NEXTIVITY
Smarter by Design

Data Sheet

# COMPASS XR

## Installation and Testing Tool for CEL-FI and SHIELD Systems

**MODEL NUMBER:** J11-900-100

The COMPASS XR scanning receiver is the complete solution to enable integrators to install and optimize CEL-FI cellular coverage systems and SHIELD emergency responder communication enhancement systems (ERCES). A convenient tool in a lightweight and portable case, COMPASS XR is used globally to deploy and verify multiple technologies, including 5G New Radio networks in sub-6 GHz spectrum, LTE, CBRS, and LMR public safety coverage.

COMPASS XR

**Features and benefits include:**

- Easily perform grid tests and site surveys with portable, handheld RF scanner
- Ideal for deployment of CEL-FI QUATRA Active DAS Hybrid systems and SHIELD ERCES
- Single tool for a wide variety of networks with deep 5G-NR/4G-LTE/CBRS/FirstNet/LMR service scanner
- Supports operator service bands worldwide with ultra-wide frequency range of 617-5000 MHz
- Comes with all necessary accessories, including carrying case, hard storage case, antennas, and RF adapters
- Protected from drop, scrapes, and tumbles with rugged rubberized exoskeleton that provides a comfortable grip
- Works with CEL-FI WAVE PRO app (iOS & Android) for all operations, including Full Signal Report export (.CSV) and more

## Hardware

| | |
|---|---|
| Processor | Single Board Linux Computer |
| Battery | Two rechargeable 3500 mAh, 3.7V protected 18650 cells (Included) |
| Charger | Included, with plug adapter types A, C, G, & I |
| Accuracy | +/- 2 dB |
| Operating Temperature Range | -20 to 60 °C |
| Charging Temperature Range | 0 to 45 °C |
| Weight (with Batteries) | 1.61 lb (730 g) |
| Size (with Exoskeleton) | 4.7 in (119.1 mm) W x 1.6 in (41.3 mm) D x 8 in (204.2 mm) H |
| Shipping Dimensions (W x D x H) | 16.5 in (419.1 mm) x 12.9 in (327.66 mm) x 7.3 in (185.42 mm) |

## Interface

| | |
|---|---|
| Charging | USB-C |
| Antenna Ports | SMA Male (Three: Main, MIMO, LMR) |
| Power Button | LED Illuminated Button |
| LED Indicators | Three: Power, Status, and Charging |
| Bluetooth (LE Ver 4.2) | Frequency: 2402 – 2480 MHz. Power: 0 dBm. Connects to CEL-FI WAVE PRO App for UI |
| Wi-Fi Access Point | Software upgradeable; enabled only when a Software Upgrade is in progress, while charging. |

## Band Support

| | |
|---|---|
| 5G-NR SA & NSA* | n1/n2/n3/n5/n7/n8/n12/n20/n25/n28/n38/n40/n41/n48/n66/n71/n77/n78/n79 |
| LTE FDD | B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B18/B19/B20/B25/B26/B28/B29/B30/B32/B66/B71 |
| LTE TDD | B34/B38/B39/B40/B41/B42/B43/B48 |
| LMR | 758–775 / 851–861 MHz |

*5G NSA (Non-StandAlone) scans are best-effort and may not contain all relevant measurements. 5G NSA support is carrier-dependent, generally based on SSB and the availability and content of SIB1 data within the 5G band.

## Calibration

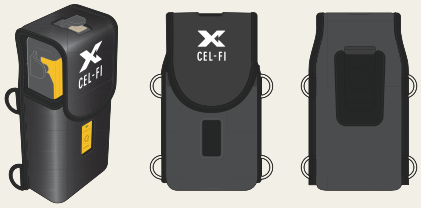
Calibration Certificate (LMR 700/800, U.S. only)

## Certifications

FCC, ISED, CE

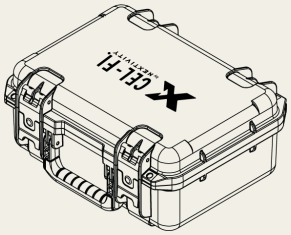
## Included Accessories

The COMPASS XR comes in a complete kit containing the accessories needed to connect the device to CEL-FI or SHIELD equipment, from industrial boosters to antennas. The kit also includes these two cases:



### Carrying Case

- Designed for extended use in a variety of carry configurations
- One-shoulder sling or two-shoulder backpack, straps included
- Integrated belt clip
- Internal pouch for spare antennas



### Hard Case

- Rugged IP67-rated carry-on-sized transportation case
- Die-cut foam secures all included equipment
- Store COMPASS XR in its Carrying Case or separately
- Extra space for additional cables and connectors

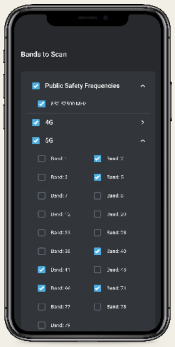
## In The Box

| | |
|---|---|
| RF Cable | SMA Female to N-type Male (2 meter length) |
| RF Adaptors | N-type Female to N-type Female |
| | N-type Female to QMA Female |
| | N-type Female to 4.3-10 Female |
| Antennas | Three (3) 5GNR/UHF 410–5925MHz (Replacement model: Nextivity A21-ML3-600) |
| Battery Charger | 5V, 3.2A USB-C charger with 1-m cable and global plug adapters |

## User Interface

The User Interface for COMPASS XR is CEL-FI WAVE PRO. This free mobile app (iOS and Android) pairs with COMPASS XR, allowing integrators to install and optimize CEL-FI and SHIELD systems without the need for local internet connectivity.

COMPASS XR performs a variety of installation and testing operations using WAVE PRO. Here are three examples:




### Full Signal Report & Band Selection

Select the technologies, bands, and frequencies needed for quick and efficient scans. COMPASS XR collects all the data needed for the selected bands and saves time by excluding unnecessary frequencies. Get the Full Signal Report at the current location, and the WAVE PRO App saves selections for quick reuse at the next site.

### Grid Test

Collect site survey data for public safety or cellular coverage, or even both at the same time, using WAVE PRO's Grid Test. Whether performing an initial site survey or post-install acceptance testing, COMPASS XR works with the WAVE System to ensure a successful installation.

### Antenna Positioning

Easily find the ideal position for your donor antenna. Connect the donor antenna to COMPASS XR and the WAVE PRO App will guide you through the positioning process, automatically calculating the optimal direction to point the antenna per operator.

Product specifications are subject to change without prior notification.

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