



# ELTEC CYBOX AP 2 AG Electronics Instruction Manual

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CYBOX AP 2  
CYBOX LTE 2  
SAFETY INFORMATION

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**REVISION**

|          |            |
|----------|------------|
| Revision | 1.0        |
| Date     | 31.01.2023 |

**PACKAGE CONTENTS**

|               |                              |
|---------------|------------------------------|
| Product       | 1 x CYAPW-1xxx or CYLTE-1xxx |
| 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](http://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](http://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 ( $> 80^{\circ}\text{C}$ ).
  - 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 LTE, WLAN or GNSS interfaces connect an appropriate antenna to the QLS/RPSMA 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                |
| 5.8 GHz      | 5.725 – 5.875 GHz |                 | 13 dBm                |
| LTE          | Downlink (DL)     | Uplink (UL)     | Max. Power (e.i.r.p.) |
| B1           | 2110 – 2170 MHz   | 1920 – 1980 MHz | 23 dBm                |
| 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                |
| 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.

### Recommended antenna type and gain


|            |  |
|------------|--|
| WLAN       | Dipole antenna – 4.5 dBi (2.4 GHz) & 7.0 dBi (5 GHz) |
| LTE / UMTS | Dipole antenna – 3.0 dBi                             |

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






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## Documents / Resources

|   |   |
|---|---|
|  | <p><a href="#">ELTEC CYBOX AP 2 AG Electronics</a> [pdf] Instruction Manual<br/>CYBOX AP 2 AG Electronics, CYBOX AP 2, AG Electronics</p> |
|---|---|

## References

-  [ELTEC Elektronik AG](#)
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