

## Equipment : RWC5020A LoRaWAN Tester

### Revision History

Version	Date	Description
<b>V1.14</b>		<p>[Caution] SW V1.140a should be used with FW V1.140 for compatibility.</p> <p>[Bugs fixed] 1. Reading Manuals using acrobat reader is fixed.</p> <p>[Function] 1. Parameter windows of each test are merged 2. When start test, all GUI parameters will be synchronized with RWC5020A 3. 'Test ADR' and 'Test Opt DR' options are selectable in Certification test. 4. Optional performance test functions such as SF7BW250 and FSK50 are added 5. Class B commands are added on MAC COMMANDS EDITOR in Link analyzer function.</p>
<b>V1.13</b>		<p>[Caution] SW V1.130a should be used with FW V1.130 for compatibility.</p> <p>[Bugs fixed] Fixed displaying multiple names of the Last project Wrong test name is fixed in AS923 pre-certification 16.5 PER SF8BW125 RX1 → 16.5 PER SF7BW125 RX1</p> <p>[Function] 1.Small characters are admitted in key value box 2.Added measuring TX power of DUT with CW 3.Indian regional pre-certification test function is added 4.Indian regional parameters are added</p>
<b>V1.12</b>	25/APR/2018	<p>[Caution] 1. SW V1.120a should be used with FW V1.120 for compatibility.</p>

		<p>[Bugs fixed]</p> <ol style="list-style-type: none"> <li>1. Wrong operation with project name which includes dots.</li> <li>2. Sometimes freezing when US915 region is selected.</li> </ol> <p>[Function]</p> <ol style="list-style-type: none"> <li>1. Added a standard test solution for manufacturing lines to test TX and RX of devices simultaneously</li> <li>2. Added MAC commands related with certification test mode; CONFIRMED_TM, UNCONFIRMED_TM, ECHO_REQUEST_TM, TRIGGER_JOIN_REQ_TM, and ENABLE_CW_MODE_TM</li> <li>3. Added protocol parameters in Link Analyzer compatible to FW such as DR, RxDelay, ADRACKReq and FPending</li> <li>4. Added estimated and elapsed timer function in CERT test</li> <li>5. Changed GUI</li> </ol>
<b>V1.11</b>	20/MAR/2018	<p>[Caution]</p> <ol style="list-style-type: none"> <li>1. SW V1.110a should be used with FW V1.110 for compatibility.</li> </ol> <p>[Bugs fixed]</p> <ol style="list-style-type: none"> <li>1. Loosing performance test parameters</li> <li>2. Incorrect channel mask parameter operation in Link ADR MAC command</li> <li>3. Wrong operation with DUT name which includes multi dots.</li> </ol> <p>[Function]</p> <ol style="list-style-type: none"> <li>1. To Remember the last seven opened projects and let user open easily.</li> <li>2. Added an option whether app opens the last parameters or not when it begins.</li> </ol>
<b>V1.10</b>	27/DEC/2017	<ol style="list-style-type: none"> <li>1. Support of LoRaWAN V1.100</li> <li>2. Performance Test Parameter display method is changed - show all test parameters at once with respect to all SF.</li> </ol>
<b>V 1.06</b>	08/NOV/2017	<p>[Caution]</p> <ol style="list-style-type: none"> <li>1. SW V1.06 should be used with FW V1.06 for compatibility.</li> </ol> <p>[Functions]</p> <ol style="list-style-type: none"> <li>1. Each regional certification test result can be loaded and shown</li> </ol>

		<p>without certification licenses.</p> <ol style="list-style-type: none"> <li>2. Match Link Analyzer items with FW V1.06 <ul style="list-style-type: none"> <li>- Measured power, ADR flag, and Class B flag</li> </ul> </li> <li>3. Add graphic PER curves with respect to the SF and power measurement graphs with respect to the channels and powers in performance function.</li> </ol>
<b>V 1.05</b>	13/SEP/2017	<p>[Caution]</p> <ol style="list-style-type: none"> <li>1. SW V1.05 should be used with FW V1.05 for compatibility.</li> </ol> <p>[Functions]</p> <ol style="list-style-type: none"> <li>1. Match regional certification test functions to FW V1.05 <ul style="list-style-type: none"> <li>- Final version of implementation for EU V1.5, AS V1.0 and KR V1.1</li> <li>- draft version of implementation for US/CA V1.2</li> </ul> </li> <li>2. Match Performance Test function <ul style="list-style-type: none"> <li>- Test Scenario: Normal Uplink or CERTI_ECHO</li> <li>- Gateway testing available</li> <li>- TX Power measurement according to TXPower index</li> </ul> </li> <li>3. Improved a function of MAC command editor <ul style="list-style-type: none"> <li>- Support for multiple MAC commands in a single frame</li> <li>- Added commands: DL_CHANNEL, ACTIVATE_TM, DEACTIVATE_TM</li> </ul> </li> </ol>
<b>V 1.04</b>	01/AUG/2017	<p>[Caution]</p> <ol style="list-style-type: none"> <li>1. SW V1.04 should be used with FW V1.04 for compatibility.</li> </ol> <p>[Functions]</p> <ol style="list-style-type: none"> <li>2. Modified Remote control commands related to the MAC commands according to the FW V1.04</li> <li>3. Improved Performance Test function according to the FW V1.04 <ul style="list-style-type: none"> <li>- added 12 PER measurement functions w.r.t. RX window and DR</li> <li>- added displaying summary table</li> </ul> </li> <li>4. Improved link analyzer <ul style="list-style-type: none"> <li>- added MAC Command transmission function.</li> </ul> </li> <li>5. Improved DUT control function <ul style="list-style-type: none"> <li>- added sending multiple commands</li> <li>- added DUT control monitor window</li> </ul> </li> </ol> <p>[Debug]</p> <ol style="list-style-type: none"> <li>6. Fixed bugs in implementation of LoRaWAN Certification V1.2</li> </ol>

		according to the FW V1.04 7. Improved RWC5020A control function. - added template function for easier use.
<b>V 1.015</b>	20/JUN/2017	1. Add 'SKT Certification' test with DUT controlling 2. Add 'making user control command template file' function 3. Fix some bugs Create Report. Show Report.
<b>V 1.014</b>	07/JUN/2017	1. Complete 'EU Certification' test with DUT controlling
<b>V 1.013</b>	03/JUN/2017	1. ADD DUT control Load a user control command file./Send cmd and receive rsp
<b>V 1.012</b>	31/MAY/2017	1 <sup>t</sup> Added EU some Certification auto test without DUT control