CEL-FI QUATRA 4000/4000i
In-Building Cellular Coverage Solution

MODEL NUMBERS: QUATRA 4000: Q44-1234CNU, Q41-5ECU   QUATRA 4000i: I44-1234CNU, I41-5ECU

CEL-FI QUATRA 4000 and QUATRA 4000i are Active DAS Hybrid cellular coverage solutions that solve the problem of poor in-building cellular connectivity. In addition to utilizing category cabling for RF and Power over Ethernet (PoE), QUATRA 4000 and QUATRA 4000i is cost effective for enterprises and can be installed in days. The systems are also carrier grade, carrier approved, and unconditionally network safe.

Network Unit (NU)   Coverage Unit (CU)

Features and benefits include:

- Scalable all-digital Active DAS Hybrid for enterprise
- Up to 100 dB signal gain
- Multi-operator solution (up to 4)
- 3G, 4G, and 5G voice and data
- Coverage Unit Ethernet cable distance up to 100 m

- Independent Donor antenna or Small Cell input per operator
- Supports Nextivity WAVE Portal cloud management
- Carrier approved and unconditionally network safe
- FCC Part 20 Consumer (QUATRA 4000) and Part 90 Industrial (QUATRA 4000i) variants are available separately

Bands

Bands	Network Unit Port	Downlink (MHz)	Uplink (MHz)	Technology/Bandwidth	Uplink Power (dBm)
2	ATT, VZW, TMO, SPR	1930-1990	1850-1910	5G/4G/20 MHz	22
4	ATT, VZW, TMO	2110-2155	1710-1755	5G/4G/20 MHz	22
5	ATT & SPR	869-894	824-849	5G/4G/HSPA/15 MHz	20
12	ATT & TMO	729-746	699-716	5G/4G/10 MHz	20
13	VZW only	746-756	777-787	5G/4G/10 MHz	20
25	ATT, VZW, TMO, SPR	1930-1995	1850-1915	5G/4G/20 MHz	22
26*	SPR only	859-894	814-849	5G/4G/15 MHz	20
30*	ATT only	2350-2360	2305-2315	5G/4G/10 MHz	19
41*	SPR only	2496-2690	2496-2690	5G/4G/20 MHz	22
71*	TMO only	617-652	663-698	5G/4G/20 MHz	20

*Available only with QUATRA 4000i NU and CU

Specifications

Network Selection	Automatically best available (WAVE Portal for manual setting)
Duplex Modes	FDD & TDD
# of Relay Bands	8 max.
Independent Operators Supported	4 max.
Relay Bandwidth per NU Donor Port (All)	20 + 20 MHz max.
CU DL Power (All Bands)	16 dBm max.
System Gain	100 dB max.
Enterprise-Grade Echo Cancellation	30 dB min.
Noise Figure (All Bands)	7 dB max. at ambient (8 dB max. for Band 13 only)
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	-120 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)
Product Settings & SW Updates	WAVE Portal for Desktop

Network Unit Interface

Donor Port RF Connectors	4x N-type (f) (ATT|TMO|VZW|SPR)
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 4000c Fiber Hub (Q40-1234FNU)	6
Monitoring & Management	LAN RJ45
COMPASS XR and Factory Debug	USB 2.0 Micro-B

Coverage Unit Interface

Server Antenna RF Connector	N-type (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

	Part 15
	Part 20
	Part 22
FCC	Part 24
	Part 27
	Part 90 (I44-1234CNU & I41-5ECU only)
UL	Yes
ISED	Yes

Power

Input Voltage	100-240 V
Power Consumption	321.3 W max.
Power Cable	Type B (US) to IEC C13
Power Supply Cable	18 AWG
Power Supply Cable Length	4.5 ft (1.37 m)
Coverage Unit Power	Power over Ethernet

Environmental

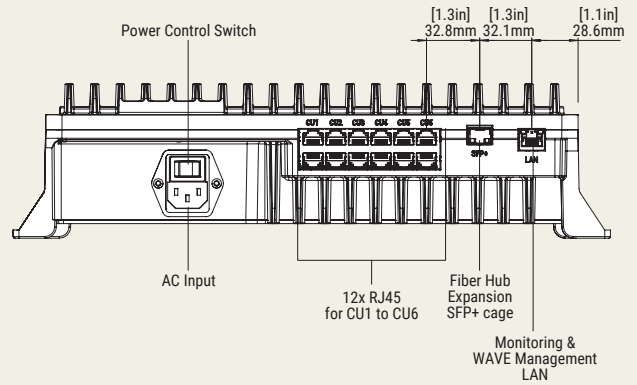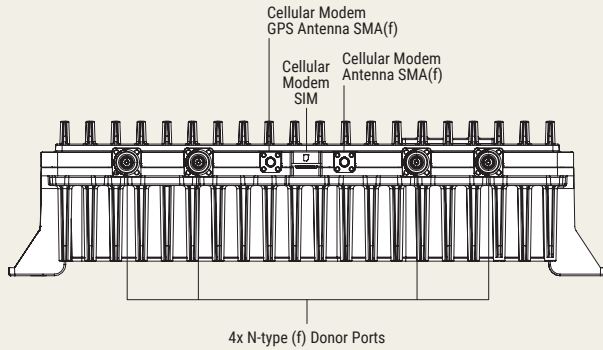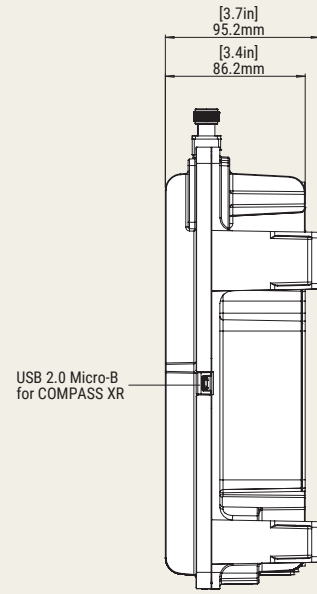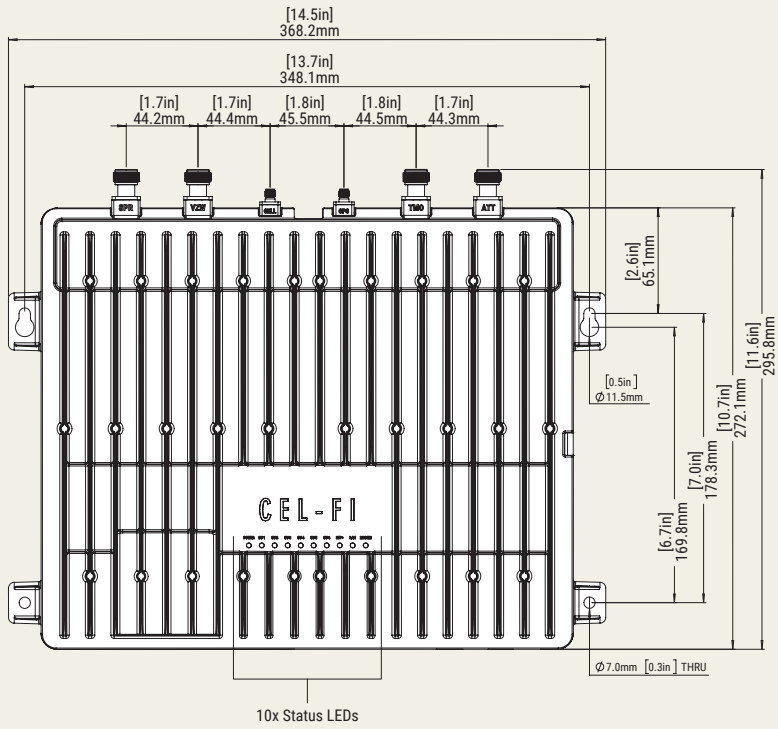|	
Operating Temperature	32 to 104 °F (0 to 40 °C)
Storage Temperature	-31 to 158 °F (-35 to 70 °C)
Heat Dissipation	Passive Convection
Surface Temperature	111°F (44 °C) max. at ambient
Non-condensing Humidity	0 to 95%
Ingress Protection Rating	IPX0

Mechanical & Packaging

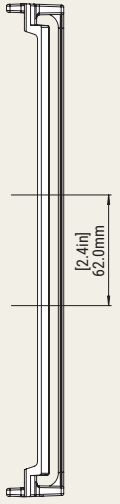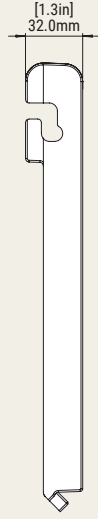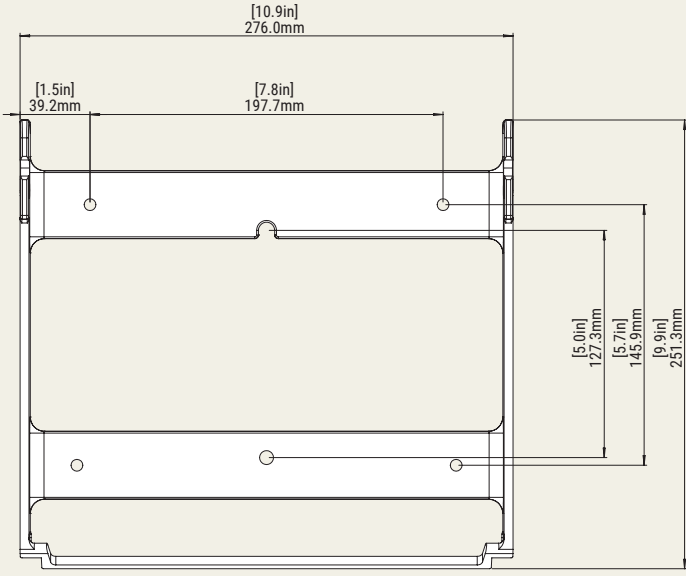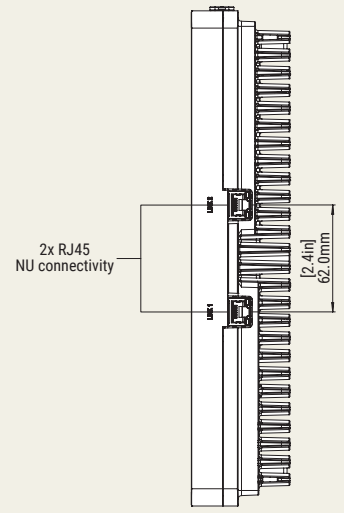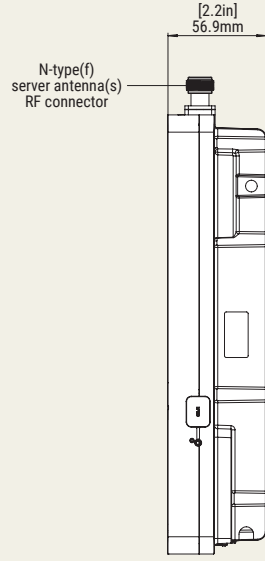|	
Network Unit Box Contents	Network Unit
	1x AC Power Cable
	4x Mounting Screws
	4x Drywall Anchors
	1x Cellular Modem Antenna
Coverage Unit Box Contents	Coverage Unit
	4x Mounting Screws
	4x Drywall Anchors
	2x Eye Bolt w/ nuts
	1x Whip Server Antenna
Network Unit Dimensions	14.5 x 11.6 x 3.7 in (368.2 x 295.8 x 95.2 mm)
Network Unit Weight	15.0 lbs (6.8 kg)
Network Unit Shipping Dimensions	20.35 x 14.69 x 5.39 in (517 x 373 x 137 mm)
Networking Unit Shipping Weight	17.64 lbs (8.0 kg)
Coverage Unit Dimensions	11.3 x 10.9 x 2.2 in (287.0 x 276.4 x 56.9 mm)
Coverage Unit Weight	9.9 lbs (4.5 kg)
Coverage Unit Shipping Dimensions	17.95 x 13.94 x 4.02 in (456 x 354 x 102 mm)
Coverage Unit Shipping Weight	11.90 lbs (5.4 kg)
Network Unit Mounting	Wall
Coverage Unit Mounting	Wall/Ceiling*

*CMA-100-100 sold separately for ceiling mount

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

CEL-FI QUATRA 4000/4000i Network Unit (NU)

[14.5in]
368.2mm

[13.7in]
348.1mm

[1.7in]
44.2mm

[1.7in]
44.4mm

[1.8in]
45.5mm

[1.8in]
44.5mm

[1.7in]
44.3mm

[3.7in]
95.2mm

[3.4in]
86.2mm

[2.6in]
65.1mm

[11.6in]
295.8mm

[0.5in]
Ø11.5mm

[10.7in]
272.1mm

[7.0in]
178.3mm

[6.7in]
169.8mm

CEL-FI

Ø7.0mm [0.3in] THRU

10x Status LEDs

USB 2.0 Micro-B
for COMPASS XR

Cellular Modem
GPS Antenna SMA(f)

Cellular
Modem
SIM

Cellular Modem
Antenna SMA(f)

Power Control Switch

[1.3in]
32.8mm

[1.3in]
32.1mm

[1.1in]
28.6mm

AC Input

4x N-type (f) Donor Ports

12x RJ45
for CU1 to CU6

Fiber Hub
Expansion
SFP+ cage

Monitoring &
WAVE Management
LAN

CEL-FI QUATRA 4000/4000i Coverage Unit (CU)

[11.3in]
287.0mm

[5.6in]
143.5mm

[0.9in]
21.9mm

[10.9in]
276.4mm

[10.0in]
254.5mm

Status LED

[2.2in]
56.9mm

N-type(f)
server antenna(s)
RF connector

2x RJ45
NU connectivity

[2.4in]
62.0mm

[10.9in]
276.0mm

[1.5in]
39.2mm

[7.8in]
197.7mm

[5.0in]
127.3mm

[5.7in]
145.9mm

[9.9in]
251.3mm

[1.3in]
32.0mm

[2.4in]
62.0mm

CEL-FI
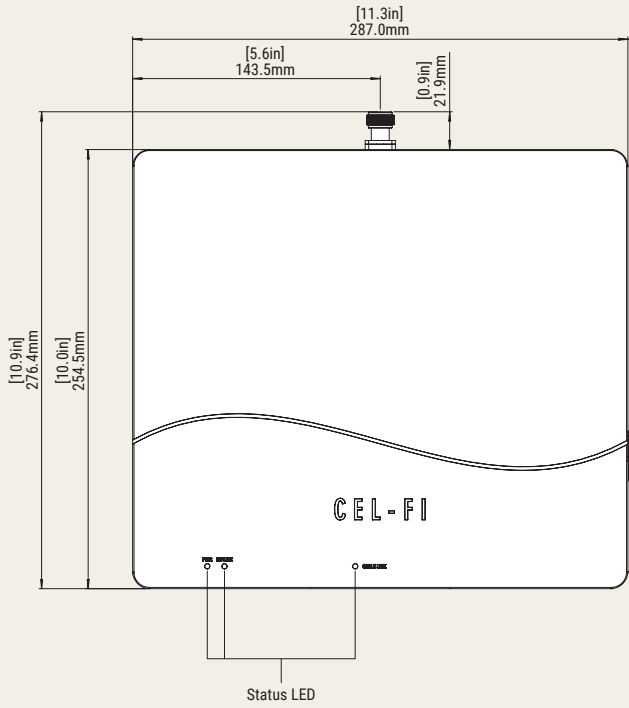
Example Diagram: 1 NU to 6 CUs

DONOR
ANTENNAS

CEILING OMNI
ANTENNA

DIRECTIONAL
ANTENNA

HORIZONTAL
COAX RUN(S)

COAX RUN
TO DONOR

CATEGORY
CABLE

QFRE

QRE

CU

NU

HUB

FIBER