



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

Report identification number: 1-3308/21-01-07 Exclusion (FCC_ISED)

contains the module with the following certification numbers	
FCC ID	T7V1780
ISED number	216Q-1780
HVIN (Hardware Version Identification Number)	ENW89854C1KF ENW89854C2KF
PMN (Product Marketing Name)	PAN1770
FVIN (Firmware Version Identification Number)	S113, S140, Wirepas v4.x, Wirepas v5.x
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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EUT technologies:

Technologies:	Max meas. conducted power (AVG):	Max. gain:	Max. EIRP
Bluetooth LE 2450 MHz	7.81 dBm	1.4 dBi	9.21 dBm

Note:

Bluetooth LE test results see CTC advanced test report 1-3308/21-01-06

Max. Peak conducted measured: 7.81 dBm; Duty Cycle: 93.6%

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 ≤ 50 mm

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

where

Threshold_{1-g;10-g} is 3 for 1-g; 7.5 for 10-g

d_{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 _{separation} [mm]	Threshold _{1-g}	Powerlimit [mW]	P _{max-declared}		Exclusion
				[dBm]	[mW]	
2450.00	5	3	9.58	7.81	6.04	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 _{separation} [mm]	tissue volume	Powerlimit [mW]	P _{max-declared}		Exclusion
				[dBm]	[mW]	
2450.00	15	1 g	15.00	9.21	8.34	yes

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