MDE_CONTI_2118_MPE_02

Continental Automotive GmbH
Siemensstraße 12
93055 Regensburg
Germany

Issue date: 2022-06-02

Maximum Permissible Exposure according to the RSS-102, issue 5 Standard and to FCC §15.247(b)(4) and §1.1307(b)(1)

UWBtrx22

FCC ID: KR5UWBtrx22
IC: 7812D-UWBtrx22

Best Regards

Abdellah Ahakki
(Project Manager)

Test Laboratory:
7layers GmbH
Borsigstrasse 11
40880 Ratingen
Germany

Deutsche Akkreditierungsstelle D-PL-00000-00-00

ADMINISTRATIVE DATA

TESTING LABORATORY

Company Name:	7layers GmbH
Address:	Borsigstr. 11 40880 Ratingen Germany

PROJECT DATA

Responsible report:	Abdellah Ahakki
Date of Report:	2022-06-02
Testing Period:	2022-15-11 to 2022-05-23

APPLICANT DATA

Company Name:	Continental Automotive GmbH
Address:	Siemensstraße 12 93055 Regensburg Germany
Contact Person:	Mrs. Alexandra Anisoreac

MANUFACTURER DATA

Company Name:	please see Applicant Data
Address:	
Contact Person:	

TEST OBJECT DATA

GENERAL EUT DESCRIPTION

Kind of Device product description	UWB (Ultra Wide Band) transceiver module for car access and user localization purposes.
Product name	UWBtrx
Type	UWBtrx22
Declared EUT data by the supplier	
Power Supply Type	DC
Normal Voltage	12 V
Low Voltage	8 V
High Voltage	16 V
Normal Temperature	20.0 °C
Low Temperature	-40.0 °C
High Temperature	+105.0 °C
Antenna type	Integrated monopole antenna
OP-Modes	OP-Mode 1: FC1T1ND_lin_C0_PC9 (CH5/9) OP-Mode 2: FC1T1ND_min_C1_PC9 (CH5/9) OP-Mode 3: FC1T2_min_C1_PC10 (CH5/9) OP-Mode 4: ECO_FC1T1ND_min_C1_PC25 (CH5/6/8/9) CHxy_ANT1: fixed on Antenna 1 on the selected channel CHxy_ANT2: fixed on Antenna 2 on the selected channel
Occupied bandwidth	500 MHz
Highest internal frequency	7987.2 MHz
Ports	Enclosure
Special software used for testing	test software

EUT MAIN COMPONENTS

Sample Name	Sample Code	Description
EUT A	DE1439004ad01	radiated UWB sample
Sample Parameter	**Value**	
HW Version	C1	
SW Version	06FF	
Serial No.	DE1439004ad01	
Comment	UWBtrx22	

Ancillary Equipment

For the purposes of this test report, ancillary equipment is defined as equipment which is used in conjunction with the EUT to provide operational and control features to the EUT. It is necessary to configure the system in a typical fashion, as a customer would normally use it. But nevertheless Ancillary Equipment can influence the test results.

Device	Details (Manufacturer, Type Model, OUT Code)	Description
-	-	-

Auxiliary Equipment

For the purposes of this test report, auxiliary equipment is defined as equipment which is used temporarily to enable operational and control features especially used for the tests of the EUT which is not used during normal operation or equipment that is used during the tests in combination with the EUT but is not subject of this test report. It is necessary to configure the system in a typical fashion, as a customer would normally use it.
But nevertheless Auxiliary Equipment can influence the test results.

Device	Details (Manufacturer, HW, SW, S/N)	Description
-	-	-

MPE CALCULATION

According to the RSS-102, issue 5 Standard and to FCC §15.247(b)(4) and §1.1307(b)(1), systems operation under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

MPE Prediction

Frequency range (MHz)	Power density (mW/cm²)
400 – 1500	f/1500
1500 - 100000	1 mW/cm²

Equation for calculation

$S = P*G / (4\pi R^2)$

Where: S – Power density
P – Power input to antenna
G – Antenna gain relative to isotropic radiator
R – Distance to antenna

Maximum peak output power at antenna terminal: -4.363.3 dBm (0.3662 mW)
Antenna gain: 7 dBi
Prediction distance: 20cm
MPE limit for General Population/Uncontrolled Exposure: 1 mW/cm²

Calculation's results:

Power density at 20cm distance: 0.0004 mW/cm²