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DESIGN STUDY

A carrier's access-network refresh against the FCC Covered List: 520 order lines, three tests each, run on the order date

Complete design on current platforms

CAPABILITY	INDUSTRY	SETTING
Strategic Resourcing	Global Service Providers	Regional carrier
DOCUMENT	**VERSION**	**DATE**
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Document control

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Sign-off	"An engagement under this design is signed by the practice lead before any build proceeds."		

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CONVENTIONS

Source tags. [S] figure or clause read from the regulator's, standards body's or project's own current page or document on Oct 22, 2026, or carried from a Symbeeo document that read it, where the text names that document · [S*] figure from a published summary where the owner's own page could not be opened · [A] assumption about the typical buyer, to be confirmed by the signing engineer · [T] design target taken from the design's stated outcome or derived from it. Every figure carries at least one tag. No figure comes from any prior engagement, file or asset. A row with more than one tag is counted once: as a published figure if any tag is [S] or [S*], otherwise as an assumption if any tag is [A], otherwise as a design target.

Table 1. Revision history

Date	Version	Change
Oct 22, 2026	1.0	First issue.

1 · Scope

Who it is for. The head of network supply at a regional carrier replacing its access network over three years, who used to check a vendor's name against the FCC Covered List once at contract and now finds that the list names a place of production for one product class, reaches into components for another, and changes by public notice while orders are open.

Typical buyer [A]. A regional carrier selling fiber-to-the-home and fixed wireless in three states: 118,000 broadband subscribers, 31 central offices, 210 fixed-wireless sites. Over three years it replaces its GPON optical line terminals (62 chassis), its fixed-wireless radios, the aggregation routers behind both, and 90,000 residential gateways at customers' homes. Part of the network being replaced came from a producer on the Covered List and is removed under the carrier's replacement program. The comparison fixed the models; this document governs the 520 order lines that buy them, across 9 manufacturers and 3 distributors.

What is in. The Covered List screen on every line, on every order date; the three tests it runs; the evidence each test leaves; source depth and support life for class-A lines; authorized sources; provenance and FCC ID checks at receipt; re-screening the installed base when the list changes. **What is out.** The network design and the model comparison; CALEA and FCC outage reporting, which these documents do not address; the replacement program's funding and claims; installation, which runs under SRA-IMP-001.

Assumptions. The carrier is not a federal contractor for these services, so NDAA §889 is marked not applicable and recorded with the reason [A]. Residential gateways are customer-installable and treated as consumer-grade routers; fixed-wireless outdoor units are installed by the carrier's technicians and are not [A]. Counsel reads each new Covered List action within 5 business days of its release [A].

Related documents, read Oct 22, 2026. SRA-RES-001 · SDD-RES-001 · STP-RES-001 (R2, R3, R4, R9, R11, R12 there; the FCC Covered List row of §9.1) · FCC Covered List, 47 CFR 1.50002 (`https://www.fcc.gov/supplychain/coveredlist`) · FCC 26-50, Third Report and Order, ET Docket 21-232, adopted Jul 22, 2026, released Jul 23, 2026 (`https://docs.fcc.gov/public/attachments/FCC-26-50A1.pdf`) · FCC 25-71, Second Report and Order, adopted Oct 28, 2025 (`https://docs.fcc.gov/public/attachments/FCC-25-71A1.txt`) · Wiley, summary of the Mar 23, 2026 router listing (`https://www.wiley.law/alert-FCC-Adds-Foreign-Produced-Consumer-Grade-Routers-to-Covered-List`) · CycloneDX 1.7 (`https://cyclonedx.org/news/cyclonedx-v1.7-released/`).

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1c · Public implementations this design follows

Table 2. Public implementations this design follows

Implementation	Who published it · date	What it settles for this design	URL
FCC Covered List, 47 CFR 1.50002	FCC Public Safety and Homeland Security Bureau · latest action found DA 26-957, Sep 9, 2026, per SRA-RES-001 §9.1 · published list, used to build our own design	R2 and R3: equipment on the list cannot be authorized; the list is the carrier's to read on each order date, because entries are added by public notice	https://www.fcc.gov/supplychain/coveredlist
Foreign-produced consumer-grade routers added to the Covered List, following a national security determination of Mar 20, 2026; "consumer-grade" as NIST IR 8425A describes it, primarily for residential use and installable by the customer; a DoW or DHS Conditional Approval, of up to 18 months, exempts a model; an OET blanket waiver allows security software and firmware updates at least until Mar 1, 2027 [S*]	FCC · Mar 23, 2026, as summarized by Wiley	R4 and R14: the gateway lines are screened by place of production, not by producer; the installed gateways keep receiving security updates while the waiver holds	https://www.wiley.law/alert-FCC-Adds-Foreign-Produced-Consumer-Grade-Routers-to-Covered-List
FCC 26-50, Third Report and Order: no authorization for a device that contains a logic-bearing hardware component produced by a producer-based Covered List entity where the device would be barred had that entity made it; prospective, effective 30 days after Federal Register publication; previously authorized equipment unaffected; software and firmware components not covered	FCC · adopted Jul 22, 2026, released Jul 23, 2026 · published order, used to build our own design	R5 and §4.4: for a device authorized after the effective date, the screen reaches inside the box; for a grandfathered device it records the grant date instead	https://docs.fcc.gov/public/attachments/FCC-26-50A1.pdf

All three rows are the regulator's own actions or a summary of one. No carrier publishes its order screen, so no public deployment is shown.

2 · Requirements register

Table 3. Requirements register

#	Requirement	Value	Source
R1	Lines under management	520 lines · 9 manufacturers · 3 distributors · 3 years	[A]
R2	Lines ordered from a supplier designated high-risk under law in force on the order date	0	[S] SRA-RES-001 R11; 47 CFR 1.50002
R3	Covered List read on each order date	100 % of orders; list version and latest action recorded with the order	[T]

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#	Requirement	Value	Source
R4	Consumer-grade routers produced outside the US	ordered only with a DoW or DHS Conditional Approval in force on the order date and through planned delivery	[S*] FCC listing, Mar 23, 2026; [T] through delivery
R5	Logic-bearing components	no device authorized after FCC 26-50 takes effect contains one from a producer-based Covered List entity; manufacturer attestation per line	[S] FCC 26-50 ¶¶ 2, 13, 28, 38; [A] attestation
R6	Hardware bill of materials	requested per class-A line, CycloneDX 1.7	[S] CycloneDX 1.7; [A]
R7	Criticality class before the first order	100 % of lines	[S] CSF 2.0 GV.SC-04, via SRA-RES-001 R2
R8	Independent sources per class-A line	≥ 2	[T] SRA-RES-001 R3
R9	Published end of support from planned delivery	≥ 5 years	[T] SRA-RES-001 R9
R10	Units bought from the manufacturer or a distributor it authorizes	100 %	[S] ISO/IEC 27036-3, via SRA-RES-001 R4
R11	Provenance record per serialized unit at receipt	serial, FCC ID, ship notice, firmware version	[T] SRA-RES-001 R12
R12	FCC ID at receipt	every radio-bearing unit's FCC ID matched to a grant in the FCC's equipment authorization records	[T]
R13	Re-screen on a new Covered List action	open orders and the installed base, within 10 business days of release	[T]
R14	Installed gateways already authorized	kept in service and updated under the OET blanket waiver, at least until Mar 1, 2027	[S*] Wiley summary

Fourteen rows; seven carry a regulator's, standards body's or project's figure (two of them [S*] only), one is a design assumption, six are design targets.

3 · Architecture overview

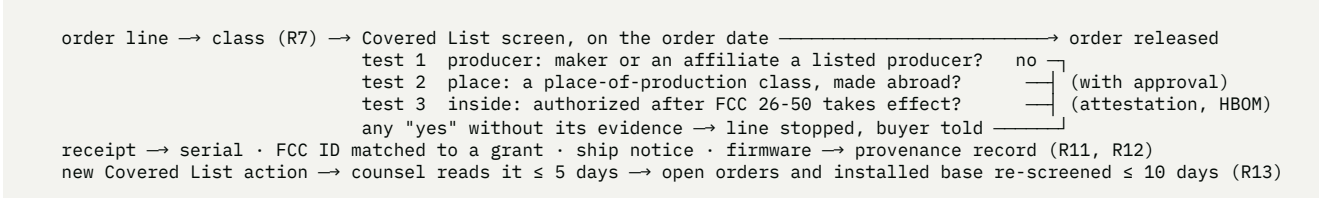


Figure 1. One screen, three tests, on every order date

A name check at contract answers only the first test. The second asks where a gateway was made and whether an

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approval covers it; the third looks inside a device authorized after the July 2026 order. Each test leaves evidence on the order line, and a list change sends the screen back over everything already bought.

Table 4. Architecture overview

Line class	Lines	Test that decides it	Evidence kept
Residential gateways (customer-installable)	18	test 2: place of production; Conditional Approval in force on the order date (R4)	approval reference and expiry; production site per model
Optical line terminals, line cards, optics	164	test 1, then test 3 for any model whose grant post-dates FCC 26-50	list version; grant date; attestation and HBOM (R5, R6)
Fixed-wireless radios, outdoor units, antennas	118	test 1 and test 3; carrier-installed, so not consumer-grade [A]	list version; grant date; FCC ID per model
Aggregation routers and switches	72	test 1 and test 3; not consumer-grade [A]	list version; attestation where the grant post-dates FCC 26-50
Power, enclosures, passive optics	148	test 1 only; no logic-bearing component, or none the order reaches	list version

4 · Design by subsystem

4.1 Read the list on the order date.

The Covered List is read on the day each order is released, not at contract, and its latest action is written on the order (R3) [T]. Entries arrive by public notice [S]; a three-year program meets several. Rejected: a screen at contract award only — the router listing of Mar 23, 2026 shows the list can take in a whole product class in the middle of a contract term [S*].

4.2 Test 1, the producer.

Is the manufacturer, or an affiliate or subsidiary, a producer named on the list (R2) [S]? The manufacturer's own Covered List attestation from its FCC application is kept with the line [S] FCC 26-50 ¶ 5; [A]. This is the test the old network failed, and the one every line runs.

4.3 Test 2, the place of production.

For the gateway lines only: where is each model made? A consumer-grade router produced outside the US is ordered only while a DoW or DHS Conditional Approval covers that model, from the order date through planned delivery (R4) [S*]; [T]. Approvals run up to 18 months [S*]; the approval's expiry is on the order, and a delivery planned after it splits the line. The outdoor fixed-wireless units are installed by the carrier's technicians and are not consumer-grade on NIST's description [S*]; [A]; the reason is recorded per model. Rejected: treating every gateway model as grandfathered because its grant predates Mar 23, 2026 — that answers whether it may stay in service, not whether a new model may be authorized, and the carrier's next model will be new.

4.4 Test 3, inside the box.

For a device whose FCC grant falls after FCC 26-50 takes effect, no logic-bearing hardware component produced by a producer-based listed entity may be inside (R5) [S]. The manufacturer attests per line, and the carrier asks for a hardware bill of materials in CycloneDX 1.7 for every class-A line (R6) [S]; [A]. Software and firmware components are outside the order [S]; SRA-RES-001's software checks still apply to them. A device authorized before the effective date is unaffected [S]; its grant date is the evidence.

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4.5 Source depth and support life.

Every class-A line has two qualified, independent sources (R8) [T] and at least five years of published support from planned delivery (R9) [T]. Where the screen removes one source, the line becomes single-source and carries a buyer-signed waiver, as in SRA-RES-001 §4.4 [A]. Units come from the manufacturer or an authorized distributor only (R10) [S].

4.6 Receipt.

Each serialized unit's serial, FCC ID, ship notice and firmware version form its provenance record (R11) [T]. Every radio-bearing unit's FCC ID is matched to a grant in the FCC's equipment authorization records before it enters staging; a unit with no matching grant is quarantined (R12) [T].

4.7 When the list changes.

Counsel reads each new action within 5 business days [A]; within 10 business days of its release every open order and every model in the installed base is re-screened (R13) [T]. Gateways already in customers' homes stay in service on their existing grants and receive security updates under the OET blanket waiver while it holds (R14) [S*].

5 · Failure behavior

Table 5. Failure behavior

Failure	Behavior	Source
A new Covered List action names a manufacturer with open orders	lines stopped on the day counsel confirms; the second source (R8) ordered; installed units re-screened ≤ 10 business days	[T] R13
A gateway model's Conditional Approval expires before delivery	undelivered quantity canceled or moved to a model with approval in force; delivered units unaffected	[T] R4
Manufacturer will not attest to components or supply an HBOM	line cannot be released for a model granted after FCC 26-50; the comparison's second-ranked model is ordered	[A]
FCC ID at receipt matches no grant	unit quarantined and returned; distributor's authorization re-checked	[T] R12
OET blanket waiver for router updates lapses	installed gateways' update path reviewed with counsel; replacement brought forward in the program plan	[A]
Covered List page unreachable on an order date	order not released that day	[T] R3

6 · Limits

- The router listing is read from a law firm's summary, not the FCC's own notice; R4 and R14 are read again from the FCC text at design freeze.
- Whether a given gateway is "consumer-grade" is a legal reading of NIST's description; this design records the carrier's reading per model, and counsel decides.
- FCC 26-50's effective date depends on its Federal Register publication, which was not checked here.
- A manufacturer's attestation is the manufacturer's statement; an HBOM makes it checkable, not proven.
- No figure here has been measured.

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7 · Lessons learned

None yet — this is a design study; populated after the first build against it.

8 · The author

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Signed off by Edwin Ozer, Founder.

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Figures are as published by their sources on the dates given in this document; figures marked [A] are assumptions.

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