



DEFENSE INFORMATION SYSTEMS AGENCY

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FORT MEADE, MARYLAND 20755-0549

IN REPLY  
REFER TO:

Joint Interoperability Test Command (JITE)

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Extension of the Special Interoperability Test Certification of Ciena ActivSpan CN 4200 RS FlexSelect Advanced Services Platform Release 7.2.0 to Release 7.2.2 Optical Transport System

- References:
- (a) Department of Defense Directive 4630.05, "Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)," 5 May 2004
  - (b) Chairman, Joint Chiefs of Staff Instruction 6212.01E, "Interoperability and Supportability of Information Technology and National Security Systems," 15 December 2008
  - (c) through (h) see enclosure 1

1. References (a) and (b) establish the Joint Interoperability Test Command (JITC) as the responsible organization for Interoperability Certification.
2. The Ciena ActivSpan CN 4200 RS FlexSelect Advanced Services Platform with Software Release 7.2.2, hereinafter referred to as the System Under Test (SUT), is certified for joint use in the Defense Information System Network as an Optical Transport System (OTS). The Defense Information Systems Agency (DISA) adjudicated all Test Discrepancy Reports (TDRs) open at the completion of testing to have a minor operational impact. JITC will verify the certification status of the SUT by evaluating any new discrepancies noted in the operational environment for impact on the existing certification. These discrepancies will be adjudicated to the satisfaction of DISA via a vendor Plan of Actions and Milestones (POA&Ms), which addresses all new critical TDRs within 120 days of identification. Testing was conducted using OTS product requirements derived from the Unified Capabilities Requirements (UCRs), Reference (c). The Ciena ActivSpan CN 4200 series includes additional models and capabilities not covered by this certification. No other configurations, features, or functions, except those cited within this memorandum, are certified by JITC. This certification expires upon changes that affect interoperability, but no later than three years from the original date of the original certification memorandum, which was 10 February 2011.
3. The extension of this certification is based upon Desktop Review (DTR) 2. Submission of DTR 1 was not approved. The original certification of Release 7.2.0 was based on interoperability testing conducted by JITC, review of the vendor's Letters of Compliance (LoC), and Defense Information Assurance (IA)/Security Accreditation Working Group (DSAWG) accreditation. Release 7.2.2 was submitted to close IA POA&Ms. JITC at Indian Head, Maryland conducted IA verification and validation test on 8 August 2011. Based on verification

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of closing of IA findings, the DISA certification authority approved the Release 7.2.2 IA configuration. Interoperability review of Release 7.2.2 determined that no additional interoperability testing was required.

4. The interface, Capability Requirements (CR), Functional Requirements (FR), and component status of the SUT are listed in Tables 1 and 2. JITC evaluated the interoperability status of the SUT based on the corresponding applicable threshold of Capability/Functional requirements in UCR 2008 Change 1, Sections 5.5.3.

**Table 1. SUT Interface Interoperability Status**

Interface	Critical	UCR Reference	Threshold CR/FR Requirements	Status	Remarks
OC-48/STM-16	Yes	5.5.3.2.5.1	1, 2, 4, 5, 6, and 8	Certified	Met threshold CRs/FRs for OC-48.
OC-192/STM-64	Yes	5.5.3.2.5.1	1, 2, 3, 4, 5, 6, and 8	Certified	Met threshold CRs/FRs for OC-192.
OC-768/STM-256	Yes	5.5.3.2.5.1	1, 2, 3, 4, 5, 6, and 8	Certified	Met requirement based on vendor's LoC. (See note 1.)
1 Gigabit Ethernet	Yes	5.5.3.2.5.1	1, 2, 4, 5, and 8	Certified	Met threshold CRs/FRs.
10 Gigabit Ethernet LAN	Yes	5.5.3.2.5.1	1, 2, 4, 5, 6, and 8	Certified	Met threshold CRs/FRs.
10 Gigabit Ethernet-WAN	Yes	5.5.3.2.5.1	1, 2, 4, 5, 6, and 8	Certified	Met threshold CRs/FRs.
OTN ODU1/ODU2/ODU3	Yes	5.5.3.2.5.1	1, 2, 4, 5, 6, and 8	Certified	Met requirement based on vendor's LoC. (See note 2.)
OTN 100 Gbps	Yes	5.5.3.2.5.1	7	Certified	Met requirement based on vendor's LoC. (See note 3.)
OSC	Yes	5.5.3.2.8	8	Certified	Met threshold CRs/FRs.

**NOTES:**

1. Based on vendor's LoC, the CN 4200 supports 40 Gbps channels; however, OC-768/STM-256 was not tested.
2. Based on vendor's LoC, the CN 4200 meets the corresponding UCR requirements. The JITC did not test the OTN rates including ODU1/ODU2/ODU3.
3. Based on vendor's LoC, the CN 4200 supports mixed bit rate signals including 100 Gbps. The JITC did not test the OTN 100 Gbps.

**LEGEND:**

CR	Capability Requirements	OSC	Optical Supervisory Channel
DS	Digital Signal	OTN	Optical Transport Network
FR	Functional Requirement	STM	Synchronous Transport Module
Gbps	Gigabits per second	SUT	System Under Test
LAN	Local Area Network	UCR	Unified Capabilities Requirements
LoC	Letters of Compliance	WAN	Wide Area Network
OC	Optical Carrier		
ODU	Optical Channel Data Unit		

**Table 2. SUT Capability Requirements and Functional Requirements Status**

CR/FR ID	Capability/Function	Applicability (See note 1.)	UCR Reference	Status	Remarks
1	<b>Requirements Applicable to all OTS Elements</b>				
	Overall Requirements	Required	5.5.3.2.2.1	Partially Met	See note 2.
	Performance Requirements	Required	5.5.3.2.2.2	Met	See note 3.
	Reliability and Quality Assurance	Required	5.5.3.2.2.2.1	Partially Met	See note 4.
	Common Physical Design Requirements	Required	5.5.3.2.2.3	Partially Met	See note 5.
	Protection and Restoration	Required	5.5.3.2.2.4	Met	See note 6.
2	<b>Optical Amplifier Requirements</b>				
	OLA Physical Design Requirements	Required	5.5.3.2.3.1	Partially Met	See note 7.
3	<b>Muxponder Requirements</b>				
	Muxponder	Required	5.5.3.2.4	Met	See note 8.
4	<b>Transponder Requirements</b>				
	Transponder	Required	5.5.3.2.5	Partially Met	See note 9.
	Interface Requirements	Required	5.5.3.2.5.1	Met	See note 10.
5	<b>Reconfigurable Optical Add Drop Multiplexor (ROADM) Requirements</b>				
	ROADM Requirements	Required	5.5.3.2.6	Partially Met	See note 11.
	ROADM Specific Physical Design Requirements	Required	5.5.3.2.6.1	Partially Met	See note 7.
6	<b>Requirements Common to Transponder and ROADM</b>				
	Framed Formats	Required	5.5.3.2.7.1	Met	
	Unframed Formats	Required	5.5.3.2.7.2	Met	See note 3.
7	<b>Optical Supervisory Channel Requirements</b>				
	Optical Supervisory Channel	Required	5.5.3.2.8	Partially Met	See note 12.
8	<b>OTS Standards Compliance Requirements</b>				
	OTS Standards Compliance	Required	5.5.3.2.9	Met	See note 3.

**NOTES:**

- Annotation of 'required' refers to high-level requirement category. Applicability of each sub-requirement is provided in enclosure 2.
- The SUT only supports 40 wavelengths not the 80 wavelengths specified by the UCR. The DISA PM adjudicated this test discrepancy as having a minor operational impact because the current fielding does not implement 80 wavelengths.
- The SUT met the corresponding UCR requirements based on vendor's LoC.
- Based on vendor's LoC, the SUT has not yet been certified to meet Telcordia Technologies GR-282-CORE, Software Reliability, and Quality Acceptance Criteria. The DISA PM adjudicated this test discrepancy as having a minor operational impact because no known outages have been reported on previous software versions.
- Based on vendor's LoC, the SUT does not yet meet the EMC/EMI requirements defined in ETS EN 50082. The DISA PM adjudicated this test discrepancy as having a minor operational impact because no known issues exist with fielded systems.
- This requirement was verified via vendor's submitted LoC. The SUT did not provide protection. Protect will have to be provided by a Transport Switch or router.
- The SUT does not support redundant control processors (the SUT has a single control processor only). The DISA PM adjudicated this test discrepancy as having a minor operational impact because the control processor is just for communicating with the management network and pushing configurations to the other cards. The system and all services continue to run as normal during a control processor card failure/replacement.
- This requirement was verified via vendor's submitted LoC. JITC did not test all the Muxponder capabilities.
- The SUT does not support built-in self Bit Error Rate test. The DISA PM adjudicated this test discrepancy as having a minor operational impact because there are other ways to measure errors through the system.
- This requirement was verified via JITC test and vendor's submitted LoC. The JITC did not test the interface OC-768/STM-256 and OTN rates including ODU1/ODU2/ODU3.
- The SUT does not support multicasting. The DISA PM adjudicated this test discrepancy as having a minor operational impact because in an operational environment multicasting may be performed on the IP layer until optical multicasting is available.
- The SUT's OSC supports a span loss of up to only 35 dB not 50 dB as specified in the UCR. The DISA PM adjudicated this test discrepancy as having a minor operational impact because no fielding issues have been noted with span loss detection.

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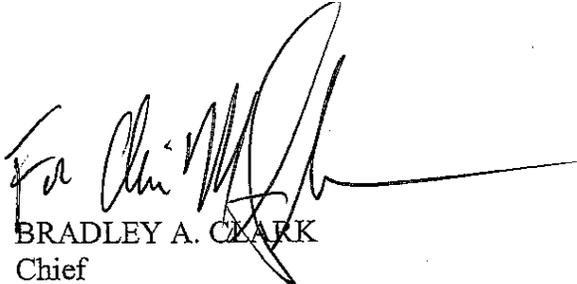
**Table 2. SUT Capability Requirements and Functional Requirements Status (continued)**

LEGEND:			
CR	Capability Requirements	IP	Internet Protocol
dB	Decibel	LoC	Letter of Compliance
EMC	Electromagnetic Compatibility	OLA	Optical Line Amplifier
EMI	Electromagnetic Interference	OSC	Optical Supervisory Channel
ETS	Electromagnetic Telecommunication Standard	OTS	Optical Transport System
FR	Functional Requirement	ROADM	Reconfigurable Optical Add Drop Multiplexor
GR	Generic Requirement	SUT	System Under Test
ID	Identification	UCR	Unified Capabilities Requirements

5. In accordance with the Program Manager’s request, JITC did not develop a detailed test report. JITC distributes interoperability information via the JITC Electronic Report Distribution system, which uses Non-secure Internet Protocol Router Network (NIPRNet) e-mail. More comprehensive interoperability status information is available via the JITC System Tracking Program, which .mil/gov users can access on the NIPRNet at <https://stp.fhu.disa.mil>. Test reports, lessons learned, and related testing documents and references are on the JITC Joint Interoperability Tool at <http://jit.fhu.disa.mil> (NIPRNet). Information related to Defense Switched Network (DSN) testing is on the Telecom Switched Services Interoperability website at <http://jitc.fhu.disa.mil/tssi>. All associated data is available on the DISA Unified Capability Coordination Office website located at <http://www.disa.mil/ucco/>.

6. The JITC testing point of contact is Ms. Fanny Lee-Linnick, commercial (301) 744-2731, or DSN 354-2731. Her e-mail address is [Fanny.Lee-Linnick@disa.mil](mailto:Fanny.Lee-Linnick@disa.mil). The JITC mailing address is 3341 Strauss Avenue, Suite 236, Indian Head, Maryland 20640-5149. The SUT System tracking number is 0921701.

FOR THE COMMANDER:



BRADLEY A. CLARK  
 Chief  
 Battlespace Communications Portfolio

Enclosure a/s

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## **ADDITIONAL REFERENCES**

- (c) Office of Assistant Secretary of Defense for Networks and Information Integration Document, "Department of Defense Unified Capabilities Requirements 2008, Change 1," 22 January 2010
- (d) Information Assurance Findings Summary for Ciena ActivSpan CN 4200 RS FlexSelect Advanced Services Platform with Software Release 7.2.2 , 6 September 2011 (TN0921701)
- (e) Ciena Document, "Letter of Compliance," 21 July 2010
- (f) Ciena Document, "Software Release Document, Software Release 7.1.0," 16 April 2010
- (g) Ciena Document, "Software Release Document, Software Release 7.2.0," 3 September 2010
- (h) Ciena Document, "Software Release Document, Software Release 7.2.2," 18 May 2011