

## RF Exposure Evaluation according to KDB 447498 D01 v06

Report identification number: 1-5071/22-01-08\_MPE\_FCC

Certification numbers and labeling requirements	
FCC ID	2AC3T-B36T40HQRA

This test report is electronically signed and valid without handwritten signature. For verification of the electronic signatures, the public keys can be requested at the testing laboratory.

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## 1. MPE at given distance (KDB 447498 D01 General RF Exposure Guidance v06)

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = PG / 4\pi R^2$$

where: S = Power density  
 P = Power input to the antenna  
 G = Antenna gain  
 R = Distance to the center of radiation of the antenna  
 PG = Output Power including antenna gain

The table below is excerpted from Table 1B of 47 CFR 1.1310 titled "Limits for Maximum Permissible Exposure (MPE), Limits for General Population/Uncontrolled Exposure"

Frequency Range (MHz)	Power Density (mW/cm <sup>2</sup> )	Averaging Time (minutes)
300 - 1500	f/1500	30
1500 - 100000	1.0	30

where f = Frequency (MHz)

## 2. EUT technologies

Declared minimum safety distance: **20 cm**

Cellular Technology	Frequency [MHz]		Reference	Output Power [dBm]					Power Density [mW/cm <sup>2</sup> ]		Share of Limit %
	f <sub>Min</sub>	f <sub>Max</sub>		Conducted		Radiated		Corrected	S <sub>Result</sub>	S <sub>Limit</sub>	
			#	P <sub>Meas</sub>	P <sub>Max</sub>	P <sub>ERP</sub>	P <sub>EIRP</sub>	P <sub>RF Exp</sub>			
LTE Band 2	1850	1910	A, B	23.3	25.0	N/A	27.9	<b>29.6</b>	0.18	1.00	<b>18.14%</b>
LTE Band 4	1710	1755	A, B	23.1	25.0	N/A	24.7	<b>26.6</b>	0.09	1.00	<b>9.09%</b>
LTE Band 12	699	716	A, B	23.1	25.0	13.4	N/A	<b>17.5</b>	0.01	0.47	<b>2.37%</b>
LTE Band 13	777	787	A, B	23.1	25.0	15.5	N/A	<b>19.6</b>	0.02	0.52	<b>3.46%</b>

Notes:

- Max rated conducted output power taken from customer's tune up info

Referenced Documents:

#	Results from:
A	Conducted Output Power and Tune Up Info declared by customer
B	Radiated Output Power taken from Test Report 1-5071/22-01-04

SRD Technology	Frequency [MHz]		Reference #	Output Power [dBm]			Power Density [mW/cm <sup>2</sup> ]		Share of Limit %
	f <sub>Min</sub>	f <sub>Max</sub>		P <sub>ERP</sub>	P <sub>EIRP</sub>	P <sub>RF Exp</sub>	S <sub>Result</sub>	S <sub>Limit</sub>	
SRD 24 GHz	24059	24240	C	N/A	-5.7	<b>-5.7</b>	<b>0.00</b>	<b>1.00</b>	<b>0.01%</b>
Bluetooth LE	2402	2480	D	N/A	-1.4	<b>-1.4</b>	<b>0.00</b>	<b>1.00</b>	<b>0.01%</b>
WLAN 2.4 GHz	2412	2462	E	N/A	19.1	<b>19.1</b>	<b>0.02</b>	<b>1.00</b>	<b>1.62%</b>
Z-Wave 912 MHz	908.4	916	F	N/A	-1.2	<b>-1.2</b>	<b>0.00</b>	<b>0.61</b>	<b>0.02%</b>
Z-Wave 915 MHz	912	920	G	6.3	8.5	<b>8.5</b>	<b>0.00</b>	<b>0.61</b>	<b>0.23%</b>

## Referenced Documents:

#	Results from:
C	Test Report 1-0981/20-01-05 Average Field strength 89.5 dB $\mu$ V@3m $\rightarrow$ - -5.7 dBm (page 23)
D	Test Report 1-5071/22-01-03 Conducted Power (page 25), Gain (page 21)
E	Test Report 1-5071/22-01-02 Conducted Power (page 24), Gain (page 22)
F	Test Report 1-5071/22-01-05 Quasi Peak Field strength 94 dB $\mu$ V@3m $\rightarrow$ -1.22 dBm (page 21)
G	Test Report 1-5071/22-01-06 Radiated Power (page 22)

**3. Collocation overview:**

Technology	Share of Limit [%]
SRD 24 GHz	0.01%
LTE Band 2	18.14%
Bluetooth LE	0.01%
WLAN 2.4 GHz	1.62%
Z-Wave 908 - 920 MHz	0.23%
Sum	<b>20.01%</b>

**4. Conclusion**

This prediction demonstrates the following:

The power density levels for FCC at a distance of 20 cm are below the maximum levels allowed by regulations.

**Conclusion:** RF exposure evaluation is not required.