

CEL-FI™

QUATRA RED

FirstNet / LMR

ERRCS Solution

DATA SHEET

MODEL NUMBER:
F42-67ENU



Network Unit

Nextivity's Cel-Fi QUATRA RED is designed to provide consistent coverage in the most challenging building structures and to guarantee full compliance with the most current fire codes. The Network Unit (NU) processes FirstNet, and LMR off-air signals digitally to provide reliable and interference-free coverage. PoE based architecture and Cel-Fi patented algorithms for automatic setting of uplink and downlink gain, reduces time and cost of installation significantly, making Cel-Fi QUATRA RED the most compelling public safety solution in the market.

Key Features

- **Class A device with 56 channel pairs**
- **Automatic setting of UL and DL gain during the commissioning phase**
- **A complete end-to-end public safety ERRCS solution, for 700 & 800 MHz LMR, and FirstNet**
- **Full Compliance with IFC 510, NFPA 1221, and UL 2524**
- **Built-In Remote Monitoring**
- **NEMA 4 Rated**

Use **Cel-Fi WAVE PRO** mobile app for seamless integration and configuration of the Cel-Fi QUATRA RED product line.



System Features

Antenna pointing algorithm to optimize FirstNet donor signal
 Near real-time uplink/downlink automatic gain control (AGC)
 PoE architecture allows 325 ft (100 m) distance range between the NU and the CUs
 Up to six (6) CUs can be attached to a single NU
 Remote monitoring through Cel-Fi WAVE PRO app and Wave Portal
 Real-time, slot-to-slot gain control

Public Safety Network & Network Protection Features

Support for all FirstNet LTE bands (2, 4, 12, 14)
 Support for 700 MHz and 800 MHz (P25, Analog)
 Up to 56 channel pairs can be distributed across 700/800 MHz bands
 NFPA 1221, IFC 210, NEMA 4, UL 2524 Certified
 Uplink Muting Mode automatically shuts down uplink transmissions when no active user equipment is detected
 Independent donor antenna ports for FirstNet and LMR

Benefits

One solution provides a complete code-compliant ERRCS system
 Power Over Ethernet (PoE) architecture makes Network Unit (NU) installation simple
 Modular architecture allows scaling the system from 1W to 6W
 Certifications reduce time-to-market and downstream costs
 Remote monitoring assures that the system is performing per design
 Minimal noise in network through optimal gain and power settings ensure best overall radio performance
 Assured best audio quality

Power

MODEL NUMBERS	CONSUMPTION (WATTS) @ 48 VDC
F42-67ENU	43

Environmental

Operating Temperature	-20 to 50°C / -4 to 122°F
Product Ingress Protection (IP) Rating	NEMA 4
Relative Humidity	0% to 95%, noncondensing
Maximum Surface Temperature (any point)	44°C @ 30°C ambient / 111°F @ 86°F

Installation

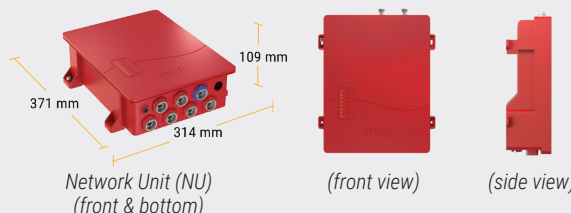
Mounting hardware included
 NU can be wall mounted
 1 NU supports 1 to 6 CUs
 iBwave VEX files available

Radio Performance

BAND	LTE				LMR	
	2	4	12	14	700	800
Frequency Range, Downlink (MHz)	1930–1990	2110–2155	728–746	758–768	769–775	851–861
Frequency Range, Uplink (MHz)	1850–1910	1710–1755	699–716	788–798	799–805	806–816
Technology	LTE–20 MHz	LTE–20 MHz	LTE–10 MHz	LTE–10 MHz	P25/Analog	P25/Analog
UL output Power (dBm)	23		21	23	26	
DL Minimum Input level (dBm)	-100					
DL Maximum Input level (dBm)	-20					
System maximum gain (dB)	100					
Noise Figure at max gain (dB)	5					
Return loss (dB)	-8					
System Group Delay @ 12.5 kHz (usec)	35					

Network Unit Physical Specifications

WIDTH	HEIGHT	DEPTH	WEIGHT
314 mm	371 mm	109 mm	7 kg



Network Unit (NU)
(front & bottom)

(front view)

(side view)

Connections

2x Donor antenna ports – Type-N female connectors

6x CU RJ45 Proprietary Gigabit link, 100 m / 325 ft range from NU to CU

1x RJ45 LAN management output port (10/100 Fast Ethernet)

1x SFP+ Optical port, 5 Gbps, up to 2000 m / 6500 ft range from NU1 to NU2

Compliance

FCC Part 15, 22, 24, 27, 20, 90

UL 2524

IFC 510

NFPA 1221

NEMA 4

System Management

Cel-Fi WAVE PRO mobile app

Cel-Fi WAVE Portal:

- Status (List and Map)
- Diagnostics
- Settings
- Alarms & Notifications
- Commissioning
- Software Updates
- Reporting

Patents & Design

Cel-Fi QUATRA products are covered by multiple Nextivity, Inc., patents and pending patents.

Designed by Nextivity, Inc. in San Diego, California, USA.

Ordering Information

MODEL NUMBER	PRODUCT DESCRIPTION
F42-67ENU	Cel-Fi QUATRA RED NU, FirstNet + 700/800 MHz LMR

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