

# 2 GHz and 3 GHz cnRanger Remote Radio Head (RRH)

## QUICK LOOK:

The cnRanger™ Fixed LTE wireless platform from Cambium Networks substantially increases range and coverage, while reducing the cost and complexity typically associated with LTE networks.

- **High Power Remote Radio Head (RRH) works through dense foliage where EIRP-limited 5 GHz is not an option.**
- **Fully managed and controlled by Baseband Unit (BBU)**
- **2 LTE carrier support\***



### Product

Model	2 GHz Remote Radio Head (RRH) 220	3 GHz Remote Radio Head (RRH) 210
Model Numbers	LTE-RRH-220	3LTE-RRH-210

### Spectrum

	2 GHz Remote Radio Head (RRH) 220	3 GHz Remote Radio Head (RRH) 210
Frequency Range	2300 - 2700 MHz, Bands 38, 40, 41	3400 - 3800 MHz, Bands 42, 43, 48
Channel Width	5 MHz*, 10 MHz, 15 MHz, 20 MHz	5 MHz*, 10 MHz, 15 MHz, 20 MHz

\* Future software release.

## 2 GHz and 3 GHz cnRanger SPalisade Remote Radio Head (RRH)

### Specifications

Interface		
	2 GHz Remote Radio Head (RRH) 220	3 GHz Remote Radio Head (RRH) 210
<b>MAC (Media Access Control) Layer</b>	TDD-LTE Advanced Release 10	TDD-LTE Advanced Release 10
<b>Physical Layer</b>	2x2 MIMO OFDMA, SC-FDMA	2x2 MIMO OFDMA, SC-FDMA
<b>BBU Interface</b>	SFP / CPRI v4.2	SFP / CPRI v4.2

Link Budget		
	2 GHz Remote Radio Head (RRH) 220	3 GHz Remote Radio Head (RRH) 210
<b>Transit Power Range</b>	42 dB dynamic range (1 dB step)	42 dB dynamic range (1 dB step)
<b>Maximum Transmit Power</b>	33 dBm per chain, 36 dBm combined	30 dBm per chain, 33 dBm combined

Physical		
	2 GHz Remote Radio Head (RRH) 220	3 GHz Remote Radio Head (RRH) 210
<b>Antenna Connection</b>	N-Type	N-Type
<b>Surge Suppression</b>	EN61000-4-5: 1.2us/50us, 500 V voltage waveform	EN61000-4-5: 1.2us/50us, 500 V voltage waveform
<b>Environmental</b>	IP67	IP67
<b>Temperature / Humidity</b>	-40°C to +55°C (-40°F to +131°F), 5 to 95% non-condensing	-40°C to +55°C (-40°F to +131°F), 5 to 95% non-condensing
<b>Weight</b>	6kg (13.2 lbs)	4.75kg (10.5 lbs)
<b>Wind Survival</b>	200 Km/Hr	200 Km/Hr
<b>Dimensions (H x W x Depth)</b>	10 3/4" (H) x 3 3/16" (H) x 12 1/2" (D) (273 mm x 81 mm x 318 mm)	10 3/4" (H) x 3 3/16" (H) x 12 1/2" (D) (273 mm x 81 mm x 318 mm)
<b>Mounting</b>	1.5" to 3.0" (38 to 76 mm)	1.5" to 3.0" (38 to 76 mm)
<b>Power Consumption</b>	55 W nominal, 72 W peak	45 W nominal, 60 W peak
<b>Recommended Power Supply</b>	P/N: N000000L129A - XP Power 120 W PSU	P/N: N000000L129A - XP Power 120 W PSU
<b>Input Voltage</b>	-48V DC	-48V DC

## 2 GHz and 3 GHz cnRanger SPalisade Remote Radio Head (RRH)

<b>Certifications</b>		
	<b>2 GHz Remote Radio Head (RRH) 220</b>	<b>3 GHz Remote Radio Head (RRH) 210</b>
<b>FCC ID</b>	Z8H89FT0045	Z8H89FT0061
<b>ETSI</b>	EN 301 908-1 v11.1.1	
	EN 50385 / EN 62311	TBD
	Draft EN 301 489-50 v2.1.0	
<b>Mean Time Between Failure</b>	<b>Not Measured</b>	<b>Not Measured</b>

### ABOUT CAMBIUM NETWORKS

Cambium Networks empowers millions of people with wireless connectivity worldwide. Its wireless portfolio is used by commercial and government network operators as well as broadband service providers to connect people, places and things. With a single network architecture spanning fixed wireless and Wi-Fi, Cambium Networks enables operators to achieve maximum performance with minimal spectrum. End-to-end cloud management transforms networks into dynamic environments that evolve to meet changing needs with minimal physical human intervention. Cambium Networks empowers a growing ecosystem of partners who design and deliver gigabit wireless solutions that just work.