CEL-FI QUATRA 2000
In-Building Cellular Coverage Solution

MODEL NUMBERS: Q34-4/5/12/13/25NU_EXA, Q34-4/5/12/13/25CU_EXA

CEL-FI QUATRA 2000 is a scalable in-building cellular solution that delivers reliable cellular coverage for enterprise environments. It is a hybrid solution that combines the power of active DAS with Smart Booster technologies. QUATRA 2000 operates by capturing the signal from the outside macro networks, boosting them, and relaying their signals indoors.

Features and benefits include:
- Lowest cost per ft^2
- Easiest-to-Deploy
- Remote monitoring and management via Nextivity WAVE Portal

CEL-FI QUATRA 1000

Use Nextivity **WAVE** PRO App to view real-time system performance.

Download on the App Store   GET IT ON Google Play

System Features

Enterprise-class, carrier-grade active DAS hybrid
RF inputs for external off-air donor antenna (A11-V14-100)
Network Unit (NU) (Head End) attaches to Coverage Unit (CU) (Remote Unit) via category cable
A single NU and up to four (4) CUs may be attached (hub and spoke architecture) in a system
Multiple systems may be deployed to increase coverage footprint
Up to 100 m (Cat5e) or 150 m (23AWG CAT6/7) CU cable length
Remote Management through Nextivity WAVE Portal
Easiest installation in its class
Glanceable LED User Interface (UI)
Mounting hardware included

Wireless Features

Supports up to two bands simultaneously from two operators
3G, 4G, and 5G support (WCDMA / HSPA+ / LTE)
Supports FDD
Up to 100 dB system gain per band
Peaceful coexistence with adjacent Wi-Fi (2.4 GHz & 5 GHz), femtocells, and cellular devices
Advanced digital echo-cancellation (>30 dB) and channel select filtering algorithms
Active management of the cellular link between the Base Station and user devices
Automatic Gain Control (AGC) based on fast real-time echo-cancellation
Linear RF front end
Adaptive signal equalization
Uses Nextivity proprietary 3rd-generation "ARES" chip

Mobile Network and Network Protection Features

Dual-carrier combinations available: AT&T and Verizon; Sprint (FDD) and T-Mobile

Integration, handover, and handoff with the macro network

Supports multiple channels with bandwidths of 3.84/5/10/15/20 MHz per channel

Works with any user equipment (UE) for the configured network (no whitelist/blacklist)

Up to 75 MHz system relay bandwidth

Support for 3GPP Release 10 features

Provider-specific system: distributes and boosts service only for the Operator PLMNIDs for which the device is authorized and configured

Secure and ciphered provisioning

System intelligence accurately establishes proper safe uplink power in real time

Uplink Muting Mode automatically shuts down uplink cellular transmissions when no active user equipment is detected

Benefits

Easiest to deploy Active DAS Hybrid

Distribute and boost cellular coverage indoors

3G, 4G, and 5G support, Voice and Data, network safe

Coverage footprint provided via Power over Ethernet (PoE); no requirement for additional power source at CU (RU)

Donor Signal

Simplest Installation: NU (Head End) and CU (RU) connect with category cable

Scalable architecture allows multiple systems to be deployed in the same environment for larger footprint

LED cues provides visual feedback for ease of setup and status

Works with any subscriber device from the configured carrier

System management locally or from the cloud through the Nextivity WAVE platform

Wall and ceiling mounting options

Wireless Benefits

Highest gain (100 dB) provides best coverage footprint

Advanced Echo-Cancelation allows system to transmit more power without interference or feedback

Subscriber devices require less transmit power for improved battery life

Linearity eliminates IMD desense issues

Dynamic gain control ensures maximum gain—best coverage—at all times in ever changing RF environments, without user intervention

Nextivity purpose-built, high-performance, six core ASIC processor provides best performance at lowest cost

Mobile Network Benefits

Flexibly deploy in LTE, VoLTE, LTE-Advanced, and WCDMA networks, with multiple cellular bands, simultaneously

Automatically adjusts channel bandwidths from 3.84 MHz to 20 MHz

Sufficient relay bandwidth (75 MHz) to support SISO and MIMO in multiple bands

Off-load the macro network in Supercell mode, or use to improve macro capacity and building propagation/penetration

System improves users' cellular experience while remaining invisible to networks and UEs: no gateways or third-party software needed

UE control is transparent and remains centralized in the network core (no gateways or third-party software)

Variants

Model Number (base)	Bands Supported	Carrier Configurations Available
Q34-4/5/12/13/25	4, 5, 12, 13, 25	AT&T & Verizon T-Mobile & Sprint

Power *(Network Unit Only)*

54 VDC @ 2.22 Amp via external supply (51.3 to 56.7 VDC tolerance)

External supply: 100 to 240 VAC, 47–63 Hz

Power consumption less than 120W max

Network Unit provides power to Coverage Units over category cabling (PoE)

Environmental *(Network Unit Only)*

Operating temperature: 0° to 40°C

Storage temperature: -25° to 60°C

Convection Cooling

Relative humidity: 0% to 95%, noncondensing

RoHS II 2011/65/EU

IP20

Installation *(Network Unit Only)*

Mounting hardware included

NU may be wall mounted

CUs may be wall or ceiling mounted

One (1) NU supports up to four (4) CUs

iBwave VEX files and template available

Radio Performance *(check product version for specific band support)*

Band	Downlink	Uplink	Boost
4	2110-2155 MHz	1710-1755 MHz	Up to 20 MHz contiguous boost BW, HSPA or LTE SISO
5	869-894 MHz	824-849 MHz	Up to 15 MHz contiguous boost BW, HSPA or LTE SISO
12	729-746 MHz	699-716 MHz	Up to 10 MHz contiguous boost BW, LTE SISO
13	746-756 MHz	777-787 MHz	Up to 10 MHz contiguous boost BW, LTE SISO
25	1930-1995 MHz	1850-1915 MHz	Up to 20 MHz contiguous boost BW, HSPA or LTE SISO

Total boost all-channel bandwidth 75 MHz

DL Maximum NU in-band donor level -40 dBm

DL Maximum NU survival donor level 30 dBm

UL Maximum CU donor level -20 dBm

Maximum UL power 24 dBm EIRP bands 4, 25

Maximum UL power 20 dBm EIRP bands 5, 12, 13,

Maximum DL power 10 dBm per 5 MHz EIRP all bands

LTE 5/10/15/20 MHz and WCDMA 3.84/5MHz bandwidths

Specific power settings may be influenced and/or modified for regulatory compliance. Check specific model for power values.

Physical Specifications

Network Unit	Coverage Unit
250 × 188 × 55 mm	188 × 188 × 50 mm
1.2 kg (40.8 oz.)	0.83 kg (29.2 oz.)

Connections

4 x CU RJ45 Proprietary Gigabit link

100 m max CU cable length Cat5e, or 150 m with 23AWG Cat6/6a/7 compliant to ANSI/TIA/EIA 568-B

PoE IEEE 802.3at

RJ45 LAN management port (10/100 Fast Ethernet)

RJ45 LAN management output port (10/100 Fast Ethernet)

2x MIMO External RF Input (QMA-Female 50 ohm)

Compliance *(check individual product version for specific regional compliance)*

3GPP TS 25.143 Rel.10

3GPP TS 36.143 Rel.10

FCC Part 15, 20, 22, 24, 27

ISED Canada

UL 62368-1/CSA C27.2

Bluetooth BQB

Note: Certifications are regional; not all products need or have the same certifications. Please check with Sales or Support, the specific model number to determine exactly which certifications it has, or are best for your region.

Patents & Design

Nextivity products are covered by multiple Nextivity, Inc., patents and pending patents. Designed by Nextivity, Inc. in San Diego, California, USA. Specifications subject to change without notice.

System Management (Software)

Nextivity WAVE cloud portal

Nextivity WAVE Remote Management: Status (list and map), Commissioning, Diagnostics, Software Updates, Settings, Reporting, Alarms & Notifications

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