



**CTC**  **advanced**  
member of RWTÜV group



Bundesnetzagentur

BNetzA-CAB-02/21-102

## **SAR Test exclusion documentation according to FCC KDB 447498, CFR 47 §1.1307 and RSS-102**

**Report identification number: 1-1604/20-02-04 Exclusion (FCC) / MPE (ISED)**

<b>contains the module with the following certification numbers</b>	
FCC ID	PFJGA200
ISED number	909C-GA200
HVIN (Hardware Version Identification Number)	GA200 and GA201
PMN (Product Marketing Name)	GA200 and GA201
FVIN (Firmware Version Identification Number)	-/-
HMN (Host Marketing Name)	-/-

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 &lt; 1mW output power:

Technologies:	Max. measured E.I.R.P. per BW=1MHz (RMS):		BW	Max. Effective Power (Calculated) Max.meas.E.I.R.P. @1MHz x (BW/1MHz) (RMS)		#
	(dBm)	(μW)		(MHz)	(μW)	
UWB 6.2 to 6.8 GHz	-46.1	0.025	538.7	<b>13.46*</b>	-18.71	A
UWB 7.6 to 8.3 GHz	-46.1	0.025	588.8	<b>14.32*</b>	-18.32	A

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

#	Results from:	Additional information
A	1-1604/20-02-03 CTC Advanced GmbH	--

\*) &lt; 1mW qualifies for blanket test exemption according CFR 47 §1.1307

Further technologies:

Technologies:	Max. measured power [dBm]		Antenna gain max.: [dB]	#
	conducted	EIRP		
BT LE 2450 MHz	-0.7	4.7	5.0	B

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

#	Results from:	Additional information
B	1-1604/20-02-02 CTC Advanced GmbH	Antenna gain page 20, Max conducted page 23

**Blanket test exemption according CFR 47 §1.1307:**

§1.1307(b)(3)(i)(A) – A single RF source is exempt if the available maximum time-averaged power is **no more than 1 mW**, regardless of separation distance.

## 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  $\leq$  50mm

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

where

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

$d_{\text{separation}}$  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 <sub>separation</sub> [mm]	Threshold <sub>1-g</sub>	Powerlimit [mW]	P <sub>max-declared</sub>		Exclusion
				[dBm]	[mW]	
2450.00	5	3	9.58	4.70	2.95	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 <sub>separation</sub> [mm]	tissue volume	Powerlimit [mW]	P <sub>max-declared</sub>		Exclusion
				[dBm]	[mW]	
2450.00	5	1 g	4.00	4.70	2.95	yes

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