Cel-Fi™ DUO Smart Signal Booster™

Smart Cellular Coverage

CEL-FI by NEXTIVITY™

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^2 (1,400 m^2).

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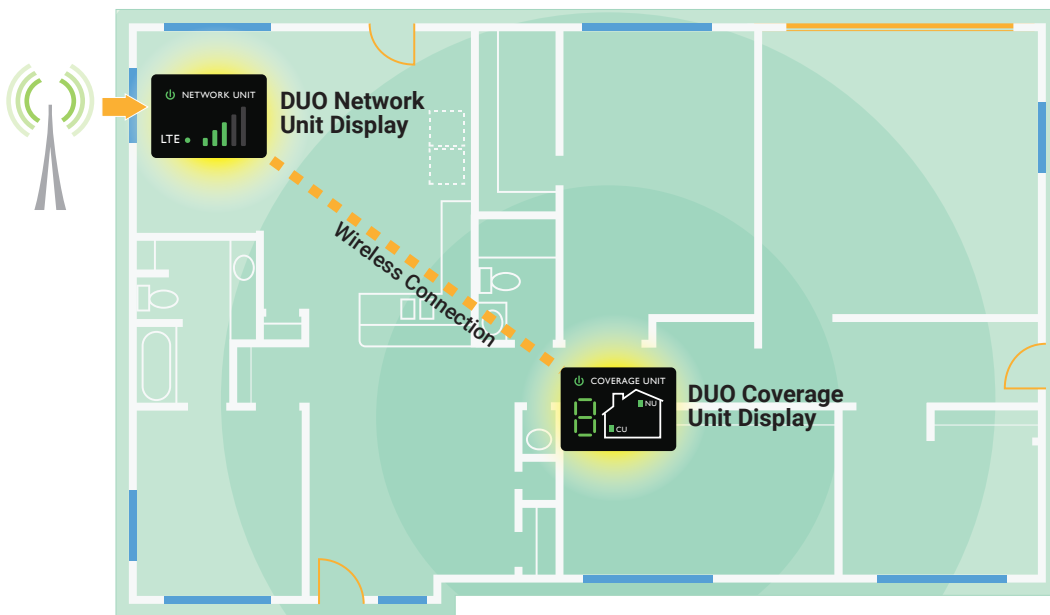
Self Adjusting: Cel-Fi automatically tunes itself to the correct frequencies based on local channel availability and PLMNID codes, eliminating any need for field provisioning.

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.
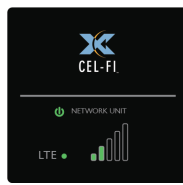
Cel-Fi Safe

DUO Network Unit Display

DUO Coverage Unit Display

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.

PATENTS

This product is covered by Nextivity, Inc., US patents and patents pending. Please refer to cel-fi.com for details.

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.
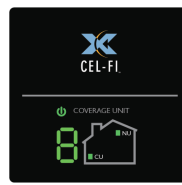
Network-Safe Features

- 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

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