1. MAXIMUM PERMISSIBLE EXPOSURE (MPE)

1.1 General Information

Client Information

Applicant:	Jayanita Exports USA LLC
Address of applicant:	1240 Winnowing Way Suite 102 Mt. Pleasant South Carolina United States 29466
Manufacturer:	Jayanita Exports USA LLC
Address of manufacturer:	1240 Winnowing Way Suite 102 Mt. Pleasant South Carolina United States 29466

General Description of EUT:

Product Name:	Connector
Trade Name:	/
Model No.:	0062549-0000
Adding Model(s):	/
Rated Voltage:	DC 5V
FCC ID:	2AY5W-0062549-0000
Equipment Type:	Mobile Device

Technical Characteristics of EUT:

Frequency Range:	433.92 MHz
Max. Field Strength:	433.92MHz: 93.75dBuV/m(3m)
Data Rate:	/
Modulation:	FSK
Antenna Type:	Integral Antenna
Antenna Gain:	0dBi

1.2 Standard Applicable

According to §1.1307(b)(1) and KDB 447498 D01 General RF Exposure Guidance v06, system operating under the provisions of this section shall be operating in a manner that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure.

(a) Limits for Occupational / Controlled Exposure

Frequency range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Times $\lvert E\rvert^2$, $\lvert H\rvert^2$ or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f)*	6
30-300	61.4	0.163	1.0	6
300-1500	/	/	F/300	6
1500-100000	/	/	5	6

(b) Limits for General Population / Uncontrolled Exposure

Frequency range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Times $\lvert E\rvert^2$, $\lvert H\rvert^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	F/1500	30
1500-100000	/	/	1	30

Note: f = frequency in MHz: * = Plane-wave equivalents power density

1.3 MPE Calculation Method

$S = (30*P*G) / (377*R^2)$

S = power density (in appropriate units, e.g., mw/cm^2)

P = power input to the antenna (in appropriate units, e.g., mw)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor is normally numeric gain.

R = distance to the center of radiation of the antenna (in appropriate units, e.g., cm)

1.4 MPE Calculation Result

For SRD (433.92MHz)

Power input to the antenna =EIRP-Gain= (E-104.8+20logD)-Gain= (93.75-104.8+20log3)-0=-1.51dBm

Maximum Tune-Up output power: -1.0(dBm)

Maximum peak output power at antenna input terminal: 0.79 (mW)

Prediction distance: >20(cm)

Prediction frequency: 433.92 (MHz)

Antenna gain: 0.0 (dBi)

Directional gain (numeric gain): 1.0

The worst case is power density at prediction frequency at 20cm: 0.0002 (mw/cm^2)

MPE limit for general population exposure at prediction frequency: 0.2893 (mw/cm^2)

For Wi-Fi Internet of Things Module (FCC ID: 2AC7Z-ESPWROOM02D)

The worst case is power density at prediction frequency at 20cm: <u>0.0120(mw/cm^2)</u>

MPE limit for general population exposure at prediction frequency:<u> 1 (mw/cm^2)</u>

Mode for Simultaneous Multi-band Transmission
SRD (433.92MHz) +Wi-Fi
The worst case is power density at prediction frequency at 20cm: <u>0.0002/0.2893+0.0120/1=0.0127<1</u>

Result: Pass