qIQ Tools Release Notes

Version 7.5.1 (November 5, 2026)

1) This update applies to qIQ MultiTransceiver.
2) Fixed a bug when no receivers are active.

Version 7.5.0 (November 5, 2026)

1) This update applies to qIQ MultiTransceiver.
2) Added controls for the LO PLL bandwidth and phase margin for the ADRV9040.
3) Added “Apply to All” on the axes limits dialog for the Time Domain, Spectrum and Correlation plots. Ending the axes limits dialog with this button will set the limits for all similar plots.

Version 7.4.2 (October 23, 2026)

1) This update applies to qIQ Generator.
2) Fixed a bug in RFID R->T signal generation related to defined signal duration.

Version 7.4.1 (October 14, 2026)

1) This update applies to qIQ MultiTransceiver and qIQ Transceiver.
2) Added allowable configurations for the ADRV9040 at 61.44 Msps.

Version 7.4.0 (August 7, 2026)

1) This update applies to qIQ Inspector and qIQ Streamer.
2) Added the iqbinint file type to qIQ Inspector.
3) Initial release for qIQ Streamer.

Version 7.3.3 (July 29, 2026)

1) This update applies to qIQ MultiTransceiver and qIQ Transceiver.
2) Added allowable configurations for the ADRV9040 at 122.88 and 245.76 Msps.

Version 7.3.2 (May 29, 2026)

1) This update applies to qIQ MultiTransceiver.
2) Fixed a bug in the MxFE transmitter control dialog, which did not allow the values to be edited. This applies to the AD9081, AD9082, AD9084, ADSY1100 and QuadMxFE.

Version 7.3.1 (May 20, 2026)

1) This update applies to qIQ MultiTransceiver.
2) Added the ability to immediately apply transmitter attenuation and receiver gain settings in the instrument control dialogs for the ADRV9026 and ADRV9040. This allows a user to iterate the power output level more quickly.

Version 7.3.0 (May 19, 2026)

1) This update applies to qIQ Beamforming Receiver, qIQ Generator, qIQ MultiReceiver, qIQ MultiTransceiver, qIQ Receiver and qIQ Transceiver.
2) Enhanced the instrument control dialogs for devices with 4 or more channels. The new list-based dialogs gained keyboard shortcuts for editing items. The up and down keys move in the list. The left and right keys (or + and – keypad keys, or the =/+ and -/_ keyboard keys), increment or decrement the gain or attenuation value.
3) Added an Apply button to the control dialogs in item 2, above.
4) Added a peak search for the marker in the 2D plots, which is initiated by pressing the P key.

Version 7.2.0 (May 18, 2026)

1) This update applies to qIQ MultiTransceiver.
2) Changed the instrument control dialogs for devices with 4 or more channels. The multi-tabbed dialog was replaced by a list-based control. This applies to the AD9081, AD9082, AD9084, ADSY1100, ADRV9026 and ADRV9040.

Version 7.1.2 (May 14, 2026)

1) This update applies to qIQ Receiver and qIQ Transceiver.
2) Added calibration gain factor to the advanced instrument settings. This is an alternative method for introducing a power calibration adjustment.

Version 7.1.1 (May 12, 2026)

1) This update applies to qIQ Receiver and qIQ Transceiver.
2) Added gain to the receiver processing. This can be used to apply a power calibration adjustment to acquired data.
3) Added the AD9084 to supported devices for stepped spectrum analyzer.

Version 7.1.0 (May 8, 2026)

1) This update applies to qIQ Receiver, qIQ Transceiver, and qIQ MultiTransceiver.
2) Fixed a bug in the PSK/QAM and DVB-S demod dialogs, so that the number of taps in the adaptive equalizer would be remembered correctly.
3) Corrected the ADC numbers in the AD9084 control dialog in MultiTransceiver, so that they match the eval board ADC markings.
4) Added command line arguments to MultiTransceiver. The arguments xmtrs=xx and rcvrs=xx (where xx is an integer number), will create the desired number of transmit channels and receive channels. If there are no command line arguments, then 4 of each will be created.
5) Added the Quad-MxFE to Receiver, Transceiver and MultiTransceiver.
6) Added the Channel Effects processing to Receiver. This allows a known amount of ripple to be introduced into the received data.

Version 7.0.7 (April 3, 2026)

1) This update applies to qIQ Transceiver.

2) Added display of the result of applying the complex FIR filter to the input data, when running Arbitrary Waveform Equalization. The output will be displayed on the “Processing Waveform” and/or “Processing Spectrum” plots, if those plots are visible.

Version 7.0.6 (February 26, 2026)

1) This update applies to qIQ Transceiver and qIQ Receiver.
2) Fixed a bug in RFID processing of T->R with FM0 encoding.

Version 7.0.5 (February 24, 2026)

1) This update applies to qIQ Transceiver.
2) Added RFID processing back into qIQ Transceiver.

Version 7.0.4 (February 19, 2026)

1) This update applies to qIQ Receiver, qIQ Transceiver and qIQ MultiTransceiver.
2) Changed the IP address control in the Connection dialog from a Windows IP Address control, to a simple edit text control. This is to work around bugs in the Linux Wine handling of the Windows IP Address control.

Version 7.0.3 (February 7, 2026)

1) This update applies to qIQ Receiver, qIQ Transceiver and qIQ MultiTransceiver.
2) Removed the “Automatically arrange windows” check box on the active windows dialog. Hit the main toolbar button to arrange the windows.
3) Fixed a bug in the transmit for the AD9084 in Transceiver.

Version 7.0.2 (February 3, 2026)

1) This update applies to qIQ MultiTransceiver.
2) Added optional CFIR application to receiver processing for each channel.
3) Fixed a bug in the receiver processing saving and recalling of settings.

Version 7.0.1 (January 30, 2026)

1) This update applies to qIQ Transceiver and qIQMulti Transceiver.
2) Added support for the ADSY1100 module.

Version 7.0.0 (January 27, 2026)

1) This update applies to qIQ Beamforming Receiver, qIQ Generator, qIQ MultiCarrier, qIQ MultiReceiver, qIQ MultiTransceiver, qIQ Radar, qIQ Receiver, qIQ SDR Radar and qIQ Transceiver.
2) Switched to three editions: Standard Edition (SE), Enhanced Edition (EE) and Performance Edition (PE).
3) Removed waveform support as options, and added different waveform types to the three editions.
4) Removed support for some lesser-used signal types (DOCSIS, GSM and EDGE).

Version 6.10.0 (December 17, 2025)

1) This update applies to qIQ Receiver, qIQ Transceiver and qIQ MultiTransceiver.
2) Added support for the AD9084 when hosted by a VCU118.

Version 6.9.1 (December 10, 2025)

1) This update applies to qIQ Generator.
2) Added an option to backoff the DAC values when storing to txt files. This is controlled on the Save To File dialog.

Version 6.9.0 (December 3, 2025)

1) This update applies to qIQ Generator, qIQ Receiver and qIQ Transceiver.
2) Added Pi/4 DQPSK to the PSK modulation types which are supported.

Version 6.8.4 (November 26, 2025)

1) This update applies to qIQ Generator.
2) Fixed a units problem associated with the tone frequency, in the tone generator dialog.

Version 6.8.3 (October 23, 2025)

1) This update applies to qIQ Generator, qIQ Receiver and qIQ Receiver Pro.
2) The whitespace delimiter added in 6.8.2 was changed from a space to a tab.
3) The ADRV9040 running under IIO was added to Receiver and Receiver Pro.

Version 6.8.2 (October 22, 2025)

1) This update applies to qIQ Generator.
2) An additional txt output file type was added. This new file type write DAC values and is whitespace delimited on a line (as opposed to comma delimited).

Version 6.8.1 (October 18, 2025)

1) This update applies to qIQ Generator, qIQ Receiver , qIQ Receiver Pro, qIQ Transceiver, qIQ MultiReceiver and qIQ MultiReceiver Pro.
2) An advanced feature was added to the spectrum plot Settings dialog. There is an option to prevent the changing of the frequency range back to automatic, when the Start toolbar button is pushed. If checked, this feature will not automatically reset the frequency range to Automatic when starting an operation.

Version 6.8.0 (October 13, 2025)

1) This update applies to qIQ SDR Radar.
2) The previous version of qIQ Radar, which worked with Pluto and the ADRV9009, has been re-released as qIQ SDR Radar.
3) The qIQ Radar application is currently used only with the AD9081.

Version 6.7.0 (September 2, 2025)

1) This update applies to qIQ Radar and qIQ RFID Reader.
2) Added the AD9081 with Triggering instrument model to Radar.
3) Many changes to Radar to include beamforming and user math.
4) Introduced qIQ RFID Reader as an alpha version.

Version 6.6.2 (July 30, 2025)

1) This update applies qIQ MultiTransceiver.
2) Added the AD9081 with Triggering instrument model.
3) Modified the control for the AD9081 to include triggering.

Version 6.6.1 (July 7, 2025)

1) This update applies qIQ MultiTransceiver.
2) Set the default values for the Transmitter DAC Processing, to valid states. This eliminates the need for users to explicitly set these values, before starting the processing.

Version 6.6.0 (June 26, 2025)

1) This update applies qIQ Generator, qIQ Receiver, qIQ Receiver Pro and qIQ Transceiver.
2) Added demodulation for Miller encoding for RFID tag-to-reader signals.

Version 6.5.0 (May 30, 2025)

1) This update applies qIQ Generator.
2) Added Miller encoding for RFID tag-to-reader signals.
3) Added a high accuracy filter option to the PSK/QAM signal generation.

Version 6.4.5 (May 6, 2025)

1) This update applies qIQ Generator.
2) Added a new txt output file type for use with TES for the ADRV9002.

Version 6.4.4 (April 18, 2025)

1) This update applies qIQ Beamforming Receiver.
2) Brought the window automatic arrangment up to date.
3) Added set all file names button to the input dialog.

Version 6.4.3 (April 15, 2025)

1) This update applies qIQ MultiTransceiver.
2) Added a new dialog (Transmitter DAC Processing) which allows for controlling the power level for multiple channels.

Version 6.4.2 (April 11, 2025)

1) This update applies qIQ Generator.

2) Added power tapering to LFM radar type signals, to control the spectral splatter at the start and end of the chirp.

Version 6.4.1 (April 7, 2025)

1) This update applies qIQ Generator, qIQ Receiver, qIQ Receiver Pro, and qIQ Transceiver.
2) Allowed 5G NR violations of the number of resource blocks, from what is specified in the standard.
3) Added 5G NR creation of a single slot in Generator.

Version 6.4.0 (April 3, 2025)

1) This update applies qIQ Generator, qIQ Receiver, qIQ Receiver Pro, qIQ Transceiver, qIQ MultiReceiver, qIQ MultiReceiver Pro and qIQ MultiTransceiver.
2) Changed how auto arrangment of active windows is handled, to try and prevent a thread lock which ocurred very infrequently.
3) Changed the Active Windows dialog in the Multi... apps to allow more flexibility in which channels could be used.

Version 6.3.1 (March 27, 2025)

1) This update applies to qIQ MultiTransceiver.
2) Added a trace averaging feature to spectrum plots.

Version 6.3.0 (March 11, 2025)

4) This update applies qIQ Generator, qIQ Receiver, qIQ Receiver Pro, qIQ Transceiver, qIQ MultiReceiver, qIQ MultiReceiver Pro and qIQ MultiTransceiver.
5) Fixed a bug in IPC output which could prevent data flow in the IPC channel.
6) Added RFID to Generator, Receiver, Receiver Pro and Transceiver.
7) Added a recording function to Transceiver.

Version 6.2.6 (March 10, 2025)

1) This update applies qIQ MultiTransceiver.
2) Fixed the number of IPC outputs.
3) Changed the Tx and Rx labels for channels of the ADRV9040, to be zero-based.

Version 6.2.5 (March 10, 2025)

1) This update applies qIQ MultiTransceiver.
2) Changed the control dialog for the ADRV9040 to a simpler view of what the state of the transmitters and receivers are.

Version 6.2.4 (March 7, 2025)

1) This update applies qIQ MultiTransceiver.
2) Added an alert to the user, if the number of transmitter channels or the number of receiver channels was not a supported number, for the ADRV9040.

Version 6.2.3 (March 6, 2025)

1) This update applies qIQ MultiTransceiver.
2) Added an “Extra File” to the summing receiver.

Version 6.2.2 (February 28, 2025)

1) This update applies qIQ MultiTransceiver.
2) Added receiver port control for the AD9361.

Version 6.2.1 (February 20, 2025)

1) This update applies qIQ MultiTransceiver.
2) Added the ability to make changes to transmitter and receiver processing, and apply those changes without closing the dialogs.

Version 6.2.0 (February 17, 2025)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Receiver Pro, qIQ Transceiver and qIQ MultiTransceiver.
2) Added a power measurement to time domain plots which can show the average and peak power.
3) Removed user math from Receiver, Receiver Pro and Transceiver.
4) Expanded MultiTransceiver to 8 transmit and 8 receive channels.
5) Added RFID capability to add variable carrier frequency leakage to Generator.
6) Added RFID capability to add variable carrier frequency reduction to Receiver and Transceiver.
7) Added RFID control for correlation percentage for preamble searching to Receiver and Transceiver.

Version 6.1.0 (February 6, 2025)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Receiver Pro, qIQ Transceiver,qIQ MultiReceiver, qIQ MultiReceiver Pro and qIQ MultiTransceiver.
2) Fixed a bug in Power in a Band measurement display for spectrum plots, which displayed inactive bands.
3) Fixed a bug when finding frames of data for PSK/QAM pulsed data.
4) Added a 5.12 Msps mode for the AD936x.
5) Fixed a bug related to the ACE interface for the AD9082 in Receiver Pro.
6) Added a “Set to transmitter file” button to the correlation receiver in Transceiver.
7) Added a “Set to input file” button to the correlation receiver in Receiver.
8) Added information about the data to be written to a file, in the save data dialog for Generator.
9) Added RFID signal generation and processing to Generator, Receiver and Transceiver.

Version 6.0.1 (January 22, 2025)

1) This update applies to qIQ Receiver Pro and qIQ BeamformingReceiver
2) Changed the context path in the ACE interface for the AD9082.

3) Fixed a bug in activating qIQ BeamformingReceiver.

Version 6.0.0 (January 17, 2025)

1) This update applies to all qIQ Tools applications.
2) Added support for the ZynqSDR to qIQ Transceiver and qIQ MultiTransceiver.
3) Changed to only one LO control for the ADRV9040.
4) Removed BytePipe support.
5) Added Error Evaluation to qIQ Transceiver.
6) Changed activation code handling.
7) Added the AD9082 and AD9986 to qIQ Receiver Pro and qIQ MultiReceiver Pro.
8) Added IPC output to qIQ MultiReceiver and qIQ MultiReceiver Pro.
9) Fixed a bug in qIQ Transceiver with regard to control of manual backoff.

Version 5.16.0 (December 16, 2024)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Transceiver, qIQ MultiTransceiver, qIQ MultiReceiver, qIQ Receiver Pro, qIQ MultiReceiver Pro, qIQ Beamforming Receiver and qIQ Radar.
2) Eliminated the need to set the sample rate for the AD9081 and AD9082. The software will adjust to the configuration running on the board.
3) The Tx and Rx port names were removed for the ADRV9002 in qIQ Transceiver. Only TxA or RxA will be used.
4) qIQ MultiTransceiver now has the ability to set all input file names to the same name, using a button on the input files dialog.

Version 5.15.0 (December 6, 2024)

1) This update applies to qIQ Transceiver, qIQ MultiTransceiver and qIQ Radar.
2) Fixed a problem with the ADRV9026 when 4 transmit channels are used.
3) The ADRV9040 was added to qIQ Transceiver and qIQ MultiTransceiver. There is a known issue with using more than one transmit channel at a time.

Version 5.14.0 (December 3, 2024)

1) This update applies to qIQ Radar and qIQ MultiTransceiver.
2) ADI's 2023_r2 linux release fixed issues with the ADRV9026, so all channels were made available for use in the GUI.
3) There is still a problem with the ADRV9026 when 4 transmit channels are used. Transmitting with one or two channels works fine. This has been reported to ADI.
4) The ADRV9026 was added to qIQ Radar.

Version 5.13.0 (November 15, 2024)

1) This update applies to qIQ Radar, qIQ Transceiver and qIQ MultiTransceiver.
2) Added Jupiter Independent mode to qIQ Transceiver.

3) Changed transmitter processing in MultiTransceiver, so that gain applied to a transmit channel would be scaled correctly as compared to other channels, even with backoff applied.
4) Turned off extraneous transmit channels for the AD936x and the ADRV9002 in Transceiver and MultiTransceiver.
5) Fixed a licensing issue with qIQ Radar.

Version 5.12.0 (November 1, 2024)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Receiver Pro, qIQ Transceiver, qIQ MultiReceiver, qIQ MultiReceiver Pro and qIQ MultiTransceiver.
2) Added the ADRV9002 to qIQ MultiTransceiver.
3) Added the MIMO mode for the ADRV9002 in qIQ Transceiver and qIQ MultiTransceiver.
4) Fixed a bug in transmitter and receiver processing, related to time shifting.
5) Added noise floor to receiver processing in qIQ MultiReceiver and qIQ MultiReceiver Pro.

Version 5.11.2 (October 21, 2024)

1) This update applies to qIQ Receiver, qIQ Receiver Pro and qIQ Transceiver.
2) Fixed a problem with reading iqtxt files.

Version 5.11.1 (October 11, 2024)

1) This update applies to qIQ Generator, qIQ MultiReceiver, qIQ MultiReceiver Pro and qIQ Monitor.
2) Added the PRI to the auto-generated file name for LFM in qIQ Generator.
3) Added an “Extra File” to the summing receiver in qIQ MultiReceiver and qIQ MultiReceiver Pro.
4) Expanded the number of frequency bands to 16 for qIQ Monitor.

Version 5.11.0 (October 2, 2024)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Receiver Pro, qIQ Transceiver and qIQ Monitor.
2) Allowed duration and interval to be the same when creating LFM waveforms in Generator.
3) Added the ADRV9002 to Receiver and Receiver Pro.
4) Added Arbitrary Waveform Equalization to Transceiver.
5) Added multiple frequency band handling to qIQ Monitor.

Version 5.10.1 (September 26, 2024)

1) This update applies to qIQ MultiReceiver Pro.
2) Fixed a bug in ACPR measurement averaging.

Version 5.10.0 (September 23, 2024)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Receiver Pro, qIQ Transceiver, qIQ MultiTransceiver, qIQ MultiReceiver, qIQ MultiReceiver Pro, qIQ MultiCarrier, qIQ Radar and qIQ Beamforming Receiver.

2) Added advanced instrument dialog to Receiver, Receiver Pro and Transceiver. This added units for received data, either volts or with respect to full scale.
3) Added ADRV9026 to MultiTransceiver.
4) Added an option to the AD9081 and AD9082 to synchronize NCOs in MultiTransceiver.
5) Removed the logo icon for the main window.
6) Recall of settings clears all plots. Clear of spectrogram and persistence spectrum plots also clears the scales.
7) Removed the Apply button from many tabbed dialogs.

Version 5.9.0 (September 9, 2024)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Receiver Pro, qIQ Transceiver, qIQ MultiTransceiver, qIQ MultiReceiver, qIQ MultiReceiver Pro, qIQ MultiCarrier, qIQ Radar and qIQ Beamforming Receiver.
2) Update to handle bundle activation codes.

Version 5.8.1 (September 6, 2024)

1) This update applies to qIQ Receiver and qIQ Receiver Pro.
2) Added txt and csv file input types with only I and Q columns.

Version 5.7.2 (August 23, 2024)

1) This update applies to qIQ MultiReceiver and qIQ MultiReceiverPro.
2) Added a repeat dialog.

Version 5.7.1 (August 16, 2024)

1) This update applies to qIQ Transceiver.
2) Added the ADRV9002 “User defined (no change) profile.

Version 5.7.0 (August 12, 2024)

1) This update applies to qIQ Receiver, qIQ Receiver Pro, qIQ Transceiver, qIQ MultiTransceiver, qIQ MultiReceiver, and qIQ MultiReceiver Pro.
2) Adaptive equalization plots are now included.
3) The EVM value for DVB-S is now also shown in dB.
4) The host board for Pluto is set to Pluto.
5) A bug in MultiReceiver Pro for the AD9040, related to receiver channel numbers, has been fixed.
6) Frame power and frame PAPR are now shown in 802.11a measured results.
7) “Peak to Avg” in measured results has been changed to “PAPR” (Peak to Average Power Ratio).

Version 5.6.0 (July 17, 2024)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Receiver Pro, qIQ Transceiver, qIQ MultiTransceiver, qIQ MultiReceiver, qIQ MultiReceiver Pro, qIQ Radar and qIQ Beamforming Receiver.

2) Changed the transmitter attenuation setting from an integer to a floating point value, in order to support chips that have attenuation control finer than 1 dB.
3) The transmitter processing and receiver processing dialogs in various apps now add "(Software)", to make it more clear where the processing is being performed.
4) The Multi… apps get the "User Defined (no change)" baseband configuration for the AD936x.

Version 5.5.0 (July 11, 2024)

1) This update applies to qIQ Receiver, qIQ Receiver Pro and qIQ Transceiver.
2) Added support for the ADRV9026. Due to an issue with IIO, only Tx2 and Tx4 are currently usable. All of the Rx channels are usable.
3) Added a host board selection to the IIO Connection dialog. This aids in managing different buffer sizes on different host boards.
4) Control of the receiver port (RxA, RxB, etc.) was added for the AD936x.
5) A new baseband configuration was added for the AD936x. The "User Defined (no change)" baseband configuration will not change the current settings for the chip.

Version 5.4.2 (May 31, 2024)

1) This update applies to qIQ Receiver.
2) Fixed a bug in IPC data input for Receiver.

Version 5.4.1 (May 29, 2024)

1) This update applies to qIQ Receiver, qIQ Receiver Pro and qIQ MultiTransceiver.
2) Fixed a bug in IPC data input for Receiver and Receiver Pro.
3) Added IPC data output to MultiTransceiver.

Version 5.4.0 (May 24, 2024)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Receiver Pro, qIQ Transceiver, qIQ MultiReceiver, qIQ MultiReceiver Pro, qIQ MultiTransceiver and qIQ Beamforming Receiver.
2) Added FMCOMMS3 and Pluto 2R2T to MultiReceiver and MultiTransceiver.
3) Allowed non-activated operation for Pluto 2R2T in MultiReceiver and MultiTransceiver.
4) Added inter-process communication (IPC) data input to Receiver.
5) The correlation plot now displays a delta phase value in MultiReceiver and MultiTransceiver.
6) Added phase, gain and time delay on receiver channel processing for MultiTransceiver.
7) Added a repeat dialog to MultiTransceiver.
8) Fixed a bug when loading an ADRV9002 user profile in Receiver and Transceiver.
9) Added simulated antennas operation for Beamforming Receiver.
10) Changed the title bar for the main windows in all the apps.

Version 5.3.1 (May 6, 2024)

1) This update applies to qIQ Receiver and qIQ Transceiver.
2) Made the default condition to be that User Math is disabled.
3) Fixed exclude connections from recall of settings.

Version 5.3.0 (May 1, 2024)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Transceiver and qIQ MultiTransceiver.
2) Added a plot displaying the adaptive equalization response for the PSK/QAM receiver.
3) Changed how transmitter input files are chosen in MultiTransceiver.
4) Added summing receiver to MultiTransceiver.
5) Changed the EDGE generator options in Generator.

Version 5.2.3 (April 29, 2024)

1) This update applies to qIQ Receiver and qIQ Transceiver.
2) Changed the way that the stepped spectrum analyzer is drawn.

Version 5.2.2 (April 23, 2024)

1) This update applies to qIQ Transceiver.
2) Added user profiles for the ADRV9002 and BytePipe x9002.

Version 5.2.1 (April 17, 2024)

1) This update applies to qIQ Generator.
2) Changed GSM generation to EDGE generation.

Version 5.2.0 (April 8, 2024)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Receiver Pro and qIQ Transceiver.
2) Added new profiles for the ADRV9002, and the BytePipe x9002. The BytePipe can now use RxA or RxB.
3) Added 256-APSK for DVB-S2X.
4) Fixed a bug in the LTE demod that did not increase the number of samples passed to the demod when the acquired number of samples was increased.

Version 5.1.0 (April 2, 2024)

1) This update applies to qIQ Transceiver.
2) Fixed setting of profiles for the ADRV9002, and added some profiles.
3) Added the BytePipe x9002 and some profiles for it.
4) Fixed a crash caused by too few input samples when decimating by a larger factor.
5) PSK receiver lost the center and span when the input data was pulsed; that is fixed.

Version 5.0.2 (December 5, 2023)

1) This update applies to qIQ MultiCarrier.
2) Added the ability to read txt input files.
3) Added phase adjustment to each input file.

Version 5.0.1 (November 10, 2023)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Receiver Pro, qIQ Transceiver and qIQ Beamforming Receiver.
2) Well, that didn't take long… In order to facilitate comparison with other tools, the PAR and CCDF calculations were put back to reporting results for baseband signals.

Version 5.0.0 (November 8, 2023)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Receiver Pro, qIQ Transceiver, qIQ MultiTransceiver, qIQ Beamforming Receiver, RcvrMathDLL and BRMathDLL.
2) Apparently, the Power-to-Average Ratio (PAR) for a baseband signal, is not the same as for a modulated carrier. The PAR for the modulated carrier is 3 dB greater. Changes were made in various places to reflect this new understanding. The CCDF plot and PAR calculations have been adjusted to display the values for a modulated carrier.
3) User math extensions were implemented for Receiver, Receiver Pro and Transceiver.
4) The RcvrMathDLL project was created to help users create user math extensions for the apps in item 3.
5) Antenna calibration and correction were implemented for Beamforming Receiver.
6) Beamforming Receiver had other GUI updates implemented.
7) The BRMathDLL project was updated for user math extensions for Beamforming Receiver.

Version 4.20.0 (October 26, 2023)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Receiver Pro, qIQ Transceiver, qIQ MultiTransceiver, qIQ MultiCarrier, qIQ Radar and qIQ Beamforming Receiver.
2) Changed the internal handling of the status bar at the bottom of the main window.
3) Added qIQ Beamforming Receiver.

Version 4.19.3 (October 2, 2023)

1) This update applies to qIQ Receiver Pro.
2) Added gain adjustment and read file only to ADRV9040 under ACE.

Version 4.19.2 (August 29, 2023)

1) This update applies to qIQ Transceiver.
2) Added a 625Msps configuration for the AD9082.

Version 4.19.1 (August 29, 2023)

1) This update applies to qIQ Transceiver.
2) Added some transmit SCPI commands.

Version 4.19.0 (August 22, 2023)

1) This update applies to qIQ Receiver, qIQ Receiver Pro and qIQ Transceiver.
2) Updated remote control for qIQ Receiver.
3) Made remote control for qIQ Transceiver closely mimic that for qIQ Receiver.

Version 4.18.3 (August 18, 2023)

1) Added qIQ MultiTransmitter.

Version 4.18.2 (August 4, 2023)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Receiver Pro and qIQ Transceiver.
2) Fixed a bug which did not close the ACPR results window in the active windows dialog.
3) Output file type extensions are now remembered in qIQ Generator, both in the settings, and during execution. This should simplify saving multiple output files in a desired file format.
4) Added 307.2 Msps mode for AD9082 to qIQ Transceiver.

Version 4.18.1 (July 28, 2023)

1) This update applies to qIQ Receiver, qIQ Receiver Pro and qIQ Transceiver.
2) The averaging counter for ACPR measurements was not being reset when the “Start” button was pressed. This led to some strange ACPR results.

Version 4.18.0 (July 24, 2023)

1) This update applies to qIQ Receiver, qIQ Receiver Pro and qIQ Transceiver.
2) Increased the number of ACPR measurements from one per spectrum plot, to 4 per plot.

Version 4.17.0 (July 19, 2023)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Receiver Pro, qIQ Transceiver, qIQ MultiTransceiver, qIQ Radar, qIQ MultiCarrier and qIQ Baseband.
2) Fixed a bug which prevented the minimum value for the vertical axis from being changed, when using the limits dialog for a plot.
3) A change was made to the threading associated with dialogs. This is an attempt to fix some odd behavior, which occurred infrequently, when dialogs were opened, or closed. The new changes to the threading infrastructure seem to create better, more predictable, behavior.

Version 4.16.2 (July 12, 2023)

1) This update applies to qIQ Transceiver and qIQ MultiTransceiver.
2) Added the ability to prevent rescaling in order to maximize the dynamic range of the DAC, for the transmitter input file.
3) Added the ability to control the amplitude backoff, for MultiTransceiver.

Version 4.16.1 (July 11, 2023)

1) This update applies to qIQ Transceiver.
2) Added the ability to control the amplitude backoff, for the input file.

Version 4.16.0 (July 3, 2023)

1) This update applies to qIQ Receiver, qIQ Receiver Pro, and qIQ Transceiver.
2) Added a new ACPR Results window to display ACPR results.

Version 4.15.1 (June 29, 2023)

1) This update applies to qIQ Receiver, qIQ Receiver Pro, and qIQ Transceiver.
2) Bug fixes in time-frequency correlations in the correlation receiver.
3) Added time-frequency correlation to qIQ Transceiver.

Version 4.15.0 (June 28, 2023)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Receiver Pro, qIQ Transceiver and qIQ MultiCarrier.
2) When reading ADI txt files, qIQ Receiver rescales the input to +/-1.0.
3) There is now a spectrum plot showing the output of qIQ MultiCarrier.
4) Added a sample rate of 245.76 Msps for the AD9082.
5) Fixed various issues with csv versions of txt files.
6) Added an option for time-frequency correlations to the correlation receiver in qIQ Receiver.

Version 4.14.5 (June 7, 2023)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Receiver Pro, and qIQ Transceiver.
2) More changes to the filters which can be applied to input or output waveforms. More filter cutoffs were added. The passband to stopband transition, is now 2% of the sample rate for all of the filters.

Version 4.14.4 (June 6, 2023)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Receiver Pro, and qIQ Transceiver.
2) Enhanced the filters which can be applied to input or output waveforms. More filter cutoffs were added, and the stopband was brought closer to the passband.

Version 4.14.3 (June 5, 2023)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Receiver Pro, qIQ Transceiver and qIQ MultiTransceiver.
2) Allowed for adjacent channel offsets, to track the center channel offset, when doing ACPR calculations.

Version 4.14.2 (May 31, 2023)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Receiver Pro, qIQ Transceiver and qIQ MultiTransceiver.
2) Allowed for center channel offsets when doing ACPR calculations.

Version 4.14.1 (May 13, 2023)

1) This update applies to qIQ Receiver Pro.
2) Improved the handling of observation receiver channels for the ADRV9040 by querying for the parameter settings in ACE.
3) Changed the amplitude scaling for Rx and ORx channels for the ADRV9040.

Version 4.14.0 (May 12, 2023)

1) This update applies to qIQ generator, qIQ Receiver, qIQ Receiver Pro, and qIQ Transceiver.
2) Added 16-QAM, 64-QAM and 256-QAM to the signal types handled by bit error rate testing.
3) Changed the bit-to-symbol mapping for 256-QAM.
4) Added handling of observation receiver channels for the ADRV9040.
5) If ACPR or PiB measurements are being made in a spectrum window, and averaging is on, the averaging is automatically reset when Start is pressed.

Version 4.13.0 (May 9, 2023)

1) This update applies to qIQ Receiver, qIQ Receiver Pro, and qIQ Transceiver.
2) Added stepped spectrum analyzer mode.
3) Added commands to the SCPI dictionary for qIQ Receiver and qIQ Receiver Pro.

Version 4.12.2 (May 3, 2023)

1) This update applies to qIQ Receiver, qIQ Receiver Pro, and qIQ Transceiver.
2) Added an option to the DVB demod to present averaged, rather than instantaneous, EVM.

Version 4.12.1 (May 1, 2023)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Receiver Pro, qIQ Transceiver, and qIQ MultiCarrier.
2) Added a memory for measured results, in the measured results window.
3) qIQ MultiCarrier brought up to date with the other apps.

Version 4.12.0 (April 28, 2023)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Receiver Pro, qIQ Transceiver, qIQ MultiTransceiver and qIQ Radar.
2) Fixed a problem when running on 4k monitors. Toolbar buttons and other GUI items should now display correctly.
3) Fixed a problem with multiple monitor setups, when switched back to a single monitor setup. The main window will not be placed in a non-viewable area.
4) Added an option to save correlation coefficient results to a file, from correlation plots.
5) Added a demod status to the measured results for LTE. This makes it easier to determine if enough data is being acquired.
6) Changed the equalization models for LTE PUSCH, to only use the reference sequence, or to use the whole slot, for additional accuracy.
7) Added a “Browse” button for locating the ACE data exchange folder.

Version 4.11.2 (April 14, 2023)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Receiver Pro, and qIQ Transceiver.
2) Changed the bit-to-symbol mapping for 16-QAM for DVB-RCS2.

Version 4.11.1 (April 12, 2023)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Receiver Pro, qIQ Transceiver and qIQ MultiTransceiver.
2) Added an optional filter to the output processing for qIQ Generator.
3) Added PDSCH for LTE in qIQ Generator.
4) Changed an ACPR dialog label from “Center bandwidth” to “Channel bandwidth”.
5) Changed ACPR to display both power in dBm and ratio in dB for the adjacent bands.
6) Changed the colors for ACPR to make it easier to identify bands.

Version 4.11.0 (April 8, 2023)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Receiver Pro, and qIQ Transceiver.
2) Changed the 0 dB backoff applied to files written in ADI txt format, to 3 dB.
3) Changed how DVB-RCS2 uses preamble and postamble symbols to correct LO phase.
4) Added some delay to the auto-arrange message distribution when the active plots dialog is closed.

Version 4.10.2 (April 4, 2023)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Receiver Pro, and qIQ Transceiver.
2) Removed a 5 dB backoff applied to files written in ADI txt format. Outputs are now 0 dBFs.
3) DVB rotated 8-PSK now correctly reports the EVM percentage value.
4) Added DVB label to the results in the measured results window.
5) Fixed display of processing data and processing spectrum for DVB in Receiver and Transceiver.

Version 4.10.1 (April 3, 2023)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Receiver Pro, and qIQ Transceiver.
2) Added an additional input spectrum plot to Receiver, Receiver Pro and Transceiver.
3) The background colors for ACPR and Power in a Band measurements were made darker, to be less intrusive. The labels were made brighter, to be easier to read.
4) 4G LTE and 5G NR options for no equalization were removed, as equalization is needed to compensate for LO phase differences, and for fine timing adjustments.

Version 4.10.0 (March 30, 2023)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Receiver Pro, qIQ Transceiver, and qIQ MultiTransceiver.
2) Added DVB-RCS2 to Gen, Rcvr and Xcvr.
3) Added a new configuration for the AD9082 at 1.47456 Gsps.
4) Added save PDF and save CDF items to the CCDF plot popup menu.

Version 4.9.2 (March 27, 2023)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Receiver Pro, qIQ Transceiver, and qIQ MultiTransceiver.
2) Fixed a bug in frequency shifting for receiver processing, which did not preserve the actual frequency value for spectral content.

3) Vertical limits for spectrum plots are now controlled by max and per division, when using manual scaling.
4) The ADRV9040 receiver processing now compensates for receiver gain as far as the signal amplitude is concerned.

Version 4.9.1 (March 21, 2023)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Receiver Pro, and qIQ Transceiver.
2) Added point A control for 5G NR.
3) Added new transmit and receive filters for 4G LTE for 10, 15 and 20 MHz bandwidths.

Version 4.9.0 (March 20, 2023)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Receiver Pro, qIQ Transceiver and qIQ Inspector.
2) Added R&S wv files as input for Inspector.
3) Changed the displayed input data range to only that shown in the spectrogram for Inspector.
4) Changed the font sizes for display of measured results in various apps.
5) Fixed the units on C/N display for LTE and NR measured results. Also, removed Es/No and Eb/No for LTE and NR.
6) Added DVB as a signal type to Generator, Receiver, Receiver Pro and Transceiver.

Version 4.8.2 (March 1, 2023)

1) This update applies to qIQ Generator, qIQ Receiver, and qIQ Transceiver.
2) Fixed a bug in the CCDF plot when using the vertical zoom tool.
3) Modified the received data span for the ADRV9009 under IIO.

Version 4.8.1 (February 27, 2023)

1) This update applies to qIQ Generator, qIQ Receiver, and qIQ Transceiver.
2) Added use exact symbol rate to PSK / QAM demods.
3) Added more significant digits to PSK / QAM symbol rate in GUI.

Version 4.8.0 (February 24, 2023)

1) This update applies to qIQ Generator, qIQ Receiver, and qIQ Transceiver.
2) Added memory trace functionality to many plot types.

Version 4.7.0 (February 21, 2023)

1) This update applies to qIQ Generator, qIQ Receiver, and qIQ Transceiver.
2) Added ACE instruments to qIQ Receiver Pro. Currently, the AD9081, AD9986 and ADRV9040 are supported.
3) Saving IQ data from a time domain plot now makes it clear what file types are supported.
4) Added some new txt output file formats to qIQ Generator.

Version 4.6.2 (January 28, 2023)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Transceiver and qIQ MultiTransceiver.
2) Fixed a bug which prevented ACPR and power in a band notations from showing up when a spectrum plot is copied to the clipboard.

Version 4.6.1 (January 27, 2023)

1) This update applies to qIQ Generator, qIQ Receiver, and qIQ Transceiver.
2) Added a delta power indication for power in a band measurements, when two bands are in use.

Version 4.6.0 (January 27, 2023)

1) This update applies to qIQ Generator, qIQ Receiver, and qIQ Transceiver.
2) Added the R&S wv file format as a supported input file type for Receiver and Transceiver.

Version 4.5.0 (January 25, 2023)

1) This update applies to qIQ Generator, qIQ Receiver, and qIQ Transceiver.
2) Added the R&S wv file format (not to be confused with the R&S wvd/wvh file format, which was already supported), when saving data for Generator.
3) Added the ADRV9364 as its own instrument type.
4) Increased the SCPI commands for remote control of Receiver.
5) Fixed a crash that occurred when an AD936x single channel eval board was in use, but a two channel instrument type was selected.

Version 4.4.0 (November 28, 2022)

1) This update applies to qIQ Generator, qIQ Receiver, and qIQ Transceiver.
2) Added new generic IQ txt file formats when saving data for Generator.
3) Added new generic IQ txt file formats for input data for Receiver and Transceiver.
4) Added remote control to Receiver.
5) Added an option to control the number of samples in transmitter processing for Transceiver.
6) Beginning to implement limits on the number of transmitter and receiver samples, tailored to each model of instrument (eval board).

Version 4.3.2 (November 8, 2022)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Transceiver, qIQ MultiTransceiver and qIQ Radar.
2) Added vcruntime140.dll to all install packages.
3) Added initial version of DVB-S to Generator.
4) Added demod for 16-APSK.

Version 4.3.1 (October 28, 2022)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Transceiver, qIQ MultiTransceiver and qIQ Radar.
2) Changed how the USB descriptor was displayed when IIO over USB (Auto) was the connection type.

3) Fixed a bug in MultiTransceiver for the AD9081 and AD9082, which prevented DAC's 1-3 from producing an output.

Version 4.3.0 (October 20, 2022)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Transceiver, qIQ MultiTransceiver and qIQ Radar.
2) Added gain adjustment to transmitter processing for qIQ MultiTransceiver.
3) Added adaptive equalization to PSK/QAM demodulation in qIQ Receiver and qIQ Transceiver.
4) Allowed transmitter to be used without an activation code for qIQ Transceiver.
5) Added support for ADALM-Pluto rev C with 2 transmitters and 2 receivers to qIQ Generator, qIQ Receiver, qIQ Transceiver, qIQ MultiTransceiver and qIQ Radar.
6) Added equipment type to qIQ Radar to handle a splitter and cables hardware configuration.
7) Allowed usage of qIQ Generator, qIQ Receiver, qIQ Transceiver, qIQ MultiTransceiver and qIQ Radar without an activation code, when using Pluto or Pluto 2R2T.

Version 4.2.1 (October 4, 2022)

1) This update applies to qIQ Generator.
2) Changed the output txt file options when saving a file. There are now some generic file formats.

Version 4.2.0 (September 26, 2022)

1) This update applies toqIQ Generator, qIQ Receiver, qIQ Transceiver, qIQMultiTransceiver, qIQ Radar and qIQ Baseband.
2) Added a CCDF plot to qIQ Transceiver and qIQ Receiver.
3) Removed all references to the AD9173 and the ADRV9009, in qIQ Baseband.
4) Removed the control of the x-axis limits for spectrum and OFDM EVM plots. The range for the x-axis for spectrum plots is now set by the spectrum settings. The range for the x-axis for OFDM EVM plots is now set by the associated number of subcarriers. The toolbars were also modified to eliminate items associated with x-axis setting for these plot types.

Version 4.1.0 (September 20, 2022)

1) This update applies toqIQ Generator, qIQ Receiver, qIQ Transceiver, qIQMultiTransceiver and qIQ Radar.
2) Added an option to perform filtering on the acquired data, in the receiver processing in qIQMultiTransceiver.
3) Removed all baseband configurations (profiles) for the AD9173 and the ADRV9009, except the boot configurations, in qIQ Generator, qIQ Receiver, qIQTransceiver, qIQMultiTransceiver and qIQ Radar. This keeps the widest bandwidth modes, and speeds up the start up with these devices.
4) Added the AD9081 to qIQ Radar.

Version 4.0.0 (September 16, 2022)

1) This update applies toqIQ Generator, qIQ Receiver, qIQ Transceiver, qIQMultiTransceiver and qIQ Radar.
2) Added a correlating receiver to qIQ Receiver and qIQ Transceiver.
3) Added an option to perform filtering on the acquired data, in the receiver processing in qIQ Transceiver, and in the input processing in qIQ Receiver.
4) Added a measured results window to qIQ Generator.
5) Added a peak-to-average power ratio (PAPR) measurement to the measured results in qIQ Generator, qIQ Receiver and qIQ Transceiver.
6) Moved Bluetooth and GSM into the base versions in qIQ Generator, qIQ Receiver and qIQ Transceiver.

Version 3.9.0 (August 11, 2022)

1) This update applies toqIQ Generator, qIQ Receiver, qIQ Transceiver and qIQMultiTransceiver.
2) In qIQ Receiver, if the "automatically set parameters" check box on the file input dialog is checked, then the "File Input" button on the main toolbar will be set.
3) Added an AD9371 Boot configuration chip configuration to qIQ Transceiver.
4) Fixed a bug in qIQ Receiver where the pause condition to stop condition was not finishing the shutdown of the instrument.
5) Added the AD9172 dual DAC eval board to qIQ Transceiver and qIQMultiTransceiver.

Version 3.8.3 (June 27, 2022)

1) This update applies to qIQ Transceiver.
2) If the "automatically set parameters" check box on the file input dialog is checked, then the "transmitter on" button on the main toolbar will be set. This keeps the implications of selecting an input file, synchronized with the program operation.

Version 3.8.2 (June 13, 2022)

3) The IMS 2022 release version, which applies to qIQ Generator, qIQ Receiver, qIQ Transceiver, qIQMultiTransceiver and qIQ Radar.
4) Added FMCOMMS3 to qIQ Radar.
5) Added the AD9467 to qIQ Receiver.
6) IMS 2022 release version

Version 3.8.1 (May 20, 2022)

1) Added FMCOMMS11 to qIQ Transceiver.
2) Added time shift and phase rotation to transmitter processing in qIQMultiTransceiver.
3) Added a spectrum plot for every channel in qIQMultiTransceiver.
4) Added FMCOMMS3 and the ADRV9361 to qIQMultiTransceiver.

Version 3.8.0 (February 25, 2022)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Transceiver, qIQ Radar, qIQMultiReceiver and qIQMultiTransceiver.

2) Added a new radar range plot to qIQ Radar.
3) Added reset of the scrolling image for the scrolling radar range plot in qIQ Radar.
4) Added a show/hide for the toolbar in many 2D plot windows.
5) Halved the TX and RX filter frequencies for many AD9361 baseband configurations.

Version 3.7.0 (December 9, 2021)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Transceiver, qIQ Radar and qIQMultiTransceiver.
2) Added a new IIO connection type: IIO over USB (Auto), which will automatically connect to an IIO USB device, if only one is connected.
3) Fixed a bug in drawing of ACPR or PiB regions in spectrum plots.

Version 3.6.0 (November 15, 2021)

1) This update applies to qIQ Generator, qIQ Receiver, and qIQ Transceiver.
2) Added single and dual tone signal generation to qIQ Generator.
3) Added support for the AD9467 and FMCDAQ2.
4) Removed some txt file formats from qIQ Receiver input files.

Version 3.5.1 (September 15, 2021)

1) This update applies to qIQ Transceiver and qIQMultiReceiver.
2) Added qIQMultiReceiver.
3) Changed the AD9081 channel names to make them agree with the eval board markings.

Version 3.5.0 (September 8, 2021)

1) This update applies to qIQ Generator, qIQ Receiver, and qIQ Transceiver.
2) Added the AD9081 as a supported device at 250 Msps. Use the 100 MHz crystal and DAC interpolation rate of 48, and ADC decimation rate of 16.
3) Fixed an issue with the transceiver rate in the AD936x Control dialog for Receiver.

Version 3.4.1 (August 30, 2021)

1) This update applies to qIQ Generator, qIQ Receiver, and qIQ Transceiver.
2) Fixed a bug for the bit generation for various communication standards.
3) Changed the list of files which are installed.

Version 3.4.0 (July 8, 2021)

1) This update applies to qIQ Generator, qIQ Receiver, and qIQ Transceiver.
2) If no activation code is entered, Receiver and Transceiver now allow Spectrum Analyzer mode for the receiver channel. The transmitter is disabled if no activation code is entered.
3) When generating PSK or QAM from bits in a file, the symbol rate is taken from the dialog, rather than from the bits file. Previously, the bit rate in the file was used.
4) Support for the ADRV9002 was added at the boot configuration rate of 15.36 Msps.

Version 3.3.2 (June 14, 2021)

1) This update applies to qIQ Generator, qIQ Receiver, and qIQ Transceiver.
2) Fixed a DLL dependency in the installer.

Version 3.3.1 (June 12, 2021)

1) This update applies to qIQ Transceiver.
2) Changed the behavior of qIQ Transceiver when doing BER testing, so that the transmitter does not need to be enabled. BER testing can be performed with only the receiver on.

Version 3.3.0 (May 28, 2021)

1) This update applies to qIQ Generator, qIQ Receiver and qIQ Transceiver.
2) Added an option to Generator to save bits and symbols when the IQ waveforms are saved. This feature helps support bit error rate testing.
3) Support for bit error rate testing for PSK was added to Transceiver. This is enabled on the PSK / QAM processing dialog.
4) A 50Msps configuration was added for the AD936x chips.

Version 3.2.1 (March 26, 2021)

1) This update applies to qIQ Generator, qIQ Receiver and qIQ Transceiver.
2) Added an option to Generator to generate Linux friendly output file names (no spaces).
3) Support for the Rohde&Schwarzwv (wvd&wvh) file format was added.
4) The symbol rate unit of Gsymbols/sec was added for generation and processing.
5) A change was made to 2D plots which eliminates drawing on the left and right edges of the plot frame when there is data to the left or to the right of the displayed region.

Version 3.2.0 (February 22, 2021)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Transceiver and qIQ Baseband.
2) Added a checkbox to the active windows dialog which would do an autoarrange when the dialog was applied.
3) qIQ Generator had the Save As file dialog updated to keep the file extension on the file name, and the setting of the file type list, synchronized.

Version 3.1.1 (February 8, 2021)

1) This update applies to qIQ Generator, qIQ Receiver and qIQ Transceiver.
2) Fixed a bug which caused a crash when activating.

Version 3.1.0 (February 5, 2021)

1) This update applies to qIQ Generator, qIQ Receiver and qIQ Transceiver.
2) Added DOCSIS generation and reception.
3) Added approximate bandwidth to 5G NR generation dialog.
4) Transceiver will now handle transmitter processing changes while running, rather than only when the start button is pressed.

5) Added new baseband configurations for DOCSIS downstream rates, and 14 and 28 Msps rates, for compatibility with Tek RSA rates.
6) Eliminated “uncal” on dBm scales. All power and voltage levels being displayed are not calibrated, but the reminder is unnecessary.
7) Modified activation code handling.

Version 3.0.3 (February 1, 2021)

1) This update applies to qIQ Generator, qIQ Receiver and qIQ Transceiver.
2) Fixed an error in the 5G NR receiver which stopped execution when there was not enough data to process a slot.
3) Added 256 QAM handling to 5G NR receiver.
4) Changed redrawing of ACPR or Power in a Band when processing or window size changes.
5) Changed the tab order for various dialogs.
6) Removed resource block limitations for 5G when precoding was active.

Version 3.0.2 (January 28, 2021)

1) This update applies to qIQ Generator, qIQ Receiver and qIQ Transceiver.
2) Changed the automatic file name generation for 5G in qIQ Generator.
3) Added bandwidth control, in the form of resource blocks, for 5G.
4) Added the number of resource blocks to the metadata for iqbin files.
5) Fixed an unwanted change of amplitude in qIQ Generator, if decimation was used in the output processing.

Version 3.0.1 (January 25, 2021)

1) This update applies to qIQ Generator, qIQ Receiver and qIQ Transceiver.
2) Changed the automatic file name generation for 5G in qIQ Generator.
3) Expanded the maximum number of samples read from a file to 4M in qIQ Receiver in order to accommodate 5G with narrow subcarrier spacing.
4) Changed the scheduled bandwidth (in number of resource blocks) for 5G, in order to allow for transform precoding which complies with the standard.
5) Fixed a bug in OFDM symbol generation and processing for 5G.

Version 3.0.0 (January 22, 2021)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Transceiver, qIQ Radar and qIQ Inspector.
2) Added 5G NR to Generator, Receiver and Transceiver.
3) Removed the Data folder from installs of Generator, Receiver and Transceiver. (See item 4)
4) Added qIQ Tools Data (v1.0.0) as an installer for demo data. The 5G data was making the install packages for Receiver and Transceiver too big, so this alternate installer was added to create one location for demo data.
5) Fixed a bug in spectrogram plots which did not allow small RBWs.
6) Changed the display of measured results for Bluetooth.

7) Enhanced the output file name generation for Generator.
8) Automatic setting of the baseband configuration from an iqbin input file, was enhanced in Transceiver, to account for Scale Model Waveforms usage.

Version 2.9.0 (December 7, 2020)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Transceiver and qIQ Radar.
2) Added "MainWindow:Start immediate" parsing of a settings file, to enable starting the current session after recalling the settings, to Generator, Receiver and Radar.
3) Added control for max range in Radar processing.
4) Added range cal factor in Radar.

Version 2.8.8 (November 30, 2020)

1) This update applies to qIQ Transceiver.
2) Added "MainWindow:Start immediate" parsing of a settings file, to enable starting the current session after recalling the settings.

Version 2.8.7 (November 17, 2020)

1) This update applies to qIQ Generator, qIQ Receiver, qIQ Transceiver and qIQ Radar.
2) Added the ability to create pulsed waveforms for PSK/QAM in qIQ Generator.
3) Added the ability to find a pulse of power for PSK/QAM reception in qIQ Receiver and qIQ Transceiver.
4) Initial release for qIQ Radar.

Version 2.8.6 (November 4, 2020)

1) This update applies to qIQ Receiver.
2) Fixed a bug with the spectrogram plot when the start time of the data was not 0.0.
3) Expanded the maximum number of points to input to 2 million.

Version 2.8.5 (November 3, 2020)

1) This update applies to qIQ Generator, qIQ Receiver and qIQ Transceiver.
2) Changed the Save to File dialog in qIQ Generator.
3) Added an output file format to qIQ Generator.
4) Changed the Input File dialog in qIQ Receiver.
5) Added an input file format to qIQ Receiver.
6) Removed references to the ADRV9002 in qIQ Transceiver.

Version 2.8.4 (September 5, 2020)

1) This update applies to qIQ Generator, qIQ Receiver and qIQ Transceiver.
2) Fixed a bug in displaying the Power in a Band or ACPR bandwidth, when the units are kHz.
3) Added side lines to the Power in a Band and ACPR region indicators to better indicate a narrow band.
4) Changed references to the ADRV900x to ADRV9009, in preparation for adding the ADRV9002.

Version 2.8.3 (August 27, 2020)

1) This update applies to qIQ Generator.
2) Fixed a bug during startup relating to the auto generation of a file name for the output.
3) Fixed the ADRV9361 channel 2 selection.

Version 2.8.2 (July 23, 2020)

1) This update applies to qIQ Generator.
2) Changed the ADI IQ output file type to not have any header.
3) Fixed a bug in the automated file name generator when no output data had been created.

Version 2.8.1 (July 15, 2020)

1) This update applies to qIQ Generator and qIQ Receiver.
2) Added the ADI IQ output file type to Generator.
3) Added the ADI VSA and ADI 9026 VSA txt file types as inputs for Receiver.

Version 2.8.0 (June 30, 2020)

1) This update applies to qIQ Generator, qIQ Receiver and qIQ Transceiver.
2) Added the LFM (linear frequency modulation) signal type to Generator.
3) Added LFM modulation info to iqbin files.
4) Receiver and Transceiver read LFM modulation info from iqbin files.
5) Fixed a bug in Transceiver which disabled transmission if only the transmitter was enabled.
6) Fixed an initialization problem for the number of LTE slots in the results window.

Version 2.7.2 (June 18, 2020)

1) This update applies to qIQ Receiver and qIQ Transceiver.
2) Added a toolbar to the persistence spectrum plot.
3) Changed the popup location window for the spectrogram plot to just a time-frequency location display.
4) Changed the persistence spectrum and spectrogram plots to display absolute frequency, rather than relative frequency. Added a span notation to these plots.

Version 2.7.1 (June 8, 2020)

1) This update applies to qIQ Generator, qIQ Receiver and qIQ Transceiver.
2) Changed when the processing data plot and the processing spectrum plot display data. If receiver processing is applied, the processing plots will display data.
3) Minor name changes to the plots.

Version 2.7.0 (June 2, 2020)

1) This update applies to qIQ Generator, qIQ Receiver and qIQ Transceiver.
2) Removed LTE Cell ID dialog from qIQ Receiver and qIQ Transceiver. Those applications only use the QIQ Systems' Simple Reference Sequence scheme for handling reference sequences.

3) LTE PUSCH receiver is now working in qIQ Receiver and qIQ Transceiver.
4) Changed the average EVM calculation in the OFDM EVM by subcarrier plot, to be the average of the Average EVM trace. This provides more agreement in displayed values. The average EVM value for a single acquisition and processing, is still available in the measured results window.

Version 2.6.2 (May 27, 2020)

1) This update applies to qIQ Generator, qIQ Receiver and qIQ Transceiver.
2) Fixed a bug in enabling band 1 in Power in a Band measurements.
3) Added LTE Cell ID dialog to qIQ Generator.
4) Fixed a bug in the control of carrier power for LTE in qIQ Generator.

Version 2.6.1 (May 20, 2020)

1) Fixed a bug that hung the Windows drawing system when drawing the new background indicators for ACPR or Power in a Band frequency regions on the spectrum plots.

Version 2.6.0 (May 18, 2020)

1) This release is for qIQ Generator, qIQ Receiver, qIQ Transceiver and qIQ Inspector.
2) Fixed the font size indication at startup for the popup menu for the measured results window.
3) Added lines and symbols control for complex time domain plots.
4) Enhanced the error messages associated with connecting to an IIO device, to make it clearer what is happening and what might resolve the issue.
5) qIQ Generator can now use bits from a file for LTE and PSK/QAM.
6) Added ACPR measurements to spectrum plots.
7) Added Power in a Band measurements to spectrum plots.

Version 2.5.4 (May 12, 2020)

1) A release for only qIQ Generator. Changed the pilot tones generated for an 802.11a packet.

Version 2.5.3 (May 9, 2020)

1) Added bits from a file to WLANa waveform generation in qIQ Generator.
2) Added a Data folder to the qIQ Generator install package which contains examples of bit files for PRBS9.
3) Added display of Es/No and Eb/No for 802.11a in qIQ Receiver and qIQ Transceiver.

Version 2.5.2 (May 5, 2020)

1) Fixed an unhandled exception in qIQ Generator associated with saving of the IQ data to a file.
2) Added auto appending of the correct file extension, when saving the IQ data to a file in qIQ Generator.

Version 2.5.0 (May 5, 2020)

1) Fixed a bug in the AD936x Control dialog which did not allow selection of the recently added 2Msps baseband configuration for the AD9361.

2) Added Scale Model Waveforms feature to qIQ Transceiver.
3) Added Scale Model Waveforms pdf to Help menu in qIQ Transceiver.
4) Added display of the Processing Waveform and Processing Spectrum plots when in Spectrum Analyzer mode for qIQ Receiver and qIQ Transceiver.
5) Increased the width of the Value popup window for plots in order to accommodate the "dBm uncal" increased label width.
6) Added several pdf links to the qIQ Transceiver Help menu. Added the pdfs to the install package.

Version 2.4.5 (April 27, 2020)

1) Added a baseband configuration for the AD9361 at 2Msps.
2) Fixed a bug with the Pause operation in qIQ Receiver and qIQ Transceiver.

Version 2.4.4 (April 24, 2020)

1) Added a "Renewal Request" button to the Activation Code dialog. This generates an e-mail request for renewal of the activation code.
2) Added a popup menu option to copy the Measurement Results to the clipboard as text, rather than as an image.
3) Added a qualifier "uncal" to all dBm scales to indicate that the displayed dBm values do not include a calibration. We try to make displayed power values reasonably accurate, but they are not calibrated, nor relatable to values from a standards body (such as NIST).

Version 2.4.3 (April 23, 2020)

1) This is an update for qIQ Transceiver only.
2) Added the transmitter file name to the status bar.
3) Added the ADALM Pluto pdf to the Help menu.

Version 2.4.2 (April 21, 2020)

1) Added the qIQ Transceiver Scripted Demo to the install package and the Help menu.
2) qIQ Baseband bug fixes.

Version 2.4.1 (April 19, 2020)

1) Added new baseband configurations for the AD9361 for 5Msps, 8Msps, 10Msps and LTE10_15p36Msps. The previous versions were not loading correctly.
2) Removed the AD9361_Tx25_Rx50Msps baseband mode because of loading problems. Added a new AD9361_25Msps baseband mode.

Version 2.4.0 (April 14, 2020)

1) Eliminated almost all of the previous baseband configurations for the AD936x family, which were generated using the AD9361 Filter Wizard. (The GSM baseband settings were retained, for now.) The previously large number of configurations was needed to optimize the trade-off between usable bandwidth and stop band rejection.

2) Added new baseband configurations for the AD9361, created using qIQ Baseband. These new configurations have better usable bandwidth and stop band rejection. Usable bandwidth for a configuration is now 80% of the input or output sample rate. Stop band rejection is at least 70 dB.
3) Due to the changes above, the numbering of the baseband configurations in the settings files has changed. Users should re-save the program settings and the start-up settings, to get the correct baseband configuration.

Version 2.3.3 (April 8, 2020)

1) Added the ability to move markers left and right in a plot using the arrow keys.
2) Many enhancements to AD936x design in qIQ Baseband.
3) New baseband configurations for AD9361 for 8, 10, 20 and 40 Msps.
4) New example data for WLANa 24Mbps 20Msps.

Version 2.3.2 (April 6, 2020)

1) Eliminated AD9361 baseband configurations for LTE 5 MHz and LTE 15 MHz.
2) Designed new AD9361 baseband configurations for LTE 10 MHz and LTE 20 MHz.
3) Added AD936x design for transmitter, receiver and saving of the resulting baseband configuration, in qIQ Baseband.

Version 2.3.1 (April 1, 2020)

1) Added AD936x WLAN 20Msps baseband mode to qIQ Receiver and qIQ Transceiver list of baseband configurations in the AD936x control dialog.
2) Changed qIQ Baseband significantly. Added FIR Design dialog. Added AD936x Transmitter and Receiver design dialogs. Removed main toolbar.
3) Fixed a bug in the handling of activation codes for all of the programs.

Version 2.3.0 (March 20, 2020)

1) Added trace markers to many types of plot windows. The markers are available on the toolbar to the left of the plot.
2) Fixed a bug with zooming of plots related to the horizontal selection region.
3) Improved the choice of automatic limits when zooming a plot.
4) Added an indication in the measurement results window which shows the equalization state for 802.11a processing in qIQ Receiver and qIQ Transceiver.
5) Changed the maximization of a plot window to stay below the toolbar for the main window.
6) This update does not include qIQ Baseband, which is still in process, nor qIQ Inspector, which was not affected by these changes.

Version 2.2.2 (March 12, 2020)

1) Reformulated equalization for 802.11a in qIQ Receiver and qIQ Transceiver.
2) Added correct subcarrier numbering for 802.11a in OFDM EVM plot.
3) Added arbitrary resampling in output processing for qIQ Generator.

4) Fixed a bug in qIQ Receiver and qIQ Transceiver which hung the input dialog when the existing file no longer existed, and it was an iqbin file type.
5) Changed occupied bandwidth calculation for 802.11a.
6) Added limits checking for AD936x baseband configurations in qIQ Baseband. It now checks sample rates and bandwidths against limitations for that chip family.
7) Added AD9361_WLAN_20Msps.ftr baseband configuration.

Version 2.2.1 (March 5, 2020)

1) Added equalization for 802.11a in qIQ Receiver and qIQ Transceiver.
2) Enhanced the status bar display of the state of the instrument interaction.

Version 2.2.0 (March 4, 2020)

1) Added pause button to main toolbar for qIQ Receiver and qIQ Transceiver.
2) Added AD937x baseband configurations for 61.44, 122.88 and 122.88/245.76 Msps to qIQ Generator, qIQ Receiver and qIQ Transceiver. These configurations were tested with the ZC706 digital board.
3) Added the AD937x configuration files to the install packages.
4) Added AD937x control dialogs to qIQ Generator and qIQ Receiver, and updated the AD937x dialog for qIQ Transceiver.

Version 2.1.6 (February 2020)

1) Eliminated PSK receiver setting for carrier detection. Carrier detection is always performed, so no setting was needed.
2) Added Agilent (Keysight) 89600 VSA text file (with an extension of .txt) as a supported input file type for qIQ Receiver.

Version 2.1.5 (February 2020)

1) WLAN 40 Msps baseband mode for AD936x chips, now set automatically by qIQ Receiver and qIQ Transceiver when an iqbin input file with 802.11a at 40 Msps is selected.
2) Numerous underlying code changes, which did not affect the GUI, associated with building waveform synthesis and waveform analysis objects under Linux.
3) Added ADRV900x control dialog to qIQ Generator and qIQ Receiver.
4) Fixed a bug in the persistence spectrum plot when unreasonable values were input using the settings dialog.
5) Fixed a bug in the spectrogram plot when unreasonable values were input using the settings dialog.

Version 2.1.4 (February 2020)

1) Constrained plots and results windows to not cover the main toolbar or statusbar.
2) Printing of plots now has thicker lines to make them easier to see.
3) qIQ Baseband had numerous UI changes to make it more like the other applications.

4) The decay rate for persistence spectrum plots was changed to give a more desirable characteristic.
5) Fixed a bug for RBW settings in the persistence spectrum dialog.
6) The automatic RBW value for the spectrogram was changed to be the same as the other spectrum plots.
7) Added a 245.76 Msps profile for the ADRV9009. This profile only works with a ZCU102 digital board.
8) Changed the formatting of IIO interfaces in qIQ Transceiver.

Version 2.1.3 (February 2020)

1) Disabled the minimize button on the title bar of plots and results windows. Minimizing made windows easy to lose.
2) Clicking in a plot or result window brings it to the top.
3) Added control of the DSP window shape for spectrogram plots in the spectrogram settings dialog.
4) Fixed a problem with the new persistence spectrum and spectrogram windows that caused a crash when the windows were closed, and then Go was pressed.

Version 2.1.2 (January 2020)

5) Added an acquired data persistence spectrum plot to qIQ Receiver and qIQ Transceiver.
6) Consolidated the control dialogs for the spectrogram plot into one settings dialog.
7) Changing the ADRV9009 profile (baseband configuration) now works in qIQ Transceiver.
8) Fixed a bug concerning the display of modulation information about iqbin input files in qIQ Receiver and qIQ Transceiver.
9) Changed the logic for shutting off the transmitter in qIQ Generator and qIQ Transceiver.

Version 2.1.1 (January 2020)

1) Added a status bar to qIQ Generator, qIQ Receiver and qIQ Transceiver.

Version 2.1 (January 2020)

2) Added an acquired data spectrogram to qIQ Receiver and qIQ Transceiver.
3) Added display of modulation info for .iqbin files opened in qIQ Receiver and qIQ Transceiver.
4) Added options for the SIGNAL symbol creation of 802.11a waveforms in qIQ Generator.
5) Added options for the demodulation of 802.11a waveforms with regard to the SIGNAL symbol in qIQ Receiver and qIQ Transceiver.
6) Added AD9371 Instrument Control dialog in qIQ Transceiver.
7) Added AD9371 compatibility (in boot baseband configuration only) in qIQ Transceiver.
8) Added AD9371 boot baseband configuration.
9) Added GSM 1.625 Msps baseband configuration for AD9361.
10) Replaced WLANa and PSK/QAM files installed with qIQ Receiver and qIQ Transceiver with new files with modulation info metadata.

Version 2.0 (December 2019)

1) Added a toolbar to all of the 2D plots. Moved some of the functions from the right click context menu to the toolbar.
2) Changed the screen color scheme to use less yellow.