



# Cel-Fi™ DUO Smart Signal Booster™

CEL-FI™  
by NEXTIVITY™

Smart Cellular Coverage



Network Unit

Coverage Unit

NEXTIVITY'S THIRD-GENERATION Cel-Fi system is the highest-performance, lowest cost, dual-band system on the market. The Cel-Fi DUO will solve indoor 3G / 4G / LTE cellular coverage problems without any negative impact to the network. In fact, using Cel-Fi has been shown to improve network capacity by reducing required power from the cell-site.

Good things do come in small packages: Now with LTE support, Cel-Fi is compatible with the highest data services application available. All new patented echo cancellation algorithms enable Cel-Fi to offer higher signal levels throughout the coverage area. Smaller unit size makes it even easier to find optimum placement for the units.

## BENEFIT TO CONSUMERS

**Improved Voice Coverage:** Enables clear and reliable voice connections within the coverage area – up to 15,000 ft<sup>2</sup> (1,400 m<sup>2</sup>).

**Improved Data Throughput:** For indoor areas with poor reception, Cel-Fi offers significant data throughput improvements for HSPA+ or LTE – often achieving a 4x improvement.

**Improved Battery Life:** Cel-Fi manages the power levels between the cell tower and user devices so that subscriber devices enjoy significant improvements in battery life.

**Ease of Installation:** Cel-Fi is a true “Plug and Play” system that doesn't require the installation of external antennas, bulky coaxial cables or a configuration set-up by the subscriber. In fact, Cel-Fi intelligently and automatically senses and adapts to its environment – including changes made by the Operator or those caused by nearby user equipment like Wi-Fi, or other Cel-Fi devices.

**Cel-Fi WAVE App:** Simplified local or remote monitoring and maintenance via Bluetooth with Cel-Fi WAVE App or cloud access.

## BENEFIT TO OPERATORS

**Reduced Churn:** Fewer dropped calls and higher data rates help ensure customer satisfaction.

**Higher Data Service Usage:** By supporting advanced multi-carrier features, the Cel-Fi system ensures that customers are getting the best service possible in their sector.

**Decreased Operational Cost:** Improves indoor coverage and increases capacity of networks, without any additional requirements for support from the core.

**Network Safe:** Cel-Fi's embedded System-On-a-Chip technology provides real-time and automatic end-to-end gain control with built-in safety margins, guaranteeing it will complement the existing macro network's capabilities.

**Operator Specific:** Cel-Fi is configured to relay only the PLMNIDs of the network it's deployed for. Other networks and signals are completely untouched.

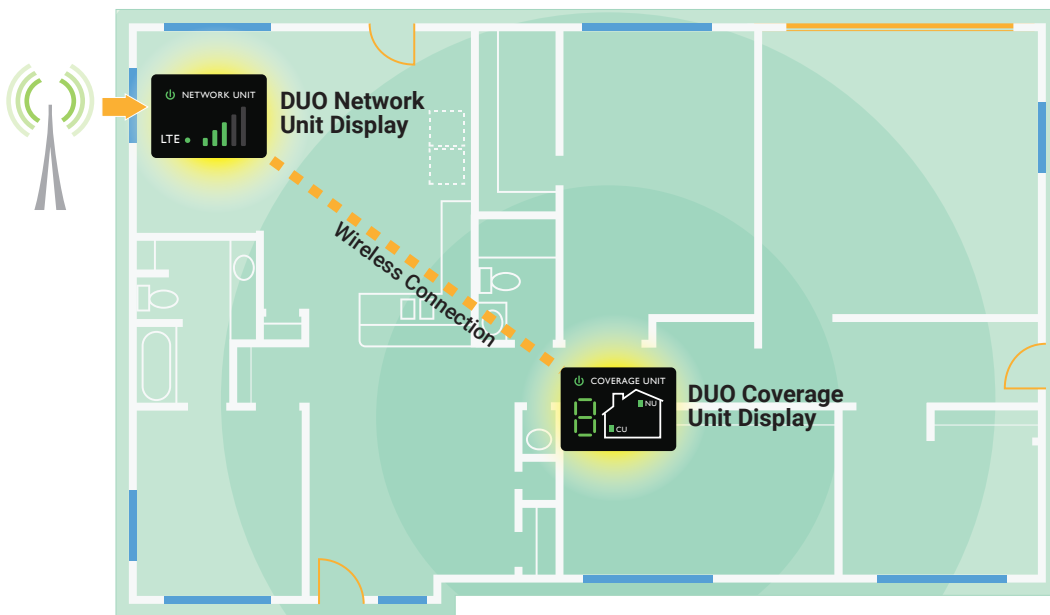
**Self Adjusting:** Cel-Fi automatically tunes itself to the correct frequencies based on local channel availability and PLMNID codes, eliminating any need for field provisioning.

**Multi Technology Support:** The Cel-Fi DUO can support both UMTS and LTE simultaneously.

**Multi Carrier Support:** The Cel-Fi DUO supports multiple carriers with bandwidths anywhere from 5 to 20 MHz with a total system bandwidth of 35 MHz.



Cel-Fi Safe



### Cel-Fi DUO Features

- Wireless, plug-and-play architecture for –WCDMA/HSPA+/LTE.
- Up to 100dB of system gain.
- Patented 2-unit, 3-hop system allows flexible placement for optimal coverage.
- Processor running advanced digital echo cancellation and channel select filtering algorithm.
- Software-based optimization of integrated antenna coverage pattern which maximizes system gain and provides improved coverage and signal quality.
- Automatic Gain Control (AGC) continuously monitors system path loss and transmit power to deliver maximum gain.
- Intuitive LED User Interface (UI) allows quick and easy set-up by end-user.
- Support for Cel-Fi WAVE mobile and desktop applications.

### Network-Safe Features

- Securely provisioned operation with ciphered software which only operates on authorized Operator's network.
- Network-Safe software prevents uplink system gain from exceeding path loss, preventing unnecessary rise in base station noise level.
- Uplink Muting Mode automatically shuts down uplink cellular transmissions when no active user equipment is detected.
- Embedded software ensures optimal performance and prevents out-of-specification operation.
- System shuts down upon Operator's network command or failure detection.
- Maintains end-to-end cellular communication encryption without additional risk of vulnerability.
- Peaceful coexistence with adjacent Cel-Fi systems, Wi-Fi, cellular, or femtocell devices.

### High-Level Specifications

- Support for 3GPP Rel. 10 features and LTE Release 10 Features
- 5GHz U-NII link (configurable masking)
- Support for Band 2 (1900 MHz) and Band 7 (2600 MHz)
- Up to 35 MHz total relay bandwidth
- Up to 100dB path loss between units (approximately 60 feet between NU and CU)
- Max EIRP for Multiple carriers: 16dBm DL downlink & 23dBm UL uplink per band (adjustable).
- Up to 100dB system gain

### Specifications

#### NETWORK UNIT

H: 158.5MM (6.24") D: 59MM (2.32")  
W: 146MM (5.75") Weight: 0.56kg (1.23 lbs.)

#### COVERAGE UNIT

H: 158.5MM (6.24") D: 59MM (2.32")  
W: 146MM (5.75") Weight: 0.39kg (.86 lbs.)

#### ENVIRONMENTAL

- Operating temperature: 0° to 40°C
- Storage temperature: -25° to 60°C
- Relative humidity: 5 to 95%, noncondensing
- Operating altitude: 10,000 ft (3,050 m)
- RoHS (2002/95/EC) six of six compliant
- WEEE (2002/96/EC)
- 3GPP COMPLIANCE

#### POWER

- 12 VDC via external supply (2 included)
- External supply: 100 to 240 VAC, 47 – 63 Hz
- Power consumption less than 15W per unit

#### CERTIFICATIONS

- CE

#### COMPLIANCE CONTACT

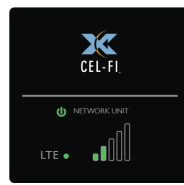
In the event of regulatory compliance issue, please contact Nextivity Inc. directly. Contact information is available at [www.nextivityinc.com](http://www.nextivityinc.com).

#### PATENTS

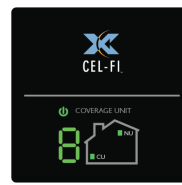
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DUO Network Unit Display



DUO Coverage Unit Display