DEFENSE INFORMATION SYSTEMS AGENCY
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IN REPLY REFER TO: Joint Interoperability Test Command (JTE) 24 March 2020

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Extension of the Joint Interoperability Certification of the Microsemi 5071A-C001 with Software Release (SR) C, the Synchronization Supply Unit (SSU) 2000 with SR 7.2.5, and specified Optional Sub-Components

References: (a) Department of Defense Instruction 8100.04, "DoD Unified Capabilities (UC)," 9 December 2010
(b) Office of the Department of Defense Chief Information Officer, "Department of Defense Unified Capabilities Requirements (UCR) 2013, Change 2," September 2017
(c) through (g), see Enclosure

1. Certification Authority. Reference (a) establishes the Joint Interoperability Test Command (JITC) as the Joint Interoperability Certification Authority for Department of Defense Information Network (DoDIN) products, Reference (b).

2. Conditions of Certification. The Microsemi 5071A-C001 with Software Release (SR) C, the Synchronization Supply Unit (SSU) 2000 with SR 7.2.5, and specified Optional Sub-Components (see Table 4) are hereinafter referred to as the System Under Test (SUT). The SUT meets the critical requirements of the Unified Capabilities Requirements, Reference (b), as a Timing and Synchronization (T&S) device and is certified for joint use with the conditions described in Table 1. This certification expires upon changes that affect interoperability, but no later than the expiration date specified in the DoDIN Approved Products List (APL) memorandum.

This extension of the certification is for Desktop Review (DTR) 1. DTR 1 was requested to add the Microsemi SyncServer S600, S650, and S650i with Software Version 3.1 and the Microsemi Time Provider (TP)-4100 with Software Version 1.0 to the list of components for the SUT. See Table 4 for a list of components and Paragraph 4 for test details.

Table 1. Conditions

Description		Operational Impact	Remarks
UCR Waivers			
None			
TDR#	**Conditions of Fielding**		
	None		

Table 1. Conditions (continued)

Description		Operational Impact	Remarks
TDR#	**Open Test Discrepancies**		
001	The SUT partially complies with the requirement, the ITU-T Recommendation G.704 (1998).	Minor with UCR Change Requirement	See note.
002	The SUT partially complies with the requirement, the ITU-T Recommendation G.732 (1988).	Minor with UCR Change Requirement	See note.

NOTE(S): DISA adjudicated this discrepancy as minor and stated the intent to change this requirement.

LEGEND:

DISA	Defense Information Systems Agency	SUT	System Under Test
ITU-T	International Telecommunication Union - Telecommunication Standardization Sector	TDR	Test Discrepancy Report
		UCR	Unified Capabilities Requirement

3. Interoperability Status. Table 2 provides the SUT interface interoperability status, Table 3 provides the Capability Requirements and Functional Requirements status, and Table 4 provides the DoDIN APL product summary, to include all subsequent DTR updates.

Table 2. SUT Interface Status

Interface (See note.)	Status	Remarks
Network Management Interfaces		
10BaseT (C)	Met	The SUT met the critical CRs and FRs for the IEEE 802.3i interface with the vendor's LoC.
100BaseT (C)	Met	The SUT met the critical CRs and FRs for the IEEE 802.3u interface with the vendor's LoC.
1000BaseT (C)	Met	The SUT met the critical CRs and FRs for the IEEE 802.3ab interface with the vendor's LoC.
Timing and Synchronous Device Interfaces		
T1 (R)	Met	The SUT met the critical CRs and FRs for the T&S Interface with the SSU.
E1 (R)	Met	The SUT met the critical CRs and FRs for the T&S Interface with the SSU.
1 PPS (C)	Met	The SUT met the critical CRs and FRs for this T&S Interface with the 5071A-C001, and the optional 6300-1, ATS-6511C-C003, ATS-6580A-S00, and TSC-4340A T&S Devices.
1 MHz (C)	Met	The SUT met the critical CRs and FRs for this T&S Interface with the 5071A-C001, and the optional 6300-1, ATS-6511C-C003, ATS-6580A-S00, and TSC-4340A T&S Devices.
5 MHz (C)	Met	The SUT met the critical CRs and FRs for this T&S Interface with the 5071A-C001, and the optional 6300-1, ATS-6511C-C003, ATS-6580A-S00, and TSC-4340A T&S Devices.
10 MHz (C)	Met	The SUT met the critical CRs and FRs for this T&S Interface with the 5071A-C001, and the optional 6300-1, ATS-6511C-C003, ATS-6580A-S00, and TSC-4340A T&S Devices.
Fiber IRIG (C)	Met	The SUT met the critical CRs and FRs for this T&S Interface Standard 200-04 format B127 with the ATS-6580A-S00, and TSC-4340A T&S Devices.
EIA-422 Serial (C)	Met	The SUT met the critical CRs and FRs for this T&S Interface with the optional 6511C-C003, and ATS-6580A-S00 T&S Devices.

NOTE(S): The annotation of 'required' refers to a high-level requirement category. The applicability of each sub-requirement is provided in Enclosure 3 of Reference (c).

Table 2. SUT Interface Status (continued)

LEGEND:			
802.3i	10BaseT Mbps over twisted pair	IRIG	Inter-Range Instrumentation Group
802.3u	Fast Ethernet at 100 Mbps, copper and fiber	LoC	Letters of Compliance
802.3ab	1000BaseT Ethernet over twisted pair at 1 Gbps	Mbps	Megabits per second
Base T	Megabits (Baseband Operation, Twisted Pair) Ethernet	MHz	Megahertz
C	Conditional	PPS	Pulse Per Second
CR	Capability Requirement	R	Required
E1	European Basic Multiplex Rate (2.048 Mbps)	SSU	Synchronization Supply Unit
EIA	Electronic Industries Alliance	SUT	System Under Test
FR	Frequency Requirement	T&S	Timing And Synchronization
Gbps	Gigabits per second	T1	Digital Transmission Link Level 1 (1.544 Mbps)
IEEE	Institute of Electrical and Electronics Engineers		

Table 3. SUT Capability Requirements and Functional Requirements Status

CR/FR ID	UCR Requirement (See note 1.)	UCR 2013 Reference	Status
1	Timing and Synchronization System	10.4.2	Partially Met (See note 2.)
2	Cybersecurity	4.2	See note 3.
3	IPv6	Table 5.2-4	Met (See note 4.)

NOTE(S):
1. The annotation of "required" refers to a high-level requirement category. The applicability of each sub-requirement is provided in Reference (b).
2. The SUT met the requirements with the exceptions noted in Table 1.
3. A DISA-led CS test team conducted CS testing and published the results in separate reports, References (d) and (e).
4. The SUT supports IP interfaces for Network Management (NM) only. This is conditional for NM; therefore, the SUT is certified for IPv4 for NM interfaces.

LEGEND:

CR	Capability Requirement	IPv4	Internet Protocol version 4
CS	Cybersecurity	IPv6	Internet Protocol version 6
DISA	Defense Information Systems Agency	NM	Network Management
FR	Functional Requirement	SUT	System Under Test
ID	Identification	UCR	Unified Capabilities Requirements
IP	Internet Protocol		

Table 4. DoDIN APL Product and Certification Summary

Product Identification			
Product Name	Microsemi 5071A-C001 with Synchronization Supply Unit (SSU) 2000 Timing and Synchronization (T&S) Device with specified Optional T&S Sub-Components (ATS-6580A, ATS-6511, TSC-4340A, and 6300 Series Distribution)		
Software Release	5071A-C001 Release C with SSU 2000 Release 7.2.5		
UCR Product Type(s)	Timing and Synchronization Device		
Product Description	The Microsemi 5071A Primary Frequency Standard is a highly accurate Cesium Frequency Reference. The intrinsic accuracy of the improved cesium beam tube (CBT) assures that any high performance 5071A will power up to within +/- 5.0E-13 of the accepted standard for frequency.		
Product Components (See notes 1 and 2.)	**Component Name**	**Tested Version**	**Remarks**
5071A-C001 5071A-C002 5071A-C007 5071A-C008	T&S Cesium Frequency Reference	Release C	See note 3.

Table 4. DoDIN APL Product and Certification Summary (continued)

Product Components (See notes 1 and 2.)	Component Name	Tested Version	Remarks
SSU-2000	T&S Timing Signal Generator	7.2.5	See note 3.
6300-1 6300-4	T&S Distribution Amplifier	Release 098-00255-004 Revision 03	See note 4.
ATS-6580A-S00-C001 ATS-6580A-S00-C002 ATS-6580A-S00	T&S GPS Disciplined Time and Frequency References	Release 1.3.x	See note 4.
TSC-4340A	T&S Fiber Optic Distribution Amplifier	Release 18	See note 4.
ATS-6511C-C002 **ATS-6511C-C003** ATS-6511C-C004	T&S Signal Distribution Systems	Release T-Flex 5.2.X	See note 4.
Microsemi SyncServer S600, S650, S650i	T&S Remote Timing Distribution System	3.1	See note 5.
Microsemi TP-4100	T&S Remote Timing Distribution System	1.0	See note 5.

NOTE(S):
1. The detailed component and subcomponent list is provided in Enclosure 3 of Reference (c).
2. Components bolded and underlined were tested by DISA IE5. The other components in the family series were not tested; however, JITC certified the other components for joint use because they utilize the same software and similar hardware as tested and certified components and JITC analysis determined they were functionally identical for interoperability certification purposes.
3. The 5071A-C001 with the SSU 2000 constitute the minimum required SUT architecture.
4. The 6300-1, ATS-6580A-S00-C001, TSC-4340A, and ATS-6511C-C003 are optional T&S components tested with the SUT and are also certified for joint use.
5. DTR 1 added the Microsemi SyncServer S600, S650, and S650i with Software Version 3.1 and the Microsemi TP-4100 with Software Version 1.0, optional T&S components tested with the SUT and certified for joint use.

LEGEND:

APCO	Approved Products Certification Officer	JITC	Joint Interoperability Test Command
APL	Approved Products List	SSU	Synchronization Supply Unit
CBT	Cesium Beam Tube	SUT	System Under Test
DISA	Defense Information Systems Agency	T&S	Timing and Synchronization
DoDIN	Department of Defense Information Network	TN	Tracking Number
DTR	Desktop Review	TP	Time Provider
GPS	Global Positioning System	UCR	Unified Capabilities Requirements

4. Test Details. This extension of the certification is based on DTR 1. The original certification, documented in Reference (c), was based on interoperability (IO) testing, review of the vendor Letters of Compliance (LoC), Defense Information Systems Agency (DISA) adjudication of open Test Discrepancy Reports (TDRs), and the DISA Certifying Authority Recommendation for inclusion on the DoDIN APL. DISA NSE conducted testing at the Fort George G. Meade Test Facility, Fort Meade, Maryland, from 6 February 2017 through 6 March 2017, using test procedures derived from Reference (f) and completed review of the vendor's LoC on 20 June 2019. DISA adjudicated outstanding TDRs on 30 July 2019. A DISA-led Cybersecurity (CS) test team conducted CS testing and published the results in separate reports, Reference (d) and Reference (e).

DTR 1 was requested to add the Microsemi SyncServer S600, S650, and S650i with Software Version 3.1 and the Microsemi TP-4100 with Software Version 1.0 to the list of components for the SUT. JITC analysis of the DTR documentation determined IO testing was required; CS testing was not required. The DISA IE5 test team conducted IO testing from 14 October to 13 December 2019, using test procedures derived from Reference (g). Testing yielded no new test discrepancies and no previous test discrepancies were closed. The current CS posture of the

JITC Memo, JTE, Extension of the Joint Interoperability Certification of the Joint Interoperability Certification of the Microsemi 5071A-C001 with Software Release (SR) C, the Synchronization Supply Unit (SSU) 2000 with SR 7.2.5, and specified Optional Sub-Components

SUT is documented in two separate reports, Reference (d) and Reference (e). Based on successful IO testing, JITC approves this DTR.

5. Additional Information. JITC distributes interoperability information via the JITC Electronic Report Distribution system, which uses Sensitive but Unclassified Internet Protocol Data (formerly known as NIPRNet) e-mail. Interoperability status information is available via the JITC System Tracking Program (STP). The STP is accessible by .mil/.gov users at https://stp.fhu.disa.mil/. Test reports, lessons learned, and related testing documents and references are on the JITC Industry Toolkit (JIT) at https://jit.fhu.disa.mil/. Due to the sensitivity of the information, the CS Assessment Package that contains the approved configuration and deployment guide must be requested directly from the Approved Products Certification Office (APCO) via e-mail: disa.meade.ie.list.approved-products-certification-office@mail.mil. All associated information is available on the DISA APCO website located at https://aplits.disa.mil/.

6. Point of Contact (POC). JITC POC: Mr. Son Pham; commercial telephone (301) 225-7945; email address: son.m.pham2.civ@mail.mil; mailing address: Joint Interoperability Test Command, ATTN: JTE2 (Mr. Son Pham), 6914 Cooper Avenue, Fort Meade, Maryland 20755-7085. The APCO tracking number for the SUT is 1827801.

FOR THE COMMANDER:

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Enclosure a/s

for RIC HARRISON
Chief
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DoDIN Capabilities Division

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ADDITIONAL REFERENCES

(c) Joint Interoperability Test Command (JITC), "Joint Interoperability Certification of the Microsemi 5071A-C001 with Software Release (SR) C, the Synchronization Supply Unit (SSU) 2000 with SR 7.2.5, and specified Optional Sub-Components," 5 September 2019
(d) JITC, "DISA IE1 5071A-C001 Timing and Synchronization (T&S) System Capability Cybersecurity Test Report," March 2017
(e) JITC, "DISA IE1 SSU-2000, 6300-1, ATS 6580A-S00 C001, TSC-4340A, ATS 6511 C003 Timing and Synchronization (T&S) System Capability Cybersecurity Test Report," February 2017
(f) JITC, "DISA IE1 5071A-C001 Timing and Synchronization (T&S) System Capability Test Report," January 2017
(g) JITC, "Performance, Functionality and Interoperability Test Report for Timing & Synchronization System Capability - Distribution (TSSC-D) Microsemi S650 SyncServer and Time Provider (TP) 4100 Version 1," 30 December 2019, Draft