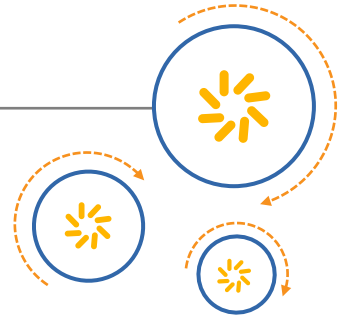




Qualcomm Technologies International, Ltd.



MAPX Tool Installation Guide

Application Note

CS-348771-AN

October 28, 2016

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Revision history

Revision	Date	Description
1	28-Oct 2016	Initial release

Note: There is no Rev. I, O, Q, S, X, or Z per Mil. standards.

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1 Introduction

1.1 Purpose

This document shows Qualcomm MAPX customers how to obtain and install the “MAPX Tools”. In addition the download and installation of the latest MAPX firmware or MAPX based soundbar CDK is required.

1.2 Conventions

Function declarations, function names, type declarations, attributed, and code samples appear in a different font, for example, `#include`.

Code variables appear in angle brackets, for example, `<number>`.

Commands to be entered appear in a different font, for example, **copy a:*.b:**.

Button and key names appear in bold font, for example, click **Save** or press **Enter**.

1.3 Technical Assistance

For assistance or clarification on information in this guide, submit a support request to Qualcomm Technologies International, Ltd. (QTI) at <https://www.csrsupport.com/>.

If you do not have access to Qualcomm’s CSRSupport service website, self-register at <https://www.csrsupport.com/register.php> for access or mail to customersupport@qti.qualcomm.com.

2 Installation

2.1 Requirements

The “MAPX Tools” installation require

1. Windows 7, 32 bit or 64 bit operation system
2. Minimum 25MB of free disk space for the tools
3. Minimum of 50MB for the MAPX firmware, header files, VI2C files and preset files

2.2 MAPX Tools Description

The MAPX Tools setup contain a collection of tools dedicated for the use with MAPX

1. Visual I2C and interface dlls – Run VI2C files and realize I2C communication by use of the 3-in-1 adapter HW
2. CMP Tool – Control of the audio framework, order and adjustment of audio blocks and I/Os
3. Resource monitor – Visual I2C based tool showing available MIPS and memory of MAPX
4. MAPX Flash Download USB – Visual I2C based tool to download ybin files into the SPI flash attached to MAPX
5. YiniConvert – convert yini files into ybin files for download into the SPI flash attached to MAPX and convert yini files into I2C telegram based files
6. Combine ybin – converts several ybin files into a single ybin file for download into the SPI flash attached to MAPX
7. Wav2flash – convert audio wave files, for example voice prompts or feedback sound, into the ybin format for download into the SPI flash attached to MAPX

2.2.1 Uninstall previous VISUAL I2C

Before installation of the MAPX Tools (version 2.0.0.2110 or higher) any previous versions of VISUAL I2C must be uninstalled.

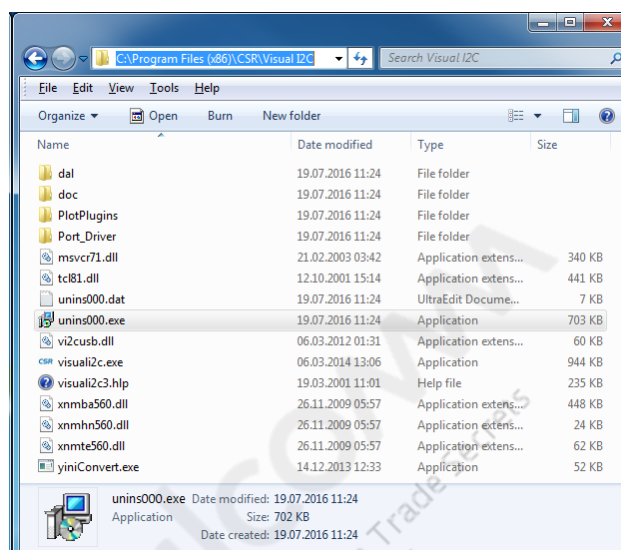


Figure 1 Typical Installation of Visual I2C from CSR

Double click the uninst000.exe to uninstall. Click **Yes** to continue and follow the instructions on the screen.

Prior versions of the “VI2C for MAPX” Tool can be used in parallel to the new MAPX Tools.

2.2.2 Installation of MAPX Tools

Download the latest version of the “Setup_Mapx_Tools_2.0.0.xxxx.exe” from the CSRsupport website <https://www.csrsupport.com/MAP-X/Tools>.

Double click the executable to install. Click **Yes** to continue.

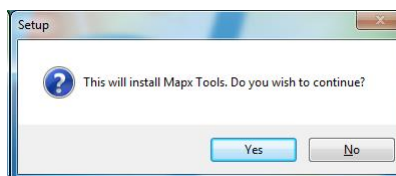


Figure 2 Setup Execution

Click **Yes** to allow setup to install the MAPX tools.

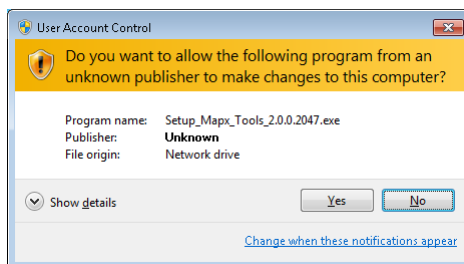


Figure 3 User Account Control

Click **Yes** to continue.



Figure 4 MAPX Tools Setup Wizard

It is strongly recommended to keep the suggested installation path.

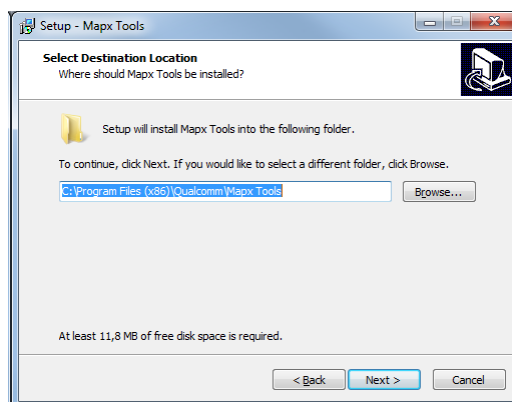


Figure 5 Installation Folder

A start menu folder will automatically be created. It is strongly recommended to keep the suggested location.

Click **Next** to continue.

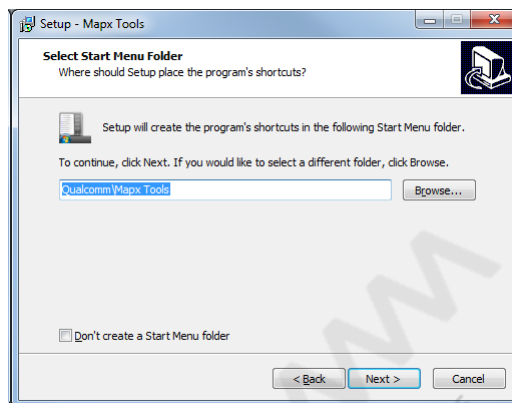


Figure 6 Start Menu Folder

Click **Install** to continue.

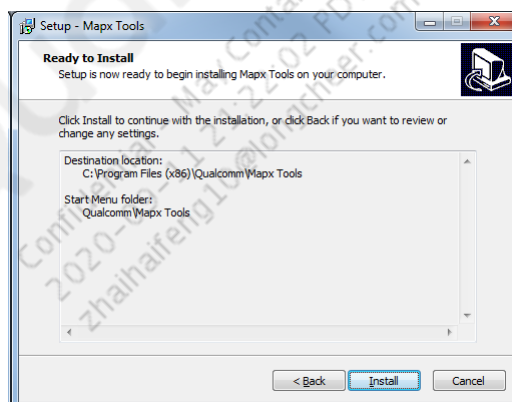


Figure 7 Ready to Install

Setup will install the required tool components.

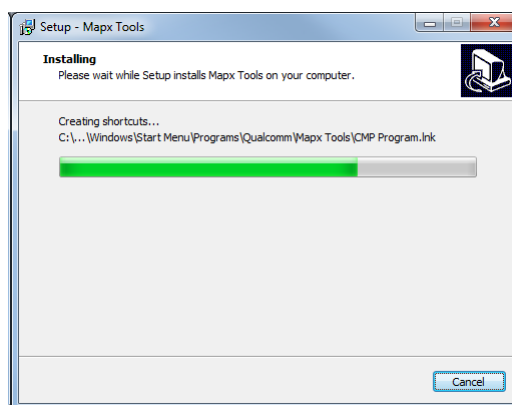


Figure 8 Installation of Tools

Click **Install** to allow installation of the device driver software for the 3-in-1 adapter.

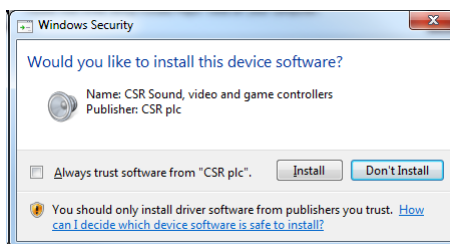


Figure 9 Check for Installation of HW Related Driver SW

Setup will install the required driver for the 3-in-1 adapter.

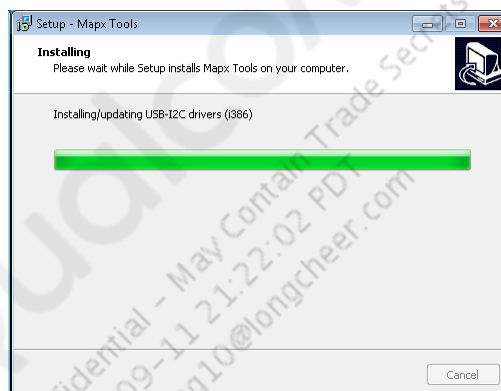


Figure 10 Installation of HW Related Driver SW

It is strongly recommended to select **Yes** and apply a restart to the computer by click on **Finish**

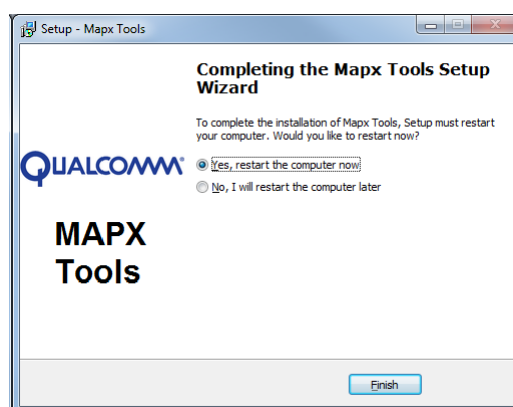


Figure 11 Completing the Wizard

After complete setup the order structure shall be available as in below picture.

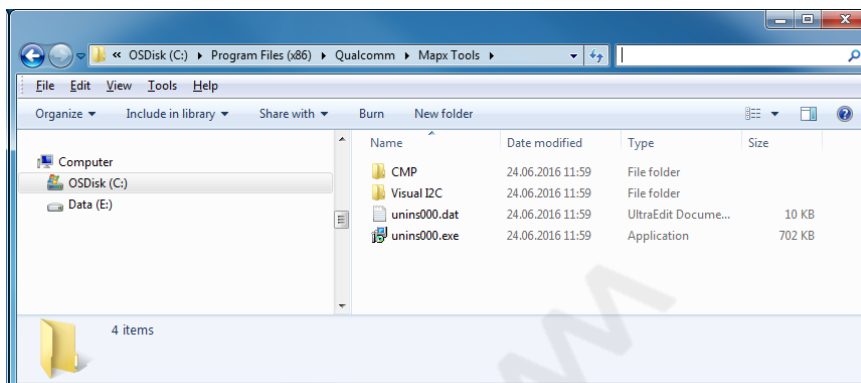


Figure 12 Typical MAPX Tools Folder Structure

A desktop icon shall be available.



Figure 131 Desktop Icon

2.3 Installation of HW-Interface

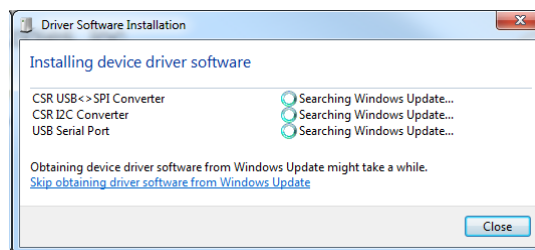
Communication between the MAPX and the PC is realized by I2C protocol for control, and UART for debug messages from the MAPX.

2.3.1 The 3-in-1 Adapter

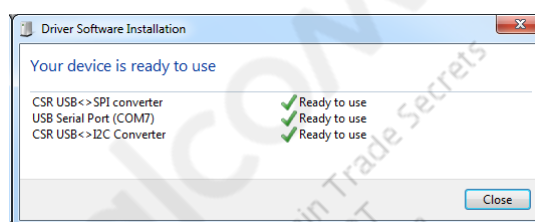
Plug in the USB cable of the 3-in-1 adapter to the pc. The driver installation for

1. I2C communication
2. SPI communication
3. UART communication

starts automatically.

**Figure 14 Typical Driver Installation**

The installation procedure requires up to 5 minutes. While the driver for the USB to SPI and USB to I2C are coming with the installer, the USB Serial Port driver is loaded from the Internet. Internet access is there for required.

**Figure 15 Finished Driver Installation**

After finished installation connect the 8 pin SMT cable between the 3-in-1 adapter and the application carrying the MAPX. For details consult the Quick Start Guide of the HW application available.

3 First Start Up of the Tools

Before start-up of the MAPX Tools it is required to download and install the latest MAPX firmware from the Qualcomm CSRsupport website <https://www.csrsupport.com/MAP-X/Evaluation>.

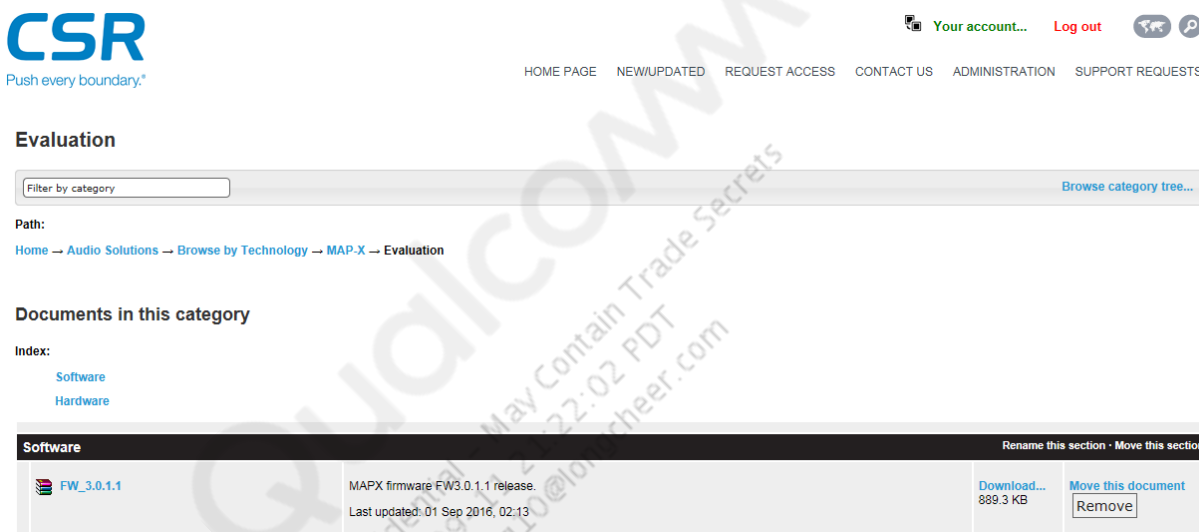


Figure 16 CSRsupport

It is highly recommended to extract the download file to “C:\Qualcomm”, the project directory of the CMP Program.

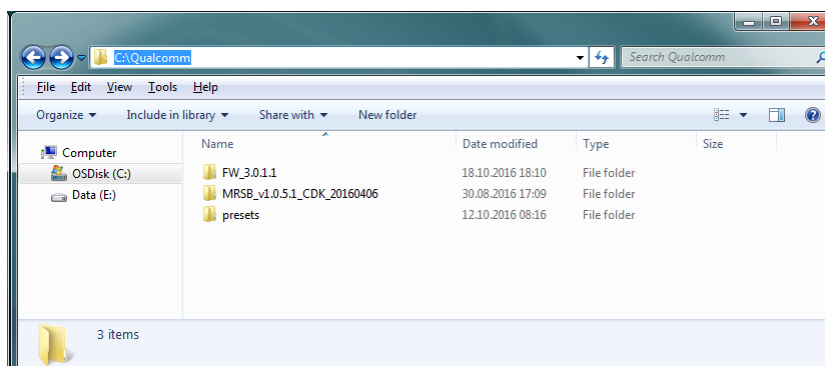


Figure 17 Project Directory

Start the MAPX Tools by a double click on the desktop icon “CMP Program” or by selecting **CMP Program** for the menu Start\Qualcomm\MAPX Tools

3.1 Start Up Behavior

During startup of the CMP Program Visual I2C will be started in the background. The About Visual I2C window appears, shows the loaded DAL files and the version of Visual I2C and will disappear automatically after 3 seconds.

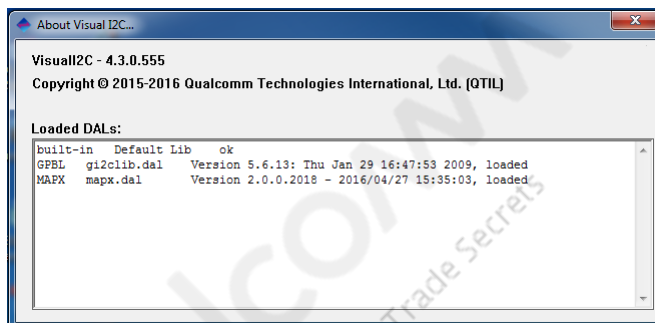


Figure 18 About Visual I2C

The **CMP Program** reads the content of the SPI flash attached to the MAPX (available firmware modules) upon start,

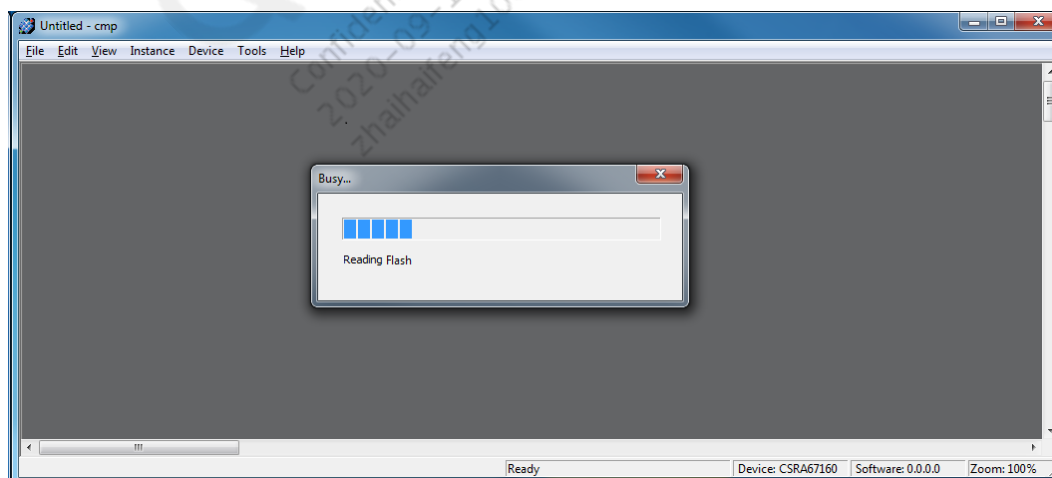


Figure 19 Reading SPI Flash

followed by reading the Symbol Files (VI2C files) available in the project directory of the CMP Program, “C:\Qualcomm”.

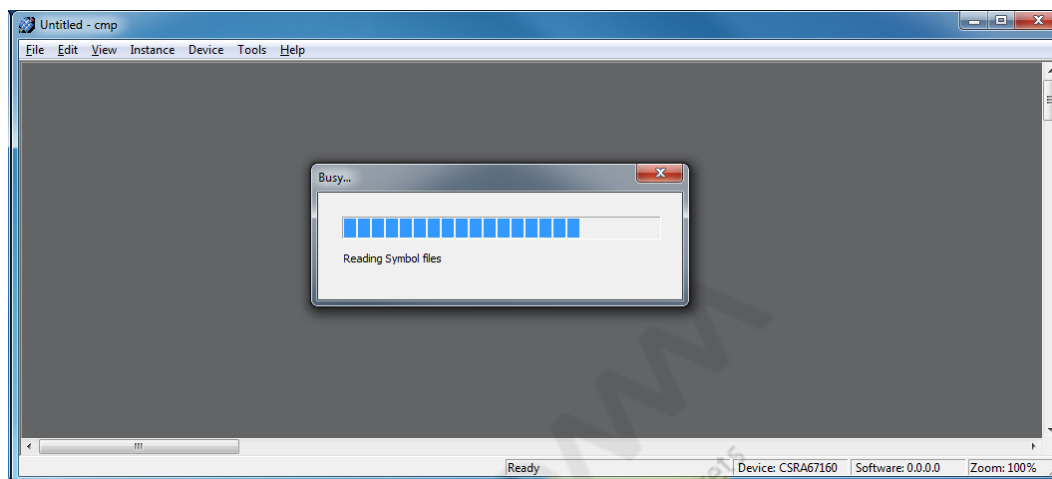


Figure 20 Reading Symbol Files

By the available content of the SPI flash and the available symbol files the CMP Program configures its own pull low menus and selectable processing blocks.

If the downloaded MAPX firmware is stored in a different location than “C:\Qualcomm” the CMP Program cannot find the Symbol Files and displays a warning message.

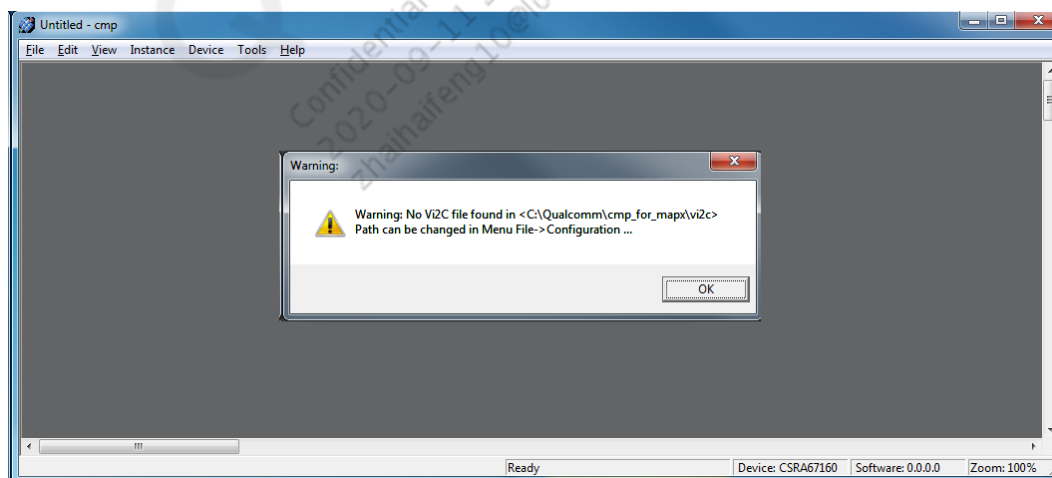


Figure 21 Configuration Warning

Click **OK** to configure the tool.

3.2 Configuration of the CMP Tool

Select File\Configuration from the menu.

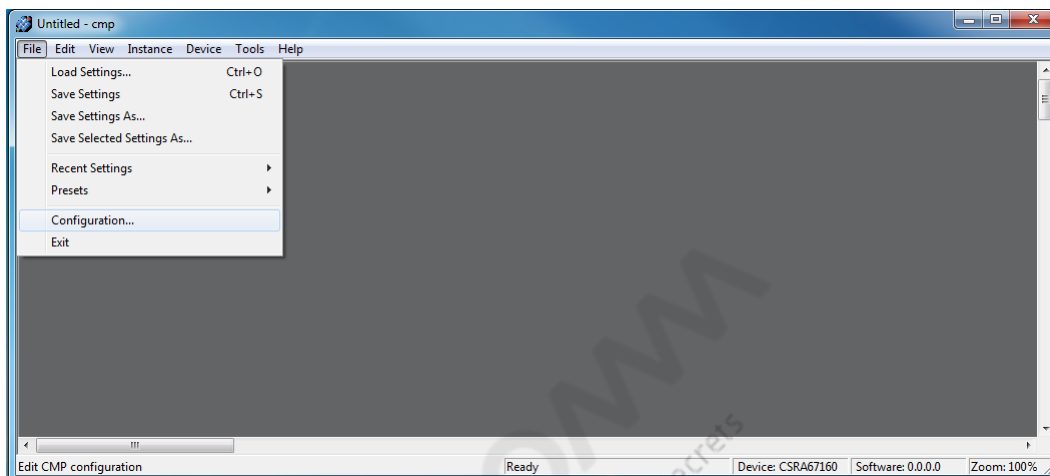


Figure 22 File Menu

Enter the path, including the folder name the MAPX firmware is stored in, into the “Project Directory” field.

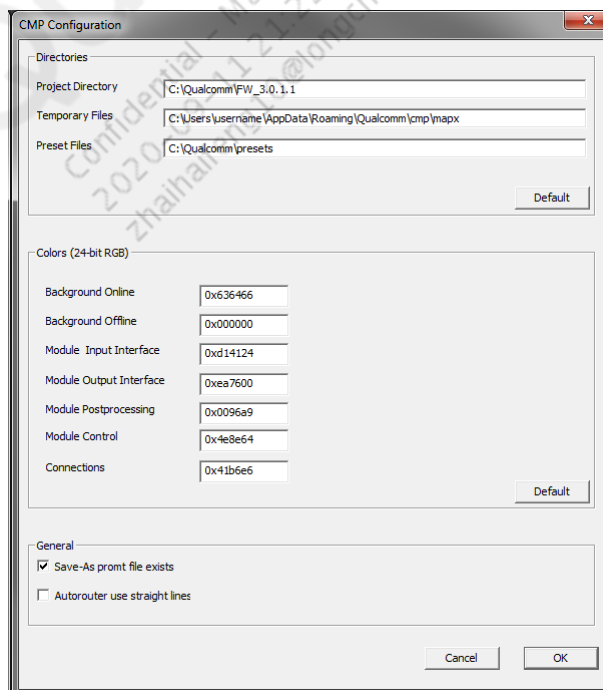


Figure 23 CMP Configuration Window

Different firmware versions can be stored in parallel. It must be ensured that the definition of the Project Directory contains the name of the firmware folder.

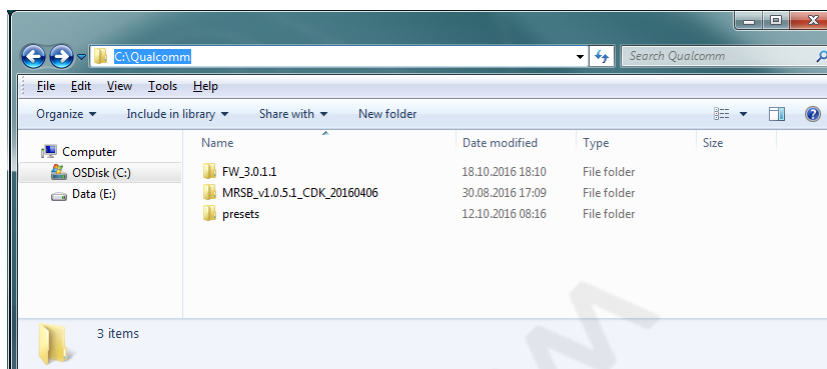


Figure 24 Project Directory

The Project Directory can be changed at any time. It must be ensured that the configuration is adjusted correct.

4 Integrated Help Functions

The Tools for MAPX support integrated help functions for the CMP Program, the MPAX firmware and for VM based demo soundbar applications. The help files provides information how to use the tools, register information and feature description.

4.1.1 CMP Tool Help File

Open the help for the CMP tool by selecting Help\CMP Help from the pull down menu.

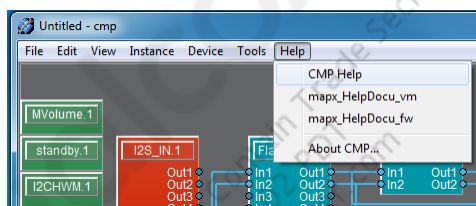


Figure 25 CMP Help Menu

Select the topic of interest from the content selection menu.

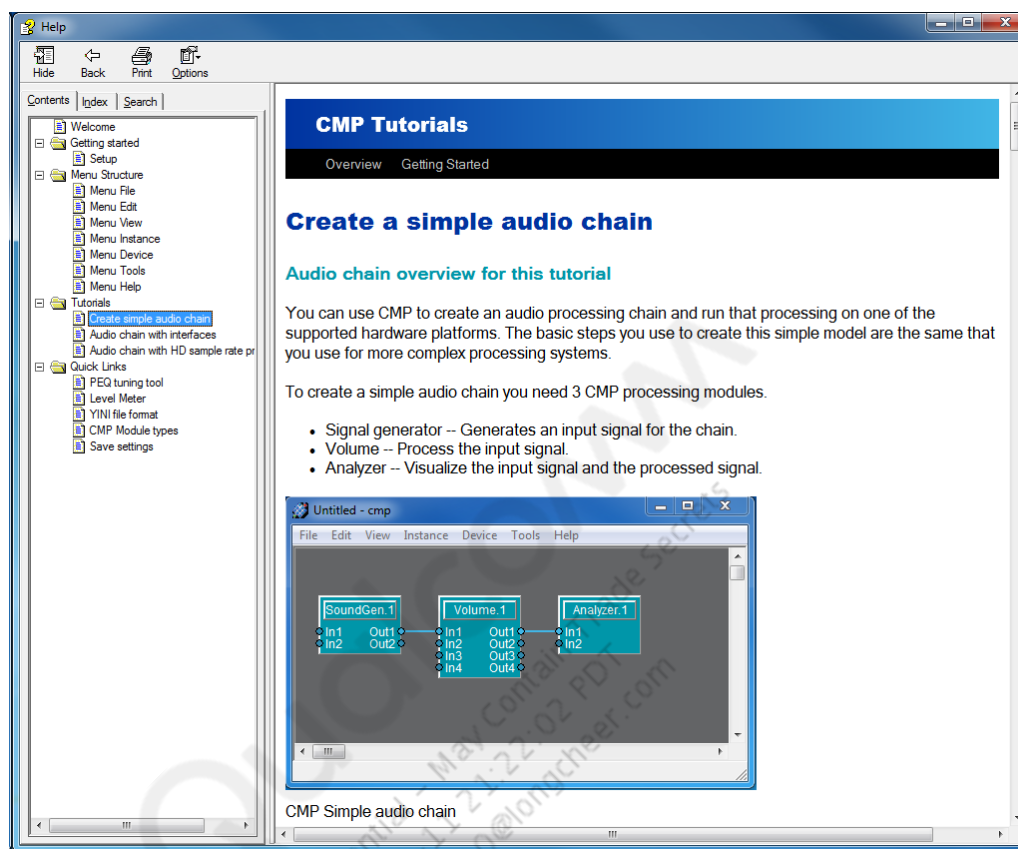


Figure 26 CMP Help

The CMP Help file is included in the MAPX Tools installer. It is located in the CMP folder of the MAPX Tools. The help file can be used without the CMP Program running.

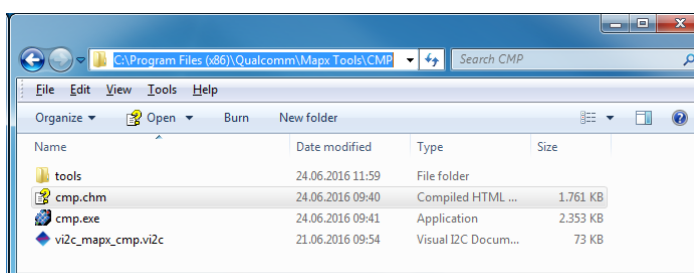


Figure 27 CMP Help File

4.1.2 MAPX Firmware Help File

A right mouse button click on the item help is required for opens the corresponding topic.

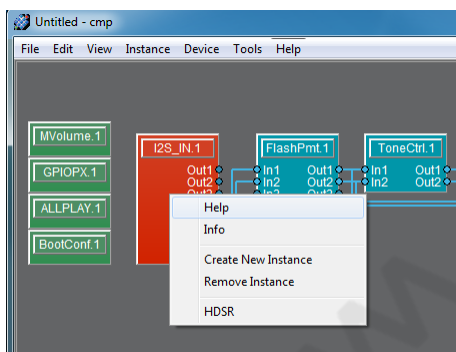


Figure 28 MAPX Context Help

The help for the MAPX firmware is also selected by Help/mapx_HelpDocu_fw from the pull down menu.

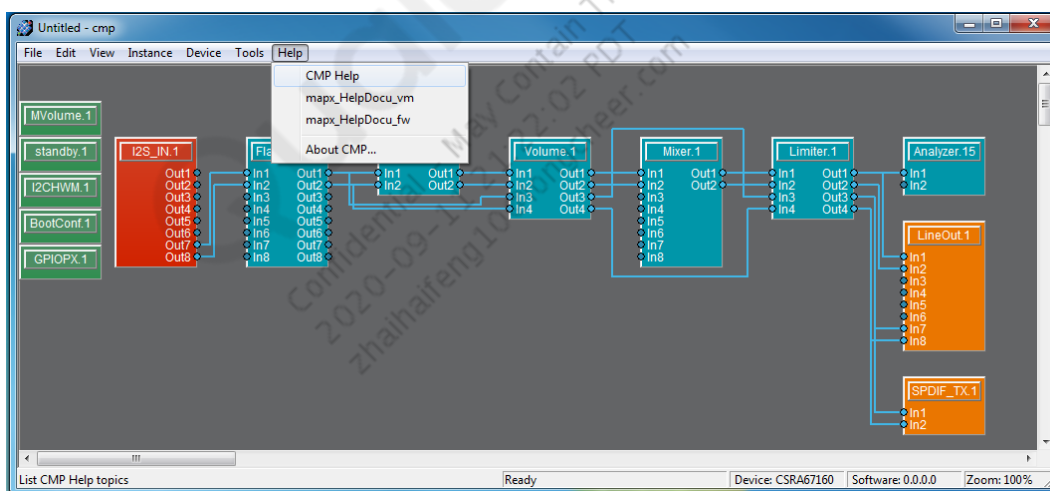


Figure 29 MAPX Firmware Help Menu

Select the topic of interest from the content selection menu.

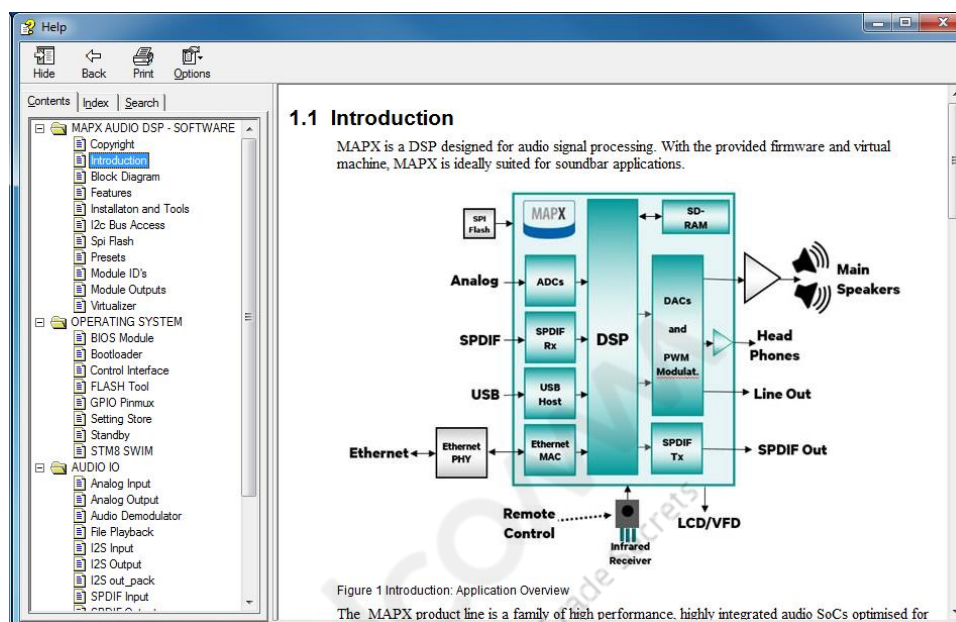


Figure 30 MAPX Firmware Help File

The help file for the MAPX firmware is included in the MAPX firmware. After download it will be located in the firmware folder. The help file can be used without the CMP Program running, start by a double click on the mapx_HelpDocu_fw.chm.

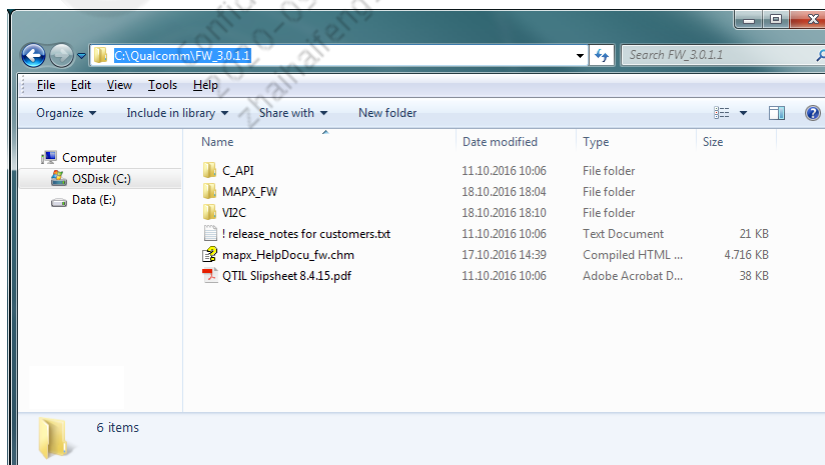


Figure 31 MAPX Firmware Help File Location

4.1.3 MAPX VM Help File

The help for the MAPX VM is selected by Help\mapx_HelpDocu_vm from the pull down menu.

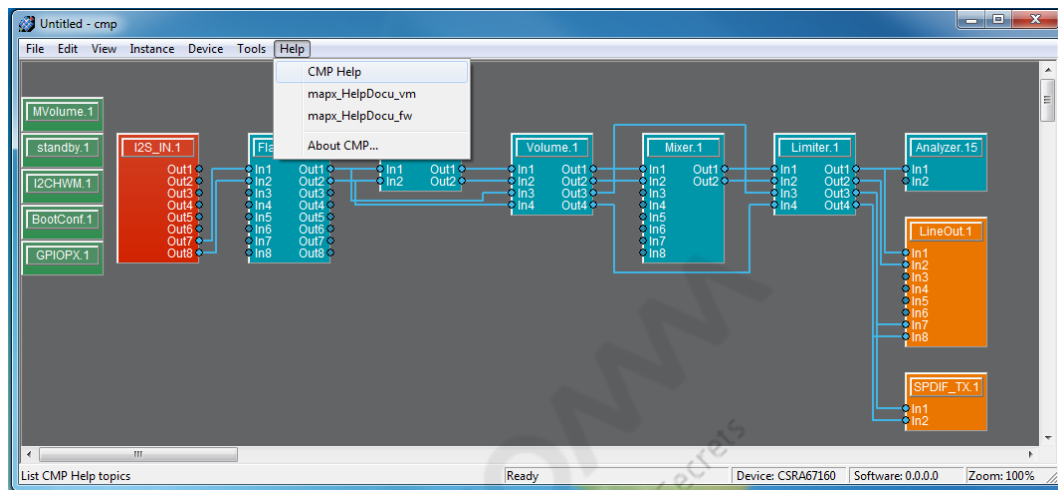


Figure 32 MAPX Firmware Help Menu

Select the topic of interest from the content selection menu.

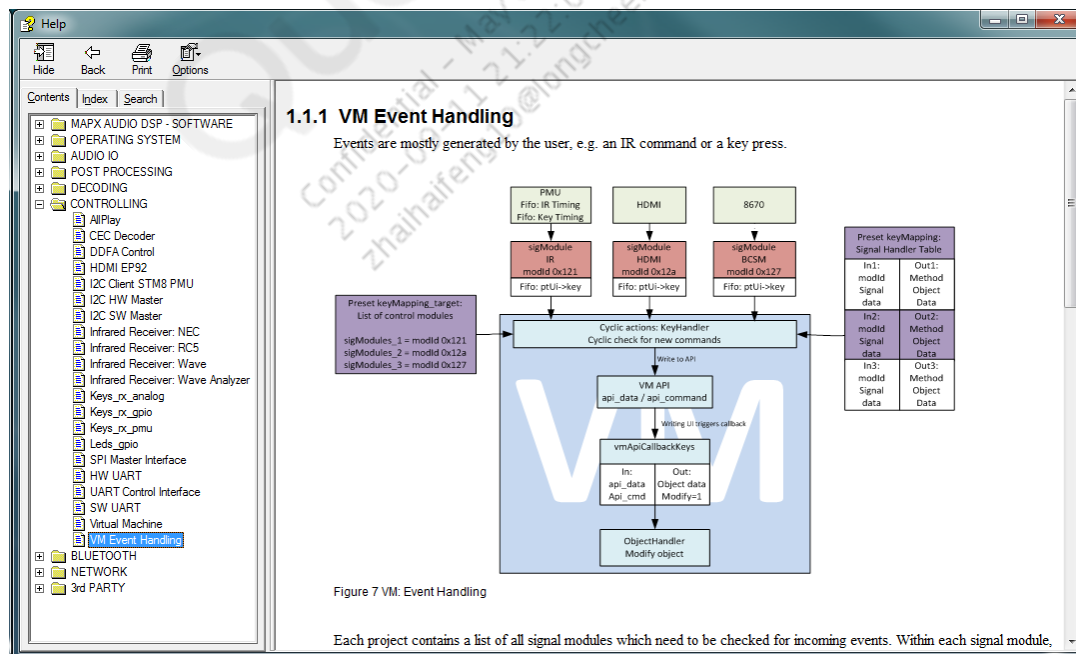


Figure 33 MAPX VM Help File

The help file for the MAPX VM is included in the CDK. After download it will be located in the MAPX_VM folder. The help file can be used without the CMP Program running, start by a double click on the mapx_HelpDocu_vm.chm.

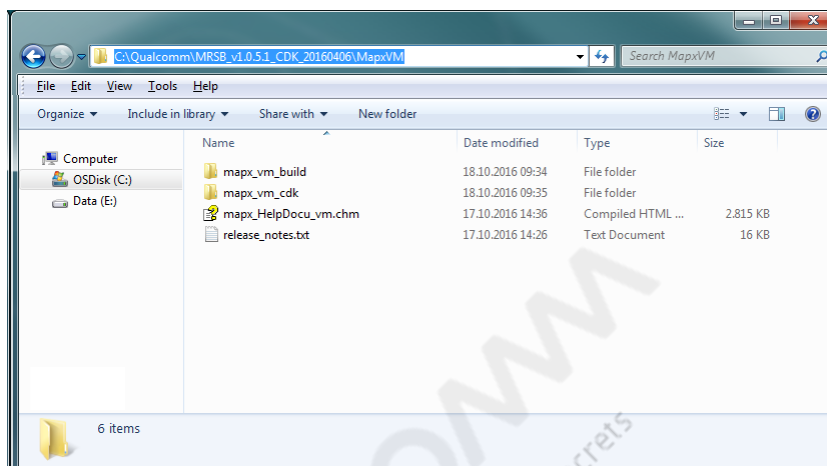


Figure 34 MAPX VM Help File Location

A References

A.1 Related documents

Title	Number
Qualcomm Technologies, Inc.	
MAPX Data Sheet	CS-229528-DS-6
Use USB-to-I2C Converter of 3-in-1 Adapte	CS-312017-TM
Standards	
Resources	

A.2 Acronyms and terms

Acronym or term	Definition