PC Software Release Note

Equipment : RWC5020A/B/B-64/M/M-64, RWC5021P

Revision History

Version	Date	Description
V1.600	02/APR/2026	[Caution] 1. This PC Application will be run correctly only if the SW and FW version is matched(FW V1.600 or higher) 2. This detects RWC5020A/B/B-64/M/M-64, RWC5021P automatically [Function Upgrade] 1. Added the 'Permanent C' option to the Class C Pre-cert feature. 2. Added a certification test item [ED_RELAY] for DUTs classified as END-DEVICE, as defined in the Relay Mechanism Test Specification. 3. Added Fragmentation versions (V1, V2) to the FUOTA test feature. 4. Added SF6 and SF5 items in the Performance Test Function. 5. Added End Device Clock Offset Immunity Test in the Performance Test Function. 6. Added parameters for RELAY operation to the Link Analyzer. [Bugs Fixed]
V1.521	29/OCT/2025	[Caution] 1. This PC Application will be run correctly only if the SW and FW version is matched(FW V1.520 or higher) 2. This detects RWC5020A/B/B-64/M/M-64, RWC5021P automatically [Function Upgrade] [Bugs Fixed] 1. Fixed an issue where FUOTA bin file download over RS232 was not working.
V1.520	20/OCT/2025	[Caution] 1. This PC Application will be run correctly only if the SW and FW version is matched(FW V1.520 or higher) 2. This detects RWC5020A/B/B-64/M/M-64, RWC5021P automatically [Function Upgrade] 1. The function to change non-default channel frequency values in 8-channel mode was removed in Ver1.510, but this function has been added again. [Bugs Fixed] 1. Separated the CR and CRC variables for the implicit header mode in NST. 2. Fixed payload editor error

		3. Fixed encoding function error in FUOTA binary file. 4. Fixed input error in FUOTA DESCRIPT value 5. Fixed GW DL_FREQ channel list error 6. Fixed the issue where the Command Scripter would occasionally freeze during operation.
V1.519	13/MAY/2025	[Caution] 1. This PC Application will be run correctly only if the SW and FW version is matched(FW V1.519 or higher) 2. This detects RWC5020A/B/B-64/M/M-64, RWC5021P automatically [Function Upgrade] [Bugs Fixed] 1. Fixed the error in parity generation of LDPC used in the FUOTA.
V1.513	13/DEC/2024	[Caution] 1. This PC Application will be run correctly only if the SW and FW version is matched(FW V1.513 or higher) 2. This detects RWC5020A/B/B-64/M/M-64, RWC5021P automatically [Function Upgrade] 1. Added the SF5/6 option in NST [Bugs Fixed] 1. Fixed an issue where some parameters are not saved during the FUOTA test.
V1.512	13/SEP/2024	[Caution] 1. This PC Application will be run correctly only if the SW and FW version is matched(FW V1.510 or higher) 2. This detects RWC5020A/B/B-64/M/M-64, RWC5021P automatically [Function Upgrade] [Bugs Fixed] 1. Changed the range of RECEIVE_DELAY in RX_TIMING_SETUP MAC COMMAND from 0-10 to 0-15. 2. Fixed the issue with the number of fragments in FUOTA (occurring when there is no remainder).
V1.511	03/JUL/2024	Caution] 1. This PC Application will be run correctly only if the SW and FW version is matched(FW V1.510 or higher) 2. This detects RWC5020A/B/B-64/M/M-64, RWC5021P automatically

		[Function Upgrade] 1. Reinserted the 8-channel variable frequency feature. [Bugs Fixed]
V1.510	06/MAY/2024	[Caution] 1. This PC Application will be run correctly only if the SW and FW version is matched(FW V1.510 or higher) 2. This detects RWC5020A/B/B-64/M/M-64, RWC5021P automatically [Function Upgrade] 1. Added 16(EU,AS, KR, IN, RU) channels compatible functions such as 'new DUT', 'CH MASK', channel list, and 'report table'. 2. Added class B mode for the FUOTA test. 3. Added a redundancy level parameter for FUOTA to define how many redundancy packets to transmit. [Bugs Fixed] 1. Fixed the malfunction of Gen Akey editing in the FUOTA test
V1.500	20/DEC/2023	[Caution] 1. This PC Application will be run correctly only if the SW and FW version is matched(FW V1.500 or higher) 2. This detects RWC5020A/B/B-64/M/M-64, RWC5021P automatically [Function Upgrade] 1. Added 64(US,AU)/96(CN) channels compatible functions such as 'new DUT', 'CH MASK', and 'report table'. 1. The TX power test graph has been updated for compatibility with 64 channels. 2. The process of creating documents has become faster. [Bugs Fixed] 1. KR, AS, RU channel lists were fixed
V1.401	12/AUG/2023	[Caution] 1. This PC Application will be run correctly only if the SW and FW version is matched(FW V1.401 or higher) 2. This detects RWC5020A/B/M, RWC5021P automatically [Function Upgrade] [Bugs Fixed] 1. During the GW NRT test, the tester filters out unexpected JSON messages from the DUT(GW), which receives unwanted ED signals in the air.
V1.400	12/AUG/2023	[Caution] 3. This PC Application will be run correctly only if the SW and FW version is matched(FW V1.400 or higher)

		4. This detects RWC5020A/B/M, RWC5021P automatically [Function Upgrade] 3. Pre-Certification a. Class B certification(V1.0) added b. Class C certification(V1.0.1) added c. Retransmission Backoff/Similarity added in All region 4. Generation report a. Removed the Generation report in .doc formation b. Added the the Generation report in .html formation c. Report formation is modified based on html functionality [Bugs Fixed] 2. Fixed the wrong command "CONF:LINK:ADR_CH_MASK" instead of "CONF:LINK:ADR_CH_MASK_OPT" in the script function.
V1.341	28/FEB/2023	[Caution] 1. This PC Application will be run correctly only if the SW and FW version is matched(FW V1.341 or higher) 2. This detects RWC5020A/B/M, RWC5021P automatically [Function Upgrade] [Bugs Fixed] 1. Fixed malfunction of LDPC encoder for the FUOTA test
V1.3391	08/AUG/2022	[Caution] 1. This PC Application will be run correctly only if the SW and FW version is matched(FW V1.339 or higher) 2. This detects RWC5020A/B/M, RWC5021P automatically [Function Upgrade] [Bugs Fixed] 1. Fixed the malfunction of RS232 port search function in the equipment connection window.
V1.339	21/JUL/2022	[Caution] 1. This PC Application will be run correctly only if the SW and FW version is matched(FW V1.339 or higher) 2. This detects RWC5020A/B/M, RWC5021P automatically [Function Upgrade] 1. NO ANSWER TO JOIN REQUEST, MAC COMMAND, CONFIRMED UP in MAL-FUNCTION window 2. Updated RX GAIN and AGC Status indication [Bugs Fixed] 1. Fixed the malfunction of RS232 port search function. 3. Fixed an issue where long path file names were not recognized in Fuota tests. 4. In the AS region, frequency offset is applied to all versions

		(V1.0.2, V1.0.3, V1.0.4, and V1.1). 5. Fixed AS923 default RX2, Ping, Beacon frequencies with respect to the frequency offset 6. Added Checkbox to display AGC status in link messages 7. Fixed the incorrect AU915 channel list display
V1.334	23/DEC/2021	[Caution] 1. This PC Application will be run correctly only if the SW and FW version is matched(FW V1.332 or higher) 2. This detects RWC5020A/B/M, RWC5021P automatically [Upgrade] 1. Added REF_CLK INT/EXT switching option at the bottom of the application 2. Added a warning message before stating Class C PER test "Make sure that the DUT does not send uplink messages during Class C PER Test" 3. In the gateway non-regression test, selective testing using SFs and frequencies is possible [Bugs Fixed] 1. Fixed sensitivity verdict error in PER test function 2. Fixed the issue the MAC command script window was hidden when clicking the [+] button in the MAC script function 3. Fixed application freezing problem when running MAC command script function
V1.333	1/NOV/2021	[Caution] 1. This PC Application will be run correctly only if the SW and FW version is matched(FW V1.332 or higher) 2. This detects RWC5020A/B/M, RWC5021P automatically [Upgrade] [Bugs Fixed] 1. Fixed the slowdown and missing data issues in PER test of the Gateway non-regression test 2. Fixed the resizing problem of the enlarged result graph of the PER test of the Gateway non-regression test. 3. The frequency table of KR920 has been changed to comply with Korean regulations.
V1.332	25/OCT/2021	[Caution] 1. This PC Application will be run correctly only if the SW and FW version is matched(FW V1.330 or higher) 2. This detects RWC5020A/B/M, RWC5021P automatically [Upgrade] [Bugs Fixed] 1. Fixed the error of displaying tested result in Pre-certification test and performance test function 2. Fixed the MIN MAC INTERVAL's minimum value 10 to 5

V1.331	18/OCT/2021	[Caution] 1. This PC Application will be run correctly only if the SW and FW version is matched(FW V1.330) 2. This detects RWC5020A/B/M, RWC5021P automatically [Upgrade] 1. Added function to scan IP connected with RWC502x 2. Added "□Stop link after test" option in the performance test. By unchecking the option, there is no need to reset the DUT when users do the performance test again. Owing to this function, the reading APPS_KEY, DEV_ADDR, NWKS_KEY values action was removed. 3. Excluded the RWC502x user manual and application manual from the application, and put a link instead. [Bugs Fixed] 1. Fixed value crash due to value limitation error with step power in the performance test function 2. Added missed units such as MHz, Sec, dBm.
V1.330	12/OCT/2021	[Caution] 1. This PC Application will be run correctly only if the SW and FW version is matched(FW V1.330) 2. This detects RWC5020A/B/M, RWC5021P automatically [Upgrade] 1. Added AS923-4 to support the Israel region. 2. Removed the temporarily added IL-917/KZ-865 regional parameter for Israel local testing. [Improvement] 1. Enabled RWC502x control via COM port 2. Added a function to change the address and type of IP of RWC502x via COM port 3. Added reading APPS_KEY, DEV_ADDR, NWKS_KEY values so that there is no need to join again during the same DUT test. 4. Increased the number of digits of the measured frequency counter value in Hz [Bugs Fixed] 1. Fixed value crash due to value limitation error with project parameters. 2. Fixed abnormal operations with "," for decimal symbols 8. Fixed incorrect information and redundancy in the pre-certification report and Non-regression test report 9. Fixed the incorrect "RX GAIN RANGE" information of RWC5020A 10. Changed the "FM_DEVIATION" range for FSK in NST TX from 10-100KHz to 1-100KHz in NST function 11. Fixed the hidden channel group selection box to show in US region, loraWAN version 1.0.4

V1.325	2/SEP/20201	[Caution] 1. This PC Application will be run correctly only if the SW and FW version is matched(FW V1.325) 2. This detects RWC5020A/B/M automatically [Upgrade] 1. Added the PHY_HEADER parameter in NST TX 2. Changed the range of FSK Data rate 0.5kbps - 250kbps [Bugs fixed] 1. Fixed value crash due to value Limitation error
V1.324	12/AUG/20201	[Caution] 1. This PC Application will be run correctly only if the SW and FW version is matched(FW V1.324) 2. This detects RWC5020A/B/M automatically [Upgrade] 1. 'Scanning RWC5020x equipment via LAN' function added 2. 'Configuring RWC5020x equipment via RS232' function added [Bugs fixed] 1. More than 64 channels in the UL & DL channel list were not displayed in the GUI in the case of GWT/CN470/LoRaWAN operation mode. It didn't affect the operation. Fixed to display correctly.
V1.323	16/JUL/20201	[Caution] 1. This PC Application will be run correctly only if the SW and FW version is matched(FW V1.323) 2. This detects RWC5020A/B/M automatically [Upgrade] 1. Added AS923-4 regional parameter. 2. Removed the temporary added IL-917 regional parameter for Israeli local testing. [Bugs fixed] 1. Fixed the default DR of RX2 channel of EU868 in CONFIG window
V1.321	17/MAY/20201	[Caution] 1. This PC Application will be run correctly only if the SW and FW version is matched(FW V1.321) 2. This detects RWC5020A/B/M automatically [Bugs fixed] 1. Freezing problem while moving the application in test Perf RX2 2. disappearing problem during testing on Perf RX2 US 3. Lagging during resizing in link analyzer

V1.320	30/APR/2021	[Caution] 1. This PC Application will be run correctly only if the SW and FW version is matched(FW V1.320) 2. This detects RWC5020A/B/M automatically [Upgrade] 1. All regional pre-certification test is added for LoRaWAN version 1.0.4 (EU868, EU433, US195, AU195, KR920, AS923, CN470, IN865, RU817, IL917) 2. LoRaWAN version 1.0.2 is added 3. Region IL917 is added 4. Since LoRaWAN 1.0.4 no longer supports Test mode MAC commands, test mode MAC commands are removed from Link Analyzer's MAC commands list 5. Removed the CERTI_ECHO, CERTI_DL_CNT scenarios in Performance test when testing LoRaWAN Version 1.0.4 [Improvement] 1. Added the Network adapter selection function for the gateway non-regression test 2. Exchanged the button to a checkbox for synchronization RX1/RX2 parameter 3. 'Class C' PER test is added in Performance Test Function 4. Added 'FCNT_AVG_N' and RX_'AGC(ON/OFF)' parameters in NST. [Bugs fixed] 1. The 'STEP' and '# POW' parameters of the PER test is matched to the FW POW STEP : 1dB → 0.5 dB # POW:Max. 20 → 100 ea 2. Fixed missed items of UL DR list 3. Limit the CH_MASK value for the Optional DR of the LINK_ADR_REQ MAC command in the link analyzer 4. Some minor bugs are fixed
V1.310	15/Feb/2021	[Caution] 1. This PC Application will be run correctly only if the SW and FW version is matched(FW V1.310) 2. This detects RWC5020A/B/M automatically [Upgrade] 1. Protocol version parameter is separated from LoRaWAN1.0.x to LoRaWAN1.0.3 and LoRaWAN1.0.4 to support different features for the two versions. 2. Upgrade EU Certification to V1.6 3. Upgrade US Certification to V1.5.1 4. Upgrade AS Certification to V1.1.1 5. Upgrade IN Certification to V1.1.1 6. Upgrade KR Certification to V1.2.1 [Improvement] 1. DUT type, Region, LoRaWAN version, Class, Operator, Channel

		plan parameters moved to be used as CREATE NEW DUT parameters. 2. Added a real-time saving link messages function in the Link Analyzer 3. Added JSON packet monitor in the GWT non-regression test [Bugs fixed] 1. Fixed tested frequency information error in the GWT non-regression test 2. Fixed Default Ping frequency, default rx2 frequency 3. Fixed occasional application crash error during the performance test 4. Fixed occasional application freezing during the FUOTA test 5. Fixed error in generation report in GWT non-regression test
V1.308	06/Jan/2020	[Caution] 1. This PC Application will be run correctly only if the SW and FW version is matched(FW V1.308) 2. This detects RWC5020A/B/M automatically [Upgrade] 1. Upgrade EU Certification to V1.6 [Bugs fixed] 1. Fixed failure to open DUT file created with existing name
V1.305	25/Nov/2020	[Caution] 1. This PC Application will be run correctly only if the SW and FW version is matched(FW V1.305) 2. This detects RWC5020A/B/M automatically [Improvement] 1. A Link message box is added in the MFG test function 2. The range of the TIME_OFFSET parameter was extended from +/-10,000us to +/-100,000us. 3. INIT_RX_GAIN parameter is changed to RX_GAIN. This parameter will be synchronized with RWC5020x equipment after connection. 4. RX_GAIN_WARNING_TO parameter is added. . This parameter will be synchronized with RWC5020x equipment after connection. If no packets are received during the timeout, a warning message is displayed on the screen of the tester and the PC application program. [Bugs fixed] 1. Mal-function of UL channel list modification
V1.301	24/August/2020	[Caution] 1. This PC Application will be run correctly only if the SW and FW version is matched(FW V1.300) 2. This detects RWC5020A/B/M automatically [Bugs fixed] 1. Wrong enabling of DEV_EUI, APP_EUI, and JOIN_EUI w.r.t. the test mode is fixed
V1.300	17/August/2020	[Caution] 1. This PC Application will be run correctly only if the SW and FW version is matched(1.300) 2. This detects RWC5020A/B/M automatically

		[Changes a.to LoRaWAN specification] 1. Add AS923_CH_CROUP and AS923_FREQ_OFFSET parameters to accommodate country specific sub-bands. - DR6 and DR7 are allowed for downlink of AS923. 2. Updated IN865 Certification with Ver1.1 - DR7 is allowed for downlink of IN865. 3. CN470 Regional Parameter has been changed and are not backward compatible with previous version. - Add CH_PLAN parameter to support channel plan 20M Type A, 20M Type B, 26M Type A, and 26M Type B - Most default RF frequency values are changed according to the new specification. 4. Add UL_DWELL_TIME parameter for AU915. 5. The version display was integrated into LoRaWAN1.0.x while reflecting the changes of LoRaWAN 1.0.4. [Improvement] 1. Displaying UTC time offset in the test report. 2. Displaying time stamp on message lines while testing. 3. Displaying DEV_EUI in summary table. [New Functions] 1. Added Malfunction test in Link Analyzer 2. For long preamble testing, the maximum value of the preamble size of NST TX has been changed from 13 to 255 3. The RX preamble size has been added to NST RX.
V1.221	28/May/2020	[Caution] 1. This PC Application will be run correctly only if the SW and FW version is matched(1.221) 2. This detects RWC5020A/B/M automatically [Improvement] 1. Supports some of Rsig parameters of JSON V2 for GW Non-regression test Rsig{ ant, chan, rssic, lsnr}
V1.220	15/May/2020	[Caution] 1. This PC Application will be run correctly only if the SW and FW version is matched(1.220) 2. This detects RWC5020A/B/M automatically [Bugs fixed] 1. Incorrect displaying the target channel masking is fixed 2. Incorrect saving the not tested parameters in PER test is fixed 3. Wrong displayed parameters such as regional frequencies, channel mask, and data rate are fixed. [New Functions] 1. DUT type and Region must be selected when a new DUT is created 2. FUOTA TEST function is added

		3. NST SG, NST SA functions are added 4. Remote Controlling DUT and TESTER, and capturing screen functions are moved to functionality menu category. [Improvement] 2. Zooming is added in PER graph 3. Scaling is added in report function window 4. A button [Sync as RX1/RX2] for synchronizing between RX1 and RX2 parameters is added 5. A checkbox for Increasing or decreasing power in 10 dB step in PER parameter window is added 6. Automatic saving the last tested parameter is added in PER and NST(MFG, SG, and SA) test 7. Saving link message with colored text 8. Not tested parameters will not be displayed in summary table.
V1.217	30/Mar/2020	[Caution] 1. PC Application will be run correctly only if the SW and FW version is matched(1.217) 2. This detects RWC5020A and B automatically [Bugs fixed] 1. Fixed some malfunctions of saving and recalling of the script editor 2. Some wrong display of DR in US/AU/IN region for performance test [Improvement] 1. Added the function to control scope and select visible attributes in PER graph 2. Moved the DUT control, the Tester control, the Screen capture functions to the UTILITY menu tab. 3. Added a function to read remote control commands 4. Added NST SG, SA functions in Function tab 5. Changed the name of CERTI_UL to CERTI_DL_CNT 6. Added DL SLOT(RX1/RX2) parameter on link analyzer screen
V1.216	11/Mar/2020	[Caution] 1. PC Application will be run correctly only if the SW and FW version is matched(1.216) 2. This detects RWC5020A and B automatically [Bugs fixed] 1. Fixed missing test parameter in GWT sensitivity test. 2. Fixed incorrect data application after stopping during test.
V1.211	28/Jan/2019	[Caution] 1. PC Application will be run only if the SW and FW version is matched(1.21x) 2. This detects RWC5020A and B automatically [Bugs fixed] 1. Wrong sending the DR of the 2nd and 3rd LINK_ADR_REQ of MAC commander 2. Some wrong synchronized parameters of MAC Commander between app and RWC5020x

V1.21	09/Jan/2019	[Caution] 1. PC Application will be run only if the SW and FW version is matched(1.21x) 2. This detects RWC5020A and B automatically [Bugs fixed] 1. Fixed wrong US, AU's regional parameters of GW such as Downlink DRs, RX2 DR, Beacon/Ping's default frequency and DRs, UL/DL channel list in parameters window. 2. Fixed mal-functioned commanding in SKT CERT and SKT PERF TEST. 3. Fixed crashing problem while loading oversized binary file in FUOTA TEST 4. Fixed the unstable CH_MASK value w.r.t region 5. Fixed missed commands related Class B such as beacon DR, beacon frequency, and ping DR. [Functions] 1. Added INIT RX GAIN parameter. 2. Change the Maximum value of UPDATE_FCNT from 0xFFFF to 0xFFFFFFFF 3. Limited display the DUT control checkbox only in SKT CERT and PERF TEST tab. 4. Hided the target channel mask check boxes in US/AU/CN regions in PERF TEST tab. 5. Removed SKT TX Power test which uses index 7 because of specification is changed
V1.20	16/Sep/2019	[Caution] 1. PC Application will be run only if the SW and FW version is matched(1.20x) 1st Official Firmware Release for RWC5020B This detects RWC5020A and B automatically All protocol parameters are matched with FW V1.20x [Bugs fixed] 1. Added missed MAC commands of GW 2. Fixed mismatched test titles of GW in performance test 3. Fixed a functional error checking items when clicking Test ADR and Test Opt DR. [Functions] 1. The frequency error tolerance test of non-regression test for GWT is available with RWC5020B 2. Add KZ865 regional parameters. 3. Add AS923CH_MODE parameter to select AS923 and (AS920-923, AS923-925) 4. Power index parameter [0 to 10]/[0 to 15] is added in US Cert 9.2 TxPower test. 5. Target Channel Mask parameter in GWT is removed. 6. Multiple MAC command function in GWT mode is added 7. Add an option to skip checking alternative BW125 and BW500 for Join request in US Cert test 2.1 and 2.2
V1.17	17/June/2019	[Caution]

		1. PC Application will be run only if the SW and FW version is matched(1.17x) [Bugs fixed] 1. New Project is clicked, previous project could be deleted-fixed 2. Some CLASS B related mac command fixed 3. Typos in MAC COMMAND parameters are fixed 4. Freezing when clicking [STOP] button is fixed. [Functions] - PERFORMANCE 1. Some parameter of PER & POWER test are changed and added. a. minimum packet number is changed 5 to 1. b. CERTI_DL_CNT scenario is added in PER test. c. Target Channel Mask parameter is added in POWER test. 2. LBT scenario is changed a. User can select test mode channel mode or(and) burst mode. b. Two of three channel mode scenarios are deleted c. Burst mode test is added. 3. NON-REGRESSION Test functions is activated except FREQUENCY ERROR TOLERANCE and INTER MODULATION IMMUNITY. - LINK ANALYZER 4. TestMode related mac commands are not listed when FOPTS checked in PAYLOAD EDITOR 5. User Defined check button added in PAYLOAD EDITOR.
V1.16	16/APR/2019	[Caution] 1. SW V1.16 should be used with FW V1.16x for compatibility. [Bugs fixed] 1. Save and recall function of project is fixed 2. Lots of internal bugs fixed and functions are improved. [Functions] 1. The expression of parameters in TX Power performance test is changed. 2. Added function to modify foption field for customer MAC command. 3. MAC COMMAND Editor is renamed as MAC Payload Editor and MAC Payload user data edition function is added. 4.NON-REGRESSION Test functions for gateway test are added in PERFORMNACE TAB [TBD] 5. LBT test function is moved to PERFORMANCE TAB from UTILITY TAB 6. Manual function is removed.
V1.15	15/DEC/2018	[Caution] 1. SW V1.15 should be used with FW V1.15 for compatibility. [Bugs fixed] 1. fixed losing 17.7 test data in EU pre-certification. [Function] 1. Added Mac scripter in link analyzer function

		2. Added Class B sensitivity test in performance function 3. Added LBT test in performance function.
V1.14	10/OCT/2018	[Caution] 1. SW V1.140a should be used with FW V1.140 for compatibility. [Bugs fixed] 1. Reading Manuals using acrobat reader is fixed. [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.
V1.13	19/JUL/2018	[Caution] 1. SW V1.130a should be used with FW V1.130 for compatibility. [Bugs fixed] 1. Fixed displaying multiple names of the Last project 2. Wrong test name is fixed in AS923 pre-certification 16.5 PER SF8BW125 RX1 ? 16.5 PER SF7BW125 RX1 [Function] 1. 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
V1.12	25/APR/2018	[Caution] 1. SW V1.120a should be used with FW V1.120 for compatibility. [Bugs fixed] 1. Wrong operation with project name which includes dots. 2. Sometimes freezing when US915 region is selected. [Function] 1. Added a standard test solution for manufacturing lines to test TX and RX of devices simultaneously 2. Added MAC commands related with certification test mode; COMFIRMED_TM,UNCONFIRMED_TM,ECHO_REQUEST_TM, TRIGGER_JOIN_REQ_TM, and ENABLE_CW_MODE_TM 3. Added protocol parameters in Link Analyzer compatible to FW such as DR, RxDelay, ADRACKReq and FPending 4. Added estimated and elapsed timer function in CERT test 5. Changed GUI
V1.11	20/MAR/2018	[Caution] 1. SW V1.110a should be used with FW V1.110 for compatibility. [Bugs fixed] 1. Loosing performance test parameters

		2. Incorrect channel mask parameter operation in Link ADR MAC command 3. Wrong operation with DUT name which includes multi dots. [Function] 1. To Remember the last seven opened projects and let user open easily. 2. Added an option whether app opens the last parameters or not when it begins.
V1.10	27/DEC/2017	1. Support of LoRaWAN V1.100 2. Performance Test Parameter display method is changed - show all test parameters at once with respect to all SF.
V 1.06	08/NOV/2017	[Caution] 1. SW V1.06 should be used with FW V1.06 for compatibility. [Functions] 1. Each regional certification test result can be loaded and shown without certification licenses. 2. Match Link Analyzer items with FW V1.06 - Measured power, ADR flag, and Class B flag 3. Add graphic PER curves with respect to the SF and power measurement graphs with respect to the channels and powers in performance function.
V 1.05	13/SEP/2017	[Caution] 1. SW V1.05 should be used with FW V1.05 for compatibility. [Functions] 1. Match regional certification test functions to FW V1.05 - Final version of implementation for EU V1.5, AS V1.0 and KR V1.1 - draft version of implementation for US/CA V1.2 2. Match Performance Test function - Test Scenario: Normal Uplink or CERTI_ECHO - Gateway testing available - TX Power measurement according to TXPower index 3. Improved a function of MAC command editor - Support for multiple MAC commands in a single frame - Added commands: DL_CHANNEL, ACTIVATE_TM, DEACTIVATE_TM
V 1.04	01/AUG/2017	[Caution] 1. SW V1.04 should be used with FW V1.04 for compatibility. [Functions] 2. Modified Remote control commands related to the MAC commands according to the FW V1.04 3. Improved Performance Test function according to the FW V1.04 - added 12 PER measurement functions w.r.t. RX window and DR - added displaying summary table 4. Improved link analyzer - added MAC Command transmission function. 5. Improved DUT control function - added sending multiple commands - added DUT control monitor window [Debug] 1. Fixed bugs in implementation of LoRaWAN Certification V1.2

		according to the FW V1.04 2. Improved RWC5020A control function. - added template function for easier use.
V 1.015	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.
V 1.014	07/JUN/2017	1. Complete 'EU Certification' test with DUT controlling
V 1.013	03/JUN/2017	1. ADD DUT control Load a user control command file./Send cmd and receive rsp
V 1.012	31/MAY/2017	1[t] Added EU some Certification auto test without DUT control