Tagg Docking Station
MPE Evaluation Report

FCC Part 15 Certification	
FCC ID:	**J9CFBC1**
Model:	**Tagg Docking Station**

STATEMENT OF CERTIFICATION

The data, data evaluation and equipment configuration represented herein are a true and accurate representation of the measurements of the sample's radio frequency interference emissions characteristics as of the dates and at the times of the test under the conditions herein specified.

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In this application we seek modular approval for the Tagg Docking Station device to be used in a mobile configuration. Based on the FCC CFR 47 §1.1310, 2.1091, we have concluded that the Tagg Docking Station device will comply with the FCC rules on RF exposure for mobile devices if the antenna again does not exceed -2 dBi in 902 – 928MHz ISM frequency band. The following analysis will demonstrate such compliance.

RF Exposure Limit

According to FCC CFR 47 §1.1310: the criteria listed in the following table shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified in 1.1307(b).

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)
(A) Limits For Occupational / Control Exposures (f = frequency)				
30-300	61.4	0.163	1.0	6
300-1500	…	…	f/300	6
1500-100,000	…	…	5.0	6
(B) Limits For General Population / Uncontrolled Exposure (f = frequency)				
30-300	27.5	0.073	0.2	30
300-1500	…	…	f/1500	30
1500-100,000	…	…	1.0	30

Friis Transmission Formula

Friis transmission formula:

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

Where,
P_d = power density (mW/cm^2)
P_{out} = output power to antenna (mW)
G = gain of antenna in linear scale
R = distance between observation point and center of the radiator (cm)

Tagg Docking Station Operating in the ISM Band (902 - 928 MHz)

The highest peak conducted output power of the Tagg Docking Station device measured is 7.28 dBm while the device operates in channel 2. Take the worst case as an example, in which an antenna with -2 dBi gain is used. The resulted power density at a distance of 20cm can be calculated as follows:

EIRP = 7.28 + (-2) = 5.28 dBm = 3.37 mW

Power Density = (EIRP * DutyCycle) / ($4\pi R^2$)
= 3.37 * 1 / ($4*\pi* 20^2$)
= 0.00067 mW/cm^2

Where DutyCycle is 1 for (the worst case) and R is 20cm.

The MPE limit for General Population/Uncontrolled Exposure is shown in the table above and can be derived as follows:

MPE limit = 928/1500 = 0.62mW/cm^2

As per the above analysis, the resulted power density is below the MPE limit. Therefore the Tagg Docking Station device in 902 – 928MHz ISM band is compliant with the FCC rules on RF exposure.

Conclusion

The Tagg Docking Station device meets the mobile 20 cm separation distance as specified in Section 2.1091 of the FCC rules. An appropriate RF exposure compliance statement will be placed in the User's Guide.