CS40L25 I2C Waveform Streaming Testing

Introduction

This document provides haptic latency information of CS40L25 i2c in RAM based operation. For complete information, please refer to the datasheet.

All data in this document is based on a small sample size of tested devices and is for indication only and is not guaranteed by ATE or over process and temperature variations.

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1 I2c Streaming Firmware Haptic Latency

The latency for the i2c streaming firmware was measured for CS40L25 in standby mode. The latency was measured from the end of the i2c command which initiates the playback of the waveform from the buffer to the beginning of the Haptic waveform.

In AOH Standby Mode Global_EN = 1, AMP_EN = 0 and the Boost is enabled in Class H mode.

Figure 1 is an oscilloscope capture of latency measured on 1 device.

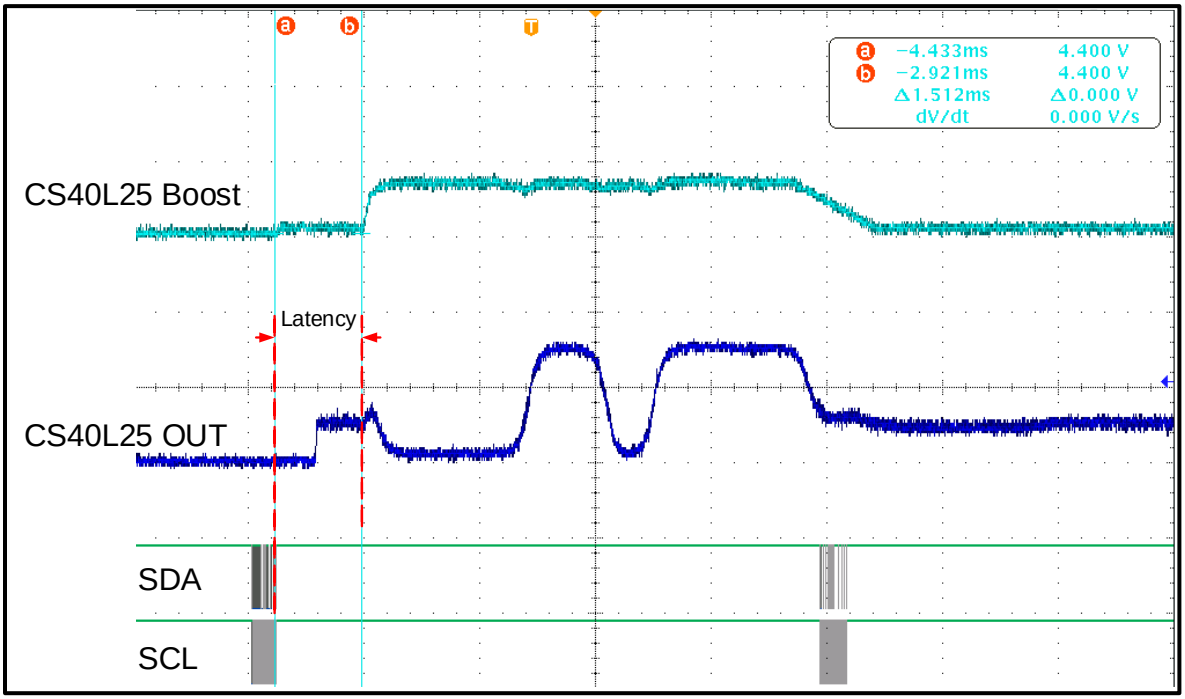

Figure 1: Oscilloscope Capture of Latency Measurement in AoH Standby Mode

Table 1 Measured Trigger to Haptic Latency on 1 Board

Parameter		Symbol	Minimum	Typical	Maximum	Unit
Measured Trigger to Haptic Latency	from AoH Standby mode	Latency		1.5		ms

Note: The Latency will vary over temperature and devices.

The latency measurement includes the boost convertor ramping up and the and Class D Amplifier enabling.

2 Revision History

Revision History

Revision	Changes
1.0 JUL 2020	• Initial version.
1.1 JUL 2020	• Information added on AoH standby mode.

Contacting Cirrus Logic Support

For all product questions and inquiries, contact a Cirrus Logic Sales Representative.
To find the one nearest you, go to www.cirrus.com.