



7555-A Palmetto Commerce Parkway  
North Charleston, SC 29420 USA

phone: 843 207 8000  
toll-free: 800 755 0689

[www.raycap.com](http://www.raycap.com)

# Small Cell Glossary

**5G** - the term used to describe the next-generation of mobile networks beyond LTE mobile networks. 5G performance targets high data rate, reduced latency, energy saving, cost reduction, higher system capacity and massive device connectivity.

**AC (alternating current)** - describes the current flow that changes direction periodically. As a result, the voltage level also reverses along with the current. AC is used to deliver power to houses, office buildings, etc., and most small cell radios.

**Antenna Decorative Parts** - Decorative pieces and extensions, sometimes known as “antenna beards” that transition from the bottom of a shroud to the pole seamlessly.

**AWS (Advanced Wireless Services)** - the band of spectrum used for mobile data, voice services, messaging and video and operations on 1700 MHz.

**Backhaul** - the infrastructure responsible for transporting communication data from end users or nodes to the central network or infrastructure and vice versa.

**Beamforming** - a technique used in sensor arrays for directional signal transmission or reception. This is achieved by combining elements in an antenna array in such a way that signals at particular angles experience constructive interference while others experience destructive interference.

**CBRS (Citizens Broadband Radio Service)** - the band of the spectrum at the 3.5 GHz range that improved LTE services for providers as well as enabled enterprises to build their own private LTE networks.



**Centralized RAN (CRAN)** - infrastructure responsible for moving the signal from the cell site to the BBU hotel (front haul) and then moving it to the internet (backhaul).

**Cylindrical Pedestal** - Pole support infrastructure to host power and fiber management. Used in cases where installation on the outside of the existing pole is not allowed.

**Decorative Base** - A pole base secured on top of the structural foundation to hold necessary small cell equipment

**Distributed Antenna System (DAS)** - a network of spatially separated antenna nodes connected to a common source via a transport medium that provides service generally within a building, stadium or park setting.

**DC Power (direct current)** - describes an oscillating back and forth flow generated either by batteries, a rectifier or a commutator. Most macro RRU's are DC powered, as well as some (higher power) small cell radios.

**Fiber Optic Cables** - a high-speed data transmission medium containing tiny glass or plastic filaments that carry light beams.

**Foundation Types** - The three foundation types that you may come across are concrete, helical or direct embedment.

**Fully Concealed Pole Products** - poles that contain all of the equipment, power and cabling inside of the pole. Can be done on new poles only.

**Integration** - Integrated poles contain all of the necessary equipment, power and cabling inside of the pole itself (see also "Fully Concealed Pole Products" above).

**InvisiWave** - the Raycap | STEALTH approved 5G concealment material. This comes in flat panel, aperture replacements and radomes.

**LAA (License Assisted Access)** - LTE technology that uses unlicensed spectrum in 5GHz band and licensed 4G band to offer better data speeds for mobile users.



**Luminaire** - a complete lighting unit consisting of a lamp or lamps together with the parts design to distribute the light, to position and protect the lamps and to connect the lamps to power supply.

**Macro Cell Site** - a cell in a mobile phone network providing radio coverage.

**Massive MIMO** - massive multiple input, multiple output (MIMO), this technology is also described as beamforming with a large number of antennas. (See Beamforming)

**mmWave frequencies** - the band of spectrum between 30 GHz and 300 GHz that can be used for high-speed wireless communications (5G). Current frequencies being considered for use for 5G are 24 GHz, 28 GHz and 39 GHz.

**mmWave radios** - the equipment/technology used on the 24 GHz, 28 GHz and 39 GHz frequencies that will be providing the next generation of connectivity.

**Partially Concealed Pole Products** - contains equipment on the outside of a pole, but partially hidden on a new or existing pole.

**Powder Coating** - a type of coating that is applied as a free-flowing, dry powder. Used as an alternative to wet paint.

**RAL Color System** - a consistent color matching system used in Europe (and the US), used for powder coating.

**Remote Radio Unit (RRU's)** - equipment that facilitates wireless communication between the user equipment (EU) and a network.

**RF Cables** - a type of coaxial cable that is used to send radio frequency signals.

**Shroud/cage** - side-mounted enclosures that can be mounted on a pole to hold all radios and other necessary equipment.

**Small Cell Site** - low powered radio access nodes that operate in a licensed and unlicensed spectrum that have a shorter range and are supported by macro cell sites.



**Structural Base** - A pole base secured with anchor bolts to a concrete foundation designed by a qualified engineer.

**Thermal Analysis** - a study that analyzes the heat dissipation within a construction considering the thermal load of every equipment and environmental parameters.

**Topper** - usually found at the top of a concealment pole (lightpole, banner pole, etc.) the topper holds all necessary antennas and radios for the cell site.

**Tower Mounted Amplifier (TMA)** - a low noise amplifier used in base stations close to the antenna to improve the receiver sensitivity.

**Unconcealed Pole Products** - poles with all equipment and cables on the outside of a new or existing pole.