



Pegasus Network

SCALABLE INDOOR AND OUTDOOR PRIVATE 5G NETWORK



Pegasus Network

Outdoor and large indoor up to 100 MHz private 5G network for scalable industrial wireless connectivity

Deploy your private 5G network

Pegasus Network is perfect for bringing reliable and secure wireless connectivity for smart manufacturing, university campuses, logistics applications such as picking and automatic warehouses, both indoor and outdoor.

Pegasus Network is used to connect reliably smartphones, tablets, robots, AGVs, industrial routers, cameras, smart tools, barcode readers and any other 5G devices inside your warehouse, factory and campuses.

What you get

Pegasus Network is composed of :

- 1 hardware server with :
 - Firecell 5G Core software supporting SIM, e-SIM and QoS
 - Firecell Network Management System software with REST API
- 1 to 10 gNodeBs :
 - Mid and High power radios, with hardware server containing Firecell RAN software and high-gain antennas
 - Low power all-in-one indoor radios with integrated antennas

Support with guaranteed response time

Pegasus Network comes with support & maintenance from Firecell's team of experts, that you can access from your own dedicated support page.

Quarterly releases

Firecell publishes software releases 4 times a year, with new features, enhancements and bug corrections. You can upgrade your software version from Firecell's online repository using a simple command.

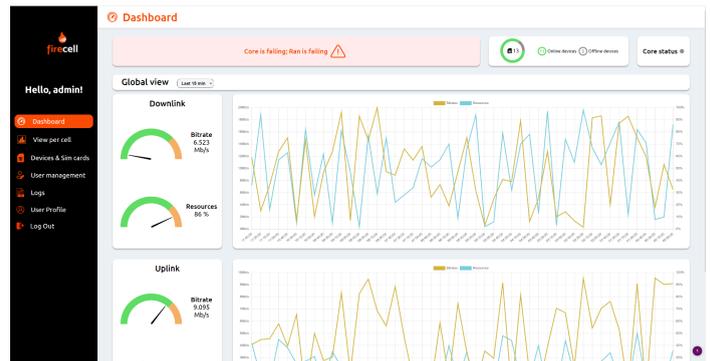
As long as you are subscribed to Firecell's Support & Maintenance, you will get access to Firecell's latest software releases.

Manage your 5G network as an IT administrator

Firecell Network Management System is an intuitive role-based user interface that enables IT administrators to operate their Private 5G network without requiring deep knowledge of 5G.

They can view the status of their Pegasus Pop-Up, the downlink and uplink bitrate, the number of connected devices, for each radio in the network.

Firecell Network Management System also allows you to provision SIM and e-SIM cards for your devices and configure the Quality of Service (QoS) required for each type of stream.



Build your own private 5G network

Pegasus Network allows you to build your network by combining multiple radio units, each with different power output, coverage and maximum bit rate :

RADIO UNIT	POWER	BIT RATE	COUNTRIES	COVERAGE
LOW POWER N48/N77/N78	2 x 250mW	DL : 800 Mbps UL : 80 Mbps	USA, Brasil, Netherlands, Sweden, Australia, France, UK, Belgium, Norway, Canada	30 - 100 m
LOW POWER N79	2 x 250mW	DL : 800 Mbps UL : 80 Mbps	Japan, South Korea, Taiwan	30 - 100 m
MID POWER N38	4 x 5W	DL : 320 Mbps UL : 32 Mbps	France (40 MHz)	300 - 1000 m
MID POWER N40	4 x 5W	DL : 160 Mbps UL : 16 Mbps	Finland (20 MHz), Spain (20 MHz)	300 - 1000 m
MID POWER N77	4 x 2W	DL : 800 Mbps UL : 80 Mbps	Australia, France, UK, Belgium, Norway, Canada	300 - 1000 m
MID POWER N78	4 x 2W or 4 x 5W	DL : 800 Mbps UL : 80 Mbps	Netherlands, Croatia, Poland, Germany, Sweden, Netherlands, Switzerland	300 - 1000 m
HIGH POWER N38	2 x 20W	DL: 320 Mbps UL : 32 Mbps	Germany, Sweden, Netherlands	1 - 5 km

Note : 5G spectrum usage rights must be acquired from the country's frequency regulator.

Installation & integration

Pegasus Network will be installed and integrated at your premises with cables and routers by a System Integrator, after analysis and radio planning of the area to be covered.

Pricing

Contact **Firecell** to get a quote for the **Pegasus Network** solution adapted to your needs.

Technical Specifications

Hardware

5G Core Server	
Dimensions H x W x D / weight	1U half-depth chassis (44 x 482 x 540.5 mm) / 7 kg
CPU	Intel Core i9 2.4 GHz
RAM	64 GB
Storage	SSD 500 GB
Network connectivity	1 x 2.5 GbE Intel NIC 710 with 4x SFP+ 10 GbE slots
Power supply voltage input	100 - 240V AC
Operating system	Linux Ubuntu 20.04 LTS with 5.4.0-126-lowlatency kernel

5G Radio Access Network Server	
Dimensions H x W x D / weight	1U half-depth chassis (44 x 482 x 540.5 mm) / 7 kg
CPU	Intel Core i9 2.4 GHz
RAM	64 GB
Storage	SSD 500 GB
Network connectivity	1 x 2.5 GbE, 4x SFP+ 10 GbE Intel NIC 710 with 4x SFP+ 10 GbE slots SFP+ CPRI interface with embedded GPS receiver 1x 10GbE SFP+ multimode transceiver
Power supply voltage input	100 - 240V AC
Operating system	Linux Ubuntu 20.04 LTS with 5.4.0-126-lowlatency kernel
Synchronisation	GPS
Active Users	32

Low Power all-in-one Radio Unit	
Dimensions H x W x D / weight	250 mm x 250 mm x 65 mm / 2.5 kg
Frequency bands	n77 (3550-4200 MHz), n78 (3550-3800 MHz) or n48 (3550-3700 MHz)
Bandwidth	N48: 20/30/40MHz N77: 40/50/60/70/80/90/100MHz N78: 20/30/40/50/60/70/80/90/100MHz
Max transmitted power	2 x 250 mW
Operating temperature range	-5 °C to +50 °C
IP rating	IP 50
Regulatory	CE (Europe), RoHS, WEEE, REACH (UK)
Antenna	2x integrated omnidirectional antennas / 2 ports for external antennas
Power supply	DC 12V or POE++
Power consumption	<40 W
Active users	32
3GPP release	Release 15
Features	All-in-One BBU + Radio Unit, NG/Xn Handover
Installation	Wall/Ceiling mount
Synchronisation	GPS or PTP

Mid Power Radio Unit	
Dimensions H x W x D / weight	370 mm x 369.2 mm x 91.3 mm / 15 kg
Frequency bands	n77 (3800-4000 MHz) or n78 (3400-3800 MHz)
Bandwidth	up to 100 MHz SISO 1x1, MIMO 2x2 and MIMO 4x4
Max transmitted power	4 x 2W
Operating temperature range	-40 °C to +55 °C
IP rating	IP 66
Regulatory	CE (Europe), RoHS, WEEE, REACH (UK)

High Power Radio Unit	
Dimensions H x W x D / weight	148 mm x 200mm x 295 mm / 12 kg
Frequency bands	n38 (2570-2620 MHz)
Bandwidth	up to 50 MHz SISO 1x1 and MIMO 2x2
Max transmitted power	2 x 20W
Operating Temperature Range	-40 °C to +55 °C
IP Rating	IP 67
Regulatory	CE (Europe), RoHS, WEEE, REACH (UK)

Antenna - omni (bands n78, n79)	
Dimensions H x diameter / weight	850 mm (33.5") x 220 mm (8.6") x 40 mm (1.57") / 6.5 kg
Band / Gain	3300-4200MHz : 11dBi
Type	omnidirectional
Capability	MIMO 4x4
Operating Temperature Range	-40 °C to +70 °C
Fixing	Mounting bracket (included)
Ports	4x 4.3-10 Female

Antenna - sector (bands n78, n79)	
Dimensions H x diameter / weight	750 mm (29.5") x 280 mm (11") x 85 mm (3.3") / 4.3 kg
Band / Gain	3300-4200MHz : 18dBi
Type	sector (beamwidth : 65°)
Capability	MIMO 4x4
Operating Temperature Range	-40 °C to +70 °C
Fixing	Mounting bracket with variable tilt (included)
Ports	4x 4.3-10 Female

Antenna - sector (bands n38, n40)	
Dimensions H x diameter / weight	1076 mm (42.3") x 470 mm (18.5") x 115 mm (4.5") / 15 kg + 3 kg (mounting bracket)
Bands / Gain	2300-2700 MHz / 3400-3800 MHz : 18dBi
Type	sector (beamwidth : 65°)
Capability	MIMO 4x4 per each band
Operating Temperature Range	-40 °C to +70 °C
Fixing	Mounting bracket with electric Tilt (included)
Tilt	eRET
Ports	4x 4.3-10 Female per each band

Low Power all-in-one Radio Unit	
Dimensions H x W x D / weight	250 mm x 250 mm x 65 mm / 2.5 kg
Frequency bands	n77 (3550–4200 MHz), n78 (3550–3800 MHz) or n48 (3550–3700 MHz)
Bandwidth	N48: 20/30/40MHz N77: 40/50/60/70/80/90/100MHz N78: 20/30/40/50/60/70/80/90/100MHz
Max transmitted power	2 x 250 mW
Operating temperature range	-5 °C to +50 °C
IP rating	IP 50
Regulatory	CE (Europe), RoHS, WEEE, REACH (UK)
Antenna	2x integrated omnidirectional antennas / 2 ports for external antennas
Power supply	DC 12V or POE++
Power consumption	<40 W
Active users	32
3GPP release	Release 15
Features	All-in-One BBU + Radio Unit, NG/Xn Handover
Installation	Wall/Ceiling mount
Synchronisation	GPS or PTP

Software

5G Core Network software	
Network functions	SMF, AUSF, UDM, UDR, AMF, UPF, NSSRF, NRF, PCF
Container platform	Docker

5G Radio Access Network software	
Frequency bands	n38 (2600MHz) / n40 (2300MHz) / n77 (3700MHz) / n78 (3500MHz) / n79 (4800 MHz)
Bandwidth	40/100 MHz
Transmission Modes (downlink)	SISO, MIMO 2x2
Modulation schemes	Up to 256 QAM
Subcarrier spacing	30 kHz
Active users	32

5G Network Management System software	
Dashboard	Core & Cell status, global number of active / connected devices, global downlink & uplink bit rate / resource consumption, detailed list of cells
Cell metrics	Downlink & uplink bit rate / resource consumption, number of connected devices
SIM management	Add SIM, device status (online, offline)
User management	Add, remove, manage user profiles (Standard, Expert, Admin)
QoS management	Priority configuration of streams (IP / port range)
Logs	User connections