

# Tiesse

Innovation made in Italy

## Network Products catalogue 2022



## IMOLA Series

[www.tiesse.com](http://www.tiesse.com)

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# Broadband and cellular routers

## Highlights

### High availability—Mission Critical

**Seamless backup** - The user doesn't notice any service interruption and the following passage to backup mode.

**Homogeneous Backup** - One single router is equipped with both wired and mobile ports.

**Multiple backup** - Two routers connected with VRRP creates the physical backup of both network and hardware.

**Heterogeneous Backup** - You can upgrade the devices installed base with a mobile router and use the VRRP protocol (Virtual Router Redundancy Protocol).

### FIBER ACCESS

- Single and/or multiple fiber access for LAN and WAN via fiber and optic cables
- GPON connections are supported
- Different types of transceivers supported:
  - max data rate 1000 Mbps (SX,BX, LX, ZX)
  - supported connectors: LC simplex, LC duplex, RJ45

### eVDSL - NEW GENERATION NETWORK

**Support of the new generation networks (NGN) and ensuring:**

- Support for VDSL2 profiles: from 8 MHz up to 35 MHz, in accordance with ITU-T G993.2 Annex Q standard (35b profiles or Vplus) capable of aggregating rates up to 400 Mbps
- G.Vector standard-compliant (ITU-T G.993.5)
- ITU-T G.998.4G.INP standard-compliant (impulse noise protection)
- ADSL2 compatible (backward compatibility)

### Add-ons

Our products are provided with optional add-ons like omnidirectional outdoor **antennas** and **rack mount kits** as well as a wide range of **SFP transceivers** for the model with fiber access..

Refer to the specific documentation on both add-ons and supported SFP transceiver for more information.

### 4G FEATURES CAT 4 \*

#### Frequencies

- LTE 800 / 900 / 1800 / 2100 / 2600 Mhz
- WCDMA 900 / 2100 Mhz
- EDGE / GPRS / GSM 900 / 1800 / 1900

#### Radio interfaces

- LTE with 150 Mbps downlink data rate and 50 Mbps uplink data rate
- HSPA+, with 21.1 Mbps in Downlink data rate and 5.7 in Uplink data rate with fallback EDGE / GPRS
- Support of Dual Cell HSPA mode
- Multiple Input/Multiple Output (MIMO) support included
- It is possible to activate and configure two or more APNs simultaneously

### 4G ANTENNAS

- Multiple Input / Multiple Output (MIMO) support
- 2 removable antennas (SMA male)
- Optional:: outdoor high gain antennas are also available (omnidirectional and directional) for outdoor installation

### 5G FREQUENCIES

#### 5G FR1

- n1, n2, n3, n5, n7, n12, n14, n20, n28, n30, n41, n66, n71, n77, n78, n79

#### 5G LTE

- 1, 2, 3, 4, 5, 8, 9, 12, 13, 14, 17, 18, 19, 20, 26, 28, 71, 25, 66, 39, 29 (DL), 30, 32, 7, 38, 40, 41, 42, 43, 46, (LAA), 48 (CBRS), 34, 27

#### WCDMA

- 5, 8, 3, 4, 2, 1, 9, 19

# Imola x262-IKH

## VDSL2 + 2M V.35 series



### Broadband & Cellular Routers

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#### Imola x262 VDSL2 - 2M V-35 series

The Imola VDSL - 2M V.35 series is part of the Imola product line, which is composed by certified routers, used in the networks of the main telecommunication operators.

All models have **VDSL2 fixed connectivity**, a **2M V.35 port** as well as the integration with the **TNA suite** (Tiesse Network Automation).

The 5262 models have an integrated 4G cellular connectivity.

Imola Models	GE	HDSL	VDSL	4G LTE	TNA
<b>0262-IKH</b> 	•	•	•	-	•
<b>5262-IKH</b> 	•	•	•	•	•

# Broadband & Cellular Routers - Imola x262-IKH

## VDSL2 - 2M V.35 series



Imola 0262-IKH  
Imola 5262-IKH

HARDWARE FEATURES			0262-IKH	5262-IKH
LAN	GE	10/100/1000 Mbps ports - RJ45 connectors; with or without autonegotiation configurable	5	5
WAN	GE-WAN	10/100/1000 Mbps WAN port - RJ45 connector	1	1
	ADSL 2/2+ VDSL HDSL	Full rate ADSL2/2+ / VDSL2, RJ11 connector ADSL2/2+: downstream data rate up to 24 Mbps — upstream data rate up to 3.5 Mbps VDSL2: supports for profiles VDSL2: 8 MHz to 30 MHz HDSL: LFH 60 port Interface V.35 2Mbit	1	1
RADIO CELLULAR	GSM / GPRS / EDGE	Frequency band: 900/1800/1900 MHz GPRS multislots 10, EDGE multislots 12	•	•
	UMTS / HSDPA / HSUPA / HSPA+	Frequency band: 900/2100 Mhz HSDPA data rates up to category 20 HSUPA data rates up to category 6	•	•
	DC-HSPA+	Frequency band: 900/2100 Mhz	•	•
	LTE	Frequency band: 800 / 900 / 1800 / 2100 / 2600 Mhz Data rates (category 4, MIMO)* - Peak data rates 150 Mbps DL, 50 Mbps UL WCDMA 900/2100	•	•
CONSOLE		RJ45 connector	1	1

SYSTEM FEATURES		
POWER	Power supply	AC/DC adapter (internal Universal 100-240 VAC) Power Switch ON/OFF
	PSU option	DC/DC 12V-24V-48V version (multirange 9-75)
	Consumption	< = 12W (Full configuration)
ENVIRONMENT	Operating temperature	-5° C / +50° C -25° C / +70° C (96 hours)
	Storage temperature	-40° C / +70° C
	Max operating humidity	93% (non condensing)
PROCESSOR		RISC Network processor
MEMORY	DRAM	Default 128 MB up to 256 MB - DDR2
	Flash memory	32 MB up to 1GB

EXTERNAL HARDWARE FEATURES		
HOUSING	Material	Metal - color: black
	Dimensions (W x H x D)	274 x 48,8 x 197,5 mm
	Weight	2.100 gr ±10%
ANTENNAS	Radio cellular	2 x external, removable, SMA male connector - MIMO
MOUNTING	Default	Desktop / horizontal plane
	Optional	Rack mounting kit (not included)
LED	Status LED	1 x power / operational status
	Ethernet	2 x operational status (for each port)
	xDSL	1 x connection status
	Radio cellular	1 x radio-cellular connection status
		1 x radio-cellular data activity

\* category 6 and 12 available on request



# Imola x262-IKS

## G.SHDSL series



### Broadband & Cellular Routers

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#### Imola x262 - G.SHDSL series

The Imola G.SHDSL series is part of the Imola product line, which is composed by certified routers, used in the networks of the main telecommunication operators.

All models have **G.SHDSL fixed connectivity** as well as the integration with the **TNA suite** (Tiesse Network Automation).

The 5262 models have an integrated 4G cellular connectivity.

Models	GE	G.SHDSL	VDSL	4G LTE	TNA
0262-IKS					
	•	•	•	—	•
0262-IKS-IKW					
	•	•	•	•	•

# Broadband & Cellular Routers - Imola x262-IKS

## G.SHDSL series



Imola 0262-IKS  
Imola 5262-IKS

HARDWARE FEATURES			0262-IKH	5262-IKH
LAN	GE	10/100/1000 Mbps ports - RJ45 connectors; with or without autonegotiation configurable	5	5
WAN	GE-WAN	10/100/1000 Mbps WAN port - RJ45 connector	1	1
	ADSL 2/2+ VDSL G.SHDSL	Full rate ADSL2/2+ / VDSL2, RJ11 connector ADSL2/2+: downstream data rate up to 24 Mbps — upstream data rate up to 3.5 Mbps VDSL2: supports for profiles VDSL2: 8 MHz to 30 MHz G.SHDSL: RJ11 ports - both downstream and upstream up to 4 Mbps	1	1
RADIO CELLULAR	GSM / GPRS / EDGE	Frequency band: 900/1800/1900 MHz GPRS multislots 10, EDGE multislots 12	•	•
	UMTS / HSDPA / HSUPA / HSPA+	Frequency band: 900/2100 Mhz HSDPA data rates up to category 20 HSUPA data rates up to category 6	•	•
	DC-HSPA+	Frequency band: 900/2100 Mhz	•	•
	LTE	Frequency band: 800 / 900 / 1800 / 2100 / 2600 Mhz Data rates (category 4, MIMO)* - Peak data rates 150 Mbps DL, 50 Mbps UL WCDMA 900/2100	•	•
CONSOLE		RJ 45 connector	1	1

SYSTEM FEATURES		
POWER	Power supply	AC/DC adapter (internal Universal 100-240 VAC) Power Switch ON/OFF
	PSU option	DC/DC 12V-24V-48V version (multirange 9-75)
	Consumption	< = 12W (Full configuration)
ENVIRONMENT	Operating temperature	-5° C / +50° C -25° C / +70° C (96 hours)
	Storage temperature	-40° C / +70° C
	Max operating humidity	93% (non condensing)
PROCESSOR		RISC Network processor
MEMORY	DRAM	Default 128 MB up to 256 MB - DDR2
	Flash memory	32 MB up to 1GB

EXTERNAL HARDWARE FEATURES		
HOUSING	Material	Metal - color: black
	Dimensions (W x H x D)	274 x 48,8 x 197,5 mm
	Weight	2.100 gr ±10%
ANTENNAS	Radio cellular	2 x external, removable, SMA male connector - MIMO
MOUNTING	Default	Desktop / horizontal plane
	Optional	Rack mounting kit (not included)
LED	Status LED	1 x power / operational status
	Ethernet	2 x operational status (for each port)
	xDSL	1 x connection status
	Radio cellular	1 x radio-cellular connection status 1 x radio-cellular data activity

\* category 6 and 12 available on request

# Imola LX series

## Highlights

The **Imola LX** router series is part of the evolution of the IMOLA line, which are certified routers used in the networks of the main telecommunications operators: the models are particularly suitable to be used in business applications where security, service continuity and network performance are of primary importance.

Imola LX support ultra broadband connectivity both fixed and mobile in a all-in-one device, which integrates routing, switching and modem functionalities.

### KEY BENEFITS

All models of the Imola LX series have these key factors:

- ⇒ Security
- ⇒ Service continuity (always-on connectivity, multiple backups)
- ⇒ Quality of Service (QoS)
- ⇒ Hardware and software at the highest levels of reliability
- ⇒ Zero touch provisioning
- ⇒ Factory pre-configuration, different for each client
- ⇒ Very low energy consumption

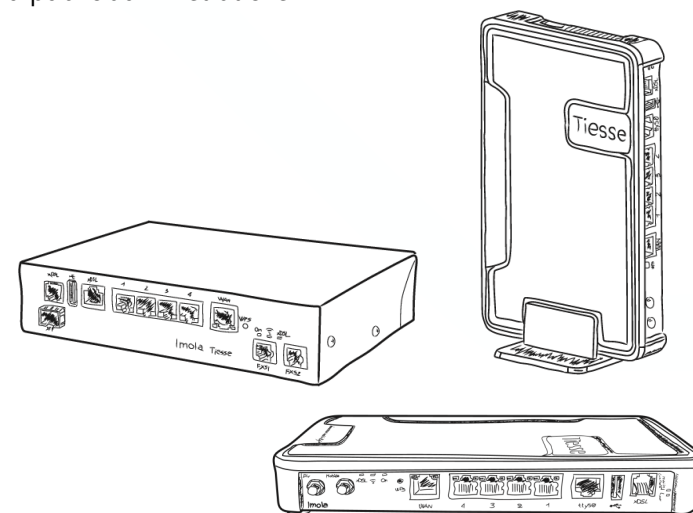
In addition, the cellular models have:

- ⇒ SIMs are installed and tested in factory on each device
- ⇒ 100% of the routers are tested in factory (as well as the SIM cards of the 4G models)

### APPLICATIONS

**Imola LX** models are installed at the client's locations (customer premises), in business scenarios such as:

- Services and offer profiles of Telco operators, internet and digital service providers
- Distributed and secure access to branches and remote locations of banks, insurance companies, dealers, franchises, companies and public administrations





# Imola LX x272

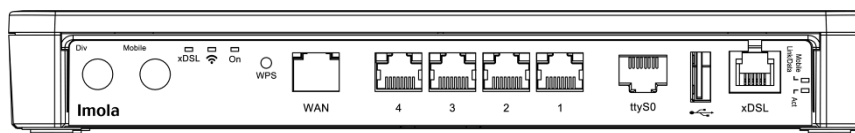
## VDSL only



## Broadband & Cellular Routers

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### Imola LX 0272-IKW-V



### Imola LX 0272-IKW-V model

The **Imola LX series** routers are part of the evolution of the IMOLA line, which are certified routers used in the networks of the main telecommunications operators.

Thanks to the **ADSL2 / VDSL2** and WAN Giga Ethernet connectivity, they are particularly suitable for business applications where **security**, **service continuity** and **network performance** are of primary importance.

#### HARDWARE FEATURES

LAN	FE	-
	GE	4 x 10/100/1000 Mbps ports - RJ45 connectors
	Wi-Fi	1 x 802.11 b/g/n port (2.4 GHz)
WAN	GE-WAN	1 x 10/100/1000 port Mbps - RJ45 connector (label WAN)
	ADSL 2/2+ VDSL	Full rate ADSL2/2+ / VDSL2 ADSL2/2+: downstream data rate up to 24 Mbps — upstream data rate up to 3.5 Mbp VDSL2: support for all VDSL2 profiles: 8 MHz to 30 MHz ITU-T G993.2 RJ11 connector
CONSOLE		1 x RJ45 connector
USB	3.0	1 x 3.0 USB port

# Broadband & Cellular Routers - Imola LX x272

## VDSL only

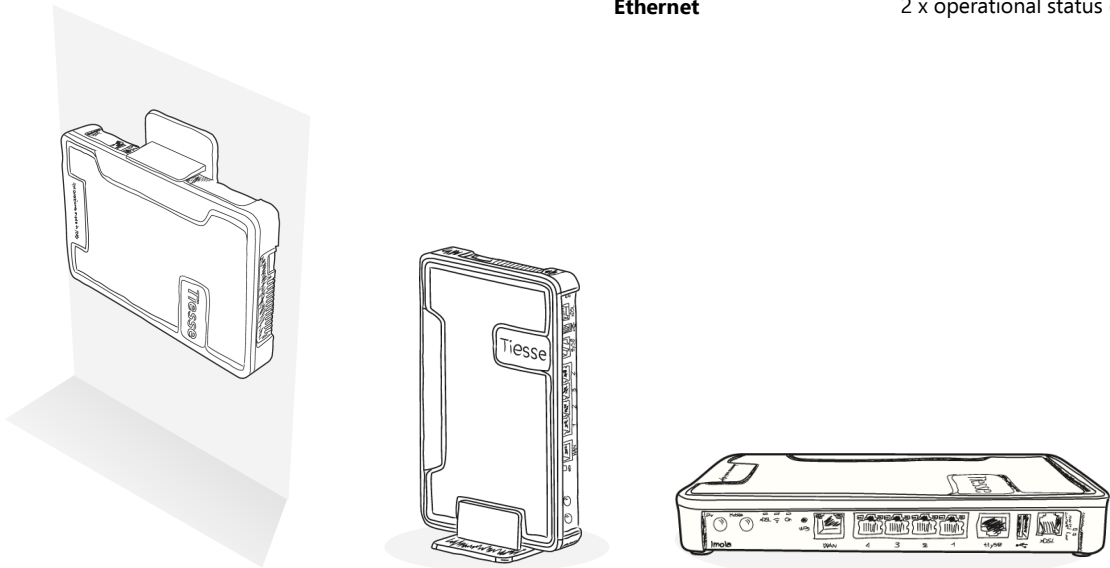


SYSTEM FEATURES		
POWER	Power supply	12 V AC/DC Adapter
	Consumption	< = 12W (Full configuration)
ENVIRONMENT	Operating temperature	-5° C / +50° C
	Storage temperature	-40° C / +70° C
	Max operating humidity	93% (non condensing)
PROCESSOR		RISC Network processor
MEMORY	DRAM	256 MB - DDR3
	Flash memory	256 MB

EXTERNAL HARDWARE FEATURES		
HOUSING	Material	Plastic - Black color
	Dimensions (W x H x D)	Plastic model: 142,4 x 29,7 x 225,4 mm
	Weight	Plastic model: 520 gr ±10%
ANTENNAS	Radio	Plastic model: internal antennas
		Metal chassis variant: 2 x external and removable antennas, with SMA male connector
MOUNTING	Default	Desktop / horizontal plane
	Optional	Plastic model: vertical positioning and wall mounting (kit included) - not rack mountable
LED	Status LED	1 x power / operational status
	xDSL	1 x connection status
	Radio	1 x radio signal activity
	Ethernet	2 x operational status (for each port)

### Multiple positioning option

This router can be placed on a horizontal surface, such as a desk, but thanks to the supplied bracket, it can be placed vertically on a flat surface, or fixed to a vertical surface such as a wall.



# Imola LX x272

## eVDSL + FTTH (copper) series



### Broadband & Cellular Routers

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#### Imola LX x272 series - EVDSL, FTTH (copper), LTE routers

The Imola LX x272 series is part of the Imola product line, which is composed by certified routers, used in the networks of the domestic telecommunication operators.

All models have **eVDSL fixed connectivity**, **GE ports**, the WAN port supports **FTTH (copper wire)** connection.

The IKW models have b/g/n Wi-Fi, while the IK2W models have dual Wi-Fi, 2.4 and 5 GHz, which can be used simultaneously.

The 5272 models have an integrated **4G cellular** connectivity.

All Imola LX x272 are integrated with the **TNA suite** (Tiesse Network Automation).

Models	GE	FTTH	EVDSL	2.4 GHz	5 GHz	4G LTE	TNA
LX 0272-IKW	•	•	•	•	-	-	•
LX 0272-IK2W	•	•	•	-	•	-	•
LX 5272-IKW	•	•	•	•	-	•	•
LX 5272-IK2W	•	•	•	-	•	•	•

# Broadband & Cellular Routers - Imola LX x272

## eDSL + FTTH (copper) series



Imola LX 0272-IKW  
Imola LX 0272-IK2W  
Imola LX 5272-IKW  
Imola LX 5272-IK2W

HARDWARE FEATURES			LX 0272-IKW	LX 0272-IK2W	LX 5272-IKW	LX 5272-IK2W
LAN	GE	10/100/1000 Mbps ports, RJ45 connectors	4	4	4	4
	Wi-Fi	802.11 b/g/n port (2.4 GHz) 2x2	1	-	1	-
		802.11 b/g/n port (2.4 GHz) 2x2 + 802.11 ac port (5.4 GHz) 3x3	-	1	-	1
WAN	GE-WAN	1 x 10/100/1000 port Mbps - RJ45 connector (label WAN)	1	1	1	1
RADIO CELLULAR	ADSL 2/2+ VDSL eVDSL	Full rate ADSL2/2+ / VDSL2, RJ11 connector ADSL2/2+: downstream data rate up to 24 Mbps — upstream data rate up to 3.5 Mbps VDSL2: support for profiles VDSL2: 8 MHz to 30 MHz eVDSL: support for 35 MHz ITU-T G993.2 Annex Q (35b or Vplus) profile	1	1	1	1
	GSM / GPRS / EDGE	Frequency band: 900/1800/1900 MHz GPRS multislots 10, EDGE multislots 12	•	•	•	•
	UMTS / HSDPA / HSUPA / HSPA+	Frequency band: 900/2100 Mhz HSDPA data rates up to category 20 - HSUPA data rates up to category 6	•	•	•	•
	DC-HSPA+	DC-HSPA+ (42 Mbps in DL)	•	•	•	•
	LTE	Frequency band: 800 / 900 / 1800 / 2100 / 2600 Mhz Data rates (category 4, MIMO)* - Peak data rates 150 Mbps DL, 50 Mbps UL WCDMA 900/2100	•	•	•	•
CONSOLE		RJ45 connector	1	1	1	1
USB		USB 3.0 port	1	1	1	1

SYSTEM FEATURES		
POWER	Power supply	12 V AC/DC Adapter Power Switch ON/OFF
	Consumption	< = 12W (Full configuration)
ENVIRONMENT	Operating temperature	Plastic model: -5° C / +50° C Metal chassis model: -25° C / +70° C (96 hours)
	Storage temperature	-40° C / +70° C
	Max operating humidity	93% (non condensing)
PROCESSOR		RISC Network processor
MEMORY	DRAM	256 MB - DDR3
	Flash memory	256 MB

EXTERNAL HARDWARE FEATURES		
HOUSING	Material	Plastic: color black
	Dimensions (W x H x D)	142,4 x 29,7 x 225,4 mm
	Weight	0272 models: 520 gr ±10% - 5272 models: 620 gr ±10%
ANTENNAS	Radio WLAN	Plastic model: internal antennas Metal chassis model: 2 x external, removable, SMA male connectors
	Radio cellular	2 x 4G removable antennas, SMA male connector
MOUNTING	Default	Desktop / horizontal plane
	Optional	See next page
LED	Status LED	1 x power / operational status
	Ethernet	2 x operational status (for each port)
	xDSL	1 x connection status
	Radio cellular	1 x radio signal activity

\* category 6 and 12 available on request

# Broadband & Cellular Routers - Imola LX x272

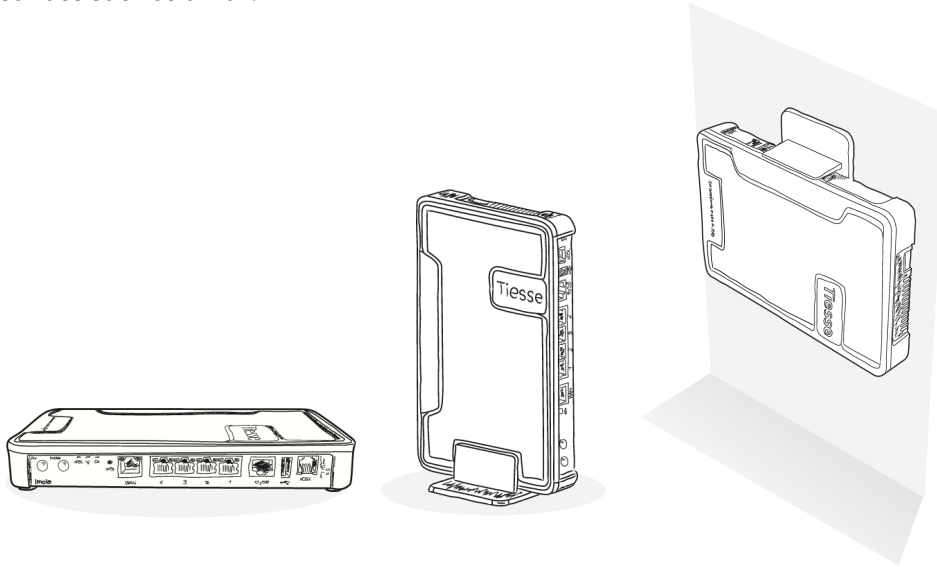
## eVDSL + FTTH (copper) series



Imola LX 0272-IKW  
Imola LX 0272-IK2W  
Imola LX 5272-IKW  
Imola LX 5272-IK2W

### Multiple positioning option

This router can be placed on a horizontal surface, such as a desk, but thanks to the supplied kit, it can be placed vertically on a flat surface, or fixed to a vertical surface such as a wall.



### Metal Chassis and Rugged Variant

Metal chassis variant is available on request for mass production or industrial projects: it has an extended operating temperature range going from -25° C to +70° C.

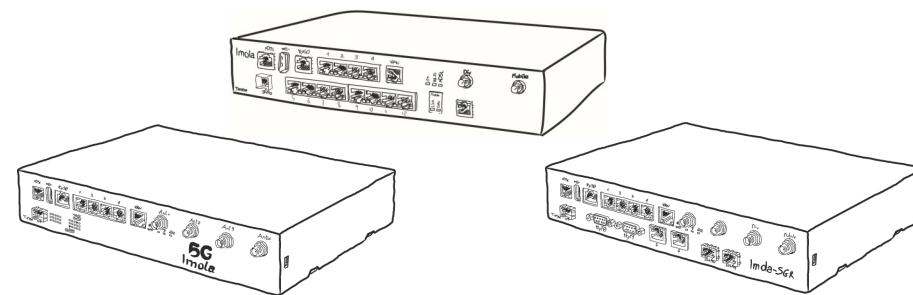
The metal chassis variant is available for Imola LX x272-IKW only.

It is rack-mountable thanks to the specific rack mount kit, which is optional and not included in the package.



# Imola series

## Highlights



The **Imola series** is an innovative line of routers with VDSL Enhanced ultra broadband connectivity and fiber, with 14 Ethernet ports (5 Gigabit and 9 Fast Ethernet) and Wi-Fi.

The routers are certified and used in the networks of the main telecommunications operators: the series is particularly suitable for use in business applications where safety, service continuity and network performance are of primary importance.

They support fixed and mobile broadband connectivity in a single all-in-one device, integrating routing, switching and modem functionality.

### KEY BENEFITS

All models of the Imola series have these key factors:

- ⇒ Carrier grade reliability of hardware and software
- ⇒ Quality of Service (QoS)
- ⇒ Robustness (fanless, internal power supply, metal chassis, operation at extended temperature ranges)
- ⇒ Zero Touch provisioning
- ⇒ Factory pre-configurations, differentiated by customer
- ⇒ Minimum energy consumption

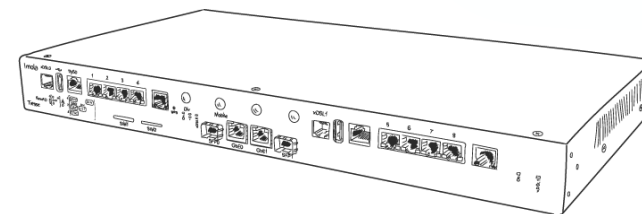
In addition, the cellular models have:

- ⇒ SIMs are installed and tested in factory on each device
- ⇒ 100% of the routers are tested in factory (as well as the SIM cards of the 4G models)

### SCENARIOS

The **Imola** models guarantee service continuity in distributed networks and mission-critical applications such as:

- ⇒ Services and offer profiles of Telco operators, internet and digital service providers, with fiber access, eVDSL, LTE or their combinations
- ⇒ Backup and redundancy over multiple links, optimized for branch offices and ultra-connected remote offices
- ⇒ Business applications that need always-on links and quality of service





# Imola 5572-SGR

## Ultra broadband 5G router



### Broadband & Cellular Routers

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**Imola 5572-SGR** is a latest generation 4G/5G router (release 15). It's an integral part of the IMOLA series, certified routers used in the networks of major telecom operators.

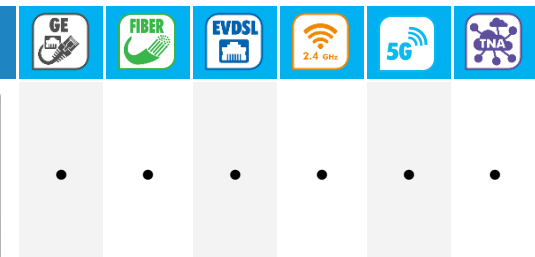
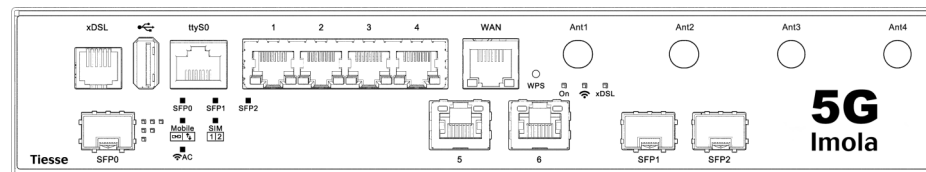
Imola 5572-SGR is an all-in-one 5G router with fiber and eVDSL connectivity; it is particularly suitable to be used in business applications where security, service continuity and network performance are of primary importance.

The 5572-SGR model is also available in a dual Wi-Fi version (b/g/n at 2.4 GHz and ac 5ghz). High-performance routing, switching, and modem capabilities allow you to leverage broadband network speeds for data, voice, and video service applications.

#### KEY BENEFITS

- ⇒ Safety
- ⇒ High performance for Giga networks
- ⇒ Reliability of hardware and software
- ⇒ Quality of service (Qos)
- ⇒ Ruggedness (fanless, internal power supply, metal chassis, Operation at extended temperature ranges)
- ⇒ Zero Touch provisioning
- ⇒ Factory preconfigurations, differentiated by customer
- ⇒ 100% factory tested equipment (including SIM cards for 4G models)
- ⇒ Minimum energy consumption

#### Imola 5572-SGR



#### USE SCENARIOS



Thanks to the support for 5G, LTE, and WCDMA Imola 5572-SGR is designed to support 5G scenarios described by networks, **Imola 5572-SGR** can be used globally to 3GPP, including standalone 5G NR (SA), take advantage of the benefits of 5G and Gigabit 4G non-standalone (NSA), dual connectivity LTE-5G NR networks for high-performance, bandwidth-intensive applications, such as broadcasting and streaming. (EN-DC) and dynamic spectrum sharing between LTE and 5G.

# Broadband & Cellular Routers - Imola 5572-SGR

## GbE + Fiber + eVDSL + 5G



HARDWARE FEATURES			5572-SGR
LAN	GE	10/100/1000 Mbps ports, RJ45 connectors	6
	Fiber	SFP cage for fiber connections (SFP module not included)	1
	Wi-Fi	WLAN 802.11 b/g/n (2.4 Ghz) port	2
WAN	GE / SFP	GE 10/100/1000 Mbps (RJ45 connector) combo port with WAN SFP port (label SFP0)	1
	ADSL 2/2+ VDSL eVDSL	<p>Full rate ADSL2/2+ / VDSL2, RJ11 connector</p> <p>ADSL2/2+: downstream data rate up to 24 Mbps — upstream data rate up to 3.5 Mbps</p> <p>VDSL2: supports for profiles VDSL2: 8 MHz to 30 MHz ITU-T G993.2</p> <p>eVDSL: support 35 MHz ITU-T G993.2 Annex Q (35b or Vplus) profile with aggregate rates up to 400 Mbps</p>	1
RADIO CELLULAR	UMTS / HSDPA / HSUPA / HSPA+	<ul style="list-style-type: none"> <li>– 3G HSPA+ Release 8</li> <li>– Throughput 3G: 42 Mbps download and 11 Mbps upload (*)</li> </ul>	•
	WCDMA	Frequencies: 5, 8, 3, 4, 2, 1, 9, 19	•
	LTE	<ul style="list-style-type: none"> <li>– Data rates: 7 CA up to 20 layers in download and 3 CA in upload, 256-QAM in download/upload</li> <li>– Frequency range : 1, 2, 3, 4, 5, 8, 9, 12, 13, 14, 17, 18, 19, 20, 26, 28, 71, 25, 66, 39, 29 (DL), 30, 32, 7, 38, 40, 41, 42, 43, 46, (LAA), 48 (CBRS), 34, 27</li> <li>– Throughput 4G: up to 1 Gbps in download and 211 Mbps in upload (*)</li> </ul>	•
	5G	<ul style="list-style-type: none"> <li>– 5G sub-6 FDD and TDD supported</li> <li>– 5G core network Opt. 3a/3X and Opt 2</li> <li>– Throughput 5G: up to 1 Gbps in download and 1 Gbps in upload (*)</li> <li>– Frequency range 1 (FR1): n1, n2, n3, n5, n7, n12, n14, n20, n28, n30, n41, n66, n71, n77, n78, n79</li> </ul>	•
CONSOLE		RJ45 connector	1
USB		USB 3.0 port	1

\* category 6 and 12 available on request

# Broadband & Cellular Routers - Imola 5572-SGR

## GbE + Fiber + eVDSL + 5G



### SYSTEM FEATURES

POWER	Power supply	AC/DC (internal Universal 100-240 VAC) Power Switch ON/OFF
	Consumption	< = 12W (Full configuration)
ENVIRONMENT	Operating temperature	25° C / +70° C (96 hours) -40° C / +70° C (4 hours)
	Storage temperature	-40° C / +70° C
	Max operating humidity	93% (non condensing)
PROCESSOR		Dual CORE 1 GHz
MEMORY	DRAM	DRAM 256 MB DDR3
	Flash memory	256 MB

### EXTERNAL HARDWARE FEATURES

HOUSING	Material	Metal - black
	Dimensions (W x H x D)	274 x 48.8 x 197.5 mm
ANTENNAS	Radio WLAN	2 external removable antennas SMA male connector
	Radio cellular	4 external removable antennas SMA male connector
MOUNTING	Default	Desktop / horizontal plane
	Optional	Rack mounting kit (not included)
LED	Status LED	1 x power / operational status
	Ethernet	2 x operational status (for each port)
	SFP	1 x operative status - for each port
	xDSL	1 x connection status
	Wi-Fi	1 x 2.4 GHz radio signal activity
	Radio cellular	1 x radio cellular connection status
		1 x radio cellular data exchange activity
		1 x operational SIM

## A collection of various black network routers and switches, some with multiple antennas, displayed on a light blue background with a white diagonal stripe. The devices are arranged in a cluster, showing different models and sizes. Some have multiple antennas, while others have fewer. They are all connected to a network, as indicated by the presence of Ethernet ports and cables.



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Models	FE	GE	PoE	EVDSL	FIBER	2.4 GHz	2.4 GHz	4G LTE	TNA
0872-IKF-IKW		●	●	—	●	●	—	—	●
0872-IKF-IK2W		●	●	—	●	—	●	—	●
0872-IKF-IKW-PoE		●	●	●	●	●	—	—	●
5872-IKF-IKW		●	●	—	●	●	—	●	●
5872-IKF-IK2W		●	●	—	●	—	●	●	●
5872-IKF-IKW-PoE		●	●	●	●	●	—	●	●

The Imola x872 series is an innovative line of routers with VDSL Enhanced ultra broadband and fiber connectivity, with 14 Ethernet ports (5 Gigabit and 9 Fast Ethernet) and Wi-Fi.

Imola x872 series support fixed and mobile broadband connectivity in a single all-in-one device, integrating routing, switching and modem functionality.

The 5872 models have an integrated **4G cellular** connectivity.

All Imola x872 are integrated with the **TNA suite** (Tiesse Network Automation).

# Broadband & Cellular Routers - Imola x872-IKF

## eVDSL + GbE + Fiber



Imola 0872-IKF-IKW      Imola 5872-IKF-IKW  
 Imola 0872-IKF-IK2W      Imola 5872-IKF-IK2W  
 Imola 0872-IKF-IKW-PoE      Imola 5872-IKF-IKW-PoE

HARDWARE FEATURES			0872			5872		
LAN	FE	10/100 Mbps ports, RJ45 connector	8	8	8	8	8	8
	GE	10/100/1000 Mbps ports - RJ45 connectors	4	4	4	4	4	4
	PoE	Poe Port (label eps0)	-	-	1	-	-	1
	Wi-Fi	802.11 b/g/n port (2.4 GHz) 2x2	1	-	1	1	-	1
		802.11 b/g/n (2.4 GHz) 2x2 + 802.11 ac (5 GHz) port 3x3	-	1	-	-	1	-
WAN	GE-WAN	10/100/1000 Mbps WAN port, RJ45 connector	1	1	1	1	1	1
	SFP WAN	SFP Cage for Fiber and GPON connections (SFP module not included)	1	1	1	1	1	1
	ADSL 2/2+ VDSL eVDSL	Full rate ADSL2/2+ / VDSL2, RJ11 connector  ADSL2/2+: downstream data rate up to 24 Mbps — upstream data rate up to 3.5 Mbps VDSL2: supports for profiles VDSL2: 8 MHz to 30 MHz ITU-T G993.2 eVDSL: support 35 MHz ITU-T G993.2 Annex Q (35b or Vplus) profile with aggregate rates up to 400 Mbps	1	1	1	1	1	1
RADIO CELLULAR	GSM / GPRS / EDGE	Frequency band: 900/1800/1900 MHz GPRS multslot 10, EDGE multslot 12	-	-	-	•	•	•
	UMTS / HSDPA / HSUPA / HSPA+	Frequency band: 900/2100 Mhz HSDPA data rates up to category 20 HSUPA data rates up to category 6	-	-	-	•	•	•
	DC-HSPA+	DC-HSPA+ (42 Mbps in DL)	-	-	-	•	•	•
	LTE	Frequency band: 800/900/1800/2100/2600 MHz Data rates (category 4, MIMO)* - Peak data rates 150 Mbps DL, 50 Mbps UL WCDMA 900/2100	-	-	-	•	•	•
CONSOLE		RJ45 connector	1	1	1	1	1	1
USB		USB 3.0 port	1	1	1	1	1	1

\* category 6 and 12 available on request

# Broadband & Cellular Routers - Imola x872-IKF

## eVDSL + GbE + Fiber



Imola 0872-IKF-IKW  
Imola 0872-IKF-IK2W  
Imola 0872-IKF-IKW-PoE

Imola 5872-IKF-IKW  
Imola 5872-IKF-IK2W  
Imola 5872-IKF-IKW-PoE

### SYSTEM FEATURES

POWER	Power supply	AC/DC adapter (Internal Universal 100-240 VAC) Power Switch ON/OFF
	PSU option	DC/DC 12V version - DC/DC 24V-48V version
	Consumption	< = 12W (Full configuration)
ENVIRONMENT	Operating temperature	-25° C / +70° C (96 hours)
	Storage temperature	-40° C / +70° C
	Max operating humidity	93% (non condensing)
PROCESSOR		RISC Network processor
MEMORY	DRAM	DRAM 256 MB
	Flash memory	256 MB

### EXTERNAL HARDWARE FEATURES

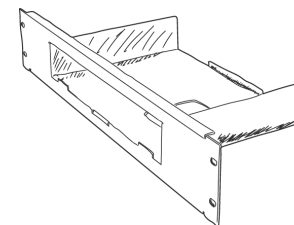
HOUSING	Material	Metal
	Dimensions (W x H x D)	274 x 48.8 x 197.5 mm
	Weight	1950 gr ± 10%
ANTENNAS	Radio WLAN	SMA male connector - External removable antennas SGR models: 2 antennas - IK2W models: 5 antennas
	Radio cellular	2 x 4G external removable antennas, SMA male connector
MOUNTING	Default	Desktop / horizontal plane
	Optional	Rack mounting kit (not included)
LED	Status LED	1 x power / operational status
	Ethernet	2 x operational status (for each port)
	xDSL	1 x connection status
	Wi-Fi	1 x radio signal activity
	Radio cellular	1 x radio-cellular connection status 1 x radio-cellular data activity

### Add-ons for Imola products

**IMOLA** series is provided with optional add-ons like omnidirectional outdoor antennas and brackets for mounting on a 2U rack.

The fiber models also support a wide range of SFP transceivers.

Refer to the specific documentation on both add-ons and supported SFP transceiver for more information.





# Imola SGR & IK2x

## eVDSL + Multi-fiber ports series



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### Imola Multi-fiber ports series - eVDSL, GbE and Fiber routers

The Imola Multi-fiber series is part of the Imola product line, which is composed by certified routers, used in the networks of the main telecommunication operators.

All models have **eVDSL fixed connectivity, GE ports**, and multi fiber connectivity.

The **IK2V-IK2F** models are rack mountable and have two eVDSL ports, as well as two fiber port (SFP cage).

The **SGR models** are also rack mountable using the appropriate kit (optional) and have one eVDSL port and three fiber ports (SFP cage).

The **5xxx models** have integrated **4G cellular** connectivity.

Imola Models	GE	eVDSL	FIBER	2.4 GHz	5 GHz	4G LTE	TNA
<b>0272-SGR</b> 	•	•	•••	•	—	—	•
<b>0272-SGR-IK2W</b> 	•	•	•••	—	•	—	•
<b>0872-IK2V-IK2F</b> 	•	•	••	—	—	—	•
<b>5272-SGR</b> 	•	•	•••	•	—	•	•
<b>5272-SGR-IK2W</b> 	•	•	•••	—	•	•	•

# Imola SGR & IK2x router series and Elba switch

## eVDSL + Multi-Fiber



Imola 0272-SGR

Imola 0272-SGR-IK2W

Imola 0872-IK2V-IK2F

Imola 5272-SGR

Imola 5272-SGR-IK2W

HARDWARE FEATURES			Router Imola				
			0272-SGR	0272-SGR-IK2W	5272-SGR	5272-SGR-IK2W	0872-IK2V-IK2F
LAN	GE	10/100/1000 Mbps ports - RJ45 connectors	6	6	6	6	10
	SFP LAN	SFP Cage for LAN side Fiber connection	2	2	2	2	-
		Combo ports 1 Giga Ethernet / SFP	-	-	-	-	-
	Wi-Fi	802.11 b/g/n port (2.4 GHz) 2x2	1	-	1	-	-
		802.11 b/g/n (2.4 GHz) 2x2 + 802.11 ac (5 GHz) port 3x3	-	1	-	1	-
WAN	GE-WAN	Combo port GE 10/100/1000 Mbps - RJ45 connector(label WAN) and WAN SFP port (label SFP0)	1	1	1	1	-
		10/100/1000 Mbps WAN port - RJ45 connector					2
	SFP WAN	SFP Cage for Fiber and GPON connections (SFP module not included)	1	1	1	1	2
	ADSL 2/2+ VDSL eVDSL	Full rate ADSL2/2+ / VDSL2 - RJ11 connector					
		ADSL2/2+: downstream data rate up to 24 Mbps — upstream data rate up to 3.5 Mbps VDSL2: supports for profiles VDSL2: 8 MHz to 30 MHz ITU-T G993.2 eVDSL: support 35 MHz ITU-T G993.2 Annex Q (35b or Vplus) profile with aggregate rates up to 400 Mbps	1	1	1	1	2
RADIO CELLULAR	GSM / GPRS / EDGE	Frequency band: 900/1800/1900 MHz GPRS multslot 10 EDGE multslot 12	-	-	•	•	-
	UMTS / HSDPA / HSUPA /	Frequency band: 900/2100 Mhz HSDPA data rates up to category 20 HSUPA data rates up to category 6	-	-	•	•	-
	DC-HSPA+	DC-HSPA+ (42 Mbps in download)	-	-	•	•	-
	LTE	Frequency band: 800/900/1800/2100/2600 MHz Data rates (category 4, MIMO)* - Peek data rates 150 Mbps DL, 50 Mbps UL - WCDMA 900/2100	-	-	•	•	-
CONSOLE		RJ45 connector	1	1	1	1	1
USB		USB 3.0 port	1	1	1	1	1

\* category 6 and 12 available on request

# Imola SGR & IK2x router series

## eVDSL + Multi-Fiber



Imola 0272-SGR

Imola 0272-SGR-IK2W

Imola 0872-IK2V-IK2F

Imola 5272-SGR

Imola 5272-SGR-IK2W

### Imola x272-SGR models

SYSTEM FEATURES		
POWER	Power supply	AC/DC adapter (Internal Universal 100-240 VAC) Power Switch ON/OFF
	PSU option	DC/DC 12V version - DC/DC 24V-48V version
	Consumption	< = 12W (Full configuration)
ENVIRONMENT	Operating temperature	-25° C / +70° C (96 hours) -40° C / +70° C (4 hours)
	Storage temperature	-40° C / +70° C
	Max operating humidity	93% (non condensing)
PROCESSOR		Dual core 1 GHz
MEMORY	DRAM	DRAM 256 MB DDR3
	Flash memory	256 MB

EXTERNAL HARDWARE FEATURES		
HOUSING	Material	Metal
	Dimensions (W x H x D)	274 x 48.8 x 197.5 mm
	Weight	1900 gr ±10%
ANTENNAS	Radio	SMA male connector - External removable antennas SGR models: 2 antennas - IK2W models: 5 antennas
	Radio mobile	2 x 4G external removable antennas, SMA male connector
MOUNTING	Default	Desktop / horizontal plane
	Optional	Bracket for rack mounting
LED	Status LED	1 x power / operational status
	Wi-Fi	1 x radio signal activity
	xDSL	1 x connection status
	Ethernet	2 x operational status (for each port)
	SFP	3 x fiber connection status
	Radio-cellular	1 x radio-cellular connection status and data activity 1 x active SIM status

### Imola 0872-IK2V-IK2F models

SYSTEM FEATURES		
POWER	External	AC/DC adapter (Internal Universal 100-240 VAC) Power Switch ON/OFF
	PSU option	DC/DC 12V version - DC/DC 24V-48V version
	Consumption	< = 15 W (full configuration)
ENVIRONMENT	Operating temperature	-5° C / +55° C (96 hours)
	Storage temperature	-40° C / +70° C
	Max operating humidity	93% (non condensing)
PROCESSOR		Dual CORE ARM A9 – 1 Ghz
MEMORY	DRAM	Default 256 MB - DDR2
	Flash memory	32 MB up to 1 GB

EXTERNAL HARDWARE FEATURES		
HOUSING	Material	Metal - color: black
	Dimensions (W x H x D)	440 x 1U x 239 mm
MOUNTING	Default	Desktop / horizontal plane
	Optional	x272 models: Rack mount kit (not included) x872 models: 1U rack mount kit included
LED	Status LED	1 x power / operational status
	Ethernet	2 x operational status (for each port)
	SFP	1 x operational status for each port
	xDSL	2 x connection status

# Imola LX & Imola x272 Voice series



## Broadband & Cellular Routers

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### Imola x272, eVDSL + Voice series

The Imola x272 series is part of the Imola product line, which is composed by certified routers, used in the networks of the main telecommunication operators.

All models have **eVDSL fixed connectivity**, **GE ports**, FXS analogic voice ports (the quantity depends on models) and are integrated with the **TNA suite** (Tiesse Network Automation).

Difference between models are about having **Wi-Fi 2.4 GHz** and integrated **4G** mobile connectivity; all models but one can sustain the fiber connection thanks to the **SFP cage** port.

Models	GE	EVDSL	Voice	FIBER	2.4 GHz	4G LTE	TNA
LX 0272-20	•	•	•	-	-	-	•
0272-44-IKW-IKF	•	•	•	•	•	-	•
5272-44-IKW-IKF	•	•	•	•	•	•	•

# Broadband & Cellular Routers - Imola LX & Imola x272

## eVDSL + Voice series



Imola LX 0272-20  
Imola 0272-44-IKW-IKF  
Imola 5272-44-IKW-IKF

HARDWARE FEATURES			LX 0272-20	LX 0272-20-IKF-IKW	0272-44-IKW-IKF	5272-44-IKW-IKF
LAN	GE	10/100/1000 Mbps ports - RJ45 connectors	4	4	4	4
	Wi-Fi	802.11 b/g/n port (2.4 GHz) 2x2	-	1	1	1
WAN	GE-WAN	10/100/1000 Mbps WAN port - RJ45 connector	1	1	1	1
	SFP WAN	SFP Cage for Fiber and GPON connections	-	1	1	1
	ADSL 2/2+ VDSL eVDSL	Full rate ADSL 2/2+ / VDSL2, RJ11 connector ADSL2/2+: downstream data rate up to 24 Mbps — upstream data rate up to 3.5 Mbps VDSL2: support for profiles VDSL2: 8 MHz to 30 MHz	1	1	1	1
VOICE	FXS	RJ11 connector	2	2	4	4
	BRI	2 x BRI NT and 2 x BRI NT/TE, RJ45 connectors	-	-	2 + 2	2 + 2
	FXO	RJ11 connector	-	-	1	1
RADIO CELLULAR	GSM / GPRS / EDGE	Frequency band: 900/1800/1900 MHz GPRS multislots 10, EDGE multislots 12	-	-	-	•
	UMTS / HSDPA / HSUPA / HSPA+	Frequency band: 900/2100 Mhz HSDPA data rates up to category 20 - HSUPA data rates up to category 6	-	-	-	•
	DC-HSPA+	DC-HSPA+ (42 Mbps in DL)	-	-	-	•
	LTE	Frequency band: 800/900/1800/2100/2600 Mhz Data rates (category 4, MIMO*) - Peak data rates 150 Mbps DL, 50 Mbps UL WCDMA 900/2100	-	-	-	•
CONSOLE		RJ45 connector	1	1	1	1
USB		USB 3.0 port	1	1	1	1

\* category 6 and 12 available on request

# Broadband & Cellular Routers - Imola LX & Imola x272

## eVDSL + Voice series



Imola LX 0272-20  
Imola 0272-44-IKW-IKF  
Imola 5272-44-IKW-IKF

SYSTEM FEATURES		
POWER	Power supply	AC/DC adapter (Internal Universal 100-240 VAC) Power Switch ON/OFF
	Consumption	x272-20 models: <= 12 W x272-44 models: < 40 W (Full configuration)
ENVIRONMENT	Operating temperature	-5° C / +50° C
	Storage temperature	-40° C / +70° C
	Max operating humidity	93% (non condensing)
PROCESSOR		RISC Network processor
MEMORY	DRAM	256 MB - DDR3
	Flash memory	256 MB

EXTERNAL HARDWARE FEATURES		
HOUSING	Material	Metal - color: black
	Dimensions (W x H x D)	x272-20 models: 195 x 42,1 x 139x9 mm x272-44 models: 274 x 48.8 x 197.5 mm
	Weight	x272-20 models: 1010 gr ±10% x272-44 models: 1950 gr ±10%
ANTENNAS	Radio WLAN	2 x external, removable, SMA male connectors
	Radio cellular	2 x 4G removable antennas, SMA male connector
MOUNTING	Default	Desktop / horizontal plane
	Other options	Rack mounting kit (not included)
LED	Status LED	1 x power / operational status
	Ethernet	2 x operational status (for each port)
	xDSL	1 x connection status
	Wi-Fi	1 x radio signal activity on 2.4 GHz
	Radio cellular	1 x radio-cellular connection status 1 x radio-cellular activity
	Voice	x272-20 models: 2 x analogic voice port status (FXS) 1 x VoIP connection status
		x272-44 models: 1 x SFP operational status 4 x analogic voice port status (FXS) 4 x ISDN BRI connection status 1 x analogic voice port status (FXO)



# Software features

Software features can be slightly different for each series, please refer to the specific datasheet product for detailed information.

NETWORKING	TCP-UDP, IPv4
	ICMP
	ARP, CMP, IPv4 Path MTU Discovery
	IPv6 support
	ICMPv6, IPv6 Path MTU Discovery, IPv6 Neighbor Discovery
	IPv6 Stateless Address Auto Configuration
	PVC bonding
	Pseudowire Ethernet to extend layer-2 circuits over IP networks
LAYER 2 FEATURES	LAN bridging
	VLAN support on LAN interface 802.1q in Access mode, Trunk, native VLAN and Hybrid mode
	VLAN 802.1q over Ethernet
	Layer 2 Protocol Tunneling (L2PT)
ROUTING & MULTICAST	802.1Q-in-802-1Q
	Static, Policy routing, RIPv1, RIPv2
	BGP-4, BGP-4+
	OSPFv2
	Multicast Routing PIM SM V2, PIM DM
	Routing redistribution and tagging
	VRF Lite
	VRRP (Virtual Routing Redundancy Protocol)
	VRRP (Virtual Routing Redundancy Protocol) with IPv4-IPv6 authentication
	IGMP proxy
	IGMP v1-v2-v3, IGMP snooping
	Multicast routing with PIMv2 sparse-mode and PIMv2 dense-mode, MSDP
	IEEE 802.1d (Spanning Tree Protocol)

QoS	Traffic classification based on source IP, and based on a combination of source IP, destination IP, protocol (UDP, ICMP, TCP, etc) ports, application recognition, DSCP/IP Precedence
	Traffic classification based on source IP, and based on a combination of ToS or Port
	DiffServ
	Layer 2 remarking CoS
	IP Precedence remarking, DSCP and CoS
	CoS on VLAN
	QoS on ATM class
	IPSLA based on QoS
	Shaping with guaranteed allocated bandwidth and redistribution of bandwidth excess
	Committed Access Rate e Multicast rate Limit
	Mechanisms of traffic prioritization, ability to define an arbitrary number of priority classes
SECURITY	Link aggregation IEEE 802.3ad
	NAT/PAT
	ACLs, Stateful Firewall
	IP Filtering
	SSL Tunnelling
	L2TP
	PPTP
	Generic routing encapsulation (GRE)
	GRE Tunnelling
	GRE Tunnelling with keep alive and key sequence numbering (radio mobile network optimization)
	VPN with IPSEC
	VPN with IPSEC/ESP or IPSEC/AH IKEv1/IKEv2
	3 DES Encryption
	DMVPN
	Wi-Fi with WPA2, Multiple SSID
	OpenVPN

# Software features

## SERVICES

DHCP client, DHCP server with antispoofing functions

DHCP Layer Discovery Protocol IEEE 802.1ab

DHCP server, client, relay

Intelligent DNS Proxy, local and remote

Traceroute

NTP Client and Server support

Easy VPN

DDns

SMS

## MANAGEMENT AND CONFIGURATION

SNMP v1, SNMPv2, SNMPv3

Telnet server with multiple simultaneous sessions

SSH server with multiple simultaneous sessions (SSHv2)

IP SLA support for: One Way Delay, Round Trip Delay, Jitter, Packet Loss

SAA (Service Assurance Agent)

Syslog (local and remote)

Fault management Syslog /Trap

User authentication PAP/CHAP

Radius Support, TACACS+

Tracking for backup management, commands and scheduled events

Software update via TFTP and FTP

Configuration via command Line Interface (CLI), text/menu oriented and Telnet

Configuration via HTTP

TNA (Tiesse Network Architecture) suite for auto-provisioning and remote automated management

Management of an arbitrary number of configurations

Support of Network Configuration Protocol (NETCONF)

Support of YANG Data Modeling Language for NETCONF

Software features can be slightly different for each series, please refer to the specific datasheet product for detailed information.

## VOICE

SIP registration features, SIP UAC, deregistration, GNR registration

SIP standard compliance: RFC 2327 SDP, RFC 2617 , RFC 3261 SIP, RFC 2833, RFC 2976, RFC 3262, RFC 3264, RFC 3265, RFC 3311, RFC 3323 ,RFC 3325, RFC 3326, RFC 3398, RFC 3578, RFC 3842, RFC 3960, RFC 4566

Registration features SIP, SIP UAC, registration deletion

Codec support and negotiation

OOB DTMF tone management, in-band and announcing tone

Call forwarding unconditional both no answer and busy user

Unconditional call forwarding

Call waiting / hold features

On hold call capability

T.38 fax support

Interworking with PBX

Voice Fallback on POTS (FXO or BRI) interfaces

Line hunting

# Broadband & Cellular Routers

## WAN FIXED LINE - Summary table

Here you find a summary of all our routers with only fixed connectivity.

Series	Model	FE	GE	PoE		HDSL	G.SHDSL	VDSL	EVDSL		2.4 GHz	2.4 GHz 5 GHz		TNA
Imola LX	0272-IKW-V	-	•	-	-	-	-	•	-	-	•	-	-	•
	0272-IKW	-	•	-	-	-	-	-	•	-	•	-	-	•
	0272-IK2W	-	•	-	-	-	-	-	•	-	-	•	-	•
	0272-20	-	•	-	-	-	-	•	-	-	-	-	•	•
Imola	0262-IKH	-	•	-	-	•	-	•	-	-	-	-	-	•
	0262-IKS	-	•	-	-	-	•	•	-	-	-	-	-	•
	0872-IKF-IKW	•	•	-	-	-	-	•	•	•	•	-	-	•
	0872-IKF-IKW-PoE	•	•	•	-	-	-	•	•	•	•	-	-	•
	0872-IK2V-IK2F	-	•	-	-	-	-	•	••	••	-	-	-	•
	0272-44-IKW-IKF	-	•	-	-	-	-	•	•	•	•	-	•	•
Imola multi fiber	0272-SGR	-	•	-	-	-	-	•	•	•••	•	-	-	•
	0272-SGR-IK2W	-	•	-	-	-	-	•	•	•••	-	•	-	•
	0872-IKF-IK2W	-	•	-	-	-	-	•	•	•	-	•	-	•



# Broadband & Cellular Routers

## FIXED & MOBILE LINE - Summary table

Here you find all our routers which have both fixed and mobile connectivity.

Series	Model	FE	GE	PoE		FIBER	HDSL	G.SHDSL	VDSL	EVDSL	3G	4G LTE	5G	2.4 GHz	2.4 GHz 5 GHz		TNA
Imola 5G	5572-SGR	-	•	-	-	•	-	-	•	•	•	•	•	•	-	-	•
Imola LX	LX 5272-IKW	-	•	-	-	-	-	-	-	•	•	•	-	-	-	-	•
	LX 5272-IK2W	-	•	-	-	-	-	-	-	•	•	•	-	-	-	-	•
Imola	5262-IKH	-	•	-	-	-	•	-	•	-	•	•	-	-	-	-	•
	5262-IKS	-	•	-	-	-	-	•	•	-	•	•	-	-	-	-	•
	5872-IKF-IKW	•	•	-	-	•	-	-	•	•	-	•	-	•	-	-	•
	5872-IKF-IK2W	•	•	-	-	-	-	-	•	•	-	•	-	-	•	-	•
	5872-IKF-IKW-PoE	•	•	•	-	•	-	-	•	•	-	•	-	•	-	-	•
	5272-44-IKW-IKF	-	•	-	-	•	-	-	•	•	-	•	-	•	-	•	•
Imola multi fiber	5272-SGR	-	•	-	-	•••	-	-	•	•	•	•	-	•	-	-	•
	5272-SGR-IK2W	-	•	-	-	•••	-	-	•	•	•	•	-	-	•	-	•



**Tiesse is a 100% italian private company which has more than 20 years of expertise in designing, developing, and manufacturing M2M/IoT and network devices.**

The enterprise has grown over the years and has become one of the best innovative known vendor and reliable partner, capable to compete and win in the global networking products market.

Thanks to this, Tiesse has been identified as a major provider of

Tiesse products are at the cutting-edge technology thanks to continuous R&D investment and close collaboration with both telco and university research laboratories.

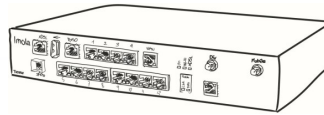
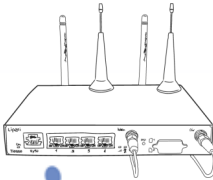
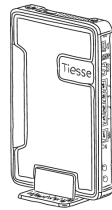
The products series IMOLA, LIPARI and LEVANTO, which are innovative, competitive and certified, are present in the largest distributed national networks (from gas stations to large retailers, insurance companies and banks) as well as in the largest networks of



# Innovation made in Italy

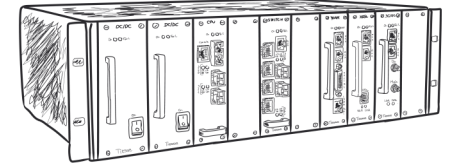
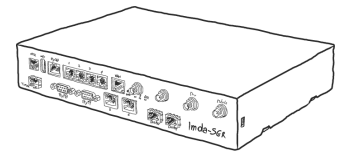
Broadband & cellular routers

**IMOLA and LIPARI**



Industrial routers and gateways

**IMOLA E, IMOLA SGR and TGR**



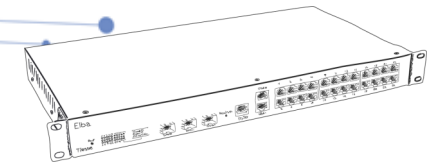
Devices for IoT and M2M

**LEVANTO and kloTo**



**Tiesse**  
All Product  
series

Switch  
**ELBA**



Product by design

**VERTICAL and CUSTOM**



Automated and agile network management

**TNA** - Tiesse Network Architecture



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