RF Exposure Report

Report No.:	FCC_RF_SL20061501-CRE-008_MPE
FCC ID:	EROZUMLINK-KP
Test Model:	ZUMLINK-KPPR
Series Model:	N/A
Received Date:	12/07/2020
Test Date:	12/16/2020 - 01/20/2021
Issued Date:	01/22/2021
Applicant:	Crestron Electronics, Inc.
Address:	15 Volvo DrRockleigh, NJ 07647, USA
Manufacturer:	Crestron Electronics, Inc.
Address:	15 Volvo DrRockleigh, NJ 07647, USA
Issued By:	Bureau Veritas Consumer Products Services, Inc.
Lab Address:	775 Montague Expressway, Milpitas, CA 95035
Test Location (1):	775 Montague Expressway, Milpitas, CA 95035
FCC Registration / Designation Number:	540430

TESTING CERT # 2742-01

Table of Contents

Release Control Record

Issue No.	Description	Date Issued
FCC_RF_SL20061501-CRE-008_MPE	Orignal Release	01/22/2021

1 Certificate of Conformity

Product:	ZUM Keypad
Brand:	Crestron Electronics
Test Model:	ZUMLINK-KPPR
Series Model:	N/A
Sample Status:	Engineering sample
Applicant:	Crestron Electronics, Inc
Test Date:	12/16/2020 - 01/20/2021
Standards:	FCC Part 2 (Section 2.1093) KDB 447498 D01 General RF Exposure Guidance v06 IEEE C95.1-1992

The above equipment has been tested by **Bureau Veritas Consumer Products Services, Inc., Milpitas 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 EMC characteristics under the conditions specified in this report.

Prepared by : _____ , **Date:** 01/22/2021

Ellen Chu / Test Engineer

Approved by : _____ , **Date:** 01/22/2021

Deon Dai / Engineer Reviewer

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 20cm away from the body of the user. So, this device is classified as Mobile Device.

2.4 Antenna Gain

The antenna type is Chip antenna with -2 dBi gain.

2.5 Calculation Result of Maximum Conducted Power

Frequency Band (MHz)	Max Power (dBm)	Max Power (mW)	Turn-Up Tolerance	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
2402-2480	-0.34	0.925	±1dB	-2	20	0.000116	1

Note:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. Calculate SAR test exclusion thresholds from condition “1” formulas.

3 Conclusion

Conclusion:

The formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

BT_LE = 0.000116 <1

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

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