

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)

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

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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

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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

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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

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

Where

Pd = power density in mW/cm²

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

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.

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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.

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