XI1
"Felix"

XNET

Indoor Node Specifications

XI1

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Indoor Node Datasheet

INTRODUCTION

The XNET XI1 Felix is an advanced two-carrier indoor eNodeB (eNB) compliant with 3GPP LTE TDD technology. This 4x250mW eNB operates in either Carrier Aggregation (CA) mode or Dual Carrier (DC) mode.

In CA mode, the XI1 Felix supports 2CC (2 Component Carriers) DL/UL CA. 2CC DL/UL CA doubles DL/UL peak throughput compared to a single carrier by aggregating two separate spectrum resources into a virtual contiguous spectrum resource.

In DC mode, each carrier is treated as an independent cell, supporting 64 concurrent users per carrier, with each cell supporting 5, 10, 15, or 20 MHz bandwidth. Using a XI1 Felix in DC mode simplifies and streamlines the deployment of split sectors.

HIGHLIGHTS

- Standard LTE TDD Band 48 and partial 42, 43
- Compact, all-in-one design of internal antenna
- Excellent Non-Line-of-Sight (NLOS) coverage
- Peak rate: Up to DL 290 Mbps and UL 68 Mbps with 2x20 MHz bandwidth
- 2CC DL/UL CA improves the spectrum efficiency of ragmented spectrum resources
- 64 concurrent users per carrier, 128 per eNB
- Integrated small cell form factor for quick and easy installation
- Supports Citizens Broadband Radio Service (CBRS)

TECHNOLOGY

Standard	LTE TDD RAN (3GPP Release 15 compliant)
TDD UL/DL Configuration	1, 2, 6 (with Special Subframe Configuration 7)
Frequency Band	B48 and partial B42, B43 (3550 MHz–3700 MHz)
Channel Bandwidth	SC: 5/10/15/20 MHz CA: 40 MHz as maximum aggregated bandwidth
Multiplexing	MIMO: 2x2 (DL)

INTERFACE

Ethernet Interface	1 optical (SFP) and 1 RJ-45 Ethernet interface (1 GE)
Power Supply	12 VDC 2 A, PoE+/48 V 0.6 A, complies with IEEE 802.3at standard
LED Indicators	4 x status LED CELL1/CELL2/ALM/PWR

PERFORMANCE

Peak Data Rate (DC)	**2x20 MHz**	**DL (Mbps)**	**UL (Mbps)**
	UL/DL Config 1	2x105	2x28
	UL/DL Config 2	2x145	2x14
	UL/DL Config 6	2x85	2x35
	2x10 MHz	**DL (Mbps)**	**UL (Mbps)**
	UL/DL Config 1	2x52.5	2x14
	UL/DL Config 2	2x72.5	2x7
	UL/DL Config 6	2x42	2x17
Peak Data Rate (CA)	**2x20 MHz**	**DL (Mbps)**	**UL (Mbps)**
	UL/DL Config 1	210	56
	UL/DL Config 2	290	28
	UL/DL Config 6	174	68
	2x10 MHz	**DL (Mbps)**	**UL (Mbps)**
	UL/DL Config 1	105	28
	UL/DL Config 2	145	14
	UL/DL Config 6	87	34

	20 MHz + 10 MHz	**DL (Mbps)**	**UL (Mbps)**
	UL/DL Config 1	154.5	42
	UL/DL Config 2	213	21
	UL/DL Config 6	126	51
	20 MHz + 15 MHz	**DL (Mbps)**	**UL (Mbps)**
	UL/DL Config 1	185	48
	UL/DL Config 2	253	24
	UL/DL Config 6	151	60
User Capacity	Up to 64 RRC connected users per cell • SC/CA: 64 RRC connected users		
Latency	30 milliseconds		
Receive Sensitivity	-100 dBm (per channel)		
Modulation	MCS0 (QPSK) to MCS27 (256 QAM) DL: QPSK, 16 QAM, 64 QAM, 256 QAM UL: QPSK, 16 QAM, 64 QAM		
Transmit Power Range	0 to 24 dBm per channel (combined +30 dBm, configurable) (1 dB interval)		
ARQ/HARQ	Supported		
Synchronization	GPS, 1588v2 (default)		

MODULATION LEVELS (ADAPTIVE)

MCS	Modulation Scheme	RSRP (dBm)
0–4	QPSK	-120 ≤ RSRP < -110
5–9	16 QAM	-110 ≤ RSRP < -100
10–19	64 QAM	-100 ≤ RSRP < -85
20–27	256 QAM	RSRP ≥ -85

NOTE: The information provided is for reference only as the environment can impact modulation levels.

FEATURES

Voice	VoLTE*
NSA	Supported

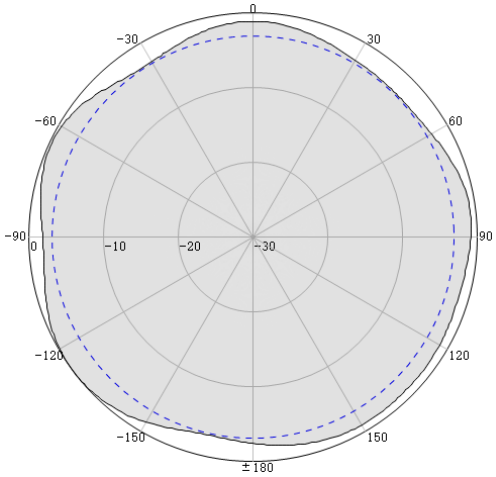
LINK BUDGET

RF Antenna	3 dBi built-in omni antenna
GPS Antenna	External GPS antenna, SMA connector
Maximum EIRP	33 ± 1 dBm
Power Control	UL Open-loop/Closed-loop Power Control, DL Power Allocation (3GPP TS 36.213 compliant)

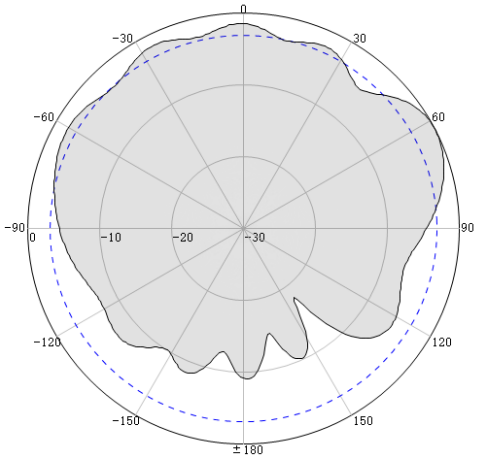
PHYSICAL

MTBF	≥ 150000 hours
MTTR	≤ 1 hour
Operating Temperature	23°F to 113°F / -5°C to 45°C
Storage Temperature	14°F to 122°F / -10°C to 50°C
Humidity	5% to 95% RH
Atmospheric Pressure	70 kPa to 106 kPa
Power Consumption	≤ 20 W
Weight	4.4 lb / 2 kg
Dimensions (HxWxD)	8.7 x 8.7 x 1.9 inches 220 x 220 x 48 millimeters
Installation	Ceiling or wall mount

ANTENNA PATTERN



H-Pattern



V-Pattern