



APPLICATION NOTE

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**APPLICATION NOTE
GHSM ETHERNET S-PARAMETER MODELS**

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REVISION HISTORY

REV	DATE	REVISED PAGES	AUTHOR	REVISIONS
A	12/6/2023		L. Blackwell	Initial Release
B	7/26/2024		L. Blackwell	Updated touchtone links of Table 2

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1.0 Purpose

This document contains and describes the Ethernet optimized GHSM configuration electrical behavioral models generated from testing referenced in GT-22-112. These tests and models are specific to GHSM (15E) Ethernet Configuration. For non-ethernet, bandwidth optimized, configuration, see GT-22-246.

2.0 Referenced Documents

Document Number/Name	Description
GT-22-112	GHSM High-Speed Test Report
GHSM-BSS	GHSM Board Straight Connector Drawing
GHSM-HBR	GHSM Hybrid Board Right Angle Connector Drawing
GHSM	GHSM Cable Assembly Drawing
GHSM-1002	High-Speed Micro-D Arrangements

Table 1. Reference Documents

3.0 Responsibility

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

4.0 GHSM Ethernet 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 (HBR) connectors (GHSM2R-15PHBRLT-.110 and GHSM2R-15SHBRPT-.110). Test cables GHS7M-1005-6, GHSM2R-15EP-A-6 and GHSM2R-15ES-A-6 were also used in testing to obtain S-parameter models. The electrical effects of the test PCB and test cabling were de-embedded from the models. Refer to Glenair Test Report GT-22-112 for detailed testing information. The resulting models consist of S-parameters in Touchstone formatted files. The following table delineates the tested configurations and the resulting Touchstone files.

Configuration	Touchstone File
BSS - BSS	GHSM Ethernet BSS.s4p
HBR - HBR	GHSM Ethernet HBR.s4p
BSS - GHS7M-1005-6 - BSS	GHSM Ethernet BSS w Cable.s4p
HBR - GHS7M-1005-6 - HBR	GHSM Ethernet HBR w Cable.s4p
GHSM2R-15E Cable Assemblies	GHSM2R-15E Ethernet.s4p

Table 2. Test Configuration to Touchstone File Mapping

In addition to direct downloadable links from the table above, the files of Table 2 are supplied as attachments to this document.

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4.2 Port Assignments

The Touchstone files utilize the following port assignments:

