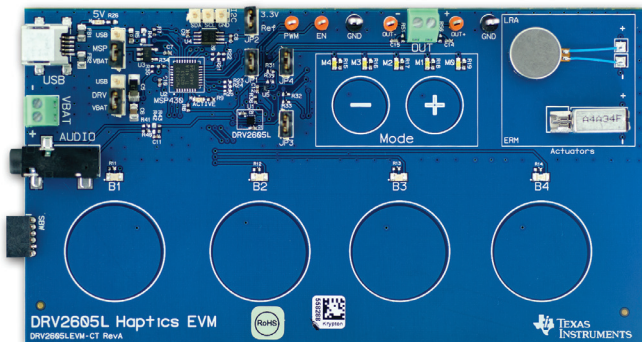


DRV2605LEVM-CT

Quick-Start Guide

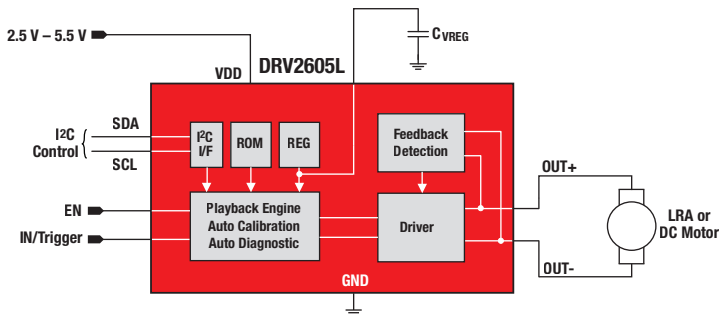
➔ Start Here



TEXAS INSTRUMENTS

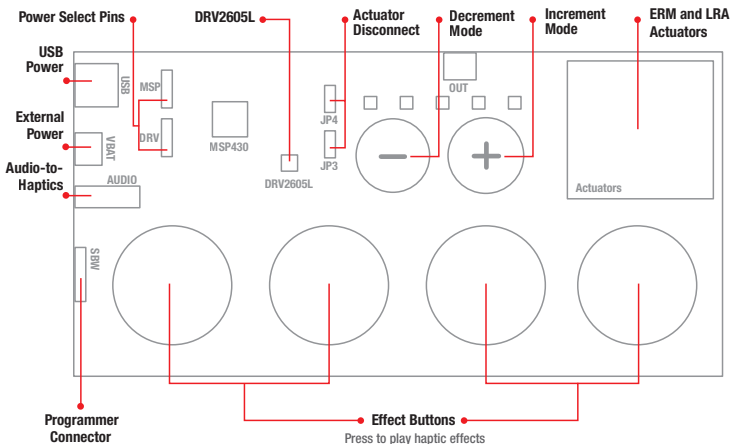
Evaluation Kit Contents

- DRV2605L LRA / ERM haptics driver with automatic overdrive and braking for ERM and LRAs
- Eccentric rotating mass motor (ERM)
- Linear resonant actuator (LRA)
- Programmable MSP430 with haptic effects
- Capacitive touch buttons
- Mini-USB cable



Getting Started

1. Verify jumpers MSP and DRV, next to the USB connector, are connected to the USB pin.
2. Plug the board into an available USB power source (computer or wall charger) using the included USB cable.
3. Board will enter a power up sequence and the 5 V indicator will light up.
4. Use the large buttons to play effects and the “+” and “-” buttons to switch between modes. Each mode has a different set of effects.



Mode and Effects

Mode	Button	Description	Actuator	Waveform Location	Interface
Mode Off LEDs Off	B1	Click + Ramp Down	ERM	ROM	Internal Trigger (I ² C)
	B2	Ramp Up + Pulsing			
	B3	Click + Ramp Down	LRA		
	B4	Ramp Up + Pulsing			
Mode 4 LED M4 On	B1	SharpClick_100	ERM	ROM	Internal Trigger
	B2	StrongClick_60 + Release			Ext. Edge Trig.
	B3	SoftBump_100			Internal Trigger
	B4	DoubleClick_100			Ext. Level Trig.
Mode 3 LED M3 On	B1	SharpTick2_80	LRA	ROM	Internal Trigger
	B2	StrongClick_100 + Release			Ext. Edge Trig.
	B3	SoftBump_100			Internal Trigger
	B4	DoubleClick_100			Ext. Level Trig.
Mode 2 LED M2 On	B1	LRA Auto-Resonance ON	LRA	μController	RTP
	B2	LRA Auto-Resonance OFF			PWM
	B3	ERM Buzz Alert (Closed Loop)	ERM	ROM	RTP
	B4	ERM Buzz Alert (Open Loop)			Internal Trigger
Mode 1 LED M1 On	B1	Matching Game: The board gives several waveforms to match. Must match from a given waveform list each time before going to the next given waveform.	ERM & LRA	ROM	Internal Trigger (I ² C)
	B2				
	B3				
	B4				
Mode 0 LED M0 On	B1	Audio-to-Haptics Enable	ERM	External Analog	Audio-to-Haptics
	B2		LRA		
	B3	Exit A2H, Click, Return to A2H	ERM/ LRA	ROM	Internal Trigger (I ² C)
	B4	Exit A2H, Buzz, Return to A2H			

Features and Benefits



Waveform Library

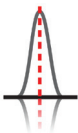
123 embedded haptic effects licensed from Immersion



Audio-to-Haptics

Convert audio signals to haptic effects; automatic haptics for music, games, and movies

Smart Loop Architecture



Auto-Resonance Detection

Automatically track the resonant frequency of an LRA; maximize vibration strength and improve consistency across devices



Automatic Diagnostics

Automatically detect the status of the actuator



Automatic Calibration

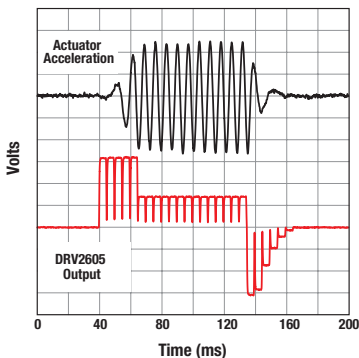
Automatically detect and configure the closed-loop feedback coefficients for every actuator



Closed Loop Feedback

Improve the response time of ERM and LRA actuators with automatic overdrive and braking

ERM Closed Loop Buzz



Design Resources and References



E2E Haptic Forum

ti.com/hapticforum

Available on ti.com/drv2605L

- DRV2605L datasheet
- Complete DRV2605LEVM-CT User's Guide
- Schematics and layout
- EVM source code and binaries

Get more information on TI's solutions for touch feedback-enabled applications at ti.com/haptics

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