN3480/<br>UN3481 |
| BL4050F<br>40Vmax.<br>5.0Ah                  | Detachable slide<br>in lithium-ion<br>accumulator | 1.31  | 180.0 | 1120050246                                 | 28-Jun-2020 | UN3480/<br>UN3481 |





|                             |   |      |       |                   |             |                   |
|-----------------------------|---|------|-------|-------------------|-------------|-------------------|
| BL4080F<br>40Vmax.<br>8.0Ah | Detachable slide<br>in lithium-ion<br>accumulator | 1.90 | 288.0 | 1121030246        | 16-Apr-2021 | UN3480/<br>UN3481 |
| PDC1200<br>36V<br>33.5Ah    | Separable<br>lithium-ion<br>accumulator           | 8.80 | 1206  | HCT-BA-2002-RE016 | 13-Feb-2020 | UN3480/<br>UN3481 |
| BL6440<br>57.6V<br>4.0Ah    | Separable<br>lithium-ion<br>accumulator           | 2.20 | 230.2 | 1120090534        | 28-Sep-2020 | UN3480/<br>UN3481 |