Host Profile Tables

Legend

M	**M**andatory	This feature must be implemented in order to achieve compliance for the relevant profile.
O	**O**ptional	This feature may or may not be implemented. If implemented, such will be tested and credited as part of compliance for the relevant profile.
P	**P**rohibited	This feature is restricted to achieve compliance for the relevant profile. Hosts that implement multiple profiles must demonstrate how the feature is de-activated when operating in the corresponding profile.
'-'	Don't care | N/A | DNA	

Feature	Class 61 Integrated Host		Class 62 Visitor Host (H1)		Class 63 Bench Host (H1) Non-Commissioned Device		Class 64 Bench Host (H1) Commissioned Off-Line Device		Class 71 SIF Integrated Host	
Compliance Level:	b	c	b	c	b	c	b	c	See note 2	c
Basic Profile Compliance	-	-	-	M	-	-	-	-	-	-
FOUNDATION H1 Device Support										
H1 Device Address Assignment	M	M	P	P	M	M	P	P	M	M
Configuration of Link Master Devices	O	O	P	P	O	O	P	P	O	O
H1 Physical Device Tag Assignment	M	M	P	P	M	M	P	P	M	M
Convert Link Master to Basic Device	M	M	P	P	M	M	P	P	M	M
H1 Software Download (Device Group 3 – Cntrl & Mon.)	O	O	O	O	O	O	O	O	-	-
H1 Software Download (Device Group 3 – SIF)	-	-	-	-	-	-	-	-	O	O
Application Time Distribution Support	-	M	-	P	-	O	-	O	-	M
FOUNDATION Distributed Application Support										
Block Tag Configuration	M	M	P	P	O	O	P	P	M	M
Block Instantiation	M	M	P	P	O	O	P	P	-	-
Multiple Capability Levels	M	M	-	-	-	-	-	-	O	O
Resource and Transducer Blocks	M	M	M	M	M	M	M	M	M	M
Standard (Control & Monitoring) Function Blocks (Standard Parameters of Standard and Enhanced Function Blocks)	M	M	O	O	O	O	O	O	-	-
Standard SIF Blocks (Standard Parameters of Standard and Enhanced Function Blocks)	-	-	-	-	-	-	-	-	M	M
Enhanced (Control & Monitoring) Function Blocks (Enhanced Parameters of Enhanced Function Blocks)	M	M	O	O	O	O	O	O	-	-
Enhanced SIF Function Blocks (Enhanced Parameters of Enhanced Function Blocks)	-	-	-	-	-	-	-	-	O	O
Profiled Custom Function Blocks (1)	O	O	O	O	O	O	O	O	-	-
Custom Function Blocks	O	O	O	O	O	O	O	O	O	O
Configuration of scheduled control function blocks	M	M	-	-	-	-	-	-	-	-
Function Block Linking and Publication Scheduling	M	M	P	P	O	O	P	P	-	-
SIF Function Block Linking and Publication Scheduling	-	-	-	-	-	-	-	-	M	M
Function Block Execution Scheduling	M	M	P	P	O	O	P	P	-	-
Flexible Function Blocks – Fixed OD	O	O	O	O	O	O	O	O	-	-
Flexible Function Blocks – Variable OD	O	O	O	O	O	O	O	O	-	-
Multivariable Optimization (Publisher/Subscriber)	O	O	P	P	O	O	P	P	O	O
Multivariable Optimization (Report Distribution)	O	O	P	P	O	O	P	P	O	O
Use Views for Block Detail Reads	O	M	O	O	O	O	O	O	O	O
Enhanced Parameter Download Support Services	O	O	O	O	O	O	O	O	O	O
FOUNDATION Device Description Support										
DD Blocks and Parameters	M	M	M	M	M	M	M	M	M	M
DD v4 Methods execution	O	O	M	M	M	M	M	M	O	O
DD v4 Menus	O	O	O	O	O	O	O	O	O	O
DD Write Access Rights	O	O	O	O	O	O	O	O	O	O
DD v5 Visualizations, Methods	M	M	M	M	M	M	M	M	M	M
DD v5 Persistent data	M	M	O	O	M	M	M	M	M	M
DD v5.1 Device-Level Access	M	M	M	M	M	M	M	M	M	M
DD Multiple Language Support	O	O	O	O	O	O	O	O	O	O
Capability File Support	M	M	O	O	O	O	O	O	M	M
DD Forward Compatibility (COMPATIBILITY_REV)	-	O	-	O	-	O	-	O	-	-
Standard Dictionary Update	-	M	-	O	-	O	-	O	-	M
DD v5.2 Template Support	-	O	-	O	-	O	-	O	-	O
FOUNDATION Alert Configuration and Handling										
Process Alert Management Configuration	O	O	P	P	O	O	P	P	O	O
Process Alert Handling and Confirmation	O	O	P	P	O	O	-	-	O	O
Device Alert Management Configuration	O	O	P	P	O	O	P	P	M	M
Device Alert Handling and Confirmation	O	O	P	P	O	O	-	-	M	M
Multi-bit Alert Support	O	O	-	-	O	O	-	-	M	M
FOUNDATION Data Quality Support										
Data Quality display in default block detail displays	O	O	O	O	O	O	O	O	O	O
Data Quality Display in Default Face-Plate Displays	O	O	-	-	-	-	-	-	O	O
Data Quality Display in Trending	O	O	O	O	O	O	O	O	O	O
Data Quality Support through Host Controller Connections	O	O	-	-	-	-	-	-	-	-
Data Quality Recording in Historian	O	O	-	-	-	-	-	-	O	O
Data Quality Display in Custom Process Graphics	O	O	-	-	-	-	-	-	O	O
FOUNDATION Device Diagnostic Alarm Management										
Field Diagnostics and Block Alarm Integration	-	M	-	P	-	O	-	P	-	M
FOUNDATION SIF Support										
H1 SIF Protocol and Configuration Signature	-	-	-	-	-	-	-	-	M	M
Clearing SIS Fault State	-	-	-	-	-	-	-	-	M	M
Recovery from Lost Connection Key	-	-	-	-	-	-	-	-	M	M
Report of Sync Jitter Errors	-	-	-	-	-	-	-	-	M	M
Report of Sync Drift Errors	-	-	-	-	-	-	-	-	M	M
FOUNDATION HSE Device Support										
HSE D2 Device Redundancy	O	O	-	-	-	-	-	-	-	-
HSE D3 Device Redundancy	O	O	-	-	-	-	-	-	-	-
HSE Interface Redundancy	O	O	-	-	-	-	-	-	-	-
HSE LD Support: Configuration Access	O	M(3)	-	-	-	-	-	-	-	-
HSE LD Support: Report Re-Distribution	O	M(3)	-	-	-	-	-	-	-	-
HSE LD Support: Republishing	O	M(3)	-	-	-	-	-	-	-	-
HSE Software Download (Device Group 4 - HSE)	O	O	O	O	O	O	O	O	-	-
HSE Sync and Scheduling Record Configuration	-	M (3)	-	P	-	P	-	P	-	O

Notes:
1. At the release of this document, profiled custom blocks are not fully documented. Profile numbers for profiled custom blocks will be assigned in TN-003.
2. The original host profile 71 compliance level was not assigned a letter identifier.
3. These test cases are mandatory only if the host is being tested for HSE Device Support

Profile Feature Descriptions

Feature	Description
Basic Profile Compliance	Tests for each profile to confirm basic compliance.
FOUNDATION H1 Device Support	
H1 Device Address Assignment	The capability of setting or clearing the H1 link address of an FF device. (Devices with cleared addresses appear at available temporary addresses. They are not actually set to those addresses.)
Configuration of Link Master Devices	The capability to prepare and write NMIB and SMIB parameters associated with link mastership.
H1 Physical Device Tag Assignment	The capability of setting or clearing the physical device tag of an FF device.
Convert Link Master to Basic Device	The capability to change FF devices from Link Master to Basic class
H1 Software Download (Device Group 3 – Control & Monitoring)	The capability to download device software or firmware code via the H1 link to a group 3 device.
H1 Software Download (Device Group 3 – SIF)	The capability to download device software or firmware code via the H1 link to a group 3 device implemented as a SIF device.
Application Time Distribution Support	The ability of a host to publish SM clock synchronization messages.
FOUNDATION Distributed Application Support	
Block Tag Configuration	The capability to change, write or clear tags of resource block, transducer blocks, and function blocks within an FF device.
Block Instantiation	The capability to add blocks to and delete blocks from FF devices on the link using the FB_Action service.
Multiple Capability Levels	The capability to allow the user to select from a set of two or more capability levels for off-line configuration and for a device to declare that it supports one of multiple possible capability levels.
Resource and Transducer Blocks	The capability to read and write (if writeable) all parameters in standard and enhanced resource blocks and all parameters in standard, enhanced, or custom transducer blocks. This includes the common-practice parameters for Field Diagnostics as defined in FF_912.
Standard (Control & Monitoring) Function Blocks (Standard Parameters of Standard and Enhanced Function Blocks)	The capability to read and write (if writeable) all standard parameters in standard and enhanced control & monitoring function blocks.
Standard SIF Function Blocks (Standard Parameters of Standard and Enhanced Function Blocks)	The capability to read and write (if writeable) all standard parameters in standard and enhanced SIF function blocks.
Enhanced (Control & Monitoring) Function Blocks (Enhanced Parameters of Enhanced Function Blocks)	The capability to read and write (if writeable) all manufacturer-specific parameters of enhanced control & monitoring function blocks.
Enhanced (SIF) Function Blocks (Enhanced Parameters of Enhanced Function Blocks)	The capability to read and write (if writeable) all manufacturer-specific parameters of enhanced SIF function blocks.
Profiled Custom Function Blocks	The capability to read and write (if writeable) all parameters, including manufacturer-specific parameters, in a profiled custom function blocks.
Custom Function Blocks	The capability to read and write (if writeable) all parameters, including manufacturer-specific parameters, in custom function blocks.
Configuration of scheduled control function blocks	The capability to configure a distributed application including PID closed loop control across multiple field devices without host based function blocks.
Function Block Linking and Publication Scheduling	The capability to interconnect output parameters with input parameters between any supported function blocks.
SIF Function Block Linking and Publication Scheduling	The capability to interconnect output parameters with input parameters between any supported SIF function blocks.
Function Block Execution Scheduling	The capability to schedule function block blocks.
Flexible Function Blocks – Fixed OD	The capability to configure a download a fixed OD flexible function block
Flexible Function Blocks – Variable OD	The capability to configure and download a variable OD flexible function block and create corresponding DD and CF files. (Referencing host will treat the FFB as a custom function block, differentiated by differing DEV_REV.)
Multivariable Optimization (Publisher/Subscriber)	The capability to configure and interconnect with devices using the publication-subscription capabilities of multivariable containers.
Multivariable Optimization (Report Distribution)	The capability to configure and use the read or notification view capabilities of multivariable containers.
Use Views for Block Detail Reads	The capability to use the device Views for accessing parameter values efficiently in order to provide higher performance.
Enhanced Parameter Download Support Services	The capability to use device specified no download collections and deferral of inter-parameter write checks.
FOUNDATION DD Services Support	
DD Blocks, Parameters	The capability to accept and utilize the definitions of blocks and their parameters from Version 4 DD files. This includes the requirement to support conditionals as restricted by the FF-901 specification.
DD Write Access Rights	The capability to accept and utilize the definitions of access rights from DD files as [to be] defined in FF-901.
DD v4 Methods execution	The capability to select and execute any DD method against its associated block.
DD v4 Menus	The capability to display and navigate through menus as defined in a DD.
DD v5 Visualizations, Methods	The capability to display and navigate through enhanced menus that contain charts, graphs, images, grids, etc., as defined in a DD. The capability to select and execute any DD method against its associated block.
DDS v5: Persistent data	The capability to persist data as utilized by version 5 DDs.
DDS v5.1: Device-Level Access	The capability to support device-level (in addition to block-level) menus and methods.
DD Multiple Language Support	The capability to support English and other DD language string.
Capability File Support	The capability to import a Capability File for offline configuration.
DD Forward Compatibility (COMPATIBILITY_REV)	The capability to associate a device with COMPATIBILITY_REV to an older DD.
Standard Dictionary Update	The ability of a user to install an updated Standard Dictionary file without performing a software upgrade.
DD v5.2 Template Support	The ability of a host to support the selection and usage of DD v5.2 templates.
FOUNDATION Alert Configuration and Handling	
Process Alert Management Configuration	The capability to configure the report VCR for process alert notifications.
Process Alert Handling and Confirmation	The capability to confirm and display or record the process alert notifications.
Device Alert Management Configuration	The capability to configure the report VCR for device alert notifications.
Device Alert Handling and Confirmation	The capability to confirm and display or record the device alert notifications.
Multi-bit Alert Support	The capability to utilize the multi-bit alarm capability.
FOUNDATION Data Quality Support	
Data Quality display in default block detail displays	The capability to display a differentiating indication of the quality (good, bad, uncertain) and limits (limited low, limited high, constant, not limited) of block parameters on a block detail display.
Data Quality Display in Default Face-Plate Displays	The capability to display a differentiating indication of the quality (good, bad, uncertain) and limits (limited low, limited high, constant, not limited) of block parameters on a face-plate display.
Data Quality Display in Trending	The capability to display a differentiating indication of the quality (good, bad, uncertain) of block outputs on a trend.
Data Quality Support through Host Controller Connections	The capability to appropriately react to statuses of good, bad, uncertain, and limited and to react to cascade initialization and handshaking within a host controller.
Data Quality Recording in Historian	The capability to record and recover a differentiating indication of the quality (good, bad, uncertain) of block outputs in a historian.
Data Quality Display in Custom Process Graphics	The capability to display a differentiating indication of the quality (good, bad, uncertain) and limits (limited low, limited high, constant, not limited) of block parameters on a process graphic display.
FOUNDATION Device Diagnostic Alarm Management	
Field Diagnostics and Block Alarm Integration	The capability to receive, display, and manage device blocks alarms and field diagnostic alarms/conditions.
FOUNDATION SIF Support	
H1 SIF Protocol and Configuration Signature	The capability to create valid outgoing SIF protocol messages, to accept incoming SIF protocol messages, to read and write SIF configuration signatures, and to lock & unlock the device.
Clearing SIS Fault State	The capability of the host to clear a SIS fault.
Recovery from Lost Connection Key	The capability of the host to recover from a lost or corrupted link object connection key associated with establishing communications to a previously (to this or another host) commissioned device.
Report of Sync Jitter Errors	The capability of the host to report device-detected excessive synchronization jitter errors
Report of Sync Drift Errors	The capability of the host to report device-detected excessive synchronization drift errors.

FOUNDATION HSE Device Support	
HSE D2 Device Redundancy	The capability of a host system to configure a redundant pair of Class 46D2. A class 46D2 device pair is loosely coupled, each containing an identical configuration. The host system must manually assign the roles to each device during failure
HSE D3 Device Redundancy	The capability of a host system to configure a redundant pair of 46D3 HSE devices. A class 46D3 device pair is tightly coupled and contains manufacturer specific synchronization. Class 46D3 devices will automatically change roles during a failure.
HSE Interface Redundancy	The capability of a host system to configure the HSE LAN redundancy. The specification describes two different topologies for establishing a redundant network using a dual LAN or single LAN configuration.
HSE LD Support: Block parameter Access	The capability of a host system to support basic client server connections across the H1-HSE interface to perform block parameterization.
HSE LD Support: Report Re-Distribution	The capability of a host system to configure report distribution for alerts, trends and multi-variable broadcasts across the H1-HSE interface in a Class 42b and Class 42c Linking Device
HSE LD Support: Republishing	The capability of a host system to configure publisher subscriber across the H1-HSE interface and H1 republishing in a Class 42c Linking Device.
HSE Software Download (Device Group 4 – HSE)	The capability to download device software or firmware code via the HSE link.
HSE Sync and Scheduling Record Configuration	The ability of a host to properly configure the sync and scheduling record of a FD or LD