RF Exposure Report

Report No.:	SA191119C05
FCC ID:	LHJ-STRLNK2P
Test Model:	StrLnk2P
Received Date:	Nov. 19, 2019
Date of Evaluation:	Dec. 09, 2019
Issued Date:	Dec. 26, 2019
Applicant:	Continental Automotive Systems, Inc.
Address:	21440 West Lake Cook Road Deer Park, IL 60010 United States
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Lin Kou Laboratories
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN
FCC Registration / Designation Number:	788550 / TW0003

Table of Contents

Release Control Record

Issue No.	Description	Date Issued
SA191119C05	Original Release	Dec. 26, 2019

1 Certificate of Conformity

Product:	TCU (Telematics Control Unit)
Brand:	Continental
Test Model:	StrLnk2P
Sample Status:	Identical Prototype
Applicant:	Continental Automotive Systems, Inc.
Date of Evaluation:	Dec. 09, 2019
Standards:	FCC Part 2 (Section 2.1091)
References Test Guidance :	KDB 447498 D01 General RF Exposure Guidance v06 IEEE C95.3 -2002

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

Prepared by : Lena Wang , **Date:** Dec. 26, 2019

Lena Wang / Specialist

Approved by : , **Date:** Dec. 26, 2019

Dylan Chiou / Project Engineer

2 RF Exposure

2.1 Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Average Time (minutes)
Limits For General Population / Uncontrolled Exposure				
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-1500	…	…	f/1500	30
1500-100,000	…	…	1.0	30

f = Frequency in MHz ; *Plane-wave equivalent power density

2.2 MPE Calculation Formula

$Pd = (Pout*G) / (4*pi*r^2)$

where

Pd = power density in mW/cm^2

Pout = output power to antenna in mW

G = gain of antenna in linear scale

pi = 3.1416

r = distance between observation point and center of the radiator in cm

2.3 Classification

The antenna of this product, under normal use condition, is at least 25cm away from the body of the user. So, this device is classified as **Mobile Device**.

2.4 Calculation Result of Maximum Conducted Power

Band	Frequency Band (MHz)	Output Power ERP / EIRP (dBm)	Output Power ERP / EIRP (mW)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
GSM850	824-849	27.78	599.791	25	0.076	0.55
PCS1900	1850-1910	31.51	1415.794	25	0.180	1.00
WCDMA II	1850-1910	24.05	254.097	25	0.032	1.00
WCDMA IV	1710-1755	24.34	271.644	25	0.035	1.00
WCDMA V	824-849	22.48	177.011	25	0.023	0.55
LTE 2	1850-1910	25.41	347.536	25	0.024	1.00
LTE 4	1710-1755	25.40	346.737	25	0.044	1.00
LTE 5	824-849	23.41	219.280	25	0.028	0.55
LTE 7	2500-2570	25.45	350.752	25	0.045	1.00
LTE 12	699-716	23.71	234.963	25	0.030	0.47
WLAN	2412-2462	26.56	452.898	25	0.058	1.00
	5180-5240	17.15	51.88	25	0.007	1.00
	5745-5825	18.39	69.024	25	0.009	1.00

Note:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

Conclusion:

The formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + ……etc. < 1

CPD = Calculation power density

LPD = Limit of power density

WWAN + WLAN 2.4GHz = 0.180 / 1 + 0.58/1 = 0.76

WWAN + WLAN 5GHz = 0.180 / 1 + 0.009/1 = 0.189

Therefore the maximum calculations of above situations are less than the "1" limit.

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