

Project Num	20E8887-2a
Quotation	Q20-2505-1
Prepared For	Sensata Technologies Ltd
Company Address	11 Technology Park, Belfast Road, Antrim, Northern Ireland BT41 1QS
Contact	James Kyle
Contact Email	jakyle@sensata.com
Contact Phone	+44 28 9448 3067
Prepared By	Compliance Engineering Ireland
Test Lab Address	Clonross Lane, Derrockstown, Dunshaughlin, Co. Meath, Ireland
Tested By	Joy Dalayap Michael Kirby
Test Report By	Michael Kirby
FCC Test Firm Registration	409640
IC Site Registration	IE0001
Date	20 th Nov 2020
EUT Description	Range Extender
FCC ID	2ATIMREX
IC ID	25094-REX
Authorised by	Paul Reilly
Authorised Signature:	

RF Exposure Exhibit– Technical Report

1.0 Overview

Fixed / Mobile Application

MPE for bystanders which are considered to be ≥20cm away from the front of the transmit antenna

2. Maximum Permissible Exposure FCC

2.1 Limits /guidelines

47 CFR Sections 1.1307, 1.1310, 2.1091

447498 D01 General RF Exposure Guidance v06

2.2 Results

where:

S = power density

P = power input to the antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

$$S = \frac{PG}{4\pi R^2}$$

Note the Radiated field strength was measured at 3 metres and the conversion formula below was used to determine the EIRP in dBm

$$EIRP (dBm) = E_{3m} (dBuV/m) - 95.2$$

Prediction frequency:	2405	MHz
Radiated Field Strength at 3m	110.2	dBuV/m
Power Conversion factor for antenna distance 3m	-95.2	dB
EIRP Peak	15	dBm
Time Averaging Factor	0	dB
EIRP Peak	15	dBm
EIRP Peak	31.62	mW
Prediction distance:	20	cm
MPE limit for Uncontrolled/General Population exposure at prediction frequency:	1	mW/cm ²
Power density at prediction frequency:	0.00629116	mW/cm ²
Power density at prediction frequency:	0.062912	W/m ²
Test Result: Exempt from RF exposure test	Pass	

Notes

The table above shows that for a prediction distance of 20cm, RF exposure evaluation is not required.

3.0 Maximum Permissible Exposure IC

3.1 Limits /guidelines

Limits for Routine Evaluation — RF Exposure Evaluation

Limits as per RSS 102 Issue 5 Section 2.5.2

3.2 Results

where:

$$S = \frac{PG}{4\pi R^2}$$

S = power density
P = power input to the antenna
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna

Note the Radiated field strength was measured at 3 metres and the conversion formula below was used to determine the EIRP in dBm

$$EIRP (dBm) = E_{3m} (dBuV/m) - 95.2$$

Prediction frequency:	2405	MHz
EIRP Peak	15	dBm
Time Averaging Factor	0.00	dB
Tune up factor	0	dB
EIRP Peak	15.000	dBm
EIRP Peak	31.62	mW
Exemption limit for Routine Evaluation :	2678.71	mW
Exempt from RF Exposure Evaluation		

Notes

The table above shows that for a prediction distance of 20cm, RF exposure evaluation is not required.

End of Report