



BNetzA-CAB-02/21-102

Testing Laboratory

CTC advanced GmbH

Untertuerkheimer Strasse 6 – 10
66117 Saarbruecken/Germany
Phone: + 49 681 5 98 - 0
Fax: + 49 681 5 98 - 9075
Internet: <https://www.ctcadvanced.com>
e-mail: mail@ctcadvanced.com

Accredited Test Laboratory:

The testing laboratory (area of testing) is accredited according to DIN EN ISO/IEC 17025 (2005) by the Deutsche Akkreditierungsstelle GmbH (DAkkS). The accreditation is valid for the scope of testing procedures as stated in the accreditation certificate with the registration number: D-PL-12076-01-01

Applicant

Robert Bosch Power Tool GmbH

Max-Lang-Straße 40-46
70771 Leinfelden-Echterdingen/GERMANY

Phone: +49 711 758-0
Contact: Julian Pfaundler
e-mail: Julian.Pfaundler@de.bosch.com
Phone: +49(711)758-3377
Fax: +49(711)811-5117955

Manufacturer

Robert Bosch Power Tool GmbH
70538 Stuttgart, GERMANY

Test Standard/s

IEEE 1528-2013	2013-06	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices:
RSS-102 Issue 5	2015-03	Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands)
Canada's Safety Code No. 6	2015-06	Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3 kHz to 300 GHz
IEEE Std. C95-3	2002	IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields – RF and Microwave
IEEE Std. C95-1	2005	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.
FCC KDBs:		
865664D01v01	August 7, 2015	FCC OET SAR measurement requirements 100 MHz to 6 GHz
865664D02v01	October 23, 2015	RF Exposure Compliance Reporting and Documentation Considerations
447498D01v06	October 23, 2015	Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies

contains the module with the following certification numbers:

FCC ID	TXTDTECT200C
ISED number	909H-DTECT200C
HVIN (Hardware Version Identification Number)	D-tect200C
PMN (Product Marketing Name)	D-tect200C
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. rated EIRP:
50 kHz Magnetic-Scanner	-27.53 dBm*
UWB 1.8 to 5.6 GHz	-19.03 dBm**

*) result taken from CTC advanced GmbH report 1-9982/20-02-02
(67.7dBµV/m @3m – page12)
- Exempt from routine evaluation for FCC
- Measurements for Nerve Stimulation ISED in separate CTC advanced GmbH report 1-9982/20-02-04.

***) results taken from CTC advanced GmbH report 1-9982/20-02-03-A
Max measured EIRP -37.91 dBm, Max BW 3858.2 MHz, Calculated Effective EIRP -19.03 dBm

Calculated according the table below:

Technology:	Max. measured E.I.R.P. per BW=50MHz:		BW (MHz)	Max. Effective Power (Calculated) Max.meas.E.I.R.P.@50MHz x (BW/50MHz)	
	(dBm)	(µW)		(µW)	(dBm)
UWB 1.8 to 5.6 GHz	-37.91	0.162	3858.2	12.5	-19.03

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 ≤ 50mm

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

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]	
1800.00	5	3	11.18	-19.03	0.0125	yes
5600.00	5	3	6.34	-19.03	0.0125	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]	
1800.00	5	1 g	7.94	-19.03	0.0125	yes
5600.00	5	1 g	1.09	-19.03	0.0125	yes

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