

MPE Report

Test Report Number	BTP-21110942-LC-FCC-MPE
FCC ID	2A4DM-0001
Applicant	Bexar, Inc.
Applicant Address	4680 S Downing St Englewood, CO 80113
Product Name	Wavee Touchless Switch
Model (s)	001-0001-01
Date of Receipt	12/16/2021
Date of Test	12/17/2021- 01/24/2022
Report Issue Date	02/16/2022
Test Standards	47 CFR §1.1307(b), 47 CFR §1.1310 RSS-102 Issue 5: Feb 2021
Test Result	PASS
	Issued by: Vista Compliance Laboratories 1261 Puerta Del Sol, San Clemente, CA 92673 USA www.vista-compliance.com
 <hr/> Devin Tai (Test Engineer)	 <hr/> David Zhang (Technical Manager)
<p>This report is for the exclusive use of the applicant. 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. Note that the results contained in this report pertain only to the test samples identified herein, and the results relate only to the items tested and the results that were obtained in the period between the date of initial receipt of samples and the date of issue of the report. 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 and the results thereof based upon the information provided to us. The applicant has 60 days from date of issuance of this report to notify us of any material error or omission. 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. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification. The report must not be used by the client to claim product certification, approval, or endorsement by any government agencies. This report is not to be reproduced by any means except in full and in any case not without the written approval of Vista Laboratories.</p>	

REVISION HISTORY

Report#	BTP-21110942-LC-FCC-MPE
----------------	-------------------------

Report Number	Version	Description	Issued Date
BTP-21110942-LC-FCC-MPE	01	Initial report	02/16/2022

TABLE OF CONTENTS

1	GENERAL INFORMATION.....	4
1.1	Applicant.....	4
1.2	Product information.....	4
1.3	Test standard and method	5
2	TEST SITE INFORMATION.....	5
3	RF EXPOSURE	6
3.1	Limits for Maximum Permissible Exposure (MPE).....	6
3.2	MPE Calculation Formula	6
3.3	Classification	6
3.4	Antenna Gain	6
4	TEST RESULTS.....	7

1 General Information

1.1 Applicant

Applicant	Bexar, Inc.
Applicant address	4680 S Downing St Englewood, CO 80113
Manufacturer	Bexar, Inc.
Manufacturer Address	4680 S Downing St Englewood, CO 80113

1.2 Product information

Product Name	WAVEE Touchless Switch
Model Number	Wavee Touchless Switch
Family Models	001-0001-01
Serial Number	20111733
Frequency Band	BLE: 2402-2480MHz
Type of modulation	BLE: GFSK
Equipment Class	DTS
Antenna Information	PCB Trace Antenna Antenna Gain: 0.73dBi (max)
Clock Frequencies	N/A
Input Power	DC 5.0V
Power Adapter Manufacturer/Model	N/A
Power Adapter SN	N/A
Hardware version	N/A
Software version	N/A
Additional Info	N/A

1.3 Test standard and method

Test standard	47 CFR §1.1307(b), 47 CFR §1.1310 47 CFR §2.1093
Test method	47 CFR §1.1307(b), 47 CFR §1.1310 47 CFR §2.1093

2 Test Site Information

Lab performing tests	Vista Laboratories, Inc.
Lab Address	1261 Puerta Del Sol, San Clemente, CA 92673 USA
Phone Number	+1 (949) 393-1123
Website	www.vista-compliance.com

Test Condition	Temperature	Humidity	Atmospheric Pressure
RF Testing	23.2°C	57.5%	996 mbar
Radiated Emission Testing	23.2°C	57.5%	996 mbar

3 RF Exposure

3.1 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

3.2 MPE Calculation Formula

$$P_d = (P_{out} * G) / (4 * \pi * r^2)$$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

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

3.3 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.

3.4 Antenna Gain

The antenna type is PCB trace antenna with 0.73 dBi gain.

4 Test Results

Mode	Max Power (dBm)	Max Power (mW)	Turn-Up Tolerance	Max Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
BLE	-4.81	0.33	±1dB	0.73	20	0.000097	1

Conclusion:

The worst-case ratio = 0.0000097 < 1

The above results show that the device complies with the MPE requirement.

---END---