



# Cel-Fi™ RS2 Multi-Carrier Smart Signal Booster™

Dual Band



Nextivity's second generation Cel-Fi RS-2 is a cost-effective Intelligent Indoor Coverage Solution for WCDMA/HSPA+, designed to dramatically increase indoor voice quality and data throughput for 3G consumers while significantly improving network capacity for Mobile Operators, Small Businesses and MVNOs.

Breakthrough, patented technology enables a wireless, indoor, plug-and-play, user installable coverage solution that's so "no-touch" easy to use it obviates the need for support calls to the Operator's Help Desk.

## BENEFIT TO CONSUMERS



**Improved Voice Coverage:** Enables clear and reliable 3G voice connections within the coverage area – usually up to 1235 m<sup>2</sup> (13,000 Sq. Ft.).



**Improved Data Throughput:** For indoor areas with poor reception, Cel-Fi offers significant data throughput improvements – often in excess of four times the current rate!



**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, handset registration, 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 WiFi, or other Cel-Fi devices.

## BENEFIT TO OPERATORS

### Reduced Churn:

Fewer dropped calls and higher data rates help ensure customer retention.

### Higher Data Service Usage:

By supporting advanced multi-carrier features, the second generation Cel-Fi system ensures that customers can maximize their data rates.

### Decreased Operational Cost:

Lowers cost of indoor coverage and increases capacity of 3G networks.

### Network Safe:

Cel-Fi's embedded System-On-a-Chip technology provides real-time and automatic end-to-end gain control, thus guaranteeing it will complement the existing macro network's capabilities.

### Operator Specific:

Cel-Fi's On-Board IntelliBoost processor securely manages the enhanced services only for the Operator who authorized the system.

### Self Adjusting:

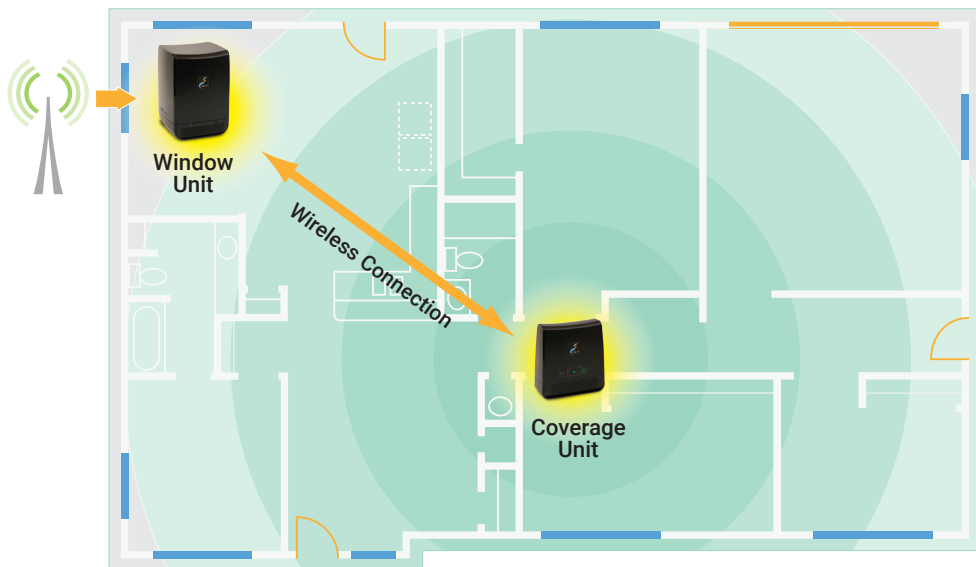
Cel-Fi automatically selects the correct frequencies for use based on UARFCN and Operator PLMNID codes, thereby eliminating additional and costly Operator provisioning efforts.

### Multi Channel Support:

The Cel-Fi RS2 system supports multiple channels (up to three simultaneous) across two bands.

## Cel-Fi Features

- Fully wireless, plug-and-play architecture for supporting band I and VIII or band II and V—WCDMA/HSPA+ with up to 100 dB 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, independently for each channel.
- Intuitive LED User Interface (UI) allows quick and easy installation by end-user.



## Network-Safe Features

- Securely provisioned operation with ciphered software which only operates on authorized Operator's network.
- Network-Safe algorithms prevent uplink system gain from exceeding path loss, and eliminates 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, 802.11a/b/g/n, cellular, and femtocell devices.

## Processor

- Nextivity's IntelliBoost Baseband Processor II

## FCC REQUIREMENTS

This is a CONSUMER device.

BEFORE USE, you MUST REGISTER THIS DEVICE with your wireless provider and have your provider's consent. Most wireless providers consent to the use of signal boosters. Some providers may not consent to the use of this device on their network. If you are unsure, contact your provider.

You MUST operate this device with approved antennas and cables as specified by the manufacturer. Antennas MUST be installed at least 20 cm (8 inches) from any person.

You MUST cease operating this device immediately if requested by the FCC or a licensed wireless service provider.

WARNING. E911 location information may not be provided or may be inaccurate for calls served by using this device.

When used with any mobile device utilizing the 1710-1755 MHz band, the FCC limits booster equipment placement to a maximum of 10 meters above ground level. Installation of this equipment which does not comply with federal requirements may subject the owner to FCC enforcement action.

Changes or modifications not expressly approved by Nextivity, Inc. could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

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## Specifications

### WINDOW UNIT

199MM (7.83") H	147MM (5.79") D
144MM (5.67") W	Weight: 0.86kg (1.9lbs.)

### COVERAGE UNIT

158.5MM (6.24") H	59MM (2.32") D
146MM (5.75") W	Weight: 0.39kg (.81lbs.)

### ENVIRONMENT

- Operating temperature: 0° to 40°C
- Storage temperature: -25° to 60°C
- Relative humidity: 5 to 95%, noncondensing
- Operating altitude: -60m to 3,050m
- Storage altitude: 12,000m
- RoHS (2002/95/EC) six of six compliant
- WEEE (2002/96/EC)

### 3GPP COMPLIANCE

- 3GPP TS 25.143 Rel.8

### SAFETY

- EN60950-1:2005 +A1:2010
- EN62311:2008 1999/519/EC EMF
- UL/CS 60950-1 2005 2nd ED

### EMC/EMI/IMMUNITY

#### POWER

- 12 VDC via external supply (2 included)
- EN55022 Class B • FCC Part 20 (RS224)
- EN61000-3-2, 3 • FCC Part 22
- EN61000-4-2~6,11 • FCC Part 24
- EN 301 489 -1,17, 23 • FCC Part 27
- EN 301 893 V1.5.1
- EN 301 908-1,11

- External supply: 100 to 240 VAC, 47 – 63 Hz.
- Power consumption less than 17W per unit

### CERTIFICATIONS

CE Mark • CB Mark • UL Mark (RS225)

### HIGH-LEVEL SPECIFICATIONS

- Support for 3GPP Rel. 8 features
- 5 GHz link compliant with ETSI EN301 893 V1.5.1 or FCC Part 15
- Up to 100 dB path loss between units (approx. 20 meters between WU and CU)
- Max Band 1, 2 and 4 EIRP for 3 carriers: 14.7 dBm downlink & 26.2 dBm uplink
- Max Band 5 and 8 EIRP for 3 carriers: 12.7 dBm downlink & 23.2 dBm uplink
- Up to 100 dB system gain
- Availability greater than 99.9%



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