

HSDC Pro device EVM compatibility

TSW14J56	TSW14J50	KC705 (TSW14J10)	VC707 (TSW14J10)
ADC ADC12J4000 family ADC12DJxx00 family ADC32Jxx family ADC34Jxx family ADC42JBx9 family ADC16DX370 family ADS54J40 family ADS54J60 family ADS54J66 family ADS54J54 family ADS54J69 family ADS58J64 family ADC31JB68 ADC14X250 LM97937 ADS58Jx TSW16DX370EVM ADS42JB46 family LM15851 AFE75xx Marconi family Medical AFE devices ADC32RFxx family (pending RTM) TSW based on these ADCs	ADC ADC12J4000 family ADC32Jxx family ADC34Jxx family ADC42JBx9 family ADC16DX370 family ADS54J40 family ADS54J60 family ADS54J66 family ADS54J54 family ADS54J69 family ADC31JB68 ADC14X250 LM97937 ADS58Jx TSW16DX370EVM ADS58J66 family AFE58JD1x	ADC ADC12J4000 family ADC32Jxx family ADC34Jxx family ADS42JBx9 family ADS54J54 family ADS54J66 family	ADC ADC12J4000 family ADS42JBx9 family ADS54J54 family ADS54J40 family ADS54J60 family ADS54J66 family ADC32RF45 family
DAC DAC3xJ8x family DAC38RFxx RFDAC family (pending RTM) AFE75xx Marconi family TSW based on these DACs	DAC (not supported at this time)	DAC DAC38J8x	DAC DAC3xJ8x

TSW1400	TSW1405	TSW1406	ZC706 (TSW14J10)
ADC CMOS mode ADC322x ADC324x ADC342x ADC3442 ADS41xx ADS42xx ADS42LBxx ADS523x ADS526x ADS528x ADS529x ADS540x ADS544x ADS546x ADS547x ADS548x ADS54RF63 ADS54T0x ADS556x ADS58B18 ADS58C28 ADS58C48 ADS58H4x ADS6122-25 ADS6128-29 ADS6222-25 ADS6242-45 ADS62C17 ADS62P28-29 ADS62P43 ADS62P48-49 ADS62PF49 ADS6422-25 ADS6442-45 AFE5401 AFE580x AFE5851 AFE58JD16 AFE58JD18 AFE722x – ADC ADC08351_cmos	ADC ADS412x ADS414x ADS422x ADS424x ADS42JB49 ADS42JB69 ADS42LB49 ADS42LB69 ADS528x ADS5400 ADS5401-09 ADS5463 ADS5474 ADS548x ADS556x ADS58C28 ADS58C48 ADS612x ADS614x ADS61JB23 ADS622x ADS624x ADS62C17 ADS62P2x ADS62P4x ADS642x ADS644x AFE722x_ADC_05 AFE5805		ADC ADC12J4000 family ADC32RF45 family ADS42JBx9 family

PGA5807			
DAC CMOS DAC (DAC5686/87/88/89 etc) AFE722x - DAC AFE7070 DAC3152 DAC3162 DAC31x1 DAC31x4 DAC328x DAC348x DAC34H8x DAC34SH8x DAC5681z DAC5682z		DAC AFE722x_DAC_06 DAC3162 DAC31x1 DAC31x4 DAC3482 DAC3484 DAC5681z DAC5682z	DAC DAC3xJ8x

KCU105	TSW14J57revD
ADC ADC12J4000 family ADC12DJ3200_JMODE0 ADC32RF80 family ADC42JBx9 family ADS54Jxx family	ADC ADC12DJxx00 family
DAC DAC3xJ8x family DAC38RF8x family	

Version 4.70 (From v4.60) (5th May, 2017)

1. Updated the Automation DLLs to use dot(.) as decimal point irrespective of location settings.
2. Added TSW14J56REVD_BRAM_ADC_DAC_DDR_128K_XCVR_FIRMWARE for TSW14J56revD board.
3. Added ADS54J20_LMF_8224, ADS54J40_LMF_4244, ADS54J40_LMF_8224, ADS54J60_LMF_8224 and ADS54Jxx_4x_2441_IQ device and mode support to KCU105.
4. Fixed the issue in TSW14J57revD DLL by reducing the memory allocation so that it does not throw error when used in 32 bit machine or when used with KCU105. Yet to be tested completely.

Version 4.60 (From v4.50) (18th April, 2017)

1. Added support for TSW14J57revD Board.
2. Added support to HSDC Pro in Windows 10.
3. Added support for Eyescan in KCU105.
4. Added NCO support to Two Tone Test Selection.
5. Added support to Negative coherent frequency calculation.
6. Added an automation function to set the Additional Device Parameters in Two Tone mode.
7. Made the capture timeout configurable through an INI parameter 'Capture Timeout (In Seconds)' in the Device and File Info.ini under the [ADC DAC] section.
8. Added support to read as many samples with which the trigger mode was configured in TSW1400 v1.0 dll during a triggered capture.
9. Added support to Phase Plot. This feature can be enabled through the menu parameter under Test Options.
10. Disabled the 'Analysis Window Markers' option on the DAC Page.
11. Updated TSW14J56REVD_AEQ_FIRMWARE by compiling TSW14J56REVD_FIRMWARE from HSDC Pro v4.50 with AEQ option enabled.
12. Updated the ADC32RF80_20x_LMF_4211, ADC32RF80_20x_LMF_4421, ADC32RF80_40x_LMF_4211, ADC32RF80_40x_LMF_4421, ADC32RF80_LMF_2221, ADC32RF80_LMF_2242, ADC32RF80_LMF_2441, ADC32RF80_LMF_2881, ADC32RF80_LMF_4222, ADC32RF80_LMF_4244, ADC32RF80_LMF_4421, ADC32RF80_LMF_4442, ADC32RF80_LMF_4841, ADC32RF80_LMF_8221, ADC32RF80_LMF_8411, ADC32RF80_LMF_8422, ADC32RF80_LMF_8821, DAC38RF8x_LMF_243, DAC38RF8x_LMF_244, DAC38RF8x_LMF_411, DAC38RF8x_LMF_413, DAC38RF8x_LMF_421, DAC38RF8x_LMF_442, DAC38RF8x_LMF_483, DAC38RF8x_LMF_484, DAC38RF8x_LMF_811, DAC38RF8x_LMF_821, DAC38RF8x_LMF_823, DAC38RF8x_LMF_841 and DAC38RF8x_LMF_882 INI files for TSW14J56revD board.
13. Added ADC12DJxx00_JMODE0, ADC12DJxx00_JMODE2, ADC12DJxx00_JMODE4, ADC12DJxx00_JMODE5, ADC12DJxx00_JMODE6, ADC12DJxx00_JMODE7, ADC12DJxx00_JMODE9, ADC12DJxx00_JMODE10, ADC12DJxx00_JMODE11, ADC12DJxx00_JMODE13, ADC12DJxx00_JMODE14, ADC12DJxx00_JMODE15 and ADC12DJxx00_JMODE16 device & mode support to TSW14J56revD.
14. Added ADC12DJ3200_JMODE0, ADC32RF80_LMF_8411, ADC32RF80_LMF_8821, DAC38RF8x_LMF_421 and DAC38RF8x_LMF_841 device & mode support to KCU105.

15. Bug fix in which the IMD3 and IMD5 values were reported incorrectly in Complex FFT under Two Tone test selection.
16. Bug fix in which there was a "Not enough memory to complete this operation." error while sending data to the DAC from a huge pattern file of about 425 MB.
17. Bug fix in which the context plot display has a gap when capture is performed using devices which have 0s in their channel pattern with TSW1400 v0.0 dll.
18. Observing an issue when switching between TSW14J57revD and KCU105. To resolve this, restart HSDC Pro and connect to either TSWJ57revD or KCU105.

Version 4.53 (From v4.52) (16th March, 2017)

1. Added NCO support to Two Tone Test Selection.
2. Added an automation function to set the Additional Device Parameters in Two Tone mode.
3. Phase Plot feature has been added and it can be found under 'Test Options'.
4. Disabled the 'Analysis Window Markers' option on the DAC Page.
5. Bug fix in which the 'Notch frequency bins' was not working in HSDC Pro v4.52.

Version 4.52 (From v4.50) (28th February, 2017)

1. Added support for TSW14J57 Board.
2. Added a firmware for AFE76xx (TSW14J57_FIRMWARE_U8_10AX115.rbf) which uses upper 8 lane (Lane 2-9).
3. Added transceiver mode support for AFE76xx_2x2RX_1_4_12_1_0_XCVR, AFE76xx_2x2RX_14810_XCVR, AFE76xx_1x2RX_44210_XCVR, AFE76xx_1x2RX_24410_XCVR, AFE76xx_2x2RX_24410_XCVR to TSW14J57
4. Added support for Eyescan in KCU105.
5. Made the capture timeout configurable through an INI parameter 'Capture Timeout (Seconds)' in the Device and File Info.ini under the [ADC DAC] section. This has been tested with TSW1400 and TSW14J56revD. Very unlikely to cause issues with other boards but it has to be tested with other boards as well.
6. Added support to read as many samples with which the trigger mode was configured in TSW1400 v1.0 dll during a triggered capture.
7. Added support to Phase plot as a Beta release.
8. Bug fix in which there was a "Not enough memory to complete this operation." error while sending data to the DAC from a huge pattern file of about 425 MB.
9. Bug fix in which the context plot display has a gap when capture is performed using devices which have 0s in their channel pattern with TSW1400 v0.0 dll.

Version 4.50 (From v4.40) (5th January, 2017)

1. Updated the DAC Page to support more than 4 channels.
2. Added support for KCU105 Board.
3. Updated the DSPLib dll to include 2,2 and 4 bins on either side for Hamming, Hanning and Blackman window respectively and updated the calculation for computation of the fundamental, harmonics, SFDR and Next Spur in the Singletone parameters.
4. Increased the precision of the Singletone Parameters to 3 digits after the decimal point and also removed the trailing zeroes on the ADC Page.
5. Bug fix in which the format pattern was being read in hexadecimal from the ini. Changed to reading the format pattern in decimal.
6. Bug fix in which the Singletone parameters were reported incorrectly by its corresponding automation functions in case of Complex FFT.
7. Bug fix in which the 'dBfs?' argument was not working as expected and updated the function which returns the Singletone Parameters with an option to return the values in Hz.
8. Enabled 'Reset Board' Menu Option for DAC in TSW14J56revD.
9. Updated TSW14J56REVD_FIRMWARE and TSW14J50RX_FIRMWARE with Individual lane Invert SerDes Data feature.
10. Updated TSW14J56REVD_FIRMWARE and TSW14J50RX_FIRMWARE with the JESD Rx and Tx AVS read data valid signal logic and able to read register.
11. Updated TSW14J56REVD_FIRMWARE with the logic for registering sysref for getting the sysref edges.
12. Updated TSW14J56REVD_FIRMWARE with the trigger input logic for sysref trigger mode to the trigger module in enc and dec modules.
13. SERDES test firmware with TSW14J56revD does not support invert serdes data feature for individual lane.
14. Fixed trigger modes on TSW14J50RX_FIRMWARE similar to TSW14J56DrevD. Tested software and hardware trigger. But Sysref based trigger mode has not been tested.
15. Added ADS58J64_LMF_2441_mode24, ADS58J64_LMF_4421_mode7, ADS58J64_LMF_4421_mode7_0s, ADS58J64_LMF_4421_mode38_14b, ADS58J64_LMF_4421_mode38_16b, ADS58J64_LMF_4841_mode01, DAC38RF8x_LMF_243, DAC38RF8x_LMF_244, DAC38RF8x_LMF_411, DAC38RF8x_LMF_413, DAC38RF8x_LMF_421, DAC38RF8x_LMF_442, DAC38RF8x_LMF_483, DAC38RF8x_LMF_484, DAC38RF8x_LMF_811,

- DAC38RF8x_LMF_821, DAC38RF8x_LMF_823, DAC38RF8x_LMF_841 and DAC38RF8x_LMF_882 device & mode support to TSW14J56revD.
16. Added DAC38RF8x_LMF_124, DAC38RF8x_LMF_222, DAC38RF8x_LMF_244, DAC38RF8x_LMF_411, DAC38RF8x_LMF_421, DAC38RF8x_LMF_442, DAC38RF8x_LMF_484, DAC38RF8x_LMF_811, DAC38RF8x_LMF_821, DAC38RF8x_LMF_841 and DAC38RF8x_LMF_882 device & mode support to TSW14J56.
 17. Added ADC08351_cmos device & mode support to TSW1400.
 18. Added ADS54J66_LMF_4421 device & mode support to TSW14J10VC707.
 19. Added ADS54J66_LMF_4421 device & mode support to TSW14J10KC705.
 20. Added AFE5805 device & mode support to TSW1405.
 21. Updated AFE5805_12X INI file for TSW1400 board.
 22. Removed the AFE5808_09_12b, AFE5808_09_14b, AFE5808_09_16b and AFE5809 INI files from TSW1400 board.
 23. Fixed the issue with the 'writing sequence of trigger registers and capture control register' for TSW14J50 and TSW14J56revD dlls.
 24. Moved logics from config DAC function to start DAC function, because the former function will be skipped when skip reconfig ini parameter is set to 1 for TSW14J56revD dll.
 25. Updated the sysref master trigger toggle logic to rising edge pulse generation as firmware is updated for TSW14J56revD dll.
 26. DAC and ADC structures will be initialized irrespective of skip reconfig for TSW14J56revD dll.

Version 4.40 (From v4.20) (12th September, 2016)

1. Bug fix in back channel communication and automation function for setting the additional device parameters.
2. Bug fixes in ADC graph plotting where Fundamental and Harmonics markers disappear when the zooming is done.
3. Bug fixes in the Next Spur calculation in the DSP Lib DLL.
4. Bug fixes in ZC706 Board wrapper VIs.
5. Bug fix in the HSDC Pro installer Auto download feature.
6. Bug fix in displaying the tone generator controls when HSDC Pro opens with the DAC page.
7. Bug fix in which the Device GUI doesn't close when HSDC Pro is closed in back channel communication.
8. Bug fix where an error message appears when the user tries to select an ini file before the select to the board popup or no board connected popup appears during initialization.
9. DAC Page defaults change: DAC Option - 2's Complement, Window – Blackman.

10. Updated the text in the popup which appears when the Device GUI exe which is launched from HSDC Pro times out.
11. Updated the 'HSDCProAutomationHeader' file for both 32 bit and 64 bit Matlab files with the function 'ADC_Save_Raw_Data_As_Binary_File'.
12. Updated the TSW14J56revD DLL to disarm the trigger after the trigger occurred status is detected.
13. Updated the TSW14J10VC707 ADC ini files.
14. Updated ADC32RF45_8224 INI file for TSW14J10ZC706 board.
15. Updated DAC3XJ82_LMF_421 and DAC3XJ84_LMF_442 for 14J10KC705 Board.
16. Disabled the DAC page for TSW14J50.

Version 4.20 (From v4.10) (17th March, 2016)

1. Renamed the "Bandwidth Integration Markers" to "Analysis Window Markers" and added these markers to Codes display.
2. THD is calculated for the AWM markers range if AWM is ON.
3. Bug fixes in THD measurement.
4. Fixed a memory leak in the DSP Lib dll.
5. Updated the DSP Lib Dll to search for 1% of the analysis window length around the ADC Input Target Frequency to calculate the fundamental frequency when 'Disable Fundamental Freq Search?' is checked.
6. HD1' is using the HD1 notch settings now instead of other HD's notch settings. This fix improved the SNR value little bit since by default we apply 25 bins notching for HD1 which is now applied for HD1' as well.
7. Enabled the "Number of Bits" option in Import Binary File menu popup.
8. Minimum number of harmonics that can be set is updated to 1.
9. Added a cursor reset button which would bring in the M1 and M2 markers into the visible part of the graph.
10. Added the DAC ini file parameter named 'Scaling factor>1' which, if set to True in the DAC ini file would allow the user to increase the Scaling factor upto infinity.
11. Added Automation functions for HSDC Pro Minimize and Restore.
12. Added a check box in the Additional Device Settings popup to remember the current session popup settings while disconnecting and connecting to the board.
13. Updated to display the marker labels within the graph range.
14. Enabled "Cursor Lock" Feature only to 2 channel display.
15. Made the Device selection window (the listbox which appears when selecting a device) wider and changed the font size of the items in the listbox to 13.
16. Increased the number of digits after the decimal point from 8 to 9 in the 'ADC Input Target Frequency' control.
17. Added "14J10ZC706 Details" folder.
18. Bug fix in displaying the correct channel data in the main plot when the context plot cursor is moved for a large capture in 1400.
19. Fixed a bug in which the measurement table shows the values of all the five harmonics even if the number of harmonics specified is less than 5.
20. Fixed the 'EyeQ' window 'gain' range and lane address issue.

21. Bug fixes in SERDES Test Options menu.
22. Updated the 'TSW14J56REVD_FIRMWARE' in which Software Trigger generation is aligned to SOMF.
23. Added Data Pattern Verifier option to SERDES Test Options menu.
24. Updated 14J56revD firmware with the EyeQ Scan module to go over the horizontal and vertical phases and store the BER data to Internal RAM.
25. Added a firmware 'TSW14J56REVD_AEQ_FIRMWARE' (IID-6) to 14J56revD board with AEQ enabled.
26. Added a firmware 'TSW14J56REVD_FIRMWARE_CER' to 14J56revD board which supports both 841 and 421 modes for CER Testing.
27. Added a firmware 'TSW14J56REVD_SERDES_TEST_FIRMWARE' to 14J56revD board for PRBS pattern generation and verification.
28. Added the new MIF files for the PRBS firmware.
29. Added a firmware 'TSW14J10_KC705_v2p8' to 14J10KC705 board
30. Added a firmware 'TSW14J10_VC707_v2p8' to 14J10VC707 board
31. Updated the 'TSW14J50RX_FIRMWARE' by fixing the FIFO first data not writing issue in capture logic for 8 lane mode.
32. Updated the TSW14J56revD DLL for the PRBS generation and verification.
33. Updated the TSW14J56revD DLL to fix DAC (Tx) lane map changes.
34. Updated 14J56revB, 14J10KC705, 14J10VC707 DLLs with minor changes.
35. Updated ADS5294 and ADS5292 INI files for TSW1400 board with change in channel mapping index.
36. Updated ADS54J54_LMF_841 for TSW14J56revD Board.
37. Updated ADC12J4000_DEC_4, ADC12J4000_DEC_10, ADC34J44_LMF_4421, ADS42JB49_LMF_222, ADS42JB49_LMF_421, ADS42JB69_LMF_222, ADS42JB69_LMF_421, ADS54J54_LMF_442 INI, DAC3XJ82_LMF_421 and DAC3XJ84_LMF_442 files for 14J10KC705 Board.
38. Updated ADC12J4000_BYPASS, ADC12J4000_DEC_4_P54, ADC32RF45_8224, ADC32RF45_82820, ADS42JB49_LMF_222, ADS42JB49_LMF_421, ADS42JB69_LMF_222, ADS42JB69_LMF_421, ADS54J40_LMF_8224, ADS54J54_LMF_442, ADS54J54_LMF_841, ADS54J60_LMF_8224, DAC3XJ82_LMF_421, DAC3XJ84_LMF_442 and DAC3XJ84_LMF_841 INI files for 14J10VC707 Board.
39. Updated ADS42JB49_LMF_222, ADS42JB49_LMF_421, ADS42JB69_LMF_222, ADS42JB69_LMF_421 for TSW14J50 board.
40. Updated ADC32RF45_LMF_4211 and ADC32RF45_LMF_82820 for TSW14J56 board.
41. Added ADS54J69_2x_4421, ADS54J69_4x_2221, ADS54J20_2x_4222, ADS54J20_2x_Dec, ADS54J20_4x_2221, ADS54J20_4x_2441_IQ, ADS54J20_4x_4421_IQ, ADS54J20_4x_Dec, ADS54J20_LMF_4211, ADS54J20_LMF_4244, ADS54J20_LMF_8224, ADS42JB69_LMF_421_CER, ADS54J54_LMF_841_CER, ADC32RF45_LMF_8224, ADC32RF45_LMF_82820, ADC32RF80_20x_LMF_4211, ADC32RF80_20x_LMF_4421, ADC32RF80_40x_LMF_4211, ADC32RF80_40x_LMF_4421, ADC32RF80_LMF_2221,

- ADC32RF80_LMF_2242, ADC32RF80_LMF_2441, ADC32RF80_LMF_2881, ADC32RF80_LMF_4222, ADC32RF80_LMF_4244, ADC32RF80_LMF_4421, ADC32RF80_LMF_4442, ADC32RF80_LMF_4841, ADC32RF80_LMF_8221, ADC32RF80_LMF_8411, ADC32RF80_LMF_8422, ADC32RF80_LMF_8821, ADC12J4000_BYPASS_SERDES device & mode support to TSW14J56revD.
42. Added ADC32RF80_LMF_8411 and ADC32RF80_LMF_8821 device & mode support to TSW14J56.
 43. Existing 14J56 RevD INIs have been ported to TSW14J50 and validated.

Version 4.10 (From v4.00) (5th November, 2015)

1. Added an ADC INI parameter named "Mixer Type = 0" that takes 0(straight mixer, $F_{out}=F_{in}+NCO$) or 1(Down mixer, $F_{out}=F_{in}-NCO$) based on which F_{out} will be calculated.
2. Added an ADC INI Parameter named "Transport Layer Ratio". This is a multiplication factor used in Lane rate calculation to make adjustments to the lane rate.
3. Added .NET 4.0 installer to the HSDC Pro installer and removed .NET 2.0, since the latest HSDC Pro has a dependency on .NET 4.0.
4. Added an ADC INI Parameter named "Min sample Rate". If the ADC Output Data Rate goes below this value, HSDC Pro shows a warning popup.
5. Added an automation function to write to U32 register.
6. Updated HSDC Pro to display the Lane rate popup whenever a parameter related to lane rate calculation is exported through back channel communication from Device GUI
7. Added possible reasons for ADC Time Out Error to the error popup in 1400, 14J56revB, 14J56revD and 14J50
8. Added an option to cycle through ADC channel list using Up and Down arrow keys.
9. Added ADS58J66_LMF_4421, ADS58J66_LMF_4421_mode7, ADS58J66_LMF_4841, ADC14X250_LMF_112 device & mode support to TSW14J56revB
10. Added ADS54J40_2x_Dec, ADS54J40_4x_Dec, ADS54J40_LMF_4211, ADS54J40_LMF_4244, ADS54J40_LMF_8224, ADC14X250_LMF_112 device & mode support to TSW14J56revD
11. Added ADC12J4000_DEC_4, ADC12J4000_DEC_10, ADS42JB49_LMF_222, ADS42JB49_LMF_421, ADS42JB69_LMF_222, ADS42JB69_LMF_421, ADS54J54_LMF_442, DAC3XJ82_LMF_421, DAC3XJ84_LMF_442 device & mode support to TSW14J10KC705.
12. Added ADC12J4000_BYPASS, ADC12J4000_DEC_4, ADC12J4000_DEC_10, ADS42JB49_LMF_222, ADS42JB49_LMF_421, ADS42JB69_LMF_222, ADS42JB69_LMF_421, ADS54J54_LMF_442, ADS54J54_LMF_841, DAC3XJ82_LMF_421, DAC3XJ84_LMF_442, DAC3XJ84_LMF_841 device & mode support to TSW14J10VC707.
13. Updated TSW14J10KC705 and TSW14J10VC707 firmware files.

14. Updated TSW14J50 Firmware file and DLL to support 30M SPI baud rate and with lane mapping changes.
15. Added CMOS Rx_SYNC signal to the FMC Pin #K22 in TSW14J56revB and TSW14J56revD firmware.
16. Bug fix in DSP Lib DLL where spurs are labeled at wrong locations when both Additional Device Parameters and Other Frequency options are enabled.
17. Bug fix in TSW1400 trigger mode capture, so that it works as expected when the device modes are changed through export function.
18. Bug fix in 14J56revD DLL in writing the DAC #samples value to JESD TX control register, if it is less than 16384.

Version 4.00 (From v3.10)

1. Added support for TSW14J56revD board.
2. Recompiled HSDC Pro in LabVIEW 2014.
3. Upgraded HSDC Pro installer to Bitrock installer.
4. Y scale default Voltage range is changed to -1V to 1V and the label displayed in the graph in case of Voltage scale is changed to 'Level(V)'.

Version 3.10 (From v3.0)

1. Added the feature to communicate with the Device GUI EXE from HSDC Pro EXE through back channel communication (Device GUI EXE needs to be updated with the necessary changes).
2. Implemented the new Spur Search algorithm that uses NCO & Decimation along with Fs & Fin values.
3. Updated 14J50 ADC INIs, Firmware, and DLL to support Megacore IP. TSW14J50 DLL works at 3MHz SPI baud rate for now (future version will have it increased to 30MHz).
4. Added Unit selection option to the measurement table to switch between dBf, dBc and Hz.
5. Added an option to display Time domain Y Scale in Voltage. By default the voltage range will be from -2V to 2V. The value can be specified in the Device INI by adding the parameter "Y Scale Voltage Range= -2V to 2V"
6. Added a right click shortcut option to the Real FFT graphs to display X scale in log scale.
7. Time domain graph X axis has been updated to display only integers even while zooming (earlier it was displaying floating numbers).
8. Added the option to load maximum of 512K data in the display in DAC page. (Earlier it was 64K).
9. NSD parameter in the measurement table has been updated to be displayed in dBf/Hz (earlier it was dBf/bin).
10. Menu option to enable or disable the NSD Marker has been added.
11. TSW14J56 DLL and Firmware has been updated to support Sysref based Trigger (for testing).

12. Added AFE5801, AFE5803, AFE5804, AFE5805, AFE5807, AFE5808, AFE5809, AFE5851_12X, ADS52J90 device & mode support to TSW1400.
13. Added ADS54J54, ADS58J8x, ADC14X250, ADC31JB68, ADC32RF45, ADS42B4, ADC12J4000_D10_SDR, ADC12J4000_D20_DDR, ADC12J4000_D32_DDR, ADS54J60 and RFDAC device & mode support to TSW14J56.
14. Removed 14J01 folder from the installer.
15. Removed TSW1400 and TSW1405 API document from the installer.
16. Removed Auto scaling for the X axis in the graph while switching between Channels or Graph types.
17. Updated the Peak to peak calculation in the measurement table using "Peak to Peak = (max code – min code) + 1" in both ADC and DAC Time domain.
18. Bug fix in handling the parameters exported from the Device GUI through Back Channel communication.
19. Bug fix in updating the Codes page with the correct data when the cursor in the context plot is moved, with the X scale in Time.
20. Bug fix in displaying the markers M1 and M2 in DAC page when the cursor is moved.
21. Bug fix in displaying the Test Parameters (Two Tone and Channel Power) when we switch between ADC and DAC tabs.
22. Bug fix in Sync pattern search in TSW1400.
23. Bug fix in applying the Bit packing pattern in DLL - TSW14J56, KC705, VC707 platforms.
24. Bug fix in handling the Parameters exported from the Plugin GUI.
25. Bug fix in updating the current values of JESD parameters in the Dynamic Configuration popup.

Version 3.08 (From v3.05)

1. Added the feature to communicate with the Device GUI EXE from HSDC Pro EXE through back channel communication, if the Device GUI EXE is updated with the necessary changes.
2. Updated ADC INIs, 14J50 firmware, DLL to support Megacore IP. 14J50 DLL works on 3MHz SPI baud rate.
3. Updated TSW14J56revD DLL and Firmware with the bug fixes.
4. Added a right click shortcut option to the Real FFT graphs to display X scale in log scale.
5. Updated the Peak to peak calculation in the measurement table with a bug fix.
6. Added an option to dynamically set the maximum value for 'Analysis window' dropdown by adding the parameter "Max FFT Analysis Window Size" in the INI.
7. Added Unit selection option to the measurement table to switch between dBF,dBc and Hz.
8. Bug fix in handling the parameters exported from the Device GUI Source Distribution.
9. Bug fix in updating the Codes page with the correct data when the cursor in the context plot is moved, with the X scale in Time.

10. Removed 14J01 folder from the installer.
11. Removed TSW1400 and TSW1405 API document from the installer.

Version v3.05: (19th February, 2015)

1. Implemented the new Spur Search algorithm that uses NCO & Decimation along with Fs & Fin.
2. Bug fixes in Sync pattern search in TSW1400.
3. Bug fixes in applying the Bit packing pattern in dll - TSW14J56, KC705, VC707 platforms .
4. Bug fixes in handling the Parameters exported from the Plugin GUI.
5. Bug fixes in updating the current values of JESD parameters in the Dynamic Configuration popup.
6. Updated the TSW14J56revD firmware - Added LMF Reconfiguration, 2 Triggering schemes, Transceiver mode.
7. Removed Auto scaling for the X axis in the graph while switching between Channels or Graph types.
8. Added AFE5801,AFE5803,AFE5804,AFE5805,AFE5807,AFE5808,AFE5809 device INIs to TSW1400.
9. Added ADS54J54, ADS58J8x, ADC14X250,ADC31JB68, ADC32RF45, ADS42B4, RFDAC device INIs to TSW14J56.

Version 3.04:

1. Supported TSW14J56revD board.

Version 3.03 (21th November, 2014)

1. Added an option to display Time domain Y Scale in Voltage. By default the voltage range will be from -2V to 2V. The value can be specified in the Device INI by adding the parameter “Y Scale Voltage Range= -2V to 2V”
2. TSW14J56 DLL and Firmware has been updated to support Sysref based Trigger (for testing).
3. Supported new syntax for the Channel Pattern E.g.: 1[x2],0[x2],2[x2] instead of 1,1,0,0,2,2.
4. Bug fixes in Sync pattern search in TSW1400.
5. Added AFE5851_12X.ini under 1400 ADC files.
6. Added ADC12J4000_D10_SDR.ini, ADC12J4000_D20_DDR.ini, ADC12J4000_D32_DDR.ini under 14J56 ADC files.
7. Bug fix in displaying the markers M1 and M2 in DAC page when the cursor is moved.
8. 512K of data can be loaded in the DAC page. (Earlier it was 64K).
9. Added additional INI files for 14J56 (ADC12J4000, ADS54J69, ADS54J60, ADS54J40) and 14J01(ADS54J40).

Known issues:

1. The scrollbar of the measurement table (in the left side) is scrolled down by default.

Version 3.02 (6th November, 2014)

1. Updated the ADS42JB69_LMF_421 INI in TSW14J50 folder.
2. NSD parameter display has been updated to be displayed in NSD/Hz.
3. Menu option to enable or disable the NSD Marker has been added.
4. Bug fix in displaying the Test Parameters (Two Tone and Channel Power) when we switch between ADC and DAC tabs.
5. Time domain graph X axis has been updated to display only integers even while zooming (earlier it was displaying floating numbers).
6. TSW14J56 DLL and Firmware has been updated to support Sysref based Trigger (for testing).

Version 3.01 (21st October, 2014)

1. Added TSW14J56 Marconi INI files
2. Enabled User Profiles menu option for ADC.

Version 3.0 Rebuild 4 (16th October, 2014)

1. Disabled SERDES Test Option and OnBoard Diagnostics menu options in 14J56.

Version 3.0 Rebuild (15th October, 2014)

1. Bug fix in notching the fs/2 bin in FFT display and including the fs/2 bin in Average FFT calculation.
2. Removed ADC3K_revC INI files and renamed ADC3K_revB INI files as ADC3K in TSW14J56.
3. Changed the HSDC Pro version number as 3.0 instead of 3.00 in the display.

Version 3.0 (7th October, 2014)

1. Updated TSW14J56 firmware, DLL and INI files to support Megacore IP.
2. Added support for TSW14J10VC707 Board.
3. Updated TSW14J10KC705 and TSW14J10VC707 firmware.
4. FFT Display changes (a) showing –fs/2 and fs/2 components in complex FFT (b) fs/2 and DC are not summed in Real FFT.
5. Automation functions for Import Data File, Import Binary File and DAC Scaling Factor.
6. Export functions for the parameter GUI Channels to Disable, Channel Display Strings, and Device GUI Tab Name are added.
7. Bug fix in the Average FFT memory buildup for large number of captures.

8. Bug fix in all the Trigger modes, when the Number of Samples to capture is changed, it was not getting updated in the next immediate capture.
9. Bug fix in DAC Send when the firmware is downloaded through menu option in TSW14J56.
10. Added the feature to save the Screenshots of all channels for ADC.
11. Added support for DAC Bit masking in all the boards.
12. Retaining the DAC Scaling Factor value while Creating Tones (Earlier it was reset to 1).
13. Retaining the Last Selected ADC and DAC device name while switching between ADC and DAC tabs based on the firmware present in the board.
14. Bug fix in displaying the Time domain X axis scale in Time when the Channel pattern is unequal.
15. Support for skipping of Sync Pattern in TSW1400 v1.0 DLL.
16. Added HSDC Pro Manifest File – SRAS approved HTML format.
17. Removed 14J05 folder and TSW14J56revC folder from the installer.

Version 2.83 (29th September, 2014)

1. Updated KC705 and VC707 firmware.
2. Added Automation function for Scaling Factor
3. FFT Display Appearance changes for Real and Complex FFT
4. Added HSDC Pro Manifest File.
5. Removed TSW14J56RevC Board Folder.

Version 2.81 (22nd September, 2014)

1. Updated the TSW14J56 Firmware, dll and INI files to support Megacore IP.
2. Currently all TSW14J56 DAC Devices are supported only in Transceiver mode.
3. Retaining the Last Selected ADC and DAC device name while switching between ADC and DAC tabs based on the firmware present in the board.
4. Bug fix in all the Trigger modes, when the Number of Samples to capture is changed, it was not getting updated in the next immediate capture.
5. Bug fix in displaying the Time domain X axis scale in Time when the Channel pattern in unequal.
6. Disabling the Reference clock popup display when recently selected device is selected again. Earlier it was displayed every time when we select a device.
7. Bug fix in the Average FFT memory buildup for large number of captures.
8. Removed 14J05 folder from the installer.
9. Support for skipping of Sync Pattern in TSW1400 v1.0 DLL.
10. Added AFE_ADC_222_TRX and AFE_DAC_222_TRX INIs to the 14J56 folder, but they are not yet tested with the new Megacore firmware.

Version 2.733 (13th August, 2014)

1. Added 14J10VC707 Details folder.

2. Added latest KC705 and VC707 firmware sent by Hugh.
3. Updated the change said by Hugh in CNFG_JESD_REG2 register in both 14J10KC705 and 14J10VC707 dll.
4. Updated the Marconi ini files with the parameter 'IP Selection = 1'(which switches between Megacore and Radiocomp IP firmware) in 14J56.
5. Automation function for Import Data File and Import Binary File
6. Export functions for the parameter GUI Channels to Disable, Channel Display Strings, Device GUI Tab Name are added.
7. Bug fix for firmware loading via menu for DAC.
8. TSW14J10KC705 DLL with sample reordering.
9. Disabled User Profile changes since it was causing issues while loading DAC page for the first time.

Version 2.732 (11.08.2014)

1. Added 14J10VC707 Details folder.
2. Added latest KC705 and VC707 firmware sent by Hugh.
3. Updated the change said by Hugh in CNFG_JESD_REG2 register in both 14J10KC705 and 14J10VC707 dll.
4. Updated the Marconi ini files with the parameter 'IP Selection = 1'(which switches between Megacore and Radiocomp IP firmware) in 14J56.
5. Automation function for Import Data File and Import Binary File
6. Export functions for the parameter GUI Channels to Disable, Channel Display Strings, Device GUI Tab Name are added.
7. Bug fix for firmware loading via menu for DAC.
8. TSW14J10KC705 DLL with sample reordering.

Version 2.731 (23.7.2014)

1. Bug fix in the SERDES Test Mode Transmitter side
2. Bug fix in DAC Send when the firmware is downloaded through menu option in TSW14J56.

Version 2.73 (17.07.2014)

1. Updated the 14J56 folder with 14J56 Megacore firmware and Megacore inis.
2. Bug fix in Sample pattern generation for the Boards 14J56,14J50,14J56revC,14J10KC705,14J01, when the Sample pattern is not present and the channel pattern contains 0.
3. EyeQ scan feature **SERDES Test Options** menu is enabled for internal testing, but the EyeQ is not completely functional.

Version 2.721 (16.07.2014)

1. Updated the 14J56 firmware with the Megacore IP firmware and 14J56 folder contains only the Megacore inis.

Version 2.72 (10.07.2014)

1. Added Marconi Files
2. Added support for DAC Bit masking in all the boards.

3. Retaining the DAC Scaling Factor value while Creating Tones (Earlier it was reset to 1).
4. Added the feature to save the Screenshots of all channels for ADC.

Version 2.71 (08.07.2014)

1. Added support for DAC Bit masking in all the boards.

Version 2.70 (03.7.2014)

1. Added support for TSW14J10KC705 Board.
2. Fix for “JTAG Broken Chain Issue” when connected to USB3 Port PC.

Version 2.641 (30.6.2014)

1. Support for multiple JTAG IDs for single board detection.

Version 2.64 (27.6.2014)

1. Fix for “JTAG Broken Chain Issue” when connected to USB3 Port PC.
2. Updated TSW14J10 Firmware.
3. Renamed AFE files.

Version 2.63 (20.06.2014)

1. Added support for TSW14J10KC705 Board.

Version 2.61 (13.06.2014)

1. Added Marconi files.

Version 2.593 (28.05.2014)

1. Added ADS5263_2W_18b_bytewise, ADS5263_2W_18b_wordwise ini files to TSW1400 folder, ADC32J4x_LMF_222, ADC34J4x_LMF_442 files to TSW14J50 and ADC16DX370_LMF_421, ADC32J4x_LMF_222, ADC34J4x_LMF_442, LM97937_LMF_421 ini files to TSW14J56
2. Bug fix in Reference clock popup display in TSW14J50.
3. Updated enable/disable settings of Menu items for boards.
4. Added the Intel Signal Processing DLL license file to the HSDC Pro Installer(will be displayed while installing HSDC Pro) The license files of Intel Signal Processing DLL and FTDI driver DLL is also available for viewing in the HSDC Pro installed location.

Version 2.59 (20.05.2014)

1. Added export functions for bidirectional communication of “Coherent Frequency Calculation”.
2. Updated TSW14J50 IID File. Updated ADS32JXX ini files of TSW14J56.
3. Minor bug fix in GUI UI when user chooses an ADC plugin, goes to DAC tab, comes back to Plugin GUI tab, and then goes to ADC tab.
4. Updated HSDC Pro to pass the location of ftd2xx DLL to the plugin GUI via LV2Global.

Version 2.58 (13.05.2014) [List of Major Changes from v2.50]

1. Added FFT Peak Analysis feature, which can be enabled from the menu - Test Options -> Other Frequency Options. When enabled, the dotted line present represents the threshold for peak frequency analysis.
2. HSDC Pro UI has been resized to fit 768 resolution PCs.
3. Added disabling of fundamental frequency search feature. This disables the fundamental frequency search, and allows the user to set the Fundamental frequency using the Input Target Frequency. This option is available under the menu - Test Options -> Other Frequency Options.
4. Two Tone FFT calculation has been updated to support two closely spaced tones. The integration of the nearby bins for frequency power calculation is also now applied for the Two Tone frequency parameters, based on the menu setting.
5. Bug fix in Complex FFT calculation, whose FFT result which was having an offset of 6dB.
6. Added Automation function for FFT Peak Analysis and for exporting the Time Domain Parameters.
7. The fundamental frequency pointer in the FFT plot has been replaced with a single marker, which represents the integrated fundamental frequency.
8. Made changes in the TSW14J56 DLL to fix the random FTDI errors in continuous capture mode. Reduced the capture time taken by TSW14J56 board.
9. Input target frequencies now support negative frequency inputs.
10. Fixed the issue with the updating of the FFT Plot in Two channel display mode.
11. Modified the short cut menu option for exporting the FFT data from plot(right clicking on the FFT plot -> Export -> Export Data to Excel), to have the X-axis frequency values in floating point (previously they were in SI notation which was difficult for post processing using other software)

Version 2.56 (24.04.2014)

1. Updated TSW14J56 Test Mode feature. The Stop functionality needs to be tested.
2. Updated Two Tone calculation to support two tones which are closely spaced between each other.
3. Fixed bug in the Two Tone Calculation in “Integrate” mode.

Version 2.55 (17.04.2014)

1. Made changes in the FFT Peak Analysis to order the list based on the peak magnitude.
2. Added Automation function for exporting Time Domain Parameters, and verified the passing of harmonic values in Single Tone Parameters function.
3. Added export functions for passing the ADC Input Target Frequency, Firmware download event and tab change event to the plugin GUI.
4. Fixed the issue with the updating of the FFT Plot in 2 channel display.
5. Made changes in the TSW14J56 DLL to fix the random FTDI errors in continuous capture mode. Confirmation and verification of this fix is in progress.

6. Made changes in the DAC board DLL wrappers which was causing the GUI appear to 'hang' (it responds after some time) when sending a large data file.
7. Made the pointer for the fundamental frequency to be a single marker, which represents the integrated fundamental frequency.
8. Optimized the bulk writing of TSW1400 registers using automation function.
9. Modified the option of exporting the FFT data from plot, by right clicking on the FFT plot -> Export -> Export Data to Excel, to have the frequency values in floating point (previously they were in SI notation which was difficult for post processing using other software)

Version 2.54 (24.3.2014)

1. Added enable/disable fundamental frequency search feature. This allows the user to set the Fundamental frequency by specifying the frequency in the Input Target Frequency. This option is available under Test Options -> Other Frequency Options. If **Disable Fundamental Freq. Search?** is checked then it takes the Input Target Frequency as the Fundamental frequency
2. Added a dotted line which represents the threshold for peak frequency analysis.
3. Bug fix in the procedure of finding the frequency peak values, which was causing some issues with Rectangular FFT.
4. Bug fix in tabular display of the Single tone parameters.

Version 2.53 (14.3.2014)

1. Fixed the offset issue in Complex FFT
2. Added FFT Peak Analysis feature, along with its automation functions.
3. Support for negative frequencies for the input target frequencies.
4. Integrate/Don't integrate options applied for the two tone frequencies.
5. Improvement in TSW14J56 speed.
6. Made some internal changes in the TSW14J56 mode linking. This needs to be tested.

Version 2.52 (10.03.2014)

1. Fixed the issue in Onboard Diagnostics menu option for TSW14J56
2. Bug fix in TSW14J50
3. Modified the HSDC GUI size to fit 768 resolution

Version 2.51 (06.3.2014)

1. Added TSW14J50 board.
2. Added Test mode and EyeQ plot feature for TSW14J56. Sequence to be validated.
3. Reduced the time delay in the initialization of MPSSE mode in TSW14J56. This needs to be tested.

Version 2.50 (18.2.2014)

4. Channel pattern for some of the TSW14J56 ini files has been modified.
5. HSDC Pro manual has been updated.

Version 2.491 (12.02.2014)

1. The common TSW14J56 firmware has been updated with the fix for the timeout error.
2. TSW14J56 “DAC3XJ84_LMF_148” ini file has been updated.
3. Fixed alignment issue in Two Tone/Channel Power controls.
4. AFE7500 related ini/firmware files has been removed(from TSW14J01 and TSW14J56 boards).

Version 2.49 (07.02.2014)

5. The common TSW14J56 firmware has been updated with the fix for incorrect initial captured samples.
6. Updated the device search functionality to return back to the last selected device, when clicked outside.
7. TSW14J56 DLL has been updated to configure registers from device ini file.
8. Fixed bug in the reloading of the plugin GUI, when the plugin GUI is not running.
9. Updated the scroll bar of the ADC FFT Parameters table to be on top.
10. Added automation function to save the ADC data as a binary file.
11. Updated the coercing of maximum samples per channel in the Capture option dialog in the GUI, based on transceiver/non-transceiver device.

Version 2.48 (31.1.2014)

1. Bug fix in the device search functionality for ADC and DAC devices.
2. Made modifications to the DAC triggering status display. In Hardware trigger mode, since the board waits for trigger only after user presses on the “Write DDR Memory” the status bar will not show as “Trigger Armed” as it does for ADC.
3. Added a separate automation function for setting the DAC trigger settings. Updated the DAC Automation DLL LabVIEW and C examples with the DAC trigger option.
4. Added dummy functions in TSW1405 DLL which were not present earlier for future scalability.

Version 2.47 (30.1.2014)

1. Added automation functions for DAC software and hardware triggering.
2. Fixed bug in the updating of context plot in TSW1405, when some channels are disabled.
3. Fixed bug in the TSW14J56 ADC triggering(AFE7500 devices).

Version 2.462 (29.1.2014)

1. Modified the automation function architecture, to execute each case, and the cases they call, before starting to execute the next automation DLL command in queue.

Version 2.461 (28.1.2014)

1. Fixed bug in TSW14J56 DLL/ini which prevented the sending of data in AFE7500 DAC files.
2. Added automation functions for DAC Write DDR memory and generate trigger.

Version 2.46 (27.01.2014)

1. Implemented device search for ADC and DAC devices. Supports partial search – for a given input string, GUI will list all devices which has this string in any part of the device name. While searching, pressing enter will automatically select the first listed device. To cancel the search, user needs to press on the up arrow button.
2. Made the trigger settings for ADC and DAC to be separate.
3. Some memory optimization changes for analyzing large amount of data were done.
4. Added a device ini parameter, which can over-ride the board menu enable/disable settings.
5. Added automation function to set the ADC 2nd input target frequency.
6. Fixed bug in GUI to enable reading back the triggered data when connecting to the board(if the board already has triggered data) for boards other than TSW1400.
7. Supports DAC trigger functionality in TSW14J56 AFE7500 devices.
8. Device GUI unloading will now happen only when the next device(ADC/DAC) is selected. When no valid device is selected, the plugin GUI tab will be hidden.

Version 2.451 (17.1.2014)

1. Test version which supports TSW14J56revC (instantiated from TSW14J56). Expected FTDI board description for the revC board is “TSW14J56revC”.
2. Updated the TSW14XX details to consider the board name as the FTDI description, till it encounters the first space character (“ ”). Earlier, it was considering only the first 8 characters as the board description.
3. Fixed a minor bug in the updating of the plugin GUI tab name when switching between two devices which have the same plugin GUI.
4. Added a new parameter called “Lane Rate Adjustment Factor” which will get multiplied in the lane rate calculation (Applicable for both TSW14J56 and TSW14J56revC boards). If this parameter is not present, it will take the default value of “1”. This parameter has been added in the “ADC16DX370_LMF_222” ADC ini file under TSW14J56, with value of 1. This value can also be in decimal.

Version 2.45 (15.1.2014)

1. Bug fix for 0s in format pattern for TSW14J56 DAC.
2. Updated GUI to disable saving as CSV file, when a file is loaded in DAC. Only the tone generated DAC data can be saved as a CSV file.
3. The TSW1400 DAC Trigger functionality is available in 2.45 GUI version (the functionality already existed in the DAC firmware and now the DLL and GUI also support it). Note that the generation triggers show up on SYNC1 and SYNC2 outputs since SYNC3 and SYNC4 were already being used as full and partial (every 64 samples) frame triggers. Depending on whether you are in ADC or DAC tab, the trigger configuration dialog will configure either a capture or generation trigger. For those who were doing automation with the ADC trigger, your automation code should continue to work.

-Changes in v2.45 specific to AFE7500 RBF (firmware) file accessible from the TSW14J56 INI format (Non-AFE7500 devices- the firmware will ignore these features):

1. Binary channel feature is implemented with Pin direction multiplexer as below.

Binary Channel Mode implementation:

There are total 15 GPIO pins (GPIO0[7:1], GPIO1[7:0]) connected to Marconi Digital and FMC connector. The new firmware enables binary channel output for below non-red GPIOs through pin IO state mux configured through a ini parameter called "**Binary Channel Mode**"

				Bit 3	Bit 2	Bit 1	Bit 0
				Reserved	Reserved	Reserved	Binary channel mode, 0-Disable, 1-Enable
Bit 11	Bit10	Bit 9	Bit 8	Bit 7	Bit 6	Bit 5	Bit 4
Not used	Not used	GPIO0_5	GPIO0_4	Not used	Not used	Not used	Not used
Bit 19	Bit 18	Bit 17	Bit 16	Bit 15	Bit 14	Bit 13	Bit 12
GPIO1_7	GPIO1_6	GPIO1_5	GPIO1_4	GPIO1_3	Not used	GPIO1_1	GPIO1_0

a. When Binary channel mode (Bit 0) is disabled , other bits are ineffective.

b. Bits [4-19] define the pin direction of the GPIO pins in FPGA.

0- Input to FPGA

1- Output from FPGA

Though some of the GPIO pins are not supported, we reserved a bit for each GPIO so that framing the value for this ini parameter would be easy.

c. Data (16 bit sample) of 5th channel will be assigned to these GPIO pins in the same order.

Example: To send binary data on GPIO1_1(G16), Binary channel Mode parameter in ini file should be 8193 (0x02001 - binary channel mode enable = 1, GPIO1_1 =Output). 9th bit in 5th channel samples would be sent on GPIO1_1.

Other GPIOs will be set as inputs to FPGA.

AFE7500_DAC_442_TRX_BinGPIO1_1 ini file (circulated to AFE7500 Software Email List) can be used for this purpose. There is also a csv file with 9th bit toggling in 5th channel. This functionality is validated with SMA(J3), same pin IO state and data that goes to GPIO1_1 is given to SMA (J3).

2. Capture trigger is implemented for falling edge on BUSY_Z which is connected to J9 on FMC.

3. The issue of transitional spurs while DAC data is being sent from HSDC pro is fixed so that the behavior exactly matches the previous TSW14J01 board.

Version 2.44 (10.1.2014)

1. Modified DAC scaling factor, which is now applied to both data from files, and to the tone generated data. The scaling factor that was present near the DAC tone generation has been removed.
2. Support for 0s in format pattern of TSW14J56 DAC.
3. Implemented triggering feature for TSW14J56 ADC(for AFE7500 firmware).
4. Implemented TSW1400 DAC triggering. Validation in Progress.
5. Updated the name of the control which loads the DAC pattern file to "Load External Pattern File"

6. Updated the text that is displayed on the plugin GUI 3rd tab to be of the plugin GUI folder name.

Version 2.43 (1.1.2014)

1. Test version to check support for 16 channels in TSW1405.

Version 2.42 (19.12.2013)

1. Fixed bug in the DAC Automation function which caused pop ups to appear in TSW14J56.

Version 2.41 (18.12.2013)

1. Re-added AFE7500 ini and firmware files.
2. Added support for decoding bit packed data(no padded zeroes) in TSW14J56 ADC.
3. Support for sample re-ordering in TSW14J56 DAC.

Version 2.40 (06.12.2013) (From v2.20)

1. Added support for TSW14J56 Board.
2. The default value for notching around harmonics has been changed to 0 for all FFT windows.
3. The Single Tone Parameters table has been updated to display the configured number of harmonic values.
4. When markers M1 and M2 are moved, their corresponding frequency values will be displayed.
5. Automatic checking and installing of .NET 2.0 has been added in the HSDC Pro Installer.
6. Fixed issue with the latest FTDI driver, which caused GUI to hang after downloading firmware in TSW1405 and TSW1406 EVM's.
7. Board dynamic configuration menu item has been added for TSW14J56, to change the device ini parameter values on the fly. User message with reference clock value has been added for TSW14J56, which will be displayed when the lane rate changes, when capture/send button is pressed.
8. Updated ini/firmware files of TSW14J56. TSW14J56 DAC now uses MPSSE mode.
9. Updated TSW14J56 Channel pattern to accept 0's (which will discard the data).
10. Updated the board dynamic configuration with option for "Reset", which will reload the values from the device ini file.
11. User message with reference clock value has been added for TSW14J56, which will be displayed when the lane rate changes, when capture/send button is pressed.
12. Added feature of selecting the channel number to where the channel data will be displayed in GUI for TSW14J56. For example, if the DDR contains only 2 channels data, but the data needs to be displayed in channels 1, 3, then the channel pattern will be set using 1 and 3, and number of channels will be set as 4. Data

- read from DDR will be displayed in channels 1 and 3, and channels 2 and 4 will not have any data.
13. Modified lane rate calculation based on "Number of Channels" instead of JESD parameter M.
 14. Fixed DSPLib error issue which was reported in one Windows XP PC.
 15. Added Automation function for setting the starting sample for the ADC Analysis window.
 16. Fixed bug in the FFT plot, when switching to a channel with lesser number of samples, compared to the Analysis Window length (FBRX mode).

Version 2.40 from v2.30 :

1. Made a change in the extraction of data for the context plot.
2. Made change in all DAC DLLs, to make it possible to send a single channel csv file to any devices (with any number of channels). Earlier it was not possible to send 1 channel csv file to a device which had more than one channel.
3. Made change in the GUI, so that the tab change between ADC/DAC happens only initially when connecting to the board. This will avoid switching to ADC tab, after downloading a transceiver firmware after choosing a DAC device, whose IID value is less than 128.
4. Made maximum number of samples in TSW14J56 to be 512M. Added error checking and coercing when the maximum limit is exceeded.
5. Made change in the HSDC Pro so that the list of board dynamic parameters are passed to plugin GUI, only when the board dynamic configuration is enabled for the connected board.

Version 2.30 (27.11.2013)

1. Added the LabVIEW wrappers for Two tone, Write register and read register automation functions with the installer.
2. Removed the AFE7500 ini and firmware files.
3. Made a change in the extraction of sub-sampled data for context plot, to also include the left over data of previous iteration.

Version 2.26 (26.11.2013)

1. The total number of samples written to(or read from) TSW14J56 has been made as a multiple of 256, due to board specific constraints.
2. The coercing of number of samples in DAC tone generation has been made board specific(earlier it was coercing to a multiple of 32 for all boards).For TSW14J56, the number of samples per channel in DAC will be coerced to a multiple of 256. For all other boards, it will be coerced to a multiple of 32.
3. Previously, in TSW1400 DAC, loading of a CSV file whose total number of samples was not a multiple of 32, would result in an error. This has been modified, so that the DAC data will be truncated to the next lowest multiple of 32 and sent. When this coercion happens, GUI will display a message to the user regarding the same.

4. Fixed the issue with the M1,M2 and BIM markers in Complex FFT.
5. Fixed a bug in the reading of data from the individual bin files(TSW14J01 and TSW14J56) based on the movement of the marker in the context plot.
6. The list of board dynamic parameters in the TSW14J56 has been updated. The bug in the board dynamic configuration which resulted in lane rate value of 0, has been fixed.

Version 2.25 (14.11.2013)

List of Changes:

1. Updated ini/firmware files of TSW14J56. TSW14J56 DAC now uses MPSSE mode.
2. Updated TSW14J56 Channel pattern to accept 0s(which will discard the data).
3. Updated the board dynamic configuration with option for "Reset", which will reload the values from the device ini file.
4. Fixed issue with TSW1400 and TSW1406 DAC.
5. User message with reference clock value has been added for TSW14J56, which will be displayed when the lane rate changes, when capture/send button is pressed.
6. Added feature of selecting the channel number to where the channel data will be displayed in GUI for TSW14J56. For example, if the DDR contains only 2 channels data, but the data needs to be displayed in channels 1,3, then the channel pattern will be set using 1 and 3, and number of channels will be set as 4. Data read from DDR will be displayed in channels 1 and 3, and channels 2 and 4 will not have any data.
7. HSDC Pro user manual has been updated.

Known Issue:

Issue with moving of markers (M1,M2 and BIM) in Complex FFT to the left of 0

HSDC Pro revision P4 Labels

HSDC Pro Version number	P4 label name
4.131	HSDC_Pro_v4.131
4.01	HSDCPro_v4.01
4.00	HSDCPro_v4.00_Build_4
3.10	HSDCPro_v3.10Build2
3.05	HSDCPro_v3.05
3.041	HSDCPro_V3.041
3.02	HSDCPro_v3.02
3.01	HSDC_Pro_v3.01
3.0	HSDCPro_v3.0_Build4
2.83	HSDC_Pro_v2.83
2.733	HSDCPro_v2.733
2.73	HSDCPro_v2.73
2.721	HSDCPro_v2.721
2.72	HSDCPro_v2.72
2.71	HSDCPro_v2.71
2.70	HSDCPro_v2.70
2.641	HSDCPro_v2.641
2.61	HSDCPro_v2.61
2.60	HSDCPro_v2.60
2.593	HSDCPro_v2.593
2.59	HSDCPro_v2.59
2.57	HSDCPro_v2.57
2.56	HSDCPro_v2.56
2.55	HSDCPro_v2.55
2.54	HSDCPro_v2.54
2.52	HSDCPro_v2.52
2.51	HSDCPro_v2.51
2.50	HSDCPro_v2.50

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