



BNetzA-CAB-02/21-102

RF Exposure Evaluation according to KDB 447498 D01 v06

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Certification numbers and labeling requirements	
FCC ID	2ARIX-SENS-4015

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Document authorised:



Alexander Hnatovskiy
Lab Manager
Radio Labs



Marco Scigliano
Testing Manager
Radio Labs

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 ²)	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**

Technologies:	Max. power [dBm]	Max. EIRP for RF evaluation	#
	Measured EIRP		
Radar 60.0 GHz	9.8	10.0 dBm	A
BT LE 2450 MHz	4.5	5.0 dBm	B

Referenced Documents:

#	Results from:
A	Cetecom advanced GmbH report 1-6824/23-01-02, page 37 – max. avg EIRP
B	Cetecom advanced GmbH report 1-6824/23-01-08, page 19 – max. antenna gains, page 23 max. – conducted output power

SRD Technology	Frequency [MHz]		Reference #	Output Power [dBm]			Output Power [W]		Share of Limit %
	f _{Min}	f _{Max}		P _{ERP}	P _{EIRP}	P _{RF Exp}	P _{Result}	P _{Limit}	
Bluetooth LE	2402	2480	B	N/A	5.0	5.0	0.00	2.68	0.12%
RADAR	2412	2462	A	N/A	10.0	10.0	0.01	2.68	0.37%

3. Collocation overview:

Simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneously transmitting antennas incorporated in a host device is ≤ 1.0 , according to calculated/estimated, numerically modeled, or measured field strengths or power density.

Technology	Share of Limit
Bluetooth LE	0.06%
RADAR	0.20%
Sum	0.26%

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.