



RF Exposure Evaluation Report

Application No.: GZCR2201000100AT

Applicant: POZYX NV

Address of Applicant: Vrijdagmarkt 10/201, 9000, Gent, Belgium

Manufacturer: POZYX NV

Address of Manufacturer: Vrijdagmarkt 10/201, 9000, Gent, Belgium

Factory: NOTE Pärnu OÜ

Address of Factory: Laki 2, 80010 Pärnu, Estonia

Equipment Under Test (EUT):

EUT Name: Pozyx Anchor V2.2

Model No.: 100020022

Trade Mark:



Standards: 47 CFR PART 1.1307

47 CFR PART 1.1310

47 CFR PART 2.1091

447498 D01 General RF Exposure Guidance v07

Date of Receipt: 2022-01-19

Date of Test: 2022-01-19 to 2022-01-28

Date of Issue: 2022-02-18

Test Result :	PASS*
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* In the configuration tested, the EUT complied with the standards specified above.

Kobe Jian
EMC Laboratory Manager



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2 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2022-02-18		Original

Authorized for issue by:			
		Curry Wu/Project Engineer	
		Ricky Liu/Reviewer	

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4 General Information

4.1 General Description of EUT

Power supply:	DC48V Powered by POE/POE+ Or DC6V-53V
For UWB:	
Operating Frequency:	3993.6MHz, 6489.6MHz
Modulation Type:	PM
Number of Channels:	2
Sample Type:	Indoor Use
Antenna Type:	PCB Antenna
Antenna Gain:	3.15dBi for 3993.6MHz, 3.86dBi for 6489.6MHz
Power setting:	-41.3dBm(AV) setting by manufacturer, can't be changed by end user.
For BLE:	
Bluetooth Version:	V5.0
Operation Frequency:	2402MHz to 2480MHz
Modulation Type:	GFSK
Channel Spacing:	2MHz
Number of Channels:	40
Antenna Type:	PCB antenna
Antenna Gain:	0dBi
Power setting:	8dBm setting by manufacturer, can't be changed by end user.



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4.2 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou Branch EMC Laboratory,
198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District,
Guangzhou, China 510663
Tel: +86 20 82155555 Fax: +86 20 82075059

4.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **NVLAP (Lab Code: 200611-0)**

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 200611-0.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

- **ACMA**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian/New Zealand Regulatory Compliance Mark (RCM).

- **SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO**

Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.

- **CNAS (Lab Code: L0167)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been assessed and in compliance with CNAS-CL01:2018 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2017 General Requirements) for the Competence of Testing Laboratories.

- **FCC Recognized Accredited Test Firm(Registration No.: 486818)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been accredited and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Designation Number: CN5016, Test Firm Registration Number: 486818.

- **ISED (Registration No.: 4620B, CAB identifier: CN0052)**

SGS-CSTC Standards Technical Services Co., Ltd., has been registered by Innovation Science and Economic Development Canada for Wireless Device Testing laboratories to test to Canadian radio

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equipment requirements. Registration No. 4620B, CAB identifier: CN0052.

• VCCI (Registration No.: R-12460, C-12584, G-20107 and T-11179)

The 10m Semi-anechoic chamber, 966 Anechoic Chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-12460, C-12584, G-20107 and T-11179 respectively.

• CBTL (Lab Code: TL129)

SGS-CSTC Standards Technical Services Co., Ltd., E&E Laboratory has been assessed and fully comply with the requirements of ISO/IEC 17025:2017, the Basic Rules, IECEE 01 and Rules of procedure IECEE 02, and the relevant IECEE CB-Scheme Operational documents.

4.4 Deviation from Standards

None.

4.5 Abnormalities from Standard Conditions

None.

4.6 Other Information Requested by the Customer

None.

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5 RF Exposure Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Limits

According to FCC Part1.1310: 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 part1.1307(b)

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*(900/f ²)	6
30–300	61.4	0.163	1.0	6
300–1500 .....	.....	.....	f/300	6
1500–100,000 .....	.....	.....	5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f ²)	30
30–300	27.5	0.073	0.2	30
300–1500 .....	.....	.....	f/1500	30
1500–100,000 .....	.....	.....	1.0	30

F= Frequency in MHz

Friis Formula

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

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.

5.1.2 Test Procedure

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



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5.1.3 EUT RF Exposure Evaluation

Stand alone TX:

For BLE:

Antenna Gain: 0dBi

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 1 in linear scale.

Output Power Into Antenna & RF Exposure Evaluation Distance:

Frequency (MHz)	Max Conducted Output Power (dBm)	Output Power to Antenna (mW)	Power Density at R = 0.2m (mW/cm ²)	Limit (mW/cm ²)	MPE ratio	Result
2480	7.56	5.7	0.0011	1	0.0011	PASS

Note: Refer to BLE FCC ID test report for EUT test Max Conducted Output Power value.

For UWB:

Antenna Gain: 3.15dBi for 3993.6MHz, 3.86dBi for 6489.6MHz

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 2.07 for 3993.6MHz and 2.43 for 6489.6MHz in linear scale.

Output Power Into Antenna & RF Exposure Evaluation Distance:

Frequency (MHz)	Max Output Power (dBm)	Output Power (mW)	Power Density at R = 0.2m (mW/cm ²)	Limit (mW/cm ²)	MPE ratio	Result
3993.6	-3.46	0.00045	0.0002	1	0.0002	PASS
6489.6	-4.49	0.00036	0.0002	1	0.0002	PASS

Simultaneously Tx:

As total MPE ratio=MPE ratio(BLE)+MPE ratio(UWB)=0.0011+0.0002=0.0013<1, this device is deemed to fulfil the requirement of RF exposure.

- End of the Report -



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