

Quantinuum H-Series Product Change Notification

Title of Change:	System Model H1 Emulator Noise Parameters Available to Users
Date of Change:	December 1, 2022
Contact Information:	QCSupport@quantinuum.com
Products Impacted:	System Model H1 Emulators
Changes to Product Data Sheet:	NO <input type="checkbox"/> YES <input checked="" type="checkbox"/>
Changes to Subscription Contract:	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
Changes to Interface:	All <input type="checkbox"/> Quantinuum API <input checked="" type="checkbox"/> Microsoft <input type="checkbox"/>
Description and Purpose:	<p>The purpose of this notification is to:</p> <ol style="list-style-type: none"> 1) Notify customers that the noise parameters used in the System Model H1 Emulators are being made to available for exploration and use <p>See additional information below for more details.</p>
Reason / Motivation for Change:	System Model H1 Emulator Noise Parameters are being made available to users
Action Required by Customers:	None

Additional Information:

1) Notification that H1 Emulator Noise Parameters are available to users

Effective December 1, users will have the option of exploring use of the System Model H1 emulator noise parameters used to model the System Model H1 quantum computers. The System Model H1 emulators (targets: H1-1E, H1-2E) have the noise parameters made available via the Quantinuum Systems Application Programming Interface (API). For detailed information on the noise model, see the *Quantinuum System Model H1 Emulator Product Data Sheet* or the *Quantinuum Application Programming Interface (API)* on the user portal.

Instructions for using the parameters in the System Model H1 emulator noise models are found in the *Quantinuum Application Programming Interface (API) Specification* document on the user portal and in the *Using the Emulator.ipynb* and *Using the Emulator via pytket.ipynb* notebooks on the user portal.

The noise parameters represent advanced options and are not recommended to start with. When deviating from the default emulation model, users should not assume that performance predicted with modified error parameters will match hardware performance. Quantinuum provides this

option at request of customers who are curious to explore these performance parameters to further understand use cases.

By default, the System Model H1 emulators will continue to operate as an emulation of the System Model H1 quantum computers, with the H1-1 emulator (target: H1-1E) modeling the H1-1 quantum computer and the H1-2 emulator (target: H1-2E) modeling the H1-2 quantum computer.

In summary, the impact to customers is as follows:

- The System Model H1 emulator noise parameters used to model the System Model H1 quantum computers have been made available to users and users are able to modify these parameters.
- The default settings for the System Model H1 emulator will continue to emulate the System Model H1 quantum computers.