



APPLICATION NOTE

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**APPLICATION NOTE
GHSM S-PARAMETER MODELS**

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REVISION HISTORY

REV	DATE	REVISED PAGES	AUTHOR	REVISIONS
A	11/29/2023		L. Blackwell	Initial Release

Disclaimer

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1.0 Purpose

This document describes the GHSM, board connector to board connector, electrical behavioral models.

2.0 Referenced Documents

Document Number/Name	Description
GT-22-246	GHSM High Speed Test Report
GHSM-BSS	GHSM Board Straight Connector Drawing
GHSM-HBR	GHSM Hybrid Board Right Angle Connector Drawing

Table 1. Reference Documents

3.0 Responsibility

This document is the responsibility of the Glenair High-Speed Datalink Group.

4.0 GHSM S-Parameters

4.1 Configurations

The S-parameter models were obtained through testing PCB mounted GHSM straight (BSS) connectors (GHSM2R-15SBSSPU and GHSM2R-15PBSSLU) and GHSM right angle (BHR) connectors (GHSM2R-15PHBRLT-.110 and GHSM2R-15SHBRPT-.080). The electrical effects of the test PCB and test cabling were de-embedded from the models. Refer to Glenair Test Report GT-22-246 for detailed testing information. The resulting models consist of S-parameters in Touchstone formatted files. The following table delineates the three tested configurations and the resulting Touchstone files.

Configuration	Touchstone File
BSS	GHSM BSS Mated Pair.s4p
HBR PTH	GHSM HBR PTH Mated Pair.s4p
HBR SMT	GHSM HBR SMT Mated Pair.s4p
BSS to HBR	GHSM BSS mated to HBR.s4p
BSS w/ Cable	GHS7M-1011-1-6 ST-ST.s4p
HBR PTH w/ Cable	GHS7M-1011-1-6 RA-RA PTH.s4p
HBR SMT w/ Cable	GHS7M-1011-1-6 RA-RA SMT.s4p
BSS to HBR w/ Cable	GHS7M-1011-1-6 ST-RA.s4p

Table 2. Test Configuration to Touchstone File Mapping

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4.2 GHSM S-parameter Model Package

The following files are supplied as attachments to this document.

1. Touchstone file GHSM BSS Mated Pair.s4p
2. Touchstone file GHSM HBR PTH Mated Pair.s4p
3. Touchstone file GHSM HBR SMT Mated Pair.s4p
4. Touchstone file GHSM BSS mated to HBR.s4p
5. Touchstone file GHS7M-1011-1-6 ST-ST.s4p
6. Touchstone file GHS7M-1011-1-6 RA-RA PTH.s4p
7. Touchstone file GHS7M-1011-1-6 RA-RA SMT.s4p
8. Touchstone file GHS7M-1011-1-6 ST-RA.s4p

4.3 Port Assignments

The Touchstone files utilize the following port assignments:

