

SAR Test exemption documentation according to CFR 47 §1.1307

Report identification number: 1-3759/21-03-13 Exemption / MPE (FCC)

contains the module with the following certification numbers	
FCC ID	K8C1208CLB

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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EUT technologies:

Technologies:	Max. rated power: (AVG)	Max. gain:
Level probing radar ¹⁾ 77-81 GHz	-32.42 dBm / 0.57µW	<0 dBi
BT LE ²⁾ 2450 MHz	2.25 dBm / 1.68 mW	3.6

Note:

¹⁾ Level Probing radar:

max. measured peak EIRP taken from CTC advanced GmbH report 1-3759/21-01-08-A (page 24)
(AVG factor -57.4 dB)

Max. peak EIRP: 21.8 dBm

AVG EIRP: -30.27 dBm, AVG ERP: -32.42 dBm

²⁾ Test results for BT LE taken from CTC advanced GmbH report 1-3759/21-01-09-A (page 21)

max. measured avg conducted: 1.0 dBm

max. measured EIRP: 4.4 dBm , max. measured ERP: 2.25 dBm

max antenna gain: 3.6 dBi

Declared minimum safety distance: 20cm

According to the manual a safety distance of 20cm shall be applied between the user (and/or bystanders) to the EUT antenna whilst active transmitting.

MPE-Based Exemption following 47 CFR 1.1307 amendment:

If the declared ERP does not exceed the specified threshold based on the calculations below, the device is exempt from routine evaluation.

Transmitter Frequency (MHz)	Threshold ERP (W)
0.3 – 1.34	1.920 R ²
1.34 – 30	3.450 R ² /f ²
30 – 300	3.83 R ²
300 – 1500	0.0128 R ²
1500 – 100 000	19.2 R²f

where

f is the frequency (MHz)

R is the separation distance (at least λ/2π)

Prediction: worst case

Technology	Transmitter frequency (MHz)	R _{min} (mm)	Max. decl. ERP (mW)	Treshhold ERP		Minimal Safety Distance (mm)	Verdict
				(mW)	(dBm)		
BT LE	2450	19.5	1.68	768.00	28.8	200	EXEMPTED
LPR	77000	0.6	0.00057	768.00	28.8	200	EXEMPTED
LPR	81000	0.6	0.00057	768.00	28.8	200	EXEMPTED

This prediction demonstrates the following:

The power density levels for FCC that are larger than the minimum safety-distances stated above, are below the maximum levels allowed by regulations.