### NU Model: #Q44-1234CNU CU Model: #041-5ECU

# CEL-FI QUATRA 4000 3G / 4G / LTE In-building Cellular Solution

In-building Cellular Solution

Cel-Fi QUATRA 4000 is an Active DAS Hybrid that solves the problem of poor cellular coverage in middleprise buildings. Cel-Fi QUATRA 4000 delivers a cellular signal that is up to 1000x stronger, utilizing CAT 5e cabling for RF and Power over Ethernet. Cel-Fi QUATRA 4000 can be installed in just days, and at a price point that meets the middleprise budget. Cel-FI QUATRA 4000 is carrier grade, carrier approved, and guaranteed network safe.

- Scalable All-Digital PoE Cat5e Active DAS Hybrid for Middleprise
- Up to 100 dB (1000x Stronger Signal)
- Four Carrier Solution
- 3G / 4G / LTE for Voice and Data
- · Independent Donor antenna or Small Cell input per carrier
- Supports Cel-Fi WAVE Portal Cloud Management
- Carrier-Approved and Unconditionally Network Safe



Network Unit Coverage Unit

# **CEL-FI QUATRA 4000** Network Unit



**CEL-FI OUATRA 4000** Coverage Unit



**CEL-FI QUATRA 4000** Range Extender



PRODUCT					
OPERATORS	Operators	Operators Supported	AT&T, Sprint, Verizon, T-Mobile		
CONFIGURATIONS	Operators	Bands	4,12,13, 25, 26, 30, 71		
	OPERATOR 1	Vavinan	B13 & B25		
	UPERATUR I	Verizon	B13 & B4		
	OPERATOR 2	Christ	B26 & B25		
	OPERATOR 2	Sprint	B26 & B41*		
			B12 & B2		
RELAY	OPERATOR 3	T-Mobile	B12 & B4		
CONFIGURATIONS	OPERATOR 3	1-Mobile	B71 & B2		
(one configuration			B71 & B4		
per operator)		AT&T	B12 & B25		
	OPERATOR 4		B12 & B4		
			B12 & B26		
			B30* & B25		
			B30* & B4		
			B30* & B26		
TRANSMIT EVM	UL	8.5%	16-QAM with full RB allocation		
IKANSWII EVW		8.5%	E-TM3.1		
REGULATORY CERTIFICATIONS		Part 15	Yes		
		Part 20	Yes		
		Part 22	Yes		
		Part 24	Yes		
		Part 27	Yes		

NETWORK UNIT					
	Bands Supported		FDD	25, 26, 4, 12, 13, 30, 41	
	OPERATOR 1	BAND 4	Downlink (DL) Frequency (MHz)	2110 - 2155	
			Relay Bandwidth (Max)(MHz)	20	
			UL Output Power (at port)(dBm)	24	
			DL Min Input Level (dBm RSRP)	-120	
			DL Max Input Level (dBm RSSI)	-20	
RADIO SPECS			System Gain (Max)(dB)	100	
RADIO SPECS		BAND 13	Downlink (DL) Frequency (MHz)	746 - 756	
			Uplink (UL) Frequency (MHz)	777 - 787	
			Relay Bandwidth (Max)(MHz)	10	
			UL Output Power (at port)(dBm)	26	
			DL Min Input Level (dBm RSRP)	-120	
			DL Max Input Level (dBm RSSI)	-20	
			System Gain (Max)(dB)	95	

## **ANTENNAS**







Indoor Omni Antenna



Indoor Low Profile Antenna

Downlink (UL) Frequency (MHz)			1	·	
Relay Bandwith (Max)(MHz)				Downlink (DL) Frequency (MHz)	1930 - 1995
Relay Bandwidth (Max)(MHz)		OPERATOR 1		Uplink (UL) Frequency (MHz)	1850 - 1915
DPERATOR 1   BAND 25   UI. Output Power (at port)(dBm)   24   120   12					
D.L. Min Input Level (GBm RSR)   120			BAND 25		
D. Max Input Level (dBm RSS)   20					
System Gain (Max)(dB)					-120
System Gain (Max)(dB)				DL Max Input Level (dBm RSSI)	-20
Downlink (DL) Frequency (MHz)   859-894   Uplink (UL) Frequency (MHz)   114-849   114-849   126   UL Output Power (at port)(6lm)   26   26   27   27   28   28   29   29   29   29   29   29					
Part					
Relay Bandwidth (Max)(MHz)   15					
BAND 26   U. Dutput Power (at port)(dBm)   26					
BAND 26   U. Dutput Power (at port)(dBm)   26				Relay Bandwidth (Max)(MHz)	15
D.L. Min Input Level (dBm RSRP)   -120			BAND 26	UL Output Power (at port)(dBm)	26
D. Max Input Level (dBm RSSI)			0, 20		
System Gain (Max)(dB)   95					
Downlink (DL) Frequency (MHz)   2496 - 2690   Uplink (UL) Frequency (MHz)   2496 - 2690   Uplink (UL) Frequency (MHz)   2496 - 2690   Relay Bandwidth (Max)(MHz)   20   Uplink (UL) Evel (dBm RSRP)   -120   Uplink (UL) Uplink (UL) Evel (dBm RSRP)   -120   Uplink (UL) Frequency (MHz)   1930 - 1995   Uplink (UL) Frequency (MHz)   1850 - 1915   Relay Bandwidth (Max)(MHz)   20   Uplink (UL) Frequency (MHz)   1850 - 1915   Uplink (UL) Evel (dBm RSR)   -20   Uplink (UL) Ev					
OPERATOR 2					95
Uplink (UL) Frequency (MHz)   2496 - 2690				Downlink (DL) Frequency (MHz)	2496 - 2690
Relay Bandwidth (Max)(MHz)   20					
OPERATOR 2					
A			BAND		
DL Max Input Level (dBm RSR)   -120   DL Max Input Level (dBm RSSI)   -20   System Gain (Max)(dB)   100   Downlink (DL) Frequency (MHz)   1850 - 1915   Relay Bandwidth (Max)(MHz)   20   DL Max Input Level (dBm RSRP)   -120   DL Max Input Level (dBm RSRP)   -120   DL Max Input Level (dBm RSSI)   -20   System Gain (Max)(dB)   100   Downlink (DL) Frequency (MHz)   1850 - 1915   Relay Bandwidth (Max)(MHz)   1930 - 1995   Ublink (UL) Frequency (MHz)   1850 - 1915   Relay Bandwidth (Max)(MHz)   20   DL Max Input Level (dBm RSRP)   -120   DL Max Input Level (dBm		OPERATOR 2			
D.L. Max Input Level (dBm RSSI)   20			''	DL Min Input Level (dBm RSRP)	-120
System Gain (Max)(dB)				DL Max Input Level (dBm RSSI)	-20
Downlink (DL) Frequency (MHz)					
Uplink (UL) Frequency (MHz)					
Relay Bandwidth (Max)(MHz)					
BAND 25   UL Output Power (at port)(dBm)   24					
BAND 25				Relay Bandwidth (Max)(MHz)	20
DL Min Input Level (dBm RSRP)   -120     DL Max Input Level (dBm RSS)   -20     System Gain (Max)(dB)   100     Downlink (DL) Frequency (MHz)   1930 - 1995     Uplink (UL) Frequency (MHz)   1850 - 1915     Relay Bandwidth (Max)(MHz)   20     DL Min Input Level (dBm RSRP)   -120     DL Max Input Level (dBm RSRP)   -120     DL Max Input Level (dBm RSRP)   -120     Dumilink (DL) Frequency (MHz)   2110 - 2155     Uplink (UL) Frequency (MHz)   2110 - 2155     Uplink (UL) Frequency (MHz)   2770 - 1755     Relay Bandwidth (Max)(MHz)   20     BAND 4   UL Output Power (at port)(dBm)   24     DL Max Input Level (dBm RSRP)   -120     DL Max Input Level (dBm RSRP)   -120     DU Max Input Level (dBm RSRP)   -120     Downlink (DL) Frequency (MHz)   869 - 894     Uplink (UL) Frequency (MHz)   869 - 894     Uplink (UL) Frequency (MHz)   824 - 849     Relay Bandwidth (Max)(MHz)   15     DL Min Input Level (dBm RSRP)   -120     DL Max Input Level (dBm RSRP)   -20     System Gain (Max)(dB)   95     Downlink (DL) Frequency (MHz)   663 - 698     Relay Bandwidth (Max)(MHz)   20     BAND 71   UL Output Power (at port)(dBm)   26     DL Min Input Level (dBm RSRP)   -120     DL Max Input Le			BAND 25		24
DL Max Input Level (dBm RSSI)   -20			D, 12 20		
System Gain (Max)(dB)					
Downlink (DL) Frequency (MHz)   1930 - 1995   Uplink (UL) Frequency (MHz)   1850 - 1915   Relay Bandwidth (Max)(MHz)   20					
Uplink (UL) Frequency (MHz)					100
Uplink (UL) Frequency (MHz)				Downlink (DL) Frequency (MHz)	1930 - 1995
Relay Bandwidth (Max)(MHz)					1850 - 1915
BAND 25					
DL Min Input Level (dBm RSRP)	DADIO ODEGO		DANIDOE		
DL Max Input Level (dBm RSSI)   20	KADIO SPECS		BAND 25		
System Gain (Max)(dB)					
Downlink (DL) Frequency (MHz)   1710 - 2155   Uplink (UL) Frequency (MHz)   1710 - 1755   Relay Bandwidth (Max)(MHz)   20				DL Max Input Level (dBm RSSI)	-20
Downlink (DL) Frequency (MHz)   1710 - 2155   Uplink (UL) Frequency (MHz)   1710 - 1755   Relay Bandwidth (Max)(MHz)   20				System Gain (Max)(dB)	100
Uplink (UL) Frequency (MHz)					
Relay Bandwidth (Max)(MHz)					
BAND 4   UL Output Power (at port)(dBm)   24					
DL Min Input Level (dBm RSRP) -120 DL Max Input Level (dBm RSSI) -20 System Gain (Max)(dB) 100  Downlink (DL) Frequency (MHz) 869 - 894 Uplink (UL) Frequency (MHz) 15 Relay Bandwidth (Max)(MHz) 15 DL Min Input Level (dBm RSRP) -120 DL Max Input Level (dBm RSRP) 95 Downlink (DL) Frequency (MHz) 728 - 746 Uplink (UL) Frequency (MHz) 698 - 716 Relay Bandwidth (Max)(MHz) 10  BAND 12 UL Output Power (at port)(dBm) 26 DL Min Input Level (dBm RSRP) -120 DL Max Input Level (dBm RSRP) 95 Downlink (DL) Frequency (MHz) 698 - 716 Relay Bandwidth (Max)(MHz) 10  BAND 12 UL Output Power (at port)(dBm) 26 DL Min Input Level (dBm RSRP) -120 DL Max Input Level (dBm RSRP) 95 Downlink (DL) Frequency (MHz) 663 - 698 Relay Bandwidth (Max)(MHz) 20 BAND 71 UL Output Power (at port)(dBm) 26 DL Min Input Level (dBm RSRP) -120 DL Max Input Level (dBm RSRP) -120 DL Min Input Level (dBm RSRP) -120 DL Max Input Level (dBm RSRP) -120 DL Max Input Level (dBm RSSR) -20			55.		
DL Max Input Level (dBm RSSI)   -20			BAND 4		
System Gain (Max)(dB)				DL Min Input Level (dBm RSRP)	-120
System Gain (Max)(dB)				DL Max Input Level (dBm RSSI)	-20
Downlink (DL) Frequency (MHz)   869 - 894     Uplink (UL) Frequency (MHz)   824 - 849     Relay Bandwidth (Max) (MHz)   15     Relay Bandwidth (Max) (MHz)   26     DL Min Input Level (dBm RSRP)   -120     DL Max Input Level (dBm RSSI)   -20     System Gain (Max) (dB)   95     Downlink (DL) Frequency (MHz)   698 - 716     Relay Bandwidth (Max) (MHz)   10     BAND 12   UL Output Power (at port) (dBm)   26     DL Min Input Level (dBm RSRP)   -120     DL Max Input Level (dBm RSSI)   -20     System Gain (Max) (dB)   95     Downlink (DL) Frequency (MHz)   663 - 698     Relay Bandwidth (Max) (MHz)   663 - 698     Relay Bandwidth (Max) (MHz)   20     BAND 71   UL Output Power (at port) (dBm)   26     DL Min Input Level (dBm RSRP)   -120     DL Max Input Level (dBm RSSRP)   -120     DL Max Input Level (dBm RSSR)   -20					100
Uplink (UL) Frequency (MHz)   824 - 849     Relay Bandwidth (Max)(MHz)   15     BAND 26   UL Output Power (at port)(dBm)   26     DL Min Input Level (dBm RSRP)   -120     DL Max Input Level (dBm RSSI)   -20     System Gain (Max)(dB)   95     Downlink (DL) Frequency (MHz)   728 - 746     Uplink (UL) Frequency (MHz)   698 - 716     Relay Bandwidth (Max)(MHz)   10     BAND 12   UL Output Power (at port)(dBm)   26     DL Min Input Level (dBm RSRP)   -120     DL Max Input Level (dBm RSSI)   -20     System Gain (Max)(dB)   95     Downlink (DL) Frequency (MHz)   617 - 652     Uplink (UL) Frequency (MHz)   663 - 698     Relay Bandwidth (Max)(MHz)   20     BAND 71   UL Output Power (at port)(dBm)   26     DL Min Input Level (dBm RSRP)   -120     DL Min Input Level (dBm RSRP)   -120     DL Min Input Level (dBm RSRP)   -120     DL Max Input Level (dBm RSSI)   -20					
Relay Bandwidth (Max)(MHz)   15					
December 20					
DL Min Input Level (dBm RSRP)   -120     DL Max Input Level (dBm RSSI)   -20     System Gain (Max)(dB)   95     Downlink (DL) Frequency (MHz)   728 - 746     Uplink (UL) Frequency (MHz)   698 - 716     Relay Bandwidth (Max)(MHz)   10     BAND 12   UL Output Power (at port)(dBm)   26     DL Min Input Level (dBm RSRP)   -120     DL Max Input Level (dBm RSSI)   -20     System Gain (Max)(dB)   95     Downlink (DL) Frequency (MHz)   617 - 652     Uplink (UL) Frequency (MHz)   663 - 698     Relay Bandwidth (Max)(MHz)   20     BAND 71   UL Output Power (at port)(dBm)   26     DL Min Input Level (dBm RSRP)   -120     DL Max Input Level (dBm RSRP)   -120     DL Max Input Level (dBm RSSI)   -20					
DL Max Input Level (dBm RSSI)		OPERATOR 3	RAND 26		
DL Max Input Level (dBm RSSI)		_		DL Min Input Level (dBm RSRP)	-120
System Gain (Max)(dB)   95     Downlink (DL) Frequency (MHz)   728 - 746     Uplink (UL) Frequency (MHz)   698 - 716     Relay Bandwidth (Max)(MHz)   10     BAND 12   UL Output Power (at port)(dBm)   26     DL Min Input Level (dBm RSRP)   -120     DL Max Input Level (dBm RSSI)   -20     System Gain (Max)(dB)   95     Downlink (DL) Frequency (MHz)   617 - 652     Uplink (UL) Frequency (MHz)   663 - 698     Relay Bandwidth (Max)(MHz)   20     BAND 71   UL Output Power (at port)(dBm)   26     DL Min Input Level (dBm RSRP)   -120     DL Max Input Level (dBm RSSI)   -20					
Downlink (DL) Frequency (MHz)   728 - 746     Uplink (UL) Frequency (MHz)   698 - 716     Relay Bandwidth (Max)(MHz)   10     BAND 12   UL Output Power (at port) (dBm)   26     DL Min Input Level (dBm RSRP)   -120     DL Max Input Level (dBm RSSI)   -20     System Gain (Max)(dB)   95     Downlink (DL) Frequency (MHz)   617 - 652     Uplink (UL) Frequency (MHz)   663 - 698     Relay Bandwidth (Max)(MHz)   20     BAND 71   UL Output Power (at port) (dBm)   26     DL Min Input Level (dBm RSRP)   -120     DL Max Input Level (dBm RSSI)   -20					
Uplink (UL) Frequency (MHz)   698 - 716     Relay Bandwidth (Max) (MHz)   10     BAND 12   UL Output Power (at port) (dBm)   26     DL Min Input Level (dBm RSRP)   -120     DL Max Input Level (dBm RSSI)   -20     System Gain (Max) (dB)   95     Downlink (DL) Frequency (MHz)   617 - 652     Uplink (UL) Frequency (MHz)   663 - 698     Relay Bandwidth (Max) (MHz)   20     BAND 71   UL Output Power (at port) (dBm)   26     DL Min Input Level (dBm RSRP)   -120     DL Max Input Level (dBm RSSI)   -20					
Relay Bandwidth (Max)(MHz)			BAND 12	DOWNINK (DL) Frequency (MAZ)	
BAND 12   UL Output Power (at port)(dBm)   26     DL Min Input Level (dBm RSRP)   -120     DL Max Input Level (dBm RSSI)   -20     System Gain (Max)(dB)   95     Downlink (DL) Frequency (MHz)   617 - 652     Uplink (UL) Frequency (MHz)   663 - 698     Relay Bandwidth (Max)(MHz)   20     BAND 71   UL Output Power (at port)(dBm)   26     DL Min Input Level (dBm RSRP)   -120     DL Max Input Level (dBm RSSI)   -20					
DL Min Input Level (dBm RSRP)					10
DL Min Input Level (dBm RSRP)				UL Output Power (at port)(dBm)	26
DL Max Input Level (dBm RSSI)					
System Gain (Max)(dB)   95     Downlink (DL) Frequency (MHz)   617 - 652     Uplink (UL) Frequency (MHz)   663 - 698     Relay Bandwidth (Max)(MHz)   20     BAND 71   UL Output Power (at port)(dBm)   26     DL Min Input Level (dBm RSRP)   -120     DL Max Input Level (dBm RSSI)   -20					
Downlink (DL) Frequency (MHz)   617 - 652     Uplink (UL) Frequency (MHz)   663 - 698     Relay Bandwidth (Max)(MHz)   20     BAND 71   UL Output Power (at port)(dBm)   26     DL Min Input Level (dBm RSRP)   -120     DL Max Input Level (dBm RSSI)   -20					
Uplink (UL) Frequency (MHz)   663 - 698     Relay Bandwidth (Max)(MHz)   20     BAND 71   UL Output Power (at port)(dBm)   26     DL Min Input Level (dBm RSRP)   -120     DL Max Input Level (dBm RSSI)   -20					
Relay Bandwidth (Max)(MHz)   20					
BAND 71   UL Output Power (at port)(dBm)   26     DL Min Input Level (dBm RSRP)   -120     DL Max Input Level (dBm RSSI)   -20					663 - 698
BAND 71   UL Output Power (at port)(dBm)   26     DL Min Input Level (dBm RSRP)   -120     DL Max Input Level (dBm RSSI)   -20			BAND 71	Relay Bandwidth (Max)(MHz)	20
DL Min Input Level (dBm RSRP) -120 DL Max Input Level (dBm RSSI) -20					
DL Max Input Level (dBm RSSI) -20					
System Gain (Max)(dB) 95					
				əystem Gam (Max)(dB)	95

		1	Downlink (DL) Fragues (MILL)	1000 1005
			Downlink (DL) Frequency (MHz)	1930 - 1995 1950 - 1016
			Uplink (UL) Frequency (MHz)	1850 - 1915
		DANDOE	Relay Bandwidth (Max)(MHz)	20 24
		BAND 25	UL Output Power (at port)(dBm)	
			DL Min Input Level (dBm RSRP)	-120
			DL Max Input Level (dBm RSSI)	-20
			System Gain (Max)(dB)	100
			Downlink (DL) Frequency (MHz)	2110 - 2155
			Uplink (UL) Frequency (MHz)	1710 - 1755
			Relay Bandwidth (Max)(MHz)	20
		BAND 4	UL Output Power (at port)(dBm)	24
			DL Min Input Level (dBm RSRP)	-120
			DL Max Input Level (dBm RSSI)	-20
RADIO SPECS	OPERATOR 4		System Gain (Max)(dB)	100
			Downlink (DL) Frequency (MHz)	728 - 746
			Uplink (UL) Frequency (MHz)	698 - 716
		BAND 12	Relay Bandwidth (Max)(MHz)	10
		DAIND 12	UL Output Power (at port)(dBm)	26
			: DL Min Input Level (dBm RSRP)	-120
			DL Max Input Level (dBm RSSI)	-20
			System Gain (Max)(dB)	95
			Downlink (DL) Frequency (MHz)	2350 - 2360
			Uplink (UL) Frequency (MHz)	2305 - 2315
		BAND	Relay Bandwidth (Max)(MHz)	10
		30*	UL Output Power (at port)(dBm)	24
			DL Min Input Level (dBm RSRP)	-120
			DL Max Input Level (dBm RSSI)	-20
			System Gain (Max)(dB)	100
RETURN LOSS (DB)			At all ports	-8
				ort per Operator
DONOR ANTENNAS			Operators Supported (Max)	4
			Impedance (Ohms)	50
	Coverage Unit Support POE - PSE		Number Supported (Max)	6
			Category Cables per CU	2
COVERAGE UNIT			Interface Type	RJ45
			Voltage (Vac)	110
			Power-Typical (W)	415
			Power-Max (W)	510
	Power / Status		LED	RED / GREEN
	CU Link		LED	GREEN
USER INTERFACE	Donor Antenna		LED	GREEN
	Cellular Modem		LED	RED / GREEN
	Etherne	et	LED	Yes
	USB		n/a	Yes
MECHANICAL	Dimensions		L x W x H (mm)	330 x 272 x 85
			Weight (kg)	6.5
	RF Port Connector			N-type (Female)
	Mounting		Wall	Yes
	Cooling		Convection	Yes
	Power / Status		AC to NU	Yes
	Power		On/Off Switch	Yes
ENVIRONMENTAL	Maximum S Temperatu		Measured at 30C Ambient	44
			STANDARDS	
			STANDARDS	

		STANDARDS	
	FCC	Part 15, 22, 24, 27, 20	Yes
	IC (Industry Canada)		No
ENVIRONMENTAL	UL		Yes
	3GPP Repeater Specs		Yes
	Operating Temperature	Ambient	0 - 40C
	Operating reinperature	Ambient	0 - 400

	Relative Humidity	Non-Condensing	0 - 95%
ENVIRONMENTAL	Ingress Protection (IP)		40
	Ingress Protection (IP)	40	40

COVERAGE UNIT				
	Frequency	Downlink (DL) Frequency (MHz)	617 - 2690	
RADIO SPECS		Uplink (UL) Frequency (MHz)	663 - 2690	
	DL Power (dBm)	Per Band	17	
MECHANICAL	RF Port Connector		N-type (Female)	
NETWORK UNIT INTERFACE		INTERFACE TYPE	RJ45 (x2)	
USER INTERFACE	Power / Status	LED	RED / GREEN	
USEK INTEKTACE	NU Link	LED	GREEN	
MECHANICAL	Dimensions	L x W x H (mm)	287 x 255 x 57	
		Weight (kg)	3.9	
	Mounting	Ceiling, Wall	Yes	

NOTE: Specifications subject to change. \*Software upgrade feature.

