

Prüfbericht-Nr.: <i>Test report no.:</i>	60500214-001	Auftrags-Nr.: <i>Order no.:</i>	23870622 030	Seite 1 von 6 Page 1 of 6	
Kunden-Referenz-Nr.: <i>Client reference no.:</i>	2384582	Auftragsdatum: <i>Order date:</i>	2021.10.20		
Auftraggeber: <i>Client:</i>	Raytelligence AB				
Prüfgegenstand: <i>Test item:</i>	Radar Sensor				
Bezeichnung / Typ-Nr.: <i>Identification / Type no.:</i>	Eazense / FCC ID: 2A3XO-A01				
Auftrags-Inhalt: <i>Order content:</i>	RF Exposure Evaluation				
Prüfgrundlage: <i>Test specification:</i>	FCC 47 CFR 2.1091 IEEE Std. C95.1:2005				
Wareneingangsdatum: <i>Date of sample receipt:</i>	N/A				
Prüfmuster-Nr.: <i>Test sample no.:</i>	N/A				
Prüfzeitraum: <i>Testing period:</i>	N/A -				
Ort der Prüfung: <i>Place of testing:</i>	Lund, Sweden				
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland Sweden				
Prüfergebnis*: <i>Test result*:</i>	Siehe Sonstiges / See Other				
überprüft von: <i>reviewed by:</i>	genehmigt von: <i>authorized by:</i>				
Datum: 2022.01.28 <i>Date:</i>	Datum: 2022.01.28 <i>Date:</i>				
Stellung / Position:	Senior Technical Expert	Stellung / Position:	Lab Manager		
Sonstiges / Other:	See details below				
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>	Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>				
* Legende:	1 = sehr gut P(ass) = entspricht o.g. Prüfgrundlage(n)	2 = gut F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	3 = befriedigend 3 = satisfactory F(ail) = failed a.m. test specification(s)	4 = ausreichend N/A = nicht anwendbar 4 = sufficient N/A = not applicable	5 = mangelhaft N/T = nicht getestet 5 = poor N/T = not tested
* Legend:	1 = very good P(ass) = passed a.m. test specification(s)	2 = good	3 = satisfactory F(ail) = failed a.m. test specification(s)	4 = sufficient N/A = not applicable	5 = poor N/T = not tested
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts.</i>					

V05

Revision History60500214-00160500214-001

Revision	Date	Remarks	Author
001	2022.01.28	First release	Niall Forrester
Note: Latest revision report will replace all previous reports			
This report based on RF Exposure FCC 47CR 2-1091 IEEE C95 Template version 1.1			

Statement of Compliance

Evaluation was performed based on FCC 47 CFR 2.1091 and IEEE C95.1:2005, together with the “General Population / Uncontrolled” requirements set out in FCC 47 CFR 1.1310 Table 1 (B)

The calculations below show that the Eazense / FCC ID: 2A3XO-A01 device is compliant with these requirements at a distance of 20cm for all supported wireless transmitter technologies.

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1. GENERAL INFORMATION

1.1 Test Site

Test Facility:	TÜV Rheinland Sweden AB
Address:	Mobilvägen 10
	223 62 Lund
	Sweden
Swedac Registration Number:	10325
FCC Test Firm Registration Number:	517458
ISED Test Site Registration Number:	24753

1.2 Client Information

Company Name:	Raytelligence AB
Address:	Olofdalsvägen 40
	30241 Halmstad
	Sweden
Contact Person:	Emil Nilsson
Contact e-Mail / Telephone	emil.nilsson@raytelligence.com +46 730797744

2. PRODUCT INFORMATION

2.1 General Description

Model name:	Eazense
Manufacturer:	Raytelligence AB
Model number / Marketing name:	Eazense
FCC ID:	2A3XO-A01
Description:	“Radar sensor eazense is a cost-effective, non-intrusive sensor providing 24-hour monitoring of activity”
Ancillary Equipment:	N/A

2.2 Device Usage and Evaluation Distance

The device is designed to be wall mounted at a recommended height of 2.2m from the floor. There are no controls or display included on the device.

An evaluation distance of 20cm has been selected.

2.3 Wireless Technologies and Bands Supported by the EUT

Technology	Band	Frequency Range (Tx)	Evaluation Performed
Radar	57–71 GHz	60.75 GHz – 63.00 GHz	YES

2.4 Simultaneous Transmission Configurations

No simultaneous transmission configurations are supported by the device

2.5 Conducted Power and Antenna Gain

Technology	Band	Max. Conducted Output Power (dBm)	Max. Time-Averaged Output Power (dBm)*	Antenna Gain (dBi)
Radar	57–71 GHz	-10.05	-10.05	7.00

3. TEST METHODS

3.1 Test Standards

Testing was performed according to the following standards / references

Standard	Version	Description
47 CFR 2.1091	-	Radiofrequency radiation exposure evaluation: mobile devices.

3.2 Additional references

Standard	Version	Description
IEEE Std. C95.1	2005	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz

3.3 Limits

Extract from 47 CFR 1.1310 - Radiofrequency radiation exposure limits

Table 1B

Limits for Maximum Permissible Exposure (MPE)
(Limits for general Population / Uncontrolled Exposure)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field strength (A/m)	Power Density (mW/cm ²)	Averaging Time (minutes)
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 - 100000	-	-	1.0	30

Notes:

1. f = frequency in MHz
2. * = Plane-wave equivalent power density

4. EVALUATION DETAILS

4.1 Power Density (S) at 20cm Distance for Each Band and Technology

The Power Density at 20cm separation distance has been calculated for each of the transmitter technologies supported by the device according to a re-arrangement of the Friis formula, as below:

$$S = \frac{P * G}{4\pi * r^2}$$

Where:

- “S” is power density in mW/cm²
- “P” is maximum avg. conducted power (incl. tolerances) in mW according to data from the manufacturer
- “G” is the peak antenna gain (numerical) according to data from the manufacturer
- “r” is the separation distance (20 cm)

Technology	Band	Freq* (MHz)	Power (dBm)	P (mW)	Gain (dBi)	G (Num.)	r (cm)	S (mW/cm ²)	Limit ** (mW/cm ²)
Radar	57–71 GHz	60750	-10.05	0.10	7.00	5.01	20.00	0.0001	1.0

*The lowest frequency in each band has been chosen, to give the most conservative limit

**The limits listed are from FCC 47 CFR 1.1310 Table 1 (B): “Limits for General Population/Uncontrolled”

From 1500MHz to 100000MHz, the limit is 1.0 mW/cm²