

WLAN Node, DT-5302R

Neratec DT-5302R is a high performance wireless communication client/bridge for onboard installations in harsh environments. Designed for fast handover applications such as continuous coverage vehicle/train to ground communications, it enables mobility applications without the need of centralized data pass-through controllers. It also supports 350Mbps inter-carriage link bridging with its 3x3 MIMO wireless interface.

Applications include low bandwidth CBTC (communication based train control) as well as high speed multimedia/CCTV applications. Its robust Quality of service (QoS) features support combined installations as well.



Technology

- Robust and reliable IEEE 802.11n based solution for train-to-ground and inter-carriage link
- In-house developed software and hardware optimized for special requirements in transportation and industrial applications enabling unique Long Term Support, Availability and Obsolescence management
- Advanced RF front end enables optimized operation nearby other WLAN/3G/4G networks
- Guaranteed performance over the operating temperature range
- Excellent performance and flexible installations in harsh industrial and mobile environments
- 2.4 GHz and 5 GHz operation

Key Features

- Configurable as Access Point, Client or Bridge
- High output power and fast hand-off support
- 350Mbps inter-carriage train bridge, with wireless data rates up to 450Mbit/s
- Better link span based on optimized transmitter and receiver performance
- Supports remote updates for device settings and firmware downloads
- Robust DFS (Radar detection) features
- -40...+70°C and IP66
- EN50155 and EN45545-2 compliant



Robust and reliable 802.11n
solution for onboard

WLAN Node, DT-5302R

Functionality	802.11n solution for Public Transportation, Outdoor and Industrial applications
Operating modes	Access Point, Client, Bridge, Inter-carriage Link
Operating temp. range	-40...+70 °C
Power feed	Available with two powering options: DT-5302R: 24 VDC (EN50155 nominal) and IEEE 802.3at type 1 PD DT-5302R-HV: 72 - 110 VDC (EN50155 nominal)
Size and weight	App. 52 x 110 x 193 mm (H x W x L) and approx. 1,2 kg, without antennas
Environmental protection	IP 66
Wireless standards supported	IEEE 802.11b, 802.11g, 802.11a and 802.11n
Frequency range	2.400...2.4835 GHz 5.150...5.350 GHz, 5.470...5.725 GHz, 5.725...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: 1Mbit/s, 2, 5.5 & 11Mbit/s 802.11g & 802.11a: 6Mbit/s, 9, 12, 18, 24, 36, 48 & 54 Mbit/s 802.11n 20MHz BW, Long GI/Short GI: from MCS0 6.5/7.2 Mbps to MCS23 195/216.7 Mbps 802.11n 40MHz 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: +22dBm for all data rates 2 ports: +25dBm for all data rates 3 ports: +27dBm for all data rates
RF transmit power 5150MHz - 5350MHz*	Max. conducted transmit power, 802.11a/n: 1 port: BPSK...16QAM: +22dBm, 64QAM: 20dBm 2 ports: BPSK...16QAM: +25dBm, 64QAM: 23dBm 3 ports: BPSK...16QAM: +27dBm, 64QAM: 25dBm
RF transmit power 5470MHz - 5850MHz*	Max. conducted transmit power, 802.11a/n: 1 port: +22dBm for all data rates 2 ports: +25dBm for all data rates 3 ports: +27dBm 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 (36Mbit/), -80 dBm (54 Mbit/s) 802.11a: -95 dBm (6 Mbit/s), -85 (36Mbit/), -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	Built-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, EN301 893, EN300 328, EN301 489-1/-17, EN60950, EN50121-3-2, EN50121-4, EN50155, EN45545, NFPA130, EN300440

* Note: Depending on the regulatory limitations and selected antennas

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