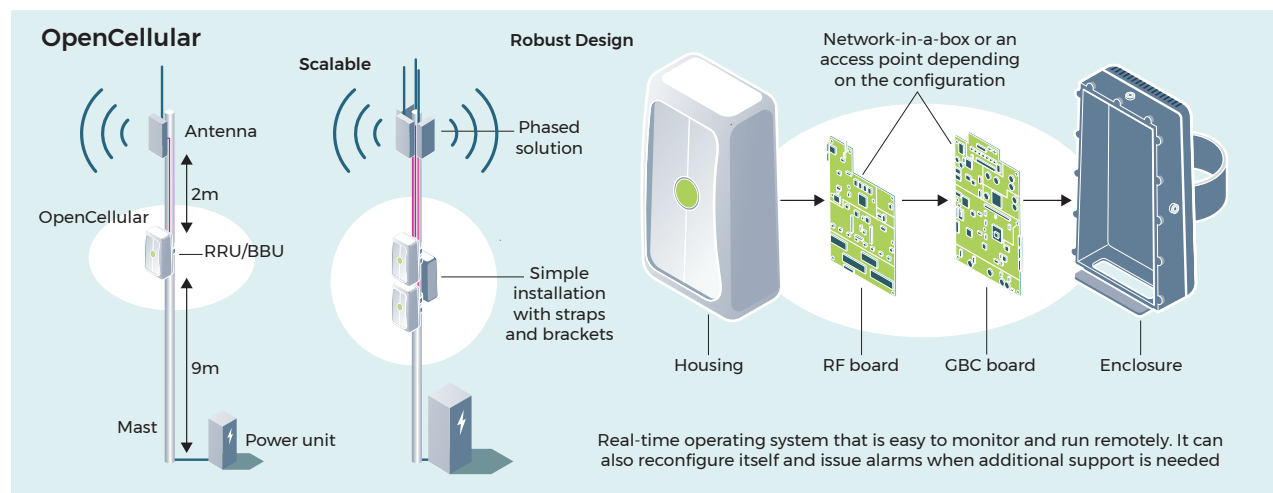
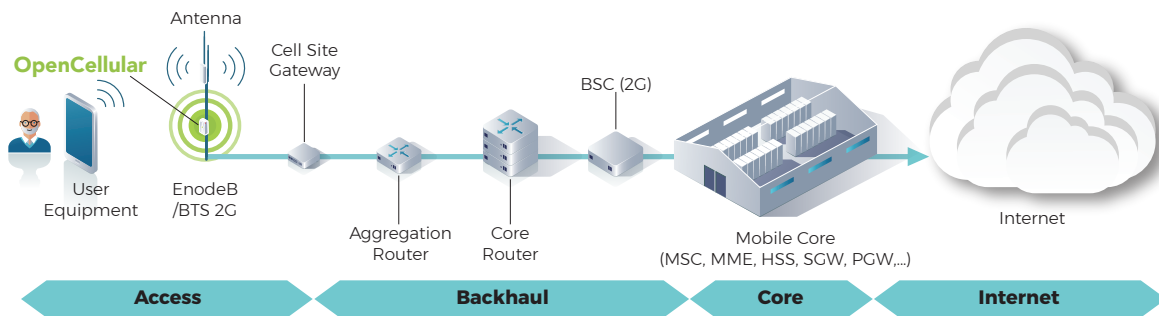


OpenCellular

OpenCellular (OC) is an ecosystem of rural-optimized network solutions based on open-sourced software and publicly available schematics, layouts and CAD files. OC addresses access, power, site manageability and backhaul sub-systems enabling innovative deployment models of affordable cellular networks (2G/LTE) in low population density rural areas.



Why OpenCellular?

- High total cost of ownership (TCO) for network infrastructure, combined with lower returns in areas with low population density, can deter MNOs and operators from expanding cellular coverage to rural regions where 1.5 billion of world's population is living today.
- **Infrastructure operators and MNOs can use OC to deliver sustainable and cost-effective wireless services** (voice and data) to un-connected and under-connected people in rural areas.

With OpenCellular

- **Smaller OEMs for the first time** will be able to share equally with larger traditional mobile and network vendors and operators in developing solutions.
- **Publicly available HW design and features** allow OEMs to develop new versions that can address different markets.
- **Allow multiple local entities to build OC and provide support and maintenance services** to deployment partners thus greatly reducing equipment import and labor costs.

The developments

Wireless access platform

Small scale, low cost technology

440mm

223mm

188mm

Open software system for remote monitoring

Low power consumption

Opportunity to provide connectivity to hard to reach areas of the world

Use cases

Scalable modular solution for hard to reach rural areas

Ultra rural /Omni

Small rural /Omni-Sector

Medium rural /Sector

Easy install, deployed using local talent

Open Cellular addresses hyperlocal connectivity issues. It is ideal for hard to reach areas with sparse populations that don't normally support usual infrastructure costs.

With OpenCellular, continued

- Encourage multiple technology partners to work together to iterate on the existing OC design and contribute new designs back to the community.

Benefits

- OC's open-source, publicly available files
- A healthy and collaborative partner ecosystem
- Efficient use of components significantly reduces power consumption
- Optimized for rural deployments

What next

- Learn more about Telecom Infra Project telecominfraproject.com
- Join the OpenCellular Project Group: telecominfraproject.com/opencellular-wireless-access-platform-design/ to learn and contribute
- Contact us with questions or comments: OC-info@telecominfraproject.com

Technical Specification

LTE Specifications

Radio	System	Product Specification
1 Watts output power (coverage ranges around 1km)	<55 Watts power consumption	Backhaul: Ethernet, WLAN
2X2 MIMO	IP65 outdoor rated	Time Synchronization: GPS, 1588v2
1800 MHz (Band 3 LTE FDD)	Support network in box, network services etc.	
LTE Release 9 compliance	10 MHz - 20 MHz	
64-128 LTE RCC connected users		

GSM Specifications

Radio	System	Product Specification
25 dbm output power (coverage range around 1km)	<14 Watts power consumption	Backhaul over IP, Gb
Bands: 850 - 900 - 1800 MHz	IP65 outdoor rated	Input voltage: 24 VDC nominal
14 concurrent calls (8.2 erlangs)	Cooling passive	Dimensions: 220 X 280 X 93mm
Speech Format: AMR, HR, FR, EFR	Storage temperature: -40 C / +70 C	Weight 6 kg