Tiesse
Innovation made in Italy

Router
Serie Imola LX

Imola LX
5572-IKW

GE

EVDSL

2.4 GHz

5G

Datasheet

WWW.TIESSE.COM

Serie Imola
LX 5572-IKW

Router per banda ultralarga
eVDSL - Wi-Fi - 5G

SERIE IMOLA LX 5572

The **Imola LX 5572** series is an advanced line of routers with eVDSL 35b plus and Gigabit Ethernet WAN connectivity, designed specifically for business applications that require high security standards and optimal network performance.

The compact size and vertical, horizontal and wall mounting options make the Imola LX 5572 models easy to install in any environment, while the low-power design helps reduce operating costs.

Optimised for ultra-low 5G latency, it ensures fast and stable connections, ideal for real-time applications.

ALL-IN-ONE

FTTC, FTTH, Wi-Fi and 4G/5G, in a single device for reliable, versatile and scalable connectivity. Our Imola LX series devices are adaptable to any technology and include the features

- Routing & switching
- Multi fail-over
- QoS

KEY FACTORS

Secure by design
Right from the design phase for robust and natively secure solutions.

Always-On
Stable connections wherever they are, with multiple links, transparent backup, and quality of service for uninterrupted business.

Certified
Validated for inclusion in business offering profiles and use within the networks of major telecom operators.

Robust and reliable
Designed to last: hardware and software offering maximum reliability and durability.

Smart value
Maximum value for your business thanks to excellent performance/price ratio..

Zero Touch Provisioning
For remote management and agile configuration of installed equipment, with Tiesse's TNA suite.

Eco-efficient
Minimal consumption, lower environmental impact and higher operating cost savings.

Factory pre-configurations
Receive your product pre-configured according to your specific case.

100% factory-tested
We test all our equipment, including SIM cards for models with a cellular radio connection.

IMOLA LX 5572-IKW

The Imola LX 5572 models combine the features described in this datasheet in a robust, all-in-one device and stand out for their 5G cellular radio connection. A dual Wi-Fi (b/g/n + ac) version is also available with the IK2W models.

- 5 Gigabit Ethernet ports (4 LAN - 1 WAN)
- 1 eVDSL port
- Wi-Fi b/g/n
- 5G Sub-6 GHz port
- Zero Touch Provisioning

IMOLA LX 5572-IKW

RECOMMENDED SCENARIOS AND APPLICATIONS

ISP and Telco Ready
Designed to meet the needs of Internet digital service providers, Telco operators, carriers, system integrators and their networks

Backup and redundancy over multiple links
Products optimized for ultra-connected branches and remote locations

Uninterrupted service and mission-critical applications
Business applications that require always-on connectivity, network performance, and quality of service

BACKUP: high availability mission critical

Seamless backup

The user does not perceive service interruptions and the transition to backup.

Transitions from normal to backup mode and vice versa are performed considering the operational costs.

Multiple Backup

A pair of routers in a redundant configuration protect the network and hardware with a physical backup that is always available, ensuring high reliability.

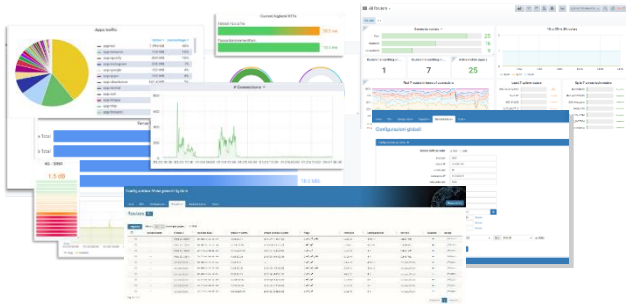
Homogeneous Backup

A single router integrates all ports, wired and mobile.

Heterogeneous backup

An installed base can be upgraded by adding a mobile router and using the VRRP (Virtual Router Redundancy Protocol).

ZERO TOUCH PROVISIONING



Tiesse's router are integrated in the **TNA (Tiesse Network Architecture)** suite.

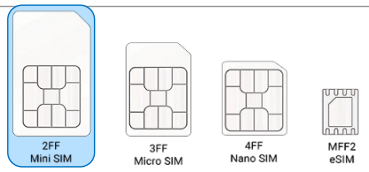
TNA is the modular software suite that enables Zero Touch Provisioning network architecture, including monitoring, remote and automated web-based management of configurations and firmware releases of the installed fleet; it enables traffic engineering, network overlays, and many other functionalities.

A complete datasheet of the solution is available at www.tiesse.com.

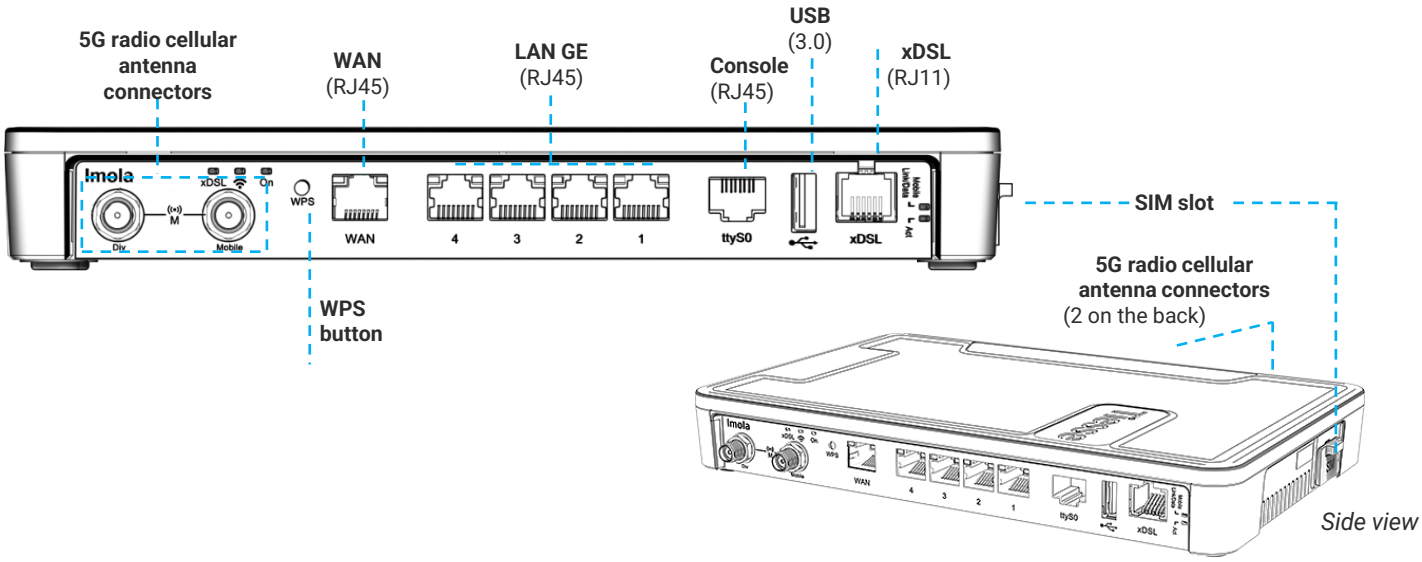
INTERFACCE HARDWARE

Port	N°	Type	Details
LAN	4	**GE**	10/100/1000 Mbps
	1	**Wi-Fi**	- 802.11 b/g/n (2.4 GHz) 2x2 - Internal antennas
WAN	1	**GE**	10/100/1000 Mbps (label WAN)
	1	**xDSL**	Full rate ADSL2/2+ / eVDSL
		ADSL2/2+	- Downstream data rate up to 24 Mbps and upstream data rate up to 3.5 Mbps - Compliant with Standard G.992.1 annex A, B, C & I, G.992.2-g.Lite, G.992.3 annex A, B, I, J, M, G.992.4-g.Lite.bis, G.992.5 annex A, B, C, I, J, M, ANSI T1.413 issue2, ETSI TS 388 - ADSL-over-ISDN, ITU T-I361, ITU T-I.363.5, ITU T-I.432, ITU T-I610, ITU T-I731
		VDSL2	- Support for all VDSL2 profiles: 8 MHz up to 30 MHz ITU-T G993.2 - Compliant with G.Vector standard (ITU-T G.993.5) - Compliant with ITU-T G.998.4 G.INP standard - Compatible with ADSL2 (backward compatibility)
		eVDSL	- Support for all VDSL2 profiles: 8 MHz up to 35 MHz, in compliance with ITU-T G993.2 Annex Q (35b or Vplus profiles), capable of aggregate rates of up to 400Mbps - G.Vector support (ITU-T G.993.5) - Compliant with ITU-T G.998.4 G.INP standard (impulse noise protection) - Compatible with ADSL2 (backward compatibility) - Excellent connection stability in case of line disturbances
RADIO CELLULAR	1	**UMTS / HSDPA / HSUPA / HSPA+**	- Frequency band: 900 / 1800 / 1900 MHz - GPRS multislot 10 - EDGE multislot 12
		LTE	- WCDMA frequency bands: 900 / 2100 Mhz - HSDPA data transmission rate up to category 20 - HSUPA data rates up to category 6 - HSPA+ data rate: 21.1 Mbps in Downlink and 5.7 in Uplink - Dual Carrier HSPA mode support
		5G Sub-6 GHz	- Support for sub-6 FDD and TDD 5G - 5G core network Opt. 3a/3X and Opt 2 - Frequencies 1 (FR1): n1, n2, n3, n5, n7, n12, n14, n20, n28, n30, n41, n66, n71, n77, n78, n79 - 5G throughput: up to 1 Gbps download and upload
	4	**ANTENNAS**	- 4 removable antennas, male SMA connector, 2 on the front and 2 on the back of the product - Multiple Input/Multiple Output (MIMO) support - Outdoor version antennas (omni-directional and directional), high-gain and vandal-proof (optional) also available
	1	**SIM**	- 1 SIM slot for mini SIM card 2FF – external access

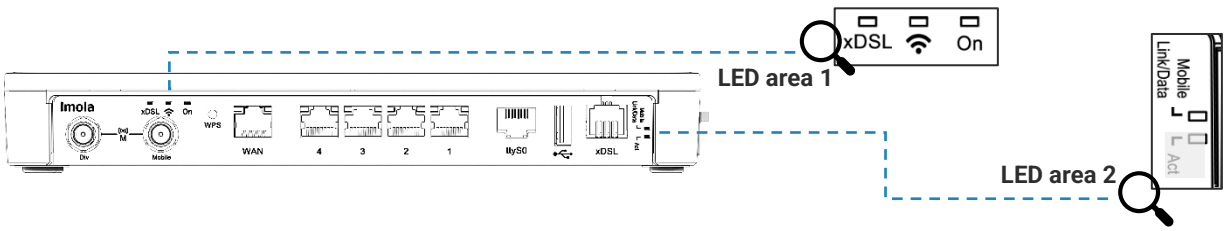
Note: throughput value depends on the network configuration, bandwidth allocated to the UE, number of users, and RF signal conditions.



INTERFACCE HARDWARE



LED DESCRIPTION



LED	Color	Position	Details
Power	**Green**	LED area 1	Power status
Wi-Fi	**Green**	LED area 1	Wi-Fi b/g/n (2.4 GHz) status
xDSL	**Green**	LED area 1	xDSL connection status
LAN/WAN	**Yellow**	Su porta LAN	One for each ETH port, 1Gbps connection status
	Green	Su porta LAN	One for each ETH port, 100 Mbps connection status
Radio Cellular	**Giallo**	LED area 2	Link: radio cellular connection status
	Green	LED area 2	Data: radio cellular connection activity

INSTALLATION OPTION

Images for illustrative purposes only

Desktop installation

Desktop installation, vertical position

Wall mounting

MONITORING AND PERFORMANCE MEASUREMENT FUNCTIONALITIES

IP SLA / Active Probing support for quality measurements

- One-Way Delay
- Round-Trip Delay
- Jitter
- Packet Loss

Active measurement of link quality using test packages

- BFD – Rapid detection of connectivity faults
- ICMP Echo / Ping – RTT and reachability
- UDP/TCP Probe – Verification with real transport protocols
- HTTPS Probe – Application service availability check
- TWAMP/OWAMP – Standardised measurement of delay, Jitter and loss

Data collection and supervision

- SNMPv2/v3 – Polling and status traps
- Syslog – System event and alarm logs
- NetFlow / IPFIX – Traffic flow analysis
- TNA MOS Tiesse

SOFTWARE

Note: the following list is purely indicative, active features depend on version and software update (NOS).

NETWORKING	- TCP-UDP IPv4 - IPv6 - PVC bonding
LAYER 2	- LAN Bridging - VLAN on802.1q LAN interfaces in Access mode, Trunk, native VLAN and Hybrid mode - Layer 2 Protocol Tunneling (L2PT) - 802.1Q-in-802-1Q
ROUTING & MULTICAST	- Static, Policy routing, RIPv1, RIPv2 - BGP-4, BGP-4+ - OSPFv2 - VRF Lite, Routing redistribution and tagging - IEEE 802.1d (Spanning Tree Protocol) - VRRP (Virtual Routing Redundancy Protocol) with IPv4-IPv6 authentication - IGMP v1-v2-v3, IGMP snooping, IGMP proxying - Multicast routing with PIMv2 sparse-mode and PIMv2 dense-mode, MSDP
QoS	- Traffic classification based on source IP, destination IP, protocols (UDP, ICMP,TCP, etc.) and ports, and their combinations, on application recognition, on IP Precedence and DSCP - DiffServ - Remarking of IP Precedence, DSCP and CoS - QoS on ATM classes - Shaping with guaranteed bandwidth allocation and redistribution of excess bandwidth - Committed Access Rate and Multicast rate limit - Traffic prioritisation mechanisms, definition of an arbitrary number of priority classes - IEEE 802.3ad link aggregation
SECURITY	- NAT/PAT - ACLs, Stateful Firewall - SSL Tunnelling - L2TP - GRE Tunnelling with keep alive and key sequence numbering (cellular network optimisation) - VPN with IPSEC/ESP or IPSEC/AH IKEv1/IKEv2 - 3 DES Encryption
SERVICES	- DHCP client, DHCP server with anti-spoofing functions, DHCP Layer Discovery Protocol IEEE 802.1ab, DHCP relay - Intelligent DNS Proxy, local and remote - Traceroute - NTP Client and Server Support - Easy VPN - DDns
MANAGEMENT & CONFIGURATION	- SNMP v1, SNMPv2, SNMPv3 - Telnet server with multiple simultaneous sessions - SSH server with multiple simultaneous sessions (SSHv2) - Netflow - IP SLA support for: One-way delay, round trip delay, jitter, packet loss - Syslog /Trap fault management - Radius, TACACS+ support - Tracking for management of backups, commands and scheduled events - Software update via TFTP, FTP, sFTP, HTTP, HTTPS, SCP - Configuration via Command Line Interface (CLI), Text/Menu oriented and Telnet - TNA (Tiesse Network Architecture) suite for self-provisioning and automated remote management - Management of an unlimited number of configurations

SYSTEM FEATURES

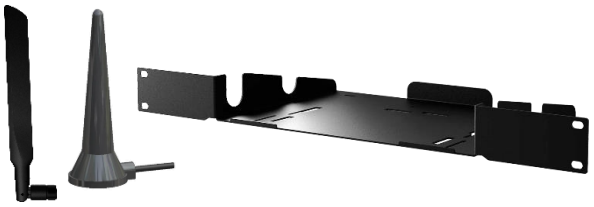
PROCESSOR	RISC Network processor
MEMORY	DRAM 256 MB
FLASH MEMORY	256 MB

CHASSIS	Plastic material, black color
	Metal variant available on request, for volume or industrial projects
FORM FACTOR	Desktop
	Rack (optional kit)

ADD-ONS

Optional accessories such as antennas for both indoor and outdoor omnidirectional and directional installations, are available.

Please check the add-ons datasheets, which can be downloaded from www.tiesse.com.



Images for illustrative purposes

OTHER PRODUCT IMAGES

OTHER INFORMATION AND SUPPORT

SUPPORTO.TIESSE.COM

- Technical documentation, installation instructions, quick start guide, first access data
- Firmware updates
- Declaration of conformity EMC, RED, RoHS, ...
- Technical support request
- End of sale and end of product support information
- Warranty repair and product reconditioning

WIKI.TIESSE.COM

- Website dedicated to software documentation
- User manuals
- First access guides
- Case studies, tutorials and other useful resources for product use

SUSTAINABILTY'

SYSTEM

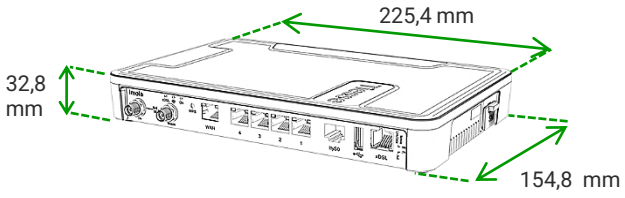
Power	- 12V AC/DC Adapter - On/Off button
Cooling	Fanless
Consumption (full functions)	≈ 8,5W
EEE (Energy-Efficient Ethernet)	Tiesse products comply with the EEE (802.3az) standard, which saves energy by automatically reducing the consumption of Ethernet ports during periods of low traffic, without altering their performance.
Dynamic Power Scaling	Tiesse products use control mechanisms to automatically reduce power consumption by lowering the CPU clock frequency when the load is low.

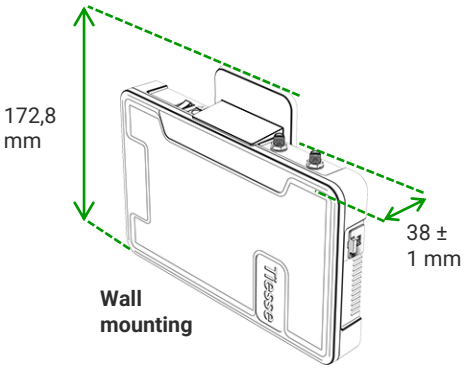
ENVIRONMENT DATA

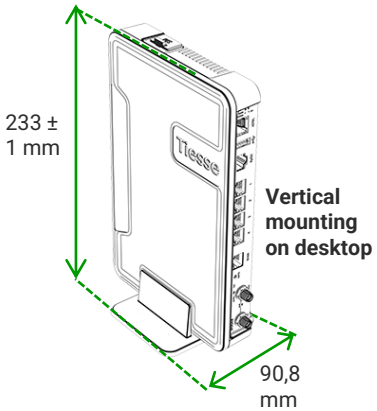
Operating temperature	–5° C / +50° C
Storage temperature	–40° C / +70° C
Maximum relative operating humidity	93% (non condensing)
Protection grade	IP40

SIZE and WEIGHT

Machine body	225,4 x 154,8 x 32,8 (L x P x A mm)		
Weight	≈ 825 gr *(maximum weight including packaging and accessories)*		
	Product	**Accessories**	**Packaging**
	≈ 485 gr	≈ 230 gr	≈ 110 gr







OTHER INFORMATION

Packaging and wrapping	The packaging material of this product is ≈90% paper/cardboard, and the incidence of plastic packaging is about 10% or less.
	100% of the packaging material is recyclable
RAEE waste	For the correct disposal of Waste Electrical and Electronic Equipment (WEEE), pursuant to Article 26 of Legislative Decree No. 49 of 14 March 2014 'Implementation of Directive 2012/19/EU': contact raee@tiesse.com

Tiesse
Innovation made in Italy

Tiesse is a totally Italian company with more than 25 years of experience in the design, development and production of network equipment and IoT devices, suitable for use in mission-critical and industrial scenarios. Tiesse's most successful series, Imola, Lipari and Levanto, are innovative, competitive and certified, and are present in the networks of the major telecommunications operators, in the energy sector, large-scale distribution and vertical sectors, both in the Italian and foreign markets.

Further information on Tiesse solutions can be found on the company website www.tiesse.com.

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www.tiesse.com

Disclaimer
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