

Aix-en-Provence, on May 22th, 2023

Subject: C2PC - Differences between HMN SENSEA.VALV and SENSEA.PRES/SENSEA.TEMP

Applicant: *EDGE TECHNOLOGIES SAS*

Product (PMN): *SENSEAiO*

Model (HVIN): *SENSEA915A*

Host (HMN) : *Original: SENSEA.VALV - News: SENSEA.PRES & SENSEA.TEMP*

FCC ID: *2A2T5-SENSEA915A*

IC ID: *29177-SENSEA915A*

To Whom It May Concern:

Here is a description of differences between *HMN SENSEA.VALV* and *SENSEA.PRES/SENSEA.TEMP*.

SENSEAiO products are *wireless transmitters with data measurement capability*. It is composed of 2 elements :

- Electronic cartridge with radio chipset and embedded antenna which is strictly identical to *SENSEA.VALV* described in initial FCC and ISED certification
- Deployed sensor boards for process measurement : Pressure board for *SENSEA.PRES* and Temperature board for *SENSEA.TEMP*

RF chipset and antenna are part of Electronic cartridge which is common to *SENSEA.VALV*, *SENSEA.PRES* and *SENSEA.TEMP*.

Differences are sensor boards and dedicated process connection mechanical part that allows to measure different physical phenomenon like :

- Valve position for *SENSEA.VALV* with I²C IMU
- Pressure for *SENSEA.PRES* with I²C piezoresistive pressure sensor
- Temperature for *SENSEA.TEMP* with RTD or TCK temperature probe

Behavior of these 3 HMN are identical :

1. Cartridge wakes up periodically
2. Cartridge initiates measure on sensorboard
3. Sensorboard transmits measured data to Cartridge
4. Cartridge transmits data in RF (LoRa or BLE)
5. Cartridge goes to sleep state

Compliance for RF exposure requirement is demonstrated in test report.

RF reports differences explanation :

RF Reports shows differences between *HMN SENS.A.VALV* and *SENS.A.PRESS/SENS.A.TEMP*, under regulatory limits. Edge Technology confirms that neither antenna PCB design, RF passives values or gain setting have been changed and *VALV*, *PRES* and *TEMP* cartridges are manufactured with identical bill of materials.

1% and 10% precision RF passives deviations and mechanical differences between *HMN SENS.A.VALV* and *SENS.A.PRES/SENS.A.TEMP* causes these gain disparities. Cartridge tested with *HMN SENS.A.VALV* have been selected among ten other cartridges in order to have a maximum gain setup. *SENS.A.PRES* and *SENS.A.TEMP* cartridges have not been selected so their gains can only be lower.

If you have any queries, please do not hesitate to contact us.

Regards,



Thomas GUILLET