



BNetzA-CAB-02/21-102



RF Exposure Evaluation according to KDB 447498 D01 v06

Report identification number: 1-7077_23-01-07_TR1-R01_MPE_FCC

Certification numbers and labeling requirements	
FCC ID	VW3DCIW377D

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 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**

SRD Technology	Frequency [MHz]		Reference #	Output Power [dBm]			Power Density [mW/cm ²]		Share of Limit %
	f _{Min}	f _{Max}		P _{ERP}	P _{EIRP}	P _{RFExp}	S _{Result}	S _{Limit}	
Bluetooth Classic	2402	2480	C	N/A	6.0	6.0	0.001	1.00	0.08%
Bluetooth LE	2402	2480	D	N/A	7.0	7.0	0.001	1.00	0.10%
WLAN 2.4 GHz	2412	2462	A	N/A	27.0	27.0	0.100	1.00	9.97%
WLAN 5 GHz	5180	5240	B	N/A	27.0	27.0	0.100	1.00	9.97%
WLAN 5 GHz	5260	5320	B	N/A	26.0	26.0	0.079	1.00	7.92%
WLAN 5 GHz	5500	5700	B	N/A	26.0	26.0	0.079	1.00	7.92%
WLAN 5 GHz	5745	5825	B	N/A	28.0	28.0	0.126	1.00	12.55%

Notes:

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

Referenced Documents:

#	Results from:
A	Test Report 1-7077_23-01-04_TR1_R1
B	Test Report 1-7077_23-01-05_TR1_R1
C	Test Report 1-7077_23-01-02_TR1-R1
D	Test Report 1-7077_23-01-03_TR1-R1

3. Collocation overview:

Technology	Share of Limit [%]
Bluetooth Classic	0.08%
Bluetooth LE	0.10%
WLAN 2.4 GHz	9.97%
WLAN 5 GHz	12.55%
Sum	22.70%

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.