Sensors & Spectrum

Component purpose, interfaces, evidence and verification.

- OpenRF
- OpenSSA
- OpenISAC

OpenRF

OpenRF

Field	Value
Distribution	BSS — OpenSOF
Product	OpenSOF
Release	0.15.1
Deployment	`opensof.bss.dev`
Source	`/srv/bss/releases/OpenSOF-v0.15.0-20app`
Evidence	Catalog intent plus component-scoped static evidence
Source fingerprint	`cda583b42f2a0d296b268ab5b174932a378c8be6fb52ffa1af14af896e990f6e`
Status	Generated baseline — human review required

> **Verification boundary:** This page combines platform design guidance with static evidence from the release. It does not prove that every detected interface is enabled, reachable, secure, or operational in the deployed environment.

Purpose

The radio registration, spectrum sensing, control and distributed RF processing capability for heterogeneous SDRs and radio utilities.

Operational value

Provides one operational layer for registering radios, viewing spectrum, running utilities and publishing detections from edge nodes.

Differentiators

Uses common SDR abstractions where practical, supports distributed edge processing, and connects RF observations to timing, semantics, tracks and tasking.

Platform connections

- OpenPNT
- OpenSSA
- OpenTrack
- OpenAnalytics
- OpenCOP

Release detection

Status	Score	Evidence items
detected	224	12

Evidence type	Source	Match
path	`OPENRF.md`	`openrf`
path	`lib/openrf-controller/server.js`	`openrf`
path	`lib/openrf-controller/src/store.js`	`openrf`
path	`openrf/API.md`	`openrf`
path	`openrf/ARCHITECTURE.md`	`openrf`
content	`CHANGELOG.md`	`openrf`
content	`DEPLOY-GODADDY.md`	`openrf`
content	`OPENBUS.md`	`openrf`
content	`OPENCOP.md`	`openrf`
content	`OPENCYBERSEC-QUICKSTART.md`	`openrf`
path	`edge/openssa-sensor/reference/open-rf/app.js`	`open-rf`
path	`edge/openssa-sensor/reference/open-rf/index.html`	`open-rf`

Candidate REST/API interfaces

No component-specific REST route was associated by the scanner.

Candidate real-time interfaces

No component-specific WebSocket endpoint was associated by the scanner.

Configuration candidates

Variable	Default	Evidence
`ADDRESS`	—	openrf/agent/functions/probe-n310.sh
`API_BASE`	—	open-rf/app.js, public/open-networks/app.js, public/open-rf/app.js
`BASE`	http://127.0.0.1:3000	DEPLOY-GODADDY.md, OPENCYBERSEC-QUICKSTART.md, OPENCYBERSEC.md, UPGRADE-v0.14.0.md
`BASE_PATH`	—	open-rf/app.js, public/open-rf/app.js, third_party/ontowiki/application/scripts/travis/install-services.sh
`BUILD`	—	edge/openpnt-linuxptp/SELF-TEST.sh, edge/openssa-sensor/install/install-native-uhd.sh, edge/openssa-sensor/native/uhd_spectrum_engine/build-simulation.sh, edge/openssa-sensor/native/uhd_spectrum_engine/build.sh
`BUILD_DIR`	$ENGINE/build	edge/openssa-sensor/install/install-native-uhd.sh, edge/openssa-sensor/native/uhd_spectrum_engine/build-simulation.sh, edge/openssa-sensor/native/uhd_spectrum_engine/build.sh
`CONFIG`	—	drivers/install_openpnt_agent.sh, edge/opencybersec/install.sh, edge/openssa-sensor/install/check-sensor.sh, edge/openssa-sensor/install/install-sensor.sh

Variable	Default	Evidence
`CORE_DIR`	—	openrf/agent/functions/start-5g-core.sh, openrf/agent/functions/status-5g-core.sh
`DATA_DIR`	path.join(ROOT	OPENCYBERSEC-QUICKSTART.md, OPENCYBERSEC.md, RELEASE-MANIFEST-v0.14.0.json, UPGRADE-v0.14.0.md
`ENGINE`	—	edge/openssa-sensor/install/install-native-uhd.sh
`EUID`	$(id -u	drivers/install_openpnt_agent.sh, edge/opencybersec/install.sh, edge/opencybersec/uninstall.sh, edge/openpnt-linuxptp/install-linuxptp.sh
`GNB`	—	openrf/agent/functions/start-5g-ran-b210-50mhz.sh, openrf/agent/functions/start-5g-ran-n78-n310.sh
`HERE`	—	edge/openpnt-linuxptp/SELF-TEST.sh, edge/openpnt-linuxptp/install-linuxptp.sh, edge/openssa-sensor/native/uhd_spectrum_engine/build-simulation.sh, edge/openssa-sensor/native/uhd_spectrum_engine/build.sh
`HOME`	/tmp	lib/openllm/pipeline-engine.js, openrf/agent/functions/start-5g-core.sh, openrf/agent/functions/status-5g-core.sh, third_party/ontowiki/.travis.yml
`HOST`	0.0.0.0	server.js, lib/openrf-controller/server.js
`OPENCYBERSEC_AGENT_TOKEN`	[REDACTED]	OPENCYBERSEC-QUICKSTART.md, OPENCYBERSEC.md, server.js, examples/opencybersec/ingest-examples.sh
`OPENCYBERSEC_OPERATOR_TOKEN`	[REDACTED]	OPENCYBERSEC-QUICKSTART.md, OPENCYBERSEC.md, server.js, examples/opencybersec/ingest-examples.sh
`OPENRF_5G_CORE_DIR`	$HOME/5g/magic-core	openrf/agent/functions/start-5g-core.sh, openrf/agent/functions/status-5g-core.sh

Variable	Default	Evidence
`OPENRF_AGENT_OFFLINE_SECONDS`	70	lib/openrf-controller/server.js
`OPENRF_AGENT_TOKEN`	[REDACTED]	server.js, lib/openrf-controller/server.js, openrf/API.md
`OPENRF_BASE_PATH`	/open-rf	lib/openrf-controller/server.js
`OPENRF_DATA_DIR`	path.join(DATA	server.js, lib/openrf-controller/server.js
`OPENRF_DISPATCH_LEASE_SECONDS`	90	lib/openrf-controller/server.js
`OPENRF_OPERATOR_TOKEN`	[REDACTED]	server.js, lib/openrf-controller/server.js, openrf/API.md, openrf/README-UPSTREAM-v0.3.0.md
`OPENRF_PYTHON`	/usr/bin/python3	openrf/agent/src/openrf_agent/util.py
`OPENRF_RADIO_ADDRESS`	192.168.20.2	openrf/agent/functions/probe-n310.sh
`OPENRF_RADIO_ID`	N310-01	openrf/agent/functions/start-5g-ran-n78-n310.sh
`OPENRF_READ_TOKEN`	—	server.js, lib/openrf-controller/server.js, openrf/API.md
`PORT`	3000	server.js, edge/openssa-sensor/local_server.js, lib/openrf-controller/server.js
`PYTHONUNBUFFERED`	1	openrf/agent/systemd/openrf-agent.service
`ROOT`	—	edge/opencybersec/install.sh, edge/openpnt-linuxptp/SELF-TEST.sh, edge/openpnt-linuxptp/install-linuxptp.sh, edge/openssa-sensor/install-demo-sensor.sh
`RUN_GROUP`	—	openrf/agent/install.sh
`RUN_USER`	—	openrf/agent/install.sh
`SUDO_USER`	$USER	edge/openssa-sensor/install/install-sensor.sh, edge/openssa-sensor/install/update-existing-sensor.sh, openrf/agent/install.sh
`UHD_INCLUDE_DIRS`	—	edge/openssa-sensor/native/uhd_spectrum_engine/CMakeLists.txt
`UHD_LIBRARIES`	—	edge/openssa-sensor/native/uhd_spectrum_engine/CMakeLists.txt

Variable	Default	Evidence
`USER`	—	edge/openssa-sensor/SENSOR_INSTALL.md, edge/openssa-sensor/install-demo-sensor.sh, edge/openssa-sensor/install/install-sensor.sh, edge/openssa-sensor/install/update-existing-sensor.sh

Service candidates

Service	ExecStart	Source
openrf-agent.service	`/usr/local/bin/openrf-agent --config /etc/openrf/openrf-agent.json`	`openrf/agent/systemd/openrf-agent.service`

External dependencies/endpoints

Host	URL	Source
${req.headers.host	`http://${req.headers.host/`	`lib/openrf-controller/server.js`
controller-ip	`http://controller-ip:8075/open-rf/`	`openrf/README-UPSTREAM-v0.3.0.md`
loammhpng4.c36.airoapp.ai	`https://loammhpng4.c36.airoapp.ai/`	`CHANGELOG.md`

Verification checklist

- Confirm the component is included and enabled in this edition/release.
- Record its authoritative service, process/container, port, base URL and health endpoint.
- Exercise its primary operator workflow and capture expected versus actual results.
- Verify authentication, authorization, audit, error behavior and data handling policy.
- Verify OpenBus/OpenKnowledge relationships and time/provenance metadata where applicable.
- Document known limitations and the release in which they are corrected.

Maintainer Notes

Add human-reviewed deployment notes, corrections, decisions, screenshots, and links here. Content outside the generated block is preserved on future runs.

OpenSSA

OpenSSA

Field	Value
Distribution	BSS — OpenSOF
Product	OpenSOF
Release	0.15.1
Deployment	`opensof.bss.dev`
Source	`/srv/bss/releases/OpenSOF-v0.15.0-20app`
Evidence	Catalog intent plus component-scoped static evidence
Source fingerprint	`cda583b42f2a0d296b268ab5b174932a378c8be6fb52ffa1af14af896e990f6e`
Status	Generated baseline — human review required

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Purpose

The spectrum situational-awareness view for live RF visualization, detections, registered sensors and geospatial correlation.

Operational value

Converts raw edge RF data into a shared operational picture instead of forcing users to operate isolated laboratory tools.

Differentiators

Combines high-rate edge processing with selective real-time transmission and ties spectrum observations to registered radio location and time.

Platform connections

- OpenRF
- OpenPNT
- OpenCOP
- OpenTrack
- OpenAnalytics

Release detection

Status	Score	Evidence items
detected	107	12

Evidence type	Source	Match
path	`OPENSSA-DEMO-DEPLOYMENT.md`	`openssa`
path	`OPENSSA.md`	`openssa`
path	`UPGRADE-OPENSSA-v0.5.0.md`	`openssa`
path	`edge/openssa-sensor/API.md`	`openssa`
path	`edge/openssa-sensor/CHANGELOG-v0.4.0.md`	`openssa`
content	`CHANGELOG.md`	`openssa`
content	`DEPLOY-GODADDY.md`	`openssa`
content	`MERGE-v0.13.1.md`	`openssa`
content	`OPENCYBERSEC.md`	`openssa`
content	`OPENPNT.md`	`openssa`
path	`edge/openssa-sensor/public/open-ssa/app.js`	`open-ssa`
path	`edge/openssa-sensor/public/open-ssa/index.html`	`open-ssa`

Candidate REST/API interfaces

No component-specific REST route was associated by the scanner.

Candidate real-time interfaces

No component-specific WebSocket endpoint was associated by the scanner.

Configuration candidates

Variable	Default	Evidence
`ALT`	—	edge/openssa-sensor/install-demo-sensor.sh
`BASE`	http://127.0.0.1:3000	DEPLOY-GODADDY.md, OPENCYBERSEC-QUICKSTART.md, OPENCYBERSEC.md, UPGRADE-v0.14.0.md
`BUILD`	—	edge/openpnt-linuxptp/SELF-TEST.sh, edge/openssa-sensor/install/install-native-uhd.sh, edge/openssa-sensor/native/uhd_spectrum_engine/build-simulation.sh, edge/openssa-sensor/native/uhd_spectrum_engine/build.sh
`BUILD_DIR`	$ENGINE/build	edge/openssa-sensor/install/install-native-uhd.sh, edge/openssa-sensor/native/uhd_spectrum_engine/build-simulation.sh, edge/openssa-sensor/native/uhd_spectrum_engine/build.sh
`CFG`	—	edge/openssa-sensor/install-demo-sensor.sh
`CONFIG`	—	drivers/install_openpnt_agent.sh, edge/opencybersec/install.sh, edge/openssa-sensor/install/check-sensor.sh, edge/openssa-sensor/install/install-sensor.sh

Variable	Default	Evidence
`DATA_DIR`	path.join(ROOT	OPENCYBERSEC-QUICKSTART.md, OPENCYBERSEC.md, RELEASE-MANIFEST-v0.14.0.json, UPGRADE-v0.14.0.md
`DRIVER`	—	edge/openssa-sensor/install-demo-sensor.sh, edge/openssa-sensor/install/check-sensor.sh, edge/openssa-sensor/install/install-ubuntu-deps.sh
`ENGINE`	—	edge/openssa-sensor/install/install-native-uhd.sh
`HERE`	—	edge/openpnt-linuxptp/SELF-TEST.sh, edge/openpnt-linuxptp/install-linuxptp.sh, edge/openssa-sensor/native/uhd_spectrum_engine/build-simulation.sh, edge/openssa-sensor/native/uhd_spectrum_engine/build.sh
`LAT`	—	edge/openssa-sensor/install-demo-sensor.sh
`LON`	—	edge/openssa-sensor/install-demo-sensor.sh
`NATIVE_SOURCE`	—	edge/openssa-sensor/install/install-sensor.sh, edge/openssa-sensor/install/update-existing-sensor.sh
`NODE_ID`	COMPILED_DEPLOYMENT.nodeId	server.js, edge/openssa-sensor/lib/openssa.js, lib/openssa.js
`OPENBUS_API_TOKEN`	[REDACTED]	OPENKNOWLEDGE-OPENTASK.md, OPENLVC-DEMO.md, OPENLVC-RTI.md, demo_simulator.py
`OPENCYBERSEC_AGENT_TOKEN`	[REDACTED]	OPENCYBERSEC-QUICKSTART.md, OPENCYBERSEC.md, server.js, examples/opencybersec/ingest-examples.sh
`OPENCYBERSEC_OPERATOR_TOKEN`	[REDACTED]	OPENCYBERSEC-QUICKSTART.md, OPENCYBERSEC.md, server.js, examples/opencybersec/ingest-examples.sh
`OPENSSA_ACTIVE_TIMEOUT_S`	900	server.js, edge/openssa-sensor/SERVER_INTEGRATION.md, edge/openssa-sensor/lib/openssa.js, lib/openssa.js
`OPENSSA_EMITTER_HISTORY_LIMIT`	2000	edge/openssa-sensor/lib/openssa.js, lib/openssa.js

Variable	Default	Evidence
`OPENSSA_EMITTER_SIGHTING_LIMIT`	500	edge/openssa-sensor/lib/openssa.js, lib/openssa.js
`OPENSSA_GEOLOCATION_HISTORY_LIMIT`	100	edge/openssa-sensor/lib/openssa.js, lib/openssa.js
`OPENSSA_ITU_REGION`	2	server.js, edge/openssa-sensor/SERVER_INTEGRATION.md, edge/openssa-sensor/lib/openssa.js, lib/openssa.js
`OPENSSA_LOCATION_PROFILE`	—	edge/openssa-sensor/drivers/ssa_sensor.py
`OPENSSA_SENSOR_TOKEN`	[REDACTED]	server.js, edge/openssa-sensor/SERVER_INTEGRATION.md, edge/openssa-sensor/local_server.js, edge/openssa-sensor/demo/run_streaming_demo.py
`OPENSSA_UHD_SPECTRUM_ENGINE`	—	edge/openssa-sensor/drivers/ssa_sensor.py
`PORT`	3000	server.js, edge/openssa-sensor/local_server.js, lib/openrf-controller/server.js
`ROLE`	—	edge/openssa-sensor/install-demo-sensor.sh
`ROOT`	—	edge/opencybersec/install.sh, edge/openpnt-linuxptp/SELF-TEST.sh, edge/openpnt-linuxptp/install-linuxptp.sh, edge/openssa-sensor/install-demo-sensor.sh
`RUN_ID`	—	OPENCYBERSEC.md
`SERVICE_GROUP`	—	edge/openssa-sensor/install/install-sensor.sh, edge/openssa-sensor/install/update-existing-sensor.sh
`SERVICE_USER`	—	edge/openssa-sensor/install/install-sensor.sh, edge/openssa-sensor/install/update-existing-sensor.sh
`SITE_ID`	COMPILED_DEPLOYMENT.siteId	server.js, edge/openssa-sensor/lib/openssa.js, lib/openssa.js
`SSA_API`	—	edge/openssa-sensor/public/open-ssa/app.js, open-ssa/app.js, public/open-ssa/app.js

Variable	Default	Evidence
`SUDO_USER`	$USER	edge/openssa-sensor/install/install-sensor.sh, edge/openssa-sensor/install/update-existing-sensor.sh, openrf/agent/install.sh
`TOKEN`	—	edge/openssa-sensor/install-demo-sensor.sh, rocketchat/outgoing-webhook-test.sh
`UHD_INCLUDE_DIRS`	—	edge/openssa-sensor/native/uhd_spectrum_engine/CMakeLists.txt
`UHD_LIBRARIES`	—	edge/openssa-sensor/native/uhd_spectrum_engine/CMakeLists.txt
`USER`	—	edge/openssa-sensor/SENSOR_INSTALL.md, edge/openssa-sensor/install-demo-sensor.sh, edge/openssa-sensor/install/install-sensor.sh, edge/openssa-sensor/install/update-existing-sensor.sh
`WORK`	—	edge/openssa-sensor/install-demo-sensor.sh

Service candidates

No component-specific service definition was associated by the scanner.

External dependencies/endpoints

Host	URL	Source
${req.headers.host	`http://${req.headers.host/`	`edge/openssa-sensor/lib/openssa.js`
${req.headers.host	`http://${req.headers.host/`	`edge/openssa-sensor/tests/e2e_server.js`
${req.headers.host	`http://${req.headers.host/`	`lib/openssa.js`
${req.headers.host||	`http://${req.headers.host||/`	`edge/openssa-sensor/local_server.js`
${req.headers.host}	`http://${req.headers.host}/`	`edge/openssa-sensor/tests/test_openssa.js`
${req.headers.host}	`http://${req.headers.host}/`	`tests/openssa/test_openssa.js`

Host	URL	Source
example.invalid	`https://example.invalid/`	`edge/openssa-sensor/tests/test_profile_tool.py`
loammhpng4.c36.airoapp.ai	`https://loammhpng4.c36.airoapp.ai/`	`CHANGELOG.md`

Verification checklist

- Confirm the component is included and enabled in this edition/release.
- Record its authoritative service, process/container, port, base URL and health endpoint.
- Exercise its primary operator workflow and capture expected versus actual results.
- Verify authentication, authorization, audit, error behavior and data handling policy.
- Verify OpenBus/OpenKnowledge relationships and time/provenance metadata where applicable.
- Document known limitations and the release in which they are corrected.

Maintainer Notes

Add human-reviewed deployment notes, corrections, decisions, screenshots, and links here. Content outside the generated block is preserved on future runs.

OpenISAC

OpenISAC

Field	Value
Distribution	BSS — OpenSOF
Product	OpenSOF
Release	0.15.1
Deployment	`opensof.bss.dev`
Source	`/srv/bss/releases/OpenSOF-v0.15.0-20app`
Evidence	Catalog intent plus component-scoped static evidence
Source fingerprint	`cda583b42f2a0d296b268ab5b174932a378c8be6fb52ffa1af14af896e990f6e`
Status	Generated baseline — human review required

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Purpose

The integrated sensing-and-communications capability for using communications waveforms and radio infrastructure as coordinated sensing resources.

Operational value

Allows deployed communications infrastructure to contribute observations without adding a completely separate sensing stack.

Differentiators

Sensing results can use the same timing, semantic and operational integration fabric as communications and C5ISR applications.

Platform connections

- OpenRF
- OpenPNT
- OpenAnalytics
- OpenTrack

Release detection

Status	Score	Evidence items
detected	96	12

Evidence type	Source	Match
content	`CHANGELOG.md`	`openisac`
content	`DEPLOY-GODADDY.md`	`openisac`
content	`EXTERNAL-SERVICES.md`	`openisac`
content	`MERGE-INSTRUCTIONS-v0.8.1.md`	`openisac`
content	`OPENBUS.md`	`openisac`
path	`open-isac/index.html`	`open-isac`
path	`public/open-isac/index.html`	`open-isac`
content	`API.md`	`open-isac`
content	`MERGE-INSTRUCTIONS-v0.8.1.md`	`open-isac`
content	`README.md`	`open-isac`
content	`WALLACECORP-DEPLOYMENT.md`	`open-isac`
content	`index.html`	`open-isac`

Candidate REST/API interfaces

No component-specific REST route was associated by the scanner.

Candidate real-time interfaces

No component-specific WebSocket endpoint was associated by the scanner.

Configuration candidates

Variable	Default	Evidence
`BASE`	http://127.0.0.1:3000	DEPLOY-GODADDY.md, OPENCYBERSEC-QUICKSTART.md, OPENCYBERSEC.md, UPGRADE-v0.14.0.md

Service candidates

No component-specific service definition was associated by the scanner.

External dependencies/endpoints

Host	URL	Source
bss.dev	`https://bss.dev/live/fpv-ctl/`	`index.html`
bss.dev	`https://bss.dev/live/isac/`	`tools/integrate_opensof_service_entries.py`
bss.dev	`https://bss.dev/live/isac/\nOPENLVC_PUBLIC_URL=\nAEGIS_SENTINEL_LABEL=AEGIS-SENTINEL\nOPENMAIL_PUBLIC_URL=\nOPENFILES_PUBLIC_URL=\n`	`tools/integrate_opensof_service_entries.py`
isac.edge.example.test	`https://isac.edge.example.test/`	`tests/external_integrations_smoke_test.py`
loammhpng4.c36.airoapp.ai	`https://loammhpng4.c36.airoapp.ai/`	`API.md`

Host	URL	Source
loammhpng4.c36.airoapp.ai	`https://loammhpng4.c36.airoapp.ai/`	`CHANGELOG.md`
loammhpng4.c36.airoapp.ai	`https://loammhpng4.c36.airoapp.ai/`	`README.md`
loammhpng4.c36.airoapp.ai	`https://loammhpng4.c36.airoapp.ai/api/tracks`	`README.md`
loammhpng4.c36.airoapp.ai	`https://loammhpng4.c36.airoapp.ai/open-cop/\nhttps://loammhpng4.c36.airoapp.ai/open-isac/\nhttps://loammhpng4.c36.airoapp.ai/open-lvc/\nhttps://loammhpng4.c36.airoapp.ai/open-mail/\nhttps://loammhpng4.c36.airoapp.ai/open-files/\nhttps://loammhpng4.c36.airoapp.ai/api/integrations\n`	`tools/integrate_opensof_service_entries.py`

Verification checklist

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Maintainer Notes

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