Teldat APR2044ax

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Introduction

The APR2044ax is Teldat's new WiFi Access Point for railway applications. It features two state of the art WiFi 6 modules that can provide connectivity to a high number of passengers. It's especially designed to meet the more demanding railway regulations (such as EN 50155). The APR2044ax seamless integrates with HotSpot and WebFilter applications, creating a full solution for on-train Internet connectivity. With two 2.5GbE ports It has the ability to be mounted on a daisy chain configuration which reduces the need of additional switches.

Destacar

- **Wi-Fi 6 Multi-User-MIMO 4x4 for up- and down link**
- **2,4 Gbit/s @ 5GHz and 1,1 Gbit/s* @ 2,4 GHz**
- **802.11ax technology for 2,4 and 5 GHz band**
- **Compliant with Railway Regulations**
- **Integrated Bluetooth for IoT applications**
- **8 antennas for optimized coverage and performance**

Interfaces

Ethernet	2x port switch 100/1000/2500BASE-T, auto
Radio 1	IEEE 802.11b/g/n/ax MIMO 4x4
Radio 2	IEEE 802.11ax/ac/n/a MU-MIMO 4x4
Bluetooth	Bluetooth LE 4.2

Competitive Advantage

State of Art Wi-Fi Technology	Dual-Radio 4x4 MU-MIMO 802.11ax Wi-Fi 6 with high level security WPA3
Access Point for railway environments	Offers professional connectivity in railway environments on different bands
Ruggedized HW and Fanless architecture	Designed to withstand vibrations and extreme temp (-25 to 70°C). Certified according to railway standards (EN 50155, EN 50121-3-2, EN 45545-2, EN 301 908-1)
Simple, efficient administration	Web configuration (http/https), CAPWAP support from WLAN Controller in Teldat router, Teldat's Cloud base management

Key Features

- **Use Cases** Wi-Fi LAN connectivity for high density railway environments and critical scenarious dependant on latency or high capacity
- **Quality of Service** Traffic priorization by means of cathegories based on 802.11e/WMM
- **Optimized WAN** 802.1k, 802.1v, 802.1r together provide with a fast and transparent roaming to the user
- **Security** Most updated encrypted and secured with WPA3-Personel/Enterprise, Rogue APs detection, 802.1x
- **Very easy configuration**
  - Centralized mode: Zero Touch Provisioning from Cloud Net Manager
  - Local mode: WLAN Controller detects and configures the new Access Point connected to the LAN
  - Manual Mode: Simple GUI

CARACTERíSTICA TéCNICA DEL HARDWARE

Interfaces and connectors
2 x 100/1000/2500 Mbps Ethernet twisted pair, autosensing, auto MDI/MDI-X
1 x Radio module IEEE 802.11b/g/n/ax MIMO 4x4
1 x Radio module IEEE 802.11ax/ac/n/a MU-MIMO 4x4

Internal Power Supply
24-110 VDC M12 Connector / PoE

Environmental specifications and consumption
Temperature operating: -25°C to 70°C; storage: -40°C to +75°C
Relative humidity: up to 95%
Power Consumption: 12 W typical, 18W maximum at full load.

Antennas
2 x 2 female QMA external antennas connectors by radio module WLAN
1 female QMA antenna connector by Bluetooth

Dimensions and casting
212mm x 212mm x 40mm (width x depth x height), plus 15mm flap to each side
Status, Activity for WLAN1, WLAN2 and Ethernet, LEDs defeatable

CARACTERíSTICA TéCNICA DEL SOFTWARE

Wi-Fi interface
Airtime Fairness, Client Band Select, Client Management, Data rate trimming
Client Management 802.11k/v, Low SNR threshold management
Seamless roaming with IAPP, Fast BSS Transition 802.11r

WLAN Security Modes
WPA3-SAE; WPA2/3-PSK; WPA2-PSK; WPA1/2-PSK; WPA-PSK; WPA3-Enterprise
WPA2/3-Enterprise; WPA2-Enterprise; WPA1/2-Enterprise; WPAEnterprise
Open, OWE; OWE-Transition

Management/administration
Graphical user interface
Managed by a local WLAN Controller, works as WTP
Supported Cloud Management Systems

Energy Management
MIMO 1x1 shift down
802.3az support
The LEDs has three operation mode: Status, Flashing, Off

IEEE802.11i Authentication and encryption
802.1x/EAP-MD5, 802.1x/EAP-TLS, 802.1x/EAP-TTLS, 802.1x/EAP-PEAP, key management

Detection mechanisms
MAC address filter for WLAN clients (white list)
Rogue AP, Neighbor AP

Power optimization
TWT

VLANs
Network segments on layer2 is possible
For each SSID one VLAN ID is available
Static VLAN configuration according IEEE 802.1q

CARACTERíSTICA TéCNICAS ADICIONALES

Certifications
Directive 2014/53/EU, 2011/65/EU, Regulation (EC)
EN 50155:2017; EN 300 328; EN 301489-1; EN 301489-17; EN 301893; EN 62368-1: 2014; EN 50121-3-2; EN45545-2:2013; EN IEC 63000; EN 62311:2008

Open Source information at www.teldat.com

Scenarios

Founded in 1985, Teldat is a Spanish company whose mission is to provide companies with valuable solutions for cloud access, remote office communications, cyberse-curity and voice/data connectivity both in the office and in specific environments whether they are industrial, railway, vehicles or public services.

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Publish Date: April, 27th 2022
Version: 20221103113200