ELTEC CYBOX AP 3 Railway WLAN Access Point Owner's Manual

Contents

ELTEC CYBOX AP 3 Railway WLAN Access Point

REVISION

- Revision 1.0
- Date 24.11.2022

PACKAGE CONTENTS

- Product 1 x CYAPW-3xxx or CYRTW-3xxx
- Documentation 1 x Safety Information

LEGAL INFORMATION

Detailed technical characteristics and legal information as well as effective license provisions can be found in the Download Center (**https://downloadcenter.eltec.de/login**) on our website **www.eltec.com**.

EU Declaration of Conformity
ELTEC Elektronik AG herewith declares that the device is compliant to the basic requirements of the directive 2014/53/EU. The full text of the EU declaration of conformity is available in the Download Center.

CONTACT

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SAFETY INFORMATION

- Please read the configuration and installation manuals carefully before installing and using any of our products, especially for output power and frequency bands of the radio modules. You can download the manuals after registration in the Download Center (**https://downloadcenter.eltec.de/login**) on our website **www.eltec.com**.
- Allow only appropriately trained personnel to handle the devices and observe the Electrostatic Discharge (ESD) protective measurements. Also, the internal SIM cards are only allowed to be installed, taken into operation and replaced by qualified and trained staff. Furthermore, ESD protection measures must be taken.
- **Usage restriction:** The designated product may only be used in an industrial environment (Class A product) in accordance to the specifications stated in the manuals.
- The device can become very hot during operation (> 80°C).
  - Make sure the device is protected from accidental contact.
  - The device must be installed inaccessible to children.
  - For optimal heat dissipation the connectors should face downwards.
- Do not install the device close to any sources of heat, such as radiators or heating ducts.
- Keep the device away from any liquids and avoid exposure to dripping or splashing. The protection class of the housing is IP 40.

- The device can be operated with voltages higher than 60 VDC.
    - Incorrect handling can cause a fatal electrical shock.
    - Before connecting the power supply, connect the device to protective earth.
- To prevent the risk of electric shock, turn off the external power supply and remove the power supply cable from the electrical outlet before handling or disassembling the system.
- When connecting or disconnecting devices to or from the system ensure that the power cables of the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before connecting the device.
- Before connecting or removing signal cables ensure that all power cables are unplugged.
- When using 5G, LTE, WLAN or GNSS interfaces connect an appropriate antenna to the QLS built-in socket.
- At least 20 cm separation distance between the antenna and the user's body must be always maintained.

RADIO FREQUENCIES AND TRANSMITTING POWER

WLAN	Range			Max. Power (e.i.r.p.)
2.4 GHz	2.4 – 2.483 GHz			20 dBm
5 GHz	5.15 – 5.35 GHz			23 dBm
	5.47 – 5.725 GHz			30 dBm
5G NR	LTE	Downlink (DL)	Uplink (UL)	Max. Power (e.i.r.p.)
n1 (SA)	B1	2110 – 2170 MHz	1920 – 1980 MHz	23 dBm
n3 (SA)	B3	1805 – 1880 MHz	1710 – 1785 MHz	23 dBm
–	B7	2620 – 2690 MHz	2500 – 2570 MHz	23 dBm
–	B8	925 – 960 MHz	880 – 915 MHz	23 dBm
–	B20	791 – 821 MHz	832 – 862 MHz	23 dBm
n28 (SA)	B28	758 – 803 MHz	703 – 748 MHz	23 dBm
–	B38	2570 – 2620 MHz	2570 – 2620 MHz	23 dBm
–	B40	2300 – 2400 MHz	2300 – 2400 MHz	23 dBm
–	B42	3400 – 3600 MHz	3400 – 3600 MHz	23 dBm
n78 (SA/NSA)	–	3300 – 3800 MHz	3300 – 3800 MHz	23 dBm
UMTS (WCDMA)		Downlink (DL)	Uplink (UL)	Max. Power (e.i.r.p.)
B1		2110 – 2170 MHz	1920 – 1980 MHz	24 dBm
B3		1805 – 1880 MHz	1710 – 1785 MHz	24 dBm
B8		925 – 960 MHz	880 – 915 MHz	24 dBm

The following restrictions are effective in the EU member states AT, BE, BG, CY, CZ, DE, DK, EE, EL, ES, FI, FR,

HR, HU, IE, IT, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI, SK.

The WLAN frequency band 5.15 GHz to 5.35 GHz is intended only for indoor use.
The 5G NR frequency band n28 is restricted to 703 – 736 MHz (UL) and 758 – 791 MHz (DL).
The 5G NR frequency band n78 is restricted to 3400 – 3800 MHz (UL, DL)

Recommended antenna type and gain

- **WLAN Dipole antenna –** 3.5 dBi (2.4 GHz) & 3.0 dBi (5 GHz)
- **5G NR Dipole antenna –** 8.0 dBi (SA bands) & 11.0 dBi (NSA bands)
- **LTE | UMTS Dipole antenna –** 11.0 dBi | 11.5 dBi

For further details about the setting of transmit powers please refer to the configuration manual

Documents / Resources

	ELTEC CYBOX AP 3 Railway WLAN Access Point [pdf] Owner's Manual CYBOX AP 3, CYBOX RT 3, CYBOX AP 3 Railway WLAN Access Point, CYBOX AP 3, Railway WLAN Access Point, WLAN Access Point, Access Point, Point

References

- ELTEC Elektronik AG
- ELTEC Elektronik AG
- Eltec Elektronik AG | Download-Center