EMF TEST REPORT

Test Report No.	**: OT-20N-RWD-016**
Reception No.	**: 2010004162**
Applicant	**: Continental Automotive Systems Corporation**
Address	**: 45-29, Saeum-ro, Icheon-si, Gyeonggi-do, 17308, Korea**
Manufacturer	**: Continental Automotive Systems Corporation**
Address	**: 45-29, Saeum-ro, Icheon-si, Gyeonggi-do, 17308, Korea**
Type of Equipment	**: IBU(Integrated Body Control Unit)**
FCC ID.	**: SY5IBU21N**
Model Name	**: IBU21N**
Multiple Model Name	**: N/A**
Serial number	**: N/A**
Total page of Report	**: 10 pages (including this page)**
Date of Incoming	**: October 23, 2020**
Date of issue	**: November 06, 2020**

SUMMARY

The equipment complies with the regulation; **FCC CFR 47 PART 1.1310**

This test report only contains the result of a single test of the sample supplied for the examination.

It is not a generally valid assessment of the features of the respective products of the mass-production.

Tested by	Reviewed by	Approved by
/ Sieon Lee / Assistant Manager	/ Ha-Ram Lee / Manager	/ Ki-Hong, Nam / General Manager
ONETECH Corp.	ONETECH Corp.	ONETECH Corp.

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

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ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

Revision History

Rev. No.	Issue Report No.	Issued Date	Revisions	Section Affected
0	OT-20N-RWD-016	November 06, 2020	Initial Issue	All

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1. VERIFICATION OF COMPLIANCE

Applicant : Continental Automotive Systems Corporation

Address : 45-29, Saeum-ro, Icheon-si, Gyeonggi-do, 17308, Korea

Contact Person : S. M. Jang/ Representative

Telephone No. : 82-31-645-4864

FCC ID : SY5IBU21N

Model Name : IBU21N

Serial Number : N/A

Date : November 06, 2020

EQUIPMENT CLASS	**DCD – Part 15 Low Power Transmitter Below 1 705 kHz**
E.U.T. DESCRIPTION	IBU(Integrated Body Control Unit)
THIS REPORT CONCERNS	Original Grant
MEASUREMENT PROCEDURES	ANSI C63.10: 2013
TYPE OF EQUIPMENT TESTED	Pre-Production
KIND OF EQUIPMENT AUTHORIZATION REQUESTED	Certification
EQUIPMENT WILL BE OPERATED UNDER IC RULES PART(S)	FCC CFR 47 PART 1.1310
Modifications on the Equipment to Achieve Compliance	None
Final Test was Conducted On	3 m, Semi Anechoic Chamber

-. The above equipment was tested by ONETECH Corp. for compliance with the requirement set forth in the FCC Rules and Regulations. This said equipment in the configuration described in this report, shows the maximum emission levels emanating from equipment are within the compliance requirements.

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2. GENERAL INFORMATION

2.1 Product Description

The Continental Automotive Systems Corporation, Model: IBU21N (referred to as the EUT in this report) is a Transmitter that it controls locking and unlocking the door of a vehicle. Product specification information described herein was obtained from product data sheet or user's manual.

DEVICE TYPE	IBU(Integrated Body Control Unit)
OPERATING FREQUENCY	TX: 125 kHz RX: 433.92 MHz
RATED RF OUTPUT POWER	66.3 dBμV/m
ANTENNA TYPE	Loop Coil Antenna
MODULATION	ASK
RATED SUPPLY VOLTAGE	DC 12.0 V

2.2 Alternative type(s)/model(s); also covered by this test report.

-. None

3. EUT MODIFICATIONS

-. None

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4. RADIO FREQUENCY EXPOSURE

4.1 Environmental evaluation and exposure limit

According to FCC 1.1310 : The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in § 1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of FCC part 2.1093 of this chapter

Frequency Range [MHz]	Electric Field Strength [V/m]	Magnetic Field Strength [A/m]	Power Density [mW/cm^2]	Average Time [minutes]
(A) Limits for Occupational / Control Exposures				
0.3 – 3.0	614	1.63	*(100)	6
3.0 – 30	1 842/f	4.89/f	*(900/f$^{2)}$	6
30 – 300	61.4	0.163	1.0	6
300 – 1 500			f/300	6
1 500 – 100 000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3 – 3.0	614	1.63	*(100)	30
3.0 – 30	824/f	2.19/f	*(180/f$^{2)}$	30
30 – 300	27.5	0.073	0.2	30
300 – 1 500			f/1 500	30
1 500 – 100 000			1.0	30

f = frequency in MHz

* = Plane wave equivalent power density

Note 1 to Table 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

Note 2 to Table 1: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

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The EUT does meet the requirement of section 5. b) of KDB 680106 D01 RF Exposure Wireless Charging Apps v03

1. Power transfer frequency is less than 1MHz

2. Output power from each primary coil is less than 15 watts.

3. The transfer system includes only single primary and secondary coils. This includes charging systems that may have multiple primary coils and clients that are able to detect and allow coupling only between individual pairs of coils.

4. Client devices is inserted in or placed directly in contact with the transmitter.

5. Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).

6. The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.

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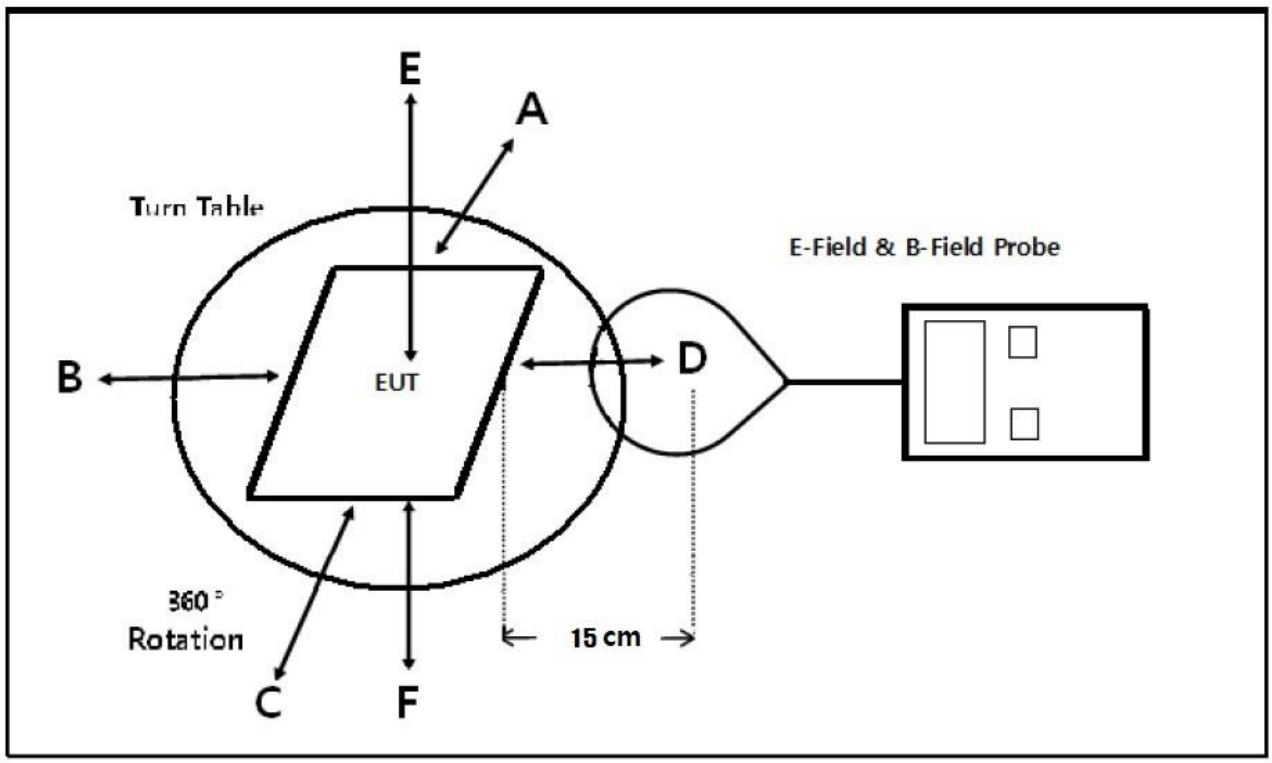
4.2 E / H field strength

4.2.1 EUT Operating condition



4.2.2 Measurement procedure

1) The RF exposure test was performed in anechoic chamber.

2) The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface.

3) The highest emission level was recorded and compared with limit as soon as measurement of each points (A, B, C, D, E, F) were completed.

4) The EUT was measured according to the dictates of KDB 680106 D01 v03.

Remark: The EUT's test position A, B, C, D, E and F is valid for the E and H field measurements.

4.2.3 Data

Field strength	Position A	Position B	Position C	Position D	Position E	Position F	50% Limits	Limits
uT	0.129	0.135	0.131	0.131	0.146	0.109	-	-
A/m	0.103	0.107	0.105	0.104	0.116	0.087	0.815	1.630
V/m	38.60	40.40	39.50	38.90	43.69	32.62	307.00	614.00

※ **Note. Calculation**

$V/m = 10^{(((dBuV/m)-120)/20)} = 10^{(((dBuA/m+51.5)-120)/20)} = 10^{(((20lg(A/m*10^6)+51.5)-120)/20)}$

A/m = uT/1.25

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4.3 LIST OF TEST EQUIPMENT

No.	EQUIPMENTS	MFR.	MODEL	SER. NO.	LAST CAL	DUE CAL	USE
1	Exposure Level Meter	NARDA	ELT-400	G-0032	Apr. 22, 2020	One Year	■

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