



CTC  **advanced**
member of RWTÜV group



Bundesnetzagentur

BNetzA-CAB-02/21-102



DAkkS
Deutsche
Akreditierungsstelle
D-PL-12076-01-03

SAR Test exclusion documentation according to FCC KDB 447498, RSS-102

Report identification number: 1-8704/19-01-06 Exclusion (FCCISED)

contains the module with the following certification numbers	
FCC ID	TTY-MRR2D
ISED number	5676B-MRR2D
HVIN (Hardware Version Identification Number)	MRR2D
PMN (Product Marketing Name)	MRR2D
FVIN (Firmware Version Identification Number)	-/-
HMN (Host Marketing Name)	-/-

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

Document authorised:

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p.o.

EUT technologies:

Technologies:	Max. power conducted: (AVG)	Max. antenna gain:
Bluetooth Low Energy	Declared: $\leq 0 \text{ dBm}$	$\leq -4 \text{ dBi}$ ¹⁾
10.6 MHz module ^{*) 2)}	---	Fieldstrength $46.9 \text{ dB}\mu\text{V/m} @ 1 \text{ m}$ $= -57.90 \text{ dBm}$

)* exempt from routine evaluation

¹⁾ Measured in CTC advanced report 1-8704/18-01-10

²⁾ Measured in CTC advanced report 1-8704/18-01-09

SAR test exclusion according to KDB447498 (General RF Exposure Guidance v06)

Equation from Chapter 4.3.1: Standalone SAR test exclusion considerations page 11 and ff.

(1) Standalone SAR test exclusion for 100 MHz to 6 GHz at test separation distances $\leq 50\text{mm}$

$$(\text{Threshold}_{1\text{-g};10\text{-g}}) \times d_{\text{seperation}} / f^{0.5}$$

where

$\text{Threshold}_{1\text{-g};10\text{-g}}$ is 3 for 1-g; 7.5 for 10-g

$d_{\text{seperation}}$ is the min. test separation distance; 5mm is used if the distance is less

f is the RF channel transmit frequency

The table below gives the calculated maximal power that could be used for source based time averaged conducted or radiated power, adjusted for tune up tolerance. If this is at or below the calculated value the DUT is exempted from SAR evaluation.

frequency [MHz]	d _{seperation} [mm]	Threshold _{1-g}	Powerlimit [mW]	P _{max-declared}		Exclusion
				[dBm]	[mW]	
2450.00	5	3	9.58	0.00	1.00	yes

SAR test exclusion according to RSS-102 Issue 5 Section 2.5.1/Table 1

The table below gives the calculated maximal power that could be used for source based time averaged conducted or radiated power, adjusted for tune up tolerance. If this is at or below the calculated value the DUT is exempted from SAR evaluation.

frequency [MHz]	d _{seperation} [mm]	tissue volume	Powerlimit [mW]	P _{max-declared}		Exclusion
				[dBm]	[mW]	
2450.00	5	1 g	4.00	0.00	1.00	yes

The limits above are defined for body worn application and therefore cover all use cases.