



Report No.: TMWK2407002379KS Rev.: 00

SAR TEST REPORT

FCC 47 CFR § 2.1093 IEEE Std 1528-2013

for

Body Control Module

Model Name.: CMKG3

Prepared for:

Continental Automotive Technologies GmbH Siemensstrasse 12, 93055 Regensburg, Germany

Prepared by

Compliance Certification Services Inc. Wugu Lab.

No.11, Wugong 6th Rd., Wugu Dist., New Taipei City, Taiwan. Issue Date: October 15, 2024

Note: This document may be altered or revised by Compliance Certification Services Inc. personnel only, and shall be noted in the revision section of the document. The client should not use it to claim product endorsement by TAF, NIST or any government agencies. The test results in the report only apply to the tested sample.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com.tw/Terms-and-Conditions, and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com.tw/Terms-and-Conditions. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instruction, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced, except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.



Report No.: TMWK2407002379KS Rev.: 00

Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	October 15, 2024	Initial Issue	ALL	Allison Chen



Project No.: TM-2407000321P Report No.: TMWK2407002379KS

FCC ID: KR5CMKG3

Page 3/12

Rev.: 00

Table of Contents

1	AT	TESTATION OF TEST RESULTS	4
2	TES	ST SPECIFICATION, METHODS AND PROCEDURES	5
3	DE'	VICE UNDER TEST (DUT) INFORMATION	6
	3.1	DUT DESCRIPTION	6
	3.2	WIRELESS TECHNOLOGIES	7
4	RF	EXPOSURE CONDITIONS	8
	4.1	STANDALONE SAR TEST EXCLUSION CONSIDERATIONS	8
5	SIN	IULTANEOUS TRANSMISSION SAR ANALYSIS	.10
		UM OF THE SAR FOR REAR ANTENNA + TRANSPONDER ANTENNA + SIDE ANTENNA RIGHT + SIDE ENNA LEFT	11
6	FA	CILITIES	.12



1 Attestation of Test Results

Applicant Name	Continental Automotive Technologies GmbH	
Model Name	CMKG3	
Applicable Standards	FCC 47 CFR § 2.1093	
	Published RF exposure KDB procedures	
	IEEE Std 1528-2013	
Receive EUT Date:	July 23, 2024	
Date Tested	August 2 ~ September 12, 2024	
Test Results	Exempt	

Compliance Certification Services Inc., tested the above equipment in accordance with the requirements set forth in the above standards. Determination of compliance is based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainy. All indications of Pass/Fail in this report are opinions expressed by Compliance Certification Services Inc, based on interpretations and/or observations of test results. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

demonstrating compilative with the requirements as accumented in this report.			
Approved & Released By:	Tested by:		
Sky Thou	Jack Yang		
Sky Zhou	Jack Yang		
Asst. Section Manager	Engineer		
Compliance Certification Services Inc.	Compliance Certification Services Inc.		



 Project No.:
 TM-2407000321P
 FCC ID:
 KR5CMKG3
 Page 5 / 12

 Report No.:
 TMWK2407002379KS
 Rev.: 00

2 Test Specification, Methods and Procedures

The tests documented in this report were performed in accordance with FCC 47 CFR § 2.1093, IEEE STD 1528- 2013, the following FCC Published RF exposure KDB procedures:

- o 447498 D01 General RF Exposure Guidance v06
- o 865664 D02 RF Exposure Reporting v01r02



 Project No.:
 TM-2407000321P
 FCC ID:
 KR5CMKG3
 Page 6 / 12

 Report No.:
 TMWK2407002379KS
 Rev.:
 00

3 Device Under Test (DUT) Information

3.1 DUT Description

,,,				
Applicant Name	Continental Automotive Technologies GmbH			
Applicant Address	Siemensstrasse 12, 93055 Regensburg, Germany			
Manufacturer Name	Continental Automotive Technologies GmbH			
Manufacturer Address	Siemensstrasse 12, 93055 Regensburg, Germany			
Product Body Control Module				
Trade Name Continental				
Model No. CMKG3				
Model Discrepancy N/A				
Hardware Version C2				
Software Version S4.2				
Sample Stage PVT				



TM-2407000321P Project No.: FCC ID: KR5CMKG3 Page 7/12 Report No.: TMWK2407002379KS Rev.: 00

3.2 Wireless Technologies

Antenna	Operation Frequency	Operating mode	
Rear antenna	21.85kHz	BPSK	
	Brand Name	Continental	
Antenna Specification	Туре	Standard Keyless antenna	
	Parts Number	A205 905 3005	
Transponder antenna	21.85kHz	BPSK	
	Brand Name	Continental	
Antenna Specification	Туре	Transponder antenna	
	Parts Number	A213 905 11 00	
Side antenna right	21.85kHz	BPSK	
	Brand Name	Continental	
Antenna Specification	Туре	Long Range antenna	
	Parts Number	A206 905 10 01	
Side antenna left	21.85kHz	BPSK	
	Brand Name	Continental	
Antenna Specification	Туре	Long Range antenna	
	Parts Number	A206 905 10 01	

- The sample selected for test was prototype that representative to production product and was provided by manufacturer Antenna information is provided by the applicant, test results of this report are applicable to the sample EUT received
- SAR test exemption.



4 RF Exposure Conditions

Evaluated with a minimum test separation distance of 5 mm.

4.1 Standalone SAR Test Exclusion Considerations

Since the *Dedicated Host Approach* is applied, the standalone SAR test exclusion procedure in KDB 447498 is applied in conjunction with KDB 616217 § 4.3 to determine the minimum test separation distance:

- When the separation distance from the antenna to an adjacent edge is ≤ 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.
- When the separation distance from the antenna to an adjacent edge is > 5 mm, the actual antenna-to-edge separation distance is applied to determine SAR test exclusion.



SAR Test Exclusion Calculations

21.85kHz

4.3.1 b) 1.

{[Power allowed at numeric threshold for 50 mm in step a)] + [(test separation distance – 50 mm)-(f(MHz)/150)]} mW, for 100 MHz to 1500 MHz

f(GHz)	0.1
min. test separation distance (mm)	5
Threshold at 50 mm	474
b) 1. SAR test exclusion thresholds (mW)	444

4.3.1 C) 1.

the power threshold at the corresponding test separation distance at 100 MHz in step b) is multiplied by [1 + log(100/f(MHz))]

f(GHz)	0.00002185
b) 1. SAR test exclusion thresholds (mW)	444
c) 1. SAR test exclusion thresholds (mW)	2070

4.3.1 C) 2.

For test separation distances \leq 50 mm, the power threshold determined by the equation in c) 1) for 50 mm and 100 MHz is multiplied by $\frac{1}{2}$

f(GHz)	0.00002185
max.Electric field strength (dBuV/m @3m)	100.64
max. EIRP power (dBm)	5.41
max.EIRP Tune up power (dBm)	6
max.EIRP Tune up power power (mW)	3.98
min. test separation distance (mm)	5
b) 1. SAR test exclusion thresholds (mW)	2070
c) 2. SAR test exclusion thresholds (mW)	1035
Result	Pass

Note(s):

^{1.} The tune up power referred the Field strength of the test report TMWK2407002378KR for RF Exposure assessment purpose.



Report No.: TMWK2407002379KS Rev.: 00

5 Simultaneous Transmission SAR Analysis

KDB 447498 D01 General RF Exposure Guidance provides two procedures for determining simultaneous transmission SAR test exclusion: Sum of SAR and SAR to Peak Location Ratio (SPLSR)

Sum of SAR

To qualify for simultaneous transmission SAR test exclusion based upon Sum of SAR the sum of the reported standalone SARs for all simultaneously transmitting antennas shall be below the applicable standalone SAR limit. If the sum of the SARs is above the applicable limit then simultaneous transmission SAR test exclusion may still apply if the requirements of the SAR to Peak Location Ratio (SPLSR) evaluation are met.

SAR to Peak Location Ratio (SPLSR)

KDB 447498 D01 General RF Exposure Guidance explains how to calculate the SAR to Peak Location Ratio (SPLSR) between pairs of simultaneously transmitting antennas:

 $SPLSR = (SAR_1 + SAR_2)^{1.5} / Ri$

Where:

SAR₁ is the highest measured or estimated SAR for the first of a pair of simultaneous transmitting antennas, in a specific test operating mode and exposure condition

SAR₂ is the highest measured or estimated SAR for the second of a pair of simultaneous transmitting antennas, in the same test operating mode and exposure condition as the first

Ri is the separation distance between the pair of simultaneous transmitting antennas. When the SAR is measured, for both antennas in the pair, it is determined by the actual x, y and z coordinates in the 1-g SAR for each SAR peak location, based on the extrapolated and interpolated result in the zoom scan measurement, using the formula of $[(x_1-x_2)^2 + (y_1-y_2)^2 + (z_1-z_2)^2]$

In order for a pair of simultaneous transmitting antennas with the sum of 1-g SAR > 1.6 W/kg to qualify for exemption from Simultaneous Transmission SAR measurements, it has to satisfy the condition of:

$(SAR_1 + SAR_2)^{1.5} / Ri \le 0.04$

When an individual antenna transmits at on two bands simultaneously, the sum of the highest reported SAR for the frequency bands should be used to determine SAR1.or SAR2. When SPLSR is necessary, the smallest distance between the peak SAR locations for the antenna pair with respect to the peaks from each antenna should be used.

The antennas in all antenna pairs that do not qualify for simultaneous transmission SAR test exclusion must be tested for SAR compliance, according to the enlarged zoom scan and volume scan post-processing procedures in KDB Publication 865664 D01



Report No.: TMWK2407002379KS Rev.: 00

Estimated SAR for Simultaneous Transmission SAR Analysis Considerations for SAR estimation

1. When standalone SAR test exclusion applies, standalone SAR must also be estimated to determine simultaneous transmission SAR test exclusion.

- 2. Dedicated Host Approach criteria for SAR test exclusion is likewise applied to SAR estimation, with certain distinctions between test exclusion and SAR estimation:
 - When the separation distance from the antenna to an adjacent edge is ≤ 5 mm, a distance of 5 mm is applied for SAR estimation; this is the same between test exclusion and SAR estimation calculations.
 - When the separation distance from the antenna to an adjacent edge is > 5 mm but ≤ 50 mm, the actual antenna-to-edge separation distance is applied for SAR estimation.
 - When the minimum test separation distance is > 50 mm, the estimated SAR value is 0.4 W/kg
- 3. Please refer to Estimated SAR Tables to see which test positions are inherently compliant as they consist of only estimated SAR values for all applicable transmitters and consequently will always have sum of SAR values < 1.2 W/kg. Simultaneous transmission SAR analysis was therefore not performed for these test positions.</p>

Estimated SAR for 21.85kHz

Frequency	ERP Outp	ut Power	Separation Distances (mm)	Estimated 1-q SAR Value (W/kg)	
(MHz)	dBm	mW	Separation distances (iiiii)	Listillated 1-g SAR Value (WRg)	
0.02185	6.00	4	5	0.000	

5.1 Sum of the SAR for Rear antenna + Transponder antenna + Side antenna right + Side antenna left

	Standalone SAR (W/kg)			∑ 1-g SAR (W/kg)
Rear antenna	Transponder antenna	side antenna right	Side antenna left	Rear antenna + Transponder antenna + side antenna right + Side antenna left
1	2	3	4	1 + 2 + 3 + 4
0.000	0.000	0.000	0.000	0.000

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because either the sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.



Report No.: TMWK2407002379KS Rev.: 00

6 Facilities

All measurement facilities used to collect the measurement data are located at

⊠ No.11, Wugong 6th Rd., Wugu Dist., New Taipei City 24891, Taiwan.

END OF REPORT