

JOTS

Neutral Host Out-Door (NHOD)



Joint Operators Technical Specification Forum (JOTS)

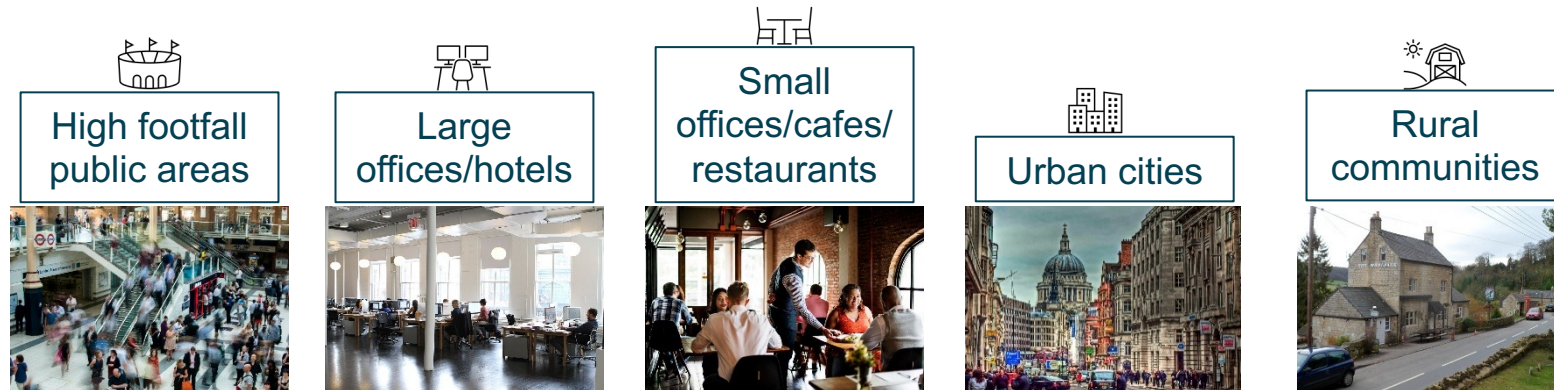
■ Who are we?

- UK Mobile Network Operator (MNO) Technical Forum



■ What problems are we trying to solve?

- Increase the number of small cell deployments for the benefits of customers in the UK



Joint Operators Technical Specification forum (JOTS)

■ How do we go about solving the problem?

- Create a technical framework that
 - Accelerates small cell rollout
 - Meets the Operator's requirements

- Specifications

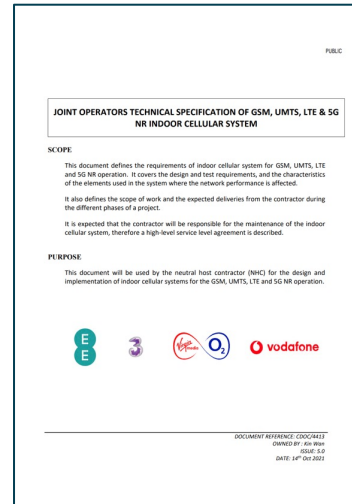
- JOTS DAS

- JOTS NHIB

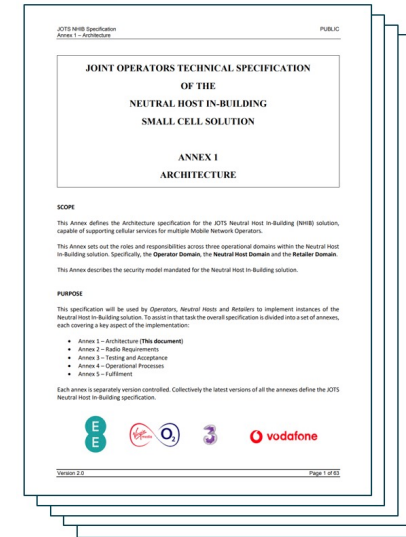
- Annex 1 – Architecture
 - Annex 2 – Radio Requirements
 - Annex 3 – Testing and Acceptance
 - Annex 4 – Operational Processes
 - Annex 5 – Fulfilment
 - Sub Annex 1 - Security Parameters

- JOTS NHOD

- Annex 1 – Architecture
 - Annex 2 – Radio Requirements
 - Annex 3 – Testing and Acceptance
 - Annex 4 – Operational Processes
 - Sub Annex 1 – Security Parameters



JOTS SPECIFICATION
OF
GSM, UMTS, LTE & NR
INDOOR CELLULAR
SYSTEM
Issue 5.1 (2021)



JOTS SPECIFICATION
OF
NEUTRAL HOST IN-
BUILDING (NHIB) SMALL
CELL SOLUTION
Issue 2.0 (2022)



JOTS SPECIFICATION
OF
NEUTRAL HOST OUT-
DOOR (NHOD) SMALL
CELL SOLUTION
Issue 1.0 (2024)

JOTS Neutral Host Out-Door



■ Why do we need Neutral Host for outdoor?

Demand

- High capacity in high density urban areas
- Smart cities with rising demand for data
- Small coverage gaps
- Rural communities

Cost

- Infrastructure deployment costs can be shared by multiple mobile network operators
- Large number of small cells due to higher frequency bands for 5G

Efficiency

- Sharing infrastructure can reduce environmental impacts, lower clutter for dense urban areas
- Spectrum and radio sharing can improve energy and spectral efficiency.



■ Annex 1 – Architecture

- Domain definition, responsibilities within each domain along with the connectivity between the domains.
- Achievable radio architectures to meet the requirements of the selected radio solution and the aggregation of the Operator.
- Mobility and Handover scenarios, interface considerations.

■ Annex 2 – Radio Requirements

- Radio access design requirements to support multiple Mobile Network Operators in the Deployment Domain.
- Coverage levels and signal dominance requirements, definition of target area.

■ Annex 3 – Testing and Acceptance

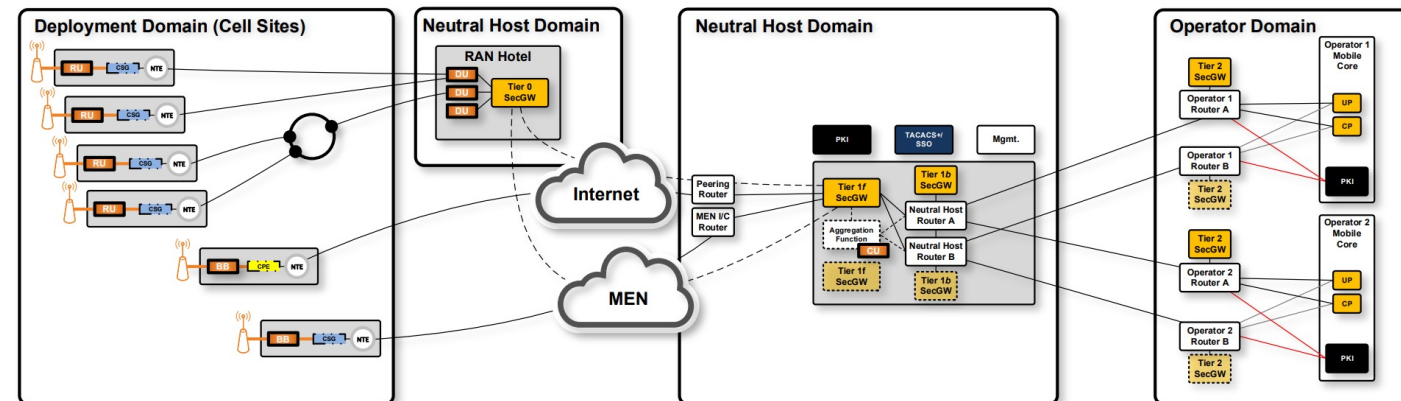
- Testing framework for development and live platforms
- Guidance on acceptance procedures and high-level acceptance requirements

■ Annex 4 – Operational Processes

- In-life management requirements and framework





■ Sub Annex 1 – Security Parameters

- Security parameters for f- and b-interface connections



NHOD Radio Requirements – What Outcomes Are We Driving?

Unlocking Scalable, Multi-Operator Outdoor Small Cells

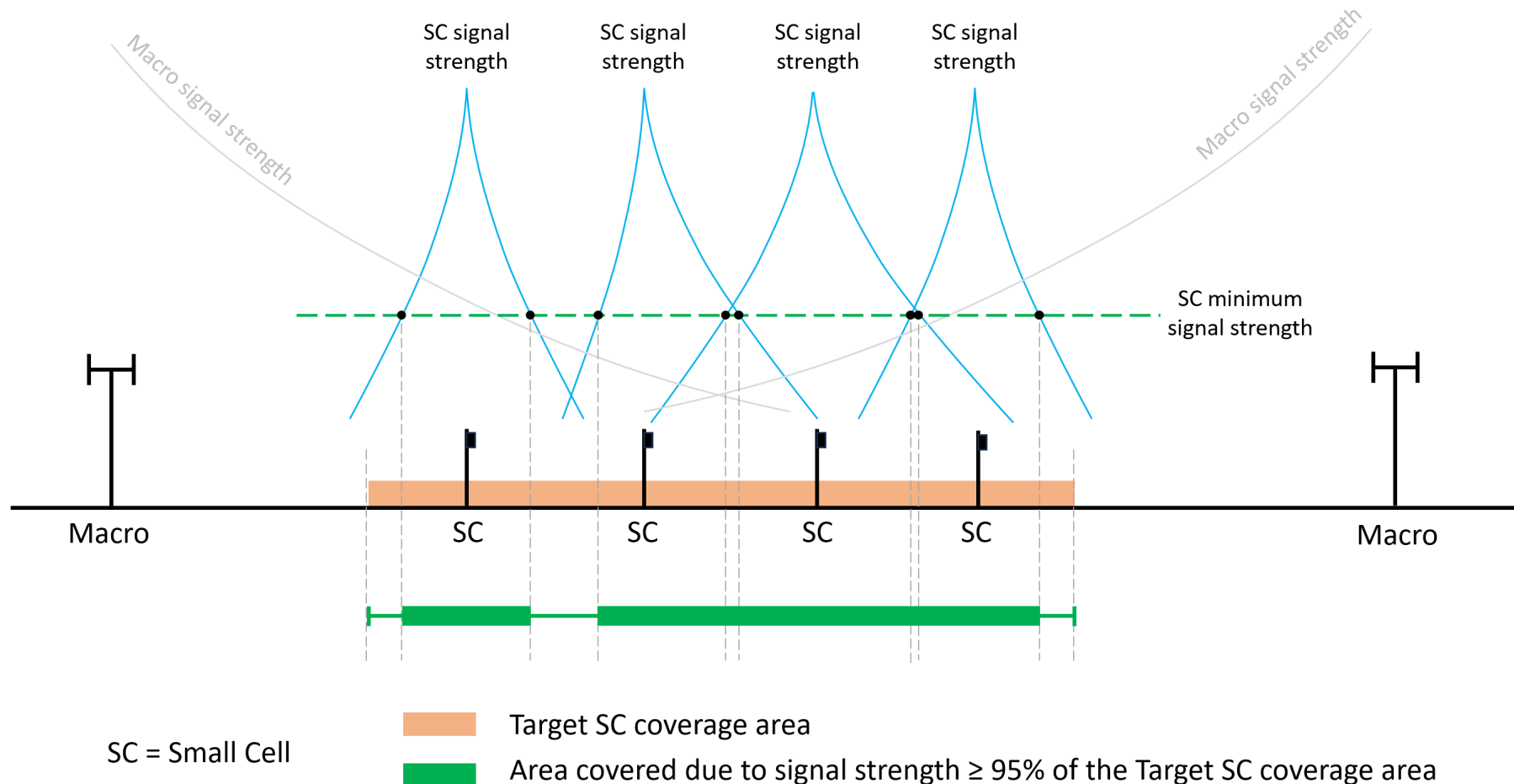
Pillar	Message
 Standards-Based Design	Fully aligned with 3GPP, ORAN, and Ofcom standards to ensure longevity and interoperability.
 Seamless Multi-Operator Support	Built to support multiple MNOs across key 4G/5G bands (incl. n78), with MOCN/MOSS readiness.
 Signal Dominance & Quality	Ensures ≥ 6 dB signal dominance over macro layer to deliver user experience gains.
 Performance & SLA Enforcement	Defined KPIs (e.g. 99% setup success, 1% drop rate), with operator rights to enforce service levels.

JOTS NHOD – Annex 2 Radio Requirements



DEFINITION OF COVERAGE TARGET LEVELS

The small cell signal must exceed the small cell minimum signal strength across a significant fraction of the target area as illustrated below:



What the Industry Needs from This Standard

From Spec to Impact – Making NHOD Work in the Real World

We Need	The Spec Delivers
 Consistent, safe deployment	ICNIRP compliance, EMF zones, safety-led design
 Reliable, real-world coverage improvement	Coverage targets by geography & small cell overlap rules
 Future-ready feature roadmap	Optional & mandatory 3GPP/ORAN features, delivered within 18 months of standard release
 Control & transparency for Operators	SLAs, clear commissioning and validation support

SUMMARY

- The economics of the mobile industry needs Neutral Host Out-Door (NHOD).
- JOTS NHOD Specification is published on Mobile UK website ([Joint Operators Technical Specification](#))
- It is a critical enabler for accelerating small cell deployments and advancing network innovation, delivering enhanced benefits to customers across the UK.
- NHOD deployment models – what worked well in DSIT ONE projects? JOTS Forum is here to help!

