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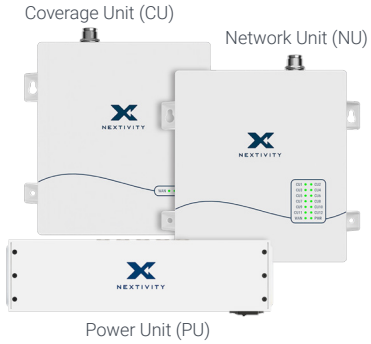
Data Sheet

CEL-FI QUATRA 100M

In-Building 5G Cellular Coverage Solution

MODEL NUMBERS: Q51-NXNU, Q51-NXCU, and Q50-XEPU



CEL-FI QUATRA 100M for private networking extends 5G CBRS coverage indoors through a fiber-based architecture built for enterprise environments. Supporting up to 100 MHz of n48 channel, it distributes private network coverage across complex, multi-floor facilities with scalable, fiber-connected Coverage Units and lossless signal transport. The platform helps simplify deployment for industrial, healthcare, hospitality, warehouse, and campus applications while supporting PVT network connectivity for people, devices, and operations. Advanced features improve operational and power efficiency, while integrated IoT and monitoring capabilities enable enterprises to combine private cellular coverage, visibility, automation, and connected applications on one converged infrastructure.

Features and Benefits:

- n48 CBRS support enables private 5G coverage across enterprise, industrial, and campus environments.
- A bandwidth of up to 100 MHz supports high-capacity private network applications and connected operations.
- Fiber-connected architecture extends private cellular coverage across complex, multi-floor facilities.
- Scales up to 12 Coverage Units for flexible expansion across large enterprise sites.
- Lossless signal distribution preserves RF performance from the head-end to remote coverage areas.
- Built-in IoT and monitoring combine private cellular, automation, and enterprise applications.

Bands

Bands	Downlink (MHz)	Uplink (MHz)	Technology / Bandwidth	Uplink Power (dBm)	Downlink Power (dBm)
48	3550-3700	3550-3700	5G/4G/100MHz	24	27

Specifications

Network Selection	Automatically best available (WAVE Portal/Field Tool for manual setting)
Duplex Modes	TDD
# of Relay Bands	1 max. (Up to 100 MHz)
Independent Operators Supported	Single Operator
System Gain	100 dB max.
Enterprise-Grade Echo Cancellation	30 dB min.
Noise Figure (All Bands)	9 dB max. at ambient
Return Loss	8 dB max.
Transmit EVM	3.5 %, 256 QAM with full RB allocation 8 %, QPSK,16-QAM, 64 QAM with full RB allocation
DL Input Level [RSRP]	-120 to -40 dBm
RF Interface Impedance (All Ports)	50 Ω
NU to CU Cable[1]	1x Single-mode Duplex Fiber (recommended)
NU to CU Cable Distance	Up to 2km (Depends on SFP+ Module chosen)
Product Settings and Software Updates	WAVE Portal and WAVE Field Tool for Desktop

Power Unit Specifications

AC Input Voltage	Universal 90-264 V, 50/60 Hz
AC Input Current	4.85 A @ 115 V 2.6 A @ 230 V
AC Cable Length	6 ft (1.8m)
AC Cable Guage	18 AWG
Power Consumption	50 W max. for the Power Unit 500 W max. (including 450 W for 5x PoE+++ ports)
PoE+++	90 W by PSE per port
Total PoE+++	450 W
PoE+++ Port Voltage	52-57 V
Max. Power to Device	71 W PD
Voltage to Device	41.1-57 V PD
Current to Device	1.92 A PD max. total across all four pairs.
PU to NU/CU Cable	1x Category 5e or better cable (ANSI/TIA/EIA/568-A and 568-B Compliant)
PU to NU/CU Cable Distance	328 ft (100 m) max. with Cat5e.
DHCP Server	No
ESD/EMP Protection	
Air	±30 kV
Contact	±19 kV

Interface

	Network Unit	Coverage Unit
RF Connector	Donor: 1x 4.3-10 (f)	Server Antenna(s): 1x 4.3-10 (f)
Input Power Port	1x RJ45 PoE+++ IEEE 802.3bt Type 4 IN	1x RJ45 PoE+++ IEEE 802.3bt Type 4 IN
Max. Power	71 W by PD	71 W by PD
Voltage Range	41.1 - 57 V	41.1 - 57 V
# of max. connected CU(s)	4 CU(s)	1 CU(s)
Fiber Interface[1]	4x SFP+ OUT for CU(s)	1x SFP+ IN for NU 1x SFP+ OUT for daisy chain CU
WAVE Field Tool	USB 2.0 Type-C	USB 2.0 Type-C
Device Status LED	1x Bi-Color Green/Red for Power 1x Green for WAN	1x Bi-Color Green/Red for Power 1x Green for WAN
System Status LED	12x Green for CU1-12 Link	
PoE Out	2x 100Base-T RJ45 PoE IEEE 802.3af	2x 100Base-T RJ45 PoE IEEE 802.3af
Max. Power	15.4 W, Shared	15.4 W, Shared
Port Voltage Range	44-57 V	44-57 V
# of max System CUs	12 (Each NU-connected CU supports two daisy-chained CUs max in a 1+1 configuration.)	12 (Each NU-connected CU supports two daisy-chained CUs max in a 1+1 configuration.)

[1] SFP+ module not included. Recommended: 10Gbps SMF SFP+

Compliance

FCC	Compliant Part 15, Part 20, Part 96
RoHS3	EN 63000:2018
UL	Yes

Environmental (NU/CU/PU)

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

Power Unit Interface

System Power Control	ON/OFF Switch
AC Input Interface	IEC C14
AC Cable	Type A (US) to IEC C13
RJ45 Ports	6x RJ45
Monitoring and Management	1x 100Base-T RJ45 WAN
PoE+++ Out	5x 100Base-T RJ45 IEEE 802.3bt Type4
WAVE Field Tool Interface	USB 2.0 Type-C
Status LED	1x Bi-Color Green for Power

Mechanical

	Network and Coverage Unit (Q51-NXNU and Q51-NXCU)	Power Unit (Q50-XEPU)
Main Unit Dimensions	10.3 x 10.2 x 2.2 in (261 x 260 x 57 mm)	14.1 x 3.7 x 3.5 in (358 x 94 x 83 mm)
Main Unit Weight	5.1 lbs (2.30 kg)	5.8 lbs (2.65 kg)
Main Unit Thermal Output:	120 and 153 BTU/Hr max.	170 BTU/Hr max.
Mounting	Wall/Ceiling[2]	Wall

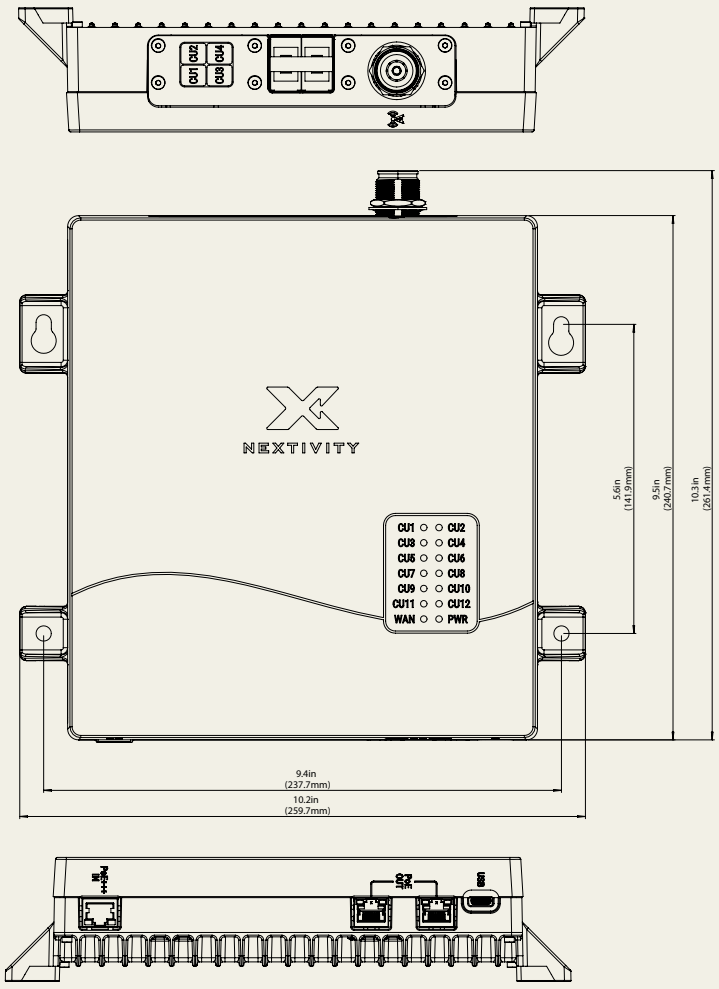
[2]CMA-100-100 sold separately for ceiling mount

Ordering Information

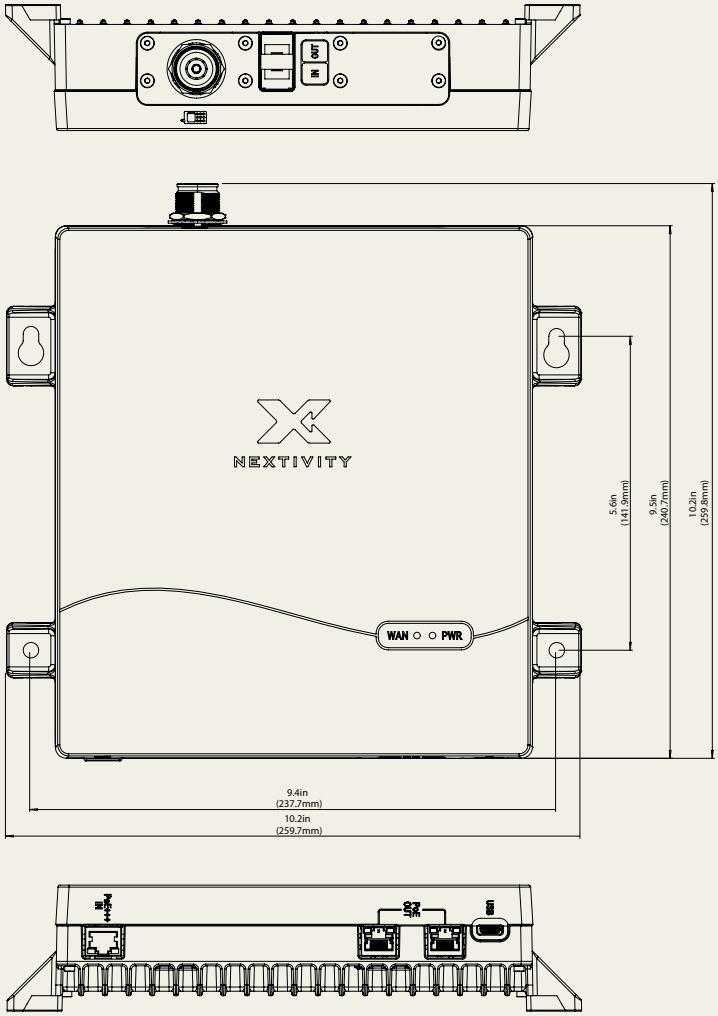
M/N	Q51-NXNU	Q51-NXCU	Q50-XEPU
Region	US	US	US
Frequency Bands	n48	n48	
Box Contents	Network Unit	Coverage Unit	Power Unit
			1 x AC Power Cable
	4x Mounting Screws	4x Mounting Screws	4x Mounting Screws
	4x Drywall Anchors	4x Drywall Anchors	4x Drywall Anchors
	Product documents	Product documents	Product documents
Shipping Dimensions	13.98 x 13.98 x 5.71 in (355 x 355 x 145 mm)	13.98 x 13.98 x 5.71 in (355 x 355 x 145 mm)	13.98 x 13.98 x 5.71 in (355 x 355 x 145 mm)
Shipping Weight	8.1 lbs (3.65 kg)	8.1 lbs (3.65 kg)	7.3 lbs (3.30 kg)
GTIN-12 (U.P.C.)	812037033735	812037033971	812037032851
Harmonized Tariff Schedule(HTS)	8517.62.00.90	8517.62.00.90	8517.62.00.90
Export Control Classification Number (ECCN)	EAR99	EAR99	EAR99

Note: Product specifications are subject to change without prior notification.

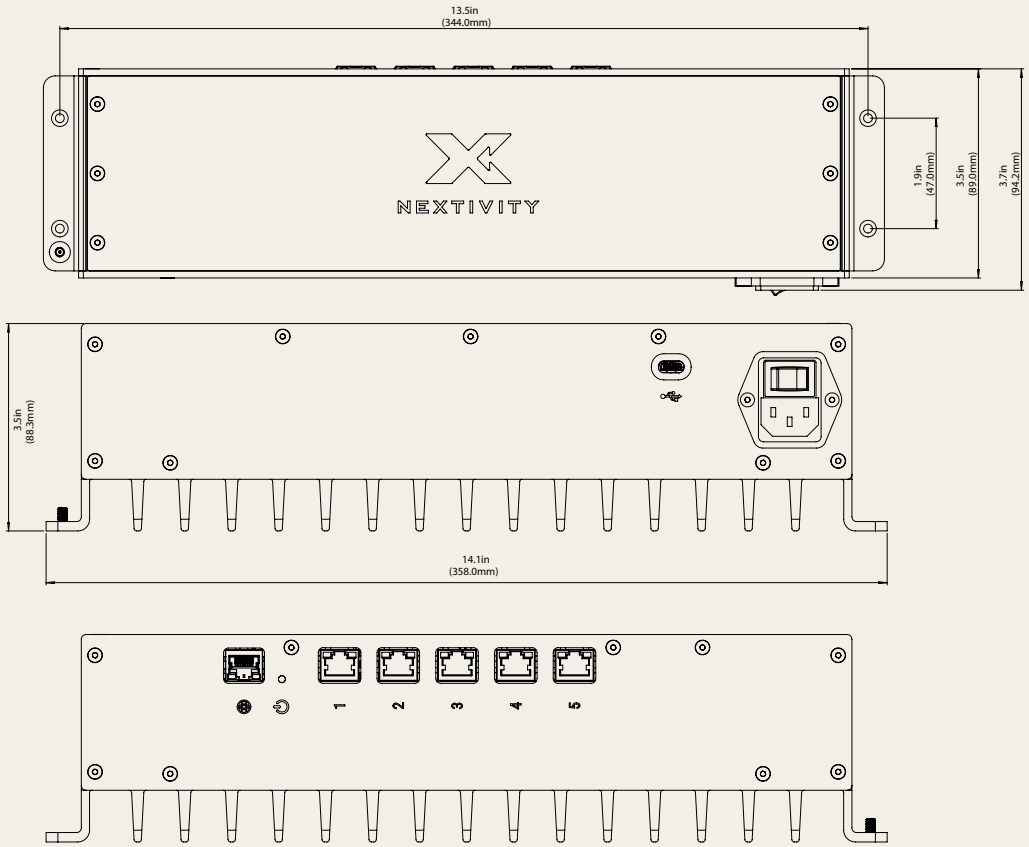
Network Unit (NU)



Coverage Unit (CU)



Power Unit (PU)



100M Building Diagram

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nextivityinc.com/quatra100m

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