



Test Report No.: W7L-230201W001RF04



VARIANT FCC TEST REPORT (PART 90)

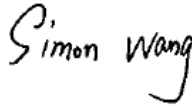

Applicant:	Continental Automotive Systems, Inc.
Address:	21440 W Lake Cook Rd., Deer Park, IL 60010, USA

Manufacturer or Supplier	Continental Automotive Systems, Inc.
Address	21440 W Lake Cook Rd., Deer Park, IL 60010, USA
Product	FE5NA0010, FE5NA0011
Brand Name	Continental
Model Name	FE5NA0010, FE5NA0011
FCC ID	LHJ-FE5NA0010
Date of tests	Jan. 19, 2023 ~ Feb. 23, 2023

The tests have been carried out according to the requirements of the following standard:

- FCC Part 90, Subpart R, S ANSI/TIA/EIA-603- D
- FCC Part 2 ANSI/TIA/EIA-603-E ANSI C63.26-2015

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Prepared by Simon Wang Engineer / Mobile Department	Approved by Luke Lu Manager / Mobile Department
	
Date: Feb. 23, 2023	Date: Feb. 23, 2023

This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at <http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions> and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. Statements of conformity are based on simple acceptance criteria without taking measurement uncertainty into account, unless otherwise requested in writing. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.



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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
W7L-220214W001RF04	Original release	Jul. 30, 2022
W7L-230201W001RF04	Based on the original product changing the software version.	Feb. 23, 2023

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 90 & Part 2		
STANDARD SECTION	TEST TYPE AND LIMIT	RESULT
§2.1046 §90.635(b)	Conducted Output Power	See Note
§2.1055 §90.213	Frequency Stability	See Note
§2.1049 §90.209	Occupied Bandwidth	See Note
§2.1051 §90.691	Emission Masks	See Note
§2.1051 §90.691	Conducted Spurious Emissions	See Note
§2.1053 §90.691	Radiated Spurious Emissions	See Note

NOTE: Please refer to the original report W7L-220214W001RF04.

1.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9kHz~30MHz	2.66dB
Radiated emissions	9KHz ~ 30MHz	2.68dB
	30MHz ~ 1GHz	3.26dB
	1GHz ~ 18GHz	4.48dB
	18GHz ~ 40GHz	4.12dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.



2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	FE5NA0010, FE5NA0011	
BRAND NAME	Continental	
MODEL NAME	FE5NA0010, FE5NA0011	
NOMINAL VOLTAGE	EUT 4.0V	
MODULATION TECHNOLOGY	LTE	QPSK, 16QAM, 64QAM
FREQUENCY RANGE	LTE Band 14 Channel Bandwidth: 5MHz	790.5MHz ~ 795.5MHz
	LTE Band 14 Channel Bandwidth: 10MHz	793MHz
EMISSION DESIGNATOR	LTE Band 14 Channel Bandwidth: 5MHz	QPSK: 4M50G7D
		16QAM: 4M50W7D
	LTE Band 14 Channel Bandwidth: 10MHz	64QAM: 4M51W7D
		QPSK: 8M96G7D
MAX. EIRP POWER	LTE Band 14 Channel Bandwidth: 5MHz	16QAM: 8M98W7D
		64QAM: 8M96W7D
ANTENNA TYPE	LTE Band 14 Channel Bandwidth: 5MHz	88.51mW
	LTE Band 14 Channel Bandwidth: 10MHz	88.72mW
ANTENNA GAIN	Monopole Antenna	
ANTENNA GAIN	-1.88 dBi for LTE Band 14	
HW VERSION	FE5NA0010	P4.1
	FE5NA0011	P4.2
SW VERSION	MODEMSA515M_LE2.1_01.14.39	
I/O PORTS	Refer to user's manual	
DATA CABLE	N/A	
EXTREME TEMPERATURE	-40-85 °C	
EXTREME VOLTAGE	EUT 3.8V - EUT 4.2V	

NOTE:

- For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
- The EUT incorporates a SISO function. Physically, the EUT provides one completed transmitter and one receiver.

MODULATION MODE	TX FUNCTION
LTE	1TX/4RX

- For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.



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4. According to the information provided by the manufacturer, The difference between FE5NA0010, FE5NA0011 is as follows:

TA-code	L2/L5 GNSS	Band Difference
FE5NA0010	support	/
FE5NA0011	not support	BOM change: depopulated passive components from the GNSS RF front-end



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2.2 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC 47 CFR Part 2

FCC 47 CFR Part 90

ANSI/TIA/EIA-603-D

ANSI/TIA/EIA-603-E

ANSI C63.26-2015

NOTE: All test items have been performed and recorded as per the above standards.



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3 INFORMATION ON THE TESTING LABORATORIES

We, BV 7LAYERS COMMUNICATIONS TECHNOLOGY (SHENZHEN) CO. LTD., were founded in 2015 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

Shenzhen EMC/RF Lab:

Tel: +86-755-88696566

Fax: +86-755-88696577

Email: customerservice.sw@bureauveritas.com

Web Site: www.adt.com.tw

The address and road map of all our labs can be found in our web site also.



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4 MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No modifications were made to the EUT by the lab during the test.

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