



<b>ADRV9010 SOFTWARE RELEASE NOTES</b>	<b>SW4.1.0.84</b>
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**BUILD TYPE:** RELEASE  
**RELEASE DATE:** JANUARY 15, 2021

**INCLUDED DELIVERABLES:**

**ARM Firmware Revision:** 4.1.0.29  
**Gain Tables Revision:** 4.1.0.5  
**API Revision:** 4.1.0.64  
**GUI Revision:** 4.1.0.91

(NOTE: Stream files must be generated from the GUI for the selected profile as they are use case dependent.)

**PREVIOUS RELEASE BUILD:** INITIAL RELEASE

(NOTE: This is the reference baseline for all changes outlined in this document.)

**SUPPORTED USE CASES:** UC13-NLS, UC14-LS, UC26-LS, UC47-LS, UC47-NLS, UC91-LS, UC95C-LS

**INIT CALIBRATION:**

The following calibrations were enabled during software verification for this release.

Init Calibration	Enabled	Init Calibration	Enabled	Init Calibration	Enabled	Init Calibration	Enabled
RESERVED		HD2 Init		Rx LO Delay		Loopback Rx DC Offset	X
RESERVED		RESERVED		Loopback Rx QEC Init		ORx DC Offset	X
RESERVED		RESERVED		Loopback Rx LO Delay	X	Rx DC Offset	X
RESERVED		RESERVED		Tx QEC Init	X	Loopback Rx TIA Filter	X
Rx Gain Phase	X	Tx DAC Init	X	Tx LO Leakage External Init	X	ORx TIA Filter	X
Rx Gain Delay	X	ORx QEC Init	X	Tx LO Leakage Init	X	Rx TIA Filter	X
Tx Atten Table Linearization	X	ORx LO Delay		Path Delay	X	ADC Tuner	X
Tx Atten Delay	X	Rx QEC Init	X	ADC Flash	X	Tx Baseband Filter	X

**OVERVIEW**

The SW4.1.0.84 release build provides ARM firmware, stream files, API, and GUI software to support the ADRV9010. This software only supports revision B silicon and newer; it should not be used with previous silicon revisions. This package includes the following:

- Initial broad market release version.

Note that the included API code may contain references to proposed features that were never developed. All features required for transceiver operation are included in this code release.

The following sections describe any changes and enhancements provided in this build.

**API CHANGES*****API Additions***

Initial Release

***API Modifications***

Initial Release

**ARM FIRMWARE CHANGES*****Channel Setup***

Initial Release

***Calibrations***

Initial Release

**GUI CHANGES**

Initial Release

**STREAM CHANGES**

Initial Release

**KNOWN ISSUES/LIMITATIONS**

1. In rare cases, the Tx phase correction calibration has been seen to perform poorly at higher attenuation settings (approximately 18 dB and above).
2. In very rare cases, ORx QEC has been seen to degrade to a level as low as 48 dBc before recovering to the normal performance level. It has not been fully determined if this is the result of an algorithm issue or a test artifact.

**ADDITIONAL INFORMATION**

1. ADI recommends setting ORx Attenuation to 10 dB at higher LO frequencies, to take advantage of the LO leakage algorithm's rejection of coupling.
2. Tracking calcs should be disabled prior to changing LO frequency.
3. Customers should add `adi_adrv9010_PllLoopFilterSet` in their startup sequence immediately before `adi_adrv9010_PostMcsInit` to set the loop filter bandwidth to 600 kHz.
4. It is recommended that customers run the external TX LOL init calibration. When running init calibrations, be sure to disable all tracking calibrations.
5. It is recommended to set AUX LO to the default offset LO when running initialization calibrations.

**SUPPORTED USE CASES**

The following use cases are included in this software package. For a list of verified use cases, see the Supported Use Cases list on page 1 of this document.

Use Case	Np Value		Tx Channels			ORx Channels			Rx Channels			JESD Lane Rate (Gbps)
	Tx	Rx/ORx	BW (MHz)	Data Rate (MSPS)	Channels	BW (MHz)	Data Rate (MSPS)	Channels	BW (MHz)	Data Rate (MSPS)	Channels	
13-NLS	16	16	100/225	245.76	4	225	245.76	2	100	122.88	4	9.8304
14-LS	12	12	200/450	491.52	4	450	491.52	2	200	245.76	4	14.7456
26-LS	16	16	200/450	491.52	4	450	491.52	2	200	245.76	4	9.8304
47-LS <sup>1</sup>	16	16	200/450	245.76	4	450	245.76	2	200	245.76	4	9.8304
47-NLS <sup>1</sup>	16	16	200/450	245.76	4	450	245.76	2	200	245.76	4	9.8304
91-LS	12	12	160/338	368.64	4	338	368.64	2	300	368.64	4	11.0592
95C-LS	16	16	300/450	491.52	4	450	491.52	2	300	245.76	4	9.8304

**Notes:** LS = Link Sharing; NLS = Non Link Sharing

<sup>1</sup> Internal data rate is 491.52 MSPS, output HB enabled for 245.76 MSPS