

## Manufacturer`s Declaration of Conformity

**Hirschmann Automation and Control GmbH**

**Stuttgarter Straße 45-51  
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declares in sole responsibility, that the product(s)

### **WLAN Access Point / Client**

(Product description)

**BAT-R, BAT-F**

with the following possible product codes:

- BAT-R [nn] [W] [W|9] [9] [A|C] [W|P] [W|9] [K] [n] [n] [O7] [T1|99]  
[E] [n] [n] [n] [H|Z|9] [H] [nn.nn.nnnn]
- BAT-F [nn] [W] [W|9] [9] [A|C] [W|P] [W|9] [K] [n] [n] [O5] [T6|99]  
[E] [n] [n] [n] [H|Z|9] [H] [nn.nn.nnnn]

assembled with the transceivers M-SFP-x EEC.

(n = any letter, x = any suffixes,

\* variants with voltage range code other than 'WW' or 'P9' and approvals code other than 'K..' are specified according to EN50121-4 and EN50121-3-2 but not to EN50155.)

(Type, reference number)

has been designed and manufactured in accordance with the following standards

### **EN 50155:2017 – Railway Applications – Environmental conditions**

Test description	EN 50155 Section	Test Reference	Requirement
Operating temperature	4.3.2	EN 60068-2-1, Ad EN 60068-2-2, Bd	Class OT4 -40 °C to +70 °C in rack
Start-up temperature	4.3.3		Class ST1 OT over +15 K, 10 min.
Power supply from battery	5.1.1	-	24 V
Over voltage test	13.4.3.2	-	1.4 x UN during 1.0 s
Switching between power supplies	13.4.3.3	-	Class C1 0.6 x UN during 100 ms
Power supply interrupts	13.4.3.4	-	Class S2 ≤ 10 ms
Low air temperature	13.4.4	EN 60068-2-1	Test Ad, -40 °C
High air temperature	13.4.5	EN 60068-2-2	Test Be, +70 °C in rack Cycle B: T start-up +15 K, 10 min.
Humidity	13.4.7	EN 60068-2-30	Test Db, 95 %
Low Temperature storage	13.4.8	EN 60068-2-1	Test Ab, -40 °C

Electromagnetic compatibility	13.4.8	EN 50121-3-2:2016	
<b>Test description</b>	<b>EN 50155 Section</b>	<b>Test Reference</b>	<b>Requirement</b>
Dielectric test	13.4.9	-	U <sub>rated</sub> < 72 VDC: 750 VDC
Vibration	13.4.11	IEC 61373	Category 1, Class B broadband noise 5-150 Hz <i>vertical axis:</i> 1,0 m/s <sup>2</sup> , life test: 5,72 m/s <sup>2</sup> <i>longitudinal / transverse axis:</i> 0,7 m/s <sup>2</sup> , life test: 3,96 m/s <sup>2</sup>
Shock	13.4.11	IEC 61373	Category 1, Class B <i>vertical axis:</i> 30 m/s <sup>2</sup> , 30 ms <i>longitudinal / transverse axis:</i> 50 m/s <sup>2</sup> , 30 ms

**EN 50121-3-2: 2016 – Railway Applications – EMC – Rolling stock**

Test description	EN 50121-3-2 Section	Test Reference	Requirement
Radiated electromagnetic field	table 5.1 table 5.2	IEC 61000-4-3 IEC 61000-4-3	80...1000 MHz, 20 V/m 1400...2000 MHz, 10 V/m 2000...2700 MHz, 5 V/m 5100...6000 MHz, 3 V/m
Electrostatic Discharge	table 5.3	IEC 61000-4-2	±6 kV contact discharge ±8 kV air discharge
Conducted disturbances	table 3.1/ 4.1	IEC 61000-4-6	<i>Signal ports, power ports:</i> 10 V
Fast transient / burst	table 3.2/ 4.2	IEC 61000-4-4	<i>Signal ports, power ports:</i> ±2 kV
Surges 1,2/50µs	table 3.3	IEC 61000-4-5	<i>Signal ports, power ports:</i> CM ±2 kV DM ±1 kV
Radiated Emission	7	EN 61000-6-4	30...230 MHz: 40 dBµV/m (10m) 230...1000 MHz: 47 dBµV/m (10m) 1...3 GHz: 76 dBµV/m peak (3m) 56 dBµV/m av. (3m) 3...6 GHz: 80 dBµV/m peak (3m) 60 dBµV/m av. (3m)
Conducted Emission	table 1.1	EN 55016-2-1	AC or DC <i>power ports:</i> 150...500 kHz: 99 dBµV qp. 500 kHz...30 MHz: 93 dBµV qp.

**EN 50121-4:2016 – Railway Applications**  
**– EMC – Signalling and telecommunication apparatus**

Test description	EN 50121-4 Section	Test Reference	Requirement
Radiated electromagnetic field	table 2.1 table 2.2	IEC 61000-4-3 IEC 61000-4-3	80...800 MHz, 10 V/m 800... 1000 MHz, 20 V/m 1400...2000 MHz, 10 V/m 2000...2700 MHz, 5 V/m 5100...6000 MHz, 3 V/m
Electrostatic Discharge	table 2.4	IEC 61000-4-2	±6 kV contact discharge ±8 kV air discharge
Conducted disturbances	table 3.1/ 4.1/ 5.1/ 6.1	IEC 61000-4-6	Signal ports, power ports: 10 V
Fast transient / burst	table 3.2/ 4.2/ 5.2/ 6.2	IEC 61000-4-4	Signal ports, power ports: ±2kV
Surges 1,2/50µs	table 3.3/ 4.3/ 5.3	IEC 61000-4-5	Signal ports, power ports: CM ±2kV DM ±1kV
Radiated Emission	5	EN 61000-6-4	30...230 MHz: 40 dBµV/m (10m) 230...1000 MHz: 47 dBµV/m (10m) 1...3 GHz: 76 dBµV/m peak (3m) 56 dBµV/m av. (3m) 3...6 GHz: 80 dBµV/m peak (3m) 60 dBµV/m av. (3m)
Emission – AC or DC power ports	table 1.1	EN 55016-2-1	Power ports: 150... 500 kHz: 79 dBµV qp. 66 dBµV av. 500 kHz...30 MHz: 73 dBµV qp. 60 dBµV av.



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