

# **Joint Tactical Networking Center Test and Evaluation Laboratory**

## **Software Communications Architecture v2.2.2 Radio Service Requirements List Version 2.1A**

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**Prepared for:**

Joint Tactical Networking Center  
33000 Nixie Way, Bldg 50, Suite 339  
San Diego, CA 92147-5110

**Prepared by:**

Joint Tactical Networking Center Test and Evaluation Laboratory

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**Release Notes:**

The Software Communications Architecture (SCA) version 2.2.2 (v2.2.2) Radio Service Requirements List version 2.1A (v2.1A) supersedes previous version of the document. It was created from the following items:

- a. SCA Specification version 2.2.2 FINAL / 15 May 2006, v2.2.2
- b. JTEL SCA v2.2.2 Radio Service Requirements List, 6 May 2019, v2.0
- c. JTEL SCA v2.2.2 Manual Radio Service Software Test Description, 22 October 2019, v2.0

The SCA v2.2.2 does not specify a set of requirements for a Radio Service. Per JTNC interpretation of a Software Defined Radio's functionality, a Radio Service must implement to integrate with an Operating Environment (OE). Therefore, an SCA compliant Radio Service must be compliant with a Logical Device's requirements and a Device Manager's requirements.

**Description of Modifications:**

Index	SCA Requirements	Reasons for Modifications
1	OE0011, OE0012, OE0013, OE0069, OE0069-C002, OE0070, OE0070-C004, OE0071, OE0072, OE0073, OE0073-C003, OE0089, OE0090, OE0614, OE0615, OE0742, OE0743	These SCA 2.2.2 Radio Service requirements are withdrawn from the previous Radio Service Requirements List [reference (b)], per the JTNC Standards recommendation. Hence, they will not be used to determine compliance status against the SCA v2.2.2 specification

Index	SCA Requirements	Reasons for Modifications
2	OE0080, OE0082, OE0083, OE0084, OE0102, OE0613-C148, OE0613-C149, OE0613-C150, OE0613-C151, OE0613-C153, OE0613-C156, OE0613-C157, OE0613-C158, OE0613-C159, OE0613-C160, OE0613-C164, OE0613-C165, OE0741	<p>These requirements were withdrawn from the SCA compliance test scope because of the following reasons:</p> <ul style="list-style-type: none"> <li>• Redundant or untestable conditions</li> <li>• Deprecated from a newer SCA specification</li> <li>• None to minimal impact to functionality, interoperability, or portability</li> </ul>
3	All requirements	Removal of withdrawn requirements (see above rows) resulted in renumbering of the Manual Radio Service Software Test Description (MRSSTD) test case IDs.

Index	SCA Requirements	Reasons for Modifications
4	OE0594, OE0613	<p>The OE0594 requirement is not optional if a PRF file exists. When a PRF file exists the file must have the *.prf.xml extension.</p> <p>OE0613 is only tested by test case RS_TC_002.</p>

**Legend for the Requirements List:**

Column Name	Description
Requirement Tag	This column displays the Joint Tactical Networking Center (JTNC) Test and Evaluation Laboratory (JTEL) SCA requirement unique identifier. The meaning of the tag prefix is described as follows: OE = Operating Environment and AP = Application
Criterion Tag	This column displays the JTEL SCA criterion unique identifier. The letter "C" is the tag prefix for criterion.
Requirement/Criterion Text	This column displays the requirement/criterion statements extracted from the SCA v2.2.2 specification [Reference (a)].
Section Number	This column displays the section where the statement is located in the SCA specification.
Test Case ID	This column displays the test case name required to verify the requirement. The test case description can be found in the MRSSTD [Reference (c)].
Optional	An SCA compliant radio service may choose to implement this requirement or feature.

**Disclaimer:**

The following list of requirements is a guide for SCA v2.2.2 compliance assessments and should be used for reference only. The SCA v2.2.2 Specification released by JTNC Standards (previously known as JTRS Standards) is the official governing document.

## SCA 2.2.2 Radio Service Requirements List Version 2.1

Requirement Tag	Criterion Tag	Requirement/Criterion Text	Section Number	Test Case ID	Optional
OE0074	N/A	The initialize operation shall raise an InitializeError exception when an initialization error occurs.	3.1.3.1.2.5.1.5	RS_TC_006	x
OE0075	N/A	The releaseObject operation shall release all internal memory allocated by the component during the life of the component.	3.1.3.1.2.5.2.3	RS_TC_010	x
OE0076	N/A	The releaseObject operation shall tear down the component and release it from the CORBA environment.	3.1.3.1.2.5.2.3	RS_TC_006	x
OE0078	N/A	The releaseObject operation shall raise a ReleaseError exception when a release error occurs.	3.1.3.1.2.5.2.5	RS_TC_006	x
OE0079	N/A	The runTest operation shall use the input testId parameter to determine which of its predefined test implementations should be performed.	3.1.3.1.3.5.1.3	RS_TC_008	x
OE0081	N/A	The runTest operation shall return the result(s) of the test in the testValues parameter.	3.1.3.1.3.5.1.3	RS_TC_008	x
OE0085	N/A	The runTest operation shall raise the UnknownTest exception when there is no underlying test implementation that is associated with the input testId given.	3.1.3.1.3.5.1.5	RS_TC_008	x
OE0086	N/A	The runTest operation shall raise the CF UnknownProperties exception when the input parameter testValues contains any CF DataTypes that are not known by the component's test implementation or any values that are out of range for the requested test.	3.1.3.1.3.5.1.5	RS_TC_008	x
OE0087	N/A	The exception parameter invalidProperties shall contain the invalid testValues properties id(s) that are not known by the component or the value(s) are out of range.	3.1.3.1.3.5.1.5	RS_TC_008	x
OE0091	N/A	The configure operation shall assign values to the properties as indicated in the input configProperties parameter.	3.1.3.1.5.5.1.3	RS_TC_007	x
OE0092	N/A	Valid properties for the configure operation shall at a minimum be the configure readwrite and writeonly properties referenced in the component's SPD.	3.1.3.1.5.5.1.3	RS_TC_007	x
OE0093	N/A	The configure operation shall raise a PartialConfiguration exception when some configuration properties were successfully set and some configuration properties were not successfully set.	3.1.3.1.5.5.1.5	RS_TC_007	x
OE0094	N/A	The configure operation shall raise an InvalidConfiguration exception when a configuration error occurs and no configuration properties were successfully set.	3.1.3.1.5.5.1.5	RS_TC_007	x

Requirement Tag	Criterion Tag	Requirement/Criterion Text	Section Number	Test Case ID	Optional
OE0095	N/A	The query operation shall return all component properties when the input parameter configProperties is zero size.	3.1.3.1.5.5.2.3	RS_TC_007	x
OE0096	N/A	The query operation shall return only those id/value pairs specified in the configProperties parameter if the parameter is not zero size.	3.1.3.1.5.5.2.3	RS_TC_007	x
OE0097	N/A	Valid properties for the query operation shall be all configure properties (simple properties whose kind element's kindtype attribute is "configure") whose mode attribute is "readwrite" or "readonly" and any allocation properties with an action value of "external" as referenced in the component's SPD.	3.1.3.1.5.5.2.3	RS_TC_007	x
OE0098	N/A	The query operation shall raise the CF UnknownProperties exception when one or more properties being requested are not known by the component.	3.1.3.1.5.5.2.5	RS_TC_007	x
OE0099	N/A	The errorNumber parameter shall indicate a CF ErrorNumberType value.	3.1.3.1.6.3.1	RS_TC_009	x
OE0100	N/A	The errorNumber parameter shall indicate a CF ErrorNumberType value.	3.1.3.1.6.3.2	RS_TC_009	x
OE0101	N/A	The readonly identifier attribute shall contain the unique identifier for a Resource instance.	3.1.3.1.6.4.1	RS_TC_009	x
OE0103	N/A	The stop operation shall raise the StopError exception if an error occurs while stopping the resource.	3.1.3.1.6.5.2.5	RS_TC_009	x
OE0105	N/A	The start operation shall raise the StartError exception if an error occurs while starting the resource.	3.1.3.1.6.5.1.5	RS_TC_009	x
OE0422	N/A	The releaseObject operation shall unregister its device from its device manager.	3.1.3.3.1.5.3.3	RS_TC_006	x
OE0588	N/A	Domain Profile files shall be compliant to the Document Type Definitions (DTDs) provided in Appendix D.	3.1.3.5	RS_TC_001, RS_TC_002, RS_TC_003, RS_TC_004,	
OE0590	N/A	All XML files shall have as the first two lines as an XML declaration (?xml) and a document type declaration (!DOCTYPE).	3.1.3.5	RS_TC_001, RS_TC_002, RS_TC_003, RS_TC_004	
OE0591	N/A	A Software Package Descriptor file shall have a ".spd.xml" extension.	3.1.3.5.1	RS_TC_002	
OE0592	N/A	A Software Component Descriptor file shall have a ".scd.xml" extension.	3.1.3.5.2	RS_TC_003	
OE0594	N/A	A Properties File shall have a ".prf.xml" extension.	3.1.3.5.4	RS_TC_004	

Requirement Tag	Criterion Tag	Requirement/Criterion Text	Section Number	Test Case ID	Optional
OE0613	N/A	An application, each application component, and each device manager shall be accompanied by the appropriate Domain Profile files per section 3.1.3.5.	3.2.1.3	RS_TC_002	
OE0613	C154	When the name attribute is a simple name, the file exists in the same directory as the SPD file. A relative directory indication begins either with "../" meaning parent directory and "." means current directory in the name attribute. Multiple "../" and directory names can follow the initial "../" in the name attribute.	D.2.1.4.1	RS_TC_002	
OE0621	N/A	A logical device shall register itself with a device manager using the value associated with the DEVICE_MGR_IOR parameter per 3.1.3.2.4.5.	3.3.3	RS_TC_005	