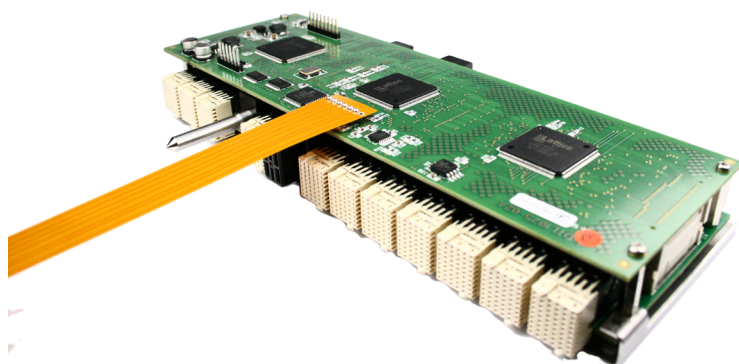# SBB Canister Modules

Hot-swap, dual redundancy and fault injection for SBB Canisters

Quarch
Technology

SBB Canister Modules

Hot-swap, dual redundancy and fault injection for SBB Canisters

Highlights

- Supports SBB 1.0 and 2.0 canister controllers
- Allows fully automated hot-swap
- All power and side-band signals are individually switched, allowing a wide range of fault scenarios
- SAS data signals are directly routed, for minimal impact on signal integrity
- Simple to control with your existing test automation system
- SAS data signals

Use Cases

System Qualification	Run repeated test cycles with bounds testing of all possible hot-swap scenarios
Regression Testing	Automated regression tests spot issues earlier during development
Failover Testing	Test dual redundancy, fault monitoring and performance during a failure

Hot Swap

SAS data is routed directly through the module, ensuring that our modules are almost totally transparent to the storage system. The SBB Canister will appear as if it is directly connected to the storage array.

Individual control over each power and side-band pin allows us to create almost any possible hot-swap scenario. Precise timing ensures that every test can be exactly re-created.

Testing no longer requires manual intervention, and a far greater range of tests can be performed.

Fault Injection and Dual Redundancy

The SBB Module provides individual switched control of 198 power and side-band signals.

This ability is ideal for testing that canister fail-over works correctly in all situations, and that your error detection and logging can identify each of the faults and act accordingly.

Switched signals include: Power, Mated, Aux Power, Alerts, Inter-canister busses, FAULT, GPO and INPL.

Possible fault scenarios include:

- Failing one or more signals while the Canister is operating. Verify that the error is detected and that fail-over occurs if necessary

- Failing one or more signals before insertion, simulating the use of a damaged canister

- Simulating pin-bounce during insertion/ removal of the canister

Our SBB Modules are designed around the SBB 2.0 specification, but individual connectors can be de-populated if required to fit into older systems.

Supplied Parts

SBB Module   - The main unit, with 40cm flex cable to connect to the separate controller

Also Required

Controller   - You will require one slot on a Torridon Controller for each Cable Module

Downloads   - Our website contains many useful downloads to help you get started: www.quarch.com
                                USB Drivers
                                Technical Manuals
                                Quick Start Guides
                                Example Scripts
                                TestMonkey GUI

Support

Quarch provides direct support to all customers, regardless of the sales channel you use to purchase our equipment. We are available over email, or by phone during UK office hours. Our regional partners are also trained to handle many of the most common questions you might have.

Our support is normally free, though there may be charges if you require on-site training or significant development work. Please contact us if there is anything we can do to help.

Pleas see our website for access to drivers, technical manuals, quick-start guides, example scripts and more

Email	Phone	Web
support@quarch.com	+44 1343 508 140	www.quarch.com/support

Ordering

Quarch have a network of specialist partners around the world. Please contact our partner in your region if you require a quote.

We recommend evaluating our products before purchase, so our partners will be happy to arrange a free evaluation unit.

Regional Contact Details
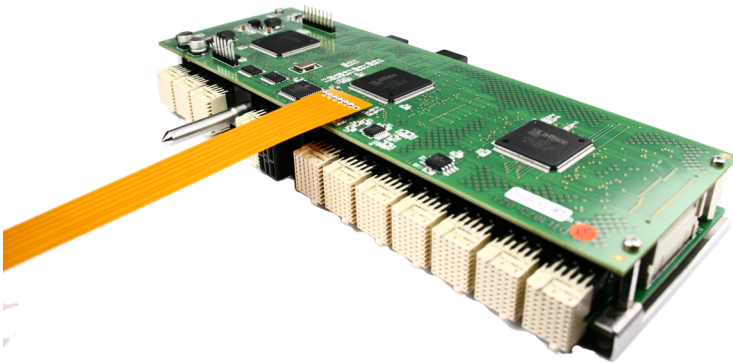
China, Hong Kong, Taiwan
Saniffer
Hong Kong

Email   sales@saniffer.com
Web   www.saniffer.com

Products Versions

Product Code	Product Options
QTLXXXX	Product code, made up from options below

QTL1069	SBB 2.0 Canister Module

SBB Module - Main Unit

Required Controllers - One port on a controller is required for each module

Product Code	Description
QTL1260	Torridon Interface Kit Simple USB and Serial control options for bench testing
QTL1461	4 Port Torridon Controller Control up to 4 modules via Serial/LAN/ USB connection
QTL1079	28 Port Torridon Controller Control up to 28 modules via Serial, LAN or USB connection

Accessories

Product Code	Description
QTL1381	100cm Torridon Extension Cable (Male to Female) Extends an existing Double Ended Torridon cable
QTL1382	200cm Torridon Extension Cable (Male to Female) Extends an existing Double Ended Torridon cable
QTL1581	300cm Torridon Extension Cable (Male to Female) Extends an existing Double Ended Torridon cable

Technical Information

Connections	QTL1069
Host Side Connector	SBB 2.0
Device Side Connector	SBB 2.0
Max Speed	6Gb/s[1]
Protocols	SAS/SATA
Signals Switched	Power Side-band [2]

[1] May run at higher speeds. We recommend evaluating in your system before purchase
[2] SAS data signals are directly routed through the module

External Connections	QTL1069
Power Supply	Via Torridon Controller
Control Ports	Torridon Connector

Physical Dimensions	QTL1069
Length	68mm
Width	206mm
Offsets Canister By	80mm

Features	QTL1069
Basic (Power Only) Hot-Swap	√
Full Hot-Swap	SAS Data is always connected
Pin Bounce Simulation	Simple/Custom. 10uS minimum period
Signal Glitch	X

Controllers	QTL1069
Serial Control	Supported on all Controllers
USB Control	Supported on all Controllers
REST Control	Supported on QTL1079 and QTL1461
Telnet Control	Supported on QTL1079 and QTL1461