MMWAVE Studio Release Notes

1 Introduction

The mmWaveStudio GUI is designed to characterize and evaluate the TI Radar devices. The mmWave device is configured and controlled from the mmWaveStudio by sending commands to the device over SPI. ADC data is captured using DCA1000 EVM or the TSW1400 EVM board and the data is processed in Matlab and the results are displayed in the GUI.

2 Release Overview

2.1 Platform and Device Support

The device and platforms supported with this release are

Supported Devices	Supported EVMs
xWR1243 ES2.0, ES3.0	AWR1243BOOST
xWR1443 ES2.0, ES3.0	AWR1443BOOST IWR1443BOOST
xWR1642 ES1.0, ES2.0	AWR1642BOOST IWR1642BOOST

The capture solution to capture raw ADC data can be either TSW1400 EVM or DCA1000 EVM. If the user is using TSW1400 EVM, then he should use MMWAVE-DEVPACK with the booster pack, else he should use only DCA1000 EVM with the booster pack.

2.2 Release contents and component versions

Component	Version	Device	Type
RadarSS Firmware	2.0.0.15	xWR1642 ES1.0 xWR1243 ES2.0 xWR1443 ES2.0	Binary

	1.1.0.2	xWR1642 ES2.0 xWR1243 ES3.0 xWR1443 ES3.0	
MSS Firmware	1.10.0.23	xWR1243 ES2.0 xWR1443 ES2.0 xWR1243 ES3.0 xWR1443 ES3.0	Binary
	1.0.18.9 1.0.18.13	xWR1642 ES1.0 xWR1642 ES2.0	Binary
FTDI Driver	2.12	NA	Binary
mmWaveStudio	1.0.0.0	NA	Executable
Documents	Release Notes mmWaveStudio user guide	NA	PDF PDF

2.3 Directory Structure

Directory Name	Content
docs	mmwave_studio_release_notes.pdf mmwave_studio_user_guide.pdf
ftdi	FTDI Driver
mmWaveStudio	mmWaveStudio GUI TSW1400 firmware files DCA1000 FPGA file
rf_eval_firmware	RF evaluation firmware

2.4 Tools and dependencies

Below tools are required to run mmWaveStudio

Tools	Version	Download Link
HSDC Pro Software (if capture solution is TSW1400)	4.2 or later	download link
Matlab Runtime Engine	8.5.1 only	download link
FTDI Driver	2.12	Included in the package

2.5 Licensing

Please refer to the mmwave_studio_manifest.html, which outlines the licensing information for mmWave Studio package.

3 Release Contents

3.1 Features and enhancements

- Support for DCA1000 EVM capture card (legacy support for TSW1400 capture card is retained)

3.2 Changes in this release

Item type	Key	Description
FEATURE	MMWSTUDIO-2	Support for DCA1000 EVM capture card
FEATURE	MMWSTUDIO-4	Support for data recording from current mmWave sensors 1. xWR1243 LaunchPad EVMs 2. xWR1443 LaunchPad EVMs 3. xWR1642 LaunchPad EVMs
FEATURE	MMWSTUDIO-21	Support post-processing of stored captured raw ADC data file
FEATURE	MMWSTUDIO-23	Support for graceful handling of dropped Ethernet packets from the DCA1000 capture card to PC 1. Notification the user in case of dropped packets 2. Filling of zeros equal to an amount of dropped samples if any dropped packets are found
FEATURE	MMWSTUDIO-24	LUA scripts are implemented for basic ADC data capture and visualization. GUI has color coded buttons to guide the user through various steps in capturing the raw ADC data
FEATURE	MMWSTUDIO-31	Support for viewing the ramp timing calculator without connecting the hardware
FEATURE	MMWSTUDIO-34	Support for processing of captured ADC data file without connecting the hardware

3.3 Known issues

Key	Description
MMWSTUDIO-41	GUI may crash when the capture card DCA1000 is reconfigured with a different packet delay after capturing the data.
MMWSTUDIO-42	If the user is capturing data with sequence numbers, sometimes the first packet will be captured with zero length. The user should ignore the first packet with zero length and continue processing the other packets.
MMWSTUDIO-43	GUI will process the data from the first captured file only. Other files are not processed by the GUI.
MMWSTUDIO-44	GUI may crash when the user tries multiple times the following sequence. Connect DCA1000, complete the capture and Disconnect the DCA1000. This is known to occur rarely.