

## RF Exposure / MPE Calculation

No. : 11197179H  
Applicant : Murata Manufacturing Co., Ltd.  
Type of Equipment : Communication Module  
Model No. : LBBA0ZZ1EU  
FCC ID : VPYLB1EU

Murata Manufacturing Co., Ltd. declares that Model: LBBA0ZZ1EU complies with FCC radiation exposure requirement specified in the FCC Rule 2.1091 (for mobile).

### **RF Exposure Calculations:**

The following information provides the minimum separation distance for the highest gain antenna provided with the "LBBA0ZZ1EU" as calculated from (B) Limits for General Population / Uncontrolled Exposure of TABLE 1- LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE) of §1.1310 Radiofrequency radiation exposure limits.

This calculation is based on the highest EIRP possible from the system, considering maximum power and antenna gain, and considering a 1mW/cm<sup>2</sup> uncontrolled exposure limit. The Friis formula used was:

$$S = \frac{P \times G}{4 \times \pi \times r^2}$$

Where

$P =$  3.44 mW (Maximum average output power)

- Time average was used for the above value in consideration of 6-minutes time-averaging  
 Burst power average was used for the above value in consideration of worst condition.

$G =$  1.479 Numerical Antenna gain; equal to 1.7dBi

$r =$  20 cm (Separation distance)

**Power Density Result  $S = 0.00101 \text{ mW/cm}^2$**

Even taking into account the tolerance, this device can be satisfied with the limits.

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**UL Japan, Inc.**

**Ise EMC Lab.**

4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN

Telephone : +81 596 24 8999

Facsimile : +81 596 24 8124