

RF Exposure Evaluation Report — RSS-102 Issue 6

Declaration of RF Exposure Compliance for Exemption from Routine Evaluation

Product:	MOD-C1-LORA — Wireless Irrigation Valve Module Transmitter
Model(s):	MOD-C1-LORA-900
Manufacturer:	WiseConn IP GmbH
Applicable Standard:	RSS-102 Issue 6 (December 2023)
Exposure Environment:	General Public (Uncontrolled)
Device Classification:	Mobile device (separation distance > 20 cm)
Date:	2026-03-25

1. Device Description

The MOD-C1-LORA-900 is a LoRa communication expansion module designed to be installed inside the RF-C1 Full Control Node. It is always installed in a control cabinet in the field, at > 20 cm from any person. Contains:

- RAKwireless RAK11720 — LoRa (902–928 MHz) + BLE (2402–2480 MHz)
— IC: 25908-RAK11720

2. Transmitter Parameters

Transmitter	Technology	Frequency Range	Max Conducted Power	Max Antenna Gain	Max EIRP
RAK11720 LoRa	LoRa (FHSS/ DTS)	902.3– 927.7 MHz	0.1445 W (21.6 dBm)	2.3 dBi	0.245 W (23.9 dBm)
RAK11720 BLE	BLE	2402–2480 MHz	0.0019 W (2.8 dBm)	3.12 dBi	0.0039 W (5.9 dBm)

3. Exemption Analysis per RSS-102 Section 6.6

3.1 LoRa (915 MHz)

Parameter	Value
Exemption threshold (f=915 MHz)	$1.31 \times 10^{-2} \times 915^{0.6834} = 2.472 \text{ W}$
Actual max EIRP	0.245 W
Result	EXEMPT — 0.245 W << 2.472 W

3.2 BLE (2440 MHz)

Parameter	Value
Exemption threshold (f=2440 MHz)	4.985 W
Actual max EIRP	0.0039 W
Result	EXEMPT — 0.0039 W << 4.985 W

4. Simultaneous Transmission Assessment

LoRa and BLE do not transmit simultaneously in the MOD-C1-LORA-900. Even if they did, both are individually well below their respective exemption thresholds (by factors of 10× and 1000× respectively), so the combined exposure would remain compliant.

5. Minimum Separation Distance

The MOD-C1-LORA-900 is installed inside the RF-C1 control cabinet in the field.
Minimum separation distance: > **20 cm**.

6. Conclusion

The WiseConn MOD-C1-LORA-900 meets the exemption limits per RSS-102 Issue 6, Section 6.6. All transmitters operate well below the applicable EIRP thresholds. No SAR, APD, or FRL testing is required.

7. User Manual Statement

English: This equipment complies with ISED RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.

French: Cet équipement est conforme aux limites d'exposition aux rayonnements RSS-102 de l'ISDE établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.