



BNetzA-CAB-02/21-102



Deutsche
Akkreditierungsstelle
D-PL-12076-01-04

RF Exposure Evaluation according to KDB 447498 D01 v06

Report identification number: 1-4394/22-01-09 Exemption / MPE (FCC)

contains the module with the following certification numbers	
FCC ID	PFJPKM250

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.

Document authorised:



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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 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. measured E.I.R.P. per BW=1MHz:		BW (MHz)	Max. declared E.I.R.P. for Full BW: Max.decl.E.I.R.P. @1MHz X (BW/1MHz)	#
	(dBm)	(μW)			
UWB 3100 to 10600 MHz	-42.7	0.054	621	0.054μW x 621 = 33.5μW (=-14.75dBm)	A
Technologies:	Max. measured power [dBm]		EIRP	Max. declared EIRP [dBm]	#
	conducted				
BT LE 2450 MHz	-0.5		3.5	4.0 (=2.51mW)	B

Details and origins of the measurements shown in the table above:

#	Results from test reports:	Additional information:
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B	1-4394/22-01-05	Page 19 (gain) Page 23 (conducted)

3. MPE results:

SRD Technology	Frequency [MHz]		Reference #	Output Power [dBm]			Power Density [mW/cm²]		Share of Limit %
	f _{Min}	f _{Max}		P _{ERP}	P _{EIRP}	P _{RF Exp}	S _{Result}	S _{Limit}	
Bluetooth LE	2402	2480	B	N/A	4.0	4.0	0.00	1.00	0.05%
UWB 7.67 GHz	3100	10600	A	N/A	-14.8	-14.8	0.00	1.00	0.00%

Details and origins of the measurements shown in the table above:

#	Results from test reports:	Additional information
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4. Collocation overview:

Technology	Share of Limit
BT LE 2.4 GHz	0.05%
UWB 7.67 GHz	0.00%
Sum	0.05%

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.