



# CEL-FI QUATRA EVO

In-Building Cellular Coverage Solution



Solving cellular coverage challenges for enterprise environments, CEL-FI QUATRA EVO is an active DAS hybrid that offers uniform, high-quality cellular signal throughout any building. As an all-digital solution, QUATRA EVO utilises category cabling for RF and Power-over-Ethernet architecture to deliver industry-leading signal gain and scalability. In addition to unmatched performance, this cost-effective, carrier-grade system offers fiber expansion capabilities to scale up your coverage area and can be installed within days. QUATRA EVO is also carrier approved and unconditionally network safe.

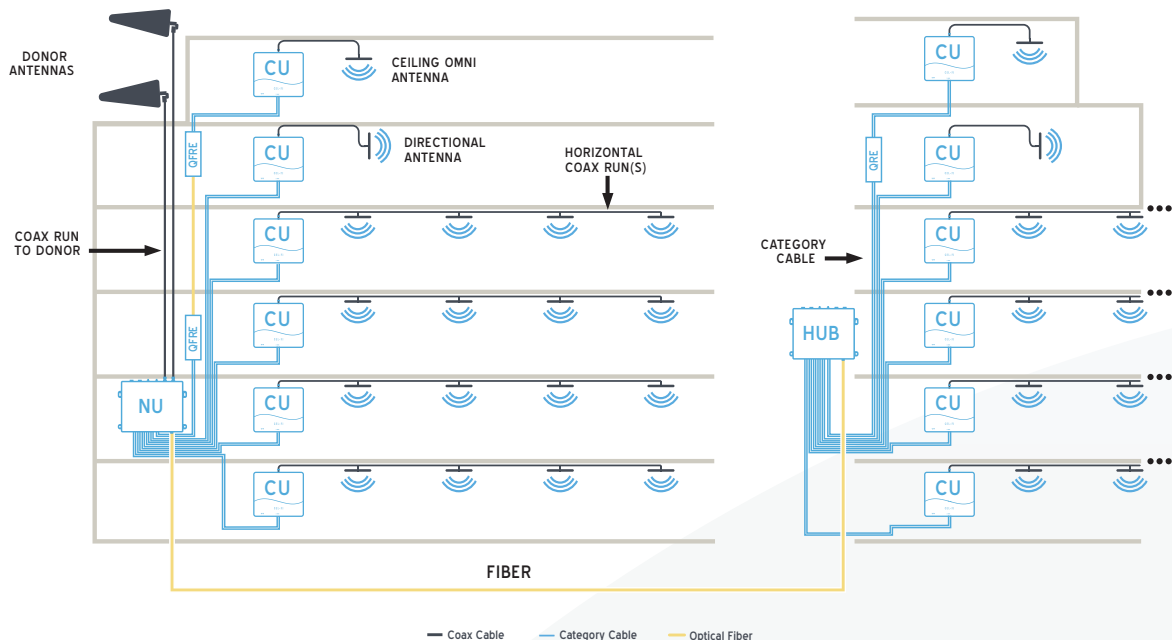
## Features and benefits include:

- Scalable all-digital active DAS hybrid for enterprise environments
- Flexible to configure for single or dual operator server application
- Multi-carrier signal booster for 3G, 4G, and 5G with industry-leading signal gain up to 100 dB
- Carrier approved and unconditionally network safe
- Lossless RF signal and Power-over-Ethernet (PoE) distribution with easy-to-install category cable architecture
- Site installation flexibility with operator specific donor antenna or small cell signal source
- Remotely monitor and configure with Nextivity WAVE Portal cloud management

## Coverage Made Easy

This one or two operator / two-port solution has many of the features of our flagship, four-port QUATRA 4000 systems including:

- Scalable all-digital architecture
- Flexible configuration
- IntelliBoost technology with the best echo cancellation, gain, and coverage footprint in the industry
- 3G/4G/5G
- Support for up to Six (6) Coverage Units (CUs)
- Compatibility with optional fiber hub for even more coverage options (up to 12 CUs)
- Use of category cabling and PoE
- Hassle-free installation with minimal disruption to operations



## Two Configurable Ports

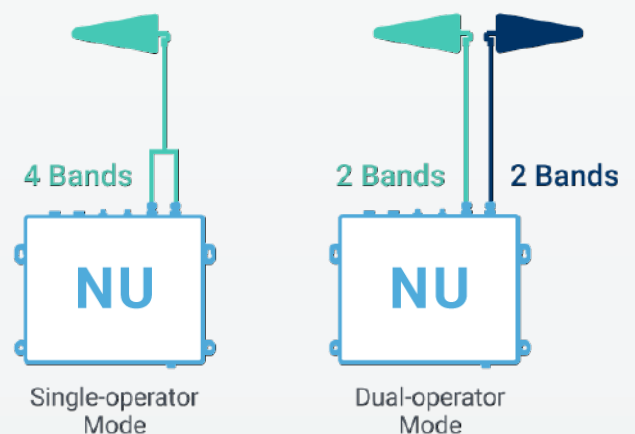
### Single-operator Mode

In single-operator mode, connect a single donor signal to both ports to support four bands from same carrier.

### Dual-operator Mode

In dual-operator mode, connect a different donor antenna to each port to support two bands from each operator.

Either mode will provide full, reliable coverage throughout the building. Proprietary technology ensures devices are connected to the best available operator bands to provide optimal connectivity for end users.



## System Components



### QUATRA EVO Network Unit (Model Number: Q42-E9CNU)

The Network Unit (NU) is the hub of the system. Each NU works with one to six Coverage Units (CU) for maximum scalability and design flexibility.

- Receives donor signal(s) for the system
- Provides power and distributes donor signal(s) to CUs (up to six)
- Connects via Ethernet or LTE Modem to the Nextivity WAVE Platform for remote monitoring and management



### QUATRA EVO Coverage Unit (Model Number: Q41-EXCU-2)

The Coverage Unit (CU) is the remote unit of the system that rebroadcasts the donor signal. The cost efficient and easy-to-deploy system leverages Power over Ethernet (PoE) for up to six CUs.

- Distributes signal across the coverage area inside the building (up to six per Network Unit)
- Power delivered by Power Over Ethernet from the NU
- Self-configuring and self-optimising
- CEL-FI QUATRA EVO CU is only compatible with CEL-FI QUATRA EVO NU

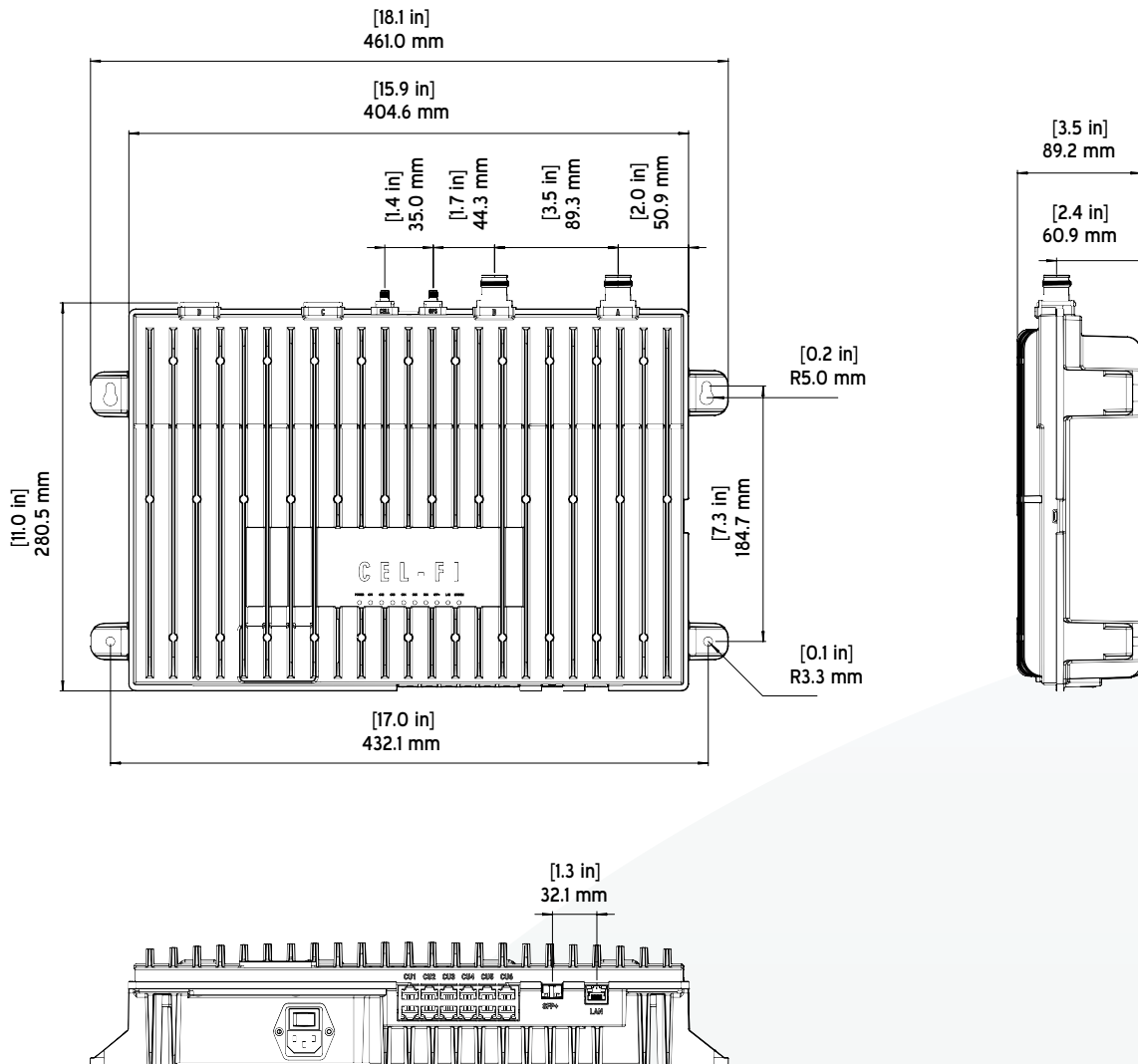


### QUATRA EVO Fiber Hub (Optional) (Model Number: Q40-E9FNU)

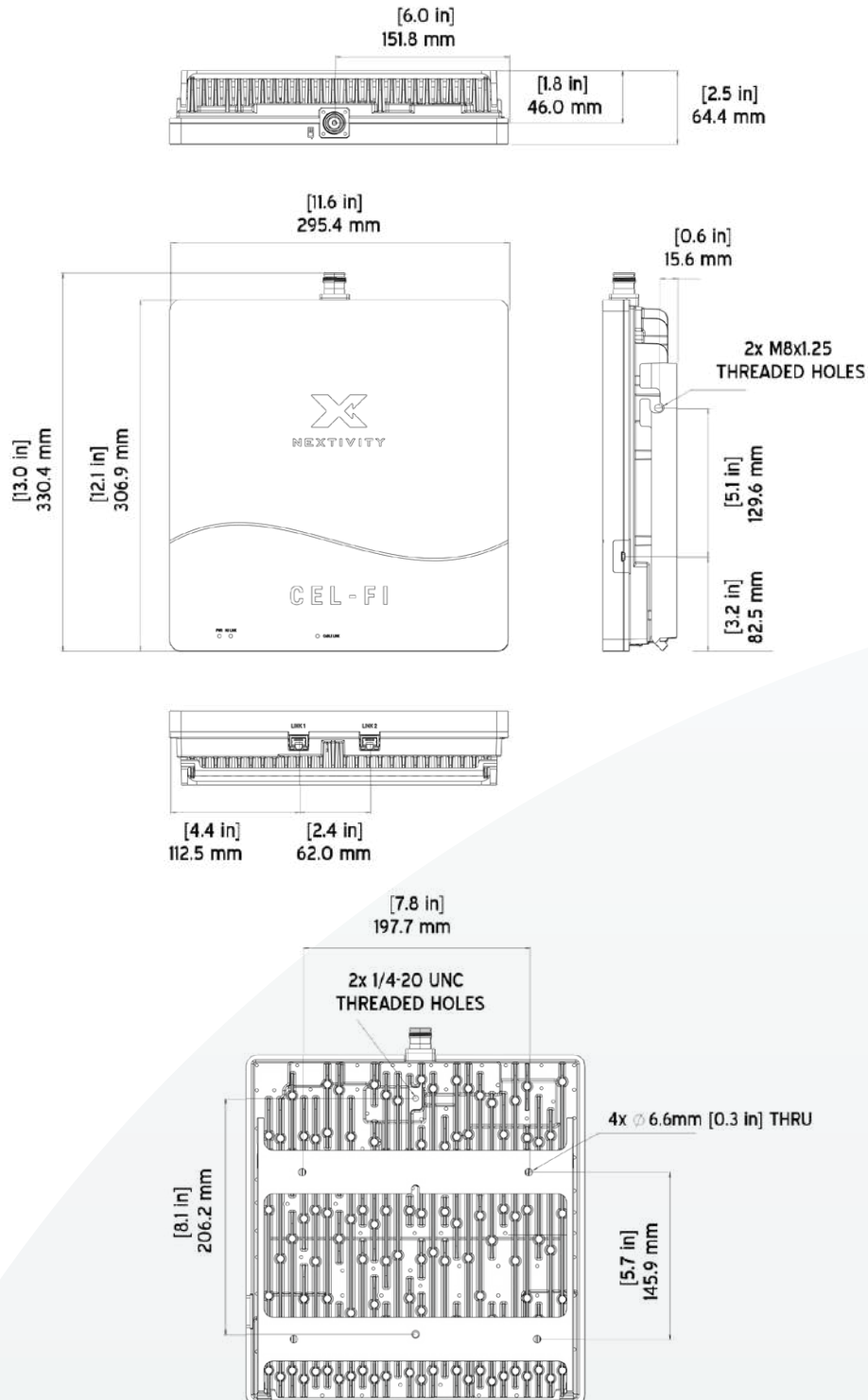
CEL-FI QUATRA EVO Fiber Hub expands the Network Unit capacity from six to up to twelve Coverage Units. The fiber hub can be installed 1.24 miles (2.0 km) away from the NU to cover large spaces while maintaining the same signal quality throughout the system.

- Donor source over fiber
- Ofcom and ComReg Approved and FCC certified
- SFP+ module not included

## CEL-FI QUATRA EVO Network Unit (NU)



**CEL-FI QUATRA EVO Coverage Unit (CU)**





## Specifications

CEL-FI QUATRA EVO	
Network Selection	Automatically best available (WAVE Portal for manual setting)
Duplex Modes	FDD & TDD
# of Relay Bands	4 max.
Independent Operators Supported	2 max.
Relay Bandwidth per NU Donor Port A or B	20 + 20 MHz max.
CU DL Power (All Bands in UK only)	16 dBm max.
System Gain	100 dB max.
Enterprise-Grade Echo Cancellation	30 dB min.
Noise Figure (All Bands)	7 dB max. at ambient
Return Loss	-8 dB max.
UL Transmit EVM	8.5 %, 16-QAM with full RB allocation
DL Transmit EVM	8.5%, E-TM3.1
DL Input Level	-100 to -40 dBm
RF Interface Impedance (All Ports)	50 Ω
NU to CU Cable	2x Category Cables ANSI/TIA/EIA 568-B Compliant
NU to CU Cable Distance	328 ft (100 m) (656 ft (200 m) with CEL-FI QUATRA Range Extender) max.
Product Settings & SW Updates	WAVE Portal for Desktop
NETWORK UNIT INTERFACE	
Donor Port RF Connectors	2x 4.3-10 (f) (A B)
Power Port	IEC C14
Power Control	ON/OFF Switch
Cellular Modem Antenna Connector	1x SMA (f)
Cellular Modem GPS Antenna Port	1x SMA (f)
Cellular Modem SIM	Nano SIM (Included with 1-year free service)
Status LED (Power/LAN/Modem)	Bi-Color Green/Red
Status LED (6x CU Link/SFP+)	Green
CU Interface	2x RJ45 per CU
# of CU max. per NU	6
NU-Hub Expansion	SFP+
# of CU max per CEL-FI QUATRA EVO Fiber Hub (Q40-E9FNU)	6
Monitoring & Management	LAN RJ45
COMPASS XR and Factory Debug	USB 2.0 Micro-B



COVERAGE UNIT INTERFACE	
Server Antenna RF Connector	4.3-10 (f)
NU Connectivity	2x RJ45
Status LED (Power)	Bi-Color Green/Red
Status LED(NU Link/Cable Link)	Green
Factory Debug Only	USB 2.0 Micro-B
COMPLIANCE	
3GPP	TS 25.143 Rel 13
	3GPP TS 36.143 Rel 13
CE	Compliant
	RED 2014/53/EU
RoHS3	EN 63000: 2018
OFCOM	VTS 2102
ACMA/RCM	AS/NZS CISPR, 32:2013
QUATRA EVO POWER	
Input Voltage	85-264 VAC
Input Current	2.45 A
Power Consumption	480 W max.
Power Cable	Type C (EU) or Type I (AUS) or Type G (UK) to IEC C13
Power Supply Cable	18 AWG
Power Supply Cable Length	6 ft (1.8 m)
Coverage Unit Power	PoE+ per IEEE 802.3at
ENVIRONMENTAL	
Operating Temperature	32 to 104 °F (0 to 40 °C)
Storage Temperature	-31 to 158 °F (-35 to 70 °C)
Heat Dissipation	Passive Convection
Surface Temperature	111°F (44 °C) max. at ambient
Non-condensing Humidity	0 to 95%
Ingress Protection Rating	IPX0



MECHANICAL	
<b>Network Unit Box Contents</b>	Network Unit
	1x AC Power Cable
	4x Mounting Screws
	4x Drywall Anchors
	1x Cellular Modem Antenna
<b>Coverage Unit Box Contents</b>	Coverage Unit
	4x Mounting Screws
	4x Drywall Anchors
	2x Eye Bolt w/ nuts
<b>Network Unit Dimensions</b>	18.1 x 11.0 x 3.5 in (461 x 281 x 89 mm)
<b>Network Unit Weight</b>	19.4 lbs (8.80 kg)
<b>Network Unit Shipping Dimensions</b>	23.9 x 14.7 x 5.6 in (607 x 374 x 141 mm)
<b>Networking Unit Shipping Weight</b>	22.5 lbs (10.21 kg)
<b>Coverage Unit Dimensions</b>	13.0 x 11.6 x 2.5 in (330 x 295 x 64 mm)
<b>Coverage Unit Weight</b>	11.3 lbs (5.13 kg)
<b>Coverage Unit Shipping Dimensions</b>	18.2 x 15.8 x 4.6 in (462 x 402 x 116 mm)
<b>Coverage Unit Shipping Weight</b>	13.6 lbs (6.2 kg)
<b>Network Unit Mounting</b>	Wall
<b>Coverage Unit Mounting</b>	Wall/Ceiling*

\*CMA-100-100 sold separately for ceiling mount

## Bands

Bands	Downlink (MHz)	Uplink (MHz)	Technology/Bandwidth	Uplink Power (dBm)	Downlink Power (dBm)
1	2110-2170	1920-1980	5G/4G/3G/20 MHz	22	20
3	1805-1880	1710-1785	5G/4G/3G/20 MHz	22	20
7	2620-2690	2500-2570	5G/4G/3G/20 MHz	22	20
8	925-960	880-915	5G/4G/3G/2G/15 MHz	20	20
20	791-821	832-862	5G/4G/3G/10 MHz	20	20
40 <sup>#</sup>	2300-2390	2300-2390	5G/4G/3G/20 MHz	22	20

# Port A only