

# EN 50155 WLAN Client/Bridge/Access Point RT-320



- ⌘ Compact WLAN node with multiple modes
  - Configurable as Access Points, Client and Bridge
  - Special Inter-Consist Link (ICL) mode for stable and secure intra carriage or inter-consist link
  - Superior radio link performance through high end RF circuitry
- ⌘ Designed and built for extreme operational environments
  - Extended operating temperature range -40°C - 70°C with guaranteed performance across the range
  - EN 50155 approved for usage onboard trains and locomotives
  - Optimized wireless link span for long range reliability under all circumstances
- ⌘ Performance for mission critical networks
  - Superior RF front end for optimized operation near other WLAN/3G/4G networks
  - 2.4 Ghz and 5 Ghz supported
  - High output power and fast handover support
  - Robust DFS (radar detection) features



**EN 45545-2**  
Fire Protection

**EN 50121-4**  
Railway Trackside

**EN 50155**  
On Board Rail

**NFPA 130**  
Fire Protection

The Westermo RT-320 is a Wireless LAN Node for installation in harsh environments, for on-board and stationary applications. It ensures reliable, high speed data and video transmission, useful for instance in train to ground and inter-consist communication.

The RT-320 is designed to withstand the tough environment on-board trains exposing the switch to constant vibration, extreme temperatures, humidity and a demanding electrical environment.

A GORE-TEX® membrane prevents internal condensation. High-level isolation between all interfaces enables direct connectivity to vehicle auxiliary power and protects against overvoltage and flashover. IP66 protection prevents ingress of water and dust. An overall optimised design results in a compact package in combination with very high MTBF for easy integration and low lifecycle cost.

Thorough type testing at independent labs certify the compliance to a wide range of standards, not least EN 50155, where the highest approval class is achieved in all aspects.

Meeting the requirements of the railcar market, the RT-320 is very well suited for deployment in any other application with severe operating conditions and tough environments, for instance in the mining industry.

## Ordering Information

Art.no	Description
3623-072001	RT-320 EU, EN 50155 WLAN Client/Bridge/Access Point
3623-072002	RT-320 NA, EN 50155 WLAN Client/Bridge/Access Point
3623-0799	Factory Reset Plug (Accessory)

# Specifications RT-320

Functionality	802.11n solution for Public Transportation, Outdoor and Industrial applications
Operating modes	Access Point, Client, Bridge, Inter-carriage Link
Operating temp. range	-40 to +70 °C
Power feed	24 VDC Isolated, 0.6 A or IEEE 802.3 at type 1 powered device
Size and weight	App. 52 x 110 x 193 mm (H x W x L) and approx. 1,2 kg, without antennas
Environmental protection	IP66
Wireless standards supported	IEEE 802.11b, 802.11g, 802.11a and 802.11n
Frequency range	2.400 to 2.4835 GHz, 5.150 to 5.350 GHz, 5.470 to 5.725 GHz, 5.725 to 5.850 GHz Note: Additional licensed bands can be also supported
Occupied channel bandwidth	According to the IEEE 802.11
Data rates supported	802.11b: 1 Mbit/s, 2, 5.5 & 11 Mbit/s 802.11g & 802.11a: 6 Mbit/s, 9, 12, 18, 24, 36, 48 & 54 Mbit/s 802.11n 20 MHz BW, Long GI/Short GI: from MCS0 6.5/7.2 Mbps to MCS23 195/216.7 Mbps 802.11n 40 MHz BW, Long GI/Short GI: from MCS0 13.5/15 Mbps to MCS23 405/450 Mbps
RF transmit power 2400MHz - 2483.5MHz*	Max. conducted transmit power, 802.11b/g/n: 1 port: +22 dBm for all data rates 2 ports: +25 dBm for all data rates 3 ports: +27 dBm for all data rates
RF transmit power 5150MHz – 5350MHz*	Max. conducted transmit power, 802.11a/n: 1 port: BPSK...16QAM: +22 dBm, 64QAM: 20 dBm 2 ports: BPSK...16QAM: +25 dBm, 64QAM: 23 dBm 3 ports: BPSK...16QAM: +27 dBm, 64QAM: 25 dBm
RF transmit power 5470MHz – 5850MHz*	Max. conducted transmit power, 802.11a/n: 1 port: +22 dBm for all data rates 2 ports: +25 dBm for all data rates 3 ports: +27 dBm for all data rates
RF antenna interfaces	3 x QMA compatible antenna connectors, 3x3 MIMO
Receiver sensitivity (typical)	802.11g: -95 dBm (6 Mbit/s), -85 (36 Mbit/s), -80 dBm (54 Mbit/s) 802.11a: -95 dBm (6 Mbit/s), -85 (36 Mbit/s), -80 dBm (54 Mbit/s) 802.11ng HT20: -95 dBm (MCS0), -76 dBm (MCS7), -73 dBm (MCS15), -70 (MCS23) 802.11na HT20: -95 dBm (MCS0), -76 dBm (MCS7), -73 dBm (MCS15), -70 (MCS23) 802.11ng HT40: -92 dBm (MCS0), -73 dBm (MCS7), -70 dBm (MCS15), -67 (MCS23) 802.11na HT40: -92 dBm (MCS0), -73 dBm (MCS7), -70 dBm (MCS15), -67 (MCS23)
MIMO features supported	Space Time Block Coding (STBC), RX Low Density Parity Check (LDPC), Maximum Likelihood Demodulation (MLD), Maximum Ratio Combining (MRC)
Security	IEEE 802.11i WPA2 (AES/TKIP), 802.1X, 802.11w
Ethernet interface	2 x 10/100/1000Base-T, 2 x M12 X-coded connectors
Ethernet routing/networking	Fixed fallback IP, IP aliases, MAC address control lists, Port forwarding, Routing, Multicast Routing, DHCP Server/Client, NAT, VLAN support, Multi BSSID, NTP client, SNMP v2c and v3 with USM authentication and encryption support, SNMP Traps, RSTP
Monitoring features	Build in monitoring sensors and diagnostics
Device management	SNMP, HTTP/HTTPS with user authentication, CLI (SSH and Telnet)
Standards supported	CE, FCC 47 CFR Part 15, EN 301 893, EN 300 328, EN 300 440, EN 301 489-1/-17, EN 60950, EN 50121-3-2, EN 50121-4, EN 50155, EN 45545-2, NFPA 130

\* Note: Depending on the regulatory limitations and selected antennas