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 board for single chip systems. The data is processed in Matlab and the results are displayed in the GUI.

This mmWave Studio 4.1 is designed to support TI 3rd generation low power and low cost radar devices like xWRL6432 and xWRL1432. The mmWave DFP APIs for these devices are brand new and this version of Studio supports only these 3rd generation device APIs.

2 Release Overview

2.1 Platform and Device Support

The device and platforms supported with this release are

Supported Devices	Supported EVMs
AWRL6432 ES1.0 IWRL6432 ES1.0	AWRL6432BOOST IWRL6432BOOST
AWRL1432 ES1.0 IWRL1432 ES1.0	AWRL1432BOOST IWRL1432BOOST

The solution to capture raw ADC data for single chip systems is by using Booster pack along with DCA1000 EVM.

2.2 Release contents and component versions

Component	Version/Details	Device	Type
FTDI Driver	2.12	NA	Binary
mmWaveStudio	**4.1.0.1**	NA	Executable
Documents	Release Notes mmWaveStudio User's Guide DCA1000 Quick start Guide DCA1000 Debugging Handbook LUA API Documentation	NA	PDF PDF PDF PDF PDF
Reference Code	DCA1000 CLI source code and documentation FTDI Library Source code and documentation	NA	Source code + Docs Source Code + Docs Source Code + Docs
Platform Binaries	DCA1000 FPGA Image (v2.9)	DCA1000 EVM	Binary

2.3 Directory Structure

Directory Name	Content
docs	mmwave_studio_release_notes.pdf mmwave_studio_user_guide.pdf mmwave_studio_lua_api_documentation.pdf DCA1000_Quick_Start_Guide.pdf DCA1000_Debugging_Handbook.pdf
ftdi	FTDI Drivers
mmWaveStudio	mmWaveStudio GUI (*Runtime\mmWaveStudio.exe*) DCA1000 FPGA file (*PlatformBinaries\DCA1000FPGA*) Reference code for DCA1000 CLI (*ReferenceCode\DCA1000*) Reference code for FTDI Library (*ReferenceCode\FTDILib*) Flash Programmer (FlashProgrammer\) Matlab Utility Example (Scripts\MatlabExamples\) Sensor Per Chirp API LUT Info (PerChirpLut\)

2.4 Tools and dependencies

Below tools are required to run mmWaveStudio

Tools	Version	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

- xWRL6432 and xWRL1432 devices are TIs third generation 60GHz and 77GHz RF CMOS low power and low cost Radar sensors, there are significant changes to DFP firmware and API architecture in this device compared to TI first and second generation devices.
- For more information refer document API documentation in mmWave DFP Package.
- The key firmware and device features supported by DFP/mmWave Studio:
    - The brand new lightweight mmWaveLink APIs to configure FECSS radar front end.
    - The new FECSS powerup and power down low power APIs (Entry/Exit Deep Sleep)
    - The new FECSS clock control API (Entry/Exit sleep and slow clocks)
    - GPADC and temperature measurement APIs
    - The brand-new factory and runtime calibration strategy and supporting APIs
    - The new sensor configuration and sensor start/stop APIs
    - The new loopback and functional safety monitor APIs

3.2 Changes in this release

This is the Initial Release of mmWave Studio 4.1. Refer to mmwave_studio_user_guide.pdf for all new features and APIs.

Item type	Key	Issue Details/Description

3.3 Known issues

This is the Initial Release of mmWave Studio 4.1.

Key	Description

4 Migration Guide

This is the Initial Release of mmWave Studio 4.1

Impact	Change list