

RF Exposure Evaluation Report

Product Name : LeanOrder detectionShelf

Model No. : 01

FCC ID : 2ANAA-LODSHELF01

Applicant : Intellion AG

Address : Schuppisstrasse 10, 9016 St. Gallen, Switzerland

Date of Receipt : Aug 09, 2017

Date of Declaration : Apr 25, 2018

Report No. : 1780164R-RFUSP02V00

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.

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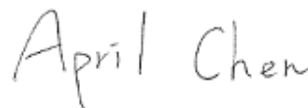
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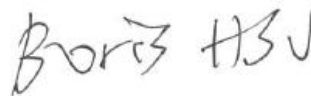
Product Name	LeanOrder detectionShelf
Applicant	Intellion AG
Address	Schuppisstrasse 10, 9016 St. Gallen, Switzerland
Manufacturer	Intellion AG
Model No.	01
FCC ID.	2ANAA-LODSHELF01
EUT Rated Voltage	DC 9V
EUT Test Voltage	DC 9V
Trade Name	Intellion
Applicable Standard	FCC 47 CFR 1.1310
Test Result	Complied

Documented By :



(Adm. Specialist / April Chen)

Tested By :



(Engineer / Boris Hsu)

Approved By :



(Director / Vincent Lin)

1. RF Exposure Evaluation

1.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	F/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	F/1500	6
1500-100,000	--	--	1	30

F= Frequency in MHz

Friis Formula

Friis transmission formula: $P_d = (P_{out} * G) / (4 * \pi * r^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = distance between observation point and center of the radiator in cm

P_d is the limit of MPE, 1 mW/cm². If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

1.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 18°C and 78% RH.

1.3. Test Result of RF Exposure Evaluation

Product : LeanOrder detectionShelf
Test Item : RF Exposure Evaluation

RF Exposure :

Operation Frequency	912.80-920.15MHz
Maximum Conducted output power	20.85dBm
Antenna gain	2.85dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm ²)
121.6186001	0.0466

Power density is lower than the limit (1 mW/cm²).