TICS Pro

EVM GUI for CDC, LMK, and LMX Timing Devices

Release Notes

Rev. 1.7.10.2
16-Oct-2026

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Release Notes

TICS Pro Release 1.7.10.2

1 Overview

This document is the Release Notes for Release 1.7.10.2 of the TICS Pro Software. This software release gives list of features/known issues of every release. Please refer to the *Getting Started Guide* chapter in the *User Guide* on how to install the TICS Pro Software.

2 Licensing

Please refer to the software manifest which outlines the licensing status for all packages included in this release.

3 Documentation

- **TICS Pro GUI Users Guide**: Provides information on features, functions of different pages of the GUI.
- **Software Manifest**: Provides license information on software included in the release.

4 Device Support

The devices supported with this release include (new devices are bolded):

Supported Devices
CDCI6214
CDCE6214-Q1
CDCDB800
CDCDB2000
CDCM6208V1/1F/2/2G
LMK01000/10/20
LMK01801B
LMK02000/02
LMK03000C/01C/02C/33C
LMK03200
LMK03318/28
LMK03806B
LMK04000B/01B/02B/10B/11B/31B/33B
LMK04100/01/02/10/11/31/33

LMK04208
LMK04228
LMK04368-EP
LMK04610/16
LMK04714-Q1
LMK04803B/05B/06B/08B/16B
LMK04821/26B/28B
LMK04832
LMK04832-SEP
LMK04832-SP
LMK04906B
LMK05028
LMK05318
LMK05318B
LMK1D1208I
LMK3H0102
LMK5B12204
LMK5B12212
LMK5B33216
LMK5B33414
LMK5C22212A
LMK5C23208A
LMK5C33216
LMK5C33216A
LMK5C33414A
LMK5D33414
LMK61E0M
LMK61E2
LMKDB1104
LMKDB1108
LMKDB1120
LMKDB1204
LMX1204
LMX1205
LMX1214
LMX1404-EP
LMX1860-SEP
LMX1906-SP
LMX2492
LMX2485
LMX2485E
LMX2485Q-Q1

LMX2486
LMX2487
LMX2487E
LMX2491
LMX2531LQ1146E
LMX2531LQ1226E
LMX2531LQ1312E
LMX2531LQ1415E
LMX2531LQ1500E
LMX2531LQ1515E
LMX2531LQ1570E
LMX2531LQ1650E
LMX2531LQ1700E
LMX2531LQ1742
LMX2531LQ1742E
LMX2531LQ1778E
LMX2531LQ1910E
LMX2531LQ2080E
LMX2531LQ2265E
LMX2531LQ2570E
LMX2531LQ2820E
LMX2531LQ3010E
LMX2541SQ2060E
LMX2541SQ2380E
LMX2541SQ2690E
LMX2541SQ3030E
LMX2541SQ3320E
LMX2541SQ3740E
LMX2571
LMX2571EP
LMX2572
LMX2572LP
LMX2581
LMX2582/92
LMX2594/95
LMX2615
LMX2624-SP
LMX2694
LMX2820
LMX8410L
Tool: PCIe Report Generator

5 Supported Features

5.1 *Version 1.0.0.0*

1. First release

5.2 *Version 1.1.0.0*

- Added LMX2581.
- Updated LMX2582/92 device profiles.
- Added support for future devices.

5.3 *Version 1.2.0.0*

- Added LMK04826B and LMK04828B device profiles.
- Added LMX2541 device profile.
- Added LMX2492 device profile.
- Added LMK03328 device profile.
- Bug fixes including
    - USB2ANY attachment/removal.
    - PLL page phase detector polarity toggle crash

5.4 *Version 1.3.0.0*

- Added LMK04208.
- Bug fixes for future device release.

5.5 *Version 1.4.0.0*

- Added LMK04906, LMX2531 Family, LMX2541 Family, LMX248x Family, LMX2571, LMX2491
- Fixed LMK04208 to double write R0 to R5 when required for extra 3 SPI clocks. Refer to datasheet for detailed programming info. Pins restore to proper state on setting Default Configuration. Read back all registers fixed.
- Bug fixes for future device release.

5.6 *Version 1.5.0.0*

- Added LMK010x0 Family, LMK01801B, LMK030xxC Family, LMK03806B, LMK040xxB Family, LMK04100 Family, LMK0480xB Family, and LMK04816B.
- LMK04826B/28B updated with more set modes and bug fixes.
- Bug fixes
    - Minor bug fixes to support newly released devices.
    - Burst mode reflects updated values in GUI, not just Raw Registers.

5.7 *Version 1.6.0.0*

- Added jumper diagram for USB2ANY-uWIRE board in “Communication Setup” window for many devices which require it.
- Added LMK0200x Family, LMK04821.
- Updates/bug fixes to LMK04826/LMK04828, LMK03806B, LMK03000.
- Added communications window help for jumper settings for devices using USB2ANY-uWIRE.
- Removed part profile LMX2485Q, LMX2485Q-Q1 should be used.

- Bug fixes – internal code update

5.8 *Version 1.6.1.0*

- Added LMK61E0M.

5.9 *Version 1.6.2.0*

- Added LMK04610.

5.10 *Version 1.6.3.0*

- Added LMX2594

5.11 *Version 1.6.4.0*

- Added LMK04616

5.12 *Version 1.6.5.0*

- Added PLL2 loop filter calculation LMK04610, LMK04616

5.13 *Version 1.6.5.0, 30-Jun-2017*

- Added LMX2595, CDCI6214

5.14 *Version 1.6.5.0, 14-Jul-2017*

- Added PLMK04832
- Correct LMX2595 channel divider calculation

5.15 *Version 1.6.5.0, 16-Aug-2017*

- Added LMX2572

5.16 *Version 1.6.6.0, 03-Oct-2017*

- Update CDCI6214

5.17 *Version 1.6.6.0, 30-Oct-2017*

- Update CDCI6214
- Update LMX2572

5.18 *Version 1.6.7.0, 04-Jan-2018*

- Add LMK04832

5.19 *Version 1.6.7.0, 27-Feb-2018*

- Updated LMX2581, LMX2582, LMX2592, LMX2594, LMX2595
- Added CDC device drivers
- Added CDCM6208V1, CDCM6208V1F, CDCM6208V2, CDCM6208V2G

5.20 *Version 1.6.8.0, 12-Apr-2018*

- Added LMK05028 in Network Synchronizer Clock Device group

5.21 *Version 1.6.8.0, 7-May-2018*

- Added LMX2572LP and LMK03318
- Updated LMX8410L

5.22 *Version 1.6.8.0, 7-Jun-2018*

- Added LMK05318

5.23 *Version 1.6.8.0, 8-Aug-2018*

- Bug fix for LMK03328. Corrected proper frequency calculations after loading saved TCS files. Updated register default values.
- Bug fix for LMK04610. Corrected calculated PLL1 divider frequency outputs.

5.24 *Version 1.6.8.0, 21-Aug-2018*

- Added LMX2615

5.25 *Version 1.6.8.0, 15-Nov-2018*

- Updated LMX2615, LMX8410L
- Bug fix for LMX2571

5.26 *Version 1.6.9.0, 11-Dec-2018*

- Updated LMK05318: Release.
- Updated LMK03318: fixed I2C address

5.27 *Version 1.6.10.0, 16-May-2019*

- Updated LMX2485/85E/85Q-Q1/86/87/87E: Refresh of profile for improved user experience.
- Updated LMX2471/72/72LP.
- Updated LMX2594: Added ACAL_CMP_DLY.
- Updated LMX2595: Added ACAL_CMP_DLY, Supports 20 GHz.
- Updated LMX2615-SQ: Fixed output divider.
- Updated LMK05318: Fix PLL2_RDIV_SEC bug. Corrected BAW_LOCK calculation for when using doubler. Updated recommendation for PLL1_LF_R2 from 880 ohms to 2505 ohms. Added Extra bytes for SRAM/EEPROM write for EEREV and I2C SLAVEADR.
- Updated LMK05028: Added DPLL1 and DPLL2 register set export buttons to enable update to DPLL1 or DPLL2 separately.
- Improved robustness of “Import hex registers” function and added bit masking to allow import of only masked bits in a given register.

5.28 *Version 1.6.10.0, 19-Jul-2019*

- Added CDCE6214-Q1 for APL.
- Added LMX2694.
- Updated LMK03318/28 with frequency planner.
- Minor updates to LMX2615, LMX2595, and LMX2594

5.29 *Version 1.6.10.0, 29-Oct-2019*

- Added CDCDB2000.
- Updated CDCI6214 with FOD removed.
- Updated LMK05028:
    - Added DPLL1 and DPLL2 register set with Outputs export buttons to enable update to DPLL1 or DPLL2 separately along with all descending outputs. The purpose is to create programming to treat LMK05028 as two separate DPLLs in one device. Only TCXO MDIV and TCXO doubler must be the same for the different DPLL configurations.
    - Added ability to force DPLL denominator.
- Bug fixes applied for calculating DPLL mode = 2 loop: TCXO, APLL.

5.30 *Version 1.6.10.0, 25-Nov-2019*

- Updated CDCE6214-Q1 for RTM

5.31 *Version 1.7.0.0, 09-Jan-2020*

- Core updates:
    - Import hex register values will also program the registers if Options → Auto Update is checked.
    - Import TCS file update. Will skip rather than abort loading .TCS files containing registers not in current device's Raw Register map.
- Bug fixes to CDCE6214-Q1. Fixed fractional feedback divider bug.
- Updated LMK04832:
    - Added frequency planner to LMK04832.
- Bug fixes and updates to LMK05318:
    - When XO doubler is enabled, frequency detector is properly calculated.
    - Saved .TCS files will now result in VCO2 frequency properly displayed on load.
    - Improved frequency detector input validation calculation.
    - Improved 1 PPS DPLL filter calculation.
    - Corrected APLL2 cascade configurations with no outputs from APLL1 to keep APLL1 powered up.
    - Bug fix for early/missing clock validation calculations with low and high frequency references.
    - Update to status page layout.
        - Added register R167 for read back of active selected reference.
    - To EEPROM export added [META] section with programming EEPROM info. EEPROM export will also automatically press "(1) Commit Registers & Extra Bytes → Chip SRAM" to ensure EPR file contains valid data and not 0s.

5.32 *Version 1.7.0.0, 21-Feb-2020*

- Updated LMK05318 with a default 1 PPS configuration under "Default configuration" menu option.
- Improved recommended configuration when DPLL calculations are done for 1 PPS (1 Hz) reference input for lock time.

5.33 *Version 1.7.0.0, 5-Jun-2020*

- Added LMX2820

5.34 *Version 1.7.0.0, 19-Jun-2020*

- Added LMK05318B

5.35 *Version 1.7.0.0, 21-Aug-2020*

- Added LMK5B12204
- Added LMK04832-SP
- Fixed backward compatibility issue with LMK05318B
- Restored current calculator to LMK04821/6/8

5.36 *Version 1.7.1.0, 25-Sep-2020*

- Updated TICS Pro core for faster loads on devices with large control counts
- Updated TICS Pro core to support visual-only GUI updates during register loads

5.37 *Version 1.7.2.0, 10-Oct-2020*

- Bug fix for v1.7.1 TICS Pro
- Abort read all registers on error
- Add LMK5C33216

5.38 *Version 1.7.2.0, 23-Nov-2020*

- Update LMK5C33216 for public release
- Correction to VCO ranges on LMK04610, LMK04616, LMK04828, and LMK04832. Should now match datasheet values

5.39 *Version 1.7.2.0, 02-Dec-2020*

- Updated LMX2820

5.40 *Version 1.7.2.0, 24-Dec-2020*

- Updated LMK5C33216

5.41 *Version 1.7.2.0, 5-Feb-2021*

- Updated CDCE6214-Q1
  - Added a frequency calculation tool
  - Fixed EEPROM programming bug with direct access method by adding 10 ms time interval and relocking the EEPROM after programming.
- Updated LMK05318B and LMK5B12204:
  - Fixed DPLL frequency lock detect bug in backward compatible mode
  - Fixed OUT7 divider bug
  - Updated early/late window detect calculation for reference frequencies below 5 MHz
- Updated LMK5C33216
  - Added APLL DCO, DPLL DCO.
  - Added Vcm and Vod information for outputs.
  - Fixed bug in DPLL bit setting calculation.

5.42 *Version 1.7.2.0, 14-May-2021*

- Updated LMK5C33216
- Updated LMK04832
  - Fixed bug in current calculator for CLKout7 LVCMOS

5.43 *Version 1.7.2.0, 6-July-2021*

- Add CDCDB800
- Add LMX1204
- Updated LMK5C33216. Fixed bugs in frequency planner, OUT2/3 and OUT14/15 issues. Added DPLL cascade buffer bits to be set automatically.

5.44 *Version 1.7.2.0, 1-Oct-2021*

- Add LMK1D1208I

5.45 *Version 1.7.3.0, 17-Dec-2021*

- Core update to restore color alerts to comboboxes, many other bugfixes
- Updated numerous devices to work with 1.7.3
- Add LMX2571EP

5.46 *Version 1.7.4.0, 6-Jan-2022*

- SetAddress_I2C now works correctly. Returns bool True on success or False on failure.
- No longer possible to delete user device if that device is currently active.

5.47 *Version 1.7.4.1, 23-Feb-2022*

- Added LMK5B33216.
- Updated LMK5C33216. Many bugfixes.

5.48 *Version 1.7.5.0, 20-Apr-2022*

- Numerous bugfixes, performance improvements, and load time reductions
- New USB2ANY DLL released – version 2.9.1.1
  - SPI/I2C transaction speed over USB2ANY increased by up to 50x
- TCP automation server now provided as a 64-bit compatible alternative to ActiveX automation. Check TICSPro_TCP.py in install directory for basic python client implementation. ActiveX will eventually be deprecated in favor of TCP automation.
- Updated LMK05318B
  - Fixed a configuration loading error when PRIREF or SECREF were set to 0
  - Fixed backwards compatible mode not setting CLKin hysteresis 50 mV
- Update LMK5B33216 with bugfixes. Some outputs would not properly turn on in some cases
- Numerous improvements from LMK5B33216 backported to LMK5C33216
  - ZDM is still in progress for LMK5C33216.
  - Apply VCO frequency button now calculates DPLL dividers.

5.49 *Version 1.7.5.0, 15-Jun-2022*

- Add LMK5B33414
- Update LMK5B33216
- Update LMK04832: Added warnings for frequency range violations and NCAL_DIV mismatch, force minimum value of 8 for SYSREF_DIV and DDLY.
- Bugfix CDCI6214

5.50 *Version 1.7.5.4, 12-Jul-2022*

- Bug fixes and improvements to LMK5B33216 and LMK5B33414.
- Fix to LMX248x device family during register import
- Fix to I2C/SMBus I/O for several devices (CDCI6214, CDCE6214(-Q1), LMK1D12xxi, CDCDB devices)
- Fix to block read/write option to include writeall/readall
- Fix to I2C not updating USB2ANY serial on main page
- Fix to edge cases in tool profiles and burst mode
- Unicode support added for .tcs files
- Arbitrary path length support enabled for loading/saving files
- Include version string in splash screen

5.51 *Version 1.7.5.7, 31-Aug-2022*

- Bug fixes and improvements to LMK5C33216, LMK5B33216, and LMK5B33414
- Update LMX1204 to RTM version
- Bug fixes and improvements to core TICS Pro
  - Hidden checkboxes now stay hidden
  - User Controls and Flex Page controls with the same name now update each other without errors
  - Resizing application on User Controls page no longer breaks User Controls
  - Option to include TCS file in application title on load. Currently supports only .tcs files (no hex .txt files yet)

5.52 *Version 1.7.5.7, 03-Feb-2023*

- Added programming page to LMK5B33216, LMK5B33414, LMK5C33216
- Bug fixes and improvements to LMK5C33216, LMK5B33216, LMK5B33414

5.53 *Version 1.7.5.7, 14-Feb-2023*

- Bug fixes and improvements to LMK5C33216, LMK5B33216, LMK5B33414

5.54 *Version 1.7.5.7, 28-Feb-2023*

- Bug fixes and improvements to LMK5C33216, LMK5B33216, LMK5B33414

5.55 *Version 1.7.5.15, 30-Jun-2023*

- LMK05318B updates
  - EEPROM page:
    - Added one button programming to replace two buttons from prior releases.
    - Added ability to program the Extra EEPROM Bytes (I2C_ADDR, EEREV, and NVM SPARE) through the drop-down menu.
    - Added text file export for I2C EEPROM programming instructions.
    - Corrected .epr file.
      - Corrected EEPROM_IMG_IDX234-236 settings (based on DPLL_REF_UNLOCKDET_CNTSTRT or R336-R339). Previously, R336-R339 were set to 0 which could cause LOFL_DPLL = 1.
      - Corrected EEPROM_IMG_IDX26 setting (based on MUTE_APLL2_LOCK or R29[4]). Previously, APLL1_DEN_MODE (R39[0]) value was written instead of MUTE_APLL2_LOCK value.
  - Other misc. bug fixes
    - Corrected OUT7 divider calculation after hitting “Calculate freq plan” button (fixed the 1.25 GHz output when expecting 156.25 MHz)
    - Fixed routing XO to APLL2 bug (using PLL2_RCLK_SEL)
    - Changed DPLL_REF_UNLOCKDET_CNTSTRT (R336-R339) to equal DPLL_REF_LOCKDET_CNTSTRT (R326-R329) for optimal DPLL VCO lock settings.
  - Renamed I2C field SLAVEADR/TARGETADR to I2C_ADDR
  - Removed Zero Delay Mode fields – feature is deprecated
- Bug fixes and improvements to LMK5C/5B profiles.
  - Programming page allows for direct writes of register list to device without updating GUI or writes of register list to device with updates to GUI.
- Bug fixes and improvements to core TICS Pro:
  - Changes to internal write methodology to update GUI and trigger GUI updates for profile scripts.

5.56 *Version 1.7.6.2, 10-Oct-2023*

- Core binary updated to 1.7.6.2
  - SMBus properly supported for CDCDB devices
  - Improved handling of multiple address detection on I2C/SMBus scans
  - TCP API change: Please use ScanI2CDevices instead of ScanDevices. See Check TICSPro_TCP.py in install directory for simplified documentation.
- Add LMK5C33216A, LMK5C33414A, LMK04368-EP, LMK04714-Q1, LMK04832-SEP, LMK61E2, LMKDB1108, LMKDB1120
- Updates to LMK5B33216, LMK5B33414, LMK5C33216
  - Add SYSREF/SYNC page features to auto-setting for deterministic or non-deterministic SYSREF synchronization.
  - Programming page enhancements.
- Updates to LMK04832, LMK04832-SP
  - Graphical style of LMK04832-SP outputs ported to LMK04832
  - PLL page enhancements of LMK04832-SP ported to LMK04832
  - Warnings and error messages improved
- Bug fix to CDCE6214-Q1 for ref_ch_mux
- Bug fix to LMK61E0M for EEPROM programming
- Bug fix to I2C scanning for many devices
- Many devices now follow datasheet guidelines for SPI (CPOL=0, CPHA=0)

5.57 *Version 1.7.7.0, 29-Nov-2023*

- Core binary updated to 1.7.7.0

  - Added embedded Python 3.11.5-32, matplotlib/reportlab/Pillow/numpy
  - Updated USB detection code
- Add LMK3H0102, PCIe Report Generator tool
- Bug fixes and improvements to LMK5C/5B profiles
  - Fixed toolbar button to scan devices
  - Fixed DPLL3 timer display bug, which was incorrectly referencing VCO2 for holdover and switchover timers
- Bug fixes and improvements to LMKDB11xx profiles
  - Add descriptions to all registers
  - A few fixes to SBI support
- Bug fixes and improvements to LMK05318B profile
  - EEPROM page
    - Improved I2C function to handle writing to SRAM (used for “PROGRAM EEPROM” button)
    - Changed “Extra EEPROM Bytes” name to “Select EEPROM Bytes”
    - Separated reading and writing to Select EEPROM Bytes
  - Reference validation
    - Fixed early/late window detector settings at higher frequencies (such as 156.25 MHz)
  - Toolbar
    - Fixed “Program EEPROM” button
- Software Manifest overhauled with substantially more and more accurate info
- Module-level instructions for TICSPro_TCP.py added
- “settings.ini” now in C:\Program Files (x86)\Texas Instruments\TICS Pro, contains TCP server settings

5.58 *Version 1.7.7.1, 02-Dec-2023*

- Core binary updated to 1.7.7.1
  - Hotfix for embedded python scope to ignore user path variables or existing python environments
  - Hotfix for UTF-8 file I/O handling – if any file cannot be read or written, re-save as UTF-8 w/o BOM

5.59 *Version 1.7.7.2, 05-Feb-2024*

- Core binary updated to 1.7.7.2
  - Fix locale issues causing floating point numbers to parse incorrectly on some systems
  - Fix check for .NET Framework 4.8 compatibility
  - Stack traces included in error log when possible
- USB2ANY firmware revision increment to 2.9.1.2
  - Fix issue with I2C becoming inaccessible if MSP430 pin 77 is grounded – affects LMX1214, LMX1906-SP, and Reference PRO I2C functions
- Bug fixes and improvements to LMK05318B profile
  - Corrected EEPROM export text from “R171” to “R157”.

5.60 *Version 1.7.7.3, 17-May-2024*

- Core binary updated to 1.7.7.3
  - Stability improvements for TCP server
  - Catch WMI exceptions on USB malfunction
  - Warnings (a low-level class of error) now trigger a status bar update instead of just a log entry – some profiles may now exhibit warnings that were previously ignored
- Add LMX1404-EP, LMX1860-SEP, and LMK1D1204
- Bug fixes and improvements to LMK04832 profile
  - Missing fractions module re-added
  - Current calculator half-step bug fixed

- Bug fixes and improvements to CDCE6214-Q1
  - Fix frequency planner
- Bug fixes and improvements to LMX2594/LMX2595
  - Fix a limit bug in ramp functions
- Bug fixes and improvements to LMX2694
  - Remove CE pin (not a valid option on LMX2694)
- Bug fixes and improvements to LMK3H0102
  - Updates to current calculator, PPM
  - Add OE pin control
- Bug fixes and improvements to LMX1204, LMX1214, and LMX1906-SP
  - Numerous names and descriptions updated
  - Defaults updated to avoid several confusing issues
  - Significant GUI visual modifications
- Bug fixes and improvements to PCIe Report Generator tool
  - Fix delimiter handling
  - Fix NaNs in data

5.61 *Version 1.7.7.4, 09-July-2024*

- Added LMK5B12212, LMK5C22212A, LMKDB1104
- Bug fixes and improvements to LMK05318B
  - Fixed the 1PPS default configuration to improve 1PPS DPLL lock and re-lock.
    - Corrected R303[0] from 1 to 0.
    - Changed R319[2:0] from 3 to 2.
    - Changed R216 from 3 to 0.
    - Changed R292 from 9 to 1.
    - Changed R295 from 44 to 36.
    - Changed R290[2:0] (MSB) to R291 (LSB) from 973 to 513.
    - Corrected R46[7:4] and R46[3:0] from 0x01 to 0x08.
    - Corrected LOFL threshold settings (R336-R339)
  - Fixed the Wizard “Set reference” page Python error when either PRIREF or SECREF were disabled.
  - Fixed the Wizard to always show the PRIREF/SECREF termination options (R46) in the “Set Reference” page.
  - Fixed OUT7 divider to handle an input of “0”.
  - Fixed dim/undim of GUI fields when loading .tcs files.
  - Fixed early late detector counter setting logic for 100 MHz frequencies (previously disabled with CNTR=1, now enabled with CNTR=0).
  - Fixed BAW Frequency Lock Detect Settings
    - Changed from disabled to enabled in the Default Configurations.
    - Added register updates when clicking “Calculate Frequency Plan”.
  - Improved the Wizard “Set Outputs” page layout.
- Bug fixes to CDCE6214-Q1
  - Fixed the Apply Selected Solution button not appearing
  - Fixed bug where VCO frequency would mirror PFD frequency when zero-delay mode is on
- Bug fixes and improvements to LMK5Bxxxxx/LMK5CxxxxxA family
  - Corrected issue preventing DPLL calculations from running on 414 devices.
  - Added output quick set feature to aid output frequency configuration.
  - Updated definitions of INx (REFx) and expanded to included true DC coupled mode for CMOS inputs.

5.62 *Version 1.7.7.5, 23-Jul-2024*

- Bug fix and improvements for LMK3H0102
  - No longer causes register writes to connected devices by default.
- Bug fix and improvements for LMK05318B

  - Fixed the “EEPROM” page Python error when clicking on the “Export EEPROM Map” button.
- Added EEPROM programming support for LMK5B12212/LMK5C22212A
- Bug fix to LMK5B/5CA profiles for small errors.

5.63 *Version 1.7.7.6, 24-Oct-2024*

- Bug fix to LMK04832-SP, LMK04832-SEP, LMK04714-Q1, and LMK04368-EP
  - PD_FIN0 corrected to FIN0_PD.
- Lots of updates from LMK5B and LMK5C…A. More updates to follow.
  - Improved warnings/errors to customer, particularly for start page and frequency planning feedback.
  - If REFx_FREQ (INx_FREQ) set to 0, then automatically disable DPLL selection of that input. Will result in DPLL switching to automatic selection vs. manual selection if manual selection of REFx with 0 Hz frequency.
  - Start page updates
    - Using the start page enables/disables recommended validation as required.
      - For example, if 1-PPS input is used, then frequency detector is disabled and 1-PPS phase detector is enabled.
      - User may now provide ppm accuracy information for APLL reference (XO input – which may be XO, TCXO, OCXO, etc) and also for DPLL reference. This PPM accuracy info is used to populate thresholds with recommended values.
    - Auto-configuration for 1-PPS vs. non-1-PPS input frequencies.
    - Moved APLL reference selection to Step 5, just before clock output definition.
      - When switching between VCOx feedback or XO direct, auto changes Bypass R divider and Doubler options as typically required. User may override this auto-set if desired.
    - Improved frequency planner
      - Added quick set feature to quickly set groups of outputs to desired setting.
      - VCO3 is now no longer forced to be exactly typical BAW frequency. It may solve to within the ± ppm range of the BAW.
      - Force SYSREF option yet to be applied for OUT0/1. Current OUT0/1 behavior is if unchecked, won’t use SYSREF. All other outputs will use SYSREF divider as needed.
      - Best frequency planning is to assign common frequencies in pairs (to even and odd outputs. For example: OUT4 and OUT5.)
    - Exposed DPLLx_LCK_TIMER info. DPLL LOPL will be held = 1 for this amount of time after DPLL LOFL = 0 to ensure setting. Defaults to 1/LBW.
  - EEPROM page updates:
    - GUI overhaul to match LMK05318B design. Can now export a .EPR file. (However recommend using register programming sequence exports).
    - Added EEPROM SRAM programming generation support.
  - Outputs page
    - Simplified output format selection in high level Output page to more closely match Start page. CMOS output options is still handled separately but controls included on Outputs page. Individual OUTX_Y pages still have detailed view of output selection using VOD and VCM.
  - Status page
    - 1-PPS phase detector displays threshold setting in ppb. Mouse over this control to see in time and degrees.
  - GPIO page
    - When selecting debug outputs such as PLL R-Divider Divided by 2 as output, will auto set enable bits to allow output to be observed on GPIO. (Note divider must be > 1 to observe divider /2 output. Otherwise divider is bypassed).
  - APLL DCO and DPLL DCO page reformatted to match column view format.

5.64 *Version 1.7.7.7, 06-Jan-2025*

- Add LMX2624-SP
- Add LMX1205
- USB2ANY.dll no longer attempts to create files or directories/subdirectories in C:\Users\%username%\Documents\USB2ANY – systems which do not allow writing to these locations should now be able to use TICS Pro without custom versions of the DLL
    - User scripts that depend on this capability may re-enable log folder creation after the DLL is loaded by using the `int u2aEnableDebugLogging(bool ENABLE)` API

5.65 *Version 1.7.7.8, 27-Jan-2025*

- Updates to LMK5B and LMK5C profile family.
    - Start page
        - Improve dimming for disabled fields on DPLL input reference select.
        - Upon generating configs, any REFx path used for DPLL will set DPLLx_REF_y_FB_SEL = 0 (FB Config 1). Currently frequency planner only ever programs divider values for FB Config 1.
            - Currently to use FB config 2 user must copy over values.
            - Update planned to auto calculate FB config 1 and FB config 2 at same time when warranted to increase DPLL TDC frequency when non-integer related frequencies used as input to a DPLL.
    - Validation page
        - DPLL LOFL validation registers for FB2 are programmed for cases when FB2 is used for a DPLL.
    - ZDM page
        - Added relative time calculations for ZDM. DPLLx_PH_OFFSET to time calculation on ZDM page. More updates to come.
    - Programming page
        - Add generate DPLL loop filter registers. Beta. This programming sequence can be used to change the DPLL loop filter.
        - Clarify “ROM only registers” generation for use as post EEPROM boot programming sequence.
    - Status page
        - Added dimming for disabled fields when INT_EN is 0.

- Bug fixes/clarifications to LMK5B and LMK5C profile family.
    - Corrected possible python errors caused by unintended registers. Most likely to cause problem when using SPI.
    - LMK5B12212 will now calculate DPLL loop filter values.
    - LMK5B12212 and LMK5C22212A
        - “Read Status” and “Read RO Regs” buttons fixed.
        - Corrected APLL1 (BAW PLL) charge pump Rd resistor control field to be proper.
    - Warning system updates to improve accuracy of frequency error warnings.
    - For LMK5B12212 and LMK5C22212A corrected PLL1 VCO post divider frequency on OUT0&1, OUT2&3 pages.
    - Bug fixes to frequency planner.
        - Fixes to setting OUT0/OUT1 as CMOS. Fixed bugs and also now set the LDO voltage as specified.
        - Selecting REFx will for OUT0/1 will now program as required. Future update will add warnings if requested frequency is not an integer relationship to REFx frequency.
        - Other fixes to prevent failure to configure requested frequency plan.
    - Improved ZDM flexibility to not result in 0 Hz for VCO frequency if ZDM is improperly configured. Further improvements to ZDM configuration planned to help new users

configure ZDM correctly. Input and output ZDM frequency must be well related. See Multi-Clock Synchronization application note for more details.

5.66 *Version 1.7.7.9, 29-Jan-2025*

- v1.7.7.8 incorrectly included older versions of LMK5B and LMK5C profiles. v1.7.7.9 is a rebuild of v1.7.7.8 with the correct versions of the profiles, and an incremented version number to help distinguish from v1.7.7.8.

5.67 *Version 1.7.7.10, 24-Feb-2025*

- Fixed bugs to LMK05028 that prevented using the main GUI features such as the update frequency and run script buttons

5.68 *Version 1.7.8.0, 10-Mar-2025*

- TCP server returns error descriptions (see TICSPro_TCP.py for more documentation).
- TICSPro_TCP.py has been updated for compatibility with Python 3.10 or higher. Type annotations may be removed for compatibility with earlier python versions.
- On startup, TICS Pro now checks settings.ini for a [PYTHON] section. If DISABLE=TRUE in this section, the embedded python scope (used for the PCIe jitter calculation tool) is disabled. This option is added to address a rare crash – see Known Issues.
- Add LMK5C23208A.
- Improvements to LMK5B/5C profiles:
  - Warn when GPIOx selects REFx Monitor, but no REF is programmed for that input.
  - Added ability to calculate DPLLx_PH_OFFSET value based on a time to “ZDM” page. Relative calculation only.
  - Added missing fields and improved frequency planning code for 1-PPS outputs.
  - PLLx_RDIV_MUX_SEL (to select XO or cascaded VCOx as APLL reference) also sets recommended settings for doubler enable or bypass divider. However, user may change these to suit their specific needs. Recommended value may not be desired. Software was always setting recommended value on DPLL loop filter calculation and on TCS file load. Corrected so recommended values are only set when changing the PLLx_RDIV_MUX_SEL drop down.
  - Added “Advanced options” checkbox on “Getting Started” page. Currently this only enables an entry box for extra gain in “Step 7: DPLL Loop Filter” on “Start Page.” If set to 1, no impact. Use case is to for accounting for changes in loop gain if using alternate feedback paths for DPLL in ZDM mode. Updated DPLL loop filter calculation binary to utilize this extra gain parameter (if enabled).
  - Updated GPIOx descriptions for accuracy.
- Improvements to LMK5B12212 and LMK5C22212A:
  - Fixed bugs with “Programming” page generation, controls which were not register backed.
  - Added “Step 9: Optimize bits” to “Start Page” – these fields are programmed to fixed values optimize performance/current consumption of these devices. Automatically set to optimized value when generating config through “Start page” process.
  - Improvements to SRAM Sequence EEPROM generation for optimized register values.
- Improvements to LMK5B33414 and LMK5C33414A:
  - Fixed bugs when using the Set SYNC enable buttons on “SYNC/SYSREF/1-PPS” page.
  - Simplified programming sequence by combining writes for the output divider synchronization sequence generator.

5.69 *Version 1.7.9.0, 27-May-2025*

- Add Log Options under Options menu bar.
  - Logging now uses unique files for each TICS Pro instance.

  - Maximum log file size, log rotation, log path, etc. are now customizable.
  - Helper buttons to quickly view log, log directory, and clear logs.
  - Many new startup settings available for logging – see LogOptions dataclass in ti_ticspro package.
- TICSPro_TCP.py has been refactored into ti_ticspro package.
  - Some APIs have changed or been removed altogether. Likely of greatest importance, starting a TICS Pro instance and connecting a TICSProTCPClient object are now two discrete actions, and are not coupled together.
- When running TICS Pro.exe, optional --settings flag takes an absolute path to an INI file with startup settings. Customizable startup behaviors are documented more extensively in the dataclass objects in the newly included ti_ticspro python package.
- Several automation APIs have been added or enhanced:
  - GetLogOptions() -> LogOptions returns current Log Options as a LogOptions dataclass.
  - SetLogOptions(opts: LogOptions) configures current Log Options using a LogOptions dataclass to specify options.
  - GetAllUSB2ANY(includeConnected: bool = False) -> list[str] returns the connected interface when the includeConnected argument is True. When included, the connected interface is the last interface in the list, and will either be a USB2ANY serial number or an empty string when no interface is connected.
  - GetInterface() -> tuple[str, str, str] returns a 3-tuple of the currently connected interface type, protocol type, and serial number. In DemoMode, the serial number is the empty string.
- In certain circumstances, with multiple instances of TICS Pro open, connecting a USB2ANY can cause all instances to shuffle their connected USB2ANY due to race conditions in which instance of TICS Pro receives the connection notification first. An optional boolean setting, [USB].AUTOCONNECT, has been added to the settings INI options; if set to False, TICS Pro will not attempt to automatically connect to a USB2ANY if in DemoMode and a USB2ANY is connected.
- Improvements to LMK05318B profile:
  - Rearranged Wizard pages and clarified which steps are required and optional.
  - Renamed the *Set DPLL (cont.)* page to *Opt: DPLL and BAW Flags* to clarify page is optional to modify.
  - Renamed the *Ref validation* page to *Opt: Ref Validation* to clarify page is optional to modify.
  - Removed the "Display DPLL written registers" checkbox in the *Set DPLL* page.
  - Removed the "Restore Calculated DPLL Settings" button in the *Set DPLL* page.
  - Removed the DPLL fastlock time measurement text after clicking on the “Run Script” button in the *Set DPLL* page because this is an inaccurate measurement time.
  - Updated the DPLL LBW description of the “Instructions” text in the *Set DPLL* page.
  - Added logic to force the BAW Frequency Lock Detect “Average” and “Accuracy” input fields to remain greater than 0 in the *Opt: DPLL and BAW Flags* page.
  - Added logic to force DPLL Frequency Lock “Average” and “Accuracy” input fields to be greater than 0 in the *Opt: DPLL and BAW Flags* page.
  - Removed "Frequency detector is not available for current silicon" message for SECREF input.
  - Modified the EVM Default register settings from “Default Configurations”.
    - Enabled the “Frequency Detect Threshold” in the *Opt: Ref Validation* page.
  - Optimized 1PPS register settings from “Default Configurations”.
    - Disabled the XO doubler to increase the allowed frequency error between the REF input and XO input. R42[4] = 0.
    - Changed the Input Switching Mode to Manual Holdover to force choose PRIREF. This is because only PRIREF supports a 1PPS input. R251 = 0x02.
    - Increased the DPLL LBW to 0.1 Hz to reduce DPLL lock time.
    - Reduce the DPLL Phase lock counter threshold to 20 and unlock counter threshold to 23. R301 =0x14 and R302 = 0x17.
    - Reduced the tuning word history count to 0 for optimal hitless switching into holdover. R186 = 0x00.

        - Changed the history intermediate setting to "No intermediate update" for optimal hitless switching into holdover. R185[7:4] = 0x0.
        - Changed the PRIREF frequency counter, R218 to R232.
        - Changed the PRIREF validation counter, R235 to R241.
        - Change the Holdover Mode to "Enter free-run" instead of Hold Last Control Value, R252[2] = 0.
        - Modified the DPLL switchover timer, R253 to R255.
        - Changed the DPLL loop filter values, R271 to R277, R284, R285, R292, R295 to R298.
    - Added the open-loop ZDM back into the DCO page and renamed the feature to "DPLL REF SYNC to OUT7"
    - Renamed the DPLL_ZDM_SYNC_EN register to DPLL_REF_SYNC_OUT7_EN, R252[7].
    - Renamed the DPLL_ZDM_NDIV_RST_DIS register to DPLL_REF_SYNC_OUT7_NDIV_RST_DIS, R252[6].
    - Corrected the MUTE_DPLL_FRLOCK field on the *Outputs* page to show as a register, R29[1]. (Previously, this was a GUI field not tied to any register.)
- Improvements to LMK5B12204 profile:
    - Updated to match LMK05318B improvements.
- Updates to LMK5B and LMK5CxxxxxA profile family.
    - Added “Device Monitor” page for additional device introspection features.
    - Added to “Start Page” options for configuration of APLL DCO operation, hitless switching, and holdover. Moved these options to top of page as Step 1: PLL mode / features.
    - Added to “Design Report” page a ability to display boot ROM number for all LMK5B and LMK5CxxxxxA parts except LMK5B12212.
    - Added to “Programming” page ability to generate the same divider synchronization sequence as on page “SYNC/SYSREF/1-PPS.”
- Bug fixes/clarifications to LMK5B and LMK5CxxxxxA profile family.
    - Reordered page tree to prioritize key pages.
    - On individual output pages, clarified the inverter location to CHDIV and SYSREF.
    - Updated APLL DCO slew rate calculations for accuracy.
    - On ZDM page:
        - when output is selected for ZDM for DPLL which is not configured. Message is displayed to first configure DPLL using Start Page.
        - **DPLLx_OFFSET_TIME updated with actual value based on DPLLx_PH_OFFSET after entering time.**
    - On Programming page:
        - Updated start-up programming sequence to configure SYSREF outputs to pulser mode during initial output configuration (step 1) so that SYSREF dividers are synchronized properly.
        - Updated sequence to program SYNC_EN field during initial programming and leave SYNC_EN on to simplify programming. Typical use case is recommended to leave SYNC_EN=1. SYNC_EN = 0 prevents GPIO configured for SYNC input from requesting SYNC.
        - Updated Post-EEPROM (ROM only registers) programming sequence to clarify and improve DPLL reset sequence.
    - On Start page:
        - Small improvements to frequency planner.
        - Default frequency planner configuration SYSREF to “SYSREF” not “SYSREF + ADLY.”

5.70 *Version 1.7.9.1, 20-Jun-2025*

- Updated to LMK5Bxxxxx and LMK5CxxxxxA family.
    - Updated OUT_x_FMT to only list 15: HCSL, and not 79: HCSL since that was out of range for the OUT_x_FMT control. Intention was to have an option for HCSL (fast)

without OUT_x_CAP_EN = 1. This can be set by the user manually on individual output pages.
- Bug fix to LMK5B33414 and LMK5C33414A
  - Fixed REF4 validation page Missing Clock Window detector.

5.71 *Version 1.7.10.0, 11-Sep-2025*

- TCP API improvements:
  - Several APIs added to TCP server:
    - `ImportRegisters(importFile)`: imports hex register data from a file, like the Import Registers option in the file menu.
    - `ExportRegisters(exportFile)`: exports hex register data to a file, like the Export Registers option in the file menu.
    - `CloseTICSPro()`: closes TICS Pro 250ms after executing the API.
    - `GetTableData(includeHeaders=False)`: returns data from a table as a tab-separated value string. If includeHeaders is True, includes the header row as the first row.
    - `GetAllRegisters()`: returns three lists of equal length: a list of register name strings, a list of register address integers, and a list of register data integers. The register data is just the portion of the register that is actually considered data – not the concatenation-style hex data used by export/import.
  - `ReadAllRegisters()` API now returns the same three lists as `GetAllRegisters()` API.
  - `GetIndex(ctrl)` and `SetIndex(ctrl, val)` APIs now work with table controls.
  - Mouseover of table control properly displays the API name of the table control.
- Reading all registers with the Simulation/DemoMode interface connected now preserves the original register values instead of overwriting them with zeros.
- `ti_ticspro` package bugfixes:
  - `TICSProOptions.FromFile(filePath)` properly reads each option section from file

5.72 *Version 1.7.10.1, 17-Oct-2025*

- Fix bug in core with `ReadAllRegisters()` API returning incorrect results.
- Add LMK5D33414.
- Update LMK5Bxxxxx and LMK5CxxxxxA family.
  - Add support for negative time offsets for DPLLx_PH_OFFSET.
  - Fix bug in Programming page for 4 input devices.
- Fix Design Report page device ID for LMK5C33216A.

5.73 *Version 1.7.10.2, 16-Oct-2026*

- TICS Pro core binary fixes
  - Fix Raw Registers page bug where only address portion of hex data could change in register data textbox. Now, only data can change.
  - Fix Burst Mode race condition that could result in some actions not being taken
  - Selecting a register to write in Burst Mode no longer also attaches a SetPins command
- Bug fixes and improvements in LMK05318B profile.
  - Updated “User Controls” page to only include registers that are NOT visible in the other pages. This is required to prevent TICS Pro 1.0 desync issue.
  - Updated “Set DPLL” page.
    - Run Script button now runs Matlab code to get DPLL loop filter settings then issues Python script to calculate DPLL fractional-N settings. Previously, Matlab did both. Python is required to get proper DPLL fraction-N divider calculations for some input frequencies.

        - BAW VCO frequency text is now the same as the one on the “APLL1” page. Previously, the two GUI text fields were distinct and could be out-of-sync.
    - Updated register fields to properly display the register details (number, description, bit count) in the *Context* window.
    - Optimized configuration to improve DPLL lock behavior for low frequency PRIREF/SECREF inputs after running the script on the “Set DPLL” page. For TDC frequencies <=2kHz, R303 is now set to 0x00. For TDC frequencies >=2kHz, R303 is set to 0x01. The script would previously hard-code R303 = 0x01 regardless of the TDC frequency.
    - Corrected register write to NVMUNLK field in exported EEPROM programming instructions
    - Increased default APLL2 charge pump gain from 3.2mA to 6.4mA for better lock stability
- Bug fixes in LMK5Bxxxxx and LMK5CxxxxxA profiles
    - LMK5B12212 and LMK5C22212A
        - Fixed bug in REGCOMMIT EEPROM programming sequence which would unintentionally disable BAW APLL
    - All LMK5Bxxxxx and LMK5CxxxxxA profiles
        - Fixed bug in SRAM EEPROM programming sequence and generated .epr files which would unintentionally disable LC VCOs
- Improvements to CDCE6214-Q1 Profile
    - Added warning indicator when PLL lock detect window is not set to maximum value (8.9ns) when operating in dual PFD mode
- Improvements to PCIe Report Generator tool
    - PCIe Gen7 support added
    - Several new features added for easier inspection within the GUI

6 Known Issues

LMK5B & LMK5C family

In some cases, “Assign Selected VCO Settings to Device” and “Apply Output Clock Settings to Device” may need to be pressed twice to account for changes of XO sources and other cascade order and display correct frequency. Fix planned.

LMK05318

In some cases, it is necessary to press “Calculate Frequency Plan” twice in LMK05318 for correct VCO2 frequency. → Use the LMK05318**B** GUI instead with the “backward compatibility” option set in the Wizard.

Other

In some cases, User Controls page may become desynchronized from Raw Registers page and other fields. This is being investigated and a fix is targeted in an upcoming version. Save files or register export are unaffected – correct values will be written for registers. In case of ambiguity, use Raw Registers page values.

In rare cases, TICS Pro may fail to start due to a memory access failure in the embedded python environment. The tool may be disabled by adding the following section and option to C:\Program Files (x86)\Texas Instruments\TICS Pro\settings.ini:

```
[PYTHON]
DISABLE=TRUE
```

The embedded python environment is only required for PCIe Report Generator tool. Disabling does not affect other device profiles.

7 Technical Support and Product Updates

Please post questions for support on to the TI E2E Community at https://e2e.ti.com/support/clocks/

8 Release History

S.No	Version	Description	Release Date
1	1.0.0.0	First Release	23-Dec-2015
2	1.1.0.0	Add parts & bug fix	16-May-2016
3	1.2.0.0	Add parts & bug fix	25-Jul-2016
4	1.3.0.0	Add parts & bug fix	30-Aug-2016
5	1.4.0.0	Add parts & bug fix	04-Nov-2016
6	1.5.0.0	Add parts & bug fix	30-Dec-2016
7	1.6.0.0	Add parts & bug fix	12-Jan-2017
8	1.6.1.0	Add LMK61E0M	25-Jan-2017
9	1.6.2.0	Add LMK04610	30-Jan-2017
10	1.6.3.0	Added LMX2594	23-Mar-2017
11	1.6.4.0	Add LMK04616	30-Mar-2017
12	1.6.5.0	Added PLL2 to LMK461x	19-May-2017
13	1.6.5.0	Added LMX2595, CDCI6214	30-Jun-2017
14	1.6.5.0	Added PLMK04832, Update LMX2595	14-Jul-2017
15	1.6.5.0	Added LMX2572	16-Aug -2017
16	1.6.6.0	CDCI6214 Update	03-Oct-2017
17	1.6.6.0	CDCI6214 & LMX2572 Update	30-Oct-2017
18	1.6.7.0	Added LMK04832	04-Jan-2018
19	1.6.7.0	Updated LMX2581, LMX2582, LMX2592, LMX2594, LMX2595. Added CDC drivers, CDCM6208V1, CDCM6208V1F, CDCM6208V2, CDCM6208V2G	27-Feb-2018
20	1.6.8.0	Added LMK05028 in Network Synchronizer Clock Device group	12-Apr-2018
21	1.6.8.0	Added LMX2572LP and LMK03318 and updated LMX8410L	7-May-2018
22	1.6.8.0	Added LMK05318	7-Jun-2018
23	1.6.8.0	Bug fix for LMK03328 and LMK04610	8-Aug-2018
24	1.6.8.0	Added LMX2615	21-Aug-2018
25	1.6.8.0	Upgraded LMX2615, 8410L, and Fixed LMX2571	15-Nov-2018
26	1.6.9.0	Updated LMK05318 and LMK03318	11-Dec-2018
27	1.6.10.0	Updated LMX2485/85E/85Q-Q1/86/87/87E, LMX2471/72/72LP, LMX2594/95, LMX2615-SQ, LMK05318, LMK05028, core updates.	16-May-2019
28	1.6.10.0	Added CDCE6214-Q1 and LMX2694, add frequency planners to LMK03328 and LMK03318	19-Jul-2019
29	1.6.10.0	Added CDCDB2000. Removed FOD of CDCI6214. Updated LMK05028.	29-Oct-2019
30	1.6.10.0	Updated CDCE6214-Q1 for RTM	25-Nov-2019
31	1.7.0.0	Updates to core, CDCE6214-Q1, LMK04832, LMK05318, and LMK05028.	09-Jan-2020
32	1.7.0.0	LMK05318 improved 1 PPS support.	21-Feb-2020
33	1.7.0.0	Added LMX2820	5-Jun-2020
34	1.7.0.0	Added LMK05318B	19-Jun-2020
35	1.7.0.0	Added LMK5B12204, added LMK04832-SP, bug fix for LMK05318B, updated LMK04821/6/8	21-Aug-2020
36	1.7.1.0	TICS Pro Core improvements	25-Sep-2020
37	1.7.2.0	TICS Pro Core improvements & bugfix. Added LMK5C33216	13-Oct-2020
38	1.7.2.0	Updated LMK5C33216 for public release Bugfix for LMK0461x, LMK04828, LMK04832	23-Nov-2020
39	1.7.2.0	Updated LMX2820	02-Dec-2020

40	1.7.2.0	Updated LMK5C33216	24-Dec-2020
41	1.7.2.0	Updated CDCE6214-Q1, LMK05318B, LMK5B12204, LMK5C33216	5-Feb-2021
42	1.7.2.0	Updated LMK5C33216, LMK04832	14-May-2021
43	1.7.2.0	Added CDCDB800, LMX1204. Updated LMK5C33216	6-July-2021
44	1.7.2.0	Added LMK1D108I	1-Oct-2021
45	1.7.3.0	TICS Pro Core bugfixes Added LMX2571EP	17-Dec-2021
46	1.7.4.0	TICS Pro Core bugfixes	6-Jan-2022
47	1.7.4.1	Added LMK5B33216 Updates to LMK5C33216	23-Feb-2022
48	1.7.5.0	TICS Pro core improvements USB2ANY firmware version 2.9.1.1 TCP automation replaces ActiveX Updated LMK05318B Update LMK5B33216 Update LMK5C33216 Add LMK04228	20-Apr-2022
49	1.7.5.0	Add LMK5B33414 Update LMK5B33216 Update LMK04832 Bugfix CDCI6214	15-Jun-2022
50	1.7.5.4	Update LMK5B33216 Update LMK5B33414 TICS Pro core bug fixes and improvements	12-Jul-2022
51	1.7.5.7	Update LMK5B33216 Update LMK5B33414 Update LMK5C33216 Update LMX1204 TICS Pro core bug fixes and improvements	31-Aug-2022
52	1.7.5.7	Update LMK5B33216 Update LMK5C33216 Update LMK5B33414	03-Feb-2023
53	1.7.5.7	Update LMK5B33216 Update LMK5C33216 Update LMK5B33414	14-Feb-2023a
54	1.7.5.7	Update LMK5B33216 Update LMK5C33216 Update LMK5B33414	28-Feb-2023
55	1.7.5.15	Updates to LMK5B/5C, LMK05318B profiles	30-Jun-2023
56	1.7.6.2	Core update to support SMBus Update SPI CPOL/CPHA Update I2C/SMBus scan behavior Add LMK5C33216A Add LMK5C33414A Add LMK04368-EP Add LMK04714-Q1 Add LMK04832-SEP Add LMK61E2 Add LMKDB1108 Add LMKDB1120 Update LMK5B33216 Update LMK5B33414	10-Oct-2023

		Update LMK5C33216 Update LMK04832 Update LMK04832-SP Update CDCE6214-Q1 Update LMK61E0M	
57	1.7.7.0	Core update to support Python 3 and related enhanced capabilities Add LMK3H0102 Add PCIe Report Generator tool Bugfix for LMK5C/LMK5B Bugfix for LMKDB11xx Bugfix for LMK05318B Enhancements to TICSPro_TCP.py	29-Nov-2023
58	1.7.7.1	Core update with hotfixes	02-Dec-2023
59	1.7.7.2	Core update with bugfixes USB2ANY v2.9.1.2 firmware update Add LMX1214 Add LMX1906-SP Bugfix for LMK05318B	05-Feb-2024
60	1.7.7.3	Core update with bugfixes Add LMX1404-EP, LMX1860-EP, LMKDB1204 Bugfix for LMK04832 Bugfix for CDCE6214-Q1 Bugfix for LMX2594/LMX2595 Bugfix for LMX2694 Bugfixes and enhancements for LMK3H0102 Bugfix for LMX1204, LMX1214, LMX1906-SP Bugfix for PCIe Report Generator tool	17-May-2024
61	1.7.7.4	Add LMK5B12212, LMK5C22212A, LMKDB1104 Bugfix for LMK05318B Bugfix for CDCE6214 Bugfix and improvements for LMK5Bxxxxx/LMK5CxxxxxA	09-July-2024
62	1.7.7.5	Bugfix for LMK3H0102 Update LMK5B12212 and LMK5C22212A Bugfix for LMK5B/LMK5CA profiles. Bugfix for LMK05318B	23-Jul-2024
63	1.7.7.6	Bug fix to LMK04832-SP, LMK04832-SEP, LMK04714-Q1, and LMK04368-EP Big update: bug fix and feature add to LMK5B33216, LMK5B33414, LMK5B12212, LMK5C33216A, LMK5C33414A, LMK5C22212A	24-Oct-2024
64	1.7.7.7	Add LMX2624-SP Add LMX1205 Bugfix for USB2ANY logging	06-Jan-2025
65	1.7.7.8	Bug fix and feature add to LMK5B33216, LMK5B33414, LMK5B12212, LMK5C33216A, LMK5C33414A, LMK5C22212A	27-Jan-2025
66	1.7.7.9	Re-release of 1.7.7.8 with corrected profiles	29-Jan-2025
67	1.7.7.10	Bugfix for LMK05028	24-Feb-2025
68	1.7.8.0	TCP server returns error descriptions Updates to TICSPro_TCP.py Embedded python workaround Add LMK5C23208A	10-Mar-2025

		Bug fix and feature add to LMK5B33216, LMK5B33414, LMK5B12212, LMK5C33216A, LMK5C33414A, LMK5C22212A	
69	1.7.9.0	Improve logging functionality Refactored python support package Bug fix and feature add to LMK05318B, LMK5B12204, LMK5B33216, LMK5B33414, LMK5B12212, LMK5C33216A, LMK5C33414A, LMK5C22212A, and LMK5C23208A	27-May-2025
70	1.7.9.1	Bug fix and update to LMK5B and LMK5C…A devices.	20-Jun-2025
71	1.7.10.0	Add ExportRegisters, ImportRegisters, CloseTICSPro, GetAllRegisters, GetTableData APIs Update ReadAllRegisters API Bugfixes to ReadAllRegsiters in DemoMode Bugfixes to ti_ticspro library	11-Sep-2025
72	1.7.10.1	Add LMK5D33414 Bugfix to ReadAllRegisters API Bug fix and update to LMK5B and LMK5C…A devices.	17-Oct-2025
73	1.7.10.2	Bugfixes to Raw Registers, Burst Mode Bugfix to LMK05318B, LMK5B, and LMK5C…A devices Improvement to CDCE6214-Q1 device Improvements to PCIe Report Generator	16-Oct-2026