



# Lipari 5584-W



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## 5G indoor router and fibre

### ALL-IN-ONE



**Lipari 5584-W** is a next-generation 4G/5G all-in-one router equipped with GE/Fiber 2.5 Gbits connectivity and AX3600 Wi-Fi.

With support for 5G, LTE and WCDMA networks, it can be deployed globally taking full advantage of fixed and mobile Gigabit networks; for high-performance, bandwidth-intensive applications.

Lipari 5584-W is designed to support 5G scenarios described by 3GPP, including standalone 5G NR (SA), non-standalone (NSA).

### LIPARI SERIES

Lipari is an innovative router line that provides 4G/5G cellular radio connectivity (depending on model) to the user accessing the public or private data network (Internet/Intranet) with the appropriate level of security.

Using the operator with the best network coverage, depending on the installation location, increases the reliability of the end-to-end solution.

### KEY FACTORS



#### Always-On

Stable connections, wherever they are. Multiple links with transparent backup and quality of service for uninterrupted business.



#### Future proof

Safeguarding the investment with future technologies



#### Secure by design

From the design stage for natively robust and secure solutions.



#### Smart value

Maximum value for your business through excellent performance/price ratio.



#### 100% factory-tested

We test all our equipment



#### Eco-efficient

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



Lipari 5584-W



4 Gigabit Ethernet ports



2 fibre ports up to 2.5 Gb



1 FXS port



Wi-Fi 6 AX



1 radio cellular 5G port



Dual SIM



## RECOMMENDED SCENARIOS AND APPLICATIONS

**ISP and Telco Ready**

Designed for the needs and networks of Internet and digital service providers, Telco operators, carriers and system integrators

**Backup and redundancy over multiple links**

Products optimized for ultra-connected branches and remote locations

**High performance and bandwidth-intensive**

Business applications that need always-on links, high network speeds and performance, and high bandwidth intensity

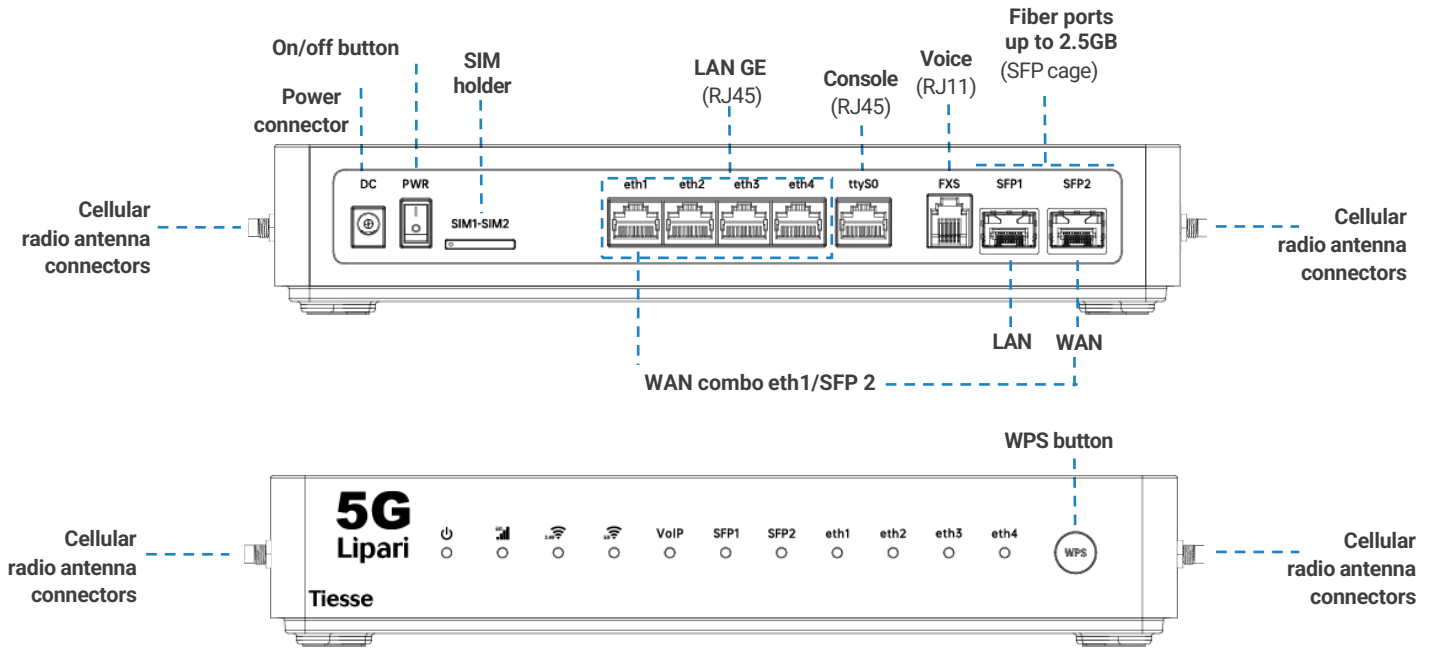
## HARDWARE INTERFACES

Port	N°	Type	Details
LAN	4	GE	10/100/1000 Mbps ports
	1	SFP	<ul style="list-style-type: none"> <li>– SFP port up to 2.5 GB, via SFP cages (SFP transceiver module not included)</li> <li>– SFP Connectors Supported: LC simplex, LC duplex, RJ45</li> </ul>
Wi-Fi	1	RF	IEEE 802.11ax    IEEE 802.11ac    IEEE 802.11b IEEE 802.11g    IEEE 802.11n    IEEE 802.11a
		Bands	2.4 GHz and 5 GHz simultaneous – up to 128 simultaneous connections
		Throughput	1147 Mbps (2.4 GHz) 2402 Mbps (5 GHz) (theoretical maximum)
		MIMO	4 x 4
WAN	1	Wired Combo ETH/SFP	Ethernet port (eth1) can function for both LAN and WAN
	1		<ul style="list-style-type: none"> <li>– Fiber port (SFP2), up to 2.5 GB via SFP cages (SFP transceiver module not included)</li> <li>– SFP connectors supported: LC simplex, LC duplex, RJ45</li> </ul>
RADIO CELLULAR	1	WCDMA	<ul style="list-style-type: none"> <li>– Frequencies: B1/B5/B8</li> <li>– Throughput: 42 Mbps (DL) / 5.76 Mbps (UL)</li> </ul>
		LTE	<ul style="list-style-type: none"> <li>– FDD, TDD, 5CC/3CC (DL/UL) Carrier Aggregation, LAA support</li> <li>– Frequencies:                LTE-FDD: B1/B3/B5/B7/B8/B20/B28                LTE-TDD: B38/B40/B41/B42/B43                Throughput: LTE-FDD: Max. 1.6 Gbps (DL) / Max. 211 Mbps (UL)             </li> </ul>
		5G Sub-6 GHz	<ul style="list-style-type: none"> <li>– FDD, TDD, SA (Stand Alone Option2), NSA (non-standalone Option3 /3a/3x), 2CC/2Band Carrier Aggregation, 256-QAM</li> <li>– Frequencies 5G NR: n1/n3/n5/n7/n8/n20/n28/n38/n40/n41/n77/n78</li> <li>– Throughput: 5G SA Sub-6: Max. 4.67 Gbps (DL)/Max. 1.25 Gbps (UL)                5G NSA Sub-6: Max. 4.67 Gbps (DL)/Max. 825 Mbps (UL)</li> </ul>
VOICE	4	Antennas	<ul style="list-style-type: none"> <li>– 4 removable external antennas, male SMA connector</li> <li>– Multiple Input/Multiple Output (MIMO) over bands 32, 4, 66, 3, 2, 25, 1, 30, 41, 7, 43, 42, 46, 48</li> <li>– In download MIMO 4x4, in upload MIMO 2x2</li> </ul>
	2	SIM	<ul style="list-style-type: none"> <li>– 2 nano SIM slots (Dual SIM Single ACTIVE)</li> <li>– SIM insertion type: tray eject</li> </ul>
VOICE	1	FXS	– FXS port

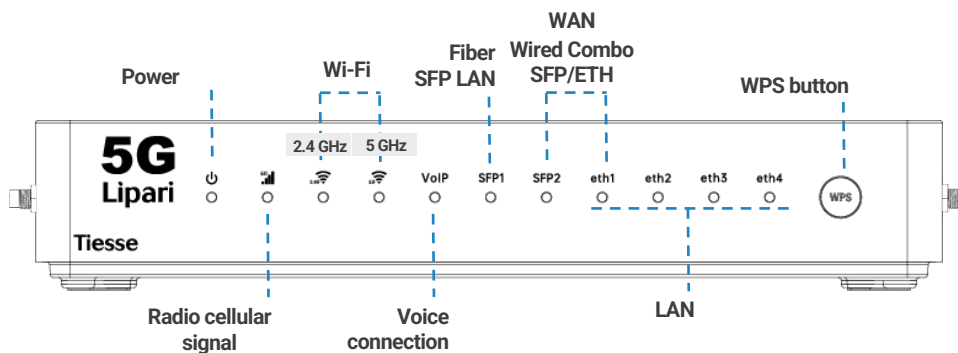
\* NOTE: the throughput value depends on the network configuration, the allocated bandwidth, the number of users and the RF signal conditions



## HARDWARE INTERFACES



## LED DESCRIPTION



LED	Color	Details
Power	Green	⏻ Router power operational status
Radio cellular	Multicolor	📶 Operating status/quality of cellular radio signal
Wi-Fi	Green	📶 2.4GHz Wi-Fi band 2.4 GHz connection status
	Green	📶 5GHz Wi-Fi band 5 GHz connection status
VoIP	Green	VoIP Operational status / voice signal quality
Fiber	Green	SFP1 SFP1: operational status of fibre LAN connection
	Green	SFP2 SFP2: operational status of fibre WAN connection
Ethernet	Yellow/Green	eth1 eth2 eth3 eth4 For each ETH port, indicates operational status (green 10/100 Mbps - yellow 1000 Mbps)



## SOFTWARE

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

### NETWORKING

- IPv4 / IPv6 Dual Stack advanced forwarding, filtering, and dual-stack policies
- VXLAN (RFC 7348): L2 over IP/UDP with per-tenant VNI encapsulation
- SRv6 Native SID Support:
  - Implements End, End.X, End.DT6, End.B6 behaviors
  - Integrated with BGP SR Policy for flexible traffic engineering
- High Availability: ECMP, VRRP, BFD, fast convergence via EVPN multihoming

### LAYER 2 features

- IEEE 802.1Q VLANs: iTagged VLAN support with configurable trunks and access ports
- Ethernet Bridging: hardware/software bridge domains with MAC learning and filtering
- Layer 2 protocol Tunneling (L2TP)
- 802.1Q-in-802.1Q
- EVPN (RFC 7432):
  - L2/L3 VPN overlay over IP/MPLS
  - MAC/IP route advertisement (Type-2), IP Prefix routes (Type-5)
  - Ethernet Segment Identifier (ESI) for multihoming and redundancy
- Spanning Tree Protocols (optional): support for RSTP/MSTP
- VXLAN + EVPN Integration:
  - EVPN as the control plane for VXLAN overlays
  - Seamless tenant segmentation and MAC mobility

### ROUTING & MULTICAST

- BGP – Border Gateway Protocol:
  - Full IPv4/IPv6 support with route-maps, prefix-lists, communities
  - Route Reflector, Confederation, Add-Path, Route Refresh
  - BGP-LU for MPLS/SRv6 integration
  - BGP EVPN and SR-TE extensions
  - RPKI for route origin validation
- OSPF / IS-IS:
  - Dynamic IGP support for underlay routing
  - SRv6 SID advertisement via IGP extensions
- RIP, RIPNG
- Static Routing with route distance, and route tagging
- Route Redistribution
- Policy Based Routing
- Full VRF Support
- VRR (Vritula Routing Redundnacy Protocol)
- Multicast routing with PIMv2 sparse-mode and PIMv2 dense-mode, MSDP
- IGMP v1-v2-v3, IGMP snooping, IGMP Proxy
- MPLS Support
  - Native MPLS Forwarding
  - Support for LDP for label Distribution
- Multihoming and Failover:
  - BGP multipath, BFD fast detection, graceful restart

### QoS

- Traffic classification based on source IP, destination IP, protocols (UDP, ICMP,TCP, etc.), ports, and their combinations, on application recognition, on IP Precedence and DSCP
- DiffServ
- Remarking of IP Precedence, DSCP and CoS
- 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



## SOFTWARE

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

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### VPN and TUNNELLING

- IPSec VPN (site-to-site and remote-access):
    - Supports IKEv1/IKEv2.
    - Policy-based and route-based IPSec.
  - GRE / GRE over IPsec:
    - Simple L3 tunneling or secure encapsulation.
    - NHRP (Next Hop Resolution Protocol) for DMVPN Architecture
  - L2TP / L2TPv3:
    - Layer 2 VPN over IP
    - Optional pseudowire emulation with static or dynamic control
  - OpenVPN Support client and server
- 

### SECURITY

- Access Control Lists (ACLs):
    - IPv4/IPv6 L2-L4 filtering with permit/deny actions.
    - Applied on ingress/egress per interface or globally.
  - Stateful Firewall:
    - Connection tracking with session-based filtering.
    - Inspection of TCP/UDP/ICMP flows with dynamic port handling.
    - Protection against SYN floods and malformed packets.
  - NAT / PAT Support:
    - Source NAT, Destination NAT, Port Address Translation.
    - Useful for IPv4-to-IPv6 interworking and traffic isolation.
  - 802.1x
    - Access port authentication using EAP with RADIUS backend.
- 

### SERVICES

- DHCP client, DHCP server with anti-spoofing functions, DHCP relay
  - Intelligent DNS Proxy, local and remote
  - Traceroute
  - NTP Client and Server support
  - DynDNS
- 

### MANAGEMENT and CONFIGURATION

- SNMPv2, SNMPv3
- Netflow
- Telnet server with multiple simultaneous sessions
- SSH server with multiple simultaneous sessions (SSHv2)
- Fault management Syslog /Trap
- Radius Support, TACACS+
- Netconf and YANG Models
- Tracking for backup management, scheduled commands and 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** Quadcore 2.0 GHz

**MEMORY** 1 GB

**FLASH MEMORY** 1 GB

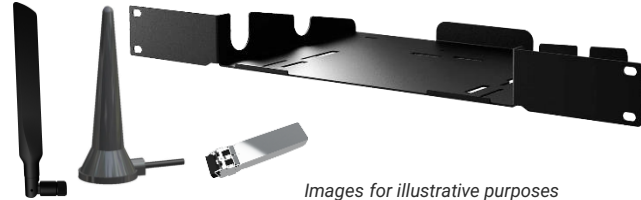
**CHASSIS** Plastic material, black color

**FORM FACTOR** Desktop

Rack 2 U (optional kit)

## ADD-ONS

Optional accessories such as antennas for both indoor and outdoor omnidirectional and directional installations, SFP transceiver modules and rack-mount kits are available. Please consult the relevant datasheets, which can be downloaded from [www.tiesse.com](http://www.tiesse.com).



Images for illustrative purposes

## OTHER INFORMATION AND SUPPORT

### [SUPPORTO.TIESSA.COM](http://SUPPORTO.TIESSA.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.TIESSA.COM](http://WIKI.TIESSA.COM)



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

## PRODUCT IMAGES



Front view, LED side



Back view, ports side



Front view, LED side, with external Wi-Fi antennae



Back view, door side, with external Wi-Fi antennae



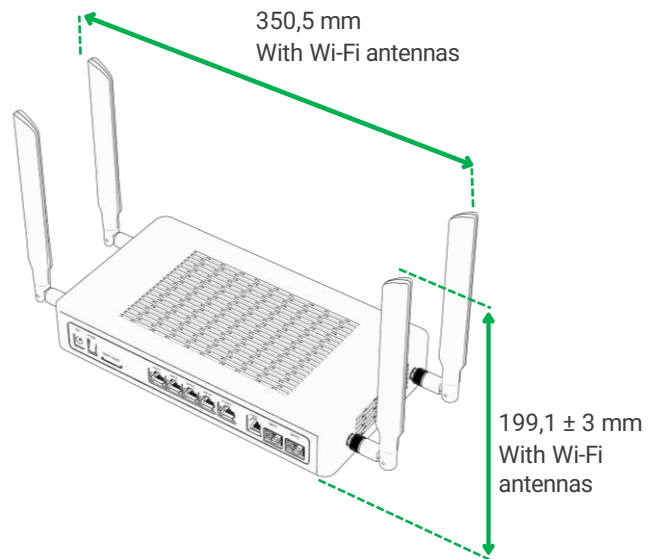
## SUSTAINABILITY

### SYSTEM

<b>Power</b>	- AC/DC adapter 12V, "wall mount" type - On/Off button
<b>Cooling</b>	Fanless
<b>Consumption</b> (full functions)	≈ 15W
<b>EEE</b> (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.
<b>Dynamic Power Scaling</b>	Tiesse products use control mechanisms to automatically reduce power consumption by lowering the CPU clock frequency when the load is low.
<b>Mean Time of Failute (MTBF)</b>	≈ 173448 hours

### ENVIRONMENTAL DATA

<b>Operations</b>	<b>Temperature</b>	-10° C / +45° C <i>The product has passed functional tests at temperatures ranging from -40°C to +70°C in a controlled environment.</i>
	<b>Humidity</b>	5% ~ 95% (non condensing)
<b>Storage</b>	<b>Temperature</b>	-40° C / +85° C
	<b>Humidity</b>	5% ~ 95% (non condensing)



### SIZE and WEIGHT

<b>Machine body</b>	280,8 x 145,2 x 50,4 (L x P x A mm)		
	≈ 1700 gr (maximum weight including packaging and accessories)		
<b>Total weight</b>	<b>Product</b>	<b>Accessories</b>	<b>Packaging</b>
	≈ 865 gr	≈ 300 gr	≈ 535 gr

### OTHER INFORMATION

<b>Packaging and wrapping</b>	100% of the packaging material of the individual product is paper/cardboard - 0% plastic.
	100% of the packaging material is recyclable
<b>RAEE waste</b>	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 <a href="mailto:raee@tiesse.com">raee@tiesse.com</a>



TIESSE S.p.A. has earned a Silver Medal, a recognition awarded to the Top 15% of companies assessed by EcoVadis in the 12 months prior to the medal issue date. It reflects the quality of the company's sustainability management system and demonstrates a commitment to promoting transparency throughout the value chain.

➔ [Tiesse's recognition](#)

➔ [Learn more about EcoVadis Medals & Badges](#)

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



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