



# Tsunami QuickBridge.11 Model 2454-R and Model 5054-R Point-to-Point Wireless Bridge Bundle



## Cost Effective Solution for Quick Return on Investment

The Tsunami QuickBridge.11 family operates in the unlicensed frequency spectrums of 2.4 and 5 GHz (5.25, 5.47, and 5.725) and comes complete with a set of accessories to ease outdoor installations. As the most cost-effective point-to-point solution, any deployments will enjoy a quick return on investment.

- Suitable for the service provider, municipal and education markets
- Certified for deployments in the Americas, Europe, Asia, and Australia
- Designed with the same high quality and reliability that are synonymous with all Tsunami wireless bridges

## Complete "Hop-In-A-Box" Allows Unprecedented Ease of Installation

Tsunami QuickBridge.11 bundles are the easiest-to-install family of broadband wireless bridges on the market. Requiring no training or wireless experience, they can be installed within hours. Each solution includes everything needed to set up a link right out of the box.

- Hop-in-a-box solution includes two radios with integrated antennas, outdoor-rated Ethernet cables, mounting hardware, power injectors and documentation
- Pre-configured software defaults and easy to use graphical user interface eliminate guess work during installation
- Audible tones ensure antennas are properly aligned

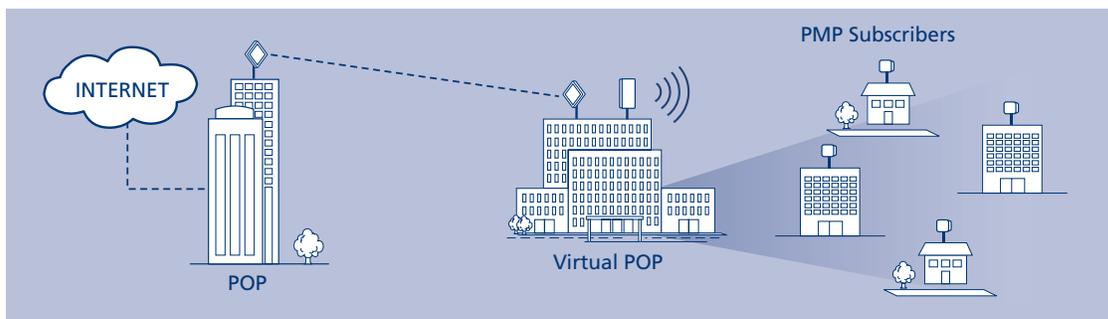
## Industry Leading Co-Location Capability

Expand your own service coverage area or co-locate a service within another service provider's existing area – it's never been easier. Tsunami QuickBridge.11 models 2454-R and 5054-R support 5/ 10/ 20 MHz channels designed to mitigate radio interference in unlicensed frequency spectrums.

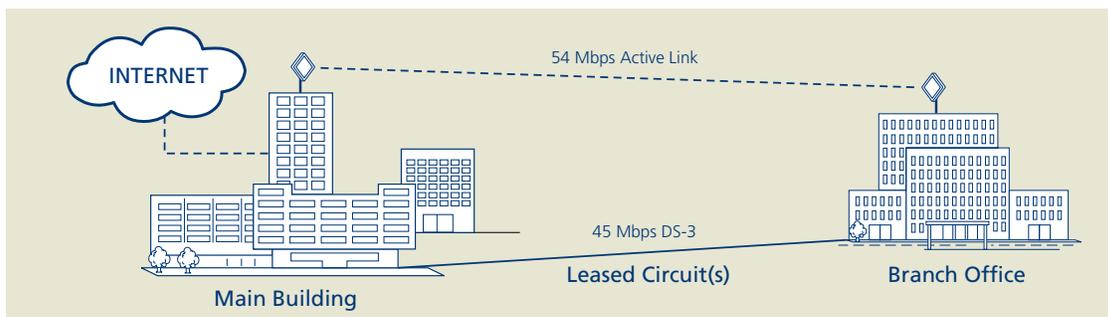
- 5 MHz channel increases the number of non-overlapping channels from 20 to 80+ in the 5 GHz and from 3 to 13 in the 2.4 GHz spectrums
- With the high number of non-overlapping channels, products can be used as high-bandwidth CPE (customer premise equipment) within a limited coverage area
- Less likely to offend neighboring wireless systems

## APPLICATIONS

- **Backhaul to a Central POP**  
Avoid expensive installation and recurring charge of a second wireline backhaul to a remote virtual POP
- **Leased Line Redundancy**  
Eliminate recurring DS-3 leased line charges with one time installation charge of a QuickBridge.11 link



Backhaul to a Central POP



Leased Line Redundancy

## APPLICATIONS

### • Repeater

Extend distance or overcome path blockage by adding point to point hops

### • High-bandwidth Last Mile Access

Use QuickBridge.11s to deliver TLS (Transparent LAN Services) to corporate parks

### • Inter-POP Redundancy

Avoid downtimes caused by a wireline backhaul failure by adding a QuickBridge.11 link as inter-POP redundancy

## Synergy with Tsunami MP.11 Point-to-Multipoint Systems

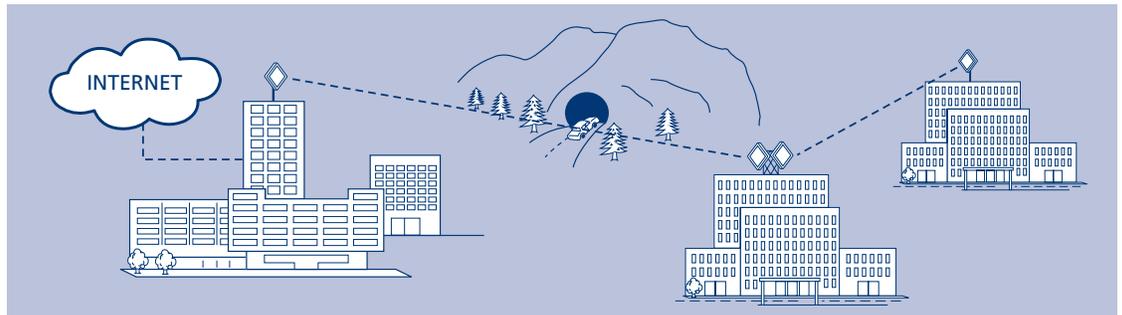
Maximum synergy is realized when deployed in conjunction with Tsunami MP.11 point-to-multipoint wireless systems. With the same proven platforms, both products are designed to deliver an equal experience.

- Using the integrated antennas also used in the MP.11, the QuickBridge.11 produces the same radio characteristics
- Same ruggedized enclosures allow the use of common accessories, resulting in reduced inventory and preservation of investments
- Identical CLI and graphical software interfaces reduce training costs, and accelerate installation and troubleshooting

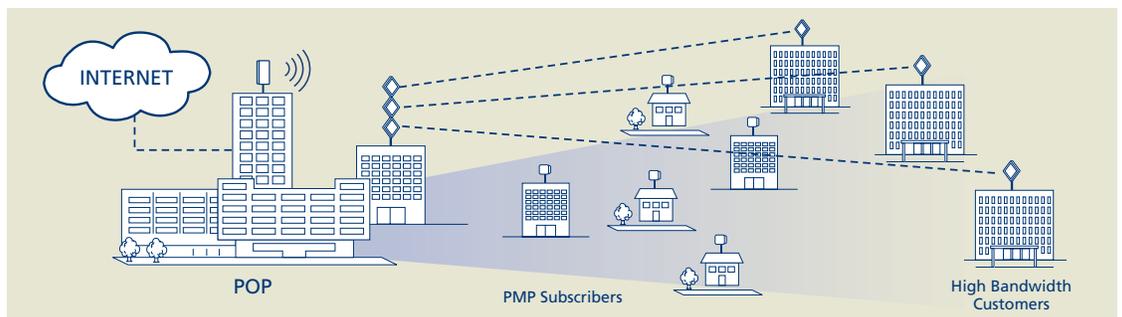
## Advanced Security Protects Privacy

QuickBridge.11 implements tiered security layers for the most secure outdoor communication in the unlicensed frequency spectrum.

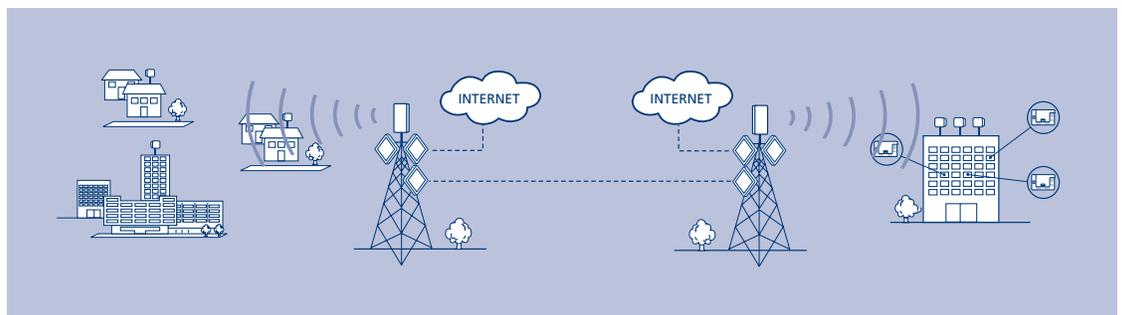
- Wireless Outdoor Routing Protocol (WORP) prevents snooping common to Wi-Fi systems
- Advanced encryption protects over-the-air transmission via AES
- Radio mutual authentication eliminates unauthorized use of the system by rogue Subscriber Units and man-in-the-middle attacks
- Password protection of all remote management methods



Repeater



High-bandwidth Last Miles Access



Inter POP Redundancy

# Tsunami QuickBridge.11 Model 2454-R and 5054-R Specifications

## PERFORMANCE AND SCALABILITY

Integrated antenna	Model 5054-R comes with an integrated 23-dBi antenna; Model 2454-R comes with an 18-dBi antenna
Complete "Hop-in-A-Box"	Ready to install. Bundle includes two radios with integrated antennas, two 50 m (164 ft) outdoor-rated Ethernet cables, two sets of mounting hardware, two power injectors, and manuals
Extreme Operating Temperature	Rated for -33° to 60° Celsius or -27.5° to 140° Fahrenheit, the system can be deployed outdoors in hot or cold climates
Intelligent Heating and Cooling Element	Peltier-based technology enables the weatherized enclosure to actively warm and cool itself

## MOST FLEXIBLE FREQUENCY AND CO-LOCATION SUPPORT

Most flexible spectrum selection	2.4 – 2.497 GHz; 5.25 – 5.35 GHz; 5.47 – 5.725 GHz; 5.725 – 5.85 GHz (including 5.8 GHz for UK licensed spectrum)
Tri-band 5 GHz (5.25/ 5.47/ 5.725) support	With software selectable frequencies, Model 5054-R can be deployed globally. Operators using 5.25 and 5.725 GHz frequency can reduce spare inventories
5 MHz channel support	Increase the number of non-overlapping frequency plans to 80+ in 5 GHz and 13 in 2.4 GHz
10 MHz channel support	Increase the number of frequency plans to 40+ non-overlapping in 5 GHz and 13 overlapping in 2.4 GHz

## SECURE AND EASY TO MANAGE

Highly secure communication	Unlike the 802.11 a/b/g standards, as a proprietary protocol, WORP eliminates the possibilities of unauthorized snooping
Inter-radio authentication	Mutual authentication embedded in WORP protocol mitigates man-in-the-middle attacks
Strongest encryption	Over the air transmission is encrypted using 128-bit AES
Flexible bandwidth	Bi-directional bandwidth rate limiting allows service providers to offer tiered service. Service can be provisioned instantly from the central office, without costly truck rolls
Flexible and secure remote management	Supports remote management via Telnet, SNMP and web interfaces, with password protections
Antenna alignment tool	Audible tone, visual aids via LEDs, and CLI with running statistics displaying real-time signal strength ease antenna installation
Comprehensive station statistics	Unit and group statistics are available for monitoring, planning and management of a wireless network

## PRODUCT MODELS

5054-QB-xx	Tsunami QuickBridge.11 Model 5054-R Bundle
2454-QB-xx	Tsunami QuickBridge.11 Model 2454-R Bundle

## INTERFACES

Wired Ethernet	10/100Base-TX Ethernet (RJ-45)
Wireless Protocol	WORP

## RADIO AND TRANSMISSION SPECIFICATIONS

Modulation Method	OFDM
Unlicensed Frequencies	
Model 5054-R	Americas (FCC): 5.25-5.35 GHz (15 channels); 5.725-5.850 GHz (21 channels) Europe (ETSI): 5.47-5.725 GHz (46 channels)
Model 2454-R	Americas (FCC): 2.4-2.4835 GHz (13 channels) Europe (ETSI): 2.4-2.4835 GHz (13 channels) Japan (MKK): 2.4-2.497 GHz (14 channels)
Licensed Frequency	
Model 5054-R	UK: 5.725 - 5.850 GHz (21 channels)
Data Rate	54, 48, 36, 24, 18, 12, 9, 6, 4.5, 3, 2.25, 1.5 Mbps

## UNIT PHYSICAL SPECIFICATIONS

Dimension	
Packaged :	22.5 x 15.5 x 14.75 in (571 x 394 x 375 mm)
Unpackaged (one radio):	12.60 x 12.60 x 3.50 in (320 x 320 x 89 mm)
Weight	
Packaged:	35 lbs (15.9kg)
Unpackaged (one radio):	6.0 lbs (2.72 kg)

## ENVIRONMENTAL SPECIFICATIONS

Temperature	
Operating:	-33° to 60°C (-27.5° to 140° Fahrenheit)
Storage:	-55° to 80°C (-41° to 176° Fahrenheit)
Humidity	
Operating:	Max 100% relative humidity (non-condensing)
Storage:	Max 100% relative humidity (non-condensing)
Water and Dust Proof	IP65

## ELECTRICAL

Power Injector	
Input:	Voltage 110 to 250 VAC
Output:	Current 420mA at 48V
Power Consumption:	Maximum 20 Watt
Power over Ethernet:	Via RJ-45 Ethernet interface port

## MANAGEMENT

Local Management	RS-232 serial (RJ11 and DB-9)
Remote Management	Telnet, Web GUI, TFTP
SNMP	SNMPv1/v2; MIB-II ; Ethernet-like MIB; Bridge; MIB; 802.3MAU; 802.11 MIB; Private MIB; ORINOCO MIB; RFC 1157; RFC 1213; RFC 1643; RFC 1493; RFC 2668

## MTBF AND WARRANTY

100,000 hours; 1-year on parts and labor

## PACKAGE CONTENTS

Two Tsunami QuickBridge.11 Model 2454-R and 5054-R Radios with Integrated Antennas; Two 50m (164ft) Outdoor-Rated Ethernet Cables; Two sets of wall/ pole mounting brackets; Two Power Injectors for 2454-R and 5054-R; Country Specific Power Cords; Two Ethernet Cable Weather-Proof Plugs; Documentation and Software CD-ROM

## RELATED PRODUCTS

Power Over Ethernet (PoE) Surge Arrestor (P/N #: 70251)  
Spare Power DC Injector for Tsunami MP.11 or QB.11 (-R model ONLY) (P/N #: 69823)