R&S®WinIQSIM2
Simulation Software
Release Notes
Firmware Version 4.70.191.25

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The firmware of the instrument makes use of several valuable open source software packages.
The following abbreviations are used throughout this document: R&S® WinIQSIM2 is abbreviated as R&S WinIQSIM2

Test and Measurement
Release Notes
PAD-T-M: 3574.3288.02/02.00/CI/1/EN/

ROHDE&SCHWARZ

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1 Information on the Current Version and History

1.1 Version 4.70.191.25

Released: August 2020

New Functionality / Changed Behavior

Topic
Support for SMCV 100B
Support for SMM 100A
802.11: Data tab displays frame active duration and duty cycle (active_time / total_time)
802.11ax: added support for 4xLTF + GI 0.8us
802.11ax: Added support for proprietary 4096 QAM modulation
802.11be: Add preliminary EHT-320 mode based on 11ax.
Bluetooth: Added AOD antenna gain feature.
Custom Digital Modulation: Increase maximum available oversampling value to 128 for FSK modulation with Gauss filters.
New option SMx K297 IRNSS/NavIC
WinIQSIM2 supports Galileo E6 signal with pseudo-random data
WinIQSIM2 supports Modernized Beidou Option K432 (B1C, B2a, B3I)
5GNR: General: Additional power modes.
5GNR: General: Allow phase compensation frequencies beyond the frequencies of available signal generators.
5GNR: General: Avoid non-functional (extreme) settings for constant PSD power mode by means of GUI restriction.
5GNR: General: Calculation speed improvement.
5GNR: General: Configurable initialization value of PN sequences.
5GNR: General: Configured PDSCH, PUSCH, CORESET allocations can be copied to another slot.
5GNR: General: Configured PUCCH, PRACH allocations can be copied to another slot.
5GNR: General: Filter mode "fast".
5GNR: General: GUI cleanup regarding DMRS antenna port configuration.
5GNR: General: Marker mode "TDD UL/DL".
5GNR: General: More information is shown in the info sections, especially for PDSCH/PUSCH channel coding.
5GNR: General: Not switching automatically to "Minimum" sample rate mode anymore when using carrier aggregation (performance improvement).
5GNR: General: Overlapping allocations are indicated in the scheduling table.
5GNR: General: Performance improvement for signal generation (faster signal calculation).
5GNR: General: Possibility to configure an offset to the system frame number, with impact to e.g. hopping patterns.
5GNR: General: Possibility to restart data and control payload in each allocation.
5GNR: General: Possibility to zoom into time plan.

5GNR: General: Power mode "Burst".
5GNR: General: Quick Settings feature for fast and convenient setup of the 5G NR signal configuration.
5GNR: General: Relative powers for carrier aggregation.
5GNR: General: Resource allocation type 0 also for PUSCH and for manually configured PDSCH (i.e. without DCI).
5GNR: General: Several improvements for the time plan.
5GNR: General: Showing slot borders in the time plan.
5GNR: General: Simplified configuration of PDSCH/PUSCH type A / B RRC parameters (backwards compatible for SCPI and setup file recall).
5GNR: General: Support for extended cyclic prefix.
5GNR: General: Support for user defined filters.
5GNR: General: Test model selection can be filtered for easier access.
5GNR: General: The allocation used as reference for power mode "Burst" is indicated in the scheduling table.
5GNR: General: The BWP size is set to maximum now also on deployment and SCS change.
5GNR: General: Update to 3GPP specifications 38.211 V15.8.0, 38.212 V15.8.0, 38.213 V15.8.0, 38.214 V15.8.0.
5GNR: General: Usability functionality which eases the configuration for carrier aggregation.
5GNR: General: When changing the content type (channel type) of an allocation, the remaining allocation parameters are now set to default.
5GNR: Downlink: Add SSPBCH starting half frame index field
5GNR: Downlink: CBG based transmission.
5GNR: Downlink: Define the CORESET RBs by means of a frequency domain bitmap.
5GNR: Downlink: Enable different DMRS position for LTE-CRS Coexistence cases as default (Two fringe cases of LTECRS).
5GNR: Downlink: More flexibility for configuring time domain resource assignment and bandwidth part indicator in DCI 0_1.
5GNR: Downlink: More flexibility for mapping the SSPBCH antenna port to output.
5GNR: Downlink: PDSCH mapping for LTE CRS coexistence.
5GNR: Downlink: Support CSIRS smaller than BWP.
5GNR: Downlink: Support for additional common search space types.
5GNR: Downlink: Support for cross-carrier scheduling.
5GNR: Downlink: Support for DCI format 2_0, 2_1, 2_2.
5GNR: Downlink: Support for DCI format 2_3.
5GNR: Downlink: Support for dynamic HARQ-ACK codebook mode selection and DAI bits in DCI.
5GNR: Downlink: Support for further RNTI types.
5GNR: Downlink: Support for PDSCH PRB bundling.
5GNR: Downlink: Support for PDSCH rate matching patterns.
5GNR: Downlink: Support for quasi co-location TCI field in DCI1_1.
5GNR: Downlink: Support for selection of active UL BWP for CORESETs (needed for DCI).
5GNR: Downlink: Support for SFI-RNTI, INT-RNTI, TPC-PUSCH-RNTI, TPC-PUCCH-RNTI, TPC-SRS-RNTI.
5GNR: Downlink: Support of PDSCH resource allocation type 0.
5GNR: Uplink: Power mode "Burst" now also supports PRACH.
5GNR: Uplink: PTRS for PUSCH (with transform precoding).
5GNR: Uplink: PUSCH frequency hopping.
5GNR: Uplink: Repetitions now also for PRACH.

5GNR: Uplink: Support for group and sequence hopping.
5GNR: Uplink: Support for special MCS values 29 to 31.
5GNR: Uplink: Support for SRS frequency hopping.
5GNR: Uplink: Support larger payload for UCI.
5GNR: Uplink: Update of FRC assistance function to version 15.5.0 of 38.141-1 and 38.141-2. Support for FRCs which have been removed by 3GPP after early versions of 38.141-1/-2 is discontinued.
EUTRA/LTE: General: All supported features are in line with 3GPP release 15, i.e. the following official 3GPP specifications are implemented: TS36.211 v. 15.6.0, TS36.212 v. 15.6.0, TS36.213 v. 15.6.0.
EUTRA/LTE: General: First version to support features according to options SMx-K446 (Cellular IoT R15).
EUTRA/LTE: Downlink: NB-IoT wakeup signals (NWUS).
EUTRA/LTE: Downlink: Support for 1024QAM.
EUTRA/LTE: Downlink: TDD for NB-IoT downlink.
EUTRA/LTE: Uplink: Cell ID can be overridden also for eMTC/NB-IoT UEs.
EUTRA/LTE: Uplink: NPRACH for FDD - release 15 extensions.
EUTRA/LTE: Uplink: Support for NB-IoT early data transmission.
EUTRA/LTE: Uplink: Support for V2X RMCs of 3GPP TS 36.521.
EUTRA/LTE: Uplink: Support NB-IoT scheduling request by means of release 15 NPUSCH format 2.
EUTRA/LTE: Uplink: Support of NB-IoT TDD for uplink.
OFDM signal generation: Exported xml settings are less redundant.
OFDM signal generation: Generating signals with a bandwidth slightly higher than connected instruments' specified bandwidth is possible for special applications. If this is done, a warning is indicated.
OFDM signal generation: XML export functionality is now accessible via the user interface.

Fixed Issues

Topic	Ref. No.
802.11: added new IFFT Upsampling mode for improved EVM with lower bandwidths.	587631
802.11: Incorrect marker duration for pulse/pattern/on-off ratio markers in 20MHz bandwidth with enabled IFFT upsampling	697095
802.11: Inverted transmission order of HT Control/VHT Control field of MAC header	686282
802.11ac: Encoding of long VHT frames incorrect.	704066
802.11ad: Sequence length cannot be set to more than one frame.	695167
802.11ax: Incorrect channel coding for MCS0 and MCS4 with STBC when DCM is active	654510
802.11ax: incorrect channel encoding with MCS = 4 and STBC on	654713
802.11ax: Incorrect tone rotation for second segment in HE80+80 mode with both segments active at the same time.	606751
802.11ax: post-FEC padding bits can cause high signal peaks in some specific configurations	619872
802.11b: Improved chip clock error in 20MHz bandwidth.	718149
802.11n: incorrect channel encoding for MCS > 9 in MIMO modes.	704059
802.11n: Incorrect LDPC encoding with some specific data lengths.	716913
ARB Multicarrier: Incorrect error message concerning exceeded clock rate	653120
Bluetooth LE 1M: CP flag not set and CTEInfo byte missing despite being activated	702243
Bluetooth: automatically adjust sequence length according to configured parameter	684304

sets with active dirty transmitter test	
Bluetooth: Changed max limit of Advertising Packet Interval to 28ms	**719815**
Bluetooth: inverted transmission order for patterns of BT Low Energy test packets	**613652**
No response, when minimized.	**662729**
SCPI Recording for instrument selection in Vector Sig Gen Block	**647687**
802.11: Setting the scrambler to On (Random Init) initialized the scrambler with the same value and not random values	**734027**
3GPP FDD: Sporadic crash in case of R99 channel coding with user settings (i.e. not predefined RMCs).	657747
5GNR: General: After restarting the software, not all 5GNR parameters are restored reliably.	650625
5GNR: General: Bad ACLR when clipping mode is active.	576437
5GNR: General: BWP size is not always correctly adapted after channel BW change.	644197
5GNR: General: Cell Mapped button has no effect.	673302
5GNR: General: Configuration issue for data list files in case of more than one user.	648678
5GNR: General: Configuration issue in case of more than one "custom" DCI.	723273
5GNR: General: Configuration resolution of phase compensation frequency is not sufficient.	629202
5GNR: General: Error message on signal calculation abort by user.	612072
5GNR: General: Error messages when using carrier aggregation and specific carrier spacings.	663774
5GNR: General: Error while setting mapping mode for PDSCH/PUSCH antenna port mapping over SCPI.	715252
5GNR: General: EVM degradation for specific carrier aggregation settings.	648464
5GNR: General: Fast filter does not work for all channel bandwidths.	686569
5GNR: General: For a certain sequence of configuration, an allocation's antenna port table can end up in a faulty state.	634293
5GNR: General: For some data source parameters, the signal is not reliably recalculated on value change.	662475
5GNR: General: The playback rate is unnecessarily restricted.	606645
5GNR: General: GUI reacts slowly in cases with several configured allocations.	624670
5GNR: General: If allocations are configured with state OFF, various read-only information shown for this and subsequent allocations can be corrupt.	602107
5GNR: General: In case of PUSCH transmission in mode "Codebook" the precoding matrix is not correctly applied to DMRS and data REs. Also some cleanup is needed in the UE for the antenna port configuration in this case.	666492
5GNR: General: In some cases, the PDSCH/PUSCH mapping type B cannot be configured although it should be configurable.	653819
5GNR: General: Issue for marker configuration rise & fall offsets.	697037
5GNR: General: Issue for PTRS in case of Auto-DCI.	649925
5GNR: General: Issue for TBS calculation in case of activated PTRS or number of CDM groups other than 2.	596905
5GNR: General: Issue in case of certain PTRS settings.	661368
5GNR: General: Issue in case of more than eight component carriers.	647150
5GNR: General: Issue in case of PTRS and PDSCH/PUSCH for several antenna ports.	684963
5GNR: General: Phase compensation state is not recalled from saved settings reliably.	601765
5GNR: General: Possible crash after recalling settings from file.	718366
5GNR: General: PTRS issue for BWPs with RB offset.	642657
5GNR: General: SCPI issue for PDSCH/PUSCH antenna port selection.	634842
5GNR: General: SCPI issues for PTRS configuration.	629055
5GNR: General: Signal calculation error for very small BWPs.	693600

5GNR: General: UI configuration and range issue around carrier aggregation delta f parameter.	686932
5GNR: General: When using the "copy to" usability functionality, sometimes error messages are shown.	710607
5GNR: General: When working with RBGs, some GUI parameters could not be updated when changing others.	645250
5GNR: Downlink: Automatic creation of PDSCH by DCI does not work in case of more than one BWP.	602915
5GNR: Downlink: Coreset Aggregation Level issue when increasing Number of Allocations.	696277
5GNR: Downlink: Coreset issue in case of TDD if "quick settings" is used.	659697
5GNR: Downlink: CSI-RS issue for RB offset != 0.	612362
5GNR: Downlink: CS-RNTI DCI could use the wrong RNTI value.	714617
5GNR: Downlink: DCI bit pattern is not reliably updated if other parameters change.	614630
5GNR: Downlink: DCI issue for time domain allocation list.	647978
5GNR: Downlink: DCI issue for VRB-to-PRB mapping in case of "dynamic switch".	720336
5GNR: Downlink: dmrs-AdditionalPosition is not calculated reliably in case of Auto-DCI.	657786
5GNR: Downlink: Error message can show up when configuring cross-carrier scheduling.	716834
5GNR: Downlink: In case of Auto/DCI, allocations cannot be removed from a slot.	603465
5GNR: Downlink: In some cases, a DMRS additional position index different than configured is used in the signal generation.	621896
5GNR: Downlink: Issue for automatically created PDSCH in case of used time domain allocation list.	647369
5GNR: Downlink: Issue for CSI-RS in case of certain relative powers.	610327
5GNR: Downlink: Issue for HPN field in DCI 1_1.	625472
5GNR: Downlink: Issue for querying some of the DCI parameters by SCPI.	679709
5GNR: Downlink: Issue for some short DCI.	687824
5GNR: Downlink: Issue for time domain allocation list for certain values of K0.	639532
5GNR: Downlink: Issue for time domain resource allocation list in case of SI-RNTI.	642174
5GNR: Downlink: Issue for VRB-to-PRB mapping in specific cases.	650337
5GNR: Downlink: Issue in case of DMRS add. pos. index in case of DCI 1_1 scheduled PDSCH.	633863
5GNR: Downlink: Issue in case of more than one CSIRS resource.	622556
5GNR: Downlink: Issue when recalling DCI parameters from old files.	696146
5GNR: Downlink: Issue when scheduling PDSCH by means of DCI into other slots than the one the DCI is sent in (cross slot scheduling).	589499
5GNR: Downlink: Issue when using time domain allocation list in combination with PDSCH mapping type B.	639541
5GNR: Downlink: Issues for "restrict to search space".	592016
5GNR: Downlink: Issues for time domain allocation list.	605792
5GNR: Downlink: Issues for time domain allocation list.	614104
5GNR: Downlink: MCS index range issue in case of MCS table 2.	590286
5GNR: Downlink: MIB configuration issue in case of more than one cell.	647938
5GNR: Downlink: Minor issue for the time domain allocation list.	625094
5GNR: Downlink: Missing SSPBCH antenna port mapping data of SCells after recall.	724933
5GNR: Downlink: Number of bits for time domain resource assignment in DCI 1_1 can be wrong.	632574
5GNR: Downlink: PDSCH TxScheme configuration is not visible for certain settings.	660373
5GNR: Downlink: Possible error while setting carrier deployment	728692
5GNR: Downlink: Rate matching around LTE-CRS (LTE / 5GNR coexistence): Issue in case of some LTE channel bandwidths.	624999

5GNR: Downlink: Scrambling and channel coding is incorrect in NR_TMs 1_2, 3_2, 3_3.	626915
5GNR: Downlink: Scrambling issue for PDSCH in case of AutoDci and specific RNTI types.	668913
5GNR: Downlink: Software instability when configuring the number of SSPBCH patterns.	617333
5GNR: Downlink: TBS is not correctly displayed in case of two code words.	613595
5GNR: Downlink: The time domain allocation list's symbol offset cannot be configured properly in case of more than one user.	620042
5GNR: Downlink: Unwanted preset of the position pattern when increasing the number of SSPBCHs.	706827
5GNR: Downlink: VRB-to-PRB DCI bit is present in non-interleaved mode.	649839
5GNR: Downlink: Wrong transport block size in case of PDSCH overlap with SSPBCH or in case of activated rate matching around LTE-CRS.	625074
5GNR: Uplink: Channel coding issue for specific PUSCH UCI cases.	695120
5GNR: Uplink: Configurable range of SRS resource sets is wrong.	628825
5GNR: Uplink: Configuration issue for PTRS Auto mode in case of more than one BWP and transform precoding.	716696
5GNR: Uplink: Configuration issue for SRS number of antenna ports in case of several SRS resources.	678007
5GNR: Uplink: Configuration issue of PRACH custom repetition.	646112
5GNR: Uplink: Cyclic Shift Issue for PRACH Restricted Type B in very limited configurations.	663971
5GNR: Uplink: Data send between dmrs in uci-only mode and configured uci.	709390
5GNR: Uplink: Displayed number of symbols for SRS are confusing.	599968
5GNR: Uplink: Error in calculating ARB file for some PT-RS settings.	712716
5GNR: Uplink: Error in signal generation if the value NRB0 for PTRS with Transform Precoding is higher than PUSCH RB	728146
5GNR: Uplink: Fix for PUSCH UCI in case of mapping type B.	635768
5GNR: Uplink: For four PUSCH Mapping type B configurations the number of DMRS symbols is not correct.	691066
5GNR: Uplink: For specific PRACH cases and filter mode "per BWP" the signal calculation fails.	628999
5GNR: Uplink: In case of activated FRC, not all depending settings are updated reliably.	625464
5GNR: Uplink: In case of enabled transform precoding with PTRS, the DMRS ID is used for PTRS instead of N_ID^PUSCH.	716205
5GNR: Uplink: Incorrect maximum for PUSCH DMRS length for config type 2.	672758
5GNR: Uplink: Invalid number of RBs could be configured for PUCCH format 3.	523022
5GNR: Uplink: Issue for AP selection of PUSCH in case of "codebook".	658616
5GNR: Uplink: Issue for certain PTRS configurations.	651219
5GNR: Uplink: Issue for certain PTRS configurations.	662858
5GNR: Uplink: Issue for FRC with mapping type B in some beta versions.	684758
5GNR: Uplink: Issue for PRACH in case of filter mode "Channel BW".	645165
5GNR: Uplink: Issue for precoding of PTRS in codebook mode without transform precoding.	666807
5GNR: Uplink: Issue for PUCCH n_D and scramblingID0 calculation in some cases. Previously always defaulting to Cell-Id now aligned with specification (dmrs-UplinkForPUSCH-MappingTypeB/scramblingID0, dataScramlbingIdentityPUSCH)	642447
5GNR: Uplink: Issue for PUSCH in case of transform precoding and BPSK.	691889
5GNR: Uplink: Issue for specific PRACH cases.	680813
5GNR: Uplink: Issue for uci on pusch in case of small block lengths and pusch rb offset != 0.	699486
5GNR: Uplink: Issue of power mode "constant PSD" in case of PRACH.	632567

5GNR: Uplink: Issue with specific PUSCH UCI configurations in case of PTRS.	667385
5GNR: Uplink: Issue with specific PUSCH UCI configurations in case of PTRS.	683455
5GNR: Uplink: Minor issue of PTRS in case of PUSCH transform precoding.	673529
5GNR: Uplink: PUCCH generation fails with an error message for specific scheduling configurations.	634177
5GNR: Uplink: PUSCH TPMI is not selectable in all cases.	685145
5GNR: Uplink: Save/Recall of the filter mode in uplink is not reliable.	630693
5GNR: Uplink: SCPI issue for PRACH power reference mode "burst".	702754
5GNR: Uplink: SCPI issue for PUSCH frequency hopping configuration.	734019
5GNR: Uplink: Signal generation issue in case of PTRS for transform precoding in mode "Auto".	719358
5GNR: Uplink: SRS can be erroneously configured outside the BWP.	667791
5GNR: Uplink: SRS hopping can be configured although not supported or functional yet.	602556
5GNR: Uplink: Switching off the state of a PRACH allocation does not work.	618653
5GNR: Uplink: UCI is locked for FRC although needed for some tests.	611091
5GNR: Uplink: UCI on PUSCH broken for a resource block offset != 0.	688130
5GNR: Uplink: UCI on PUSCH: Incorrect number of coded CSI1 and CSI2 bits for < 2 HARQ-ACK bits calculated.	717724
5GNR: Uplink: UCI on Pusch: Special cases for intra slot hopping not handled.	707068
5GNR: Uplink: With activated FRC usability functionality not all settings are recalled correctly from setup files.	678333
EUTRA/LTE: General: After NB-IoT channel bandwidth change, the signal might not be updated immediately.	628614
EUTRA/LTE: General: For NB-IoT, RB frequency positions are not reliably updated if other parameters are changed in the UI.	647713
EUTRA/LTE: Downlink: DCI issue for NB-IoT.	604942
EUTRA/LTE: Downlink: NB-IoT carrier RB index is not reliably updated after channel BW change.	635586
EUTRA/LTE: Uplink: Configured NPRACH resource block index is sometimes not used correctly for signal generation.	642721
EUTRA/LTE: Uplink: Depending on the order of configuration, the NB-IoT NPUSCH frequency position can be wrong after changing the channel bandwidth.	630090
EUTRA/LTE: Uplink: For some configurations the NB-IoT NPRACH is incorrect.	652958
EUTRA/LTE: Uplink: If PRACH and PUSCH users (or NPRACH and NPUSCH users) are mixed, the relative leveling can be wrong.	633630
EUTRA/LTE: Uplink: Issue for V2X MIB coding in PSBCH.	642810
EUTRA/LTE: Uplink: NPRACH delta f is not working correctly for some UEs.	642748
EUTRA/LTE: Uplink: Possible crash for certain PUSCH frequency hopping settings.	732896
EUTRA/LTE: Uplink: Save/recall issue if working with several component carriers in uplink.	709428
EUTRA/LTE: Uplink: SCPI issue for NPRACH start time.	645175
OneWeb User-Defined Signal Generation: General: State of notched signals cannot be changed by remote control command.	699453
OneWeb User-Defined Signal Generation: Uplink: Issue for 8PSK modulation.	643779
OneWeb User-Defined Signal Generation: Uplink: Issue for PUSCH delta sequence shift.	643683
OneWeb User-Defined Signal Generation: Uplink: Issue for PUSCH interleaver in case of 8PSK.	669925
OneWeb User-Defined Signal Generation: Uplink: Issue when recalling settings (subframe configurations missing).	711971
OneWeb User-Defined Signal Generation: Uplink: Issues for CQI on PUSCH.	715315
OneWeb User-Defined Signal Generation: Uplink: Issues on 8PSK PUSCH with CQI signal.	701614

1.2 Version 4.60.162.45 x64

Released: September 2019

New Functionality / Changed Behavior

Topic
64 Bit software
K431 LoRa
K443 Cellular IoT Enhancements
K298 Modernized GPS. New signals GPS L2C and GPS L5, GALILEO E5a and E5b
Support for CMW100
Support for options SMW-K525 and SMW-K527
Support for SMBV100B
Bluetooth: added support for Bluetooth Core Specification Madrid (BT Version 5.1).
Bluetooth: enable all advertising packet types for dirty transmitter test
GNSS GUI renewed
GNSS: restricted backward compatibility.GNSS is a summary entry point for all satellite configurations.Galileo BOC(1,1) is no longer supported..datasource, spreading, code phase and doppler settings are moved to satellite configuration.
IEEE 802.11: Option to disable built-in additional lowpass filter.
5GNR: General: "Exemplary" test models now use phase precompensation.
5GNR: General: Allowing very narrow BWPs (1 RB).
5GNR: General: By default, now a BWP is set to the maximum allowed size after a change of the channel bandwidth.
5GNR: General: CDM Groups w/o data for PDSCH and PUSCH.
5GNR: General: Display BWP overview in the time plan dialog.
5GNR: General: Displaying the BWP offset also relative to PointA, not only to the first usable RB of a TxBW.
5GNR: General: DMRS power is configurable in PDSCH/PUSCH settings.
5GNR: General: Dummy REs are now switched off by default.
5GNR: General: Filter mode replaces filter per BWP switch.
5GNR: General: If an SMBV100A is connected to WinIQSIM2, 5GNR uses a higher oversampling rate, in order to achieve a higher signal quality on this playback device.
5GNR: General: Increased maximum number of independently configurable subframes.
5GNR: General: More flexibility for repeating allocations.
5GNR: General: Moved PDSCH-DMRS / PUSCH-DMRS Settings from PDSCH / PUSCH Settings to BWP Config Settings dialogs. (SCPI commands have been changed).
5GNR: General: Multiple layers/antenna ports are configurable for PDSCH/PUSCH.
5GNR: General: Multiple PDSCH/PUSCH antenna ports can be mapped to a baseband output.
5GNR: General: New sample rate mode "minimum".
5GNR: General: Optionally suppress subcarrier on output center.
5GNR: General: Possibility to override DMRS scrambling ID for PDSCH and PUSCH.

5GNR: General: Removed the current implementation of the slot format feature as it does not have any impact on the signal. You can set up any slot format by using Sym. Offset and No. Sym. of the allocations. An auto-setup for specific TDD configurations is planned for the future.
5GNR: General: Showing additional information for allocations.
5GNR: General: Some PDSCH/PUSCH RRC parameters have been moved from the allocations to a more central place. Note that this causes a SCPI/Recall incompatibility for these parameters compared to previous versions.
5GNR: General: Support for carrier aggregation.
5GNR: General: Support for crest factor reduction by means of clipping.
5GNR: General: Support for more allocations per user, BWP and subframe.
5GNR: General: Support for time-domain-windowing (WOLA)
5GNR: General: The RF upconverter phase rotation can optionally be included in the baseband signal calculation.
5GNR: General: Update to 3GPP specifications 38.211 V15.4.0, 38.212 V15.4.0, 38.213 V15.4.0, 38.214 V15.4.0.
5GNR: Downlink: A carrier can be marked for usage as SUL (impacts DCI contents).
5GNR: Downlink: Additional RRC parameters which are needed for DCI1_1 PDSCHs.
5GNR: Downlink: CSI-RS.
5GNR: Downlink: LDPC channel coding for PDSCH.
5GNR: Downlink: MIB content in PBCH.
5GNR: Downlink: NR-TM according to 38.141-1 V15.2.0 and 38.141-2 V15.2.0.
5GNR: Downlink: Optionally configure SSPBCH frequency domain position relatively to point A.
5GNR: Downlink: Optionally restrict CCE indices according to search space.
5GNR: Downlink: PDSCH auto generation from DCIs.
5GNR: Downlink: Possibility to override PDCCH and PDSCH scrambling reference point in order to behave as if sent in initial BWP / Coreset 0.
5GNR: Downlink: SFN offset for SSPBCH.
5GNR: Downlink: SSPBCH can be switched off.
5GNR: Downlink: Support for downlink and uplink DCI content inside CORESET.
5GNR: Downlink: Support for PDSCH PTRS.
5GNR: Downlink: Support for PDSCH time domain scheduling by means of PDSCH Time Domain Allocation List.
5GNR: Downlink: Support for VRB different from PRB.
5GNR: Downlink: Support of both PDCCH precoder granularity modes.
5GNR: Downlink: Support of PDSCH-to-HARQ feedback timing indicator in DCI 1_1.
5GNR: Downlink: Support of SI-RNTI.
5GNR: Downlink: Support of special behavior for Coreset 0.
5GNR: Downlink: Support SSPBCH L=8 for unpaired spectrum below 3 GHz.
5GNR: Downlink: Two codewords can be configured for PDSCH.
5GNR: Downlink: UI cleanup for CORESET settings.
5GNR: Downlink: Unused coreset CCEs can be used for PDSCH.
5GNR: Uplink: LDPC channel coding for PUSCH.
5GNR: Uplink: New parameter for number of SRS antenna ports (needed for PUSCH generation even if SRS itself is not used).
5GNR: Uplink: Preconfiguration feature for FRCs of TS38.141.
5GNR: Uplink: PTRS for PUSCH (without transform precoding).
5GNR: Uplink: Support for periodic SRS.

5GNR: Uplink: Support for PRACH channel.
5GNR: Uplink: Support for PUCCH.
5GNR: Uplink: Support for PUSCH UCI.
5GNR: Uplink: Support for SRS codebook.
5GNR: Uplink: Support of PRACH timing offset for 3GPP TS 38.141 tests.
5GNR: Uplink: Support overlapping SRS and PUSCH allocations.
5GNR: Uplink: Updated DMRS for transform precoding to recent 3GPP specification.
EUTRA/LTE: General: All supported features are in line with 3GPP release 14, i.e. the following official 3GPP specifications are implemented: TS36.211 v. 14.7.0, TS36.212 v. 14.6.0, TS36.213 v. 14.7.0.
EUTRA/LTE: General: First version to support options K143/K443 (Cellular IoT Enhancements).
EUTRA/LTE: Downlink: Alternative table for DMRS (Rel. 13) and semi open loop (Rel. 14)
EUTRA/LTE: Downlink: ARB sequence length wrap-around for eMTC/NB-IoT PDSCH generated by PDCCH cross-subframe scheduling.
EUTRA/LTE: Downlink: Changed BCCH-NPDSCH scrambling according to recent NB-IoT specifications. The previous scrambling is still supported in a legacy mode.
EUTRA/LTE: Downlink: DCI support for NB-IoT with two HARQ processes.
EUTRA/LTE: Downlink: 'LTE Cell' is added to switch the LTE carriers on and off, in NB-IoT Inband Mode.
EUTRA/LTE: Downlink: Manual Scheduling is supported for NPDSCH in NB-IoT DL.
EUTRA/LTE: Downlink: Narrowband Positioning Reference Signal (NPRS) is supported.
EUTRA/LTE: Downlink: New UE categories according to recent versions of the specification (UE categories 15 to 20).
EUTRA/LTE: Downlink: NPBCH scrambling symbol rotation supported according to recent 3GPP specifications.
EUTRA/LTE: Downlink: PDSCH-SIB1-BR channel is supported for eMTC Downlink.
EUTRA/LTE: Downlink: Support of Gap configuration for NB-IoT (DL-GapConfig-NB-r13 in TS 36.331).
EUTRA/LTE: Downlink: The maximum number of DCI allocations for eMTC is increased to 400
EUTRA/LTE: Downlink: Time Plan is added for PDSCH-SIB1-BR in eMTC DL.
EUTRA/LTE: Downlink: Transport Block Size Indexes are increased from 10 to 13 for Standalone and Guardband modes for NB-IoT.
EUTRA/LTE: Downlink: UE Categories M2 and NB2 are added for eMTC and NB-IoT Respectively.
EUTRA/LTE: Downlink: Usability improvement for auto sequence mode "vary UL Tx Power and RBA"
EUTRA/LTE: Downlink: Widebands support for eMTC with 5MHz and 20MHz. DCI support for eMTC Resource Block Assignment Flag.
EUTRA/LTE: Uplink: Enhanced DMRS for PUSCH
EUTRA/LTE: Uplink: NPUSCH Repetitions 2,16,64 are supported for FRCs in NB-IoT Uplink.
EUTRA/LTE: Uplink: Possibility to override the cell ID for individual users.
EUTRA/LTE: Uplink: PUSCH Repetitions 12, 24 and PUCCH Repetitions 64,128 are supported for eMTC.
EUTRA/LTE: Uplink: Repetitions 4,8,32 are supported for PUCCH Format2 in eMTC CEMode B.
EUTRA/LTE: Uplink: Retuning symbols 0,1 and 2 are supported for eMTC.
EUTRA/LTE: Uplink: Sidelink/D2D.
EUTRA/LTE: Uplink: SRS enhancements for Rel. 13
EUTRA/LTE: Uplink: SRS is supported for eMTC Uplink.
EUTRA/LTE: Uplink: SRS transmission in UpPTS for special subframe configuration 10 (fallback to special subframe configuration 5).
EUTRA/LTE: Uplink: Support for FRCs 18 and 19 of 3GPP TS 36.141.

EUTRA/LTE: Uplink: Support of PRACH Restricted Set B.
EUTRA/LTE: Uplink: V2X support.
EUTRA/LTE: Uplink: Widebands of 5MHz and 20MHz are supported for eMTC.

Fixed Issues

Topic	Ref. No.
802.11ax: Filter parameters cannot be changed when using HE-20 frames in 20MHz transmission bandwidth.	583128
IEEE 802.11: Filter oversampling values are fixed and cannot be changed.	586477
IEEE 802.11: Sample rate not indicated correctly for 20MHz bandwith and oversampling ratios other than 2	586476
IEEE 802.11: Used filter oversampling and impulse length values are not displayed correctly in auto mode.	586478
5GNR: General: AWGN did not work in combination with 5GNR.	590452
5GNR: General: Displayed playback rate is not always correct.	446997
5GNR: General: Filtering "per BWP" can cause an unnecessarily high sample rate.	501799
5GNR: General: Issue for channel bandwidth SCPI command.	510987
5GNR: General: Issue for multi numerology scenarios.	451083
5GNR: General: Issue for recalling setup files by SCPI.	586025
5GNR: General: Issue in polar channel coding. For certain parameters of polar coding, the coding can be wrong.	554545
5GNR: General: Issue when using long ARB sequences.	467956
5GNR: General: Issues with overlapping allocations and different numerologies.	442044
5GNR: General: k0u value is sometimes not updated properly on PointA reconfiguration.	470614
5GNR: General: On Save/Recall the software could have crashed.	553370
5GNR: General: PDSCH/PUSCH bit mapping issue.	462615
5GNR: General: PDSCH/PUSCH-DMRS is not set correctly for cases, where AddPosIdx != 0 and MappingTypeA is selected.	508847
5GNR: General: Possible crash when loading Save/Recall file.	550832
5GNR: General: Saving setup files from older software versions sometimes does not work. Note that although saving settings is fixed with this software, recalling files from earlier versions still can cause error messages as the files itself are corrupted.	474969
5GNR: General: SCPI bug for PDSCH/PUSCH DMRS config type.	455112
5GNR: General: Sporadic save/recall issues.	546084
5GNR: General: Stability issue when increasing the number of users.	525301
5GNR: General: Test model name is shown even after changing parameters.	445219
5GNR: General: The maximum configurable playback rate is incorrect in some cases.	450130
5GNR: General: UI inconvenience issue when configuring PDSCH / PUSCH allocations.	456883
5GNR: Downlink: Content type inconsistency when increasing the number of allocations.	476470
5GNR: Downlink: Coreset scrambling ID is shown as 0 even if Cell ID is used (only in GUI, signal uses Cell ID)	504701
5GNR: Downlink: Issue for PBCH DMRS in case of BPCH relative power different from 0 dB.	550510
5GNR: Downlink: Issue for PDCCH DMRS in case of interleaved CCE-to-REG mapping.	453393

5GNR: Downlink: Issue for PDCCH DMRS in case of symbol offset different from 0.	592219
5GNR: Downlink: Issue for SSB scrambling for index > 7.	516374
5GNR: Downlink: PBCH payload size is wrong.	451005
5GNR: Downlink: Signal quality issue in case of SSPBCH with different subcarrier spacing than surrounding channels.	485157
5GNR: Downlink: Some SSPBCH periodicities missing.	501942
5GNR: Downlink: Sometimes the SSPBCH is removed from the configuration unnecessarily if other parameters are changed.	512885
5GNR: Downlink: Wrong range of CORESET DMRS scrambling ID.	497956
5GNR: Uplink: Calculation aborts with error in case of transform precoding and more than one configured allocation per subframe.	501223
5GNR: Uplink: Incorrect DMRS power boosting for PUSCH transform precoding.	472637
5GNR: Uplink: Issue for BPSK.	462301
5GNR: Uplink: Issue for PUSCH RB number, if transform precoding is enabled.	455965
5GNR: Uplink: Issue with exemplary test model for transmit precoding.	466469
EUTRA/LTE: General: An error can show up when recalling specific eMTC/Cat-M settings from file.	569977
EUTRA/LTE: General: Incorrect waveform when time domain windowing with certain types of baseband filters are enabled.	426381
EUTRA/LTE: General: Option K112/K412 is additionally needed erroneously for K119 feature special subframe configuration 10.	578154
EUTRA/LTE: Downlink: After NB-IoT channel bandwidth change, the signal could be corrupt.	589200
EUTRA/LTE: Downlink: eMTC PBCH is not correctly drawn in the time plan (not a signal issue).	425872
EUTRA/LTE: Downlink: EPDCCH issue in special subframe.	482602
EUTRA/LTE: Downlink: In case of NB-IoT the wrong RNTI was used in some cases.	590644
EUTRA/LTE: Downlink: Instability when configuring NB-IoT DCIs.	471735
EUTRA/LTE: Downlink: Issue for Non-User-PDSCHs with precoding scheme "Beamforming".	522020
EUTRA/LTE: Downlink: Issue for specific Auto Sequence configurations in case of TDD.	594533
EUTRA/LTE: Downlink: Issue that unused resource elements are not filled with Dummy Data in NB-IoT Standalone Mode.	428920
EUTRA/LTE: Downlink: Issue with PBCH state when switching between LTE and IoT modes.	470189
EUTRA/LTE: Downlink: Issue with SIB1-NB data sources of NB-IoT.	443020
EUTRA/LTE: Downlink: Issue with SIB1-NB scheduling repetitions.	428630
EUTRA/LTE: Downlink: Minor fix for the time plan	486897
EUTRA/LTE: Downlink: Minor issue for the timeplan in case of LAA	426402
EUTRA/LTE: Downlink: PDCCH issue on SCells in case of mixed TDD/FDD carrier aggregation.	465540
EUTRA/LTE: Downlink: Remote control issue for high numbers of NB-IoT DCIs.	469427
EUTRA/LTE: Downlink: Save/recall of NB-IoT channel coding state is unreliable.	588583
EUTRA/LTE: Downlink: Scrambling issue for NB-IoT SIB1.	479447
EUTRA/LTE: Downlink: The mapping of CRS is not correct in case of PBCH repetitions (eMTC).	433700
EUTRA/LTE: Downlink: The OCC sequence is wrong if the case of single AP transmission.	453460
EUTRA/LTE: Downlink: The precoding of the PDCCH region in case of a partial starting subframe (LAA) is wrong	436081
EUTRA/LTE: Downlink: The range of the field "HARQ Process number" in DCI Format 6-1A is wrong (eMTC).	434051
EUTRA/LTE: Downlink: The subframes outside a LAA burst are filled with Dummy	426410

Data in case OCNG is enabled.	
EUTRA/LTE: Downlink: Unexpected PDCCH error-message when configuring eMTC DCI.	426365
EUTRA/LTE: Downlink: When Puncturing is switched on, LTE CRS signals are erroneously punctured in the NB-IoT Inband Mode.	431074
EUTRA/LTE: Downlink: Wrong RNTI for NB-IoT NB-SIB1.	477179
EUTRA/LTE: Uplink: Changes in eMTC PRACH Restricted Set parameter sometimes do not change the signal immediately, but after changing another LTE parameter.	473873
EUTRA/LTE: Uplink: GUI issue for eMTC start subframe.	457280
EUTRA/LTE: Uplink: Inconsistent default values of eMTC transport block size.	482647
EUTRA/LTE: Uplink: Issue for inband NB-IoT PRACH preambles.	580885
EUTRA/LTE: Uplink: Issue for slot numbers for FRCs for NB-IoT.	450040
EUTRA/LTE: Uplink: Leveling in power reference mode "UE Burst RMS Power" is not reliable in case of filter optimization mode different from "Best EVM".	494484
EUTRA/LTE: Uplink: Minor issue in GUI	444568
EUTRA/LTE: Uplink: The power leveling is wrong for some configurations with SSF = 10	521370
EUTRA/LTE: Uplink: The SRS on the SCells cannot be configured for more than one frame.	406203
EUTRA/LTE: Uplink: UE Burst RMS Power doesn't work for PUCCH F4 and F5	444560
EUTRA/LTE: Uplink: When special subframe configuration 10 is configured, no PUCCH allocation can be configured in UL subframes.	489953
For some digital standards global save by means of :SYST:SAV remote control command does not work. Manual operation and *SAV & MMEM:STOR:STAT remote control commands however work.	494528
OneWeb user-defined signal generation: General: Issue for some SCPI commands.	423840
OneWeb: Reference Signals: General: Querying the available reference signals by means of SCPI does not work.	395990
Recall issue if local digital standard setup files have been underwent a line ending conversion by third party tools.	574263
V5GTF: Downlink: Second AP of multi-AP xPDSCH-DMRS is not mapped (Spatial Multiplexing).	422546
V5GTF: General: Some marker settings are accessible which are intended and functional only for R&S generator firmwares, but not WinIQSIM2.	423631

1.3 Version 4.20.047.58

Released: June 2018

New Functionality / Changed Behavior

Topic
Support for SMBV 100B
K444 5G NR: General: First version to support 5G NR (5G New Radio)

Fixed Issues

Topic	Ref. No.
IEEE 802.11: Fixed crash when activating CRC with 802.11b	386921
EUTRA/LTE: Downlink: Issue for certain eMTC PDSCH allocations.	446333
EUTRA/LTE: Uplink: Minor issue in GUI for bit information.	415677
Save / Recall does not work for IEEE 802.11	415596

1.4 Version 4.20.047.35

Released: March 2018

New Functionality / Changed Behavior

Topic
K414 OFDM Signal Generation
K430 ONEWEB
DVB-S2/S2X option K116: Added new feature to alternate MODCOD in ACM mode with up to 100 different settings.
V5GTF: General: First version to support K418 V5GTF with flexible configuration.
V5GTF: Downlink: Removed default DCI entry from downlink predefined configurations.
V5GTF: Uplink: In predefined configuration Uplink_Config_2, n_xPUCCH^2 is 8 so that xPUCCH is positioned at PRBs#48-53 and xPUCCH-DMRS power is changed to 0dB.
OFDM Signal Generation: First version to support option K114/K414, "OFDM Signal Generation".
OneWeb User-Defined Signal Generation: First version to support OneWeb User-Defined Signal Generation K430 option.
OneWeb Reference Signals: Added several new multi carrier files for reverse link.
EUTRA/LTE: General: Improved filtering for NB-IoT standalone (200 kHz channel bandwidth), causing a better EVM and ACP.
EUTRA/LTE: General: Guardband NB-IoT carrier can be shifted in frequency completely flexibly.
EUTRA/LTE: Downlink: CSI-RS for FD-MIMO/eFD-MIMO.
EUTRA/LTE: Downlink: Test models (N-TM) for NB-IoT.
EUTRA/LTE: Downlink: Support for eMTC downlink signals as part of K115.
EUTRA/LTE: Downlink: Additional power reference mode in case of NB-IoT standalone downlink 200 kHz channel bandwidth for easier leveling on the active signal parts.
EUTRA/LTE: Downlink: By default, no eMTC / NB-IoT DCIs are configured after preset.
EUTRA/LTE: Downlink: Support for NPDSCH data source type data list.
EUTRA/LTE: Downlink: Time plan view modes PRB/VRB for TDD.
EUTRA/LTE: Downlink: Enabling of MCS table 2 and Alt. TBS index can be done per cell.
EUTRA/LTE: Downlink: New UE categories according to recent versions of the specification.
EUTRA/LTE: Downlink: Content coding for NB-IoT SIB1-NB.
EUTRA/LTE: Downlink: NB-IoT NPBCH is configurable flexibly in case of MIB encoding is switched off.
EUTRA/LTE: Downlink: Displaying RS power per RE relative to level display also for NB-IoT standalone 200 kHz channel bandwidth case.

EUTRA/LTE: Downlink: For combinations of LTE with NB-IoT in inband mode, the LTE carrier can be punctured. Needed for test model configurations from 3GPP TS 36.141.
EUTRA/LTE: Downlink: The EPDCCH is mapped to a valid candidate also when a limited number of configurable subframes is used.
EUTRA/LTE: Uplink: Updates and minor corrections for TDD FRCs.
EUTRA/LTE: Uplink: FRCs for NB-IoT.
EUTRA/LTE: Uplink: Special subframe configuration 10 and PUSCH in special subframe.
EUTRA/LTE: Uplink: Updated the FRC usability feature according to recent versions of 3GPP TS 36.141.
EUTRA/LTE: Uplink: PUCCH formats 4 and 5.
EUTRA/LTE: Uplink: PUSCH can be set to UCI only mode per subframe, by means of USH TB size 0.
EUTRA/LTE: Uplink: Extended range of I_HARQ_offset.
EUTRA/LTE: Uplink: Extra UE delays can be configured.

Fixed Issues

Topic	Ref. No.
3GPP FDD: Exported HSPA waveforms cannot be played back on instruments with K283 option.	338937
ARB Multicarrier allows up to 512 carriers in the mode Arbitrary Carrier Frequency	324226
GNSS: an error is reported by activating of any GNSS standard	405346
OneWeb Reference Signals: Markers are not working correctly.	375888
EUTRA/LTE: General: User-defined filters are not working.	304799
EUTRA/LTE: General: Erroneous user interface behavior when switching the duplexing mode in eMTC or NB-IoT.	379656
EUTRA/LTE: General: eMTC cannot be configured with extended cyclic prefix.	392093
EUTRA/LTE: General: Issue for some NB-IoT transport block sizes.	397371
EUTRA/LTE: Downlink: The transport block size is wrong in AutoDci mode for cases where one codeword is mapped to three or four layers.	138393
EUTRA/LTE: Downlink: LAA bursts can be configured in an overlapping way.	292235
EUTRA/LTE: Downlink: After recall, the NB-IoT DCI parameters are sometimes wrong.	305292
EUTRA/LTE: Downlink: Channel power in case of NB-IoT transmit diversity is wrong.	305307
EUTRA/LTE: Downlink: DCI format 2D in case of TDD and 20 MHz channel bandwidth is incorrect.	312300
EUTRA/LTE: Downlink: Sporadic crash if DCIs are configured for EPDCCH.	315405
EUTRA/LTE: Downlink: EPDCCH-DMRS for Extended Cyclic Prefix or in case of AP109 / distributed transmission type is incorrect.	315409
EUTRA/LTE: Downlink: CSI-RS in case of extended CP or LAA is incorrect.	317538
EUTRA/LTE: Downlink: For NB-IoT, sometimes the allocation table is not correctly updated after reconfiguring a DCI.	317729
EUTRA/LTE: Downlink: Stability issues for MBSFN.	319448, 362958
EUTRA/LTE: Downlink: LTE Dummy data (if configured) can interfere with NB-IoT inband users.	321714
EUTRA/LTE: Downlink: The number of physical bits is sometimes wrong for PDSCH with transmit diversity.	323480
EUTRA/LTE: Downlink: The DCI format 1C content is wrong in Auto Mode for LAA.	323492
EUTRA/LTE: Downlink: PDSCH CRC check fails in some cases for non-User DCIs.	325130
EUTRA/LTE: Downlink: CC-RNTI DCI1C cannot be configured reliably for cross carrier scheduling cases.	325701

EUTRA/LTE: Downlink: LAA erroneously needs K413 option.	325770, 357853
EUTRA/LTE: Downlink: Save/recall for NB-IoT channel coding settings does not work.	328741
EUTRA/LTE: Downlink: Sometimes the PDSCH scheduling mode "Auto Sequence" is not configurable.	332913
EUTRA/LTE: Downlink: Minor user interface issues for NB-IoT.	333991
EUTRA/LTE: Downlink: Minor issue for UE-specific RS with Extended CP.	338592
EUTRA/LTE: Downlink: IR soft buffer calculation failes in cases with different Tx modes in different cells and configured UE category.	343190
EUTRA/LTE: Downlink: User antenna port mapping is not configurable in case of EPDCCH with TM9/10.	343705
EUTRA/LTE: Downlink: Auto-filled values in the antenna port mapping tables can be wrong in some configurations.	348491
EUTRA/LTE: Downlink: Minor GUI issue in allocations' antenna port tables.	355268
EUTRA/LTE: Downlink: Firmware sometimes crashes when using the AutoSequence configuration dialog.	356398
EUTRA/LTE: Downlink: EPDCCH DMRS is incorrectly mapped to antenna ports.	361657
EUTRA/LTE: Downlink: Firmware stability issue.	368819
EUTRA/LTE: Downlink: DCI field length is sometimes incorrect in case of EPDCCH.	369301
EUTRA/LTE: Downlink: Minor GUI issue in DCI configuration.	369343
EUTRA/LTE: Downlink: Minor GUI issue for user antenna port mapping in case of EPDCCH.	371488
EUTRA/LTE: Downlink: Channel coding issue in case of 5 or 7 layers.	372974
EUTRA/LTE: Downlink: For DRS on carriers in LAA mode, the K113/K413 option is incorrectly required.	374523
EUTRA/LTE: Downlink: AutoDCI for format 2/2A/2B/2C/2D does not work correctly if TB1 is disabled.	378163
EUTRA/LTE: Downlink: The TBS is not correctly determined in case of Transmit Diversity for DCI 2/2A.	387005, 401540
EUTRA/LTE: Downlink: The EPDCCH REs are mapped onto CSI-RS REs.	388238
EUTRA/LTE: Downlink: The transport block size in case of 33A is wrong.	394363
EUTRA/LTE: Downlink: The Codeword Swap Flag leads to no allocation when active for DCI 2/2A.	401533
EUTRA/LTE: Downlink: MIB-NB is wrong after 64 frames.	409207
EUTRA/LTE: Uplink: Signal quality improvement for NB-IoT NPRACH necessary.	319639
EUTRA/LTE: Uplink: Calculation error in case of NB-IoT and more than one configured user.	324106
EUTRA/LTE: Uplink: NB-IoT behaves incorrectly and instable in case of more than one activated user or in case a lot of NB-IoT transmissions are configured.	328198
EUTRA/LTE: Uplink: Recalling uplink settings from older firmware versions into more recent ones does not work reliably.	339195, 350068, 325645
EUTRA/LTE: Uplink: If more than one NB-IoT transmission is configured in the NB-IoT table, some of them do not use channel coding although channel coding is enabled in the user interface.	340224
EUTRA/LTE: Uplink: Configurable range of SRS configuration is wrong.	347731
EUTRA/LTE: Uplink: USH UCI channel coding is wrong in case of more than 22 bits.	379585
EUTRA/LTE: Uplink: Support for 8 configurable users.	380793
EUTRA/LTE: Uplink: Minor issue in SCPI return parameters for 256QAM FRCs.	397117
EUTRA/LTE: Uplink: The PRACH signal is wrong for some specific configurations.	405027
EUTRA/LTE: Uplink: The scrambling is wrong in case of CE Mode B.	409471

Known Issues

Topic	Ref. No.
Save / Recall does not work for IEEE 802.11	415596
EUTRA/LTE: General: Time plan windowing is not working correctly for eMTC/NB-IoT.	333775
EUTRA/LTE: Downlink: The "Autofill" feature for PDSCH scheduling mode "Auto Sequence" is not available for TDD duplexing mode.	138029
EUTRA/LTE: Uplink: NB-IoT and eMTC data sources do not restart every transmission bundle even if "restart data" flag is not set.	340013

1.5 Version 4.00.048.23

Released: May 2017

New Functionality

Topic
K415 Cellular IOT
K416 DVB-S2 / DVB-S2X
K417 Bluetooth 5.0
K418 V5GTF
K419 LTE Release 13/14
K442 WLAN 8.02.11ax
SCPI remote control port can now be configured to allow remote control of more than 1 locally running application
Legacy WLAN dialog included (K248)
V5GTF General: filtering was improved for a better EVM
V5GTF Downlink: power xPDSCH-DMRS increased by +6dB
V5GTF Uplink: - power xPUSCH-DMRS increased by +6dB - fixed xPUSCH-DMRS when RB offset is set >0 - blanked DL Sync subframes 0 and 25
K355- OneWeb Reference Signals for both Downlink and Uplink
Eutra/LTE: All supported features are in line with 3GPP release 14, i.e. the following official 3GPP specifications are implemented: TS36.211 v. 14.1.0, TS36.212 v. 14.1.1, TS36.213 v. 14.1.0. This version is compatible with Rohde & Schwarz EUTRA/LTE Analysis Software Version 3.4 SP1 (FSx-K100/-K101/-K102/-K103/-K104/-K105).
Eutra/LTE: Support for user defined filters in LTE.
Eutra/LTE: Alternative 36.213 TBS indices.
Eutra/LTE: Codebook indices now can be configured individually in PDSCH allocations even for "User" PDSCH allocations.
Eutra/LTE: DCI format 2D and transmission mode 10.
Eutra/LTE: DRS for downlink LAA as part of option K419.
Eutra/LTE: Enhancements to CSI-RS according to recent releases of the LTE specifications.
Eutra/LTE: Independent PHICH configuration for individual downlink carriers.
Eutra/LTE: Release 12 feature "Enhanced 4Tx Codebook".
Eutra/LTE: Release 13 downlink LAA (frame structure type 3) as part of option K419.
Eutra/LTE: RLC counter for PDSCH scheduling mode "Auto Sequence".

Eutra/LTE: Support for downlink NB-IoT (Cat-NB1).
Eutra/LTE: Support for the EPDCCH channel.
Eutra/LTE: Release 14 uplink 256QAM as part of option K419.
Eutra/LTE: Support for eMTC channels PUSCH, PUCCH and PRACH.
Eutra/LTE: Support for NB-IoT channels NPUSCH and NPRACH in inband, guard band and standalone modes.

Fixed Issues

Topic	Ref. No.
Several issues regarding support of wideband SMW	235011
File transmission to BTC	305828
Eutra/LTE: Discretely presetting the parameter "cut off frequency factor" (in filter optimization mode Best ACP) could cause the value to be wrong.	138577
Eutra/LTE: Fix for uplink or downlink carrier aggregation cases with disabled PCell.	251863
Eutra/LTE: On very high data rates for PDSCH or PUSCH the software could crash.	225307
Eutra/LTE: DCI bug fixes for DL carrier without associated uplink carrier.	137659
Eutra/LTE: Fix for Auto Sequence mode "Target Code Rate".	184535
Eutra/LTE: Fixed GUI behavior of DCI configuration for SPS.	217409
Eutra/LTE: Fixes and improvements for downlink carrier aggregation with mixed duplexing or mixed TDD settings.	186440
Eutra/LTE: Improved GUI behavior of UL DCI RBA/MCS in case of PDSCH scheduling mode "Auto Sequence".	190868/197234
Eutra/LTE: In case of PDSCH scheduling mode "Auto Sequence" together with carrier aggregation, the DCI templates were possibly constructed for the wrong cell index.	191165/209472
Eutra/LTE: In special cases configured DCIs were missing after recall.	243316
Eutra/LTE: In special cases the PDCCH region was not adapted correctly in special subframes.	227772
Eutra/LTE: Minor CRS fix for TDD special subframe config 9.	255377
Eutra/LTE: Minor fix for CRS reservation in case of TDD.	278479
Eutra/LTE: Recalling setup files from older firmware versions into recent ones did not reliably work in case of TDD with PDSCH scheduling modes AutoDci or Autosequence.	253464
Eutra/LTE: The DCI coding of the Downlink Assignment Index (DAI) was incorrect in case of MBSFN.	147320
Eutra/LTE: The range of DCI CCE index could be wrong in case five carriers were active.	224484
Eutra/LTE: The range of the user codebook index was sometimes wrong.	198356
Eutra/LTE: Bugfix for power reference mode UL Burst in case of SRS-only signals.	273863
Eutra/LTE: Loading TDD setup files from older firmware versions in newer firmware versions could cause corrupt settings.	216583
Eutra/LTE: PRACH subframe states have not been saved to setup files.	215867
Eutra/LTE: SRS in subframes with PUCCH formats 1,1a,1b,3 was not configurable.	229426
Eutra/LTE: The "Autofill" feature for PDSCH scheduling mode "Auto Sequence" is not yet available for TDD duplexing mode.	138029

Changed Behavior

Topic	Ref. No.

New format of application settings files (s. note below)	
Eutra/LTE: Configurable range of carrier power was extended.	289511
Eutra/LTE: MBSFN can be enabled in PDSCH scheduling mode "Auto/DCI".	254718
Eutra/LTE: The configuration of user specific antenna port tables (for user specific RS) can now be done independetly for cases with different numbers of layers.	193153

New format of application settings files

Due to modifications in the underlying software technology WinIQSIM2 now stores application settings in a new file format (extension: ".savrcltxt"). The program offers to load settings stored with previous versions of WinIQSIM2 (extension: ".savrcl") and will convert them into the new file format. The original files will be deleted in the process.

Please make backup copies of your settings files if you plan to go back to an earlier version of WinIQSIM2.

1.6 Version 3.50.082.25

Released: August 2016

New Functionality

Topic
K412 LTE Release 11 and Enhanced Features
K413 LTE Release 12
K441 IEEE 802.11ad
K407 Beidou 1 Satellite
Support for SMW200A wideband options
New UI-design
Context menu with SCPI recording etc.
SW version now included in waveform file
Custom Digital Modulation: easy method to generate CW by selecting "CW in Baseband" from standard menu
NFC: maximum number of command blocks extended to 300
NFC: support for EMV Type A and EMV Type B
Table editors are now more user-friendly
Several improvements handling multi segment waveforms
Bluetooth: new parameter "Slot timing"
Improved operation: selection of digital standard in baseband block starts with last used entry
WLAN: added beacon frames for 11b and HT capability
Remote: "value out range" error message now contains add. Information
Improved error message after incomplete SCPI commands

Custom digital modulation: support of QAM4096
Accelerated calculation of long waveforms (e.g. 3GPP-FDD)
IEEE 802.11 WLAN : sub-standard (801.11 a/g, b/g, p/j, n, ac) selectable
Eutra/LTE: Downlink transmission mode 9
Eutra/LTE: Downlink DCI format 2C
Eutra/LTE: Downlink DCI format 1C for eIMTA
Eutra/LTE: Downlink CSI-RS
Eutra/LTE: Uplink carrier aggregation
Eutra/LTE: New release 12 TDD special subframe configurations
Eutra/LTE: Uplink MIMO (Uplink PUSCH transmission mode 2)
Eutra/LTE: Aperiodic SRS (SRS trigger type 1)
Eutra/LTE: Marker type "System Frame Number Restart"
Eutra/LTE: Increased the maximum uplink UCI pattern lengths according to release 11 and release 12
Eutra/LTE: PDSCH scheduling mode "Auto Sequence"
Eutra/LTE: Downlink 256QAM

Fixed Issues

Topic	Ref. No.
Missing support for NI-Visa versions >9	137730
LAN connection on block diagram drawn crossed out	201788
Corrupted DigMod oversampling display	208237
Eutra/LTE: Fixes for downlink cross carrier scheduling	

Changed Behavior

Topic	Ref. No.
Eutra/LTE: Discontinued support for filter optimization mode "Balanced EVM and ACP"	137730
Eutra/LTE: Uplink user equipment mode "Rel. 10" was renamed to "LTE-Advanced"	201788

1.7 Version 2.20.360.405.01

Released: April 2014

Support of SGMA Vector RF Source SGT100A

1.8 Version 2.20.360.405

Released : July 2013

New Functionality

Topic	Ref. No.
New Standard NFC (K289)	11476
Support for SMW200A	11477
Support for SMBV options K511, K512, K521, K522	10546

Fixed Issues

Topic	Ref. No.
SMBV: MCCW carrier spacing with band width 160 MHz	10602
AFQ100B: Insufficient MCCW spacing	10880
Improved error messages when starting waveforms	11107
Import: Cannot connect to NPR	11719

1.9 Version 2.20.360.204

Released : September 2012

New Functionality

Topic	Ref. No.
New Standard LTE Release 10 (Advanced)	10319
New Standard 1xEV-DO Rev. B	10320
GSM sequence length setting for mode Framed(Double)	10288

Resolved Issues

Topic	Ref. No.
SMBV: Clock rate limitation to 100MHz	10301

1.10 Version 2.20.230.162

Released: April 2012

New Functionality

- Import Function available again
- IEEE 802.11 AC 160 MHz

- Simultaneous execution with SGMA-GUI

1.11 Version 2.20.230.99

Released: November 2011

New Functionality

- New Standard Galileo
- New Standard LTE Release 9
- New Standard IEEE 802.11 AC
- New Standard Glonass

Fixed Issues

- Portmapper and installation problems

Known Issues

- Restricted sample count for vector and constellation graphics
- Graphics zoom and cursor functions unavailable
- Import Function unavailable

1.12 Version 2.10.111.91

Released: April 2010

New Functionality

- New standard DAB/T-DMB
- New standard Tetra 2
- Support for EX-IQ-Box
- Remote control for SMBV (via browser)
- Support for Windows Vista and Windows 7

Fixed Issues

Constellation diagram now working properly

1.13 Version 2.05.222.33

Released: December 2008

New Functionality

- New standard Bluetooth
- New standard GPS
- New standard EDGE+

Fixed Issues

SMATEs were not found by a Scan

1.14 Version 2.05.104.57

Released: September 2008

New Functionality

- Support for SMBV

Fixed Issues

MCCW support for AFQ 100B bandwidth

1.15 Version 2.05.104.53

Released: August 2008

New Functionality

- New standard UWB MB-OFDM
- New standard HSPA+
- Support for CMW and AFQ 100B

1.16 Version 2.04.244.14

Released: November 2007

New Functionality

- New standard IEEE 802.11n
- New standard 1xEV-DO

2 Installing the Software

2.1 Uninstall old software version (skip, if this is a first-time installation)

To uninstall a previous version of WinIQSIM2 click on the Windows Start button and go to Settings / Control Panel / Add or Remove Programs. Then select the previously installed version of WinIQSIM2 to uninstall it.

2.2 Install new software version

Supported operating systems:

Windows 10, version 1607 "Anniversary Edition" and later

Administrator rights are necessary for installation and startingWinIQSIM2.

- Uninstall any previous version of WinIQSIM2 before installing the new software.
- In Windows Explorer double-click WinIQSIM2_v.vv.vvv.vv.x64.exe and follow instructions.

3 Customer Support

Technical support – where and when you need it

For quick, expert help with any Rohde & Schwarz equipment, contact one of our Customer Support Centers. A team of highly qualified engineers provides telephone support and will work with you to find a solution to your query on any aspect of the operation, programming or applications of Rohde & Schwarz equipment.

Up-to-date information and upgrades

To keep your instrument up-to-date and to be informed about new application notes related to your instrument, please send an e-mail to the Customer Support Center stating your instrument and your wish. We will take care that you will get the right information.

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