



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

Report identification number: 1-8373/19-01-11 Exclusion (FCC_IC)

contains the module with the following certification numbers	
FCC ID	T7V4620
IC number	216Q-4620
HVIN (Hardware Version Identification Number)	ENWC9B01A1EF
PMN (Product Marketing Name)	PAN4620
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:



Alexander Hnatovskiy
Lab Manager
Radio Communications & EMC



Marco Scigliano
Testing Manager
Radio Communications & EMC

EUT technologies:

Technologies:	Max. measured conducted output power	Max. declared conducted output power:*	Max. measured Antenna Gain	Max. measured EIRP:
IEEE 802.15.4 (ZigBee) 2400 to 2483.5 MHz	3.0 dBm (2475 MHz)	4.5 dBm	1.6 dBi	4.6 dBm
BT LE 2.4GHz	0.1 dBm (2480 MHz)	4.5 dBm	1.6 dBi	1.7 dBm

Note:

ZigBee measurement results taken from CTC Advanced GmbH report 1-8373/19-01-07.

BT LE measurement results taken from CTC Advanced GmbH report 1-8373/19-01-08.

*) declared by manufacturer

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 $\leq 50\text{mm}$

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

where

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

Technology:	frequency [MHz]	d _{separation} [mm]	Threshold _{1-g}	Powerlimit [mW]	P _{max-declared}	
					[dBm]	[mW]
ZigBee	2475.00	5	3	9.53	4.50	2.82
BT LE	2480.00	5	3	9.53	4.50	2.82
Collocated:						
ZigBee + BT LE	2480.00	5	3	9.53	7.51	5.64

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.

Technology:	frequency [MHz]	d _{separation} [mm]	tissue volume	Powerlimit [mW]	P _{max-declared}	
					[dBm]	[mW]
ZigBee	2475.00	10	1 g	7.00	6.10	4.07
BT LE	2480.00	10	1 g	7.00	6.10	4.07
Collocated:						
ZigBee + BT LE	2480.00	15	1 g	15.00	9.11	8.14

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