

# RF Exposure Evaluation Report — RSS-102 Issue 6

## Declaration of RF Exposure Compliance for Exemption from Routine Evaluation

<b>Product:</b>	RF-C1 — Wireless Irrigation Controller
<b>Model(s):</b>	RF-C1-900HP RF-C1-900HP-SCR RF-C1-900HP-LTE RF-C1-900HP-LTE-SCR RF-C1-900HP-CAT1-NL RF-C1-900HP-CAT1-NL-SCR RF-C1-LTE RF-C1-LTE-SCR RF-C1-LITE-900HP RF-C1-LITE-900HP-LTE RF-C1-LITE-900HP-CAT1-NL RF-C1-LITE-LTE RF-C1-LITE-CAT1-NL
<b>Manufacturer:</b>	WiseConn IP GmbH
<b>Applicable Standard:</b>	RSS-102 Issue 6 (December 2023)
<b>Exposure Environment:</b>	General Public (Uncontrolled)
<b>Device Classification:</b>	Mobile device (separation distance > 20 cm)
<b>Date:</b>	2026-03-25

### 1. Device Description

The RF-C1 is a full control node for agricultural irrigation with 110VAC power, battery backup, expandable I/O, and Bluetooth screen. Installed in control cabinets in the field, always > 20 cm from any person. Contains:

- Laird BL653 — Bluetooth 5.4 LE — IC: 3147A-BL653
- Digi XBee-PRO 900HP — 900 MHz DigiMesh — IC: 1846A-XB900HP
- Digi XBee 3 Global LTE-M/NB-IoT (XB3-C-A2-UT-001) — IC: 1846A-XB3M2 + IC: 5131A-ME310G1W1  
 OR NimbeLink Skywire CAT1 (NL-SW-LTE-TC1WWG) — LTE Cat 1 — IC: 5131A-LE910CXWWX

### 2. Transmitter Parameters

Transmitter	Technology	Frequency Range	Max Conducted Power	Max Antenna Gain	Max EIRP

Laird BL653	Bluetooth 5.4 LE	2402–2480 MHz	0.0063 W (8.0 dBm)	2.0 dBi	0.010 W (10.0 dBm)
XBee-PRO 900HP	FHSS 900 MHz	902–928 MHz	0.250 W (24 dBm)	3.0 dBi	0.499 W (27.0 dBm)
XBee 3 Global LTE-M/NB-IoT	LTE-M	700–2100 MHz	0.200 W (23 dBm)	3.0 dBi	0.399 W (26.0 dBm)
NimbeLink Skywire CAT1 (alt.)	LTE Cat 1	700–2600 MHz	0.200 W (23 dBm)	3.0 dBi	0.399 W (26.0 dBm)

### 3. Exemption Analysis per RSS-102 Section 6.6

#### 3.1 Laird BL653 BLE (2440 MHz)

Parameter	Value
Exemption threshold (f=2440 MHz)	<b>4.985 W</b>
Actual max EIRP	<b>0.010 W</b>
Result	EXEMPT — 0.010 W << 4.985 W

#### 3.2 XBee-PRO 900HP (915 MHz)

Parameter	Value
Exemption threshold (f=915 MHz)	<b>2.472 W</b>
Actual max EIRP	<b>0.499 W</b>
Result	EXEMPT — 0.499 W < 2.472 W

#### 3.3 Cellular (worst case 850 MHz)

Parameter	Value
Exemption threshold (f=850 MHz)	<b>2.345 W</b>
Actual max EIRP	<b>0.447 W</b>
Result	EXEMPT — 0.447 W < 2.345 W

## 4. Simultaneous Transmission Assessment

Worst case: all radios transmitting simultaneously.

Scenario	Combined EIRP	Lowest Threshold	Result
900HP + Cellular + BLE	$0.499 + 0.447 + 0.010 = \mathbf{0.956\ W}$	2.345 W	EXEMPT

Even with all transmitters active simultaneously, the combined EIRP (0.956 W) is below the lowest individual exemption threshold (2.345 W).

## 5. Minimum Separation Distance

The RF-C1 is installed in control cabinets in the field. Minimum separation distance: > 20 cm.

## 6. Conclusion

The WiseConn RF-C1 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.