



# 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 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



### High performance and bandwidth-intensive

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

## PRODUCT IMAGES



Front view, LED side



Back view, ports side

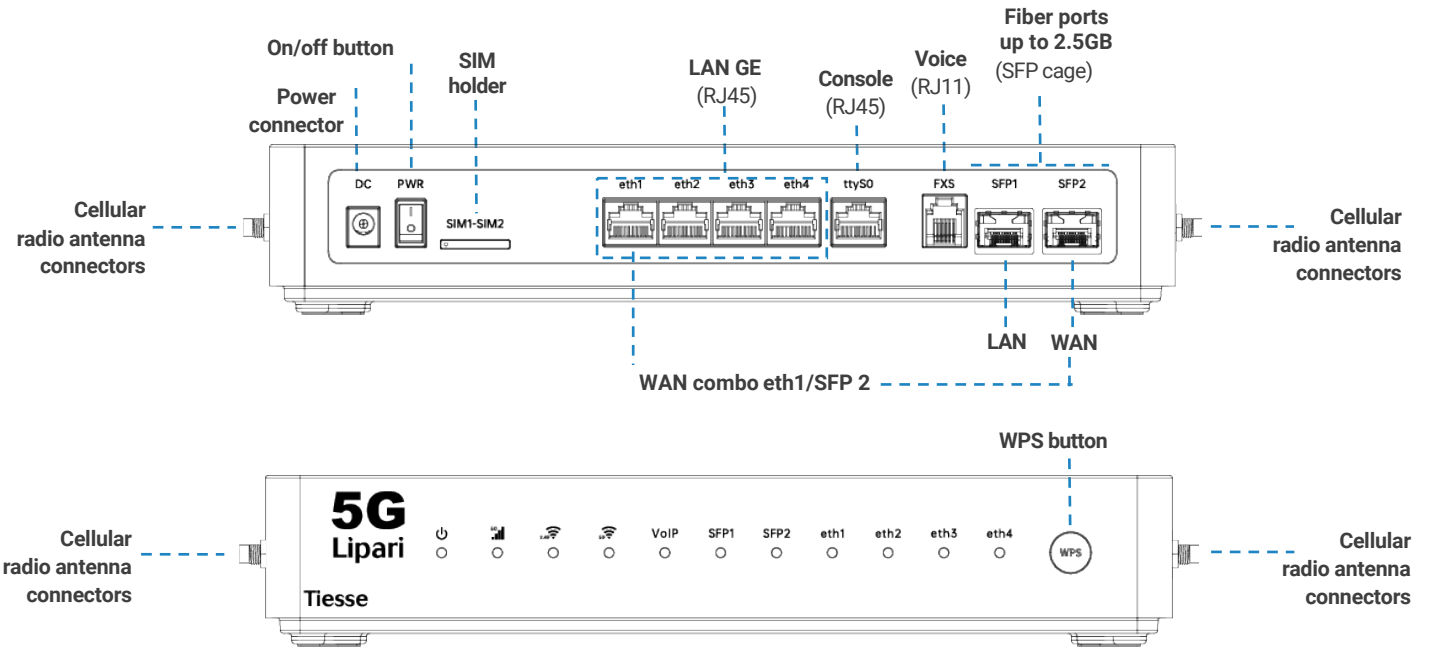
## HARDWARE INTERFACES

| Port           | N° | Type                | Details                                                                                                                                                                                                           |
|----------------|----|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LAN            | 4  | GE                  | 10/100/1000 Mbps ports                                                                                                                                                                                            |
|                | 1  | SFP                 | – SFP port up to 2.5 GB, via SFP cages (SFP transceiver module not included)<br>– SFP Connectors Supported: LC simplex, LC duplex, RJ45                                                                           |
| Wi-Fi          | 1  | RF                  | IEEE 802.11ax   IEEE 802.11ac   IEEE 802.11b<br>IEEE 802.11g   IEEE 802.11n   IEEE 802.11a                                                                                                                        |
|                |    | Bands               | 2.4 GHz and 5 GHz simultaneous                                                                                                                                                                                    |
|                |    | 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  |                     | – Fiber port (SFP2), up to 2.5 GB via SFP cages (SFP transceiver module not included)<br>– SFP connectors supported: LC simplex, LC duplex, RJ45                                                                  |
| RADIO CELLULAR | 1  | WCDMA               | – Frequencies: B1/B5/B8<br>– Throughput: 42 Mbps (DL) / 5.76 Mbps (UL)                                                                                                                                            |
|                |    | LTE                 | – FDD, TDD, 5CC/3CC (DI/UL) Carrier Aggregation, LAA support<br>– Frequencies:<br>LTE-FDD: B1/B3/B5/B7/B8/B20/B28<br>LTE-TDD: B38/B40/B41/B42/B43<br>Throughput: LTE-FDD: Max. 1.6 Gbps (DL) / Max. 211 Mbps (UL) |
|                |    |                     | – FDD, TDD, SA (Stand Alone Option2), NSA (non-standalone Option3 /3a/3x), 2CC/2Band Carrier Aggregation, 256-QAM                                                                                                 |
|                |    | 5G Sub-6 GHz        | – Frequencies 5G NR: n1/n3/n5/n7/n8/n20/n28/n38/n40/n41/n77/n78<br>– Throughput: 5G SA Sub-6: Max. 4.67 Gbps (DL)/Max. 1.25 Gbps (UL)<br>5G NSA Sub-6: Max. 4.67 Gbps (DL)/Max. 825 Mbps (UL)                     |
| VOICE          | 4  | Antennas            | – 4 removable external antennas, male SMA connector<br>– Multiple Input/Multiple Output (MIMO) over bands 32, 4, 66, 3, 2, 25, 1, 30, 41, 7, 43, 42, 46, 48<br>– In download MIMO 4x4, in upload MIMO 2x2         |
|                | 2  | SIM                 | – 2 nano SIM slots (Dual SIM Single ACTIVE)<br>– SIM insertion type: tray eject                                                                                                                                   |
|                | 1  | FXS                 | – FXS port                                                                                                                                                                                                        |

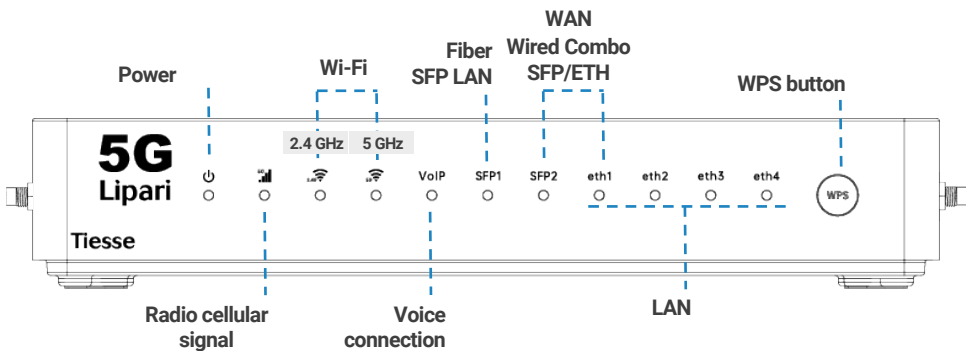
\* NOTE: the throughput value depends on the network configuration, the allocated bandwidth, the number of users and the RF signal conditions



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        | Wi-Fi band 2.4 GHz connection status                                                   |
|                | Green        | Wi-Fi band 5 GHz connection status                                                     |
| VoIP           | Green        | Operational status / voice signal quality                                              |
| Fiber          | Green        | SFP1: operational status of fibre LAN connection                                       |
|                | Green        | SFP2: operational status of fibre WAN connection                                       |
| Ethernet       | Yellow/Green | 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

- TCP-UDP IPv4, IPv6

### LAYER 2

- LAN Bridging
- VLANs on 802.1q LAN interfaces in Access mode, Trunk, native VLAN and Hybrid mode

### 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

### SECURITY

- NAT/PAT
- ACLs, Stateful Firewall
- SSL Tunnelling
- L2TP
- GRE Tunnelling with keep alive and key sequence numbering
- VPN with IPSEC/ESP or IPSEC/AH IKEv1/IKEv2

### SERVICES

- DHCP client, DHCP server with anti-spoofing functions, DHCP Layer Discovery Protocol IEEE 802.1ab
- Intelligent DNS Proxy, local and remote
- Traceroute

### VoIP

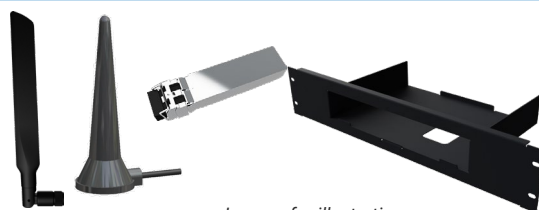
- Compliant with SIP standards: RFC 2327 SDP, RFC 2617, RFC 3261 SIP, RFC 2833, RFC 2976, RFC 3262, RFC 3264, RFC 3265, RFC 3311, RFC 3323, RFC 3325, RFC 3326, RFC 3398, RFC 3578, RFC 3842, RFC 3960, RFC 4566
- OOB DTMF tone, in-band tone and announcement tone management
- Codec support and negotiation

### MANAGEMENT and CONFIGURATION

- SSH server with multiple simultaneous sessions (SSHv2)
- Configurazione e aggiornamento software via WebGUI

## 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.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



SYSTEM FEATURES

|              |                  |             |                               |
|--------------|------------------|-------------|-------------------------------|
| PROCESSOR    | Quadcore 2.0 GHz | CHASSIS     | Plastic material, black color |
| MEMORY       | 1 GB             | FORM FACTOR | Desktop                       |
| FLASH MEMORY | 1 GB             |             | Rack 2 U (optional kit)       |



SUSTAINABILITY

SYSTEM

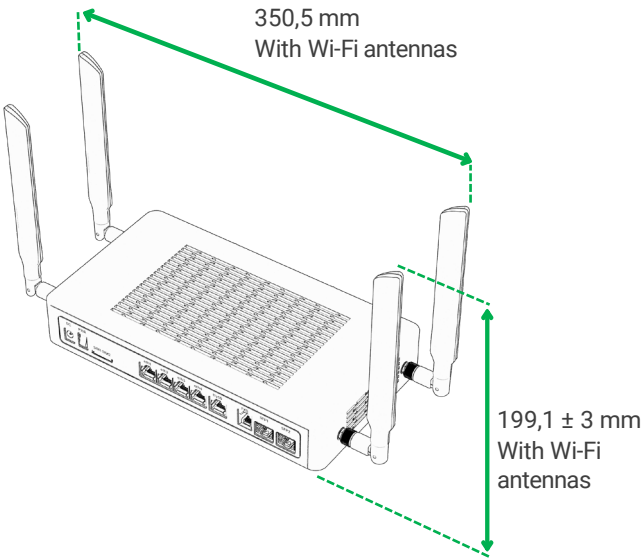
|                                    |                                                                                                                                            |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Power                              | - AC/DC adapter 12V, "wall mount" type<br>- On/Off button                                                                                  |
| Colling                            | Fanless                                                                                                                                    |
| Consumption<br>(full functions)    | ≈ 15W                                                                                                                                      |
| EEE<br>(Energy-Efficient Ethernet) | Tiesse products comply with the EEE (802.3az) standard, which saves energy by automatically switching off Ethernet ports when not in use.  |
| Dynamic Power Scaling              | Tiesse products use control mechanisms to automatically reduce power consumption by lowering the CPU clock frequency when the load is low. |
| Mean Time of Failute (MTBF)        | ≈ 173448 hours                                                                                                                             |

ENVIRONMENTAL DATA

|            |             |                           |
|------------|-------------|---------------------------|
| Operations | Temperature | -10° C / +45° C           |
|            | Humidity    | 5% ~ 95% (non condensing) |
| Storage    | Temperature | -40° C / +85° C           |
|            | Humidity    | 5% ~ 95% (non condensing) |

SIZE and WEIGHT

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



OTHER INFORMATION

|                        |                                                                                                                                                                                                                      |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Packaging and wrapping | 100% of the packaging material of the individual product is paper/cardboard - 0% plastic.<br>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 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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