

1. Generally

The module is not sold separately as a standalone board. It is either used systems manufactured by E-Chronos or sold together with other E-Chronos boards for OEM customers bound to E-Chronos by an integration project. The module is only used in professional industrial radio applications. For integration in host device the present integration instructions define the minimal requirements for installation, for the safety instructions to be written in the host manual and for the labelling. Changes or modifications made to this module not expressly approved by the party responsible for compliance voids the authorization to operate this equipment. The module is exclusively approved for the integration into host devices by the Grantee or his authorized OEM integrators.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

2. Integration requirements

2.1. OEM integrator responsibility

The OEM integrators are responsible for ensuring that the end-user has no manual instructions to remove or install module.

The module is limited to OEM installation ONLY.

2.2. Instructions/statements to be reported on the User Manual

Any changes or modifications to this equipment not expressly approved by E-Chronos SA may cause, harmful interference and void the FCC authorization to operate this equipment

This equipment complies with FCC's radiation exposure limits set forth for an uncontrolled environment under the following conditions:

- This equipment should be installed and operated such that a minimum separation distance of 20cm is maintained between the radiator (antenna) and user's/nearby person's body at all times.
- This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The RF module has been certified for mobile and fixed applications. If the module will be used for portable application the device must undergo SAR testing and the following instructions shall be reported on the User Manual:

The separate approval is required for all other operating configurations, including portable configurations with respect to Part 2.1093 and different antenna configurations.

If SAR measurement is not required:

This portable equipment with its antenna complies with FCC's radiation exposure limits set forth for an uncontrolled environment. To maintain compliance, follow the instructions below:

- This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
- Avoid direct contact to the antenna or keep contact to a minimum while using this equipment.

If SAR measurement is required:

This portable equipment with its antenna complies with FCC's radiation exposure limits set forth for an uncontrolled environment. This equipment has shown compliance with FCC's Specific Absorption Rate (SAR) limits. To maintain compliance, follow the instructions below:

- This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.


This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:


- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

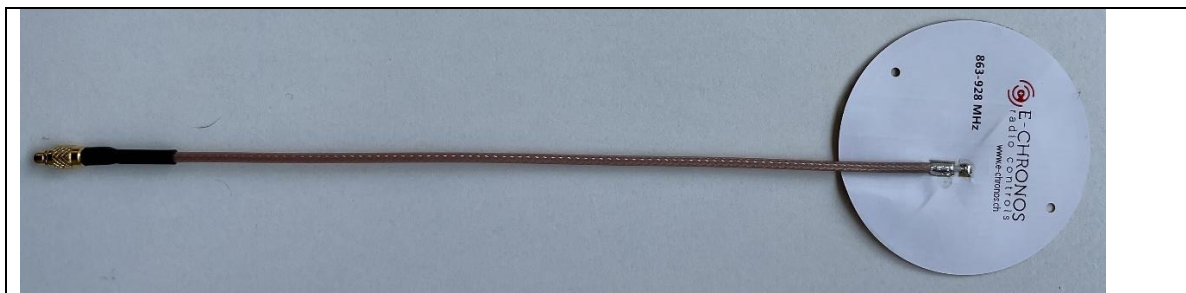
This device must be professionally installed.

2.3. Authorized antennas

The RF module has an integrated PCB antenna and an external port. The following antennas can be connected to the external RF port:

	
Part number	CEM.0128.001C
Brand	E-Chronos SA
Characteristics	
Max gain	2.15dBi
Impedance	50Ω
Bandwidth	866-936MHz
VSWR	1.3:1
Polarization	Vertical
Length	1/2λ ground plane independent
Connection	TNC male
Usage	Machine antenna

	
Part number	CEM.0184.000 (1m cable) CEM.0184.002 (2m cable) CEM.0184.003 (3m cable)
Brand	E-Chronos SA
Characteristics	
Max gain	Max 3dBi
Impedance	50Ω
Bandwidth	698-960/1710-2690MHz
VSWR	<3.0:1
Polarization	Linear
Length	Min cable length: 1m
Connection	TNC male with RG174 Coaxial cable
Usage	Machine antenna



Part number	CEM.0028.003C
Brand	E-Chronos SA
Characteristics	
Max gain	Max 1.9dBi
Impedance	50Ω
Bandwidth	863-928MHz
VSWR	Max 1.7:1
Polarization	Linear
Length	15cm
Connection	MMCX
Usage	Transmitter antenna, only used inside portable equipment. To be stuck on the plastic enclosure of the transmitter.

2.4. Antenna installation requirements

For the machine device, TNC antennas must be connected to the RF module using the original 20cm MMCX to TNC adapter provided by E-Chronos, ref. CEM.0029.001:



In case of an extension coaxial cable would be needed to connect the antenna, it must be connected to the CEM.0029.001 adapter in one end and to the TNC antenna at the other end. The cable impedance must be 50Ω. Note that the RF certification has been performed without extension cable.

For the portable transmitter, the only allowed external antenna is the CEM.0028.003C patch antenna. This antenna must be stuck on the plastic housing of the transmitter without any metallic parts in the RF path. As stated in §1, each OEM integrator must be bound to E-Chronos SA through an integration project prior to be allowed to use its equipment. The antenna placement will be part of the project.

2.5. Product labelling

The host equipment must be labelled as follows:

Contains Transmitter Module FCC ID: 2A2B4-36915V3-2 or
Contains FCC ID: 2A2B4-36915V3-2.

“This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.”

Label example:

Contains transmitter module
FCC ID: 2A2B4-36915V3-2

*This device complies with Part 15 of the FCC Rules.
Operation is subject to the following two conditions: (1)
this device may not cause harmful interference, and (2)
this device must accept any interference received,
including interference that may cause undesired
operation.*

The FCC ID information can either be printed on an individual label or directly in the main product label. In both cases the information must be visible and easily readable.

When the device is so small or for such use that it is not practicable to place the statement specified above on it, the information required shall be placed in a prominent location in the instruction manual or pamphlet supplied to the user or, alternatively, shall be placed on the container in which the device is marketed.